

**MANATEE COUNTY GOVERNMENT
REQUEST FOR QUOTATION #11-2834-OV
Manatee County Public Safety Center
TRAFFIC MANAGEMENT VIDEO ROOM / SOUND
ABATEMENT**

**ATTENTION: OLGA VALCICH, MANATEE COUNTY PURCHASING
EMAIL: olga.valcich@mymanatee.org
PHONE: (941) 749-3055
FAX: (941) 749-3034**

QUOTE DUE DATE: March 13, 2012 at 4:00 p.m. to the Manatee County Purchasing Division. QUOTES MAY BE RETURNED VIA EMAIL OR VIA FAX.

Manatee County invites your participation in the following quotation. The Specifications stated herein are of the minimum requirements. All quotes submitted must be in accordance with the Contract Documents dated January 18, 2012 for the Manatee County Public Safety Center, Traffic Management Video Room, Sound Abatement.

NON-MANDATORY INFORMATION CONFERENCE and SITE INSPECTION

In order to insure that all prospective quoters have sufficient information and understanding of the County's needs, an **Information Conference and Site Inspection will be held on February 22, 2012. LOCATION: Manatee County Public Safety Center: 2101 47th Terrace East, Bradenton, FL 34203.**

The Site Inspection will take place at 9:30 a.m. One (1) hour prior to the Information Conference. (Reference Page 5, Site Inspection). **A Site Inspection is a requirement in order to submit a Quote.**

All interested quoters shall meet at 9:00 a.m. in the Lobby of the Manatee County Public Safety Center, 2101 47th Terrace East, Bradenton, FL 34203. A Registration / Sign-In Sheet will be provided.

The Information Conference will take place at 10:30 a.m., immediately following the Site Inspection.

Attendance is not mandatory, but is highly encouraged



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RFQ General Conditions3- 15

Quotation Form(s)..... 16-18

Contractor's Questionnaire.....(4 pages) Attachment "A"

Public Contracting & Environmental Crimes....(2 pages) Attachment "B"

Statement of No Offer.....(1 page).....Attachment "C"

Sample of Two Party Agreement..... (5 pages.....Attachment "D"

Specifications Dated January 18, 2012 187 pages

Plans (Cover Sheet, SA1.0, SA2.0, SA2.1, SA2.2, SA2.3)..... 6 Total pages

Securing of Documents:

Complete individual CDs of the quoting documents for this project may be obtained free of charge at the Manatee County Administration Building. Location: 1112 Manatee Avenue West, Suite 803, Bradenton, FL 34205 between the hours of 8:00 AM to 4:00 PM Monday through Friday, exception of holidays. Should you wish to have your CD shipped, Contractor shall provide the Federal Express or UPS account number. Documents may also be downloaded from the County Website: <http://www.mymanatee.org> or <http://www.DemandStar.com>

A complete set of quoting documents must be used in preparing the quote. The County assumes no responsibility for errors and misinterpretations resulting from the use of incomplete sets of quoting documents.

DEADLINE FOR CLARIFICATION REQUESTS : March 1st, 5:00 p.m.

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PURPOSE

The Florida Department of Transportation and Manatee County Traffic Engineering Division house their Traffic Control Facility within the Public Safety Center. In order to minimize the noise level in the room and to provide optimum performance of the equipment, it is the intent of Manatee County and FDOT to procure the services of a contractor to provide and install Sound Abatement (noise reduction) Materials in accordance with the attached documents, plans and specifications.

Location: Manatee County Public Safety Center / Traffic Management Center Control Room, 2101 47th Terrace East, Bradenton, FL 34203.

SPECIFICATIONS

Vendor must submit quotes strictly in accordance with specifications. Each variance to these specifications must be specifically stated by the vendor on the quote form. Should the vendor not furnish the County a list of exceptions and supporting data, the County will assume the vendor is quoting in accordance with the specifications.

Materials and equipment shall be listed by Underwriters' Laboratories and shall be installed in accordance with such listings.

Work Shall conform to the Florida Building Code and all applicable Codes and Standards, including, but not limited to those identified in the General Notes (Sheet SA1.0) of the Construction Plan Set.

CLARIFICATION

It shall be the responsibility of all vendors to request any additional clarification of the contents herein. Clarification will be furnished by written addendum from Purchasing. Vendors shall not accept any verbal or telecommunication explanation as authorized clarification of the contents herein.

TAXES

Manatee County is exempt from Federal Excise and State Sales Taxes (F.E.T. Exempt Cert. No. 59-78-0089K and FL Sales Tax Exempt Cert.(No. 85-8012622206C-6).

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QUALITY GUARANTEE AND REMEDIAL CLAUSE

If any work or material does not meet specifications, or materials furnished in conjunction with the work will not produce the results required of the work, the contractor will be required to rectify any and all work involved in the unsatisfactory situation. If the unsatisfactory work or materials involves other contractors who are blameless, then it shall be the responsibility of the contractor responsible for the faulty work or the furnishing of unsatisfactory materials to reimburse the blameless contractors for any and all additional work or materials required due to the faulty work or materials.

QUALITY TERMS

The County reserves the right to reject any or all work or materials used in the work, if in its judgment the work or materials reflect unsatisfactory workmanship, or manufacturing defects.

BASIS OF AWARD

Award will be made to the responsive, responsible quoter having the **lowest grand total** price meeting specifications. **Base Quote and one (1) of two (2) Alternate Quotes shall be considered.**

Base Quote: Supply and Installation of the Acoustic Wall Panels on the Walls, and Acoustic Ceiling Baffle and Wall Panels in the Ceiling Tray.

Quote Alternate 1: Installation of Acoustic Material to be mounted to the existing desk panels.

OR:

Quote Alternate 2: Installation of New Free Standing Acoustic Dividers around the existing desk area (Note: Access to the existing panel areas shall remain accessible for repair, modifications, etc...). All Free Standing Units shall not exceed 48" in height.

The County has the sole authority to select the **Base Quote** and **Quote Alternate** which is in the best interest of the County. Only one award shall be made. The contractor shall give **72 hour notification** to the Project Manager, Howard Leyo, at (941) 749-3052 prior to commencement of work.

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QUALIFICATIONS

Each person/company submitting a quote for this project must secure all licenses required (in accordance with Chapter 489 Florida Statutes) for the Work which is the subject of this quote; and, upon request, shall submit a true copy of all applicable licenses. **A Certified General Contractor's license is required. The Contractor shall have a minimum of five (5) years experience in the field of fabricating and installing Sound Abatement (noise reduction) materials.**

Each quoter shall submit as a portion of their quote, a completed Contractor's Questionnaire (Attachment "A") detailing their experience.

A copy of the license (s) must be provided at time of quote submittal.

SITE INSPECTION

Prior to submission of the quote, it is the responsibility of each Quoter to inspect the Site to become familiar with all conditions that may affect services that are required to completely execute the full intent of these specifications.

Quoters who are unable to inspect the Project Site prior to the Information Conference shall contact Mr. Sage Kamiya, P.E., Traffic Engineering Division at 941-749-3500 / Extension 7813 and **schedule an appointment** for the **Site Inspection**

A Site Inspection is a pre-requisite for award. The Site Inspection shall be acknowledged on the **Quote Form, Page 16.**

DEADLINE FOR CLARIFICATION REQUESTS

March 1st, 5:00 p.m shall be the deadline to submit all inquiries, suggestions, or requests concerning interpretation, clarification or additional information pertaining to the Request for Quotation to the Manatee County Purchasing Office.

This deadline has been established to maintain fair treatment for all potential quoters while maintaining the expedited nature of the Economic Stimulus that the contracting of this work may achieve.

RESERVED RIGHTS

The County reserves the right to accept or reject any and/ or all quotes, to waive irregularities and technicalities, and to request resubmission. Also, the County reserves the right to accept all or any part of the quote and to increase or decrease quantities to meet additional or reduced requirements of the County. Any sole response received by the first submission date may or may not be rejected by the County depending on available competition and current needs of the County.

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USE OF TRADE NAMES

Brand or trade names referenced in the specifications are for comparison purposes only. Vendors may submit quotes on items manufactured by other than the manufacturer specified. In these instances quotes must be accompanied with all descriptive information necessary for a thorough evaluation of the proposed material or equipment such as detailed drawings and specifications, certified operation and test data, and experience records, as well as an itemized list of any variances from, or exceptions taken to the specifications. Failure of any vendor to furnish this data will be cause for rejection of the specified item to which it pertains.

REGULATIONS

It shall be the responsibility of each vendor to assure compliance with any OSHA, EPA and/or Federal or State of Florida rules, regulations or other requirements, as each may apply.

COLLUSION

All vendors, by virtue of submitting their quotes, certify that it is without any previous understanding, agreements or connections, with any persons, firm or corporation submitting a quote for same, and is in all respects fair, and without collusion or fraud.

BE GREEN

All Bidders are encouraged to use as many environmentally preferable "green" products, materials, supplies, etc. as possible in order to promote a safe and healthy environment. Environmentally preferable are products or services that have a reduced adverse effect on the environment. Provide detail of your organization's initiative and its ability to meet the goal of environmental sustainability.

SAVE HARMLESS CLAUSE

The successful vendor (s) covenants and agrees to indemnify and save harmless the County of Manatee, Florida and to defend same from all costs, expenses, damages, and attorney's fees, injury of loss, to which the County may be subjected by any person, firm, corporation or organization by reason of any wrongdoing, misconduct, want or need of care or skill, negligence or default or breach of contract, guaranty or warranty, by the successful vendor(s), his employees, agents or assigns.

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PUBLIC CONTRACTING AND ENVIRONMENTAL CRIMES

A person or affiliate who has been placed on the State's convicted vendor list following a conviction for a public entity crime, as that term is defined in Florida Statute § 287.133, may not submit a quote, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals or replies on leases of real property to a public entity; may not be awarded or

perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in Florida Statute § 287.017 for CATEGORY TWO for a period of 36 months following the date of being placed on the convicted list.

An entity or affiliate who has been placed on the discriminatory vendor list may not submit a quote on a contract to provide any goods or services to a public entity, may not submit a quote on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity.

In addition, the Manatee County Code prohibits the award of any contract to any person or entity who/which has, within the past 5 years, been convicted of, or admitted to in court or

sworn to under oath, a public entity crime or of any environmental law that, in the reasonable opinion of the Purchasing Official, establishes reasonable grounds to believe the person or business entity will not conduct business in a responsible matter.

To insure compliance with the foregoing, the Code requires all persons or entities desiring to contract with the County to execute and file with the purchasing official an affidavit, executed under the pain and penalties of perjury, confirming that person, entity and any person(s) affiliated with the entity, does not have such a record and is therefore eligible to seek and be awarded business with the County.

In the case of a business entity other than a partnership or a corporation, such affidavit shall be executed by an authorized agent of the entity. In the case of a partnership, such affidavit shall be executed by the general partner(s). A Public Contracting and Environmental Crimes Certification is attached for this purpose.

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COSTS INCURRED IN RESPONDING

This solicitation does not commit the County to pay any costs incurred in the submission of quotes or make necessary studies or designs for the preparation thereof, nor to procure or contract for the equipment.

CONTRACT FORMS

The agreement resulting from the acceptance of the quote shall be in the form of the agreement stated in this quote.

CANCELLATION

The Two Party agreement shall be subject to immediate cancellation, if either product or service does not comply with the specifications, terms, or conditions stated herein. Products or services which do not comply with the specifications, terms or conditions stated herein will be returned and no payment for such defective items shall be due.

ASSIGNMENT OF CONTRACT

Contractor shall not assign, transfer, convey, sublet or otherwise dispose of this Contract or of his right, title, or interest therein, or his power to execute such Contract, or to assign any monies due or to become due there under to any other person, firm or corporation unless first obtaining the written consent of the County. The giving of such consent to a particular subcontractor assignment shall not dispense with the necessity of such consent to any further or other assignment.

COMPLETION OF WORK

Provide upon completion of construction, Final As-built Construction Plans, signed and sealed by a Professional Engineer, registered in the State of Florida.

Provide Construction Engineering and Inspection (CEI) and Quality Assurance Engineering to document construction as per specifications and Code.

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PAYMENT

In accordance with the Prompt Payment Act, Florida Statute 218.71, Contractor may apply for partial payment on monthly estimated based on the amount of Work done or completed in compliance with the provisions of the Contract. Contractor shall submit an application, on a form provided or approved by the County, of an approximate estimate of the proportionate value of the Work done, items and locations of the Work performed up to and including the last day of the period then ending. The County will then review said estimate and make any necessary revisions so that the estimate can receive approval for payment. If the Contractor and the County do not agree on the approximate estimate of the proportionate value of the Work done for any pay period, the determination of County will be binding. The amount of said estimate after deducting any required retainage and all previous payments shall be due and payable to the Contractor within 20 days after the pay estimate has been approved by the County. **If Outside Agent approval is required, payment shall be due 25 business days after the pay estimate has been approved by the agent for the County.**

It is the Contractor's responsibility for the care of the materials. Any damage to or loss of said materials is the full responsibility of the Contractor. Any Periodical Pay Estimate signed by the Contractor shall be final for any or all work covered by the Periodical Pay Estimate. Any requests for payment of materials stored on site must be accompanied with a paid receipt. The Contractor warrants and guarantees that title to all work, materials and equipment covered by any application for payment, whether incorporated in the project or not, will pass to the County at the time of payment free and clear of all liens, claims, security interests and encumbrances (hereafter referred to as "Liens").

The Contractor agrees to furnish an affidavit stating that all laborers, material men, and subcontractors have been paid on the project for Work covered by the application for payment and that a partial or complete release of lien, as may be necessary, be properly executed by the material men, laborers, subcontractors on the project for Work covered by the application for payment, sufficient to secure the County from any claim whatsoever arising out of the aforesaid Work.

When the Contractor has completed the Work in compliance with the terms of the Contract Documents, he shall notify the County in writing that the project is ready for final inspection. The County will then advise the Contractor as to the arrangements for final inspection and what Work, if any, is required to prepare the project or a portion thereof for final inspection. When the County determines the project or portion thereof is ready for final inspection, the County shall perform same. Upon completion of final inspection, the County will notify Contractor of all particulars in which this inspection

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PAYMENT (Continued)

reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies. When all such errors have been corrected, a final re-inspection will be made. The process will be repeated until, in the opinion of the County, the project has been completed in compliance with the terms of the Contract Documents.

When final acceptance has been made by the County, the County will make final payment of the Contract amount, plus all approved additions, less approved deductions and previous payments made. The Contract will be considered complete when all work has been finished, the final inspection made, approved as-builts received, and the project finally accepted in writing by the County. The Contractor's responsibility shall then terminate except as otherwise stated.

WARRANTY AND GUARANTEE PROVISIONS

All work, materials, and equipment furnished as defined herein shall be guaranteed and warranted by the contractor to be free from defects due to faulty materials or equipment or faulty workmanship for minimum period of (2) years from date of Final Acceptance by the County.

All materials, equipment, and workmanship furnished and installed by the contractor is warranted and guaranteed by the contractor to be such as to meet the required standards and to accomplish the purpose and function of the project as defined, detailed, and specified herein.

The County shall, following discovery thereof, promptly give written notice to the contractor of faulty materials, equipment, or workmanship within the period of the guarantee and the contractor shall promptly replace any part of the faulty equipment, material, or workmanship at his own cost. These warranty and guarantee provisions create no limitations on the County as to any claims or actions for breach of guaranty or breach of warranty that the County might have against parties other than the contractor, and do not constitute exclusive remedies of the County against the contractor.

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INSURANCE COVERAGE

The bidder will not commence work under a contract until all insurance under this section, and such insurance coverage as might be required by the County, has been obtained. Minimum amounts of insurance (inclusive of any amounts provided by an umbrella or excess policy) shall be as follows:

- a. Workers' Compensation/Employers' Liability
Part One – There shall be no maximum limit (other than as limited by the applicable statute) for liability imposed by Florida Worker's Compensation Act, the Longshoremen's and Harbor Worker's Compensation Act or any other coverage required by the contract documents which are customarily insured under Part One of the standard Worker's Compensation Policy.

Part Two – The minimum amount of coverage for the coverage required by the contract documents which are customarily insured under Part Two of the standard Worker's Compensation Policy shall be:

\$ 100,000	(Each Accident)
\$ 500,000	(Disease-Policy Limit)
\$ 100,000	(Disease-Each Employee)

- b. Commercial General Liability
The limits are to be applicable only to work performed under this contract and shall be those that would be provided with the attachment of the Amendment of the Limits of Insurance (Designated Project of Premises) endorsement (ISO Form GC 25 03) to a Commercial General Liability Policy with the following minimum limits:

Products/Completed Operations Aggregate	\$ 1,000,000
Personal and Advertising Injury	\$ 1,000,000
Each Occurrence	\$ 1,000,000
Fire Damage (Any one fire)	\$ NIL

- c. Business Auto Policy
Each Occurrence Bodily Injury and Property
Damage Liability Combined \$ 300,000
Annual Aggregate (if applicable): \$1,000,000

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INSURANCE COVERAGE (Continued)

d. Owners Protective Liability Coverage

The minimum OPC Policy limits per occurrence and, if subject to an aggregate, annual aggregate to be provided by the bidder shall be the same as the amounts shown above as the minimum per occurrence and general policy aggregate limits respectively required for the Commercial General Liability Coverage. The limits afforded by the OPC Policy and any excess policies shall apply only to the Owner and the Owner's officials, officers, agents and employees and only to claims arising out of or in connection with the work under this contract.

e. Certificates of Insurance and Copies of Policies

Certificates of Insurance in triplicate evidencing the insurance coverage specified in the three above paragraphs a, b, and c., shall be filed with the Purchasing Official before operations are begun.

The required certificates of insurance shall not only name the types of policy, policy number, date of expiration, amount of coverage, companies affording coverage, and also shall refer specifically to the quote number, **project title and location of project. Insurance shall remain in force at least one (1) year** after completion and acceptance of the project by the County, insurance in the amounts and types as stated herein, coverage for all products and services completed under this contract.

f. Property Insurance

If this contract includes construction of or additions to above ground buildings or structures, contractor shall provide "**Builder's Risk**" insurance with the minimum amount of insurance to be 100% of the value of such addition(s), building(s), or structure(s).

g. Installation Floater

If this contract does not include construction of or additions to above ground building or structures, but does involve the installation of machinery or equipment, contractor shall provide an "Installation Floater" with the minimum amount of insurance to be 100% of the value of such addition(s), building(s), or structure(s).

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INSURANCE COVERAGE (Continued)

ADDITIONAL INSURED:

County of Manatee shall be specifically named as additional insured in each of the applicable policies.

If the initial insurance expires prior to completion of operations and or services by the bidder, renewal certificates of insurance and required copies of policies shall be furnished by the bidder and delivered to the Purchasing Official thirty (30) days prior to the date of their expiration.

h. Commonly Over-looked Requirements – In order for the certificate of insurance to be accepted it must comply with the following:

1. As stated in para. (e.) “Certificates of Insurance and Copies of Policies”, **the project number (if one has been assigned) or Quote number, title and location shall appear on the certificate.**
2. As stated in para. (e.) **Manatee County shall be named as additional insured.**
3. The certificate holder shall be:
**Manatee County Board of Commissioners
P.O. Box 1000
Bradenton, FL 34206-1000**
4. Certificate shall be mailed to:
**Manatee County Purchasing
1112 Manatee Avenue West, Suite 803
Bradenton, FL 34205
Attn: Olga Valcich (RFQ #11-2834-OV)**

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INSURANCE COVERAGE (Continued)

i. Retainage

(Contract under \$ 100,000)

A **retainage** of 10% of the total contract amount shall be withheld from all payments until 50% of the Work has been completed. After 50% completion, the retainage shall be reduced to 5% of the total contract amount, and one half of the previously withheld amount shall be paid to the Contractor. The remaining retainage shall be included in the final payment.

(Contract over \$ 100,000)

A **retainage** of 2.5% of the total contract amount shall be withheld from payments after 75% completion of the Work. Upon substantial completion, this retainage shall be reduced to 1% of the total contract amount plus such amount as the Owner reasonably deem necessary to repair, replace, complete or correct any damaged, defective, incorrect or incomplete work.

j. Performance and Payment Bonds

The successful quoter shall furnish surety bonds as security for faithful performance of the contract awarded as a result of this quote, and for the payment of all persons performing labor and/or furnishing material in connection therewith. Surety of such bonds shall be in an amount equal to the quote award (100% each) and from a duly authorized and nationally recognized surety company, authorized to do business in Florida, satisfactory to this County. The attorney-in-fact who signs the bonds must file with the bonds a certificate and effective dated copy of power-of-attorney. (Reference Florida Statute 255.05)

Furnishing the performance and payment bonds shall be requisite to execution of a contract with the County. Said performance and payment bonds will remain in force for the duration of the contract with the premiums paid by the contractor. Failure of successful quoter to execute such contract and to supply the required bonds shall be just cause for annulment of the award. The County may then contract with another acceptable quoter or re-advertise this Quotation. If another quote is accepted, and notice given within 90 days after the opening of quotes, this acceptance shall bind the quoter as though they were originally the successful quoter.

Failure of the County at any time, to require performance by the contractor of any provisions set out in the contract will in no way affect the right of the County, thereafter, to enforce the provisions. **Bonds to remain in effect for one year after final payment becomes due.**

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EQUAL EMPLOYMENT OPPORTUNITY CLAUSE

In accordance with the provisions of Title VI of the Civil Rights Act of 1964 and Title 15, Part 8 of the Code of Federal Regulations, Manatee County hereby notifies all prospective offerors that they will affirmatively ensure minority business enterprises will be afforded full opportunity to participate in response to this advertisement and will not be discriminated against on the ground of race, color or national origin in consideration of an aware of contract

E-VERIFY

Vendor / Contractor shall utilize the U.S. Department of Homeland Security's E-Verify system, in accordance with the terms governing use of the system, to confirm the employment eligibility of;

1. all persons employed by the Vendor / Contractor during the term of the Contract to perform employment duties within Florida; and
2. all persons, including subcontractors, assigned by the Vendor / Contractor to perform Work pursuant to the contract with the Agency.

QUOTE FORM

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Location: 2101 47th Terrace West, Bradenton, FL 34203

BASE QUOTE

Description	Quantity	Unit Cost	Extended Total Cost
Acoustic Wall Panels, on the walls, and Acoustic Ceiling baffle and Wall Panels in the Tray Ceiling.	1,878 SQ. FT.	\$	
DISCRETIONARY FUNDS			\$5,000.00
TOTAL COST:			\$

TOTAL DURATION / CALENDAR DAYS FOR COMPLETION: _____

QUOTE ALTERNATE #1

DESCRIPTION	QUANTITY	UNIT COST	EXTENDED TOTAL COST
Installation of Acoustic Material to be mounted to the existing desk panels	326 SQ. FT.	\$	\$
DISCRETIONARY FUNDS			\$5,000.00
TOTAL COST:			\$

TOTAL DURATION / CALENDAR DAYS FOR PROJECT COMPLETION: _____

Quoter: _____

Authorized By: _____

QUOTE FORM

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Location: 2101 47th Terrace West, Bradenton, FL 34203

QUOTE ALTERNATE #2

DESCRIPTION	QUANTITY	UNIT COST	EXTENDED TOTAL COST
Installation of New Free Standing Acoustic Dividers around the existing desk areas (Note: Access to the existing panel areas shall remain accessible for repair, modifications, etc...) All Free Standing Units shall not exceed 48" in height	660 SQ. FT.	\$	\$
DISCRETIONARY FUNDS			\$5,000.00
TOTAL COST:			\$

TOTAL DURATION / CALENDAR DAYS FOR PROJECT COMPLETION: _____

Quoter: _____

Authorized By: _____

Attachment A”
CONTRACTOR'S QUESTIONNAIRE

The Quoter warrants the truth and accuracy of all statements and answers herein contained. **(Include additional sheets if necessary.)**

THIS QUESTIONNAIRE MUST BE COMPLETED AND SUBMITTED WITH YOUR BID.

1. LICENSE # and _____
COMPANY'S NAME _____

CO. PHYSICAL
ADDRESS: _____

TELEPHONE NUMBER: (____) _____ FAX (____) _____

EMAILADDRESS: _____

2. Quoting as an; individual ___a partnership___ a corporation; ___
a joint venture; ___

3. If a partnership: list names and addresses of partners; if a corporation: list names of officers, directors, shareholders, and state of incorporation; if joint venture: list names and address of ventures' and the same if any venture are a corporation for each such corporation, partnership, or joint venture:

4. Your organization has been in business under this firm's name as a
_____ for how many years? _____.

5. Provide a list of key personnel you propose to use and their qualifications and experience.

6. Provide at least three (3) examples of similar projects which you have completed satisfactorily within the past five (5) years.

1. _____

2. _____

3. _____

7. Describe and give the date and owner of the last three government projects you've completed which are similar in cost, type, size, and nature as the one proposed (for a public entity). Include contact name and phone number:

8. Have you ever been assessed liquidated damages under a contract during the past five (5) years? If so, state when, where (contact name, address, and phone number) and why.

9. Have you ever failed to complete work awarded to you? If so, state when, where and provide Contact name, address, phone number and why?

10. Have you ever been debarred or prohibited from bidding on a governmental entity's construction project? If yes, name the entity and describe the circumstances:

11. Name three individuals, governmental entities, or corporations for which you have performed similar work and to which you refer. Include contact name and phone number:

1. _____

2. _____

3. _____

12. Describe and give the date and owner of the last three (3) private contracts you have completed which are similar in cost, type, size and nature. Include contact name and phone number. Also include: Project Title, Location and Work Summary, Contractor's Project Manager.

1. _____

2. _____

3. _____

13. What specific steps have you taken to examine the physical conditions at or contiguous to the site, including but not limited to, the location of existing underground facilities? State date of Site Visit.

14. What specific physical conditions, including, but not limited to, the location of existing underground facilities have you found which will, in any manner, affect cost progress, performance, or finishing of the work?

15. Will you subcontract any part of this Work? If so, describe which major portion(s):

16. If any, list (with contract amount) WBE/MBE to be utilized:

17. What equipment do you own to accomplish this Work?

18. What equipment will you purchase / rent for the Work? (Specify which)

19. Provide detail of your organization's initiative to meet the goal of encouraging and promoting environmentally preferable "green" products?

20. List the following in connection with the Surety which is providing the Bond(s):

Surety's Name: _____

Surety's Address: _____

Name, address and phone number of Surety's resident agent for service of process

Phone: (_____) _____

Email: _____

Attachment "B"

PUBLIC CONTRACTING AND ENVIRONMENTAL CRIMES CERTIFICATION
SWORN STATEMENT PURSUANT TO ARTICLE 6,
MANATEE COUNTY PURCHASING CODE

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

This sworn statement is submitted to the Manatee County Board of County Commissioners by _____ [print individual's name and title]

for _____ [print name of entity submitting sworn statement]

whose business address is: _____

and (if applicable) its Federal Employer Identification Number (FEIN) is _____. If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement:

I understand that no person or entity shall be awarded or receive a county contract for public improvements, procurement of goods or services (including professional services) or a county lease, franchise, concession or management agreement, or shall receive a grant of county monies unless such person or entity has submitted a written certification to the County that it has not:

(1) been convicted of bribery or attempting to bribe a public officer or employee of Manatee County, the State of Florida, or any other public entity, including, but not limited to the Government of the United States, any state, or any local government authority in the United States, in that officer's or employee's official capacity; or

(2) been convicted of an agreement or collusion among bidders or prospective bidders in restraint of freedom of competition, by agreement to bid a fixed price, or otherwise; or

(3) been convicted of a violation of an environmental law that, in the sole opinion of the County's Purchasing Director, reflects negatively upon the ability of the person or entity to conduct business in a responsible manner; or

(4) made an admission of guilt of such conduct described in items (1), (2) or (3) above, which is a matter of record, but has not been prosecuted for such conduct, or has made an admission of guilt of such conduct, which is a matter of record, pursuant to formal prosecution. An admission of guilt shall be construed to include a plea of nolo contendere; or

(5) where an officer, official, agent or employee of a business entity has been convicted of or has admitted guilt to any of the crimes set forth above on behalf of such an entity and pursuant to the direction or authorization of an official thereof (including the person committing the offense, if he is an official of the business entity), the business shall be chargeable with the conduct herein above

Attachment "B"

PUBLIC CONTRACTING AND ENVIRONMENTAL CRIMES CERTIFICATION

(Continued)

set forth. A business entity shall be chargeable with the conduct of an affiliated entity, whether wholly owned, partially owned, or one which has common ownership or a common Board of Directors. For purposes of this Form, business entities are affiliated if, directly or indirectly, one business entity controls or has the power to control another business entity, or if an individual or group of individuals controls or has the power to control both entities. Indicia of control shall include, without limitation, interlocking management or ownership, identity of interests among family members, shared organization of a business entity following the ineligibility of a business entity under this Article, or using substantially the same management, ownership or principles as the ineligible entity.

Any person or entity, who claims that this Article is inapplicable to him/hers/it because a conviction or judgment has been reversed by a court of competent jurisdiction, shall prove the same with documentation satisfactory to the County's Purchasing Director. Upon presentation of such satisfactory proof, the person or entity shall be allowed to contract with the County.

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR MANATEE COUNTY IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT ANY CONTRACT OR BUSINESS TRANSACTION SHALL PROVIDE FOR SUSPENSION OF PAYMENTS, OR TERMINATION, OR BOTH, IF THE CONTRACTING OFFICER OR THE COUNTY ADMINISTRATOR DETERMINES THAT SUCH PERSON OR ENTITY HAS MADE FALSE CERTIFICATION.

[Signature]

STATE OF FLORIDA
COUNTY OF _____

Sworn to and subscribed before me this _____ day of _____,
20____ by _____

[Print, type or stamp Commissioned name of Notary Public]

Signatory Requirement - In the case of a business entity other than a partnership or a corporation, this affidavit shall be executed by an authorized agent of the entity. In the case of a partnership, this affidavit shall be executed by the general partner(s). In the case of a corporation, this affidavit shall be executed by the corporate president.

ATTACHMENT "C"
STATEMENT OF NO OFFER

If you do not intend to quote please return this form immediately:

Acceptable methods of return:

EMAIL-----see front of Request For Quote.

FAX----- (941) 749-3034

MAIL TO:

Manatee County Purchasing Office
1112 Manatee Avenue West, Suite 803
Bradenton, FL 34205

We, the undersigned, have declined to quote on RFQ#11-2834-OV, for the following reason(s):

- Specifications too restrictive
- Insufficient time to respond
- We do not offer this product or service
- Our schedule would not permit us to perform
- Unable to meet specifications
- Specifications unclear (explain below)
- Other (specify below)

REMARKS PLEASE PRINT

Company Name _____

Company Address _____

Telephone: _____

Date: _____

Signature: _____

(Print or type name and title of above signer)

GENERAL CONDITIONS
For Construction Quotations as a Stipulated Unit Cost Contract

ARTICLE I - DEFINITIONS

Whenever used in the Quotation Documents, the following terms have the meaning indicated which are applicable to both the singular and plural thereof:

Addendum - Written or graphic instruments issued prior to the opening of quotations which clarify or change the quotation documents or the contract documents.

Agreement - The written Agreement between Owner and Contractor covering the Work to be performed; other contract documents are attached to the Agreement and made a part thereof as provided therein.

Written Amendment - A written amendment of the contract documents, signed by Owner and Contractor on or after the effective date of the Agreement and normally dealing with the non-engineering or non-technical rather than strictly work related aspects of the contract documents.

Application for Payment - The form accepted by Project Representative which is to be used by Contractor in requesting progress or final payments and which is to include such supporting documentation as is required by the contract documents.

Award - Acceptance of the quotation from the person, firm, or corporation which in the Owner's sole and absolute judgment will under all circumstances best serve the public interest. Award shall be made in accordance with Manatee County Code of Laws.

Quotation - The offer of the Contractor submitted on the prescribed form setting forth the prices for the Work to be performed.

Quoter - One who submits a quotation directly to the Owner, as distinct from a sub-contractor who submits an offer to a Contractor.

Quotation Documents - Consists of the Quotation, which includes but is not limited to: the Quotation form, drawings, technical specifications, terms and conditions, and the proposed contract documents (including all Addenda issued prior to receipt of quotations); and becomes a part of the Agreement.

Bonds - Performance and payment bonds and other instruments of security.

Change Order - A document recommended by Project Representative which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the contract price or the contract time, issued on or after the effective date of the Agreement.

Compensable Delay - Any delay beyond the control and without the fault or negligence of the Contractor resulting from Owner-caused changes in the Work, differing site conditions, suspensions of the Work, or termination for convenience by Owner.

Contract Documents - The Agreement, Addenda (which pertain to the contract documents), Contractor's quotation (including documentation accompanying the quotation and any post-quotation documentation submitted prior to the Notice of Award), the bonds, the specifications and the drawings, together with all amendments, modifications and supplements issued on or after the effective date of the Agreement.

Contract Price - The monies payable by Owner to Contractor under the contract documents as stated in the Agreement.

Contract Time - The number of days or the date stated in the Notice to Proceed for the completion of the Work.

Contractor - The person, firm or corporation with whom Owner has entered into an Agreement.

Days - All references to days are to be considered calendar days except as specified differently.

Defective - An adjective which when modifying the work refers to work that is unsatisfactory, faulty or deficient, or does not conform to the contract documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the contract documents, or has been damaged prior to Project Representative's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner).

Drawings - The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by Engineer and are referred to in the quotation and contract documents.

Effective Date of the Agreement - The date indicated in the Agreement on which it becomes effective (date of execution).

Excusable Delay - Any delay beyond the control and without the negligence of the Contractor, the Owner, or any other contractor caused by events or circumstances such as, but not limited to, acts of God or of the public enemy, fires, floods, freight embargoes, acts of government other than Owner, or epidemics. Labor disputes and above average rainfall shall give rise only to excusable delays.

Float or Slack Time - The time available in the progress schedule during which an unexpected activity can be completed without delaying substantial completion of the Work.

Field Order - A written order issued by Project Representative which orders minor changes in the Work, but which does not involve a change in the contract price or the contractor time.

Inexcusable Delay - Any delay caused by events or circumstances within the control of the Contractor, such as inadequate crewing, slow submittals, etc., which might have been avoided by the exercise of care, prudence, foresight, or diligence on the part of the Contractor.

Non-prejudicial Delay - Any delay impacting a portion of the Work within the available total float or slack time and not necessarily preventing completion of the Work within the contract time.

Notice of Award - The written notice to the successful contractor stating Award has been approved by the Purchasing Official in accordance with Manatee County Purchasing Ordinance.

Notice of Intent to Award - The written notice to the apparent low quoter stating Award has been recommended with final Award to be authorized by the Ordinance 08-43, Manatee County Purchasing Code.

Notice to Proceed - Written notice by Owner (after execution of contract) to Contractor fixing the date on which the contract time will commence to run and on which Contractor shall start to perform (ten (10) days from date of such notice) Contractor's obligations under the contract documents.

Owner - Manatee County Florida, Board of County Commissioners.

Preconstruction Conference - Prior to starting the Work, a meeting scheduled by Owner with Contractor to review the Work schedules, to establish procedures for handling shop drawings and other submissions, for processing periodical pay estimates, and such other matters as may be pertinent to the project.

Prejudicial Delay - Any excusable or compensable delay impacting the Work and exceeding the total float available in the progress schedule, thus preventing completion of the Work within the contract time unless the Work is accelerated.

Pre-operation Testing - All field inspections, installation checks, water tests, performance tests and necessary corrections required of Contractor to demonstrate that individual components of the work have been properly constructed and do operate in accordance with the contract documents for their intended purposes.

Project - The total construction of which the Work to be provided under the contract documents may be the whole or a part as indicated elsewhere in the contract documents.

Project Representative - The authorized representative of Owner who is assigned to the project or any part thereof.

Shop Drawings - All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for Contractor to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a supplier and submitted by Contractor to illustrate material or equipment for some portion of the Work.

Specifications - Those portions of the contract documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

Subcontractor - An individual or corporation having a direct contact with Contractor or with any other subcontractor for the performance of a part of the Work at the site. Such person or firm has contractual relations with the Contractor, not with the Owner.

Substantial Completion - The Work (or a specified part thereof) has progressed to the point when, in the opinion of the Engineer as evidenced by Engineer's definitive certificate of Substantial Completion, it is sufficiently complete in accordance with contract documents so that the work can be utilized for the purposes for which it is intended; or if there be no such certificate issued, when final payment is due.

Successful Quoter - The lowest qualified, responsible and responsive Quoter to whom an award is made.

Supplier - A manufacturer, fabricator, supplier, distributor, materialman or vendor.

Underground Facilities - All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments and any encasement containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

Unit Price Work - Work to be paid for on the basis of unit prices.

Work - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the contract documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the contract documents.

Work Directive Change - A written directive to contractor, issued on or after the effective date of the Agreement and signed by Owner and recommended by Project Representative ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed or to emergencies. A work directive change may not change the contract price or the contract time; but is evidence that the parties expect that the change directed or documented by a work directive change will be incorporated in a subsequently issued change order following negotiations by the parties as to its effect, if any, on the contract price or contract time.

ARTICLE 2 - PRELIMINARY MATTERS

Computation of Time: When time is referred to in the contract documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or legal holiday, such day will be omitted from the computation.

- 2.1 The Contractor must submit a proposed schedule of the Work at the preconstruction conference. The purpose of this schedule is to enable the Owner to govern the Work, to protect the functions of the local government and its citizens and to aid in providing appropriate surveillance. The Owner shall have the right to reschedule work provided such rescheduling is in accord with the remainder of terms of the contract. The schedule shall show, as a minimum, the approximate dates on which each segment of the work is expected to be started and finished, the proposed traffic flows during each month, the anticipated earnings by the Contractor for each month and the approximate number of crews and equipment to be used. The Owner, after necessary rescheduling and obtaining additional information for specific purposes, shall review and approve the schedule. The Contractor shall also forward to the Owner, as soon as practicable after the first day of each month, a summary report of the progress of the various parts of the work under the contract, in fabrication and in the field, stating the existing status, estimated time of completion and cause of delay, if any. Together with the summary report, the Contractor shall submit any necessary revisions to the original schedule for the Owner's review and approval. In addition, more detailed schedules may be required by the Owner for daily traffic control.
- 2.2 A Notice to Proceed may be given at any time within thirty (30) days after the effective date of the Agreement. The contract time will commence at the time specified in such notice. Contractor shall start to perform the Work on the date specified in the notice to proceed, but no work shall be done at the site prior to the date on which the contract time commences to run.
- 2.3 If at any time the materials and appliances to be used appear to the Owner as insufficient or improper for securing the quality of work required or the required rate of progress, the Owner may order the Contractor to increase his efficiency or to improve the character of his work and the Contractor shall conform to such an order. The failure of the Owner to demand any increase of such efficiency of any improvement shall not release the Owner from his obligation to secure the quality of work or the rate of progress necessary to complete the Work within the limits imposed by the contract. The Owner may require the Contractor to remove from the Work such employees as the Owner deems incompetent, careless, insubordinate or otherwise objectionable, or whose continued employment on the Work is deemed to be contrary to the Owner's interest.
- 2.4 The Owner reserves the right to let other Contracts in connection with this Work. The Contractor shall afford other Contractors reasonable opportunity for the introduction and storage of their materials and execution of their Work, and promptly connect and coordinate the Work with theirs.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, RE-USE

3.1 The contract documents comprise the entire Agreement between Owner and Contractor concerning the work. The contract documents are complementary; what is called for by one is as binding as if called for by all. The contract documents will be construed in accordance with the laws and ordinances of the State of Florida and the Owner of Manatee.

Should a conflict exist within the contract documents, the precedence in ascending order of authority are as follows: 1) Standard Printed Contract Documents, 2) Special Conditions, 3) General Conditions and 4) Drawings. Note: Computed dimensions shall govern over scaled dimensions.

3.2 It is the intent of the contract documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the contract documents. Any work, materials or equipment that may reasonably be inferred from the contract documents as being required to produce the intended result will be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe work, materials, or equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or laws or regulations in effect at the time of opening of Quotations, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the contract documents) shall be effective to change the duties and responsibilities of Owner, Contractor or Engineer, or any of their agents or employees from those set forth in the Contract Documents.

3.3 The contract documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

3.3.1 A Formal Written Amendment (where applicable)

3.3.2 A Change Order

3.3.3 Administrative Contract Adjustment (ACA) (where applicable)

3.4 In addition, the requirements of the contract documents may be supplemented and minor variations and deviations in the Work may be authorized in one or more of the following ways:

3.4.1 Discretionary Work – Field Directive (not applicable)

3.4.2 Engineer's approval of a Shop Drawing or sample. (where applicable)

ARTICLE 4 - CONTRACTOR'S RESPONSIBILITIES

- 4.1 Contractor shall keep on the Work at all times during its progress a competent resident superintendent; who shall be the Contractor's representative at the site and shall have authority to act on behalf of Contractor. All communications given to the superintendent shall be as binding as if given to Contractor.
- 4.2 Contractor shall provide competent, suitable qualified personnel to survey and lay out the Work and perform construction as required by the contract documents. Contractor shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto and except as otherwise indicated in the contract documents, all Work at the site shall be performed during regular working hours and Contractor will not permit overtime work or the performance of work on Saturday, Sunday or legal holiday without Owner's written consent given after prior notice to Engineer (at least 72 hours in advance).
- 4.2.1 Contractor shall pay for all additional engineering charges to the Owner for any overtime work which may be authorized. Such additional engineering charges shall be a subsidiary obligation of Contractor and no extra payment shall be made by Owner on account of such overtime work. At Owner's option, overtime costs may be deducted from Contractor's monthly payment request or Contractor's retainage prior to release of final payment.
- 4.3 Unless otherwise specified, Contractor shall furnish and assume full responsibility for all bonds, insurance, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.
- 4.4 All materials and equipment shall be of good quality and new, except as otherwise provided in the contract documents. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instruction of the applicable supplier except as otherwise provided in the contract documents.
- 4.5 Contractor shall be fully responsible to Owner for all acts and omissions of the subcontractors, suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with Contractor just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents shall create any contractual relationship between Owner or Engineer and any such subcontractor, supplier or other person or organization, nor shall it create any obligation on the part of Owner to pay or to see to the payment of any monies due any such subcontractor, supplier or other person or organization.

- 4.6 Permits: Unless otherwise provided, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work.
- 4.7 During the progress of the Work, Contractor shall keep the premises free from accumulation of waste materials rubbish and other debris resulting from the Work. At the completion of the Work, Contractor shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials and shall leave the site clean and ready for occupancy by Owner. Contractor shall restore to original conditions all property not designated for alteration by the Contract Documents.
- 4.8 Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.
- 4.9 Safety and Protection: Contractor shall comply with the Florida Department of Commerce Safety Regulations and any local safety regulations. Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of and shall provide the necessary protection to prevent damage, injury or loss to:
- 4.9.1 all employees on the work and other persons and organizations who may be affected thereby;
 - 4.9.2 all the work and materials and equipment to be incorporated therein, whether in storage on or off the site; and
 - 4.9.3 other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and underground facilities not designated for removal, relocation or replacement in the course of construction.

Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall provide and maintain all passageways, guard fences, lights and other facilities for the protection required by public authority or local conditions. Contractor shall provide reasonable maintenance of traffic way for the public and preservation of the Owner's business, taking into full consideration all local conditions. Contractor's duties and responsibilities for the safety and protection of the work shall continue until such time as all the work is completed.

- 4.10 **Emergencies:** In emergencies affecting the safety or protection of persons or the work or property at the site or adjacent thereto, Contractor, without special instruction or authorization from Engineer or Owner, is obligated to act to prevent threatened damage, injury or loss. Contractor shall give Owner prompt written notice if Contractor believes that any significant changes in the work or variations from the contract documents have been caused thereby. If Owner determines that a change in the contract documents is required because of the action taken in response to an emergency, a Work Directive Change or Change Order will be issued to document the consequences of the changes or variation.
- 4.11 For substitutes not included with the Quotation, but submitted after the effective date of the Agreement, Contractor shall make written application to Engineer for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will also contain an itemized estimate of all costs and delays or schedule impacts that will result directly or indirectly from review, acceptance and provisions of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by the Engineer in evaluating the proposed substitute. Engineer may require Contractor to furnish at Contractor's expense, additional data about the proposed substitute. In rendering a decision, Owner/Engineer and Contractor shall have access to any available float time in the construction schedule. In the event that substitute materials or equipment not included as part of the Quotation, but proposed after the effective date of the agreement, are accepted and are less costly than the originally specified materials or equipment, then the net difference in cost shall be credited to the Owner and an appropriate change order executed.
- 4.11.1 If a specific means, method, technique, sequence of procedure of construction is indicated in or required by the contract documents, Contractor may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to Engineer if Contractor submits sufficient information to allow Engineer to determine that the substitute proposed is equivalent to that indicated or required by the contract documents.
- 4.11.2 Engineer will be allowed a reasonable time within which to evaluate each proposed substitute. Engineer will be the sole judge of acceptability and no substitute will be ordered, installed or utilized without Engineer's prior written acceptance which will be evidenced by either a change order or an approved shop drawing. Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- 4.11.3 Contractor shall reimburse Owner for the charges of Engineer and Engineer's Consultants for evaluating each proposed substitute submitted after the effective date of the Agreement and all costs resulting from any delays in the work while the substitute was undergoing review.

- 4.12 The Contractor shall furnish, free of charge, all labor, stakes, surveys, batter boards for structures, grade lines and other materials and supplies and shall set construction stakes and batter boards for establishing lines, position of structures, slopes and other controlling points necessary for the proper prosecution of the construction work. Where rights-of-way, easements, property lines or any other conditions which make the lay-out of the project or parts of the project critical are involved, the Contractor will employ a competent surveyor who is registered in the State of Florida for lay-out and staking. These stakes and marks shall constitute the field control by and in accord with which the Contractor shall govern and execute the work. The Contractor will be held responsible for the preservation of all stakes, marks and if for any reason any of the stakes or marks or batter boards become destroyed or disturbed, they will be immediately and accurately replaced by the Contractor.
- 4.13 The Contractor has, by careful examination, satisfied himself as to the nature and location of the work and all other matters which can in any way affect the work under this contract, including, but not limited to details pertaining to boring, as shown on the drawings, are not guaranteed to be more than a general indication of the materials likely to be found adjacent to holes bored at the site of the work, approximately at the locations indicated. The Contractor shall examine boring data, where available, and make his own interpretation of the subsoil investigations and other preliminary data, and shall base his Quotation on his own opinion of the conditions likely to be encountered. In no event shall an extension of time be considered for any conditions that existed at the time of Quotation, nor shall the Contractor receive extra compensation for completion of the project as intended by the drawings and in keeping with the contract documents. No verbal agreement or conversation with any officer, agent or employee of the Owner, before or after the execution of this contract, shall affect or modify any of the terms or obligations herein contained.
- 4.14 If the Contractor, in the course of the work, finds that the drawings and/or Contract Documents cannot be followed, he shall immediately inform the Owner in writing, and the Owner shall promptly check the accuracy of the information. Any work done after such discovery, until any necessary changes are authorized, will be done at the Contractor's risk.

ARTICLE 5 - OWNER'S RESPONSIBILITIES

- 5.1 Owner shall furnish the data required of Owner under the contract documents promptly and shall make payments to the Contractor within a reasonable time (no more than 45 days) after the Work has been accepted by the Owner. The form of all submittals, notices, change orders and other documents permitted or required to be used or transmitted under the contract documents shall be determined by the Owner/Engineer. Standard Owner forms shall be utilized.
- 5.2 The Owner shall provide the lands upon which the Work under this contract is to be done, except that the Contractor shall provide all necessary additional land required for the erection of temporary construction facilities and storage of his materials, together with right of access to same.

- 5.3 The Owner shall have the right to take possession of and use any completed portions of the work, although the time for completing the entire work or such portions may not have expired, but such taking possession and use shall not be deemed an acceptance of any work not completed in accordance with the Contract Documents.

ARTICLE 6 - CHANGES IN THE WORK

- 6.1 Without invalidating the Agreement and without notice to any surety, Owner may, at any time, order additions, deletions or revisions in the Work. These will be authorized by a written amendment, a change order, or a work directive change. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the contract documents (except as otherwise specifically provided).
- 6.2 Contractor shall not be entitled to an increase in the contract price or an extension of the contract time with respect to any Work performed that is not required by the contract documents as amended, modified and supplemented.
- 6.3 Owner and Contractor shall execute appropriate change orders (or written amendments) covering changes in the Work which are ordered by Owner, or which may be required because of acceptance of defective Work.
- 6.4 At any time Engineer may request a quotation from Contractor for a proposed change in the Work and within twenty-one (21) calendar days after receipt, Contractor shall submit a written and detailed proposal for an increase or decrease in the contract price or contract time for the proposed change. Engineer shall have 21 calendar days after receipt of the detailed proposal to respond in writing. The proposal shall include an itemized estimate of all costs and time for performance that will result directly or indirectly from the proposed change. Unless otherwise directed, itemized estimates shall be in sufficient detail to reasonably permit an analysis by Engineer of all material, labor, equipment, subcontracts, overhead costs and fees, and shall cover all Work involved in the change, whether such Work was deleted, added, changed or impacted. Notwithstanding the request for quotation, Contractor shall carry on the Work and maintain the progress schedule. Delays in the submittal of the written and detailed proposal will be considered non-prejudicial.

ARTICLE 7 - CHANGE OF CONTRACT PRICE

- 7.1 The contract price constitutes the total compensation (subject to authorized adjustments) payable to Contractor for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at his expense without change in the contract price.

- 7.2 The contract price may only be changed by change order or by a written amendment. Any claim for an increase or decrease in the contract price shall be based on written notice delivered by the party making the claim to the other party. Notice of the amount of the claim with supporting data shall be delivered within ten (10) days from the beginning of such occurrence and shall be accompanied by claimant's written statement that the amount claimed covers all known amounts (direct, indirect and consequential) to which the claimant is entitled as a result of the occurrence of said event.
- 7.3 The value of any Work covered by a change order or of any claim for an increase or decrease in the contract price shall be determined in one of the following ways (at Owner's discretion):
- 7.3.1 Where the Work involved is covered by unit prices contained in the contract documents, cost will be determined by application of such unit prices to the quantities of the items involved.
- 7.3.2 By mutual acceptance of lump sum.
- 7.3.3 On the basis of the cost of the Work, plus a 15% Contractor's fee for overhead and profit. (Contractor shall submit an itemized cost breakdown together with supporting data.)
- 7.4 Either Owner or Contractor may make a claim for an adjustment in the contract price. The unit price of an item of unit price Work shall be subject to re-evaluation and adjustment under the following conditions:
- 7.4.1 If the total cost of a particular item of unit price Work amounts to 5% or more of the contract price and the variation in the quantity of the particular item of unit price Work performed by Contractor differs by more than 15% from the estimated quantity of such item indicated in the Agreement; and
- 7.4.2 If there is no corresponding adjustment with respect to any other item of Work; and
- 7.4.3 If a Contractor believes that it has incurred additional expense as a result thereof; or
- 7.4.4 If Owner believes that the quantity variation entitles it to an adjustment in the unit price; or
- 7.4.5 If the parties are unable to agree as to the effect of any such variations in the quantity of unit price Work performed.

ARTICLE 8 - CHANGE OF CONTRACT TIME

- 8.1 Contract time may only be changed by a change order or a written amendment. Any claim for an extension or shortening of the contract time shall be based on written notice delivered by the party making the claim to the other party. Notice of the extent of the claim with supporting data shall be delivered within fifteen (15) days from detection or beginning of such occurrence and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event.
- 8.2 The contract time will be extended in an amount equal to time lost due to delays beyond the control of Contractor. Such delays shall include, but not be limited to, acts or neglect by Owner or others performing additional work; or to fires, floods, epidemics, abnormal weather conditions or acts of God.
- 8.3 All time limits stated in the contract documents are of the essence.

ARTICLE 9 - WARRANTY, TEST/INSPECTION, CORRECTION

- 9.1 Contractor warrants (for a minimum period of two (2) years or as otherwise stated herein) and guarantees to Owner that all work will be in accordance with the contract documents and will not be defective; that Owner, representatives of Owner, governmental agencies with jurisdictional interests will have access to the work at reasonable time for their observation, inspecting and testing (Contractor shall give Engineer timely notice of readiness of the work for all required approvals and shall assume full responsibility, including costs, in obtaining required tests, inspections, and approval certifications and/or acceptance, unless otherwise stated by Owner).
- 9.2 If any work (including work of others) that is to be inspected, tested, or approved is covered without written concurrence of Engineer, it must, if requested by Engineer, be uncovered for observation. Such uncovering shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice. Neither observations by Engineer nor inspections, tests, or approvals by others shall relieve Contractor from Contractor's obligations to perform the work in accordance with the contract documents.
- 9.3 If the work is defective, or Contractor fails to supply sufficient skilled workers, or suitable materials or equipment, or fails to furnish or perform the work in such a way that the completed work will conform to the contract documents, Owner may order Contractor to stop the work, or any portion thereof and terminate payments to the Contractor until the cause for such order has been eliminated. Contractor shall bear all direct, indirect and consequential costs for satisfactory reconstruction or removal and replacement with non-defective work, including, but not limited to fees and charges of engineers, architects, attorneys and other professionals and any additional expenses experienced by Owner due to delays to other Contractors performing additional work and an appropriate deductive change order shall be issued. Contractor shall further bear the responsibility for maintaining schedule and shall not be entitled to an extension of the contract time and the recovery of delay damages due to correcting or removing defective work.

9.3.1 If Contractor fails within seven (7) days after written notice to correct defective work, or fails to perform the work in accordance with the contract documents, or fails to comply with any other provision of the contract documents, Owner may correct and remedy any such deficiency. To the extent necessary to complete corrective and remedial action, Owner may exclude Contractor from all or part of the site, take possession of all or part of the work, Contractor's tools, construction equipment and machinery at the site or for which Owner has paid Contractor but which are stored elsewhere. All direct, indirect and costs of Owner in exercising such rights and remedies will be charged against Contractor in an amount approved as to reasonableness by Engineer and a change order will be issued incorporating the necessary revisions.

9.3.2 If within three years after the date of completion or such longer period of time as may be prescribed by laws or regulations or by the terms of any applicable special guarantee required by the contract documents, any work is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions, either correct such defective work or if it has been rejected by Owner, remove it from the site and replace it with non-defective work. If Contractor does not promptly comply with the terms of such instruction, Owner may have the defective work corrected/removed and all direct, indirect and consequential costs of such removal and replacement will be paid by Contractor.

ARTICLE 10 - SUSPENSION/TERMINATION OF WORK

10.1 Owner may, at any time and without cause, suspend the work or any portion thereof for a period of not more than ninety (90) days by written notice to Contractor, which will fix the date on which work will be resumed. Contractor shall be allowed an increase in the contract price or an extension of the contract time, or both, directly attributable to any suspension if Contractor makes an approved claim therefore.

10.2 Owner may terminate the contract if Contractor commences a voluntary case under any chapter of the Bankruptcy Code or any similar action by filing a petition under any other federal or state law relating to the bankruptcy or insolvency; if a petition is filed against the Contractor under any chapter of the Bankruptcy Code or similar relief under any other federal or state law; if Contractor persistently fails to perform the work in accordance with the contract documents; if Contractor disregards laws or regulations of any public body having jurisdiction or the Engineer; or otherwise violates in any substantial way any provisions of the contract.

10.2.1 Owner may, after giving Contractor (and the surety, if there is one) seven (7) days written notice and to the extent permitted by laws and regulations, terminate the services of Contractor; exclude Contractor from the site and take possession of the work and of all Contractor's tools, construction equipment and machinery at the site and use the same to the full extent they could be used (without liability to Contractor for trespass or conversion); incorporate in the work all materials and equipment stored at the site or for which Owner has paid Contractor but which are stored elsewhere, and finish the work as Owner may deem expedient. In such case, Contractor shall not be entitled to receive any further payment beyond an amount equal to the value of material and equipment not incorporated in the work, but delivered and suitably stored, less the aggregate of payments previously made. If the direct and indirect costs of completing the work exceed the unpaid balance of the contract price, Contractor shall pay the difference to Owner. Such costs incurred by Owner shall be verified by Owner and incorporated in a change order; but in finishing the work, Owner shall not be required to obtain the lowest figure for the work performed. Contractor's obligations to pay the difference between such costs and such unpaid balance shall survive termination of the Agreement.

10.3 If, through no act or fault of Contractor, the work is suspended for a period of more than ninety (90) days by Owner or under an order of court or other public authority, or Engineer fails to act on any application or fails to pay Contractor any sum finally determined to be due; then Contractor may, upon seven (7) days written notice to Owner terminate the Agreement and recover from Owner payment for all work executed, any expense sustained plus reasonable termination expenses. In lieu of terminating the Agreement, if Engineer has failed to act on any application of payment or Owner has failed to make any payment as aforesaid, Contractor may upon seven (7) days written notice to Owner stop the work until payment of all amounts then due.

ARTICLE 11 - CONTRACT CLAIMS

11.1 The rendering of a decision by Engineer with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment) will be a condition precedent to any exercise by Owner or Contractor of such right or remedies as either may otherwise have under the contract documents or by laws or regulations in respect of any such claim, dispute or other matter. No action, either at law or at equity, shall be brought in connection with any such claim, dispute or other matter later than thirty (30) days after the date on which Owner/Engineer has rendered such written decision in respect thereof. Failure to bring an action within said thirty (30) day period shall result in Engineer's decision being final and binding on the Contractor. In no event may any such action be brought after the time at which instituting such proceedings would be otherwise barred by the applicable statute of limitations.

- 11.2 Before bringing any action in court pertaining to any claim, dispute or other matter in question(s) arising out of or relating to the contract documents or the breach thereof, or Engineer's final decision, except for claims which have been waived by the making and acceptance of final payment, the Contractor shall first submit written notice(s) of contract claims to the Purchasing Official for a decision; the Contractor may request a conference with the Purchasing Official. Claims include, without limitation, disputes arising under the contract and those based upon breach of contract, mistake, misrepresentation, or other cause for modification or revision. Contract claims shall use the process detailed in Section 2-26-63, Manatee Owner Purchase Code, Ordinance 09-52.

ARTICLE 12 - RESIDENT PROJECT REPRESENTATIVE - DUTIES, RESPONSIBILITIES

- 12.1 Resident Project Representative is Engineer/Owner's Agent, who will act as directed by and under the supervision of the Engineer, and who will confer with Owner/Engineer regarding his actions. Resident Project Representative's dealing in matters pertaining to the on-site work shall, in general, be only with the Owner/Engineer and Contractor and dealings with subcontractors shall only be through or with the full knowledge of Contractor.
- 12.2 Resident Project Representative will:
- 12.2.1 Review the progress schedule, schedule of shop drawing submissions and schedule of values prepared by Contractor and consult with Owner/Engineer concerning their acceptability.
 - 12.2.2 Attend preconstruction conferences. Arrange a schedule of progress meetings and other job conferences as required in consultation with Owner/Engineer and notify those expected to attend in advance. Attend meetings and maintain and circulate copies of minutes thereof.
 - 12.2.3 Serve as Owner/Engineer's liaison with Contractor, working principally through Contractor's superintendent and assist him in understanding the intent of the contract documents. As requested by Owner/Engineer, assist in obtaining additional details or information when required at the job site for proper execution of the Work.
 - 12.2.4 Receive and record date of receipt of shop drawings and samples, receive samples which are furnished at the site by Contractor and notify Owner/Engineer of their availability for examination.
 - 12.2.5 Advise Owner/Engineer and Contractor or his superintendent immediately of the commencement of any work requiring a shop drawing or sample submission if the submission has not been approved by the Owner/Engineer.
 - 12.2.6 Conduct on-site observations of the work in progress to assist Owner/Engineer in determining if the work is proceeding in accordance with the contract documents and that completed work will conform to the contract documents.

- 12.2.7 Report to Owner/Engineer whenever he believes that any work is unsatisfactory, faulty or defective or does not conform to the contract documents, or does not meet the requirements of any inspections, tests or approvals required or if work has been damaged prior to final payment; and advise Owner/Engineer when he believes work should be corrected or rejected or should be uncovered of observation or requires special testing, inspection or approval.
- 12.2.8 Verify that tests, equipment and system start-ups and operating and maintenance instructions are conducted as required by the contract documents and in the presence of the required personnel, and that Contractor maintains adequate records thereof; observe, record and report to Engineer appropriate details relative to the test procedures and start-ups.
- 12.2.9 Accompany visiting inspectors representing public or other agencies having jurisdiction over the project; record the outcome of these inspections and report to Owner/Engineer.
- 12.2.10 Transmit to Contractor, Owner/Engineer's clarifications and interpretations of the contract documents.
- 12.2.11 Consider and evaluate Contractor's suggestions or modifications in drawings or Contract Documents and report them with recommendations to Owner/Engineer.
- 12.2.12 Maintain at the job site orderly files for correspondence, reports of job conferences, shop drawings and sample submissions, reproductions of original contract documents including all addenda, change orders, field orders, additional drawings issued subsequent to the execution of the contract, Owner/Engineer's clarifications and interpretations of the contract documents, progress reports and other project related documents.
- 12.2.13 Keep a diary or log book, recording hours on the job site, weather conditions, data relative to questions of extras or deductions; list of visiting officials and representatives or manufacturers, fabricators, suppliers and distributors; daily activities, decisions, observations in general and specific observations in more detail as in the case of observing test procedures. Send copies to Owner/Engineer.
- 12.2.14 Record names, addresses and telephone numbers of all Contractors, subcontractors and major suppliers of materials and equipment.
- 12.2.15 Furnish Owner/Engineer periodic reports as required of progress of the work and Contractor's compliance with the approved progress schedule and schedule of shop drawing submissions.

- 12.2.16 Consult with Owner/Engineer in advance of scheduling major tests, inspections or start of important phases of the work.
- 12.2.17 Report immediately the occurrence of any accident.
- 12.2.18 Review applications for payment with Contractor for compliance with the established procedure for their submission and forward them with recommendations to Owner/Engineer, noting particularly their relation to the schedule of values, work completed and materials and equipment delivered at the site but not incorporated in the work.
- 12.2.19 During the course of the work, verify that certificates, maintenance and operations manuals and other data required to be assembled and furnished by Contractor are applicable to the items actually installed, and deliver this material to Owner/Engineer for his review prior to final acceptance of the work.
- 12.2.20 Before Owner/Engineer issues a Certificate of Substantial Completion, submit to Contractor a list of observed items requiring completion or correction.
- 12.2.21 Conduct final inspection in the company of Owner/Engineer and Contractor and prepare a final list of items to be completed or corrected.
- 12.2.22 Verify that all items on final list have been completed or corrected and make recommendations to Owner/Engineer concerning acceptance.
- 12.3 Except upon written instructions of Owner/Engineer, Resident Project Representative.
 - 12.3.1 Shall not authorize any deviation from the contract documents or approve any substitute materials or equipment;
 - 12.3.2 Shall not exceed limitations on Owner/Engineer's authority as set forth in the contract documents;
 - 12.3.3 Shall not undertake any of the responsibilities of Contractor, Subcontractors or Contractor's Superintendent, or expedite the work;
 - 12.3.4 Shall not advise on or issue directions relative to any aspect of the means, methods, techniques, sequences or procedures of construction unless such is specifically called for in the contract documents;
 - 12.3.5 Shall not advise on or issue directions as to safety precautions and programs in connection with the work;
 - 12.3.6 Shall not authorize Owner to occupy the project in whole or in part; and

12.3.7 Shall not participate in specialized field or laboratory tests.

ARTICLE 13 - APPRENTICES

13.1 If Successful Contractor employees Apprentices, he shall be governed and comply with the provisions of Florida State Statute 446.011.

NOTE: The form of all submittals, notices, change orders and other documents permitted or required to be used or transmitted under the Contract shall be determined by the Owner. Standard County forms shall be utilized.

END OF SECTION

ATTACHMENT "D"**FORM OF AGREEMENT
BETWEEN THE
COUNTY OF MANATEE, FLORIDA
AND THE CONTRACTOR AS IDENTIFIED BELOW
ON THE BASIS OF A STIPULATED UNIT COST CONTRACT PRICE**

THIS AGREEMENT is made and entered into by and between the COUNTY OF MANATEE, a political subdivision of the state of Florida, hereinafter referred to as the "COUNTY" AND _____ hereinafter referred to as the "CONTRACTOR," duly authorized to transact business in the state of Florida, with offices located at _____.

Article 1. WORK

CONTRACTOR shall furnish all labor, materials, supplies, and other items required to complete the Work for RFQ No. **RFQ#11-2834-OV / Manatee County Public Safety Center, Traffic Management Video Room / Sound Abatement, Bradenton, FL** in strict accordance with Contract Documents and any duly authorized subsequent addenda thereto, all of which are made a part hereof.

Article 2. ENGINEER

The County of Manatee, Project Management Department, is responsible as the COUNTY and ATP Engineering South, P.L., hereinafter referred to as "ENGINEER," designed this project and is responsible for technical/engineering reviews and decisions. The ENGINEER is a member of the COUNTY'S project management team which is collectively responsible in ensuring the Work is completed in accordance with the Contract Documents. All communications involving this project will be addressed to Mr. Howard Leyo, Project Manager, Property Management Department and to Mr. John D. Camden, P.E., ATP Engineering South, P.L. All invoices will be addressed to Mr. Leyo with **copies of invoices Mr. John D. Camden, P.E.**

County of Manatee
Property Management Department
Attn: Mr. Howard Leyo, Project Manager
1112 Manatee Avenue West
Bradenton, FL 34208
Phone: (941) 749-3052

ATP Engineering South, P.L.
Attn: Mr. John D. Camden, P.E
1283 Tallevast Rd.
Sarasota, FL 34243
Phone: (941) 360-2181

Where the terms ENGINEER and/or COUNTY are used in the Contract Documents, it shall mean the COUNTY'S project management team.

Article 3. CONTRACTOR'S REPRESENTATIONS

In order to induce COUNTY to enter into this Agreement, CONTRACTOR makes the following representations:

- 3.1 CONTRACTOR has familiarized itself with the nature and extent of the Bid Documents, Work, site, locality and all local conditions and laws and regulations that in any manner may affect cost, progress, performance or furnishing of the Work.
- 3.2 CONTRACTOR has studied carefully all drawings of the physical conditions upon which CONTRACTOR is entitled to rely.
- 3.3 CONTRACTOR has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests, reports and studies which pertain to the physical conditions at or contiguous to the site or which otherwise may affect the cost, progress, performance or furnishing of the Work as CONTRACTOR considers necessary for the performance or furnishing of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Bid Documents; and no additional examinations, investigations, explorations, tests, reports, studies or similar information or data are or will be required by CONTRACTOR for such purposes.

- 3.4 CONTRACTOR has reviewed and checked all information and data shown or indicated on the Bid Documents with respect to existing underground facilities at or contiguous to the site and assumes responsibility for the accurate location of said underground facilities. Any additional examinations, investigations, explorations, tests, reports, studies or similar information or data in respect of said underground facilities conducted by the CONTRACTOR will be done at the CONTRACTOR'S expense.
- 3.5 CONTRACTOR has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Bid.
- 3.6 CONTRACTOR has given COUNTY written notice of all conflicts, errors or discrepancies that have been discovered in the Bid Documents and the written resolution thereof by OWNER is acceptable to CONTRACTOR.
- 3.7 CONTRACTOR shall schedule and perform the Work subject to COUNTY'S approval and shall hold COUNTY harmless from all liabilities incurred due to CONTRACTOR'S failure to coordinate with the COUNTY.

Article 4. CONTRACT DOCUMENTS

The Contract Documents which comprise the entire Agreement between COUNTY and CONTRACTOR concerning the Work consist of the following:

- 4.1 This Agreement and Bid Document **RFQ #11-2834-OV**
- 4.2 Performance and/or other Bonds and Insurance Certificate(s)
- 4.3 Drawings (not attached)
- 4.4 Addenda numbers ___ to ___ inclusive.

- 4.5 CONTRACTOR'S Bid Form and any other information submitted by Contractor prior to Notice of Award.
- 4.6 The following which may be delivered or issued after the effective date of the Agreement and are not attached hereto: all written Change Orders and other documents amending, modifying, or supplementing the Contract Documents.
- 4.7 The documents listed in paragraphs above are attached to this Agreement (except as noted otherwise above). There are no Contract Documents other than those listed above in this Article 4.

Article 5. MISCELLANEOUS

- 5.1 Terms used in this Agreement are defined in Article 1 of the General Conditions.
- 5.2 No assignment by a party hereto of any rights under or interest in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law); and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignee from any duty or responsibility under the Contract Documents.
- 5.3 COUNTY and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

The OWNER will pay, and the CONTRACTOR will accept in full consideration for the performance of the Work (**RFQ#11-2834-OV) Manatee County Public Safety Center / Traffic Management Video Room / Sound Abatement, Bradenton, FL** subject to additions and deduction as provided therein, the sum of _____ (\$XXXXX.XX) for XXXXX Quote based on Completion Time of **XXX calendar days.**

CONTRACTOR

BY: _____
Signature

Name and Title of Signer (printed)

Date: _____

MANATEE COUNTY GOVERNMENT

BY: _____ For the County
Signature

Melissa Assha, CPPO, Purchasing Official
Name and Title of Signer

Date: _____



Construction Document Specifications

For

Manatee County Traffic Management Center
Sound Abatement WA# 38
Manatee County Government
Bradenton, Florida

Issue Date: CD Set April 28, 2011

Specification Date: January 18, 2012

ATP ENGINEERING SOUTH, P.L.
1283 Tallevast Rd.
Sarasota, FL 34243
941-360-2181
FL# 8908
Contact Person: John D. Camden, P.E.
FL# 53458

Set# _____

Manatee County Traffic Management Center
Sound Abatement WA# 38

Sheet Schedule:

Project: Manatee County Traffic Management Center Sound Abatement Project WA#38

<u>Sheet</u>	<u>Description</u>
Cover	Project Name, Location and Site Maps, Sheet Schedule WA #38
SA1.0	Details, General Notes and Specifications
SA2.0	Control Room Floor Layout Plan and Testing Data
SA2.1	Interior Wall Layout
SA2.2	Sound Abatement Reflected Ceiling Plan
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SECTION 01100 – SUMMARY – 011100

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 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: Project consists of sound attenuation and abatement to the Traffic Control Facility located in the Manatee County Emergency Operations Center.
 - 1. Project Location: Manatee County Traffic Management Center Control Room Sound Abatement Project, 2101 47th Terrace East, Bradenton, FL 34203
 - 2. Owner: Manatee County Government
 - 3. Owner's Representative: Mr. Sage Kamiya, P.E. Traffic Engineering Division Manager, Manatee County Public Works Department, 2101 47th Terrace East, Bradenton, FL 34203, Phone: (941) 749-3500 ext.7813
 - 4. Project Manager: Mr. Howard Leyo, Construction Services Division Manatee County: (941) 749-3052
- B. Engineer Identification: The Contract Documents, dated April 28, 2011, were prepared by ATP Engineering South, 1283 Tallevast Rd, Sarasota, FL 34243. All project documents shall be transmitted and distributed by the Manatee County Purchasing Department.
- C. Identification: The Contract Documents dated April 28,2011 were prepared for the project by ATP Engineering South and Consultants.

The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by the one shall be as binding as if required by all. Performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results. Dimensions shall be figures rather than determined by scale or rule. In the event of a conflict or inconsistency among the Contract Documents, or between the Contract Documents and applicable codes, the Contractor shall provide the greatest quantity, largest degree of safety, highest quality or most stringent material or work.

- D. The Work consists of acoustical and sound abatement renovations and additions.
 - 1. The Work will include: provision and installation of a complete project as defined by the specifications and plans for the sound abatement (noise reduction) materials in the Manatee County Traffic Control Facility. This project will include a

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shop/facility/builder with a licensed and insured general contractor that employs skilled workers who have the ability to fabricate and install products similar to those required for this Project with at least 5 years of experience and whose products and installations have a record of successful in-service performance, miscellaneous work may be required.

2. Construction materials and processes are to be performed to have minimum impact on the environment, using recycled materials to the greatest extent practicable, recycling construction waste material where possible and disposing of non-recyclable waste in an environmentally friendly manner.

1.3 CONTRACT

- A. Project will be constructed under a general construction contract.
 1. Please provide one price for the base price:
 - a. **The base design for the sound abatement project.**
 2. Alternate pricing shall include:
 - a. **Alternate 1: Installation of acoustic panels mounted to the existing desk panels.**
 - b. **Alternate 2: Installation of new freestanding acoustic dividers around the existing desk areas (Note: access to the existing panel areas shall remain accessible for modification, repair, etc.) All free standing units shall not exceed 48" in height.**

1.4 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 16/ 48 -division format and CSI/CSC's "Master Format" numbering system.
 1. Section Identification: The Specifications use section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of sections in the Contract Documents.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred, as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by

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Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

- a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
- b. The word "comparable" shall mean of same quality and performance and not change any items within the design or construction of the project. If the system or component changes the electrical, structural, mechanical, fire, or architectural, the unit is not comparable.

1.4.1 USE OF PREMISES- Refer to Division 1 Section 01500 for any additional information.

- A. General: During the construction period, the Contractor shall limit his use of premises for construction operations to within the construction limits indicated or established by the Owner/ County. Any required work noted outside those limits of construction shall be coordinated with the Owner for safety and security prevention.
- B. Use of the Site: Limit the use of the premises to work in areas indicated. Confine operations to areas within the contract limits indicated. Do not disturb portions of the site beyond areas in which work is indicated. Confine Construction operations to Control Room during weekdays from 7:00 AM to 4:00 PM.
- C. All personnel shall be cleared with the County facility personnel to the project site area.
- D. Driveways, walkways, and entrances: Keep driveways, loading areas, and entrances serving premises clear and available to the Owner, Owner's Employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 1. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 2. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.
 3. Locate Contractor parking and staging areas as directed by the Owner's Representative.
- E. Condition of existing Building: Maintain portions of the existing building affected by construction operations. Repair damage caused by construction operations.
- F. Contractor may use restroom facilities in the existing building.
- G. Contractor may use existing electrical power outlets at no charge.

1.5 Coordination with Occupants:

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- A. Full Owner Occupancy: Owner will occupy site and existing building during the entire construction period. Cooperate with the Owner's Representative during the construction operations to minimize conflicts and facilitate Owner usage. Perform the work so not to interfere with the Owner's day-to-day operations. Maintain existing exits.
1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities with out written permission from the Owner's Representative.
 2. Notify the Owner's Representative not less than 72 hours in advance of activates that will affect the Owner's Operations.
 3. The Contractor shall provide construction waste collection service. Contractor shall not use the Owner's waste receptacles for construction waste.
 4. The Contractor shall clean up all construction debris at the end of each workday.
 5. The Contractor shall get approval for the use of a lift on the raised floor. If the raised floor is damaged in any way, shape, or form; the Contractor shall repair or replace the section of the damaged floor.
 6. The Contractor shall not be near the television monitoring systems. If the Contractor interferes with the television systems they shall pay for repairs or replacement of the systems.

PART 2 - PRODUCTS

A. Size of panels may vary for manufacturers. Verification of square footage is required and must meet minimum areas as indicated on the plans.

Refer to Division 9 and 10 for Product Specifications and Requirements.

2.3 Submittals – Refer to Division 1 Section 01330 for additional information.

- A. Product Data: For each type of panel edge, core material, and mounting indicated. (PDF Electronic File and Hard Copies)
- B. Field test report: Once installation is complete, conduct field test and provide report listing any deficiencies and recommendations for corrective actions. Field test and the report will be provided by the Engineer of Record. (PDF electronic file and Hard Copies)
- C. Shop drawings. For sound adsorptive panels. Identify required configuration of panels as shown on the plans. Include the mounting devices and details. Include ceiling plan and elevations showing panel sizes and direction of fabric weave and pattern matching. Indicate panel edge and core materials. (PDF electronic format and Four (4) Hard Copies)
- D. Coordination Drawings: Show intersections with doors, electrical outlets and switches, thermostats, lighting fixtures, air outlets and inlets, sprinklers and other adjacent work.

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- E. Samples for Initial fabric selection: Provide a minimum of 56 color samples for fabric.
- F. Samples for verification: Provide large samples from the selected fabric colors.
 - 1. Fabric: 12-inch by 12 inch sample from dye lot to be used for the work and as follows:
 - a. With specified treatments applied.
 - b. Mark top and face of fabric.
 - 2. Mounting Devices: Include full size sample with each sample panel.
 - 3. Sample Panels: One for each Wall Panel and Ceiling Baffle; minimum 12 by 12 inches. Show mounting methods.
- G. Product Certificates: For each type of acoustical panel or divider, signed by product manufacturer. (PDF Electronic File and Three (3) Hard Copies)
- H. Qualification Data: For fabricator and testing agency. (PDF Electronic File and Three (3) Hard Copies)
- I. Maintenance Data: For acoustical wall panels, dividers, and ceiling baffles to include in the Maintenance Manual. Maintenance Manuals shall be bound in a three (3) ring binder with tabs for each type of acoustical panel installed. Include fabric manufacturers' written cleaning and stain removal recommendations as well as all product information. (PDF Electronic File and Three Hard Copies)
- J. Warranty: Special warranty specified in this Section. (PDF Electronic File and Three (3) Hard Copies)

2.6 Quality Assurance – See Division 1 Section 01400 for additional information.

- A. Installer Qualifications: Shop with a licensed general contractor that employs skilled workers who custom-fabricate products similar to those required for this Project with at least 5 years of experience and whose products have a record of successful in-service performance. References will be required and sent to the County Purchasing Department.
- B. Source limitations; Obtain acoustical wall panels through one source from a single manufacturer. Acoustic Dividers may come from another manufacturer if required.
- C. Fire Test- Response Characteristics: Provide acoustic wall panels with the following surface-burning characteristics as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
 - 1. Flame spread index: 25 or less.
 - 2. Smoke- Developed Index: 450 or betterA product certificate shall be presented.

2.7 Delivery, Storage, and Handling

- A. Comply with fabric and acoustical panel manufacturers' written instructions for minimum and maximum temperature and humidity requirements.
- B. Deliver materials and panels in unopened bundles and store in a temperature controlled dry place with adequate air circulation. Owner's representative shall designate location of storage area – location will be determined at pre-construction meeting.

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- C. Protect panel edges from crushing and impact.

2.8 Project Conditions

- A. Air Quality Limitations: Protect acoustical panels from exposure to airborne odors, such as tobacco smoke, and install panels under conditions free from odor contamination of ambient air.
- B. Special Installation Equipment Requirements: The control room has a two (2) story high ceiling and raised access flooring. The contractor is responsible for supplying a lift that is approved for use by the owner's representative and appropriate for the raised access flooring.
- C. Field Measurements: Verify locations of acoustical panels by field measurements before fabrication and indicate measurements on shop drawings.
- D. Any and all damages from the construction process shall be the responsibility of the contractor. The contractor shall repair to the original or new condition state, if damaged beyond repair.
- E. The control room video wall shall in no way be touched or used for any purpose for this project. Any damages to the video wall shall be the contractor's responsibility to repair at no charge to the Owner.
- F. The contractor shall provide measures to prevent any touching/movement or jostling of the video wall.

2.9 Warranty

- A. Special Warranty: Manufacturer's standard form (letterhead) in which the manufacturer agrees to repair or replace components of acoustical panels that fail in performance, materials, or workmanship within specified warranty period.
 - 1. Failure in performance includes, and is not limited to, acoustical performance.
 - 2. Failures in materials include, but are not limited to, fabric sagging, distorting, or releasing from panel edge; or warping of core.
 - 3. Warranty period: Two years (minimum) from date of Final Acceptance by the Owner's Representative.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01100

SECTION 01150 - REMODELING PROCEDURES - 020500

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. Remove designated building equipment and fixtures.
- B. Remove designated partitions and components.
- C. Cap and identify utilities.

1.3 PROTECTION

- A. Conduct demolition to minimize interference with adjacent building areas. Maintain protected egress and access at all times.
- B. Prevent movement or settlement of structures. Provide and place bracing or shoring and be responsible for safety and support of structure. Assume liability for such movement, settlement, damage, or injury.
- C. Cease operations and notify the Project Manager and Engineer immediately, if safety of structure appears to be endangered. Take precautions to support structure properly. Do not resume operations until safety is restored.
- D. Provide, erect and maintain temporary barriers and security devices.

1.4 EXISTING SERVICES

- A. Arrange and pay for disconnecting, removing and capping utility services within areas of demolition. Disconnect and stub off.
- B. Place markers to indicate location of disconnected services. Identify service lines and capping locations on project record documents.

PART 2 - PRODUCTS (Not Used)

2.1 MATERIALS (Not Applicable)

PART 3 - EXECUTION

3.1 PREPARATION

- A. Erect weatherproof closures for exterior openings, if required.
- B. Protect existing items; which are not indicated to be altered.
- C. Locate guard rails in stairwells and around open shafts to protect workers. Post clearly visible warning signs.

3.2 DEMOLITION

- A. Demolish in an orderly and careful manner as required to accommodate new work, including that required for connection to the existing building.
- B. Except where noted otherwise, immediately remove demolished materials from site.
- C. Remove materials to be reinstalled or retained in a manner to prevent damage. Store and protect.
- D. Repair all demolition performed in excess of that required, at no cost to the Owner.
- E. Remove and promptly dispose of contaminated, vermin infested or dangerous materials encountered.
- F. Remove demolished materials, tools and equipment from site as work progresses. Upon completion of work, leave site in a condition acceptable to the Architect.

3.3 RENOVATION

- A. Make new work fit to existing work. Where a new wall is attached to an existing wall, paint the entire wall with new paint.
- B. Match new materials and systems with existing materials unless the existing materials are being removed.

END OF SECTION

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SECTION 01152
REQUESTS FOR PAYMENT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Submit Applications for Payment to the Project Manager or as directed at the preconstruction meeting, in accordance with the schedule established by Conditions of the Contract and Agreement between Owner and Contractor.

1.02 FORMAT AND DATA REQUIRED

- A. Submit payment requests in the form provided by the Owner with itemized data typed in accordance with the Bid Form.
- B. Provide construction photographs in accordance with Contract Documents.

1.03 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

- A. When the Owner or the Engineer requires substantiating data, Contractor shall submit suitable information with a cover letter.
- B. Submit one copy of data and cover letter for each copy of application.

1.04 PREPARATION OF APPLICATION FOR FINAL PAYMENT

- A. Fill in application form as specified for progress payments.

1.05 SUBMITTAL PROCEDURE

- A. Submit applications for payment at the times stipulated in the Agreement.
Number:
- B. Three (3) copies of each application; all signed and certified by the Contractor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01153
CHANGE ORDER PROCEDURES
PART 1 GENERAL

1.01 DEFINITION

- A. Change Order: Major change in contract scope or time that must be approved by the Board.
- B. Administrative Change Adjustment: Minor change order under 10% of project cost or 20% time, does not have to be Board approved.
- C. Field Directive Change: Change to contract quantity that does not require a change of scope or time extension.

1.02 REQUIREMENTS INCLUDED

A. The Contractor shall promptly implement change order procedures:

- 1. Provide full written data required to evaluate changes.
- 2. Maintain detailed records of work done on a time and material/force account basis.
- 3. Provide full documentation to Engineer on request.

B. The Contractor shall designate a member of the Contractor's organization who:

- 1. Is authorized to accept changes to the Work.
- 2. Is responsible for informing others in the Contractor's employ of the authorized changes into the Work.

C. The Board of County Commissioners or his designee executes all Change Orders over \$1,000,000.00.

1.03 PRELIMINARY PROCEDURES

A. Project Manager may initiate changes by submitting a Request to Contractor.
Request will include:

- 1. Detailed description of the change, products, costs and location of the change in the Project.
- 2. Supplementary or revised Drawings and Specifications.
- 3. The projected time extension for making the change.
- 4. A specified period of time during which the requested price will be considered valid.
- 5. Such request is for information only and is not an instruction to execute the changes, nor to stop work in progress.

B. Contractor may initiate changes by submitting a written notice to the Project Manager, containing:

1. Description of the proposed changes.
2. Statement of the reason for making the changes.
3. Statement of the effect on the Contract Sum and the Contract Time.
4. Statement of the effect on the work of separate contractors.
5. Documentation supporting any change in Contract Sum or Contract Time, as appropriate.

1.04 FIELD DIRECTIVE CHANGE

A. In lieu of a Change Order, the Project Manager may issue a Field Directive change for the Contractor to proceed with additional work within the original intent of the Project.

B. Field Directive change will describe changes in the work, with attachments of backup information to define details of the change.

C. Contractor must sign and date the Field Directive change to indicate agreement with the terms therein.

1.05 DOCUMENTATION OF PROPOSALS AND CLAIMS

A. Support each quotation for a lump sum proposal and for each unit price; which has not previously been established, with sufficient substantiating data to allow the Engineer/Owner to evaluate the quotation.

B. On request, provide additional data to support time and cost computations:

1. Labor required.
2. Equipment required.
3. Products required.
 - a. Recommended source of purchase and unit cost.
 - b. Quantities required.
4. Taxes, insurance and bonds.
5. Credit for work deleted from Contract, similarly documented.
6. Overhead and profit.
7. Justification for any change in Contract Time.

C. Support each claim for additional costs and for work done on a time-and-material/force account basis, with documentation as required for a lump-sum proposal plus additional information.

1. Name of the Owner's authorized agent who ordered the work and date of the order.
2. Date and time work was performed and by whom.
3. Time record, summary of hours work and hourly rates paid.
4. Receipts and invoices for:
 - a. Equipment used, listing dates and time of use.
 - b. Products used, listing of quantities.
 - c. Subcontracts.

1.06 PREPARATION OF CHANGE ORDERS

- A. Project Manager will prepare each Change Order.
- B. Change Order will describe changes in the Work, both additions and deletions, with attachments as necessary to define details of the change.
- C. Change Order will provide an accounting of the adjustment in the Contract Sum and in the Contract Time.

1.07 LUMP SUM/FIXED PRICE CHANGE ORDER

- A. Project Manager initiates the form, including a description of the changes involved and attachments based upon documents and proposals submitted by the Contractor, or requests from the Owner, or both.
- B. Once the form has been completed, all copies should be sent to Contractor for approval. After approval by Contractor, all copies should be sent to Owner for approval. The Owner will distribute executed copies after approval by the Board of County Commissioners.

1.08 UNIT PRICE CHANGE ORDER

- A. Contents of Change Orders will be based on, either:
 - 1. Owner's definition of the scope of the required changes.
 - 2. Contractor's Proposal for a change, as approved by the Owner.
 - 3. Survey of completed work.
- B. The amounts of the unit prices to be:
 - 1. Those stated in the Agreement.
 - 2. Those mutually agreed upon between Owner and Contractor.

1.09 TIME AND MATERIAL/FORCE ACCOUNT CHANGE ORDER/CONSTRUCTION CHANGE AUTHORIZATION

- A. At completion of the change, Contractor shall submit itemized accounting and supporting data as provided in the Article "Documentation of Proposals and Claims" of this Section.
- B. Engineer will determine the allowable cost of such work, as provided in General Conditions and Supplementary Conditions.
- C. Engineer will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.
- D. Owner and Contractor will sign and date the Change Order to indicate their agreement therewith.

1.10 CORRELATION WITH CONTRACTOR'S SUBMITTALS

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A. Periodically revise Schedule of Values and Application for Payment forms to record each change as a separate item of work, and to record the adjusted Contract Sum.

B. Periodically revise the Construction Schedule to reflect each change in Contract Time. Revise sub schedules to show changes for other items of work affected by the changes.

C. Upon completion of work under a Change Order, enter pertinent changes in Record Documents.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01250 - CONTRACT MODIFICATION PROCEDURES -012600

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 specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections include the following:
 - 1. Division 1 Section "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.
 - 2. Refer to County Purchasing requirements for any contract items.

1.3 MINOR CHANGES IN THE WORK

- A. Engineer and Project Manager will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Engineer will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by Engineer are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity dura-

tion, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - 4. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - 5. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.
- C. Proposal Request Form: Use AIA Document G709 for Proposal Requests.

1.5 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, Engineer or Project Manager will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Project Manager/ Owner may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 - 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

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PART 3 - EXECUTION (Not Used)

END OF SECTION 01250

SECTION 01290 - PAYMENT PROCEDURES -012000

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 specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections include the following:
 - 1. Division 1 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 2. Division 1 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.
 - 3. Refer to County Purchasing requirements for additional directives and clarification. The County Bid form shall be included in the payment section.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with Continuation Sheets.
 - b. Submittals Schedule.
 - 2. Submit the Schedule of Values to Engineer and Project Manager at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

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- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of Engineer.
 - c. Engineer's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value.
 - 1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
 4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. Include evidence of insurance or bonded warehousing if required.
 6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 7. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.

8. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment.
- D. Transmittal: Submit 3 signed and notarized original copies of each Application for Payment to Engineer and Project Manager by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- E. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
 1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
 2. When an application shows completion of an item, submit final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Waiver Delays: Submit each Application for Payment with Contractor's waiver of mechanic's lien for construction period covered by the application.
 - a. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
- F. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 1. List of subcontractors.
 2. Schedule of Values.

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3. Contractor's Construction Schedule (preliminary if not final).
 4. Products list.
 5. Schedule of unit prices.
 6. Submittals Schedule (preliminary if not final).
 7. List of Contractor's staff assignments.
 8. List of Contractor's principal consultants.
 9. Copies of building permits.
 10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 11. Initial progress report.
 12. Report of preconstruction conference.
 13. Certificates of insurance and insurance policies.
 14. Performance and payment bonds.
 15. Data needed to acquire Owner's insurance.
- G. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- H. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
 6. AIA Document G707, "Consent of Surety to Final Payment."
 7. Evidence that claims have been settled.
 8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01290

SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION -013100

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. General project coordination procedures.
 - 2. Coordination Drawings.
 - 3. Administrative and supervisory personnel.
 - 4. Project meetings.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section "Construction Progress Documentation" for preparing and submitting the Contractor's Construction Schedule.
 - 2. Division 1 Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3. Division 1 Section "Closeout Procedures" for coordinating Contract closeout.

1.3 COORDINATION

- A. Coordination: Coordinate construction operations included in various Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

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1. Prepare similar memoranda for Owner and separate contractors if 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. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
- D. County Project Manager : The County Project Manager(denoted in all specifications as Project Manager) shall review all items on schedule and perform the interface activities with the end users, Scheduled outages, equipment replacements, construction demolition in public access areas, and review all contract items for final approval.

1.4 SUBMITTALS

- A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.
1. Indicate relationship of components shown on separate Shop Drawings.
 2. Indicate required installation sequences.
 3. Refer to Division 15 Section "Basic Mechanical Materials and Methods" and Division 16 Section "Basic Electrical Materials and Methods" 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.

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1. Include special personnel required for coordination of operations with other contractors.

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, Project Manager, and Engineer of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Engineer, within 3 days of the meeting.

- B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Engineer, but no later than 15 days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.

1. Attendees: Authorized representatives of Owner, County Project Manager, Engineer, and their consultants; Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend 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. Parking availability.
- m. Office, work, and storage areas.
- n. Equipment deliveries and priorities.
- o. First aid.
- p. Security.
- q. Progress cleaning.
- r. Working hours.

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- C. Preinstallation Conferences: Conduct a preinstallation 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 Engineer of scheduled meeting dates.
 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related Change Orders.
 - d. Purchases.
 - e. Deliveries.
 - f. Submittals.
 - 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. Regulations of authorities having jurisdiction.
 - s. Testing and inspecting requirements.
 - t. Required performance results.
 - u. Protection of construction and personnel.
 3. Record significant conference discussions, agreements, and disagreements.
 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 regular intervals. Coordinate dates of meetings with preparation of payment requests.
1. Attendees: In addition to representatives of Owner, County Project Manager, 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 previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

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- 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) Status of recycling and waste disposal.
 - 5) Deliveries.
 - 6) Off-site fabrication.
 - 7) Access.
 - 8) Site utilization.
 - 9) Temporary facilities and controls.
 - 10) Work hours.
 - 11) Hazards and risks.
 - 12) Progress cleaning.
 - 13) Quality and work standards.
 - 14) Change Orders.
 - 15) Documentation of information for payment requests.
3. Reporting: Distribute 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 revised schedule concurrently with the report of each meeting.
4. Coordination Meetings: Conduct coordination meetings at regular intervals
- Project coordination meetings are in addition to specific meetings held for other purposes , such as progress meetings and preinstallation conferences.
- a. Safety meetings : The contractor shall provide to the Owner's representative/ County Project Manager a copy of in-house written safety policies. Copies of weekly safety meetings shall be retained on site for periodic review.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

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END OF SECTION 01310

SECTION 01330 - SUBMITTAL PROCEDURES -013300

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. Related Sections include the following:
 - 1. Division 1 Section "Payment Procedures" for submitting Applications for Payment.
 - 2. Division 1 Section "Project Management and Coordination" for submitting Coordination Drawings.
 - 3. Division 1 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.
 - 4. Division 1 Section "Quality Requirements" for submitting test and inspection reports and Delegated-Design Submittals.
 - 5. Division 1 Section "Closeout Procedures" for submitting warranties Project Record Documents and operation and maintenance manuals.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Engineer's responsive action.
- B. Informational Submittals: Written information that does not require Engineer's approval. Submittals may be rejected for not complying with requirements.

1.4 SUBMITTAL PROCEDURES

- A. 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.

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- a. Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- B. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.
- C. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal.
 1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. Engineer will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Concurrent Review: Where concurrent review of submittals by Engineer's consultants, Owner, or other parties is required, allow 21 days for initial review of each submittal.
 3. If intermediate submittal is necessary, process it in same manner as initial submittal.
 4. Allow 15 days for processing each resubmittal.
 5. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.
- 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.
 3. Include the following information on label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of 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. Other necessary identification.
- E. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.
- F. Additional Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions of the Contract Documents, initial submittal may serve as final submittal.

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1. Additional copies submitted for maintenance manuals will not be marked with action taken and will be returned.
- G. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will discard submittals received from sources other than Contractor.
1. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by 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.
 2. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.
 3. Transmittal Form: Use AIA Document G810.
 4. Transmittal Form: Provide locations on form for the following information:
 - a. Project name.
 - b. Date.
 - c. Destination (To:).
 - d. Source (From:).
 - e. Names of subcontractor, manufacturer, and supplier.
 - f. Category and type of submittal.
 - g. Submittal purpose and description.
 - h. Submittal and transmittal distribution record.
 - i. Remarks.
 - j. Signature of transmitter.
- H. 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.
- I. Use for Construction: Use only final submittals with mark indicating action taken by 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. Please note substitutions or comparable products are reviewed in accordance with Div 1 criteria and may be rejected.
 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.

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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. Wiring diagrams showing factory-installed wiring.
 - g. Printed performance curves.
 - h. Operational range diagrams..
 - i. Standard product operating and maintenance manuals.
 - j. Compliance with recognized trade association standards.
 - k. Compliance with recognized testing agency standards.
 - l. Application of testing agency labels and seals.
 - m. Notation of coordination requirements.
 - n. Compliance with environmental requirements or standards.
 - o. Compliance with sustainable construction practices requirements or standards.
 - p. Compliance with VOC requirements.
 4. Number of Copies: Submit copies of each submittal, as follows:
 - a. Submittal: Submit the number of copies the contractor requires plus one copy which will be retained by the Engineer; plus two additional copies where required for maintenance manuals. Engineer will return the submittals marked with action taken and corrections and modifications required.
- 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. Shopwork manufacturing instructions.
 - g. Templates and patterns.
 - h. Schedules.
 - i. Design calculations.
 - j. Compliance with specified standards.
 - k. Notation of coordination requirements.
 - l. Notation of dimensions established by field measurement.
 2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.

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3. **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 36 by 24 inches. Emailed adobe PDF's are not allowed.
4. **Number of Copies:** Submit copies of each submittal, as follows:
 - a. **Initial Submittal:** Submit one correctable, translucent, reproducible print and one blue- or black-line print. Architect will return the reproducible print.
 - b. **Final Submittal:** Submit one correctable, translucent, reproducible print and three blue- or black-line prints, unless prints are required for operation and maintenance manuals. Submit five prints where prints are required for operation and maintenance manuals. Architect will retain two prints; remainder will be returned. Mark up and retain one returned print as a Project Record Drawing.
- D. **Coordination Drawings:** Comply with requirements in Division 1 Section "Project Management and Coordination."
- E. **Samples:** Prepare physical units of materials or products, including the following:
 1. Comply with requirements in Division 1 Section "Quality Requirements" for mockups.
 2. **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.
 3. **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.
 4. **Preparation:** Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Architect's sample where so indicated. Attach label on unexposed side that includes the following:
 - a. Generic description of Sample.
 - b. Product name or name of manufacturer.
 - c. Sample source.
 5. **Additional Information:** On an attached separate sheet, prepared on Contractor's letterhead, provide the following:
 - a. Size limitations.
 - b. Compliance with recognized standards.
 - c. Availability.
 - d. Delivery time.
 6. 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.

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- a. If variation in color, pattern, texture, or other characteristic is inherent in the product represented by a Sample, submit at least three sets of paired units that show approximate limits of the variations.
 - b. Refer to individual Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.
7. Number of Samples for Initial Selection: Submit one full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
 8. Number of Samples for Verification: Submit three sets of Samples. Architect will retain one Sample set; remainder will be returned. Mark up and retain one returned Sample set as a Project Record Sample.
 - a. Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 9. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
- F. Product Schedule or List: Prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
1. Type of product. Include unique identifier for each product.
 2. Number and name of room or space.
 3. Location within room or space.
- G. Delegated-Design Submittal: Comply with requirements in Division 1 Section "Quality Requirements."
- H. Contractor's Construction Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation" for Project Manager's action.
- I. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation."
- J. Application for Payment: Comply with requirements in Division 1 Section "Payment Procedures."

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- K. Schedule of Values: Comply with requirements in Division 1 Section "Payment Procedures."
- L. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1. Name, address, and telephone number of entity performing subcontract or supplying products.
 - 2. Number and title of related Specification Section(s) covered by subcontract.
 - 3. Drawing number and detail references, as appropriate, covered by subcontract.

2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
 - 1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Engineer will not return copies.
 - 2. Certificates and Certifications: Provide a notarized statement that includes signature of Contractor, testing agency, or design professional responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of the company.
 - 3. Test and Inspection Reports: Comply with requirements in Division 1 Section "Quality Requirements."
- B. Contractor's Construction Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation."
- C. 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.
- D. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
- E. 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.
- F. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.
- G. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.

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- H. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.
- I. 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.
- J. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements.
- K. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- L. 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.
- M. 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.
- N. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - 1. Name of evaluation organization.
 - 2. Date of evaluation.
 - 3. Time period when report is in effect.
 - 4. Product and manufacturers' names.
 - 5. Description of product.
 - 6. Test procedures and results.
 - 7. Limitations of use.
- O. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements in Division 1 Section "Closeout Procedures."
- P. 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.
- Q. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating

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a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:

1. Preparation of substrates.
 2. Required substrate tolerances.
 3. Sequence of installation or erection.
 4. Required installation tolerances.
 5. Required adjustments.
 6. Recommendations for cleaning and protection.
- R. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
1. Name, address, and telephone number of factory-authorized service representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Statement that products at Project site comply with requirements.
 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 6. Statement whether conditions, products, and installation will affect warranty.
 7. Other required items indicated in individual Specification Sections.
- S. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
- T. Construction Photographs: Comply with requirements in Division 1 Section "Construction Photographs."
- U. Material Safety Data Sheets: Submit information directly to Contracting Officer. If submitted to Project Manager, Engineer will not review this information but will return it with no action taken. Comply with requirements in Division 1 Section "Safety Requirements."

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to 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

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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 ACTION

- A. General: Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
 - 1. Submittals will be marked "Approved," "Approved as Noted," "Revise as Noted and Resubmit," "Rejected/Resubmit as Specified," "No Action Required," "Reviewed." Those marked "Revise as Noted and Resubmit" or "Rejected/Resubmit as Specified" and returned for correction shall be corrected and resubmitted. Upon receiving submittal marked "Approved" or "Approved as Noted" from the Engineer, the Contractor shall have sufficient sets of prints made from them for distribution.
 - a. Do not use, or allow others to use, submittals marked "Revise as Noted and Resubmit" or "Rejected/Resubmit as Specified" at the Project Site or elsewhere where work is in progress..
- C. Informational Submittals: Architect will review each submittal and will not return it, or will reject and return it if it does not comply with requirements. 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 01400 - QUALITY REQUIREMENTS -014000

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 quality assurance and quality control.
- B. Owner will hire and pay for independent laboratory services.
- C. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-control services required by Engineer, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- D. Related Sections include the following:
 - 1. Division 1 Section "Construction Progress Documentation" for developing a schedule of required tests and inspections.
 - 2. Division 1 Section "Cutting and Patching" for repair and restoration of construction disturbed by testing and inspecting activities.
 - 3. Divisions 2 through 16 Sections for specific test and inspection requirements.

1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction complies with

requirements. Services do not include contract enforcement activities performed by Architect.

- C. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

1.4 DELEGATED DESIGN

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

- 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Engineer..

1.5 SUBMITTALS

- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

- B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

- C. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

- 1. Specification Section number and title.
 - 2. Description of test and inspection.
 - 3. Identification of applicable standards.
 - 4. Identification of test and inspection methods.
 - 5. Number of tests and inspections required.
 - 6. Time schedule or time span for tests and inspections.
 - 7. Entity responsible for performing tests and inspections.
 - 8. Requirements for obtaining samples.
 - 9. Unique characteristics of each quality-control service.

- D. Reports: Prepare and submit certified written reports that include the following:

- 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.

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6. Description of the Work and test and inspection method.
 7. Identification of product and Specification Section.
 8. Complete test or inspection data.
 9. Test and inspection results and an interpretation of test results.
 10. Ambient conditions at time of sample taking and testing and inspecting.
 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 12. Name and signature of laboratory inspector.
 13. Recommendations on retesting and reinspecting.
- E. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.6 QUALITY ASSURANCE

- A. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- B. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- C. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- D. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.
- F. Testing Agency Qualifications: An agency with the experience and capability to conduct testing and inspecting indicated, as documented by ASTM E 548, and that specializes in types of tests and inspections to be performed.

1.7 QUALITY CONTROL

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- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 - 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of the types of testing and inspecting they are engaged to perform.
 - 2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

- B. Contractor Responsibilities: Unless otherwise indicated, provide quality-control services specified and required by authorities having jurisdiction.
 - 1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ the same entity engaged by Owner, unless agreed to in writing by Owner.
 - 2. Notify testing agencies at least [24] <Insert number> hours in advance of time when Work that requires testing or inspecting will be performed.
 - 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 - 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 - 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.

- D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that revised or replaced Work that failed to comply with requirements established by the Contract Documents.

- E. Testing Agency Responsibilities: Cooperate with Project Manager, Engineer, and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
 - 1. Notify Project Manager, Engineer, and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 - 2. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 - 3. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 - 4. Do not release, revoke, alter, or increase requirements of the Contract Documents or approve or accept any portion of the Work.
 - 5. Do not perform any duties of Contractor.

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- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field-curing of test samples.
 5. Delivery of samples to testing agencies.
 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Sections of these Specifications. Restore patched areas and extend restoration into adjoining areas in a manner that eliminates evidence of patching.
 2. Comply with the Contract Document requirements for Division 1 Section "Cutting and Patching."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01400

SECTION 01420 – REFERENCES -014200

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 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": The term "approved," when used in conjunction with Engineer's action on Contractor's submittals, applications, and requests, is limited to Engineer's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by Engineer, requested by Engineer, and similar phrases.
- D. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on Drawings; or to other paragraphs or schedules in Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference.
- E. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": The term "furnish" means to supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": The term "install" describes operations at Project site including unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": The term "provide" means to furnish and install, complete and ready for the intended use.
- I. "Installer": An installer is Contractor or another entity engaged by Contractor, as an employee, subcontractor, or contractor of lower tier, to perform a particular construction operation, including installation, erection, application, and similar operations.
- J. The term "experienced," when used with the term "installer," means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with the special requirements indicated; and having complied with requirements of authorities having jurisdiction.

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1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.
- K. "Project site" is the space available for performing construction activities, either exclusively or in conjunction with others performing other work as part of Project. The extent of Project site is shown on the Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

- A. **Applicability of Standards:** Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. **Publication Dates:** Comply with standards in effect as of the date of the Contract Documents, unless otherwise indicated.
- C. **Conflicting Requirements:** Where compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
 1. **Minimum Quantity or Quality Levels:** The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to Architect for a decision before proceeding.
- D. **Copies of Standards:** Each entity engaged in construction on Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from the publication source and make them available on request.
- E. **Abbreviations and Names:** Abbreviations and acronyms are frequently used in the Specifications and other Contract Documents to represent the name of a trade association, standards-developing organization, authorities having jurisdiction, or other entity in the context of referencing a standard or publication. Where abbreviations and acronyms are used in the Specifications or other Contract Documents, they mean the recognized name of these entities. Refer to Gale Research's "Encyclopedia of Associations" or Columbia Books' "National Trade & Professional Associations of the U.S.," which are available in most libraries.

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Reference publications are cited in other sections of the specifications along with identification of their sponsoring organizations. The addresses of the sponsoring organizations are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided.

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Portland, OR 97204-2122
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WINDOWS AND DOOR MANUFACTURERS ASSOCIATION (WDMA)
1400 East Touhy Ave., Suite G-54
Des Plaines, IL 60018
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Fax: 708-299-1286

WOOD MOULDING AND MILLWORK PRODUCERS ASSOCIATION (WMMPA)
507 First Street
Woodland, CA 95695
Ph: 916-661-9591
Fax: 916-661-9586

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01420

SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS -015000

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 requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities. Coordinate all temporary, security, and support facilities and use with Project Manager prior to start of any work.
- B. Temporary utilities include, but are not limited to, the following:
 - 1. Sewers and drainage.
 - 2. Water service and distribution.
 - 3. Sanitary facilities.
 - 4. Heating and cooling facilities.
 - 5. Ventilation.
 - 6. Electric power service.
 - 7. Lighting.
 - 8. Telephone service.
- C. Support facilities include, but are not limited to, the following:
 - 1. Dewatering facilities and drains.
 - 2. Project identification and temporary signs.
 - 3. Waste disposal facilities.
 - 4. Field offices.
 - 5. Storage and fabrication sheds.
 - 6. Lifts and hoists.
 - 7. Temporary stairs.
 - 8. Construction aids and miscellaneous services and facilities.
 - 9. Cranes, scaffolding, and support structures.
- D. Security and protection facilities include, but are not limited to, the following:
 - 1. Environmental protection.
 - 2. Stormwater control.
 - 3. Pest control.
 - 4. Site enclosure fence.
 - 5. Security enclosure and lockup.
 - 6. Barricades, warning signs, and lights.
 - 7. Temporary enclosures.

8. Fire protection.

E. Related Sections include the following:

1. Division 1 Section "Submittal Procedures" for procedures for submitting copies of implementation and termination schedule and utility reports.
2. Division 1 Section "Execution Requirements" for progress cleaning requirements.
3. Divisions 2 through 16 for temporary heat, ventilation, and humidity requirements for products in those Sections.

1.3 USE CHARGES

- A. Water Service: Use water from Owner's existing water system without metering and without payment of use charges.
- B. Electric Power Service: Use electric power from Owner's existing system without metering and without payment of use charges.

1.4 QUALITY ASSURANCE

- A. Standards: Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241.
 1. Trade Jurisdictions: Assigned responsibilities for installation and operation of temporary utilities are not intended to interfere with trade regulations and union jurisdictions.
 2. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.5 PROJECT CONDITIONS

- A. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:
 1. Keep temporary services and facilities clean and neat.
 2. Relocate temporary services and facilities as required by progress of the Work.
 3. Coordinate use of the facilities with the Project Manager prior to the start of the project work.

PART 2 - PRODUCTS

2.1 MATERIALS

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- A. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if approved by Architect. Provide materials suitable for use intended.
- B. Portable Chain-Link Fencing: Minimum 2-inch (50-mm) 9-gage, galvanized steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide [concrete] [galvanized steel] bases for supporting posts.
- C. Paint: Comply with requirements in Division 9 Section "Painting."
- D. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.
- E. Water: Potable.

2.2 EQUIPMENT

- A. General: Provide equipment suitable for use intended.
- B. Field Offices: Prefabricated with lockable entrances, operable windows, and serviceable finishes; heated and air conditioned; on foundations adequate for normal loading.
- C. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures.
 - 1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.
- D. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.
- E. Heating Equipment: Unless Owner authorizes use of permanent heating system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
 - 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
 - 2. Heating Units: Listed and labeled, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use for type of fuel being consumed.
- F. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.
- G. Power Distribution System Circuits: Where permitted and overhead and exposed for surveillance, wiring circuits, not exceeding 125-V ac, 20-A rating, and lighting circuits may be nonmetallic sheathed cable.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. Sewers and Drainage:
 - 1. Filter out excessive soil, construction debris, chemicals, oils, and similar contaminants that might clog sewers or pollute waterways before discharge.
 - 2. Provide temporary filter beds, settlement tanks, separators, and similar devices to purify effluent to levels acceptable to authorities having jurisdiction.
- B. Water Service: Use of Owner's existing water service facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
 - 1. Provide rubber hoses as necessary to serve Project site.
- C. Sanitary Facilities: Provide temporary toilets. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.
 - 1. Disposable Supplies: Provide toilet tissue and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.
 - 2. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy.
- D. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment from that specified that will not have a harmful effect on completed installations or elements being installed.
- E. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment from that specified that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- F. Electric Power Service: Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during con-

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struction period. Include transformers, overload-protected disconnecting means, automatic ground-fault interrupters, and main distribution switchgear.

- G. Electric Power Service: Use of Owner's existing electric power service will be permitted, as long as equipment is maintained in a condition acceptable to Owner.
- H. Electric Distribution: Provide receptacle outlets adequate for connection of power tools and equipment.
 - 1. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
 - 2. Provide warning signs at power outlets other than 110 to 120 V.
- I. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations and traffic conditions.
 - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
- J. Telephone Service: Provide temporary telephone service throughout construction period for common-use facilities used by all personnel engaged in construction activities. Install separate telephone line for each field office and first-aid station.
 - 1. Provide additional telephone lines for the following:
 - a. In field office with more than two occupants, install a telephone for each additional occupant or pair of occupants.
 - b. Provide a dedicated telephone line for each facsimile machine and computer with modem in each field office.
 - c. In Architect's field office provide a dedicated telephone line for telephone, facsimile machine and computer with modem.
 - 2. At each telephone, post a list of important telephone numbers.
 - a. Police and fire departments.
 - b. Ambulance service.
 - c. Contractor's home office.
 - d. Architect's office.
 - e. Engineers' offices.
 - f. Owner's office.
 - g. Principal subcontractors' field and home offices.
 - 3. Provide an answering machine or voice-mail service on superintendent's telephone.

3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:

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1. Locate field offices, storage sheds, sanitary facilities, and other temporary construction and support facilities for easy access.
 2. Provide incombustible construction for offices, shops, and sheds located within construction area or within 30 feet (9 m) of building lines. Comply with NFPA 241.
 3. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Dewatering Facilities and Drains: Maintain Project site, excavations, and construction free of water.
1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining property nor endanger permanent Work or temporary facilities.
 2. Remove snow and ice as required to minimize accumulations.
- C. Project Identification and Temporary Signs: Prepare Project identification and other signs in sizes indicated. Install signs where indicated to inform public and persons seeking entrance to Project. Do not permit installation of unauthorized signs.
1. Engage an experienced sign painter to apply graphics for Project identification signs. Comply with details indicated.
 2. Prepare temporary signs to provide directional information to construction personnel and visitors.
 3. Construct signs of exterior-type Grade B-B high-density concrete form overlay plywood in sizes and thicknesses indicated. Support on posts or framing of preservative-treated wood or steel.
 4. Paint sign panel and applied graphics with exterior-grade alkyd gloss enamel over exterior primer.
- D. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste. Comply with Division 1 Section "Execution Requirements" for progress cleaning requirements.
1. If required by authorities having jurisdiction, provide separate containers, clearly labeled, for each type of waste material to be deposited.
- E. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment involved, including temporary utility services. Sheds may be open shelters or fully enclosed spaces within building or elsewhere on-site.
1. Construct framing, sheathing, and siding using fire-retardant-treated lumber and plywood.
 2. Paint exposed lumber and plywood with exterior-grade acrylic-latex emulsion over exterior primer.

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- F. Lifts and Hoists: Provide facilities for hoisting materials and personnel. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
- G. Existing Stair Usage: Use of Owner's existing stairs will be permitted, as long as stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.
 - 1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If, despite such protection, stairs become damaged, restore damaged areas so no evidence remains of correction work.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects. Avoid using tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons or firms near Project site.
 - 1. Erosion Control: Provide synthetic thermoplastic fibers, woven or nonwoven, 4 oz/sq. yd., breaking load in either machine or cross-machine direction, having capability of passing ground water without transporting soil placed around the fabric. Place filter fabric fence around the site.
- B. Stormwater Control: Provide earthen embankments and similar barriers in and around excavations and subgrade construction, sufficient to prevent flooding by runoff of stormwater from heavy rains.
- C. Site Enclosure Fence: Before construction operations begin, install portable chain-link enclosure fence with lockable entrance gates. Locate where indicated, or enclose entire Project site or portion determined sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs, and other animals from easily entering site except by entrance gates.
 - 1. Provide gates in sizes and at locations necessary to accommodate delivery vehicles and other construction operations.
- D. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Where appropriate and needed, provide lighting, including flashing red or amber lights.
 - 1. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch- (16-mm-) thick exterior plywood.
- E. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

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1. Where heating or cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
 2. Vertical Openings: Close openings of 25 sq. ft. (2.3 sq. m) or less with plywood or similar materials.
 3. Horizontal Openings: Close openings in floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction.
 4. Install tarpaulins securely using fire-retardant-treated wood framing and other materials.
 5. Where temporary wood or plywood enclosure exceeds 100 sq. ft. (9.2 sq. m) in area, use fire-retardant-treated material for framing and main sheathing.
- F. Temporary Fire Protection: Until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.
1. Provide fire extinguishers, installed on walls on mounting brackets, visible and accessible from space being served, with sign mounted above.
 - a. Field Offices: Class A stored-pressure water-type extinguishers.
 - b. Other Locations: Class ABC dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for exposures.
 - c. Locate fire extinguishers where convenient and effective for their intended purpose; provide not less than one extinguisher on each floor at or near each usable stairwell.
 2. Store combustible materials in containers in fire-safe locations.
 3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for firefighting. Prohibit smoking in hazardous fire-exposure areas.
 4. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition.
 5. Develop and supervise an overall fire-prevention and first-aid fire-protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.5 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage caused by freezing temperatures and similar elements.
 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

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2. Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
1. Materials and facilities that constitute temporary facilities are the property of Contractor. Owner reserves right to take possession of Project identification signs.
 2. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements in Division 1 Section "Closeout Procedures."

END OF SECTION 01500

SECTION 01600 - PRODUCT REQUIREMENTS -016000

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 the following administrative and procedural requirements: selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.
- B. Related Sections include the following:
 - 1. Division 1 Section "References" for applicable industry standards for products specified.
 - 2. Division 1 Section "Closeout Procedures" for submitting warranties for contract closeout.
 - 3. Divisions 2 through 16 Sections for specific requirements for warranties on products and installations specified to be warranted.

1.3 DEFINITIONS

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation, shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

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- C. **Basis-of-Design Product Specification:** Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.
- D. **Manufacturer's Warranty:** Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
- E. **Special Warranty:** Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.

1.4 SUBMITTALS

- A. **Product List:** Submit a list, in tabular form, showing specified products. Include generic names of products required. Include manufacturer's name and proprietary product names for each product.
 - 1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
 - 2. Form: Tabulate information for each product under the following column headings:
 - a. Specification Section number and title.
 - b. Generic name used in the Contract Documents.
 - c. Proprietary name, model number, and similar designations.
 - d. Manufacturer's name and address.
 - e. Supplier's name and address.
 - f. Installer's name and address.
 - g. Projected delivery date or time span of delivery period.
 - h. Identification of items that require early submittal approval for scheduled delivery date.
 - 3. **Completed List:** Within 30 days after date of commencement of the Work, submit 3 copies of completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.
 - 4. **Engineer's Action:** Engineer will respond in writing to Contractor within 15 days of receipt of completed product list. Engineer's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. Engineer's response, or lack of response, does not constitute a waiver of requirement that products comply with the Contract Documents.
- B. **Substitution Requests:** Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. **Substitution Request Form:** Use CSI Form 13.1A.

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2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified material or product cannot be provided.
 - b. VOC content, recycled content and additional sustainable product requirements specified.
 - c. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
 - d. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - e. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - f. Samples, where applicable or requested.
 - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - i. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
 - j. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
 - n. If the substitution requires additional or changes in electrical, mechanical, structural, plumbing, fire protection, and or architectural elements, the contractor is responsible for all modifications at their cost.

3. Engineer's Action: If necessary, Engineer will request additional information or documentation for evaluation within one week of receipt of a request for substitution. Engineer will notify Contractor through Construction Manager of acceptance or rejection of proposed substitution within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
 - a. Form of Acceptance: Change Order.
 - b. Use product specified if Architect cannot make a decision on use of a proposed substitution within time allocated.

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- C. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 1 Section "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

- A. Provide products with energy efficient designs and with materials complying with environmental protection considerations.
- B. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options. Comparable or equal products shall be evaluated as substitutions.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
 - 5. Store products to allow for inspection and measurement of quantity or counting of units.
 - 6. Store materials in a manner that will not endanger Project structure.
 - 7. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 - 8. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 - 9. Protect stored products from damage.
- B. Storage: Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

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- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: Forms are included with the Specifications. Prepare a written document using appropriate form properly executed.
 - 3. Refer to Divisions 2 through 16 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 1 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT OPTIONS

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged, and unless otherwise indicated, that are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," Architect will make selection.
 - 5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
 - 6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
 - 7. Or Equal: Where products are specified by name and accompanied by the term "or equal" or "or approved equal" or "or approved," comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.
- B. Product Selection Procedures: Procedures for product selection include the following:
 - 1. Product: Where Specification paragraphs or subparagraphs titled "Product" name a single product and manufacturer, provide the product named.
 - a. Substitutions may be considered, unless otherwise indicated.
 - 2. Manufacturer/Source: Where Specification paragraphs or subparagraphs titled "Manufacturer" or "Source" name single manufacturers or sources, provide a product by the manufacturer or from the source named that complies with requirements.

- a. Substitutions may be considered, unless otherwise indicated.
3. Products: Where Specification paragraphs or subparagraphs titled "Products" introduce a list of names of both products and manufacturers, provide one of the products listed that complies with requirements.
 - a. Substitutions may be considered, unless otherwise indicated.
4. Manufacturers: Where Specification paragraphs or subparagraphs titled "Manufacturers" introduce a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.
 - a. Substitutions may be considered, unless otherwise indicated.
5. Basis-of-Design Products: Where Specification paragraphs or subparagraphs titled "Basis-of-Design Products" are included and also introduce or refer to a list of manufacturers' names, provide either the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.
 - a. Substitutions may be considered, unless otherwise indicated.
6. Visual Matching Specification: Where Specifications require matching an established Sample, select a product (and manufacturer) that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches satisfactorily.
 - a. If no product available within specified category matches satisfactorily and complies with other specified requirements, comply with provisions of the Contract Documents on "substitutions" for selection of a matching product.
7. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product (and manufacturer) that complies with other specified requirements.
 - a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that does not include premium items.
 - b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that includes both standard and premium items.
8. Allowances: Refer to individual Specification Sections and "Allowance" provisions in Division 1 for allowances that control product selection and for procedures required for processing such selections.

2.2 PRODUCT SUBSTITUTIONS

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- A. Timing: Engineer will consider requests for substitution if received within 30 days after commencement of the Work. Requests received after that time may be considered or rejected at discretion of Engineer.
- B. Conditions: Engineer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Engineer will return requests without action, except to record noncompliance with these requirements:
 - 1. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Engineer for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
 - 2. Requested substitution does not require extensive revisions to the Contract Documents.
 - 3. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - 4. Substitution request is fully documented and properly submitted.
 - 5. Requested substitution will not adversely affect Contractor's Construction Schedule.
 - 6. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - 7. Requested substitution is compatible with other portions of the Work.
 - 8. Requested substitution has been coordinated with other portions of the Work.
 - 9. Requested substitution provides specified warranty.
 - 10. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

2.3 COMPARABLE PRODUCTS

- A. Where products or manufacturers are specified by name, submit the following, in addition to other required submittals, to obtain approval of an unnamed product:
 - 1. Evidence that the proposed product does not require extensive revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 - 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - 3. Evidence that proposed product provides specified warranty.
 - 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 - 5. Samples, if requested.

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PART 3 - EXECUTION (Not Used)

END OF SECTION 01600

SECTION 01731 - CUTTING AND PATCHING -017329

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 procedural requirements for cutting and patching.
- B. Related Sections include the following:
 - 1. Divisions 2 through 16 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
 - a. Requirements in this Section apply to mechanical and electrical installations. Refer to Divisions 15 and 16 Sections for other requirements and limitations applicable to cutting and patching mechanical and electrical installations.

1.3 DEFINITIONS

- A. Cutting: Removal of existing construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
 - 1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
 - 2. Changes to Existing Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
 - 3. Products: List products to be used and firms or entities that will perform the Work.
 - 4. Dates: Indicate when cutting and patching will be performed.

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5. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.
6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
7. Architect's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.5 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
- C. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
 1. If possible, retain original Installer or fabricator to cut and patch exposed Work listed below. If it is impossible to engage original Installer or fabricator, engage another recognized, experienced, and specialized firm.
- E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.6 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections of these Specifications.
- B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to minimize interruption of services to occupied areas.

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

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- B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 3. Concrete: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 4. Excavating and Backfilling: Comply with requirements in applicable Division 2 Sections where required by cutting and patching operations.
 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 6. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
 4. Ceilings: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

END OF SECTION 01731

SECTION 01732 - SELECTIVE DEMOLITION - 024313

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 the following:
 - 1. Demolition and removal of selected portions of a building or structure.
 - 2. Repair procedures for selective demolition operations.
 - 3. Coordinate all work with the County Project Manager prior to start of work. The facility is occupied at all times. Weekend and nite work may be required to establish areas of work due to noise and dirt generation in the spaces. Area isolation and temporary facilities shall be required to prevent migration of any dust or dirt moving into the computer room areas in operation.
- B. Related Sections include the following:
 - 1. Division 1 Section "Summary" for use of the premises and phasing requirements.
 - 2. Division 1 Section "Work Restrictions" for restrictions on use of the premises due to Owner or tenant occupancy..
 - 3. Division 1 Section "Temporary Facilities and Controls" for temporary construction and environmental-protection measures for selective demolition operations.
 - 4. Division 1 Section "Cutting and Patching" for cutting and patching procedures for selective demolition operations.
 - 5. Division 15 Sections for demolishing, cutting, patching, or relocating mechanical items.
 - 6. Division 16 Sections for demolishing, cutting, patching, or relocating electrical items.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to Owner ready for reuse, if required.
- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.

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- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and re-installed.

1.4 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.
- B. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered during selective demolition remain Owner's property. Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to Owner.
 - 1. Coordinate with Owner's historical adviser, who will establish special procedures for removal and salvage.

1.5 SUBMITTALS

- A. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- B. Proposed Dust-Control and Noise-Control Measures: Submit statement or drawing that indicates the measures proposed for use, proposed locations, and proposed time frame for their operation. Identify options if proposed measures are later determined to be inadequate.
- C. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 - 2. Interruption of utility services.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Use of elevator and stairs.
 - 5. Locations of temporary partitions and means of egress.
 - 6. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- D. Inventory: After selective demolition is complete, submit a list of items that have been removed and salvaged.
- E. Predemolition Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by selective demolition operations. Submit before Work begins.

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- F. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes. Maintain weight tickets from all solid waste disposal sites (C&D landfills and recycling yards) as well as for hazardous waste disposal slips.

1.6 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
- B. Professional Engineer Qualifications: Comply with Division 1 Section "Quality Requirements."
- C. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- D. Standards: Comply with ANSI A10.6 and NFPA 241.
- E. Predemolition Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."
- F. Predemolition Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to selective demolition including, but not limited to, the following:
 - 1. Inspect and discuss condition of construction to be selectively demolished.
 - 2. Review structural load limitations of existing structure.
 - 3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.

1.7 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.
- B. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
 - 1. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from authorities having jurisdiction.
- C. Owner assumes no responsibility for condition of areas to be selectively demolished.

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1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
1. Hazardous materials will be removed by Owner before start of the Work.
 2. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. Hazardous Materials: Hazardous materials are present in building to be selectively demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
1. Hazardous material remediation is specified elsewhere in the Contract Documents.
 2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
- F. Storage or sale of removed items or materials on-site will not be permitted.
- G. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
1. Maintain fire-protection facilities in service during selective demolition operations.
- 1.8 WARRANTY
- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.
1. If possible, retain original Installer or fabricator to patch the exposed Work listed below that is damaged during selective demolition. If it is impossible to engage original Installer or fabricator, engage another recognized experienced and specialized firm.
 - a. Processed concrete finishes.
 - b. Matched-veneer woodwork.
 - c. Preformed metal panels.
 - d. Roofing.
 - e. Firestopping.
 - f. Stucco and ornamental plaster.
 - g. Aggregate wall coating.
 - h. Wall covering.
 - i. HVAC enclosures, cabinets, or covers.
 - j. Drywall panels

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- k. Accoustical tile
- l. Computer floor systems

PART 2 - PRODUCTS

2.1 REPAIR MATERIALS

- A. Use repair materials identical to existing materials.
 - 1. If identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
 - 2. Use materials whose installed performance equals or surpasses that of existing materials.
- B. Comply with material and installation requirements specified in individual Specification Sections.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Engage a professional engineer to survey condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.
- F. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY AND BUILDING SERVICES

- A. Existing Utilities: Maintain services indicated to remain and protect them against damage during selective demolition operations.

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- B. Do not interrupt existing utilities and building services serving occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and to authorities having jurisdiction.
 - 1. Provide at least 72 hours' notice to Owner if shutdown of service is required during changeover.
- C. Utility and Building Services Requirements: Locate, identify, disconnect, and seal or cap off indicated utilities serving areas to be selectively demolished.
 - 1. Owner will arrange to shut off indicated utilities/building service when requested by Contractor.
 - 2. Arrange to shut off indicated utilities with utility companies and facility personnel.
 - 3. If utility services are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary utilities that bypass area of selective demolition and that maintain continuity of service to other parts of building.
 - 4. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.
- D. Utility/ Building Service Requirements: Refer to Division 15 and 16 Sections for shutting off, disconnecting, removing, and sealing or capping utilities. Do not start selective demolition work until utility building service disconnecting and sealing have been completed and verified in writing.

3.3 PREPARATION

- A. Dangerous Materials: Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with selective demolition operations.
- B. Pest Control: Employ a certified, licensed exterminator to treat building and to control rodents and vermin before and during selective demolition operations.
- C. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
 - 2. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
 - 3. Protect existing site improvements, appurtenances, and landscaping to remain.
 - 4. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.

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- D. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - 4. Cover and protect furniture, furnishings, and equipment that have not been removed.

- E. Temporary Enclosures: Provide temporary enclosures for protection of existing building and construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
 - 1. Where heating or cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.

- F. Temporary Shoring: Provide and maintain shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of construction to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 - 1. Strengthen or add new supports when required during progress of selective demolition.

3.4 POLLUTION CONTROLS

- A. Disposal: Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 1. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

- B. Cleaning: Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

3.5 SELECTIVE DEMOLITION

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

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1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 5. Maintain adequate ventilation when using cutting torches.
 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 9. Dispose of demolished items and materials promptly.
 10. Return elements of construction and surfaces that are to remain to condition existing before selective demolition operations began.
- B. Existing Facilities: Comply with County Project Manager's requirements for using and protecting elevators, stairs, walkways, loading docks, building entries, and other building facilities during selective demolition operations.
- C. Removed and Salvaged Items: Comply with the following:
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. Removed and Reinstalled Items: Comply with the following:
1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.
 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

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- F. Concrete: Demolish in small sections. Cut concrete to a depth of at least 3/4 inch (19 mm) at junctures with construction to remain, using power-driven saw. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete indicated for selective demolition. Neatly trim openings to dimensions indicated.
- G. Crush and re-use demolished concrete as clean fill, or provide to a recycler in accordance with Section 01350.
- H. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.
- I. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.
- J. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI-WP and its Addendum.
 - 1. Remove residual adhesive and prepare substrate for new floor coverings by one of the methods recommended by RFCI.
- K. Roofing: Remove no more existing roofing than can be covered in one day by new roofing. Refer to applicable Division 7 Section for new roofing requirements.
- L. Air-Conditioning Equipment: Remove equipment without releasing refrigerants.

3.6 PATCHING AND REPAIRS

- A. General: Promptly repair damage to adjacent construction caused by selective demolition operations.
- B. Patching: Comply with Division 1 Section "Cutting and Patching."
- C. Repairs: Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.
 - 1. Completely fill holes and depressions in existing masonry walls that are to remain with an approved masonry patching material applied according to manufacturer's written recommendations.
- D. Finishes: Restore exposed finishes of patched areas and extend restoration into adjoining construction in a manner that eliminates evidence of patching and refinishing.
- E. Floors and Walls: Where walls or partitions that are demolished extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

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1. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
 2. Where patching occurs in a painted surface, apply primer and intermediate paint coats over patch and apply final paint coat over entire unbroken surface containing patch. Provide additional coats until patch blends with adjacent surfaces.
 3. Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
- F. Ceilings: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Promptly recycle or dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials and legally dispose of them.

END OF SECTION 01732

SECTION 01770 - CLOSEOUT PROCEDURES -017700

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.
- B. Related Sections include the following:
 - 1. Division 1 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
 - 2. Divisions 2 through 16 Sections for specific closeout and special cleaning requirements for products of those Sections.

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. Prepare 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.

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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 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 a final Application for Payment according to Division 1 Section "Payment Procedures."
2. Submit certified copy of Engineer's and Project Manager's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by the Project Manager.. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report and warranty.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued. "Work list" type observations shall not occur. If the process be-

comes multiple "work list" observations, the contractor shall pay the Engineer for multiple observations.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

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, starting with exterior areas first and proceeding from lowest floor to highest floor.
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 Project Manager.
 - 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 reference during normal working hours.

B. Record Drawings: Maintain and submit one set of blue- or black-line white prints of Contract Drawings and Shop Drawings.

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.

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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. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Note related Change Orders, Record Drawings, and Product Data, where applicable.
- D. Record Product Data: Submit one copy of each Product Data submittal. Mark one set to indicate the actual product installation where installation varies substantially from that indicated in Product Data.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 3. Note related Change Orders, Record Drawings, and Record Specifications, where applicable.
- E. 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 a complete set of operation and maintenance data indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a system. Include operation and maintenance data required in individual Specification Sections and as follows:
1. Operation Data:
 - a. Emergency instructions and procedures.

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- b. System, subsystem, and equipment descriptions, including operating standards.
- c. Operating procedures, including startup, shutdown, seasonal, and week-end 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 (115-by-280-mm) 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.

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, sub-systems, and equipment not part of a system.
 - 1. Provide instructors experienced in operation and maintenance procedures. Incorporate nontoxic cleaning methods and sustainable maintenance.
 - 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 Engineer with at least seven days' advance notice.
 - 4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.
- 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.
 - 8. Recycling.
 - 9. Provide a list of all attendees that training was completed with date time and manufacturer's representative's name, and phone number.

3.2 FINAL CLEANING

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- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and anti-pollution 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. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site..
 - e. 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.
 - f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - g. Sweep concrete floors broom clean in unoccupied spaces.
 - h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - j. Remove labels that are not permanent.
 - k. 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.
 - l. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - m. Replace parts subject to unusual operating conditions.
 - n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.

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- p. Clean ducts, blowers, and coils if units were operated without filters during construction.
 - q. 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.
 - r. Leave Project clean and ready for occupancy.
- C. Comply with safety and environmental 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. Use non-toxic and low-VOC cleaning products to the extent possible while complying with manufacturer's recommendations.

END OF SECTION 01770

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Division 5 Section 05310
Steel Deck

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes the fabrication and erection of composite steel deck, steel roof deck, non-composite steel form deck and steel deck accessories.

B. Related Sections: Refer to the following sections for related work:

1. Section 09900, "Painting"

1.02 REFERENCES

A. American Iron and Steel Institute (AISI)
Specification for the Design of Cold-Formed Steel Structural Members

B. American Society of Testing and Materials (ASTM)

A611 Standard Specification for Steel, Sheet, Carbon, Cold-Rolled, Structural Quality

A653 Standard Specification for Steel Sheet, Zinc-Coated or Zinc-Iron Alloy-Coated by the Hot-Dip Process

A780 Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings

A924 Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process

C. American Welding Society (AWS)
D1.1 Structural Welding Code - Steel
D1.3 Structural Welding Code - Sheet Steel

D. Factory Mutual (FM) Approval Guide

E. Federal Specification (FS) TT-P-664 Primer Coating, Alkyd, Corrosion-Inhibiting, Lead and Chromate Free, VOC-Compliant

F. Military Standardization Documents (MIL) P-21035B Paint, High Zinc Dust Content, Galvanizing Repair

G. Steel Deck Institute (SDI) Publication No. 29 Design Manual for Composite Decks, Form Decks, Roof Decks and Cellular Deck Floor Systems with Electrical Distribution

H. Underwriter's Laboratories, Inc. (UL) Fire Resistance Directory

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1.03 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Section 01330, "Submittal Procedures."
- B. Product Data: Submit product data or manufacturer's specifications and installation instructions for each distinct type of decking and for accessories.
- C. Shop Drawings: Submit detailed shop drawings showing layout and types of deck panels, anchorage details, and conditions requiring closure panels, supplementary framing, sump pans, cant strips, cut openings, special jointing or other accessories. Include mark number, type and location of metal decking.
- D. Certification: Submit manufacturer's certification that decking complies with Steel Deck Institute (SDI) Specifications.
- E. Welders Certificates: Provide certification that all welders to be employed in work comply with requirements specified in "Quality Assurance" article.
- F. Welding Procedures: Provide written welding procedure specification (WPS) document per AWS Code requirements.
- G. Asbestos-Free and Lead-Free Paint Certification: Submit manufacturer's written certification that all materials are free of asbestos and lead paint.

1.04 QUALITY ASSURANCE

- A. Codes and Standards: Comply with provisions of the following codes and standards, except as otherwise indicated or specified:
 - AISI "Specification for the Design of Cold-Formed Steel Structural Members"
 - AWS D1.1 and D1.3.
 - SDI "Design Manual for Floor Decks and Roof Decks"
- B. Qualification of Field Welders: Welders shall be certified in accordance with AWS D1.1 and D1.3 within the last twelve (12) months.
- C. FM Listing: Provide metal roof deck units which have been evaluated by Factory Mutual System and are listed in "Factory Mutual Approval Guide" for "Class 1" fire rated construction and Class I-60 windstorm ratings.
- D. Fire Rated Assemblies: Provide deck units complying with requirements of Underwriter's Laboratories, Inc. (UL) "Fire Resistance Directory" for use in any rated design indicated.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site at such intervals to ensure uninterrupted progress of work.
- B. Store materials to permit easy access for inspection and identification. Keep deck panels off ground using pallets, skids, platforms or other supports.

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- C. Protect steel deck from damage.
- D. Store packaged materials in original unbroken package or container.
- E. Do not store materials on structure in a manner that might cause distortion or damage to members or supporting structures.
- F. Replace damaged deck panels.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Uncoated (Black) Sheet Steel: Deck panels shall conform to SDI Publication No. 29, and ASTM A611. See plans for type, size and finish.

- 1. Minimum Yield Strength: 33 ksi (230 MPa)
- 2. Minimum Thickness: 0.028 in (0.71 mm), unless indicated otherwise.
- 3. Grade
 - a. Composite Steel Deck: Grades C or D.
 - b. Non-Composite Steel Deck: Grades C, D, or E.
 - c. Steel Roof Deck: Grades C, D, or E.

B. Galvanized Sheet Steel: Deck panels shall conform to SDI Publication No. 29, and ASTM A653 Structural Quality. See plans for type, size and finish.

- 1. Minimum Yield Strength: 33 ksi (230 MPa).
- 2. Minimum Uncoated Thickness: 0.028 in (0.71 mm), unless indicated otherwise.
- 3. Galvanization: Conform to ASTM A924 (replaced ASTM A525) with a minimum coating class of G60 as defined in ASTM A653.

C. Miscellaneous Finishes

- 1. Shop Primer: Manufacturer's baked on, lead-free and chromate-free, rust inhibitive primer, conforming to performance requirements of FS TT-P-664.
- 2. Galvanized Repair Paint: Comply with requirements of MIL P-21035B, Type I or II.
- 3. Concrete Topping: Unless indicated otherwise, all deck to receive concrete shall be galvanized.

2.02 ACCESSORIES

A. General: Provide accessory materials for steel deck that comply with requirements indicated and recommendations of the steel deck manufacturer.

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B. Column Closures, End Closures, and Z-Closures: Steel sheet, of same material and thickness as deck panels, unless indicated otherwise on the Contract drawings.

C. Hanger Tabs: Manufacturer's standard hanger tabs for floor deck installation, where indicated on the Contract drawings.

D. Cover Plates: Fabricate covers for abutting deck ends, of same material and gage as deck units, in matching profile, and not less than six (6) inches (152 mm) wide.

E. Pour Stops: Shall be adequate to support concrete and any construction loads.

F. Filler Sheets and Girder Fillers: Fabricate of same material, gage and profile, as deck units, to complete horizontal closure.

G. Rubber Closures (Top and Underside): Manufacturer's standard synthetic rubber to match deck profile.

H. Cant Strips and Eave Plates: Fabricate of same material and gage as deck units, with flange for attachment and of dimensions as indicated on Contract drawings.

I. Roof Sump Pan: Fabricate of not less than 0.071 inch (1.80 mm) thick galvanized steel, with flat bottom and sloped sides, recessed 1-1/2 inches (38 mm) below deck surface, with bearing flange not less than three (3) inches (76 mm) wide, and with all joints sealed watertight.

J. Miscellaneous Roof Deck Accessories: Steel sheet, minimum 0.0359-inch (0.91 mm) thick ridge and valley plates, finish strips, and reinforcing channels, of same materials as roof deck.

K. Fasteners: Manufacturer's standard galvanized hardened steel, self-tapping.

L. Weld Washers: Manufacturer's standard uncoated steel sheet weld washers, minimum thickness of 0.056 in. (1.5 mm) with a minimum 3/8-inch (9.5 mm) diameter hole.

2.03 FABRICATION

A. General: Fabricate deck panels conforming to SDI Publication No. 29 and the requirements of this specification.

1. Deck units shall be selected to provide the load capacities as indicated on the Contract drawings, and as determined using the SDI construction loading criteria.

2. Deck shall span three or more supports, unless indicated otherwise.

B. Roof Deck Units: Provide deck panels without top-flange stiffening grooves conforming to SDI specifications, of thickness and depth as indicated on the Contract drawings.

PART 3 - EXECUTION

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3.01 EXAMINATION

- A. Review all discipline drawings prior to deck installation to determine the locations of deck penetrations that will require openings. Inform the SDR of any openings that will require steel frames that are not shown on the structural drawings.
- B. All edge angles shall be in place with proper attachment prior to installation of metal deck. All roof and floor opening frames shall be installed prior to deck installation.
- C. Examine field conditions and substrates to receive metal decking, and verify that existing conditions are acceptable before commencing installation.

3.02 PREPARATION

- A. Do not place decking on supporting concrete structures until concrete is fully cured and dry.
- B. Locate deck bundles to prevent overloading of structural members.
- C. Do not use floor deck units for storage or as working platforms until final connections have been made.

3.03 INSTALLATION

A. General: Install deck units and accessories in compliance with the final shop drawings, manufacturer's recommendations, SDI Specifications, and requirements of this specification.

1. Fasten deck units to supports promptly after placement and alignment.
2. Do not leave placed sheet unattached at end of working day.

B. Bearing: Install deck ends over framing supports with minimum end bearing of the following; align and level deck units.

1. Non-Steel Support: 6 inches (152 mm)
2. Steel Support: 3 inches (76 mm)

C. Placement

1. Place deck units flat and square, secure to framing without excessive warp or deflection.
2. Place deck units in straight alignment for entire length of run.
3. Place deck units to permit proper attachment to perimeter deck angle. Deck shall be fully supported at all perimeter edges.
Provide steel filler fabricated of same material as perimeter deck angle in

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required size and shape to provide full structural support.

4. Place deck units on supporting steel framework and adjust to final position with ends accurately aligned and bearing on supporting members before being permanently fastened. Do not stretch or contract side lap interlocks.

5. Cut and neatly fit deck units and accessories around other work projecting through or adjacent to the decking, as shown.

D. End Laps: Lap ends of deck units a minimum of two inches (51 mm) over supports.

1. End laps may be staggered or on a continuous line.

2. Butt ends only where laps would be more than two (2) layers thick or otherwise unable to be lapped and weld each panel at its ends with the specified pattern.

3. Where deck slopes more than 1/2 inch per foot, start placement of deck units and ridge and valley plates at low end and lap ends shingle fashion with high side over low side.

E. Butt Ends: Butt ends of deck units at stud shear connectors.

1. Stud shear connectors may not be welded through more than one thickness of deck.

2. Tape butted ends of deck units to close gaps of 1/8 inch (3.18 mm) or less.

F. Openings: Reinforce openings greater than the width between deck flutes made by other trades, as indicated on the Contract Drawings.

1. Reinforce openings less than 15 inches (381 mm) with flat steel sheet of the same quality as the deck units, thickness of not less than 0.0358 (0.91 mm). Place steel sheet over opening and fusion weld to the top surface of the deck, in accordance with the Contract Drawings and this specification.

2. Reinforce openings greater than 15 inches (381 mm) with angles or channels of A36 steel framing around the opening to the adjacent deck supports in accordance, and adequate to support the loads that would normally be carried by the deck where the opening has occurred. Weld or mechanically fasten the deck to the frame in accordance with the Contract Drawings and this specification.

G. Provide additional metal reinforcement as shown on the Contract Drawings and as required for strength, continuity of decking and support of other work shown.

H. Install closure strips as shown on the Contract Drawings and as recommended by the manufacturer to provide a complete installation.

Where joist ends terminate on a shear wall and the deck does not contact the wall, provide metal closure strips from deck to the wall between the joists.

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3.04 ANCHORAGE

A. General: Fasten deck units to supporting members including perimeter support steel and/or bearing walls by either welding or by mechanical fastening, immediately after alignment. Comply with the requirements of SDI.

1. Comply with AWS D1.1 and D1.3 for requirements and procedures for welding.
2. Care shall be exercised in the selection of electrodes and amperages to provide positive welds and to prevent burn through of the supporting members. If supporting membrane do become cut during deck welding, the Contractor shall repair or replace the member at no cost to Sandia National Laboratories (SNL).

B. Weld Spacing: Weld edge ribs of panels at each support. Space welds as follows:

1. Floor Deck: Average of 12 inches (305 mm) apart, but not more than 18 inches (457 mm).
2. Roof Deck: Maximum 12 inches (305 mm) apart.

C. Side Lap and Perimeter Edge Attachment: Fasten side laps and perimeter edges of units between supports at intervals not exceeding 36 inches (914 mm) on center by welding or mechanical fasteners.

Deck units with spans greater than 5 feet (1.5 m) shall have side laps and perimeter edges at perimeter support steel fastened at midspan or 36-inch (914 mm) intervals, whichever is smaller, or as shown on the Contract drawings.

3.05 CLEANING AND TOUCH-UP

A. Clear debris from deck before floor or roof substrate is placed.

B. Provide cleaning and touch-up painting of field welds, abraded areas and rust spots, as required for all exposed areas after erection and before proceeding with field painting.

END OF SECTION

SECTION 06105 - MISCELLANEOUS CARPENTRY -061000

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 the following:
 - 1. Rooftop equipment bases and support curbs, nailers, blocking.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section "Environmental Impact of Materials" for guidelines to VOC content and recommended recycled content of products.
 - 2. Division 7 Section "Roofing"

1.3 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Wood treatment data as follows, including chemical treatment manufacturer's instructions for handling, storing, installing, and finishing treated materials:
 - 1. For each type of preservative-treated wood product, include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained, and compliance with applicable standards.
 - 2. For waterborne-treated products, include statement that moisture content of treated materials was reduced to levels indicated before shipment to Project site.
- C. Material test reports from a qualified independent testing agency indicating and interpreting test results relative to compliance of fire-retardant-treated wood products with performance requirements indicated.
- D. Warranty of chemical treatment manufacturer for each type of treatment.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Keep materials under cover and dry. Protect from weather and contact with damp or wet surfaces. Stack lumber, plywood, and other panels. Provide for air circulation within and around stacks and under temporary coverings.

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1. For lumber and plywood pressure treated with waterborne chemicals, place spacers between each bundle to provide air circulation.

PART 2 - PRODUCTS

2.1 LUMBER, GENERAL

- A. Lumber Standards: Comply with DOC 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. Inspection Agencies: Inspection agencies, and the abbreviations used to reference them, include the following:
 1. NELMA - Northeastern Lumber Manufacturers Association.
 2. SPIB - Southern Pine Inspection Bureau.
 3. WCLIB - West Coast Lumber Inspection Bureau.
 4. WWPA - Western Wood Products Association.
- C. 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.
- D. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
 1. Provide dressed lumber, S4S, unless otherwise indicated.
 2. Provide dry lumber with 19 percent maximum moisture content at time of dressing for 2-inch nominal (38-mm actual) thickness or less, unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. General: Where lumber or plywood is indicated as preservative treated or is specified to be treated, comply with applicable requirements of AWWA C2 (lumber) and AWWA C9 (plywood). Mark each treated item with the Quality Mark Requirements of an inspection agency approved by ALSC's Board of Review.
 1. Do not use chemicals containing chromium or arsenic.
 2. For exposed items indicated to receive stained finish, use chemical formulations that do not bleed through, contain colorants, or otherwise adversely affect finishes.
- B. Pressure treat aboveground items with waterborne preservatives to a minimum retention of 0.25 lb/cu. ft. (4.0 kg/cu. m). After treatment, kiln-dry lumber and plywood to a

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maximum moisture content of 19 and 15 percent, respectively. Treat indicated items and the following:

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and water-proofing.

2.3 DIMENSION LUMBER

- A. General: Provide dimension lumber of grades indicated according to the ALSC National Grading Rule (NGR) provisions of the inspection agency indicated.

2.4 BOARDS

- A. Exposed Boards: Where boards will be exposed in the finished work, provide the following:

1. Moisture Content: 19 percent maximum.
2. Species and Grade: Eastern white pine, D Select per NELMA rules.
3. Species and Grade: Southern pine, C Finish per SPIB rules.
4. Species and Grade: Spruce-pine-fir, C & Btr per WCLIB rules or C Select per WWPA rules.

- B. Concealed Boards: Where boards will be concealed by other work, provide lumber with 19 percent maximum moisture content and of following species and grade:

1. Species and Grade: Eastern softwoods, No. 3 Common per NELMA rules.
2. Species and Grade: Mixed southern pine, No. 2 per SPIB rules.
3. Species and Grade: Spruce-pine-fir, Standard per WCLIB rules or No. 3 Common per WWPA rules.

2.5 MISCELLANEOUS LUMBER

- A. General: Provide lumber for support or attachment of other construction, including rooftop equipment curbs and support bases, cant strips, bucks, nailers, blocking, furring, grounds, stripping, and similar members.
- B. Fabricate miscellaneous lumber from dimension lumber of sizes indicated and into shapes shown.
- C. Moisture Content: 19 percent maximum for lumber items are not specified to receive wood preservative treatment.
- D. Grade: For dimension lumber sizes, provide No. 3 or Standard grade lumber per ALSC's NGRs of any species. For board-size lumber, provide No. 3 Common grade per NELMA, or WWPA; No. 2 grade per SPIB; or Standard grade per WCLIB or WWPA of any species.

2.6 WOOD-BASED STRUCTURAL-USE PANELS

- A. Structural-Use Panel Standards: Provide plywood panels complying with DOC PS 1, "U.S. Product Standard for Construction and Industrial Plywood," where plywood is indicated.
- B. Trademark: Factory mark structural-use panels with APA trademark evidencing compliance with grade requirements.
- C. Miscellaneous Concealed Plywood: C-C Plugged Exterior, thickness as indicated but not less than 1/2 inch (12.7 mm).
- D. Miscellaneous Concealed Panels: APA-rated sheathing, Exposure 1, span rating to suit framing in each location.
- E. Plywood Backing Panels: For mounting electrical or telephone equipment, provide fire-retardant-treated plywood panels with grade, C-D Plugged Exposure 1, in thickness indicated or, if not otherwise indicated, not less than 15/32 inch (11.9 mm) thick.

2.7 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
 - 1. Provide fasteners with a hot-dip zinc coating per ASTM A 153 or of Type 304 stainless steel.
- B. Nails, Wire, Brads, and Staples: FS FF-N-105.
- C. Power-Driven Fasteners: CABO NER-272.
- D. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Discard units of material with defects that impair quality of carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.
- B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted.
- C. Fit 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.

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- D. Apply field treatment complying with AWPAs M4 to cut surfaces of preservative-treated lumber and plywood.
- E. Securely attach carpentry work as indicated and according to applicable codes and recognized standards.
- F. Use fasteners of appropriate type and length. Pre-drill members when necessary to avoid splitting wood.

3.2 WOOD GROUNDS, NAILERS, BLOCKING, AND SLEEPERS

- A. Install where shown and where required for screeding or attaching other work. Cut and shape to required size. Coordinate locations with other work involved.
- B. Attach to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.

3.3 INSTALLATION OF STRUCTURAL-USE PANELS

- A. General: Comply with applicable recommendations contained in APA Form No. E30, "APA Design/Construction Guide: Residential & Commercial," for types of structural-use panels and applications indicated.

END OF SECTION 06105

SECTION 09110
NON-LOAD BEARINGWALL FRAMING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Non-load bearing metal studs for wall assemblies.

1.2 RELATED SECTIONS

- A. Section 09250 - Gypsum Board.
- B. Section 09260 - Gypsum Board Assemblies.

1.3 REFERENCES

- A. ASTM A 780 - Standard Practice for Repair of Damaged and Uncoated areas of Hot-Dip Galvanized Coatings; 2000.
- B. ASTM A 1003 - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members; 2001.
- C. ASTM B 633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel; 1998.
- D. ASTM C 645 - Standard Specification for Nonstructural Steel Framing Members, 2000.
- E. ASTM C 754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products, 2000.
- F. ASTM C 1513 - Standard Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections.
- G. AISI Specification for the Design of Cold-Formed Structural Members; 1996.
- H. AISI - Standard for Cold-Formed Steel Framing General Provisions

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product specified, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.
- B. Pre-installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, and manufacturer's installation instructions.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation per requirements of ASTM C645.

1.7 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Dietrich Metal Framing; 200 Old Wilson Bridge Rd. Columbus, OH 43085
1-800-873-2604 phone E-mail:
askforhelp@dietrichindustries.com. www.dietrichmetalframing.com.
Dietrich Metal Framing; 721 Industrial Drive, Wildwood, FL (352) 748-7200
or equal.

C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 COMPONENTS

A. Studs: Cold-formed galvanized steel C-studs, in conformance with AISI Specifications for Design of Cold-formed Steel Structural Members; Dietrich Big "D" drywall studs.

1. Designation and size as indicated on the drawings.
2. Minimum Delivered Thickness: Designation: STE-20 gauge, 0.0297 inches (0.75mm) steel thickness, drywall stud.
3. Minimum Delivered Thickness: Designation: STH -22 gauge, 0.0269 inches (0.68mm) steel thickness, drywall stud.
4. Minimum Delivered Thickness: Designation: STN -25 gauge, 0.0179 inches (0.45mm) steel thickness, drywall stud.
5. Minimum Delivered Thickness: Designation: STX-20 gauge, 0.0329 inches (0.84mm) steel thickness, drywall stud
6. Web Size: 1-5/8 inches (42 mm).
7. Web Size: 2-1/2 inches (64 mm).
8. Flanges: Equal lengths 1-1/4 inches (.32 mm)
9. Section Properties: Manufacturer's standard section properties.

B. Runner Track: Cold-formed galvanized steel in conformance with AISI Specifications for Design of Cold-formed Steel Structural Members; Dietrich Big "D" drywall runner track.

1. Thickness equal to stud thickness minimum or heavier per design requirements..

C. SLP-TRK® Systems Deflection Track: Cold-formed galvanized steel in conformance with AISI Specifications for Design of Cold-formed Steel Members

1. Designation and size as indicated on the drawings
2. Minimum Delivered Thickness: 25 gauge, 0.0179 inches (0.45 mm)
3. Minimum Delivered Thickness: 20 gauge, 0.0329 inches (0.84 mm)
4. Minimum Delivered Thickness: 18 gauge, 0.0428 inches (1.09 mm)
5. Minimum Delivered Thickness: 16 gauge, 0.0538 inches (1.37 mm)
6. Minimum Delivered Thickness: 14 gauge, 0.0677 inches (1.72 mm)
7. Standard leg 2-1/2 inches

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8. Standard Vertical Slot of 1-1/2 inches in leg
9. Product available within 2-1/4 inches drift, slots in web "special order"
10. Minimum yield strength of 50 k.s.i. in 16 gauge and heavier and minimum yield strength of 33 k.s.i. in 18 gauge and lighter

D. Hemmed Runner Track: Cold-formed galvanized steel sheet in conformance with AISI Specifications for Design of Cold-formed Steel Structural Members, Dietrich Big "D" drywall hemmed runner track.

1. Designation and size as indicated on the drawings.
2. Designation: HTN-25 gauge, 0.0179 inches (0.53 mm) steel thickness, drywall track, 1-1/4 inches (32 mm) leg height.
3. Track Sizes: As indicated on drawings.
4. Track Size: 1-5/8 inches (41 mm).
5. Track Size: 2-1/2 inches (64 mm).
6. Track Size: 3-5/8 inches (92 mm).
7. Track Size: 4 inches (102 mm).
8. Track Size: 6 inches (152 mm).
9. Section Properties: Manufacturer's standard section properties.

E. Furring Channel: Cold-formed galvanized steel in conformance with AISI Specifications for Design of Cold-formed Steel Structural Members; Dietrich Big "D" furring channel:

1. Designation and size as indicated on the drawings.
2. Designation: FCN, 25 gauge, 0.0179 inches (0.53 mm) thick, 7/8 inches (22.2 mm) height, 2-11/16 inches (68 mm) width.
3. Designation: FCH, 22 gauge, 0.0269 inches (0.68 mm) sheet thickness, 7/8 inches (22.2 mm) height, 2-11/16 inches (68 mm) width.
4. Designation: FCE, 20 gauge, 0.0297 inches (0.91 mm) sheet thickness, 7/8 inches (22.2 mm) height, 2-11/16 inches (68 mm) width.

5. Designation: FCND, 25 gauge, 0.0179 inches (0.53 mm) sheet thickness, 1-1/2 inches (38 mm) height, 2 7/8 inches (73 mm) width.
6. Designation: FCHD, 22 gauge, 0.0269 inches (0.68 mm) sheet thickness, 1-1/2 inches (38 mm) height, 2-7/8 inches (73 mm) width.
7. Designation: FCED, 20 gauge, 0.0297 inches (0.91 mm) sheet thickness, 1-1/2 inches (38 mm) height, 2-7/8 inches (73 mm) width.

F. U Channel: Cold-formed galvanized steel; Dietrich Big "D" U channel:

1. Designation: CHN1, galvanized, 16 gauge, 0.0538 inches (1.52 mm) steel thickness, 3/4 inches (19.1 mm) size.
2. Designation: CHN2, galvanized, 16 gauge, 0.0538 inches (1.52 mm) steel thickness, 1 1/2 inches (38 mm) size.
3. Designation: CHN3, galvanized, 16 gauge, 0.0538 inches (1.52 mm) steel thickness, 2 inches (51 mm) size.

G. H Studs and Track: Cold-formed galvanized steel, approved for the use intended based on a current ICC Research Report; Dietrich Big "D" H studs and track:

1. Designation and size as indicated on the drawings.
2. Designation: Unhemmed H stud; 2 inches (51 mm), 10-foot (3 m) length, 25 gauge, 0.021 inches (0.53 mm) .

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3. Designation: Hemmed H stud; 2 inches (51 mm), 10-foot (3 m) length, 25 gauge, 0.021 inches (0.53 mm).
4. Deflection Limitation at 10-foot (3 m): L/240.

H. C-T Studs and Tabbled J Track: Cold-formed galvanized steel, approved for the use intended based on a current National Evaluation Service Report; Dietrich Big "D" C-T Studs and J Track.

1. Designation: C-T stud with J track, 2-1/4 inches (57 mm) leg.
2. Designation: C-T stud with J track, 3 inches (76 mm) leg.
3. Size: 2-1/2 inches (64 mm).
4. Size: 4 inches (102 mm).
5. Size: 6 inches (152 mm).
6. Sheet Thickness: 25 gauge, 0.021 inches (0.53 mm) (2-1/2" and 4").
7. Sheet Thickness: 20 gauge 0.040 inches (1.01 mm) (2-1/2", 4" and 6").
8. Deflection Limitation: L/120.
9. Deflection Limitation: L/180.
10. Deflection Limitation: L/240.
11. Deflection Limitation: L/360.

I. Metal Trims: Cold-formed galvanized steel.

1. Type and Size as indicated on the drawings.
2. Type: J Trim.
 - a. Designation: M400, 3/8 inches (9.5 mm) size, 1-1/4 inches (32 mm) leg.
 - b. Designation: M401, 1/2 inches (12.7 mm) size, 1-1/4 inches (32 mm) leg.
 - c. Designation: M402, 5/8 inches (15.9 mm) size, 1-1/4 inches (32 mm) leg.
3. Type: U Trim
 - a. Designation: M20A, 1/2 inches (12.7 mm) size, 1 inch (25.4 mm) leg.
 - b. Designation: M20A, 5/8 inches (15.9 mm) size, 1 inch (25.4 mm) leg.
4. Type: L Trim
 - a. Designation: M20B, 1/2 inches (12.7 mm) size, 1 inch (25.4 mm) leg.
 - b. Designation: M20B, 5/8 inches (15.9 mm) size, 1 inch (25.4 mm) leg.

J. Drywall Corner Bead: Cold-formed galvanized steel sheet.

1. Type: Heavy Construction – CBU Electro galvanized.
- 2.. Type: Heavy Construction – CBS Hot dipped galvanized
3. Type: Light Construction - CBCO.
4. Flange Length: 1-1/4 inches (32 mm).

K. Framing Component Accessories: Provide the following accessories as required for a complete system.

1. EasyClip® Clip Angle
2. Angles.
3. Backing Strip.

L. Fasteners: Self-drilling, self-tapping screws; steel, complying with ASTM C 1513; galvanized coating, plated or oil-phosphate coated complying with ASTM B 633 as needed for required corrosion resistance.

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M. Touch-Up Paint:

Zinc rich, containing 95-percent metallic zinc, (ZRC 350) ZRC Worldwide; Scott; Porter; or Sherwin Williams.

N. Non-Hardening, Flexible Sealant: Latex acrylic.

2.3 MATERIALS

A. Cold-Formed Steel: Complying with ASTM A 1003/A 1003M; unless indicated otherwise.

B. Galvanized Coating: G40 coating weight minimum, complying with ASTM C 645.

2.4 FABRICATION

A. General: Framing components may be preassembled into panels prior to erecting.

B. Fabricate panels square, with components attached in a manner so as to prevent racking or distortion.

C. Cut all framing components squarely for attachment to perpendicular members, or as required for an angular fit against abutting members. Hold members positively in place until properly fastened.

D. Fasteners: Fasten components using self-tapping screws or welding.

PART 3 EXECUTION

3.1 EXAMINATION

A. Prior to installation, inspect previous work of all other trades. Verify that all work is complete and accurate to the point where this installation may properly proceed in strict accordance with framing shop drawings.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 ERECTION

A. Install cold-formed framing in accordance with requirements of ASTM C 754.

B. Framing Installation:

1. Erect framing and panels plumb, level and square in strict accordance with approved drawings.
2. Handle and lift prefabricated panels in a manner to not cause distortion in any member.
3. Anchor runner track securely to the supporting structure. Install concrete anchors only after full compressive strength has been achieved.
4. Butt all track joints. Securely anchor abutting pieces of track to a common structural element, or splice them together.
5. Align and plumb studs, and securely attach to the flanges or webs of both upper and lower tracks.

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6. Attach wall stud bridging in a manner to prevent stud rotation. Space bridging rows according to manufacturer's recommendations.
7. Provided temporary bracing until erection is completed.
8. Where indicated in the drawings, provide for structural vertical movement using means in accordance with manufacturer's recommendations.

C. Shaftwall Framing Installation:

1. Lay out as shown in construction drawings. Secure J Track as perimeter framing and plumb to ceiling, floor and sides. Attach with suitable fasteners, spaced not more than 24 inches (610 mm) on centers. Apply a bead of sealant to the perimeter.
2. Preplan the stud layout 24 inches (610 mm) on center and adjust the spacing at either end so the end studs will not fall closer than 12 inches (305 mm) from the end.
3. Erect the first 1-inch (25.4 mm) shaft wall liner panel, cut 3/4 inch (19.0) less than the total height of the framed section. Plumb the panel against the web of the J Track and bend out tabs in J Track to secure panels in place.
4. Insert C-T Stud, cut 1/2 inch (19.1 mm) less than the overall height, into the top and bottom J Tracks and fit tightly over the previously installed 1 inch (25.4 mm) panel.
Allow equal clearance between top and bottom J Track.
5. Install the next 1-inch (25.4 mm) shaft wall liner panel inside the J Tracks and within the tabs of the CT stud.
6. Progressively install succeeding studs and panels as described above until the wall section is enclosed. The final panel section may be secured with tabs from the J Track at 12 inches (305 mm) on center.
7. Where wall heights exceed the standard or available length of shaft wall liner panels, the panels may be cut and stacked with joints occurring within the top or bottom third points of the wall. Joints of adjacent panels should be alternately staggered to prevent a continuous horizontal joint.
8. For doors, ducts or other large penetrations or openings, install J Track as perimeter framing. Use 20 gauge, 0.0329 inches (0.91 mm) track with a 3 inches (76 mm) back leg for elevator doors and block cavity with 12 inches (305 mm) wide gypsum filler strips for doors exceeding 7-foot (2 m) height.

3.3 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 09220 - PORTLAND CEMENT PLASTER -092400

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 the following:
 - 1. Metal framing and furring.
 - 2. Metal lath and accessories.
 - 3. Portland cement plaster.
 - 4. Acrylic based finishes.
 - 5. Patching existing plaster and applying new finish coat.

1.3 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product Data for each product specified.
- C. Material Certificates: Submit certificate signed by manufacturer for each kind of plaster aggregate certifying that materials comply with requirements.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver cementitious materials to Project site in original packages, containers, or bundles, labeled with manufacturer's name, product brand name, and lot number.
- B. Store materials inside, under cover, and dry, protected from weather, direct sunlight, surface contamination, aging, corrosion, and damage from construction traffic and other causes.

1.5 QUALITY ASSURANCE

- A. Mockups: Prior to installing plaster work, construct panels for patching existing plaster to verify aesthetic effects as well as qualities of materials and execution. Build mock-

ups to comply with the following requirements, using materials indicated for final unit of Work.

1. Engineer and Project Manager will select portion of existing wall to be repaired and patched if a mock up is required.
2. Notify Engineer and Project Manager 7 days in advance of the dates and times when mockups will be constructed.
3. Demonstrate the proposed range of aesthetic effects and workmanship.
4. Obtain Engineer's approval of mockups before start of plaster Work.
5. Retain and maintain mockups during construction in an undisturbed condition as a standard for judging the completed portland cement plaster Work.
 - a. Approved mockup may remain as part of the project.

1.6 PROJECT CONDITIONS

- A. Environmental Requirements, General: Comply with requirements of referenced plaster application standards and recommendations of plaster manufacturer for environmental conditions before, during, and after plaster application.
- B. Cold-Weather Requirements: Provide heat and protection, temporary or permanent, as required to protect each coat of plaster from freezing for at least 24 hours after application. Distribute heat uniformly to prevent concentration of heat on plaster near heat sources; provide deflection or protective screens.
- C. Warm-Weather Requirements: Protect plaster against uneven and excessive evaporation and from strong flows of dry air, both natural and artificial. Apply and cure plaster as required by climatic and job conditions to prevent dry out during cure period. Provide suitable coverings, moist curing, barriers to deflect sunlight and wind, or combinations of these, as required.
- D. Exterior Plaster Work: Do not apply plaster when ambient temperature is below 40 deg F (4 deg C).
- E. Protect contiguous work from soiling and moisture deterioration caused by plastering. Provide temporary covering and other provisions necessary to minimize harmful spattering of plaster on other work.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 1. Metal Framing and Supports:

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- a. Alabama Metal Industries Corp. (AMICO).
 - b. American Studco, Inc.
 - c. Clark Steel Framing, Inc.
 - d. Consolidated Systems, Inc.
 - e. Dale//Incor Industries, Inc.
 - f. Dietrich Industries, Inc.
 - g. Marino-Ware Industries.
 - h. National Gypsum Co.
 - i. Unimast, Inc.
2. Expanded-Metal Lath:
- a. Alabama Metal Industries Corp. (AMICO).
 - b. Dale//Incor Industries, Inc.
 - c. Dietrich Industries, Inc.
 - d. National Gypsum Co.
 - e. Unimast, Inc.
 - f. United States Gypsum Co.
3. Metal Accessories:
- a. Alabama Metal Industries Corp. (AMICO).
 - b. Dale//Incor Industries, Inc.
 - c. Delta Star, Inc.
 - d. Flannery, Inc.
 - e. Fry Reglet Corporation.
 - f. Gordon, Inc.
 - g. Metalex (Keene Products).
 - h. MM Systems Corp.
 - i. National Gypsum Co.
 - j. Pittcon Industries.
 - k. Stockton Products.
 - l. Unimast, Inc.
 - m. United States Gypsum Co.
4. Acrylic-Based Finishes:
- a. Bonsal: W.R. Bonsal Co.
 - b. Dryvit Systems, Inc.
 - c. Pleko Products, Inc.
 - d. Senergy, Inc.
 - e. Simplex Products Div.; Anthony Industries, Inc.
 - f. Sto Industries.

2.2 METAL SUPPORTS FOR SUSPENDED AND FURRED CEILINGS

- A. General: Size metal ceiling supports to comply with ASTM C 1063, unless otherwise indicated.

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- B. Wire for Hangers and Ties: ASTM A 641 (ASTM A 641M), Class 1 zinc coating, soft temper.
- C. Flat Hangers: Mild steel, zinc coated or protected with rust-inhibitive paint.
- D. Channels: Cold-rolled steel, minimum 0.0598-inch- (1.5-mm-) thick base (uncoated) metal and 7/16-inch- (11.1-mm-) wide flanges, and as follows:
 - 1. Carrying Channels: 2-inch- (50-mm-) deep-by-19/32-inch- (15-mm-) wide flanges, 590 lb/1000 feet (0.87 kg/m).
 - 2. Carrying Channels: 1-1/2 inches (38 mm) deep, 475 lb/1000 feet (0.7 kg/m).
 - 3. Furring Channels: 3/4 inch (19 mm) deep, 300 lb/1000 feet (0.45 kg/m).
 - 4. Finish: ASTM A 653, G60 (ASTM A 653M, Z180) hot-dip galvanized coating for framing where indicated.

2.3 VERTICAL METAL FURRING

- A. General: Provide vertical furring complying with the following requirements:
 - 1. Protective Coating: Manufacturer's standard corrosion-resistant coating.
 - 2. Protective Coating: ASTM A 653, G40 (ASTM A 653M, Z90) hot-dip galvanized coating for framing members attached to and within 10 feet (3 m) of exterior walls.
- B. Channel Furring and Braces: Cold-rolled steel, minimum 0.0598-inch- (1.5-mm-) thick base (uncoated) metal and 3/4-inch- (19-mm-) deep-by-7/16-inch- (11.1-mm-) wide flanges, 300 lb/1000 feet (0.45 kg/m).
- C. Hat Channels: Hat-shaped screwable furring channels, 7/8 inch (22.2 mm) deep, formed from zinc-coated (galvanized) steel sheet, minimum 0.0179 inch (0.455 mm) thick, Grade 33.

2.4 LATH

- A. Expanded-Metal Lath: Comply with ASTM C 847 for material, type, configuration, and other characteristics indicated below.
 - 1. Material: Fabricate expanded-metal lath from sheet metal conforming to the following:
 - a. Galvanized Steel: Structural-quality, zinc-coated (galvanized) steel sheet complying with ASTM A 653, G60 (ASTM A 653M, Z180) minimum coating designation, unless otherwise indicated.
 - 2. Diamond-Mesh Lath: Comply with the following requirements:
 - a. Configuration: Flat.
 - 1) Weight: 3.4 lb/sq. yd. (1.8 kg/sq. m).
 - b. Configuration: Self-furring.

- 1) Weight: 3.4 lb/sq. yd. (1.8 kg/sq. m).

2.5 ACCESSORIES

- A. General: Comply with material provisions of ASTM C 1063 and the requirements indicated below; coordinate depth of accessories with thicknesses and number of plaster coats required.
 1. Zinc-Alloy Components: ASTM B 69, 99 percent pure zinc.
- B. Metal Corner Reinforcement: Expanded, large-mesh, diamond-metal lath fabricated from zinc-alloy or welded-wire mesh fabricated from 0.0475-inch- (1.2-mm-) diameter, zinc-coated (galvanized) wire and specially formed to reinforce external corners of portland cement plaster on exterior exposures while allowing full plaster encasement.
- C. Cornerbeads: Small nose cornerbeads fabricated from the following metal, with expanded flanges of large-mesh diamond-metal lath allowing full plaster encasement.
 1. Zinc Alloy: Minimum 0.0207 inch (0.53 mm) thick.
- D. Casing Beads: Square-edged style, with expanded flanges of the following material:
 1. Zinc Alloy: Minimum 0.0207 inch (0.53 mm) thick.
- E. Control Joints: Prefabricated, of material and type indicated below:
 1. Zinc Alloy: Minimum 0.0207 inch (0.53 mm) thick.
 2. One-Piece Type: Folded pair of nonperforated screeds in M-shaped configuration, with expanded or perforated flanges.
- F. Foundation Sill (Weep) Screed: Manufacturer's standard profile designed for use at sill plate line to form plaster stop and prevent plaster from contacting damp earth, fabricated from zinc-coated (galvanized) steel sheet.
- G. Lath Attachment Devices: Material and type required by ASTM C 1063 for installations indicated.

2.6 PLASTER MATERIALS

- A. Base-Coat Cements: Type as indicated below:
 1. Portland cement, ASTM C 150, Type I.
 2. Portland cement, ASTM C 150, Type II.
- B. Job-Mixed Finish-Coat Cement: Material and color as indicated below:
 1. Portland cement, ASTM C 150, Type I.
 2. Portland cement, ASTM C 150, Type II.
- C. Cement Color: White.

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- D. Cement Color: Gray.
- E. Lime: Special hydrated lime for finishing purposes, ASTM C 206, Type S; or special hydrated lime for masonry purposes, ASTM C 207, Type S.
- F. Sand Aggregate for Base Coats: ASTM C 897.
- G. Aggregate for Finish Coats: ASTM C 897 system and as indicated below:
 - 1. Manufactured or natural sand, white in color.
- H. Acrylic-Based Finish Coat: Factory-mixed formulation of acrylic emulsion, colorfast mineral pigments, and fine aggregates specifically recommended by acrylic-based finish manufacturer for use over portland cement plaster base coats.

2.7 MISCELLANEOUS MATERIALS

- A. Fiber for Base Coat: Alkaline-resistant glass or polypropylene fibers, 1/2 inch (13 mm) long, free of contaminants, manufactured for use in portland cement plaster.
- B. Water for Mixing and Finishing Plaster: Potable.
- C. Steel drill screws complying with ASTM C 1002 for fastening metal lath to wood or steel members less than 0.033 inch (0.84 mm) thick.
- D. Steel drill screws complying with ASTM C 954 for fastening metal lath to steel members 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.

2.8 PLASTER MIXES AND COMPOSITIONS

- A. General: Comply with ASTM C 926 for base- and finish-coat mixes as applicable to plaster bases, materials, and other requirements indicated.
 - 1. Plaster materials and compositions for patching plaster shall be compatible with existing plaster.
- B. Base-Coat Mixes and Compositions: Proportion materials for respective base coats in parts by volume per sum of cementitious materials for aggregates to comply with the following requirements for each method of application and plaster base indicated. Adjust mix proportions below within limits specified to attain workability.
- C. Fiber Content: Add fiber to following mixes after ingredients have mixed at least 2 minutes. Comply with fiber manufacturer's written instructions but do not exceed 1 lb/cu. ft. (16 kg/cu. m) of cementitious materials. Reduce aggregate quantities accordingly to maintain workability.
- D. Three-Coat Work over Metal Lath: Base-coat proportions as indicated below:
 - 1. Scratch Coat: 1 part portland cement, 0 to 3/4 parts lime, 2-1/2 to 4 parts aggregate.

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- 2. Brown Coat: 1 part portland cement, 0 to 3/4 parts lime, 3 to 5 parts aggregate.
- E. Acrylic-Based Finish Coat: Apply material as factory packaged; do not add other ingredients; comply with manufacturer's written instructions.

2.9 MIXING

- A. Mechanically mix cementitious and aggregate materials for plasters to comply with applicable referenced application standard and with recommendations of plaster manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION OF LATH AND FURRING, GENERAL

- A. Standards: Comply with ML/SFA 920, "Guide Specifications for Metal Lathing and Furring," and with requirements of ASTM C 1063.
- B. Install supplementary framing, blocking, and bracing at terminations in work and for support of fixtures, equipment services, heavy trim, grab bars, handrails, furnishings, and similar work to comply with details indicated or, if not otherwise indicated, to comply with applicable written instructions of lath and furring manufacturer.
- C. Isolation: Where lathing and metal support system abuts building structure horizontally and where partition or wall abuts overhead structure, sufficiently isolate from structural movement to prevent transfer of loading from building structure. Install slip- or cushion-type joints to absorb deflections but maintain lateral support.
 - 1. Frame both sides of control joints independently and do not bridge joints with furring and lathing or accessories.
- D. Install additional framing, furring, runners, lath, and beads, as required to form openings and frames for other work as indicated. Coordinate support system for proper support of framed work that is not indicated to be supported independently of metal furring and lathing system.

3.2 INSTALLATION OF SOFFIT SUSPENSION SYSTEMS

- A. Preparation and Coordination: Coordinate installation of ceiling suspension system with installation of overhead structural systems to ensure inserts and other structural anchorage provisions have been installed to receive ceiling hangers in a manner that will develop their full strength and at spacings required to support ceiling.
 - 1. Furnish concrete inserts, and other anchorage devices indicated, to other trades for installations well in advance of time needed for coordination with other work.

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- B. Hanger Installation: Attach hangers to structure above ceiling to comply with ML/SFA 920, "Guide Specifications for Metal Lathing and Furring," and with referenced standards.
 - 1. Do not attach hangers to metal deck tabs.
- C. Install ceiling suspension system components of sizes and spacings indicated, but not in smaller sizes or greater spacings than those required by referenced lathing and furring installation standards.
 - 1. Wire Hangers: Space 0.16-inch- (4-mm-) diameter wire hangers not over 48 inches (1219 mm) o.c., parallel with and not over 36 inches (914 mm) perpendicular to direction of carrying channels, unless otherwise indicated, and within 6 inches (152 mm) of carrying channel ends.
 - 2. Carrying Channels: Space carrying channels not over 36 inches (914 mm) o.c. with 48-inch (1219-mm) o.c. hanger spacing.
 - 3. Furring Channels to Receive Metal Lath: Space furring channels not over 16 inches (406 mm) o.c. for 3.4-lb/sq. yd. (1.8-kg/sq. m) diamond-mesh lath, 19 inches (483 mm) o.c. for 3.4-lb/sq. yd. (1.8-kg/sq. m) flat rib lath, or 24 inches (609 mm) o.c. for 3.4-lb/sq. yd. (1.8-kg/sq. m), 3/8-inch (9.5-mm) rib lath.
 - 4. At soffits install 3/4 inch channel strut to main runner and to abutting construction above, spaced at every other hanger wire.

3.3 INSTALLATION OF VERTICAL METAL FURRING

- A. Install vertical metal furring components of sizes and spacings indicated, but not in smaller sizes or greater spacings than those required by referenced ML/SFA standard.
- B. For furring on interior side of exterior walls, provide furring brackets, unless otherwise indicated.
- C. Metal Furring to Receive Metal Lath: Comply with requirements of ML/SFA 920, "Guide Specifications for Metal Lathing and Furring," applicable to each installation condition indicated.

3.4 LATHING

- A. Install metal lath for the following applications where plaster base coats are required. Provide appropriate type, configuration, and weight of metal lath selected from materials indicated that comply with referenced ML/SFA specifications and ASTM lathing installation standards.
 - 1. Suspended and furred soffits using 3.4-lb/sq. yd. (1.8-kg/sq. m) minimum weight, diamond-mesh lath.
 - 2. Vertical metal framing and furring using 3.4-lb/sq. yd. (1.8-kg/sq. m) minimum weight, diamond-mesh lath and cold-rolled channel stud framing.

3.5 PREPARATIONS FOR PLASTERING

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- A. Clean plaster bases and substrates for direct application of plaster, removing loose material and substances that may impair the Work.
- B. Install temporary grounds and screeds to ensure accurate rodding of plaster to true surfaces; coordinate with scratch-coat work.
- C. Flashing: Refer to Division 7 Sections for installing flashing as indicated.
- D. Surface Conditioning: Immediately before plastering, dampen concrete and concrete unit masonry surfaces that are indicated for direct plaster application, except where a bonding agent has been applied. Determine and apply amount of moisture and degree of saturation that will result in optimum suction for plastering.

3.6 INSTALLATION OF PLASTERING ACCESSORIES

- A. General: Comply with referenced lathing and furring installation standards for provision and location of plaster accessories of type indicated. Miter or cope accessories at corners; install with tight joints and in alignment. Attach accessories securely to plaster bases to hold accessories in place and in alignment during plastering. Install accessories of type indicated at following locations:
 - 1. External Corners: Install corner reinforcement at external corners.
 - 2. External Corners: Bend lath around external angles without using cornerbeads or reinforcement.
 - 3. Terminations of Plaster: Install casing beads, unless otherwise indicated.
 - 4. Control Joints: Install at locations indicated or, if not indicated, at locations complying with the following criteria and approved by Architect:
 - a. Where an expansion or contraction joint occurs in surface of construction directly behind plaster membrane.
 - b. Distance between Control Joints: Not to exceed 18 feet (5.4 m) in either direction or a length-to-width ratio of 2-1/2 to 1.
 - c. Wall Areas: Not more than 144 sq. ft. (13 sq. m).
 - d. Horizontal Surfaces: Not more than 100 sq. ft. (9 sq. m) in area.
 - e. Where plaster panel sizes or dimensions change, extend joints full width or height of plaster membrane.

3.7 PLASTER APPLICATION

- A. Plaster Application Standard: Apply plaster materials, composition, and mixes to comply with ASTM C 926.
- B. Do not use materials that are frozen, caked, lumpy, dirty, or contaminated by foreign materials.
- C. Do not use excessive water in mixing and applying plaster materials.

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- D. Flat Surface Tolerances: Do not deviate more than plus or minus 1/8 inch in 10 feet (3 mm in 3 m) from a true plane in finished plaster surfaces, as measured by a 10-foot (3-m) straightedge placed at any location on surface.
- E. Sequence plaster application with installation and protection of other work so that neither will be damaged by installation of other.
- F. Plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground, unless otherwise indicated. Where interior plaster is not terminated at metal frame by casing beads, cut base coat free from metal frame before plaster sets and groove finish coat at junctures with metal.
- G. Corners: Make internal corners and angles square; finish external corners flush with cornerbeads on interior work, square and true with plaster faces on exterior work.
- H. Number of Coats: Apply plaster of composition indicated, to comply with the following requirements:
 - 1. Three Coats: Over the following plaster base:
 - a. Metal lath.
 - I. Finish Coats: Apply finish coats to comply with the following requirements:
 - 1. Prepared Finish: Apply acrylic-based finish coats according to manufacturer's written instructions.
 - J. Moist-cure plaster base and finish coats to comply with ASTM C 926, including written instructions for time between coats and curing in "Annex A2 Design Considerations."

3.8 CUTTING AND PATCHING

- A. Existing Surfaces: Cut, patch, replace, repair, and point up plaster as necessary to accommodate other work. Repair cracks and indented surfaces. Point-up finish plaster surfaces around items that are built into or penetrate plaster surfaces. Repair or replace work to eliminate blisters, buckles, check cracking, dry outs, efflorescence, excessive pinholes, and similar defects. Repair or replace work as necessary to comply with required visual effects.

3.9 CLEANING AND PROTECTING

- A. Remove temporary covering and other provisions made to minimize spattering of plaster on other work. Promptly remove plaster from door frames, windows, and other surfaces not to be plastered. Repair surfaces stained, marred or otherwise damaged during plastering work. When plastering work is completed, remove unused materials, containers, equipment, and plaster debris.

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- B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure plaster work is without damage or deterioration at the time of Substantial Completion.

END OF SECTION 09220

SECTION 09250 - GYPSUM WALLBOARD - 092000

PART I GENERAL

1.1 SCOPE

A. Work consists of complete and proper installation of all gypsum wallboard as indicated on drawings and specified in this section.

1.2 WORK INCLUDED

A. Without restricting volume or generality of above "Scope", work to be performed under this section shall include, but is not limited to, the following:

B. All gypsum wallboard and accessories.

1.3 WORK NOT INCLUDED

The following items of work, if required, are included in other sections of these specifications:

A. Except as otherwise specified herein, interior metal studs and furring.

B. Wood blocking and furring.

C. Acoustical board or tile and related components and/or metal suspension system.

D. Doors and frames.

E. Insulation batts.

F. Painting.

1.4 SPECIAL ITEMS AND CONDITIONS

Except where specified otherwise, product types, application, installation procedures and systems are based upon recommendations set forth in Systems Folders SA-923-1987 Edition, Steel Framed Wallboard Systems and SA-927-1987 latest Edition, Gypsum Panels and Accessories, prepared by United States Gypsum Company which will be used as a basis of quality for acceptance for other similar manufacturer products and systems. The following additional special items and conditions shall apply where applicable:

A. Spot grout all steel door frames in all metal stud walls and/or partitions, just prior to installing gypsum wallboard, in accordance with manufacturer recommendations. After grouting, grouting shall be raked out to allow insertion of gypsum wallboard into frame; gypsum wallboard must not terminate at back of door frame trim.

B. Except as otherwise detailed or specified, gypsum wallboard will not be required on inside wall surfaces of utility shafts, pipe and/or duct shafts.

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- C. Except as otherwise detailed or specified, sides and soffits of all beams and/or lintels extending below ceilings in spaces having gypsum wallboard or acoustical board ceilings shall receive a wallboard finish.
- D. Free standing columns in rooms scheduled to have gypsum wallboard walls shall have a gypsum wallboard finish unless some other finish is detailed or specified.
- E. Provide gypsum wallboard fireproofing on steel framing members as indicated on drawings or specified.
- F. Temporary heating, if required, to perform work under this section.

PART 2 PRODUCTS

2.1 GENERAL

Except as otherwise specified, materials specified below shall be similar and equal to products manufactured by United States Gypsum Company. Similar products and systems by the following manufacturers will be considered for acceptance upon submission of appropriate detailed data: Goldbond Building Products, Inc., a National Gypsum Division and GeorgiaPacific.

2.2 GYPSUM WALLBOARD

Gypsum wallboard faceboards shall be 5/8" thick, 4'-0" wide, length as required, Firecode "C" wallboard with tapered edges as manufactured by United States Gypsum Company to accommodate taped joint system for concealed joints.

2.3 SCREWS

For attaching runners to vertical wall and/or partition metal studs shall be 1-1/4" minimum or length required, Type S or S-12 pan head screws; for attaching metal stud furring to runners shall be 3/8" Type S or S-12 pan head screws; for attaching gypsum wallboard to wood studs and/or wood furring shall be 1-1/4" Type W bugle head screws as recommended by the manufacturer.

2.4 NAILS

For attaching gypsum wall board to wood framing or furring shall be 11/4" annular ring gypsum wallboard nails of type recommended by manufacturer.

2.5 CASING BEADS

Metal type, similar to USG No. 200-A or 200-B metal trim as required.

2.6 CORNER BEADS

Metal type, similar to USG No. 103 Dur-A-Bead.

2.7 CONTROL JOINTS

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Metal type, similar to USG No. 093.

2.8 CAULKING

USG Acoustical Sealant or similar non-hardening sealant as specified in Section 07900. Caulking shall be used for sealing joints as indicated on drawings and specified herein.

2.9 JOINT SYSTEM PRODUCTS

Perforated tape, bedding compound and topping compound, similar to products manufactured by United States Gypsum Company.

2.10 TEXTURE FINISH PRODUCTS

"Spray Quick", "Wall Spray Texture" or "Gold Bond Texture" as manufactured by Goldbond Building Products, Inc. or equal.

PART 3 - EXECUTION

3.1 GENERAL

- A. All gypsum wallboard work shall be in strict accordance with manufacturer's recommendations and instructions.
- B. Delivery and Storage of Materials: All materials shall be delivered in their original unopened packages and stored in an enclosed shelter providing protection from damage and exposure to the elements. Damaged or deteriorated materials shall be removed from the premises.
- C. Environmental Conditions-. In cold weather and during gypsum panel joint finishing, temperatures within the building shall be maintained within the range of 55 to 70°F. Adequate ventilation shall be provided to carry off excess moisture.

3.2 WALL OR PARTITION GYPSUM WALLBOARD INSTALLATION

Gypsum wallboard shall be applied in single-layer type application; shall be applied with long dimension across and at right angles to studs, furring or framing members and all abutting ends and edges shall occur over framing members. Gypsum wallboard of maximum practical length shall be used to minimize end joints. All end joints shall be neatly fitted and staggered. Joints on opposite sides of partitions shall be so arranged as to occur on different studs. Wallboard shall be cut neatly to fit around all air conditioning ductwork, electrical outlets and switch boxes, etc. and shall be coordinated properly with work of other trades. Except as otherwise specified or detailed, wallboard shall be full height of partitions framing from floor to overhead track runners unless otherwise indicated. Fasteners (screws and/or nails) shall be spaced 12" o.c. in field of panels and 8" o.c. along abutting end and/or edge joints. Installation shall provide 1 hour fire rated construction in accordance with Test No. GA-WP-1200.

3.3 WALLBOARD ACCESSORIES

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- A. Corner Beads: All external vertical and horizontal corners shall be reinforced and protected with metal corner beads fastened with 9/16" galvanized staples 9" o.c. on both flanges along entire length of beads.
- B. Metal Trim and Casing Beads: Terminate wallboard, where it abuts other wall finishes or materials, with appropriate metal trim and/or casing beads with frames fastened over panel edges with 9/16" galvanized staples 9" o.c.
- C. Control Joints: Control joints shall be installed as indicated on drawings, as specified herein and as recommended by manufacturer. Break panel behind control joints and back by double framing members and 2 layers of 5/8" gypsum wallboard by depth of framing and/or studs behind joint. Apply acoustical sealant to fill gap and attach control joint to face layer with 9/16" galvanized staples spaced 6" o.c. on both flanges along entire length of joint. In addition to placing control joints at specific locations indicated on the drawings and in the absence of specific locations being specifically indicated, control joints shall be located in all walls, partitions and ceilings as follows:
 - 1. Walls, partitions or furring abuts a structural element (excepting floors) or dissimilar wall or ceiling;
 - 2. Construction changes within the plane of walls, partitions or ceilings;
 - 3. Wall, partition or furring run exceeds 30'-0";
 - 4. Expansion or control joints occur in the base construction;
 - 5. Locate control joints above all door frames extending from each corner of door frames to ceiling.
 - 6. Break gypsum wallboard behind control joints; provide double framing members behind control joints; where practical, locate control joints to intersect light fixtures, air diffusers, etc.
- D. Screws: Shall be power-driven at least 3/8" from edges or ends of panels to provide uniform dimple 1/32" deep.
- E. General: All accessories shall be installed and secured as recommended by manufacturer.

3.4 JOINT SYSTEM AND TREATMENT

Apply bedding compound to tapered edge joints, end joints and fastener heads. Shear off surplus, leaving no material on high edges. Allow proper drying time before taping, leaving uniform depth of taper for uniform shrinkage of joint finishes over and under taper. Apply bedding compound and embed tape leaving uniform thickness of material under tape. When bedding compound has whitened (surface dry) cover taped joint with topping compound. Shear off surplus leaving uniform coverage over tape with edges well feathered. Bedding compound under tape and first coverage of tape with topping compound shall be thoroughly dry before further treatment. Cover joint second time with topping compound. Shear off surplus leaving smooth, well feathered joints. It is the intent of this specification that every effort shall be exercised during gypsum wallboard

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installation to ensure that all surfaces appear as one monolithic surface without joints, dimples or imperfections.

3.5 TEXTURE FINISH

Upon completion of joint treatment, all wallboard surfaces indicated on drawings and specified herein shall receive a textured finish. Texture desired will be one of the following types: "Spray-Quick" - medium fine, or medium, or coarse; "Wall Spray Texture" - spray spatter, or crater, or orange peel; "Gold Bond Texture" - medium stipple, or heavy stipple, all as described in manufacturer's specifications as produced by Gold Bond Building Products, Inc., A National Gypsum Division. Exact texture shall be decided by the Owner/ Project Manager after experimentation with sample applications of specified finishes at project site. All exposed surfaces shall receive a textured finish.

END OF SECTION

SECTION 09260 - GYPSUM BOARD ASSEMBLIES -092200

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 the following:
 - 1. Interior gypsum wallboard.
 - 2. Non-load-bearing steel framing.

1.3 DEFINITIONS

- A. Gypsum Board Terminology: Refer to ASTM C 11 for definitions of terms for gypsum board assemblies not defined in this Section or in other referenced standards.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show locations, fabrication, and installation of control and expansion joints including plans, elevations, sections, details of components, and attachments to other units of Work.

1.5 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: For gypsum board assemblies with fire-resistance ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.
 - 1. Fire-Resistance-Rated Assemblies: Indicated by design designations from UL's "Fire Resistance Directory," and GA-600, "Fire Resistance Design Manual."

1.6 DELIVERY, STORAGE, AND HANDLING

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- A. Deliver materials in original packages, containers, or bundles bearing brand name and identification of manufacturer or supplier.
- B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes. Stack gypsum panels flat to prevent sagging.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.

1.8 ENVIRONMENTAL ISSUES

- A. Provide gypsum wallboard and steel framing that is produced from recovered or recycled materials.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- 1. Steel Framing and Furring:
 - a. Clark Steel Framing Systems.
 - b. Consolidated Systems, Inc.
 - c. Dale Industries, Inc. - Dale/Incor.
 - d. Dietrich Industries, Inc.
 - e. MarinoWare; Division of Ware Ind.
 - f. National Gypsum Company.
 - g. Scafco Corporation.
 - h. Unimast, Inc.
- 2. Gypsum Board and Related Products:
 - a. American Gypsum Co.
 - b. G-P Gypsum Corp.
 - c. National Gypsum Company.
 - d. United States Gypsum Co.

2.2 STEEL SUSPENDED CEILING AND SOFFIT FRAMING

- A. Components, General: Comply with ASTM C 754 for conditions indicated.

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- B. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch- (1.59-mm-) diameter wire, or double strand of 0.0475-inch- (1.21-mm-) diameter wire.
- C. Hanger Attachments to Concrete: As follows:
 - 1. Anchors: Fabricated from corrosion-resistant materials with holes or loops for attaching hanger wires and capable of sustaining, without failure, a load equal to 5 times that imposed by construction as determined by testing according to ASTM E 488 by a qualified independent testing agency.
- D. Hangers: As follows:
 - 1. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.162-inch (4.12-mm) diameter.
 - 2. Rod Hangers: ASTM A 510 (ASTM A 510M), mild carbon steel.
 - a. Diameter: 1/4-inch (6.34-mm).
 - b. Protective Coating: ASTM A 153/A 153M, hot-dip galvanized.
 - 3. Flat Hangers: Commercial-steel sheet, ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized.
 - a. Size: 1 by 3/16 inch (25.4 by 4.76 mm) by length indicated.
 - 4. Angle Hangers: ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized commercial-steel sheet.
 - a. Minimum Base Metal Thickness: As indicated.
 - b. Size: As indicated.
- E. Carrying Channels: Cold-rolled, commercial-steel sheet with a base metal thickness of 0.0538 inch (1.37 mm), a minimum 1/2-inch- (12.7-mm-) wide flange, with ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized zinc coating.
 - 1. Depth: As indicated.
- F. Furring Channels (Furring Members): Commercial-steel sheet with ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized zinc coating.
 - 1. Hat-Shaped, Rigid Furring Channels: ASTM C 645, 7/8 inch (22.2 mm) deep.
 - a. Minimum Base Metal Thickness: 0.0179 inch (0.45 mm).

2.3 STEEL PARTITION FRAMING

- A. Components, General: As follows:
 - 1. Comply with ASTM C 754 for conditions indicated.
 - 2. Steel Sheet Components: Complying with ASTM C 645 requirements for metal and with ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized zinc coating.

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- B. Steel Studs and Runners: ASTM C 645.
1. Minimum Base Metal Thickness: 0.0179 inch (0.45 mm) typically, 0.027 inch (0.7 mm) where indicated, 0.0312 inch (0.79 mm) at wood doors.
 2. Depth: As indicated.
- C. Deflection Track: Steel sheet top runner manufactured to prevent cracking of gypsum board applied to interior partitions resulting from deflection of structure above; in thickness indicated for studs and in width to accommodate depth of studs.
1. Available Product: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Delta Star, Inc., Superior Metal Trim; Superior Flex Track System (SFT).
 - b. Metal-Lite, Inc.; Slotted Track.
- D. Firestop Track: Top runner manufactured to allow partition heads to expand and contract with movement of the structure while maintaining continuity of fire-resistance-rated assembly indicated; in thickness not less than indicated for studs and in width to accommodate depth of studs.
1. Available Product: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Fire Trak Corp.; Fire Trak.
 - b. Metal-Lite, Inc.; The System.
- E. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
1. Minimum Base Metal Thickness: 0.0312 inch (0.79 mm).
- F. Cold-Rolled Channel Bridging: 0.0538-inch (1.37-mm) bare steel thickness, with minimum 1/2-inch- (12.7-mm-) wide flange.
1. Depth: As indicated.
 2. Clip Angle: 1-1/2 by 1-1/2 inch (38.1 by 38.1 mm), 0.068-inch- (1.73-mm-) thick, galvanized steel.
- G. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
1. Minimum Base Metal Thickness: 0.0179 inch (0.45 mm).
 2. Depth: As indicated.
- H. Cold-Rolled Furring Channels: 0.0538-inch (1.37-mm) bare steel thickness, with minimum 1/2-inch- (12.7-mm-) wide flange.
1. Depth: As indicated.
 2. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch- (1.59-mm-) diameter wire, or double strand of 0.0475-inch- (1.21-mm-) diameter wire.

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- I. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

2.4 INTERIOR GYPSUM WALLBOARD

- A. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.
 1. Produce gypsum wallboard with not less than 20 percent recycled gypsum.
- B. Gypsum Wallboard: ASTM C 36.
 1. Type X:
 - a. Thickness: 5/8 inch (15.9 mm).
 - b. Long Edges: Tapered.
 - c. Location: As indicated.

2.5 TILE BACKING PANELS

- A. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.
- B. Water-Resistant Gypsum Backing Board: ASTM C 630/C 630M.
 1. Core: 5/8 inch (15.9 mm), Type X.

2.6 TRIM ACCESSORIES

- A. Interior Trim: ASTM C 1047.
 1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet.
 2. Shapes:
 - a. Cornerbead: Use at outside corners.
 - b. LC-Bead (J-Bead): Use at exposed panel edges.
 - c. L-Bead: Use where indicated.
 - d. Expansion (Control) Joint: Use where indicated.

2.7 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475.
- B. Joint Tape:
 1. Interior Gypsum Wallboard: Paper.
 2. Exterior Gypsum Soffit Board: Paper.

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3. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.
 4. Tile Backing Panels: As recommended by panel manufacturer.
- C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
 3. Fill Coat: For second coat, use setting-type, sandable topping compound.
 4. Finish Coat: For third coat, use setting-type, sandable topping compound.
- D. Joint Compound for Tile Backing Panels:
1. Water-Resistant Gypsum Backing Board: Use setting-type taping and setting-type, sandable topping compounds.

2.8 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.
- C. Isolation Strip at Exterior Walls:
1. Asphalt-Saturated Organic Felt: ASTM D 226, Type I (No. 15 asphalt felt), non-perforated.
 2. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch (3.2 mm) thick, in width to suit steel stud size.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Suspended Ceilings: Coordinate installation of ceiling suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive ceiling hangers at spacing required to support ceilings and that hangers will develop their full strength.
 - 1. Furnish concrete inserts and other devices indicated to other trades for installation in advance of time needed for coordination and construction.

3.3 INSTALLING STEEL FRAMING, GENERAL

- A. Installation Standards: ASTM C 754, and ASTM C 840 requirements that apply to framing installation.
- B. Install supplementary framing, blocking, and bracing at terminations in gypsum board assemblies to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction. Comply with details indicated and with gypsum board manufacturer's written recommendations or, if none available, with United States Gypsum's "Gypsum Construction Handbook."
- C. Isolate steel framing from building structure at locations indicated to prevent transfer of loading imposed by structural movement.
 - 1. Isolate ceiling assemblies where they abut or are penetrated by building structure.
 - 2. Isolate partition framing and wall furring where it abuts structure, except at floor. Install slip-type joints at head of assemblies that avoid axial loading of assembly and laterally support assembly.
 - a. Use deflection track where indicated.
 - b. Use firestop track where indicated.
- D. Do not bridge building control and expansion joints with steel framing or furring members. Frame both sides of joints independently.

3.4 INSTALLING STEEL SUSPENDED CEILING FRAMING

- A. Suspend ceiling hangers from building structure as follows:
 - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 - 2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with the location of hangers required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.

3. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause them to deteriorate or otherwise fail.
 4. Secure rod or flat hangers to structure, including intermediate framing members, by attaching to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.
 5. Do not support ceilings directly from permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.
 6. Do not attach hangers to steel deck tabs.
 7. Do not attach hangers to steel roof deck. Attach hangers to structural members.
 8. Do not connect or suspend steel framing from ducts, pipes, or conduit.
- B. Installation Tolerances: Install steel framing components for suspended ceilings so members for panel attachment are level to within 1/8 inch in 12 feet (3 mm in 3.6 m) measured lengthwise on each member and transversely between parallel members.
- C. Sway-brace suspended steel framing with hangers used for support.
- D. Wire-tie furring channels to supports.
- E. Install suspended steel framing components in sizes and spacings indicated, but not less than that required by the referenced steel framing and installation standards.
1. Wire Hangers: 48 inches (1219 mm) o.c.
 2. Carrying Channels (Main Runners): 48 inches (1219 mm) o.c.
 3. Furring Channels (Furring Members): 16 inches (406 mm) o.c.

3.5 INSTALLING STEEL PARTITION FRAMING

- A. Install tracks (runners) at floors, ceilings, and structural walls and columns where gypsum board assemblies abut other construction.
1. Where studs are installed directly against exterior walls, install asphalt-felt or foam-gasket isolation strip between studs and wall.
- B. Installation Tolerance: Install each steel framing and furring member so fastening surfaces vary not more than 1/8 inch (3 mm) from the plane formed by the faces of adjacent framing.
- C. Extend partition framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing over frames for doors and openings and frame around ducts penetrating partitions above ceiling to provide support for gypsum board.
1. Cut studs 1/2 inch (13 mm) short of full height to provide perimeter relief.
 2. For fire-resistance-rated partitions that extend to the underside of floor/roof slabs and decks or other continuous solid-structure surfaces to obtain ratings, install framing around structural and other members extending below floor/roof slabs

and decks, as needed to support gypsum board closures and to make partitions continuous from floor to underside of solid structure.

- a. Terminate partition framing at suspended ceilings where indicated.
- D. Install steel studs and furring at the following spacings:
 1. Single-Layer Construction: 16 inches (406 mm) o.c., unless otherwise indicated.
 - E. Install steel studs so flanges point in the same direction and leading edge or end of each panel can be attached to open (unsupported) edges of stud flanges first.
 - F. Frame door openings to comply with GA-600 and with gypsum board manufacturer's applicable written recommendations, unless otherwise indicated. Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
 1. Install two studs at each jamb, unless otherwise indicated.
 2. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch (13-mm) clearance from jamb stud to allow for installation of control joint.
 3. Extend jamb studs through suspended ceilings and attach to underside of floor or roof structure above.
 - G. Frame openings other than door openings the same as required for door openings, unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.

3.6 APPLYING AND FINISHING PANELS, GENERAL

- A. Gypsum Board Application and Finishing Standards: ASTM C 840 and GA-216.
- B. Install sound attenuation blankets before installing gypsum panels, unless blankets are readily installed after panels have been installed on one side.
- C. Install ceiling board panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in the central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- D. Install gypsum panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.
- E. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- F. Attach gypsum panels to steel studs so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

- G. Attach gypsum panels to framing provided at openings and cutouts.
- H. Form control and expansion joints with space between edges of adjoining gypsum panels.
- I. Cover both faces of steel stud partition framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
 - 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. (0.7 sq. m) in area.
 - 2. Fit gypsum panels around ducts, pipes, and conduits.
 - 3. Where partitions intersect open concrete coffers, concrete joists, and other structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by coffers, joists, and other structural members; allow 1/4- to 3/8-inch- (6.4- to 9.5-mm-) wide joints to install sealant.
- J. Isolate perimeter of non-load-bearing gypsum board partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide spaces at these locations, and trim edges with U-bead edge trim where edges of gypsum panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- K. Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's written recommendations.
 - 1. Space screws a maximum of 12 inches (304.8 mm) o.c. for vertical applications.
- L. Space fasteners in panels that are tile substrates a maximum of 8 inches (203.2 mm) o.c.

3.7 PANEL APPLICATION METHODS

- A. Single-Layer Application:
 - 1. On ceilings, apply gypsum panels before wall/partition board application to the greatest extent possible and at right angles to framing, unless otherwise indicated.
 - 2. On partitions/walls, apply gypsum panels vertically (parallel to framing), unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of board.
- B. Single-Layer Fastening Methods: Apply gypsum panels to supports with steel drill screws.
- C. Tile Backing Panels:

1. Water-Resistant Gypsum Backing Board: Install at showers, tubs, and where indicated. Install with 1/4-inch (6.4-mm) gap where panels abut other construction or penetrations.
2. Where tile backing panels abut other types of panels in the same plane, shim surfaces to produce a uniform plane across panel surfaces.

3.8 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Control Joints: Install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect.

3.9 FINISHING GYPSUM BOARD ASSEMBLIES

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below, according to ASTM C 840, for locations indicated:
 1. Level 1: Embed tape at joints in ceiling plenum areas, concealed areas, and where indicated, unless a higher level of finish is required for fire-resistance-rated assemblies and sound-rated assemblies.
 2. Level 2: Embed tape and apply separate first coat of joint compound to tape, fasteners, and trim flanges where panels are substrate for tile and where indicated.
 3. Level 4: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges at panel surfaces that will be exposed to view, unless otherwise indicated.

3.10 FIELD QUALITY CONTROL

- A. Above-Ceiling Observation: Engineer and Project Manager will conduct an above-ceiling observation before installing gypsum board ceilings and report deficiencies in the Work observed. Do not proceed with installation of gypsum board to ceiling support framing until deficiencies have been corrected.

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1. Notify Engineer and Project Manager seven days in advance of date and time when Project, or part of Project, will be ready for above-ceiling observation.
2. Before notifying Engineer and Project Manager, complete the following in areas to receive gypsum board ceilings:
 - a. Installation of 80 percent of lighting fixtures, powered for operation.
 - b. Installation, insulation, and leak and pressure testing of water piping systems.
 - c. Installation of air-duct systems.
 - d. Installation of air devices.
 - e. Installation of mechanical system control-air tubing.
 - f. Installation of ceiling support framing.

END OF SECTION 09260

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SECTION 09511
SUSPENDED ACOUSTICAL CEILING SYSTEM

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.

A. ASTM C635 – Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.

B. ASTM C636 – Standard Practice for the Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels

C. ASTM C665 – Standard Specification for Mineral Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing

D. ASTM E580 – Standard Practice for Application of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Requiring Seismic Restraint

E. ASTM E1264 – Standard Classification of Acoustical Ceiling Products

F. Ceilings and Interior Systems Contractors Association (CISCA) - Acoustical Ceilings: Use and Practice.

G. UL - Fire Resistance Directory and Building Material Directory

- A. General: Submit the following in accordance with Conditions of Contract and Division
- B. 1 Specification Sections.

1. Product data for each type of product specified.

2. Samples for verification purposes of each type of exposed finish required, prepared on samples of size indicated below and of same thickness and material indicated for final unit of Work. Where finishes involve normal color and texture variations, include sample sets showing full range of variations expected.

- a. 150 mm (6") square samples of each acoustical panel type, pattern, and color
- b. Set of 300 mm (12") long samples of exposed suspension system members, including moldings, for each color and system type required.

A. Fire Performance Characteristics: Provide acoustical ceilings that are identical to those tested for the following fire performance characteristics, per ASTM test method indicated below, by UL or other testing and inspecting organizations acceptable to authorities having jurisdiction. Identify acoustical ceiling components with appropriate markings of applicable testing and inspecting organization.

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1. Surface Burning Characteristics: As follows, tested per ASTM E 84 and complying with ASTM E 1264 for Class A products.

a. Flame Spread: 25 or less.

b. Smoke Developed: 50 or less.

B. Single Source Responsibility for Ceiling Units: Obtain each type of acoustical ceiling unit from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.

C. Single Source Responsibility for Suspension System: Obtain each type of suspension system from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.

1.2 REFERENCES

1.3 SUBMITTALS

1.4 QUALITY ASSURANCE

A. Deliver acoustical ceiling units and suspension system components to Project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.

B. Before installing acoustical ceiling units, permit them to reach room temperature and a stabilized moisture content.

C. Handle acoustical ceiling units carefully to avoid chipping edges or damaging units in any way.

A. Environmental Limitations: Do not install interior acoustical ceilings until space is enclosed and weatherproof, wet work in space is completed and nominally dry, work above ceilings is complete, and ambient conditions of temperature and humidity will be continuously maintained at values near those indicated for final occupancy.

A. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels describing contents.

1. Acoustical Ceiling Units: Furnish quantity of full size units equal to 2% of amount installed.

2. Suspension System Components: Furnish quantity of each exposed component equal to 2% of amount installed.

1.5 DELIVERY, STORAGE, AND HANDLING

1.6 PROJECT CONDITIONS

1.7 EXTRA MATERIALS

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PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Products: Subject to compliance with requirements, provide one of the following:

1. Mineral Base Panels typical unless noted on Reflected Ceiling Plans. Tiles shall be 24" x 48" non-directional, resistant to high humidity and growth of mold/mildew, with Painted Finish Perforated and Fissured Pattern, and Class 'A' finish, Color: White.
 - a. General
 - i) Armstrong World Industries "Fine Fissured" with HumiGuard Plus Square Lay-in.
 - ii) Celotex Corp. (BPB Corp) "Baroque High NRC" with BioShield
 - iii) USG Interiors Radar Climaplus

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following, and the grid system shall be compatible with the tiles to provide resistant to high humidity and growth of mold/mildew:

1. Non-Fire-Resistance Rated Double-Web Steel Suspension Systems:
 - a. Armstrong World Industries, Inc.
 - b. Chicago Metallic Corporation.
 - c. USG Interiors, Inc.
2. Edge Moldings:
 - a. Armstrong World Industries, Inc.
 - b. Chicago Metallic Corporation.
 - c. Fry Reglet Corp.
 - d. USG Interiors, Inc.

A. Standard for Acoustical Ceiling Units: Provide manufacturers' standard units of configuration indicated that comply with ASTM E 1264 classifications as designated by reference to types, patterns, acoustical ratings, and light reflectance, unless otherwise indicated.

1. Mounting Method for Measuring NRC: Type E 400 (plenum mounting in which face of test specimen is 400 mm (15-3/4") away from the test surface) per ASTM E 795.

B. Colors and Patterns: Provide products to match appearance characteristics indicated under each product type.

A. Standard for Metal Suspension Systems: Provide manufacturer's standard metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable ASTM C 635 requirements.

B. Finishes and Colors: Provide manufacturer's standard factory applied finish for type of system indicated.

C. Attachment Devices: Size for 5 times design load indicated in ASTM C 635, Table 1, Direct Hung unless otherwise indicated.

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D. Wire Hangers, Braces, and Ties: ASTM A 641M/ASTM A 641, Class 1 zinc coating, soft temper.

1. Gage: Provide wire sized so that stress at 3 times hanger design load (ASTM C 635, Table 1, Direct-Hung), will be less than yield stress of wire, but provide not less than 2.69 mm (0.106") diameter wire.

E. Edge Moldings and Trim: Metal or extruded aluminum of types and profiles indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that fit type of edge detail and suspension system indicated. Provide column surround trim at round columns.

F. Retention Clips: Armstrong #414 or similar by other acoustical panel manufacturers.

- i. Wide-Face Capped Double-Web Steel Suspension System: Main and cross-runners roll-formed from pre-painted or electrolytic zinc-coated cold-rolled steel sheet, with pre-finished 23 mm (15/16") wide metal caps on flanges; other characteristics as follows:
 - A. Structural Classification: Intermediate Duty System.
 - B. End Condition of Cross-Runners: Override (stepped) or butt-edge type, as standard with manufacturer.

A. Cap Material and Finish: Steel sheet painted white.

- 1. Tile Adhesive: Type recommended by tile manufacturer, bearing UL label for Class 0-25 flame spread

2.2 ACOUSTICAL CEILING UNITS, GENERAL

2.3 METAL SUSPENSION SYSTEMS, GENERAL

2.4 NON-FIRE-RESISTANCE-RATED DIRECT-HUNG SUSPENSION SYSTEMS

2.5 MISCELLANEOUS MATERIALS

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates and structural framing to which ceiling system attaches or abuts, with Installer present, for compliance with requirements specified in this and other sections that affect installation and anchorage of ceiling system. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Coordination: Furnish layouts for preset inserts, clips, and other ceiling anchors whose installation is specified in other sections.

1. Furnish concrete inserts and similar devices to other trades for installation well in advance of time needed for coordination of other work.

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B. Measure each ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Avoid use of less than half width units at borders, and comply with reflected ceiling plans.

A. General: Install acoustical ceiling systems to comply with installation standard referenced below, per manufacturer's instructions and CISCA "Ceiling Systems Handbook."

1. Standard for Installation of Ceiling Suspension Systems: Comply with ASTM C 636.

B. Arrange acoustical units in a manner shown by reflected ceiling plans.

1. Where ACT units are installed, provide retention clips in accordance with ceiling panel manufacturer's recommendations.

C. Suspend ceiling hangers from building structural members and as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, counter-splaying, or other equally effective means.

2. Where width of ducts and other construction within ceiling plenum produces hanger spacing that interferes with the location of hangers at spacing required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.

3. Secure wire hangers by looping and wire tying, either directly to structures or to inserts, eye-screws, or other devices that are secure and appropriate for substrate, and in a manner that will not cause them to deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.

4. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye-screws, or other devices that are secure and appropriate for structure to which hangers are attached as well as for type of hanger involved, and in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.

5. Space hangers not more than 1200 mm (48") along each member supported directly from hangers, unless otherwise shown, and provide hangers not more than 200 mm (8") from ends of each member.

D. Install edge moldings of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical units.

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E. Install acoustical panels in coordination with suspension system, with edges concealed by support of suspension members. Scribe and cut panels to fit accurately at borders and at penetrations.

A. Clean exposed surfaces of acoustical ceilings, including trim, edge moldings, and suspension members. Comply with manufacturer's instructions for cleaning and touch-up of minor finish damage. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

3.3 INSTALLATION

3.4 CLEANING

END OF SECTION

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Acoustical Panels SECTION 09800
Acoustical Wall Panels

PART 1

PART 2 GENERAL

2.1 SECTION INCLUDES

- A. Acoustical wall panels.

2.2 RELATED SECTIONS

- A. Section 05310 - Steel Decking: Acoustical steel deck.
- B. Section 09110 - Non-Loadbearing Metal Framing: Ceiling suspension systems.
- C. Section 09260 - Gypsum Board Assemblies.
- D. Section 09511 - Suspended Acoustical Panels.
- E. Section 09900 - Paints and Coatings.

2.3 REFERENCES

- A. ASTM C 423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method; 2000.
- B. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2000a.

2.4 PERFORMANCE REQUIREMENTS

- A. Acoustical Absorption: Perform testing in accordance with ASTM C 423, Type A mounting method unless otherwise specified.
- B. Flame Spread Rating: Provide all components with Class A flame spread rating when tested in accordance with ASTM E 84, unless otherwise specified.

2.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
 - 4. Independent testing agency test reports.
- C. Selection Samples: For each product specified, two complete sets of color samples representing manufacturer's full range of available colors and patterns.
- D. Verification Samples: For each product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

2.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 10 years of experience in producing acoustical products of the types specified herein.
- B. Installer Qualifications: Acceptable to the Owner's Representative of the acoustical products being installed. Must show references of similar projects with same scale.
- C. Mock-Up: Provide a mock-up for evaluation of installed appearance.
 - 1. Install acoustical products in areas designated by Engineer.
 - 2. Do not proceed with remaining work until Owner's Representative approves workmanship and appearance.
 - 3. Approved mock-up may remain as part of the work.

2.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect acoustical products from moisture during shipment, storage, and handling.
- B. Store products in manufacturer's unopened packaging until ready for installation.
 - 1. Store materials flat, in dry, well-ventilated space.
 - 2. Do not stand panels on end.
 - 3. Protect edges from damage.
- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

2.8 PROJECT CONDITIONS

- A. Do not begin installation of acoustical products until building has been enclosed and environmental conditions approximate those that will prevail when building is occupied.
- B. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

2.9 EXTRA MATERIALS

- A. See Section 01600 - Product Requirements, for additional provisions.
- B. Provide 5 percent, but not less than 1 of each type of acoustical unit actually installed, for Owner's use in maintenance.

PART 3 PRODUCTS

3.1 MANUFACTURERS

Suggested Manufacturers that may have compliant products:

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Golterman & Sabo; 3555 Scarlet Oak Blvd., St. Louis, MO 63122. ASD. Tel: (636) 225-8800 or (800) 737-0307. Fax: (636) 225-2966. Email: inquiry@golterman.com.
www.golterman.com.

Auralex: 6853 Hillsdale Ct., Indianapolis, IN 46250. Tel: (317) 842-2600. Fax: (317) 842-2760. Email: auralexinfo@auralex.com Website: www.auralex.com

Wenger Corporation; 555 Park Drive, Owantonna, MN 55060. Tel: (800) 493-6437.
Fax: (507) 455-4258. Website: www.wengercorp.com

- A. Requests for substitutions will be considered in accordance with provisions of Section 01600. Coordinate with requirements of Division 1 section on product options and substitutions.
- B. Provide all acoustical products specified herein by a single manufacturer.

3.2 ACOUSTICAL WALL PANELS

- A. Wrapped Fiberglass Panels: Acoustic Panels ; fiberglass core of 6 to 7 pcf (96 to 112 kg/cu m) with chemically hardened edges, seamless finish material wrapped and bonded to back side of panels.
 - 1. Thickness: 1.5 inch (38 mm); NRC 0.95.
 - 2. Size: As indicated on plans:
 - WP-1: 24 inches by 48 inches
 - WP-2: 48 inches by 48 inches
 - WP-3: 48 inches by 96 inches
 - 3. Finish Material: Guliford of Maine, FR701, Style 2100 – equivalent or better-approved by Owner's Representative.
 - 4. Color: As selected from manufacturer's standards.
 - 5. Edges: Square.
 - 6. Corners: Square.
 - 7. Mounting: Adhesive may be required for clips-
 - 8. Mounting: Impaling clips.
 - 9. Mounting: Mechanical clips ("Z" Clips).

3.3 ACCESSORIES

- A. Mounting Adhesive: Water-based, heavy-bodied adhesive as recommended by manufacturer of acoustical panels.
- B. Impaling Clips. Manufacturer's standard 3 by 4 inches (75 by 100 mm) galvanized mounting clips designed for impaling back side of fiberglass units.
- C. Two-Part Z-Clips: Manufacturer's standard mounting bar and matching clips for mounting on rear of acoustical panels. Two part clips, with one part of each clip mechanically attached to back of panel and the other part to wall substrate, designed to allow for panel removal.

PART 4 EXECUTION

4.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Installer shall prepare the substrate for the hanging process prior to hanging the panels.

4.2 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.

4.3 INSTALLATION

- A. Install acoustical units in accordance with manufacturer's instructions. Impaling clips or "Z" type clip systems shall be used. Adhesive is sometimes used with the "Z" clip system and impaling clip for mounting to walls.
- B. Impaling Clips: Fasten clips to wall at 48 inches (1220 mm) on center, with points facing upward. Attach panels by pressing downward and toward the wall, so points of clips are embedded firmly in back of panel.
- C. Two-Part Clips: Fasten bars to wall at 48 inches (1220 mm) on center in both directions. Impale matching mechanical clips into back of panels in matching pattern and drop panel into position so clips fully engage into wall-mounted bars.

4.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

Acoustic Baffles Section 09800
ACOUSTICAL TREATMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Acoustical Baffles

1.2 RELATED SECTIONS

- A. Section 05310 - Steel Decking: Acoustical steel deck.
- B. Section 09110 - Non-Loadbearing Metal Framing: Ceiling suspension systems.
- C. Section 09260 - Gypsum Board Assemblies.
- D. Section 09511 - Suspended Acoustical Tiles
- E. Section 09900 - Paints and Coatings.

1.3 REFERENCES

- A. ASTM C 423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method; 2000.
- B. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2000a.

1.4 PERFORMANCE REQUIREMENTS

- A. Acoustical Absorption: Perform testing in accordance with ASTM C 423, Type A mounting method unless otherwise specified.
- B. Flame Spread Rating: Provide all components with Class A flame spread rating when tested in accordance with ASTM E 84, unless otherwise specified.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
 - 4. Independent testing agency test reports.
- C. Selection Samples: For each product specified, two complete sets of color samples representing manufacturer's full range of available colors and patterns.

- D. Verification Samples: For each product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 10 years of experience in producing acoustical products of the types specified herein.
- B. Installer Qualifications: Acceptable to the manufacturer of the acoustical products being installed.
- C. Mock-Up: Provide a mock-up for evaluation of installed appearance.
 - 1. Install acoustical products in areas designated by Architect.
 - 2. Do not proceed with remaining work until Architect approves workmanship and appearance.
 - 3. Approved mock-up may remain as part of the work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect acoustical products from moisture during shipment, storage, and handling.
- B. Store products in manufacturer's unopened packaging until ready for installation.
 - 1. Store materials flat, in dry, well-ventilated space.
 - 2. Do not stand panels on end.
 - 3. Protect edges from damage.
- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.8 PROJECT CONDITIONS

- A. Do not begin installation of acoustical products until building has been enclosed and environmental conditions approximate those that will prevail when building is occupied.
- B. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.9 EXTRA MATERIALS

- A. See Section 01600 - Product Requirements, for additional provisions.
- B. Provide 5 percent, but not less than 1 of each type of acoustical unit actually installed, for Owner's use in maintenance.

PART 2 PRODUCTS

2.1 MANUFACTURERS

Suggested Manufacturers.

Golterman & Sabo; 3555 Scarlet Oak Blvd., St. Louis, MO 63122. ASD. Tel: (636) 225-8800 or (800) 737-0307. Fax: (636) 225-2966. Email: inquiry@golterman.com.
www.golterman.com.

Auralex: 6853 Hillsdale Ct., Indianapolis, IN 46250. Tel: (317) 842-2600. Fax: (317) 842-2760. Email: auralexinfo@auralex.com Website: www.auralex.com

Wenger Corporation; 555 Park Drive, Owantonna, MN 55060. Tel: (800) 493-6437.
Fax: (507) 455-4258. Website: www.wengercorp.com

- A. Requests for substitutions will be considered in accordance with provisions of Section 01600. Coordinate with requirements of Division 1 section on product options and substitutions.
- B. Provide all acoustical products specified herein by a single manufacturer.

2.2 ACOUSTICAL PANELS or BAFFLES

- A. Wrapped Fiberglass Panels: Acoustic Panels or Baffles; fiberglass core of 6 to 7 pcf (96 to 112 kg/cu m) with chemically hardened edges, seamless finish material wrapped and bonded to back side of panels.
 - 1. Thickness: 1.5 inch (38 mm); NRC 0.95.
 - 2. Size: As indicated on plans.
 - 3. Finish Material: Manufacturer's standard fabrics. Owner's representative shall choose from the
 - 4. Color: As selected from manufacturer's standards. Owner's representative shall make a choice from the colors given with the acoustic panels.
 - 5. Edges: Square.
 - 6. Corners: Square.
 - 7. Mounting: Two-Part Z-clips

2.3 ACCESSORIES

- A. Two-Part Z-Clips: Manufacturer's standard mounting bar and matching clips for mounting on rear of acoustical panels.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Engineer 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. Two-Part Clips: Fasten bars to ceiling as per manufactures recommendations. Attach matching mechanical clips into back of panels in matching pattern and drop panel into position so clips fully engage into wall-mounted bars.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 09900 –PAINTING - 099000

PART I -GENERAL

1.1 SCOPE

Work consists of all exterior painting and interior painting, finishing work and related items necessary to complete work indicated on drawings and described in this section. Painting shall be completed for repairs for existing surfaces. The County Project Manger shall provide an approved list of colors and paint manufacturer numbers to match the existing standards that are set by the County.

1.2 WORK INCLUDED

Without restricting volume or generality of above "Scope", work to be performed under this section shall include, but is not limited to, the following-

- A. All surface preparation and exterior painting and finishing of various types of surfaces herein.
- B. All surface preparation and interior painting and finishing of various types of surfaces herein.
- C. Painting of all mechanical and electrical equipment rooms, including piping, ducts, equipment, etc. Equipment having a factory applied baked enamel finish will not require painting.
- D. All equipment, appliances and/or accessories installed on the exterior of buildings and/or exposed to the weather shall be painted as directed by the Engineer. Painting preparation and painting work shall be in accordance with the specifications set forth under this section.
- E. All exposed steel joists, columns, beams, ductwork and metal decking.
- E. Painting of all new exposed interior and exterior stucco, drywall, concrete and concrete block surfaces.
- G. Painting of all existing surfaces damaged by new construction.

1.3 WORK NOT INCLUDED

The following items of work, if required, are included in other sections-

- A. Shop painting of structural and miscellaneous iron and steel.
- B. Factory applied finishes.
- C. Unless otherwise indicated or specified, acoustical ceiling tile and acoustical ceiling board will not require painting.

1.4 QUALITY ASSURANCE

Applicator company shall be a firm specializing in commercial painting and finishing work with a minimum of three (3) years documented experience.

1.5 SUBMITTALS AND SAMPLES

Submit manufacturer's technical product data for all painting and finishing products. Submit manufacturer's application data and instructions for all painting and finishing products. Samples of each paint finish and each color shall be submitted for review and acceptance. Samples shall be submitted for review and acceptance before painting work begins. Samples shall be submitted on 12" square x 1/4" thick plywood; one sample per finish and color. Samples shall be prepared so that an area of each sample indicates appearance of various coats. For example, where three-coat work is specified, sample shall be divided into three areas: one showing application of one coat only, one showing application of two coats and one showing application of all three coats.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Store and protect products in accordance with manufacturer's recommendations.
- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability of materials.
- B. Container labeling to include manufacturers name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation and instructions for mixing and reducing.
- C. Store paint materials at minimum ambient temperature of 45" F. and a maximum of 900 F., in well ventilated area, unless otherwise specified or required by manufacturer's instructions.
- E. Take precautionary measures to prevent fire hazards and spontaneous combustion.
- D. Manufacturer and painting subcontractor for elastomeric painting products, as specified in paragraphs 2.02, A., 7. and 8., shall provide a 5 year warranty covering defects in the material and workmanship. Warranty shall cover all material and labor costs.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Provide continuous air conditioning and ventilation of facilities to maintain surface and ambient temperatures above 45 deg F. for 24 hours before, during and 48 hours after application of finishes; unless otherwise specified or required by manufacturer's instructions.
- B. Do not apply exterior coatings during rain or when relative humidity is above the percentage recommended by the manufacturer.
- C. Minimum application temperatures for latex paints shall be 45" F. for interiors, 50' F. for exterior; unless otherwise specified or required by manufacturer's instructions.

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- D. Minimum application temperatures for varnish and other painting finishes shall be 65° F. for interior or exterior, unless otherwise specified or required by manufacturer's instructions.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Painting materials as hereinafter specified shall be similar to those products indicated as approved by the County Project manager as standard paints and colors.
- B. Painting products and materials required but not specifically described, such as, but not limited to, linseed oil, lead, colors for tinting, putty, caulking, turpentine, mineral spirits, shellac, etc. shall be appropriate materials for use intended and of good professional quality.
- C. Thirty days before painting work is to begin, Contractor shall submit in writing detailed names of all products he proposes to use for various surfaces. Only such products as are accepted in writing by Engineer shall be used.
- D. All painting products shall be delivered to site in manufacturer's original sealed and labeled containers.

2.2 PRODUCTS, MATERIALS, FINISHES

A. Exterior Surfaces:

1. Ferrous Metals - Shop Primed

- a. Touch up shop coat if shop coat is suitable to receive finish coats. If shop coat is not suitable, remove shop coat and apply one coat of S-W Kem Kromik Metal Primer, B50 Series.
- b. Two finish coats of S-W Metalatex Semi-Gloss Coating, B42 Series.
- c. **Verify manufacturer prior to start of work.**

2. Ferrous Metals - Not Shop Primed

- a. One coat of S-W Kem Kromik Metal Primer, B50 Series.
- b. Two finish coats of S-W Metalatex Semi-Gloss Coating, B42 Series.
- c. **Verify manufacturer prior to start of work.**

3. Aluminum - Miscellaneous Items, Not Architectural Aluminum

- a. One coat of S-W Zinc Chromate Primer, B50 Series
- b. Two finish coats of S-W Metalatex Semi-Gloss Coating, B42 Series.
- c. **Verify manufacturer prior to start of work.**

4. Galvanized Metals

- a. One coat of S-W Gaivite Primer, B50 Series.
- b. Two finish coats of S-W Metalatex Semi-Gloss Coating, 642 Series.
- c. **Verify manufacturer prior to start of work.**

5. Stucco and/or Cement Plaster

a. Horizontal Soffits and/or Ceilings:

- (1) One coat S-W A5V2 Masonry Conditioner.
- (2) Two coats S-W A-100 Flat Latex House and Trim Paint, Series A6.
- (3) **Verify manufacturer prior to start of work.**

b. All Other Surfaces:

- (1) One coat of Porter Paints #9501 Versa-Bond tinted to color directed, applied rate of one gallon per 150 to 175 square feet.
- (2) Repair any cracks with Porter Paints 6008 Porter Flex patching compound, applied in accordance with manufacturer's directions. The following items and surfaces, shall be thoroughly coated with one heavy coat of "6008 Porter Flex" sand finish brush grade material applied over bond primer sealer. All vertical and/or horizontal corners or angles; all grooves in stucco surfaces; all top and back side surfaces of parapets; all junctures of stucco surfaces with adjoining metal, such as, casing beads, expansion joints, cap flashings, etc.
- (4) Two finish coats of Porter Paints #6100 Mafte Flex, applied rate of one gallon per 100 to 125 square feet each coat.
- (5) **Verify manufacturer prior to start of work.**

B. Interior Surfaces

1. Ferrous Metals - Shop Primed

- a. Touch up shop coat if shop coat is suitable to receive finish coats. If shop coat is not suitable, remove shop coat and apply one coat of S-W Kem Kromik Metal Primer, Series B50.
- b. Two finish coats of S-W ProMar 200 Alkyd Eg-Shel Enamel, Series B33.
- c. **Verify manufacturer prior to start of work.**

2. Ferrous Metals - Not Shop Primed

- a. Bonderize with S-W Dual Etch.
- b. One coat of S-W Kem Kromik Metal Primer, Series B50.
- d. Two finish coats of S-W ProMar 200 Alkyd Eg-Shel Enamel, Series B33.
- e. **Verify manufacturer prior to start of work.**

3. Aluminum Metals - Miscellaneous Items, Not Architectural Aluminum

- a. Where surfaces adjacent to aluminum are to receive eg-shel finish, aluminum shall be painted as follows-.
 - (1) Bonderize with S-W Dual Etch.
 - (2) One coat of S-W Zinc Chromate Primer, Series B50.
 - (3) Two finish coats of S-W ProMar 200 Alkyd Eg-Shel Enamel, Series B33.
 - (4) **Verify manufacturer prior to start of work.**

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- b. Where surfaces adjacent to aluminum are to receive a flat enamel finish, aluminum shall be painted as follows:
 - (1) Bonderize with S-W Dual Etch.
 - (2) One coat of S-W Zinc Chromate Primer.
 - (3) Two coats of S-W ProMar 200 Alkyd Flat Wall Paint, Series B32.
 - (4) **Verify manufacturer prior to start of work.**

- 4. Galvanized Metals
 - a. One coat of S-W Galvite Primer, Series B50.
 - b. Two finish coats of S-W ProMar 200 Alkyd Eg-Shel Enamel, Series B33.
 - c. **Verify manufacturer prior to start of work.**

- 5. Exposed Structural Steel - Shop Primed
 - a. Overhead Beams. Joists, Bracing, Bridging, Etc
 - (1) One coat of S-W Kem Kromik Metal Primer, Series B50.
 - (2) Two coats of S-W ProMar 200 Alkyd Flat Wall Paint, Series B32.
 - (3) **Verify manufacturer prior to start of work.**

 - b. All Other Steel
 - (1) One coat of S-W Kem Kromik Metal Primer, Series B50.
 - (2) Two coats of S-W ProMar 200 Alkyd Eg-Shel Enamel, Series B33.
 - (3) **Verify manufacturer prior to start of work.**

- 6. Wallboard
 - a. Where an eggshell enamel finish is required, surfaces shall be painted as follows:
 - (1) Spot prime cemented and taped joints with S-W ProMar 200 Latex Wall Primer, Series B28.
 - (2) One coat of S-W ProMar 200 Latex Wall Primer, Series B28.
 - (4) Two coats of S-W ProMar 200 Latex Eg-Shel Enamel, Series B20.
 - (5) **Verify manufacturer prior to start of work.**

 - b. Where a flat enamel finish is required, surfaces shall be painted as follows:
 - (1) One coat of S-W ProMar 200 Latex Wall Primer, Series B28.
 - (2) Two coats of S-W ProMar 200 Latex Flat Wall Paint, Series B30.
 - (3) **Verify manufacturer prior to start of work.**

PART 3 - EXECUTION

3.1 INSPECTION AND GENERAL REQUIREMENTS

- A. Before starting work painting subcontractor shall inspect all surfaces to be painted or finished. He shall notify the Contractor in writing of any surfaces which are unsuitable for painting or finishing. Commencing of work, or absence of notification in writing, shall be construed as acceptance of surfaces by painting subcontractor. It

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shall be responsibility of painting subcontractor then, to correct any defects appearing in painting work thereafter and he will be held responsible for results reasonably expected from materials and processes specified.

- B. All spaces shall be broom clean before painting is started.
- B. Test all composite construction, cavities and/or surfaces for suitable dryness and neutrality. Measure moisture content of surfaces using an electronic moisture meter. Follow recommendations of paint manufacturer for allowable moisture. Unless otherwise specified or permitted by the manufacturer of the paint materials, paint shall not be applied to composite construction and/or surfaces having a moisture content greater than 12%. Cure and treat surfaces as recommended by paint manufacturer.
- C. No work shall be done under conditions which are unsuitable for production of good results.
- E. Correct all defects in surfaces which will affect the work.
- E. Do not apply any painting products when temperatures are lower or higher than that recommended by paint manufacturer.
- G. Do not apply exterior paint in damp, rainy weather. Weather must be "drying".

3.2 PREPARATION OF SURFACES

- A. General: All surfaces shall be clean, dry and adequately protected from dampness. Surfaces shall be smooth, even and true to plane. Surfaces shall be free of any material which will adversely affect adhesion or appearance of applied coating. All holes and defects shall be filled, puffed or patched as required. All cracks, open joints, etc. shall be filled, patched or caulked as required. Preparation of all surfaces shall be in strict accordance with manufacturer's recommendations for products being used. In general, preparation of surfaces shall be as specified below.
- B. Plaster and Stucco: Surfaces shall be free of dirt, dust, oil, grease, loose plaster and efflorescence. Rake cracks, scratches and abrasions deeply; fill with appropriate patching plaster, spackling compound or cement; smooth and flush surfaces and allow to thoroughly dry. Cure and treat surfaces as recommended by paint manufacturer. Wash and neutralize alkali surfaces with a solution recommended by the paint manufacturer.
- C. Gypsum Board Surfaces: Latex fill minor defects; spot prime defects after repair.
- D. Concrete and Masonry: Surfaces shall be free of dirt, dust, oil, grease, curing compounds, loose cement, salt or alkali powder or residue, etc. Fill all minor holes to produce uniform texture over surface. Remove oil and grease with a solution of trisodium phosphate, rinse and allow to dry. Remove stains caused by weathering or corroding metals with a solution of sodium metasilicate after thoroughly wetting surface with water and allow to dry. Lightly etch all concrete floor surfaces to receive paint and rinse with water; allow to dry. Check floor for alkali neutrality.
- E. Ferrous Surfaces: Remove dirt and grease with recommended solvents and thinners. Remove dust, mill scale and defective paint down to bare metal, using scraper, sandpaper or wire brush as necessary; grind if necessary to remove lumps and/or

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shoulders and to smooth edges adjacent to sound paint to prevent flaws from photographing through finish coats. Apply a treatment of phosphoric acid solution to ensure that all weld joints, bolts, nuts, etc. are clean. Touch up ail spots and damaged shop coats with rust inhibitive primer as specified and recommended by the paint manufacturer.

- F. Aluminum: Clean surfaces with recommended solvents or thinners. Etch surfaces with a surface conditioner and prime with a primer as specified and recommended by the paint manufacturer.
- G. Galvanized Iron: Clean surfaces thoroughly with recommended solvents or thinners. Prime surface with a primer as specified and recommended by the paint manufacturer.
- H. Dust: Do not apply finishes in spaces where dust is being generated which would speck finish.
- I. Removal of Accessories-. Remove and protect finish hardware, accessories, device plates, lighting fixtures, factory finished work and similar items- where built-in items cannot be removed, provide ample in-place protection. Upon completion of each space, carefully replace all removed items. Use only skilled mechanics for removal, replacement and protection.
- J. Doors: Remove all doors (wood and metal) to paint tops, bottoms and edges. Tops, bottoms and edges of doors shall be finished same as door faces after they have been fited and installed.
- K. Electrical Panels: Remove electrical panel box covers and doors before painting wall. Paint separately and reinstall after all paint is dry.
- L. Surface Mildew: Remove mildew by scrubbing with a solution of tri-sodium phosphate and/or bleach. Rinse clean with water and allow surface to dry.
- M. Surface Marks and Stains: Remove as previously specified. If unable to remove, shellac and/or seal areas to prevent bleed through to finish paint surfaces.

3.3 COLORS

Colors will be selected by Project Manager. The Project Manager will furnish Contractor a set of color chips and a schedule showing where various colors shall be used. Color samples as previously specified shall match color chips.

3.4 MIXING AND TINTING

Shall be done by manufacturer's distributor. Job mixing or job tinting may be done only when approved. Tinting colors shall be as recommended by manufacturer for specific type or product and finish.

3.5 APPLICATION OF PAINTING PRODUCTS

A. All painting products shall be applied in strict accordance with manufacturer's directions.

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- B. Applicators of paint materials for exterior exposed concrete block and/or concrete, stucco and cement plaster shall be a licensed applicator certified by the manufacturer of the materials. Manufacturer of the materials and applicator shall provide a written five year Performance Warranty of the applied materials.
- C. Thinning of painting products shall be in accordance with manufacturer's directions.
- D. Except as otherwise specified or as accepted by Engineer, all painting products shall be brush and/or roller applied.
- E. Each coat shall be brushed and/or rolled on well and worked out evenly to leave no brush marks, roller marks or "holidays". Each coat shall be flowed on smoothly and free from sags or runs.
- F. Rate of application coverage shall not exceed average rate of coverage recommended by paint manufacturer for type of surface involved. Minimum dry film thickness per coat shall not be less than thickness recommended by paint manufacturer.
- G. Each coat of paint shall be a perceptibly different shade or color. Each coat shall be inspected by Engineer and Project Manager before succeeding coats are applied. Only coats of paint inspected by Engineer and Project Manager will be considered in determining minimum number of coats applied.
- H. Painting subcontractor shall apply additional coats of paint of finish as required to cover surfaces completely and to provide uniform color and appearance. Number of coats for various surfaces specified are minimum requirements. Painting subcontractor will be responsible for a first class job and if some surfaces require an additional coat and/or coats to produce a first class finish, then he shall provide same at no additional cost.
- I. Where a surface has defects requiring refinishing, whole surface shall be refinished rather than spot finishing.
- J. Minimum drying shall comply with that recommended by paint manufacturer. Each coat shall be thoroughly dry before application of succeeding coats.
- K. Sand between coats with a fine sandpaper, metal and/or wood surfaces, as may be required for surfaces in question.
- L. Prime back surfaces of exterior wood materials prior to installation.
- L. All parts of moldings and ornaments shall be left clean and true to details and without undue amount of paint in corners and depressions.
- M. Make edges of paint adjoining other materials or colors sharp and clean and without overlapping.
- O. Units which are to be glazed shall be primed before glazing.
- N. All suction spots or "hot spots" in stucco, cement plaster and/or plaster which are noticeable after application of first coat of paint shall be touched up before applying final coats to produce an even result in finish coat.

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- O. Tops, bottoms and edges of all doors (metal and wood) shall be finished same as faces of doors after they have been fitted and installed.
- R. All undercoaters shall be tinted to approximate shade of final coat.
- S. Except as otherwise specified, all exposed piping, conduit, ducts, pipe and duct coverings, etc. shall be painted. Overhead horizontal runs adjacent to ceilings shall be painted same color as ceiling. Vertical or horizontal runs on or adjacent to wall surfaces shall be painted same color as walls.

3.6 PROTECTION

Protect work of other trades against damage, injury or soiling. Movable objects, equipment, fittings and accessories, when possible, shall be moved, protected and replaced upon completion of work in a particular area. Use drop cloths of adequate size to cover all finished work of other trades.

3.7 CLEANING UP

Painting subcontractor, upon completion of his work, shall remove all paint material where it has been spilled, splashed or spattered on surfaces, including fixtures, glass, furniture, fittings, hardware, etc. It shall be removed without marring surface finish of item being cleaned.

END OF SECTION

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Section 10615 CSI (2004) 125916
Free Standing Acoustical Dividers and Partitions

PART 1 – GENERAL

1.01 SUMMARY

A. Moveable Acoustical Partitions

B. Related Sections:

1. Division 9 Acoustic Panels

1.02 SYSTEM DESCRIPTION

A. Free Standing Acoustical Panel Dividers

B. Typical Height is 48" (4-feet)

C. Systems shall be easily movable

1.03 SUBMITTALS

A. General: Provide listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

B. Product Data: Submit product data for specified products.

C. Samples: Submit selection and verification samples of finishes, colors, and textures.

D. Quality Assurance Submittals:

Shop drawings shall indicate partition layout, including doors and hardware, elevation, finish, and any special conditions. Shop drawings shall be submitted and approved before fabrication and assembly of materials.

Performance Requirements: Provide moveable partitions which have been manufactured, fabricated and installed to maintain performance criteria stated by manufacturer without defects, damage, or failure.

Modular Construction: Moveable partition system shall be fully modular with flat panel surfaces and tight, straight line joints. Partition construction shall permit 2-way, 3-way, 4-way and corner intersections to be made at any joint location; and shall permit the removal of any panel without disturbing adjacent units. Units of like size shall be completely interchangeable. Installation shall be free of exposed screws, nuts, rivets, or bolts.

Panel Tiles: Moveable partition system shall allow for panel tiles to be removeable and panels of equal size to have tiles interchangeable.

Shop Drawings: Submit shop drawings showing layout, profiles, and product components including anchorage, accessories, finish colors, patterns and textures. Dividers and partition finishes shall be similar to those of the Division 9- 09800 Acoustic Panels.

1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.

a. ASTM E90-04 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions

b. ASTM E84-04 Standard Test Method for Surface Burning Characteristics of Building Materials

c. ANSI/BIFMA x5.6-2003, Section 6.2 Panel System Strength Test - Static Function Load

d. ANSI/BIFMA x5.6-2003, Section 6.3 Panel System Strength Test - Static Proof Load

2. Manufacturer's Instructions: Manufacturer's Installation Instructions

3. Manufacturer's Field Reports: Manufacturer's field reports specified herein.

4. Warranty: Warranty documents see Division 1 section 1100.

1.04 QUALITY ASSURANCE

A.

1.05 DELIVERY, STORAGE & HANDLING

A. General: Comply with Division 1 Product Requirements Sections.

ASTM E84-04 Standard Test Method for Surface Burning Characteristics of Building Materials Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria, and physical requirements.

Operation and Maintenance Data: Operation and maintenance data for installed products in accordance with Division 1 Closeout Submittals (Maintenance Data and Operation Data) Section. Include methods for maintaining installed products, and precautions against cleaning materials and methods detrimental to finishes and function.

Installer Qualifications: Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.

Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties. ASTM E90-04 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions.

Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.

Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

Storage and Protection: Store materials protected from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer.

Pre-Installation Meetings: Conduct pre-installation meetings to verify project requirements, site conditions, manufacturer's installation instructions, and manufacturer's warranty requirements. Comply with Division 1 Project Management and Coordination (Project Meetings) Section.

1.06 PROJECT CONDITIONS

A.

Comply with Division 1 Conditions.

A. **Project Warranty:** Refer to Conditions of the Contract for project warranty provisions.

B. **Warranty Period:** Limited lifetime warranty commencing on Date of Substantial Completion.

1. **Quantity:** Furnish quantity of units equal to at least 100% of amount installed.

PART 2 - PRODUCTS

2.01 Free Standing Dividers:

A. **Manufacturers:**

1. Golterman and Sabo Inc.; 3555 Scarlet Oak Blvd., St. Louis, MO 63122. Tel: (800) 737-0307
2. Auralex; 6853 Hillsdale Ct., Indianapolis, IN 46250. Tel: (317) 842-2600
3. Wenger Corp.; 555 Park Drive, Owatonna, MN 55060. Tel: (800) 493-6437

2.02 PRODUCT SUBSTITUTIONS

A. **Substitutions:** Any manufactured equivalent or better than the acoustical and fire protection ratings of the Section 9 panels. Substitutions shall be submitted to the Engineer and the Owner's Representative for approval.

2.03 MANUFACTURED UNITS

Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

Extra Materials: As required, deliver to Owner extra materials from same production run as products installed.

Package products with protective covering and identify with descriptive labels. Comply with Division 1 Closeout Submittals (Maintenance Materials) Section. Delivery, Storage

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and Protection: Comply with Owner's requirements for delivery, storage and protection of extra materials.

Panel Connection: Shall have clips to connect to other panels. The dividers shall have feet to stand independently of desks.

Panel Height: 48"

a. Construction: Steel with Acoustic Type Panels

b. Height: 48"

c. Finish: Acoustic Panels match closely with Div 9 09800 Acoustic Panels.

11.

Panel Types: Acoustic Panels

Panel Widths: See Division 9- 09800 Acoustic Panels-

12. Sound Control: Provide certification for 47 STC rating when tested in accordance with ASTM E90-04.

2.04 ACCESSORIES

A. Accessories: Adjustable feet and connection clips.

2.05 SOURCE QUALITY

A. Source Quality: Obtain moveable partition/divider products from a single manufacturer.

PART 3 - EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

A. Follow manufacturer's installation instructions and cleaning procedures.

3.02 EXAMINATION

A. Finish Options: Acoustic Panel Fabric Material

Fire Retardancy: Provide certification for Class A Fire Retardancy when tested in accordance with ASTM E84-04.

Structural Performance: Provide certification complying with ANSI/BIFMA x5.6-2003 Mechanical Strength Tests.

Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog, installation instructions, and product carton instructions for installation.

Site Verification of Conditions: Verify substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.

3.03 INSTALLATION

A. Partition Installation:

1. Carpet gripping-adjustable feet shall be used.
2. Erect partitions in a rigid manner, straight and plumb, with all horizontal lines level. Feet shall be adjustable to meet this standard.
3. Partitions shall be adjustable and movable.
4. Place in final positions (per the plans) and adjust height .

3.04 FIELD QUALITY REQUIREMENTS

1. The Owner's Representative and Engineer will make random walk through to field verify all items are being completed.

3.05 CLEANING

1. Touch-Up: Touch-up minor blemishes and replace items that are damaged.

3.06 PROTECTION

A. Protection: Protect installed product and finish surfaces from damage during construction.

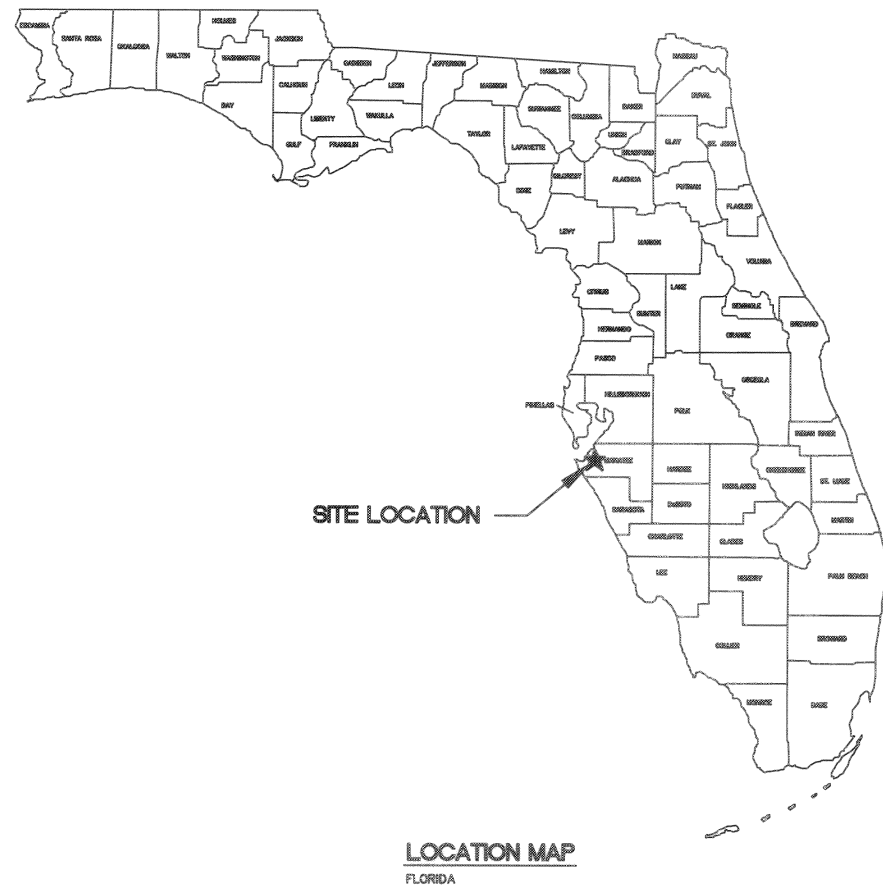
Manufacturer's Field Services: Upon Owner's request, manufacturer's field service consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.

Cleaning: Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance. Remove construction debris from project site and legally dispose or recycle debris.

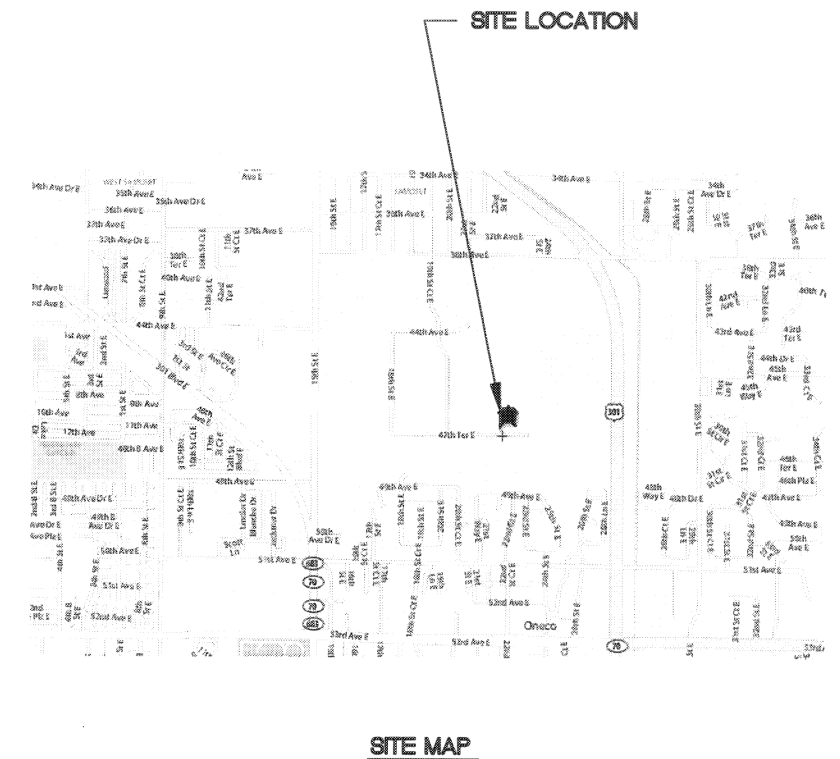
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MANATEE COUNTY PUBLIC SAFETY CENTER TRAFFIC MANAGEMENT VIDEO ROOM SOUND ABATEMENT 2101 47TH TERRACE WEST BRADENTON, FLORIDA 34203

IFAS# W1100177 WORK ASSIGNMENT #38

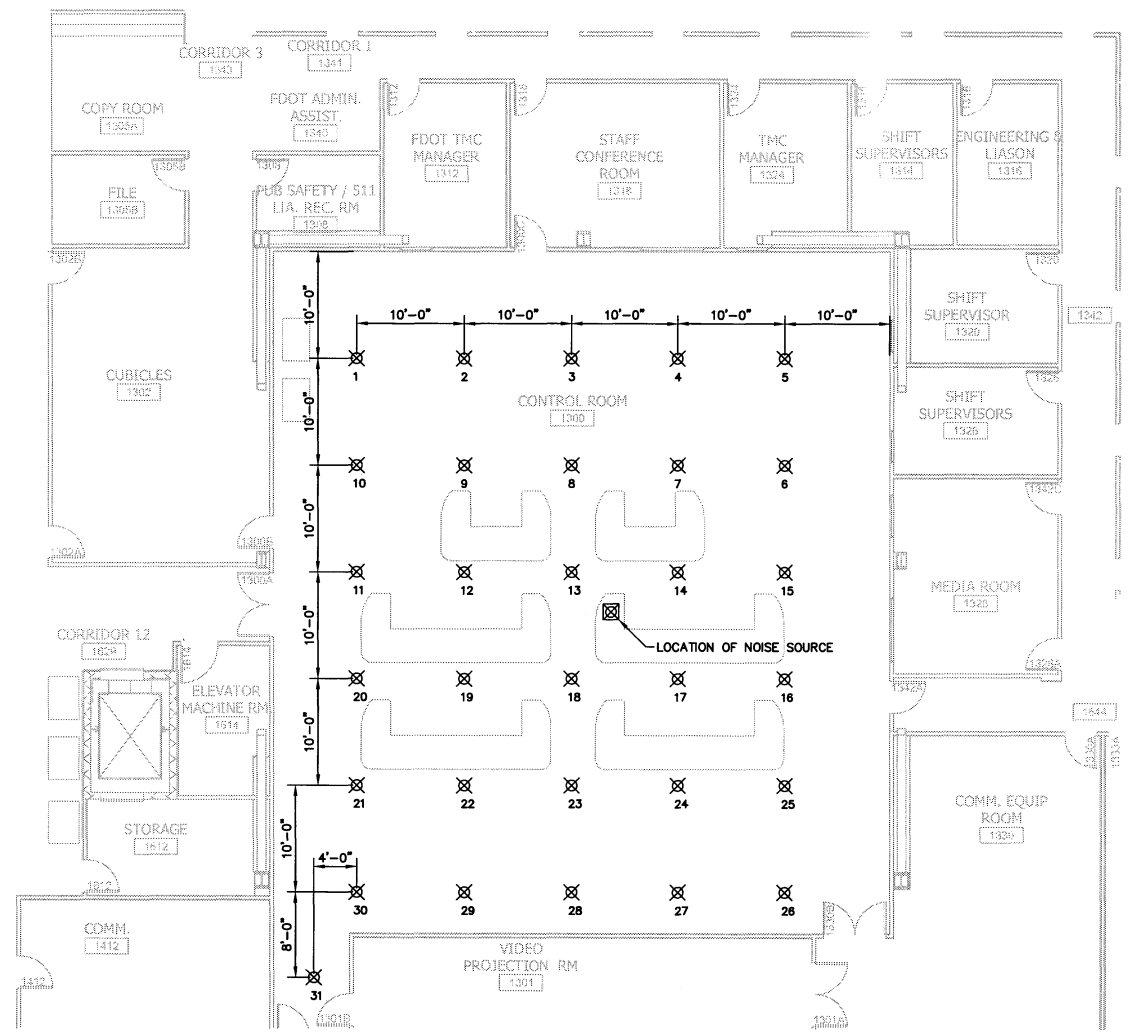


SHEET SCHEDULE	
SHEET	DESCRIPTION
COVER	PROJECT NAME, LOCATION & SITE MAP
SA1.0	DETAILS, GENERAL NOTES, AND SPECIFICATIONS
SA2.0	CONTROL ROOM FLOOR LAYOUT PLAN AND TESTING DATA
SA2.1	INTERIOR WALL LAYOUT PLAN
SA2.2	SOUND ABATEMENT REFLECTED CEILING PLAN
SA2.3	SOUND ABATEMENT FLOOR PARTITION PLAN



To the best of the engineer's knowledge, said plans and specifications comply with the applicable building codes and the applicable minimum fire safety standards as determined in accordance with Chapters 553 and 553. Florida Statutes.

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CONTROL ROOM SPACING
 1/8" = 1'-0"

INITIAL SOUND CHECK						
POINT	125Hz	500Hz	1KHz	2KHz	4KHz	16KHz
1	70.3	79.3	75.8	76.5	75.9	75.8
2	76.2	77.4	71.9	72.2	71.5	72.8
3	71.6	71.6	71.3	73.2	72.8	73.4
4	70.7	70.6	72.0	75.8	71.1	72.1
5	70.6	72.5	71.2	71.3	71.2	71.2
6	71.4	72.1	71.8	71.4	72.1	71.6
7	71.2	71.6	71.2	71.3	71.2	72.2
8	73.0	73.0	73.0	73.0	73.0	73.0
9	71.3	71.6	71.6	71.6	72.0	71.4
10	71.0	71.4	71.4	71.7	71.2	71.1
11	71.7	72.1	71.2	71.8	71.6	71.4
12	74.0	74.0	73.5	74.2	73.0	72.5
13	81.3	81.5	81.5	81.6	81.8	81.6
14	74.7	73.8	73.8	73.7	73.8	73.7
15	72.3	72.7	72.5	72.8	72.7	72.5
16	71.1	71.4	71.7	71.6	71.3	71.4
17	71.0	71.4	71.7	71.4	71.6	71.3
18	73.8	73.9	74.0	74.2	74.2	73.8
19	71.4	71.4	71.2	71.4	71.4	71.2
20	70.4	70.8	70.1	70.7	70.5	70.8
21	70.0	70.6	70.2	70.0	69.9	70.6
22	70.0	70.3	70.4	70.4	70.4	70.2
23	71.8	71.7	71.3	72.0	71.7	71.5
24	68.8	71.5	71.2	73.2	72.0	72.2
25	71.3	71.3	71.3	71.4	71.4	70.7
26	68.8	68.9	69.0	68.9	69.1	69.2
27	69.5	69.7	70.0	70.0	74.0	70.6
28	67.7	69.4	62.2	69.3	70.2	28.2
29	66.0	59.2	56.2	55.4	54.1	25.7
30	65.8	60.3	56.3	55.2	53.0	24.3
31	62.3	61.0	54.4	54.2	52.8	21.5

All values in dB

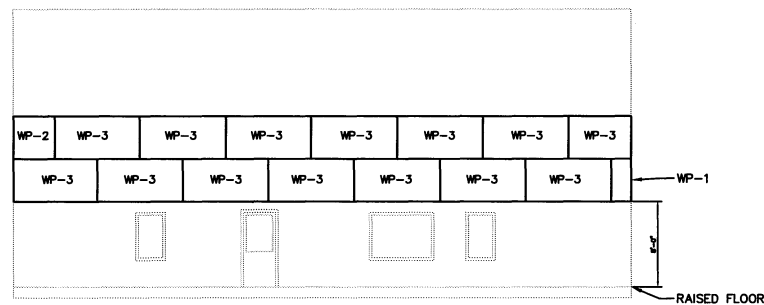
GENERAL NOTES:

- REFER TO PLANS AND SPECIFICATIONS FOR ADDITIONAL SCOPE OF WORK. PLEASE REVIEW OWNER OPTIONS AT TIME OF BID.
 - CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO START OF WORK. ANY QUESTIONS SHALL BE ANSWERED BY THE PROJECT MANAGER AND ENGINEER PRIOR TO START WORK.
- X LOCATION AND POINT SOUND CHECK COMPLETED WITH STANDARD NOISE LEVEL SOURCE AT 80dB.

SEA
 ATP ENGINEERING SOUTH, FL
 SARASOTA, FLORIDA
 ENGR. BUSINESS #6008
 941-960-2181
 DATE
 REV. / DESCRIPTION

MANATEE COUNTY PUBLIC SAFETY CENTER
 TRAFFIC MANAGEMENT VIDEO ROOM SOUND ABATEMENT
 2101 47TH TERRACE EAST
 BRADENTON, FLORIDA 34203
 FASHW1000177 WORK ASSIGNMENT #38

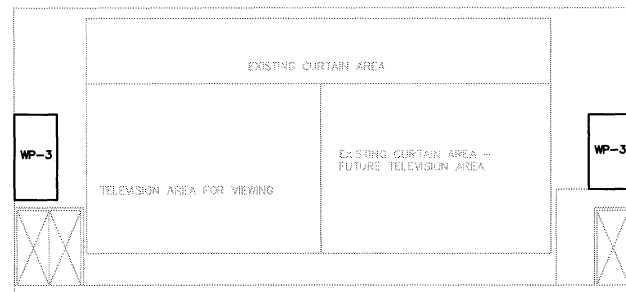
DRAWING TITLE:
CONTROL ROOM FLOOR LAYOUT AND TESTING DATA
 FILE: Manatee PSF Sound
 JOB NO.: 2011.08
 DATE: 04/28/2011
 PLOT SIZE: 1:1
 DRAWN BY: MJC
 CHECKED BY: JDC
 SHEET No.:
SA2.0



1 CONTROL ROOM NORTH INTERIOR ELEVATION

SA2.1 1/8" = 1'-0"

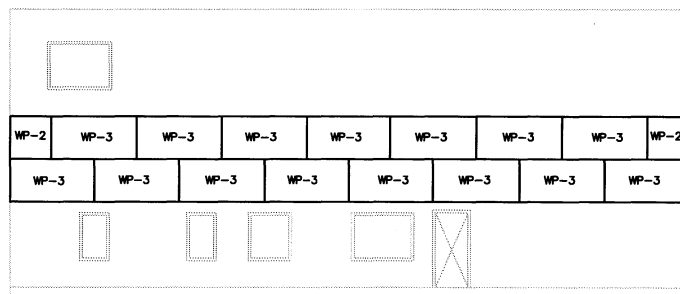
NOTE: WP-1, WP-2, WP-3 MAY REQUIRE SOME SIZE MODIFICATIONS TO MEET THE LENGTH AND WIDTH OF THE WALL SPACE. SQUARE CORNERS MAY BE REQUIRED. PANEL HEIGHT NEEDS TO BE FIELD VERIFIED.



3 CONTROL ROOM SOUTH INTERIOR ELEVATION

SA2.1 1/8" = 1'-0"

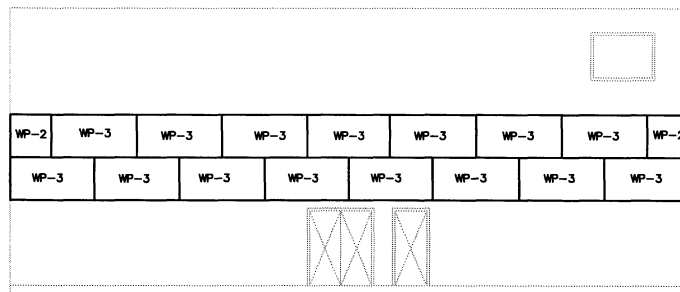
NOTE: WP-3 MAY REQUIRE SOME SIZE MODIFICATIONS TO MEET THE LENGTH AND WIDTH OF THE WALL SPACE. SQUARE CORNERS MAY BE REQUIRED. PANEL HEIGHT NEEDS TO BE FIELD VERIFIED.



2 CONTROL ROOM EAST INTERIOR ELEVATION

SA2.2 1/8" = 1'-0"

NOTE: WP-3 AND WP-2 MAY REQUIRE SOME SIZE MODIFICATIONS TO MEET THE LENGTH AND WIDTH OF THE WALL SPACE. A MODIFIED WP-1 MAY BE ADDED IF NECESSARY. SQUARE CORNERS MAY BE REQUIRED. PANEL HEIGHT NEEDS TO BE FIELD VERIFIED.



4 CONTROL ROOM WEST INTERIOR ELEVATION

SA2.2 1/8" = 1'-0"

NOTE: WP-3 AND WP-2 MAY REQUIRE SOME SIZE MODIFICATIONS TO MEET THE LENGTH AND WIDTH OF THE WALL SPACE. A MODIFIED WP-1 MAY BE ADDED IF NECESSARY. SQUARE CORNERS MAY BE REQUIRED. PANEL HEIGHT NEEDS TO BE FIELD VERIFIED.

GENERAL NOTES:

1. PRIOR TO BIDDING AND INSTALLATION: BE SURE TO READ ALL OF THE SPECIFICATIONS.
2. MAKE SURE THE WALL PANELS DO NOT INTERFERE WITH ANY OTHER ITEMS ON THE WALL. PLACE, MODIFY, AND FIT PANELS TO GO AROUND ANY ITEMS OR OBSTRUCTIONS ON THE WALL.

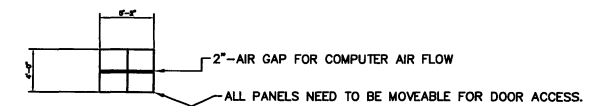
WALL PANEL AND BALLAST SIZES: SEE SPECIFICATIONS SHEET SA1.0.

PANELS:
 WP-1: 24"x48"
 WP-2: 48"x48"
 WP-3: 48"x96"

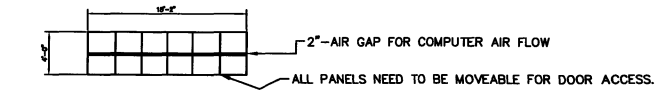
BALLAST:
 CB-1: 24"x48"

3. REFER TO PLANS AND SPECIFICATIONS FOR ADDITIONAL SCOPE OF WORK.

4. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO START OF WORK. ANY QUESTIONS SHALL BE ANSWERED BY THE PROJECT MANAGER AND ENGINEER PRIOR TO START WORK.



SMALL DESK DETAIL: FRONT AREA— SOUND ATTENUATING MATERIAL SHOULD BE FIXED AROUND THE FRONT AREA OF THE DESK IN A PROFESSIONAL AND CLEAN MANNER. EXACT LENGTH MAY VARY. VERIFY LENGTH OF PANELS IN FIELD PRIOR TO BIDDING. SQUARE CORNERS ARE REQUIRED.



LARGE DESK DETAIL: FRONT AREA— SOUND ATTENUATING MATERIAL SHOULD BE FIXED AROUND THE FRONT AREA OF THE DESK IN A PROFESSIONAL AND CLEAN MANNER. EXACT LENGTH MAY VARY. VERIFY LENGTH OF PANELS IN FIELD PRIOR TO BIDDING. SQUARE CORNERS ARE REQUIRED.

5 CONTROL ROOM DESK DETAIL -- OPTION #1

SA2.2 NOT TO SCALE

NOTE: WP-1 MAY REQUIRE SOME SIZE MODIFICATIONS TO MEET THE LENGTH AND WIDTH OF THE SPACE. GIVE A BID/PRICE FOR OPTION#1: PANELS MOUNTED ON THE DESK AND OPTION#2: FREE STANDING DIVIDERS (48"). PLEASE REVIEW OWNER OPTIONS AT TIME OF BID.

ATP ENGINEERING SOUTH, FL
 SARASOTA, FLORIDA
 ENGR. BUSINESS #6808
 941-960-2161

DATE

REV. / DESCRIPTION

MANATEE COUNTY PUBLIC SAFETY CENTER
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 2101 47TH TERRACE EAST
 BRADENTON, FLORIDA 34203

FASHW1000177 WORK ASSIGNMENT #38

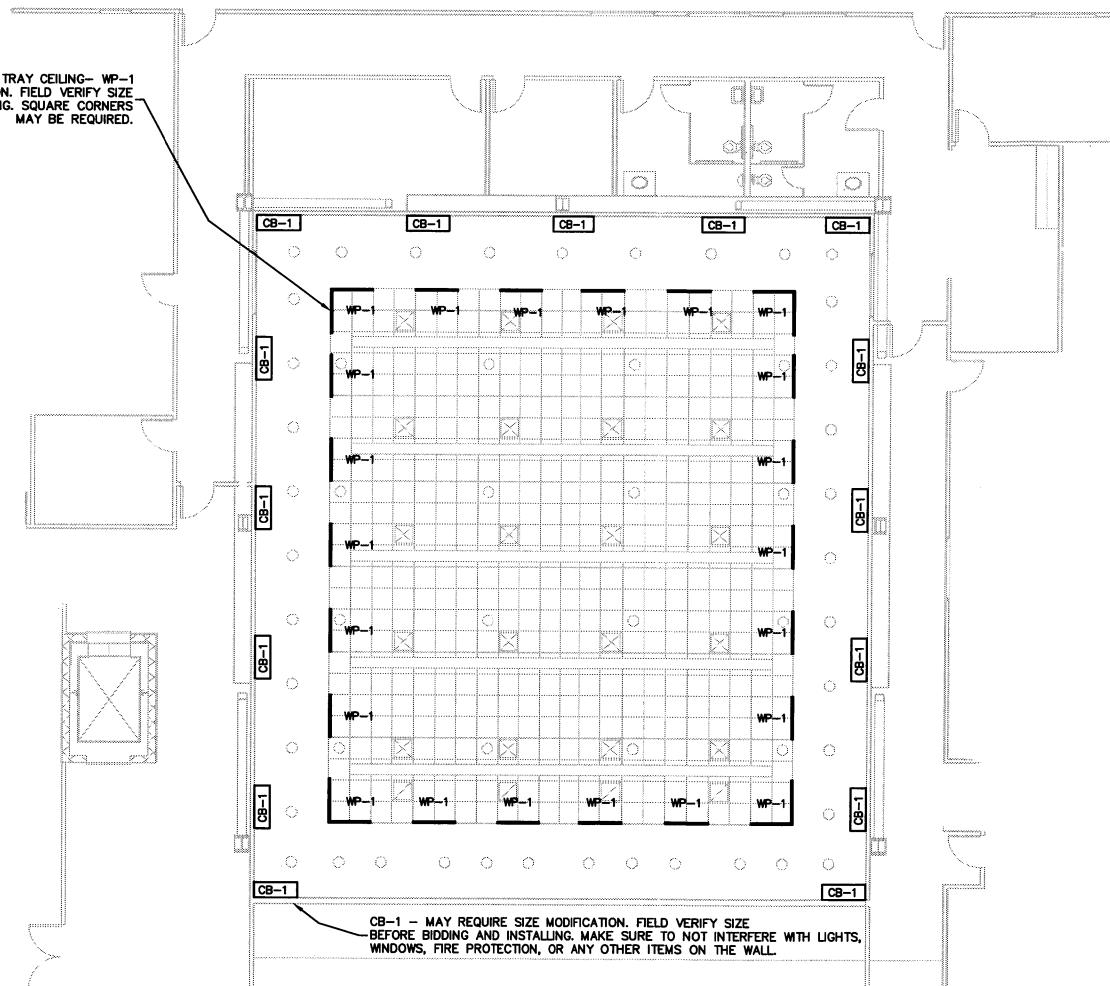
DRAWING TITLE:
 INTERIOR WALL
 ELEVATION
 WALL PANEL LAYOUT

FILE: Manatee PSF Sound
 JOB NO.: 2011.08
 DATE: 04/28/2011
 PLOT SIZE: 1:1
 DRAWN BY: MJC
 CHECKED BY: JDC
 SHEET No.: SA2.1



1
SA2.2 CONTROL ROOM FIRST FLOOR REFLECTED CEILING
1/8" = 1'-0"

LOCATION IS ON WALL OF THE TRAY CEILING- WP-1
MAY REQUIRE SIZE MODIFICATION. FIELD VERIFY SIZE
BEFORE BIDDING AND INSTALLING. SQUARE CORNERS
MAY BE REQUIRED.



2
SA2.2 CONTROL ROOM SECOND FLOOR REFLECTED CEILING
1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO PLANS AND SPECIFICATIONS FOR ADDITIONAL SCOPE OF WORK. PLEASE REVIEW OWNER OPTIONS AT TIME OF BID.
2. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO START OF WORK. ANY QUESTIONS SHALL BE ANSWERED BY THE PROJECT MANAGER AND ENGINEER PRIOR TO START WORK.

REV	DATE	DESCRIPTION

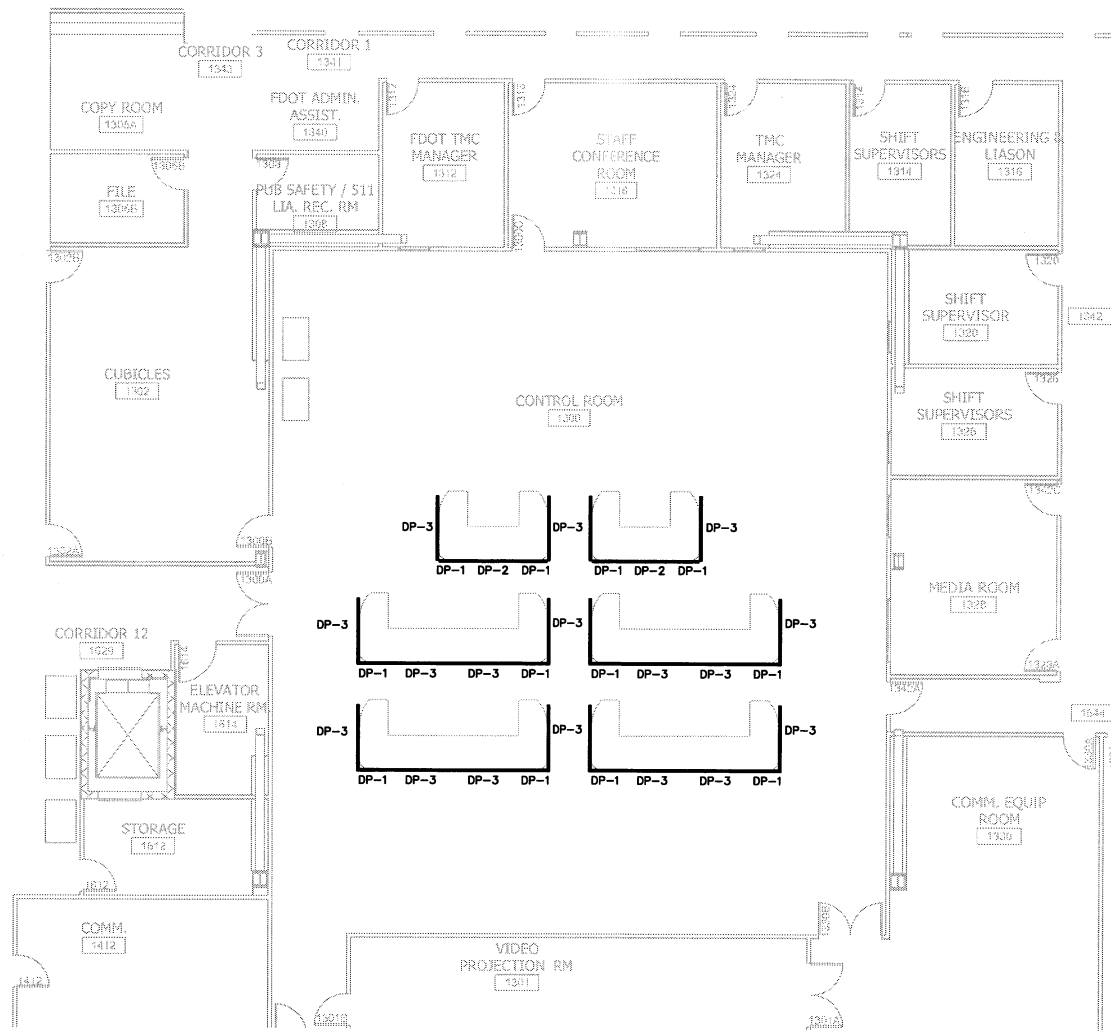
MANATEE COUNTY PUBLIC SAFETY CENTER
TRAFFIC MANAGEMENT VIDEO ROOM BOUND ABATEMENT
2101 47TH TERRACE EAST
BRADENTON, FLORIDA 34203
FASW11000177 WORK ASSIGNMENT #38

DRAWING TITLE:
**SOUND ABATEMENT
REFLECTED CEILING
PLAN**

FILE: Manatee PSF Sound
JOB NO.: 2011.06
DATE: 04/28/2011
PLOT SIZE: 1:1
DRAWN BY: MJC
CHECKED BY: JDC
SHEET No.:
SA2.2

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SARASOTA, FLORIDA
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941-990-2161

FL65468



1 CONTROL ROOM FLOOR LAYOUT -- OPTION #2
 SA2.3 1/8" = 1'-0"

PARTITION NOTES:

- REFER TO SPECIFICATIONS SA1.0 FOR FIRE RATING AND ACOUSTICAL SPECIFICATIONS FOR PANELS AND PARTITIONS.
- PARTITIONS SHALL COME IN 6 COLORS WITH 2 OPTIONS FOR FRAME FINISHES. MATERIALS SHALL BE SENT TO THE OWNER'S REPRESENTATIVE FOR APPROVAL PER THE SPECIFICATIONS.
- ACOUSTIC DIVIDER PANEL/PARTITION SIZE INFORMATION:
 DP-1: 36"W X 48"H
 DP-2: 48"W X 48"H
 DP-3: 72"W X 48"H
- SUGGESTED MANUFACTURER/SUPPLIERS THAT MAY HAVE COMPLIANT PRODUCTS FOR ACOUSTIC PARTITIONS:
 A. BREWSTER ACOUSTIC PARTITIONS - CAN BE SUPPLIED THROUGH MULTIPLE SITES/BUSINESSES
 B. OFFICE DEPOT
 C. STAPLES
 THE ABOVE MANUFACTURERS/SUPPLIERS ARE SUGGESTIONS ONLY--OTHER MANUFACTURERS/SUPPLIERS MAY HAVE COMPARABLE PRODUCTS THAT MEET OR EXCEED THE SPECIFICATIONS. THE MANUFACTURERS ARE SUBJECT TO COMPLIANCE WITH THE REQUIREMENTS.
- PARTITIONS SHALL BE SUPPLIED WITH LEGS AND BE PRE-DRILLED FOR CASTERS.

GENERAL NOTES:

- REFER TO PLANS AND SPECIFICATIONS FOR ADDITIONAL SCOPE OF WORK. PLEASE REVIEW OWNER OPTIONS AT TIME OF BID.
- CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO START OF WORK. ANY QUESTIONS SHALL BE ANSWERED BY THE PROJECT MANAGER AND ENGINEER PRIOR TO START WORK.
- ACOUSTIC DIVIDER PANEL INFORMATION:
 DP-1: 36"W X 48"H
 DP-2: 48"W X 48"H
 DP-3: 72"W X 48"H

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 SARASOTA, FLORIDA
 ENGR. BUSINESS #8808
 941-360-2181

REV#	DESCRIPTION	DATE

MANATEE COUNTY PUBLIC SAFETY CENTER
 TRAFFIC MANAGEMENT VIDEO ROOM SOUND ABATEMENT
 2101 47TH TERRACE EAST
 BRADENTON, FLORIDA 34203
 FABRW1000177 WORK ASSIGNMENT #38

DRAWING TITLE
**SOUND ABATEMENT
 FLOOR PARTITION
 PLAN**

FILE: Manatee PSF Sound
 JOB NO.: 2011.06
 DATE: 04/28/2011
 PLOT SIZE: 1:1
 DRAWN BY: MJC
 CHECKED BY: JDC
 SHEET No.:
SA2.3