

**CONTRACT DOCUMENTS FOR THE
AIRFIELD EQUIPMENT COLD STORAGE
BUILDING**

IFB 2020-05



**SYRACUSE HANCOCK INTERNATIONAL AIRPORT
1000 COL. EILEEN COLLINS BLVD.
SYRACUSE, NEW YORK**

March 2020



**441 South Salina Street
Syracuse, New York 13202**

**AIRFIELD EQUIPMENT COLD STORAGE
BUILDING
SYRACUSE HANCOCK INTERNATIONAL AIRPORT**

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SECTION 01 - AGREEMENT

SYRACUSE REGIONAL AIRPORT AUTHORITY
CONSTRUCTION AGREEMENT
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THIS AGREEMENT is dated as of the __ day of _____ in the year 20__ by and between the Syracuse Regional Airport Authority, a New York State public benefit corporation, having an address at 1000 Col. Eileen Collins Boulevard, Syracuse New York 13212 (hereinafter called Authority) and _____ a _____ (jurisdiction of formation) _____ (type of entity) having an address at _____ (hereinafter called Contractor).

WHEREAS, the Syracuse Hancock International Airport (the “Airport”) is owned by the City of Syracuse, New York (the “City”); and

WHEREAS, pursuant to a series of agreements between the Authority and the City, the Authority has been duly authorized by the City to operate the Airport on a long term basis and as such the Authority is authorized and empowered to enter into any and all agreements concerning the maintenance, improvement, repair and expansion of the Airport (“Airport Improvement Projects” or “AIP”); and

WHEREAS, in connection with its operation of the Airport, the Authority engages various consultants, engineers, architects and various other professionals (“General Airport Consultants” or “GAC’s”) to assist it with the solicitation of bids, requests for quotations and qualifications, and after the selection of a particular contractor for a particular Airport Improvement Project, a GAC will also prepare the final construction documents, drawings, technical specifications and related documents and materials (“Construction Bid Set”) for a particular Airport Improvement Project the “form” and content of which may vary depending on the particular GAC preparing the Construction Bid Set and the funding source and nature of a particular Airport Improvement Project.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, the parties do hereby agree as follows;

ARTICLE 1 – GENERAL PROVISIONS

The foregoing Recitals are true and correct and are incorporated herein as material terms of this Agreement.

All terms and conditions of the Construction Bid Set for this AIP, independently or as same may be annexed as an Exhibit to this Agreement, are specifically incorporated by reference herein.

Any ambiguity in this Agreement, in the Construction Bid Set, or between this Agreement and the Construction Bid Set shall be construed and resolved in favor of the Authority and in a manner consistent with providing the Authority a high-quality AIP and in a timely and cost efficient manner.

All references to Engineer, Design Engineer, Aviation Contract Officer, Owner, Architect or similar terms as may be used in this Agreement or the Construction Bid Set shall be deemed to mean the Authority and/or its duly authorized representative.

In the event of a dispute concerning interpretation of any provision of this Agreement and/or the Construction Bid Set and/or the quality of any services, work or items provided in connection therewith, the Authority’s determination, decision and/or resolution of same shall be final and binding.

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All references to “Contract” or other similar terms in this Agreement, including the Construction Bid Set, shall be deemed to mean this Agreement.

All references to “Contract Price” or other similar terms in this Agreement, including the Construction Bid Set, shall be deemed to mean Contract Price as defined in this Agreement.

All references to “Work” or similar such similar term in this Agreement, including the Construction Bid Set shall be deemed to mean the Airport Improvement Project described therein.

GIVEN THE VARYING CONSTRUCTION BID SETS USED BY VARIOUS GAC’S AS REFERENCED IN THE FORGOING RECITALS, AND THE VARIETY OF FUNDING SOURCES FOR PARTICULAR AIRPORT IMPROVEMENT PROJECTS EACH OF WHICH MAY REQUIRE THE INCLUSION OF SPECIFIC CONTRACT LANGUAGE AND REQUIREMENTS, AND THE AUTHORITY’S DESIRE TO USE A UNIFORM “MASTER” AGREEMENT FOR ALL GENERAL AIRPORT CONSULTANTS TO USE WITH ALL AIRPORT IMPROVEMENT CONTRACTS, CONTRACTOR SPECIFICALLY AGREES FOR IT AND ALL THOSE ENGAGED BY IT IN PERFORMING THIS AGREEMENT, THAT ALL REFERENCES HEREIN OR FAILURES TO REFERENCE HEREIN SPECIFIC SECTIONS OF THE CONSTRUCTION BID SET SHALL NOT BE STRICTLY CONSTRUED OR CONSTRUED AGAINST THE AUTHORITY, BUT SHALL BE CONSTRUED AND RESOLVED IN FAVOR OF THE AUTHORITY AND CONSISTENT WITH BOTH GENERAL AND SPECIFIC CONTRACT LANGUAGE THAT THE AUTHORITY IS REQUIRED TO INCLUDE IN ITS CONTRACTS BY ITS VARIOUS FUNDING SOURCES, AND IN A MANNER CONSISTENT WITH PROVIDING THE AUTHORITY A HIGH QUALITY AIRPORT IMPROVEMENT PROJECT IN A TIMELY AND COST EFFICIENT MANNER AND FOR NO MORE THAN THE CONTRACT PRICE AS STATED HEREIN. Whether construed as an offer, acceptance or confirmation, these terms and conditions of purchase include all documents and exhibits attached hereto and all other terms incorporated by reference herein. This contract shall constitute the final, complete and exclusive statement of this contract and may not be modified or rescinded except by a written change order issued by the Authority. *This contract expressly limits acceptance to its terms and conditions, and notification of objection to any different or additional terms in any response to this contract from the Contractor is hereby given. Regardless of its construction as an offer, acceptance, confirmation or use to place orders for goods or services pursuant to an earlier contract, this contract incorporates by reference all terms of the Uniform Commercial Code providing any protection for a Buyer, including, without limitation, all express and implied warranty protection and all Buyer’s remedies under the Uniform Commercial Code.*

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ARTICLE 2 – GOVERNMENT CONTRACT CLAUSE REQUIREMENTS

Federally Required Clauses

The Authority is the recipient of U.S. Department of Transportation grant monies and as such is required to include specific contract provisions in all such grant funded projects and to further require that all contractors engaged by the Authority for such projects include specific contract provisions in all of such contractor's contracts with any sub-recipients or subcontractors. Contractor hereby specifically acknowledges such contract language requirements and specifically agrees on its behalf and for any sub recipient or subcontractor engaged by contractor as follows:

GENERAL CIVIL RIGHTS PROVISIONS

The Contractor agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

TITLE VI COMPLIANCE

Compliance with Nondiscrimination Requirements:

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor"), agrees as follows:

- 1. Compliance with Regulations:** The Contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
- 2. Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.
- 3. Solicitations for Subcontracts, including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the contractor's obligations under this contract and the Nondiscrimination Acts and Authorities on the grounds of race, color, or national origin.
- 4. Information and Reports:** The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination

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Acts and Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event of a Contractor's noncompliance with the non-discrimination provisions of this contract, the sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

- a. Withholding payments to the Contractor under the contract until the Contractor complies; and/or
- b. Cancelling, terminating, or suspending a contract, in whole or in part.

6. Incorporation of Provisions: The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations, and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

Title VI List of Pertinent Nondiscrimination Acts and Authorities

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 USC § 2000d *et seq.*, 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination in Federally-assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973 (29 USC § 794 *et seq.*), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27;
- The Age Discrimination Act of 1975, as amended (42 USC § 6101 *et seq.*) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (49 USC § 471, Section 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (PL 100-209) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of

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public accommodation, and certain testing entities (42 USC §§ 12131 – 12189) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;

- The Federal Aviation Administration’s Nondiscrimination statute (49 USC § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC 1681 et seq).

New York State Required Contract Clauses (Standard Clauses for NYS Contracts-January 2014)

The Authority is a New York State public benefit corporation and as such is required to include specific contract provisions in all such project contracts and to further require that all contractors engaged by the Authority for such projects include specific contract provisions in all of such contractor’s contracts with any sub-recipients or subcontractors. Contractor hereby specifically acknowledges such contract language requirements and specifically agrees on its behalf and for any sub recipient or subcontractor engaged by Contractor as follows:

EXECUTORY CLAUSE. In accordance with Section 41 of the State Finance Law, the State shall have no liability under this contract to the Contractor or to anyone else beyond funds appropriated and available for this contract.

NON- ASSIGNMENT CLAUSE. In accordance with Section 138 of the State Finance Law, this contract may not be assigned by the Contractor or its right, title or interest therein assigned, transferred, conveyed, sublet or otherwise disposed of without the State’s previous written consent, and attempts to do so are null and void. Notwithstanding the foregoing, such prior written consent of an assignment of a contract let pursuant to Article XI of the State Finance Law may be waived at the discretion of the contracting agency and with the concurrence of the State Comptroller where the original contract was subject to the State Comptroller’s approval, where the assignment is due to a reorganization, merger or consolidation of the Contractor’s business entity or enterprise. The State retains its right to approve an assignment and to require that any Contractor demonstrate its responsibility to do business with the State. The Contractor may, however, assign its right to receive payments without the State’s prior written consent unless this contract concerns Certificates of Participation pursuant to Article 5-A of the State Finance Law.

COMPTROLLER'S APPROVAL. In accordance with Section 112 of the State Finance Law (or, if this contract is with the State University or City University of New York, Section 355 or Section 6218 of the Education Law), if this contract exceeds \$50,000 (or the minimum thresholds agreed to by the Office of the State Comptroller for certain S.U.N.Y. and C.U.N.Y. contracts), or if this is an amendment for any amount to a contract which, as so amended, exceeds said statutory amount, or if, by this contract, the State agrees to give something other than money when the value or reasonably estimated value of such consideration exceeds \$10,000, it shall not be valid, effective or binding upon the State until it has been approved by the State Comptroller and filed in his office. Comptroller's approval of contracts let by the Office of General Services is required when such contracts exceed \$85,000 (State Finance Law Section

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163.6-a). However, such pre-approval shall not be required for any contract established as a centralized contract through the Office of General Services or for a purchase order or other transaction issued under such centralized contract.

WORKERS' COMPENSATION BENEFITS. In accordance with Section 142 of the State Finance Law, this contract shall be void and of no force and effect unless the Contractor shall provide and maintain coverage during the life of this contract for the benefit of such employees as are required to be covered by the provisions of the Workers' Compensation Law.

NON-DISCRIMINATION REQUIREMENTS. To the extent required by Article 15 of the Executive Law (also known as the Human Rights Law) and all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex (including gender identity or expression), national origin, sexual orientation, military status, age, disability, predisposing genetic characteristics, marital status or domestic violence victim status. Furthermore, in accordance with Section 220-e of the Labor Law, if this is a contract for the construction, alteration or repair of any public building or public work or for the manufacture, sale or distribution of materials, equipment or supplies, and to the extent that this contract shall be performed within the State of New York, Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, disability, sex, or national origin:

(a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. If this is a building service contract as defined in Section 230 of the Labor Law, then, in accordance with Section 239 thereof, Contractor agrees that neither it nor its subcontractors shall by reason of race, creed, color, national origin, age, sex or disability: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. Contractor is subject to fines of \$50.00 per person per day for any violation of Section 220-e or Section 239 as well as possible termination of this contract and forfeiture of all moneys due hereunder for a second or subsequent violation.

WAGE AND HOURS PROVISIONS. If this is a public work contract covered by Article 8 of the Labor Law or a building service contract covered by Article 9 thereof, neither Contractor's employees nor the employees of its subcontractors may be required or permitted to work more than the number of hours or days stated in said statutes, except as otherwise provided in the Labor Law and as set forth in prevailing wage and supplement schedules issued by the State Labor Department. Furthermore, Contractor and its subcontractors must pay at least the prevailing wage rate and pay or provide the prevailing supplements, including the premium rates for overtime pay, as determined by the State Labor Department in accordance with the Labor Law. Additionally, effective April 28, 2008, if this is a public work contract covered by Article 8 of the Labor Law, the Contractor understands and agrees that the filing of payrolls in a manner consistent with Subdivision 3-a of Section 220 of the Labor Law shall be a condition precedent to payment by the State of any State approved sums due and owing for work done upon the project.

NON-COLLUSIVE BIDDING CERTIFICATION. In accordance with Section 139-d of the State Finance Law, if this contract was awarded based upon the submission of bids, Contractor affirms, under penalty of perjury, that its bid was arrived at independently and without collusion aimed at restricting competition. Contractor further affirms that, at the time Contractor submitted its bid, an authorized and responsible person executed and delivered to the State a non-collusive bidding certification on Contractor's behalf.

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INTERNATIONAL BOYCOTT PROHIBITION In accordance with Section 220-f of the Labor Law and Section 139-h of the State Finance Law, if this contract exceeds \$5,000, the Contractor agrees, as a material condition of the contract, that neither the Contractor nor any substantially owned or affiliated person, firm, partnership or corporation has participated, is participating, or shall participate in an international boycott in violation of the federal Export Administration Act of 1979 (50 USC App. Sections 2401 et seq.) or regulations thereunder. If such Contractor, or any of the aforesaid affiliates of Contractor, is convicted or is otherwise found to have violated said laws or regulations upon the final determination of the United States Commerce Department or any other appropriate agency of the United States subsequent to the contract's execution, such contract, amendment or modification thereto shall be rendered forfeit and void. The Contractor shall so notify the State Comptroller within five (5) business days of such conviction, determination or disposition of appeal (2NYCRR 105.4).

SET-OFF RIGHTS. The State shall have all of its common law, equitable and statutory rights of set-off. These rights shall include, but not be limited to, the State's option to withhold for the purposes of set-off any moneys due to the Contractor under this contract up to any amounts due and owing to the State with regard to this contract, any other contract with any State department or agency, including any contract for a term commencing prior to the term of this contract, plus any amounts due and owing to the State for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto. The State shall exercise its set-off rights in accordance with normal State practices including, in cases of set-off pursuant to an audit, the finalization of such audit by the State agency, its representatives, or the State Comptroller.

RECORDS. The Contractor shall establish and maintain complete and accurate books, records, documents, accounts and other evidence directly pertinent to performance under this contract (hereinafter, collectively, "the Records"). The Records must be kept for the balance of the calendar year in which they were made and for six (6) additional years thereafter. The State Comptroller, the Attorney General and any other person or entity authorized to conduct an examination, as well as the agency or agencies involved in this contract, shall have access to the Records during normal business hours at an office of the Contractor within the State of New York or, if no such office is available, at a mutually agreeable and reasonable venue within the State, for the term specified above for the purposes of inspection, auditing and copying. The State shall take reasonable steps to protect from public disclosure any of the Records which are exempt from disclosure under Section 87 of the Public Officers Law (the "Statute") provided that: (i) the Contractor shall timely inform an appropriate State official, in writing, that said records should not be disclosed; and (ii) said records shall be sufficiently identified; and (iii) designation of said records as exempt under the Statute is reasonable. Nothing contained herein shall diminish, or in any way adversely affect, the State's right to discovery in any pending or future litigation.

IDENTIFYING INFORMATION AND PRIVACY NOTIFICATION. (a) Identification Number(s). Every invoice or New York State Claim for Payment submitted to a New York State agency by a payee, for payment for the sale of goods or services or for transactions (e.g., leases, easements, licenses, etc.) related to real or personal property must include the payee's identification number. The number is any or all of the following: (i) the payee's Federal employer identification number, (ii) the payee's Federal social security number, and/or (iii) the payee's Vendor Identification Number assigned by the Statewide Financial System. Failure to include such number or numbers may delay payment. Where the payee does not have such number or numbers, the payee, on its invoice or Claim for Payment, must give the reason or reasons why the payee does not have such number or numbers.

(b) Privacy Notification. (I) The authority to request the above personal information from a seller of goods or services or a lessor of real or personal property, and the authority to maintain such information, is found in Section 5 of the State Tax Law. Disclosure of this information by the seller or lessor to the State is mandatory. The principal purpose for which the information is collected is to enable the State to identify individuals, businesses and others who have been delinquent in filing tax returns or may have understated their tax liabilities and to generally identify persons affected by the taxes administered by the Commissioner

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of Taxation and Finance. The information will be used for tax administration purposes and for any other purpose authorized by law. (2) The personal information is requested by the purchasing unit of the agency contracting to purchase the goods or services or lease the real or personal property covered by this contract or lease. The information is maintained in the Statewide Financial System by the Vendor Management Unit within the Bureau of State Expenditures, Office of the State Comptroller, 110 State Street, Albany, New York 12236.

EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITIES AND WOMEN. In accordance with Section 312 of the Executive Law and 5 NYCRR 143, if this contract is: (i) a written agreement or purchase order instrument, providing for a total expenditure in excess of \$25,000.00, whereby a contracting agency is committed to expend or does expend funds in return for labor, services, supplies, equipment, materials or any combination of the foregoing, to be performed for, or rendered or furnished to the contracting agency; or (ii) a written agreement in excess of \$ 100,000.00 whereby a contracting agency is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon; or (iii) a written agreement in excess of \$100,000.00 whereby the owner of a State assisted housing project is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon for such project, then the following shall apply and by signing this agreement the Contractor certifies and affirms that it is Contractor's equal employment opportunity policy that:

(a) The Contractor will not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status, shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on State contracts and will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination. Affirmative action shall mean recruitment, employment, job assignment, promotion, upgradings, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation;

(b) at the request of the contracting agency, the Contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of the Contractor's obligations herein; and

(c) the Contractor shall state, in all solicitations or advertisements for employees, that, in the performance of the State contract, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.

Contractor will include the provisions of "a", "b", and "c" above, in every subcontract over \$25,000.00 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon (the "Work") except where the Work is for the beneficial use of the Contractor. Section 312 does not apply to: (i) work, goods or services unrelated to this contract; or (ii) employment outside New York State. The State shall consider compliance by a contractor or subcontractor with the requirements of any federal law concerning equal employment opportunity which effectuates the purpose of this section. The contracting agency shall determine whether the imposition of the requirements of the provisions hereof duplicate or conflict with any such federal law and if such duplication or conflict exists, the contracting agency shall waive the applicability of Section 312 to the extent of such duplication or conflict. Contractor will comply with all duly promulgated and lawful rules and regulations of the Department of Economic Development's Division of Minority and Women's Business Development pertaining hereto.

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CONFLICTING TERMS. In the event of a conflict between the terms of the contract (including any and all attachments thereto and amendments thereof) and the terms of this Appendix A, the terms of this Appendix A shall control.

GOVERNING LAW. This contract shall be governed by the laws of the State of New York except where the Federal supremacy clause requires otherwise.

LATE PAYMENT. Timeliness of payment and any interest to be paid to Contractor for late payment shall be governed by Article II-A of the State Finance Law to the extent required by law.

NO ARBITRATION. Disputes involving this contract, including the breach or alleged breach thereof, may not be submitted to binding arbitration (except where statutorily authorized), but must, instead, be heard in a court of competent jurisdiction of the State of New York.

SERVICE OF PROCESS. In addition to the methods of service allowed by the State Civil Practice Law & Rules ("CPLR"), Contractor hereby consents to service of process upon it by registered or certified mail, return receipt requested. Service hereunder shall be complete upon Contractor's actual receipt of process or upon the State's receipt of the return thereof by the United States Postal Service as refused or undeliverable. Contractor must promptly notify the State, in writing, of each and every change of address to which service of process can be made. Service by the State to the last known address shall be sufficient. Contractor will have thirty (30) calendar days after service hereunder is complete in which to respond.

PROHIBITION ON PURCHASE OF TROPICAL HARDWOODS. The Contractor certifies and warrants that all wood products to be used under this contract award will be in accordance with, but not limited to, the specifications and provisions of Section 165 of the State Finance Law, (Use of Tropical Hardwoods) which prohibits purchase and use of tropical hardwoods, unless specifically exempted, by the State or any governmental agency or political subdivision or public benefit corporation. Qualification for an exemption under this law will be the responsibility of the contractor to establish to meet with the approval of the State.

In addition, when any portion of this contract involving the use of woods, whether supply or installation, is to be performed by any subcontractor, the prime Contractor will indicate and certify in the submitted bid proposal that the subcontractor has been informed and is in compliance with specifications and provisions regarding use of tropical hardwoods as detailed in §165 State Finance Law. Any such use must meet with the approval of the State; otherwise, the bid may not be considered responsive. Under bidder certifications, proof of qualification for exemption will be the responsibility of the Contractor to meet with the approval of the State.

MACBRIDE FAIR EMPLOYMENT PRINCIPLES.

In accordance with the MacBride Fair Employment Principles (Chapter 807 of the Laws of 1992), the Contractor hereby stipulates that the Contractor either (a) has no business operations in Northern Ireland, or (b) shall take lawful steps in good faith to conduct any business operations in Northern Ireland in accordance with the MacBride Fair Employment Principles (as described in Section 165 of the New York State Finance Law), and shall permit independent monitoring of compliance with such principles.

OMNIBUS PROCUREMENT ACT OF 1992. It is the policy of New York State to maximize opportunities for the participation of New York State business enterprises, including minority and women-owned business enterprises as bidders, subcontractors and suppliers on its procurement contracts.

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Information on the availability of New York State subcontractors and suppliers is available from:

NYS Department of Economic Development
Division for Small Business
Albany, New York 12245
Telephone: 518-292-5100
Fax: 518-292-5884
email: ODa@esd.nv.gov

A directory of certified minority and women-owned business enterprises is available from:

NYS Department of Economic Development
Division of Minority and Women's Business Development
633 Third Avenue
New York, NY 10017
212-803-2414
email: mwbecertification@esd.nv.gov
<https://nv.newnvcontracts.com/FrontEnd/VendorSearchPublic.asp>

The Omnibus Procurement Act of 1992 requires that by signing this bid proposal or contract, as applicable, Contractors certify that whenever the total bid amount is greater than \$ 1 million:

- (a) The Contractor has made reasonable efforts to encourage the participation of New York State Business Enterprises as suppliers and subcontractors, including certified minority and women-owned business enterprises, on this project, and has retained the documentation of these efforts to be provided upon request to the State;
- (b) The Contractor has complied with the Federal Equal Opportunity Act of 1972 (P.L. 92-261), as amended;
- (c) The Contractor agrees to make reasonable efforts to provide notification to New York State residents of employment opportunities on this project through listing any such positions with the Job Service Division of the New York State Department of Labor, or providing such notification in such manner as is consistent with existing collective bargaining contracts or agreements. The Contractor agrees to document these efforts and to provide said documentation to the State upon request; and
- (d) The Contractor acknowledges notice that the State may seek to obtain offset credits from foreign countries as a result of this contract and agrees to cooperate with the State in these efforts.

RECIPROCITY AND SANCTIONS PROVISIONS. Bidders are hereby notified that if their principal place of business is located in a country, nation, province, state or political subdivision that penalizes New York State vendors, and if the goods or services they offer will be substantially produced or performed outside New York State, the Omnibus Procurement Act 1994 and 2000 amendments (Chapter 684 and Chapter 383, respectively) require that they be denied contracts which they would otherwise obtain. NOTE: As of May 15, 2002, the list of discriminatory jurisdictions subject to this provision includes the states of South Carolina, Alaska, West Virginia, Wyoming, Louisiana and Hawaii. Contact NYS Department of Economic Development for a current list of jurisdictions subject to this provision.

COMPLIANCE WITH NEW YORK STATE INFORMATION SECURITY BREACH AND NOTIFICATION ACT. Contractor shall comply with the provisions of the New York State Information Security Breach and Notification Act (General Business Law Section 899-aa; State Technology Law Section 208).

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COMPLIANCE WITH CONSULTANT DISCLOSURE LAW. If this is a contract for consulting services, defined for purposes of this requirement to include analysis, evaluation, research, training, data processing, computer programming, engineering, environmental, health, and mental health services, accounting, auditing, paralegal, legal or similar services, then, in accordance with Section 163 (4-g) of the State Finance Law (as amended by Chapter 10 of the Laws of 2006), the Contractor shall timely, accurately and properly comply with the requirement to submit an annual employment report for the contract to the agency that awarded the contract, the Department of Civil Service and the State Comptroller.

PROCUREMENT LOBBYING. To the extent this agreement is a "procurement contract" as defined by State Finance Law Sections 139-j and 139-k, by signing this agreement the contractor certifies and affirms that all disclosures made in accordance with State Finance Law Sections 139-j and 139-k are complete, true and accurate. In the event such certification is found to be intentionally false or intentionally incomplete, the State may terminate the agreement by providing written notification to the Contractor in accordance with the terms of the agreement.

CERTIFICATION OF REGISTRATION TO COLLECT SALES AND COMPENSATING USE TAX BY CERTAIN STATE CONTRACTORS, AFFILIATES AND SUBCONTRACTORS. To the extent this agreement is a contract as defined by Tax Law Section 5-a, if the contractor fails to make the certification required by Tax Law Section 5-a or if during the term of the contract, the Department of Taxation and Finance or the covered agency, as defined by Tax Law 5-a, discovers that the certification, made under penalty of perjury, is false, then such failure to file or false certification shall be a material breach of this contract and this contract may be terminated, by providing written notification to the Contractor in accordance with the terms of the agreement, if the covered agency determines that such action is in the best interest of the State.

IRAN DIVESTMENT ACT. By entering into this Agreement, Contractor certifies in accordance with State Finance Law §165-a that it is not on the "Entities Determined to be Non-Responsive Bidders/Offerors pursuant to the New York State Iran Divestment Act of 2012" ("Prohibited Entities List") posted at: <http://www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf>

Contractor further certifies that it will not utilize on this Contract any subcontractor that is identified on the Prohibited Entities List. Contractor agrees that should it seek to renew or extend this Contract, it must provide the same certification at the time the Contract is renewed or extended. Contractor also agrees that any proposed Assignee of this Contract will be required to certify that it is not on the Prohibited Entities List before the contract assignment will be approved by the State.

During the term of the Contract, should the state agency receive information that a person (as defined in State Finance Law §165-a) is in violation of the above-referenced certifications, the state agency will review such information and offer the person an opportunity to respond. If the person fails to demonstrate that it has ceased its engagement in the investment activity which is in violation of the Act within 90 days after the determination of such violation, then the state agency shall take such action as may be appropriate and provided for by law, rule, or contract, including, but not limited to, imposing sanctions, seeking compliance, recovering damages, or declaring the Contractor in default.

The state agency reserves the right to reject any bid, request for assignment, renewal or extension for an entity that appears on the Prohibited Entities List prior to the award, assignment, renewal or extension of a contract, and to pursue a responsibility review with respect to any entity that is awarded a contract and appears on the Prohibited Entities list after contract award.

ARTICLE 3 - WORK

Contractor shall perform, construct and complete all Work as specified and indicated in this Agreement inclusive of the Construction Bid Set.

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ARTICLE 4 - CONTRACT TIMES

- 4.1 **Contract Time.** The Work shall be substantially complete within the Contract Time as stated in General Provisions/Table of Contents Sections dealing with “Failure to Complete on Time”, and accepted in accordance with General Provisions/Table of Contents Sections dealing with “Final Acceptance”. In addition, intermediate stages or sequences of the Work shall be substantially completed and accepted as in accordance with General Provisions/Table of Contents Sections addressing such matters.
- 4.2 **Damages for Delay in Completion.** If the Work is uncompleted after the Contract Time, including all extensions and adjustments in accordance with General Provisions/Table of Contents Sections dealing with “Determination and Extension of Contract Time”, the sum stipulated in General Provisions/Table of Contents Sections addressing “Failure to Complete on Time” will be deducted from any money due or to become due the Contractor or their 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 Contract Time provided in this Contract.

ARTICLE 5 - CONTRACT PRICE

- 5.1 The Owner will pay Contractor for completion of the Work in accordance with the Contract for the Total Base Bid in the amount of \$ _____ Add-on Bid No. 1 in in the amount of \$ _____, for a total Contract amount of \$ _____, hereby identified as the Contract Price, as shown in the Contractor's Proposal, with discrepancies corrected in accordance with General Provisions Section/Table of Contents dealing with “Consideration of Proposals” if applicable.
- 5.2 When unit bid price items are included in the Contract Price, the quantities of various units contained in the Proposal are estimated and payment to the Contractor will be made only for the actual quantities of units that are incorporated in the Work or materials furnished in accordance with the plans and specifications, as determined by the Engineer in accordance with General Provisions Section/Table of Contents addressing “Measurement and Payment” considerations.

ARTICLE 6 - PAYMENT PROCEDURES

- 6.1 **Partial Payments.** Partial payments will be made at least once per month based on the Engineer’s estimate in accordance with General Provisions Section/Table of Contents Sections addressing “Measurement and Payment”. Progress payments will be made in accordance with General Provision Section/Table of Contents Sections concerning “Partial Payments”.
- 6.2 **Retainage.** From the total of the amount determined to be payable on a partial payment, the amount specified in General Provisions Section/Table of Contents Sections addressing “Partial Payments”, will be deducted and retained by the Owner until the final payment is made.
- 6.3 **Final Payment:** Final payment will be made in accordance with General Provisions/Table of Contents Sections addressing “Acceptance and Final Payment”.

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- 6.4 **Withholding of Payments:** Payment, or partial payment, will be withheld by the Owner because of claims made or liens filed in connection with the Contract in accordance with General Provisions Section/Table of Contents Sections addressing “Mechanics Liens” and “Lien Law” related issues.

ARTICLE 7 - CONTRACTOR'S REPRESENTATIONS

In executing this Agreement, Contractor makes the following representations:

- 7.1 Contractor has examined and carefully studied the Contract including all Addenda and modifications thereto including the Construction Bid Set.
- 7.2 Contractor has visited the site and become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress, performance or furnishing of the Work.
- 7.3 Contractor is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.
- 7.4 Contractor has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in the Contract. Contractor acknowledges that such reports and drawings are not part of the Contract and may not be complete for Contractor's purposes. Contractor acknowledges that Owner and Engineer do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract with respect to Underground Facilities at or contiguous to the site. Contractor does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract.
- 7.5 Contractor is aware of the general nature of work to be performed by Owner and others at the site that relates to the Work as indicated in the Contract.
- 7.6 Contractor has correlated the information known to Contractor, information and observations obtained from visits to the site, reports and drawings identified in the Contract and all additional examinations, investigations, explorations, tests, studies and data with the Contract.
- 7.7 Contractor has given Design Engineer written notice of all conflicts, errors, ambiguities or discrepancies that Contractor has discovered in the Contract and the written resolution thereof by the Design Engineer is acceptable to Contractor, and the Contract is generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- 7.8 If this Project utilizes multiple prime contracts, the Contractor has examined the Contract for all prime contracts and has acquired sufficient knowledge of the required work of the other prime contractors to the extent that Contractor clearly understands his own obligations and responsibilities relative to the other prime contracts.

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ARTICLE 8 - CONTRACT

The Contract which comprises the entire Agreement between Owner and Contractor concerning the Work consists of the following:

- 8.1 The Construction Bid Set as same may have been modified or amended.
- 8.2 The Contractors Proposal with discrepancies corrected.
- 8.3 This Contract.
- 8.4 The Contractor's Performance Bond and Payment Bond.
- 8.5 The Contractor's Certificates of Insurance as specified in the Construction Bid Set in the appropriate coverages and amounts and naming the Authority and the City of Syracuse as additional named insureds.
- 8.6 The Notice of Award and Notice to Proceed.
- 8.7 The General Provisions/Table of Contents and the Technical Specifications, which are a part of the Contract and Construction Bid Set.
- 8.8 The Contract Drawings as listed in the Table of Contents and shown in the Construction Bid Set.
- 8.9 Addenda listed below:

<u>Addendum No.</u>	<u>Date</u>
---------------------	-------------

- 8.10 There are no documents forming the Agreement other than those listed above in this Article 8. The Contract may only be amended or modified in a writing signed by both parties.

ARTICLE 9 - MISCELLANEOUS

- 9.1 Terms used in this Agreement shall have the meanings in the General Provision/Table of Contents Sections pertaining to "Definition of Terms".
- 9.2 No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the prior written consent of both party's; any moneys that may become due and payable under this Agreement may not be assigned without prior written consent of both parties.
- 9.3 Any provision or part of the Contract held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner or Contractor, who agree that the Contract shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to

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expressing the intention of the stricken provision.

9.4 Owner and Contractor agree that this Agreement shall be governed by and construed pursuant to the laws of the State of New York without regard to its conflicts of laws principles; that the state or federal courts sitting in the County of Onondaga, State of New York shall have exclusive jurisdiction with regard to any disputes concerning this Agreement; Contractor expressly consents to the personal jurisdiction of such courts; and that venue in such courts shall be exclusive and proper.

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IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement effective on the day and year first above written.

SYRACUSE REGIONAL AIRPORT AUTHORITY

By: _____
Name: H. Jason Terreri
Title: Executive Director

_____ (Contractor Name)

By: _____
Name: _____
Title: _____

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(ACKNOWLEDGMENT OF OFFICER OF OWNER)

STATE OF NEW YORK

COUNTY OF ONONDAGA

} SS:

On the _____ day of _____ in the year 20__, before me, the undersigned, a Notary Public in and for said State, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her capacity, and that by her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

Notary Public

(ACKNOWLEDGMENT OF CONTRACTOR, IF A CORPORATION)

STATE OF _____

COUNTY OF _____

} SS:

On the _____ day of _____ in the year 20__, before me, the undersigned, a Notary Public in and for said State, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her capacity, and that by her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

Notary Public

APPENDIX A

STANDARD CLAUSES FOR NEW YORK STATE CONTRACTS

PLEASE RETAIN THIS DOCUMENT
FOR FUTURE REFERENCE.

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STANDARD CLAUSES FOR NYS CONTRACTS

The parties to the attached contract, license, lease, amendment or other agreement of any kind (hereinafter, "the contract" or "this contract") agree to be bound by the following clauses which are hereby made a part of the contract (the word "Contractor" herein refers to any party other than the State, whether a contractor, licenser, licensee, lessor, lessee or any other party):

1. EXECUTORY CLAUSE. In accordance with Section 41 of the State Finance Law, the State shall have no liability under this contract to the Contractor or to anyone else beyond funds appropriated and available for this contract.

2. NON-ASSIGNMENT CLAUSE. In accordance with Section 138 of the State Finance Law, this contract may not be assigned by the Contractor or its right, title or interest therein assigned, transferred, conveyed, sublet or otherwise disposed of without the State's previous written consent, and attempts to do so are null and void. Notwithstanding the foregoing, such prior written consent of an assignment of a contract let pursuant to Article XI of the State Finance Law may be waived at the discretion of the contracting agency and with the concurrence of the State Comptroller where the original contract was subject to the State Comptroller's approval, where the assignment is due to a reorganization, merger or consolidation of the Contractor's business entity or enterprise. The State retains its right to approve an assignment and to require that any Contractor demonstrate its responsibility to do business with the State. The Contractor may, however, assign its right to receive payments without the State's prior written consent unless this contract concerns Certificates of Participation pursuant to Article 5-A of the State Finance Law.

3. COMPTROLLER'S APPROVAL. In accordance with Section 112 of the State Finance Law (or, if this contract is with the State University or City University of New York, Section 355 or Section 6218 of the Education Law), if this contract exceeds \$50,000 (or the minimum thresholds agreed to by the Office of the State Comptroller for certain S.U.N.Y. and C.U.N.Y. contracts), or if this is an amendment for any amount to a contract which, as so amended, exceeds said statutory amount, or if, by this contract, the State agrees to give something other than money when the value or reasonably estimated value of such consideration exceeds \$10,000, it shall not be valid, effective or binding upon the State until it has been approved by the State Comptroller and filed in his office. Comptroller's approval of contracts let by the Office of General Services is required when such contracts exceed \$85,000 (State Finance Law Section 163.6-a). However, such pre-approval shall not be required for any contract established as a centralized contract through the Office of General Services or for a purchase order or other transaction issued under such centralized contract.

4. WORKERS' COMPENSATION BENEFITS. In accordance with Section 142 of the State Finance Law, this

contract shall be void and of no force and effect unless the Contractor shall provide and maintain coverage during the life of this contract for the benefit of such employees as are required to be covered by the provisions of the Workers' Compensation Law.

5. NON-DISCRIMINATION REQUIREMENTS. To the extent required by Article 15 of the Executive Law (also known as the Human Rights Law) and all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex (including gender identity or expression), national origin, sexual orientation, military status, age, disability, predisposing genetic characteristics, marital status or domestic violence victim status. Furthermore, in accordance with Section 220-e of the Labor Law, if this is a contract for the construction, alteration or repair of any public building or public work or for the manufacture, sale or distribution of materials, equipment or supplies, and to the extent that this contract shall be performed within the State of New York, Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, disability, sex, or national origin: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. If this is a building service contract as defined in Section 230 of the Labor Law, then, in accordance with Section 239 thereof, Contractor agrees that neither it nor its subcontractors shall by reason of race, creed, color, national origin, age, sex or disability: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. Contractor is subject to fines of \$50.00 per person per day for any violation of Section 220-e or Section 239 as well as possible termination of this contract and forfeiture of all moneys due hereunder for a second or subsequent violation.

6. WAGE AND HOURS PROVISIONS. If this is a public work contract covered by Article 8 of the Labor Law or a building service contract covered by Article 9 thereof, neither Contractor's employees nor the employees of its subcontractors may be required or permitted to work more than the number of hours or days stated in said statutes, except as otherwise provided in the Labor Law and as set forth in prevailing wage and supplement schedules issued by the State Labor Department. Furthermore, Contractor and its subcontractors must pay at least the prevailing wage rate and pay or provide the prevailing supplements, including the premium rates for overtime pay, as determined by the State Labor Department in accordance with the Labor Law. Additionally, effective April 28, 2008, if this is a public work contract covered by Article 8 of the Labor Law, the Contractor understands and agrees that the filing of payrolls in a manner consistent with Subdivision 3-a of Section 220 of the Labor Law shall be a condition precedent to payment by the State of

any State approved sums due and owing for work done upon the project.

7. NON-COLLUSIVE BIDDING CERTIFICATION. In accordance with Section 139-d of the State Finance Law, if this contract was awarded based upon the submission of bids, Contractor affirms, under penalty of perjury, that its bid was arrived at independently and without collusion aimed at restricting competition. Contractor further affirms that, at the time Contractor submitted its bid, an authorized and responsible person executed and delivered to the State a non-collusive bidding certification on Contractor's behalf.

8. INTERNATIONAL BOYCOTT PROHIBITION. In accordance with Section 220-f of the Labor Law and Section 139-h of the State Finance Law, if this contract exceeds \$5,000, the Contractor agrees, as a material condition of the contract, that neither the Contractor nor any substantially owned or affiliated person, firm, partnership or corporation has participated, is participating, or shall participate in an international boycott in violation of the federal Export Administration Act of 1979 (50 USC App. Sections 2401 et seq.) or regulations thereunder. If such Contractor, or any of the aforesaid affiliates of Contractor, is convicted or is otherwise found to have violated said laws or regulations upon the final determination of the United States Commerce Department or any other appropriate agency of the United States subsequent to the contract's execution, such contract, amendment or modification thereto shall be rendered forfeit and void. The Contractor shall so notify the State Comptroller within five (5) business days of such conviction, determination or disposition of appeal (2NYCRR 105.4).

9. SET-OFF RIGHTS. The State shall have all of its common law, equitable and statutory rights of set-off. These rights shall include, but not be limited to, the State's option to withhold for the purposes of set-off any moneys due to the Contractor under this contract up to any amounts due and owing to the State with regard to this contract, any other contract with any State department or agency, including any contract for a term commencing prior to the term of this contract, plus any amounts due and owing to the State for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto. The State shall exercise its set-off rights in accordance with normal State practices including, in cases of set-off pursuant to an audit, the finalization of such audit by the State agency, its representatives, or the State Comptroller.

10. RECORDS. The Contractor shall establish and maintain complete and accurate books, records, documents, accounts and other evidence directly pertinent to performance under this contract (hereinafter, collectively, "the Records"). The Records must be kept for the balance of the calendar year in which they were made and for six (6) additional years thereafter. The State Comptroller, the Attorney General and any other person or entity authorized to conduct an examination, as well as the agency or agencies involved in this

contract, shall have access to the Records during normal business hours at an office of the Contractor within the State of New York or, if no such office is available, at a mutually agreeable and reasonable venue within the State, for the term specified above for the purposes of inspection, auditing and copying. The State shall take reasonable steps to protect from public disclosure any of the Records which are exempt from disclosure under Section 87 of the Public Officers Law (the "Statute") provided that: (i) the Contractor shall timely inform an appropriate State official, in writing, that said records should not be disclosed; and (ii) said records shall be sufficiently identified; and (iii) designation of said records as exempt under the Statute is reasonable. Nothing contained herein shall diminish, or in any way adversely affect, the State's right to discovery in any pending or future litigation.

11. IDENTIFYING INFORMATION AND PRIVACY NOTIFICATION.

(a) Identification Number(s). Every invoice or New York State Claim for Payment submitted to a New York State agency by a payee, for payment for the sale of goods or services or for transactions (e.g., leases, easements, licenses, etc.) related to real or personal property must include the payee's identification number. The number is any or all of the following: (i) the payee's Federal employer identification number, (ii) the payee's Federal social security number, and/or (iii) the payee's Vendor Identification Number assigned by the Statewide Financial System. Failure to include such number or numbers may delay payment. Where the payee does not have such number or numbers, the payee, on its invoice or Claim for Payment, must give the reason or reasons why the payee does not have such number or numbers.

(b) Privacy Notification. (1) The authority to request the above personal information from a seller of goods or services or a lessor of real or personal property, and the authority to maintain such information, is found in Section 5 of the State Tax Law. Disclosure of this information by the seller or lessor to the State is mandatory. The principal purpose for which the information is collected is to enable the State to identify individuals, businesses and others who have been delinquent in filing tax returns or may have understated their tax liabilities and to generally identify persons affected by the taxes administered by the Commissioner of Taxation and Finance. The information will be used for tax administration purposes and for any other purpose authorized by law. (2) The personal information is requested by the purchasing unit of the agency contracting to purchase the goods or services or lease the real or personal property covered by this contract or lease. The information is maintained in the Statewide Financial System by the Vendor Management Unit within the Bureau of State Expenditures, Office of the State Comptroller, 110 State Street, Albany, New York 12236.

12. EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITIES AND WOMEN.

In accordance with Section 312 of the Executive Law and 5 NYCRR 143, if this contract is: (i) a written agreement or purchase order instrument, providing for a total expenditure in excess of \$25,000.00,

whereby a contracting agency is committed to expend or does expend funds in return for labor, services, supplies, equipment, materials or any combination of the foregoing, to be performed for, or rendered or furnished to the contracting agency; or (ii) a written agreement in excess of \$100,000.00 whereby a contracting agency is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon; or (iii) a written agreement in excess of \$100,000.00 whereby the owner of a State assisted housing project is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon for such project, then the following shall apply and by signing this agreement the Contractor certifies and affirms that it is Contractor's equal employment opportunity policy that:

(a) The Contractor will not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status, shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on State contracts and will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination. Affirmative action shall mean recruitment, employment, job assignment, promotion, upgradings, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation;

(b) at the request of the contracting agency, the Contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of the Contractor's obligations herein; and

(c) the Contractor shall state, in all solicitations or advertisements for employees, that, in the performance of the State contract, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.

Contractor will include the provisions of "a", "b", and "c" above, in every subcontract over \$25,000.00 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon (the "Work") except where the Work is for the beneficial use of the Contractor. Section 312 does not apply to: (i) work, goods or services unrelated to this contract; or (ii) employment outside New York State. The State shall consider compliance by a contractor or subcontractor with the requirements of any federal law concerning equal employment

opportunity which effectuates the purpose of this section. The contracting agency shall determine whether the imposition of the requirements of the provisions hereof duplicate or conflict with any such federal law and if such duplication or conflict exists, the contracting agency shall waive the applicability of Section 312 to the extent of such duplication or conflict. Contractor will comply with all duly promulgated and lawful rules and regulations of the Department of Economic Development's Division of Minority and Women's Business Development pertaining hereto.

13. CONFLICTING TERMS. In the event of a conflict between the terms of the contract (including any and all attachments thereto and amendments thereof) and the terms of this Appendix A, the terms of this Appendix A shall control.

14. GOVERNING LAW. This contract shall be governed by the laws of the State of New York except where the Federal supremacy clause requires otherwise.

15. LATE PAYMENT. Timeliness of payment and any interest to be paid to Contractor for late payment shall be governed by Article 11-A of the State Finance Law to the extent required by law.

16. NO ARBITRATION. Disputes involving this contract, including the breach or alleged breach thereof, may not be submitted to binding arbitration (except where statutorily authorized), but must, instead, be heard in a court of competent jurisdiction of the State of New York.

17. SERVICE OF PROCESS. In addition to the methods of service allowed by the State Civil Practice Law & Rules ("CPLR"), Contractor hereby consents to service of process upon it by registered or certified mail, return receipt requested. Service hereunder shall be complete upon Contractor's actual receipt of process or upon the State's receipt of the return thereof by the United States Postal Service as refused or undeliverable. Contractor must promptly notify the State, in writing, of each and every change of address to which service of process can be made. Service by the State to the last known address shall be sufficient. Contractor will have thirty (30) calendar days after service hereunder is complete in which to respond.

18. PROHIBITION ON PURCHASE OF TROPICAL HARDWOODS. The Contractor certifies and warrants that all wood products to be used under this contract award will be in accordance with, but not limited to, the specifications and provisions of Section 165 of the State Finance Law, (Use of Tropical Hardwoods) which prohibits purchase and use of tropical hardwoods, unless specifically exempted, by the State or any governmental agency or political subdivision or public benefit corporation. Qualification for an exemption under this law will be the responsibility of the contractor to establish to meet with the approval of the State.

In addition, when any portion of this contract involving the use of woods, whether supply or installation, is to be performed by any subcontractor, the prime Contractor will indicate and certify in the submitted bid proposal that the subcontractor has been informed and is in compliance with specifications and provisions regarding use of tropical hardwoods as detailed in §165 State Finance Law. Any such use must meet with the approval of the State; otherwise, the bid may not be considered responsive. Under bidder certifications, proof of qualification for exemption will be the responsibility of the Contractor to meet with the approval of the State.

19. MACBRIDE FAIR EMPLOYMENT PRINCIPLES.

In accordance with the MacBride Fair Employment Principles (Chapter 807 of the Laws of 1992), the Contractor hereby stipulates that the Contractor either (a) has no business operations in Northern Ireland, or (b) shall take lawful steps in good faith to conduct any business operations in Northern Ireland in accordance with the MacBride Fair Employment Principles (as described in Section 165 of the New York State Finance Law), and shall permit independent monitoring of compliance with such principles.

20. OMNIBUS PROCUREMENT ACT OF 1992. It is the policy of New York State to maximize opportunities for the participation of New York State business enterprises, including minority and women-owned business enterprises as bidders, subcontractors and suppliers on its procurement contracts.

Information on the availability of New York State subcontractors and suppliers is available from:

NYS Department of Economic Development
Division for Small Business
Albany, New York 12245
Telephone: 518-292-5100
Fax: 518-292-5884
email: opa@esd.ny.gov

A directory of certified minority and women-owned business enterprises is available from:

NYS Department of Economic Development
Division of Minority and Women's Business Development
633 Third Avenue
New York, NY 10017
212-803-2414
email: mwbecertification@esd.ny.gov
<https://ny.newnycontracts.com/FrontEnd/VendorSearchPublic.asp>

The Omnibus Procurement Act of 1992 requires that by signing this bid proposal or contract, as applicable, Contractors certify that whenever the total bid amount is greater than \$1 million:

(a) The Contractor has made reasonable efforts to encourage the participation of New York State Business Enterprises as suppliers and subcontractors, including certified minority and women-owned business enterprises, on this project, and has retained the documentation of these efforts to be provided upon request to the State;

(b) The Contractor has complied with the Federal Equal Opportunity Act of 1972 (P.L. 92-261), as amended;

(c) The Contractor agrees to make reasonable efforts to provide notification to New York State residents of employment opportunities on this project through listing any such positions with the Job Service Division of the New York State Department of Labor, or providing such notification in such manner as is consistent with existing collective bargaining contracts or agreements. The Contractor agrees to document these efforts and to provide said documentation to the State upon request; and

(d) The Contractor acknowledges notice that the State may seek to obtain offset credits from foreign countries as a result of this contract and agrees to cooperate with the State in these efforts.

21. RECIPROCITY AND SANCTIONS PROVISIONS.

Bidders are hereby notified that if their principal place of business is located in a country, nation, province, state or political subdivision that penalizes New York State vendors, and if the goods or services they offer will be substantially produced or performed outside New York State, the Omnibus Procurement Act 1994 and 2000 amendments (Chapter 684 and Chapter 383, respectively) require that they be denied contracts which they would otherwise obtain. NOTE: As of May 15, 2002, the list of discriminatory jurisdictions subject to this provision includes the states of South Carolina, Alaska, West Virginia, Wyoming, Louisiana and Hawaii. Contact NYS Department of Economic Development for a current list of jurisdictions subject to this provision.

22. COMPLIANCE WITH NEW YORK STATE INFORMATION SECURITY BREACH AND NOTIFICATION ACT. Contractor shall comply with the provisions of the New York State Information Security Breach and Notification Act (General Business Law Section 899-aa; State Technology Law Section 208).

23. COMPLIANCE WITH CONSULTANT DISCLOSURE LAW. If this is a contract for consulting services, defined for purposes of this requirement to include analysis, evaluation, research, training, data processing, computer programming, engineering, environmental, health, and mental health services, accounting, auditing, paralegal, legal or similar services, then, in accordance with Section 163 (4-g) of the State Finance Law (as amended by Chapter 10 of the Laws of 2006), the Contractor shall timely, accurately and properly comply with the requirement to submit an annual employment report for the contract to the agency that awarded

the contract, the Department of Civil Service and the State Comptroller.

24. PROCUREMENT LOBBYING. To the extent this agreement is a "procurement contract" as defined by State Finance Law Sections 139-j and 139-k, by signing this agreement the contractor certifies and affirms that all disclosures made in accordance with State Finance Law Sections 139-j and 139-k are complete, true and accurate. In the event such certification is found to be intentionally false or intentionally incomplete, the State may terminate the agreement by providing written notification to the Contractor in accordance with the terms of the agreement.

25. CERTIFICATION OF REGISTRATION TO COLLECT SALES AND COMPENSATING USE TAX BY CERTAIN STATE CONTRACTORS, AFFILIATES AND SUBCONTRACTORS.

To the extent this agreement is a contract as defined by Tax Law Section 5-a, if the contractor fails to make the certification required by Tax Law Section 5-a or if during the term of the contract, the Department of Taxation and Finance or the covered agency, as defined by Tax Law 5-a, discovers that the certification, made under penalty of perjury, is false, then such failure to file or false certification shall be a material breach of this contract and this contract may be terminated, by providing written notification to the Contractor in accordance with the terms of the agreement, if the covered agency determines that such action is in the best interest of the State.

26. IRAN DIVESTMENT ACT. By entering into this Agreement, Contractor certifies in accordance with State Finance Law §165-a that it is not on the "Entities Determined to be Non-Responsive Bidders/Offerers pursuant to the New York State Iran Divestment Act of 2012" ("Prohibited Entities List") posted at:
<http://www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf>

Contractor further certifies that it will not utilize on this Contract any subcontractor that is identified on the Prohibited Entities List. Contractor agrees that should it seek to renew or extend this Contract, it must provide the same certification at the time the Contract is renewed or extended. Contractor also agrees that any proposed Assignee of this Contract will be required to certify that it is not on the Prohibited Entities List before the contract assignment will be approved by the State.

During the term of the Contract, should the state agency receive information that a person (as defined in State Finance Law §165-a) is in violation of the above-referenced certifications, the state agency will review such information and offer the person an opportunity to respond. If the person fails to demonstrate that it has ceased its engagement in the investment activity which is in violation of the Act within 90 days after the determination of such violation, then the state agency shall take such action as may be appropriate and provided for by law, rule, or contract, including, but not

limited to, imposing sanctions, seeking compliance, recovering damages, or declaring the Contractor in default.

The state agency reserves the right to reject any bid, request for assignment, renewal or extension for an entity that appears on the Prohibited Entities List prior to the award, assignment, renewal or extension of a contract, and to pursue a responsibility review with respect to any entity that is awarded a contract and appears on the Prohibited Entities list after contract award.

**SECTION 10
ADVERTISEMENT
IFB 2020-05
NOTICE TO CONTRACTORS
FOR
AIRFIELD EQUIPMENT COLD STORAGE BUILDING
AT
SYRACUSE HANCOCK INTERNATIONAL AIRPORT, SYRACUSE, NEW YORK**

Sealed proposals for the construction of the Maintenance Area Cold Storage Building Contract will be received at the office of Brian Dorman – Director of Planning & Development; of the Syracuse Regional Airport Authority located at Syracuse Hancock International Airport, 1000 Col. Eileen Collins Boulevard, Syracuse, New York 13212 until 1:00 pm, local time, on April 22nd, 2020, and there, at said office, at said time, publicly opened and read aloud.

This project generally consists of the construction of a 5,000 SF Storage Building at Syracuse Hancock International Airport, 189 Constellation Way North. Work includes the construction of a new 5,000 SF Building including site preparation, new electric service, building ventilation, solar panel component, and concrete flooring and sidewalk.

The Contract Documents (consisting of the Advertisement, the Proposal, the Agreement, and the Specifications) and the Contract Drawings may be obtained only from the Syracuse Regional Airport Authority Web page and the NYS Contracting Reporter Web site.

Bid Documents and Plans may be viewed and downloaded from the following locations:

Syracuse Regional Airport Authority Web Site
www.syrsgaa.com/bids-rfp-rfq

NYS Contracting Reporter
www.nyscr.ny.gov

Each bid must be accompanied by a certified check or bid bond, in the amount of five percent (5%) of the total maximum bid price (combination of base bid or alternate bid plus add-on items) for the contract in the form and subject to the conditions provided in the Information for Bidders.

A pre-bid conference has been scheduled in order to review the specific requirements of this contract. All prospective bidders are encouraged to attend. Attendance at the pre-bid conference will be considered by the Authority when reviewing the qualifications of the contractor to perform the work in accordance with the terms and conditions of the contract. The pre-bid conference is scheduled for **April 8th, 2020 at 1:00 pm at the Department of Aviation maintenance Building.** You must notify Brian Dorman at dormanb@syrairport.org to be added to the list of attendees.

Any questions regarding bidding of this project shall be submitted by email only to Brian Dorman – Director of Planning & Development of Syracuse Regional Airport Authority at dormanb@syrairport.org. **All RFI's must be submitted no later than April 10 and responses will be posted by April 17th to the Syracuse Regional Airport Authority website.**

Any necessary addendum to this project will be posted to the Syracuse Regional Airport Authority website as well as this advertisement. Bidders should check the website frequently for any updates. Bids must be submitted in a sealed envelope clearly marked:

**Syracuse Hancock International Airport
Airfield Equipment Cold Storage Building Project**

All submissions must include a Flash drive with the bid documents completed & signed.

The Authority reserves the right to waive any informality in the bids and to reject any and all bids.

Syracuse Regional Airport Authority
END OF ADVERTISEMENT

SECTION 20 DEFINITION OF TERMS

Whenever the following terms are used in the Specifications, in the Contract, in any documents or other instruments pertaining to construction where these Specifications govern, the intent and meaning shall be interpreted as follows:

20-1. OWNER (SPONSOR). The term Owner refers to the Syracuse Regional Airport Authority. Whenever the words “Owner,” “Sponsor,” “Authority,” “City of Syracuse,” or “party of the first part” are used, the same are understood to mean the Syracuse Regional Airport Authority, or its representative duly authorized to act.

20-2. ENGINEER. The Engineer is the Engineer of the Syracuse Regional Airport Authority, acting directly or through his authorized assistants acting within the scope of the particular duties entrusted to them.

Where the term “Engineer” is used in the technical divisions, it refers to the Consulting Engineer. The Consulting Engineer as a duly authorized representative of the Engineer is:

CHA
300 South State Street
Suite 600
Syracuse, New York 13202

20-3. ENGINEER’S REPRESENTATIVE. The Engineer’s Representative refers to the Architect and/or Consulting Engineer, or other authorized agents of the Engineer.

20-4. ARCHITECT. The architect is the agent of the City of Syracuse, New York, acting through the City Engineer and has supervision and direction of the work, and has the authority to stop the work whenever such stoppage may be necessary to insure proper execution of the contract. The Architect will directly receive all questions, shop drawings, etc. of the Prime Contractor which he will answer and approve for the Engineer.

20-5. 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.

20-6. SUBCONTRACTOR. The Subcontractor refers only to those having a direct contract with the Contractor and it includes one who furnished materials to a special design according to plans and specifications, but does not include one who merely furnishes material not so worked.

20-7. N.I.C. Any items marked “N.I.C.” (Not in Contract) will be provided by others.

20-8. TIME LIMITS. All time limits stated in the Contract Documents are of the essence of the Contract.

20-9. WORK OF THE CONTRACTOR OR SUBCONTRACTOR. The work of the Contractor or Subcontractor includes labor or materials or both.

20-10. AASHTO. The American Association of State Highway and Transportation Officials, the successor organization to AASHO.

20-11. ACCESS ROAD. The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public highway.

20-12. ADVERTISEMENT. A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.

- 20-13. AIR OPERATIONS AREA.** For the purpose of these Specifications, the term air operations area 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.
- 20-14. AIRPORT.** Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft and includes its buildings and facilities, if any. The name of the airport for which bids are being taken is the Syracuse Hancock International Airport.
- 20-15. ASTM.** The American Society for Testing and Materials.
- 20-16. ATCT.** Air Traffic Control Tower.
- 20-17. AWARD.** The acceptance, by the Owner, of the successful bidder's proposal.
- 20-18. BIDDER.** Any individual, partnership, firm or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.
- 20-19. 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.
- 20-20. CALENDAR DAY.** Every day shown on the calendar
- 20-21. 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 for the work affected by such changes. The work, covered by a Change Order, shall be within the scope of the Contract.
- 20-22. CONTRACT.** The written Agreement covering the work to be performed. The awarded Contract shall include but is not limited to: The Advertisement; the Contract Form; The Proposal; The Performance Bond; any required insurance certificates; The Specifications; The Plans; and any addenda issued to bidders.
- 20-23. CONTRACT ITEM (PAY ITEM).** A specific unit of work for which a price is provided in the Contract.
- 20-24. 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.
- 20-25. DRAINAGE SYSTEM.** The system of pipes, ditches and structures by which surface or subsurface waters are connected and conducted from the airport area.
- 20-26. EQUIPMENT.** All machinery, together with the necessary supplies for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of the work.
- 20-27. 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 Engineer to be necessary to complete the work within the intended scope of the Contract as previously modified.
- 20-28. FAA.** The Federal Aviation Administration of the U.S. Department of Transportation. When used to designate a person, FAA shall mean the Administrator or his duly authorized representative.

20-29. INSPECTOR. An authorized representative of the Engineer assigned to make all necessary inspections and/or tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor. The Inspector shall be a representative from the firm of CHA.

20-30. INTENTION OF TERMS. Whenever, in these Specifications or on the Plans, the words “directed,” “required,” “permitted,” “ordered,” “designated,” “prescribed,” or words of the 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.

20-31. LABORATORY. The official testing laboratories of the Owner or such other laboratories as may be designated by the Engineer.

20-32. 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.

20-33. 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 ten percent (20%) of the total amount of the awarded Contract. All other items shall be considered minor Contract items.

20-34. MATERIAL. Any substance specified for use in the construction of the Contract work.

20-35. NOTICE TO PROCEED. Notice to the contractor to begin the actual Contract work on as previously agreed to date.

20-36. PAVEMENT. The combined surface course, base course, and subbase course, if any, considered as a single unit.

20-37. PERFORMANCE BOND. The approved form of security furnished by the Contractor and his surety as a guaranty that the Contractor will complete the work in accordance with the terms of the Contract and that he will pay in full all bills and accounts for materials and labor used in the construction of the work.

20-38. PLANS. The official drawings, “Contract Drawings” or exact reproductions, approved by the Engineer, which show the location, character, dimensions, and details of the airport and the work to be done and which are to be considered as part of the Contract, supplementary to the Specifications.

20-39. PROJECT. The agreed scope of work for accomplishing specific airport development with respect to a particular airport. The project for this contract consists of the construction of a new 5,000 SF Equipment Storage Building. This project includes, concrete foundations, slabs, Wood Frame building, overhead doors, mechanical, electrical, and related work.

20-40. 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 Contract, Plans and Specifications.

20-41. PROPOSAL GUARANTY. The security furnished with a proposal to guarantee that the bidder will enter into a Contract if his proposal is accepted by the Owner.

20-42. RUNWAY. The area on the airport prepared for the landing and takeoff of aircraft.

20-43. 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.

20-44. STRUCTURES. Airport facilities: such as, bridges, culverts, catch basins, inlets, retaining walk, curbing, storm and sanitary sewer lines, water lines, underdrains, electrical ducts, manholes, handholes, lighting fixtures and bases, transformers, flexible and rigid pavements, navigational aids, buildings, vaults, and other manmade features of the airport that may be encountered in the work and not otherwise classified herein.

20-45. SUBGRADE. The soil which forms the pavement foundation.

20-46. SUPERINTENDENT. The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the Engineer, and who shall supervise and direct the construction.

20-47. SUPPLEMENTAL AGREEMENT. A written Agreement between the Contractor and the Owner covering 1) work that would increase or decrease the total amount of the awarded Contract, or any major Contract Item, by more than twenty-five percent (25%), such increased or decreased work being within the scope of the originally-awarded Contract, or 2) work that is not within the scope of the originally-awarded Contract.

20-48. SURETY. The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds which are furnished to the Owner by the Contractor.

20-49. TAXIWAY. For the purpose of this document, the term taxiway means 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 or aircraft parking areas.

20-50. 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.

20-51. WORK PERIOD. A work period shall be any day or time on which the normal working forces of the Contractor proceed with regular work for at least six (6) hours toward completion of the Contract.

20-52. DATUM. All elevations shown on the Plans refer to USGS Datum.

20-53. RESIDENT ENGINEER. The representative of the Owner directly in charge of the work.

For this project, the Resident Engineer will be the firm of:

CHA
300 South State Street
Suite 600
Syracuse, New York 13202

20-54. SYRACUSE REGIONAL AIRPORT AUTHORITY, Syracuse Regional Airport Authority:
H. Jason Terreri, Executive Director.

Airfield Equipment Cold Storage Building

SECTION 100 - INSTRUCTION TO BIDDERS

100-01 Sealed proposals will be received at the office of Brian Dorman – Director of Planning & Development; of the Syracuse Regional Airport Authority located at Syracuse Hancock International Airport, 1000 Col. Eileen Collins boulevard, Syracuse, New York 13212 until 1:00 pm, local time, on April 22nd, 2020.

**For: Syracuse Hancock International Airport
Airfield Equipment Cold Storage Building Project**

Bid Documents, Plans and specifications may be viewed and downloaded from the following locations:

Syracuse Regional Airport Authority Web Site

NYS Contracting Reporter

www.syrtraa.com

www.nyscr.ny.gov

A. NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246, AS AMENDED).

1. The bidder's attention is called to the "Equal Opportunity Clause" as set forth below and in Section 900-01 THE STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS.
2. The goals for minority, female and disabled Veteran participations, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

Goals for Minority Participation (MBE):	15.5%	See Appendix A
Goals for Female Participation (WBE):	14.5%	See Appendix A
Goals for Disabled Veteran Participation (SDVE):	6.0%	See Appendix B

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or Federally-assisted) performed in the covered area.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the Specifications set forth in 41 CFR 60-4. 3(a), and its efforts to meet the goals established for the geographical area where the Contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the Contract, and in each trade, and the **Contractor shall make good faith effort to employ minorities and women evenly on each of its projects.** The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project, for the sole purpose of meeting the contractor's goals, shall be a violation of the Contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director, OFCCP, within ten (10) working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the Contract resulting from this solicitation. The notification shall list the name, address and telephone number of the Subcontractor; employee identification number; estimated dollar amount of the Subcontract; estimated starting and completion dates of the Subcontract; and the geographical area in which the Contract is to be performed.

Airfield Equipment Cold Storage Building

4. As used in this notice and in the Contract resulting from this solicitation, the "covered area" is the City of Syracuse, Syracuse Regional Airport Authority, the County of Onondaga and the State of New York.

B. BUY AMERICAN- STEEL AND MANUFACTURED PRODUCTS FOR CONSTRUCTION CONTRACTS (JAN 1991)

1. The Aviation Safety and Capacity Expansion Act of 1990 provides that preference be given to steel and manufactured products produced in the United States when funds are expended pursuant to a grant issued under the Airport Improvement Program. The following terms apply:
 - a. Steel and Manufactured Products. As used in this clause, steel and manufactured products include (1) steel produced in the United States or (2) a manufactured product produced in the United States, if the cost of its components mined, produced or manufactured in the United States exceeds 60 percent of the cost of all its components and final assembly has taken place in the United States. Components of foreign origin of the same class or kind as the products referred to in subparagraphs 2a or 2b shall be treated as domestic.
 - b. Components. As used in this clause, components mean those articles, materials, and supplies incorporated directly into steel and manufactured products.
 - c. Cost of Components. This means the costs for production of the components exclusive of final assembly labor costs.
2. The successful bidder will be required to deliver and to assure that only domestic steel and manufactured products will be used by the Contractor, subcontractors, material men, and suppliers in the performance of this contract, except those-
 - a. That the U.S. Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality;
 - b. That the U.S. Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, that domestic preference would be inconsistent with the public interest; or
 - c. That inclusion of domestic material will increase the cost of the overall project contract by more than 25 percent.

100-02. Each bid must be made upon the printed proposal which is a part of this notice sealed within a the name of the work, or of the kind of material, to which the enclosed bid relates standard envelope furnished by the Director of the Office of Management and Budget, Division of Purchase, and endorsed upon the outside of the envelope with the name of the work, or of the kind of material, to which the enclosed bid relates.

Airfield Equipment Cold Storage Building

100-03. Each bid must be accompanied by a certified check or bid bond payable to the "Syracuse Regional Airport Authority" for each Division of work in the amount of 5% of the Contractor's Bid Price

100-04. Each bidder is required to state a price as specified for each and every item enumerated in the proposal upon which the bid is made. Prices must be written with ink in words and also in figures. Do not round off numerals. Do not remove the bid forms from this book. All Contract Documents, except the separately bound Contract Drawing, must be submitted with the Bid.

100-05. Each bidder is required to state in his bid the names and places of residence of any and all persons interested in the bid; that the bid is made without any connection with any person making another bid for the same contract, and that it is in all respects fair and without collusion or fraud; that no member of the Common Council, or other office of the City of Syracuse, Syracuse Regional Airport Authority, or any person in the employ of the said City/Authority is directly or indirectly interested in the bid, or in the supplies or the work to which it relates, or in any portion of the profits thereof.

100-06. No bid may be withdrawn for any reason whatsoever, after it has been deposited with the office of Brian Dorman – Director of Planning & Development of Syracuse Regional Airport Authority.

100-07. The Director of the Syracuse Regional Airport Authority reserves the right to reject any and all bids not deemed for the best interests of the Authority, and to reject as informal such bids, as, in his opinion, are incomplete, conditional, obscure or which contain irregularities of any kind.

100-08. Each bidder is required to form his own opinion on of the quantities and character of the work by personal examination of the ground where it is to be done and of the plans and specifications relating to it, or by such other means as he may prefer.

He shall satisfy himself as to the character, quality, and quantities of work to be performed, materials to be furnished and as 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 as to the conditions to be encountered in performing the work and as to the requirements of the proposed Contract, Plans and Specifications. No allowance shall be made subsequently in this connection in behalf of the Contractor for any error or negligence on his part.

Boring logs and other records of subsurface investigations and tests, if applicable, are not available for inspection of bidders.

100-09. The person or persons whose bid has been accepted will be required to furnish a bond in the amount of One Hundred percent (100%) of the total bid on which the contract shall be let, from some responsible surety company authorized to do business in the State of New York, and to attend at the office of Brian Dorman – Director of Planning & Development of Syracuse Regional Airport Authority with the sureties offered by him or them and execute the contract and bond within ten (10) days from the date of the service of a notice to that effect, delivered to him or them in person, or mailed to the address given in the bid. In case of failure to do so he or they will be deemed to have abandoned the contract, and the amount of the deposit made by him or them will be forfeited to and retained by the Syracuse Regional Airport Authority as liquidated damages for such failure, but if he or they shall execute the contract and bond within the time aforesaid, the amount of his or their deposit will thereupon be returned to him or them.

100-10. The Contractor will be paid monthly approximate estimates to a total amount of ninety-five percent (95%) of the value of the work done to date. The Contractor will be paid monthly in accordance with the terms of the Contract Documents and the requirements of New York law, including but not limited to, paying prevailing wages and supplements, filing all pay rolls for the Project with the Syracuse Regional Airport Authority Engineer or his/her designee in a manner consistent with Section 220(3- a) of the New York Labor Law. The Contractor's filing

Airfield Equipment Cold Storage Building

of pay rolls in a manner consistent with Section 220(3-a) of the New York Labor Law with the Authority's Engineer or his/her designee for this Project is a condition precedent to the payment of any sums due and owing to the Contractor for work done on this project. Additionally, the Contractor must file a duly executed Lien Release and Waiver Form with each payment application and the Contractor's filing of the duly executed Lien Release and Waiver Form is a condition precedent to the payment of any sums due and owing to the Contractor for work done on this Project.

100-11. The Contractor shall have no claim against the Syracuse Regional Airport Authority by reason of any variation between the quantities of the approximate estimate and the quantities of work as done, nor on account of any misunderstanding or misconception of the nature and character of the work, or of the ground where it is to be executed.

Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the Contract, Plans and Specifications.

100-12. SUBSTITUTIONS If the Contractor proposed to use materials or devices other than those specified, equal in quality and workmanship thereto, he shall indicate upon the blank provided the materials or devices which he proposed to furnish. Failure to propose a substitution shall be deemed to mean that the Contractor proposes to use material or devices chosen by the Specifications as standards.

100-13. BIDS. Bids are solicited on a lump sum or unit price basis for each item listed in the proposal. The total price bid for each item shall be for the completion of all parts of the work as shown on the plans and prescribed by specifications, together with all work incidental thereto, for each item listed in the Form of Proposal. Bids will be compared, computed and canvassed on the basis of the approximate estimate and quantities stated in the bid.

100-14. Bidders must be skilled and regularly engaged in the class of work bid for, and if required by the Authority Engineer, must submit satisfactory evidence of competency and financial responsibility to do the work within the agreed time and in accordance with all the requirements of the contract. The successful bidder will be required to keep the entire work of the contract at all times under his control.

100-15. PLAN DEPOSIT.

- A. All Plans, Specifications, bid documents can be obtained through the SRAA webpage along with the NYS contractor reporting site.

100-16 INSURANCE.

Contractor shall be required to purchase at its own cost and expense and maintain at all times for the duration of the contract:

(A) Commercial General Liability insurance (ISO occurrence form CG0001) including Products/Completed Operations and Contractual Liability providing coverage in the minimum amount of:

Bodily Injury and Property Damage Limit	\$1,000,000 each occurrence
Products/Completed Operations Limit	\$2,000,000 aggregate
Personal Injury & Advertising Injury Limit	\$1,000,000 each person or organization
General Aggregate	\$2,000,000 applicable on a per project basis

The Syracuse Regional Airport Authority and the City of Syracuse, their officers, employees and agents shall be named as an Additional Insured for liability arising under this Contract applicable to both ongoing and completed operations on a primary & non-contributory basis. Per Project Aggregate Endorsement.

There shall be no exclusions relating to NYS Labor Law or municipal operations.

Airfield Equipment Cold Storage Building

(B) Automobile Liability insurance coverage on all vehicles used by the Contractor at the Airport, including all owned, hired and non- owned vehicles, with a combined single limit of at least one million dollars (\$1,000,000) for bodily injury, property damage and pollution, naming the Authority and the City of Syracuse as additional insureds. The automobile liability insurance policy shall be comprehensive so as to cover: (i) bodily injury, including mental anguish, sickness, disease and death; and (ii) injury to or destruction of property including loss of use thereof, arising out of the activities of the Contractor;

(D) Worker's Compensation insurance in amounts required by statute for the Contractor's employees; and

(E) Commercial Umbrella/Excess with follow form terms to the primary and having limits of not less :

Bodily Injury and Property Damage Limit	\$5,000,000 each occurrence
Products/Completed Operations Limit	\$5,000,000 aggregate
General Aggregate	\$5,000,000 applicable on a per project basis

All required policies shall be written with carriers who maintain an A.M. Best's rating and financial size of at least A-XII and shall be licensed (for insurance companies domiciled in New York, admitted (for insurance companies not domiciled in New York) and authorized to do business in the State of New York by the New York State Department of Financial Services. The insurance policy must be enforceable in the State of New York, be reasonably acceptable to the Syracuse Regional Airport Authority's counsel and must include coverage and limits of liability as required in this RFQ.

All policies shall include Waiver of Subrogation endorsements in favor of the Syracuse Regional Airport Authority and City of Syracuse.

All policies shall be endorsed to provide for thirty (30) days' written notice to the Authority prior to the cancellation or termination or material modification of the policy, except in the case of nonpayment of premium, in which case the notice shall be no less than ten (10) days to the Authority.

Certificates of Insurance with copies of the endorsements evidencing the required Additional Insured, Waiver of Subrogation and Notice of Cancellation provisions must be delivered to Brian Dorman – Director of Planning & Development.

If at any time, the policies shall become unsatisfactory to the Authority as to form or substance, or if any of the carriers issuing such policy shall be or become unsatisfactory to the Authority, the selected Contractor, on demand of Brian Dorman – Director of Planning & Development, shall promptly obtain a new and satisfactory policy in replacement.

The selected Contractor shall require its subcontractors and joint venture partners to have the same insurance required of the Contractor in this RFQ, and to provide any and all required insurance certificates. The selected Contractor shall not commence work until it has obtained all the insurance required in this RFQ.

(G) Owner's Protective Liability. Each Contractor, at its own cost and expense, shall procure an Owner's Protective Liability Insurance Policy, acceptable to the Owner, designating the Owner as the named insured, with respect to liability arising out of operations performed by the contractor or supervisory acts and omissions of the Owner with respect to such operations. The insurance shall be maintained in full force during the life of this contract. The limits of this insurance shall be in an amount not less than TWO MILLION dollars.

100-17 INSURANCE CERTIFICATES AND POLICIES. The Certificate of Contractor's General Liability Insurance is to be filed with the Owner. This Certificate of Insurance shall contain the following endorsement:

Airfield Equipment Cold Storage Building

"IT IS UNDERSTOOD THAT THE _____ INSURANCE COMPANY WILL NOTIFY THE DIRECTOR OF MANAGEMENT AND BUDGET/DIVISION OF PURCHASE OF THE CITY OF SYRACUSE, NEW YORK, 221 CITY HALL, SYRACUSE, NEW YORK AND THE ENGINEER BY REGISTERED MAIL THIRTY DAYS PRIOR TO ANY CHANGES IN OR CANCELLATION OF THE POLICY."

A copy of the Owner's Protective Liability Insurance policy MUST be submitted to the Director of Management and Budget/Division of Purchase within ten (10) days after notice of award. The certificate of Owner's Protective Insurance alone is not sufficient.

100-18 BID MISTAKES AND ERRORS. When a bidder claims to have made a mistake or error in his bid, such shall be called to the attention of Brian Dorman – Director of Planning & Development of the Syracuse Regional Airport Authority by delivering to the Director a written notice setting forth the nature of the mistake or error accompanied by documentary evidence or other proof of such mistake or error within seventy-two (72) hours after the opening of the bid; otherwise the bid may not be withdrawn. A bidder's failure to deliver either said notice or documentary evidence or proof within seventy-two (72) hours of bid opening shall constitute a waiver of the bidder's right to claim an error or mistake. If such notice and documentary evidence or proof have been provided within seventy-two hours of bid opening the Director of Management and Budget/Division of Purchase will determine if an error or mistake has been made and whether such is excusable. If Brian Dorman – Director of Planning & Development of the Syracuse Regional Airport Authority shall determine that an excusable error or mistake has been made, he may permit the bid to be withdrawn. The determination of Brian Dorman – Director of Planning & Development of the Syracuse Regional Airport Authority as to whether a bidder made an excusable error or mistake shall be conclusive upon the bidder, his surety and all who claim rights under the bidder.

100-19 ELIGIBILITY. The Syracuse Regional Airport Authority reserves the right to disqualify a bidder who is delinquent on property taxes or liable to the City pursuant to any judgment or order, or otherwise indebted to the City.

END OF SECTION

SECTION 200 – INFORMATION FOR BIDDERS

200-01. RECEIPT AND OPENING OF BIDS. The Executive Director of the Syracuse Regional Airport Authority, herein called the “Owner” invites bids on the forms attached hereto, all blanks of which must be appropriately filled in.

Bids will be received by the Owner on the date and hour specified in the Advertisement and Notice to Contractors and then publicly opened and read.

Bids, to receive consideration, must be received prior to **1:00 p.m.** on the date specified.

200-02. QUALIFICATION OF BIDDERS. Attendance of the Pre-Bid Conference stated in the ADVERTISEMENT would be considered in reviewing a Bidder’s qualifications.

Satisfactory evidence of competency to complete the proposed work shall consist of statements covering the Bidder’s past experience on similar work, a list of equipment that would be available for the work, and a list of key personnel that would be available.

Satisfactory evidence of financial responsibility to do the proposed work shall consist of a confidential statement or report of the Bidder’s financial resources and liabilities as of the last calendar year or the Contractor’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 his 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 of report to reflect his (Bidder’s) true financial condition at the time such qualified statement or report is submitted to the Owner.

Each Bidder shall resubmit “evidence of competency” and “evidence of financial responsibility” to the Authority Engineer within forty-eight (48) hours after the time such evidence is requested.

Contractors, Subcontractors or persons performing electrical, security, fire alarm, fire protection, elevator/escalator/lift or HVAC work on this contract must be licensed by the City of Syracuse to perform such work. Contractors, Subcontractors or persons performing plumbing work on this contract must be licensed by Onondaga County to perform such work. Refer to section 700-17 “City Ordinances” for additional information.

200-03. BID SECURITY. Each Bid must be accompanied by a Bid Security in the amount of five percent (5%) of the Base Bid in accordance with the Instruction to Bidders.

Any Contract Document holder, upon returning the Contract Documents in good condition within thirty (30) days of the award of contract, or rejection of proposals, will be refunded the full amount of his/her deposit. Parties failing to conform to the above conditions within the prescribed allotted time shall forfeit their deposits as here set forth and shall have no recourse against the Syracuse Regional Airport Authority for a refund of the Contract Documents deposit.

200-04. BASIS OF AWARD. The contract(s) shall be awarded to the bidder whose Base Bid or Alternate, together with the Add-ons, selected by the Owner, totals the lowest number of dollars.

If unit prices are called for, each bidder is required to state a price as specified for each item enumerated in the proposal upon which the bid is made. Prices must be written with ink in words and also in figures. Upon entering a unit bid price from any item, the product of the approximate quantity listed multiplied by the unit price bid shall be entered into the column marked TOTAL AMOUNT IN FIGURES in each instance. The total of said products shall be entered in words and figures in the space provided at the end of the bid sheets.

SECTION 200 – INFORMATION FOR BIDDERS

In the event there is a discrepancy in any bid between the unit price and the extended totals, the unit prices shall govern. In the event there is a discrepancy in any bid between the unit or lump sum prices written in figures and the unit or lump sum prices written in words, the unit or lump sum prices written in words shall govern.

Prior to notification of award of contract (or intent to award), the apparent successful bidder shall submit the following information to the Engineer in writing:

- A. For each of the forgoing lump sum items: Provide a schedule for values for major products, assemblies, or operations indicating separate amounts for (a) purchased materials, (b) labor, and (c) construction equipment, which total the lump sum bid for each item.
- B. For each of the foregoing unit price items: Provide a schedule of values for the portion of the unit price allocated to (a) purchased materials, (b) labor, and (c) construction equipment which total to the unit price bid for each item.

The breakdowns will be reviewed by the Engineer. Any additional detail or justification for cost distribution shall be provided by the apparent successful bidder upon request.

The breakdowns for lump sum items shall serve as a basis for computing progress payments during construction for installed portions of lump sum items and to assist the Engineer in determining if change order costs are reasonable.

The breakdowns of unit price items will not be used in computing progress payments, but will be used to assist the Engineer in determining if change order costs are reasonable.

200-05. ADDENDA AND INTERPRETATIONS. No interpretation of the meaning of the plans, specifications or other contract documents will be made to any bidder orally. Every request for such interpretation should be submitted by email to Brian Dorman – Director of Planning & Development at dormanb@syrairport.org.

And to be given consideration must be received at least five (5) days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be mailed to all bidders (at respective addresses furnished for such purposes) not later than three days (72 hours) prior to the date fixed for opening of bids. Failure of any bidder to receive such addendum of interpretation shall not relieve any bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the contract documents. Failure to request an interpretation constitutes a waiver to later claim that ambiguities of misunderstandings caused a bidder to improperly submit its bid or to have inadvertently bid on certain items.

200-06. SECURITY FOR FAITHFUL PERFORMANCE. The successful bidder must have such qualifications as may be required for the execution of a Surety Bond of standard form in the amount of one hundred percent (100%) of the accepted bid as security guaranteeing the faithful performance of the work and a Surety Bond of standard form in the amount of one hundred percent (100%) of the accepted bid price as security for the payment of all labor and furnishing materials in connection therewith.

Attorneys in fact, who sign both contract bonds, must file with each bond a certified copy of their Power of Attorney to sign said bonds.

200-07. START OF WORK. The bidders are hereby notified that the time of completion if of the essence and, to that end, the Owner has determined that the completion dates as stated below and in the Contract and Specifications include adequate time for completing the work under this Contract. If the bidders consider that the time complete the work is inadequate, they should not submit bids.

SECTION 200 – INFORMATION FOR BIDDERS

The work of the Contract shall commence on the date stated in the Notice to Proceed to the Contractor.

200-08. TIME OF COMPLETION. The time of completion for the Project shall be **180 calendar days**** from the Notice to Proceed and shall mean all work of the Contract is complete and in operating order.

The Bidders attention is directed to the liquidated damages provisions of the section titled “FAILURE TO COMPLETE ON TIME” of section 200-16.

200-09. PROPOSALS. Proposals to be entitled to consideration must be in accordance with the following instructions:

Proposals shall be made upon the form provided herein, and all blank spaces in the Form of Proposal shall be fully filled; and the amount of the bid shall be stated both in writing and in figures; the signature shall be in longhand; and all completed forms shall be without interlineation, alteration, or erasure.

Proposals shall not contain any recapitulation of the work to be done. No oral, telegraphic, or telephone proposals or modifications of the same will be considered.

Proposal sheets are bound herein. The entire original specification, shall be enclosed in an envelope and the envelope sealed. Proposals shall be addressed to Brian Dorman – Director of Planning & Development of the Syracuse Regional Airport Authority, and shall be delivered to the office of Brian Dorman – Director of Planning & Development of the Syracuse Regional Airport Authority at site of opening on or before the date and hour specified.

The competence and responsibility of bidders will be considered in determining that a bidder is qualified for purpose of making the award. See Section 200-02 QUALIFICATION OF BIDDERS.

Any bulletins or addenda issued during the time of bidding are to be covered in the proposal and in closing a contract will become part thereof.

Each bid must be signed by the bidder with his usual signature.

Bids for partnerships should be signed with the partnership name by one of the members of the partnership or by an authorized representative, followed by the signature and title of the person signing.

Bids for corporations must be signed with the name of the corporation, followed by the signature and designation of the president, vice-president, or other authorized to bind in matter.

200-10. DOCUMENTS. The term “Contract Documents” or “Bid Documents” refers to the Advertisement, Definition of Terms, Instruction to Bidders, Information for Bidders, Form of Proposal, Minority Business Information, Agreement, Contractor’s Performance Bond, Clauses of General Application, Additional New York State Department of Transportation Requirements, Special provisions, Contract Drawings and any addenda issued during the bidding period.

200-11. SUBCONTRACTORS AND MAJOR MATERIALS LIST. The subcontractors and materials list must be filled out and submitted within 48 hours of notice of award.

200-12. CONTRACT DRAWINGS FURNISHED TO CONTRACTORS. Each Prime Contractor will be furnished, free of charge, Two (2) sets of full-size Contract drawings, and two (2) copies of the Specifications. Additional sets of Contract Drawings and Specifications will be furnished at cost.

SECTION 200 – INFORMATION FOR BIDDERS

200-13. NOTICE OF AWARD AND EXECUTION OF CONTRACT. Within ten (10) days after notice of award, the Contractor must submit to Brian Dorman – Director of Planning & Development of the Syracuse Regional Airport Authority: the Performance Bond (see Section 600); Certificate(s) for all required insurance policy(ies); and the MWBE & SDVOB Participation Plan. Contractor shall submit to Brian Dorman – Director of Planning & Development of the Syracuse Regional Airport Authority a copy of the Owner’s Protective Liability Insurance Policy within thirty (30) days after notice to of award. In case of failure of Contractor to do so, it may be deemed to have abandoned the Contract, and the amount of the deposit made by the Contractor will be forfeited to and retained by the Airport Authority as Liquidated damages for such failure, but not if Contractor shall execute the contract and bond with the time of aforesaid, the amount of its deposit will thereupon be returned to the Contractor

In order to execute the Contract, the successful bidder shall sign (execute) the necessary Agreements for entering into the contract and return such signed Contract to the Owner, along with the full executed surety bonds specified in Section 200-06 SECURITY FOR FAITHFUL PERFORMANCE, within ten (10) calendar days from the time mailed or otherwise delivered to the successful bidder. If the Contract is mailed, special handling is recommended.

200-14. 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 its approved by the Owner in accordance with Section 200-15 APPROVAL OF CONTRACT.

200-15. 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 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 terms of the Contract.

200-16. FAILURE TO COMPLETE ON TIME. The sum of \$1,000.00 per calendar day shall be deducted from the moneys due to the Contractor for each calendar day that any work shall remain uncompleted after the time limit stipulated in the “TIME OF COMPLETION” section above.

200-17. SUBSTITUTION OF EQUAL ITEMS. Whenever these specifications mention an item by name, and use specified descriptions of same reference thereto, it is intended to convey to the Bidder an understanding of the standard of excellence required. Items of equal type, quality, and approximate size which will conform substantially to the standard of excellence established to provide equivalent merit, strength, durability, and appearance and to perform the required function in accordance with these specifications may be substituted; the Authority Engineer shall have final approval of whether a substitute item is equal to the item specified.

200-18. SALES TAX EXEMPTION. The Owner is exempt from the payment of Sales and Compensating Use Taxes of the State of New York and of cities and counties on all materials and supplies sold to The Owner pursuant to the provisions of this Contract. These taxes are not included in bids. This exemption does not, however, apply to tools, machinery, equipment, or other property leased by or to the Contractor or a Subcontractor, to materials and supplies of a kind which will not be incorporated into the completed project, and the Contractor and his Subcontractors shall be responsible for and pay any and all applicable taxes including Sales and Compensating Use Taxes on such leased tools, machinery, equipment, or property or on such incorporated materials and supplies, and provisions set forth below will not be applicable to such tools, machinery, equipment, property, and unincorporated materials and supplies.

The Contractor agrees to sell, free of encumbrances, and the Owner agrees to purchase all of the materials and supplies (except as above set forth) required, necessary or proper for or incidental to the construction of the Project covered by this agreement. Title to all materials and supplies to be sold by the Contractor to the Owner, pursuant to provisions of the contract, shall immediately vest in and become the sole property of the Owner upon delivery of such materials and supplies to the Project site. The Contractor shall mark or otherwise identify all such materials

SECTION 200 – INFORMATION FOR BIDDERS

and supplies as the property of the Owner. The Contractor, at the request of the Owner, shall furnish to the Owner such confirmatory bills of sale and other instruments as may be required by it, properly executed, acknowledged and delivered, confirming to the Owner, title to such materials and supplies free of encumbrances.

In the event that after title has passed to the Owner any such materials and supplies are rejected as being defective or otherwise unsatisfactory, title to such materials and supplies shall, upon rejection, return to the Contractor.

The sum paid under this Agreement shall be deemed to be in full consideration for the performance by the Contractor of all his duties and obligations under this Agreement in connection with said sale.

The Contractor agrees to construct the Project and to furnish and perform all work and labor required, necessary or proper for or incidental thereto, except that the materials and supplies sold to the Owner under the preceding paragraph shall be furnished by the Owner to the Contractor for use in performance of said work and labor, and sum paid pursuant to this Agreement shall be deemed to be in full consideration for the performances by the Contractor of all his duties and obligations under this Agreement in connection with said work and labor.

The purchase by the Contractor of the materials and supplies sold hereunder will be a purchase or procurement for resale to the Owner (an organization described in Subdivision (A) of Section 1116 of Tax Law of the State of New York) and therefore not subject to the New York State Sales or Compensating Use or any such taxes of cities or counties. The sale of such materials and supplies by the Contractor to the Owner will not be subject to the aforesaid Sales and Compensating Use Taxes.

The purchase by Subcontractors of materials and supplies to be sold hereunder will also be a purchase or procurement for resale to the Contractor (either directly or through other Subcontractors), and ultimately to the Owner, and therefore not subject to the aforesaid Sales and Compensating Use Taxes, provided that the Subcontract Agreements provide for the resale of such materials and supplies prior to and separate and apart from the incorporation of such materials and supplies into the permanent construction and that such Subcontract Agreements are in a form similar to this Contract with respect to separation of the sale of materials and supplies from the work and labor to be provided.

If as a result of such sale of materials and supplies (1) any claim is made against the Contractor or any Subcontractor by the State of New York or any city or county for Sales and Compensating Use Taxes on the aforementioned materials and supplies or (2) any claim is made against the Contractor or any Subcontractor by a material man or a Subcontractor on account of a claim against such material man or Subcontractor by the State of New York or any city or county for Sales or Compensating Use Taxes on the above mentioned materials and supplies, then, if the Contractor and subcontractor have complied with the provisions of this Contract relating thereto, the Owner will reimburse the contractor or any subcontractor, as the case may be, for an amount equal to the amount of such tax required to be paid in accordance with the requirements of law, provided that:

- A.
 - 1. The Subcontract Agreements in connection with this Contract, provide for the resale of such materials and supplies, prior to and separate and apart from the incorporation of such materials and supplies into the permanent construction.
 - 2. Such Subcontract Agreements are in a form similar to this Contract with respect to the separation of the sale of materials and supplies from the other work and labor to be provided, and
 - 3. Such separation is actually followed in practice, including the separation of payments for materials and supplies from the payments for other work and labor, and
- B. The Contractor and his Subcontractors and materialmen complete New York State Tax Form ST120.1 (Contractor Exempt Purchase Certificate), and furnish such certificate to all persons, firms, or corporations

SECTION 200 – INFORMATION FOR BIDDERS

from which they purchase materials and supplies for the performance of the work covered by this Contract, and

- C. Contractor and all Subcontractors maintain and keep, for a period of six (6) years after the date of final payment for the sale, or, if a claim for Sales or Compensating Use Tax is pending or threatened at the end of such six (6) year period, until such claim is finally settled, records, which in the judgment of the Department of Taxation and Finance, adequately show (1) all materials and supplies purchased by them for resale, pursuant to the provisions of this Contract and (2) all materials and supplies sold to the Owner pursuant to this Contract, and
- D. The Owner is afforded the opportunity, before any payment of tax is made, to contest said claim in the manner and to the extent that the Owner may choose and to settle or satisfy said claims, and such attorney as the Owner may designate is authorized to act for the purpose of contesting, settling and satisfying said claim, and
- E. Contractor and Subcontractor give immediate notice to the Owner of any such claim, cooperate with the Owner and its designated attorney in contesting said claim and furnish promptly to the Owner and said attorney all information and documents necessary or convenient for contesting such claim, said information and documents to be preserved for six (6) years after date of final payment for sale, or if such a claim is pending or threatened at the end of such six (6) years, until such claim is finally settled. If the Owner elects to contest any such claim, it will bear the expense of such contest.

Nothing in this Article is intended or shall be construed as relieving the Contractor from his obligations under this Agreement and the Contractor shall have the full continuing responsibility to install the materials and supplies purchased in accordance with the provisions of this Contract, to protect the same, to maintain them in proper condition and to forthwith repair, replace and make good any damage thereto without cost to the Owner until such time as the work covered by the Contract is fully accepted by the Owner.

END OF SECTION

SECTION 300 – FORM OF PROPOSAL

DO NOT DETACH - FILL IN - SIGN AND RETURN ENTIRE BOOK AS YOUR BID FORM OR PROPOSAL

For all work included for this: **Airfield Equipment Cold Storage Building**
Syracuse Hancock International Airport
Syracuse, New York 13212

SEND TO:

Brian Dorman – Director of Planning & Development
1000 Col. Eileen Collins Boulevard, Syracuse, New York 13212

The undersigned hereby declares that the only person interested in this Bid; that it is made without any connection with any person making another Bid for the same contract; that the Bid is in all respects fair; and without collusion or fraud; and that no member of the Syracuse Regional Airport Authority, Common Council or other office of the City of Syracuse, or any person in the employ of said Authority and/or City, is directly or indirectly interested in this Bid, or in the supplies or work to which it relates or in any portion of the profits thereof.

The undersigned also declares that he has carefully examined the form of Contract and Specifications, and the drawings therein referred to on file in the office of Brian Dorman – Director of Planning & Development of the Syracuse Regional Airport Authority, and will provide all necessary machinery, tools, apparatus, and other means of construction, and do all the work and furnish all the materials called for by said Contract and Specifications and the requirements under them of the Airport Authority for the following sums to wit:

BID SHEETS

Bidders shall fill in the bids in ink, in words and in figures, as prescribed by the Bid Documents herein.

DBE GOALS: None.

Goals for Minority Participation (MBE):	15.5%	See Appendix A
Goals for Female Participation (WBE):	14.5%	See Appendix A
Goals for Disabled Veteran Participation (SDVE):	6.0%	See Appendix B

This Bid is to provide all labor, materials, equipment, supplies, and incidentals as necessary and required to complete the work of the Project, **AIRFIELD EQUIPMENT COLD STORAGE BUILDING PROJECT, SYRACUSE-HANCOCK INTERNATIONAL AIRPORT**, as contained in the document titled "Contract Documents for the Construction at Syracuse Hancock International Airport, Syracuse, New York" dated March 2020, all drawings contained in the "Contract Drawings for the Construction dated March 2020, including all documents incorporated therein by reference and all of the Addenda that are listed below.

THE AUTHORITY RESERVES THE RIGHT TO AWARD THIS CONTRACT AS DEEMED TO BE IN THE BEST INTEREST OF THE SYRACUSE REGIONAL AIRPORT AUTHORITY.

1. BASIS OF BIDS

- 1.1. Bidder will complete the work in accordance with the Contract Documents for the Total Contract Base Bid or Alternate Bid, plus any Allowances, if any, which are chosen by the Owner to be awarded as submitted by the Contractor on the following bid pages:

SECTION 300 – FORM OF PROPOSAL

BID
SHEET

Bidders shall fill in the bids in ink, in words and in figures.

CONTRACT NO. 1 GENERAL CONSTRUCTION BASE

BID:

The following lump sum bid shall include all labor, materials, equipment and all other incidentals necessary to accomplish the General Construction base bid work of this contract as shown on the drawings and specifications herein:

_____ Dollars (\$ _____)
_____) Words
_____ Figures

2. BID RECIPIENT

2.1. This Bid is submitted to:

Owner: Syracuse Regional Airport Authority
Care of: Brian Dorman – Director of Planning & Development
Address: 1000 Col. Eileen Collins Boulevard, Syracuse, New York 13212
Project Identification: Airfield Equipment Cold Storage Building Project

The undersigned also declares that in submitting his bid that he has incorporated the name of the manufacturers, plate and catalog numbers of the various articles described in these specifications, and submit the following list of names of persons, firms or corporations, the fixtures, appliances, and equipment, manufactured by one of three of whom proposes to use for the branch of the work in question, subject to the approval of the Authority Engineer as provided in the contract, and agree that no change shall be made in this list after the acceptance by the Airport Authority of the proposal except with the written authority of the Engineer in every case.

And will commence to work or to furnish materials and supplies at once after signing the contract and will progress therewith to its completion, as per Section 200-07 START OF WORK and Section 200-08 TIME FOR COMPLETION and in accordance with the terms of the contract.

Accompanying this proposal is a certified check or bid bond for 5% of the total amount of the bid, payable to the Order of the Syracuse Regional Airport Authority, which shall become the property of the Airport Authority, if, in case this proposal shall be accepted by said Authority, the undersigned shall fail to execute a contract with and give a bond to said Authority according to the requirements of Section 200 INFORMATION FOR BIDDERS within the time provided for by said Section, otherwise the said deposit is to be returned to the undersigned.

SECTION 300 – FORM OF PROPOSAL

(Signature of authorized person)

P.O. Address _____

Dated _____

Contractor's Phone Number: (_____) _____

Contractor's Fax Number: (_____) _____

The full names and residences of all persons interested in this bid as principals are as follows:

Bidders must fill out the above complete.

MATERIAL LIST

Upon notice of award, bidders shall fill in the following list giving manufacturer and catalog numbers. If the material offered is not as specified, bidder shall submit sufficient catalog and specification data so that an intelligent comparison can be made for the purpose of recommending awards. If Bidder does not fill in the material list, it will be construed to mean that bidder will furnish material exactly as specified.

ITEM	MANUFACTURER	PLATE AND/OR CATALOG NO.

REFERENCES

Bidders shall list the nearest installation of similar work and/or material.

Project	Location	Date Completed

NOTE: The materials list shall be submitted to the Authority Engineer within 48 hours of notice of award.

SECTION 300 – FORM OF PROPOSAL

SUBCONTRACTORS

Subcontractor Name and Title of Signer	Signature and Date
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____

NOTE: The Subcontractors list shall be submitted to the Authority Engineer within 48 hours of notice of award.
The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

**NON-COLLUSIVE BIDDING CERTIFICATION
SEC. 103-d GENERAL MUNICIPAL LAW, AS AMENDED**

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid; each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his knowledge and belief:

1. The prices in this bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder, or with any competitor.
2. Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder, and will not knowingly be disclosed by the bidder prior to opening, directly, or indirectly, to any other bidder or to any competitor; and
3. No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for purpose of restricting competition.

I hereby affirm under the penalties of perjury that the foregoing statement is true. I also acknowledge notice that a false statement made in the foregoing is punishable under Article 20 of the Penal Law.

SIGN HERE Contractor's Signature _____

SECTION 300 – FORM OF PROPOSAL

DISCLOSURE STATEMENT

The Common Council by Ordinance No. 514 on September 24, 1973 requires information from all persons, partnerships, corporation, trusts and associations transacting business with the City of Syracuse relative to any proposed business transaction including but not limited to land purchase, construction, purchase and lease agreement.

To obtain said information the Purchasing Department of the City of Syracuse requests that you provide the appropriate information by filling out the form below which applies to you.

VENDORS

PERSON

(Full Name)

(Business Address)

(Telephone Number)

PARTNERSHIP

(Name of Each Partner)

(Assumed Name)

(Where Assumed Name Certificate Was Filed)

(Business Address)

(Telephone Number)

FOREIGN OR DOMESTIC CORPORATION

Foreign Corp.

Yes ____ No ____

Domestic Corp.

Yes ____ No ____

If Foreign, State of Incorporation _____

SECTION 300 – FORM OF PROPOSAL

Officers of Corporation:

President _____

Vice President _____

Secretary _____

Treasurer _____

List other if any _____

List of directors names and addresses

Name of Stockholders in privately owned and operated corporation:

Name	Address	Number of Shares
------	---------	------------------

Total number of shares issued by aforementioned corporation: _____

TRUST

ASSOCIATION

The Ordinance specifically provides that a corporation required to file reports with the Security Exchange Commission need not provide such information.

SECTION 300 – FORM OF PROPOSAL

NON-DISCRIMINATION STATEMENT

"During the performance of this contract, the Contractor or Vendor agree:

- A. That he/she/it will not discriminate against employee or applicant for employment because of race, religion, age, color, sex, or national origin.
- B. That he/she/it will not discriminate against any employee or applicant for employment on the basis of sexual or preference or orientation.
- C. That he/she will cooperate with the Human Rights Commission of Syracuse and Onondaga County in implementing the Fair Employment Program adopted pursuant to Ordinance No. 302 of 1973, adopted by the Common Council on May 21, 1973, a copy of which is on file in the office of the City Clerk.
- D. That he/she will provide to said Commission relevant information or reports required under said ordinance or administrative regulations adopted pursuant thereto."

I hereby affirm under the penalties of perjury that the foregoing statement is true.

I also acknowledge notice that a false statement made in the foregoing is punishable under Article 20 of the Penal Law.

SIGN HERE

Signature of Contractor's Authorized Person

Date

Name of Contractor

Name of Contractor's Authorized Person

Title of Contractor's Authorized Person

(Syracuse Regional
Airport Authority)

(This form must be completed and submitted with the Proposal.)

SECTION 300 – FORM OF PROPOSAL

BIDDING AND GENERAL REQUIREMENTS: LABOR AFFIDAVITS

The following paragraphs outline the certification and reporting procedures required by the Offices of the State Comptroller to implement Chapter 698, laws of 1988 (Labor Affidavits) for all public improvement contracts.

1. The prime contractor must provide each subcontractor with a copy of the schedule of wages and supplements specified in the contract before the subcontractor's work is started.
2. The prime contractor must immediately obtain the subcontractor's certification. Such certification must be maintained by the prime contractor until the final payment is requested. A copy of the prime contractor's and subcontractor's certification forms are on the following three (3) pages. The forms provided are for the convenience of the Contractor and are not required to be submitted with the Contractor's bid.
3. If revised schedules of wages and supplements are issued, the prime contractor must provide each subcontractor with such revised schedules and obtain a revised subcontractor's certification.
4. The prime contractor must submit a labor affidavit in support of the payment of wages to its own employees.
5. A copy of the subcontractor's certification (s) and the prime contractor's affidavit must be submitted to the Authority Engineer with the prime contractor's final payment request. At the same time, the original of these documents must be sent to Brian Dorman – Director of Planning & Development of the Syracuse Regional Airport Authority. Failure to obtain and provide the required certifications will delay the contractor's final payment.

NOTE: The term "subcontractor" applies to both subcontractors of the contractor and subcontractors of a subcontractor.

**SECTION 300 – FORM OF PROPOSAL
PRIME CONTRACTOR’S CERTIFICATION**

(NEW YORK STATE LABOR LAW, SECTION 220-a)

- 1. That I am an officer of _____ and am duly authorized to make this affidavit on behalf of the prime contractor on public contract No. _____.
- 2. That I fully comprehend the terms and provisions of Section 220-a of the Labor Law.
- 3. That, except as herein stated, there are no amounts due and owing to or on behalf of laborers employed on the project by the contractor. (Set forth any unpaid wages and supplements, if none, so state).

NAME	AMOUNT

- 4. That the contractor hereby files every verified statement required to be obtained by the contractor from the subcontractors.
- 5. That, upon information and belief, except as stated herein, all laborers (exclusive of executive or supervisory employees) employed on the project have been paid the prevailing wages and supplements for their services through _____, the last day worked on the project by their subcontractor. (Set forth any unpaid wages and supplements, if not, so state and utilize clause 5A below).

NAME	AMOUNT

- (5A) That the contractor has no knowledge of amounts owing to or on behalf of any laborers of its subcontractors.

In the event it is determined by the Commissioner of Labor that the wages or supplements or both of any such subcontractors have not been paid or provided pursuant to the appropriate schedule of wages and supplements, then the contractor shall be responsible for payment of such wages and supplements pursuant to the provision of Section 223 of the Labor Law.

SECTION 300 – FORM OF PROPOSAL

SIGNATURE

PRINT NAME

TITLE

ACKNOWLEDGMENT:

STATE OF NEW YORK
COUNTY OF _____

SS: _____

On this _____ day of _____, 20____ before me personally came _____
_____ to me known and known to me to be the person described in and who executed for foregoing
instrument and acknowledged that he executed the same.

NOTARY PUBLIC

COUNTY

If this affidavit is verified by an oath administered by a notary public in a foreign country other than Canada, it must be accompanied by a certificate authenticating the authority of the notary who administers the oath. (See CPLR Section 2309 (c); Real Property Law, Section 311,312).

SECTION 300 – FORM OF PROPOSAL

**SUBCONTRACTOR’S CERTIFICATION
(NEW YORK STATE LABOR LAW, SECTION 220-a)**

1. That I am an officer of _____ a subcontractor on public contract No. _____ and I am duly authorized to make this affidavit on behalf of the firm.
2. That I make this affidavit in order to comply with the provisions of Section 220-a of the Labor Law.
3. That on _____ we received from _____ the prime contractor a copy of the initial/revised schedule of wages and supplements Prevailing Rate Case Number 2020003138 (PRC) specified in the public improvement contract.
4. That I have reviewed such schedule(s), and agree to pay the applicable prevailing wages and to pay or provide the supplements specified therein.

SIGNATURE

PRINT NAME

TITLE

ACKNOWLEDGMENT:

STATE OF NEW YORK
COUNTY OF _____ SS: _____

On this _____ day of _____, 20____ before me personally came _____
_____ To me known and known to me to be the person described in and who executed for
foregoing instrument and acknowledged that he executed the same.

NOTARY PUBLIC

COUNTY

If this affidavit is verified by an oath administered by a notary public in a foreign country other than Canada, it must be accompanied by a certificate authenticating the authority of the notary who administers the oath. (See CPLR Section 2309 (c); Real Property Law, Section 311,312).

SECTION 300 – FORM OF PROPOSAL

BUY AMERICAN PREFERENCES

- a) The Aviation Safety and Capacity Expansion Act of 1990 provides that preference be given to steel and manufactured products produced in the United States when funds are expended pursuant to a grant issued under the Airport Improvement Program. The following terms apply:
1. Steel and manufactured products. As used in this clause, steel and manufactured products include (1) steel produced in the United States or (2) a manufactured product produced in the United States, if the cost of its components mined, produced or manufactured in the United States exceeds 60 percent of the cost of all its components and final assembly has taken place in the United States. Components of foreign origin of the same class or kind as the products referred to in subparagraphs b. (1) or (2) shall be treated as domestic.
 2. Components. As used in this clause, components means those articles, materials, and supplies incorporated directly into steel and manufactured products.
 3. 3. Cost of Components. This means the costs for production of the components, exclusive of final assembly labor costs.
- b) The successful bidder will be required to assure that only domestic steel and manufactured products will be used by the Contractor, subcontractors, materialmen and suppliers in the performance of this contract, except those:
1. that the US Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality;
 2. that the US Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, that domestic preference would be inconsistent with the public interest; or
 3. that inclusion of domestic material will increase the cost of the overall project contract by more than 25 percent.

SECTION 300 – FORM OF PROPOSAL

CERTIFICATION:

By submitting a bid/proposal under this solicitation, except for those items listed by the offerer below or on a separate and clearly identified attachment to this bid/proposal, the offerer certifies that steel and each manufactured product, are produced in the United States, as defined in the clause Buy American- Steel and Manufactured Products for Construction Contracts) and that components of unknown origin are considered to have been produced or manufactured outside the United States.

Offerers may obtain from the owner a listing of articles, materials and supplies excepted from this provision.

PRODUCT	COUNTRY OF ORIGIN
_____	_____
_____	_____
_____	_____
_____	_____

(This form must be completed and submitted with the Proposal.)

SECTION 300 – FORM OF PROPOSAL

CERTIFICATION OF NON-SEGREGATED FACILITIES- 41 CFR PART 60-1.8

BIDDER'S NAME: _____

ADDRESS: _____

TELEPHONE NO.: _____ **FAX NO.** _____

IRS EMPLOYER IDENTIFICATION NUMBER: _____

The federally-assisted construction contractor certifies that she or he does not maintain or provide, for his employees, any segregated facilities at any of his establishments and that she or he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally-assisted construction contractor certifies that she or he will not maintain or provide, for his employees, segregated facilities at any of his establishments and that she or he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The federally-assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms, and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directives or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The federally- assisted construction contractor agrees that (except where she or he has obtained identical certifications from proposed subcontractors for specific time periods) she or he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause and that she or he will retain such certifications in his files.

NOTICE TO PROSPECTIVE FEDERALLY ASSISTED CONSTRUCTION CONTRACTORS:

1. A Certification of Non-segregated Facilities shall be submitted prior to the award of a federally-assisted construction contract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity Clause.
2. Contractors receiving federally-assisted construction contract awards exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of the following notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENTS FOR CERTIFICATION OF NON-SEGREGATED FACILITIES:

1. A Certification of Non-segregated Facilities shall be submitted prior to the award of a subcontract exceeding \$10,000, which is not exempt from the provisions of the Equal Opportunity Clause.
2. Contractors receiving subcontract awards exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of this notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

SECTION 300 – FORM OF PROPOSAL

CERTIFICATION:

The Federally-assisted construction Contractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The Federally-assisted construction Contractor certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The Federally-assisted construction Contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest room and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex or national origin, because of habit, local custom or any other reason. The Federally-assisted construction Contractor agrees that (except where he has obtained identical certifications from proposed Subcontractors for specific time periods) he will obtain identical certifications from proposed Subcontractors prior to the award of subcontracts exceeding \$10,000.00 which are not exempt from the provisions of the Equal Opportunity clause, and that he will retain such certifications in his files. The information above is true and complete to the best of my knowledge and belief.

Printed Name & Title: _____

Signature: _____

Date: _____

(This form must be completed and submitted with the Proposal.)

SECTION 300 – FORM OF PROPOSAL

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

BIDDER'S NAME:

ADDRESS: _____

TELEPHONE NO.: _____ **FAX NO.:** _____

IRS EMPLOYER IDENTIFICATION NUMBER: _____

The bidder certifies, by submission of this proposal or acceptance of this contract, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency. It further agrees by submitting this proposal that it will include this clause without modification in all lower tier transactions, solicitations, proposals, contracts, and subcontracts. Where the bidder or any lower tier participant is unable to certify to this statement, it shall attach an explanation to this solicitation/proposal.

Printed Name & Title: _____

Signature: _____

Date: _____

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

(This form must be completed and submitted with the Proposal.)

STATEMENT OF SURETY'S INTENT

TO: _____

We have reviewed the bid of _____
(Contractor)

of _____
(Address)

for _____
(Project)

Bids for which will be received on _____
(Bid Opening Date)

and wish to advise that should this Bid of the Contractor be accepted and the Contract awarded to him, it is our present intention to become surety on the performance bond and labor and material bond required by the Contract.

Any arrangement for the bonds required by the Contract is a matter between the Contractor and ourselves and we assure no liability to you or third parties if for any reason we do not execute the requisite bonds.

We are duly authorized to do business in the State of New York.

Attest:

Surety's Authorized Signature(s)

Attach Power of Attorney

(Corporate seal, if any. If no seal, write "No Seal" across this place and sign.)

(This Form Must Be Submitted With the Proposal)

SECTION 700 – CLAUSES OF GENERAL APPLICATION

700-01. CONTRACT DRAWINGS. The Contract Drawings shall accompany and form a part of the Contract Documents which are bound herein. The drawings are indicated in the Table of Contents.

700-02. MATERIALS AND WORKMANSHIP. Materials, unless otherwise specified, shall be new and of the best quality of their respective kinds, and the work when completed will be accepted in an undamaged and perfect condition only.

- A. All construction, machinery and equipment shall be designed and constructed in conformity with the best practice, and so as to contribute to efficiency, reliability and safety operation, and provide for the interchangeability of parts, accessibility, sightlines and minimum expense of maintenance. Each installation shall be so made that its several component parts will function together as a workable system. It shall be complete with all accessories necessary for its operation and shall be left with all equipment properly adjusted and in working order.
- B. Except where it is otherwise specified, all work and materials, and rating and capacities of all machinery and equipment, shall conform to the codes and standards of the respective National Engineering and Technical Societies, and all performance tests shall be made in accordance with the test codes of these Societies. All capacities, sizes, weights, and guarantees are specified as minimum.
- C. All equipment and materials for which there is an underwriters testing service available shall bear that underwriters label. All electric work will be done in accordance with the current National Electric Code.
- D. If certain specified materials, due to circumstances beyond the Contractor's control, are not available at the time it is expedient to make installation of these materials, and a substitution of material is permitted by the Engineer, the Contractor shall make all necessary adjustments in contingent work to conform to the requirements of the new material.
- E. Each Contractor shall provide all necessary protection for materials, equipment, etc., stored within the building or on the site. This protection includes providing watchmen, if found necessary, to comply with these provisions. Each Contractor is fully responsible for his own materials and equipment whether or not same has been paid for by the Owner. If such materials or equipment are lost, stolen or damaged, prior to final acceptance of the completed building by the Owner, they shall be replaced by the Contractor at no additional cost to the Owner or other contractors on the project.
- F. Labor disputes shall be avoided and the Owner shall not be responsible in any way for additional costs of any kind incurred by Contractor as a result of work delays caused by a labor dispute regardless of the Contractor or labor involved in such dispute.
- G. The Contractor shall employ no plant, equipment, materials, or men to which the Engineer or his representative objects, and shall remove no plant, materials, equipment or other facilities from the site of the work without the Engineer's permission. Upon request the Engineer or his representative will confirm in writing any oral order, direction, requirement or determination.
- H. If the specifications, the Engineer's instructions, laws, ordinances or any public authority require any work to be specially tested or approved, the Contractor shall give the Engineer's representative timely notice of its readiness for inspection, and if the inspection is by another authority than the Engineer, the Engineer shall be given timely notice of the date fixed for such inspection. If any work should be covered up without the approval or consent of the Engineer, it must, if required by the Engineer, and if so ordered, the work must be uncovered by the Contractor. The Contractor shall pay the costs associated for inspection, uncovering the work and repairing or replacing any finishes damaged.
- I. Where operating tests are specified, the Contractor shall test his work as it progresses, on his own account, and shall make satisfactory preliminary tests in all cases before applying to the Engineer's representative for official tests. Tests shall be made in the manner specified, for the different branches of the work.

SECTION 700 - CLAUSES OF GENERAL APPLICATION

Each test shall be made on the entire system for which such test is required, wherever practical. In case it is necessary to test portions of the work independently, the Contractor shall do so without extra compensation. The Contractor shall furnish all materials and apparatus, make connections and conduct the official test. The test will be conducted in the presence of a representative of the Engineer. Should defects appear, they shall be corrected by the Contractor and the test repeated until the installation is acceptable to the Engineer. No work of any kind shall be covered or enclosed before it has been tested and approved.

All materials to be used in this building shall be ordered immediately after awarding of contracts and stored ready for use.

- K. Each Contractor shall furnish all necessary transportation, scaffolding, centering forms, labor, tools and mechanical appliances and all other means, materials and supplies for properly prosecuting his work, unless expressly specified otherwise. All scaffolding must be carefully removed. Each Contractor arranging to work on scaffolding not furnished by himself shall examine and test same before beginning work, and if insecure, shall make same secure, or notify the Engineer in writing, otherwise he will be held to have accepted the scaffolding and will be responsible for accidents.

700-03. EQUAL RIGHTS. All Contractors shall have equal rights on the building and premises for the performance of their contracts and for the storage of materials. No Contractor shall unnecessarily encumber the building or premises with building materials, but shall furnish necessary materials in ample quantities and as frequently as required to avoid delay in the progress of the work, and shall permit other Contractors to do the same.

700-04. WRITTEN NOTICE. Each Contractor shall give written notice to the Engineer when any labor or materials essential to the conduct of this contract, but not included herein, are required, and such notice shall be given in proper season to avoid delay, and in any case at least three days before such labor or materials are required. No claim for loss or delay shall be made by or be allowed to any Contractor for failure of other contractors or owners to complete such portions of the work unless the Contractor making such claims has given such notice and has his own materials for the portions of the work so affected on the site of the building.

700-05. CONTIGUOUS WORK. Any Contractor performing constructive or finish work of any kind or character, which is of corresponding relationship with work performed by another contractor, shall lay out his work according to the work already constructed and take all exact measurements therefrom, and prepare all shop drawings in accordance with the same, and complete all work to the exact measurements thus obtained and without creating any claim or obligation on the Airport Authority.

If any part of any Contractor's work is dependent for its proper execution, or for its subsequent efficiency or appearance on the character or condition of associated or contiguous work not executed by him the Contractor shall examine such associated or contiguous work, and shall report to the Engineer, in writing, any imperfections therein or any conditions that render it unsuitable for the reception of this work. In case any Contractor proceeds without making such written report, he shall be held responsible for any defects in his own work in consequence thereof, and shall not be relieved of the obligation of any guarantee because of any such imperfection or conditions.

700-06. PAYMENTS.

- A. The Resident Engineer shall submit to the Authority Engineer an application for each payment, and, if required, receipts or other voucher showing the Contractor's payments for materials and labor, including payment to subcontractors.

SECTION 700 - CLAUSES OF GENERAL APPLICATION

- B.** Payments shall only be made on account of materials incorporated in the work and/or stored and insured in local warehouse, under conditions acceptable to the Owner.
- C.** When estimates are submitted by the Resident Engineer, the Authority Engineer shall, no later than the date when each payment falls due, issue to the contractor a certificate for such amount as he decides to be properly due.
- D.** No certificate issued nor payment made to the Contractor, no partial or entire use or occupancy of the work by the Owner, shall be an acceptance of any work or materials not in accordance with this contract.
- E.** The Authority Engineer, his representative, or Owner may withhold or, on account of subsequently discovered evidence, nullify the whole or part of any certificate to such extent as may be necessary to protect the Owner from loss on account of:
 - 1.** Defective work not remedied.
 - 2.** Claims filed or reasonable evidence indicating probable filing of claims.
 - 3.** Failure of the Contractor to make payments properly to a subcontractor or for materials or labor.
 - 4.** A reasonable doubt that the contract can be completed for the balance then unpaid.
 - 5.** Damage to another contractor.
 - 6.** Work not being progressed diligently.

When the above grounds are removed, payment shall be made for amount withheld because of them.

- F.** The Resident Engineer shall prepare a partial payment covering labor and/or material up to and including the 20th of the month less previous payment. Forward three (3) copies to the Authority Engineer.

Requests for payment must reach the Authority Engineer not later than the last day of the month.
- G.** Five percent (5%) of the approved requests for payment will be retained by the Owner until final completion and acceptance of the work covered by this Contract.

700-07. DRAWINGS AND SPECIFICATIONS.

- A.** Any work shown on the drawings even if not specifically described in the Specifications or vice versa but which is reasonably implied and evidently necessary and usually provided for complete finish of that particular branch, shall be done as if it were both shown and specified.
- B.** The titles to divisions and sections of the Specifications are introduced merely for convenience and are not to be taken as part of the Specifications, and furthermore, are not to be taken as a correct or complete segregation of the several units of material and labor. No responsibility, either direct or implied, is assumed by the Engineer for omissions or duplications by the Contractor or his Subcontractors, due to alleged errors in the arrangement or material in the Specifications.
- C.** The Contractor shall thoroughly examine the specifications and drawings and especially compare the figured dimensions immediately after contracts are awarded, and before beginning work, and report to the Engineer if any discrepancy or error appears. Should any portion of the same be obscure or capable of

SECTION 700 - CLAUSES OF GENERAL APPLICATION

more than one construction, the same shall be decided by the Engineer and his decision shall be final and conclusive.

- D.** All dimensions must be verified at the building site. Dimensions shown on the drawings shall be taken as the required dimensions, regardless of what they may measure according to the given scale on the working drawings. Before proceeding with any work, all contractors shall verify at the building all measurements, etc. necessary for the perfect and complete fabrication, assembly, and installation of the work. Where figured dimensions are not given, and the exact location of an item is not apparent, the Consulting Engineer shall be immediately notified and compute the required measurements. Inadvertent discrepancies or the omission of details, figures or notes on any drawings given on another shall not be cause for additional charges or claims. The contractor agrees that his submitted price for the work includes sufficient money allowances to make his work complete and operable fitting with the existing conditions.
- E.** Should one print be superseded by another or later date during the course of work, the contractor shall be responsible for promptly removing the old one from circulation and putting the new one in the hands of his superintendent or foreman. The same shall be done with all instructions from the office of either the Consulting Engineer or Authority Engineer.
- F.** Typical details and symbols, where shown on the drawings, shall apply to each and every item of the project where such items are incorporated. They are not repeated in full on all drawings which in many cases are diagrammatic only. It is the intention that such details shall be applicable in full.

700-08. ABBREVIATIONS. Portions of these specifications are of the abbreviated type and include incomplete sentences. Omissions of the words and phrases such as the "The Contractor shall", "in conformity therewith", "shall be", "as noted on the drawings", "according to the plans", "a", "the", and "all", are intentional. Omitted words or phrases shall be supplied by inference in the same manner as they are when a "note" occurs on the drawings. Words "shall be" or "shall" will be supplied by inference where colon (:) is used within sentences or phrases.

700-09. DUTIES OF INSPECTOR. The Owner's Inspector on the job has authority to reject materials of workmanship which do not meet the contract requirements. He has no authority to make changes; no orders given by him, either written or verbal, will be considered a basis for any claim by the Contractor for extra compensation.

It is not the duty of the Inspector to lay out any work for the Contractor.

700-10. FOREMAN & ASSISTANT. Each Contractor shall keep competent general foreman and necessary assistants, satisfactory to the Engineer, in charge of the work during the progress of same. The foreman shall represent the Contractor in his absence, and all directions as to conduct of the work given to him shall be as binding as if given to the Contractor, provided that on request such directions be given in writing. The foreman, mechanics and others employed by the Contractor shall be skilled in the several parts which are given them to do.

Any Contractor performing work of any kind or character who may be represented on the work by a foreman or superintendent, such foreman or superintendent shall be vested with full power and authority by the Contractor whom he represents, to act for and on behalf of such contractor, in all respects as fully as though he were personally present, without hesitation or reference to the contractor he represents. And in case the said foreman or superintendent neglects or refuses to comply promptly with any of the directions given by the Engineer, the said Engineer shall take such methods as he may consider effective for that purpose, and any expense thus incurred shall be charged to the Contractor.

Every Contractor, whether resident or non-resident, for special or any work not included in the general contract, before submitting his proposal will visit the building and observe the conditions prevailing and what preliminary preparations, if any, have been made for his work, and if any changes will be required to make the work already

SECTION 700 - CLAUSES OF GENERAL APPLICATION

erected conform with the requirements, he will be expected to make them. All preparations of the Contractor's parts of the building which shall be necessary for the installation of any special work previous to the erection of such special work shall be made at the expense of Contractor for such special work who will be expected to pay for all cutting, fitting, rebuilding, repairing and finishing of all work thus made or used. Contractors for all special work shall imply the building contractors doing the same kind of work.

700-11. SUPERVISION. Each Contractor, as a part of his services, shall give personal supervision to the work, and he shall carefully study and compare all drawings, specifications, and other information given him by the Engineer, as to figures, materials and methods of construction, using therein the skill and experience for which he receives compensation under this contract, and shall immediately report to the Engineer for rectification of any error, inconsistency or omission therein which he shall discover.

700-12. LAYOUT. Each Contractor shall give the work his personal attention and supervision, lay out his own work, do all necessary leveling and measuring or employ a competent engineer to do so. It shall be no part of the duty of the Engineer, or any of the inspectors, to perform any of this service. Figures and full size drawings shall take precedence over scale measurements and drawings.

700-13. PROTECTION.

- A. Each Contractor is responsible for all reasonable safety precautions to protect people affected by the work, the work itself, and other property at the site or adjacent thereto. Any night or emergency lighting shall be battery-operated flasher type. Open flame lights will not be allowed. All necessary additional barricades and other precautions to protect the general public during and after construction periods shall also be provided by each Contractor. Each Contractor as part of his responsibility shall also conform to standards established by O.S.H.A. requirements.
- B. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

For contracts involving asbestos, the Contractor, as part of his responsibility, shall conform, and shall require any subcontractor to conform, to all applicable regulations and standards established by the Occupational Safety and Health Administration, the United State Environmental Protection Agency, and the New York State Departments of Environmental Conservation and Labor for the handling, removal, or disposal of asbestos and asbestos-containing material, including but no limited to supplying all necessary and required air monitoring. The Contractor shall forward all air monitoring. The Contractor shall forward all air monitoring analysis sheets to the Airport Authority at the end of the project.

- C. The Contractor shall take reasonable precautions for the safety of, and shall provide reasonable protection to prevent damage, injury or loss to:
 - 1. employees on the Work and other persons who may be affected thereby;
 - 2. the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Subcontractors; and
 - 3. other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
- D. The Contractor shall give notices and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

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- E.** The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.
- F.** When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.
- G.** The Contractor shall promptly remedy damage and loss to property referred to in Clauses 700-13.C.2 and 700-13.C.3. Any remedy shall be to the satisfaction of the Owner.
- H.** The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.
- I.** The Contractor shall not load or permit any part of the construction or site to be loaded so as to endanger its safety.
- J.** In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss.

700-14. MATERIAL SAFETY DATA SHEETS. The Contractor shall maintain at the project site, in a readily accessible manner, a Material Safety Data Sheet (MSDS) meeting 29 CFR Part 1926 requirements, for materials to be used in the work, before such materials are first used in the work. The Contractor must maintain, as described herein, an MSDS for all materials to which workers may be exposed to the extent that 29 CFR 1926.59 requires an MSDS for that material. This requirement applies to those materials brought to the project site as well as to those encountered at the project site as a result of the use of materials brought to the site.

Each Contractor as part of his responsibility shall also conform to standards established by O.S.H.A. requirements.

700-15. IMPERFECT WORK. Any unfaithful or imperfect work of materials that may be discovered before the final acceptance of the work, shall be corrected or replaced immediately on the requirements of the Engineer, notwithstanding that it may have been overlooked by the proper inspector and estimated. Any materials condemned or rejected by the Engineer may be branded or otherwise marked, and shall, on demand, be at once removed to a satisfactory distance from the work. Any omission to disapprove of the work at the time of inspection, or at the time of any monthly or other estimate, shall not relieve the Contractor of any of his obligations, and all work of whatever kind which during its progress and before it is finally accepted, may become damaged from any cause, shall be broken up and moved and replaced by good, satisfactory work.

700-16. NOTICE TO DO WORK. In case any Contractor shall fail to do any work which may be required of him in writing by the Engineer, under this contract, within two (2) days after such notice, the Engineer may employ other parties to do such work and the expense thereby incurred will be deducted from the monies due or that may become due the Contractor.

700-17. CITY ORDINANCES. In all the operations connected with the work herein specified, all City Ordinances and all laws controlling or limiting in any way the action of those engaged on the work or affecting the materials applied to them must be respected and strictly complied with. The Contractor shall obtain all required permits and pay all fees for inspection or permits.

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In addition, the Contractor is hereby advised that acquisition of certain permits requires the possession of certain licenses issued by the City. These licensing requirements shall not be waived and Contractor's lack of knowledge of these requirements shall not be acceptable grounds for Contractor's failure to meet these requirements.

700-18. DELAYS. If the Contractor is delayed in the completion of the work by any act or neglect of the Airport Authority or of any employee of the Authority or by any other contractor employed by the Authority, or by changes ordered in the work, or by strikes, lockouts, fire, unusual delay by Common carriers, unavoidable casualties or any causes beyond the Contractor's control, or by delay authorized by the Engineer, or by any cause which the Engineer shall decide to justify the delay, then the time of completion shall be extended for such reasonable time as the Engineer may decide.

The Contractor agrees to make no claim for damages for delay in the performance of this contract occasioned by any act or omission to act of the Authority or any of its representatives, and agrees that any such claim shall be fully compensated for by an extension of time to complete performance of the work as provided herein.

700-19. DEFINITIONS. The Contract Documents consist of the Advertisement, Definition of Terms, Instructions to Bidders, Information for Bidders, Form of Proposal, Minority Business Information, Agreement, Contractor's Performance Bond, Clauses of General Application, Additional New York State Department of Transportation Requirements, Additional Federal Requirements, Special Provisions, Contract Drawings and any and all addenda issued during the bidding period.

Each Bidder's attention is called to Section 20 DEFINITION OF TERMS.

700-20. EXAMINATION OF PREMISES.

- A.** The Contractor shall and will visit the site before submitting his proposal and shall acquaint himself with all the present conditions of same and shall include any and all items or work, materials, etc., which are evidently necessary for the work as shown and as specified even though such items may not be expressly shown or specified.
- B.** The Contractor shall satisfy himself as to the existing conditions under which he will be obliged to operate in performing his part of the work, or that will in any manner affect the work under his contract. No allowance shall be made subsequently in this connection in behalf of the Contractor for any error negligence on his part.

700-21. LAWS. If the Contractor observes that the drawings and specifications are at variance with any Federal, State, Municipal, local or utility company laws, ordinances, rules or regulations, he shall promptly notify the Engineer in writing, and any necessary changes shall be adjusted as provided in the contract for changes in the work. If the Contractor performs any work knowing it to be contrary to such law, ordinances, rules or regulations, and without such notice to the Engineer, he shall bear all costs arising therefrom.

700-22. ASSIGNING AND SUBLETTING.

- A.** The Contractor agrees that he is fully responsible to the Owner for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by him. Refer to Section 300 FORM OF PROPOSAL.
- B.** Nothing contained in the contract documents shall create any contractual relation between any subcontractor and the Owner or any labor organization and the Owner.

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- C. It shall be the duty of the Contractor, upon three (3) days notice in writing from the Engineer to dismiss forthwith any such subcontractor as may be found incompetent, disorderly or negligent. The Contractor shall then employ a subcontractor satisfactory to the Engineer without any change in contract price.
- D. Any Contractor submitting proposals which include work to be done by a subcontractor or by other than himself shall be responsible for the proposal in its entirety.
- E. The Contractor agrees to bind every subcontractor, and every subcontractor agrees to be bound by terms of the contract documents as far as applicable to his work. The subcontractor agrees to assume toward the contractor all obligations and responsibilities the contractor assumes toward the Owner. The Contractor agrees to assume toward the subcontractors all obligations the Owner assumes toward the contractor.

700-23. ALIEN LAW. This contract shall be void if Section #222, relating to aliens, being Charter 50 of the Laws of 1921, as amended, is not complied with.

700-24. ACCIDENTS. Written reports of major accidents shall be made to the Engineer promptly.

700-25. NEW YORK SALES TAX EXEMPTIONS. The Contractor's attention is called to Section 200 INFORMATION FOR BIDDERS.

700-26. GENERAL MUNICIPAL LAW - SECTION 106 WITHDRAWAL OF RETAINED PERCENTAGES. Notwithstanding any inconsistent provisions of any general, special or local law under any contract heretofore or hereafter made or awarded by any political subdivision, or any officer, board or agency thereof, or of any district therein, the contractor may, from time to time, withdraw the whole or any portion of the amount retained from payments to the contractor pursuant to the terms of the contract, upon depositing with the fiscal officer of the political subdivision or district therein (1) bonds or notes of the U.S. of America, or obligations, the payment of which is guaranteed by the United States of America, or (2) bonds or notes of the State of N.Y., or (3) bonds of any political subdivision of the State of N.Y., of a market value equal to the amount withdrawn. The fiscal officer of the political subdivision or of a district therein, from time to time shall pay the same, when and as collected, to the contractor who deposited such obligations. When the deposit is in the form of coupon bonds, the coupons shall be delivered to the contractor as they respectively come due. The contractor shall not be entitled to interest or income on, or the coupons of, any obligations so deposited by him, the proceeds of which shall have been used or applied by the political subdivision or district therein pursuant to the terms of the contract.

700-27. APPLICABLE LABOR LAWS. The contractor and each and every subcontractor performing work at the site of the project to which the contract relates shall comply with the applicable provisions of the "Labor Law" as amended, of the State of New York, and particularly Article 8 thereof.

No laborer, workman or mechanic in the employ of the contractor, subcontractor or other person doing or contracting to do the whole or a part of the work contemplated by this contract shall be permitted or required to work more than eight (8) hours in any one calendar day or more than five (5) days in any one week, except in case of extraordinary emergency caused by fire, flood, or danger to life or property.

In the hiring of employees for the performance of Work under this contract or any subcontract hereunder, neither the contractor nor any subcontractor shall by reason of race or color, discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates, nor shall the contractor or any subcontractor discriminate in any manner against or intimidate any employee hired for the performance of work under this contract on account of race or color.

Article 8, Section 220 of the Labor Law as amended by Chapter 750 of the Laws of 1956, also provides, among other things that it shall be the duty of the fiscal officer to make a determination of the schedule of wages to be paid to all laborers, workmen and mechanics employed on public work projects, including supplements for

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welfare, pension, vacation and other benefits. These supplements include hospital, surgical or medical insurance or benefits; life insurance or death benefits; accidental death or dismemberment insurance; and pension or retirement benefits. If the amount of supplements provided by the employer is less than the total supplements shown on the wage schedule, the difference shall be paid in cash to employees.

Article 8, Section 220 of the Labor Law is amended by Chapter 750 of the Laws of 1956, also provide that the supplements be provided to laborers, workmen and mechanics upon public work “and shall be in accordance with the prevailing practices in the locality...”. The amount for supplements listed on the enclosed schedule does not necessarily include all types of prevailing supplements in the locality and a future determination of the Industrial Commissioner may require the contractor to provide additional supplements.

700-28. SCHEDULE OF WAGE RATES. The rates of wages determined by the New York State Industrial Commissioner pursuant to the Labor Law are set forth on the schedule following the last page of this section. This is intended to comply with the requirements of the Labor Law that a schedule of such wages so determined by the New York State Industrial Commissioner Fiscal Officer be incorporated in the specifications by the Owner.

Any trade rate not mentioned herein but essential for the construction of the project shall be in accordance with rates on file with the Commissioner of Finance and Authority Auditor of the Airport Authority.

All Contractors and subcontractors shall keep the following informative records on the site of the work project on which they are engaged.

1. Record of hours worked by each workman, laborers, and mechanics on each day.
2. Record of days worked each week by each workman, laborer and mechanic.
3. Schedule of occupation of which each workman, laborer and mechanic on the project is employed during each work day and week.
4. Schedule of hourly wage rates paid to each workman, laborer and mechanic for each occupation.

If requested by the Authority Engineer, submit copies of certified payrolls for all Work to the Authority Engineer for the Authority’s inspection and files.

By submission of this bid, the bidder and each person signing on behalf of the bidder certifies, and in the case of a joint bid, each party hereto certifies as to itself, that to the best of their knowledge and belief, the bidder has not been found in willful violation of the New York State Labor Law for failure to pay prevailing wages and supplements, as those terms are defined by New York State Labor Law, within the twelve months immediately preceding the submission of the bid. The Airport Authority reserves the right to consider evidence or allegations of a violation of the New York State Labor Law in connection with the award of contracts for public work or the approval of subcontractors in connection with such work; and at the discretion of the Authority, a finding by the New York State Department of Labor of a willful violation of a provision of the New York State Labor Law shall constitute evidence and sufficient grounds for the denial of the award of such contracts.

END OF SECTION



Appendix A - Checklist

Minority/Women-Owned Business Enterprises (M/WBE) Program

Project: _____

All bidders are required to complete and submit the following forms with the Bid or Proposal. SRAA will consider incomplete information to be a non-responsive proposal.

Please use this checklist to make sure all forms required are submitted as a part of this bid.

- Form SRAA – 5000 Minority/Women-Owned Business Enterprises – Equal Employment Opportunity Policy Statement
- Form SRAA – 5001 Equal Employment Opportunity Staffing Plan
- Form SRAA – 5003 M/WBE Subcontractor Utilization Plan
- Form SRAA – 5004 M/WBE Goal Requirements Certification of Good Faith Efforts
- Form SRAA – 5005 M/WBE Cover Letter
- Form SRAA – 5006 Contractor Bid Solicitation Letter
- Form SRAA – 5007 M/WBE Subcontractors and Suppliers Letter of Intent to Participate
- Form SRAA – 5008 M/WBE Contractor Participation Bid/Proposal
- Form SRAA – 5009 M/WBE Contractor Unavailability Certification
- Form SRAA – 5010 M/WBE Subcontractor Request for Waiver Form

Once the contract has been awarded, the following forms must be submitted.

- Form SRAA – 5002A Equal Employment Opportunity Workforce Employment Utilization/Compliance Report
- Form SRAA – 5002B Workforce Utilization Report (EO 162 Compliant)
- Form SRAA – 5011 Contractor Quarterly Compliance Report



APPENDIX A

Minority and Women-Owned Business Enterprise (MWBE) and
Equal Employment Opportunity (EEO) Participation Requirements
For all NYS Syracuse Regional Airport Authority Contracts and Grants

Authority: Article 15-A of the Executive Law, 5 NYCRR parts 140-144, Appendix A: Standard Clauses for All New York State Contracts and requirements of any federal law concerning opportunities for minority and women-owned business enterprises which effectuate the purposes of Article 15-A.

I. General Provisions

- A.** New York State Executive Law § 310-318, (Article 15-A: Participation by Minority Group Members and Women with Respect to State Contracts – hereinafter “the Statute”), was enacted to promote equality of employment and economic opportunities for minority group members and women in State contracting activities. In 2006, the State of New York commissioned a disparity study to evaluate whether minority and women-owned business enterprises has a full and fair opportunity to participate in state contracting. The findings of the study were published on April 29, 2010, under the title “The State of Minority and Women-Owned Business Enterprises: Evidence from New York” (Disparity Study). The report found evidence of statistically significant disparities between the level of participation of minority and women-owned business enterprises in state procurement contracting versus the number of minority and women-owned business enterprises that were ready, willing and able to participate in state procurements. As a result of these findings, the Disparity Study made recommendations concerning the implementation and operation of the statewide certified minority and women-owned business enterprise program. The recommendations from the Disparity Study culminated in the enactment and the implementation of New York State Executive Law Article 15-A, which requires, among other things, that the Syracuse Regional Airport Authority (SRAA) establish goals for maximum feasible participation of New York State Certified minority and women-owned business enterprises (MWBE) and the employment of minority group members and women in the performance of New York State contracts. SRAA fully supports the efforts of the State of New York to promote Equal Employment Opportunity (EEO) for all persons, and to promote equality of economic opportunity for minority group members and women who own business enterprises.
- B.** SRAA is required to implement the provisions of New York State Executive Law Article 15-A and 5 NYCRR Parts 142-144 (MWBE Regulations) for all State contracts as defined therein, with a value: (1) in excess of \$25,000 for labor, services, equipment, materials, or any combination of the foregoing or; (2) in excess of \$100,000 for real property renovations and construction. Where deemed appropriate, SRAA will implement the provisions of New York State Executive Law Article 15-A and the MWBE Regulations for all other SRAA contracts. These requirements include equal employment opportunities for minority group members and women (EEO) and contracting opportunities for certified minority and women-owned business enterprises (MWBEs). Contractor’s demonstration of “good faith efforts” pursuant to 5 NYCRR § 142.8 shall be a part of these requirements. These provisions shall be deemed supplementary to, and not in lieu of, the nondiscrimination provisions required by New York State Executive Law Article 15 (the “Human Rights Law”) or other applicable federal, state or local laws. Contractors participating in and/or selected for procurement opportunities with SRAA shall fulfill their obligations to comply with applicable Federal, State

and Local requirements concerning Equal Employment Opportunity and opportunities for MWBEs including but not limited to the Statute and its implementing regulations as promulgated by New York State's Empire State Development (ESD) Division of Minority and Women's Business Development (DMWBD) and set forth at 5 NYCRR Parts 140-144.

- C. Copies of the required SRAA Forms are identified in this Appendix and available on SRAA's Internet Site at <http://www.syrusraa.com>. The Contractor agrees to complete and submit these forms without change in response to goals specified in the Request for Proposal (RFP) or contract.
- D. Failure to comply with all of the requirements herein may result in a finding of non-responsiveness, non-responsibility and/or breach of contract, leading to the withholding of funds or such other actions, liquidated damages pursuant to Section VII of the Appendix or enforcement proceedings allowed by the Contract.
- E. Further information regarding Article 15-A of the New York State Executive Law and the New York State Minority and Women's Business Enterprise Program is available on the DMWBD internet site at <https://esd.ny.gov/mwbe/programmandate.html>.

II. Contract Goals

- A. For purposes of this procurement, the SRAA hereby establishes an overall goal of thirty percent (30%) for Minority and Women-Owned Business Enterprises (MWBE) participation. Additionally, an overall goal of ten to twenty percent (10-20%) is established for Equal Employment Opportunity (EEO) participation.
- B. For purposes of providing meaningful participation by MWBEs on the Contract and achieving the Contract Goals established in Section II-A hereof, Contractor should reference the directory of New York State Certified MBWEs found at the following internet address:
<https://ny.newnycontracts.com/FrontEnd/VendorSearchPublic.asp>

Additionally, Contractor is encouraged to contact the Division of Minority and Women's Business Development at (518) 292-5250, (212) 803-2414 or (716) 846-8200 to discuss additional methods of maximizing participation by MWBEs on the Contract.

- C. Where MWBE goals have been established herein, pursuant to 5 NYCRR § 142.8, Contractor must document "good faith efforts" to provide meaningful participation by MWBEs as subcontractors and suppliers in the performance of the Contract. In accordance with Section 316-a of Article 15-A and 5 NYCRR § 142.13, the Contractor acknowledges that if Contractor is found to have willfully and intentionally failed to comply with the MWBE participation goals set forth in the Contract, such a finding constitutes a breach of contract and the Contractor shall be liable to the SRAA for liquidated or other appropriate damages, as set forth herein.
- D. As a condition of the Contract, the Contractor and SRAA agree to be bound by the provisions of § 316 of Article 15-A of the New York State Executive Law regarding enforcement.
- E. SRAA reserves the right to establish separate and different goals on any State Contract, as identified in the specified procurement. For Guidance on what factors SRAA will consider in determining what goals are appropriate in relation to a specific State Contract, refer to 5 NYCRR § 142.2(a)(1) – (6).

III. Equal Employment Opportunity Requirements

- A. Contractor agrees to be bound by the provisions of Article 15-A and the MWBE Regulations promulgated by the DMWBD. If any of these terms or provisions conflict with applicable laws or regulations, such laws and regulations shall supersede these requirements.
- B. Contractor shall comply with the following provisions of Article 15-A:

1. Contractor and Subcontractors shall undertake or continue existing EEO programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination because of race, religion/creed, color, national origin, sex, age, disability, sexual orientation, military status, predisposing genetic characteristics, victim of domestic violence status or marital status. For these purposes, EEO shall apply in the areas of recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff or termination and rates of pay or other forms of compensation.
2. The Contractor shall submit an EEO policy statement to the SRAA within seventy two (72) hours after the date of the notice by SRAA to award the contract to the Contractor.
3. If Contractor or Subcontractor does not have an existing EEO policy statement, the SRAA may provide the Contractor or Subcontractor a model statement (see SRAA 5000 – Minority/Women-Owned Business Enterprises – Equal Employment Opportunity Policy Statement).
4. The Contractor's EEO policy statement shall include the following language:
 - a. The Contractor will not discriminate against any employee or applicant for employment because of race, religion/creed, color, national origin, sex, age, disability, sexual orientation, military status, predisposing genetic characteristics, victim of domestic violence status or marital status. The Contractor will undertake or continue existing EEO programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination, and shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its workforce.
 - b. The Contractor shall state in all solicitations or advertisements for employees that, in the performance of the contract, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, religion/creed, color, national origin, sex, age, disability, sexual orientation, military status, predisposing genetic characteristics, victim of domestic violence status or marital status.
 - c. The Contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union, or representative will not discriminate on the basis of race, religion/creed, color, national origin, sex, age, disability, sexual orientation, military status, predisposing genetic characteristics, victim of domestic violence status or marital status and that such union or representative will affirmatively cooperate in the implementation of the Contractor's obligations herein.
 - d. The Contractor will include the provisions of Subdivisions (a) through (c) of this Subsection 4 which provides for relevant provisions of the Human Rights Law, in every subcontract in such a manner that the requirements of the subdivisions will be binding upon each subcontractor as to work in connection with the Contract.

C. Staffing Plan - SRAA Form 5001- Equal Employment Opportunity Staffing Plan

To ensure compliance with this section, the Contractor shall submit a staffing plan to document the composition of the proposed workforce to be utilized in the performance of the Contract by the specified categories listed, including ethnic background, gender and federal occupational categories. Contractors shall complete the Staff Plan Form and submit it as part of their bid or proposal or within a reasonable time, but no later than the time of award of the contract.

D. Workforce Employment Utilization Report (Workforce Report) – SRAA Form 5002A – Equal Employment Opportunity Workforce Employment Utilization/Compliance Report

1. Once a contract has been awarded and during the term of the Contract, Contractor is responsible for updating and providing notice to the SRAA of any changes to the previously submitted Staffing Plan. This

information is to be submitted on a quarterly basis during the term of the contract to report the actual workforce utilized in the performance of the contract by the specified categories listed including ethnic background, gender and federal occupational categories. The Workforce Report must be submitted to report this information.

2. Separate forms shall be completed by contractor and any subcontractor performing work on the Contract.
 3. In limited instances, Contractor may not be able to separate out the workforce utilized in the performance of the Contract from Contractor's and/or subcontractor's total workforce. When a separation can be made, Contractor shall submit the Workforce Report and indicate that the information provided related to the actual workforce utilized on the Contract. When the workforce to be utilized on the contract cannot be separated out from Contractor's and/or subcontractor's total workforce, Contractor shall submit the Workforce Report and indicate that the information provided is Contractor's total workforce during the subject time frame, not limited to work specifically under the contract.
 4. In the case where the Contractor's and/or subcontractor's workforce does not change within the quarterly period, the Contractor shall notify SRAA in writing.
 5. Pursuant to Executive Order #162, SRAA – 5002B Workforce Utilization Report (EO 162 Compliant), contractors and subcontractors are also required to report the gross wages paid to each of their employees for the work performed by such employees on the contract on a quarterly basis.
 6. All forms and reports will be submitted to the SRAA program manager for this contract and forwarded to Linda Ryan at ryanl@syraairport.org.
- E. Contractor shall comply with the provisions of the Human Rights Law, and all other state and federal statutory and constitutional non-discrimination provisions. Contractor and subcontractors shall not discriminate against any employee or applicant for employment because of race, religion/creed, color, national origin, sex, age, disability, sexual orientation, military status, predisposing genetic characteristics, victim of domestic violence status or marital status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.

IV. MWBE Requirements

The contractor acknowledges that it is the policy of the State of New York and of SRAA that MWBEs shall be given the opportunity for meaningful participation in the performance of State contracts. Therefore, Contractors agree to make good faith efforts to solicit active participation to meet established goals under this procurement by MWBEs identified in the ESD directory of certified businesses¹.

1. For the purposes of this Appendix A, the question of whether a Contractor has engaged in and documented "Good Faith Efforts" to solicit active participation to meet established goals under this procurement by MWBEs in the performance of State Contracts shall be determined by the SRAA Executive Director or his/her designee, after a thorough consideration of the factors listed in 5 NYCRR § 142.8.
2. The separate MBE and WBE participation goals established by SRAA for this procurement are based on the overall availability of MWBEs that have been certified to perform the specific scope of work identified under this procurement. For compliance purposes, these goals should not be construed as rigid and inflexible quotas which must be met, but must be targets reasonably attainable by means of applying every good faith effort to make all aspects of the entire Minority and Women-Owned Business Program work.

¹ All MWBE firms are required to be certified by Empire State Development (ESD) or must be in the process of obtaining certification from ESD. Should the Contractor identify a minority-owned or woman-owned firm that is not currently certified as an MWBE, the Contractor should request that the firm submit a certification application to ESD for an eligibility determination, with a copy to the SRAA MWBE Coordinator. SRAA's MWBE Coordinator will work with ESD to expedite the application; however, it is the responsibility of the Contractor to ensure that a sufficient number of certified MWBE firms have been identified in response to this procurement, in order to facilitate full MWBE participation.

A. The Contractor represents and warrants that Contractor has submitted the following SRAA forms either prior to, or at the time of, the execution of the contract:

1. M/WBE Subcontractor Utilization Plan (SRAA Form 5003)

- a. Contractor agrees to use such MWBE Utilization Plan for the performance of MWBEs on the Contract pursuant to the prescribed MWBE goals set forth in Section II-A of this Appendix.
- b. If a Contractor seeks modification to its previously approved MWBE Subcontractor Utilization Plan, the Contractor shall first notify SRAA in writing of such change and obtain approval from SRAA.
- c. Contractor further agrees that a failure to submit and/or use such MWBE Utilization Plan shall constitute a material breach of the terms of the Contract. Upon the occurrence of such a material breach, the SRAA shall be entitled to any remedy provided herein, including but not limited to, a finding of Contractor non-responsiveness.

2. M/WBE Goal Requirements – Certification of Good Faith Efforts (SRAA Form 5004) to achieve the overall prescribed MWBE participation percentage (30%) goals set forth in the procurement.

3. MWBE Subcontractors' and/ or Suppliers' Letter of Intent to Participate (SRAA Form 5007), which should document the names and signatures of certified MBEs and/or WBEs which have agreed to participate as subcontractors on the Contract.

V. Waivers

A. For Waiver Requests, Contractor should use SRAA Form 5010 MWBE Subcontractor Request for Waiver Form.

B. If the Contractor, after making good faith efforts, is unable to comply with MWBE goals, the Contractor may submit a request for waiver form documenting good faith efforts by the Contractor to meet such goals. If the documentation included with the waiver request is complete, the SRAA shall evaluate the request and issue a written notice of acceptance or denial within twenty (20) days of receipt.

C. If the SRAA, upon review of the MWBE Utilization Plan and updated Quarterly MWBE Contractor Compliance Reports, determines that Contractor is failing or refusing to comply with Contract goals and no waiver has been issued in regards to such non-compliance, the SRAA may issue a Notice of Deficiency to the Contractor. The Contractor must respond to the Notice of Deficiency within seven (7) business days of receipt. Such response may include a request for partial or total waiver of MWBE Contract Goals.

VI. MWBE Compliance Reporting

A. Contractor is required to submit the Subcontractor Quarterly Compliance Report (SRAA Form 5011) to the SRAA by the 10th day following each end of quarter over the term of the Contract documenting the progress made towards achievement of the MWBE goals of the Contract.

B. All reports will be submitted to the SRAA program manager for this contract and forwarded to Linda Ryan at ryanl@syraairport.org.

C. Failure to timely submit a Subcontractor Quarterly Compliance Report and/or other reports or information as requested by SRAA may result in payments under the contract being delayed until such reports or other information have been received by SRAA.² The SRAA may also deem other noncompliance with requirements under the Statute as a breach of contract and commence any other means of enforcement permitted under the contract and/or by law.

VII. Liquidated Damages – MWBE participation

- A. Where SRAA determines that Contractor is not in compliance with the requirements of the Contract and Contractor refuses to comply with such requirements, or if Contractor is found to have willfully and intentionally failed to comply with the MWBE participation goals, Contractor shall be obligated to pay to the SRAA liquidated damages.
- B. Such liquidated damages shall be calculated as an amount equaling the difference between: (a) all sums identified for payment to MWBEs had the Contractor achieved the contractual MWBE goals; and (b) all sums actually paid to MWBEs for work performed or materials supplied under the Contract.
- C. Determination of compliance or non-compliance with the Contract's MWBE participation requirements shall be based upon the Contractor's Utilization Plan, MWBE Sub-Contractor Quarterly Reports, and any relevant documentation related thereto. The determination of what constitutes the willful and intentional failure to comply with the MWBE participation requirements will be based upon the evaluation of the same criteria considered in evaluating an MWBE subcontractor waiver request.
- D. Upon a determination that a willful and intentional failure to comply with the MWBE participation requirements has occurred, the SRAA shall withhold the amount established in paragraph B from any future payments otherwise required by this Contract. All funds being withheld pursuant to this provision shall be offset as liquidated damages upon the expiration or termination of the contract, unless the Contractor comes into compliance with the MWBE requirements at any time during the term of the Contract but prior to the submission of a request for final payment on the contract. All payments withheld pursuant to this provision shall be released upon SRAA's determination that the Contractor has come into compliance.
- E. In the event a determination has been made which requires the payment of liquidated damages and such identified sums have not been withheld by the SRAA, Contractor shall pay such liquidated damages to the SRAA within sixty (60) days after they are assessed by the SRAA unless prior to the expiration of such sixtieth day, the Contractor has filed a complaint with the Director of the Division of Minority and Woman Business Development pursuant to Subdivision 8 of Section 313 of the Executive Law in which event the liquidated damages shall be payable if Director renders a decision in favor of the SRAA.

² Contractors may be requested to provide additional Compliance Reports and information (i) to verify payments made to MWBEs, (ii) to verify MWBE utilization and/or, (iii) as needed to evaluate any other aspect of Contractor compliance with the requirements set forth herein.

VIII. Sanctions

SRAA reserves the right to impose sanctions following a determination of non-compliance by a Contractor. Sanctions may be imposed upon the Contractor whenever EEO and/or MWBE program requirements have not been met in a timely and effective manner. Any/all of the following sanctions may be imposed:

- Disallowance of costs associated with such noncompliance;
- Initiation of procedures to suspend or terminate the grant or contract;
- Withholding of progress payments until such time as corrective actions have been undertaken by the Contractor to the satisfaction of SRAA;
- Deleting Contractor's name from bid lists for a specified period of time to be determined in the sole discretion of SRAA;
- Report Contractor as non-responsible to NYS OSC Vendor Responsibility System; and
- Other sanctions of which a Contractor has notice in writing prior to or during the performance of a contract.



MINORITY/WOMEN-OWNED BUSINESS ENTERPRISES – EQUAL EMPLOYMENT OPPORTUNITY POLICY STATEMENT

M/WBE AND EEO POLICY STATEMENT

I, _____, the (awardee/contractor) _____ agree to adopt the following policies with respect to the project being developed or services rendered at _____

This organization will require its contractors and subcontractors to take good faith actions to achieve the M/WBE contract participation goals and provide Equal Employment Opportunities set by NYS SRAA for the State-funded project by taking the following steps:

M/WBE

- (1) Actively and affirmatively solicit bids for contracts and subcontracts from qualified State certified MBEs or WBEs, including solicitations to M/WBE contractor associations.
(2) Request a list of State-certified M/WBEs from SRAA and solicit bids from them directly.
(3) Ensure that plans, specifications, request for proposals and other documents used to secure bids will be made available in sufficient time for review by prospective M/WBEs.
(4) Where feasible, divide the work into smaller portions to increase participation by M/WBEs and encourage the formation of joint ventures and other partnerships among M/WBE contractors to encourage their participation.
(5) Document and maintain records of bid solicitation, including those to M/WBEs and the results thereof. The Contractor will also maintain, or, where appropriate, require its subcontractors to maintain and submit, as required by SRAA, records of actions that its subcontractors have taken toward meeting M/WBE contract participation goals.
(6) Ensure that project payments to M/WBEs are made on a timely basis so that undue financial hardship is avoided, and that bonding and/or other credit requirements may, in the sole discretions of SRAA, be waived and/or appropriate alternatives are developed to encourage M/WBE participation.
(7) This organization will include the provisions of sections (1) through (6) of this agreement in every subcontract in such a manner that the requirements of the subdivisions will be binding upon each subcontractor as to work in connection with the State contract.

EEO

- (a) This organization will not discriminate against any employee or applicant for employment because of race, religion/creed, color, national origin, sex, age, disability, sexual orientation, military status predisposing genetic characteristics, victim of domestic violence status, or marital status, will undertake or continue existing programs of affirmative action to ensure that minority group members are afforded equal employment opportunities without discrimination, and shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on State contracts.
(b) This organization shall state in all solicitation or advertisements for employees that in the performance of the State contract all qualified applicants will be afforded equal employment opportunities without discrimination because of race, religion/creed, color, national origin, sex, age, disability, sexual orientation, military status, predisposing genetic characteristics, victim of domestic violence status or marital status.
(c) At the request of the contracting agency, this organization shall request that each employment agency, labor union, or authorized representative will not discriminate on the basis of race, religion/creed, color, national origin, sex, age, disability, sexual orientation, military status, predisposing genetic characteristics, victim of domestic violence status or marital status, and that such union or representative will affirmatively cooperate in the implementation of this organization’s obligations herein.
(d) This organization will include the provisions of sections (a) through (c) of this agreement in every subcontract in such a manner that the requirements of the subdivisions will be binding upon each subcontractor as to work in connection with the State contract.

Agreed to this _____ day of _____, 2_____

By _____

Print: _____ Title: _____

Form SRAA – 5000

This form must be submitted with the Bid or Proposal



Minority/Women Business Enterprise Liaison

_____ is designated as the Minority/Women Business Enterprise Liaison
(Name of Designated Liaison)

responsible for administering the Minority and Women-Owned Business Enterprises-Equal Employment Opportunity (M/WBE-EEO) program.

(Authorized Representative)

Title:

Date:

Contact:

Contact:

Form SRAA – 5000

This form must be submitted with the Bid or Proposal



EQUAL EMPLOYMENT OPPORTUNITY STAFFING PLAN

Instructions on page 2

Solicitation/Program Name:	Report includes: <input type="checkbox"/> Work force to be utilized on this contract <input type="checkbox"/> Contractor/Subcontractor's total work force
Offeror's Name:	Reporting Entity: <input type="checkbox"/> Contractor <input type="checkbox"/> Subcontractor Subcontractor's name _____
Offeror's Address:	

Enter the total number of employees for each classification in each of the EEO-Job Categories identified

EEO-Job Category	Total Work Force	Work force by Gender		Work force by Race/Ethnic Identification													
		Total	Total	White		Black		Hispanic		Asian		Native American		Disabled		Veteran	
		Male	Female	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)
		(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)
Officials/Administrators																	
Professionals																	
Technicians																	
Service Maintenance Workers																	
Office/Clerical																	
Skilled Craft Workers																	
Paraprofessionals																	
Protective Service Workers																	
Totals																	

Prepared by (Signature):	Telephone Number:	Date:
Name and Title of Preparer (Print or Type)	Email Address:	

Form SRAA - 5001

This form must be submitted with the Bid or Proposal



General Instructions for Form SRAA - 5001: All Offerors and each subcontractor identified in the bid or proposal must complete an EEO Staffing Plan and submit it as part of the bid or proposal package. Where the work force to be utilized in the performance of the State contract can be separated out from the contractor's or subcontractor's total work force, the Offeror shall complete this form only for the anticipated work force to be utilized on the State contract. Where the work force to be utilized in the performance of the State contract cannot be separated out from the contractor's or subcontractor's total work force, the Offeror shall complete this form for the contractor's or subcontractor's total work force.

Instructions for completing:

1. Enter the Solicitation number or RFP number that this report applies to along with the name and address of the Offeror.
2. Check off the appropriate box to indicate if the Offeror completing the report is the contractor or a subcontractor.
3. Check off the appropriate box to indicate if the work force being reported is just for the contract or the Offerors' total work force.
4. Enter the total work force by EEO job category.
5. Break down the total work force by gender and enter under the heading 'Work force by Gender'.
6. Break down the total work force by race/ethnic background and enter under the heading 'Work force by Race/Ethnic Identification'.
Contact the Designated Contacts(s) for the solicitation if you have any questions.
7. Enter information on disabled or veterans included in the work force under the appropriate headings.
8. Enter the name, title, phone number and email address for the person completing the form. Sign and date the form in the designated boxes.

RACE/ETHNIC IDENTIFICATION

Race/ethnic designations as used by the Equal Employment Opportunity Commission do not denote scientific definitions of anthropological origins. For the purposes of this report, an employee may be included in the group to which he or she appears to belong, identifies with, or is regarded in the community as belonging. However, no person should be counted in more than one race/ethnic group. The race/ethnic categories for this survey are:

- WHITE - (Not of Hispanic origin) All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.
- BLACK – A person, not of Hispanic origin, who has origins in any of the black racial groups of the original peoples of Africa.
- HISPANIC – A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.
- ASIAN & PACIFIC ISLANDER – A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent or the Pacific Islands.
- NATIVE INDIAN (NATIVE AMERICAN/ALASKAN NATIVE) - A person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition.

OTHER CATEGORIES

- DISABLED INDIVIDUAL – Any person who: has a physical or mental impairment that substantially limits one or more major life activity (ies), has a record of such an impairment, or is regarded as having such an impairment.
- VIETNAM ERA VETERAN – A veteran who served at any time between and including January 1, 1963 and May 7, 1975.
- GENDER

EQUAL EMPLOYMENT OPPORTUNITY WORKFORCE EMPLOYMENT UTILIZATION/COMPLIANCE REPORT

Instructions on page 2

Contract No.:	Reporting Entity: <input type="checkbox"/> Contractor <input type="checkbox"/> Subcontractor	Report Period: <input type="checkbox"/> January 1, 20__ to March 31, 20__ <input type="checkbox"/> April 1, 20__ to June 30, 20__ <input type="checkbox"/> July 1, 20__ to September 30, 20__ <input type="checkbox"/> October 1, 20__ to December 20__
Contractor's Name:		Report includes: <input type="checkbox"/> Work force to be utilized on this contract <input type="checkbox"/> Contractor/Subcontractor's total work force
Contractor's Address:		

Enter the total number of employees in each classification in each of the EEO-Job Categories identified

EEO-Job Category	Total Work Force	Work force by Gender		Work force by Race/Ethnic Identification													
		Total Male	Total Female	White		Black		Hispanic		Asian		Native American		Disabled		Veteran	
		(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)
Officials/Administrators																	
Professionals																	
Technicians																	
Service Maintenace Workers																	
Office/Clerical																	
Skilled Craft Workers																	
Paraprofessionals																	
Protective Service Workers																	
Totals																	

Prepared by (Signature):	Telephone Number:	Date:
Name and Title of Preparer (Print or Type)		Email Address:

Email completed form to M/WBE Program Unit:
 Linda Ryan - ryanl@syrairport.org
 Ed Wilson - ewilson@omni-ops.com



General Instructions for Form SRAA – 5002A: The work force utilization/compliance report is to be submitted on a quarterly basis during the life of the contract to report the actual work force utilized in the performance of the contract broken down by the specified categories. When the work force utilized in the performance of the contract can be separated out from the contractor’s or subcontractor’s total work force, the contractor or subcontractor shall submit a Utilization Report of the work force utilized on the contract. When the work force to be utilized on the contract cannot be separated out from the contractor’s or subcontractor’s total work force, information on the contractor’s total work force shall be included in the Utilization Report. Utilization reports are to be completed each quarter and submitted to SRAA within 15 days of the end of each quarter. If there are no changes to the work force utilized on the contract during the reporting period, the contractor can submit a written statement of no change or submit a copy of the previously submitted report with the date and reporting period updated.

Instructions for completing:

1. Enter the number of the contract that this report applies to along with the name and address of the contractor preparing the report.
2. Check off the appropriate box to indicate if the entity completing the report is the contractor or a subcontractor.
3. Check off the box that corresponds to the reporting period for this report.
4. Check off the appropriate box to indicate if the work force being reported is just for the contract or the Contractor’s total work force.
5. Enter the total work force by EEO job category.
6. Break down the total work force by gender and enter under the heading “Work force by Gender’.
7. Break down the total work force by race/ethnic background and enter under the heading ‘Work force by Race/Ethnic Identification’.
8. Enter information on any disabled or veteran employees included in the work force under the appropriate heading.
9. Enter the name, title, phone number and email address for the person completing the form. Sign and date the form in the designated boxes.

RACE/ETHNIC IDENTIFICATION

Race/ethnic designations as used by the Equal Employment Opportunity Commission do not denote scientific definitions of anthropological origins. For the purposes of this report, an employee may be included in the group to which he or she appears to belong, identifies with, or is regarded in the community as belonging. However, no person should be counted in more than one race/ethnic group. The race/ethnic categories for this survey are:

- WHITE - (Not of Hispanic origin) All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.
- BLACK – A person, not of Hispanic origin, who has origins in any of the black racial groups of the original peoples of Africa.
- HISPANIC – A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.
- ASIAN & PACIFIC ISLANDER – A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent or the Pacific Islands.
- NATIVE INDIAN (NATIVE AMERICAN/ALASKAN NATIVE) - A person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition.

OTHER CATEGORIES

- DISABLED INDIVIDUAL – Any person who: has a physical or mental impairment that substantially limits one or more major life activity (ies), has a record of such an impairment, or is regarded as having such an impairment.
- VIETNAM ERA VETERAN – A veteran who served at any time between and including January 1, 1963 and May 7, 1975.
- GENDER

WORKFORCE UTILIZATION REPORT (EO 162 COMPLIANT)

WORKFORCE UTILIZATION REPORT (EO 162 COMPLIANT)



Reporting Entity: Contractor Subcontractor
 FEIN: _____
 Contractor Name: _____
 Contractor Address: _____
 Contract Number: _____

Reporting Period - Select One
 January 1 - March 31 April 1 - June 30
 July 1 - September 30 October 1 - December 31
 Calendar Year Being Reported: (Enter Year Here) _____
 Workforce Identified in Report
 Workforce Utilized in Performance of Contract
 Contractor/Subcontractor's Total Workforce

Preparer's Name: _____
 Preparer's Title: _____
 Date: _____

By checking this box, I certify that I personally completed this document and I adopt the name typed above as my electronic signature under the NYS Electronic Signatures and Records Act, with the legal force and effect as if I had physically signed the document.
 Check this box to request that the material included herein be withheld from disclosure pursuant to Article 6 of the Public Officers Law (Freedom of Information Law).

Occupation Classifications (SOC Major Group)	SOC Job Title	EEO Job Title	SOC Job Code	Number of Employees and Hours Worked by Race/Ethnic Identification During Reporting Period																																																				
				White						Black/African American						Hispanic/Latino						Asian/Native Hawaiian or Other Pacific Islander						Native American/Alaskan Native																												
				Male			Female			Male			Female			Male			Female			Male			Female																															
No. of Employees	No. of Hours	Gross Wages	No. of Employees	No. of Hours	Gross Wages	No. of Employees	No. of Hours	Gross Wages	No. of Employees	No. of Hours	Gross Wages	No. of Employees	No. of Hours	Gross Wages	No. of Employees	No. of Hours	Gross Wages	No. of Employees	No. of Hours	Gross Wages	No. of Employees	No. of Hours	Gross Wages																																	
																										Total																														
																										0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Example Copy

The Fillable Electronic Copy, SRAA - 5002B (EO162 Compliant) is to be e-mailed quarterly to Linda Ryan at ryanl@syrairport.org

Instructions for Submitting the Workforce Utilization Report – Form SRAA – 5002B

The Workforce Utilization Report (“Report”) is to be submitted on a monthly basis for construction contracts¹, and a quarterly basis for all other contracts, during the life of the contract to report the actual workforce utilized in the performance of the contract broken down by job title. When the workforce utilized in the performance of the contract can be separated out from the contractor’s and/or subcontractor’s total workforce, the contractor and/or subcontractor shall submit a Report of the workforce utilized on the contract. When the workforce to be utilized on the contract cannot be separated out from the contractor’s and/or subcontractor’s total workforce, information on the contractor’s and/or subcontractor’s total workforce may be included in the Report.

Reports are to be submitted electronically, using the provided Report worksheet, to Linda Ryan at ryanl@syrairport.org within ten (10) days following the end of each month or quarter, whichever is applicable.

Instructions for Completing the Workforce Utilization Report

1. **REPORTING ENTITY:** Check off the appropriate box to indicate if the entity completing the Report is the contractor or a subcontractor.
2. **FEDERAL EMPLOYER IDENTIFICATION NUMBER:** Enter the Federal Employer Identification Number (FEIN) assigned by the IRS. Contractors utilizing their social security number in lieu of an FEIN should leave this field blank.
3. **CONTRACTOR NAME and CONTRACTOR ADDRESS:** Enter the primary business address for the entity completing the Report.
4. **CONTRACT NUMBER:** Enter the number of the contract to which the Report applies.
5. **REPORTING PERIOD:** Check off the box that corresponds to the applicable quarterly or monthly reporting period for this Report. Only select one box.
6. **WORKFORCE IDENTIFIED IN REPORT:** Check off the appropriate box to indicate if the workforce being reported is just for the contract or the contractor’s or subcontractor’s total workforce.
7. **OCCUPATION CLASSIFICATIONS and SOC JOB TITLE:** Select the occupation classification and job title that best describes each group of employees performing work on the state contract under columns A and B.
8. **EEO JOB TITLE and SOC CODE:** These fields will populate automatically based upon the Occupation Classifications and SOC Job Titles selected. Do not modify the results generated in these fields.
9. **NUMBER OF EMPLOYEES and NUMBER OF HOURS:** Enter the number of employees and total number of hours worked by such employees for each job title under the columns corresponding to the gender and racial/ethnic groups with which the employees most closely identify.
10. **TOTAL GROSS WAGES: [TO BE REPORTED QUARTERLY]** Enter the total gross wages paid to all employees for each job code, and each gender and racial/ethnic group, identified in the Report. Contractors and subcontractors should report only gross wages for work on the contract paid to employees during the period covered by the Report. “Gross wages” are those reported by employers to employees on their wage statements. Gross wages are defined more specifically by 20 NYCRR §2380.4 and typically include every form of compensation for employment paid by an employer to his, her or its employees, whether paid directly or indirectly by the employer, including salaries, commissions, bonuses, tips and the reasonable value of board, rent, housing, lodging or similar advantage received.

¹ The Gross Wages column is only required to be completed on a quarterly basis commencing 1/1/2018.

11. PREPARER'S INFORMATION: Enter the name and title for the person completing the form, enter the date upon which the Report was completed, and check the box accepting the name entered into the Report as the digital signature of the preparer.

Race/Ethnic Identification

Race/ethnic designations do not denote scientific definitions of anthropological origins. For the purposes of this Report, an employee must be included in the group with which he or she most closely identifies. No person may be counted in more than one race/ethnic group. In determining an employee's race or ethnicity, a contractor may rely upon an employee's self-identification, employment records, or, in cases where an employee refuses to identify his or her race or identity, observer identification. The race/ethnic categories for this Report are:

- **WHITE** (Not of Hispanic origin) All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.
- **BLACK/AFRICAN AMERICAN** a person, not of Hispanic origin, who has origins in any of the black racial groups of the original peoples of Africa.
- **HISPANIC/LATINO** a person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.
- **ASIAN, NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER** a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent or the Pacific Islands.
- **NATIVE AMERICAN/ALASKAN NATIVE** a person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition.

Resources

If you have questions regarding these requirements, are unsure of the appropriate job titles to include in your Report, or otherwise require assistance in preparing or submitting the Report, please contact Linda Ryan at ryanl@syrairport.org or by calling 315-454-3263.



M/WBE SUBCONTRACTOR UTILIZATION PLAN

INSTRUCTIONS: This form must be submitted with any bid, proposal, or proposed negotiated contract. This Utilization Plan must contain a detailed description of the supplies and/or services to be provided by each certified Minority and Women-Owned Business Enterprise (M/WBE) subcontractor under the contract. Attach additional sheets if necessary.

Offeror's Name:

Federal Identification Number:

Address:

Solicitation Number:

City, State, Zip Code:

Telephone Number:

Region/Location of Work:

M/WBE Goals in the Contract: MBE _____% WBE _____%

1. Certified M/WBE Subcontractors/Suppliers Name, Address, Email Address, Telephone No.	2. Classification	3. Federal ID No.	4. Detailed Description of Work (Attach additional sheets, if necessary)	5. Dollar value of Subcontracts/Supplies/Services and intended performance dates of each component of the contract	
A.	NYS ESD CERTIFIED ___ MBE ___ WBE				
B.	NYS ESD CERTIFIED ___ MBE ___ WBE				
PREPARED and APPROVED BY: NAME and TITLE OF PREPARER (Print or Type): AUTHORIZED SIGNATURE DATE: TELEPHONE NO: EMAIL ADDRESS: Submission of this form constitutes the Offeror's acknowledgement and agreement to comply with the M/WBE requirements set forth under NYS Executive Law, Article 15-A, 5 NYCRR Part 143, and the above-referenced solicitation.			FOR AGENCY USE ONLY		
			REVIEWED BY:		DATE:
			UTILIZATION PLAN APPROVED: ___YES ___NO		Date:
			Contract No:		
		Contract Award Date:			
		Estimated Date of Completion:			
		Amount Obligated under the Contract:			
		NOTICE OF DEFICIENCY ISSUED: ___YES ___NO		Date:	
		NOTICE OF ACCEPTANCE ISSUED: ___YES ___NO		Date:	

Form SRAA - 5003

This form must be submitted with the Bid or Proposal



M/WBE GOAL REQUIREMENTS CERTIFICATION OF GOOD FAITH EFFORTS

Contractors (to include those who submit bids/proposals in an effort to be selected for contract award as well as those successful bidders/proposers with whom SRAA enters into State contracts) must document “good faith efforts” to provide meaningful participation by New York State Certified M/WBE subcontractors or suppliers/vendors in the performance of this contract.

The undersigned hereby acknowledges that he/she took or may need to take the following actions on behalf of the Contractor to demonstrate, and upon request by SRAA, to provide written verification to document the aforesaid good faith efforts:

- (a) The Contractor attended any pre-bid, pre-award, or other meetings scheduled by the contracting agency or the NYS Department of Economic Development or its designee to inform certified minority- or women-owned business enterprises of contracting and subcontracting opportunities available on the project, for purposes of complying with contract participation goal requirements;
- (b) The Contractor identified economically feasible units of the project that could be contracted or subcontracted to certified minority- and women-owned business enterprises in order to increase the likelihood of participation by such enterprises on the contract;
- (c) The Contractor undertook efforts to reasonably structure the contract scope of work for purposes of subcontracting with certified minority- and women-owned business enterprises;
- (d) The Contractor advertised in a timely fashion and in appropriate general circulation, trade and minority- and women-oriented publications, if any, concerning the contracting or subcontracting opportunity;
- (e) The Contractor made written solicitations in a timely fashion to a reasonable number of certified minority- and women-owned business enterprises identified from current certified lists of such business enterprises provided or maintained by the NYS Empire State Development’s Division of Minority and Women Owned Business Development, or its designee, of the contracting or subcontracting opportunity. The directory of certified businesses can be viewed at: <http://esd.ny.gov/index.html>
- (f) The Contractor can document if any timely responses to any such advertisements and solicitations were provided by certified minority- and women-owned business enterprises;
- (g) The Contractor followed-up initial solicitations by contacting the enterprises to determine whether the enterprises were interested in such contracting or subcontracting opportunity;

Form SRAA – 5004

This form must be submitted with the Bid or Proposal



(h) The Contractor provided interested certified minority- and women-owned business enterprises in a timely fashion with adequate information about the plans, specifications or terms and conditions of the State contract and requirements for the contracting or subcontracting opportunity so as to prepare an informed response to a contractor solicitation;

(i) The Contractor submitted a completed, acceptable utilization plan in accordance with applicable requirements to meet goals for participation of certified minority- and women-owned business enterprises established in the State contract;

(j) The Contractor used the services of community organizations, contractor groups, state and federal business assistance offices and other organizations identified by the NYS Department of Economic Development or its designee that provide assistance in the recruitment and placement of minority- and women-owned business enterprises;

(k) The Contractor negotiated in good faith with certified minority- and women-owned business enterprises submitting bids, proposals, or quotations and did not, without justifiable reason, reject as unsatisfactory any bids, proposals or quotations prepared by any certified minority- or women-owned business enterprise. "Good faith" negotiating means engaging in good faith discussions with certified minority- or women-owned business enterprises about the nature of the work, scheduling, requirements for special equipment, opportunities for dividing of work among the bidders, proposers, and various subcontractors and the bids of the minority- or women-owned businesses, including sharing with them any cost estimates from the request for proposal or invitation to bid documents, if available; and,

(l) The Contractor undertook efforts to make payments for any work performed by certified minority- and women-owned business enterprises in a timely fashion so as to facilitate continued performance by certified minority- and women-owned business enterprises.

Signature Date

Print Name

Title

Company

Contract Number

Program/Solicitation Name

Form SRAA – 5004

This form must be submitted with the Bid or Proposal



M/WBE COVER LETTER

Bid# _____

Minority & Woman-Owned Business Enterprise Requirements

NAME OF FIRM: _____

In accordance with the provisions of Article 15-A of the NYS Executive Law, 5 NYCRR Parts 140-144, Section 163 (6) of the NYS Finance Law and Executive Order #8 and in fulfillment of the Syracuse Regional Airport Authority (SRAA) policies governing Equal Employment Opportunity and Minority and Women-Owned Business Enterprise (M/WBE) participation, it is the intention of the SRAA to provide real and substantial opportunities for certified Minority and Women-Owned Business Enterprises on all State contracts. It is with this intention the SRAA has assigned M/WBE participation goals to this contract.

In an effort to promote and assist in the participation of certified M/WBEs as subcontractors and suppliers on this project for the provision of services and materials, the bidder is required to comply with SRAA's participation goals through one of the three methods below. Please indicate which one of the following is included with the M/WBE Documents Submission.

- Full Participation – No Request for Waiver (PREFERRED)
- Partial Participation – Partial Request for Waiver
- No Participation – Request for Complete Waiver

By my signature on this Cover Letter, I certify that I am authorized to bid the Bidder's firm contractually.

Print or Type Name of Authorized Representative of the Firm

Print or Type Title/Position of Authorized Representative of the Firm

Signature

Date

Form SRAA – 5005

This form must be submitted with the Bid or Proposal



CONTRACTOR BID SOLICITATION LETTER

Contract #: _____
County: _____
Project Title: _____

We are bidding on Project/Contract # _____ which involves [type of contract(s)] _____ in the _____ of New York. We are currently soliciting bid quotations or proposals from NY State certified M/WBE firms for any tasks of the work contained in this contract. The speciality items contained include the following:

Table with 4 columns: Item(s), Description, Quantity, Projected Start Date

The Workplan and specifications are currently available at our office for your review. If you are interested in participation on this project, please complete and submit a copy of the MBE/WBE Contractor Participation Bid/Proposal (SRAA - 5008) attached and email/fax back to our office at _____ by _____.

If you need additional information and assistance, or need to review the Work Plan and specifications, please contact _____ of our office at _____.

In the event that you cannot bid on this contract please complete the attached Minority/Women's Contractor Unavailability Certification Form (SRAA - 5009) attached and email/fax back to our office at _____ by _____.

Thank you for your interest as we look forward to a successful project.



M/WBE SUBCONTRACTORS AND SUPPLIERS
LETTER OF INTENT TO PARTICIPATE

PRIME CONTRACTOR INFORMATION	
Contractor:	Federal ID Number:
Address:	Telephone:
Proposal/Contract Number:	

M/WBE SUBCONTRACTOR/SUPPLIER INFORMATION	
M/WBE Business Name:	Federal ID Number:
Address:	Telephone:
Designation: <i>(Check any that Apply)</i>	
<input type="checkbox"/> MBE - Subcontractor	<input type="checkbox"/> WBE - Subcontractor
<input type="checkbox"/> MBE - Supplier	<input type="checkbox"/> WBE - Supplier
Are you a New York State Certified M/WBE?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Joint Venture Section: <i>(Complete only if you are in a Joint Venture)</i>	
Name:	
Address:	
Federal ID#:	
Telephone:	<input type="checkbox"/> MBE <input type="checkbox"/> WBE

WORK/SERVICES to be PROVIDED BY M/WBE SUBCONTRACTOR/SUPPLIER	
Proposal Contract Start Date:	Proposal Contract End Date:
Work/Services to be Performed:	Cost:
Materials/Supplies to be Purchased:	Cost:
Dates Supplies Ordered:	Date Supplies Delivered:

Form SRAA - 5007

This form must be submitted with the Bid or Proposal

The above work will not be further subcontracted without the express written permission of the contractor and notification of the Office. The undersigned will enter into a formal agreement for the above work with the contractor ONLY upon the Contractor's execution of a contract with the Office.

Signature of M/WBE Contractor: _____

Printed/Typed Name of M/WBE Contractor: _____

Date: _____

INSTRUCTIONS FOR M/WBE SUBCONTRACTORS AND SUPPLIERS' LETTER

This form is to be submitted with bid attached to the Subcontractor's Information Form in a sealed envelope for each certified Minority or Women-Owned Business enterprise the Bidder/Awardee/Contractor proposes to utilize as subcontractors, service providers or suppliers.

If the MBE or WBE proposed for portion of this proposal/contract is part of a joint or other temporarily-formed business entity of independent business entities, the name and address of the joint venture or temporarily-formed business should be indicated.

Form SRAA - 5007

This form must be submitted with the Bid or Proposal



M/WBE CONTRACTOR PARTICIPATION BID/PROPOSAL

MBE/WBE Business Name: _____

Address: _____

Prime Contractor: _____

Contract #: _____

County: _____

Project Title: _____

To: _____ (Prime Contractor)

Form SRAA - 5007 Completed Yes No

(Specify in detail the particular work items to be performed thereof and associated dollar amounts)

Type of Work	Unit Price	Dollar Amount

Signature of MWBE Contractor

Date

Form SRAA - 5008

This form must be submitted with the Bid or Proposal



M/WBE CONTRACTOR UNAVAILABILITY CERTIFICATION

Project/Contract # _____

I, _____
(Principal or Prime Consultant/Contractor)

_____ of _____
(Title) (Name of Consultant's/Contractor's Firm)

_____ (Address) _____ (Telephone Number)

I certify that on (Date) _____ I contacted the following New York State Certified Minority/Women Business Enterprises by registered mail to obtain bids for work to be performed on the above-mentioned contract.

List the names of M/WBEs and type of work that bids were requested

- _____
- _____
- _____
- _____
- _____

To the best of my knowledge and belief, said New York State Certified Minority/Women Business Enterprise contractor(s) was unavailable for work on this project, or unable to prepare a bid for the following reasons: Please check appropriate reasons given by each MBE/WBE firm contacted above.

- _____ Did not have the capability to perform the work
- _____ Contract too small
- _____ Remote location
- _____ Received solicitation notices too late
- _____ Did not want to work for this contractor
- _____ Other (Give reason) _____

Signature of Prime Consultant/Contractor

M/WBE SUBCONTRACTOR REQUEST FOR WAIVER FORM

Instructions: See Page 2 of this attachment for requirements and document submission instructions.

Offeror/Contractor Name:		Federal Identification No.:	
Address:		Solicitation/Contract No.:	
City, State, Zip Code:		M/WBE Goals: MBE % WBE %	
By submitting this form and the required information, the offeror/contractor certifies that every Good Faith Effort has been taken to promote M/WBE participation pursuant to the M/WBE requirements set forth under the contract.			
Contractor is requesting a: 1. <input type="checkbox"/> MBE Waiver – A waiver of the MBE Goal for this procurement is requested. <input type="checkbox"/> Total <input type="checkbox"/> Partial 2. <input type="checkbox"/> WBE Waiver – A waiver of the WBE Goal for this procurement is requested. <input type="checkbox"/> Total <input type="checkbox"/> Partial 3. <input type="checkbox"/> Waiver Pending ESD Certification – (Check here if subcontractors or suppliers of Contractor are not certified M/WBE, but an application for certification has been filed with Empire State Development.) Date of such filing with Empire State Development: _____			
PREPARED BY (Signature): SUBMISSION OF THIS FORM CONSTITUTES THE OFFEROR/CONTRACTOR'S ACKNOWLEDGEMENT AND AGREEMENT TO COMPLY WITH THE M/WBE REQUIREMENTS SET FORTH UNDER NYS EXECUTIVE LAW, ARTICLE 15-A AND 5 NYCRR PART 143. FAILURE TO SUBMIT COMPLETE AND ACCURATE INFORMATION MAY RESULT IN A FINDING OF NONCOMPLIANCE AND/OR TERMINATION OF THE CONTRACT.		Date:	
Name and Title of Preparer (Printed or Typed):		Telephone Number:	Email Address:
***** FOR AGENCY USE ONLY *****			
Submit with the bid or proposal or if submitting after award, submit to the MWBE program Unit:		REVIEWED BY:	DATE:
Waiver Granted: <input type="checkbox"/> YES MBE: <input type="checkbox"/> WBE: <input type="checkbox"/> <input type="checkbox"/> Total Waiver <input type="checkbox"/> Partial Waiver <input type="checkbox"/> SRAA Certification Waiver <input type="checkbox"/> *Conditional <input type="checkbox"/> Notice of Deficiency Issued _____ *Comments:			

Form SRAA – 5010

If your M/WBE total is less than 30%, this form must be submitted with the Bid or Proposal
 If you have met the 30% goal, this form is not applicable

REQUIREMENTS AND DOCUMENT SUBMISSION INSTRUCTIONS

When completing the Request for Waiver Form (SRAA – 5010) please check all boxes that apply. To be considered, the Request for Waiver Form must be accompanied by documentation for items 1 – 11, as listed below. If box #3 has been checked above, please see item 11. Copies of the following information and all relevant supporting documentation must be submitted along with the request:

1. A statement setting forth your basis for requesting a partial or total waiver.
2. The names of general circulation, trade association, and M/WBE-oriented publications in which you solicited certified M/WBEs for the purposes of complying with your participation goals.
3. A list identifying the date(s) that all solicitations for certified M/WBE participation were published in any of the above publications.
4. A list of all certified M/WBEs appearing in the NYS Directory of Certified Firms that were solicited for purposes of complying with your certified M/WBE participation levels.
5. Copies of notices, dates of contact, letters, and other correspondence as proof that solicitations were made in writing and copies of such solicitations, or a sample copy of the solicitation if an identical solicitation was made to all certified M/WBEs.
6. Provide copies of responses made by certified M/WBEs to your solicitations.
7. Provide a description of any contract documents, plans, or specifications made available to certified M/WBEs for purposes of soliciting their bids and the date and manner in which these documents were made available.
8. Provide documentation of any negotiations between you, the Offeror/Contractor, and the M/WBEs undertaken for purposes of complying with the certified M/WBE participation goals.
9. Provide any other information you deem relevant which may help us in evaluating your request for a waiver.
10. Provide the name, title, address, telephone number, and email address of offeror/contractor's representative authorized to discuss and negotiate this waiver request.
11. Copy of notice of application receipt issued by Empire State Development (ESD).

Note:

Unless a Total Waiver has been granted, Offeror/Contractor will be required to submit all reports and documents pursuant to the provisions set forth in the Contract, as deemed appropriate by the contracting entity, to determine M/WBE compliance.



Contractor Quarterly Compliance Report

Instructions on page 2/3

INSTRUCTIONS: Beginning ten days following the end of the first calendar quarter (March 31st, June 30th, September 30th, and December 31st) after a contract is awarded; Quarterly Compliance

Expenditure Code: C- Commodities, SC - Services/Consultants, CC - Construction Consultants, CN - Construction, GM - Grants Material/Equipment, GC -Grants in Construction, GS - Grants in Services/Consultants

Contract Number: Contractor:	Reporting Period: From: ___/___/___ To: ___/___/___	M/WBE Goal MBE % WBE % M/WBE %
-------------------------------------	---	--

A	B	C	D
Amount of Actual Expenditures in Reporting Period	Minority-Owner Business Enterprise (MBE) Subcontracting Expenditures in Reporting Period	Women-Owned Business Enterprise (WBE) Subcontracting Expenditures in Reporting Period	Dual Minority and Women-Owned Business Enterprise (MWBE) Subcontracting Expenditures in Reporting Period
\$	\$	\$	\$
(If none, enter 0)	(If none, enter 0)	(If none, enter 0)	(If none, enter 0)

Payee ID	Payee Name, Address, City, Zip	Service Location	MBE or WBE or Dual MWBE	Expenditure Code	Product Code	Amount

Name and Title of Preparer (Print or Type):	Telephone No.:	Email Address:
Quarterly reports should be submitted to your contract manager.	For Agency Use Only	
	Reviewed By:	Date:

CREDIT WILL NOT BE GIVEN WITHOUT COMPLETE INFORMATION

Form SRAA - 5011

To be submitted after Contract Award

INSTRUCTIONS:

List all M/WBEs used during the quarter, providing all requested information in appropriate columns. In the event that an M/WBE is used more than one time during a quarter, list the M/WBE only once for each expenditure category. Use the Expenditure Code defined at the top of the form to indicate the category of expenditures for which the M/WBE was used.

TOTALS FOR REPORT PERIOD

- Column A Total Amount of Actual Expenditures in Report Period: Enter the amount (\$) for each Expenditure Code made during report period under this contract.
- Column B MBE Subcontracting Expenditures: Enter the amount for each Expenditure Code with registered Minority Owned Business Enterprises made during the report period under this contract.
- Column C WBE Subcontracting Expenditures: Enter the amount of expenditures for each Expenditure Code with registered Women Owned Business Enterprises made during the report period under this contract.
- Column D MWBE Dual Subcontracting Expenditures: Enter the amount of expenditures for each Expenditure Code with registered Minority and Women Owned Business Enterprises made during the report period under this contract.

Use the following codes in the Product Code column to indicate the category of work for which the M/WBE was utilized:

PRODUCT CODE KEY:

A	Agriculture/Landscaping (e.g., all forms of landscaping services)
B	Mining (e.g., Geological investigation)
C	Construction
C15	Building Construction – General Contractors
C16	Heavy Construction (e.g., highway, pipe laying)
C17	Special Trade Contractors (e.g., plumbing, heating, electrical, carpentry)
D	Manufacturing (production of goods)
E	Transportation, Communication and Sanitary Services (e.g., Delivery services, warehousing, broadcasting and cable systems)
F/G	Wholesale/Retail Goods (e.g., gravel, hospital supplies and equipment, food stores, computer stores, office supplies)
G52	Construction Materials (e.g., lumber, paint, lawn supplies)
H	Financial, Insurance and Real Estate Services
I	Services
I73	Business Services (e.g., copying, advertising, secretarial, janitorial, rental services of equipment, computer programming, security services)
I80	Health Services
I81	Legal Services
I82	Educational Services (e.g., AIDS education, automobile safety, tutoring, public speaking)
I83	Social Services (e.g., counselors, vocational training, child care)
I87	Engineering, architectural, accounting, research, management and related services

Expenditure: An expenditure is an actual payment which has been made by an agency, either through the Office of the State Comptroller or by the agency's finance office directly, including subcontractor/supplier payments made by a prime contractor and verified by the agency.

Grants: For the purposes of this report, grants are monies dispensed by a contracting governmental agency to a person or institution to accomplish a public purpose authorized by law. According to Article 15-A, grants are considered to be State contracts. For the purpose of compliance reporting, the recipient of the grant is considered to be the "contractor". These contracts are subject to MWBE goals and reported in the same fashion as any other contract. Grant dollars expended should be reported on the form most appropriate for the majority of the grant (e.g. If the grant dollars are generally spent for construction, the monies should be reported on the construction form; if for training, the monies should be reported on the services/consultant form).

Not-for-Profit: An entity organized as a not-for-profit corporation pursuant to State Law, according to Article 15-A, not-for-profit entities are considered to be "contractors". These contractors are subject to MWBE goals and should be treated and reported in the same fashion as any other contractor. The expenditure of dollars by a not-for-profit entity should be reported on the form most appropriate to the majority of the funding (e.g. if the dollars are generally spent to provide training and/or rehabilitation services, then the monies should be reported on the services/consultant form; if the expenditures are made on a contract for low-income housing, the dollars should be reported on the construction form).

Subcontractor:

a) For construction, a subcontract is any portion of the contract or any service performed or supplies provided relative to that contract by any party other than the prime contractor;

b) For commodities and consultant/services, a subcontract is that portion of the total value of a contract portioned out to another consultant/individual or vendor. This is also known as second tier spending;

c) For grants/not-for-profits contracts, a subcontract is that portion of funding expended for supplies, equipment, printing, consultants, trainers, services etc.

d) It is important to provide all information as requested or credit may not be allowed.

e) It is critical that you provide the detailed information requested on the CONTRACTOR QUARTERLY COMPLIANCE REPORT. List each M/WBE firm you have included in the MBE and WBE totals (for prime and subcontract expenditures) in each expenditure category. Missing information may result in the firm/dollars not counting toward agency MWBE participation goals.



Appendix B - Checklist

Service-Disabled Veteran-Owned Businesses (SDVOB) Program

Project: _____

All bidders are required to complete and submit the following forms with the Bid or Proposal. SRAA will consider incomplete information to be a non-responsive proposal.

Please use this checklist to make sure all forms required are submitted as a part of this bid.

- Form SDVOB 100 - SDVOB Utilization Plan
- Form SDVOB 200 - Application for Waiver of SDVOB Participation Goal (Submit only if requesting a waiver)

Once the contract has been awarded, the following forms must be submitted.

- Form SDVOB 101 - Contractor's Monthly SDVOB Compliance Report



APPENDIX B

Service Disabled Veteran Enterprise (SDVE) Participation Requirements For all NYS Syracuse Regional Airport Authority Contracts and Grants

Authority: Article 17-B of the Executive Law, 9 CRR-NY G I 252, Standard Clauses for All New York State SRAA Contracts and requirements of any federal law concerning opportunities for service disabled veteran enterprises which effectuate the purposes of Article 17-B.

I. General Provisions

The Division of Service-Disabled Veterans' Business Development (DSDVBD) is housed within the New York State Office of General Services and is tasked with promoting and encouraging the continuing economic development of Service-Disabled Veteran-Owned Businesses (SDVOBs). Through the DSDVBD, the State of New York aims to assist service-disabled veterans in playing a greater role in the economy of the state and to provide additional assistance and support to disabled veterans to better equip them to form and expand small businesses, thereby enabling them to realize the American dream they fought to protect. New York State Executive Law Article 17-B governs requirements for the participation of SDVOBs in New York State contracting. The objective of Article 17-B is to expand opportunities for SDVOBs, primarily through increased participation in New York State contracting.

Key Objectives of the DSDVBD:

- To encourage and assist State agencies and authorities that are engaged in contracting activities to award a share of State contracts to SDVOBs.
- To review applications by businesses seeking certification as a SDVOB and to maintain a directory of NYS Certified SDVOBs.
- To promote the business development of SDVOBs through education and outreach to agencies, authorities, non-profit organizations, independent contractors, and SDVOBs.
- To collect, review, monitor, and report on data pertaining to the utilization of SDVOBs by NYS agencies and authorities.
- To ensure continued progress toward the statewide SDVOB utilization goal of 6% established by New York State Executive Law Article 17-B.

II. Guidelines

Article 17-B of the Executive Law enacted in 2014 acknowledges that Service-Disabled Veteran-Owned Businesses (SDVOBs) strongly contribute to the economies of the State and the nation. As defenders of our nation and in recognition of their economic activity in doing business in New York State, bidders/proposers for this contract for commodities, services or technology are strongly encouraged and expected to consider SDVOBs in the fulfillment of the requirements of the contract. Such partnering may be a subcontractors, suppliers, protégés or other supporting roles. SDVOBs can be readily identified on the directory of certified businesses at: <https://ogs.ny.gov/Veterans/default.asp>

Bidders/proposers need to be aware that all authorized users of this contract will be strongly encouraged to maximum extent practical and consistent with legal requirements of the State Finance Law and the Executive Law to use responsible and responsive SDVOBs in purchasing and utilizing commodities, services and technology that are of equal quality and value.

III. Contract Goals

Where practical, feasible and appropriate, State agencies shall seek to achieve a 6% goal on all State contracts for service-disabled veteran-owned business enterprises.

Where SDVE goals have been established herein, Contractor must document “good faith efforts” to provide meaningful participation by SDVEs as subcontractors or suppliers in the performance of the Contract. The Contractor acknowledges that if Contractor is found to have willfully and intentionally failed to comply with the SDVE participation goals set forth in the Contract, such a finding constitutes a breach of contract and the Contractor shall be liable to the SRAA for liquidated or other appropriate damages.

IV. List of NYS Certified Service Disabled Veteran Owned Businesses

The DSDVBD maintains a Directory of NYS Certified SDVOBs. The directory is updated regularly with the addition of any newly certified SDVOBs or necessary changes requested by the listed SDVOBs or DSDVBD staff. State personnel and other interested parties may contact the DSDVBD and request they be added to a distribution list to receive the directory and its regular updates via email.

Options for the Use of SDVOBs

Agency and authority personnel have three primary options for using NYS Certified SDVOBs in their contracting/purchasing activities. It is the responsibility of each agency and authority to determine which option, or combination of options, can best achieve the agency-specific goals described in their master goal plan.

1. **SDVOB set-asides:** Set asides permit the reservation in whole or in part of certain procurements by State agencies for SDVOBs when more than one NYS Certified SDVOB is available and can provide the necessary construction, construction services, technology, commodities, products and other classifications to meet state agencies’/authorities’ form, function and utility. SDVOB set-asides shall be assessed for M/WBE participation goals pursuant to article 15-A of the Executive Law.
2. **SDVOB Contract Goal Setting:** A required percentage of SDVOB participation may be placed on qualified procurements. Any contract that conforms to the definition of state contract as described in the [rules and regulations](#) of the SDVOB program (9 CRR-NY G I 252), unless exempt or excluded, may be assessed for SDVOB participation goals. SDVOB participation goals shall be in addition to any M/WBE goals established pursuant to article 15-A of the Executive Law.
3. **SDVOB Discretionary Purchasing:** NYS Certified SDVOB vendors may be chosen when making discretionary purchases. Discretionary purchases are procurements made below statutorily established monetary levels and at the discretion of the agency, without the need for a formal competitive procurement process. For more information about discretionary purchasing, see the NYS Procurement Council [Discretionary Purchasing Guidelines](#).

V. SDVE Utilization Plans

Contractors shall submit utilization plans for achieving contract goals established for the participation of certified service-disabled veteran owned business enterprises performing commercially useful functions in relation to State contracts. A form for the utilization plan shall be provided by the State agency to the contractor for any request for bids, proposals or qualifications, or negotiated contracts, for which contract goals are established with:



SDVOB UTILIZATION PLAN

Initial Plan Revised plan Contract/Solicitation # _____

INSTRUCTIONS: This Utilization Plan must contain a detailed description of the supplies and/or services to be provided by each NYS **Certified** Service-Disabled Veteran-Owned Business (SDVOB) under the contract. By submission of this Plan, the Bidder/Contractor commits to making good faith efforts in the utilization of SDVOB subcontractors and suppliers as required by the SDVOB goals contained in the Solicitation/Contract. Making false representations or providing information that shows a lack of good faith as part of, or in conjunction with, the submission of a Utilization Plan is prohibited by law and may result in penalties including, but not limited to, termination of a contract for cause, loss of eligibility to submit future bids, and/or withholding of payments. Firms that do not perform commercially useful functions may not be counted toward SDVOB utilization. Attach additional sheets if necessary.

BIDDER/CONTRACTOR INFORMATION		SDVOB Goals In Contract	
Bidder/Contractor Name:	NYS Vendor ID:	%	
Bidder/Contractor Address (Street, City, State and Zip Code):			
Bidder/Contractor Telephone Number:	Contract Work Location/Region:		
Contract Description/Title:			

CONTRACTOR INFORMATION			
Prepared by (Signature):	Name and Title of Preparer:	Telephone Number:	Date:
Email Address:			

If unable to meet the SDVOB goals set forth in the solicitation/contract, bidder/contractor must submit a request for waiver on the SDVOB Waiver Form.

SDVOB Subcontractor/Supplier Name:		
Please identify the person you contacted:	Federal Identification No.:	Telephone No.:
Address:	Email Address:	

Detailed description of work to be provided by subcontractor/supplier:

Dollar Value of subcontracts/supplies/services (When \$ value cannot be estimated, provide the estimated % of contract work the SDVOB will perform): \$ _____ or _____%

SDVOB Subcontractor/Supplier Name:		
Please identify the person you contacted:	Federal Identification No.:	Telephone No.:
Address:	Email Address:	

Detailed Description of work to be provided by subcontractor/supplier:

Dollar Value of subcontracts/supplies/services (When \$ value cannot be estimated, provide the estimated % of contract work the SDVOB will perform): \$ _____ or _____%

FOR [Agency] USE ONLY

[Agency] Authorized Signature:	<input type="checkbox"/> Accepted	<input type="checkbox"/> Accepted as Noted	<input type="checkbox"/> Notice of Deficiency
NAME (Please Print):	SDVOB %/\$ _____	Date Received:	Date Processed:
Comments:			

NYS CERTIFIED SDVOB SUBCONTRACTOR/SUPPLIER INFORMATION: The directory of New York State Certified SDVOBs can be viewed at: https://ogs.ny.gov/Veterans/Docs/CertifiedNYS_SDVOB.pdf
Note: All listed Subcontractors/Suppliers will be contacted and verified by [Agency].

ADDITIONAL SHEET

Bidder/Contractor Name:	Contract/Solicitation # _____
--------------------------------	--------------------------------------

SDVOB Subcontractor/Supplier Name:		
Please identify the person you contacted:	Federal Identification No.:	Telephone No.:
Address:	Email Address:	
Detailed Description of work to be provided by subcontractor/supplier:		
Dollar Value of subcontracts/supplies/services (When \$ value cannot be estimated, provide the estimated % of contract work the SDVOB will perform): \$ _____ or _____%		
SDVOB Subcontractor/Supplier Name:		
Please identify the person you contacted:	Federal Identification No.:	Telephone No.:
Address:	Email Address:	
Detailed Description of work to be provided by subcontractor/supplier:		
Dollar Value of subcontracts/supplies/services (When \$ value cannot be estimated, provide the estimated % of contract work the SDVOB will perform): \$ _____ or _____%		
SDVOB Subcontractor/Supplier Name:		
Please identify the person you contacted:	Federal Identification No.:	Telephone No.:
Address:	Email Address:	
Detailed Description of work to be provided by subcontractor/supplier:		
Dollar Value of subcontracts/supplies/services (When \$ value cannot be estimated, provide the estimated % of contract work the SDVOB will perform): \$ _____ or _____%		
SDVOB Subcontractor/Supplier Name:		
Please identify the person you contacted:	Federal Identification No.:	Telephone No.:
Address:	Email Address:	
Detailed Description of work to be provided by subcontractor/supplier:		
Dollar Value of subcontracts/supplies/services (When \$ value cannot be estimated, provide the estimated % of contract work the SDVOB will perform): \$ _____ or _____%		
SDVOB Subcontractor/Supplier Name:		
Please identify the person you contacted:	Federal Identification No.:	Telephone No.:
Address:	Email Address:	
Detailed Description of work to be provided by subcontractor/supplier:		
Dollar Value of subcontracts/supplies/services (When \$ value cannot be estimated, provide the estimated % of contract work the SDVOB will perform): \$ _____ or _____%		



CONTRACTOR'S MONTHLY SDVOB COMPLIANCE REPORT

Contract No.: _____

Contractor/Vendor Name, Address and Phone No.:		Contractor/Vendor Federal ID No.:		SDVOB Goals		Reporting Period	
		Description of Project:		%		Month	Year
Firm Name, Address and Phone Number (List All Firms)		Description of Work or Supplies Provided		Designation		Payment This Month	Contract Amount
Federal ID No.:				<input type="checkbox"/> SDVOB <input type="checkbox"/> Supplier <input type="checkbox"/> Sub <input type="checkbox"/> Team <input type="checkbox"/> Broker <input type="checkbox"/> Other <input type="checkbox"/> Joint Venture <input type="checkbox"/> No Written Contract <input type="checkbox"/> Written Contract		<input type="checkbox"/> No Payment This Month	
Federal ID No.:				<input type="checkbox"/> SDVOB <input type="checkbox"/> Supplier <input type="checkbox"/> Sub <input type="checkbox"/> Team <input type="checkbox"/> Broker <input type="checkbox"/> Other <input type="checkbox"/> Joint Venture <input type="checkbox"/> No Written Contract <input type="checkbox"/> Written Contract		<input type="checkbox"/> No Payment This Month	
Federal ID No.:				<input type="checkbox"/> SDVOB <input type="checkbox"/> Supplier <input type="checkbox"/> Sub <input type="checkbox"/> Team <input type="checkbox"/> Broker <input type="checkbox"/> Other <input type="checkbox"/> Joint Venture <input type="checkbox"/> No Written Contract <input type="checkbox"/> Written Contract		<input type="checkbox"/> No Payment This Month	
Federal ID No.:				<input type="checkbox"/> SDVOB <input type="checkbox"/> Supplier <input type="checkbox"/> Sub <input type="checkbox"/> Team <input type="checkbox"/> Broker <input type="checkbox"/> Other <input type="checkbox"/> Joint Venture <input type="checkbox"/> No Written Contract <input type="checkbox"/> Written Contract		<input type="checkbox"/> No Payment This Month	
_____		_____		_____		_____	
Signature		Print Name and Title		Date			
Submission of this form constitutes the Contractor's acknowledgement as to the accuracy of the information contained herein. Failure to submit complete and accurate information may result in a finding of noncompliance, non-responsibility, suspension and/or termination of the Contract.						For [Agency] Use Only	
						Reviewed By:	Date:

Form SDVOB 101

This form to be submitted after Contract Award

(Due on the 10th day of each month for the preceding month's activity as evidence towards achievement of the SDVOB goals on the contract)



APPLICATION FOR WAIVER OF SDVOB PARTICIPATION GOAL

(must be submitted before requesting final payment on the Contract)

Section 1: Basic Information	
Contractor's Name:	Federal Identification Number:
Street Address:	E-Mail Address:
City, State, Zip Code:	Telephone: () -
Contract Number:	SDVOB CONTRACT GOALS
	%

Section 2: Type of SDVOB Waiver Requested

<input type="checkbox"/> Total	<input type="checkbox"/> Partial	If partial waiver, please enter the revised SDVOB percentage:	%
Please explain the reason for the waiver request:			

Section 3: Supporting Documentation

Provide the following documentation as evidence of your good faith efforts to meet the SDVOB goals set forth in the contract and in support of your waiver application:

- Attachment A.** Copies of solicitations to SDVOBs and any responses thereto.
- Attachment B.** Explanation of the specific reasons each SDVOB that responded to Bidders/Contractors' solicitation was not selected.
- Attachment C.** Dates of any pre-bid, pre-award or other meetings attended by Contractor, if any, scheduled by [Agency] with certified SDVOBs whom [Agency] determined were capable of fulfilling the SDVOB goals set forth in the contract.
- Attachment D.** Information describing the specific steps undertaken to reasonably structure the contract scope of work for the purpose of subcontracting with, or obtaining supplies from, certified SDVOBs.
- Attachment E.** Other information deemed relevant to the request.

Section 4: Signature and Contact Information

By signing and submitting this form, the contractor certifies that a good faith effort has been made to promote SDVOB participation pursuant to the SDVOB requirements set forth under the solicitation or Contract. Failure to submit complete and accurate information may result in a finding of noncompliance, non-responsibility, and a suspension or termination of the contract.

Prepared By: (Signature)	Date:
Name and Title of Preparer (Print or Type)	

For [AGENCY] Use Only

Reviewed By:

Date:

Decision:

- Full SDVOB waiver granted
- Partial SDVOB waiver granted; revised SDVOB goal: _____ %
- SDVOB waiver denied

Approved By:

Date:

Date Notice of Determination Sent:

Comments

Appendix C - Wage Rate Note

PROJECT: **Construct New Storage Building**
NYSDOL PRC#: **2020003138**

The Contractor shall ensure that workers are paid the appropriate wages and supplemental (fringe) benefits. Throughout the contract, the Contractor shall obtain and pay workers in accordance with periodic wage rate schedule updates from the NYS Department of Labor (NYSDOL). Wage rate amendments and supplements are available on the NYSDOL web site at **www.labor.state.ny.us**. All changes or clarification of labor classification(s) and applicability of prevailing wage rates shall be obtained in writing from the Office of the Director, NYSDOL Bureau of Public Work.

The NYSDOL prevailing wage rate schedule for this contract has been determined and is available on the internet. The prevailing wage rate schedule is accessed by visiting the NYSDOL web site, navigating to the appropriate web page, and entering the Prevailing Rate Case No. (PRC#).

A copy of the project specific prevailing wage rate schedule will be provided to the successful bidder upon award of the contract. Upon written request, the schedule will be provided by the Owner to prospective Bidders without internet access.

Appendix D - FAA AC 150/5370 2G - Operational Safety on Airports During Construction



U.S. Department
of Transportation
**Federal Aviation
Administration**

Advisory Circular

Subject: Operational Safety on
Airports During Construction

Date: 12/13/2017
Initiated By: AAS-100

AC No: 150/5370-2G
Change:

1 **Purpose.**

This AC sets forth guidelines for operational safety on airports during construction.

2 **Cancellation.**

This AC cancels AC 150/5370-2F, *Operational Safety on Airports during Construction*, dated September 29, 2011.

3 **Application.**

This AC assists airport operators in complying with Title 14 Code of Federal Regulations (CFR) Part 139, *Certification of Airports*. For those certificated airports, this AC provides one way, but not the only way, of meeting those requirements. The use of this AC is mandatory for those airport construction projects receiving funds under the Airport Improvement Program (AIP). See Grant Assurance No. 34, *Policies, Standards, and Specifications*. While we do not require non-certificated airports without grant agreements or airports using Passenger Facility Charge (PFC) Program funds for construction projects to adhere to these guidelines, we recommend that they do so to help these airports maintain operational safety during construction.

4 **Related Documents.**

ACs and Orders referenced in the text of this AC do not include a revision letter, as they refer to the latest version. [Appendix A](#) contains a list of reading material on airport construction, design, and potential safety hazards during construction, as well as instructions for obtaining these documents.

5 **Principal Changes.**

The AC incorporates the following principal changes:

1. Notification about impacts to both airport owned and FAA-owned NAVAIDs was added. See paragraph [2.13.5.3](#), NAVAIDs.

2. Guidance for the use of orange construction signs was added. See paragraph 2.18.4.2, Temporary Signs.
3. Open trenches or excavations may be permitted in the taxiway safety area while the taxiway is open to aircraft operations, subject to restrictions. See paragraph 2.22.3.4, Excavations.
4. Guidance for temporary shortened runways and displaced thresholds has been enhanced. See Figure 2-1 and Figure 2-2.
5. Figures have been improved and a new Appendix F on the placement of orange construction signs has been added.

Hyperlinks (allowing the reader to access documents located on the internet and to maneuver within this document) are provided throughout this document and are identified with underlined text. When navigating within this document, return to the previously viewed page by pressing the “ALT” and “ ← ” keys simultaneously.

Figures in this document are schematic representations and are not to scale.

6 **Use of Metrics.**

Throughout this AC, U.S. customary units are used followed with “soft” (rounded) conversion to metric units. The U.S. customary units govern.

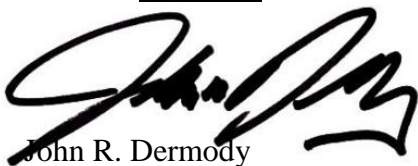
7 **Where to Find this AC.**

You can view a list of all ACs at

http://www.faa.gov/regulations_policies/advisory_circulars/. You can view the Federal Aviation Regulations at http://www.faa.gov/regulations_policies/faa_regulations/.

8 **Feedback on this AC.**

If you have suggestions for improving this AC, you may use the Advisory Circular Feedback form at the end of this AC.



John R. Dermody
Director of Airport Safety and Standards

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CHAPTER 1. PLANNING AN AIRFIELD CONSTRUCTION PROJECT

1.1 Overview.

Airports are complex environments, and procedures and conditions associated with construction activities often affect aircraft operations and can jeopardize operational safety. Safety considerations are paramount and may make operational impacts unavoidable. However, careful planning, scheduling, and coordination of construction activities can minimize disruption of normal aircraft operations and avoid situations that compromise the airport's operational safety. The airport operator must understand how construction activities and aircraft operations affect one another to be able to develop an effective plan to complete the project. While the guidance in this AC is primarily used for construction operations, the concepts, methods and procedures described may also enhance the day-to-day airport maintenance operations, such as lighting maintenance and snow removal operations.

1.2 Plan for Safety.

Safety, maintaining aircraft operations, and construction costs are all interrelated. Since safety must not be compromised, the airport operator must strike a balance between maintaining aircraft operations and construction costs. This balance will vary widely depending on the operational needs and resources of the airport and will require early coordination with airport users and the FAA. As the project design progresses, the necessary construction locations, activities, and associated costs will be identified and their impact to airport operations must be assessed. Adjustments are made to the proposed construction activities, often by phasing the project, and/or to airport operations to maintain operational safety. This planning effort will ultimately result in a project Construction Safety and Phasing Plan (CSPP). The development of the CSPP takes place through the following five steps:

1.2.1 Identify Affected Areas.

The airport operator must determine the geographic areas on the airport affected by the construction project. Some, such as a runway extension, will be defined by the project. Others may be variable, such as the location of haul routes and material stockpiles.

1.2.2 Describe Current Operations.

Identify the normal airport operations in each affected area for each phase of the project. This becomes the baseline from which the impact on operations by construction activities can be measured. This should include a narrative of the typical users and aircraft operating within the affected areas. It should also include information related to airport operations: the Aircraft Approach Category (AAC) and Airplane Design Group (ADG) of the airplanes that operate on each runway; the ADG and Taxiway Design Group (TDG)¹ for each affected taxiway; designated approach visibility minimums;

¹ Find Taxiway Design Group information in [AC 150/5300-13, Airport Design](#).

available approach and departure procedures; most demanding aircraft; declared distances; available air traffic control services; airport Surface Movement Guidance and Control System (SMGCS) plan; and others. The applicable seasons, days and times for certain operations should also be identified as applicable.

1.2.3 Allow for Temporary Changes to Operations.

To the extent practical, current airport operations should be maintained during the construction. In consultation with airport users, Aircraft Rescue and Fire Fighting (ARFF) personnel, and FAA Air Traffic Organization (ATO) personnel, the airport operator should identify and prioritize the airport's most important operations. The construction activities should be planned, through project phasing if necessary, to safely accommodate these operations. When the construction activities cannot be adjusted to safely maintain current operations, regardless of their importance, then the operations must be revised accordingly. Allowable changes include temporary revisions to approach procedures, restricting certain aircraft to specific runways and taxiways, suspension of certain operations, decreased weights for some aircraft due to shortened runways, and other changes. An example of a table showing temporary operations versus current operations is shown in Appendix E.

1.2.4 Take Required Measures to Revise Operations.

Once the level and type of aircraft operations to be maintained are identified, the airport operator must determine the measures required to safely conduct the planned operations during the construction. These measures will result in associated costs, which can be broadly interpreted to include not only direct construction costs, but also loss of revenue from impacted operations. Analysis of costs may indicate a need to reevaluate allowable changes to operations. As aircraft operations and allowable changes will vary widely among airports, this AC presents general guidance on those subjects.

1.2.5 Manage Safety Risk.

The FAA is committed to incorporating proactive safety risk management (SRM) tools into its decision-making processes. FAA Order 5200.11, *FAA Airports (ARP) Safety Management System (SMS)*, requires the FAA to conduct a Safety Assessment for certain triggering actions. Certain airport projects may require the airport operator to provide a Project Proposal Summary to help the FAA determine whether a Safety Assessment is required prior to FAA approval of the CSPP. The airport operator must coordinate with the appropriate FAA Airports Regional or District Office early in the development of the CSPP to determine the need for a Safety Risk Assessment. If the FAA requires an assessment, the airport operator must at a minimum:

1. Notify the appropriate FAA Airports Regional or District Office during the project "scope development" phase of any project requiring a CSPP.
2. Provide documents identified by the FAA as necessary to conduct SRM.
3. Participate in the SRM process for airport projects.
4. Provide a representative to participate on the SRM panel.

5. Ensure that all applicable SRM identified risks elements are recorded and mitigated within the CSPP.

1.3 **Develop a Construction Safety and Phasing Plan (CSPP).**

Development of an effective CSPP will require familiarity with many other documents referenced throughout this AC. See Appendix A for a list of related reading material.

1.3.1 List Requirements.

A CSPP must be developed for each on-airfield construction project funded by the Airport Improvement Program (AIP) or located on an airport certificated under Part 139. For on-airfield construction projects at Part 139 airports funded without AIP funds, the preparation of a CSPP represents an acceptable method the certificate holder may use to meet Part 139 requirements during airfield construction activity. As per FAA Order 5200.11, projects that require Safety Assessments do not include construction, rehabilitation, or change of any facility that is entirely outside the air operations area, does not involve any expansion of the facility envelope and does not involve construction equipment, haul routes or placement of material in locations that require access to the air operations area, increase the facility envelope, or impact line-of-sight. Such facilities may include passenger terminals and parking or other structures. However, extraordinary circumstances may trigger the need for a Safety Assessment and a CSPP. The CSPP is subject to subsequent review and approval under the FAA's Safety Risk Management procedures (see paragraph 1.2.5).

1.3.2 Prepare a Safety Plan Compliance Document (SPCD).

The Safety Plan Compliance Document (SPCD) details how the contractor will comply with the CSPP. Also, it will not be possible to determine all safety plan details (for example specific hazard equipment and lighting, contractor's points of contact, construction equipment heights) during the development of the CSPP. The successful contractor must define such details by preparing an SPCD that the airport operator reviews for approval prior to issuance of a notice-to-proceed. The SPCD is a subset of the CSPP, similar to how a shop drawing review is a subset to the technical specifications.

1.3.3 Assume Responsibility for the CSPP.

The airport operator is responsible for establishing and enforcing the CSPP. The airport operator may use the services of an engineering consultant to help develop the CSPP. However, writing the CSPP cannot be delegated to the construction contractor. Only those details the airport operator determines cannot be addressed before contract award are developed by the contractor and submitted for approval as the SPCD. The SPCD does not restate nor propose differences to provisions already addressed in the CSPP.

1.4 **Who Is Responsible for Safety During Construction?**

1.4.1 Establish a Safety Culture.

Everyone has a role in operational safety on airports during construction: the airport operator, the airport's consultants, the construction contractor and subcontractors, airport users, airport tenants, ARFF personnel, Air Traffic personnel, including Technical Operations personnel, FAA Airports Division personnel, and others, such as military personnel at any airport supporting military operations (e.g. national guard or a joint use facility). Close communication and coordination between all affected parties is the key to maintaining safe operations. Such communication and coordination should start at the project scoping meeting and continue through the completion of the project. The airport operator and contractor should conduct onsite safety inspections throughout the project and immediately remedy any deficiencies, whether caused by negligence, oversight, or project scope change.

1.4.2 Assess Airport Operator's Responsibilities.

An airport operator has overall responsibility for all activities on an airport, including construction. This includes the predesign, design, preconstruction, construction, and inspection phases. Additional information on the responsibilities listed below can be found throughout this AC. The airport operator must:

- 1.4.2.1 Develop a CSPP that complies with the safety guidelines of Chapter 2, Construction Safety and Phasing Plans, and Chapter 3, Guidelines for Writing a CSPP. The airport operator may develop the CSPP internally or have a consultant develop the CSPP for approval by the airport operator. For tenant sponsored projects, approve a CSPP developed by the tenant or its consultant.
- 1.4.2.2 Require, review and approve the SPCD by the contractor that indicates how it will comply with the CSPP and provides details that cannot be determined before contract award.
- 1.4.2.3 Convene a preconstruction meeting with the construction contractor, consultant, airport employees and, if appropriate, tenant sponsor and other tenants to review and discuss project safety before beginning construction activity. The appropriate FAA representatives should be invited to attend the meeting. See AC 150/5370-12, Quality Management for Federally Funded Airport Construction Projects. (Note “FAA” refers to the Airports Regional or District Office, the Air Traffic Organization, Flight Standards Service, and other offices that support airport operations, flight regulations, and construction/environmental policies.)
- 1.4.2.4 Ensure contact information is accurate for each representative/point of contact identified in the CSPP and SPCD.
- 1.4.2.5 Hold weekly or, if necessary, daily safety meetings with all affected parties to coordinate activities.
- 1.4.2.6 Notify users, ARFF personnel, and FAA ATO personnel of construction and conditions that may adversely affect the operational safety of the airport via Notices to Airmen (NOTAM) and other methods, as appropriate. Convene a meeting for review and discussion if necessary.
- 1.4.2.7 Ensure construction personnel know applicable airport procedures and changes to those procedures that may affect their work.
- 1.4.2.8 Ensure that all temporary construction signs are located per the scheduled list for each phase of the project.
- 1.4.2.9 Ensure construction contractors and subcontractors undergo training required by the CSPP and SPCD.
- 1.4.2.10 Ensure vehicle and pedestrian operations addressed in the CSPP and SPCD are coordinated with airport tenants, the airport traffic control tower (ATCT), and construction contractors.
- 1.4.2.11 At certificated airports, ensure each CSPP and SPCD is consistent with Part 139.

- 1.4.2.12 Conduct inspections sufficiently frequently to ensure construction contractors and tenants comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards.
 - 1.4.2.13 Take immediate action to resolve safety deficiencies.
 - 1.4.2.14 At airports subject to 49 CFR Part 1542, *Airport Security*, ensure construction access complies with the security requirements of that regulation.
 - 1.4.2.15 Notify appropriate parties when conditions exist that invoke provisions of the CSPP and SPCD (for example, implementation of low-visibility operations).
 - 1.4.2.16 Ensure prompt submittal of a Notice of Proposed Construction or Alteration (Form 7460-1) for conducting an aeronautical study of potential obstructions such as tall equipment (cranes, concrete pumps, other), stock piles, and haul routes. A separate form may be filed for each potential obstruction, or one form may be filed describing the entire construction area and maximum equipment height. In the latter case, a separate form must be filed for any object beyond or higher than the originally evaluated area/height. The FAA encourages online submittal of forms for expediency at <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>. The appropriate FAA Airports Regional or District Office can provide assistance in determining which objects require an aeronautical study.
 - 1.4.2.17 Ensure prompt transmission of the Airport Sponsor Strategic Event Submission, FAA Form 6000-26, located at https://oeaaa.faa.gov/oeaaa/external/content/AIRPORT_SPONSOR_STRATEGIC_EVENT_SUBMISSION_FORM.pdf, to assure proper coordination for NAS Strategic Interruption per Service Level Agreement with ATO.
 - 1.4.2.18 Promptly notify the FAA Airports Regional or District Office of any proposed changes to the CSPP prior to implementation of the change. Changes to the CSPP require review and approval by the airport operator and the FAA. The FAA Airports Regional or District office will determine if further coordination within the FAA is needed. Coordinate with appropriate local and other federal government agencies, such as Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), Transportation Security Administration (TSA), and the state environmental agency.
- 1.4.3 Define Construction Contractor's Responsibilities.
The contractor is responsible for complying with the CSPP and SPCD. The contractor must:

- 1.4.3.1 Submit a Safety Plan Compliance Document (SPCD) to the airport operator describing how it will comply with the requirements of the CSPP and supply any details that could not be determined before contract award. The SPCD must include a certification statement by the contractor, indicating an understanding of the operational safety requirements of the CSPP and the assertion of compliance with the approved CSPP and SPCD unless written approval is granted by the airport operator. Any construction practice proposed by the contractor that does not conform to the CSPP and SPCD may impact the airport's operational safety and will require a revision to the CSPP and SPCD and re-coordination with the airport operator and the FAA in advance.
- 1.4.3.2 Have available at all times copies of the CSPP and SPCD for reference by the airport operator and its representatives, and by subcontractors and contractor employees.
- 1.4.3.3 Ensure that construction personnel are familiar with safety procedures and regulations on the airport. Provide a point of contact who will coordinate an immediate response to correct any construction-related activity that may adversely affect the operational safety of the airport. Many projects will require 24-hour coverage.
- 1.4.3.4 Identify in the SPCD the contractor's on-site employees responsible for monitoring compliance with the CSPP and SPCD during construction. At least one of these employees must be on-site when active construction is taking place.
- 1.4.3.5 Conduct sufficient inspections to ensure construction personnel comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards.
- 1.4.3.6 Restrict movement of construction vehicles and personnel to permitted construction areas by flagging, barricading, erecting temporary fencing, or providing escorts, as appropriate, and as specified in the CSPP and SPCD.
- 1.4.3.7 Ensure that no contractor employees, employees of subcontractors or suppliers, or other persons enter any part of the air operations area (AOA) from the construction site unless authorized.
- 1.4.3.8 Ensure prompt submittal through the airport operator of Form 7460-1 for the purpose of conducting an aeronautical study of contractor equipment such as tall equipment (cranes, concrete pumps, and other equipment), stock piles, and haul routes when different from cases previously filed by the airport operator. The FAA encourages online submittal of forms for expediency at <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>.

- 1.4.3.9 Ensure that all necessary safety mitigations are understood by all parties involved, and any special requirements of each construction phase will be fulfilled per the approved timeframe.
- 1.4.3.10 Participate in pre-construction meetings to review construction limits, safety mitigations, NOTAMs, and understand all special airport operational needs during each phase of the project.

1.4.4 Define Tenant's Responsibilities.

If planning construction activities on leased property, Airport tenants, such as airline operators, fixed base operators, and FAA ATO/Technical Operations sponsoring construction are strongly encouraged to:

1. Develop, or have a consultant develop, a project specific CSPP and submit it to the airport operator. The airport operator may forgo a complete CSPP submittal and instead incorporate appropriate operational safety principles and measures addressed in the advisory circular within their tenant lease agreements.
2. In coordination with its contractor, develop an SPCD and submit it to the airport operator for approval issued prior to issuance of a Notice to Proceed.
3. Ensure that construction personnel are familiar with safety procedures and regulations on the airport during all phases of the construction.
4. Provide a point of contact of who will coordinate an immediate response to correct any construction-related activity that may adversely affect the operational safety of the airport.
5. Identify in the SPCD the contractor's on-site employees responsible for monitoring compliance with the CSPP and SPCD during construction. At least one of these employees must be on-site when active construction is taking place.
6. Ensure that no tenant or contractor employees, employees of subcontractors or suppliers, or any other persons enter any part of the AOA from the construction site unless authorized.
7. Restrict movement of construction vehicles to construction areas by flagging and barricading, erecting temporary fencing, or providing escorts, as appropriate, as specified in the CSPP and SPCD.
8. Ensure prompt submittal through the airport operator of Form 7460-1 for conducting an aeronautical study of contractor equipment such as tall equipment (cranes, concrete pumps, other), stock piles, and haul routes. The FAA encourages online submittal of forms for expediency at <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>.
9. Participate in pre-construction meetings to review construction limits, safety mitigations, NOTAMs, and understand all special airport operational needs during each phase of the project.

CHAPTER 2. CONSTRUCTION SAFETY AND PHASING PLANS

2.1 **Overview.**

Aviation safety is the primary consideration at airports, especially during construction. The airport operator's CSPP and the contractor's Safety Plan Compliance Document (SPCD) are the primary tools to ensure safety compliance when coordinating construction activities with airport operations. These documents identify all aspects of the construction project that pose a potential safety hazard to airport operations and outline respective mitigation procedures for each hazard. They must provide information necessary for the Airport Operations department to conduct airfield inspections and expeditiously identify and correct unsafe conditions during construction. All aviation safety provisions included within the project drawings, contract specifications, and other related documents must also be reflected in the CSPP and SPCD.

2.2 **Assume Responsibility.**

Operational safety on the airport remains the airport operator's responsibility at all times. The airport operator must develop, certify, and submit for FAA approval each CSPP. It is the airport operator's responsibility to apply the requirements of the FAA approved CSPP. The airport operator must revise the CSPP when conditions warrant changes and must submit the revised CSPP to the FAA for approval. The airport operator must also require and approve a SPCD from the project contractor.

2.3 **Submit the CSPP.**

Construction Safety and Phasing Plans should be developed concurrently with the project design. Milestone versions of the CSPP should be submitted for review and approval as follows. While these milestones are not mandatory, early submission will help to avoid delays. Submittals are preferred in 8.5 × 11 inch or 11 × 17 inch format for compatibility with the FAA's Obstruction Evaluation / Airport Airspace Analysis (OE / AAA) process.

2.3.1 Submit an Outline/Draft.

By the time approximately 25% to 30% of the project design is completed, the principal elements of the CSPP should be established. Airport operators are encouraged to submit an outline or draft, detailing all CSPP provisions developed to date, to the FAA for review at this stage of the project design.

2.3.2 Submit a CSPP.

The CSPP should be formally submitted for FAA approval when the project design is 80 percent to 90 percent complete. Since provisions in the CSPP will influence contract costs, it is important to obtain FAA approval in time to include all such provisions in the procurement contract.

2.3.3 Submit an SPCD.

The contractor should submit the SPCD to the airport operator for approval to be issued prior to the Notice to Proceed.

2.3.4 Submit CSPP Revisions.

All revisions to a previously approved CSPP must be re-submitted to the FAA for review and approval/disapproval action.

2.4 **Meet CSPP Requirements.**

2.4.1 To the extent possible, the CSPP should address the following as outlined in Chapter 3, Guidelines for Writing a CSPP. Details that cannot be determined at this stage are to be included in the SPCD.

1. Coordination.
 - a. Contractor progress meetings.
 - b. Scope or schedule changes.
 - c. FAA ATO coordination.
2. Phasing.
 - a. Phase elements.
 - b. Construction safety drawings.
3. Areas and operations affected by the construction activity.
 - a. Identification of affected areas.
 - b. Mitigation of effects.
4. Protection of navigation aids (NAVAIDs).
5. Contractor access.
 - a. Location of stockpiled construction materials.
 - b. Vehicle and pedestrian operations.
6. Wildlife management.
 - a. Trash.
 - b. Standing water.
 - c. Tall grass and seeds.
 - d. Poorly maintained fencing and gates.
 - e. Disruption of existing wildlife habitat.
7. Foreign Object Debris (FOD) management.
8. Hazardous materials (HAZMAT) management.
9. Notification of construction activities.

- a. Maintenance of a list of responsible representatives/ points of contact.
 - b. NOTAM.
 - c. Emergency notification procedures.
 - d. Coordination with ARFF Personnel.
 - e. Notification to the FAA.
10. Inspection requirements.
 - a. Daily (or more frequent) inspections.
 - b. Final inspections.
 11. Underground utilities.
 12. Penalties.
 13. Special conditions.
 14. Runway and taxiway visual aids. Marking, lighting, signs, and visual NAVAIDs.
 - a. General.
 - b. Markings.
 - c. Lighting and visual NAVAIDs.
 - d. Signs, temporary, including orange construction signs, and permanent signs.
 15. Marking and signs for access routes.
 16. Hazard marking and lighting.
 - a. Purpose.
 - b. Equipment.
 17. Work zone lighting for nighttime construction (if applicable).
 18. Protection of runway and taxiway safety areas, object free areas, obstacle free zones, and approach/departure surfaces.
 - a. Runway Safety Area (RSA).
 - b. Runway Object Free Area (ROFA).
 - c. Taxiway Safety Area (TSA). Provide details for any adjustments to Taxiway Safety Area width to allow continued operation of smaller aircraft. See paragraph 2.22.3.
 - d. Taxiway Object Free Area (TOFA). Provide details for any continued aircraft operations while construction occurs within the TOFA. See paragraph 2.22.4.
 - e. Obstacle Free Zone (OFZ).
 - f. Runway approach/departure surfaces.
 19. Other limitations on construction.
 - a. Prohibitions.

b. Restrictions.

2.4.2 The Safety Plan Compliance Document (SPCD) should include a general statement by the construction contractor that he/she has read and will abide by the CSPP. In addition, the SPCD must include all supplemental information that could not be included in the CSPP prior to the contract award. The contractor statement should include the name of the contractor, the title of the project CSPP, the approval date of the CSPP, and a reference to any supplemental information (that is, “I, (Name of Contractor), have read the (Title of Project) CSPP, approved on (Date), and will abide by it as written and with the following additions as noted:”). The supplemental information in the SPCD should be written to match the format of the CSPP indicating each subject by corresponding CSPP subject number and title. If no supplemental information is necessary for any specific subject, the statement, “No supplemental information,” should be written after the corresponding subject title. The SPCD should not duplicate information in the CSPP:

1. Coordination. Discuss details of proposed safety meetings with the airport operator and with contractor employees and subcontractors.
2. Phasing. Discuss proposed construction schedule elements, including:
 - a. Duration of each phase.
 - b. Daily start and finish of construction, including “night only” construction.
 - c. Duration of construction activities during:
 - i. Normal runway operations.
 - ii. Closed runway operations.
 - iii. Modified runway “Aircraft Reference Code” usage.
3. Areas and operations affected by the construction activity. These areas and operations should be identified in the CSPP and should not require an entry in the SPCD.
4. Protection of NAVAIDs. Discuss specific methods proposed to protect operating NAVAIDs.
5. Contractor access. Provide the following:
 - a. Details on how the contractor will maintain the integrity of the airport security fence (gate guards, daily log of construction personnel, and other).
 - b. Listing of individuals requiring driver training (for certificated airports and as requested).
 - c. Radio communications.
 - i. Types of radios and backup capabilities.
 - ii. Who will be monitoring radios.
 - iii. Who to contact if the ATCT cannot reach the contractor’s designated person by radio.

- d. Details on how the contractor will escort material delivery vehicles.
6. Wildlife management. Discuss the following:
 - a. Methods and procedures to prevent wildlife attraction.
 - b. Wildlife reporting procedures.
7. Foreign Object Debris (FOD) management. Discuss equipment and methods for control of FOD, including construction debris and dust.
8. Hazardous Materials (HAZMAT) management. Discuss equipment and methods for responding to hazardous spills.
9. Notification of construction activities. Provide the following:
 - a. Contractor points of contact.
 - b. Contractor emergency contact.
 - c. Listing of tall or other requested equipment proposed for use on the airport and the timeframe for submitting 7460-1 forms not previously submitted by the airport operator.
 - d. Batch plant details, including 7460-1 submittal.
10. Inspection requirements. Discuss daily (or more frequent) inspections and special inspection procedures.
11. Underground utilities. Discuss proposed methods of identifying and protecting underground utilities.
12. Penalties. Penalties should be identified in the CSPP and should not require an entry in the SPCD.
13. Special conditions. Discuss proposed actions for each special condition identified in the CSPP.
14. Runway and taxiway visual aids. Including marking, lighting, signs, and visual NAVAIDs. Discuss proposed visual aids including the following:
 - a. Equipment and methods for covering signage and airfield lights.
 - b. Equipment and methods for temporary closure markings (paint, fabric, other).
 - c. Temporary orange construction signs.
 - d. Types of temporary Visual Guidance Slope Indicators (VGSI).
15. Marking and signs for access routes. Discuss proposed methods of demarcating access routes for vehicle drivers.
16. Hazard marking and lighting. Discuss proposed equipment and methods for identifying excavation areas.
17. Work zone lighting for nighttime construction (if applicable). Discuss proposed equipment, locations, aiming, and shielding to prevent interference with air traffic control and aircraft operations.

18. Protection of runway and taxiway safety areas, object free areas, obstacle free zones, and approach/departure surfaces. Discuss proposed methods of identifying, demarcating, and protecting airport surfaces including:
 - a. Equipment and methods for maintaining Taxiway Safety Area standards.
 - b. Equipment and methods to ensure the safe passage of aircraft where Taxiway Safety Area or Taxiway Object Free Area standards cannot be maintained.
 - c. Equipment and methods for separation of construction operations from aircraft operations, including details of barricades.
19. Other limitations on construction should be identified in the CSPP and should not require an entry in the SPCD.

2.5 **Coordination.**

Airport operators, or tenants responsible for design, bidding and conducting construction on their leased properties, should ensure at all project developmental stages, such as predesign, prebid, and preconstruction conferences, they capture the subject of airport operational safety during construction (see [AC 150/5370-12, *Quality Management for Federally Funded Airport Construction Projects*](#)). In addition, the following should be coordinated as required:

2.5.1 Progress Meetings.

Operational safety should be a standing agenda item for discussion during progress meetings throughout the project developmental stages.

2.5.2 Scope or Schedule Changes.

Changes in the scope or duration at any of the project stages may require revisions to the CSPP and review and approval by the airport operator and the FAA (see paragraph [1.4.2.17](#)).

2.5.3 FAA ATO Coordination.

Early coordination with FAA ATO is highly recommended during the design phase and is required for scheduling Technical Operations shutdowns prior to construction. Coordination is critical to restarts of NAVAID services and to the establishment of any special procedures for the movement of aircraft. Formal agreements between the airport operator and appropriate FAA offices are recommended. All relocation or adjustments to NAVAIDs, or changes to final grades in critical areas, should be coordinated with FAA ATO and may require an FAA flight inspection prior to restarting the facility. Flight inspections must be coordinated and scheduled well in advance of the intended facility restart. Flight inspections may require a reimbursable agreement between the airport operator and FAA ATO. Reimbursable agreements should be coordinated a minimum of 12 months prior to the start of construction. (See paragraph [2.13.5.3.2](#) for required FAA notification regarding FAA-owned NAVAIDs.)

2.6 **Phasing.**

Once it has been determined what types and levels of airport operations will be maintained, the most efficient sequence of construction may not be feasible. In this case, the sequence of construction may be phased to gain maximum efficiency while allowing for the required operations. The development of the resulting construction phases should be coordinated with local Air Traffic personnel and airport users. The sequenced construction phases established in the CSPP must be incorporated into the project design and must be reflected in the contract drawings and specifications.

2.6.1 Phase Elements.

For each phase the CSPP should detail:

- Areas closed to aircraft operations.
- Duration of closures.
- Taxi routes and/or areas of reduced TSA and TOFA to reflect reduced ADG use.
- ARFF access routes.
- Construction staging, disposal, and cleanout areas.
- Construction access and haul routes.
- Impacts to NAVAIDs.
- Lighting, marking, and signing changes.
- Available runway length and/or reduced RSA and ROFA to reflect reduced ADG use.
- Declared distances (if applicable).
- Required hazard marking, lighting, and signing.
- Work zone lighting for nighttime construction (if applicable).
- Lead times for required notifications.

2.6.2 Construction Safety Drawings.

Drawings specifically indicating operational safety procedures and methods in affected areas (i.e., construction safety drawings) should be developed for each construction phase. Such drawings should be included in the CSPP as referenced attachments and should also be included in the contract drawing package.

2.7 **Areas and Operations Affected by Construction Activity.**

Runways and taxiways should remain in use by aircraft to the maximum extent possible without compromising safety. Pre-meetings with the FAA ATO will support operational simulations. See Appendix E for an example of a table showing temporary operations versus current operations. The tables in Appendix E can be useful for coordination among all interested parties, including FAA Lines of Business.

2.7.1 Identification of Affected Areas.

Identifying areas and operations affected by the construction helps to determine possible safety problems. The affected areas should be identified in the construction safety drawings for each construction phase. (See paragraph 2.6.2.) Of particular concern are:

2.7.1.1 **Closing, or Partial Closing, of Runways, Taxiways and Aprons, and Displaced Thresholds.**

When a runway is partially closed, a portion of the pavement is unavailable for any aircraft operation, meaning taxiing, landing, or takeoff in either direction on that pavement is prohibited. A displaced threshold, by contrast, is established to ensure obstacle clearance and adequate safety area for landing aircraft. The pavement prior to the displaced threshold is normally available for take-off in the direction of the displacement and for landing and takeoff in the opposite direction. Misunderstanding this difference, may result in issuance of an inaccurate NOTAM, and can lead to a hazardous condition.

2.7.1.1.1 Partially Closed Runways.

The temporarily closed portion of a partially closed runway will generally extend from the threshold to a taxiway that may be used for entering and exiting the runway. If the closed portion extends to a point between taxiways, pilots will have to back-taxi on the runway, which is an undesirable operation. See Figure 2-1 for a desirable configuration.

2.7.1.1.2 Displaced Thresholds.

Since the portion of the runway pavement between the permanent threshold and a standard displaced threshold is available for takeoff and for landing in the opposite direction, the temporary displaced threshold need not be located at an entrance/exit taxiway. See Figure 2-2.

2.7.1.2 Closing of aircraft rescue and fire fighting access routes.

2.7.1.3 Closing of access routes used by airport and airline support vehicles.

2.7.1.4 Interruption of utilities, including water supplies for fire fighting.

2.7.1.5 Approach/departure surfaces affected by heights of objects.

2.7.1.6 Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads.

Figure 2-1. Temporary Partially Closed Runway

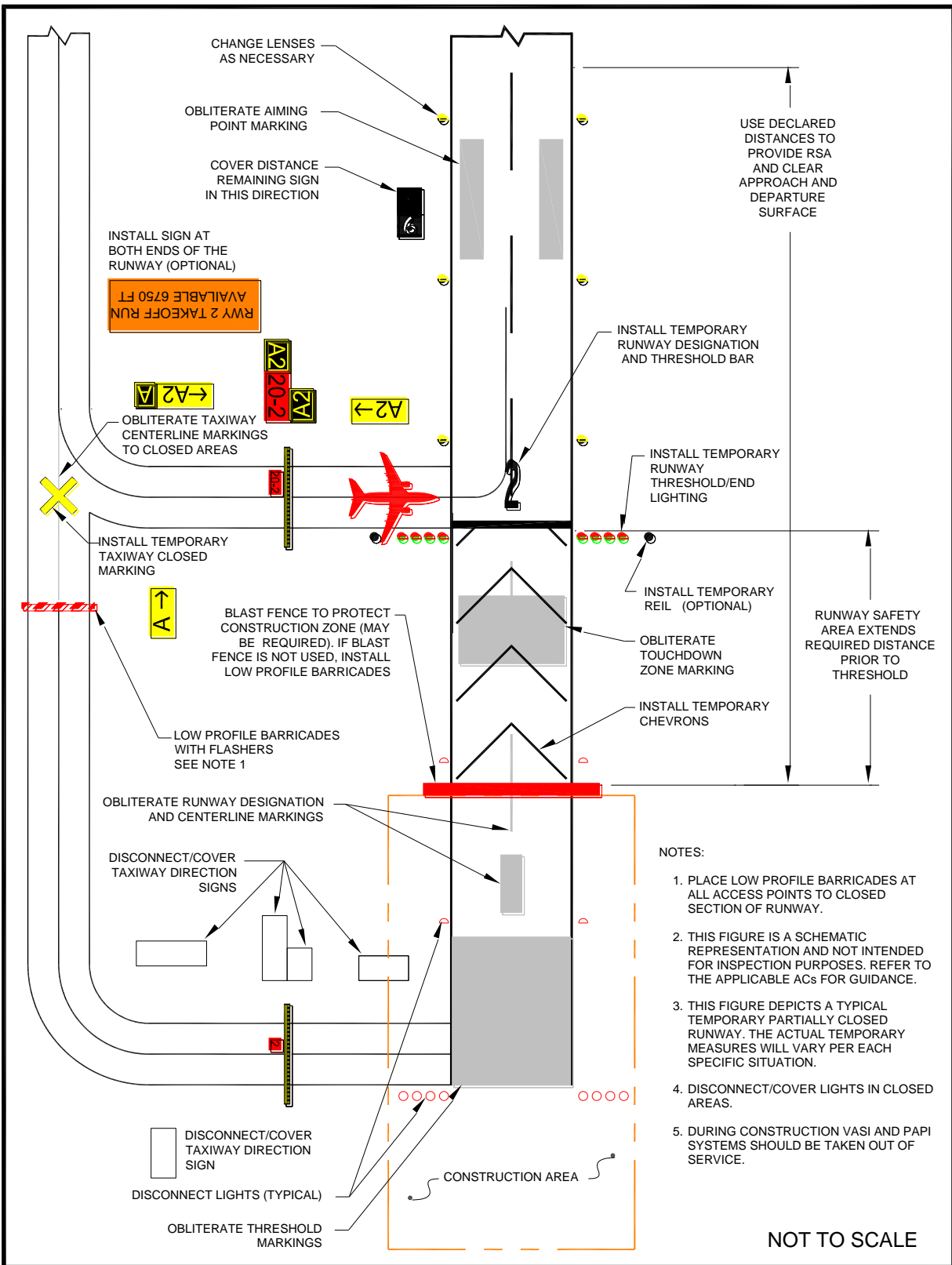
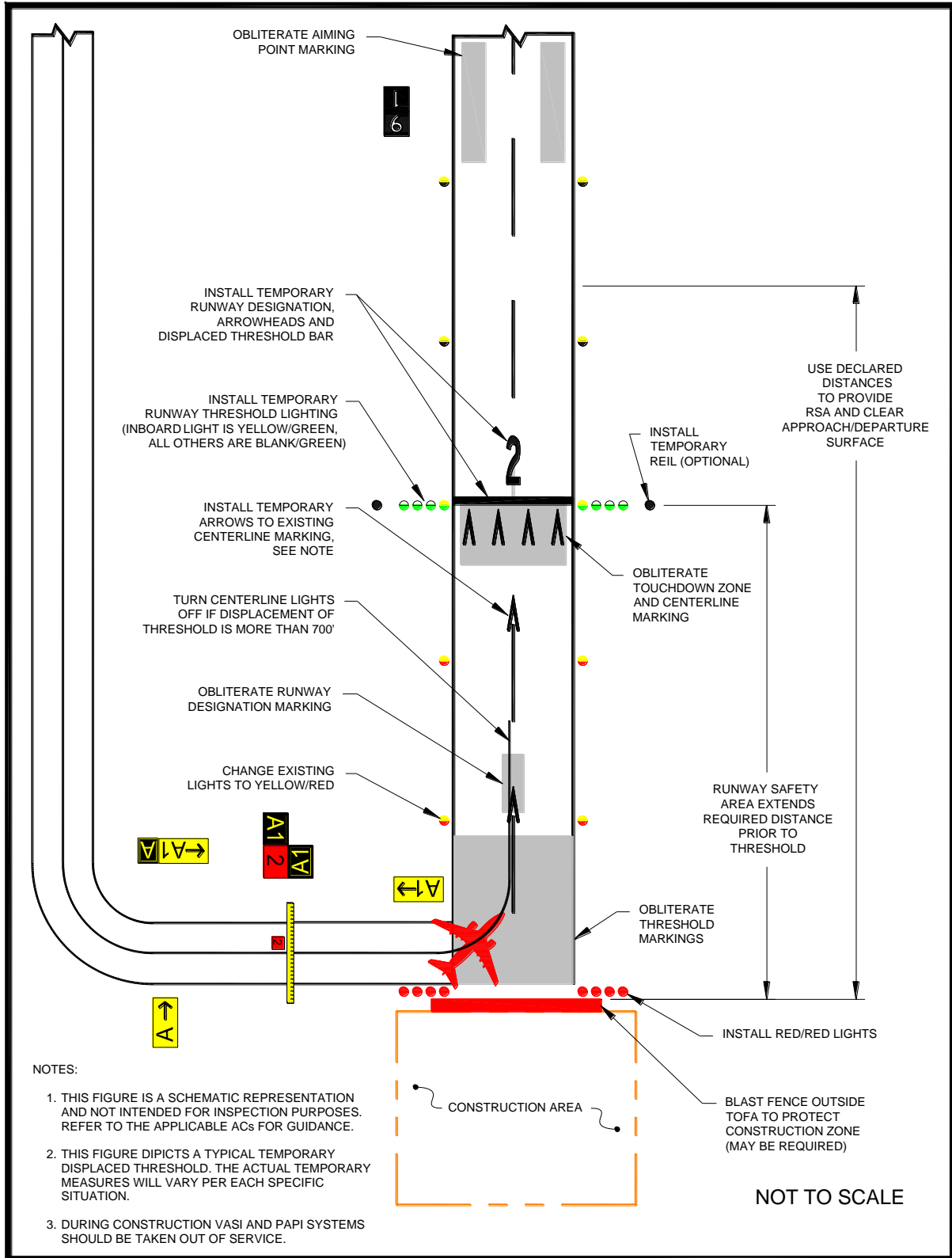


Figure 2-2. Temporary Displaced Threshold



Note: See paragraph 2.18.2.5.

2.7.2 Mitigation of Effects.

Establishment of specific procedures is necessary to maintain the safety and efficiency of airport operations. The CSPP must address:

- 2.7.2.1 Temporary changes to runway and/or taxi operations.
- 2.7.2.2 Detours for ARFF and other airport vehicles.
- 2.7.2.3 Maintenance of essential utilities.
- 2.7.2.4 Temporary changes to air traffic control procedures. Such changes must be coordinated with the ATO.

2.8 **Navigation Aid (NAVAID) Protection.**

Before commencing construction activity, parking vehicles, or storing construction equipment and materials near a NAVAID, coordinate with the appropriate FAA ATO/Technical Operations office to evaluate the effect of construction activity and the required distance and direction from the NAVAID. (See paragraph 2.13.5.3.) Construction activities, materials/equipment storage, and vehicle parking near electronic NAVAIDs require special consideration since they may interfere with signals essential to air navigation. If any NAVAID may be affected, the CSPP and SPCD must show an understanding of the “critical area” associated with each NAVAID and describe how it will be protected. Where applicable, the operational critical areas of NAVAIDs should be graphically delineated on the project drawings. Pay particular attention to stockpiling material, as well as to movement and parking of equipment that may interfere with line of sight from the ATCT or with electronic emissions. Interference from construction equipment and activities may require NAVAID shutdown or adjustment of instrument approach minimums for low visibility operations. This condition requires that a NOTAM be filed (see paragraph 2.13.2.) Construction activities and materials/equipment storage near a NAVAID must not obstruct access to the equipment and instruments for maintenance. Submittal of a 7460-1 form is required for construction vehicles operating near FAA NAVAIDs. (See paragraph 2.13.5.3.)

2.9 **Contractor Access.**

The CSPP must detail the areas to which the contractor must have access, and explain how contractor personnel will access those areas. Specifically address:

2.9.1 Location of Stockpiled Construction Materials.

Stockpiled materials and equipment storage are not permitted within the RSA and OFZ, and if possible should not be permitted within the Object Free Area (OFA) of an operational runway. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval. The airport operator must ensure that stockpiled materials and equipment adjacent to these areas are prominently marked and lighted during hours of restricted visibility or darkness. (See paragraph 2.18.2.) This includes determining and

verifying that materials are stabilized and stored at an approved location so as not to be a hazard to aircraft operations and to prevent attraction of wildlife and foreign object damage from blowing or tracked material. See paragraphs [2.10](#) and [2.11](#).

2.9.2 Vehicle and Pedestrian Operations.

The CSPP should include specific vehicle and pedestrian requirements. Vehicle and pedestrian access routes for airport construction projects must be controlled to prevent inadvertent or unauthorized entry of persons, vehicles, or animals onto the AOA. The airport operator should coordinate requirements for vehicle operations with airport tenants, contractors, and the FAA air traffic manager. In regard to vehicle and pedestrian operations, the CSPP should include the following, with associated training requirements:

2.9.2.1 **Construction Site Parking.**

Designate in advance vehicle parking areas for contractor employees to prevent any unauthorized entry of persons or vehicles onto the AOA. These areas should provide reasonable contractor employee access to the job site.

2.9.2.2 **Construction Equipment Parking.**

Contractor employees must park and service all construction vehicles in an area designated by the airport operator outside the OFZ and never in the safety area of an active runway or taxiway. Unless a complex setup procedure makes movement of specialized equipment infeasible, inactive equipment must not be parked on a closed taxiway or runway. If it is necessary to leave specialized equipment on a closed taxiway or runway at night, the equipment must be well lighted. Employees should also park construction vehicles outside the OFA when not in use by construction personnel (for example, overnight, on weekends, or during other periods when construction is not active). Parking areas must not obstruct the clear line of sight by the ATCT to any taxiways or runways under air traffic control nor obstruct any runway visual aids, signs, or navigation aids. The FAA must also study those areas to determine effects on airport design criteria, surfaces established by 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace (Part 77), and on NAVAIDs and Instrument Approach Procedures (IAP). See paragraph [2.13.1](#) for further information.

2.9.2.3 **Access and Haul Roads.**

Determine the construction contractor's access to the construction sites and haul roads. Do not permit the construction contractor to use any access or haul roads other than those approved. Access routes used by contractor vehicles must be clearly marked to prevent inadvertent entry to areas open to airport operations. Pay special attention to ensure that if construction traffic is to share or cross any ARFF routes that ARFF right of way is not impeded at any time, and that construction traffic on haul

roads does not interfere with NAVAIDs or approach surfaces of operational runways. Address whether access gates will be blocked or inoperative or if a rally point will be blocked or inaccessible.

- 2.9.2.4 Marking and lighting of vehicles in accordance with AC 150/5210-5, *Painting, Marking, and Lighting of Vehicles Used on an Airport*.
- 2.9.2.5 Description of proper vehicle operations on various areas under normal, lost communications, and emergency conditions.
- 2.9.2.6 Required escorts.
- 2.9.2.7 **Training Requirements for Vehicle Drivers to Ensure Compliance with the Airport Operator's Vehicle Rules and Regulations.**
Specific training should be provided to vehicle operators, including those providing escorts. See AC 150/5210-20, *Ground Vehicle Operations on Airports*, for information on training and records maintenance requirements.
- 2.9.2.8 **Situational Awareness.**
Vehicle drivers must confirm by personal observation that no aircraft is approaching their position (either in the air or on the ground) when given clearance to cross a runway, taxiway, or any other area open to airport operations. In addition, it is the responsibility of the escort vehicle driver to verify the movement/position of all escorted vehicles at any given time. At non-towered airports, all aircraft movements and flight operations rely on aircraft operators to self-report their positions and intentions. However, there is no requirement for an aircraft to have radio communications. Because aircraft do not always broadcast their positions or intentions, visual checking, radio monitoring, and situational awareness of the surroundings is critical to safety.
- 2.9.2.9 **Two-Way Radio Communication Procedures.**
- 2.9.2.9.1 General.
The airport operator must ensure that tenant and construction contractor personnel engaged in activities involving unescorted operation on aircraft movement areas observe the proper procedures for communications, including using appropriate radio frequencies at airports with and without ATCT. When operating vehicles on or near open runways or taxiways, construction personnel must understand the critical importance of maintaining radio contact, as directed by the airport operator, with:
1. Airport operations
 2. ATCT

3. Common Traffic Advisory Frequency (CTAF), which may include UNICOM, MULTICOM.
4. Automatic Terminal Information Service (ATIS). This frequency is useful for monitoring conditions on the airport. Local air traffic will broadcast information regarding construction related runway closures and “shortened” runways on the ATIS frequency.

2.9.2.9.2 Areas Requiring Two-Way Radio Communication with the ATCT.

Vehicular traffic crossing active movement areas must be controlled either by two-way radio with the ATCT, escort, flagman, signal light, or other means appropriate for the particular airport.

2.9.2.9.3 Frequencies to be Used.

The airport operator will specify the frequencies to be used by the contractor, which may include the CTAF for monitoring of aircraft operations. Frequencies may also be assigned by the airport operator for other communications, including any radio frequency in compliance with Federal Communications Commission requirements. At airports with an ATCT, the airport operator will specify the frequency assigned by the ATCT to be used between contractor vehicles and the ATCT.

2.9.2.9.4 Proper radio usage, including read back requirements.

2.9.2.9.5 Proper phraseology, including the International Phonetic Alphabet.

2.9.2.9.6 Light Gun Signals.

Even though radio communication is maintained, escort vehicle drivers must also familiarize themselves with ATCT light gun signals in the event of radio failure. See the FAA safety placard “Ground Vehicle Guide to Airport Signs and Markings.” This safety placard may be downloaded through the Runway Safety Program Web site at http://www.faa.gov/airports/runway_safety/publications/ (see “Signs & Markings Vehicle Dashboard Sticker”) or obtained from the FAA Airports Regional Office.

2.9.2.10 **Maintenance of the secured area of the airport, including:**

2.9.2.10.1 Fencing and Gates.

Airport operators and contractors must take care to maintain security during construction when access points are created in the security fencing to permit the passage of construction vehicles or personnel. Temporary gates should be equipped so they can be securely closed and locked to prevent access by animals and unauthorized people. Procedures should be in place to ensure that only authorized persons and vehicles have access to the AOA and to prohibit “piggybacking” behind another person or vehicle. The Department of Transportation (DOT) document DOT/FAA/AR-

00/52, *Recommended Security Guidelines for Airport Planning and Construction*, provides more specific information on fencing. A copy of this document can be obtained from the Airport Consultants Council, Airports Council International, or American Association of Airport Executives.

2.9.2.10.2 Badging Requirements.

Airports subject to 49 CFR Part 1542, *Airport Security*, must meet standards for access control, movement of ground vehicles, and identification of construction contractor and tenant personnel.

2.10 **Wildlife Management.**

The CSPP and SPCD must be in accordance with the airport operator's wildlife hazard management plan, if applicable. See AC 150/5200-33, *Hazardous Wildlife Attractants On or Near Airports*, and CertAlert 98-05, *Grasses Attractive to Hazardous Wildlife*. Construction contractors must carefully control and continuously remove waste or loose materials that might attract wildlife. Contractor personnel must be aware of and avoid construction activities that can create wildlife hazards on airports, such as:

2.10.1 Trash.

Food scraps must be collected from construction personnel activity.

2.10.2 Standing Water.

2.10.3 Tall Grass and Seeds.

Requirements for turf establishment can be at odds with requirements for wildlife control. Grass seed is attractive to birds. Lower quality seed mixtures can contain seeds of plants (such as clover) that attract larger wildlife. Seeding should comply with the guidance in AC 150/5370-10, *Standards for Specifying Construction of Airports*, Item T-901, Seeding. Contact the local office of the United States Department of Agriculture Soil Conservation Service or the State University Agricultural Extension Service (County Agent or equivalent) for assistance and recommendations. These agencies can also provide liming and fertilizer recommendations.

2.10.4 Poorly Maintained Fencing and Gates.

See paragraph 2.9.2.10.1.

2.10.5 Disruption of Existing Wildlife Habitat.

While this will frequently be unavoidable due to the nature of the project, the CSPP should specify under what circumstances (location, wildlife type) contractor personnel should immediately notify the airport operator of wildlife sightings.

2.11 Foreign Object Debris (FOD) Management.

Waste and loose materials, commonly referred to as FOD, are capable of causing damage to aircraft landing gears, propellers, and jet engines. Construction contractors must not leave or place FOD on or near active aircraft movement areas. Materials capable of creating FOD must be continuously removed during the construction project. Fencing (other than security fencing) or covers may be necessary to contain material that can be carried by wind into areas where aircraft operate. See AC 150/5210-24, *Foreign Object Debris (FOD) Management*.

2.12 Hazardous Materials (HAZMAT) Management.

Contractors operating construction vehicles and equipment on the airport must be prepared to expeditiously contain and clean-up spills resulting from fuel or hydraulic fluid leaks. Transport and handling of other hazardous materials on an airport also requires special procedures. See AC 150/5320-15, *Management of Airport Industrial Waste*.

2.13 Notification of Construction Activities.

The CSPP and SPCD must detail procedures for the immediate notification of airport users and the FAA of any conditions adversely affecting the operational safety of the airport. It must address the notification actions described below, as applicable.

2.13.1 List of Responsible Representatives/points of contact for all involved parties, and procedures for contacting each of them, including after hours.

2.13.2 NOTAMs.

Only the airport operator may initiate or cancel NOTAMs on airport conditions, and is the only entity that can close or open a runway. The airport operator must coordinate the issuance, maintenance, and cancellation of NOTAMs about airport conditions resulting from construction activities with tenants and the local air traffic facility (control tower, approach control, or air traffic control center), and must either enter the NOTAM into NOTAM Manager, or provide information on closed or hazardous conditions on airport movement areas to the FAA Flight Service Station (FSS) so it can issue a NOTAM. The airport operator must file and maintain a list of authorized representatives with the FSS. Refer to AC 150/5200-28, *Notices to Airmen (NOTAMs) for Airport Operators*, for a sample NOTAM form. Only the FAA may issue or cancel NOTAMs on shutdown or irregular operation of FAA owned facilities. Any person having reason to believe that a NOTAM is missing, incomplete, or inaccurate must notify the airport operator. See paragraph 2.7.1.1 about issuing NOTAMs for partially closed runways versus runways with displaced thresholds.

2.13.3 Emergency notification procedures for medical, fire fighting, and police response.

2.13.4 Coordination with ARFF.

The CSPP must detail procedures for coordinating through the airport sponsor with ARFF personnel, mutual aid providers, and other emergency services if construction requires:

1. The deactivation and subsequent reactivation of water lines or fire hydrants, or
2. The rerouting, blocking and restoration of emergency access routes, or
3. The use of hazardous materials on the airfield.

2.13.5 Notification to the FAA.

2.13.5.1 **Part 77.**

Any person proposing construction or alteration of objects that affect navigable airspace, as defined in Part 77, must notify the FAA. This includes construction equipment and proposed parking areas for this equipment (i.e., cranes, graders, other equipment) on airports. FAA Form 7460-1, *Notice of Proposed Construction or Alteration*, can be used for this purpose and submitted to the appropriate FAA Airports Regional or District Office. See Appendix A to download the form. Further guidance is available on the FAA web site at oeaaa.faa.gov.

2.13.5.2 **Part 157.**

With some exceptions, Title 14 CFR Part 157, *Notice of Construction, Alteration, Activation, and Deactivation of Airports*, requires that the airport operator notify the FAA in writing whenever a non-Federally funded project involves the construction of a new airport; the construction, realigning, altering, activating, or abandoning of a runway, landing strip, or associated taxiway; or the deactivation or abandoning of an entire airport. Notification involves submitting FAA Form 7480-1, *Notice of Landing Area Proposal*, to the nearest FAA Airports Regional or District Office. See Appendix A to download the form.

2.13.5.3 **NAVAIDs.**

For emergency (short-notice) notification about impacts to both airport owned and FAA owned NAVAIDs, contact: 866-432-2622.

2.13.5.3.1 Airport Owned/FAA Maintained.

If construction operations require a shutdown of 24 hours or greater in duration, or more than 4 hours daily on consecutive days, of a NAVAID owned by the airport but maintained by the FAA, provide a 45-day minimum notice to FAA ATO/Technical Operations prior to facility shutdown, using Strategic Event Coordination (SEC) Form 6000.26 contained within FAA Order 6000.15, *General Maintenance Handbook for National Airspace System (NAS) Facilities*.

2.13.5.3.2 FAA Owned.

1. The airport operator must notify the appropriate FAA ATO Service Area Planning and Requirements (P&R) Group a minimum of 45 days prior to implementing an event that causes impacts to NAVAIDs, using SEC Form 6000.26.
2. Coordinate work for an FAA owned NAVAID shutdown with the local FAA ATO/Technical Operations office, including any necessary reimbursable agreements and flight checks. Detail procedures that address unanticipated utility outages and cable cuts that could impact FAA NAVAIDs. Refer to active Service Level Agreement with ATO for specifics.

2.14 **Inspection Requirements.**

2.14.1 Daily Inspections.

Inspections should be conducted at least daily, but more frequently if necessary to ensure conformance with the CSPP. A sample checklist is provided in Appendix D, Construction Project Daily Safety Inspection Checklist. See also AC 150/5200-18, Airport Safety Self-Inspection. Airport operators holding a Part 139 certificate are required to conduct self-inspections during unusual conditions, such as construction activities, that may affect safe air carrier operations.

2.14.2 Interim Inspections.

Inspections should be conducted of all areas to be (re)opened to aircraft traffic to ensure the proper operation of lights and signs, for correct markings, and absence of FOD. The contractor should conduct an inspection of the work area with airport operations personnel. The contractor should ensure that all construction materials have been secured, all pavement surfaces have been swept clean, all transition ramps have been properly constructed, and that surfaces have been appropriately marked for aircraft to operate safely. Only if all items on the list meet with the airport operator's approval should the air traffic control tower be notified to open the area to aircraft operations. The contractor should be required to retain a suitable workforce and the necessary equipment at the work area for any last minute cleanup that may be requested by the airport operator prior to opening the area.

2.14.3 Final Inspections.

New runways and extended runway closures may require safety inspections at certificated airports prior to allowing air carrier service. Coordinate with the FAA Airport Certification Safety Inspector (ACSI) to determine if a final inspection will be necessary.

2.15 Underground Utilities.

The CSPP and/or SPCD must include procedures for locating and protecting existing underground utilities, cables, wires, pipelines, and other underground facilities in excavation areas. This may involve coordinating with public utilities and FAA ATO/Technical Operations. Note that “One Call” or “Miss Utility” services do not include FAA ATO/Technical Operations.

2.16 Penalties.

The CSPP should detail penalty provisions for noncompliance with airport rules and regulations and the safety plans (for example, if a vehicle is involved in a runway incursion). Such penalties typically include rescission of driving privileges or access to the AOA.

2.17 Special Conditions.

The CSPP must detail any special conditions that affect the operation of the airport and will require the activation of any special procedures (for example, low-visibility operations, snow removal, aircraft in distress, aircraft accident, security breach, Vehicle / Pedestrian Deviation (VPD) and other activities requiring construction suspension/resumption).

2.18 Runway and Taxiway Visual Aids.

This includes marking, lighting, signs, and visual NAVAIDs. The CSPP must ensure that areas where aircraft will be operating are clearly and visibly separated from construction areas, including closed runways. Throughout the duration of the construction project, verify that these areas remain clearly marked and visible at all times and that marking, lighting, signs, and visual NAVAIDs that are to continue to perform their functions during construction remain in place and operational. Visual NAVAIDs that are not serving their intended function during construction must be temporarily disabled, covered, or modified as necessary. The CSPP must address the following, as appropriate:

2.18.1 General.

Airport markings, lighting, signs, and visual NAVAIDs must be clearly visible to pilots, not misleading, confusing, or deceptive. All must be secured in place to prevent movement by prop wash, jet blast, wing vortices, and other wind currents and constructed of materials that will minimize damage to an aircraft in the event of inadvertent contact. Items used to secure such markings must be of a color similar to the marking.

2.18.2 Markings.

During the course of construction projects, temporary pavement markings are often required to allow for aircraft operations during or between work periods. During the design phase of the project, the designer should coordinate with the project manager,

airport operations, airport users, the FAA Airports project manager, and Airport Certification Safety Inspector for Part 139 airports to determine minimum temporary markings. The FAA Airports project manager will, wherever a runway is closed, coordinate with the appropriate FAA Flight Standards Office and disseminate findings to all parties. Where possible, the temporary markings on finish grade pavements should be placed to mirror the dimensions of the final markings. Markings must be in compliance with the standards of AC 150/5340-1, *Standards for Airport Markings*, except as noted herein. Runways and runway exit taxiways closed to aircraft operations are marked with a yellow X. The preferred visual aid to depict temporary runway closure is the lighted X signal placed on or near the runway designation numbers. (See paragraph 2.18.2.1.2.)

2.18.2.1 **Closed Runways and Taxiways.**

2.18.2.1.1 Permanently Closed Runways.

For runways, obliterate the threshold marking, runway designation marking, and touchdown zone markings, and place an X at each end and at 1,000-foot (300 m) intervals. For a multiple runway environment, if the lighted X on a designated number will be located in the RSA of an adjacent active runway, locate the lighted X farther down the closed runway to clear the RSA of the active runway. In addition, the closed runway numbers located in the RSA of an active runway must be marked with a flat yellow X.

2.18.2.1.2 Temporarily Closed Runways.

For runways that have been temporarily closed, place an X at each end of the runway directly on or as near as practicable to the runway designation numbers. For a multiple runway environment, if the lighted X on a designated number will be located in the RSA of an adjacent active runway, locate the lighted X farther down the closed runway to clear the RSA of the active runway. In addition, the closed runway numbers located in the RSA of an active runway must be marked with a flat yellow X. See Figure 2-3. See also paragraph 2.18.3.3.

2.18.2.1.3 Partially Closed Runways and Displaced Thresholds.

When threshold markings are needed to identify the temporary beginning of the runway that is available for landing, the markings must comply with AC 150/5340-1. An X is not used on a partially closed runway or a runway with a displaced threshold. See paragraph 2.7.1.1 for the difference between partially closed runways and runways with displaced thresholds. Because of the temporary nature of threshold displacement due to construction, it is not necessary to re-adjust the existing runway centerline markings to meet standard spacing for a runway with a visual approach. Some of the requirements below may be waived in the cases of low-activity airports and/or short duration changes that are measured in days rather than weeks. Consider whether the presence of an airport traffic

control tower allows for the development of special procedures. Contact the appropriate FAA Airports Regional or District Office for assistance.

Figure 2-3. Markings for a Temporarily Closed Runway

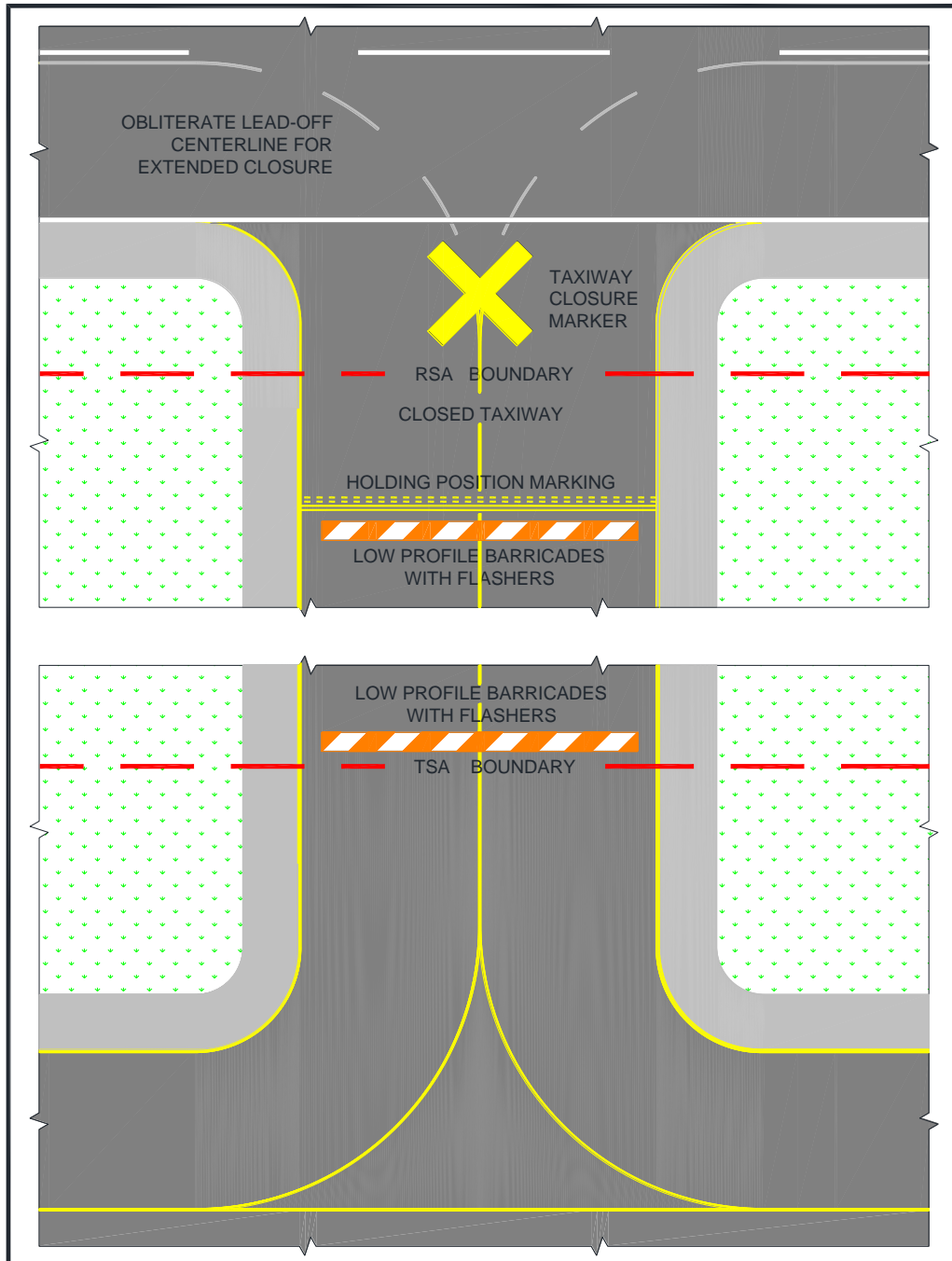


1. **Partially Closed Runways.** Pavement markings for temporary closed portions of the runway consist of a runway threshold bar, runway designation, and yellow chevrons to identify pavement areas that are unsuitable for takeoff or landing (see [AC 150/5340-1](#)). Obliterate or cover markings prior to the moved threshold. Existing touchdown zone markings beyond the moved threshold may remain in place. Obliterate aiming point markings. Issue appropriate NOTAMs regarding any nonstandard markings. See [Figure 2-4](#).
2. **Displaced Thresholds.** Pavement markings for a displaced threshold consist of a runway threshold bar, runway designation, and white arrowheads with and without arrow shafts. These markings are required to identify the portion of the runway before the displaced threshold to provide centerline guidance for pilots during approaches, takeoffs, and landing rollouts from the opposite direction. See [AC 150/5340-1](#). Obliterate markings prior to the displaced threshold. Existing touchdown zone markings beyond the displaced threshold may remain in place. Obliterate aiming point markings. Issue appropriate NOTAMs regarding any nonstandard markings. See [Figure 2-2](#).

2.18.2.1.4 Taxiways.

1. **Permanently Closed Taxiways.** *AC 150/5300-13 Airport Design*, notes that it is preferable to remove the pavement, but for pavement that is to remain, place an X at the entrance to both ends of the closed section. Obliterate taxiway centerline markings, including runway leadoff lines, leading to the closed taxiway. See [Figure 2-4](#).

Figure 2-4. Temporary Taxiway Closure



2. **Temporarily Closed Taxiways.** Place barricades outside the safety area of intersecting taxiways. For runway/taxiway intersections, place an X at the entrance to the closed taxiway from the runway. If the taxiway will be closed for an extended period, obliterate taxiway centerline markings, including runway leadoff lines and taxiway to taxiway turns, leading to the closed section. Always obliterate runway lead-off lines for high speed exits, regardless of the duration of the closure. If the centerline markings will be reused upon reopening the taxiway, it is preferable to paint over the marking. This will result in less damage to the pavement when the upper layer of paint is ultimately removed. See Figure 2-4.

2.18.2.1.5 Temporarily Closed Airport.

When the airport is closed temporarily, mark all the runways as closed.

- 2.18.2.2 If unable to paint temporary markings on the pavement, construct them from any of the following materials: fabric, colored plastic, painted sheets of plywood, or similar materials. They must be properly configured and appropriately secured to prevent movement by prop wash, jet blast, or other wind currents. Items used to secure such markings must be of a color similar to the marking.

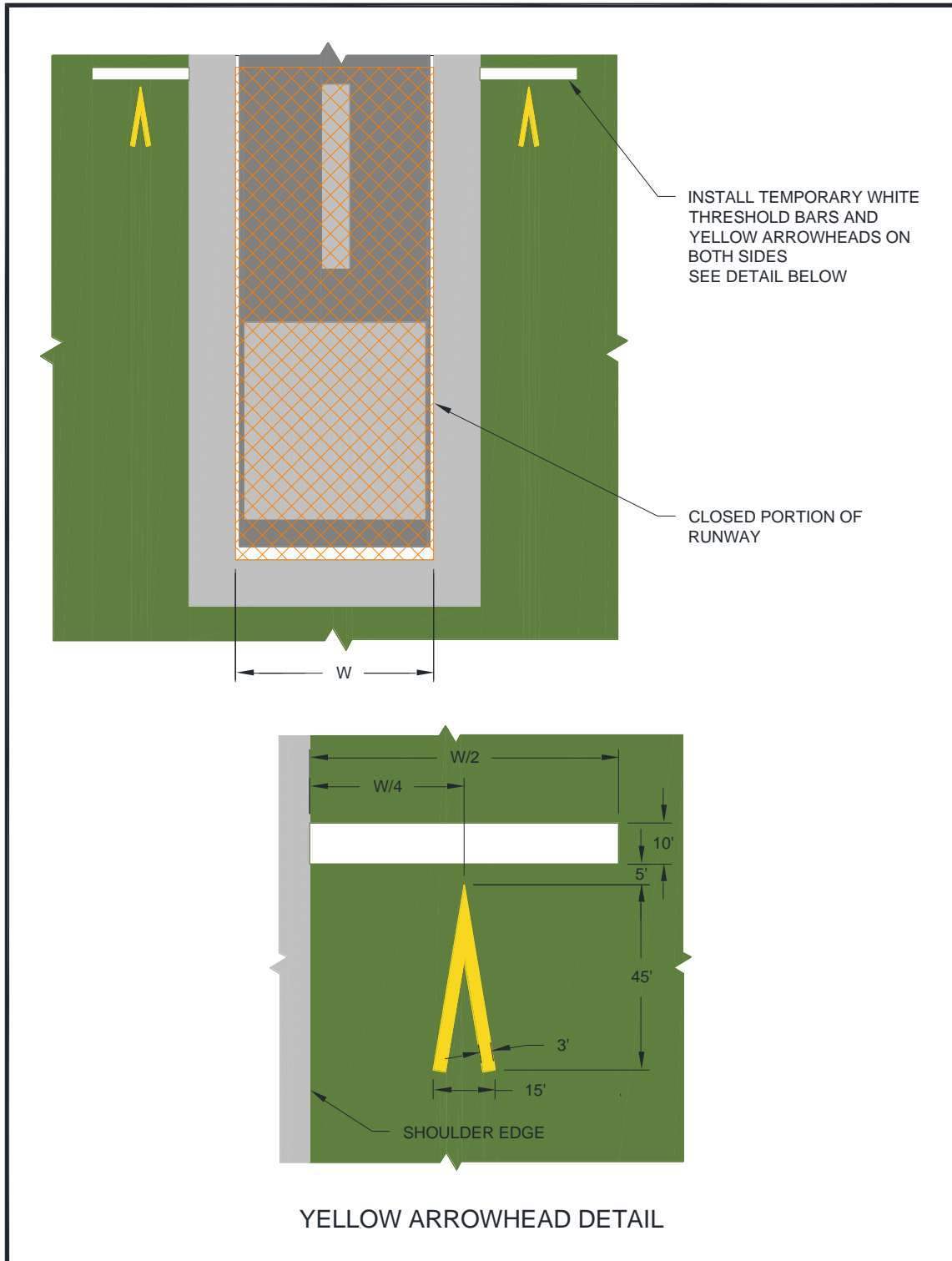
- 2.18.2.3 It may be necessary to remove or cover runway markings, including but not limited to, runway designation markings, threshold markings, centerline markings, edge stripes, touchdown zone markings and aiming point markings, depending on the length of construction and type of activity at the airport. When removing runway markings, apply the same treatment to areas between stripes or numbers, as the cleaned area will appear to pilots as a marking in the shape of the treated area.

- 2.18.2.4 If it is not possible to install threshold bars, chevrons, and arrows on the pavement, “temporary outboard white threshold bars and yellow arrowheads”, see Figure 2-5, may be used. Locate them outside of the runway pavement surface on both sides of the runway. The dimensions must be as shown in Figure 2-5. If the markings are not discernible on grass or snow, apply a black background with appropriate material over the ground to ensure they are clearly visible.

- 2.18.2.5 The application rate of paint to mark a short-term temporary runway and taxiway markings may deviate from the standard (see Item P-620, “Runway and Taxiway Painting,” in AC 150/5370-10), but the dimensions must meet the existing standards. When applying temporary markings at night, it is recommended that the fast curing, Type II paint be used to help offset the higher humidity and cooler temperatures often experienced at night. Diluting the paint will substantially increase cure time and is not recommended. Glass beads are not recommended for temporary markings. Striated markings may also be used for certain temporary markings. AC

150/5340-1, *Standards for Airport Markings*, has additional guidance on temporary markings.

Figure 2-5. Temporary Outboard White Threshold Bars and Yellow Arrowheads



2.18.3 Lighting and Visual NAVAIDs.

This paragraph refers to standard runway and taxiway lighting systems. See below for hazard lighting. Lighting installation must be in conformance with AC 150/5340-30, *Design and Installation Details for Airport Visual Aids*, and fixture design in conformance with AC 150/5345-50, *Specification for Portable Runway and Taxiway Lights*. When disconnecting runway and taxiway lighting fixtures, disconnect the associated isolation transformers. See AC 150/5340-26, *Maintenance of Airport Visual Aid Facilities*, for disconnect procedures and safety precautions. Alternately, cover the light fixture in such a way as to prevent light leakage. Avoid removing the lamp from energized fixtures because an excessive number of isolation transformers with open secondaries may damage the regulators and/or increase the current above its normal value. Secure, identify, and place any above ground temporary wiring in conduit to prevent electrocution and fire ignition sources. Maintain mandatory hold signs to operate normally in any situation where pilots or vehicle drivers could mistakenly be in that location. At towered airports certificated under Part 139, holding position signs are required to be illuminated on open taxiways crossing to closed or inactive runways. If the holding position sign is installed on the runway circuit for the closed runway, install a jumper to the taxiway circuit to provide power to the holding position sign for nighttime operations. Where it is not possible to maintain power to signs that would normally be operational, install barricades to exclude aircraft. Figure 2-1, Figure 2-2, Figure 2-3, and Figure 2-4 illustrate temporary changes to lighting and visual NAVAIDs.

2.18.3.1 **Permanently Closed Runways and Taxiways.**

For runways and taxiways that have been permanently closed, disconnect the lighting circuits.

2.18.3.2 **Temporarily Closed Runways and New Runways Not Yet Open to Air Traffic.**

If available, use a lighted X, both at night and during the day, placed at each end of the runway on or near the runway designation numbers facing the approach. (Note that the lighted X must be illuminated at all times that it is on a runway.) The use of a lighted X is required if night work requires runway lighting to be on. See AC 150/5345-55, *Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure*. For runways that have been temporarily closed, but for an extended period, and for those with pilot controlled lighting, disconnect the lighting circuits or secure switches to prevent inadvertent activation. For runways that will be opened periodically, coordinate procedures with the FAA air traffic manager or, at airports without an ATCT, the airport operator. Activate stop bars if available. Figure 2-6 shows a lighted X by day. Figure 2-7 shows a lighted X at night.

Figure 2-6. Lighted X in Daytime**Figure 2-7. Lighted X at Night**

2.18.3.3 **Partially Closed Runways and Displaced Thresholds.**

When a runway is partially closed, a portion of the pavement is unavailable for any aircraft operation, meaning taxiing and landing or taking off in either direction. A displaced threshold, by contrast, is put in place to ensure obstacle clearance by landing aircraft. The pavement prior to the displaced threshold is available for takeoff in the direction of the displacement, and for landing and takeoff in the opposite direction. Misunderstanding this difference and issuance of a subsequently inaccurate NOTAM can result in a hazardous situation. For both partially

closed runways and displaced thresholds, approach lighting systems at the affected end must be placed out of service.

2.18.3.3.1 Partially Closed Runways.

Disconnect edge and threshold lights on that part of the runway at and behind the threshold (that is, the portion of the runway that is closed). Alternately, cover the light fixtures in such a way as to prevent light leakage. See Figure 2-1.

2.18.3.3.2 Temporary Displaced Thresholds.

Edge lighting in the area of the displacement emits red light in the direction of approach and yellow light (white for visual runways) in the opposite direction. If the displacement is 700 feet or less, blank out centerline lights in the direction of approach or place the centerline lights out of service. If the displacement is over 700 feet, place the centerline lights out of service. See AC 150/5340-30 for details on lighting displaced thresholds. See Figure 2-2.

2.18.3.3.3 Temporary runway thresholds and runway ends must be lighted if the runway is lighted and it is the intended threshold for night landings or instrument meteorological conditions.

2.18.3.3.4 A temporary threshold on an unlighted runway may be marked by retroreflective, elevated markers in addition to markings noted in paragraph 2.18.2.1.3. Markers seen by aircraft on approach are green. Markers at the rollout end of the runway are red. At certificated airports, temporary elevated threshold markers must be mounted with a frangible fitting (see 14 CFR Part 139.309). At non-certificated airports, the temporary elevated threshold markings may either be mounted with a frangible fitting or be flexible. See AC 150/5345-39, *Specification for L-853, Runway and Taxiway Retroreflective Markers*.

2.18.3.3.5 Temporary threshold lights and runway end lights and related visual NAVAIDs are installed outboard of the edges of the full-strength pavement only when they cannot be installed on the pavement. They are installed with bases at grade level or as low as possible, but not more than 3 inch (7.6 cm) above ground. (The standard above ground height for airport lighting fixtures is 14 inches (35 cm)). When any portion of a base is above grade, place properly compacted fill around the base to minimize the rate of gradient change so aircraft can, in an emergency, cross at normal landing or takeoff speeds without incurring significant damage. See AC 150/5370-10.

2.18.3.3.6 Maintain threshold and edge lighting color and spacing standards as described in AC 150/5340-30. Battery powered, solar, or portable lights that meet the criteria in AC 150/5345-50 may be used. These systems are intended primarily for visual flight rules (VFR) aircraft operations but may

be used for instrument flight rules (IFR) aircraft operations, upon individual approval from the Flight Standards Division of the applicable FAA Regional Office.

- 2.18.3.3.7 When runway thresholds are temporarily displaced, reconfigure yellow lenses (caution zone), as necessary, and place the centerline lights out of service.
- 2.18.3.3.8 Relocate the Visual Glide Slope Indicator (VGSI), such as Visual Approach Slope Indicator (VASI) and Precision Approach Path Indicator (PAPI); other airport lights, such as Runway End Identifier Lights (REIL); and approach lights to identify the temporary threshold. Another option is to disable the VGSI or any equipment that would give misleading indications to pilots as to the new threshold location. Installation of temporary visual aids may be necessary to provide adequate guidance to pilots on approach to the affected runway. If the FAA owns and operates the VGSI, coordinate its installation or disabling with the local ATO/Technical Operations Office. Relocation of such visual aids will depend on the duration of the project and the benefits gained from the relocation, as this can result in great expense. See FAA JO 6850.2, *Visual Guidance Lighting Systems*, for installation criteria for FAA owned and operated NAVAIDs.
- 2.18.3.3.9 Issue a NOTAM to inform pilots of temporary lighting conditions.

2.18.3.4 **Temporarily Closed Taxiways.**

If possible, deactivate the taxiway lighting circuits. When deactivation is not possible (for example other taxiways on the same circuit are to remain open), cover the light fixture in a way as to prevent light leakage.

2.18.4 Signs.

To the extent possible, signs must be in conformance with AC 150/5345-44, *Specification for Runway and Taxiway Signs*, and AC 150/5340-18, *Standard for Airport Sign Systems*.

2.18.4.1 **Existing Signs.**

Runway exit signs are to be covered for closed runway exits. Outbound destination signs are to be covered for closed runways. Any time a sign does not serve its normal function or would provide conflicting information, it must be covered or removed to prevent misdirecting pilots. Note that information signs identifying a crossing taxiway continue to perform their normal function even if the crossing taxiway is closed. For long term construction projects, consider relocating signs, especially runway distance remaining signs.

2.18.4.2 **Temporary Signs.**

Orange construction signs comprise a message in black on an orange background. Orange construction signs may help pilots be aware of changed conditions. The airport operator may choose to introduce these signs as part of a movement area construction project to increase situational awareness when needed. Locate signs outside the taxiway safety limits and ahead of construction areas so pilots can take timely action. Use temporary signs judiciously, striking a balance between the need for information and the increase in pilot workload. When there is a concern of pilot “information overload,” the applicability of mandatory hold signs must take precedence over orange construction signs recommended during construction. Temporary signs must meet the standards for such signs in Engineering Brief 93, *Guidance for the Assembly and Installation of Temporary Orange Construction Signs*. Many criteria in AC 150/5345-44, *Specification for Runway and Taxiway Signs*, are referenced in the Engineering Brief. Permissible sign legends are:

1. CONSTRUCTION AHEAD,
2. CONSTRUCTION ON RAMP, and
3. RWY XX TAKEOFF RUN AVAILABLE XXX FT.

Phasing, supported by drawings and sign schedule, for the installation of orange construction signs must be included in the CSPP or SPCD.

2.18.4.2.1 Takeoff Run Available (TORA) signs.

Recommended: Where a runway has been shortened for takeoff, install orange TORA signs well before the hold lines, such as on a parallel taxiway prior to a turn to a runway hold position. See EB 93 for sign size and location.

2.18.4.2.2 Sign legends are shown in Figure F-1.

Note: See Figure E-1, Figure E-2, Figure E-3, Figure F-2, and Figure F-3 for examples of orange construction sign locations.

2.19 **Marking and Signs for Access Routes.**

The CSPP should indicate that pavement markings and signs for construction personnel will conform to AC 150/5340-18 and, to the extent practicable, with the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) and/or State highway specifications. Signs adjacent to areas used by aircraft must comply with the frangibility requirements of AC 150/5220-23, *Frangible Connections*, which may require modification to size and height guidance in the MUTCD.

2.20 **Hazard Marking, Lighting and Signing.**

2.20.1 Hazard marking, lighting, and signing prevent pilots from entering areas closed to aircraft, and prevent construction personnel from entering areas open to aircraft. The CSPP must specify prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles. Hazard marking and lighting must also be specified to identify open manholes, small areas under repair, stockpiled material, waste areas, and areas subject to jet blast. Also consider less obvious construction-related hazards and include markings to identify FAA, airport, and National Weather Service facilities cables and power lines; instrument landing system (ILS) critical areas; airport surfaces, such as RSA, OFA, and OFZ; and other sensitive areas to make it easier for contractor personnel to avoid these areas.

2.20.2 Equipment.

2.20.2.1 **Barricades.**

Low profile barricades, including traffic cones, (weighted or sturdily attached to the surface) are acceptable methods used to identify and define the limits of construction and hazardous areas on airports. Careful consideration must be given to selecting equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast. The spacing of barricades must be such that a breach is physically prevented barring a deliberate act. For example, if barricades are intended to exclude aircraft, gaps between barricades must be smaller than the wingspan of the smallest aircraft to be excluded; if barricades are intended to exclude vehicles, gaps between barricades must be smaller than the width of the excluded vehicles, generally 4 feet (1.2 meters). Provision must be made for ARFF access if necessary. If barricades are intended to exclude pedestrians, they must be continuously linked. Continuous linking may be accomplished through the use of ropes, securely attached to prevent FOD.

2.20.2.2 **Lights.**

Lights must be red, either steady burning or flashing, and must meet the luminance requirements of the State Highway Department. Batteries powering lights will last longer if lights flash. Lights must be mounted on barricades and spaced at no more than 10 feet (3 meters). Lights must be operated between sunset and sunrise and during periods of low visibility whenever the airport is open for operations. They may be operated by photocell, but this may require that the contractor turn them on manually during periods of low visibility during daytime hours.

2.20.2.3 **Supplement Barricades with Signs (for example) As Necessary.**

Examples are “No Entry” and “No Vehicles.” Be aware of the increased effects of wind and jet blast on barricades with attached signs.

2.20.2.4 **Air Operations Area – General.**

Barricades are not permitted in any active safety area or on the runway side of a runway hold line. Within a runway or taxiway object free area, and on aprons, use orange traffic cones, flashing or steady burning red lights as noted above, highly reflective collapsible barricades marked with diagonal, alternating orange and white stripes; and/or signs to separate all construction/maintenance areas from the movement area. Barricades may be supplemented with alternating orange and white flags at least 20 by 20 inch (50 by 50 cm) square and securely fastened to eliminate FOD. All barricades adjacent to any open runway or taxiway / taxilane safety area, or apron must be as low as possible to the ground, and no more than 18 inches high, exclusive of supplementary lights and flags. Barricades must be of low mass; easily collapsible upon contact with an aircraft or any of its components; and weighted or sturdily attached to the surface to prevent displacement from prop wash, jet blast, wing vortex, and other surface wind currents. If affixed to the surface, they must be frangible at grade level or as low as possible, but not to exceed 3 inch (7.6 cm) above the ground. [Figure 2-8](#) and [Figure 2-9](#) show sample barricades with proper coloring and flags.

Figure 2-8. Interlocking Barricades



Figure 2-9. Low Profile Barricades**2.20.2.5 Air Operations Area – Runway/Taxiway Intersections.**

Use highly reflective barricades with lights to close taxiways leading to closed runways. Evaluate all operating factors when determining how to mark temporary closures that can last from 10 to 15 minutes to a much longer period of time. However, even for closures of relatively short duration, close all taxiway/runway intersections with barricades. The use of traffic cones is appropriate for short duration closures.

2.20.2.6 Air Operations Area – Other.

Beyond runway and taxiway object free areas and aprons, barricades intended for construction vehicles and personnel may be many different shapes and made from various materials, including railroad ties, sawhorses, jersey barriers, or barrels.

2.20.2.7 Maintenance.

The construction specifications must include a provision requiring the contractor to have a person on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades. The contractor must file the contact person's information with the airport operator. Lighting should be checked for proper operation at least once per day, preferably at dusk.

2.21 Work Zone Lighting for Nighttime Construction.

Lighting equipment must adequately illuminate the work area if the construction is to be performed during nighttime hours. Refer to [AC 150/5370-10](#) for minimum illumination levels for nighttime paving projects. Additionally, it is recommended that all support equipment, except haul trucks, be equipped with artificial illumination to safely

illuminate the area immediately surrounding their work areas. The lights should be positioned to provide the most natural color illumination and contrast with a minimum of shadows. The spacing must be determined by trial. Light towers should be positioned and adjusted to aim away from ATCT cabs and active runways to prevent blinding effects. Shielding may be necessary. Light towers should be removed from the construction site when the area is reopened to aircraft operations. Construction lighting units should be identified and generally located on the construction phasing plans in relationship to the ATCT and active runways and taxiways.

2.22 **Protection of Runway and Taxiway Safety Areas.**

Runway and taxiway safety areas, OFZs, OFAs, and approach surfaces are described in AC 150/5300-13. Protection of these areas includes limitations on the location and height of equipment and stockpiled material. An FAA airspace study may be required. Coordinate with the appropriate FAA Airports Regional or District Office if there is any doubt as to requirements or dimensions (see paragraph 2.13.5) as soon as the location and height of materials or equipment are known. The CSPP should include drawings showing all safety areas, object free areas, obstacle free zones and approach departure surfaces affected by construction.

2.22.1 Runway Safety Area (RSA).

A runway safety area is the defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway (see AC 150/5300-13). Construction activities within the existing RSA are subject to the following conditions:

- 2.22.1.1 No construction may occur within the existing RSA while the runway is open for aircraft operations. The RSA dimensions may be temporarily adjusted if the runway is restricted to aircraft operations requiring an RSA that is equal to the RSA width and length beyond the runway ends available during construction. (See AC 150/5300-13). The temporary use of declared distances and/or partial runway closures may provide the necessary RSA under certain circumstances. Coordinate with the appropriate FAA Airports Regional or District Office to have declared distances information published, and appropriate NOTAMs issued. See AC 150/5300-13 for guidance on the use of declared distances.
- 2.22.1.2 The airport operator must coordinate the adjustment of RSA dimensions as permitted above with the appropriate FAA Airports Regional or District Office and the local FAA air traffic manager and issue a NOTAM.
- 2.22.1.3 The CSPP and SPCD must provide procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations.

2.22.1.4 **Excavations.**

2.22.1.4.1 Open trenches or excavations are not permitted within the RSA while the runway is open. Backfill trenches before the runway is opened. If backfilling excavations before the runway must be opened is impracticable, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft operating on the runway across the trench without damage to the aircraft.

2.22.1.4.2 Construction contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport operator, and light them with red lights during hours of restricted visibility or darkness.

2.22.1.5 **Erosion Control.**

Soil erosion must be controlled to maintain RSA standards, that is, the RSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and fire fighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

2.22.2 Runway Object Free Area (ROFA).

Construction, including excavations, may be permitted in the ROFA. However, equipment must be removed from the ROFA when not in use, and material should not be stockpiled in the ROFA if not necessary. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval.

2.22.3 Taxiway Safety Area (TSA).

2.22.3.1 A taxiway safety area is a defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway. (See AC 150/5300-13.) Since the width of the TSA is equal to the wingspan of the design aircraft, no construction may occur within the TSA while the taxiway is open for aircraft operations. The TSA dimensions may be temporarily adjusted if the taxiway is restricted to aircraft operations requiring a TSA that is equal to the TSA width available during construction. Give special consideration to TSA dimensions at taxiway turns and intersections. (see AC 150/5300-13).

2.22.3.2 The airport operator must coordinate the adjustment of the TSA width as permitted above with the appropriate FAA Airports Regional or District Office and the FAA air traffic manager and issue a NOTAM.

2.22.3.3 The CSPP and SPCD must provide procedures for ensuring adequate distance for protection from blasting operations.

2.22.3.4 **Excavations.**

1. Curves. Open trenches or excavations are not permitted within the TSA while the taxiway is open. Trenches should be backfilled before the taxiway is opened. If backfilling excavations before the taxiway must be opened is impracticable, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft operating on the taxiway across the trench without damage to the aircraft.
2. Straight Sections. Open trenches or excavations are not permitted within the TSA while the taxiway is open for unrestricted aircraft operations. Trenches should be backfilled before the taxiway is opened. If backfilling excavations before the taxiway must be opened is impracticable, cover the excavations to allow the safe passage of ARFF equipment and of the heaviest aircraft operating on the taxiway across the trench without causing damage to the equipment or aircraft. In rare circumstances where the section of taxiway is indispensable for aircraft movement, open trenches or excavations may be permitted in the TSA while the taxiway is open to aircraft operations, subject to the following restrictions:
 - a. Taxiing speed is limited to 10 mph.
 - b. Appropriate NOTAMs are issued.
 - c. Marking and lighting meeting the provisions of paragraphs 2.18 and 2.20 are implemented.
 - d. Low mass, low-profile lighted barricades are installed.
 - e. Appropriate temporary orange construction signs are installed.
3. Construction contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport operator, and light them with red lights during hours of restricted visibility or darkness.

2.22.3.5 **Erosion control.**

Soil erosion must be controlled to maintain TSA standards, that is, the TSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

2.22.4 Taxiway Object Free Area (TOFA).

Unlike the Runway Object Free Area, aircraft wings regularly penetrate the taxiway object free area during normal operations. Thus, the restrictions are more stringent. Except as provided below, no construction may occur within the taxiway object free area while the taxiway is open for aircraft operations.

- 2.22.4.1 The taxiway object free area dimensions may be temporarily adjusted if the taxiway is restricted to aircraft operations requiring a taxiway object free area that is equal to the taxiway object free area width available. Give special consideration to TOFA dimensions at taxiway turns and intersections.
- 2.22.4.2 Offset taxiway centerline and edge pavement markings (do not use glass beads) may be used as a temporary measure to provide the required taxiway object free area. Where offset taxiway pavement markings are provided, centerline lighting, centerline reflectors, or taxiway edge reflectors are required. Existing lighting that does not coincide with the temporary markings must be taken out of service.
- 2.22.4.3 Construction activity, including open excavations, may be accomplished without adjusting the width of the taxiway object free area, subject to the following restrictions:
 - 2.22.4.3.1 Taxiing speed is limited to 10 mph.
 - 2.22.4.3.2 NOTAMs issued advising taxiing pilots of hazard and recommending reduced taxiing speeds on the taxiway.
 - 2.22.4.3.3 Marking and lighting meeting the provisions of paragraphs 2.18 and 2.20 are implemented.
 - 2.22.4.3.4 If desired, appropriate orange construction signs are installed. See paragraph 2.18.4.2 and Appendix F.
 - 2.22.4.3.5 Five-foot clearance is maintained between equipment and materials and any part of an aircraft (includes wingtip overhang). If such clearance can only be maintained if an aircraft does not have full use of the entire taxiway width (with its main landing gear at the edge of the usable pavement), then it will be necessary to move personnel and equipment for the passage of that aircraft.
 - 2.22.4.3.6 Flaggers furnished by the contractor must be used to direct and control construction equipment and personnel to a pre-established setback distance for safe passage of aircraft, and airline and/or airport personnel. Flaggers must also be used to direct taxiing aircraft. Due to liability issues, the airport operator should require airlines to provide flaggers for directing taxiing aircraft.

2.22.5 Obstacle Free Zone (OFZ).

In general, personnel, material, and/or equipment may not penetrate the OFZ while the runway is open for aircraft operations. If a penetration to the OFZ is necessary, it may be possible to continue aircraft operations through operational restrictions. Coordinate with the FAA through the appropriate FAA Airports Regional or District Office.

2.22.6 Runway Approach/Departure Areas and Clearways.

All personnel, materials, and/or equipment must remain clear of the applicable threshold siting surfaces, as defined in AC 150/5300-13. Objects that do not penetrate these surfaces may still be obstructions to air navigation and may affect standard instrument approach procedures. Coordinate with the FAA through the appropriate FAA Airports Regional or District Office.

2.22.6.1 Construction activity in a runway approach/departure area may result in the need to partially close a runway or displace the existing runway threshold. Partial runway closure, displacement of the runway threshold, as well as closure of the complete runway and other portions of the movement area also require coordination through the airport operator with the appropriate FAA air traffic manager (FSS if non-towered) and ATO/Technical Operations (for affected NAVAIDS) and airport users.

2.22.6.2 **Caution About Partial Runway Closures.**

When filing a NOTAM for a partial runway closure, clearly state that the portion of pavement located prior to the threshold is not available for landing and departing traffic. In this case, the threshold has been moved for both landing and takeoff purposes (this is different than a displaced threshold). There may be situations where the portion of closed runway is available for taxiing only. If so, the NOTAM must reflect this condition).

2.22.6.3 **Caution About Displaced Thresholds.**

Implementation of a displaced threshold affects runway length available for aircraft landing over the displacement. Depending on the reason for the displacement (to provide obstruction clearance or RSA), such a displacement may also require an adjustment in the landing distance available and accelerate-stop distance available in the opposite direction. If project scope includes personnel, equipment, excavation, or other work within the existing RSA of any usable runway end, do not implement a displaced threshold unless arrivals and departures toward the construction activity are prohibited. Instead, implement a partial closure.

2.23 **Other Limitations on Construction.**

The CSPP must specify any other limitations on construction, including but not limited to:

2.23.1 Prohibitions.

- 2.23.1.1 No use of tall equipment (cranes, concrete pumps, and so on) unless a 7460-1 determination letter is issued for such equipment.
- 2.23.1.2 No use of open flame welding or torches unless fire safety precautions are provided and the airport operator has approved their use.
- 2.23.1.3 No use of electrical blasting caps on or within 1,000 feet (300 meters) of the airport property. See AC 150/5370-10.

2.23.2 Restrictions.

- 2.23.2.1 Construction suspension required during specific airport operations.
- 2.23.2.2 Areas that cannot be worked on simultaneously.
- 2.23.2.3 Day or night construction restrictions.
- 2.23.2.4 Seasonal construction restrictions.
- 2.23.2.5 Temporary signs not approved by the airport operator.
- 2.23.2.6 Grades changes that could result in unplanned effects on NAVAIDs.

CHAPTER 3. GUIDELINES FOR WRITING A CSPP

3.1 **General Requirements.**

The CSPP is a standalone document written to correspond with the subjects outlined in paragraph 2.4. The CSPP is organized by numbered sections corresponding to each subject listed in paragraph 2.4, and described in detail in paragraphs 2.5 - 2.23. Each section number and title in the CSPP matches the corresponding subject outlined in paragraph 2.4 (for example, 1. Coordination, 2. Phasing, 3. Areas and Operations Affected by the Construction Activity, and so on). With the exception of the project scope of work outlined in Section 2. Phasing, only subjects specific to operational safety during construction should be addressed.

3.2 **Applicability of Subjects.**

Each section should, to the extent practical, focus on the specific subject. Where an overlapping requirement spans several sections, the requirement should be explained in detail in the most applicable section. A reference to that section should be included in all other sections where the requirement may apply. For example, the requirement to protect existing underground FAA ILS cables during trenching operations could be considered FAA ATO coordination (Coordination, paragraph 2.5.3), an area and operation affected by the construction activity (Areas and Operations Affected by the Construction Activity, paragraph 2.7.1.4), a protection of a NAVAID (Protection of Navigational Aids (NAVAIDs), paragraph 2.8), or a notification to the FAA of construction activities (Notification of Construction Activities, paragraph 2.13.5.3.2). However, it is more specifically an underground utility requirement (Underground Utilities, paragraph 2.15). The procedure for protecting underground ILS cables during trenching operations should therefore be described in 2.4.2.11: “The contractor must coordinate with the local FAA System Support Center (SSC) to mark existing ILS cable routes along Runway 17-35. The ILS cables will be located by hand digging whenever the trenching operation moves within 10 feet of the cable markings.” All other applicable sections should include a reference to 2.4.2.11: “ILS cables shall be identified and protected as described in 2.4.2.11” or “See 2.4.2.11 for ILS cable identification and protection requirements.” Thus, the CSPP should be considered as a whole, with no need to duplicate responses to related issues.

3.3 **Graphical Representations.**

Construction safety drawings should be included in the CSPP as attachments. When other graphical representations will aid in supporting written statements, the drawings, diagrams, and/or photographs should also be attached to the CSPP. References should be made in the CSPP to each graphical attachment and may be made in multiple sections.

3.4 **Reference Documents.**

The CSPP must not incorporate a document by reference unless reproduction of the material in that document is prohibited. In that case, either copies of or a source for the referenced document must be provided to the contractor. Where this AC recommends references (e.g. as in paragraph 3.9) the intent is to include a reference to the corresponding section in the CSPP, not to this Advisory Circular.

3.5 **Restrictions.**

The CSPP should not be considered as a project design review document. The CSPP should also avoid mention of permanent (“as-built”) features such as pavements, markings, signs, and lighting, except when such features are intended to aid in maintaining operational safety during the construction.

3.6 **Coordination.**

Include in this section a detailed description of conferences and meetings to be held both before and during the project. Include appropriate information from AC 150/5370-12. Discuss coordination procedures and schedules for each required FAA ATO Technical Operations shutdown and restart and all required flight inspections.

3.7 **Phasing.**

Include in this section a detailed scope of work description for the project as a whole and each phase of work covered by the CSPP. This includes all locations and durations of the work proposed. Attach drawings to graphically support the written scope of work. Detail in this section the sequenced phases of the proposed construction. Include a reference to paragraph 3.8, as appropriate.

3.8 **Areas and Operations Affected by Construction.**

Focus in this section on identifying the areas and operations affected by the construction. Describe corresponding mitigation that is not covered in detail elsewhere in the CSPP. Include references to paragraphs below as appropriate. Attach drawings as necessary to graphically describe affected areas and mechanisms proposed. See Appendix F for sample operational effects tables and figures.

3.9 **NAVAID Protection.**

List in this section all NAVAID facilities that will be affected by the construction. Identify NAVAID facilities that will be placed out of service at any time prior to or during construction activities. Identify individuals responsible for coordinating each shutdown and when each facility will be out of service. Include a reference to paragraph 3.6 for FAA ATO NAVAID shutdown, restart, and flight inspection coordination. Outline in detail procedures to protect each NAVAID facility remaining in service from interference by construction activities. Include a reference to paragraph 3.14 for the

issuance of NOTAMs as required. Include a reference to paragraph 3.16 for the protection of underground cables and piping serving NAVAIDs. If temporary visual aids are proposed to replace or supplement existing facilities, include a reference to paragraph 3.19. Attach drawings to graphically indicate the affected NAVAIDs and the corresponding critical areas.

3.10 **Contractor Access.**

This will necessarily be the most extensive section of the CSPP. Provide sufficient detail so that a contractor not experienced in working on airports will understand the unique restrictions such work will require. Due to this extent, it should be broken down into subsections as described below:

3.10.1 Location of Stockpiled Construction Materials.

Describe in this section specific locations for stockpiling material. Note any height restrictions on stockpiles. Include a reference to paragraph 3.21 for hazard marking and lighting devices used to identify stockpiles. Include a reference to paragraph 3.11 for provisions to prevent stockpile material from becoming wildlife attractants. Include a reference to paragraph 3.12 for provisions to prevent stockpile material from becoming FOD. Attach drawings to graphically indicate the stockpile locations.

3.10.2 Vehicle and Pedestrian Operations.

While there are many items to be addressed in this major subsection of the CSPP, all are concerned with one main issue: keeping people and vehicles from areas of the airport where they don't belong. This includes preventing unauthorized entry to the AOA and preventing the improper movement of pedestrians or vehicles on the airport. In this section, focus on mechanisms to prevent construction vehicles and workers traveling to and from the worksite from unauthorized entry into movement areas. Specify locations of parking for both employee vehicles and construction equipment, and routes for access and haul roads. In most cases, this will best be accomplished by attaching a drawing. Quote from AC 150/5210-5 specific requirements for contractor vehicles rather than referring to the AC as a whole, and include special requirements for identifying HAZMAT vehicles. Quote from, rather than incorporate by reference, AC 150/5210-20 as appropriate to address the airport's rules for ground vehicle operations, including its training program. Discuss the airport's recordkeeping system listing authorized vehicle operators.

3.10.3 Two-Way Radio Communications.

Include a special section to identify all individuals who are required to maintain communications with Air Traffic (AT) at airports with active towers, or monitor CTAF at airports without or with closed ATCT. Include training requirements for all individuals required to communicate with AT. Individuals required to monitor AT frequencies should also be identified. If construction employees are also required to communicate by radio with Airport Operations, this procedure should be described in detail. Usage of vehicle mounted radios and/or portable radios should be addressed. Communication procedures for the event of disabled radio communication (that is, light

signals, telephone numbers, others) must be included. All radio frequencies should be identified (Tower, Ground Control, CTAF, UNICOM, ATIS, and so on).

3.10.4 Airport Security.

Address security as it applies to vehicle and pedestrian operations. Discuss TSA requirements, security badging requirements, perimeter fence integrity, gate security, and other needs. Attach drawings to graphically indicate secured and/or Security Identification Display Areas (SIDA), perimeter fencing, and available access points.

3.11 **Wildlife Management.**

Discuss in this section wildlife management procedures. Describe the maintenance of existing wildlife mitigation devices, such as perimeter fences, and procedures to limit wildlife attractants. Include procedures to notify Airport Operations of wildlife encounters. Include a reference to paragraph 3.10 for security (wildlife) fence integrity maintenance as required.

3.12 **FOD Management.**

In this section, discuss methods to control and monitor FOD: worksite housekeeping, ground vehicle tire inspections, runway sweeps, and so on. Include a reference to paragraph 3.15 for inspection requirements as required.

3.13 **HAZMAT Management.**

Describe in this section HAZMAT management procedures: fuel deliveries, spill recovery procedures, Safety Data Sheet (SDS), Material Safety Data Sheet (MSDS) or Product Safety Data Sheet (PSDS) availability, and other considerations. Any specific airport HAZMAT restrictions should also be identified. Include a reference to paragraph 3.10 for HAZMAT vehicle identification requirements. Quote from, rather than incorporate by reference, AC 150/5320-15.

3.14 **Notification of Construction Activities.**

List in this section the names and telephone numbers of points of contact for all parties affected by the construction project. We recommend a single list that includes all telephone numbers required under this section. Include emergency notification procedures for all representatives of all parties potentially impacted by the construction. Identify individual representatives – and at least one alternate – for each party. List both on-duty and off-duty contact information for each individual, including individuals responsible for emergency maintenance of airport construction hazard lighting and barricades. Describe procedures to coordinate immediate response to events that might adversely affect the operational safety of the airport (such as interrupted NAVAID service). Explain requirements for and the procedures for the issuance of Notices to Airmen (NOTAMs), notification to FAA required by 14 CFR Part 77 and Part 157 and in the event of affected NAVAIDs. For NOTAMs, identify an individual, and at least one alternate, responsible for issuing and cancelling each specific type of Notice to

Airmen (NOTAM) required. Detail notification methods for police, fire fighting, and medical emergencies. This may include 911, but should also include direct phone numbers of local police departments and nearby hospitals. Identify the E911 address of the airport and the emergency access route via haul roads to the construction site. Require the contractor to have this information available to all workers. The local Poison Control number should be listed. Procedures regarding notification of Airport Operations and/or the ARFF Department of such emergencies should be identified, as applicable. If airport radio communications are identified as a means of emergency notification, include a reference to paragraph 3.10. Differentiate between emergency and nonemergency notification of ARFF personnel, the latter including activities that affect ARFF water supplies and access roads. Identify the primary ARFF contact person and at least one alternate. If notification is to be made through Airport Operations, then detail this procedure. Include a method of confirmation from the ARFF department.

3.15 Inspection Requirements.

Describe in this section inspection requirements to ensure airfield safety compliance. Include a requirement for routine inspections by the resident engineer (RE) or other airport operator's representative and the construction contractors. If the engineering consultants and/or contractors have a Safety Officer who will conduct such inspections, identify this individual. Describe procedures for special inspections, such as those required to reopen areas for aircraft operations. Part 139 requires daily airfield inspections at certificated airports, but these may need to be more frequent when construction is in progress. Discuss the role of such inspections on areas under construction. Include a requirement to immediately remedy any deficiencies, whether caused by negligence, oversight, or project scope change.

3.16 Underground Utilities.

Explain how existing underground utilities will be located and protected. Identify each utility owner and include contact information for each company/agency in the master list. Address emergency response procedures for damaged or disrupted utilities. Include a reference to paragraph 3.14 for notification of utility owners of accidental utility disruption as required.

3.17 Penalties.

Describe in this section specific penalties imposed for noncompliance with airport rules and regulations, including the CSPP: SIDA violations, VPD, and others.

3.18 Special Conditions.

Identify any special conditions that may trigger specific safety mitigation actions outlined in this CSPP: low visibility operations, snow removal, aircraft in distress, aircraft accident, security breach, VPD, and other activities requiring construction suspension/resumption. Include a reference to paragraph 3.10 for compliance with airport safety and security measures and for radio communications as required. Include

a reference to paragraph 3.14 for emergency notification of all involved parties, including police/security, ARFF, and medical services.

3.19 Runway and Taxiway Visual Aids.

Include marking, lighting, signs, and visual NAVAIDS. Detail temporary runway and taxiway marking, lighting, signs, and visual NAVAIDS required for the construction. Discuss existing marking, lighting, signs, and visual NAVAIDS that are temporarily, altered, obliterated, or shut down. Consider non-federal facilities and address requirements for reimbursable agreements necessary for alteration of FAA facilities and for necessary flight checks. Identify temporary TORA signs or runway distance remaining signs if appropriate. Identify required temporary visual NAVAIDS such as REIL or PAPI. Quote from, rather than incorporate by reference, AC 150/5340-1, Standards for Airport Markings; AC 150/5340-18, Standards for Airport Sign Systems; and AC 150/5340-30, as required. Attach drawings to graphically indicate proposed marking, lighting, signs, and visual NAVAIDS.

3.20 Marking and Signs for Access Routes.

Detail plans for marking and signs for vehicle access routes. To the extent possible, signs should be in conformance with the Federal Highway Administration MUTCD and/or State highway specifications, not hand lettered. Detail any modifications to the guidance in the MUTCD necessary to meet frangibility/height requirements.

3.21 Hazard Marking and Lighting.

Specify all marking and lighting equipment, including when and where each type of device is to be used. Specify maximum gaps between barricades and the maximum spacing of hazard lighting. Identify one individual and at least one alternate responsible for maintenance of hazard marking and lighting equipment in the master telephone list. Include a reference to paragraph 3.14. Attach drawings to graphically indicate the placement of hazard marking and lighting equipment.

3.22 Work Zone Lighting for Nighttime Construction.

If work is to be conducted at night, specify all lighting equipment, including when and where each type of device is to be used. Indicate the direction lights are to be aimed and any directions that aiming of lights is prohibited. Specify any shielding necessary in instances where aiming is not sufficient to prevent interference with air traffic control and aircraft operations. Attach drawings to graphically indicate the placement and aiming of lighting equipment. Where the plan only indicates directions that aiming of lights is prohibited, the placement and positioning of portable lights must be proposed by the Contractor and approved by the airport operator's representative each time lights are relocated or repositioned.

3.23 Protection of Runway and Taxiway Safety Areas.

This section should focus exclusively on procedures for protecting all safety areas, including those altered by the construction: methods of demarcation, limit of access, movement within safety areas, stockpiling and trenching restrictions, and so on. Reference AC 150/5300-13, as required. Include a reference to paragraph 3.10 for procedures regarding vehicle and personnel movement within safety areas. Include a reference to paragraph 3.10 for material stockpile restrictions as required. Detail requirements for trenching, excavations, and backfill. Include a reference to paragraph 3.21 for hazard marking and lighting devices used to identify open excavations as required. If runway and taxiway closures are proposed to protect safety areas, or if temporary displaced thresholds and/or revised declared distances are used to provide the required Runway Safety Area, include a reference to paragraphs 3.14 and 3.19. Detail procedures for protecting the runway OFZ, runway OFA, taxiway OFA and runway approach surfaces including those altered by the construction: methods of demarcation, limit of cranes, storage of equipment, and so on. Quote from, rather than incorporate by reference, AC 150/5300-13, as required. Include a reference to paragraph 3.24 for height (i.e., crane) restrictions as required. One way to address the height of equipment that will move during the project is to establish a three-dimensional “box” within which equipment will be confined that can be studied as a single object. Attach drawings to graphically indicate the safety area, OFZ, and OFA boundaries.

3.24 Other Limitations on Construction.

This section should describe what limitations must be applied to each area of work and when each limitation will be applied: limitations due to airport operations, height (i.e., crane) restrictions, areas which cannot be worked at simultaneously, day/night work restrictions, winter construction, and other limitations. Include a reference to paragraph 3.7 for project phasing requirements based on construction limitations as required.

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APPENDIX A. RELATED READING MATERIAL

Obtain the latest version of the following free publications from the FAA on its Web site at <http://www.faa.gov/airports/>.

Table A-1. FAA Publications

Number	Title and Description
<u>AC 150/5200-28</u>	<i>Notices to Airmen (NOTAMs) for Airport Operators</i> Guidance for using the NOTAM System in airport reporting.
<u>AC 150/5200-30</u>	<i>Airport Field Condition Assessments and Winter Operations Safety</i> Guidance for airport owners/operators on the development of an acceptable airport snow and ice control program and on appropriate field condition reporting procedures.
<u>AC 150/5200-33</u>	<i>Hazardous Wildlife Attractants On or Near Airports</i> Guidance on locating certain land uses that might attract hazardous wildlife to public-use airports.
<u>AC 150/5210-5</u>	<i>Painting, Marking, and Lighting of Vehicles Used on an Airport</i> Guidance, specifications, and standards for painting, marking, and lighting vehicles operating in the airport air operations areas.
<u>AC 150/5210-20</u>	<i>Ground Vehicle Operations to include Taxiing or Towing an Aircraft on Airports</i> Guidance to airport operators on developing ground vehicle operation training programs.
<u>AC 150/5300-13</u>	<i>Airport Design</i> FAA standards and recommendations for airport design. Establishes approach visibility minimums as an airport design parameter, and contains the Object Free area and the obstacle free-zone criteria.
<u>AC 150/5210-24</u>	<i>Airport Foreign Object Debris (FOD) Management</i> Guidance for developing and managing an airport foreign object debris (FOD) program

Number	Title and Description
<u>AC 150/5320-15</u>	<i>Management of Airport Industrial Waste</i> Basic information on the characteristics, management, and regulations of industrial wastes generated at airports. Guidance for developing a Storm Water Pollution Prevention Plan (SWPPP) that applies best management practices to eliminate, prevent, or reduce pollutants in storm water runoff with particular airport industrial activities.
<u>AC 150/5340-1</u>	<i>Standards for Airport Markings</i> FAA standards for the siting and installation of signs on airport runways and taxiways.
<u>AC 150/5340-18</u>	<i>Standards for Airport Sign Systems</i> FAA standards for the siting and installation of signs on airport runways and taxiways.
<u>AC 150/5345-28</u>	<i>Precision Approach Path Indicator (PAPI) Systems</i> FAA standards for PAPI systems, which provide pilots with visual glide slope guidance during approach for landing.
<u>AC 150/5340-30</u>	<i>Design and Installation Details for Airport Visual Aids</i> Guidance and recommendations on the installation of airport visual aids.
<u>AC 150/5345-39</u>	<i>Specification for L-853, Runway and Taxiway Retroreflective Markers</i>
<u>AC 150/5345-44</u>	<i>Specification for Runway and Taxiway Signs</i> FAA specifications for unlighted and lighted signs for taxiways and runways.
<u>AC 150/5345-53</u>	<i>Airport Lighting Equipment Certification Program</i> Details on the Airport Lighting Equipment Certification Program (ALECP).
<u>AC 150/5345-50</u>	<i>Specification for Portable Runway and Taxiway Lights</i> FAA standards for portable runway and taxiway lights and runway end identifier lights for temporary use to permit continued aircraft operations while all or part of a runway lighting system is inoperative.
<u>AC 150/5345-55</u>	<i>Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure</i>

Number	Title and Description
<u>AC 150/5370-10</u>	<i>Standards for Specifying Construction of Airports</i> Standards for construction of airports, including earthwork, drainage, paving, turfing, lighting, and incidental construction.
<u>AC 150/5370-12</u>	<i>Quality Management for Federally Funded Airport Construction Projects</i>
EB 93	<i>Guidance for the Assembly and Installation of Temporary Orange Construction Signs</i>
FAA Order 5200.11	<u>FAA Airports (ARP) Safety Management System (SMS)</u> Basics for implementing SMS within ARP. Includes roles and responsibilities of ARP management and staff as well as other FAA lines of business that contribute to the ARP SMS.
FAA Certalert 98-05	<i>Grasses Attractive to Hazardous Wildlife</i> Guidance on grass management and seed selection.
FAA Form 7460-1	<u>Notice of Proposed Construction or Alteration</u>
FAA Form 7480-1	<u>Notice of Landing Area Proposal</u>
FAA Form 6000.26	National NAS Strategic Interruption Service Level Agreement, Strategic Events Coordination, Airport Sponsor Form

Obtain the latest version of the following free publications from the Electronic Code of Federal Regulations at <http://www.ecfr.gov/>.

Table A-2. Code of Federal Regulation

Number	Title
Title 14 CFR Part 77	Safe, Efficient Use and Preservation of the Navigable Airspace
Title 14 CFR Part 139	Certification of Airports
Title 49 CFR Part 1542	Airport Security

Obtain the latest version of the Manual on Uniform Traffic Control Devices from the Federal Highway Administration at <http://mutcd.fhwa.dot.gov/>.

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APPENDIX B. TERMS AND ACRONYMS**Table B-1. Terms and Acronyms**

Term	Definition
Form 7460-1	Notice of Proposed Construction or Alteration. For on-airport projects, the form submitted to the FAA regional or airports division office as formal written notification of any kind of construction or alteration of objects that affect navigable airspace, as defined in 14 CFR Part 77, <i>Safe, Efficient Use, and Preservation of the Navigable Airspace</i> . (See guidance available on the FAA web site at https://oeaaa.faa.gov .) The form may be downloaded at http://www.faa.gov/airports/resources/forms/ , or filed electronically at: https://oeaaa.faa.gov .
Form 7480-1	Notice of Landing Area Proposal. Form submitted to the FAA Airports Regional Division Office or Airports District Office as formal written notification whenever a project without an airport layout plan on file with the FAA involves the construction of a new airport; the construction, realigning, altering, activating, or abandoning of a runway, landing strip, or associated taxiway; or the deactivation or abandoning of an entire airport The form may be downloaded at http://www.faa.gov/airports/resources/forms/ .
Form 6000-26	Airport Sponsor Strategic Event Submission Form
AC	Advisory Circular
ACSI	Airport Certification Safety Inspector
ADG	Airplane Design Group
AIP	Airport Improvement Program
ALECP	Airport Lighting Equipment Certification Program
ANG	Air National Guard
AOA	Air Operations Area, as defined in 14 CFR Part 107. Means a portion of an airport, specified in the airport security program, in which security measures are carried out. This area includes aircraft movement areas, aircraft parking areas, loading ramps, and safety areas, and any adjacent areas (such as general aviation areas) that are not separated by adequate security systems, measures, or procedures. This area does not include the secured area of the airport terminal building.
ARFF	Aircraft Rescue and Fire Fighting
ARP	FAA Office of Airports
ASDA	Accelerate-Stop Distance Available
AT	Air Traffic
ATCT	Airport Traffic Control Tower
ATIS	Automatic Terminal Information Service
ATO	Air Traffic Organization
Certificated Airport	An airport that has been issued an Airport Operating Certificate by the FAA under

Term	Definition
	the authority of 14 CFR Part 139, <i>Certification of Airports</i> .
CFR	Code of Federal Regulations
Construction	The presence of construction-related personnel, equipment, and materials in any location that could infringe upon the movement of aircraft.
CSPP	Construction Safety and Phasing Plan. 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.
CTAF	Common Traffic Advisory Frequency
Displaced Threshold	A threshold that is located at a point on the runway other than the designated beginning of the runway. The portion of pavement behind a displaced threshold is available for takeoffs in either direction or landing from the opposite direction.
DOT	Department of Transportation
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FOD	Foreign Object Debris/Damage
FSS	Flight Service Station
GA	General Aviation
HAZMAT	Hazardous Materials
HMA	Hot Mix Asphalt
IAP	Instrument Approach Procedures
IFR	Instrument Flight Rules
ILS	Instrument Landing System
LDA	Landing Distance Available
LOC	Localizer antenna array
Movement Area	The runways, taxiways, and other areas of an airport that are used for taxiing or hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading aprons and aircraft parking areas (reference 14 CFR Part 139).
MSDS	Material Safety Data Sheet
MUTCD	Manual on Uniform Traffic Control Devices
NAVAID	Navigation Aid
NAVAID Critical Area	An area of defined shape and size associated with a NAVAID that must remain clear and graded to avoid interference with the electronic signal.
Non-Movement Area	The area inside the airport security fence exclusive of the Movement Area. It is important to note that the non-movement area includes pavement traversed by aircraft.

Term	Definition
NOTAM	Notices to Airmen
Obstruction	Any object/obstacle exceeding the obstruction standards specified by 14 CFR Part 77, subpart C.
OCC	Operations Control Center
OE / AAA	Obstruction Evaluation / Airport Airspace Analysis
OFA	Object Free Area. An area on the ground centered on the runway, taxiway, or taxi lane centerline provided to enhance safety of aircraft operations by having the area free of objects except for those objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes. (See AC 150/5300-13 for additional guidance on OFA standards and wingtip clearance criteria.)
OFZ	Obstacle Free Zone. The airspace below 150 ft (45 m) above the established airport elevation and along the runway and extended runway centerline that is required to be clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function, in order to provide clearance protection for aircraft landing or taking off from the runway and for missed approaches. The OFZ is subdivided as follows: Runway OFZ, Inner Approach OFZ, Inner Transitional OFZ, and Precision OFZ. Refer to AC 150/5300-13 for guidance on OFZ.
OSHA	Occupational Safety and Health Administration
OTS	Out of Service
P&R	Planning and Requirements Group
NPI	NAS Planning & Integration
PAPI	Precision Approach Path Indicator
PFC	Passenger Facility Charge
PLASI	Pulse Light Approach Slope Indicator
Project Proposal Summary	A clear and concise description of the proposed project or change that is the object of Safety Risk Management.
RA	Reimbursable Agreement
RE	Resident Engineer
REIL	Runway End Identifier Lights
RNAV	Area Navigation
ROFA	Runway Object Free Area
RSA	Runway Safety Area. A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway, in accordance with AC 150/5300-13 .
SDS	Safety Data Sheet
SIDA	Security Identification Display Area
SMS	Safety Management System

Term	Definition
SPCD	Safety Plan Compliance Document. Details developed and submitted by a contractor to the airport operator for approval providing details on how the performance of a construction project will comply with the CSPP.
SRM	Safety Risk Management
SSC	System Support Center
Taxiway Safety Area	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway, in accordance with <u>AC 150/5300-13</u> .
TDG	Taxiway Design Group
Temporary	Any condition that is not intended to be permanent.
Temporary Runway End	The beginning of that portion of the runway available for landing and taking off in one direction, and for landing in the other direction. Note the difference from a displaced threshold.
Threshold	The beginning of that portion of the runway available for landing. In some instances, the landing threshold may be displaced.
TODA	Takeoff Distance Available
TOFA	Taxiway Object Free Area
TORA	Takeoff Run Available. The length of the runway less any length of runway unavailable and/or unsuitable for takeoff run computations. See <u>AC 150/5300-13</u> for guidance on declared distances.
TSA	Taxiway Safety Area, or Transportation Security Administration
UNICOM	A radio communications system of a type used at small airports.
VASI	Visual Approach Slope Indicator
VGSI	Visual Glide Slope Indicator. A device that provides a visual glide slope indicator to landing pilots. These systems include precision approach path indicator (PAPI), visual approach slope indicator (VASI), and pulse light approach slope indicator (PLASI).
VFR	Visual Flight Rules
VOR	Very High Frequency Omnidirectional Radio Range
VPD	Vehicle / Pedestrian Deviation

APPENDIX C. SAFETY AND PHASING PLAN CHECKLIST

This appendix is keyed to Chapter 2. In the electronic version of this AC, clicking on the paragraph designation in the Reference column will access the applicable paragraph. There may be instances where the CSPP requires provisions that are not covered by the list in this appendix.

This checklist is intended as an aid, not a required submittal.

Table C-1. CSPP Checklist

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
General Considerations					
Requirements for predesign, prebid, and preconstruction conferences to introduce the subject of airport operational safety during construction are specified.	<u>2.5</u>				
Operational safety is a standing agenda item for construction progress meetings.	<u>2.5</u>				
Scheduling of the construction phases is properly addressed.	<u>2.6</u>				
Any formal agreements are established.	<u>2.5.3</u>				
Areas and Operations Affected by Construction Activity					
Drawings showing affected areas are included.	<u>2.7.1</u>				
Closed or partially closed runways, taxiways, and aprons are depicted on drawings.	<u>2.7.1.1</u>				
Access routes used by ARFF vehicles affected by the project are addressed.	<u>2.7.1.2</u>				
Access routes used by airport and airline support vehicles affected by the project are addressed.	<u>2.7.1.3</u>				
Underground utilities, including water supplies for firefighting and drainage.	<u>2.7.1.4</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Approach/departure surfaces affected by heights of temporary objects are addressed.	<u>2.7.1.5</u>				
Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads are properly depicted on drawings.	<u>2.7.1</u>				
Temporary changes to taxi operations are addressed.	<u>2.7.2.1</u>				
Detours for ARFF and other airport vehicles are identified.	<u>2.7.2.2</u>				
Maintenance of essential utilities and underground infrastructure is addressed.	<u>2.7.2.3</u>				
Temporary changes to air traffic control procedures are addressed.	<u>2.7.2.4</u>				
NAVAIDs					
Critical areas for NAVAIDs are depicted on drawings.	<u>2.8</u>				
Effects of construction activity on the performance of NAVAIDs, including unanticipated power outages, are addressed.	<u>2.8</u>				
Protection of NAVAID facilities is addressed.	<u>2.8</u>				
The required distance and direction from each NAVAID to any construction activity is depicted on drawings.	<u>2.8</u>				
Procedures for coordination with FAA ATO/Technical Operations, including identification of points of contact, are included.	<u>2.8, 2.13.1, 2.13.5.3.1, 2.18.1</u>				
Contractor Access					
The CSPP addresses areas to which contractor will have access and how	<u>2.9</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
the areas will be accessed.					
The application of 49 CFR Part 1542 Airport Security, where appropriate, is addressed.	<u>2.9</u>				
The location of stockpiled construction materials is depicted on drawings.	<u>2.9.1</u>				
The requirement for stockpiles in the ROFA to be approved by FAA is included.	<u>2.9.1</u>				
Requirements for proper stockpiling of materials are included.	<u>2.9.1</u>				
Construction site parking is addressed.	<u>2.9.2.1</u>				
Construction equipment parking is addressed.	<u>2.9.2.2</u>				
Access and haul roads are addressed.	<u>2.9.2.3</u>				
A requirement for marking and lighting of vehicles to comply with <i>AC 150/5210-5, Painting, Marking and Lighting of Vehicles Used on an Airport</i> , is included.	<u>2.9.2.4</u>				
Proper vehicle operations, including requirements for escorts, are described.	<u>2.9.2.5, 2.9.2.6</u>				
Training requirements for vehicle drivers are addressed.	<u>2.9.2.7</u>				
Two-way radio communications procedures are described.	<u>2.9.2.9</u>				
Maintenance of the secured area of the airport is addressed.	<u>2.9.2.10</u>				
Wildlife Management					
The airport operator's wildlife management procedures are addressed.	<u>2.10</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Foreign Object Debris Management					
The airport operator's FOD management procedures are addressed.	<u>2.11</u>				
Hazardous Materials Management					
The airport operator's hazardous materials management procedures are addressed.	<u>2.12</u>				
Notification of Construction Activities					
Procedures for the immediate notification of airport user and local FAA of any conditions adversely affecting the operational safety of the airport are detailed.	<u>2.13</u>				
Maintenance of a list by the airport operator of the responsible representatives/points of contact for all involved parties and procedures for contacting them 24 hours a day, seven days a week is specified.	<u>2.13.1</u>				
A list of local ATO/Technical Operations personnel is included.	<u>2.13.1</u>				
A list of ATCT managers on duty is included.	<u>2.13.1</u>				
A list of authorized representatives to the OCC is included.	<u>2.13.2</u>				
Procedures for coordinating, issuing, maintaining and cancelling by the airport operator of NOTAMS about airport conditions resulting from construction are included.	<u>2.8, 2.13.2, 2.18.3.3.9</u>				
Provision of information on closed or hazardous conditions on airport movement areas by the airport operator to the OCC is specified.	<u>2.13.2</u>				
Emergency notification procedures for medical, fire fighting, and police	<u>2.13.3</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
response are addressed.					
Coordination with ARFF personnel for non-emergency issues is addressed.	<u>2.13.4</u>				
Notification to the FAA under 14 CFR parts 77 and 157 is addressed.	<u>2.13.5</u>				
Reimbursable agreements for flight checks and/or design and construction for FAA owned NAVAIDs are addressed.	<u>2.13.5.3.2</u>				
Inspection Requirements					
Daily and interim inspections by both the airport operator and contractor are specified.	<u>2.14.1, 2.14.2</u>				
Final inspections at certificated airports are specified when required.	<u>2.14.3</u>				
Underground Utilities					
Procedures for protecting existing underground facilities in excavation areas are described.	<u>2.15</u>				
Penalties					
Penalty provisions for noncompliance with airport rules and regulations and the safety plans are detailed.	<u>2.16</u>				
Special Conditions					
Any special conditions that affect the operation of the airport or require the activation of any special procedures are addressed.	<u>2.17</u>				
Runway and Taxiway Visual Aids - Marking, Lighting, Signs, and Visual NAVAIDs					
The proper securing of temporary airport markings, lighting, signs, and visual NAVAIDs is addressed.	<u>2.18.1</u>				
Frangibility of airport markings, lighting, signs, and visual NAVAIDs is specified.	<u>2.18.1, 2.18.3, 2.18.4.2, 2.20.2.4</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
The requirement for markings to be in compliance with <u>AC 150/5340-1</u> , <i>Standards for Airport Markings</i> , is specified.	<u>2.18.2</u>				
Detailed specifications for materials and methods for temporary markings are provided.	<u>2.18.2</u>				
The requirement for lighting to conform to <u>AC 150/5340-30</u> , <i>Design and Installation Details for Airport Visual Aids</i> ; <u>AC 150/5345-50</u> , <i>Specification for Portable Runway and Taxiway Lights</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.3</u>				
The use of a lighted X is specified where appropriate.	<u>2.18.2.1.2</u> , <u>2.18.3.2</u>				
The requirement for signs to conform to <u>AC 150/5345-44</u> , <i>Specification for Runway and Taxiway Signs</i> ; <u>AC 150/5340-18</u> , <i>Standards for Airport Sign Systems</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.4</u>				
Marking and Signs For Access Routes					
The CSPP specifies that pavement markings and signs intended for construction personnel should conform to <u>AC 150/5340-18</u> and, to the extent practicable, with the MUTCD and/or State highway specifications.	<u>2.18.4.2</u>				
Hazard Marking and Lighting					
Prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles are specified.	<u>2.20.1</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Hazard marking and lighting are specified to identify open manholes, small areas under repair, stockpiled material, and waste areas.	<u>2.20.1</u>				
The CSPP considers less obvious construction-related hazards.	<u>2.20.1</u>				
Equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast is specified.	<u>2.20.2.1</u>				
The spacing of barricades is specified such that a breach is physically prevented barring a deliberate act.	<u>2.20.2.1</u>				
Red lights meeting the luminance requirements of the State Highway Department are specified.	<u>2.20.2.2</u>				
Barricades, temporary markers, and other objects placed and left in areas adjacent to any open runway, taxiway, taxi lane, or apron are specified to be as low as possible to the ground, and no more than 18 inch high.	<u>2.20.2.3</u>				
Barricades are specified to indicate construction locations in which no part of an aircraft may enter.	<u>2.20.2.3</u>				
Highly reflective barriers with lights are specified to barricade taxiways leading to closed runways.	<u>2.20.2.5</u>				
Markings for temporary closures are specified.	<u>2.20.2.5</u>				
The provision of a contractor's representative on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades is specified.	<u>2.20.2.7</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Work Zone Lighting for Nighttime Construction					
If work is to be conducted at night, the CSPP identifies construction lighting units and their general locations and aiming in relationship to the ATCT and active runways and taxiways.	<u>2.21</u>				
Protection of Runway and Taxiway Safety Areas					
The CSPP clearly states that no construction may occur within a safety area while the associated runway or taxiway is open for aircraft operations.	<u>2.22.1.1,</u> <u>2.22.3.1</u>				
The CSPP specifies that the airport operator coordinates the adjustment of RSA or TSA dimensions with the ATCT and the appropriate FAA Airports Regional or District Office and issues a local NOTAM.	<u>2.22.1.2,</u> <u>2.22.3.2</u>				
Procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations, are detailed.	<u>2.22.3.3</u>				
The CSPP specifies that open trenches or excavations are not permitted within a safety area while the associated runway or taxiway is open, subject to approved exceptions.	<u>2.22.1.4</u>				
Appropriate covering of excavations in the RSA or TSA that cannot be backfilled before the associated runway or taxiway is open is detailed.	<u>2.22.1.4</u>				
The CSPP includes provisions for prominent marking of open trenches and excavations at the construction site.	<u>2.22.1.4</u>				
Grading and soil erosion control to maintain RSA/TSA standards are	<u>2.22.3.5</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
addressed.					
The CSPP specifies that equipment is to be removed from the ROFA when not in use.	<u>2.22.2</u>				
The CSPP clearly states that no construction may occur within a taxiway safety area while the taxiway is open for aircraft operations.	<u>2.22.3</u>				
Appropriate details are specified for any construction work to be accomplished in a taxiway object free area.	<u>2.22.4</u>				
Measures to ensure that personnel, material, and/or equipment do not penetrate the OFZ or threshold siting surfaces while the runway is open for aircraft operations are included.	<u>2.22.4.3.6</u>				
Provisions for protection of runway approach/departure areas and clearways are included.	<u>2.22.6</u>				
Other Limitations on Construction					
The CSPP prohibits the use of open flame welding or torches unless adequate fire safety precautions are provided and the airport operator has approved their use.	<u>2.23.1.2</u>				
The CSPP prohibits the use of electrical blasting caps on or within 1,000 ft (300 m) of the airport property.	<u>2.23.1.3</u>				

APPENDIX D. CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST

The situations identified below are potentially hazardous conditions that may occur during airport construction projects. Safety area encroachments, unauthorized and improper ground vehicle operations, and unmarked or uncovered holes and trenches near aircraft operating surfaces pose the most prevalent threats to airport operational safety during airport construction projects. The list below is one tool that the airport operator or contractor may use to aid in identifying and correcting potentially hazardous conditions. It should be customized as appropriate for each project including information such as the date, time and name of the person conducting the inspection.

Table D-1. Potentially Hazardous Conditions

Item	Action Required (Describe)	No Action Required (Check)
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.		
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.		
Runway resurfacing projects resulting in lips exceeding 3 inch (7.6 cm) from pavement edges and ends.		
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.		
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.		
Tall and especially relatively low visibility units (that is, equipment with slim profiles) — cranes, drills, and similar objects — located in critical areas, such as OFZ and		

Item	Action Required (Describe)	No Action Required (Check)
approach zones.		
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxi lane or in a related safety, approach, or departure area.		
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.		
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.		
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.		
Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.		
Obliterated or faded temporary markings on active operational areas.		
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.		

Item	Action Required (Describe)	No Action Required (Check)
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.		
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.		
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport buildings.		
Lack of radio communications with construction vehicles in airport movement areas.		
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.		
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.		
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.		
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).		

Item	Action Required (Describe)	No Action Required (Check)
Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.		
Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.		
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring, and place it in conduit or bury it.		
Site burning, which can cause possible obscuration.		
Construction work taking place outside of designated work areas and out of phase.		

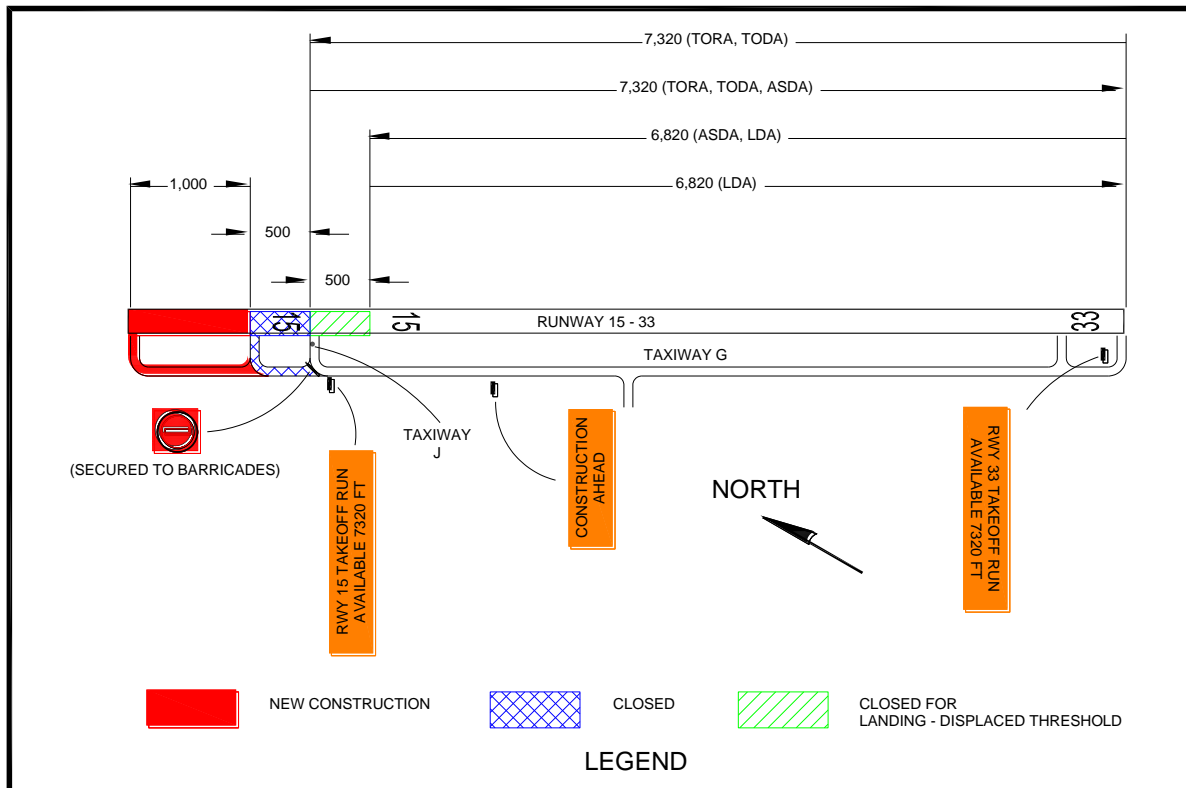
APPENDIX E. SAMPLE OPERATIONAL EFFECTS TABLE

E.1 Project Description.

Runway 15-33 is currently 7820 feet long, with a 500 foot stopway on the north end. This project will remove the stopway and extend the runway 1000 feet to the north and 500 feet to the south. Finally, the existing portion of the runway will be repaved. The runway 33 glide slope will be relocated. The new runway 33 localizer has already been installed by FAA Technical Operations and only needs to be switched on. Runway 15 is currently served only by a localizer, which will remain in operation as it will be beyond the future RSA. Appropriate NOTAMS will be issued throughout the project.

E.1.1 During Phase I, the runway 15 threshold will be displaced 1000 feet to keep construction equipment below the approach surface. The start of runway 15 takeoff and the departure end of runway 33 will also be moved 500 feet to protect workers from jet blast. Declared distances for runway 33 will be adjusted to provide the required RSA and applicable departure surface. Excavation near Taxiway G will require its ADG to be reduced from IV to III. See Figure E-1.

Figure E-1. Phase I Example

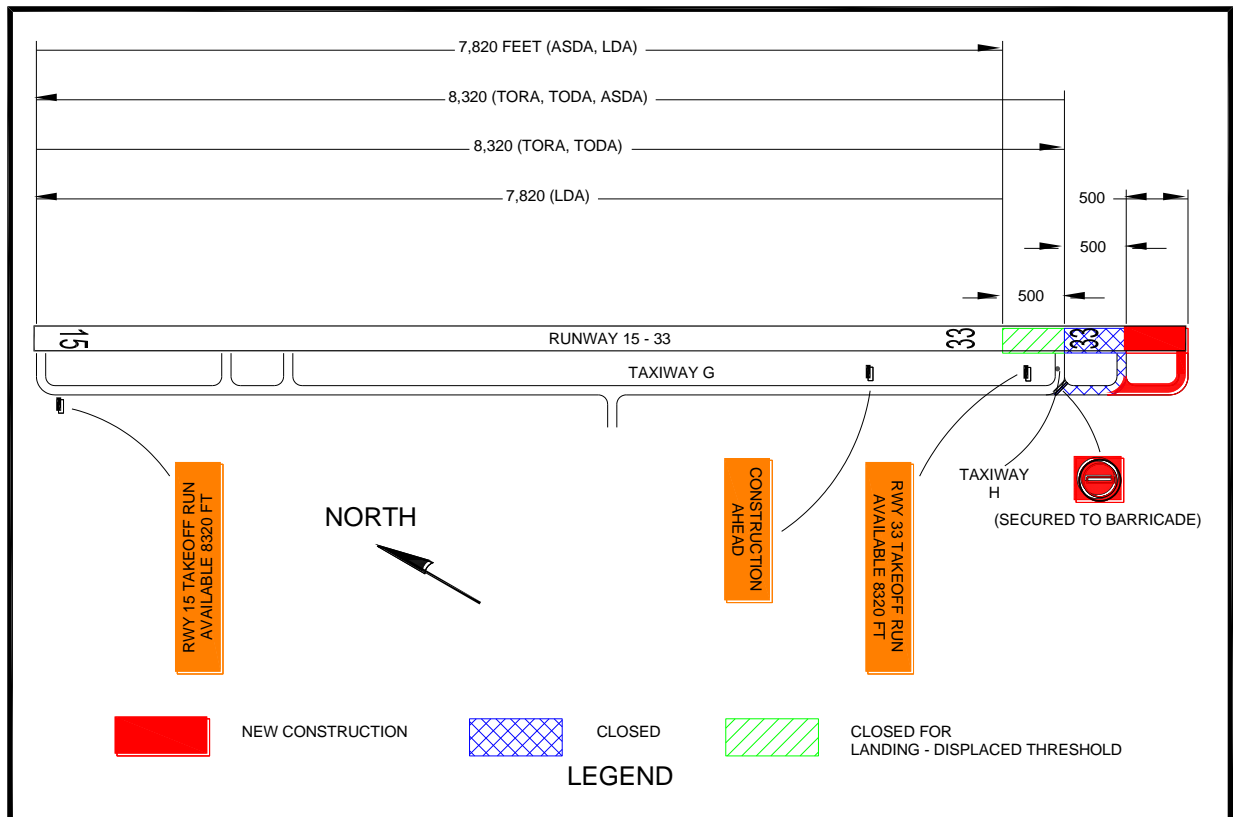


Note 1: Where hold signs are installed on both sides of a taxiway, install the TORA sign on the left side of the taxiway before the final turn to the runway intersection.

Note 2: Based on the declared distances for Runway 33 departures, the maximum equipment height in the construction area is 12.5 feet ($500/40 = 12.5$).

E.2 During Phase II, the runway 33 threshold will be displaced 1000 feet to keep construction equipment below the approach surface. The start of runway 33 takeoff and the departure end of runway 15 will also be moved 500 feet to protect workers from jet blast. Declared distances for runway 15 will be adjusted to provide the required RSA and applicable departure surface. See Figure E-2.

Figure E-2. Phase II Example



Note 1: Where hold signs are installed on both sides of a taxiway, install the TORA sign on the left side of the taxiway before the final turn to the runway intersection.

Note 2: Based on the declared distances for Runway 15 departures, the maximum equipment height in the construction area is 12.5 feet ($500/40 = 12.5$).

- E.3 During Phase III, the existing portion of the runway will be repaved with Hot Mix Asphalt (HMA) and the runway 33 glide slope will be relocated. Construction will be accomplished between the hours of 8:00 pm and 5:00 am, during which the runway will be closed to operations.

Figure E-3. Phase III Example

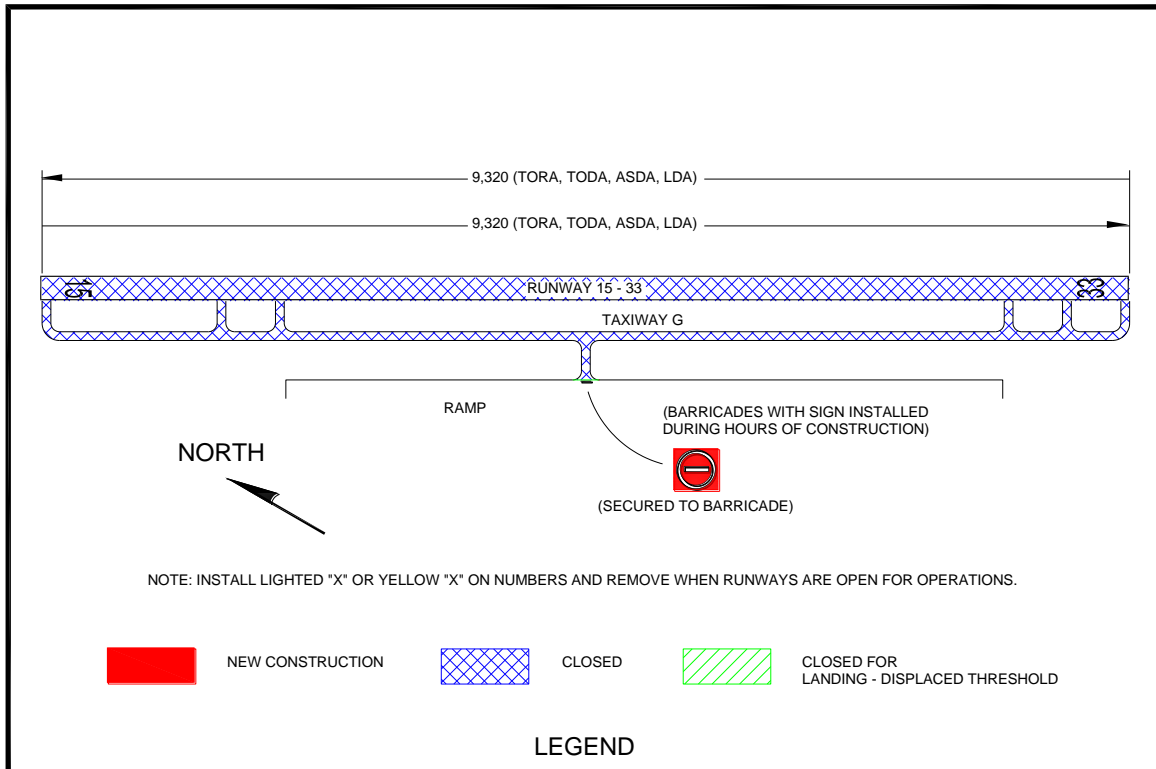


Table E-1. Operational Effects Table

Project	Runway 15-33 Extension and Repaving			
Phase	Normal (Existing)	Phase I: Extend Runway 15 End	Phase II: Extend Runway 33 End	Phase III: Repave Runway
Scope of Work	N/A	Extend Runway 15-33 1,000 ft on north end with Hot Mix Asphaltic Concrete (HMA).	Extend Runway 15-33 500 ft on south end with Hot Mix Asphaltic Concrete (HMA).	Repave existing runway with HMA Relocate Runway 33 Glide Slope
Effects of Construction Operations	N/A	Existing North 500 ft closed	Existing South 500 ft closed	Runway closed between 8:00 pm and 5:00 am Edge lighting out of service
Construction Phase	N/A	Phase I (Anticipated)	Phase II (Anticipated)	Phase III (Anticipated)
Runway 15 Average Aircraft Operations	Carrier: 52 /day GA: 26 /day Military: 11 /day	Carrier: 40 /day GA: 26 /day Military: 0 /day	Carrier: 45 /day GA: 26 /day Military: 5 /day	Carrier: 45 / day GA: 20 / day Military: 0 /day
Runway 33 Average Aircraft Operations	Carrier: 40 /day GA: 18 /day Military: 10 /day	Carrier: 30 /day GA: 18 /day Military: 0 /day	Carrier: 25 /day GA: 18 /day Military: 5 /day	Carrier: 20 /day GA: 5 /day Military: 0 /day
Runway 15-33 Aircraft Category	C-IV	C-IV	C-IV	C-IV
Runway 15 Approach Visibility Minimums	1 mile	1 mile	1 mile	1 mile
Runway 33 Approach Visibility Minimums	¾ mile	¾ mile	¾ mile	1 mile

Note: Proper coordination with Flight Procedures group is necessary to maintain instrument approach procedures during construction.

Project		Runway 15-33 Extension and Repaving			
Phase		Normal (Existing)	Phase I: Extend Runway 15 End	Phase II: Extend Runway 33 End	Phase III: Repave Runway
Runway 15 Declared Distances	TORA	7,820	7,320	8,320	9,320
	TODA	7,820	7,320	8,320	9,320
	ASDA	7,820	7,320	7,820	9,320
	LDA	7,820	6,820	7,820	9,320
Runway 33 Declared Distances	TORA	7,820	7,320	8,320	9,320
	TODA	7,820	7,320	8,320	9,320
	ASDA	8,320	6,820	8,320	9,320
	LDA	7,820	6,820	7,820	9,320
Runway 15 Approach Procedures	LOC only	LOC only	LOC only	LOC only	LOC only
	RNAV	RNAV	RNAV	RNAV	RNAV
	VOR	VOR	VOR	VOR	VOR
Runway 33 Approach Procedures	ILS	ILS	ILS	ILS	LOC only
	RNAV	RNAV	RNAV	RNAV	RNAV
	VOR	VOR	VOR	VOR	VOR
Runway 15 NAVAIDs	LOC	LOC	LOC	LOC	
Runway 33 NAVAIDs	ILS, MALSR	ILS, MALSR	ILS, MALSR	LOC, MALSR	
Taxiway G ADG	IV	III	IV	IV	
Taxiway G TDG	4	4	4	4	
ATCT (hours open)	24 hours	24 hours	24 hours	0500 - 2000	
ARFF Index	D	D	D	D	

Project	Runway 15-33 Extension and Repaving			
Phase	Normal (Existing)	Phase I: Extend Runway 15 End	Phase II: Extend Runway 33 End	Phase III: Repave Runway
Special Conditions	Air National Guard (ANG) military operations	All military aircraft relocated to alternate ANG Base	Some large military aircraft relocated to alternate ANG Base	All military aircraft relocated to alternate ANG Base
Information for NOTAMs		Refer above for applicable declared distances. Taxiway G limited to 118 ft wingspan	Refer above for applicable declared distances.	Refer above for applicable declared distances. Airport closed 2000 – 0500. Runway 15 glide slope OTS.

Note: This table is one example. It may be advantageous to develop a separate table for each project phase and/or to address the operational status of the associated NAVAIDs per construction phase.

Complete the following chart for each phase to determine the area that must be protected along the runway and taxiway edges:

Table E-2. Runway and Taxiway Edge Protection

Runway/Taxiway	Aircraft Approach Category* A, B, C, or D	Airplane Design Group* I, II, III, or IV	Safety Area Width in Feet Divided by 2*

*See AC 150/5300-13 to complete the chart for a specific runway/taxiway.

Complete the following chart for each phase to determine the area that must be protected before the runway threshold:

Table E-3. Protection Prior to Runway Threshold

Runway End Number	Airplane Design Group* I, II, III, or IV	Aircraft Approach Category* A, B, C, or D	Minimum Safety Area Prior to the Threshold*	Minimum Distance to Threshold Based on Required Approach Slope*	
				ft	: 1
			ft	ft	: 1
			ft	ft	: 1
			ft	ft	: 1
			ft	ft	: 1

*See AC 150/5300-13 to complete the chart for a specific runway.

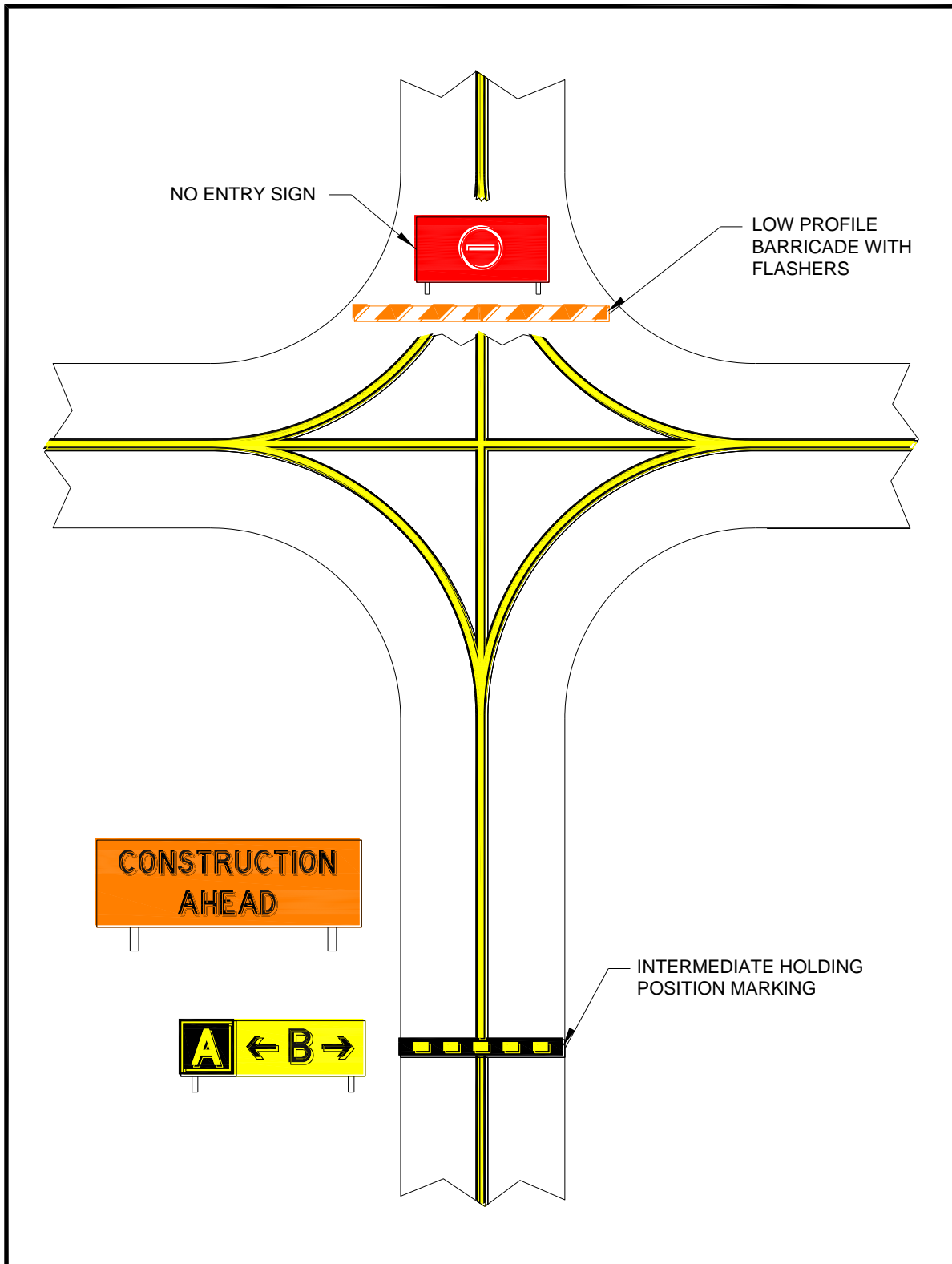
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APPENDIX F. ORANGE CONSTRUCTION SIGNS

Figure F-1. Approved Sign Legends

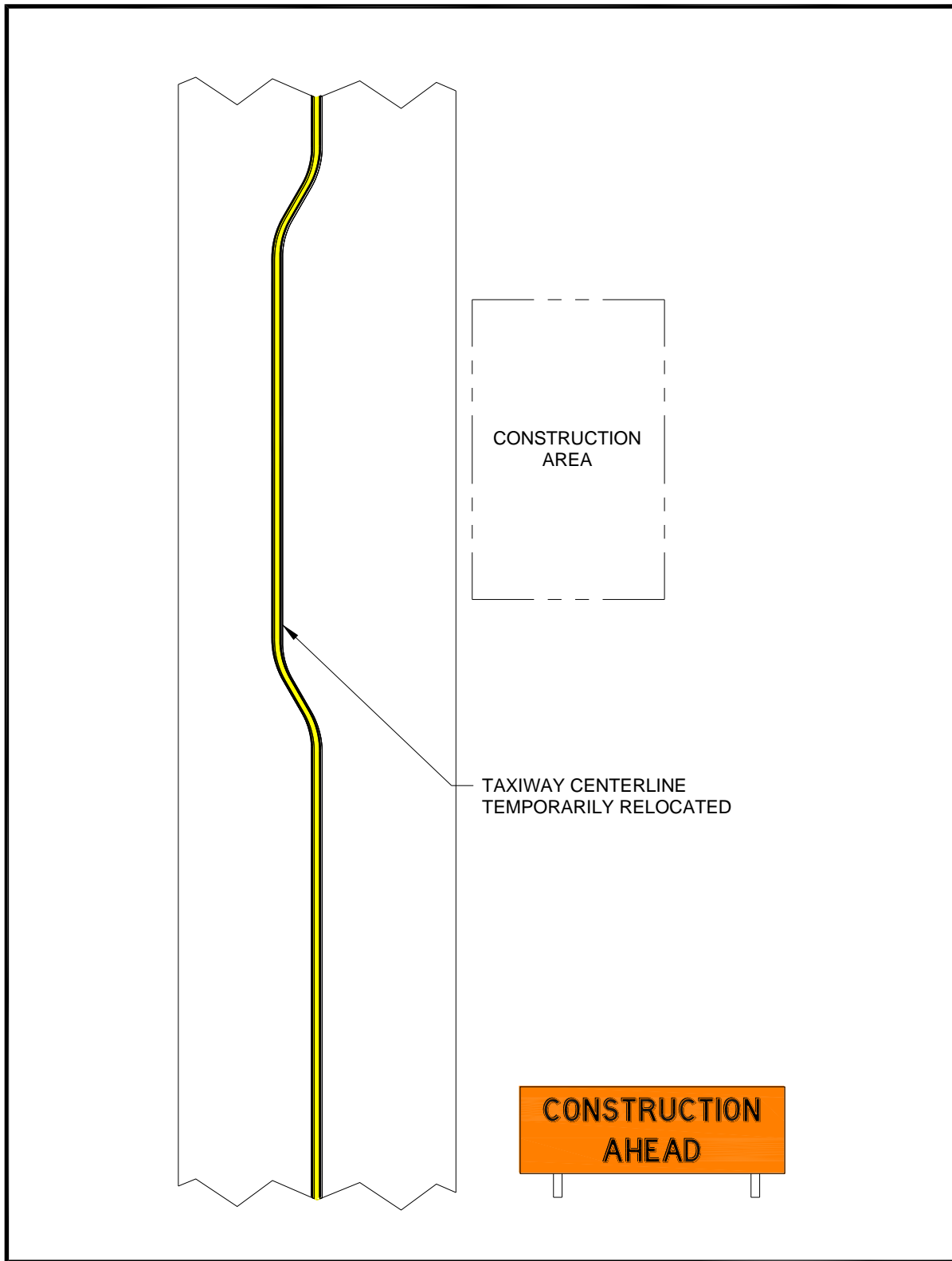


Figure F-2. Orange Construction Sign Example 1



Note: For proper placement of signs, refer to EB 93.

Figure F-3. Orange Construction Sign Example 2



Note: For proper placement of signs, refer to EB 93.

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Advisory Circular Feedback

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by (1) mailing this form to Manager, Airport Engineering Division, Federal Aviation Administration ATTN: AAS-100, 800 Independence Avenue SW, Washington DC 20591 or (2) faxing it to the attention of the Office of Airport Safety and Standards at (202) 267-5383.

Subject: AC 150/5370-2G

Date: _____

Please check all appropriate line items:

An error (procedural or typographical) has been noted in paragraph _____ on page _____.

Recommend paragraph _____ on page _____ be changed as follows:

In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)

Other comments:

I would like to discuss the above. Please contact me at (phone number, email address).

Submitted by: _____

Date: _____

SECTION 01140 - WORK RESTRICTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 USE OF PREMISES

- A. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of site beyond areas in which the Work is indicated.
 - 1. Limits: Confine constructions operations to areas within the contract limits indicated.
 - 2. Owner Occupancy: Allow for Owner occupancy of site and use by the public except for areas that are closed off to protect the public.
 - 3. Driveways and Entrances: Keep driveways 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 storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.3 OCCUPANCY REQUIREMENTS

- A. Partial Owner Occupancy: Owner reserves the right to occupy and to place and install equipment in completed areas of building, before Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total Work.
 - 1. A Certificate of Substantial Completion will be prepared for each specific portion of the Work to be occupied before Owner occupancy.
 - 2. Obtain a Certificate of Occupancy from authorities having jurisdiction before Owner occupancy.
 - 3. Before partial Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will provide, operate, and maintain mechanical and electrical systems serving occupied portions of building.
 - 4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of building.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01140

WORK RESTRICTIONS

PAGE 2 OF 2
CHA PROJECT NO.57700
SECTION 01140

SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Coordination.
 - 2. Submittals.
 - 3. Administrative and supervisory personnel.
 - 4. Project meetings.
 - 5. General installation provisions.
 - 6. Cleaning and protection.
- B. Where applicable, each prime Contractor shall participate in these coordination requirements, even though certain areas of responsibility are assigned to a specific prime Contractor.

1.3 COORDINATION

- A. Coordination: Coordinate construction activities included under various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Each contractor shall cooperate with Owner's, coordinate construction activities to assure efficient and orderly installation of each part of the Work, and in accordance with SMACNA requirements and in accordance with Construction Indoor Air Quality Plan during construction.
 - 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 with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
 - 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service and repair of all components including mechanical and electrical.
- B. Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
 - 1. Prepare similar memoranda for the Owner and separate Contractors where coordination of their Work is required.

- C. 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. Construction Indoor Air Quality Plan during and after construction
 - 6. Progress meetings.
 - 7. Pre-installation conferences.
 - 8. Project closeout activities.

- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

1.4 SUBMITTALS

- A. Coordination Drawings: Prepare and submit coordination Drawings where close and careful coordination is required for installation of products and materials fabricated off-site by separate entities, and where limited space availability necessitates maximum utilization of space for efficient installation of different components.
 - 1. Show the interrelationship of components shown on separate Shop Drawings.
 - 2. Indicate required installation sequences.
 - 3. Refer to Division 15010 and 15004 Sections "Basic Mechanical Requirements," "Coordinated Shop Drawings," and Division-16010 Section "Basic Electrical Requirements" for specific coordination Drawing requirements for mechanical and electrical installations.

- B. Staff Names: Within 15 days of starting construction operations, submit a list of principal staff assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
 - 1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone.

1.5 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.
 - 1. Include special personnel required for coordination of operations with other contractors.
 - 2. Each contractor shall provide all on-site supervisory personnel with radio service and handsets as determined by the Resident Engineer.

1.6 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
 - 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner, Engineer, and Resident Engineer of scheduled meeting dates and times.
 - 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.

- B. Preconstruction Conference: Schedule a preconstruction conference and organizational meeting at the Project site or other convenient site prior to commencement of construction activities. Conduct the meeting to review responsibilities and personnel assignments.
 - 1. Attendees: Authorized representatives of Owner, the Engineer, Resident Engineer, and their consultants; the Contractor and its superintendent; major subcontractors; manufacturers; suppliers and other concerned parties shall each be represented at the conference. All 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.
 - d. Designation of responsible personnel.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for processing Applications for Payment.
 - g. Distribution of the Contract Documents.
 - h. Submittal procedures.
 - i. Preparation of Record Documents.
 - j. Use of the premises.
 - k. Responsibility for temporary facilities and controls.
 - l. Construction Waste Management Plan
 - m. Construction Indoor Air Quality Plan during construction and before occupancy
 - n. Parking availability.
 - o. Office, work, and storage areas.
 - p. Equipment deliveries and priorities.
 - q. Safety procedures.
 - r. First aid.
 - s. Security.
 - t. Progress cleaning.
 - u. Working hours.

- 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 the Engineer and Resident Engineer of scheduled meeting dates.

2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration at each pre-installation conference, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related Change Orders.
 - d. Purchases.
 - e. Deliveries.
 - f. Shop Drawings, Product Data and quality control Samples.
 - g. Review of mockups.
 - h. Possible conflicts.
 - i. Compatibility problems.
 - j. Time schedules.
 - k. Weather limitations.
 - l. Manufacturer's written recommendations.
 - m. Warranty requirements.
 - n. Compatibility of materials.
 - o. Acceptability of substrates.
 - p. Temporary facilities and controls.
 - q. Space and access limitations.
 - r. Testing and inspecting requirements.
 - s. Required performance results.
 - t. Protection of construction and personnel.
 3. Record significant discussions and agreements and disagreements of each conference, along with the approved progress schedule.
 4. 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: Conduct progress meetings at the Project Site at regularly scheduled intervals. Coordinate dates of meetings with preparation of payment requests.
1. Attendees: In addition to representatives of the Owner, Engineer, and Resident Engineer 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 conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the current status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. 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.
 - 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) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Change Orders.
 - 14) Documentation of information for payment requests.
3. Reporting: No later than 3 days after each progress meeting date, distribute copies of minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.
- a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.
- E. Coordination Meetings: Conduct Project coordination meetings at regularly scheduled intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and pre-installation conferences.
1. Attendees: In addition to representatives of the Owner, Resident Engineer and Engineer, 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 conference shall be familiar with Project and authorized to conclude matters relating to the Work
 2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to Combined 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.
 - b. Schedule Updating: Revise Combined Contractor's Construction Schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
 - c. Review present and future needs of each contractor present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.

- 3) Status of submittals.
- 4) Access.
- 5) Site utilization.
- 6) Temporary facilities and controls.
- 7) Work hours.
- 8) Hazards and risks.

3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01310

SECTION 01330 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.
- B. The terms of the General Conditions shall supersede this section where there may be a conflict.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Engineer's and Resident Engineer's responsive action.
- B. Informational Submittals: Written information that does not require Engineer's and Resident Engineer's approval. Submittals may be rejected for not complying with requirements.

1.4 SUBMITTAL PROCEDURES

- A. General: Electronic copies of CAD Drawings of the Contract Drawings will not be provided by Engineer for Contractor's use in preparing submittals.
- B. 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. Engineer and Resident Engineer reserve the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer'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. If intermediate submittal is necessary, process it in same manner as initial submittal.
- D. Identification: Place a permanent label or title block on each submittal for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately 4 by 5 inches on label or beside title block to record Contractor's review and approval markings and action taken by Engineer and Resident Engineer.
 3. Include the following information on label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Engineer and Resident Engineer.
 - d. Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Unique identifier, including revision number.
 - i. Number and title of appropriate Specification Section.
 - j. Drawing number and detail references, as appropriate.
 - k. Location(s) where product is to be installed, as appropriate.
 - l. Other necessary identification.
- E. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.
- F. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Engineer and Resident Engineer will disregard submittals received from sources other than Contractor.
1. Transmittal Form: Use form provided by the Resident Engineer.
 2. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Engineer and Resident Engineer on previous submittals, and deviations from requirements of the Contract Documents, including minor variations and limitations. Include the same label information as the related submittal.
- G. 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.
- H. Use for Construction: Use only final submittals with mark indicating action taken by Engineer and Resident Engineer in connection with construction.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
- 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 printed 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 written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Standard color charts.
 - e. Manufacturer's catalog cuts.
 - f. Recycled Content information
 - g. Certified Wood source information
 - h. Wiring diagrams showing factory-installed wiring.
 - i. Printed performance curves.
 - j. Operational range diagrams.
 - k. Mill reports.
 - l. Standard product operating and maintenance manuals.
 - m. Compliance with specified reference standards
 - n. Application of testing agency labels and seals.
 - o. Notation of coordination requirements.
 4. Number of Copies: Submit five copies of Product Data, unless otherwise indicated. Engineer, through Resident Engineer, will return two copies. Mark up and return one returned copy as a Project Record Document.
- 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.
1. Preparation: Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Roughing-in and setting diagrams.
 - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - f. Templates and patterns.
 - g. Design calculations.
 - h. Compliance with specified standards.
 - i. Notation of coordination requirements.
 - j. Notation of dimensions established by field measurement.
 - k. Relationship to adjoining construction clearly indicated.
 - l. Seal and signature of professional engineer, if specified.
 - m. Wiring diagrams: Differentiate between manufacturer-installed and field-installed wiring.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 40 inches.
 3. Number of Copies: Submit three opaque (bond) copies of each submittal. Engineer, through Resident Engineer, will return one copy. Select one of two subparagraphs below. First is preferred method of handling Shop Drawings. See Evaluations.

- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final 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 appropriate Specification Section.
 3. 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.
 4. 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 or available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Engineer, through Resident Engineer, will return submittal with options selected.
 5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with the 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 two sets of Samples. Engineer and Resident Engineer will retain Sample sets.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) 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 appropriate limits on variations.
 6. LEED Submittals: Comply with requirements specified in Division 1 "LEED Requirements"
 - a. Number of copies: Submit three copies of LEED submittals, unless otherwise indicated.
 7. Material Safety Data Sheets (MSDS's) for LEED Certification: Submit information necessary to show compliance with LEED certification requirements, which will be the limit of the Engineer's review.
 - a. Engineer will not review non-LEED submittals that include MSDS's and will return the entire submittal for resubmittal.

2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
 - 1. Number of Copies: Submit three copies of each submittal, unless otherwise indicated. Engineer and Resident Engineer will not return copies.
 - 2. Certificates and Certifications: Provide a notarized 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.
- B. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- C. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
- D. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
- E. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.
- F. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.
- G. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.
- H. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
- I. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, 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.
- J. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. 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.
- K. Design Data: Prepare 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.
- L. Material Safety Data Sheets: Submit information directly to Owner. If submitted to Engineer, Engineer will not review this information but will return it with no action taken.

1. Engineer will not review submittals that include MSDS's and will return the entire submittal for resubmittal.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. 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 Engineer and Resident Engineer.
- B. 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 ENGINEER'S AND RESIDENT ENGINEER'S ACTION

- A. General: Engineer and Resident Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Engineer and Resident Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Engineer and Resident Engineer will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken.
- C. Informational Submittals: Engineer and Resident Engineer will review each submittal and will not return it, or will reject and return it if it does not comply with requirements. Engineer and Resident Engineer will forward each submittal to appropriate party.
- D. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

END OF SECTION 01330

SECTION 01524 - CONSTRUCTION WASTE MANAGEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for the following:
 - 1. Salvaging nonhazardous demolition and construction waste.
 - 2. Recycling nonhazardous demolition and construction waste.
 - 3. Disposing of nonhazardous demolition and construction waste.
- B. Related Sections include the following:
 - 1. Division 1 Section "Summary of Multiple Contracts" for coordination of responsibilities for waste management.
 - 2. Division 1 Section "Temporary Facilities and Controls" for environmental-protection measures during construction, and location of waste containers at Project site.
 - 3. Division 4 Section "Architectural Concrete Unit Masonry" for disposal requirements for masonry waste.

1.3 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 PERFORMANCE GOALS / REQUIREMENTS

- A. General: Develop waste management plan that results in end-of-Project rates for salvage/recycling of 75 percent by weight of total waste generated by the Work.
- B. Salvage/Recycle Goals / Requirements: Owner's goal is to salvage and recycle as much nonhazardous demolition and construction waste as possible including the following materials:
 - 1. Construction Waste:
 - a. Metals.
 - b. Insulation.
 - c. Piping.
 - d. Electrical conduit.
 - e. Packaging: Regardless of salvage/recycle goal indicated above, salvage or recycle 100 percent of the following uncontaminated packaging materials:
 - 1) Paper.
 - 2) Cardboard.
 - 3) Boxes.
 - 4) Plastic sheet and film.
 - 5) Polystyrene packaging.
 - 6) Wood crates.
 - 7) Plastic pails.

1.5 SUBMITTALS

- A. Waste Management Plan: Submit **7** copies of plan within **14** days of date established for Notice of Award.
- B. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit **five** copies of report. Include separate reports for demolition and construction waste. Include the following information:
 - 1. Material category.
 - 2. Generation point of waste.
 - 3. Total quantity of waste in tons
 - 4. Quantity of waste salvaged, both estimated and actual in tons
 - 5. Quantity of waste recycled, both estimated and actual in tons
 - 6. Total quantity of waste recovered (salvaged plus recycled) in tons
 - 7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.

- C. Waste Reduction Calculations: Before request for Substantial Completion, submit five copies of calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- D. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- E. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- F. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- G. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1.6 QUALITY ASSURANCE

- A. Waste Management Coordinator Qualifications: LEED Accredited Professional by U.S. Green Building Council.
- B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:
 1. Review and discuss waste management plan including responsibilities of Waste Management Coordinator.
 2. Review requirements for documenting quantities of each type of waste and its disposition.
 3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
 4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
 5. Review waste management requirements for each trade.

1.7 WASTE MANAGEMENT PLAN

- A. General: Develop plan consisting of waste identification, waste reduction work plan, and cost/revenue analysis. Include separate sections in plan for demolition and construction waste. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.

- B. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
 2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
 3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
 4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
 5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
 6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.
- D. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there was no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Include the following:
1. Total quantity of waste.
 2. Estimated cost of disposal (cost per unit). Include hauling and tipping fees and cost of collection containers for each type of waste.
 3. Total cost of disposal (with no waste management).
 4. Revenue from salvaged materials.
 5. Revenue from recycled materials.
 6. Savings in hauling and tipping fees by donating materials.
 7. Savings in hauling and tipping fees that are avoided.
 8. Handling and transportation costs. Include cost of collection containers for each type of waste.
 9. Net additional cost or net savings from waste management plan.
- E. Forms: Prepare waste management plan on forms included at end of Part 3.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement waste management plan as approved by Resident Engineer. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
 - 1. Comply with Division 1 Section "Temporary Facilities and Controls" for operation, termination, and removal requirements.
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan. Coordinator shall be present at Project site full time for duration of Project.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
 - 1. Distribute waste management plan to everyone concerned within **three** days of submittal return.
 - 2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
 - 2. Comply with Division 1 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

- A. Salvaged Items for Reuse in the Work:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers.
 - 3. Store items in a secure area until installation.
 - 4. Protect items from damage during transport and storage.
 - 5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

- B. Salvaged Items **not permitted** on Project site.
- C. Salvaged Items for Owner's Use:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers.
 - 3. Store items in a secure area until delivery to Owner.
 - 4. Transport items to Owner's storage area **designated by Owner**.
 - 5. Protect items from damage during transport and storage.
- D. Doors and Hardware: Brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Receivers and Processors: List below is provided for information only; available recycling receivers and processors include, but are not limited to, the following:
 - 1. Waste Management
- C. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall **accrue to Contractor**.
- D. Procedures in paragraph and subparagraphs below describe the "source separated" method for handling recyclable waste. If space at Project site is limited, consider revising below to allow "co-mingled" method, which takes less space because it permits all recyclable waste to be placed in a single container that is separated later at the recycling facility.
- E. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.
 - 1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
 - 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
 - 4. Store components off the ground and protect from the weather.
 - 5. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

3.4 RECYCLING CONSTRUCTION WASTE

A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Site-Clearing Wastes: Chip brush, branches, and trees **on-site**

1. Comply with requirements in Division 2 Section "Exterior Plants" for use of chipped organic waste as organic mulch.

C. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

3.5 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Disposal: Transport waste materials off Owner's property and legally dispose of them.

END OF SECTION 01524

SECTION 01770 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Project Record Documents.
 - 3. Operation and maintenance manuals.
 - 4. Warranties.
 - 5. Instruction of Owner's personnel.
 - 6. Final cleaning.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. In the Application for Payment that coincides with, or first follows, the date of Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete.
 - a. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing accounting of changes to the Contract Sum.
 - b. If 100 percent completion cannot be shown, include a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.

6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 8. Complete startup testing of systems.
 9. Submit test/adjust/balance records.
 10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 11. Advise Owner of changeover in heat and other utilities.
 12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
 13. Complete final cleaning requirements, including touchup painting.
 14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Engineer and Resident Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer 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 Engineer, 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.

1.4 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and complete operations where required.
 2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
 3. Submit consent of surety to final payment.
 4. Submit a final liquidated damages settlement statement.
 5. Submit certified copy of Engineer's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Engineer. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

6. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 7. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Reinspection Procedure: The Engineer will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the Engineer.
1. Upon completion of reinspection, the Engineer will prepare a certificate of final acceptance. If the Work is incomplete, the Engineer will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
 2. If necessary, reinspection will be repeated.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit three copies 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, proceeding from lowest numbered room to highest.
 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Engineer and Resident Engineer.
 - d. Name of Contractor.
 - e. Page number.

1.6 PROJECT RECORD DOCUMENTS

- A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Engineer's and Resident Engineer's reference during normal working hours.
- B. Record Drawings: Maintain and submit one reproducible and two sets of black-line white prints of Contract Drawings and Shop Drawings and one electronic copy.
1. 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 prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.

- b. Accurately record information in an understandable drawing technique.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 - d. Mark Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings.
2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
 3. Mark important additional information that was either shown schematically or omitted from original Drawings.
 4. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
 5. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.
- C. Miscellaneous Record Submittals: 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.

1.7 OPERATION AND MAINTENANCE MANUALS

- A. Assemble three (3) complete sets of operation and maintenance data indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a system. Two sets are to be hardcopies the third shall be electronic. Include operation and maintenance data required in individual Specification Sections and as follows:
1. Operation Data:
 - a. Emergency instructions and procedures.
 - b. System, subsystem, and equipment descriptions, including operating standards.
 - c. Operating procedures, including startup, shutdown, seasonal, and weekend operations.
 - d. Description of controls and sequence of operations.
 - e. Piping diagrams.
 2. Maintenance Data:
 - a. Manufacturer's information, including list of spare parts.
 - b. Name, address, and telephone number of Installer or supplier.
 - c. Maintenance procedures.
 - d. Maintenance and service schedules for preventive and routine maintenance.

- e. Maintenance record forms.
 - f. Sources of spare parts and maintenance materials.
 - g. Copies of maintenance service agreements.
 - h. Copies of warranties and bonds.
- B. Organize operation and maintenance manuals into suitable sets of manageable size. Bind and index data in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, with pocket inside the covers to receive folded oversized sheets. Identify each binder on front and spine with the printed title "OPERATION AND MAINTENANCE MANUAL," Project name, and subject matter of contents.

1.8 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Engineer for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. 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, 3-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.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

1.9 CLOSEOUT DOCUMENT

- A. The following shall be submitted by the Contractor and accepted by the Owner.
- 1. DOE Package to include the following (also includes Consultant's Certification & Owner's Acceptance).
 - a. Cover Form.
 - b. Contractor's Certification.
 - c. Sub-Contractor's Certification
 - d. Contractor's Guarantee.
 - 2. Contractor's Certification (Labor) if requested.
 - 3. Contractor's Certification (Liens & Claims) if requested.

4. Contractor's General One Year Warranty.
5. Release of Liens.
6. Certificate of Occupancy (provided by MCCEO) if needed.
7. O&M Manual.
8. WBE/MBE Satisfaction (Final Report).
9. Photographs (and negatives).
10. Certified Payroll.
11. Product Data/Brochures
 - a. Test Results/Balance Reports
 - b. System Certifications (sewers, alarms, U.L., etc.)
 - c. UL Certifications/Contractor's Certifications (elevator, RPZ, etc.)
 - d. Guarantees by manufacturers.
 - e. Operating Instructions/Repair Data.
 - f. Submittals per Specifications.
 - g. Survey Reports.
12. Shop Drawings (may be combination product book).
13. Spare Parts/Extra Material List/Turnover Stock.
14. Incident Reports.
15. Consent of Surety (AIA G707).
16. Record Drawings (certified and mark-up).
17. Keys.
18. Payment application with retention of 5% and other retained items and appropriate items per the Owner.

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 DEMONSTRATION AND TRAINING

- A. Instruction: Instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 1. Provide instructors experienced in operation and maintenance procedures.
 2. Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.

3. Schedule training with Owner, through Resident Engineer, with at least 7 days advance notice.
 4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.
 5. Videotape all training sessions and provide two copies of same on CD.
- B. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections. For each training module, develop a learning objective and teaching outline. Include instruction for the following:
1. System design and operational philosophy.
 2. Review of documentation.
 3. Operations.
 4. Adjustments.
 5. Troubleshooting.
 6. Maintenance.
 7. Repair.

3.2 FINAL CLEANING

- A. General: Provide 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 Substantial Completion for entire Project or for a portion of Project:
 - a. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - b. 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.
 - c. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - d. Sweep concrete floors broom clean in unoccupied spaces.
 - e. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - f. 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.

- g. Remove labels that are not permanent.
 - h. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 - i. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - j. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - k. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - l. Clean ducts, blowers, and coils if units were operated without filters during construction.
 - m. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - n. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 01770

SECTION 027200 -STORM DRAINAGE AND ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes storm drain piping as shown on the Drawings.
- B. Related Sections: The following sections contain requirements that relate to this section:
 - 1. Division 31 Section "Earthwork" for excavation and backfill required for storm drainage system piping and structures.

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Product data for drainage piping and accessories.
- C. Product data for washed stone.

1.4 QUALITY ASSURANCE

- A. Environmental Compliance: Comply with applicable portions of local environmental agency regulations pertaining to storm sewerage systems.

1.5 PROJECT CONDITIONS

- A. Site Information: Perform site inspection, and verify existing utility locations. Verify that storm drainage system piping may be installed in compliance with original design and referenced standards.

PART 2 - PRODUCTS

2.1 PIPE AND FITTINGS

- A. General: Provide pipe and pipe fitting materials compatible with each other.
- B. Solid PVC pipe and Fittings: ASTM F 758, smooth interior pipe.
- C. Perforated PVC pipe and fittings: ASTM F 1784, Schedule 40 belled ends with 3 rows of 5/8" diameter holes at 5" on center at 4 - 6 - 8 o'clock position.

2.3 WARNING TAPE

- A. Plastic underground warning tape. Polyethylene plastic tape, 6 inches wide by 4 mils thick, solid green in color with continuously printed caption in black letters "CAUTION-SEWER LINE BURIED BELOW."

2.4 WASHED STONE

- A. Even mixture of #1 and #2 crushed washed limestone.

PART 3- EXECUTION

3.1 INSTALLATION, GENERAL

- A. Install the storm drain pipe as shown on the drawings.
- B. Install piping beginning at low point of systems, true to grades and alignment indicated with unbroken continuity of invert.

3.2 PIPE AND TUBE JOINT CONSTRUCTION AND INSTALLATION

- A. Join and install storm drain pipe in accordance with manufacturers instructions.

END OF SECTION

SECTION 028200 - TOPSOIL & SEED

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this Section.

1.2 SUMMARY

- A. Work under this section includes the following.
 - 1. Establishing grass areas disturbed by construction activities and as shown on the drawings.
- B. This Section includes provisions for the following items:
 - 1. Topsoil
 - 2. Seed
 - 3. Mulch
 - 4. Fertilizer
- C. Related Sections: The following sections contain requirements that relate to this Section.
 - 1. Excavation, filling and rough grading required to establish elevations shown on drawings is specified in Division 31 Section, "Earthwork."

1.3 QUALITY ASSURANCE

- A. Source Quality Control:
 - 1. General: Ship materials with certificates of inspection required by governing authorities. Comply with regulations applicable to landscape materials.
 - 2. Do not make substitutions. If specified material is not obtainable, submit proof of non-availability to Engineer, together with proposal for use of equivalent materials.
 - 3. Analysis and Standards: Package standard products with manufacturer's certified analysis. For other materials, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agriculture Chemists, wherever applicable.
- B. Topsoil: Before delivery of topsoil, furnish Engineer with written statement giving location of properties from which topsoil is to be obtained, names and addresses of owners, depth to be stripped, and crops grown during past 2 years.

1.4 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.

B. Material Certification:

1. Certificates of inspection as required by governmental authorities.
2. Manufacturer's or vendor's certified analysis for soil amendments and fertilizer materials.
3. Seed vendor's certified statement for each grass seed mixture required, stating botanical and common name, percentages by weight, and percentages of purity, germination, and weed seed for each grass seed species.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Packaged Materials: Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery, and while stored at site.

1.6 JOB CONDITIONS

- A. Utilities: Determine location of underground utilities and perform work in a manner which will avoid possible damage.

1.7 SEQUENCING AND SCHEDULING

- A. Planting Time: Proceed with, and complete seeding work as rapidly as portions of site become available, working within seasonal limitations.

1.8 SPECIAL PROJECT WARRANTY

- A. Warranty lawns through specified lawn maintenance period, and until final acceptance.

PART 2 - PRODUCTS

2.1 TOPSOIL

- A. Re-use existing topsoil to the greatest extent possible. Remove vegetation from topsoil. Clean rocks and stones from topsoil. Stockpile.
- B. If it is not feasible to re-use existing topsoil, provide new topsoil that is fertile, friable, natural loam, surface soil, reasonably free subsoil, clay lumps, brush, weeds and other litter, and free of roots, stumps, stones larger than 2 inches in any dimension, and other extraneous or toxic matter harmful to plant growth.
1. Obtain topsoil from local sources or from areas having similar soil characteristics to that found at project site. Obtain topsoil only from naturally, well-drained sites where topsoil occurs in a depth of not less than 4 inches. Do not obtain from bogs or marshes.

2.2 SOIL AMENDMENTS

- A. Anti-Erosion Mulch: Provide clean, seed-free salt hay or threshed straw of wheat, rye, oats, or barley.
- B. Commercial Fertilizer: Complete fertilizer of neutral character, with some elements derived from organic

TOPSOIL & SEED

sources and containing following percentages of available plant nutrients:

1. For lawns, provide fertilizer with percentage of nitrogen required to provide not less than 1 pound of actual nitrogen per 1,000 sq. ft. of lawn area and not less than 4 percent phosphoric acid and 2 percent potassium. Provide nitrogen in a form that will be available to lawn during initial period of growth; at least 50 percent of nitrogen to be organic form.

2.3 GRASS MATERIALS

- A. Grass Seed: Provide fresh, clean, new-crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America. Provide seed mixture composed of grass species, proportions and minimum percentages of purity, germination, and maximum percentage of weed seed, as specified.

SCHEDULE OF GRASS SEED REQUIREMENTS

<u>Name</u>	<u>% by Weight</u>	<u>Min % Purity</u>	<u>Min % Germination</u>	<u>Max % Weed Seed</u>	<u>Seeding Per 1000 sq.yd.</u>
Norlea Rye (Turf Type)	20	95	90	0.15	4.2 pounds
Pennlawn Red Fescue	40	98	85	0.25	8.4 pounds
*Kentucky Bluegrass	40	90	80	0.20	<u>8.4 pounds</u> 21.0 pounds

*A combination of certified Bluegrass varieties, any one not to be more than 25% of the total.

PART 3 - EXECUTION

3.1 PREPARATION OF PLANTING SOIL

- A. Before mixing, clean topsoil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful or toxic to plant growth.
- B. Mix specified soil amendments and fertilizers with topsoil at rates specified. Delay mixing of fertilizer if planting will not follow placing of planting soil within a few days.
- C. For lawns, mix planting soil either prior to planting or apply on surface of topsoil and mix thoroughly before planting.

3.2 PREPARATION FOR PLANTING LAWNS

- A. Loosen subgrade of lawn areas to a minimum depth of 4 inches. Remove stones measuring over 1-1/2 inches in any dimension. Remove sticks, roots, rubbish, and other extraneous matter. Limit preparation to areas which will be planted promptly after preparation.

- B. Spread top soil to minimum depth required to meet lines, grades, and elevations shown, after light rolling and natural settlement. Add specified soil amendments and mix thoroughly into upper 4 inches of topsoil.
- C. Place approximately 1/2 of total amount of topsoil required. Work into top of loosened subgrade to create a transition layer and then place remainder of planting soil.
- D. Preparation of Unchanged Grades: Where lawns are to be planted in areas that have not been altered or disturbed by excavating, grading, or stripping operations, prepare soil for lawn planting as follows: Till to a depth of not less than 6 inches. Apply soil amendments and initial fertilizers as specified. Remove high areas and fill in depressions. Till soil to a homogenous mixture of fine texture, free of lumps, clods, stones, roots and other extraneous matter.
- E. Prior to preparation of unchanged areas, remove existing grass, vegetation and turf. Dispose of such material outside of Owner's property. Do not turn existing vegetation over into soil being prepare for lawns.
- F. Apply specified commercial fertilizer at rates specified and thoroughly mix into upper 2 inches of topsoil. Delay application of fertilizer if lawn planting will not follow within a few days.
- G. Fine grade lawn areas to smooth, even surface with loose, uniformly fine texture. Roll, rake, and drag lawn areas, remove ridges and fill depressions, as required to meet finish grades. Limit fine grading to areas which can be planted immediately after grading.
- H. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface moisture to dry before planting lawns. Do not create a muddy soil condition.

3.3 SEEDING NEW LAWNS

- A. Do not use wet seed or seed that is moldy or otherwise damaged in transit or storage.
- B. Sow seed using a spreader or seeding machine. Do not seed when wind velocity exceeds 5 miles per hour. Distribute seed evenly over entire area by sowing equal quantity in 2 directions at right angles to each other.
- C. Sow not less than the quantity of seed specified or scheduled.
- D. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with a fine spray.
- E. Protect seeded areas against erosion by spreading specified lawn mulch after completion of seeding operations. Spread uniformly to form a continuous blanket not less than 1 1/2 inches loose measurement over seeded areas.
- F. Anchor mulch by spraying with asphalt emulsion at the rate of 10 to 13 gallons per 1000 sq. ft. Take precautions to prevent damage or staining of construction or other plantings adjacent to mulched areas.

3.4 HYDROSEEDING NEW LAWNS

- A. Mix specified seed, fertilizer, and pulverized mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogenous slurry suitable for hydraulic application.

- B. Apply slurry uniformly to all areas to be seeded. Rate of application as required to obtain specified seed sowing rate.

3.5 MAINTENANCE

- A. Begin maintenance immediately after planting.
- B. Maintain lawns for not less than the period stated below, and longer as required to establish an acceptance lawn.
 - 1. Seeded lawns, not less than 60 days after substantial completion.
- C. Maintain lawns by watering, fertilizing, weeding, mowing trimming and other operations such as rolling, regrading and replanting as required to establish a smooth, acceptable lawn, free of eroded or bare areas.

3.6 CLEAN UP AND PROTECTION

- A. During seeding work, keep pavement clean and work area in an orderly condition.

3.7 TOPSOIL AND SEEDING SCHEDULE

- A. Install 4 inches of topsoil and seed on areas noted on the plans.

END OF SECTION

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies cast-in place concrete, including formwork, reinforcing, mix design, placement procedures and finishes.

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Product data for proprietary materials and items, including reinforcement, admixtures, patching compounds, waterstops, joint systems, curing compounds, and others as requested by Engineer.
- C. Shop drawings for reinforcement, prepared for fabrication, bending, and placement of concrete reinforcement. Comply with ACI SP-66 (88), "ACI Detailing Manual," showing bar schedules, stirrup spacing, diagrams of bent bars, and arrangement of concrete reinforcement. Include special reinforcement required for openings through concrete structures.
- D. Laboratory test reports for concrete materials and mix design test.

1.4 QUALITY ASSURANCE

- A. Codes and Standards: Comply with provisions of following codes, specifications, and standards, except where more stringent requirements are shown or specified:
 - 1. ACI 318, "Building Code Requirements for Reinforced Concrete."
 - 2. ACI 308, "Guide to Curing Concrete."
 - 3. Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice."
- B. Concrete Testing Service: Owner shall engage a testing laboratory acceptable to Engineer to perform testing for all on-site fresh concrete in accordance with ASTM C-143, C-173 or C-231, C-1064 & C-1381, and concrete test specimens in accordance with ASTM C-31 and C-39. Testing shall meet the requirements of the Building Code of New York State for "Special Inspections."
 - 1. The Contractor shall coordinate with the Owner's testing company to schedule required Special Inspections.
 - 2. It shall be the responsibility of the Contractor to directly notify the Owner's testing company to promptly schedule inspections. Notification shall not be made to the Owner, Architect or

Engineer.

- C. Materials and installed work may require testing and retesting at any time during progress of work. Tests, including retesting of rejected materials for installed work, shall be done at Contractor's expense.

1.5 PRE-CONSTRUCTION MEETING

- A. A pre-construction meeting shall be held before placement of any concrete. A representative of the Engineer, general contractor, concrete sub-contractor, concrete supplier and testing company shall be present.

PART 2 - PRODUCTS

2.1 FORM MATERIALS

- A. Forms for exposed finished concrete: Plywood, metal, metal-framed plywood faced, or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints.
- B. Use plywood complying with U.S. Product Standard PS-1 "B-B (Concrete Form) Plywood", Class I, Exterior Grade or better, mill-oiled and edge-sealed, with each piece bearing legible inspection trademark.
- C. Forms for unexposed finish concrete: Plywood, lumber, metal or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.
- D. Form coatings: Provide commercial formulation form-coating compounds that will not bond with, stain, or adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.
- E. Form ties: Factory-fabricated, adjustable length, removable or snap-off metal form ties, designed to prevent form deflection and to prevent spalling concrete upon removal. Provide units which will leave no metal closer than 1 1/2" to surface. Provide ties which, when removed, will leave holes not larger than 1" diameter in concrete surface.
- F. Round concrete forms: Spirally wound layers of paperboard with spiral seam, smooth interior surface and a moisture barrier coating. Sonotube Concrete Forms or an approved equivalent.

2.2 REINFORCING MATERIALS

- A. Deformed Bars: ASTM A 615, Grade 60.
- B. Steel Wire: ASTM A 82, plain, cold-drawn steel.
- C. Welded Wire Fabric: ASTM A 185, welded steel wire fabric.
- D. Supports for Reinforcement: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Use wire-bar-type supports complying with CRSI specifications. Welded Wire Fabric shall be installed on chairs. It will not be allowed to be pulled into place while concrete is being placed.

2.3 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type I or Type II.
 - 1. Use one brand of cement throughout project.
- B. Normal Weight Aggregates: ASTM C 33 and as herein specified. Provide aggregates from a single source for exposed concrete.
 - 1. For exterior exposed surfaces, do not use fine or coarse aggregates containing spalling-causing deleterious substances.
- C. Water: Drinkable.
- D. Admixtures, General: Provide admixtures for concrete that contain not more than 0.1 percent chloride ions.
- E. Air-Entraining Admixture: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated in the work include, but are not limited to, the following:
 - "Air-Tite," Cormix.
 - "Air-Mix" or "Perma-Air," Euclid Chemical Co.
 - "Darex AEA" or "Daravair," W.R. Grace & Co.
 - "MB-VR" or "Micro-Air," Master Builders, Inc.
 - "Sealtight AEA," W.R. Meadows, Inc.
 - "Sika AER," Sika Corp.
- F. Flyash: ASTM C 618, Class F may be used as a replacement for Portland Cement at the contractors option. It shall comprise no more than 15% of the total cementitious materials.
 - 1. Flyash will not be allowed in the concrete if the Engineer feels it will have a detrimental effect on the concrete. This is at the Engineer's sole discretion and the determination will be based on anticipated weather conditions and project schedule.

2.4 RELATED MATERIALS

- A. Liquid Membrane-Forming Curing Compound: Liquid-type membrane-forming curing compound complying with ASTM C 309, Type I, Class A. Moisture loss not more than 0.055 gr./sq. cm. when applied to 200 sq. ft./gal.
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated in the work include, but are not limited to, the following:
 - "Kureseal W." Degussa
 - "Aquacure," Euclid Chemical Co.
 - "Dress & Seal WB," L & M Construction Chemicals, Inc.
 - "Masterkure 200W," Master Builders, Inc.
 - "VOCOMP-20," W.R. Meadows, Inc.

B. Underlayment Compound: Free-flowing, self-leveling, pumpable, cement-based compound for applications from one inch thick to feathered edges.

1. Available Products: Subject to compliance with requirements, products that may be incorporated in the work include, but are not limited to, the following:

"K-15," Ardex, Inc.
"Conflow," Conspec Marketing and Mfg. Co
"LevelLayer II," Dayton Superior Corp.
"Flo-Top," Euclid Chemical Co.
"Levelex," L&M Construction Chemicals, Inc.
"Pourcrete," Master Builders, Inc.
"Stoncrete UL1," Stonhard, Inc.
"Thoro Underlayment Self-Leveling," Thoro System Products.

C. Bonding Compound: Polyvinyl acetate or acrylic base.

1. Available Products: Subject to compliance with requirements, products that may be incorporated in the work include, but are not limited to, the following:

a. Polyvinyl Acetate (Interior Only):

"Superior Concrete Bonder," Dayton Superior Corp.
"Euco Weld," Euclid Chemical Co.
"Weld-Crete," Larsen Products Corp.
"Everweld," L&M Construction Chemicals, Inc.

b. Acrylic or Styrene Butadiene:

"Acrylic Bondcrete," The Burke Co.
"Strongbond," Conspec Marketing and Mfg. Co.
"Day-Chem Ad Bond," Dayton Superior Corp.
"SBR Latex," Euclid Chemical Co.
"Daraweld C," W.R. Grace & Co.
"Hornweld," A.C. Horn, Inc.
"Everbond," L & M Construction Chemicals, Inc.
"Acryl-Set," Master Builders Inc.
"Intralok," W.R. Meadows, Inc.
"Sonocrete," Sonneborn-Rexnord.
"Stonlock LB2," Stonhard, Inc.

D. Epoxy Adhesive: ASTM C 881, two-component material suitable for use on dry or damp surfaces. Provide material "Type," "Grade," and "Class" to suit project requirements.

1. Available Products: Subject to compliance with requirements, products that may be incorporated in the work include, but are not limited to, the following:

"Burke Epoxy M.V.," The Burke Co.
"Spec-Bond 100," Conspec Marketing and Mfg. Co.
"Euco Epoxy System #452 or #620," Euclid Chemical Co
"Epoxite Binder 2390," A.C. Horn, Inc.

"Epabond," L&M Construction Chemicals, Inc.
"Concresive 1001," Master Builders, Inc.
"Sikadur 32 Hi-Mod," Sika Corp.

2.5 PROPORTIONING AND DESIGN OF MIXES

- A. Prepare design mixes for each type and strength of concrete by laboratory trial batch method as specified in ACI 301. Use an independent testing facility acceptable to Engineer for preparing and reporting proposed mix designs. The testing facility shall not be the same as used for field quality control testing.
- B. Submit written reports to Engineer of each proposed mix for each class of concrete at least 15 days prior to start of work. Do not begin concrete production until proposed mix designs have been reviewed by Engineer.
- C. Design mixes to provide concrete with the following properties, as indicated on drawings and schedules:
 - 1. Footings: 3000-psi 28-day compressive strength – normal weight.
 - 2. Slabs: 4000-psi 28-day compressive strength – normal weight.
- D. Water-Cement Ratio: Provide concrete for following conditions with maximum water-cement (W/C) ratios as follows:
 - 1. Air-entrained, 3000 psi; W/C 0.46.
 - 2. Air-entrained, 4000 psi; W/C 0.35
 - 3. Non Air-entrained, 4000 psi; W/C 0.44
- E. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as follows:
 - 1. Slabs: Not more than 3 inches without the use of water reducers, not more than 4 inches with the use of water reducers.
 - 2. Other concrete: Not more than 4 inches without the use of water reducers, not more than 5 inches with the use of water reducers.
 - 3. The tolerance for slump is +0”.
- F. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant, as accepted by Engineer. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Engineer before using in work.

2.6 ADMIXTURES

- A. Use air-entraining admixture in all concrete except interior slabs. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having total air content with a tolerance of plus or minus 1-1/2 percent within following limits:
 - 5.5 percent.

2.7 CONCRETE MIXING

- A. Ready-Mix Concrete: Comply with requirements of ASTM C 94, and as specified.
 - 1. When air temperature is between 85 deg F (30 deg C) and 90 deg F (32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes, and when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

2.8 REJECTION OF CONCRETE

- A. Any concrete that is delivered to site that does not meet the requirements of this Specification, ASTM C 94, ACI 301 or ACI 318 shall be promptly rejected by the contractor and not incorporated into the work. This includes, but is not limited to, air content, slump, age and temperature.

PART 3 – EXECUTION

3.1 GENERAL

- A. Coordinate the installation of joints with placement of forms and reinforcing steel.

3.2 FORMS

- A. General: Design, erect, support, brace and maintain formwork to support vertical, lateral, static and dynamic loads that might be applied until concrete structure can support such loads. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation, and position. Maintain formwork construction tolerances complying with ACI 347.
- B. Construct forms to sizes, shapes, lines, and dimensions shown and to obtain accurate alignment, location, grades, level, and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide backup at joints to prevent leakage of cement paste.
- C. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, for easy removal.
- D. Provisions for Other Trades: Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses, and chases from trades providing such items. Accurately place and securely support items built into forms.
- E. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, or other debris just before concrete is placed. Retighten forms and bracing before concrete placement as required to prevent mortar leaks and maintain proper alignment.

3.3 PLACING REINFORCEMENT

CAST-IN-PLACE CONCRETE

- A. General: Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars," for details and methods of reinforcement placement and supports and as herein specified.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials that reduce or destroy bond with concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as approved by Engineer.
- D. Place reinforcement to obtain at least minimum coverages for concrete protection. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.
- E. Install welded wire fabric in as long lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction. Provide flat sheets only. Support fabric on chairs.

3.4 JOINTS

- A. Construction Joints: Locate and install construction joints as indicated or, if not indicated, locate so as not to impair strength and appearance of the structure, as acceptable to Engineer.
- B. Isolation Joints in slabs on grade: Construction isolation joints in slabs on grade at points of contact between slabs on grade and vertical surfaces, such as column pedestals, foundation walls, grade beams, and elsewhere as indicated.
- C. Contraction Joints in slabs on grade: Construct contraction joints in slabs on grade to form panels of patterns as shown. If joint pattern is not shown, provide joints not exceeding 15' in either direction and locate to conform to bay spacing.

3.5 INSTALLATION OF EMBEDDED ITEMS

- A. General: Set and build into work anchorage devices and other embedded items required for other work that is attached to or supported by cast-in-place concrete. Use setting drawings, diagrams, instructions, and directions provided by suppliers of items to be attached thereto.

3.6 PREPARATION OF FORMED SURFACES

- A. Clean re-used forms of concrete matrix residue, repair and patch as required to return forms to acceptable surface condition.
- B. Coat contact surfaces of forms with an approved, non-residual, low-VOC, form-coating compound before reinforcement is placed.
- C. Do not allow excess form-coating material to accumulate in forms or to come into contact with in-place concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturer's instructions.
- D. Coat steel forms with a non-staining, rust-preventative material. Rust-stained steel formwork is not acceptable.

3.7 CONCRETE PLACEMENT

- A. Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast in. Notify other crafts to permit installation of their work; cooperate with other trades in setting such work.
- B. General: Comply with ACI 304, "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete," and as herein specified.
 - 1. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete that has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete to avoid segregation at its final location.
- C. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.
 - 1. Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 - 2. Bring slab surfaces to correct level with straightedge and strike off. Use bull floats or darbies to smooth surface, free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations.
 - 3. Maintain reinforcing in proper position during concrete placement.
- D. Cold-Weather Placing: Comply with provisions of ACI 306 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
 - 1. When air temperature has fallen to or is expected to fall below 40 deg F (4 deg C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F (10 deg C) and not more than 80 deg F (27 deg C) at point of placement.
 - 2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
 - 3. Do not use calcium chloride, salt, and other materials containing antifreeze agents or chemical accelerators unless otherwise accepted in mix designs.
- E. Hot-Weather Placing: When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305 and as herein specified.
 - 1. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90 deg F (32 deg C). Mixing water may be chilled, or chopped ice may be used to control temperature provided water equivalent of ice is calculated to total amount of mixing water. Use of liquid nitrogen to cool concrete is Contractor's option.
 - 2. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedment in concrete.
 - 3. Fog spray forms, reinforcing steel, and subgrade just before concrete is placed.

3.8 FINISH OF FORMED SURFACES

- A. Rough Form Surfaces: For formed concrete surfaces not exposed to view in the finish work or by other construction, unless otherwise indicated. Patch tie holes and defective areas, rub down or chip off fins and other projections exceeding 1/4" in height.
- B. Related Unformed Surfaces: At tops of footings, and similar unformed surfaces occurring adjacent to formed surfaces, strike-off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.9 MONOLITHIC SLAB FINISHES

- A. Float Finish: Apply float finish to monolithic slab surfaces to receive trowel finish.
 - 1. After screeding, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating, using float blades or float shoes only, when surface water has disappeared, when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power-driven floats or by hand-floating if area is small or inaccessible to power units. Check and level surface plane to tolerances of Fl 18 - Fl 15. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, re-float surface to a uniform, smooth, granular texture.
- B. Trowel Finish: Apply trowel finish to monolithic slab surfaces to be exposed to view.
 - 1. After floating, begin first trowel finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance, and with surface leveled to tolerances of Fl 20 - Fl 17.
- C. Broom Finish: The exterior slabs will receive a light broom finish.
 - 1. After troweling, apply a light broom finish to the exterior sidewalk slabs by drawing a broom across the sidewalk slab perpendicular to the direction of travel.

3.10 CONCRETE CURING AND PROTECTION

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. In hot, dry, and windy weather, protect concrete from rapid moisture loss before and during finishing operations with an evaporation-control material. Apply in accordance with manufacturer's instructions after screeding and bull floating, but before power floating and troweling.
 - 1. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 7 days.
- B. Curing Methods: Perform curing of concrete by curing and sealing compound or by moist curing as herein specified.
- C. Provide moisture curing by following methods.

1. Keep concrete surface continuously wet by covering with water.
 2. Use continuous water-fog spray.
- D. Provide curing and sealing compound to exposed interior slabs and to exterior slabs as follows:
1. Apply specified curing and sealing compound to concrete slabs as soon as final finishing operations are complete (within 2 hours and after surface water sheen has disappeared). Apply uniformly in continuous operation by power spray or roller in accordance with manufacturer's directions. Recoat areas subjected to heavy rainfall within 3 hours after initial application. Maintain continuity of coating and repair damage during curing period.
 2. Use membrane curing compounds that will not affect surfaces to be covered with finish materials applied directly to concrete or colored concrete surfaces.
 3. Subject to the requirements of the finish materials, membrane curing compounds may require complete removal.

3.11 REMOVAL OF FORMS

- A. General: Formwork not supporting weight of concrete, such as sides of walls, and similar parts of the work, may be removed after cumulatively curing at not less than 50 deg F (10 deg C) for 36 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form-removal operations, and provided curing and protection operations are maintained.
- B. Concrete placed in stay-in-place forms shall not be loaded until the concrete has reached its design strength or 14 days, whichever is longer.

3.12 CONCRETE SURFACE REPAIRS

- A. Repair of Unformed Surfaces: Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface plane to tolerances specified for each surface and finish. Correct low and high areas as herein specified. Test unformed surfaces sloped to drain for trueness of slope and smoothness by using a template having required slope.
1. Repair finished unformed surfaces that contain defects that affect durability of concrete. Surface defects, as such, include crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through non-reinforced sections regardless of width, spalling, popouts, honeycomb, rock pockets, and other objectionable conditions.
 2. Correct high areas in unformed surfaces by grinding after concrete has cured at least 14 days.
 3. Correct low areas in unformed surfaces during or immediately after completion of surface finishing operations by cutting out low areas and replacing with patching compound. Finish repaired areas to blend into adjacent concrete. Proprietary underlayment compounds may be used when acceptable to Engineer.
 4. Repair defective areas, except random cracks and single holes not exceeding 1 inch in diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding compound. Mix

patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.

3.13 QUALITY CONTROL TESTING DURING CONSTRUCTION

- A. General: The Owner will employ a testing laboratory to perform tests and to submit test reports.
1. Sampling and testing for quality control during placement of concrete may include the following, as directed by Engineer.
- B. Sampling Fresh Concrete: ASTM C 172, except modified for slump to comply with ASTM C 94.
1. Slump: ASTM C 143; one test at point of discharge for each day's pour of each type of concrete; additional tests when concrete consistency seems to have changed.
 2. Air Content: ASTM C 173, volumetric method for normal weight concrete; ASTM C 231 pressure method for normal weight concrete; one for each day's pour of each type of air-entrained concrete.
 3. Concrete Temperature: Test hourly when air temperature is 40 deg F (4 deg C) and below, when 80 deg F (27 deg C) and above, and each time a set of compression test specimens is made.
 4. Compression Test Specimen: ASTM C 31; one set of 4 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory-cured test specimens except when field-cure test specimens are required.
 5. Compressive Strength Tests: ASTM C 39; one set for each day's pour of each concrete class placed in any one day; one specimen tested at 7 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required.
 - a. When frequency of testing will provide fewer than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches or from each batch if fewer than 5 are used.
 - b. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.
 - c. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive strength by more than 500 psi.
- C. Test results will be reported in writing to Architect, Structural Engineer, Ready-Mix Producer, and Contractor within 24 hours after tests. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7-day tests and 28-day tests.

- D. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted but shall not be used as the sole basis for acceptance or rejection.
- E. Additional Tests: The testing service will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Engineer. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed. Contractor shall pay for such tests when unacceptable concrete is verified.

END OF SECTION 033000

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Framing with Dimension Lumber
 - 2. Wood grounds, nailers, and blocking.

1.3 DEFINITIONS

- A. Rough carpentry includes carpentry work not specified as part of other Sections and generally not exposed, unless otherwise specified.

1.4 QUALITY ASSURANCE

- A. Comply with standards and recommendations of the American Wood Council – Manual for Engineered Wood Construction and APA – The Engineered Wood Association.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks and under temporary coverings including polyethylene and similar materials.

PART 2 - PRODUCTS

2.1 LUMBER, GENERAL

- A. Lumber Standards: Furnish lumber manufactured to comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.
- B. Grade Stamps: Provide lumber with each piece factory-marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.
 - 1. For exposed lumber furnish pieces with grade stamps applied to ends or back of each piece; or omit grade stamps entirely and provide certificates of grade compliance issued by inspection agency.

- C. Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.
 - 1. Provide seasoned lumber with 19 percent maximum moisture content at time of dressing and shipment for sizes 2 inches or less in nominal thickness, unless otherwise indicated.

2.2 DIMENSION LUMBER

- A. For structural light framing (2 to 4 inches thick, 2 to 4 inches wide), provide the following grade and species:
 - 1. "No. 2" grade.
 - 2. Same species as indicated for structural framing grade below.
- B. For structural framing (2 to 4 inches thick, 5 inches and wider), provide the following grade and species:
 - 1. "No. 2" grade.
 - 2. Douglas Fir or Yellow Pine that complies with the following requirements for species group as defined in Table 8.1a of N.F.P.A National Design Specification, for extreme fiber stress in bending "Fb" for single and repetitive members, and for modulus of elasticity "E":
 - a. Group II species, "Fb" of 1050 psi for single member use and of 1200 psi for repetitive member use, and "E" of 1,300,000 psi.
- C. For posts, provide the following grade and species:
 - 1. "No. 2" grade.
 - 2. Yellow Pine that complies with the following requirements for species group as defined in Table 8.1a of N.F.P.A National Design Specification, for extreme fiber stress in bending "Fb" for single and repetitive members, and for modulus of elasticity "E":
 - a. Group II species, "Fb" of 1050 psi for single member use and of 1200 psi for repetitive member use, and "E" of 1,300,000 psi.

2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 - 1. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with a hot-dip zinc coating per ASTM A 153 or of AISI Type 304 stainless steel.
 - 2. For connections to treated lumber, provide fasteners with a hot-dip zinc coating per ASTM A 153 or of AISI Type 304 stainless steel.

- B. Nails, Wire, Brads, and Staples: FS FF-N-105.
- C. Wood Screws: ANSI B18.6.1.
- D. Lag Bolts: ANSI B18.2.1.
- E. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and where indicated, flat washers.

2.6 METAL FRAMING ANCHORS

- A. General: Provide metal framing anchors of type, size, metal, and finish indicated that comply with requirements specified including the following:
- B. Current Evaluation/Research Reports: Provide products for which model code evaluation/research reports exist that are acceptable to authorities having jurisdiction and that evidence compliance of metal framing anchors for application indicated with the building code in effect for this Project.
- C. Allowable Design Loads: Provide products for which manufacturer publishes allowable design loads that are determined from empirical data or by rational engineering analysis and that are demonstrated by comprehensive testing performed by a qualified independent testing laboratory.
- D. Galvanized Steel Sheet: Steel sheet zinc-coated by hot-dip process on continuous lines prior to fabrication to comply with ASTM A 525 for Coating Designation G60 and with ASTM A 446, Grade A (structural quality); ASTM A 526 (commercial quality); or ASTM A 527 (lock-forming quality); as standard with manufacturer for type of anchor indicated.
 - 1. Use galvanized steel framing anchors for rough carpentry exposed to weather, in ground contact, or in area of high relative humidity, and where indicated.

2.7 PRESERVATIVE WOOD TREATMENT BY PRESSURE PROCESS

- A. General: Where lumber is indicated as preservative-treated wood or is specified herein to be treated, comply with applicable requirements of AWPAs Standards C2 (Lumber) and C9 (Plywood). Mark each treated item with the AWPB or SPIB Quality Mark Requirements.
- B. Pressure-treat above-ground items with water-borne preservatives to a minimum retention of 0.25 pcf. For interior uses, after treatment, kiln-dry lumber and plywood to a maximum moisture content, respectively, of 19 percent and 15 percent. Treat indicated items and the following:
 - 1. Wood posts.
 - 2. Wood framing members in contact with concrete.
 - 3. Wood framing members less than 18 inches above grade.
- C. Complete fabrication of treated items prior to treatment, where possible. If cut after treatment, coat cut surfaces to comply with AWPAs M4. Inspect each piece of lumber or plywood after drying and discard damaged or defective pieces.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Discard units of material with defects that impair quality of rough carpentry construction and that are too small to use in fabricating rough carpentry with minimum joints or optimum joint arrangement .
- B. Set rough carpentry to required levels and lines, with members plumb and true to line and cut and fitted.
- C. Fit rough carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.
- D. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated.
- E. Countersink nail heads on exposed carpentry work and fill holes.
- F. Use common wire nails or screws, unless otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.

3.2 WOOD FRAMING, GENERAL

- A. Framing Standard: Comply with N.F.P.A. "Manual for House Framing," unless otherwise indicated.
- B. Install framing members of size and spacing indicated.
- C. Anchor and nail as shown, and to comply with the following:
 - 1. National Evaluation Report No. NER-272 for pneumatic or mechanical driven staples, P-Nails, and allied fasteners.
 - 2. Published requirements of manufacturer of metal framing anchors.
 - 3. "Recommended Nailing Schedule" of referenced framing standard and with N.F.P.A. "National Design Specifications for Wood Construction."
 - 4. "Table No. II - Recommended Nailing Schedule" of the Uniform Building Code.
 - 5. "Appendix C - Recommended Nailing Schedule" of the BOCA National Building Code.
 - 6. "Table 1705.1 - Fastening Schedule," of the Standard Building Code.
- D. Do not splice structural members between supports.

END OF SECTION

ROUGH CARPENTRY

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SECTION 061700 - ENGINEERED WOOD PRODUCTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Laminated veneer lumber beams.

1.3 DEFINITIONS

- A. Laminated veneer lumber beams consist of pressure bonded, scarf-jointed wood veneers, with veneer grain running parallel in the long direction.

1.4 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Shop drawings indicating species, species group, sizes, and stress grades of lumber to be used; pitch, span, camber, configuration, and spacing for each type of structural member required; and bearing details.
- C. Provide Manufacturer's literature indicating installation details including locations and details of blocking, bridging, and cutting for other work.

1.5 QUALITY ASSURANCE

- A. Laminated veneer lumber beams shall be manufactured in accordance with APA - The Engineered Wood Association and conform to ASTM D 5456.
- B. Wood Structural Design Standard: Comply with applicable requirements of A.F.P.A. "National Design Specification for Wood Construction" and AITC 117 "Design Standard Specifications for Structural Glued-Laminated Timber of Softwood Species."
- C. Manufacturer's Qualifications: a firm that complies with the requirements for quality control and is experienced in manufacturing wood beams similar to those of this Project that have a record of successful in-service performance.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Handle and store beams with care and comply with manufacturer's instructions and recommendations to avoid damage from exposure to weather, damp or wet surfaces, breakage, or other cause which beams are not designed to resist or endure.

PART 2 - PRODUCTS

2.1 PREFABRICATED WOOD BEAMS

- A. Allowable Design Loads: Provide products for which manufacturer publishes allowable design loads that are determined from empirical data or by rational engineering analysis and that are demonstrated by comprehensive testing performed by a qualified independent testing laboratory.
- B. Laminated veneer lumber beams shall conform to the depths and widths indicated on the Drawings and with the design properties required or indicated.
- C. All beams shall be manufactured for use in covered, dry conditions unless indicated otherwise.

2.2 ACCESSORIES

- A. Fasteners: 8d through 16d common nails and ½" bolts.
- B. Bracing and blocking shall be in accordance with manufacturer's requirements and shall include lateral support at all bearings or as shown on the Drawings.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Erect and brace beams to comply with applicable requirements of manufacturer's standards.
- B. Laminated veneer lumber and glue-laminated beams shall not be cut, drilled, or notched in the top or bottom third of their depth unless indicated.
- C. Erect beams with plane of beam webs vertical (plumb) and parallel to each other, located accurately at design spacing indicated.
- D. Hoist beams in place by means of lifting equipment suited to sizes and types of beams, exercising care not to damage beam members by out-of-plane bending or other causes.
- E. Anchor beams securely at all bearing points to comply with methods and details indicated.
- F. Install permanent bracing and related components to enable beams to maintain design spacing, w withstand live and dead loads including lateral loads, and to comply with other indicated requirements.

END OF SECTION

SECTION 061920 - PREFABRICATED METAL-PLATE-CONNECTED WOOD TRUSSES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Gable-shaped trusses.

1.2 DEFINITIONS

A. Prefabricated metal-plate-connected wood trusses include planar structural units consisting of metal-plate-connected members that are fabricated from dimension lumber and that have been cut and assembled prior to delivery to the project site.

1.3 SUBMITTALS

A. Shop drawings indicating species, species group, sizes, and stress grades of lumber to be used; pitch, span, camber, configuration, and spacing for each type of truss required; type, size, material, finish, design values, and location of metal connector plates; and bearing details.

1. Provide shop drawings that have been signed and stamped by qualified professional engineer.

1.4 QUALITY ASSURANCE

A. TPI Standards: Comply with applicable requirements and recommendations of the following Truss Plate Institute (TPI) publications:

1. "Design Specification for Metal Plate connected Wood Trusses."
2. "Commentary and Recommendations for Handling and Erecting Wood Trusses."
3. "Commentary and Recommendations for Bracing Wood Trusses."
4. "Quality Standard for Metal Plate connected Wood Trusses."

B. Connector Plate Manufacturer's Qualifications: A manufacturer that is a member of TPI and that complies with TPI quality control procedure for manufacture of connector plates published in TPI "Quality Standard for Metal Connector Plate Manufacture."

C. Wood Structural Design Standard: Comply with applicable requirements of N.F.P.A. "National Design Specification for Wood Construction."

D. Single-Source Engineering Responsibility: Provide trusses engineered by the metal plate connector manufacturer to support superimposed dead and live loads indicated, with design approved and certified by a qualified professional engineer.

- E. Fabricator's Qualifications: a firm that complies with the following requirements for quality control and is experienced in prefabricating metal-plate- connected wood trusses similar to those of this Project that have a record of successful in-service performance:
 - 1. Fabricator participates in a recognized quality assurance program that involves inspection by SPIB; Timber Products Inspection, Inc., Truss Plate Institute; or other independent inspection and testing agency acceptable to Architect and authorities having jurisdiction.
- F. Single Source Responsibility for Connector Plates: Provide metal connector plates from a single manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Handle and store trusses with care and comply with manufacturer's instructions and TPI recommendations to avoid damage from bending, overturning, or other cause which trusses are not designed to resist or endure.

1.6 SEQUENCING AND SCHEDULING

- A. Time delivery and erection of trusses to avoid extended on-site storage and to avoid delaying work of other trades whose work must follow erection of trusses.

PART 2 - PRODUCTS

2.1 CONNECTOR PLATE MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering metal connector plates that may be incorporated in the Work include, but are not limited to, the following:

Alpine Engineered Products, Inc.
Bemax of Florida, Inc.
Clary Corporation.
Computrus, Inc.
Gang-Nail Systems, Inc.
Hydro-Air Engineering, Inc.
Inter-Lock Steel Co., Inc.
Metal-Lock, Inc.
Robbing Manufacturing Co.
TEE-Lok Corp.
Truss Connectors of America
Truswal Systems Corporation.

2.2 LUMBER

- A. Factory mark each piece of lumber with type, grade, mill, and grading agency.

- B. Lumber Standard: Manufacture lumber to comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.
- C. Inspection Agencies: Inspection agencies and the abbreviations used to reference them to lumber grades and species include the following:
 - NLGA - National Lumber Grades Authority (Canadian).
 - SPIB - Southern Pine Inspection Bureau.
 - WCLIB - West Coast Lumber Inspection Bureau.
 - WWPA - Western Wood Products Association
- D. Nominal sizes are indicated, except as shown by detail dimensions.
- E. Provide dressed lumber, S4S, manufactured to actual sizes required by PS 20 to comply with requirements indicated below:
- F. Moisture Content: Seasoned, with 19 percent maximum moisture content at time of dressing and shipment for sizes 2 inches or less in nominal thickness, unless otherwise indicated.
- G. Grade for Chord Members: "No.2."
- H. Grade for Web Members: "No. 3" or "Stud" grade.
- I. Species: Any softwood species of specified grade.

2.3 METAL CONNECTORS

- A. General: Fabricate connector plates from metal complying with requirements indicated in this article.
- B. Hot-Dip Galvanized Steel Sheet: Structural (physical) quality steel sheet complying with ASTM A 446, Grade A; zinc coated by hot-dip process to comply with ASTM A 525, Designation G60; minimum coated metal thickness indicated but not less than 0.036 inch.

2.4 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
- B. Where truss members are exposed to weather or to high relative humidities, provide fasteners with a hot-dip zinc coating per ASTM A 153 or of AISI Type 304 stainless steel.
- C. Nails, Wire, Brads, and Staples: FS FF-N-105.
- D. Power Driven Fasteners: National Evaluation Report NER-272.
- E. Wood Screws: ANSI B18.6.1.

- F. Lag Bolts: ANSI B18.2.1.
- G. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and where indicated, flat washers.

2.5 METAL FRAMING ANCHORS

- A. General: Provide metal framing anchors of type, size, metal, and finish indicated that comply with requirements specified including the following:
- B. Current Evaluation/Research Reports: Provide products for which reports exist from a model code organization acceptable to authorities having jurisdiction that evidence compliance of metal framing anchors for application indicated with the building code in effect for this Project.
- C. Allowable Design Loads: Provide products for which manufacturer publishes allowable design loads that are determined from empirical data or by rational engineering analysis and that are demonstrated by comprehensive testing performed by a qualified independent testing laboratory.
- D. Galvanized Steel Sheet: Steel sheet zinc-coated by hot-dip process on continuous lines prior to fabrication to comply with ASTM A 525 for Coating Designation G60 and with ASTM A 446, Grade A (structural quality); ASTM A 526 (commercial quality); or ASTM A 527 (lock-forming quality); as standard with manufacturer for type of anchor indicated.

2.6 FABRICATION

- A. Cut truss members to accurate lengths, angles, and sizes to produce close-fitting joints with wood-to-wood bearing in assembled units.
- B. Fabricate metal connector plates to size, configuration, thickness, and anchorage details required to withstand design loadings for types of joint designs indicated.
- C. Assemble truss members in design configuration indicated using jigs or other means to ensure uniformity and accuracy of assembly with joints closely fitted to comply with tolerances specified in TPI "Quality Standard for Metal Plate Connected Wood Trusses." Position members to produce design camber indicated.
- D. Connect truss members by means of metal connector plates accurately located and securely fastened to each side of wood members by means indicated or approved.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Erect and brace trusses to comply with applicable requirements of referenced TPI standards.

- B. Where trusses do not fit, return them to fabricator and replace with trusses of correct size; do not alter trusses in the field.
- C. Erect trusses with plane of truss webs vertical (plumb) and parallel to each other, located accurately at design spacings indicated.
- D. Hoist trusses in place by means of lifting equipment suited to sizes and types of trusses required, exercising care not to damage truss members or joints by out-of-plane bending or other causes.
- E. Anchor trusses securely at all bearing points to comply with methods and details indicated.
- F. Install permanent bracing and related components to enable trusses to maintain design spacing, withstand live and dead loads including lateral loads, and to comply with other indicated requirements.
- G. Do not cut or remove truss members.

3.2 BRACING

- A. Furnish and install permanent bracing in strict accordance with Truss Plate Institute (TPI) specification BWT-76, "Bracing Wood Trusses: Commentary and Recommendations".

END OF SECTION

SECTION 074000 – METAL ROOF AND WALL PANELS

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. All exterior metal roof and wall panels and associated flashing, sealants, and fasteners necessary to form the exterior metal roof and wall panel systems shown on the contract drawings and / or specified herein.

1.2 RELATED SECTIONS

- A. Division 1 - Administrative and Procedural Sections for All Contracts
- B. Section 061000 – Rough Carpentry
- C. Section 079213 – Elastomeric Joint Sealants
- D. Section 081743 – Integrated Composite Door Opening Assemblies
- E. Section 083613 – Sectional Doors

1.3 REFERENCE STANDARDS

- A. Below is a list, complete or incomplete, of nationally recognized standards governing the providing of items of Work of this specification. Quality control of items of Work will be based on these and any unlisted nationally recognized standards which relate to an item of Work specified in this section.
- B. ASTM A 653: Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.
- C. AISI - American Iron and Steel Institute (AISI), Specifications for the Design of Cold-Formed Steel Structural Members (August 1986).
- D. AISC - American Institute of Steel Construction Manual of Steel Construction, current edition.
- E. ASCE-7: Minimum Loads for Buildings and Other Structures (ASCE) American Society of Civil Engineers (ASCE)
- F. Current NYS Building Code.

1.4 SUBMITTALS

- A. General: Prepare and submit for approval, per the procedures set forth in Division 1, all submittals required by Division 1, this section, and by all other Contract Documents.
- B. Shop Drawings: Not Required.
- C. Test Data: Provide as part of manufacturer's product data, results of testing done under nationally recognized testing procedures outlined in REFERENCE STANDARDS of this section.

- D. Product Data: Submit manufacturer's specifications; edited specifically for this project, for each product submitted. Specifications should include material characteristics, limitations and handling procedures. Data should also include manufacturer's installation instructions and recommendations for use of their product.
- E. Manufacturer's Certification: Provide manufacturer's written certification attesting that the proposed product meets the requirements of this specification.
- F. Samples:
 - 1. Provide manufacturer's standard available colors. If custom colors are available, please indicate.
 - 2. Provide actual sample of product indicating manufacturer's standard available colors.
- G. Warranties: Provide copy of manufacturer's warranties and/or guarantees.

1.5 QUALITY ASSURANCE

- A. Provide work in strict accordance with manufacturer's instructions and recommendations. Notify the Architect immediately if manufacturer's instructions or recommendations conflict with the Construction Documents.
- B. Manufacturer and installer shall provide documented experience of a minimum of ten (10) years of related industry experience.

1.6 DELIVERY STORAGE AND HANDLING

- A. Comply with Division 1 requirements.
- B. Materials shall be unloaded and stored per manufacturer's instructions to prevent damage due to handling and weather.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. The following manufacturers are provided as a standard of quality. The Contractor may submit a substitute manufacturer under provisions of the Supplementary General Conditions and Division 1 of this Project Manual.
 - 1. Varco Pruden
Memphis, Tennessee

2.2 PRODUCT OPTIONS AND SUBSTITUTIONS

- A. Refer to the Conditions of the Contract and Division 1.

2.3 METAL ROOF PANELS

- A. Metal Roof Panel:
 - 1. Varco Pruden
 - a. Profile: Concealed Fastener
 - b. Style: SSR – Standing Seam Roof
 - c. Size: 3 inch high x 24 inch wide
 - d. Gauge: 24 gauge
 - e. Texture: Smooth
 - f. Finish: KXL (70% PVDF)
 - g. Color: Shall be selected by architect.

2.4 METAL WALL PANELS

- A. Metal Wall Panel:
 - 1. Varco Pruden
 - a. Profile: Exposed Fastener
 - b. Style: Panel Rib Wall Panel
 - c. Size: 1 1/4 inch high x 36 inch wide
 - d. Gauge: 24 gauge
 - e. Texture: Smooth
 - f. Finish: KXL (70% PVDF)
 - g. Color: Shall be selected by architect.

2.5 ACCESSORIES

- A. All exterior flashing and trim shall be fabricated in the same material, gauge, finish and color as the exterior profiles, unless otherwise indicated.
- B. Wall panel system fasteners shall be #14 minimum diameter, self-tapping, with hex head.
 - 1. Exposed fasteners shall be stainless steel with 5/8" bonded neoprene and stainless steel washers coated to match the exterior panel color.
 - 2. Concealed fasteners shall be cadmium plated carbon steel.
- C. Closures shall be metal and / or foam as required. Foam shall be a pre-cut profile closure of closed cell foam. Metal closures shall be fabricated from the same material, gauge, finish, and color as the exterior metal panel.
- D. Sealants:
 - 1. Hidden sealant at all side laps, end laps, and flashing details shall be gun grade non-curing butyl or polymeric non-skinning butyl tape to ensure weather tightness.
 - 2. Exposed sealant shall be one-part moisture curing, gun grade polyurethane.
 - a. Sealant Color: Shall be selected by architect.
- E. FABRICATION
 - 1. Wall panel system components shall be fabricated in the factory for field assembly to the greatest extent possible.

PART 3 – EXECUTION

3.1 INSPECTION

- A. The panel systems contractor shall check the alignments of the structural supports. Alignment exceeding tolerances defined in the AISC Code of Standard Practice shall be corrected prior to proceeding with the installation of the wall panel system.
- B. The panel systems contractor shall inspect installation of vapor permeable air and water barrier for compliance with manufacturer's installation instructions. Corrections necessary to ensure specified performance shall be made prior to wall panel installation.

3.2 INSTALLATION

- A. Manufacturer shall provide detailed instructions covering the tools, fasteners, sealants, and assembly procedures required to achieve the structural, thermal, and weathering performance specified.
- B. Metal filings caused by cutting and drilling shall be immediately removed from finished surfaces to prevent rusting and staining.
- C. The panel systems contractor shall coordinate work with other trades as required to insure proper flashing and seals with adjoining construction.

3.3 DAMAGED MATERIAL AND CLEANING

- A. Damage caused by the manufacturer or panel system contractor shall be repaired or replaced.
- B. The general contractor shall inspect and approve each completed wall area and be responsible for protecting finished work from damage by other trades.
- C. The panel systems contractor shall remove all protective materials and labels from the wall components as they are installed.

END OF SECTION

SECTION 079213 – ELASTOMERIC JOINT SEALANTS

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Specifications for providing sealant systems for:
 - 1. Exterior expansion\control and weather tight joints;
 - 2. Interior expansion\control and water\weather tight joints;
 - 3. Interior product installation joints as shown on the Construction Drawings.

1.2 RELATED SECTIONS

- A. Division 1 - Administrative and Procedural Sections for All Contracts
- B. Section 074000 – Metal Roof and Wall Panels
- C. Section 081743 – Integrated Composite Door Opening Assemblies

1.3 REFERENCE STANDARDS

- A. Below is a list, complete or incomplete, of nationally recognized standards governing the providing of items of Work of this specification. Quality control of items of Work will be based on these and any unlisted nationally recognized standards which relate to an item of Work specified in this section.
- B. ASTM C790 - Use of Latex Sealing Compounds
- C. ASTM C804 - Use of Solvent-Release Type Sealants
- D. ASTM C834 - Latex Sealing Compounds
- E. ASTM C919 - Use of Sealants in Acoustical Applications
- F. ASTM C920 - Elastomeric Joint Sealants
- G. ASTM D1056 - Flexible Cellular Materials - Sponge or Expanded Rubber
- H. SWRI (Sealant, Waterproofing and Restoration Institute) - Sealant and Chalking Guide Specification

1.4 SUBMITTALS

- A. General: Prepare and submit for approval, per the procedures set forth in Division 1, all submittals required by Division 1, this section, and by all other Contract Documents.
- B. Shop Drawings: Not Required.
- C. Test Data: Provide as part of manufacturer's product data, results of testing done under nationally recognized testing procedures outlined in REFERENCE STANDARDS of this section.

- D. Product Data: Submit manufacturer's specifications; edited specifically for this project, for each product submitted. Specifications should include material characteristics, limitations and handling procedures. Data should also include manufacturer's installation instructions and recommendations for use of their product.
- E. Manufacturer's Certification: Provide manufacturer's written certification attesting that the proposed product meets the requirements of this specification.
- F. Samples:
 - 1. Provide manufacturer's standard available colors. If custom colors are available, please indicate.
 - 2. Provide actual sample of product indicating manufacturer's standard available colors.
- G. Warranties: Provide copy of manufacturer's warranties and/or guarantees.

1.5 QUALITY ASSURANCE

- A. Provide work in strict accordance with manufacturer's instructions and recommendations. Notify the Architect immediately if manufacturer's instructions or recommendations conflict with the Construction Documents.
- B. The Contractor shall guarantee all materials and Work of this section for a period of two (2) years following the date of substantial completion of the project. Guarantee shall cover the removal of defective materials, furnishing and installing new materials in all joints that have failed during this warranty period. The following types of failures will be adjudged defective work; leakages, hardening, cracking, crumbling, melting, shrinking, tearing, running of sealing compound or staining of adjacent work.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. The following manufacturers are provided as a standard of quality. The Contractor may submit a substitute manufacturer under provisions of the Supplementary General Conditions and Division 1 of this Project Manual.
 - 1. BASF Building Systems
Shakopee, Minnesota
 - 2. Pecora Coporation
Harleysville, Pennsylvania

2.2 PRODUCT OPTIONS AND SUBSTITUTIONS

- A. Refer to the Conditions of the Contract and Division 1.

2.3 MATERIALS

- A. Polyurethane Sealant: Single component, chemical curing, non-staining, non-bleeding, self-leveling, class A and high abrasion resistant sealant. (Horizontal Joints)
 - 1. Sonneborn - Sonolastic SL 1
 - 2. PECORA - Urexpan NR-201

- B. Polyurethane Sealant: Single component, chemical curing, non-staining, non-bleeding, non-sagging, class A sealant. (Vertical Joints)
 - 1. Sonneborn - Sonolastic NP 1
 - 2. PECORA - Dynatrol 1-XL
- C. Silicone Sealant: Single component, solvent curing, non-staining, non-bleeding, non-sagging, mildew resistant, class A sealant. (Expansion and control joints, perimeter sealing)
 - 1. Sonneborn - Sonolastic Omniseal
 - 2. PECORA - 864 Silicone
- D. Acrylic Latex Sealant: Single component, non-staining, non-bleeding, non-sagging, class A sealant. (Fire rated applications)
 - 1. PECORA - AC-20 +FTR
- E. Butyl Rubber Sealant: Single component, solvent release, non-skinning, non-sagging, class A sealant, (Interior door frames in masonry walls to be painted)
 - 1. PECORA - BC-158
- F. Backer Rod: Closed cell, polyethylene foam rod, (expansion joints and joints over 1/4" wide).
 - 1. Sonneborn - Sonofoam.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Inspect construction, surfaces, and products specified elsewhere or existing, adjacent to and/or in connection with work provided in this section. Proceed with Work if construction, surfaces, and products are satisfactory according to manufacturer's recommendations, applicable reference standards and this Project Manual to receive Work of this section. Commencement of work is an indication that the adjacent work is satisfactory and accepted for Work in this section.

3.2 INSTALLATION

- A. Provide Work as directed by manufacturer's instructions, applicable reference standards and as shown on the Construction Drawings. Notify the Architect immediately if the Construction Drawings conflict with the Manufacturer's instructions or recommendations or reference standards for providing Work.
- B. Provide Work as outlined in the nationally recognized reference standards related to that particular item of Work.
- C. Methods of construction will be in accordance with those recognized as "Standard Methods of Construction" for the industry for each item of work.

END OF SECTION

SECTION 081743 – INTEGRATED COMPOSITE DOOR OPENING ASSEMBLIES

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. AF Composite flush doors with FRP frames.

1.2 RELATED SECTIONS

- A. Division 1 - Administrative and Procedural Sections for All Contracts
- B. Section 074000 – Metal Roof and Wall Panels
- C. Section 079213 – Elastomeric Joint Sealants
- D. Section 087100 – Door Hardware
- E. Section 088100 – Glass Glazing

1.3 REFERENCE STANDARDS

- A. Below is a list, complete or incomplete, of nationally recognized standards governing the providing of items of Work of this specification. Quality control of items of Work will be based on these and any unlisted nationally recognized standards which relate to an item of Work specified in this section.
- B. AAMA 920-11 - Specification for Operating Cycle Performance of Side-Hinged Exterior Door Systems.
- C. AAMA 1304-02 - Voluntary Specification for Forced Entry Resistance of Side-Hinged Door Systems.
- D. ASTM C 1363 - Standard Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of Hot Box Apparatus.
- E. ASTM D 256 - Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics.
- F. ASTM D 638 - Standard Test Method for Tensile Properties of Plastics.
- G. ASTM D 570 - Standard Test Method for Water Absorption of Plastics.
- H. ASTM D 790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- I. ASTM D 1761-06 - Standard Test Methods for Mechanical Fasteners in Wood.
- J. ASTM D 2583 - Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor.
- K. ASTM D 3029 - Test Methods for Impact Resistance of Flat Rigid Plastic Specimens by Means of a Falling Weight.

- L. ASTM D 6670-01 - Standard Practice for Full-Scale Chamber Determination of Volatile Organic Emissions from Indoor Materials/Products.
- M. ASTM E 84-11 - Standard Method of Test for Surface Burning Characteristics of Building Materials.
- N. ASTM E 283-04 - Test Method for Determining Rate of Airflow Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.
- O. ASTM E 330-02 - Test Method for Structural Performance of Exterior Windows, Curtain Walls, Doors by Uniform Static Air Pressure Difference.
- P. ASTM E 331-00 - Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
- Q. ASTM E 1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missile and Exposed to Cyclic Pressure Differentials.
- R. ASTM E 1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missile and Exposed to Cyclic Pressure Differentials.

1.4 SUBMITTALS

- A. General: Prepare and submit for approval, per the procedures set forth in Division 1, all submittals required by Division 1, this section, and by all other Contract Documents.
- B. Shop Drawings: Submit dimensioned and scaled shop drawings for fabrication and installation of specified products. Drawings shall include elevations with hardware mounting heights and lite locations and size, construction details, sections of typical composite members, installation details, and incorporation of materials and/or construction specified elsewhere.
- C. Test Data: Provide as part of manufacturer's product data, results of testing done under nationally recognized testing procedures outlined in REFERENCE STANDARDS of this section.
- D. Product Data: Submit manufacturer's specifications; edited specifically for this project, for each product submitted. Specifications should include material characteristics, limitations and handling procedures. Data should also include manufacturer's installation instructions and recommendations for use of their product.
- E. Manufacturer's Certification: Provide manufacturer's written certification attesting that the proposed product meets the requirements of this specification.
- F. Samples:
 1. Provide manufacturer's standard available colors. If custom colors are available, please indicate.
 2. Provide actual sample of product indicating manufacturer's standard available colors.
- G. Warranties: Provide copy of manufacturer's warranties and/or guarantees.
- H. Schedules: Submit schedule showing door location referenced by door number, door size, door swing, door elevation showing glazing & louvers.

1.5 QUALITY ASSURANCE

- A. Provide work in strict accordance with manufacturer's instructions and recommendations. Notify the Architect immediately if manufacturer's instructions or recommendations conflict with the Construction Documents.
- B. Manufacturer's Qualifications:
 - 1. Continuously engaged in manufacturing of doors of similar type to that specified, with a minimum of 25 years successful experience.
 - 2. Door and frame components from same manufacturer.
 - 3. Evidence of a compliant documented quality management system.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. The following manufacturers are provided as a standard of quality. The Contractor may submit a substitute manufacturer under provisions of the Supplementary General Conditions and Division 1 of this Project Manual.
 - 1. Special-Lite, Inc.
Decatur, Michigan

2.2 PRODUCT OPTIONS AND SUBSTITUTIONS

- A. Refer to the Conditions of the Contract and Division 1.

2.3 FRP FLUSH DOORS

- A. Model: AF-220 Sandstone Skin
- B. Door Opening Size: As indicated on the Drawings.
- C. Construction:
 - 1. Door Thickness: 1-3/4 inches.
 - 2. Construction: Doors shall be fabricated using insulated pultruded stiles and rails with .120" FRP face sheets. Stiles and rails to be secured at corners with pultruded corner clip.
 - 3. Reinforcement: Solid high-density urethane shapes to be chemically welded at factory.
 - 4. Top Rail: Pultruded FRP insulated stile material.
 - 5. Bottom Rail: Pultruded FRP insulated stile material.
- D. Face Sheet: AF-220
 - 1. Face Sheet: AF-220
 - 2. Texture: Sandstone
 - 3. Color: Color shall be selected by Architect.
- E. Core:
 - 1. Material: Expanded Polystyrene foam (EPS).

- F. Cutouts:
 - 1. Manufacture doors with cutouts for required vision lites, louvers, and panels.
 - 2. Factory install vision lite kits, louvers, and panels.
- G. Hardware:
 - 1. Pre-machine doors in accordance with templates from specified hardware manufacturers and hardware schedule.

2.4 MATERIALS

- A. Components: Door and frame components from same manufacturer.
- B. Fasteners:
 - 1. Material: Aluminum, 18-8 stainless steel, or other noncorrosive metal.
 - 2. Compatibility: Compatible with items to be fastened.

2.5 FABRICATION

- A. Sizes and Profiles: Required sizes for door and frame units, and profile requirements shall be as indicated on the Drawings.
- B. Coordination of Fabrication: Field measure before fabrication and show recorded measurements on shop drawings.
- C. Assembly:
 - 1. Complete cutting, fitting, forming, drilling, and chemically welding of FRP before assembly.
- D. Fit:
 - 1. Maintain continuity of line and accurate relation of planes and angles.
 - 2. Secure attachments and support at mechanical joints with hairline fit at contacting members.

2.6 FRP FRAMING SYSTEMS

- A. Framing: AF-250
 - 1. Size and Type: As indicated on the Drawings.
 - 2. Materials: 3/16" thick solid pultruded FRP profiles having no corrosive components or reinforcement.
 - 3. Width: 2" face.
 - 4. Depth: 5 3/4"
 - 5. Assembly: Knock down (KD) for field assembly.
 - 6. Door Stop: 5/8" x 2 1/4".
 - 7. Corner Construction: Mitered with 2" x 2" x 3/8" pultruded FRP angle reinforcement with interlocking pultruded FRP brackets.
 - 8. Reinforcing: 1/4" pultruded FRP chemically welded at all hinge, strike and closer locations.
 - 9. Mullions: Fixed Pultruded FRP Center post 2" x 5 3/4".
 - 10. Anchors: Furnished with type as specified on drawings.
 - 11. Fasteners for reinforcing: 18-8 Stainless Steel.

2.7 HARDWARE

- A. Pre-machine doors in accordance with templates from specified hardware manufacturers and hardware schedule. Reinforce for specific hardware locations.
- B. Hardware Schedule: As indicated on the Drawings.

2.8 VISION LITES

- A. Factory Applied Stops for Glazing FRP: 1-inch glass insulating units.
- B. Lite Size:
 - 1. Size: As indicated on the Drawings.

2.9 FINISH

- A. Finish for Door Edges and Frames: Primer with a finished color coat.
 - 1. Painted Finish: Two-part aliphatic polyurethane, low VOC, Industrial Coating.
 - 2. Thickness: 5 mils
 - 3. Thickness: 5 mils
 - 4. Impact Resistance per ASTM D 2794: 140 in lbs.
- B. Finish for Face Sheet: Finish color throughout.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Inspect construction, surfaces, and products specified elsewhere or existing, adjacent to and/or in connection with work provided in this section. Proceed with Work if construction, surfaces, and products are satisfactory according to manufacturer's recommendations, applicable reference standards and this Project Manual to receive Work of this section. Commencement of work is an indication that the adjacent work is satisfactory and accepted for Work in this section.

3.2 INSTALLATION

- A. Provide Work as directed by manufacturer's instructions, applicable reference standards and as shown on the Construction Drawings. Notify the Architect immediately if the Construction Drawings conflict with the Manufacturer's instructions or recommendations or reference standards for providing Work.
- B. Provide Work as outlined in the nationally recognized reference standards related to that particular item of Work.
- C. Methods of construction will be in accordance with those recognized as "Standard Methods of Construction" for the industry for each item of work.

END OF SECTION

SECTION 083613 – SECTIONAL DOORS

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Specifications for providing overhead sectional doors complete with track, hardware and weatherstripping.

1.2 RELATED SECTIONS

- A. Division 1 - Administrative and Procedural Sections for All Contracts
- B. Section 074000 – Metal Roof and Wall Panels

1.3 REFERENCE STANDARDS

- A. Below is a list, complete or incomplete, of nationally recognized standards governing the providing of items of Work of this specification. Quality control of items of Work will be based on these and any unlisted nationally recognized standards which relate to an item of Work specified in this section.
- B. ANSI/DASMA 102 - American National Standard Specifications for Sectional Overhead Type Doors.
- C. ASTM A 123 – Zinc hot-dipped galvanized coatings on iron and steel products.
- D. ASTM A 216 - Specifications for sectional overhead type doors.
- E. ASTM A 229 - Steel wire, oil-tempered for mechanical springs.
- F. ASTM A 653 - Steel sheet, zinc-coated galvanized by the hot-dipped process, commercial quality.
- G. ASTM D 1929 - Ignition temperature test to determine flash and ignition temperature of foamed plastics.
- H. ASTM E 84 - Tunnel test for flame spread and smoke developed index.
- I. ASTM E 330 - Structural performance of exterior windows, curtain walls, and doors by uniform static air pressure difference.
- J. ASTM E 413 - Classification for Rating Sound Insulation
- K. ASTM E 1332 - Standard Classification for Rating Outdoor-Indoor Sound Attenuation.
- L. ASTM E 283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.

1.4 SUBMITTALS

- A. General: Prepare and submit for approval, per the procedures set forth in Division 1, all submittals required by Division 1, this section, and by all other Contract Documents.
- B. Shop Drawings: Submit dimensioned and scaled shop drawings for fabrication and/or installation of specified products. Drawings shall include elevations, construction details, sections of typical composite members, installation details, and incorporation of materials and/or construction specified elsewhere.
- C. Test Data: Not Required.
- D. Product Data: Submit manufacturer's specifications; edited specifically for this project, for each product submitted. Specifications should include material characteristics, limitations and handling procedures. Data should also include manufacturer's installation instructions and recommendations for use of their product.
- E. Manufacturer's Certification: Not Required.
- F. Samples:
 - 1. Provide manufacturer's standard available colors. If custom colors are available, please indicate.
 - 2. Provide actual sample of product indicating manufacturer's standard available colors.
- G. Warranties: Provide copy of manufacturer's warranties and/or guarantees.

1.5 QUALITY ASSURANCE

- A. Provide work in strict accordance with manufacturer's instructions and recommendations. Notify the Architect immediately if manufacturer's instructions or recommendations conflict with the Construction Documents.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years documented experience.
- C. Installer Qualifications: Authorized representative of the manufacturer with minimum five years documented experience.
- D. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories, Inc. acceptable to authority having jurisdiction as suitable for purpose specified.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened labeled packaging until ready for installation.
- B. Protect materials from exposure to moisture until ready for installation.
- C. Store materials in a dry, ventilated weathertight location.

1.7 WARRANTY

- A. Warranty: Manufacturer's limited door and operators System warranty for 10 years against cracking, splitting or deterioration of steel skin due to rust.
- B. Warranty: Manufacturer's limited door and operators System warranty for 8 years against cracking, splitting or deterioration due to rust-through.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. The following manufacturers are provided as a standard of quality. The Contractor may submit a substitute manufacturer under provisions of the Supplementary General Conditions and Division 1 of this Project Manual.
 - 1. Wayne Dalton
Lewisville, Texas

2.2 PRODUCT OPTIONS AND SUBSTITUTIONS

- A. Refer to the Conditions of the Contract and Division 1.

2.3 STEEL SECTIONAL OVERHEAD DOORS

- A. Sectional Overhead Steel Doors: Wayne Dalton 2415 Series Steel Doors. Units shall have the following characteristics:
 - 1. Door Assembly: Steel door assembly of roll formed steel type with ship lap meeting rails and box shaped 20 gauge stile construction.
 - a. Panel Thickness: 2 inches (51 mm).
 - b. Exterior Surface: Ribbed.
 - c. Section Material: 24 gauge, galvanized steel.
 - d. Insulation: Insulation held in place with polymer clips. Provides an R-value up to 7.64
 - 1) 1-9/16 inch polyurethane.
 - e. Center and End Stiles:
 - 1) "C" shaped 16 gauge steel end stiles.
 - 2) 16 gauge steel center stiles.
 - f. Springs:
 - 1) High cycle spring: 100,000 cycles.
 - g. Partial Glazing of Insulated Steel Panels:
 - 1) 1/2 inch (12.5 mm) Thermolite Insulated Tempered Glass.
 - 2. Finish and Color: Two coat baked-on polyester:
 - a. White color.
 - 3. Hardware: Galvanized steel hinges and fixtures. Ball bearing rollers with hardened steel races.
 - 4. Lock:
 - a. Interior mounted slide lock with interlock switch for automatic operator.
 - 5. Weatherstripping:
 - a. Flexible bulb-type strip at bottom section.
 - b. Flexible Jamb seals.
 - c. Flexible Header seal.

6. Track: Provide track as recommended by manufacturer to suit loading required and clearances available.
 7. Electric Motor Operation: Provide UL listed electric operator, size and type as recommended by manufacturer to move door in either direction at not less than 2/3 foot nor more than 1 foot per second.
 - a. Power Supply: 115 VAC, single phase.
 - b. Type: 1 HP Heavy Duty
 8. Disconnect for chain hoist operation in case of power failure.
 9. Operator Controls:
 - a. Interior push button operated control station with open, close and stop buttons for surface mounting.
 10. Safety Device:
 - a. Photoelectric sensors; detect obstruction and reverse door without requiring door to contact obstruction.
- B. Wall Opening Size:
1. Door 002: 24'-0" wide x 14'-0" high.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until openings have been properly prepared.
- B. Verify wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.
- C. Verify electric power is available and of correct characteristics.
- D. If preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Provide Work as directed by manufacturer's instructions, applicable reference standards and as shown on the Construction Drawings. Notify the Architect immediately if the Construction Drawings conflict with the Manufacturer's instructions or recommendations or reference standards for providing Work.
- B. Provide Work as outlined in the nationally recognized reference standards related to that particular item of Work.
- C. Methods of construction will be in accordance with those recognized as "Standard Methods of Construction" for the industry for each item of work.

END OF SECTION

SECTION 087100 – DOOR HARDWARE

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Specifications for providing finish hardware for doors specified elsewhere.

1.2 RELATED SECTIONS

- A. Division 1 - Administrative and Procedural Sections for All Contracts
- B. Section 081743 – Integrated Composite Door Opening Assemblies

1.3 REFERENCE STANDARDS

- A. Below is a list, complete or incomplete, of nationally recognized standards governing the providing of items of Work of this specification. Quality control of items of Work will be based on these and any unlisted nationally recognized standards which relate to an item of Work specified in this section.
- B. ANSI A117.1 - Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People.
- C. NFPA 80 - Fire Doors and Windows.
- D. AWI - Architectural Woodwork Institute - Quality Standards.
- E. NFPA 101 - Code for Safety to Life from Fire in Buildings and Structures.
- F. NFPA 252 - Fire Tests of Door Assemblies.
- G. UL 10B - Fire Tests of Door Assemblies.
- H. UL 305 - Panic Hardware.

1.4 SUBMITTALS

- A. General: Prepare and submit for approval, per the procedures set forth in Division 1, all submittals required by Division 1, this section, and by all other Contract Documents.
- B. Shop Drawings: Not Required.
- C. Test Data: Not Required.
- D. Product Data: Submit manufacturer's specifications; edited specifically for this project, for each product submitted. Specifications should include material characteristics, limitations and handling procedures. Data should also include manufacturer's installation instructions and recommendations for use of their product.

- E. Hardware Schedule: Submit final hardware schedule in manner indicated below. Coordinate hardware with doors, frames and related work specified elsewhere to ensure proper size, thickness, hand, function and finish of hardware.
 - 1. Final Hardware Schedule Content: Based on finish hardware indicated, organize hardware schedule into "hardware sets" indicating complete designations of every item required for each door or opening. Include the following information:
 - a. Type, style, function, size and finish of each hardware item.
 - b. Name and manufacturer of each item.
 - c. Fastenings and other pertinent information.
 - d. Location of hardware set cross-referenced to the Door Schedule.
 - e. Explanation of all abbreviations, symbols, codes, etc., contained in the schedule.
 - f. Mounting locations for hardware.
 - g. Door and frame sizes and materials.
 - h. Keying information.
- F. Templates: Furnish hardware templates to each fabricator of doors, frames and other work to be factory-prepared for the installation of hardware. Upon request, check shop drawings of such other work, to confirm that adequate provisions are made for proper location and installation of hardware.
- G. Manufacturer's Certification: Not Required.
- H. Samples: Not Required.
- I. Warranties: Provide copy of manufacturer's warranties and/or guarantees.

1.5 QUALITY ASSURANCE

- A. Provide work in strict accordance with manufacturer's instructions and recommendations. Notify the Architect immediately if manufacturer's instructions or recommendations conflict with the Construction Documents.
- B. Supplier: A recognized architectural finish hardware supplier, with warehousing facilities, who has been furnishing hardware in the project's vicinity for a period of not less than 2 years, and who is, or who employs an experienced architectural hardware consultant who is available, at reasonable times during the course of the work, for consultation about project's hardware requirements, to the Owner, Architect and Contractor.
- C. Fire-Rated Openings: Provide hardware for fire-rated openings in compliance with NFPA Standard No. 80 and local building code requirements. Provide only hardware which has been tested and listed by UL or FM for types and sizes of doors required and complies with requirements of door and door frame labels.
- D. Where emergency exit devices are required on fire-rated doors (with supplementary marking on doors' UL or FM labels indicating "Fire Door to be Equipped with Fire Exit Hardware") provide UL or FM label on exit devices indicating "Fire Exit Hardware".
- E. The General Contractor shall be responsible for providing an on site inspection of the hardware installations by the hardware manufacturer or manufacturer's representative. A letter of acceptance of the installation shall be submitted to the Architect.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. See the Hardware Schedule on the Construction Drawings for manufacturers used for design purposes.

2.2 PRODUCT OPTIONS AND SUBSTITUTIONS

- A. Refer to the Conditions of the Contract and Division 1.

2.3 LOCK CYLINDERS AND KEYING

- A. Equip all locks with cylinders for interchangeable-core pin tumbler inserts.
- B. Provide 5 extra core pin tumbler inserts.
- C. Provide construction keyed temporary cores to be removed by Owner.
- D. Supply 2 keys for each lock.
- E. Supply keys in the following quantities:
 - 1. Blank Keys: 10.
- F. Deliver keys to Owner by secure shipment direct from hardware supplier.

2.4 DROP PLATES & MISCELLANEOUS HARDWARE

- A. The Contractor shall obtain all templates, screws, bolts, drop plates, brackets, shoes, covers, arms, risers, shims, etc. as required, to install specified hardware in intended application shown, so to function properly. This shall include all miscellaneous hardware required for hardware to function properly with other hardware specified to be installed on the door.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Inspect construction, surfaces, and products specified elsewhere or existing, adjacent to and/or in connection with work provided in this section. Proceed with Work if construction, surfaces, and products are satisfactory according to manufacturer's recommendations, applicable reference standards and this Project Manual to receive Work of this section. Commencement of work is an indication that the adjacent work is satisfactory and accepted for Work in this section.
- B. Provide wood or metal blocking behind wallboard where wall bumpers are to be located.

3.2 INSTALLATION

- A. Provide Work as directed by manufacturer's instructions, applicable reference standards and as shown on the Construction Drawings. Notify the Architect immediately if the Construction Drawings conflict with the Manufacturer's instructions or recommendations or reference standards for providing Work.
- B. Provide Work as outlined in the nationally recognized reference standards related to that particular item of Work.
- C. Methods of construction will be in accordance with those recognized as "Standard Methods of Construction" for the industry for each item of work.
- D. Set thresholds for exterior doors in full bed of butyl-rubber or polyisobutylene mastic sealant.

END OF SECTION

SECTION 088100 – GLASS GLAZING

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Specifications for providing glazing and accessories in doors and windows as shown on Construction Drawings.

1.2 RELATED SECTIONS

- A. Division 1 - Administrative and Procedural Sections for All Contracts
- B. Section 081743 – Integrated Composite Door Opening Assemblies

1.3 REFERENCE STANDARDS

- A. Below is a list, complete or incomplete, of nationally recognized standards governing the providing of items of Work of this specification. Quality control of items of Work will be based on these and any unlisted nationally recognized standards which relate to an item of Work specified in this section.
- B. ANSI/ASTM E330 - Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
- C. ANSI Z97.1 - Safety Performance Specifications and Methods of Test for Safety Glazing Used in Buildings.
- D. ASTM C1036 - Flat Glass.
- E. ASTM C1048 - Heat-Treated Flat Glass - Kind HS, Kind FT Coated and Uncoated Glass.
- F. ASTM E546 - Test Method For Frost Point of Sealed Insulating Glass Units.
- G. ASTM E576 - Test Method For Dew/Frost Point of Sealed Insulating Glass Units in Vertical Position.
- H. ASTM E773 - Test Method for Seal Durability of Sealed Insulating Glass Units.
- I. ASTM E774 - Sealed Insulating Glass Units.
- J. FGMA - Glazing Manual.
- K. SIGMA - Sealed Insulated Glass Manufacturers Association.

1.4 SUBMITTALS

- A. General: Prepare and submit for approval, per the procedures set forth in Division 1, all submittals required by Division 1, this section, and by all other Contract Documents.
- B. Shop Drawings: Not Required.
- C. Test Data: Provide as part of manufacturer's product data, results of testing done under nationally recognized testing procedures outlined in REFERENCE STANDARDS of this section.

- D. Product Data: Submit manufacturer's specifications; edited specifically for this project, for each product submitted. Specifications should include material characteristics, limitations and handling procedures. Data should also include manufacturer's installation instructions and recommendations for use of their product.
- E. Manufacturer's Certification: Provide manufacturer's written certification attesting that the proposed product meets the requirements of this specification.
- F. Samples:
 - 1. Submit two (2) 12 inch x 12 inch samples of each type of glazing specified. Insulated glazing samples to show actual sealing methods as finished product.
- G. Warranties: Provide copy of manufacturer's warranties and/or guarantees.

1.5 QUALITY ASSURANCE

- A. Provide work in strict accordance with manufacturer's instructions and recommendations. Notify the Architect immediately if manufacturer's instructions or recommendations conflict with the Construction Documents.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURER

- A. The following manufacturer is provided as a standard of quality. The Contractor may submit a substitute manufacturer under provisions of the Supplementary General Conditions and Division 1 of this Project Manual.
 - 1. Manufacturer: Pilkington Group
 - 2. Distributor: Technical Glass Products
Kirkland, Washington

2.2 PRODUCT OPTIONS AND SUBSTITUTIONS

- A. Refer to the Conditions of the Contract and Division 1.

2.3 MATERIALS

- A. 1" Double-Glazed Sputter-Coated Insulating Glass Units:
 - 1. Location: Integrated Composite Door Opening Assemblies.
 - 2. Conformance: ASTM E 2190, Class CBA.
 - 3. Outboard Lite: Sputter-Coated clear float glass.
 - a. Annealed Clear Float Glass: ASTM C 1036, Type 1, Class 1, Quality q3.
 - b. Vacuum Deposition Sputtered Coating: ASTM C 1376.
 - c. Coating on Surface No. 2: SunGuard SuperNeutral 62 (SN62).
 - d. Glass Thickness: 6mm (1/4 inch).
 - e. Heat Treatment: Tempered; ASTM C 1048, Kind FT; CPSC 16CFR-1201; ANSI Z 97.1.
 - 4. Air Space: 12mm (1/2 inch) wide, hermetically sealed, dehydrated air space.

5. Inboard Lite: Clear float glass.
 - a. Annealed Clear Float Glass: ASTM C 1036, Type 1, Class 1, Quality q3.
 - b. Glass Thickness: 6mm (1/4 inch).
 - c. Heat Treatment: Tempered; ASTM C 1048, Kind FT; CPSC 16CFR-1201; ANSI Z 97.1.
6. Glass Unit Performance Characteristics:
 - a. Visible Light Transmittance: 62 percent.
 - b. Visible Light Reflectance Outdoors: 11 percent.
 - c. Direct Solar Energy Transmittance: 27 percent.
 - d. Direct Solar Energy Reflectance Outdoors: 33 percent.
 - e. Winter U-Value Nighttime: 0.29.
 - f. Summer U-Value Daytime: 0.27.
 - g. Shading Coefficient: 0.36.
 - h. Solar Heat Gain Coefficient: 0.31.
 - i. Summer Relative Heat Gain: 75.
7. Edge Seals: ASTM E 773, with aluminum spacers and silicone sealant for glass-to-spacer seals.
8. Sealant: Approved by glass manufacturer.

2.4 GLAZING COMPOUND AND FIRE RATED GLAZING MATERIALS

- A. Glazing Tape: Closed cell polyvinyl chloride (PVC) foam, coiled on release paper over adhesive on two sides, maximum water absorption by volume of 2%. Glass panels that exceed 1,393 sq. inches for 90-minute ratings must be glazed with fire-rated glazing tape supplied by manufacturer.
- B. Glazing Compound: DAP 33 Putty.
- C. Silicone Sealant: One part neutral curing silicone, medium modulus sealant, Type S; Grade NS; Class 25 with additional movement capability of 50% in both extension and compression (total 100%); Use (Exposure) NT; Uses (Substrates) G, A, and O as applicable. Available Products:
 1. Dow Corning 795 - Dow Corning Corp.
 2. Silglaze-II 2800 - General Electric Co.
 3. Spectrum 2 - Tremco Inc.
- D. Setting Blocks: Neoprene, EPDM, or silicone; tested for compatibility with glazing compound; of 70 to 90 shore A hardness.
- E. Cleaners, Primers, and Sealers: Type recommended by manufacturer of glass and gaskets.

2.5 ACCESSORIES

- A. Setting Blocks
 1. Neoprene or hard rubber.
 2. Shore hardener: - 90 durometer, shore A.
 3. Minimum length 4 inches.
 4. Maximum loading from glass weight, 15 lbs./square inch.
- B. Tape (interior only, hollow metal frames)
 1. Vulcanized butyl rubber, non-oiling, with continuous neoprene spacer rod.
 2. Shore hardness: 15 durometer.
 3. Size as required.

- C. Spacers
 - 1. Neoprene
 - 2. Shore hardness: 50 durometer, Shore A.
 - 3. Size as required.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Inspect construction, surfaces, and products specified elsewhere or existing, adjacent to and/or in connection with work provided in this section. Proceed with Work if construction, surfaces, and products are satisfactory according to manufacturer's recommendations, applicable reference standards and this Project Manual to receive Work of this section. Commencement of work is an indication that the adjacent work is satisfactory and accepted for Work in this section.

3.2 INSTALLATION

- A. Provide Work as directed by manufacturer's instructions, applicable reference standards and as shown on the Construction Drawings. Notify the Architect immediately if the Construction Drawings conflict with the Manufacturer's instructions or recommendations or reference standards for providing Work.
- B. Provide Work as outlined in the nationally recognized reference standards related to that particular item of Work.
- C. Methods of construction will be in accordance with those recognized as "Standard Methods of Construction" for the industry for each item of work.

END OF SECTION

SECTION 230000
HEATING, VENTILATING, AND AIR CONDITIONING

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SECTION 230000 - HEATING, VENTILATING AND AIR CONDITIONING

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

- A. Contract Drawings: Contract drawings are in part diagrammatic, intended to convey the scope of work and indicate general arrangement of equipment. Become familiar with all conditions affecting work and verify spaces in which work will be installed. Carefully study and compare all contract drawings, specifications and other instructions and submit before bidding written notice to the Engineer of any error, inconsistency, or omission which may be discovered so that appropriate modifications can be made to Contract Documents. It will be the Contractor's responsibility to assume responsibility for work known to be contrary to such requirements.
- B. Work Included: Provide all items, articles, materials, operations and methods listed, mentioned, and scheduled on the drawings or herein described. This is to include all labor, materials, equipment and incidentals complete in place, tested and operating necessary and required for their operation, whether specifically mentioned or not for the systems shown.
- C. Related Work Described Elsewhere:
 - 1. Division 1 - General Requirements
 - 2. Supplementary Conditions
- D. Each Contractor shall be responsible for all cutting, patching, surface restoration, and all other requirements necessary for his work. Coordinate all requirements closely to assure proper placement. Use only mechanics thoroughly familiar with this work or make arrangements with qualified contractors to do this work to assure a quality installation.
- E. All roof penetrations shall be flashed by the Roofing Contractor. Roof curbs for HVAC equipment shall be furnished and installed by the HVAC Contractor.
- F. Excavation and backfill for all HVAC work inside the building is the responsibility of the HVAC Contractor. Bedding and compaction of same is the responsibility of the HVAC Contractor.
- G. This Contractor shall make all arrangements, coordinate all requirements, and pay all costs associated with this work. Methods must be approved by the Architect/Engineer. The Contractor must obtain written approval for methods, especially surface restoration before commencing work.
- H. Items or equipment to be removed shall be removed in their entirety. This includes accessory items such as roof curbs, flashings, pipe connections, power, supports, bases, duct, or any other item associated with items being removed.

1.02 ORDINANCES, PERMITS, FEES, ETC.

- A. This Contractor shall give all legal notices, obtain and pay for all permits and inspections, and pay all deposits and fees necessary for the installation of the work under this Contract. This shall be done without extra charge or compensation.
- B. All State laws and codes, and all Municipal codes, Ordinances, or regulations that may be applicable to this work, together with all orders issued by the various departments (Fire Department, etc.) which shall be issued in compliance with codes, ordinances, or regulations existing at the time bids are presented by any or all of said departments as applying to the work of this Contract shall be recognized.
- C. Any errors or omissions, or conflicts with ordinances and codes shall be reported to the Engineer prior to submittal of bid. No allowances shall be made for failure to observe the above.

- D. These rules shall take precedence over any regulations of the plans and specifications where a conflict occurs; this however, shall not be interpreted as permitting the use of inferior materials.
- E. Each Contractor shall be responsible for those items pertaining to his respective work.

1.03 CODES

- A. All work performed on this project shall conform to the requirements of the following codes and regulations and all other codes and regulations referenced therein.
 - 1. State of New York, Uniform Fire Protection and Building Code.
 - 2. National Fire Protection Association Codes and standards.
 - 3. Underwriter's Laboratories, Inc., Regulations.
 - 4. Occupational Safety and Health Act.
 - 5. Miscellaneous Standards and Regulations as applicable (E.G., ASTM, ANSI, IBR, ASHRAE, ASME).
 - 6. The State of New York Energy Conservation Construction Code.
 - 7. University of the State of New York State Education Department Codes and Standards.

1.04 TERMS AND ABBREVIATIONS

- A. The Contractor is expected to be familiar with the terms and abbreviations used in the trade. In the event that any abbreviation used in these specifications is not clear to the Contractor, he should request clarification during the bidding period. The failure to understand any such term or abbreviation shall not be used as a basis for a change in cost.

1.05 QUALITY ASSURANCE

- A. For the fabrication, installation, and testing of work under this Section use sufficient journeymen and competent supervisors completely familiar with the items required and the manufacturer's and industry recommended methods of installation. In acceptance or rejection of installed work, the Engineer will make no allowance for lack of skill on the part of workmen.
- B. Work shall be performed in a neat and workmanlike manner and comply with the pertinent appropriate industry standards and applicable codes.
- C. Design units as shown or specified exemplify the quality of the products intended to be incorporated in the installation. This same quality is expected for all materials whether specifically mentioned or not.

1.06 GUARANTEE

- A. This Contractor shall guarantee that all work of this contract is free from all defects, and is as specified.
- B. Should any defects develop within one (1) year from the date of substantial completion or as otherwise agreed to, in writing, by the Owner, such defects shall be made good by this Contractor, free of costs to the Owner. All equipment shall be left in perfect working order at completion, and neither final certificate of

payment, nor any provision in the contract document shall relieve the Contractor of the responsibility for negligence or faulty materials.

1.07 SUBMITTAL

- A. General: Comply with the provisions of the General Conditions and procedures outlined herein.
- B. Product Data: Within 14 calendar days after award of a contract, submit the following required information:
 - 1. Complete materials list of all items proposed to be furnished and installed under this Section including item to be used together with the intended service, manufacturer's name and model number for each.
 - 2. Catalog cuts and other data required to demonstrate compliance with the specified requirements. This shall include all parameters contained in the specification and plans. All submitted material shall be clearly marked to differentiate between applicable and extraneous information, including all required items and be clearly understood. Any submittal not meeting these stipulations will not be reviewed until corrected.
 - 3. All schedules as required.
 - 4. Shop drawings showing details of the proposed installation and interfacing of equipment with all other items and roughing in information.
 - 5. Manufacturer's recommended installation procedures which, when approved, will become the basis for inspecting and accepting or rejecting actual installation procedures used on the Work.
 - 6. The review of shop drawings and samples and the use of the review stamp is only for conformance with the design concept. The stamp does not indicate acceptance of every detail of the drawings, quantities, nor of the work methods indicated thereon. Shop drawings will not be reviewed unless they are stamped and signed as having been fully coordinated with all trades and site conditions. The review stamp does not relieve the Contractor of his responsibility to comply with all requirements of the specifications.
- C. Record Document:
 - 1. During the progress of the Work, maintain an accurate record of all changes made in the heating, air conditioning, and ventilating systems from the layout and materials shown on the contract documents.
 - 2. Upon completion of the work prepare "as built" drawings of the installation of items in this contract.
- D. Instruction Manuals
 - 1. Description
 - a. Work included: To aid in the continued instruction of operating and maintenance personnel, and to provide a positive source of information regarding the products incorporated in the Work, furnish and deliver the data described in this Section and in pertinent other Sections of these Specifications.
 - 2. Quality Assurance
 - a. In preparation of data required by this Section, use only personnel who are thoroughly trained and experienced in operation and maintenance of the described items, completely

familiar with the requirements of this Section, and skilled in technical writing to the degree needed for communicating and essential data.

3. Format: Prepare instruction manuals in accordance with the following:
 - a. Size: (8 1/2" by 11")
 - b. Paper: White bond, at least 20 lbs.
 - c. Text: Neat typewritten.
 - d. Drawings: (11") in height preferable; bind in with test foldout acceptable; larger drawings acceptable, but fold to fit within the manual and provide a drawing pocket inside rear cover or bind in with text.
 - e. Flysheets: Separate each portion of the manual with neatly prepared Flysheets briefly describing contents of the ensuing portion; Flysheets may be in color.
 - f. Binding: Use heavy duty plastic or cardboard covers with binding mechanism concealed inside the Manual; 3-ring binders will be acceptable; all binding shall be subject to the Engineer's approval.
 - g. Measurements: Show the U.S. Measurements.
4. Covers: Provide front and back covers for each Manual, using durable material and clearly identified on or through the front with at least the following information:

OPERATING AND MAINTENANCE INSTRUCTIONS

(Name of Contractor)

(General Subject of this Manual)

(Space for approval signature of the Engineer and approval date)

5. Contents: Include at least the following:
 - a. Neatly typewritten index near the front of the Manual, giving immediate information as to location within the Manual of all emergency data regarding the installation.
 - b. Complete instruction regarding operation and maintenance of all equipment involved, including lubrication, disassembly, and reassembly.
 - c. Complete nomenclature of all parts of all equipment.
 - d. Complete nomenclature and part number of all replaceable parts, name and address of nearest vendor, and all other pertinent data regarding procurement procedure.
 - e. Provide a copy of all guarantees and warranties issued.
 - f. Manufacturer's bulletins, cuts and descriptive data, where pertinent, clearly indicating the precise items included in this installation and deleting, or otherwise clearly indicating, all manufacturers' data with which this installation is not concerned.
 - g. Record Documents.

h. Such other data as required in pertinent other Sections of these Specifications.

6. Submittal

a. Prepare manuals and submit to Engineer for approval. Show general arrangements, nature of contents in each portion, probable number of drawings and their size, and proposed method of binding and covering. Secure the Engineer's approval prior to proceedings with final.

b. Revisions: Following the indoctrination and instruction of operation and maintenance personnel, review all proposed revisions of the Manuals with the Engineer to revise previously approved manuals.

1.08 PRODUCT HANDLING

A. Protection: Use all means necessary to protect the materials of this section before, during, and after installation and to protect the work and materials of all other trades.

B. Replacements: In the event of damage, immediately make all repair and replacements necessary to the approval of the Engineers and at no additional cost to the Owner.

C. Delivery and Storage:

1. Deliver equipment to site in original manufacturer's cartons.

2. Store all material off the ground under protective covering to keep clean and dry.

1.09 ELECTRICAL COORDINATION

A. All wiring from power panels to primary equipment including final connection shall be done under the Work of Division 26, Electrical.

B. All control wiring and connections to auxiliary equipment from primary equipment and control panels, unless specifically shown otherwise on Electrical Drawings shall be done under the Work of the Division under which the auxiliary equipment is specified.

C. All such Electrical Work shall comply with the applicable provisions of Division 26, "Electrical" sections and the National Electrical Code.

D. All 110V control wiring and connections to auxiliary equipment from primary equipment and control panels shall be performed by the Electrical Contractor. All low voltage (24V or less) control wiring and connections to auxiliary equipment from primary equipment and control panels shall be performed by Mechanical Contractor.

E. This Contractor shall furnish and install all motors for equipment provided by him and requiring same.

F. Coordinate space requirements for placement of HVAC components (diffusers, grills, duct, pipe, etc.) with requirements of the lighting equipment being installed by the Division 26 Contractor.

G. Refer instances of uncertain applicability to the Architect/Engineer for resolution before proceeding.

1.10 EQUIPMENT IDENTIFICATION

- A. General: Provide a thorough and complete system of identification of all pipe, duct and equipment, including valves, dampers, and other appurtenances, to permit immediate and positive recognition of all components.
- B. Piping and Ductwork: Labels shall be adhesive backed vinyl cloth with contrasting letters. Tape width shall be 3/4" wide for small labels and 2" wide for larger labels and be as manufactured by Brady Pipe Markers. Small labels shall be used on all pipe 2" and smaller; large labels shall be used on all ductwork and piping greater than 2". Space labels 5 feet on center in mechanical rooms and 20 feet on centers elsewhere.
- C. Equipment: Small labels shall be used when the viewing distance is five feet or less. Large labels shall be used when viewing distance exceeds five feet.

PART 2 – PRODUCTS

2.01 GENERAL

- A. The contract is based on the standards of quality established in the Contract Documents. Unless specifically noted otherwise, all products and materials shall be new, first quality, U.L., and A.G.A. approved.
- B. All products for use, including those specified by required attributes and performance, shall require approval by the Engineer before being incorporated into the Work.
- C. All equipment shall be the capacity and types required. Substitution will only be allowed for products proving to be equal or exceeding the design units.
- D. Do not substitute materials, equipment, or methods unless such substitution has specifically been approved, in writing, in advance by the Engineer.
- E. Requests for substitution will only be considered when complete submission of product data in accordance with the General Conditions shows equal or superior features as compared with design units. The Engineer will consider proposals for substitution of materials, equipment, and methods provided they are cost-effective and exemplify the original project scope and cause no delays in construction. Proposals for substitution or alternate methods must be accompanied by full and complete technical data, appropriate drawings, and other information required by the Engineer to evaluate the proposed substitution.
- F. The Engineer will be the sole authority in determining product acceptability and his decision shall be final.
- G. Single Source:
 - 1. For ease of maintenance and parts replacement, to the maximum extent possible use equipment of a single manufacturer.
 - 2. The Engineer reserves the right to reject any materials list which contains equipment from various manufacturer's if suitable materials can be secured from fewer manufacturers, and to require source of materials to be unified to the maximum extent possible.

2.02 HANGERS AND SUPPORTS

- A. Hangers and supports, unless otherwise shown on the drawings, shall equal or exceed the quality of the following:

ITEM	MANUFACTURER & NUMBER
Pipe ring hanger	Grinnel 107R
Side beam clamp	Grinnel 202
Trapeze hangers	Superstrut A1200
Vertical risers	Grinnel 261

- B. Hanger rods shall conform to the following:

PIPE SIZE	ROD DIAMETER
1/2" to 2"	3/8"
2 1/2" to 3 1/2"	1/2"
4" to 5"	5/8"

- C. At the Contractor's option, trapeze hangers may be used where parallel runs of pipe occur. All rods on trapeze hangers shall be 1/2 inch minimum.
- D. Electroplated copper hanger rods, hangers and accessories shall be used with copper pipe or copper tubing.

2.03 SIDEWALL PROPELLER EXHAUST FAN - DIRECT DRIVE (EF-1)

- A. Unit shall be a direct drive, axial type sidewall wall exhaust fan coupled with a low leak and motor operated control damper. The fan shall AMCA certified and U.L. 705 Listed.
- B. Propellers shall be constructed with cast aluminum blades and hubs. A square key and set screw or tapered bushing shall lock the propeller to the motor shaft. All propellers shall be statically and dynamically balanced.
- C. Motor shall be permanently lubricated, heavy duty type, carefully matched to the fan load and furnished at the specified RPM, voltage, phase, and enclosure.
- D. Motor drive frame assemblies and fan panels shall be galvanized steel. Drive frame assemblies shall be formed steel and fan panels shall have prepunched mounting holes, formed flanges, and an insertable drop-in vent. Drive frames and panels shall be bolted construction. Unit shall have corrosion resistant fasteners.
- E. Fan shall have a permanent affixed manufacturer's nameplate noting the model number and serial number.
- F. Options & Accessories:
 - Motor: Vari-Green EC motor
 - Control: Vari-Green Indoor Air Quality (Temperature & Humidity)
 - Control: Speed control dial for balancing
 - Control: Vari-Green Transformer 85-277 VAC to 24 VDC, mounted & wired.
 - Motorized damper mounted, low leakage type tied into the fan operation. Frame type: channel, 16ga galvanized, opposed blade, blade seal: TPE, Axle/linkage: Steel, synthetic axle bearings, stainless steel jamb seal, temp. rating 180F. Greenheck model VCD-23-PB, size 26x26
 - Damper actuator: 24 VDC, end switch, Honeywell model MS8104F1210.
 - Long Wall Hsg, flush exterior, w/ OSHA guard.
 - Motor access from interior of bldg.
 - NEMA 1 switch, toggle, shipped with unit.
 - Junction box mounted & wired.
 - Closure angles,
 - 45 deg. galvanized weatherhood – to be painted at factory with 2-coat 50% KYNAR 5000/HYLAR AAMA 2604 – dry film thickness 1.2 mil. Color chosen during submittal process.
 - Aluminum bird screen
 - 1 year warranty
- G. Coordinate closely wall opening requirements.
- H. Design unit is Greenheck model AER-E24C-315-VG

2.04 LOUVER (LV-1) & (LV-2)

- A. Unit shall be a weather louver designed to protect air intake openings in building exterior walls. Design shall incorporate drain gutters in the head member and horizontal blades to channel water to the jambs where water is further channeled through vertical downspouts and out at the sloped sill.

- B. Frame shall be heavy gauge extruded 6063-T5 aluminum, 4"x0.081" nominal thickness. Unit shall be mechanically fastened.
- C. Blades shall be drainable design, heavy gauge extruded 6063-T5 aluminum, 0.081" nominal wall thickness, positioned at 37.5 deg. angles on approximately 3-1/4" centers.
- D. Birdscreen shall be 3/4" x 0.051" flattened expanded aluminum in removable frame, inside mount (rear).
- E. Louver to have 56% free area and 989 fpm free area velocity at the beginning point of water penetration.
- F. Unit shall be mechanically fastened and painted at factory with 2-coat 50% KYNAR 5000/HYLAR AAMA 2604 – dry film thickness 1.2 mil. Color chosen during submittal process.
- G. Louver shall include motorized, low leakage control damper type tied into the fan operation. Frame type: channel, 16ga galvanized, opposed blade, blade seal: TPE, Axle/linkage: Steel, synthetic axle bearings, stainless steel jamb seal, temp. rating 180F. Greenheck model VCD-23, Size 30"Wx24"H
- H. Actuator for motorized damper shall be 24 VAC, external mount, left side, two position, spring return, close in fail position and include auxiliary switches. Honeywell model MS8104F1210.

2.05 CONTROLS

- A. General - The contractor shall furnish, install, and place in operating condition controls as outlined. Controls shall also be provided for HVAC units including exhaust fans.
- B. All materials and equipment used shall be standard components, regularly manufactured by the control contractor, for this and/or other systems.
- C. All components or sub-systems of the control system must meet applicable Code requirements.
- D. Controls shall be complete with power supplies, sensors, wiring, transformers, contractors, relays, switches, indication, control panels, pneumatic tubing, and all necessary accessories required to comply with the National Electric Code and as required for system operation.
- E. All control wiring shall comply with the National Electric Code and provisions of Section 16 - Electrical Specifications.
- F. Control Devices
 - 1. All control devices and products used in the control system shall be first line products, manufactured for the application as used.
 - 2. All electrical wiring for the control system shall be as required to meet the National Electric Code, and as required by local codes.
 - 3. Automatic Dampers
 - a. Dampers shall be the modulating, double-acting, opposed blade type, designed and tested in accordance with AMCA Standard 500 (1983). Obtain the size of each damper, and verify the size. Verify the layout of equipment and ductwork before dampers are fabricated. Pressure drop shall not exceed 0.03 inch at 1,000 fpm in wide open position. Velocity of 3,000 fpm. Furnish automatic dampers, as described herein, to the Mechanical Contractor.
 - b. Dampers shall be constructed of extruded aluminum or 16 gauge steel, with each blade

being not more than 8 inches wide. Blades shall have interlocking edges and shall be provided with compressible seals at point of contact.

- c. Each damper shall be assembled in the manufacturer's shop as complete units. The channel frame of each damper shall not be less than 2 inches wide and shall be provided with jamb seals to minimize air leakage. Dampers, when closed, shall be guaranteed by the manufacturer not to leak in excess of 20 cfm per square foot at 4 inches water gauge static pressure. Provide dampers with operator having sufficient power to limit leakage to the rate specified.
- d. Damper seals shall be suitable for an operating range extending from -20 degrees F. (or 20 degrees F. below the heating outside design temperature, whichever is lower) at the lower end to 200 degrees F. at the upper end.
- e. Operating links (connecting rods) transmitting motion from damper motors to dampers shall withstand a load equal to at least twice the maximum damper operating force, without deflection. Lengths shall be adjustable. Links shall be brass, bronze or steel. Steel links shall be zinc-coated or cadmium-plated. Working parts of joints (e.g., clevises and ball and socket joints) shall be brass, bronze or stainless steel.
- f. A complete damper assembly shall be provided, with blades not longer than 48 inches and not higher than 48 inches. Where greater length or height is required, the assemblies shall be made from combination of sections.

4. Damper Operators

- a. Provide damper operators of proper size so that they will operate satisfactorily against that static pressure of the system. Provide each damper operator with bracket for attaching it to the ductwork, building structure, or equipment.
- b. Damper operators shall be quiet in operation. In the event of power failure, operation shall be provided with spring return so that they will "fail safe" in either normally open or normally closed position as required for freeze, smoke or fire protection. Stroke of motors shall be controlled by adjustable stops, or by adjustment of crank arm to control open and closed positions of dampers.
- c. Damper operator voltage shall be as required for proper interfacing. Coordinate this requirement closely before ordering.

PART 3 – EXECUTION

3.01 INSPECTION

- A. As a portion of the work under this section involves an existing building, it is necessary for contractors to thoroughly examine the areas and conditions at the site to properly access the full scope of the work to be performed under this Section.
- B. Lack of knowledge relative to existing conditions will not be allowed as a basis for extra compensation.
- C. Report any discrepancies to Engineer two weeks before bidding date so that Addendum's can be issued.

3.02 CONCEALMENT

- A. Conceal all duct work and piping above ceilings and in walls, etc., wherever possible. If for any reason concealment is impossible or impractical, notify the Engineer's representative before starting that part of the work.
- B. Install exposed work as shown on the drawings or as approved by Engineer's Representative.
 - 1. Obtain Engineer's approval for final arrangement and appearance in areas with no ceiling before installing.

3.03 WATERPROOFING AND CAULKING

- A. Opening through roofs:
 - 1. All openings through the roof shall be caulked and waterproofed with material as required.
 - 2. Guarantee thoroughly watertight.
 - 3. The roofs are bonded. All flashing and sealing of roof openings required for mechanical equipment must be done by the Roofing Contractor. Coordinate requirements closely with the roofer and pay any charges incurred.
- B. Opening through outside walls:
 - 1. Caulked by filling space between pipes and sleeves with approved non-hardening caulking compound, from inside and outside.
 - 2. In special waterproof construction as directed by Engineer's Representative.
 - 3. Guaranteed thoroughly watertight.

3.04 EQUIPMENT INSTALLATION

- A. All equipment shall be installed in accordance with the manufacture's instructions and directives of the Engineer. If there is a conflict with instructions or uncertainty, clarify before proceeding.
- B. All equipment shall have vibration isolation to prevent transmission of noise or forces. This shall include all pad mounted or suspended equipment. Submit proposed methods for approval before installation.
- C. All steps shall be taken to assure low noise levels in installed equipment. If there is excessive noise

generation the Contractor will be required as part of this contract to make modifications at no additional costs to the Owner.

- D. Each equipment manufacturer, through this contractor shall:
 - 1. Carefully check drawings and specifications as they affect their particular equipment, before roughing.
 - 2. Report to Engineer before or at the time when shop drawings are submitted, any discrepancies or contradictions as applied to their particular equipment which prevents proper functioning, servicing, etc.
 - 3. Furnish manufacturer's printed installation instructions for each piece of equipment.
 - 4. Thoroughly instruct contractor exactly how their equipment should be installed, connected, lubricated, started, operated, etc., so that all factory instructions are rigidly followed.
- E. Contractor shall install, test, start and operate his equipment as instructed by manufacturer.
- F. Submit written evidence from equipment manufacturers that their equipment and systems have been:
 - 1. Installed strictly in accordance with manufacturer's recommendations.
 - 2. Properly aligned and adjusted, tested, lubricated, wired, balanced, etc.
- G. It is the Contractor's responsibility to insure that all equipment shall fit the available space. He shall also be responsible for furnishing and coordinating all allied equipment pertaining to the installation of the units such as piping and automatic temperature controls.

3.05 SUPPORTS

- A. Contractor shall include costs of all materials and labor necessary to provide all required supports, beams, angles, hangers, rods, bases, braces, etc., to properly support this contract equipment or as required to accomplish the work. All supports, etc., shall meet the approval of the Engineer's Representative.

3.06 MAINTENANCE OF SYSTEMS DURING TEMPORARY USE

- A. Properly lubricate all system bearings during temporary use.
- B. Maintain all limit controls, overload devices, and safety controls in operating condition during use.

3.07 EQUIPMENT CONNECTIONS

- A. Provide:
 - 1. All final drain connections to all equipment requiring same.
 - 2. Connections to equipment exactly as recommended by manufacturer and/or Engineer's Representative.

3.08 MANUALS

- A. Prepare and submit "Operation and Maintenance Manuals" and "Instruction Manuals" of all equipment

being installed under this contract.

B. Manuals shall include:

1. Installation, maintenance, operating instructions and full catalog description including exploded parts drawings of all equipment.
2. All valve charts and lists.
3. Lubrication list for all equipment including type of lubricant, source, and frequency of lubrication stated for each unit of equipment.
4. Control description and diagrams which shall include data required in Item 1 above.
5. Emergency phone number for service for all equipment.
6. List of all suppliers and subcontractors including address, responsible personnel and phone numbers.
7. All receipts, submittals, and test reports.
8. All warranties.
9. Schematic diagrams for all systems.
10. Wiring and control diagrams for all equipment.
11. Maintenance schedule for all equipment, including lubrication and filter replacement.

3.09 OWNER'S INSTRUCTION

- A. After completion of work, including punch lists, and after testing of systems, conduct a complete and thorough seminar for Owner's designated personnel at the job site for all equipment installed in this project.
- B. Seminar Shall Include:
1. Operation and maintenance of all systems.
 2. Explanation of identification system.
 3. Emergency and alarm procedures.
 4. Sequencing requirements.
 5. Seasonal provisions.
 6. Security and safety.
 7. Review of manuals.
- C. Training shall be conducted by persons thoroughly familiar with equipment and installation, including manufacturer's representatives if directed by Architect/Engineer.
- D. Manufacturer's of certain equipment specified herein shall provide technically qualified factory representatives to train the owner's representative in the care and maintenance and operation of their

product. This instruction and service of the factory representative shall be furnished as specified elsewhere in the specifications. This time is in addition to what is specified above and will not be counted as part of the contractor's instructions.

- E. The time and place of all training shall be coordinated and scheduled by the Engineer at the convenience of the Owner. The initial training system shall cover the entire system. Subsequent sessions will be scheduled by the Owner after operators have become familiar with the system.
- F. Submit letters attesting to the satisfactory completion of all instructions. Letters shall include date of completion of instruction, names of persons in attendance and be countersigned by authorized representative of Owner.

3.10 COOPERATION

- A. Do all things necessary to cooperate with other trades in order that all systems in the work may be installed in the best arrangement. Coordinate as required with all other trades to share space in common areas and to provide the maximum of access to each system.

3.11 SUBMITTALS

- A. The Contractor will prepare layout drawings of equipment and materials when necessary to insure that equipment will fit the allotted space with clearance for installation and maintenance.
- B. All material and equipment as mentioned in these specifications shall require complete submittals.

3.12 HVAC UNITS

- A. Install in strict accordance with the manufacturer's recommendations.
- B. Coordinate all cutting, patching etc. required for this work. Completely seal, to the satisfaction of the Engineer, all penetrations.
- C. Coordinate closely with the Electrical Contractor the electrical power requirements.
- D. This contractor shall verify dimensions before start of installation. It is the contractor's responsibility to insure that all equipment shall fit the available space. He shall also be responsible for furnished and coordinating all allied equipment pertaining to the installation of the equipment such as piping and automatic temperature controls.
- E. Submit shop drawings of proposed installation to Engineer for approval before ordering material or constructing ductwork.
- F. This Contractor is responsible for installation of any supports required not shown on the structural drawings.
- G. Closely coordinate location of equipment with structural drawings. Adjust location as required to accommodate structural support.
- H. Maintain all clearances required by code and for service of equipment.
- I. Coordinate tie-ins with Electrical Contractor.

3.13 DAMPERS

HEATING, VENTILATION & AIR CONDITIONING

- A. Fasten securely to duct and seal all duct penetrations of the duct.
- B. Mount automatic dampers plumb to assure proper operation.
- C. Install access doors to facilitate adjustment or repair.
- D. On motorized damper mount motor outside the airstream. Test operation before enclosing work.

3.14 LOUVERS

- A. Coordinate frame selection with the type of wall in which the louver is being installed.
- B. Verify all opening sizes, locations and mounting arrangements prior to ordering and installation.
- C. Coordinate location of louvers to prevent conflicts with other items being installed.
- D. This contractor shall verify dimensions before start of installation.
- E. Coordinate placement so that proper interfacing with duct or other equipment is assured.
- F. All louvers shall be caulked weather tight on both the interior and exterior.

3.15 FANS

- A. General: Furnish and install all fans in accordance with locations as indicated on drawings, as detailed and scheduled. Installation shall conform to manufacturer's instructions and shall include all accessories required to assure a complete and workable installation. Avoid interference with structure, and with work of other trades.
- B. It is the contractor's responsibility to insure that all equipment shall fit the available space. He shall also be responsible for furnishing and coordinating all allied equipment pertaining to the installation of the equipment.
- C. Check each piece of equipment in the system for defects, verifying that all parts are properly furnished and installed, that all items function properly, and that all adjustments have been made.
- D. Coordinate all openings required closely with the General Contractor and Electrical requirements with the Electrical Contractor.

SECTION 260001 – ELECTRICAL

PART 1 – GENERAL

1.1 SCOPE OF WORK

- A. Provide all labor, material, tools, equipment, transportation, and services necessary for and incidental to completion of all electrical work as indicated on the Drawings and/or as specified herein.

1.2 DRAWING USE AND INTERPRETATION

- A. The Drawings are diagrammatic and indicate the general arrangement of systems and equipment unless indicated otherwise by dimensions or details. Exact equipment locations and raceway routing, etc. shall be governed by actual field conditions and/or instructions of the Engineer and/or Owner's Representative.

1.3 COMPLETE SYSTEMS

- A. General: Furnish and install all materials as required for complete systems, including all parts obviously or reasonably incidental to a complete installation, whether specifically indicated or not. All systems shall be completely assembled, tested, adjusted and demonstrated to be ready for operation prior to Owner's acceptance.
- B. Wiring: The wiring specified and/or shown on the Drawings is for complete and workable systems. Any deviations from the wiring shown due to a particular manufacturer's or subcontractor's requirements shall be made at no cost to either the Contract or the Owner.

1.4 CODES AND REGULATIONS

- A. General: Comply with the latest recognized edition of the National Electrical Code (NEC) and all governing federal, state, and local laws, ordinances, codes, rules, and regulations. Where the Contract Documents exceed these requirements, the Contract Documents shall govern. In no case shall work be installed contrary to or below minimum legal standards.
- B. Utilities: Comply with all applicable rules, restrictions, and requirements of the utility companies serving the project site/facilities.
- C. Non-Compliance: Should any work be performed which is found not to comply with any of the above codes and regulations, provide all work and pay all costs necessary to correct the deficiencies.

1.5 REFERENCE STANDARDS

- A. All latest published standards of the following associations/organizations shall be followed and applied where applicable as minimum requirements:
 1. (ADA), Americans with Disabilities Act.
 2. (ANSI), American National Standards Institute.
 3. (ASTM), American Society for Testing and Materials.
 4. [(BCNYS), Building Code of New York State].
 5. (CBM), Certified Ballast Manufacturer.

6. (EPACT), National Energy Policy Act.
7. (ETL), Electrical Testing Laboratory.
8. [(FCNYS), Fire Code of New York State].
9. (ICEA), Insulated Cable Engineers Association.
10. (IEEE), Institute of Electrical and Electronic Engineers.
11. (IESNA), Illuminating Engineering Society of North America.
12. (NBFU), National Board of Fire Underwriters.
13. (NEMA), National Electrical Manufacturers Association.
14. (NESEC), National Electrical Safety Code.
15. (NFPA), National Fire Protection Association.
16. (UL), Underwriter's Laboratories.

1.6 PERMITS

- A. General: Obtain and pay for any and all permits required by all applicable agencies, prior to commencing work.

1.7 SUBMITTALS

- A. General: Prepare and submit for approval, per the procedures set forth in Division 1, all submittals required by Division 1, this section, and by all other Contract Documents.
- B. Types: Required submittals may include: Schedule of Values; List of Subcontractors; Product Data; Shop Drawings; Samples; Test Reports; Certifications; Warranties; Maintenance Manuals; Record Drawings; and various administrative submittals.
- C. Number of Copies: As indicated in Division 1, Division 26, or elsewhere in the Contract Documents. For quantities indicated in the Contract Documents or specification sections other than Division 26 sections, increase number of copies by one to allow for the Engineer's record copy. Minimum number of copies per submittal: three.
- D. Product Data: Submit for all basic electrical equipment, devices, and materials to be used on the project. Product data to consist of manufacturer's standard catalog cuts, descriptive literature and/or diagrams, in 8-1/2-inch-by-11-inch format, and in sufficient detail so as to clearly indicate compliance with all specified requirements and standards. Mark each copy to clearly indicate proposed product, options, finishes, etc.
- E. Shop Drawings: Submit for all custom equipment and systems (e.g., panelboards) to be used on the project. Shop Drawings to be newly prepared, specifically for this project, and shall include all information listed in the Shop Drawings submittal requirements in the respective specification section. Include all pertinent information such as equipment/system identification, manufacturer, dimensions, nameplate data, sizes, capacities, types, materials, performance data, features, accessories, wiring diagrams, etc., in sufficient detail so as to clearly indicate compliance with all specified requirements and standards. For control systems, provide computer generated control ladder diagrams specifically developed for this project (standard diagrams not acceptable).
- F. Maintenance Manuals: Include operating and maintenance data in accordance with Division 1. Include all Product Data/Shop Drawing submittals as well as descriptions of function, normal operating characteristics and limitations, and manufacturer's printed operating maintenance, trouble shooting, repair, adjustment, and emergency instructions, and complete replacement parts listing.

- G. Record Documents: Prepare and submit in accordance with Division 1. In addition to Division 1 requirements, indicate actual installed locations for all equipment and devices, routing of major interior raceways, locations of all concealed and underground equipment and raceways, and all approved modifications to the Contract Documents, and deviations necessitated by field conditions and change orders.

1.8 QUALITY ASSURANCE

- A. Manufacturers' Qualifications: Not less than three years of experience in the actual production of the specified products.
- B. Installers' Qualifications: Firm with not less than five years of experience in the installation of electrical systems and equipment similar in scope and complexity to those required for this Project, and having successfully completed at least ten comparable scale projects.
- C. Incidental Work: Excavation, backfill, painting, patching, welding, carpentry, mechanical work, concrete pads and the like related to or required for Division 26 work shall be performed by craftsman skilled in the appropriate trade, but shall be provided for under Division 26.

1.9 INSPECTIONS

- A. General: During and upon completion of the work, arrange and pay all associated costs for inspections of all electrical work installed under this contract, in accordance with the Conditions of the Contract.
- B. Inspections Required: As per the laws and regulations of the local and/or state agencies having jurisdiction at the project site.
- C. Inspection Agency: Approved by the local and/or state agencies having jurisdiction at the project site.
- D. Certificates: Submit all required inspection certificates.
- E. Coordination: Coordinate inspections with the local utility.

1.10 DELIVERY STORAGE AND HANDLING

- A. Comply with Division 1 requirements.
- B. Packing and Shipping: Deliver products in original, unopened packaging, properly identified with manufacturer's identification, and compliance labels.
- C. Storage and Protection: Comply with all manufacturer's written recommendations. Store all products in a manner, which shall protect them from damage, weather, and entry of debris.
- D. Damaged Products: Do not install damaged products. Arrange for prompt replacement.

PART 2 – PRODUCTS

2.1 GENERAL

- A. Where Specified: Materials and equipment shall be as specified herein and/or as indicated on the Drawings.
- B. General Requirements: All materials and equipment shall be in accordance with the Contract Documents, and to the extent possible, standard products of the various manufacturers, except where special construction or performance features are called for. All materials and equipment to be new, clean, undamaged, and free of defects and corrosion.
- C. Acceptable Products: The product of a specified or approved manufacturer will be acceptable only when that product complies with or is modified as necessary to comply with all requirements of the Contract Documents.
- D. Common Items: Where more than one of any specific item is required, all shall be of the same type and manufacturer.
- E. UL Listing: All electrical materials and equipment shall be Underwriters' Laboratories (UL) listed and labeled where UL standards and listings exist for such materials or equipment.

2.2 PRODUCT OPTIONS AND SUBSTITUTIONS

- A. Refer to the Conditions of the Contract and Division 1.

2.3 FIRESTOPPING MATERIALS

- A. General: Firestop systems composed of firestop compounds and appropriate damming materials installed together with the penetrant (e.g., conduit) to form a complete firestop system, providing a fire resistant rating at least equal to the hourly fire resistance rating of the floor, wall or partition into which the firestop system is to be installed.
- B. Test Standards: Firestopping materials shall be tested together as a system to the time/temperature requirements of ASTM E119 and shall be tested to UL 1479 (ASTM E814) and be UL classified for up to 3 hours.
- C. Firestop Sealants: Non-hardening, conformable, intumescent putties, sealants or other compounds, containing no toxic solvents or asbestos, and exhibiting aggressive adhesion to all common building materials and penetrants, while allowing reasonable movement of the penetrants, without being displaced. Compounds shall be waterproof, non-toxic and smoke and gas tight.
- D. Firestop Mortars: Light-weight, water-based, cementitious, fast drying, low density mortar, non-shrinking and non-cracking during its cure, and which forms a surface capable of being sanded, bored and painted.
- E. Damming Materials: Mineral wool or ceramic fiber.
- F. Multi-Cable Transits: Assemblies consisting of a frame, a compression mechanism, and grooved insert sealing modules sized for multiple penetrating elements of various sizes.

- G. Acceptable Manufacturers: Hilti; Heavy Duty/Nelson; International Protective Coatings; Specified Technologies, Inc.

2.4 SOIL MATERIALS

- A. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, crushed slag, or natural or crushed sand.
- B. Drainage Fill: Washed, evenly graded mixture of crushed stone, or crushed or uncrushed gravel, with 100 percent passing a 1-1/2-inch sieve and not more than 5 percent passing a No. 4 sieve.
- C. Backfill and Fill Materials: Materials complying with ASTM D2487 soil classification groups GW, GP, GM, SM, SW, and SP, free of clay, rock, or gravel larger than 2 inches in any dimension, debris, waste, frozen materials, vegetable, and other deleterious matter.

2.5 CONCRETE WORK

- A. Concrete:
 - 1. Minimum Strength: 3000 psi at 28 days.
 - 2. Aggregate: 3/4 inch aggregate.
 - 3. Cement: 588 #/cubic yard minimum, Type I or II.
 - 4. Slump: 4 inches maximum.
 - 5. Air: 5 to 7 percent.
- B. Reinforcing: Grade 60 bars, sized as indicated, and 6 inches by 6 inches – W1.4 by W1.4 mesh and other reinforcing as indicated.
- C. Forms: Wood, metal, or other approved materials constructed so as to withstand the forces of the newly placed concrete.
- D. Equipment Pads: Minimum 4 inches thick indoor, 12 inches thick outdoor (with 9 inches below grade), with 1 inch by 45-degree chamfer on all top edges. For on grade installations, provide 12-inch layer of crushed stone beneath pad. For pads to be placed on concrete floors, provide anchors into concrete floor.
 - 1. Comply with equipment manufacturer's specifications and/or utility company requirements.

2.6 RACEWAY SYSTEMS

- A. Raceway Sizing: As required by the NEC (minimum) with oversized raceways as indicated and where required for ease of pulling cable.
 - 1. Minimum conduit size: 3/4 inch, unless indicated otherwise.
- B. Raceway Types: Rigid galvanized steel conduit, electrical metallic tubing (EMT), flexible steel conduit, liquid-tight flexible steel conduit and Schedule 40 heavywall and Schedule 80 extra-heavywall rigid non-metallic (PVC) conduit conforming to applicable ANSI, NEMA and UL standards.
- C. Fittings: All raceway fittings (except for rigid non-metallic conduit) to be steel or malleable iron and UL-listed for the intended application. EMT fittings to be compression type.

- D. Outlet Boxes (Concealed in Walls): Non-gangable, galvanized steel with square cornered tile (or masonry) type extension rings or cover.
 - 1. Minimum size: two-gang masonry box or 4-inch square box with single-gang adapter (plaster) ring. Depth of adapter ring to suit application.
 - 2. Minimum depth: 1-1/2 inches.
 - 3. Minimum capacity: 21 cubic inches.
- E. Outlet Boxes (Surface Mounted): Cadmium plated cast or malleable iron.
- F. Pull and Junction Boxes, and Wireways: Use as indicated and required. Junction and pull boxes for general indoor use (dry locations) to be of galvanized code gauge steel construction, minimum 4-inch square by 1-1/2 inches deep with screw-on covers. Wireways to be UL listed, sheet steel construction with screw-on covers. For exterior and damp or wet indoor locations, use boxes and wireways approved for such use.
- G. Handholes: Light-weight and high-strength, constructed of fiberglass reinforced polymer concrete, gray color, suitable for use at temperatures down to -50 DegF, and resistant to sunlight, weathering, chemicals and freeze-thaw cycles, with bolt-on cover (with standard logo indicating type of service), and designed for in-grade use in areas with light vehicular traffic (5,000-pound load over a 10-inch by 10-inch area).
 - 1. Acceptable Manufacturers:
 - a. Quazite "Composolite."
 - b. Styles "PC" or "PG."
- H. Pipe Sleeves: Rigid steel conduit or iron pipe.
- I. Conduit Seals: For Cast-in-Place Concrete Applications:
 - 1. Acceptable Manufacturers:
 - a. O-Z/Gedney Type "FSK."
 - b. Thunderline Corp. "Link Seal" with "Link Seal Wall Sleeve."
- J. For Core Drilled and Pre-Cast Opening Applications:
 - 1. Acceptable Manufacturers:
 - a. O-Z/Gedney Type "CSML."
 - b. Thunderline Corp. "Link Seal."
- K. Pull Wires: No. 14 AWG zinc-coated steel monofilament plastic line with 200-pound tensile strength.

2.7 600 VOLT CLASS WIRE

- A. General: All wire and cable shall be constructed in accordance with all applicable ICEA, NEMA and IEEE published standards, and shall be UL-listed and labeled. Single-conductor, 98 percent conductivity, annealed, uncoated copper conductors with 600-volt rated type "THHN/THWN" insulation.
- B. Wire shall be annealed bare copper per ANSI/ASTM B3, UL 83, and Federal Specification JC-30A with 600 volt insulation, be stranded (except for #10 AWG and smaller may be solid), and be minimum size #12 AWG (except for control wiring and signal circuits).

- C. Insulation: Provide THHN/THWN insulation for all conductors except XHHW insulation may be used for conductors #4 and larger.
- D. Fire Pump Wiring: Provide UL 2196 classified 2-hour fire rating cable. Cable shall be UL-listed type RHH/RHW-2 similar to Drake USA Lifeline RHW-2.
- E. Ampacity of conductors shall be rated for 75 DegC regardless of temperature of conductor insulation when combining circuits in one conduit. Derate conductors and increase size per NEC when installing multiple circuits in a raceway, utilizing 75 DegC ampacity table.
- F. Connectors: Nylon shell insulated metallic screw-on connectors for #14-10 AWG and bolted pressure or compression type lugs and connectors with insulating covers for #8 AWG and larger.

2.8 WIRING DEVICES

- A. Switches: 20 amp, 120-277 VAC only, toggle type, single-pole, double-pole, three-way or four-way as indicated or required.
 - 1. Acceptable Manufacturers:
 - a. Leviton.
 - b. Hubbell.
 - c. Pass and Seymour.
- B. Receptacles (General Use): 125 volt, 20 amp, NEMA 5-20R, duplex type.
 - 1. Acceptable Manufacturers:
 - a. Leviton.
 - b. Hubbell.
 - c. Pass and Seymour.
- C. GFI Receptacles: Ground fault circuit interrupter, feed-through, duplex type, 125 volt, 20 amp, NEMA 5-20R, with solid-state ground-fault sensing and 5 mA trip level.
 - 1. Acceptable Manufacturers:
 - a. Leviton.
 - b. Hubbell.
 - c. Pass and Seymour.
- D. Special Receptacles: As indicated by ratings and/or NEMA configuration.
 - 1. Acceptable Manufacturers:
 - a. Leviton.
 - b. Hubbell.
 - c. Pass and Seymour.
- E. Device Color: Brown, unless directed otherwise.
- F. Coverplates: Weatherproof cast aluminum or polycarbonate. Receptacles installed in damp or wet locations shall have an enclosure and cover that are weatherproof with the attachment plug inserted or removed per NEC 406.9.

2.9 EQUIPMENT CONNECTIONS

- A. Materials as specified in this section, and as required.

2.10 HANGERS AND SUPPORTS

- A. General: All hangers, supports, fasteners and hardware shall be zinc-coated or of equivalent corrosion resistance by treatment or inherent property, and shall be manufactured products designed for the application. Products for outdoor use shall be hot dip galvanized.
- B. Types: Hangers, straps, riser supports, clamps, U-channel, threaded rods, etc., as indicated and/or required.
- C. Seismic restraints and supports as indicated and/or required.

2.11 ELECTRICAL IDENTIFICATION

- A. Nameplates: Three-layer laminated plastic with minimum 3/16-inch high white engraved characters on black background, and punched for mechanical fastening. Fasteners: self-tapping stainless-steel screws or number 10-32 stainless steel machine screws with nuts and flat and lock washers. Each nameplate on all panelboards and switchgear shall indicate the following:
 - 1. Panel Name.
 - 2. Voltage, Phase, Number of Wires.
 - 3. Source.
- B. Underground Warning Tape: 6-inch wide polyethylene tape, permanently bright colored with continuous-printed legend indicating general type of underground line below and "CAUTION." Colors as follows:
 - 1. Red – Electric.
 - 2. Orange – Communications.
- C. Marking Pens: Permanent, waterproof, quick drying black ink.
 - 1. Acceptable Manufacturers:
 - a. Sanford Fine Point "Sharpie."
 - b. Or equal.
- D. Wire Tags: Vinyl or vinyl-cloth self-adhesive wraparound type indicating appropriate circuit number, etc.
- E. Arc Flash Panelboard Stickers: Provide per NEC 110.16.

2.12 ELECTRIC SERVICE

- A. Materials as specified elsewhere in this section and as required by the serving electric utility company.

2.13 TELEPHONE SERVICE

- A. Materials as specified elsewhere in this section and as required by the serving utility company.

2.14 SAFETY SWITCHES

- A. General: Heavy duty, horsepower rated, fully enclosed, fusible (with rejection fuse clips) or non-fused as indicated, quick-make, quick-break switching mechanism interlocked with cover and NEMA-1 enclosure for dry locations and NEMA-3R enclosure for wet locations unless indicated

otherwise. Switches to be labeled as “Suitable for Use as Service Entrance Equipment” where so indicated or required.

- B. Ratings: Provide switches with ratings as indicated. If ratings are not indicated, provide switch with ratings to suit the electrical system and load served.
- C. Acceptable Manufacturers:
 - 1. General Electric.
 - 2. Square D.
 - 3. Cutler-Hammer.

2.15 GROUNDING

- A. General: Ground rods, conductors, clamps and connectors, etc., as required.
- B. Ground Rods: Minimum 5/8-inch diameter by 10-foot long copper clad steel.
- C. Welded Connectors: Exothermic process.

2.16 PANELBOARDS

- A. Types: Two-row, bolt-on circuit breaker branch circuit panelboards, and circuit breaker or fusible switch-type distribution panelboards, as indicated or required.
- B. General: Ratings, mains, mounting and complement of branch overcurrent protective devices as indicated below or on the Drawings.
- C. Short Circuit Ratings: Minimum 10,000 amps for 208/120 volt panelboards and 14,000 amps for 480/277 volt panelboards. Provide panelboards with higher ratings as indicated or as required.
- D. Enclosures: NEMA-1 for dry locations and NEMA 3R for wet locations (unless indicated otherwise). Provide galvanized steel rough-in box and cover with gray enamel finish Panel fronts are to have a door (circuit breakers) in door (circuit breakers & wiring gutters) in trim with concealed hinges and flush type tumbler lock. All panels shall be keyed alike. Doors in excess of 48 inches high shall be equipped with a three-point catch and vault handle with integral tumbler lock. Panel shall be dead front, safety type and be multi-section as noted or as necessary to comply with NEC.
- E. Bussing: Full capacity copper, include solid copper ground bus, bonded to enclosure and solid copper neutral bus with lug for each branch circuit
- F. Fusible Switches: Quick-make, quick-break, horsepower rated with rejection fuse clips, padlockable handle, and hinged door with defeatable interlock.
- G. Acceptable Manufacturers:
 - 1. General Electric “A Series” and “Spectra Series.”
 - 2. Square D “NQOD,” “NEHB,” “I-Line,” and “QMB.”
 - 3. Cutler-Hammer “Pow-R-Line C.”
- H. Panelboard Schedules: Refer to the schedules on the Drawings.

2.17 CIRCUIT BREAKERS

- A. General: Molded case with thermal and magnetic trips unless indicated otherwise. Minimum 10,000 amps interrupting capacity for 208V and 240V, 14,000 amps interrupting capacity for 480V and higher ratings as indicated or required.
- B. For Panelboard Mounting: Bolt-on type.
- C. Individually Mounted: NEMA-1 enclosures for indoor application, NEMA-3R for outdoor application, unless indicated otherwise.
- D. Breakers to be added to Existing Panelboards: Same manufacturer, type, and interrupting rating as for the existing breakers in same panelboard.

2.18 FUSES

- A. UL Class RK-5 and RK-1, 250 volt or 600 volt as required for system voltage, dual element, time delay, current limiting, 200,000 AIC, ampere ratings as indicated.
- B. Acceptable Manufacturers:
 - 1. Bussmann "Fusetron."
 - 2. Or equal by Gould Shawmut.

2.19 INDIVIDUAL MOTOR CONTROLLERS

- A. Manual Motor Starters: Fractional horsepower, single-phase, snap action toggle type, which clearly indicates "On," "Off," and "Trip" positions with properly sized thermal overload protection, NEMA-1 enclosure (unless indicated otherwise) with handle-locking guard and pilot light.
- B. Manual Motor Starter with Relay: Similar to "Manual Motor Starter" above except two gang with relay sized for load indicated and hand-off-auto switch. Connect relay for 120V operation on load side of starter in "automatic" mode. Coordinate connection of Form C maintained contact for control with mechanical contractor.
- C. Magnetic Starters: As scheduled or indicated on the Drawings and unless indicated otherwise, NEMA rated (IEC rated not acceptable), full voltage, non-reversing type with properly sized overload protection in all phases, low voltage protection or release and external manual reset. Equip each starter with holding coil rated for 120 volts unless otherwise indicated or required; control circuit transformer sized for the number of devices controlled with dual-fused primary and single-fused secondary (omit for 120 volt starters); and interlock contacts rated for the coil, unit, or motor controlled. If standard interlock contacts are of insufficient quantity and/or ratings, provide auxiliary contacts or relays.
- D. Combination Magnetic Starters: Magnetic starters as specified above, with fusible or non-fused switch as indicated, sized as indicated, with defeatable cover interlock, quick-make, quick-break switching mechanism and padlockable indicating handle.
- E. Solid-State, Variable Frequency Controllers: Provide controllers listed and labeled as a complete unit and arranged to provide variable speed of a standard NEMA Design B, three-phase, induction motor by adjusting output voltage and frequency of controller. Controller shall be designed and rated by the manufacturer for the type of load (e.g., fans, blowers, pumps, etc.) with

which used. Controller shall also be approved by the manufacturer for the type of connection used between the motor and load (direct connection or power transmission connection).

- F. Control Devices: Oil-tight type, single hole mounting, mounted in starter covers unless indicated otherwise. Pilot lights to be push-to-test type with transformer and 6 volt lamps with pilot light colors green for motor running and other colors as indicated. Pushbutton stations to include labeled "Start" button, red button labeled "Stop," and other designations as indicated. Selector switches to be maintained position type, two position "On-Off" and three position "Hand-Off-Auto" when in a circuit with an automatic device and other selector switches as indicated. Minimum Requirements: For each magnetic starter, provide at least a "Run" pilot light and an "Hand-Off-Auto" selector switch unless indicated otherwise. Provide alternate and/or additional control devices as indicated.
- G. Enclosures: NEMA-1 for indoor application and NEMA-3R for outdoor application unless indicated otherwise, sized as required to house all components including any optional accessories.
- H. Acceptable Manufacturers:
 - 1. General Electric.
 - 2. Square D.
 - 3. Cutler-Hammer.

2.20 LIGHTING FIXTURES

- A. General:
 - 1. Fixture types as described below or indicated on the Drawings. Lighting fixture manufacturers' series or catalog numbers listed indicate general quality, type, and style but may not cover all required design features and details. Provide lighting fixtures having all features, details, and accessories as noted in the fixture descriptions. Provide all fittings, hangers, clamps, brackets, yokes, flanges, and miscellaneous devices required for a complete installation.
 - 2. Whenever possible, (based upon design requirements) provide lighting fixtures with ballasts provided integral to fixture and prewired.
- B. LED Lamps: Minimum 40,000 hours lamp life before 20 percent loss of output, 3500°K interior, 4500°K site and parking lot lighting unless indicate otherwise.
 - 1. Acceptable Manufacturers:
 - a. Philips.
 - b. Cree.
 - c. Luxeon.
- C. PS Solar Security Lighting: housing; stainless steel hardware-epoxy -coated finish, led: osram oslon square high -powered led, battery: 12v 10ah lithium ion battery with pcm overcharge/discharge protection; optics: NEMA 7 beam spread; lens: ik08 impact rated lens; led rated life: (170) 400,000hrs fixture rating: led compartment ip66 rated/ all electric components ip67 rated/enclosure ip54 rating photocontrol: photo-voltaic panel-provides automatic on/off feature listings: etl,ce,lm79/lm80,nema/astmb117/dark-sky compliant*/ arra-nafta COMPLIANT

2.21 LIGHTING CONTROL EQUIPMENT

- A. Occupancy Sensor Wall Switches: Two-wire (retrofit applications only) or three-wire (new installations), dual technology, employing a temperature compensated dual element sensor and multi-faceted fresnel lens, designed for taking the place of a standard toggle switch, and compatible with solid-state lighting ballasts, rated 120/277 VAC 0-800 watts ballast or tungsten, 277 VAC 0 to 1200 watts. Adjustments to include auto-off time delay adjustable 5, 15, or 30 minutes with walk through test mode and adjustable sensitivity. Sensitivity adjustments shall be as follows: PIR-High/Low, Ultrasonic fully adjustable. Controls to include manual-on, manual-off, and automatic-off. Indicators to include red LED to indicate when unit is triggered.
 - 1. Acceptable Manufacturers:
 - a. Watt Stopper DW-100.
 - b. Or approved equal.

- B. Lighting Control Relays: 277 VAC (all loads), 20 amp, 6-pole (N.O.), magnetically held, 120-volt coil, with "Hand-Off Auto" selector switch, green push-to-test/transformer type interlocked pilot light and NEMA-1 enclosure with engraved nameplate "LIGHTING CONTROL RELAY."
 - 1. Acceptable Manufacturers:
 - a. Square D Class 8903, Type "L."
 - b. Or equal by GE, Cutler-Hammer

PART 3 – EXECUTION

3.1 GENERAL

- A. The installation of all electrical work shall be in accordance with the intent of the Contract Documents as determined by the Engineer.

- B. Installation Requirements: All materials and equipment shall be installed as recommended by the respective manufacturers, by mechanics experienced and skilled in their particular trade, in a neat and workmanlike manner, in accordance with the standards of the trade, and so as not to void any warranty or UL listing.

- C. Administration and Supervision: All electrical work shall be performed under the Contractor's direct supervision using sufficient and qualified personnel as necessary to complete the work in accordance with the progress schedule. The Contractor shall assign one or more competent supervisors who shall have authority to accept and execute orders and instructions, and who shall cooperate with the other Contractors and subcontractors, the Engineer, and Owner in all matters to resolve conflicts and avoid delays.

3.2 EXAMINATION

- A. Conditions Verification: Examine the areas and conditions under which the work is to be performed, and identify any conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

3.3 COORDINATION

- A. General: Sequence, coordinate and integrate the installation of all electrical materials and equipment for efficient flow of work, in conjunction with the other trades. Review to the Drawings for work of the other trades, and report and resolve any discovered discrepancies, prior to commencing work.
- B. Cooperation: Cooperate with the other Contractors and individual disciplines for placement, anchorage, and accomplishment of the work. Resolve interferences between work of other disciplines or Contractors, prior to commencing installation.
- C. Chases, Slots, and Openings: Arrange for chases, slots, and openings during the progress of construction as required to allow for installation of the electrical work.
- D. Supports and Sleeves: Coordinate the installation of required supporting devices and sleeves to be set in poured-in-place concrete and other structural components as they are constructed.
- E. Obstacles and Interferences: When installing equipment and raceways, provide offsets, fittings, accessories, and changes in elevation or location as necessary to avoid obstacles and interferences, per actual field conditions.
- F. Space Requirements: Electrical equipment sizes indicated on the Drawings are generally based on specified manufacturer. Verify that the proposed equipment will fit in the space indicated on the drawings. Maintain clearances required by NEC.

3.4 DIMENSIONS

- A. Building Dimensions: For exact locations of building elements, refer to dimensioned drawings. However, field measurements take precedence over dimensioned drawings.
- B. Site Dimensions: Field measurements take precedence over scaled electrical site plans.
- C. Limiting Dimensions: Equipment outlines shown on detail drawings of 1/4" = 1'-0" scale or larger and dimensions indicated on the Drawings are limiting dimensions. Do not install equipment exceeding dimensions indicated by outlines on Drawings or equipment or arrangements that reduce indicated clearances.
- D. Establish the exact location of electrical equipment based on the actual field verified dimensions of equipment furnished.

3.5 EQUIPMENT PROTECTION

- A. Protect all electrical equipment, and materials and work from the weather elements, paint, mortar, construction debris and damage until project is substantially complete. Repair, replace, and clean all electrical work so affected.

3.6 ELECTRICAL INSTALLATION - GENERAL

- A. Unfinished and Finished Areas: For the purposes of these electrical specifications, "unfinished" areas shall include mechanical, electrical and telephone equipment rooms. All other areas shall be considered "finished" spaces unless indicated or approved otherwise.

- B. In Unfinished Areas: Raceways, equipment, and devices may be installed concealed or exposed unless indicated otherwise.
- C. In Finished Areas: Conceal all raceway and flush mount all electrical boxes, equipment, and devices unless indicated or approved otherwise. The space above suspended ceilings or behind furred spaces is considered outside finished areas and electrical materials installed within these areas are considered concealed.
- D. Minimum Mounting Height: Install exposed raceway and all other electrical equipment (e.g., lighting fixtures) with not less than 7 feet and 6 inches clear to finished floor unless indicated or approved otherwise, and excluding raceway and equipment mounted on walls.
- E. Dimensions and Clearances: Field measure all dimensions and clearances affecting the installation of electrical work in relation to established datum, building openings and clearances, and work of other trades as construction progresses.
- F. Rough-In Locations: Verify final locations for rough-ins with field measurements and requirements of actual equipment being installed.
- G. Door Swings: Verify the swings of all doors before switch outlets or other electrical devices are installed. If necessary, relocate devices so they are not obstructed by doors when doors are open.
- H. Ceiling Mounted Devices: The locations indicated on the architectural reflected ceiling plans take precedence over the electrical documents, in the event of conflict.
- I. Install equipment according to manufacturer's written instructions.
- J. Install equipment, conduit, cable tray, hangers, and supports to withstand seismic forces for the seismic zone of the installation.

3.7 LAYOUT

- A. General: Install electrical systems, materials and equipment level and plumb, and parallel and perpendicular to other building systems and components, where installed exposed.
- B. Serviceability: Install electrical equipment and raceways, etc., to readily facilitate servicing, maintenance, and repair or replacement of components and so as to minimize interference with other equipment and installations.
- C. Clearances: Prior to commencing work, verify that all electrical equipment will adequately fit and conform to the indicated and code required clearances in the spaces indicated on the Drawings. If rearrangement is required, submit plan and elevation drawings or sketches indicating proposed rearrangement for the Engineer's approval. Do not rearrange without express written permission of the Engineer.
- D. Right-Of-Way: When laying out electrical work, give priority in available space to steam and condensate lines, sanitary lines, drain lines, fire protection piping, and sheet metal duct work. Provide offsets as required to avoid conflicts. Resolve all conflicts before commencing installation.

3.8 MOUNTING HEIGHTS

- A. General: Indicated heights are measured from the center of the device outlet box to finished floor or grade, unless indicated otherwise. Request instructions for mounting heights not indicated.

3.9 HOLES, SLEEVES, AND OPENINGS

- A. General: Provide all holes, sleeves, and openings required for the completion of Division 26 work and restore all surfaces damaged to match surrounding surfaces. Maintain integrity of all fire and smoke rated barriers using approved firestopping systems. When cutting holes or openings, or installing sleeves, do not cut, damage, or disturb structural elements or reinforcing steel unless approved in writing by the Project Structural Engineer.
- B. Conduit Penetrations: Size core drilled holes so that an annular space of not less than 1/4 inch and not more than 1 inch is left around the conduit. When openings are cut in lieu of core drilled, provide sleeve in rough opening. Size sleeves to provide an annular space of not less than 1/4 inch and not more than 1 inch around the conduit. Patch around sleeve to match surrounding surfaces.

3.10 FIRESTOPPING SYSTEMS

- A. General: Install firestopping at all electrical raceway and cable penetrations through floor structures and interior walls or partitions, which are time-rated fire and/or smoke barriers.
- B. Preparation: Prior to installation, verify that all penetrating elements and supporting devices are permanently installed and that surfaces which will be in contact with penetration seal materials are clean and free of dust, dirt, grease, oil, loose materials, rust or other substances.
- C. Installation: Install firestop systems in accordance with UL approved design details and the manufacturer's instructions. Install sleeves, conduits, and cables with required clearance spaces, allowing installation of sealing materials. Do not exceed the outside diameter of the sleeve, conduit, or cable by more than 1 inch or by less than 1/4 inch when making openings for penetrations. Install firestop systems so as to completely seal openings to prevent passage of smoke and water.

3.11 CUTTING AND PATCHING

- A. General: Provide all cutting, drilling, chasing, fitting, and patching necessary for accomplishing the work of Division 26, which includes any and all work necessary to: uncover work to provide for the installation of ill-timed work; remove and replace defective work and work not conforming to the requirements of the Contract Documents; and install equipment and materials in existing structures, in addition to that required during the normal course of construction.
- B. Comply with the cutting and patching requirements of Division 1.
- C. Building Structure: Do not endanger the integrity of the building structure by cutting, drilling, or otherwise modifying any structural member without specific approval. Do not proceed with any structural modifications without written permission of the Project Structural Engineer.
- D. Repairs: Repair any and all damage to work of other trades caused by cutting and patching operations using skilled mechanics of the trades involved.

3.12 WELDING

- A. General: Where welding is required, such welding shall be performed in a skilled manner by certified welders. Verify that welds are free from cracks, craters, undercuts, and strikes, weld spatter, and any other surface defects. Clean and re-weld any welds deemed unacceptable in size or configuration. Do not weld to structural steel without prior written permission from the Project Structural Engineer.

3.13 UNDERGROUND ELECTRICAL WORK

- A. General: Perform all excavating, trenching, backfilling, etc., as indicated or required for the installation of all underground electrical work. Coordinate work with other trades and verify existing underground services and conditions.
- B. Conduit Burial Depth: 30 inches below finished grade or 6 inches below bottom of frost line, whichever is deeper, unless indicated otherwise. All excavation and burial depths indicated are below finished grade.
- C. Excavating: Do not excavate below required depth except as necessary for removal of unstable soil or when rock is encountered. When rock is encountered, excavate 6 inches below the required depth and backfill with a minimum 6-inch layer of crushed stone or gravel between rock bearing surface and the electrical installation. Stockpile satisfactory excavated materials where directed until required for backfilling. Remove and legally dispose of excess excavated materials and materials not suitable for backfill use. Shore and brace as required for stability of excavation. Remove shoring and bracing when no longer required. Where sheeting is allowed to remain, cut top of sheeting off at an elevation of 30 inches below finished grade.
- D. Protection: Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by excavations.
- E. Existing Utilities: Remove existing electrical and other utility lines so indicated. Where existing utilities, which are to remain, exist within areas of excavation, locate such utilities and support and protect during excavation operations.
- F. Trenching: Cut all trenches neatly and uniformly and so as to provide ample working room and at least six inches clearance on both sides of raceways, etc., unless otherwise noted. Take necessary precautions when working near existing underground utilities, and coordinate with the installation of concurrent utilities by other trades. Unless indicated otherwise, pitch all electrical conduit runs downward away from buildings, manholes, and pad mounted equipment. Excavate trenches to depth indicated or required. Limit length of open trench to that in which installations can be made and trenches backfilled within the same day.
- G. Sand Envelope: Install a minimum envelope of 3 inches (top, bottom, and sides: 3 inches each) of fine grain sand around all electrical cables and conduits installed below grade unless indicated otherwise.
- H. Preparation for Backfilling: Backfill excavations as promptly as work permits but not until completion of inspection, testing, approvals, and recording of underground utility locations. Prior to backfilling, remove all concrete form work, shoring, bracing, trash, and debris.
- I. Backfilling: Use only approved materials free from boulders, sharp objects, and other unsuitable materials. Match the final elevations and materials of areas affected by electrical excavating,

trenching, and backfilling. Replace conduit and cables damaged by improper backfilling. Replace surface materials to match existing surface materials if no other utility or site work is being done in area. Place specified soil materials in 4- to 8-inch layers to required subgrade elevations for area classifications as follows:

1. Under Sidewalks: Use combination of subbase materials and excavated or borrowed materials.
 2. Under Building Slabs: Use drainage fill materials.
 3. Under Piping and Equipment: Use subbase materials where required over rock bearing surfaces and for correction of unauthorized excavation.
 4. For Raceways Less than 30 inches below Surface of Paved Areas or Roadways: Provide 4-inch thick concrete base slab support. After raceway installation, provide 4-inch thick concrete encasement (sides and top) prior to backfilling and placement of roadway subbase. Refer to Contract Documents for Conduit Encased in Concrete Details.
- J. Backfill Placement: Place backfill and fill materials in layers of not more than 8 inches in loose depth for material compacted by heavy equipment and not more than 4 inches in loose depth for material compacted by hand-operated tampers. Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each area classification specified below. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice. Place backfill and fill materials evenly adjacent to structures, piping, and equipment to required elevations. Prevent displacement of raceways and equipment by carrying material uniformly around them to approximately same elevation in each lift.
- K. Compaction: Control soil compaction during construction, providing minimum percentage of density specified for each area classification indicated below.
- L. Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages of maximum density for soils, which exhibit a well-defined, moisture-density relationship (cohesive soils), determined in accordance with ASTM D1557 and not less than the following percentages of relative density, determined in accordance with ASTM D2049, for soils, which will not exhibit a well-defined moisture-density relationship (cohesionless soils).
1. Areas under Structures, Building Slabs and Steps, Pavements: Compact top 12 inches of subgrade and each layer of backfill or fill material to 90 percent maximum density for cohesive materials and 95 percent relative density for cohesionless materials.
 2. Areas Under Walkways: Compact top 6 inches of subgrade and each layer of backfill or fill material to 90 percent maximum density for cohesive materials and 95 percent relative density for cohesionless materials.
 3. Other Areas: Compact top 6 inches of subgrade and each layer of backfill or fill material to 85 percent maximum density for cohesive materials and 90 percent relative density for cohesionless materials.
- M. Moisture Control: Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water. Apply water in minimum quantity necessary to achieve required moisture content and to prevent water appearing on surface during, or subsequent to, compaction operations.
- N. Subsidence: Where subsidence occurs at electrical installation excavations during the period 12 months after Substantial Completion, remove surface treatment (i.e., pavement, lawn, or other finish), add backfill material, compact to specified conditions, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent areas.

3.14 CONCRETE WORK

- A. General: All concrete shall be prepared from approved materials and poured on clean, stable surfaces.
- B. Exterior Base Surfaces: 12-inch layer of crushed stone over well-consolidated, stable, undisturbed soil. Where the underlying soil contains excess organic material, trash or voids, or fails to provide solid bearing for any other reason, excavate to the depth required for solid bearing and re-establish the required elevation with approved granular materials.
- C. Finishing: Trowel all exposed surfaces smooth. Round-off or chamfer all exposed edges.
- D. Curing: Beginning immediately after placement, protect concrete from premature drying, excessive hot or cold temperatures, and mechanical injury. Maintain minimal moisture loss at relatively constant temperature throughout period necessary for hydration of cement and hardening of concrete.

3.15 RACEWAY SYSTEMS

- A. Raceway Types: Unless indicated otherwise, use raceway types as follows:
 - 1. Indoors, Concealed in Walls or Above Ceilings: EMT.
 - 2. Indoors, Exposed: Use rigid galvanized steel conduit below 10 feet above finished floor. EMT may be used above 10 feet.
 - 3. Indoors, Below Floor Slab: (Minimum 3/4 inch size). Schedule 80 rigid non-metallic conduit. Stub up using rigid galvanized steel elbows.
 - 4. Outdoors, Below Grade: (Minimum 1 inch size). Schedule 40 rigid non-metallic conduit. Stub up using rigid galvanized steel elbows.
 - 5. Outdoors, Exposed: Rigid galvanized steel conduit.
 - 6. Flexible Steel Conduit: Use (in dry locations only) for connections to transformers, vibrating equipment, and equipment requiring minor adjustments in positions for final connections to recessed lighting fixtures and between outlet boxes in metal stud partitions.
 - 7. Liquid-Tight Flexible Steel Conduit: Use where flexible steel conduit connections are required in damp, wet, or oily locations, and for final connections to all motors and similar equipment.
- B. Raceway Routing: As required by job conditions unless specific routes or dimensioned positions are indicated on the Drawings. Install tight to slabs, beams, and joists wherever possible. Route exposed conduit, and conduit installed above ceilings, parallel or perpendicular to walls ceilings and structural members. Install to maintain minimum headroom and to present a neat appearance. Run parallel raceways together with bends made from same center line. Verify exact locations of all raceways, pull boxes, and junction boxes. Resolve any conflicts before installation.
- C. Raceway Installation: Cut conduit ends square using saw or pipecutter and ream each cut end smooth. Carefully make all conduit bends and offsets so that the inside diameter of pipe is not reduced. Make bends so that legs are in the same plane. Make offsets so that legs are in the same plane and parallel. Protect stub-ups from damage, and carefully rebend when necessary.
- D. Fittings: Make up all raceway fittings tight so that final installation of raceway, fittings and enclosures constitutes a firm mechanical assembly and a continuous electrical conductor. Where required, provide bonding jumpers to assure electrical continuity.

- E. Protection: Protect all raceways, enclosures, and equipment during construction to prevent entry of concrete, debris and other foreign matter. Free clogged conduits of all obstructions, or replace, prior to pulling wire. Do not pull wire within buildings until buildings are completely enclosed.
- F. Boxes: Install all outlet, pull, and junction boxes rigidly, plumb, and level. Support and secure boxes independently from conduits terminating at box. Install all boxes so as to be accessible and so that covers may be easily removed.
- G. Handholes: Provide as indicated, installed plumb and level. Where not indicated, install every 200 feet at a minimum.
- H. Conduit Seals: Install conduit seal for each conduit penetrating an exterior building wall below grade (unless penetration is below lowest building floor slab) and elsewhere as indicated, and so as to achieve a sealed watertight installation.
- I. Pull Strings: Provide pull strings in all spare conduits.

3.16 CONDUCTORS - 600 VOLT AND BELOW

- A. Minimum Conductor Size: All branch circuit wiring shall be minimum #12 AWG. All control circuit wiring shall be minimum #14 AWG unless indicated otherwise. Provide larger sizes as indicated or required.
- B. Branch Circuit Conductor Sizes: Provide branch circuit conductor sizes as indicated on the panelboard schedules, plans, or elsewhere. Neutral conductor size to match phase conductors unless indicated otherwise. Provide branch circuit switch legs and travelers as required for the switching indicated.
- C. Equipment Grounding Conductor Required: For each branch circuit and feeder run, provide an equipment grounding conductor for continuous length of run, sized per NEC 250-122 (minimum), larger if so indicated.
- D. Feeders: Provide feeder conductor sizes and quantities as indicated.
- E. In Raceway: Install all wiring in conduit or other specified raceway unless indicated otherwise.
- F. Terminations: Furnish and install terminations including lugs (if necessary) to make all electrical connections indicated or required. Make connections and terminations for all stranded AWG conductors using crimp, clamp, or box-type connectors and terminators. Enclose all strands of stranded conductors in connectors, and lugs.
- G. Color: Conductors #10 and smaller shall be factory color-coded by integral pigmentation with a separate color for each phase and neutral. #8 and larger shall have stripes, bands, hash marks, or color pressure-sensitive plastic tape. Color code all branch circuit and feeder conductors as follows:
 1. 208/120 Volts:

PHASE	COLOR
A	Black
B	Red
C	Blue

Neutral White

2. 480/277 Volts:

PHASE	COLOR
A	Brown
B	Orange
C	Yellow
Neutral	Gray

3. Equipment Grounding Conductors: Green

H. Phase Arrangement: Arrange phases in all electrical equipment as follows:

1. A, B, C: Front to Rear.
2. A, B, C: Top to Bottom.
3. A, B, C: Left to Right when facing established front of equipment.

I. Provide conductors with not less than 90 DegC rated insulation when branch circuit wiring is attached to high temperature light fixtures (e.g., fluorescent and HID), boilers, incinerators, ovens, ranges, kitchen exhaust fans, other heat-producing equipment, and "100 percent rated" overcurrent protective devices. Use special higher temperature wire as required for connection to specialty equipment as required by equipment manufacturer.

3.17 EQUIPMENT CONNECTIONS

- A. Connect complete, all equipment requiring electrical connections, furnished as part of this Contract or by others unless indicated otherwise.
- B. Equipment Variations: Note that equipment sizes and capacities as shown on the Contract Documents are for bidding purposes and as such may not be the exact unit actually furnished. Contractor shall anticipate minor variations in equipment and shall include in his Bid all costs required to properly connect the equipment actually furnished.
- C. Verification: Obtain and review shop drawings, product data, and manufacturer's instructions for equipment furnished by others. Examine actual equipment to verify proper connection locations and requirements.
- D. Coordination: Sequence electrical rough-in and final connections to coordinate with installation and start-up schedule and work by other trades.
- E. Rough-In: Provide all required conduit, boxes, fittings, wire, connectors, miscellaneous accessories, etc., as necessary to rough in and make final connections to all equipment requiring electrical connections. In general, motors and equipment shall be wired in conduit to a junction box (or safety switch) near the unit, and from there to the unit in flexible metal or liquid-tight flexible steel conduit.
- F. Connections: Provide properly sized overload and short circuit protection for all equipment connected, whether furnished under this Contract or by others. Verify proper connections with manufacturer's published diagrams and comply with same. Verify that equipment is ready for electrical connections, wiring, and energization prior to performing same.

- G. Control Wiring: Provide all control wiring to remote devices or equipment as indicated or required. Modify equipment control wiring, install or disconnect jumpers, etc., as required.

3.18 HANGERS AND SUPPORTS

- A. General: Rigidly support and secure all electrical materials, raceway, and equipment to building structure using hangers, supports, and fasteners, suitable for the use, materials and loads encountered. Provide all necessary hardware.
- B. Overhead Mounting: Attach overhead mounted equipment to structural framework or supporting metal framework. Do not make attachments to steel roofing, steel flooring, or ceiling mineral tile.
- C. Wall Mounting: Support wall mounted equipment by masonry, concrete block, metal framing, or sub-framing.
- D. Exterior Walls: Mount all electrical equipment located on the interior of exterior building walls at least 1 inch away from wall surface using suitable spacers.
- E. Structural Members: Do not cut, drill, or weld any structural member.
- F. Independent Support: Do not support electrical materials or equipment from other equipment, piping, ductwork, or supports for same.
- G. Temporary Conditions: Do not attach to or support electrical work from removable or knockout panels or temporary walls or partitions.
- H. Raceway Supports: Rigidly support all raceway with maximum spacings per NEC and so as to prevent distortion of alignment during pulling operation. Use approved hangers, clamps, and straps for individual runs. Do not use perforated straps or tie wires. Where multiple parallel raceways are run together, use trapeze type hanger arrangement made from U-channel and accessories, suspended by threaded rods, and allow at least 25 percent spare capacity for future installation of additional raceways. Rigidly anchor vertical conduits serving floor-mounted or "island" type equipment mounted away from walls with metal bracket or rigid steel conduit extension secured to floor.
- I. Miscellaneous Supports: Provide any additional structural support steel brackets, angles, fasteners, and hardware as required to adequately support all electrical materials and equipment.
- J. Seismic restraints and supports: Provide as indicated and/or as required per seismic zone indicated.

3.19 ELECTRICAL IDENTIFICATION

- A. General: Locate nameplate, marking, or other identification means on outside of equipment or box front covers when above ceilings and when in mechanical or electrical equipment rooms or other unfinished areas, and on inside of front cover when in finished rooms/areas. Use Contract Document designations for identification unless indicated otherwise.
- B. Nameplates: Provide nameplate engraved with equipment designation for each safety switch, panelboard, transformer, motor starter, and all other electrical cabinets, etc.

- C. Underground Warning Tape: During trench backfilling for each underground electrical, telephone, signal, and communications line, provide a continuous underground warning tape located directly above line at 6 to 8 inches below finished grade.
- D. Marking Pen Labeling: Mark each junction and pull box indicating source designation and circuit number(s) for the enclosed conductors.
- E. Wire Tags: For power circuits, apply wire tag indicating appropriate circuit or feeder number to each conductor present in distribution panel and panelboard gutters, and to each conductor in pull and junction boxes where more than one feeder or multi-wire branch circuit is present. Where only a single feeder or multi-wire branch circuit is present, box cover labeling and conductor color coding is sufficient. For control, communications, and signal circuits, apply wire tag indicating circuit or termination number at all terminations and at all intermediate locations and boxes where more than one circuit is present.
- F. Panelboard Circuit Directories: At completion of project, accurately complete each panelboard circuit directory card, identifying load served or “spare” or “space” for each circuit pole. When modifying, adding or deleting circuits at an existing panelboard, update the existing (or provide new) circuit directory card to accurately reflect final conditions.
- G. Abandoned Equipment: Label all abandon equipment as “Abandon as of _____.” For conduits and conductors, include opposite end location.

3.20 ELECTRIC SERVICE

- A. General: Arrange with the local electric utility company and pay all associated costs for providing temporary electric service (if required) and permanent electric service for the project as indicated and required. Comply with and coordinate all requirements of the utility company.
- B. Grounding: Provide grounding electrode system for the service per the NEC and utility company requirements.

3.21 TELEPHONE SERVICE

- A. Provide telephone service raceways as required by the serving utility company. Provide pull string.

3.22 GROUNDING

- A. General: Provide all system and equipment grounding as indicated and required by the NEC.
- B. Equipment Grounding: Provide a green equipment grounding conductor, sized per NEC 250-122 (larger if so indicated), with each feeder and branch circuit run.
- C. Provide exothermic welded connections where indicated.

3.23 PANELBOARDS

- A. Secure rough-in boxes to building structure or steel framing, independent of conduits. Install with top of cabinet at 7 feet 0 inches above floor but with minimum 8-inch clearance above floor unless so doing would exceed maximum 6-foot 6-inch disconnect height allowed by NEC.
- B. Cover all unused overcurrent protective device spaces.

3.24 SAFETY SWITCHES

- A. Mount securely at the location indicated on the Drawings.
- B. Provide fuses as required.

3.25 INDIVIDUAL MOTOR CONTROLLERS

- A. General: Make all connections to motors and control equipment complete, and verify that equipment is in proper operating order. Connect power to motors for correct direction of rotation. Verify nameplate ratings of all motors. Report any deviations or discrepancies.
- B. Overcurrent and Overload Protection: Provide fuses (where indicated or required) and overload elements sized in accordance with the ambient temperature, the actual motor nameplate full load amperes, and service factor.
- C. Power Wiring: Unless indicated otherwise, provide all required power wiring from indicated power source to each motor controller and from each motor controller to respective motor.
- D. Control Wiring: Provide as indicated. Unless indicated otherwise, use No. 14 AWG wire for all control circuits. For circuits longer than 200 feet and for 120-volt motors, use No. 12 AWG wire.

3.26 LIGHTING FIXTURES

- A. Lamps and Ballasts: Replace all burned out, defective, and inoperative lamps, and all noisy, defective, and inoperative ballasts, starters, etc., prior to Owner's acceptance.

3.27 LIGHTING CONTROL EQUIPMENT

- A. Lighting Control Relays: Connect "Auto" position of relay H-O-A selector switch through photoswitch or other indicated control contacts, and the "HAND" position to override the automatic control.
- B. Photoswitches: Adjust sensitivity for proper operation.

3.28 CHECKOUT, TESTING, AND ADJUSTING

- A. General: Provide testing equipment, materials, instruments, and personnel to perform all test procedures and adjustments required by the Contract Documents and/or deemed necessary by the Engineer to establish proper performance and installation of electrical systems and equipment. All test instruments to be accurately calibrated and in good working order.
- B. Scheduling: Schedule tests at least three days in advance, and so as to allow Engineer and Owner representative(s) to witness the test, unless directed otherwise. Do not schedule tests until the system installation is complete and fully operational unless indicated or directed otherwise.
- C. Manufacturer's Authorized Representatives: For all new and modified systems and equipment, arrange and pay for the services of the manufacturer's authorized representative(s) to be present at time of equipment or system start-up, to supervise the start-up, and to conduct and/or certify all required testing and adjusting.

- D. Test Reports: Submit test reports neatly typewritten on 8-1/2-inch-by-11-inch sheets indicating system or equipment being tested, methodology of testing, date, and time of test, witnesses of test, and test results. Submit test reports in three (3) copies to the Engineer for review within five (5) days after test is performed, and include a copy with the appropriate operation and maintenance data.
- E. Correction/Replacement: After testing, correct any deficiencies, and replace materials and equipment shown to be defective or unable to perform at design or rated capacity. Retest without additional cost to the Owner or Contract. Submit finalization report indicating corrective measures taken and satisfactory results of retest.

3.29 SYSTEMS DEMONSTRATION

- A. Instruct the Owner's representative(s) in the start-up, operation, and maintenance of all electrical systems and equipment in accordance with Division 1 and as requested by the Owner's Representative.

3.30 CLEANING AND TOUCH-UP PAINTING

- A. Perform cleaning required by Division 1.
- B. General: Periodically remove from the project site, all waste, rubbish, and construction debris accumulated from construction operations, and maintain order. The premises shall be left clean and free of any debris and unused construction materials prior to final acceptance.
- C. Electrical Equipment: Remove all dust, dirt, debris, mortar, wire scraps, rust, and other foreign materials from the interior and exterior of all electrical equipment and enclosures, and wipe down. Clean accessible current carrying elements and insulators prior to energizing.
- D. Light Fixtures: Thoroughly clean all new or relocated light fixtures and lamps, just prior to final inspection. Fixture enclosures, reflectors, lenses, etc., shall be cleaned free of dust, dirt, fingerprints, etc., by an approved method.
- E. Touch-Up Painting: Restore and refinish to original condition, all surfaces of electrical equipment scratched, marred, and/or dented during shipping, handling, or installation. Remove all rust, and prime and paint as recommended by the manufacturer.

SECTION 312000 - EARTHWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Grading.
 - 2. Preparation of subgrade for concrete slabs.
 - 3. Excavation and backfill for storm drainage.
 - 4. Excavation and backfill for building foundations.

1.3 DEFINITIONS

- A. Excavation consists of removal of material encountered to subgrade elevations indicated and subsequent disposal of materials removed.
- B. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be at Contractor's expense.
- C. Subgrade: The undisturbed earth or the compacted soil layer immediately below granular subbase.
- D. Structure: Buildings, foundations, slabs, tanks, curbs, catch basins or other man-made stationary features occurring above or below ground surface.

1.4 SUBMITTALS

- A. Test Reports: Submit the following reports directly to Architect and Engineer from the testing services, with copy to Contractor:
 - 1. Field reports; in-place soil density tests.

1.5 QUALITY ASSURANCE

- A. Codes and Standards: Perform excavation work in compliance with applicable requirements of authorities having jurisdiction.
- B. Testing and Inspection Service: Owner shall employ and pay for a qualified independent geotechnical testing laboratory to perform soil testing and inspection service during earthwork

operations. Contractor shall coordinate his work with the testing laboratory.

- C. Testing Laboratory Qualifications: To qualify for acceptance, the geotechnical testing laboratory must demonstrate to Engineer's satisfaction, based on evaluation of laboratory-submitted criteria conforming to ASTM E 699, that it has the experience and capability to conduct required field and laboratory geo-technical testing without delaying the progress of the work.

1.6 PROJECT CONDITIONS

- A. Existing Utilities: Locate existing underground utilities in areas of excavation work. If utilities are indicated to remain in place, provide adequate means of support and protection during earthwork operations. Contact Dig Safe New York prior to any excavation work.
 - 1. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult utility owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.
 - 2. Do not interrupt existing utilities serving facilities occupied by Owner or others, during occupied hours except when permitted in writing by Architect and then only after acceptable temporary utility services have been provided.
- B. Use of Explosives: Use of explosives is not permitted.
- C. Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning lights.
 - 1. Operate warning lights as recommended by authorities having jurisdiction.
 - 2. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement lateral movement, undermining, washout, and other hazards created by earthwork operations.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. Satisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups GW, GP, GM, SM, SW, and SP.
- B. Unsatisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups GC, SC, ML, MH, CL, CH, OL, OH, and PT.
- C. Subbase Material: Gravel Fill.
- D. Gravel Fill: NYSDOT Type 2 (crusher run) Evenly graded mixture of crushed stone with 100 percent passing a 2 inch sieve, 25 to 60 percent passing a 1/4 inch sieve, 5 to 40 percent passing a No. 40 sieve, and 0-10 percent passing a No. 200 sieve.

- E. Trench Backfill: Acceptable native material.

PART 3 - EXECUTION

3.1 EXCAVATION

- A. Excavation is unclassified and includes excavation to subgrade elevations indicated, regardless of character of materials and obstructions encountered.

3.2 STABILITY OF EXCAVATIONS

- A. General: Comply with local codes, ordinances, and requirements of agencies having jurisdiction.
- B. Slope sides of excavations to comply with local codes, ordinances, and requirements of agencies having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated. Maintain sides and slopes of excavations in safe condition until completion of backfilling.

3.3 DEWATERING

- A. Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area.
 - 1. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.

3.4 REMOVAL OF EXCAVATED MATERIALS

- A. Remove excavated materials as it is excavated. Do not stockpile excavated material on site.

3.5 EXCAVATION FOR CONCRETE SLABS

- A. Cut surface under concrete slabs to comply with cross-sections, elevations and grades as indicated.

3.6 BACKFILL AND FILL

- A. General: Place soil material in layers to required subgrade elevations, for each area classification listed below, using materials specified in Part 2 of this Section.
 - 1. Under concrete slabs, use gravel fill.
 - 2. Backfill for trenches, use acceptable native material.
- B. Backfill excavations as promptly as work permits, but not until completion of the following:
 - 1. Acceptance of construction below finish grade.

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2. Removal of trash and debris from excavation.

3.7 PLACEMENT AND COMPACTION

- A. Ground Surface Preparation: Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills.
 1. Proof roll all areas under concrete slabs.
- B. Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- C. Control soil and fill compaction, providing minimum percentage of density specified for each area classification indicated below. Correct improperly compacted areas or lifts as directed by Engineer if soil density tests indicate inadequate compaction.
 1. Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages of maximum density, in accordance with ASTM D 1557:
 - a. Under concrete slabs compact top 12 inches of subgrade and each layer of backfill or fill material at 95 percent maximum density.
 - b. Trenches, compact top 12 inches of fill at 95% maximum density and each other layer of fill at 95% maximum density.
 2. Moisture Control: Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade or layer of soil material. Apply water in minimum quantity as necessary to prevent free water from appearing on surface during or subsequent to compaction operations.
 - a. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.
 - b. Stockpile or spread soil material that has been removed because it is too wet to permit compaction. Assist drying by discing, harrowing, or pulverizing until moisture content is reduced to a satisfactory value.

3.8 GRADING

- A. General: Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are indicated or between such points and existing elevations.
- B. Grading Surface of Fill under Concrete Slabs: Grade smooth and even, free of voids, compacted as specified, and to required elevation. Provide final grades within a tolerance of 1/2 inch when tested with a 10-foot straightedge.
- C. Compaction: After grading, compact subgrade surfaces to the depth and indicated percentage of

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maximum or relative density for each area classification.

3.9 FIELD QUALITY CONTROL

- A. Quality Control Testing During Construction: Allow testing service to inspect and approve each subgrade and fill layer before further backfill or construction work is performed.
 - 1. Perform field density tests in accordance with ASTM D 1556 (sand cone method) or ASTM D 2167 (rubber balloon method), or ASTM D 2950 (Nuclear Tests) as applicable.
 - 2. Concrete Slab Subgrade: Perform at least one field density test of subgrade for every 2,000 sq. ft of area, but in no case fewer than three tests.
 - 3. Trench Backfill: Perform at least two field density tests at each 100 linear feet of trench backfilled at locations and elevations as directed.
 - 4. If in opinion of Engineer, based on testing service reports and inspection, subgrade or fills that have been placed are below specified density, perform additional compaction and testing until specified density is obtained.

3.10 EROSION CONTROL

- A. Provide erosion control methods in accordance with requirements of authorities having jurisdiction.

3.11 MAINTENANCE

- A. Protection of Graded Areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades in settled, eroded, and rutted areas to specified tolerances.
- C. Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape, and compact to required density prior to further construction.
- D. Settling: Where settling is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, lawn, or other finish), add backfill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.12 DISPOSAL OF EXCESS AND WASTE MATERIALS

- A. Removal from Owner's Property: Remove waste materials, including unacceptable excavated material, trash, and debris, and dispose of it off Owner's property.
 - 1. Remove excess excavated material, trash, debris, and waste materials and dispose of it off Owner's property.

END OF SECTION

EARTHWORK

