

SPECIFICATIONS

For

PATIENT ROOM AND PHARMACY ADDITION

Mahelona Medical Center
480 Kawaihau Road
Kapaa, Kauai, Hawaii 96746
Tax Map Key: 4-6-014: 030

Architect:	Arthur Y. Mori & Associates, Inc.
Civil Engineer:	Kwock Associates, Inc.
Structural Engineering:	i3ngineering Inc.
Mechanical Engineer:	Coffman Engineers, Inc.
Electrical Engineer:	Bennett Engineer, Inc.
Interiors:	Martha Alabanza, LLC

January 31, 2024

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SECTION 1B: SPECIAL PROVISIONS

1. GENERAL REQUIREMENTS

General Conditions of the Contract for Construction is hereby made a part of this section.

2. SCOPE

The work included in this contract consists of the furnishing of all labor, materials, services and incidentals except those items specifically shown, noted or specified as Not-in-Contract (NIC) or Owner-furnished Contractor-installed (OFCI).

3. REJECTION OF BIDS

The Owner reserves the right to waive any informality or to accept and/or reject all bids received. The contract will not necessarily be awarded on the low bid. The Owner reserves the right to evaluate each proposal as to meeting his requirements and to award the contract accordingly.

4. SEQUENCE OF WORK

It is imperative that a certain order of operations be maintained through the course of the work and that the project be scheduled and closely coordinated for maximum overall progress and minimum disruption to services of the hospital. This sequence of work is not all-inclusive, but rather a general outline, and is not intended to restrict the procedure of any work which can be done without interfering with the basic plan outlined herein. There shall be complete cooperation in scheduling between this Contractor, the Owner and other contractors or subcontractors who may be engaged on the overall project with necessary adjustments as work proceeds.

5. RESPONSIBILITY OF BIDDER TO STUDY PROJECT SITE

Before submitting a proposal, the bidder shall:

- a. Carefully examine the drawings and specifications.
- b. Visit the site of the work and fully inform himself of the existing conditions and limitations.
- c. Rely entirely upon his own findings, information and judgement in preparing his proposal, and include in his price a sum sufficient to cover all items required by this contract.

6. PARKING AND LOADING

Contractor shall arrange for parking and loading locations with Mahelona Medical Center.

7. MANNER OF CONDUCTING THE WORK

The work must be accomplished in such a manner as to cause the least interference with operation of other tenants. If for any reason, utilities must be interrupted for a short period of time, prior arrangement (24 hours) must be made with Mahelona Medical Center. Contact: Mr. John Pimental, Director of Facilities. E-mail: jopimental@hhsc.org Ph: (808) 645-0530.

8. **CONTRACTOR'S WORK AREA**

Contractor shall confine all work, deliveries, material storage, etc., to work area unless previously arranged otherwise with Mahelona Medical Center Facilities.

9. **MEASUREMENTS**

All dimensions shown of existing work and all dimensions required for work that is to connect with work now in place shall be verified by the Contractor by actual measurements of the existing work. Any discrepancies between the drawings and specifications and the existing conditions shall be referred to the Architect.

10. **SAFETY AND DUST BARRICADES**

- a. Exterior: Contractor shall set up temporary safety and dust barriers as necessary to contain dust and debris to work area and provide safe access from the hospital's fire exits, which shall be maintained at all times.
- b. Interior: Contractor shall set up temporary *drywall* "dust-proof" safety and dust barriers as necessary to contain dust and debris to work area.
 1. *Negative air pressure within the limits of construction shall be maintained at all times. Documentation of negative pressure condition shall be provided.*
 2. Temporary drywall "dust-proof" safety and dust barriers to receive one coat primer and one coat semi-gloss paint. Color to be antique white. Vertical joints between sheets of drywall shall be sealed with masking tape prior to painting. Taping, mudding and sanding of vertical joints is not required.
 3. Provide fire extinguisher within safety and dust barricade area.
 4. Use of portable or modular safety and dust barriers is acceptable so long as negative pressure can be maintained.

11. **PROTECTION OF EXISTING FINISHES**

Existing walls, ceilings, flooring and finishes shall be protected from damage during renovation. Contractor shall be responsible for the repair, replacement or clean-up of all existing surfaces damaged by him or his subcontractors.

12. **UNNECESSARY NOISE**

The Contractor is cautioned about unnecessary noise because of the location of the work. Should the owner so require, do work requiring the use of compressors, air hammers or other noisy tools at times approved by Mahelona Medical Center Facilities. Drill new openings through floors, walls and ceilings of the existing building and other areas not vacated during construction with high speed rotary drilling equipment, not equipment operated by hammer blows. Notification/scheduling of Mahelona Medical Center Facilities is especially critical where plans call for cutting of concrete walls as noise and vibration will travel to other floors.

13. **SUBSTITUTIONS**

Architect's approval of substitution shall not relieve Contractor of responsibility for interfacing to other parts of the work, nor from guarantees and maintenance provisions as originally specified, nor at his own expense to make any necessary changes due to the substitution. It is not the intent of these specifications to exclude or omit the products of any

responsible manufacturer, if such products are equal in every respect including serviceability to those mentioned herein. If the contractor desires to use any other brand or manufacturer of equal quality to that specified, he shall make application to the Architect in writing. It is the contractor's responsibility to support any request for approval of substitution. The Architect will then determine whether or not the named brand or article is equal in quality and utility to that specified, and his decision shall be final.

14. ON-SITE SUPERVISION

Contractor to have project engineer or superintendent on site at *all* times during the duration of construction. He/she shall be the sole contact between Owner and the Contractor's sub-contractors/tradesmen. He/she shall attend project status meetings and present updated project schedules. He/she will also be responsible for filling in Mahelona Medical Center supplied "Interim Life Safety" forms every week during the duration of construction.

15. BUILDING PERMIT FEE

Not applicable.

16. CONTRACTOR WORK RULES

- a. All persons working in the construction site must wear an identification badge which is provided by the contractor.
- b. Workers are permitted to purchase lunch from the hospital cafeteria but cannot eat in the Cafeteria.
- c. Patient confidentiality and privacy must be respected at all times.
- d. Observe courtesy at all times when transporting tools and materials.
- e. MSDS sheets must be available for all products used.
- f. Generally, work is allowed from 0700 – 1600. All other work must be cleared through Mr. John Pimental or project liaison.
- g. Wet walk-off mats are expected at all entrances and exits to your construction site. You must wipe your feet when leaving the construction site. Any dust outside of the construction site must be cleaned immediately.
- h. Use only the entrances and exits designated for your construction project.
- i. Any noisy work must be coordinated through Mr. John Pimental or project liaison. Any warnings specified on advanced notice must be respected.
- j. No smoking on campus, except in the designated area.
- k. Any shutdowns must be coordinated with Mr. John Pimental or project liaison.
- l. Any penetrations in the firewall must be sealed with approved fire stop material.
- m. Hot work permits need to be acquired from Mahelona Medical Center Facilities.
- n. A clean and OSHA safe job site is a must.
- o. You will work with the Mahelona Medical Center Security on construction site security. A key to the construction site entry way must be given to Security immediately.

- p. Demo disposal routes and times must be worked out with Mahelona Medical Center Facilities and Security.
- q. Mahelona Medical Center Security is obligated to do multiple daily safety inspections. Anything they find wrong must be dealt with immediately.
- r. Please remember no tools and ladders should be left unattended at any time.
- s. No profanity and radios allowed on site.
- t. You must have proper signage hung in visible locations.
- u. Properly inspected and tagged fire extinguisher must be hung at the entry way(s) to the construction site. Please hang fire extinguisher on the knob side of the door and not the hinged side. Extinguisher will be provided by the contractor.
- v. Use only fire retardant material for your barricade. All/any barricades erected must prevent dust penetration. All barricades should go from ceiling to floor and side to side.
- w. Entry door to construction area must have positive latching.
- x. HEPA filter units must be used and filters changed regularly. These are to be provided by Contractor as needed.
- y. Negative air pressure must be accomplished at barricade doors.
- z. FOCUS ON YOUR JOB.

SECTION 1C: SUMMARY OF WORK

1. SUMMARY OF PROJECT

- a. The work to be done shall include performing all operations and furnishing all equipment, fixtures, appliances, tools, materials and labor necessary to execute, complete and deliver all of the work and related items required for the project as called for on the drawings and as hereinafter specified.
- b. Contractor shall visit the job site and make certain that he understands the extent of the work before he submits a formal bid.

2. CODES AND ORDINANCES

The Contractor shall comply with all Federal, State and Local laws, ordinances, rules and regulations pertaining to the project and shall obtain and pay for all permits, licenses and certificates and publish or post all notices required.

3. SPECIFICATION LANGUAGE

These Specifications are written in imperative and abbreviated form. This imperative language of the technical sections is directed at the Contractor, unless specifically noted otherwise. Incomplete sentences shall be completed by inserting "shall," "the Contractor shall," and "shall be," and similar mandatory phrases by inference in the same manner as they are applied to notes on the drawings. Except as worded to the contrary, perform all indicated requirements whether stated imperatively or otherwise.

4. DEFINITIONS

The following words and terms used in these Specifications are defined as follows:

- a. Approved: As accepted by the Architect.
- b. Approved equal: As accepted by the Architect as being of equivalent quality, utility, and appearance. The decision of the Architect shall be final.
- c. As applicable: As appropriate for the condition, situation, or circumstance.
- d. As required: As required by regulatory requirements, by referenced standards, by existing conditions, by accepted construction practice and by the Contract Documents.
- e. Contractor: Means General Contractor or his authorized representatives.
- f. Directed: As instructed by the Architect in writing.
- g. Indicated: As shown and/or noted on the Drawings.
- h. Owner: Mr. John Pimental, Director of Facilities – Mahelona Medical Center, and/or his authorized representative(s).
- i. Provide: Furnish and install.

- j. Site of the Work: The area to be occupied by the Project and all areas occupied or used by the Contractor or his subcontractors during performance of the Work, including storage areas, temporary buildings and staging areas. The use of the work "job site" or "site" shall be interpreted to be synonymous with "site of the work."

5. **SAFETY**

The Contractor shall be responsible for complete compliance with Federal, State, and County safety laws and ordinances, and with OSHA Requirements with all latest amendments and supplements as applicable to this project.

6. **GENERAL CONTRACTOR/SUBCONTRACTORS**

Shall be licensed, certified and qualified by appropriate State and County agencies to perform their specific trade or work.

7. **GENERAL CONTRACTOR RESPONSIBILITIES**

- a. Responsibilities shall include general supervision, management and control of the work of this project, and in addition to other items more specifically noted throughout the Specifications.
- b. Existing Conditions: Before commencing any work of this project, the General Contractor shall verify if existing site and building conditions are the same as presented on the drawings, and immediately report to the Architect any apparent discrepancies or inconsistencies.
- c. Measurements: Before ordering any material, or doing any work, each Contractor shall verify all measurements at the building and shall be responsible for the correctness of same. No extra charge or compensation will be allowed because of differences of actual dimensions and the measurements indicated on the drawings.
- d. Protection

The Contractor shall be responsible for the protection and safeguarding of all new work until after final inspection and acceptance by the Architect.

8. **QUALITY**

Materials, items, fixtures, hereinafter specified in the various Divisions and Sections of the Specifications shall be new, best, commercial grade, class, kind and type available.

9. **HANDLING**

General Contractor shall supervise job site delivery and handling, and assign storage space for materials, items, equipment and fixtures of all trades. Installer is responsible for delivery, unloading, unpacking, handling, storage, distribution, installation and protection of his materials at the job site until acceptance by the Architect.

10. **INSTALLATION**

Materials, items, fixtures hereinafter specified in the various Divisions and Sections of the Specifications shall be installed in accord with manufacturer's current specifications, recommendations, instructions and directions by workmen specially trained and skilled in the performance of the work, to meet guarantee and regulatory agency requirements specified.

11. **PREPARATION AND PROTECTION**

- a. Before starting work to previously erected construction, Contractor shall make a thorough and complete investigation of such recipient surfaces and determine their suitability to receive required additional construction and finishes as indicated in plans. Contractor, at his expense, shall make whatever repairs and conditioning required to properly prepare such surfaces. Contractor to coordinate the work to provide suitable surfaces to receive following work.
- b. Commencement of work by any trade will be construed as acceptance of existing conditions and surfaces being satisfactory for application of subsequent work, and full responsibility for finished results and assumption or warranty obligations under the Contract.

12. **CLEAN-UP**

Rubbish and debris resulting from work of the various divisions and sections of the specifications shall be collected and disposed of by the Contractor. Contractor(s) or trade(s) specifically involved shall remove materials, debris and rubbish from the site daily and dispose of at legal disposal areas away from the premises.

SECTION 1D: COORDINATION

1. COORDINATION REQUIREMENTS

- a. Provide project interface and coordination as required to properly and accurately bring together the several parts, components, systems, and assemblies and as required to complete the work and the project, pursuant to the General Provisions. General Contractor and Subcontractors shall cooperate with others engaged on the premises as may be necessary to facilitate progress and to provide coordination and integration of the entire work.
- b. Provide interface and coordination of all trades, crafts, and subcontracts as required to provide correct and accurate connection of abutting, adjoining, overlapping, and related work, and provide all anchors, fasteners, accessories, appurtenances, and incidental items as required to complete the work properly, fully, and correctly in accordance with the Contract Documents.
- c. Provide additional structural components, bracing, blocking, miscellaneous metal, backing, anchors, fasteners, and installation accessories required to properly anchor, fasten, or attach materials, equipment, hardware, systems and assemblies to the structure.
- d. Provide sealing complete and as required to insulate acoustically. Include sealing, and related work as required to prevent air infiltration and light leakage.
- e. Equipment, appliances, fixtures, hardware, and systems requiring plumbing and mechanical services, rough-in, and connections, or other utilities and services, shall be provided with such services, rough-in, and final connections.
- f. Equipment, appliances, fixtures, hardware, and systems requiring electrical services shall be provided with such electrical services, including outlets, switches, overload protection, interlocks, panelboard space, disconnects, circuit breakers, and connections.
- g. Materials, equipment, component parts, accessories, incidental items, connections, and services required to complete the work which are not provided by subcontractors shall be provided by the Contractor.
- h. All Owner furnished, Contractor Installed items not set in place by others, will be delivered to the ground floor level of project. Contractor shall be responsible for transporting these items to their final installed locations.

2. WORK SEQUENCE

The Contractor shall coordinate and provide proper notices and consult with the Facility Director regarding any temporary disconnections of electrical and other utility lines which may impact Mahelona Medical Center and departments in adjacent spaces.

3. PROJECT MEETINGS

The General Contractor will schedule and administer all project meetings throughout the progress of the work including pre-construction meetings. Those in attendance shall include: Job superintendent, major subcontractors and suppliers, Owner and Architect as appropriate to agenda topics for each meeting.

4. **FIELD MEASUREMENTS AND TEMPLATES**

- a. Contractor shall obtain all field measurements required for the accurate fabrication and installation of the work included in this Contract. Exact measurements are the Contractor's responsibility.
- b. Contractor shall also furnish or obtain templates, patterns, and setting instructions as required for the installation of all work. All dimensions shall be verified in the field.

5. **CONTRACTOR'S RESPONSIBILITIES**

- a. The General Contractor shall be in charge of this Contract and the site, as well as the directing and scheduling of all work.
- b. Final responsibility for performance, interface, and completion of the work and the project shall be the Contractor's.
- c. After hour call back and/or emergency: The Contractor shall provide the Owner and Architect with a 24-hour emergency phone number where he can be contacted in the event of an emergency. He shall respond and take corrective action (**within 4 hours**) to calls made by the Owner or Architect regarding safety and/or hazardous situations directly related to his work. If the Contractor fails to respond or take proper corrective action, he shall be responsible for all costs incurred.

6. **JOB SITE ADMINISTRATION**

Shall be the responsibility of the General Contractor.

SECTION 1E: SUBMITTALS

1. PROCEDURES

- a. All submittals are to be sent via e-mail to architect listed on drawing title sheet. Product sample submittals are to be delivered to Arthur Mori & Associates, Inc., 1314 South King Street, Suite 955, Honolulu, Hawaii 96814.
- b. Transmit all items using a form which identifies Project, Contractor, Subcontractor, and Major Supplier. Identify pertinent drawing sheet, detail number, and specification section number, as appropriate. Identify deviations from Contract Documents.

2. SHOP DRAWINGS AND SAMPLE SUBMITTALS

- a. All submittals shall be made in accordance with the following unless otherwise specified. Drawings shall be presented in a clear and thorough manner. Details shall be identified by reference to sheet, schedule, and detail shown on Contract Drawings.
- b. Mark each copy to identify applicable products, models and other data. Supplement manufacturers' standard data to provide information unique to the work. Include manufacturers' installation instructions when required by the specification.
 1. The Contractor shall review, stamp with his approval and submit with reasonable promptness and in orderly sequence so as to cause no delay in work of any other Subcontractor, all shop drawings, product data, and samples required by the Contract Documents.
 2. Properly identify shop drawings and samples as specified. At the time of submission, the Contractor shall inform the Architect in writing of any deviation in the shop drawings or samples from requirements of the Contract Documents.
 3. By approving and submitting the shop drawings and samples, the Contractor thereby represents that he has determined and verified all field measurements, field criteria, materials, catalog numbers and similar data, or will do so, and that he has checked and coordinated each shop drawing and sample with the requirements of the Contract Documents.
 4. The Contractor shall make any corrections required by the Architect. The Contractor shall direct specific attention in writing or on resubmitted shop drawings to revisions other than the corrections requested by the Architect on previous submissions.
 5. The Architect's (and/or his Consultant's) review of shop drawings or samples shall not relieve the Contractor or responsibilities for any deviation from the requirements of the Contract Documents unless the Contractor has informed the Architect (and/or his Consultants) in writing of such deviation, at time of submission, and the Architect (and/or his Consultants) has given written approval to the specific deviation; nor shall the Architect's (and/or his Consultant's) review relieve the Contractor from responsibility for errors or omissions in the shop drawings or samples.
 6. No portion of the work requiring a shop drawing or sample submission shall be commenced until the submission has been reviewed by the Architect. All such portions of the work shall be in accordance with reviewed shop drawings and samples.

- c. Samples: Submit full range of manufacturers' standard textures, colors, and patterns for the Architect's selection. Submit samples as specified in the respective Specifications sections and as noted above. Samples shall illustrate functional characteristics of the Product, with integral parts and attachment devices. Include identification on each sample, giving full information.

4. **MANUFACTURERS' CERTIFICATES**

Submit certificates, warranties, operating and maintenance instructions in accordance with requirements of each specifications sections.

SECTION 1F: POLLUTION CONTROL

1. GENERAL

The Contractor shall comply with the following requirements for pollution control in performing all construction activities.

2. RUBBISH DISPOSAL

- a. All unusable debris and waste materials shall be hauled away to an appropriate off-site dump area. During loading operations, Contractor to dispose of debris and waste materials in such a manner as to allay dust.
- b. No dry sweeping shall be permitted in cleaning rubbish and fines which can become airborne from floors or other paved areas. Vacuuming, wet moping or wet or damp sweeping is permissible.
- c. Clean-up shall include the collection of all waste paper wrapping materials, cans, bottles, construction waste materials and other objectionable materials, and removal as required. Frequency of clean-up shall coincide with rubbish producing events.
- d. No dumping of any construction wastewater in any sinks or drains within the building is permitted. These must be washed outdoors.

3. DUST

- a. When transporting debris generated by demolition activity, dust shall be kept within acceptable levels at all times, including non-working hours, weekends and holidays in conformance with Chapter 43 - Air Pollution Control, as amended, of the State Department of Health, Public Health Regulations.
- b. The method of dust control and all costs incurred thereof shall be the responsibility of the Contractor.
- c. The Contractor shall be responsible for all damage claims filed as a result of insufficient dust control methods.
- d. Dust and tracking of dust in the building interior is to be minimized. A "wet" catch rug and adhesive dust mat must be placed at the project door entrance(s) to trap dust particles.

SECTION 1G: CONSTRUCTION FACILITIES

1. GENERAL REQUIREMENTS

Consult with the Architect, review site condition and factors which affect construction procedures and construction aids in execution of the Work.

2. SANITARY FACILITIES

Contractor to provide portable sanitoid for use by workmen during the entire construction period.

Existing sanitary facilities within the hospital are not be used.

3. TEMPORARY PROTECTION

- a. Safety and Dust Barricades: The Contractor shall erect and maintain temporary safety and dust drywall barricades encompassing the project area to protect the staff, patient and the public. The barricade shall remain during the duration of the Project. See Section 1B - Special Provisions, Paragraph 10 for details of barrier to be installed on the exterior and interior of the hospital. Exterior safety and dust barricades shall be constructed of materials deemed by the Contractor to be appropriate for the work scope.
- b. Any damage to the surrounding areas/spaces, its contents, etc., from failure to provide the protection as mentioned in the above paragraphs shall be made good by the Contractor at no cost to the Owner.
- c. Signs: The Contractor shall provide, post and maintain any and all required warning signs. All warning signs shall meet OSHA requirements regarding color, size and lettering. Signs shall be clearly legible at all times. Signs with freehand lettering are **not permitted.**

SECTION 1H: QUALITY CONTROL

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. APPLICABLE CODES AND STANDARDS

- a. All work shall meet or exceed the requirements of the International Building Code (IBC), Uniform Plumbing Code (UPC), National Electrical Code (NEC), latest adopted editions and the applicable codes and ordinances having jurisdiction of the County, State, and Federal Governments.
- b. References in the Specifications to "code" or to "building code" not otherwise identified, shall mean the foregoing specified codes, together with the additions, changes, amendments, and interpretations adopted by the enforcing agency, and in effect on the date of these Contract Documents. Nothing on the drawings or in the Specifications shall be interpreted as requiring or permitting Work that is contrary to these rules, regulations, and codes.
- c. Where other codes or standards are referenced hereinafter in these Specifications, the affected Work shall meet or exceed the applicable requirements of such codes and standards. When latest editions in effect as of the date of these Contract Documents. When the Documents are not dated, the date of execution of the Agreement shall establish the date of the Contract Documents.
- d. The code, specification, or standard referred to shall have full force and effect as though printed in these Specifications, except as modified in these Specifications.
- e. Where the Drawings or Specifications call for or describe materials, workmanship, or construction of a better quality, higher standard, or larger size than is required by said laws, codes, rules, and regulations, the provisions of the Drawings and specifications shall take precedence over said laws, codes, rules and regulations.

3. OTHER APPLICABLE LAWS AND REGULATIONS

All applicable Federal, State and local laws, and the regulations of governing utility districts and the various other authorities having jurisdiction over the construction and completion of the Project shall apply to the Contract throughout, and they shall be deemed to be included in the Contract a the same as through printed in the Specifications.

4. REFERENCES

- a. The Contract Documents contain references to various standard specifications, codes, practices, and requirements for materials, work quality, installation, inspections, and tests, which references are published and issued by the organizations, societies, and associations listed below by abbreviation and name. Such references are hereby made a part of the Contract Documents to the extent required.
- b. The Specifications and Standards of the American Society for Testing and Materials (ASTM) and the American National Standards Institute (ANSI) are identified in the various Sections by abbreviation and number only (not by title) and are further identified.

- c. When effective date of a reference standard is not given, it shall be understood that the current edition or latest revision thereof and any amendments or supplements thereto in effect on the date of issue of these Contract Documents shall govern the Work.
- d. Reference standards are not furnished with the Contract Documents. The Contractor shall obtain copies of referenced standards direct from publication sources as needed for proper performance and completion of the Work and provide and maintain referenced standards at the job site field office. The Architect will furnish, upon request, information as to how copies of specified standards may be obtained.

5. ABBREVIATIONS

Whenever in the Specifications the abbreviation of acronym is specified, it shall be understood to mean the full name of the respective organization, as follows:

AAMA	Architectural Aluminum Manufacturer's Association
ACI	American Concrete Institute
ADA	ADA Standards for Accessible Design
AIA	American Institute of Architects
AIMA	Acoustical and Insulating Materials Association
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
APA	American Plywood Association
ARDI	American Rolling Door Institute
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Association
AWPB	American Wood Preservers Bureau
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWI	Architectural Woodwork Institute
BHMA	Builders' Hardware Manufacturer's Association
CRSI	Concrete Reinforcing Steel Institute
CS	U.S. Commercial Standard
CDA	Copper Development Association
DHI	Door and Hardware Institute
FGMA	Flat Glass Marketing Association
FS	Federal Specifications (also abbreviated Fed. Spec.)
HMMA	Hollow Metal Manufacturer's Association
IBC	International Building Code
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronic Engineers
NAAMM	National Association of Architectural Metal Manufacturers
NBFU	National Board of Fire Underwriters
NCMA	National Concrete Masonry Association
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NWMA	National woodwork Manufacturer's Association
MBNA	Metal Building Manufacturer's Association
PCA	Portland Cement Association
PDCA	Painting and Decorating Contractors of America
PIB	Plastering Industry Bureau
PS	U.S. Product Standard
RIS	Redwood Inspection Service

SDI	Sheet Metal Door Institute
SMACNA	Sheet Metal and Air Conditioning Contractor's National Association
SWI	Sealant and Waterproofers Institute
SSPC	Steel Structures Painting Council
TCA	Tile Council of America
UMC	Uniform Mechanical Code
UL	Underwriters' Laboratories, Inc.
UPC	Uniform Plumbing Code
WCLIB	West Coast Lumber Inspection Bureau
WWPA	Western Wood Products Association

SECTION 1I: CONTRACT CLOSEOUT

1. CLOSEOUT PROCEDURES

- a. When Work has reached final completion, submit written notification that the Contract Documents have been reviewed, the Work has been examined, and that the Work is complete in accordance with Contract Documents and ready for inspection.
- b. *Prior to scheduling a final inspection, the Contractor shall perform his own "final inspection" of the project as if he were accompanied by the Architect/Engineer and the Owner. A copy of this "final punchlist" shall be forwarded to the Architect for review and all items corrected prior to scheduling of final inspection with Architect/Engineer and Owner.*
- c. Only after the Contractor has conducted his own "final" inspection and corrected all items on his "punchlist", a final inspection with the Architect/Engineer and Owner to determine acceptance of the Project will be performed.
- d. From the information gathered from this inspection, the Architect will prepare a "punchlist" of work to be performed before the Project will be accepted. All work on the punchlist shall be completed by the Contractor prior to acceptance of the project by the Owner.
- e. Execute final cleaning prior to final inspection.

2. RECORD DRAWINGS ("AS BUILTS")

- a. The Contractor shall provide Record Drawings, as follows: Provide and keep current a complete set or record drawings showing every architectural, structural, plumbing, fire protection, mechanical, and electrical change from the original Contract Documents, including all addenda, change order, job decision, etc. The intent of Record Drawings is to record the actual in-place construction so that any future renovations or tie-ins can be anticipated accurately.
- b. To accomplish this, all authorization given by the Architect to deviate from the plans as recorded by the Contractor shall be drawn by the Contractor or his Subcontractor onto a set of drawings.
- c. All deviations, changes, invert, location, etc., from alignment, elevations and dimensions which are stipulated on the drawings, shop drawings, specifications, addendum and modifications during construction of the work shall be recorded on the Record Drawings.
- d. The following procedure shall be followed:
 1. Immediately after these changes are constructed in place, the Contractor shall record them on the field plans. This is to assure that changes are recorded before they are forgotten.
 2. Plans shall also record the location of all concealed water and electric services, water piping, sewers, wastes, vents, ducts, conduit and other piping by indication of measured dimensions to each such line from readily identifiable and accessible walls, columns, partitions, or corners of the buildings.

3. Within two weeks after final inspection of the project, the Contractor shall transfer the changes marked on the field plans onto a set of "clean" plans and stamp or mark these as "AS-BUILT". These plans are to be scanned as pdf files, copied on two (2) flash drives with one delivered to the hospital and one to the architect. *Contractor shall include in his price, the cost to provide these services.*
4. Contractor to provide project close-out documents that can be part of the flash drive noted above or sent as a separate email folder to the architect.

3. **WARRANTIES**

Provide soft copies of all warranties, including submittals and documents executed by subcontractors, suppliers, and manufacturers for installation and products.

4. **FINAL CLEANING**

- a. At the completion of the Project, prior to acceptance and prior to the final inspection, thoroughly clean the job site, building and work areas. Vacuum clean where appropriate and remove grease, adhesive, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces. Use commercial cleaning compounds where necessary. Clean all existing flooring material adjacent to work area. Clean all painted surfaces where soiled.
- b. Also prior to final inspection, clean the site and put it into a neat, acceptable condition. Contractor shall conduct an inspection of sight-exposed interior surfaces, to verify that the entire work is clean and ready for final inspection.

SECTION 1J: FORM OF PROPOSAL

Mahelona Medical Center
480 Kawaihau Road
Kapaa, Kauai, Hawaii 96746

Attention: Mr. John Pimental
Director of Facilities – Mahelona Medical Center

Gentlemen:

The Undersigned submits the following Proposal:

Bid: Having carefully examined the Plans and Specifications entitled, “PATIENT ROOM AND PHARMACY ADDITION, MAHELONA MEDICAL CENTER, 480 KAWAIHAU ROAD, KAPAA, KAUAI, HAWAII 96746, TMK: 4-6-014: 030” as well as the site and conditions affecting the work, the Undersigned proposes to furnish labor and materials and to perform work required by, and in strict accordance with the above named documents for the sum of:

_____ Dollars (\$_____).

Bid Breakdown Form: Contractor to fill-in attached Section 1K - Bid Breakdown as part of his bid.

Contract: If the Undersigned be notified of the acceptance of this Proposal within Sixty (60) days of the time set for the opening of bids, he agrees to execute a contract for the above work in the form of a Contract as issued by the American Institute of Architects.

Bonds: The Undersigned also agrees that before the Contract is valid, he shall secure not less than a 100% performance bond from a reliable and recognized surety company that is approved by the Architect and present the Owner with evidence of such bond.

Subcontractors List: The Undersigned agrees to submit a list of subcontractors together with this Proposal.

Time: The Undersigned agrees that time is of the essence and that he will commence all items of work after receipt of written “Notice to Proceed” and that he will complete the work within _____ consecutive calendar days after receipt of such notice. The Undersigned agrees that the contract will not necessarily be awarded to the low bidder.

Liquidated Damages: (Not Used).

Addenda: The Undersigned shall acknowledge receipt of all addenda issued by the Architect, by recording the date of receipt of the respective addenda in the space provided below.

Addenda No.

Date

It is understood that failure to receive any such addenda shall not relieve the Contractor from any obligation under this Proposal as submitted.

Respectfully submitted,

Bidder

By _____

Its _____

Date _____

Address _____

Telephone No. _____

LIST OF SUBCONTRACTORS:

[illegible]

Bid Breakdown

Project: RENOVATION FOR CAH BEDS

APPENDIX F-1

Company Name: _____

By: _____






	Bid	Subs	Remarks/Comments
Division 00	\$0		
Division 01 - General Requirements	\$0		
Division 02 - Sitework and Demolition	\$0		
Division 03 - Concrete	\$0		
Division 04 - Masonry	\$0		
Division 05 - Metals	\$0		
Division 06 - Wood and Composites	\$0		
Division 07 - Thermal and Moisture Protection	\$0		
Division 08 - Openings	\$0		
Division 09 - Finishes	\$0		
Division 10 - Specialties	\$0		
Division 11 - Equipment	\$0		
Division 12 - Furnishings	\$0		
Division 13 - Special Construction	\$0		
Division 21 - Fire Protection	\$0		
Division 22 - Plumbing	\$0		
Division 23 - HVAC	\$0		
Division 26 - Electrical	\$0		
Division 27 - Communication	\$0		
Division 28 - Electronic Safety and Security	\$0		
Total Cost of Work	\$0		
Permit Fee	NA		
Performance Bond	\$0		
Liability Insurance	\$0		
General Excise Tax	\$0		
Markup	\$0		
	\$0		
TOTAL BID	\$0		




Change Order OH & Profit (%)


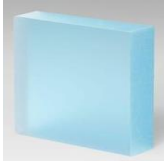
Acknowledgement of receipt of all Addenda issued by the Architect Addendum No. _____ Date _____





VE/Cost Saving Suggestion _____





Details: _____





SAM MAHELONA - NURSE STATION & PATIENT ROOM ADDITION						
Interior Finish Schedule 12.1.2022						
Code	Certifications	Product/Location	Manufacturer	Source	Description Specification	Remarks
ACT-1	Greenguard Gold Declare LBC Red List Free EPD Air guard coating, health zone products Cradle to Grave Assessment	 Acoustic Ceiling Tile (refer to drawings for locations)	Armstrong	Armstrong GW Killebrew Contact: Andrew Ige ph. 1.808.218.9037	Refer to Architect's Spec Armstrong Ultima Health Zone High NRC Ceiling Tiles color: White 1445 Dim: 24" x 24" x 7/8" (verify with architect) Square Lay In for 15/16" exposed tee grid. Installation per manuf. Instructions Installation Note: Make Tegular cut at all perimeters	Contractor to submit samples for approval
CAB-1		 Headwall Unit Herman Miller Compass System	 Herman Miller	Office Pavilion Contact: JoAnn Kumashiro cell. 808.341.7621	Herman Miller Compass System Cabinet Finish: Natural Maple Refer to architectural plans Installation per manuf guidelines	Contractor to submit samples for approval
CAB-2		 Cabinets Herman Miller Mora System	 Herman Miller	Office Pavilion Contact: JoAnn Kumashiro cell. 808.341.7621	Herman Miller Mora System Cabinet Finish: Natural Maple Countertops: Corian color: Sahara Installation per manuf guidelines	Contractor to submit samples for approval





CG-1	C2C Silver Certified Resistant to certain bacterial & fungal growth	 <p>Corner Guards Full height for 90 degree angle (refer to elevations for locations)</p>	Acrovyn	RMA Sales Contact: Kathy ph. 808.457.4261	Acrovyn SSM-20AN Surface - Mounted Corner Guards Dim: 2"vinyl 1/4" radius cover mounted over continuous aluminum retainer. Std End Caps 20' max height color #933 Mission White Installation per manuf. instructions	Contractor to submit samples for approval
CG-2	C2C Silver Certified Resistant to certain bacterial & fungal growth	 <p>Corner Guards Full height for End Walls (refer to elevations for locations)</p>	Acrovyn	RMA Sales Contact: Kathy ph. 808.457.4261	Acrovyn SSM-25AN Surface - Mounted Corner Guards Dim: 2"vinyl 1/4" radius cover mounted over continuous aluminum retainer. Std End Caps 20' max height color #933 Mission White Installation per manuf. Instructions	Contractor to submit samples for approval
CH-1		 <p>Chair rail (Pre-Finished) (refer to elevations for locations)</p>	Custom	Washington Hardwoods Contact: John Gaydos ph. 1.206.273.7325	MDF with Chamfer and back out per section. Chamfer Ends to Match. Dim: 6"height x 1/2" thick. Refer to architectural drawing for profile. Finish: Conversion varnish to match Numatics, Paint to Match Paint color: color White OC-45 Swiss Coffee Installation per manuf. Guidelines	Contractor to submit samples for approval




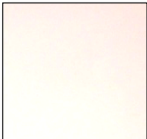
D-1		Double Doors D1 Hallway D2 Hallway 27 Hallway			Refer to Architect's Spec	Contractor to submit samples for approval
D-2	Greenguard Gold Environmental Product Declaration FSC Low Emitting Products Recycled Content Indoor Air Quality - Gold	Interior Doors D3 New Exam Room D4 Janitor D5 Soiled Holding Rm D6 Patient Rm Closet D7 ADA Bathrm 1 D8 Patient Rm 1 D9 Patient Rm 2 D10 Patient Toilet 2 D11 Patient Rm 2 Closet D12 Patient Rm 3 Closet D13 Patient Toilet 3 D14 Patient Rm 3 D15 Patient Rm 4 D16 Patient Toilet 4 D17 Patient Rm 4 Closet D18 Clean Supply Storage D19 & 22 Airborne Infection Isolation Rm D20 Shower & Toilet Rm D21 Closet D23 Med Rm D24 Nourishment Rm D25 Staff Toilet D26 Storage D28 Narcotic Vault Refer to plan for locations		Masonite Architectural Contact: 1.800.663-DOOR	Masonite Aspiro Doors Thermal Fused Flush Doors Fusion Maple 7909-60 Matte Finish Installation per manuf guidelines	Contractor to submit samples for approval
D3		Automatic Sliding Glass Door D29 IV Prep Room			Refer to Architect's Spec	
DP-1		 Decorative Panel 3-Form Nurses Station Transaction Tops	3-Form	3-Form Keri Powlison Contact;	3-Form Chroma 1" (25.4 mm) Style: Surf B38 + White Out W01 Finish: Renewable Matte F10 Vellum F04 (this side) SO-555722.1 1" thick material with radiused & polished edges; 3 Form satin metal stand-off pins. Follow architectural drawings for details & construction. Installation per manuf guidelines	Contractor to submit samples for approval

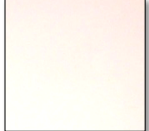

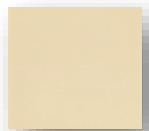
E-1				Lutron 1.888.588.7661 Dial Electric - Napoleon 1.808.845.7811	All Electrical Switch and Outlet Wall Plates Nova T Finish: Matte: White throughout	
EM-1	UL/UL-C Compliance Stds Eco Friendly			Electric Mirror Contact: Alisa ph. 1.425.595.6226	Eyla Lighted Mirror Dim: 24"wide x 36"ht x 1.75"D Copper Free, corrosion resistant DuraMirror glass Wall flow ambient light with diffuser for finished side view 7 year limited warranty 120V-240V Hardwire LEDS, CCT: 3000 Kelvin Max 100 lumens per watt efficacy Safety backed mirror Installation per manuf guidelines	
FRP-1	LEED 4.1, ID+C, BD+C MAS Certified Green Compliance			Nudo Fiber Lite Fiberglass Reinforced Plastic Contact: Marla Gomes ph. 818.530.8008	Nudo Firelight, Fiber Reinforced Plastic, Product# LP-F9, .090 Thickness, Color: Ivory Sheet size: 4'x8', 4'x10' Finish: Surface textured Use Vinyl Moldings: T-Bar, Batten, Two Piece Division Bar, Cap, etc. with silicone sealant All panels should be installed with non-corroding fasteners. Non flammable Adhesive + Fasteners is recommended Installation - seamless, butt joint Installation per manuf guidelines	Contractor to submit samples for approval
G-1		Grout if applicable unless noted	Spectra lock by Laticrete	Tile Warehouse Contact: Rick Lau cell: 808.342.2247	Laticrete Spectra Lock PRO Premium Grout	Contractor to submit samples for approval
GT-1	Recycled Glass - 70%			Lunada Bay Tommy Bahama Zig Zag Color: Kangaroo Island Finish: Mix Dim: 1/2 x 4 Installation per manuf guidelines		Contractor to submit samples for approval




GT-2	Recycled Glass - 70%	 <p>Glass Tile Mosaic Accent Tile Staff Toilet 120 Accent Wall Behind Sink</p>	Lunada Bay	<p>Tile Warehouse Contact: Rick Lau cell: 808.342.2247</p>	<p>Lunada Bay Tommy Bahama Color: Kangaroo Island Finish: Mix Dim: 1/2 x 4 Installation: Offset subway pattern Accent Full Ht Wall Installation per manuf guidelines</p>	Contractor to submit samples for approval
GT-3		 <p>Glass Mosaic Inset Accent Tile Patient Room 1,2,3,4 Airborne Infection Isolation Rm 113</p>	Encore Ceramics	<p>Tile Warehouse Contact: Rick Lau cell: 808.342.2247</p>	<p>Encore Ceramics Wave Mosaic in Springfield Blend Random Placement Item # MFWAV Card # 2020-S1 Mix of: Kelp matte M29 + Rain Quartz Q11 + Cashmere Crackle + Agave Matte M118 + Aloe Matte M19 Grout color: 49 Light Almond Install vertically approx. 11" high accent band Installation per manuf. guidelines</p>	Contractor to submit samples for approval
HR-1		 <p>Hand rail (refer to elevations for locations)</p>	Acrovyn	<p>RMA Sales Contact: Kathy ph. 808.457.4261</p>	<p>Acrovyn Handrail HR-6CN #654 Urbanwood Rail 4"H economical round pipe rail 3-9/16"H Mounting bracket #241074-933 color: 933 Mission White</p>	Contractor to submit samples for approval
HW-1		 <p>Decorative pulls Work Stations & Cabinets Refer to elevations</p>	Emtek	<p>Fiddlers Attn: Denise Fiddler ph.808.592.0233</p>	<p>Emtek Trail Pull 86266 Overall 6-1/2" length Dim: c-to-c 6" Finish: Satin Nickel US15</p>	Contractor to submit samples for approval



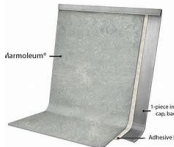
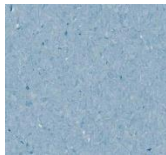
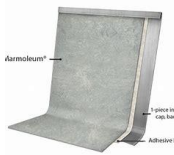
HW-2		 <p>Robe hooks ADA Bathroom 1 Patient Rm 1,2,3,4 Patient Toilet 2,3,4 Shower & Toilet Rm Staff Toilet Rm</p>	Bobrick	J&B Marketing Contact: Eric ph. 808.263.7480	Bobrick Surface Mounted Double Robe Hook Model B-76727 Finish: Satin -finish stainless steel Dim: 3-15/16"w x 1-7/8"deep Installation per manuf guidelines	Contractor to submit samples for approval
HW-3		 <p>Shower Curtain Rod & Curtain ADA Bathroom 1 Patient Toilet 2,3,4 Shower & Toilet Rm</p>	InPro	InPro Contact: Wendi Ziegler 1.503.583.0317	Shower Curtain Track Straight Shower Rod, 60" length Finish: Clear anodized aluminum Stainless Steel Slide Beads Part Number: CE100800 Height - 2.5" (63.5mm); Inside Diameter - 1.31" (33.3mm) Super Bio Stat Shower Curtains 73"wide, repeat: 0, Shown Railroaded Mildew, bacterial & microbial resistant Color: White Installation per manuf guidelines	Contractor to submit samples for approval
LF-1		 <p>Sconces Hallway 100 Visitor Waiting Hallway to Patient Rooms Patient Rm 1,2,3,4 Airborne Infection Isolation Rm Suite 113</p>	Tech Lighting	Lighting Concepts Contact: Tom Ogawa ph. 808.955.9955	Milley 20 Wall SLWS122 Finish: N-Polished Nickel LED Diffuser Dim: 20"tall x 4"wide x 2.6"Deep LED: 34.3 watt, 3000K Color Temp CCT UL Listed Dimmer capability Install Vertically Install 4'-6" AFF to bottom of fixture Install 8" from Door frame edge to center of Fixture Installation per manuf guidelines	Contractor to submit samples for approval
LF-2		 <p>Pendants (Qty 4) Nurses Stations</p>	Tech Lighting	Lighting Concepts Contact: Tom Ogawa ph. 808.955.9955	Mobius LED Mini Pendant Base Item # 139845 Configured Item# 139845-1022 Finish: Soft Gold - 84 Dim: 11.70", Length: 8.40", 4.00"width canopy: 5.5"OD Overall height: 38.80"-49.90" LED: 7 watt, 3000K CCT UL Listed Installation per manuf guidelines	Contractor to submit samples for approval

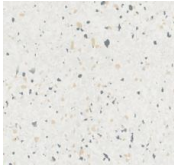
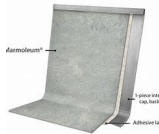


LF-4		Fluorescent Lamping			All fluorescent lamping to be SP-35 or 3500K color temperature	Contractor to submit samples for approval
LF-5		LED Lamping			All LED lamping to be "warm white" color temperature	Contractor to submit samples for approval
LVT-1		 <p>Luxury Vinyl Tile Hallway 100, 122 Visitor Waiting 121 Nurses Station 119 (refer to plan for location)</p>	Mannington Commercial	Mannington Contact: Danette Ho 1.808.561.9629	<p>Mannington Collection: Nature's Path - Wood LVT with Micro Bevel Edges American Walnut Natural (12124) Dim: 6"wide x 36"long 20 Mil Quantum Guard Elite Installation: Direct Glue Down Flooring Adhesive Xpress Step Spray Installation per manuf guidelines</p>	Contractor to submit samples for approval
M-1		 <p>Mirror Staff Toilet 120</p>	Bobrick	Bobrick 1.818.982.9600	<p>Bobrick B-167 2448 Reversible LED Backlit Mirror Dim: 24"W x 48"H overall x 1.75"deep (verify dim) ADA requires: Mirrors shall be mounted with the bottom edge of the reflecting surface no higher than 40" AFF. For lit mirrors this means the dimension is to the inner most edge of the lit portion Installation per manuf guidelines</p>	Contractor to submit samples for approval
MT-1		 <p>Schluter Trim Staff Toilet 120 Exposed Edges of Porcelain Tile - Wall application</p>	Schluter	Dal Tile Contact: Malia Maldonado 1.808.523.3660	<p>Schluter Schiene E100EB for 3/8" thick tile Finish: Brushed Stainless steel Installation per manufacturers guidelines</p>	Contractor to submit samples for approval
PLAM-1	Greengard Gold	 <p>Plastic Laminate Cabinets</p>	Wilsonart	Wilsonart 1.800.433.3222	<p>Wilsonart Fusion Maple 7909-60 Matte Finish Dim: 48" x 96" Installation per manuf guidelines</p>	Contractor to submit samples for approval

PORC-1		 <p>Porcelain Tile for Walls ADA Bathroom 1 Patient Toilet Room 2,3,4 Shower & Toilet Room 112</p>	Porcelanosa	Tile Warehouse Contact: Rick Lau cell: 808.342.2247	Porcelanosa Color: Ice Nebraska Tea Dim: 45cm x 120 cm (18" x 47") 100300114 Grout color: Mapei 05 Chamois Grout Joint: 1/8" thick Installation per manuf guidelines	Contractor to submit samples for approval
PORC-2		 <p>Porcelain Tile for Shower Floor ADA Bathroom 1 Patient Toilet Room 2,3,4 Shower & Toilet Room 112</p>	Stone Peak Ceramics	Tile Warehouse Contact: Rick Lau cell: 808.342.2247	Stone Peak Ceramics High Tech Porcelain Quartz color: Sunset Dim: 2 x 2 Mosaic (12" x 12" sheet) USG12MO096 Grout color: Mapei 15 Bone Grout Joint: 1/8" thick Installation per manuf guidelines	Contractor to submit samples for approval
PT-1	Leed v4 Low Emitting Health Product Declaration ZERO VOC Safety Data Sheet	 <p>Paint - Ceiling Visitor Waiting Soffit at Nurses Station Patient Room 1,2,3,4</p>	Benjamin Moore	Jeff Sanpei cell:808.285.6071	Benjamin Moore Prime Coat: 511 Fresh Start Natura Zero VOC Primer 2nd & 3rd coats 512 Natura Interior Waterborne Paint Flat Classic Colors: OC-151 White Brush outs to be approved on site	Contractor to submit samples for approval
PT-2	Leed v4 Low Emitting Health Product Declaration ZERO VOC Safety Data Sheet	 <p>Paint - Ceiling Patient Toilet 1,2,3,4 Staff Toilet Room Ceiling Shower & Toilet Ceiling 112</p>	Benjamin Moore	Jeff Sanpei cell:808.285.6071	Benjamin Moore Prime Coat: 511 Fresh Start Natura Zero VOC Primer 2nd & 3rd coats 512 Natura Interior Waterborne Paint Flat Classic Colors: 2148-70 Mountain Peak White Brush outs to be approved on site	Contractor to submit samples for approval

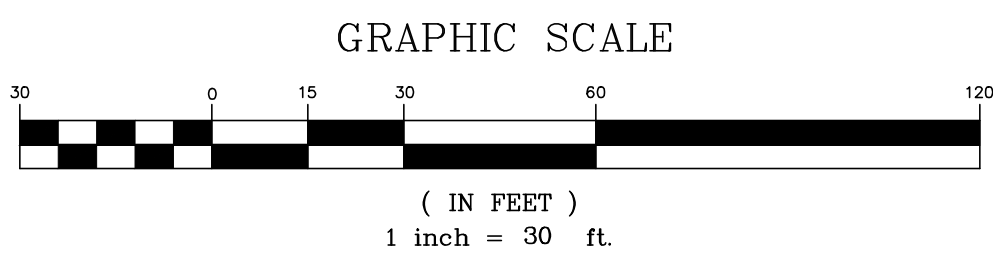
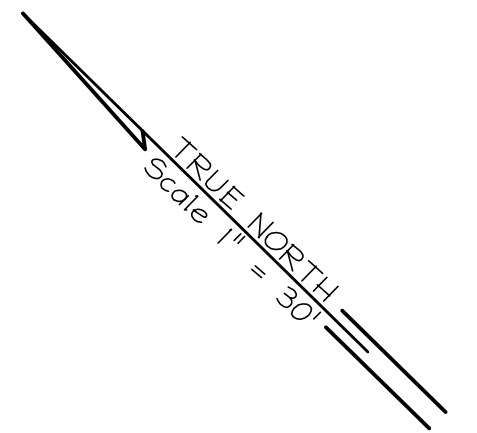
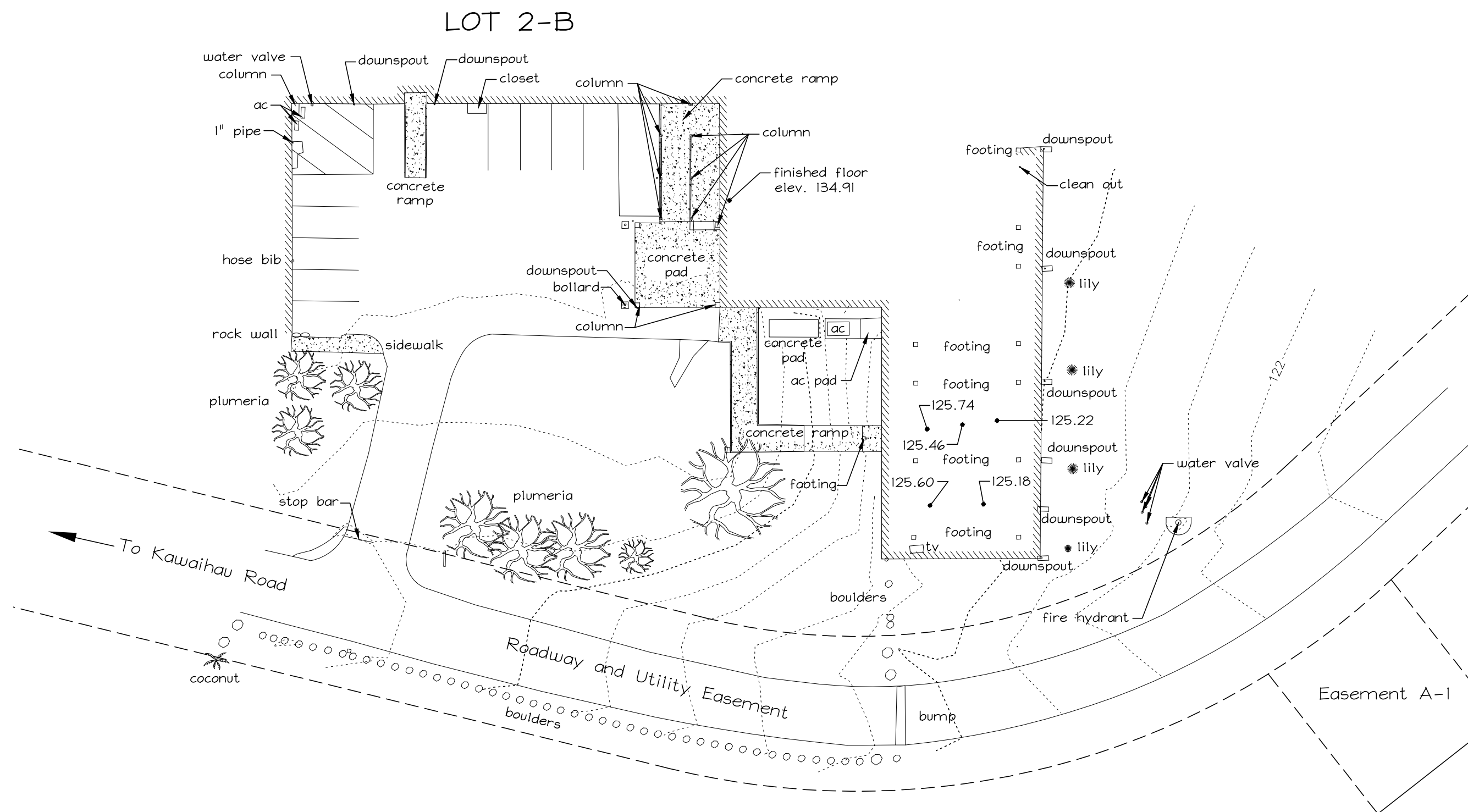
PT-3	Leed v4 Low Emitting Health Product Declaration ZERO VOC Safety Data Sheet	 Paint - Walls (refer to drawings)	Benjamin Moore	Jeff Sanpei cell:808.285.6071	Benjamin Moore Prime Coat: 511 Fresh Start Natura Zero VOC Primer 2nd & 3rd coats 512 Natura Interior Waterborne Paint Pearl Classic Colors: OC-45 Swiss Coffee Brush outs to be approved on site	Contractor to submit samples for approval
PT-4	Leed v4 Low Emitting Health Product Declaration ZERO VOC Safety Data Sheet	 Paint - Accent Wall Patient Rooms 1,2,3,4 Airborne Infection Isolation Rm 113	Benjamin Moore	Jeff Sanpei cell:808.285.6071	Benjamin Moore Prime Coat: 511 Fresh Start Natura Zero VOC Primer 2nd & 3rd coats 512 Natura Interior Waterborne Paint Pearl Classic Colors: 522 Dried Parsley Brush outs to be approved on site	Contractor to submit samples for approval
PT-5	Leed v4 Low Emitting Health Product Declaration ZERO VOC Safety Data Sheet	 Paint - Trim Door & Window Trim throughout	Benjamin Moore	Jeff Sanpei cell:808.285.6071	Benjamin Moore Prime Coat: 511 Fresh Start Natura Zero VOC Primer 2nd & 3rd coats 512 Natura Interior Waterborne Paint Satin/Soft Gloss Classic Colors: 2148-50 Sandy White Brush outs to be approved on site	Contractor to submit samples for approval
PT-6	Leed v4 Low Emitting Health Product Declaration ZERO VOC Safety Data Sheet	 Paint - Trim Door Trim @ Patient Toilet Rooms	Benjamin Moore	Jeff Sanpei cell:808.285.6071	Benjamin Moore Prime Coat: 511 Fresh Start Natura Zero VOC Primer 2nd & 3rd coats 512 Natura Interior Waterborne Paint Satin/Soft Gloss Historic Color: HC-84 Brush outs to be approved on site	Contractor to submit samples for approval

RB-1	Recycled Content - 14%	 <p>Rubber Base, 6"HT Hallway 100, 122 Visitor Waiting 121 Nurses Station 119 Refer to Elevations</p>	Johnsonite/Tarkett	R.W. Supply Rick ph.808.626.1900 cell. 808.271.9775	Johnsonite, Millwork, Mandalay Profile, Color: TA-1 Tannery WB Dim: 6"height x 3/8" x 96" rectangular profile, chamfer top, 8' lengths, miter cut inside and outside edges. Adhesive: Johnsonite #960 Acrylic cove base adhesive. For installation to porous surfaces, #945 contact bond adhesive and to additional RB-1 pieces & trims as required. Installation per manuf guidelines	Contractor to submit samples for approval
RB-1.1	Recycled Content - 14%	 <p>Quarter Round, 3/4" Hallway 100, 122 Visitor Waiting 121 Nurses Station 119 Refer to Elevations</p>	Johnsonite/Tarkett	R.W. Supply Rick ph.808.626.1900 cell. 808.271.9775	Johnsonite Quarter-Round Rubber shoe at RB-1 wall base. Profile #QTR-XX-A. Dim: 3/4"W x 3/4"L, radius 1/4 profile. Color: TA-1 Tannery WB Thermoplastic rubber with a pressure sensitive adhesive backing; use Johnsonite #945 Contact Bond Adhesive for installation to RB-1 pieces & trims. Miter cut inside & outside edges. Install with RB-1 Installation per manuf guidelines	Contractor to submit samples for approval
RB-2	Recycled Content - 14%	 <p>Rubber Base, 6"HT Patient Room 1,2,3,4 Airborne Infection Isolation Rm 113 Refer to Elevations</p>	Johnsonite	R.W. Supply Rick ph.808.626.1900 cell. 808.271.9775	Johnsonite, Traditional rubber wall base, Color: TA-1 Tannery WB WG cove (toe) base profile Dim: 6" height x 1/2" thick Installation per manuf guidelines	Contractor to submit samples for approval

RF-1	Leed v4 Low Emitting 4.1, 4.3 Floor Score Certified EPD	 Resilient Sheet Vinyl Patient Room 1,2,3,4 Airborne Infection Isolation Rm 113 New Exam Room 123	Mannington	Mannington Contact: Danette Ho 1.808.561.9629	Mannington Realities II Sheet Vinyl Maple Grove II color: 5624R Honey Weld Rod: 842495 Camel Quantum Guard Elite Dim: 12' wide (3.66 meters) x .080" thickness Pattern repeat: 48"L x 48"W Direct Glue Method: Xpress Step Spray Adhesive Installation per manuf guidelines	Contractor to submit samples for approval
RF-2	Leed v4 Low Emitting 4.1, 4.3 Floor Score Certified EPD	 Resilient Sheet Vinyl with Integral Base Staff Toilet Patient Toilet Rm 1,2,3,4	 AHF	Tri-West Contact: Sheila Surban 1.808.372.0529	AHF Mixed and Variegated Homogenous Sheet Vinyl Pattern: 1 HG2M007 Finish: Hart guard ultra shield Color: Wheat Dim: 2.0 m w x 20.9m l x 2.0mm thickness Dim: 6"ht Installation: Glue Down Adhesive: Installation per manuf guidelines	Contractor to submit samples for approval
RF-3	Leed v4 Low Emitting 4.1, 4.3 Floor Score Certified EPD	 Resilient Sheet Vinyl with Integral Base Pharmacy Storage 116 Med Room Nourishment Rm Airborne Infection Isolation IV Prep Room Narcotic Vault Rm	 AHF	Tri-West Contact: Sheila Surban 1.808.372.0529	AHF Mixed and Variegated Homogenous Sheet Vinyl Pattern: 1 HG2M007 Finish: Hart guard ultra shield Color: Casting Shade Dim: 2.0 m w x 20.9m l x 2.0mm thickness Dim: 6"ht Installation: Glue Down Adhesive: Installation per manuf guidelines	Contractor to submit samples for approval

RF-4	Leed v4 Low Emitting 4.1, 4.3 Floor Score Certified EPD	 Resilient Sheet Vinyl with Integral Base Janitor 101 Soiled Holding 102 Clean Supply Storage 111		Shaw Contract Vitality Tone Homogeneous Sheet Vinyl 4375V Color Name: Pep up Color Number: 00111 Dim: 6.56 ft x 65.62 ft 2 m x 20 m Adhesive: Lokworx+ Resilient Adhesive 4 gal pail Item#164CA. Installation: Glue Down Installation per manuf. Instructions	Contractor to submit samples for approval	
SS-1	Leed v.3 & 4 Bream - RSCS Level 1 DGNB Quality Level 4 MR BPDO	 Solid Surface Countertop + Backsplash Nurse Station Countertop Nurse Station Column Clad Nurse Station Full Ht Wall behind Hand sink New Exam Rm Countertop 122 Patient Room Shower Walls + Shower Curb Ante Room 113A Storage Room 116	LG High Macs	LG Hausys America Contact: Theresa Youn ph. 808.777.5444	LG Eden Collection color: W011 Noble Cane Hi-Macs Dim: 30 x 145 x 1/2" thick Matching adhesive H32 Non-porous, stain resistant 15 year transferable warranty Installation per manuf. instructions	Contractor to submit samples for approval
WP-1	LEED-v4.2 California Indoor Air Quality 01350	 Wainscot Refer to plans for locations	Koro Gard	Koro seal Contact: Anthony Perna ph.808.561.1003	Koro Gard Wall Protection Systems, Traffic Patterns Pattern/Color: Authenticity Candide 202291 Product Number: STP42022911 Class 1/A Fire Code compliant (ASTM E-84) Mesa - S Texture .060" x 48" x 96" sheets Installation: Seamless, butt joint Installation per manuf guidelines	Contractor to submit samples for approval

WS-1	Microban Antimicrobial Biobased PVC Free Greengard Gold Cradle to Cradle Bronze Melanoma International Foundation Noise Reduction Flame Retardant	 Window Shades Patient Room 1,2,3,4 Hallway 100 @ Window 6,7,8,9,10,11	Pfifer Sheerweave	Kurt Rhoney SOLAR SHADING SOLUTIONS (808) 271-9548	Manual Window Shade Slimline Brackets with Fascia Single Roller with Manual Chain pull Mechanism Fascia - Celar Anodized Metal - Silver Finish Pfifer Sheerweave Performance Fabric, Style 2100 P04 White/Bone 10% open Dim: 63",98",126" std. widths Standard roll length: 30 linear yards Mesh Weight 19.8 oz. Microban and antibacterial additives Stainless Steel cord/chain Metal Headbox - Stainless Steel Finish Warranty: 5 years Installation per manuf guidelines	Contractor to submit samples for approval
WS-2	Microban Antimicrobial Biobased PVC Free Greengard Gold Cradle to Cradle Bronze Melanoma International Foundation Noise Reduction Flame Retardant	 Dual Window Shades Blackout Patient Room 1,2,3,4	Pfifer Sheerweave	Kurt Rhoney SOLAR SHADING SOLUTIONS (808) 271-9548	Manual Window Shade Slimline Brackets with Fascia Single Roller with Manual Chain pull Mechanism Fascia - Clear Anodized Metal - Silver Finish Pfifer Sheerweave Performance Fabric, Style 7100 P04 White / Bone Blackout Dim: 63",98",126" std. widths Standard roll length: 30 linear yards Composition: Vinyl coated fiberglass fabric laminated with two-ply 100% PVC blackout film Mesh Weight 19.8 oz. Microban and antibacterial additives Stainless Steel cord/chain Warranty: 5 years Installation per manuf guidelines	Contractor to submit samples for approval



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION

Signature
ESAKI SURVEYING & MAPPING, INC.
EXPIRES: APRIL 30, 2024

TOPOGRAPHIC MAP
SHOWING PORTION OF MAHELONA HOSPITAL
BEING PORTION OF LOT 2-B
KAPAA, KAUAI, HAWAII
TMK: (4) 4-6-14: 113
Prepared for: Arthur Mori & Associates
Date of Survey: November 2, 2022

SECTION 2A: SITEWORK

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE

- a. Work included: Furnish all labor, materials and equipment necessary to clear and grub the construction area where new foundation footings are to be constructed and to lay out the foundation work as shown on the drawings and as herein specified.
- b. Related work: Section 2B - Earthwork

3. REFERENCE STANDARDS

- a. The standard specifications for Public Works Construction, as amended, of the Department of Public Works, hereinafter referred to as the DPW Standard Specifications, or as herein specified.
- b. Perform all clearing and grubbing in accordance with Section 10, Standard Specifications for Public Works Construction, recent edition, and Chapter 23, Revised Ordinances of Honolulu.

4. EXECUTION

- a. General
 - 1. The Contractor shall examine the project site and become familiar with the existing conditions and the amount and kind of work to be performed.
 - 2. Verify all existing grades and other improvements before any clearing or grubbing work is done. Immediately bring to the attention of the Architect any discrepancy, and make any changes in accordance with his instructions. Starting of clearing or grubbing operations will be construed to mean that the Contractor has inspected and agrees that the existing grades and other improvements shown on the drawings are correct as indicated.
- b. Clearing and Grubbing
 - 1. The Contractor shall clear the project site of all rubbish, weeds, stumps, large roots, garbage and other unsuitable material, the removal of which will be necessary for the proper reception, construction, execution and completion of other work included in this contract.
 - 2. The Contractor shall grub the ground surface within the area to be graded of all grass and weeds to a depth of 2 inches below present grades.
 - 3. Any stumps and roots larger than 3 inches in diameter shall be removed to 24 inches in below grade areas to receive foundation footings. Fill all voids with select fill, well compacted, to maintain all grades

4. All accumulated debris from this operation shall be completely removed from the premises by the contractor. Burning of any trash or debris on-site shall not be permitted.
5. The Contractor shall preserve and protect from damage all structures, utilities, sidewalks, curbs, gutters, pavement, trees, shrubs, etc. which are intended or indicated to remain. The Contractor shall immediately repair all existing improvements described damaged by his work with equal or better material, and to the satisfaction of the Architect.

5. CLEANUP OF PREMISES

Cleanup and remove all debris accumulated from the work of this section and from time to time debris accumulated from the work of other sections. Upon completion of all construction work, and before final acceptance of the contract work, remove all surplus materials, equipment, tools, etc and leave the entire jobsite raked clean and neat to the satisfaction of the Architect.

SECTION 2B: EARTHWORK

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE

The Contractor shall furnish all labor, materials, equipment, transportation, services and facilities necessary for and/or reasonably incidental to the completion of all excavation, filling, backfilling, compacting and grading for proper installation of footings, foundations, slabs, walks, etc., shown on the drawings and/or specified herein, including but not limited to the following:

- a. Excavation.
- b. Compacted Fills.
- c. Backfilling.
- d. Grading.
- e. Cleanup.

Refer to Section 2A - Sitework for related work.

3. REFERENCE SPECIFICATIONS

All work performed under this section shall comply with the Standard Specifications for Public Works Construction.

4. MATERIALS

- a. Site Grading:
 1. Any imported structural fill shall be well-graded, non-expansive granular material. Not more than 20% of soil by weight shall pass the #200 sieve. In addition, the plasticity index (P.I.) of that portion of the soil passing the #40 sieve shall not be greater than 10. Yard fill necessary for landscaping need not adhere to these specifications.
 2. All structural fill shall be placed in horizontal lifts restricted to eight inches in loose thickness and compacted to a minimum 95% compaction as determined by ASTM D1557. Fill placed in areas that slope steeper than 5:1 (horizontal to vertical), should be continually benched as the fill is brought in lifts.

5. EXECUTION

- a. Preparing Areas to be Excavated
 1. Drainage: It shall be deemed essential to the performance of the work of this section, that at all times during the construction period, the rough grading and the excavation for all utilities, lines, etc., be performed in a manner to drain surface water away from building and critical areas. Do not allow water to drain into or collect in excavated areas meant to receive footings.

2. Excavate site to the proper depth as shown on the drawings. Do not disturb more soil than is necessary. All foundations shall be to firm ground. Provide structural fill as specified in Material paragraph above.
- b. Preparing Areas to be Filled
1. All existing fill material shall be removed down to natural ground elevations. Rubbish and other organic fill material shall be properly disposed of.
 2. The exposed surface shall then be proof rolled to detect any loose or soft spots. If encountered, the loose/soft areas shall be removed to firm underlying material and the resulting depression shall be filled with properly compacted fill.
 3. Grading work, in particular the placement of fill on the site, shall be done as soon as practicable to allow time for the site material to stand, settle and adjust to the new imposed surcharge loads before construction is started.
- c. On-Site Material
1. Contractor to store, cover and keep dry soil excavated from side of house to install new waterproof membrane on existing wall for backfill.

6. UNFORSEEN CONDITIONS

If unforeseen conditions or undetected soil conditions such as soft spots, existing utility trenches, voids or cavities, boulders, seepage water, expansive soil, etc. are encountered, the Contractor shall immediately bring any and all such conditions to the attention of the Architect, before proceeding with any further work in the affected area.

7. RAINY WEATHER

Fill material shall not be placed, spread or rolled during unfavorable, inclement weather conditions.

8. UTILITY TRENCH

Backfill material shall not be placed in horizontal, uniform layers of 6-inches maximum in loose thickness, moisture conditioned to a moisture content suitable for compaction, and compacted in conformance to a minimum 95% compaction as determined by ASTM D1557.

9. CLEANUP

Promptly upon completion of the work included in this section, the entire project site shall be cleared of all excavation materials and all debris, tools, and equipment and such materials, debris, etc., shall be removed from the premises.

SECTION 2C: GROUND TREATMENT FOR TERMITE CONTROL

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. GENERAL

- a. Soil shall be treated against subterranean termites by a Pest Control Operator licensed by the Hawaii State Pest Control Board in Branch #3 and certified as a commercial applicator under the Hawaii Pesticide Law by the Hawaii State Department of Agriculture.
- b. The Contractor shall notify the Architect at least two days before application of chemicals.
- c. Meter shall be provided to indicate the total volume of flow in U.S. gallons. Pumping equipment shall be a type normally used and be capable of pumping the working solution in a manner accepted and practiced by the Pest Control Industry.
- d. Provide ground treatment for all new concrete slab, concrete slab patching and footing/foundation work.
- e. Treatment shall also extend to three (3) feet beyond perimeter of same.

3. MATERIALS

Chemicals shall be aqueous solutions by toxicants normally used by the pest control industry for effective soil treatment for termite control and shall be used in accordance with the labels and provisions related to the use of pesticides as adopted by the Hawaii Pesticide Law, Chapter 149 A, HRS, and the Federal Insecticide, Fungicide and Rodenticide Act.

4. APPLICATION AND RATES

- a. Whenever possible, the solution shall be applied not more than 24 hours **before** the pouring of concrete over the affected area.
- b. The solution under slabs shall be applied after backfill has been completed and rough plumbing and other utility lines have been installed. The treatment shall not be applied under conditions during which the soil does not readily absorb the solution.
- c. The solution shall be applied uniformly and at the following rates unless restricted to a different rate by the label for the chemical being used.

<u>Location</u>	<u>Application Rate</u>
1. Concrete slabs (new and repaired)	1-1 / 2 Gals. per 10 sq. ft.

- | | |
|--|-----------------------------|
| 2. Along both sides of all interior and exterior foundation walls, below expansion and/or control joints, and along all under-slab portions of all electrical and plumbing conduits and pipes that penetrate the slab. | 4 Gals. per 10 lineal feet. |
| 3. In all voids of hollow CMU walls prior to filling with grout, and piers that extend below grade, with treatment made from above grade level before cells are closed or capped. | 1 Gal. per 1 lineal foot. |

5. **GUARANTEE**

The termite treatment contractor shall furnish a written warranty countersigned by the General Contractor to the Architect stating that:

- a. The chemical concentrations, rates and methods of application comply with these specifications;
- b. The effectiveness of the treatment is guaranteed for a period not less than two (2) years from the date of substantial completion;
- c. All necessary repairs of damages resulting from subterranean termite infestation within a period of two (2) years from the date of substantial completion will be made at the Contractor's expense, and;
- d. If subterranean termite infestation should occur through the treated area within the three-year guarantee period, the soil shall be re-treated to exterminate all infestation without cost to the Owner as follows:
 1. Working pressure while applying solution shall be not less than 100 psi. All corrective treatments shall be performed to at least 10 feet around each visible subterranean termite activity.
 2. Drill one hole per block along one course of hollow tile walls above either interior or exterior grade level and treat at a rate of 2 Gals. per 5 lineal feet of wall.
 3. Drill through all interior concrete floors, along both sides of partitions and walls, and treat at a rate of 5 Gals. per hole. Drill holes through concrete slabs of 1/2" or 9/16" diameter and spaced not more than 36" apart.
 4. Drill one hole at each plumbing, electrical and other utility penetration through ground floor slab and treat at a rate of 3 Gals. per hole.
 5. Patch drill holes with commercially prepared epoxy grout patch per manufacturer's instructions, and refinish all wall and floor finishes to match existing surrounding finishes and colors, or replace entire installation, as necessary.

SECTION 2D: DEMOLITION

1. GENERAL CONDITIONS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE

The work included in this section of the specifications shall provide for all labor, materials and equipment required to perform any demolition, removal, dismantling, cutting and patching at the project site as required to complete all work as called for on the drawings and hereinafter specified.

3. PRINCIPAL ITEMS OF WORK

- a. Demolition and removal of existing construction related to new work.
- b. Removal of refuse, debris and demolished material from the property.
- c. Patch all areas and surfaces damaged as a result of removal work; match existing adjacent surfaces and/or areas.
- d. Promptly clean areas outside of construction area that collect dust or debris.
- e. Obvious conditions which exist at the job site shall be accepted as part of the work, even though they may not be clearly indicated on the drawings.
- f. Sawcutting of existing concrete wall.
- g. Sawcutting of existing concrete floor and roof slabs.
- h. Coring of concrete slab and walls for new piping and conduits.
- i. Removal of existing site concrete slab, AC paving and landscape, etc. where noted on plans.
- j. Asbestos survey performed in the project location suggests there is asbestos in the flooring material and mastic at project site. Contractor to include in his bid, services of a hazmat testing company to material test all existing materials such as but not limited to flooring, adhesives, lead paint, drywall mud, floor/wall ceramic tile grout, HVAC insulation, duct sealant, chill water piping insulation, etc.

4. NOTICES

- a. The Contractor will serve proper notices and consult with the Mahelona Medical Center's Facility Director regarding temporary disconnection of electricity, water, and other utility lines which may affect the hospital.
- b. Prior notice shall be provided before scheduling of concrete slab cutting, excavation and new concrete slab work

5. GENERAL

- a. The Contractor shall examine the areas and note all conditions and the extent involved for the complete and proper execution of all work as called for on the plans and as hereinafter specified.
- b. All work shall be executed in an orderly and careful manner with due consideration for the existing building as the Contractor shall be responsible for all damages to the existing building.
- c. Every precaution must be taken at all times for the protection and safety of the public.
- d. Negative air pressure monitoring and testing. The following minimums shall apply:
 1. Testing via smoke test.
 2. Negative air at all entry points to project site.
 3. 6 air exchanges per hour minimum.
 4. Use air scrubbers with HEPA filters for exhaust.
 5. Documentation noting equipment servicing frequency and checks.
 6. Pressure recording devices.
- e. Smoke detection.
 1. Select smoke detectors to remain operational in project site as determined by the hospital.
 2. Contractor to provide, install and remove temporary smoke detector covers during dust creating activities, hot work, etc.
 3. Pull stations, if existing in construction area, are to remain active for means of notification in case of fire.
 4. Provide fire watch. Contractor to provide fire watch log during normal work hours. Mahelona Medical Center to provide fire watch log after normal work hours.
- f. Fire Sprinkler Outage.

Due to scope of fire sprinkler work, the fire sprinkler system may be out of service for an extended period. During this time during normal work hours, Contractor to provide fire watch log. Mahelona Medical Center will provide fire watch log after normal work hours.
- g. Roof Work.

There are no established roof anchor points for workmen engaged in work on roof. Contractor to provide safety provisions as required.

6. UTILITY LINES

Permanently remove to the extent possible, seal and cap all utility lines not to be replaced or reused. Cut and cap unused utility lines below slab and/or surfaces.

7. ABOVE CEILING INFRASTRUCTURE REMOVAL

Contractor shall remove all existing conduits, ducts, equipment, wiring, acoustic ceiling hanger wires, equipment supports, brackets, cables, steel supports, etc. not in service or used in ceiling plenum space above renovation project location. It shall be the Contractor's responsibility to verify that these items are not in service or used.

8. CLEAN-UP

All non-salvable material, rubbish and debris shall be completely removed from the premises and the whole area left cleaned.

SECTION 2E: PATCHING

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE OF WORK

Furnish all labor, materials and equipment necessary to perform any and all repair work and patching on the existing building caused by demolition, removal work, or resulting from the Contractor's operations.

3. SUBMITTALS

Submit manufacturer's specifications, recommendations, and installation and instructions for all patching work.

4. MATERIALS

All materials used for patching work shall be new and of grade compatible with the existing material. All materials shall be of the best of their respective kind and such that when they are installed or applied the finish of the new material shall match that of the adjoining existing surfaces of similar material.

5. REPAIR AND PATCHING

- a. Cavities and/or openings resulting from removal work shall be filled and finished to match existing surfaces. Wherever possible, the patchwork shall be in whole units, not in part or parts of the whole. *When cavities and/or openings are created from removal work in 1 hour fire rated smoke barrier wall, shaft walls and roof structure, an approved UL system shall be used.*
- b. Annular spaces that occur around ductwork and piping in fire rated walls and floors shall be infilled with an approved UL listed fire stopping.
- c. Patching work shall be accomplished in accordance with the best standard practices of the trade, and by persons skilled in the trade.
- d. All concrete, plaster, floor tile, ceiling finish etc., shall be matched with the existing and finish texture shall blend into the existing adjacent surface.
- e. Patch holes in concrete slab using FS-One High Performance Intumescent Firestop Sealant by Hilti or equal.
- f. Touch-up painting shall match the existing adjacent surface. Apply one prime coat and one finish coat at existing surfaces altered by renovation work not scheduled for painting.
- g. Non-shrink grout for patching shall be prepared, mixed and applied in accordance with the manufacturer's recommendations.

SECTION 2F: ASBESTOS ABATEMENT

1. GENERAL CONDITIONS

Division One, "General Requirements" is hereby made a part of this section.

2. SUMMARY OF PROJECT

- a. Furnish all labor, materials, and equipment necessary to carry out the safe removal and disposal of asbestos-containing materials in compliance with these specifications, U.S. Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), State of Hawaii, and any other applicable federal and state regulations. Whenever there is a conflict or overlap of the above references, the most stringent shall apply.
- b. Refer to Hazardous Material Survey prepared by HEIS dated 3/4/21. See specification Section 1J.
- c. All removal work will be scheduled for off-hours or during periods of low occupancy. Hazardous Material Subcontractor shall verify the existing locations, conditions, layers, and thickness of all materials prior to commencement of any work. The "assumed" asbestos work shall include:
 1. Removal and disposal of sheet vinyl flooring and mastic.
 2. Removal and disposal of tile grout.
 3. *Contractor to include a \$35,000 allowance in his bid for this work. Should material testing by the hospital reveal these materials do not include asbestos, a credit change order for this amount will be issued to the construction contract.*
- d. In general, the principal items of the asbestos removal work shall be as follows:
 1. Worker protection.
 2. Decontamination enclosure system.
 3. Preparation of work area.
- e. Removal of asbestos-containing materials.
 1. Removal of protective sheeting.
 2. Disposal.
- f. Cleaning shall include areas within and immediately around the work area affected by the abatement work and all areas contaminated by the Hazardous Material Subcontractor's work.
- g. The asbestos abatement work shall include removal of all asbestos-containing materials within the work area as specified herein.
- h. Hazardous Material Subcontractor shall comply with all regulations pertaining to asbestos removal. If there is a conflict with the specifications, the more stringent requirement shall apply.
- i. The Hazardous Material Survey also identifies light fixture ballasts that contain PCBs. Work scope shall include removal and disposal of these ballasts as hazardous waste.

3. COORDINATION WITH OTHER SECTIONS

Prior to commencement of work, an annotated description of all existing damaged and missing items shall be submitted to the Owner. It will be the Hazardous Material Subcontractor's responsibility to repair and/or replace to all items identified as damaged and/or missing that cannot be proven to have been in this condition prior to the commencement of this project.

4. SUBMITTALS PRIOR TO WORK

- a. Notices: As early as possible but prior to commencement of work, as regulated by each agency and before commencement of any on-site project activity, send written 10-day notice in accordance with 40 CFR Part 61.145 of Subpart M, of the proposed asbestos abatement work and to the following agencies:
 1. The Administrator of the Environmental Protection Agency Regional Office having jurisdiction over the project.
 2. State of Hawaii, Department of Health, "Notification of Demolition and Renovation" form. Send to: Noise, Radiation and Indoor Air Quality Branch, Asbestos Abatement Office, State Department of Health, P.O. Box 3378, Honolulu, Hawaii 76801-9984.
- b. Permits and Licenses: Copies of all permits, licenses (C-19) and arrangements for removal, transportation and disposal of asbestos-containing materials and wastewater, no later than 20 consecutive working days from notice of award unless otherwise instructed in writing by QMC.
- c. Insurance: Proof of insurance for Worker's Compensation and General Liability which covers asbestos, lead, and pollution.
- d. Manufacturer's Data: Copies of manufacturer's specifications, installation instructions and field test procedures for each material and all equipment related to asbestos handling and abatement and include other data as may be required to show compliance with these specifications and proposed uses.
- e. Work Plan: Submit an asbestos abatement work plan to the State Department of Health (DOH), signed by the Hazardous Material Subcontractor's Project Designer. The Contractor is to retain a Hazardous Material Subcontractor to generate the work plan. The work plan shall provide detailed information concerning:
 1. Preparation of the work area.
 2. Personal protective equipment including respiratory protection and protective clothing.
 3. Decontamination procedures for the personnel who may be exposed to asbestos.
 4. Handling and disposal methods and procedures to be used.
 5. Required air monitoring procedures and sampling protocols.
 6. Procedures for final clean up.
 7. A sequence of work and performance schedule in coordination with other trades.
 8. Emergency procedures.

- f. Shop Drawings: Submit shop drawings for the following items as a minimum:
1. Descriptions of any equipment to be employed not discussed in this section.
 2. Security provisions, if any, in and around the project area.
 3. Outline of work procedures to be employed.
 4. Location and construction of all airtight barriers.
 5. Staging of the work, the sequence.
 6. Entrances and exits to the work place.
 7. Location and construction of worker decontamination units.
 8. Water filtration system for all contaminated water. Description of water disposal and copy of water disposal permit from the City and County of Honolulu, Environmental Services, Division of Environmental Quality, Industrial Wastewater Discharge Permit for Temporary Discharge into the City Sewer System.
 9. Proposed method of attaching plasticizing (polyethylene sheeting) shall be approved in advance to minimize damage to equipment and surfaces. Method of attachment may include any combination of duct tape or other approved waterproof tape, furring strips, spray glue, staples, nails screws or other effective procedures capable of sealing adjacent sheets of polyethylene sheeting and capable of sealing polyethylene to dissimilar finished or unfinished surfaces both under wet and dry conditions (including amended water).
 10. Proposed method of patching and repairing all damage to existing finishes from the attachment of polyethylene sheeting (as applicable).
 11. Documentation for Instruction: Submit documentation that each and every individual, including foremen, supervisors, and other company personnel or agents and any other individual who may be exposed to airborne asbestos fibers, who may be responsible for any aspect of abatement activities, or who is allowed or permitted to enter areas where such exposure may occur has currently attended and passed the Abatement Worker and/or Hazardous Material Subcontractor/Supervisor course whichever is relevant to that worker's responsibilities as specified in 40 CFR Part 763, "Asbestos Materials in Schools". These courses shall be EPA-approved or approved by a State Accreditation Program in the most current listing of the Federal Register. No worker shall be allowed on site if they are found to have either an expired accreditation certificate or does not comply with the requirements set forth in 40 CFR Part 763 on training. All workers shall be certified for asbestos related work in accordance with Department of Health, Chapter 11-504, Hawaii Administrative Rules, *Asbestos Abatement Certification Program*.
 12. The Subcontractor shall be responsible for keeping the documentation up to date before any additional employee or individual, not currently on the list, is allowed within the project site.
 13. Submit completed and signed "Employee Acknowledgment of Instruction and Release" forms. A sample "Employee Acknowledgment of Instruction and Release" form is provided at the end of this section.

14. Documentation from Physician: Submit documentation from a physician that all employees or agents who may be exposed to airborne asbestos have been provided with an opportunity to be medically monitored to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. In addition, document that all individuals permitted within the project site have received medical monitoring or had such monitoring made available to them as required in OSHA 29 CFR 1926.1101. The Hazardous Material Subcontractor must be aware of and provide information to the examining physician about unusual conditions in the workplace environment (e.g., high temperatures, humidity, chemical contaminants) that may impact on the employee's ability to perform work activities. The Subcontractor shall keep and make available to all affected individuals a record and the results of such examinations.
15. High Efficiency Particulate Absolute (HEPA) Vacuums: Submit manufacturer's certification that vacuums conform to ANSI Z9.2-79, Fundamentals Governing the Design and Operation of Local Exhaust Systems as applicable to this project.
16. Emergency Planning Procedures: Submit an emergency plan prior to abatement initiation.
 - a. Emergency procedures shall be in written form and prominently posted adjacent to the Worker Protection Notices specified hereinafter. Everyone prior to entering the work area must read and sign these procedures to acknowledge receipt of emergency exits and emergency procedures.
 - b. Emergency planning shall include notification of police, fire, and emergency medical personnel of planned abatement activities work schedule, and layout of the work area, particularly barriers that may affect response capabilities.
 - c. Emergency planning shall include considerations of fire, explosion, toxic atmospheres, electrical hazards, slips, trips and falls, and heat related injury. Written procedures shall be developed and employee training procedures shall be provided in the Hazardous Material Subcontractor's plan.

5. SUBMITTAL AFTER WORK IS COMPLETED

- a. At the completion of the work, a final report shall be prepared by the Hazardous Material Subcontractor for acceptance.
- b. The project name, Hazardous Material Subcontractor, Hazardous Material Subcontractor license number, notification form to the Hawaii Department of Health and EPA, work duration, material removed, respiratory protection employed, asbestos waste manifest, total quantity of waste, employee exposure air sample results, and results of the most current Proficiency Analytical Testing (PAT) round results for the laboratory conducting all air sample analysis.
- c. Certification of the Hazardous Material Subcontractor's employees and the Qualified Consultant.
- d. Visitor/Worker Entry Log: The daily log of all personnel including the Hazardous Material Subcontractor's employees and agents who enter the work area while asbestos abatement operations are in progress, until final clearance is received that the work area is asbestos free. The log shall contain the listed information as a minimum and shall be certified by the Qualified Consultant.

1. Date of visit/worker entry.
 2. Visitor/Worker's name, employer, business address and telephone number.
 3. Time of entry and exit from work area.
 4. Purpose of visit.
 5. Type of protective clothing and respirator worn.
 6. Certificate of release signed and filed with the Hazardous Material Subcontractor.
- e. Clearance certifications received from the Qualified Consultant.
- f. A statement signed by the Hazardous Material Subcontractor that all asbestos abatement and disposal was completed in compliance with this specification, federal and state regulations, and the approved work plan

6. PRODUCT HANDLING

Delivery and Storage of Materials: Deliver materials to the site in original packages, containers or bags fully identified with manufacturer's name, brand and lot number. Store materials in a dry, well-ventilated space, under cover, off the ground and away from surfaces subject to dampness or condensation. Material that becomes contaminated with asbestos shall be disposed of in accordance with applicable regulations. Replacement materials shall be stored outside the contaminated work area until abatement is completed.

7. PROTECTION

- a. Site Security: The work area is to be restricted only to authorized, trained, and protected personnel. These may include the Contractor's employees, employees of other Subcontractors, Kuakini Medical Center and its representatives, state and local inspectors and any other designated individuals. A list of authorized personnel shall be established prior to job start.
1. Entry to the work area by unauthorized individuals shall not be permitted.
 2. A visitor/worker entry log shall be maintained.
 3. The Hazardous Material Subcontractor shall have control of security in the work area and in proximity of Subcontractor's equipment and materials.
- b. Site Protection and Safety: As a minimum, follow the requirements of EPA, HIOSH (State of Hawaii), OSHA and NIOSH. Take all necessary precaution to ensure there is no asbestos contamination to those areas not included in the work schedule.
- c. Protective Covering: The Hazardous Material Subcontractor shall provide and install protective covering on an "as required" or "upon request" by the Qualified Consultant. Protective covering shall be clean plastic sheets minimum thickness of 6-mil.

- d. Safeguarding of Property: The Hazardous Material Subcontractor shall take whatever steps necessary to safeguard his work and other individuals in the vicinity of his work area during the execution of this contract. He shall be responsible for and make good on any and all damages by his employees' negligence. Do not load structure with weight that will endanger the structure.
- e. Completed Work: The Subcontractor shall provide all necessary protection for surfaces encapsulated under this section.

8. ABBREVIATIONS

- a. ANSI: American National Standards Institute, Inc.
- b. CFR: Code of Federal Regulations.
- c. EPA: U.S. Environmental Protection Agency.
- d. HIOSH: Division of Occupational Safety and Health, Department of Labor and Industrial Relations, State of Hawaii.
- e. NESHAP: National Emission Standards for Hazardous Air pollutants.
- f. NIOSH: National Institute for Occupation Safety and Health.
- g. OSHA: Occupational Safety and Health Administration.

9. GENERAL REQUIREMENTS

- a. Hazardous Material Subcontractor shall examine and have at all times in his possession at his office (one copy) and in view at each job site office (one copy) a current issue of the following publications:
 - 1. State of Hawaii, Department of Health, Title 11, Chapter 501-1, Asbestos Requirements.
 - 2. State of Hawaii, Department of Health, Title 11, Chapter 501-4, Asbestos Abatement Certification Program.
 - 3. Title 29, Code of Federal Regulations, Section 1910.134 – General Industry Standard for Respiratory Protection, Occupational Safety and Health Administration (OSHA), U.S. Department of Labor.
 - 4. Title 29, Code of Federal Regulations, Section 1926.1101 – Asbestos, Construction Industry, Occupational Safety and Health Administration (OSHA), U.S. Department of Labor.
 - 5. Title 29, Code of Federal Regulations, Section 1910.2 – Access to Employee Exposure and Medical Records, Occupational Safety and Health Administration (OSHA), U.S. Department of Labor.
 - 6. Title 29, Code of Federal Regulations, Section 1910.1200 – Hazard Communication, Occupational Safety and Health Administration (OSHA), U.S. Department of Labor.

7. Title 40, Code of Federal Regulations, Part 61, Subparts A and M (Revised Subpart B), National Emission of Standards for Hazardous Air Pollutants, U.S. Environmental Protection Agency (EPA).
 8. Guidance for Controlling Asbestos-Containing Materials in Buildings, EPA 560/5-85-024 (Purple Book), U.S. Environmental Protection Agency (EPA).
 9. Title 34, Code of Federal Regulations, Part 231, Appendix C, Procedures for Containing and Removing Building Materials Containing Asbestos, U.S. Environmental Protection Agency (EPA).
 10. Title 29, Code of Federal Regulations, Section 1910.145 Specifications for Accident Prevention, Signs and Tags, Occupational Safety and Health Administration (OSHA), U.S. Department of Labor.
 11. ANSI Z88.2-80 Practice for Respiratory Protection.
 12. EPA, Final Response to the Asbestos Hazard Emergency Response Act (AHERA), 40 CFR, Part 763, Subpart E.
- b. The Hazardous Material Subcontractor shall comply with the above requirements and any applicable state and local regulations. Where conflict or any inconsistency among requirements or with this specification exists, the more stringent requirements shall apply. Ignorance of the above requirements and any applicable state and local regulations resulting in additional cost to the Subcontractor shall be solely the Subcontractor's responsibility.
 - c. All regulations shall govern over these specifications, except that any more stringent specification or specification providing greater protection against asbestos exposure, injury, loss or liability, shall control to the extent permitted by regulation

10. DEFINITIONS

- a. Abatement: Procedure to control fiber release from asbestos-containing building materials.
 1. Removal: All herein specified procedures necessary to remove asbestos-containing materials at an approved site in an acceptable manner.
 2. Post-removal surface encapsulation: Procedures necessary to coat surfaces from which asbestos-containing materials have been removed and where designated on the drawings to control any residual fiber release.
- b. Air Monitoring: The process of measuring the fiber content of a specific, known, volume of air in a stated period of time. For this project, NIOSH 7400 Method.
- c. Amended Water: Water to which a surfactant has been added to reduce water surface tension and thereby provide a more rapid penetration.
- d. Authorized Visitor: The Qualified Consultant, his representatives, air monitoring personnel, or a representative of any regulatory or other agency having jurisdiction over the project.
- e. Fixed Object: A unit of equipment or furniture in the work area which cannot be removed from the work area without dismantling.

- f. Friable Asbestos: Asbestos-containing material which can be crumbled to dust, when dry, under hand pressure.
- g. Hazardous Material Subcontractor: Asbestos Abatement Contractor hired by the Contractor who will perform asbestos abatement.
- h. HEPA Filter: A High Efficiency Particulate Absolute filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 micron in length.
- i. HEPA Vacuum Equipment: Vacuuming equipment that utilizes a High Efficiency Particulate Absolute filter.
- j. Holding Area: A secure area used for the storage of double-bagged asbestos-containing material before removal from the project site to an approved disposal site.
- k. Post-Removal Encapsulation: A liquid material which can be applied to surfaces from which asbestos-containing material has been removed to control the possible release of residual fibers, either by creating a membrane over the surface (bridging encapsulant) or by penetrating in to the material and binding its components (penetrating encapsulant). Selected product shall be compatible with the existing finishes including wood, metal, and plastic.
- l. Qualified Consultant: Consultant hired by the General Contractor who will perform air monitoring and inspection during abatement work and shall have the authority to initiate engineering controls. The Qualified Consultant must have attended the 4-day Joint Commission (JC) seminar, accredited as a State of Hawaii Department of Health accredited Asbestos Contractor Supervisor, Project Monitor; and NIOSH 582 certified.
- m. Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.

11. MATERIALS

- a. Plastic Sheeting: Minimum thickness is 6-mil polyethylene film.
- b. Plastic Bags: Minimum thickness 6-mil polyethylene film labeled as specified hereinafter.
- c. Tapes: Tape shall be capable of sealing joints of adjacent sheets of polyethylene and for attaching polyethylene sheets to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including the use of amended water. Silver cloth duct tape, minimum 2 inches wide; red or NATO orange tape, minimum 2 inches wide for exit arrows; and double faced foam tapes, by Nashua, 3-M, Arno, or approved equal.
- d. Adhesives: Adhesives (3-M #76, #77, or approved equal) shall be capable of sealing joints of adjacent sheets of polyethylene and for attachment of polyethylene sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including use of amended water.
- e. Surfactant (Wetting Agent): Fifty percent polyoxyethylene ester and 50% polyoxyethylene ether, or equivalent, and shall be mixed with water to provide a concentration of one ounce, or more as needed, of surfactant to 5 gallons of water. (An equivalent surfactant shall be understood to mean material with a surface tension of 29 dynes/cm as tested in its properly mixed concentration, using ASTM Method D 1331-56 (R 1980), "Surface and Interfacial Tension of Solutions of Surface-Active Agents".)

- f. Warning Labels and Signs: As required by OSHA regulations 29 CFR 1926.1101. Permanent signage for access panels and areas with encapsulated asbestos-containing materials shall be as specified hereinafter.
- g. Protective Clothing: As specified hereinafter. The Hazardous Material Subcontractor shall have all the required sets of coveralls required for this project on island prior to the start of work. There will be no time extension for the unavailability of coveralls or related equipment.
- h. Post-Removal Encapsulation: The encapsulant shall be applied to surfaces from which asbestos-containing material has been removed to control the possible release of residual fibers, either by creating a membrane over the surface (bridging encapsulant) or by penetrating in to the material and binding its components (penetrating encapsulant) and shall be compatible with the existing finishes including wood, metal, and plastic.
- i. Other Materials: Provide all other materials, such as, but not limited to, lumber, plywood, nails, fasteners, metal studs, hardware, foam sealants, and caulking which may be required to properly prepare and complete this project.

12. TOOLS AND EQUIPMENT

- a. General: Provide and fabricate suitable tools for the asbestos abatement procedures.
- b. Water Sprayer: Airless or a pressure sprayer for amended water application as applicable.
- c. Air Purification Equipment: High Efficiency Particulate Absolute (HEPA) filtration systems.
- d. Paint/Encapsulant Sprayer: Airless type.
- e. Other tools and equipment as necessary.

13. PERSONNEL PROTECTION REQUIREMENTS

- a. The Hazardous Material Subcontractor acknowledges he alone is responsible for instruction and for enforcing personnel protection requirements and that these specifications provide only a minimum acceptable standard.
- b. Provide workers with sufficient sets of disposable protective full body clothing consisting of material impenetrable by asbestos fibers and of the proper size for each individual to accommodate movement without tearing. Such clothing shall consist of full body coveralls, footwear, gloves and headgear. Provide hard hats as required by applicable safety regulations. Disposable clothing shall not be allowed to accumulate and shall be disposed of as asbestos contaminated waste. Protective clothing shall be worn by all personnel within the work area from the start of the removal and post-removal encapsulation work until the work area has received its final clearance.
- c. Insulated non-skid rubber boots or an approved equal shall be required for all individuals entering the work area. Protective full body clothing without elastic at sleeves and legs shall require separate elastic or taped protection to seal the opening. Visitors shall be provided full body protective clothing.
- d. No visitors shall be allowed in work areas.

- e. All electrical systems used for asbestos abatement operations shall as a minimum be protected with "Ground Fault Circuit Interrupters" selected and installed in strict accordance with the manufacturer's instructions, the National Electric Code and all other pertinent codes.
- f. Additional safety equipment (e.g., hardhats meeting the requirements of ANSI Z-89.1-1981, eye protection meeting the requirements of ANSI Z87.1-1979, safety shoes meeting the requirements of ANSI Z41.1-1967, disposable polyvinyl chloride gloves), as necessary, shall be provided to all workers and authorized visitors.

14. SEPARATION OF WORK AREAS FROM NON-WORK AREAS

- a. Visual Separation: Where applicable, visual separation shall be accomplished at all glazed areas using opaque polyethylene. This separation shall not be incorporated within the other seals required on this project.
- b. Air Systems: Shut down and isolate all ventilation air systems to prevent contamination and fiber dispersal to other areas of the building. During the abatement operations, air intake vents within the work area shall all be sealed with tape and two layers of 6-mil polyethylene sheeting.
- c. Emergency Exits: Designate and maintain emergency and fire exits from the work area in accordance with local codes and regulations. Provide knockout/cut away panels in the barriers in the direction of emergency egress. Properly mark the knockout/cut away panels, seal them airtight, and on a continuing basis instruct workers and authorized personnel as to their locations. Post a diagram in each Clean Room and Equipment Room locating the emergency exits. In case of fire while doing work in the work areas, emergency exit procedures have priority over normal work exiting procedures.
- d. Inspection: The Hazardous Material Subcontractor shall inspect all barriers at least twice a day (once prior to the start of each day's abatement operations and following the day's abatement operations). Document the inspections and observations in a daily project log.

15. DECONTAMINATION ENCLOSURE SYSTEMS

- a. General: The Hazardous Material Subcontractor shall construct the decontamination enclosure system or use portable units acceptable to the Qualified Consultant, adjacent to the work area.
- b. Personnel Decontamination Unit: As deemed necessary by the Qualified Consultant, provide a personnel decontamination enclosure system contiguous to the work area consisting of 3 totally enclosed chambers as follows:
 - 1. An Equipment Room with 2 curtained doorways, one to the work area and one to the shower.
 - 2. A Shower Room with 2 curtained doorways, one to the Equipment Room and one to the Clean Room. The Shower Room shall contain at least one shower. Careful attention must be paid to the shower enclosure to insure against leakage of any kind. Ensure a supply of soap at all times in the shower. Drainage from the shower shall be disposed of as contaminated wastewater or filtered as specified hereinafter.

3. A Clean Room with one curtained doorway to the Shower Room and one entrance/exit door to non-contaminated area. The Clean Room shall have sufficient space for storage of worker's street clothes and personal effects, towels, and other non-contaminated items.
- c. Maintenance of Decontamination Units: At the beginning of each work shift and throughout abatement operations, all seals and curtained doorways shall be inspected and if not found in proper condition, repaired immediately. All areas shall be kept clean at all times. Ensure that drainage filtering systems are kept clean and operational at all times.
 1. Personnel decontamination unit:
 - a. The Hazardous Material Subcontractor shall maintain Clean Room and shall repair and sanitize respirator equipment after each use.
 - b. Soap and shampoo shall be in the showers at all times.
 - c. Fresh towels shall be available at all times.
 - d. Provide a disposal bag for contaminated filters in the Shower Room at all times.
 - e. Provide storage for wet and dry towels.
 - f. Provide a fine bristle brush outside the Equipment Room in the work area.
 - g. At the end of each work shift the shower shall be thoroughly disinfected, the filter bag (if applicable) shall be returned to the Equipment Room for disposal, and the Equipment Room shall be thoroughly HEPA vacuumed and wet cleaned. The decontamination enclosures shall be sealed and removed (as necessary) and area restored after each work day.
 - d. Worker Protection Notice: Post the following notice in each Clean Room and Equipment Room:
 1. Workers and authorized personnel, in order to enter the work area, shall:
 - a. Remove all clothing, unless it is to remain in the Equipment Room for eventual disposal.
 - b. Don the appropriate respiratory protection, follow all training procedures and manufacturer's instructions. Once all of the above has been completed, proceed to the shower. Check the equipment out for proper operation before proceeding any further.
 - c. Don protective clothing (full body coveralls, gloves, boots, headgear etc.) after donning respirator.
 2. All workers and authorized personnel, in order to leave the work area, shall:
 - a. Remove gross (visible) contamination from themselves and their equipment. Brush off dust with a fine bristle brush and leave the brush outside the Equipment Room in the work area.

- b. Enter the Equipment Room and, keeping your respirator in place, remove all protective clothing, including full body coveralls, gloves, boots, and headgear. Place contaminated clothing in the bag(s) provided. Store reusable gloves and boots in their respective areas in the Equipment Room.
- c. Respirator still in place, move into the Shower Room and rinse off thoroughly.
- d. Accomplish complete showering, thoroughly soaping and shampooing.
- e. Proceed to the Clean Room: Dry off, get dressed and return respirator to its proper place.
- f. No smoking, eating, drinking shall be allowed inside the work area or the decontamination enclosures.

16. WASTEWATER FILTERING SYSTEM

- a. Prior to any wastewater disposal into the sanitary sewer system, the Hazardous Material Subcontractor shall be responsible for obtaining from the City and County of Honolulu, Environmental Services, Division of Environmental Quality, Industrial Wastewater Discharge Permit for Temporary Discharge into the City Sewer System.
- b. Filter: All wastewater that will be discharged into the sanitary sewer system shall be treated as contaminated with asbestos and shall be filtered using 2 in-line filter cartridges with 2-inch inlets and outlets. The outlet of the first cartridge shall connect to the inlet of the second cartridge. The first cartridge shall contain six 100-micron prefilters and a second cartridge shall contain six 0.5-micron filters or equal staging according to type filtering unit.
- c. One spare set of 100-micron prefilters shall be maintained at the site at all times to replace prefilters during cleaning. Maintain at least one set of 0.5-micron or equal filters at the site at all items form replacement as necessary.
- d. When prefilters become clogged, replace with spares, and wash out the prefilters in the Shower Room, allowing drainage from the cleaning operation to go through the filtering system.
- e. When the final filters become clogged, remove the filters, replace with new, and dispose of the clogged filters as contaminated waste.
- f. Provide a holding tank for contaminated wastewater as required to prevent backup of water into the shower when the amount of water generated exceeds the flow rate of the filters.

17. COMMUNICATIONS

Provide a communications system suitable to monitor all activities within the work area and to readily transfer messages from one location to another.

18. WORK AREA PREPARATION

Work by the Hazardous Material Subcontractor:

1. Step 1:

- a. Posting of danger signs: Post danger signs in and around the work area to comply with 29 CFR 1926.1101 and all other federal, state and local requirements. Signs shall be posted at a distance sufficiently far enough away from the work area to permit a person to read the sign and take the necessary protective measures to avoid exposure.
- b. Inspect the building openings: At the beginning of each work day, the Subcontractor shall inspect and ensure that all doors, windows and other openings of affected building(s) and all surrounding buildings are closed and locked (as applicable).
- c. Barrier enclosures: Cover all openings between the work area and the occupied portions of the building with opaque plastic. Construct all general and separation barriers.
- d. Sealing openings: Seal all openings including, but not limited to, ducts, vents, electrical penetrations, and any other penetrations of the work areas, with plastic sheeting sealed with tape.

2. Step 2:

- a. Provide decontamination units where appropriate: Personnel decontamination unit(s) specified hereinafter shall be required.
- b. Pre-cleaning/wet-wiping: Pre-clean fixed object within the work area, first using HEPA vacuum equipment and then wet cleaning methods as appropriate and separately enclose with minimum 6-mil plastic sheeting sealed with tape. Fixed objects shall include, but not be limited to exposed electrical conduits and all other permanently fixed items.

3. Step 3:

- a. Plasticizing: Objects which may be contaminated during abatement or difficult to clean shall be taped and sealed in a minimum of 6-mil polyethylene plastic sheeting. A minimum of 2 layers of 6-mil polyethylene plastic sheeting shall be used for preparation of critical barriers and containments.
- b. When sealing (plasticizing), plastic sheet shall be protected against damages by sharp edges, projections, etc. Provide 2-inch squares of duct tape at all sharp projections prior to applying plastic sheet to prevent puncture and tearing.
- c. NOTE: Combining lower mil thickness sheets to total the minimum mil thickness is not acceptable.
- d. Install glove bags on all asbestos-containing insulation material in accordance with the manufactures instructions.
- e. Marking exits: Maintain and mark both normal and emergency exits from the work areas to include large tape or spray painted orange arrows in the direction of egress and at curtained doorways which side of plastic sheeting to access first. One arrow marking shall be visible from every work location. Establish a color or designation system to distinguish normal exiting to the personnel decontamination unit and emergency exiting when life safety conditions prevail.

4. Step 4: Temporary utility services:
 - a. Temporary electricity and lighting:
 1. Existing electrical service to the building may be used for temporary electrical power during abatement and replacement work; however, the electrical power to the work area will be shut down during abatement work.
 2. The Hazardous Material Subcontractor shall verify the location(s) of available electrical service outside the work areas and shall tie into the existing system at a location approved by QMC.
 3. Provide a minimum of 35 foot candles of illumination on surface for finishing operation and 100 foot candles for removal operations. Provide 24 volt safety lighting.
 - b. Temporary water: Existing domestic water service to the building may be used for temporary water during construction. Location of tie-in shall be approved by QMC.
 - c. Temporary fire protection:
 1. Provide and maintain temporary fire protection equipment during the asbestos abatement operations.
 2. Equipment shall be of the appropriate type to fight fires associated with the existing building materials and those materials used during the construction operations.
 3. The Subcontractor shall clearly mark the location of all fire extinguishers.
5. Step 5: After the sealing and temporary facility work is completed, notify the Qualified Consultant and get his approval prior to proceeding with abatement

19. REMOVAL OF FLOORING (VINYL SHEETING, ADHESIVE, FIBROUS BACKING, LEVELING COMPOUND)

- a. Cover all vertical surfaces a minimum of 4 feet from the floor. Completely seal the top and bottom of the sheeting with a continuous length of duct tape.
- b. Spray the asbestos-containing material repeatedly during the removal operations to maintain a wet condition and to minimize asbestos fiber dispersion. Prevent contamination spreading to the surrounding public area. A fine spray of the amended water shall be applied in small sections to reduce fiber release preceding the removal of the asbestos-containing material. Spray the asbestos-containing material repeatedly during the removal operations to maintain a wet condition and to minimize asbestos fiber dispersion. The Qualified Consultant shall have the authority to stop all work due to improper removal techniques.
- c. The asbestos-containing material shall be removed in small sections. Before beginning the next section, the material shall be packed while still moist into sealable 6-mil double polyethylene bags and sealed airtight. No removed material, whether bagged or unbagged, shall be allowed to dry, fall to the ground, be crumbled into small pieces, pulverized, or made friable.

- d. It shall be the responsibility of the Hazardous Material Subcontractor to verify the thickness of the material and satisfy himself as to the total work and/or effort to remove said material. No additional payment will be considered by the Owner for any deviation of the actual thickness from the thickness noted on the drawings.
- e. The Subcontractor is prohibited from using methods of removal that create excessive amounts of dust and debris.

20. EQUIPMENT CLEANING

All contaminated equipment and tools used for removal work shall be washed and cleaned in the work area prior to removing them from the work area. No washing of contaminated equipment and tools will be allowed outside the work area.

21. ASBESTOS-CONTAINING WASTE HANDLING

- a. Collect and bag all asbestos debris and any other contaminated debris found in the work area. Clean the visible residual by HEPA vacuuming.
- b. Clean fixed object within the work area, using HEPA vacuum equipment. Fixed objects shall include, but not be limited to, pipes, wiring and all other permanently fixed items. Do not use methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters. Do not use HEPA vacuum equipment on wet surfaces.
- c. Debris shall be bagged and sealed in 6-mil plastic bags immediately after removal. All gross debris created by the removal process shall be bagged and sealed at the end of each removal day.
- d. The bags containing the asbestos waste material shall be checked for evidence of waste material attached to the outside of the bags. If dirty, the bags shall be washed down in the work area. The bags are then moved to the holding bin. Bags and containers shall be marked with OSHA label prescribed by the Hawaii OSHA regulations referenced in this specification section. Label shall state, "DANGER – CONTAINS ASBESTOS FIBERS – AVOID CREATING DUST – CANCER AND LUNG DISEASE HAZARD". Additionally, label bags in accordance with OSHA 40 CFR 61.150; or EPA 40 CFR 763 if more restrictive. Labeling shall include the name of the waste generator and the site where the waste was generated.
- e. Asbestos contaminated waste with sharp edges (e.g., nails, screws, metal lath, etc.) will tear the polyethylene bags and sheeting and therefore shall be placed in drums or enclosed with cardboard and double wrapped and sealed with plastic.
- f. During the removal process, if plastic sheeting tears or the duct tape loosens from the surface, the Hazardous Material Subcontractor shall immediately stop work, clean up loose asbestos-containing materials, and then reseal the surface by taping over the torn or loosened surface, before commencing again.
- g. Protect the plastic sheeting against tearing caused by sharp projection, corners, edges, etc., of all equipment being used in the removal process. However, if the plastic sheeting tears, the Hazardous Material Subcontractor shall follow repair procedure specified above.
- h. Any housing or penetration concealing asbestos-containing materials shall be removed and protected to provide access to the materials. Replacement or reattachment of these shall be in a manner such that function and appearance is equal or exceeds the original condition.

22. CLEANING AND CLEARANCE OF THE WORK AREA

- a. Visual Clearance of Removal Work Areas:
 1. Remove all visible accumulation of asbestos-containing materials and debris by HEPA vacuums, sponging, and wet-wiping. The work areas shall be totally visibly clean and remaining material encapsulated. The Hazardous Material Subcontractor, in the presence of the Qualified Consultant, shall make a complete visual inspection of the work area to ensure dust-free conditions.
 2. Once the Qualified Consultant certifies that the work areas are essentially clean of asbestos-containing debris the other Subcontractors may proceed with their work. The removal of signage required by the asbestos removal work shall be allowed after all asbestos-containing material designated to be removed is removed. Signage applicable to job site safety and the performance of the remaining portions of the work shall remain as applicable.
- b. Completely remove all temporary barriers and materials when their use is no longer required. Clean and repair damage caused by temporary installations or use of temporary facilities.

23. DISPOSAL OF ASBESTOS-CONTAINING MATERIAL

- a. As the work progresses and asbestos-containing waste is generated the Hazardous Material Subcontractor shall transport all waste generated on a pre-scheduled day to the State of Hawaii, Department of Health's authorized disposal site to prevent delay in the disposal operation. Transport all waste to the predesignated disposal site in accordance with EPA regulations and specific landfill requirements.
- b. Contaminated material shall be double-bagged in bags with OSHA label prescribed by the HIOSH regulations referenced in these specifications. Label shall state, "DANGER – CONTAINS ASBESTOS FIBERS – AVOID CREATING DUST – CANCER AND LUNG DISEASE HAZARD". Additionally, label bags in accordance with OSHA requirement 29 CFR 1926.1101 or EPA 40 CFR 61.150 if more restrictive. Labeling shall include the name of the waste generator and the site where the waste was generated.
- c. Mark vehicles used to transport asbestos-containing waste material during the loading and unloading of the waste so that the signs are visible. The marking must be displayed in such a manner and location that a person can easily read the legend. Refer to 40 CFR Part 61.149 for lettering size, fonts and wording of sign requirements. For all loading and unloading activities, the sign referred to in 40 CFR Part 61.150 (b) (3) shall be displayed prominently.
- d. Vehicles used for transporting waste to the disposal sites shall have a completely enclosed, lockable storage compartment. Storage compartments shall be plasticized and sealed with a minimum of one layer of 6-mil polyethylene sheeting on the sides and top and 2 layers of 6-mil polyethylene on the floor (bed). Waste materials, except those with sharp edges (metal lath, screws, nails, metal suspension system, etc.), properly double bagged may be transported to the disposal site without being placed in drums if the transporting vehicle is prepared as specified above in addition to any more stringent requirements by HIOSH. The compartments shall be thoroughly wet-cleaned and/or HEPA vacuumed following the disposal of each load at the disposal sites at an approved location with electrical power as required. At the conclusion of the asbestos abatement, or before transport vehicles are

used for other purposes, the polyethylene sheeting shall be properly removed and disposed of as contaminated waste. After this has been accomplished, compartments shall once again be wet-cleaned and HEPA vacuumed in order to eliminate all debris.

- e. At the landfill, upon delivery of the waste for disposal, the Hazardous Material Subcontractor shall notify the Scale Attendant and Landfill Spotter that the waste to be disposed of is asbestos material.
- f. Workers unloading bags at the disposal sites shall be dressed in full body protective clothing and dual cartridge respirators.
- g. Waste disposal manifest forms shall be properly completed to assure custody and disposal of all asbestos-containing material and asbestos contaminated waste at approved disposal sites.
- h. NOTE: IT IS THE HAZARDOUS MATERIAL SUBCONTRACTOR'S RESPONSIBILITY TO ASSURE THAT ANY LANDFILL USED FOR DISPOSAL OF ASBESTOS-CONTAINING OR ASBESTOS CONTAMINATED WASTE IS APPROVED FOR THAT PURPOSE.

24. TESTING AND AIR MONITORING

- a. Testing, daily area (environmental) air monitoring and final clearance inspections shall be provided by the Qualified Consultant, for the purpose of:
 - 1. Verifying compliance with this specification section and the applicable regulations;
 - 2. Ensuring that the documentation required by these specifications and by law is collected.
 - 3. Instigating engineering control during the project.
- b. Subcontractors Responsibilities:
 - 1. The Hazardous Material Subcontractor shall be responsible for his employees' personnel protection, personal air monitoring and necessary records as required by OSHA (29 CFR 1926.1101) and all other applicable laws and as required in these specifications. The Subcontractor shall provide all required documentation to the Owner. The Subcontractor shall collect daily personal air samples on at least 25% of the personnel performing removal work with the most exposure for the duration of the project.
 - 2. The Hazardous Material Subcontractor shall procure legally required reports for air monitoring as part of the contract. All air monitoring reports shall include all field data, laboratory reports, test results and other pertinent information about the daily work activities.
 - 3. Qualified Consultant shall make available, one copy of daily area air monitoring reports for the Contractor's use. The Contractor may accept such reports as they are offered at his own risk. Availability of additional copies of the reports during the work or at any future time shall not be considered a part of the contract. The Contractor shall be responsible for his own personnel air monitoring as required by law and these specifications.

4. Air monitoring and testing which becomes necessary in order to follow up on work by the Hazardous Material Subcontractor, rejected as not conforming to the requirements shall be the responsibility of the Subcontractor. The full cost of such additional monitoring shall be borne by the Subcontractor, and shall not be a part of the final contract payment.
 5. The Hazardous Material Subcontractor shall be responsible for the proper required notifications to the State of Hawaii Department of Health.
- c. Qualified Consultant
1. The Qualified Consultant shall have the authority to instigate engineering controls during the project.
 2. Daily area air monitoring shall be performed to detect airborne fiber concentrations in and outside the work area for the duration of the project. At least one sample will be collected inside the work area, at the entrance to the work area, and in occupied areas adjacent to the work area.
 3. Air monitoring will be conducted according to the method prescribed by Section 1926.1101 (f) of the OSHA regulations, NIOSH 7400 method or approved substitute per OSHA revisions 15 August 1994. Final visual clearance inspection will be performed by the Qualified Consultant together with the Hazardous Material Subcontractor's foreman.



Asbestos Notification of Demolition & Renovation
(Ref. HAR Chapter 11-501)

SEND TO: STATE DEPARTMENT OF HEALTH
INDOOR AND RADIOLOGICAL HEALTH BRANCH
591 ALA MOANA BOULEVARD, 1ST FLOOR
HONOLULU, HAWAII 96813
Phone (808) 586-5800 Fax (808) 586-5811



I. Type of notification: O=original R=revised C=cancelled		
II. Type of operation: D=Demolition R=Renovation OD=Ordered Demolition ER=Emergency Renovation		
III. Facility information		
Owner name:		
Address:		
City:	State:	Zip code:
Contact person:		Telephone #:
Removal contractor:		License #:
Address:		
City:	State:	Zip code:
Contact person:		Telephone #:
Other operator:		
Address:		
City:	State:	Zip code:
Contact person:		Telephone #:
IV. Is asbestos present (y/n):		
Inspector's name: Certification #: State of certification:		
V. Facility description (Include building number, floor and room number)		
Building name:		
Address:		
City:	State:	Zip code:
Site location:		
Building size (sq. ft.):	# Floors:	Age:
Present use:	Prior use:	
Official Use Only		
Postmark Date:	Received by:	State Record Number:

VI. Procedure used to detect the presence of asbestos			
Laboratory name:		Analytical method	
VII. Specify the nature of the asbestos material (TSI, surfacing, VAT, miscellaneous):			
Amount of asbestos, including: 1. RACM to be removed 2. CAT I left in place, and 3. CAT II left in place	RACM to be removed	Nonfriable ACM not to be removed	
		Category I	Category II
Pipes (linear ft.)			
Surfacing (square ft.)			
Facility components (cu. ft.)			
VIII. Scheduled asbestos abatement dates			
Start (mm/dd/yy):		Finish (mm/dd/yy)	
Circle workdays and times:		weekdays:	daytime nighttime
		weekends:	daytime nighttime
IX. Scheduled renovation/demolition dates			
Start (mm/dd/yy):		Finish (mm/dd/yy)	
Circle workdays and times:		weekdays:	daytime nighttime
		weekends:	daytime nighttime
X. Description of the planned renovation/demolition work and methods to be used:			
XI. Description of the work practices and engineering controls to be used to prevent emissions of asbestos from the work-site:			
Project designer name:		Certification #:	State:
XII. Waste transporter #1			
Name:			
Address:			
City:	State:	Zipcode:	
Contact Person:	Telephone:		
Waste transporter #2			
Name:			
Address:			
City:	State:	Zipcode:	
Contact Person:	Telephone:		
XIII. Waste disposal site:			
Facility Name:		Telephone:	
Address:			
City:	State:	Zipcode:	

[illegible]

DATE: _____

PROJECT: _____

ALL PERSONNEL MUST SIGN-IN AND SIGN-OUT EVERY TIME THEY ENTER/EXIT THE WORK AREA. PLEASE PRINT CLEARLY. ATTACH EMPLOYEE RELEASE FORM FOR ALL VISITORS.

NAME	EMPLOYER Name, *Address, *Phone	TIM		*PURPOSE OF VISIT	**TYPE OF PPE ISSUED

*NOT required of Hazard Material Subcontractor's employees.

**Type of PPE (Personal Protective Equipment) Issued to include list of protective clothing worn and type of respirator used (Type "C", half-face dual cartridge, etc.

**Employee Release Form
(Sample)**

Employee Name:

Employee Address:

Employee Telephone No.:

Name of Training Center, Certificate Number and Expiration Date:

Classification of Worker:

Have you had in the past or present, any respiratory problems?

Yes _____ No _____

Have you worked in the past with asbestos or fiberglass type materials?

Yes _____ No _____

The project you will be working on involves the use of asbestos and the removal of the asbestos from the building. Asbestos is considered a health hazard.

The company is supplying all necessary safety clothing and working conditions required and necessary for your protection from asbestos hazard.

You shall be instructed at the commencement of the job on the required use of safety equipment, clothing, working conditions, and procedures. These must be rigidly adhered to. Smoking is not permitted in the work areas. Disregarding of safety instructions shall result in instant dismissal.

I acknowledge that safety instructions have been given to me by the company at my work commencement and I am thoroughly conversant with them and I have answered the above questions truthfully.

Signed (Employee)

Date

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

PROJECT NAME: _____ DATE: _____

PROJECT ADDRESS: _____

CONTRACTORS NAME: _____

WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC.

Your employer's contract with the Owner for the above project requires that: You be supplied with the proper respirator and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination. These things are to have been done at no cost to you.

RESPIRATORY PROTECTION: You must have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. you must be given a copy of the written respiratory protection manual issued but your employer. You must be equipped at no cost with the respirator to be used on the above project.

TRAINING COURSE: You must have been trained in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. The topics covered in the course must have included the following:

- Physical characteristics of asbestos
- Health hazards associated with asbestos
- Respiratory protection
- Use of protective equipment
- Pressure Differential Systems
- Work practices including hand on or on-job training
- Personal decontamination procedures
- Air monitoring, personal and area

MEDICAL EXAMINATION: You must have had a medical examination within the past 12 months at no cost to you. This examination must have included: health history, pulmonary function tests and may have included an evaluation of a chest x-ray.

By signing this document, you are acknowledging only that the Owner of the building you are about to work in has advised you of your rights to training and protection relative to your employer, the Contractor.

Signature _____ Social Security Number _____

Printed Name _____ Witness _____

ASBESTOS DISPOSAL FORM
(Sample)

Date: _____

Owner or Operator of Landfill: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____

Name of Landfill: _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____

Hauler: _____

Approximate Volume of Asbestos Received: _____

Type of Container Asbestos in: _____

Asbestos Container Labeled? YES ____ NO ____

I certify that the above statements are true and that the landfill has been approved for the disposal of asbestos. The delivered material will be covered within 6 inches (15 cm.) of non-asbestos material within 24 hours.

Signed: _____
Landfill Owner-Operator

END OF SECTION

SECTION 6A: ROUGH CARPENTRY

1. GENERAL CONDITIONS

Division One, "General Requirements" is hereby made a part of this section.

2. DESCRIPTION

This section includes everything necessary for and incidental to the execution and completion of the rough carpentry work as shown and as specified. Install all wood framing indicated on the plans.

All concealed lumber shall be fire-retardant treated.

3. GUARANTEES AND CERTIFICATES

Provide one (1) Year Guarantee against defective carpentry materials and workmanship for all individual products or assemblies or products shown on the drawings and specified herein.

4. GENERAL

- a. Qualification of Workmen: Provide sufficient workmen and supervisors who shall be present at all times during execution of this portion of the Work, and who shall be thoroughly familiar with the type of construction involved and the materials and techniques specified.
- b. Rejection: In the acceptance or rejection of rough carpentry, the Architect will make no allowance for lack of skill on the part of the workmen.
- c. Supervision: Perform carpentry work under direction of a capable experienced foreman. Cooperate with subcontractors and tradesmen doing the work. Carefully plan and lay out work of construction.
- d. Cutting: Under this section, have skilled mechanics do the cutting and framing of wooden members required to accommodate structural members, routing of piping, conduit, ducts, and installation of mechanical, electrical or other apparatus or equipment.
- e. Framing: Provide necessary shoring, bracing, or temporary structural units required to properly and safely construct framing indicated and specified. Accurately saw-cut lumber and timber framing and fit into respective positions, and securely nail, spike, lag screw, or bolt together as indicated, specified or directed.

5. PRODUCT HANDLING

- a. Protection:
 1. Store all materials in such a manner as to ensure proper ventilation and drainage, and to protect against damage and the weather
 2. Keep all materials clearly identified with all grade marks legible.

3. Do not allow installation of damaged or otherwise non-complying materials.
4. Use all means necessary to protect the installed work and materials of all other trades.
 - b. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost.

6. WOOD TREATMENT

Treat all rough lumber in accordance with Section 6C - Preservative Treated Lumber.

7. GRADE STAMPS

- a. Grading Rules:
 1. Soft Woods: Standard Grading and dressing rules of West Coast's Lumberman Association, latest edition, and as modified hereinafter.
 2. Hard Woods: Latest rules of the National Lumber Association.
 3. Plywood: Group I Douglas Fir, U.S. Product Standard PS 1-74. Softwood, U.S. Commercial Standard CS35. Use Exterior Grade only.
- b. Framing Lumber: Identify all framing lumber by the grade stamp of the West Coast Lumber Inspection Bureau.
- c. Plywood: Identify all plywood as to species, grade and glue type by the stamp of the American Plywood Association.
- d. Other: Identify all other materials of this Section by the appropriate stamp of the agency listed in the reference standards, or by such other means as are approved by the Engineer.

8. MATERIALS

- a. Asbestos Prohibition: No asbestos containing material or equipment shall be used under this section. The Contractor shall ensure that all materials and equipment incorporated in the project are asbestos free.
- b. All materials, unless otherwise specifically approved in advance by the Architect, shall meet or exceed the following:

Item	Description
Studs	Douglas Fir, S4S Construction Grade.
Beams 2" to 4" thick, 6" and wider	Douglas Fir, S4S Dense No. 1 Grade or better.
Posts	Douglas Fir, S4S No 1 Grade.
Plywood	APA Plywood, Group I, Structural Grade I, C-D, INT-APA, Exterior Glue, thickness as indicated.

Glue	3M Scotch Grip 4314 or approved equal, conforming to APA AFG-01.
Steel Hardware	ASTM A7 or A36 (hot-dipped galvanized according to ASTM A153).
Machine Bolts	ASTM A307 (galvanized).
Lag Bolts	Federal Specification FF-B-561 (galvanized).
Nails	Common (except as noted), Federal Specification FF-N-1-1 (galvanized).
Simpson Strong-Tie Connectors	Galvanized.

9. OTHER MATERIALS

All other material, not specifically described but required for a complete and proper installation as indicated on the drawings, shall be new, suitable for intended use, and subject to the approval of the Architect.

10. INSPECTION

Examine the areas and condition under which work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory condition have been corrected.

11. WORKMANSHIP

- a. General: All rough carpentry shall produce joints true, tight, and well nailed, with all members assembled in accordance with the drawings and with all pertinent codes and regulations.
- b. Selection of Lumber Pieces:
 1. Carefully select all members. Select individual pieces so that knots and obvious defects will not interfere with placing bolts or proper nailing.
 2. Cut out and discard all defects which will render a piece unable to serve its intended function. Lumber may be rejected by the Architect, whether or not it has been installed, for excessive warp, twist, bow, crook, mildew, fungus, or mold, as well as for improper cutting and fitting.

12. GENERAL FRAMING

- a. General:
 1. In addition to all framing operations normal to fabrication and erection indicated on the drawings, install all backing required for work of other trades.

b. Bearings:

1. Make all bearings full unless otherwise indicated on the drawings.

13. **ALIGNMENT**

On all framing members to receive a finished wall, align the finish subsurface to vary not more than 1/8" from the plane of surfaces of adjacent framing and furring members.

- a. Bolting: Drill holes 1/16" larger in diameter than the bolts being used. Drill straight and true from one side only. Bolt threads shall not bear on wood. Use washers under head and nut where both bear on wood; use washers under all nuts.
- b. Screws: For lag screws and wood screws, pre-bore holes same diameter as root of thread; enlarge holes to shank diameter for length of shank. Screw, do not drive, all lag screws and wood screws.

14. **ROUGH HARDWARE**

- a. Provide all rough hardware necessary as required for installation of the work specified herein. Use sufficient size and number of spikes, nails, screws, bolts, etc., to ensure rigidity, security, and permanence.
- b. Conform to Section 5 of the "Timber Construction Manual", Second Edition, of the American Institute of Timber Construction. Pre-bore lead holes for nails if necessary to prevent splitting of wood. Lead hole diameters for lag bolts, screws, nails and spikes shall conform to Tables 5.10, 5.14 and 5.19 of the "Timber Construction Manual". Nails and splices shall not be lubricated. Screws and lag bolts shall be turned, not driven, and may be lubricated with soap.
- c. Nailing shall conform with the following, listed in order of decreasing priority: details: recommendations of manufacturer of pre-fabricated metal framing devices: nailing schedule shown in drawings, if any: nailing schedule of the Building Code.

15. **WOOD GROUNDS**

Provide wood grounds, strips, backing and blocking of thickness and shape required to secure work or equipment in place, as indicated on the drawings or required to secure work or equipment in place, as indicated on the drawings or required by conditions. Fasten wood grounds, furring and other engaging woodwork to various types of wall with approved types and sizes of nails, ties, or inserts, spaced to provide rigid secure support.

16. **WOOD NAILERS/BACKING**

- a. Place as designated on drawings or specified in other sections required as the work progresses. Align tops to levels required.
- b. Provide backing as necessary for owner-furnished wall mounted items such as monitors, televisions, medical equipment rails and patient room headwalls, clocks, etc.

17. CUT AND PENETRATIONS

Whenever it is necessary to end cut or penetrate into treated wood on the job, all such cuts and penetrations shall be treated as specified in Section 6C - Preservative Treated Lumber.

18. CLEAN-UP

- a. General: Keep the premises in a neat, safe and orderly condition at all times during execution of this portion of the work, free from accumulation of sawdust, cut ends and debris.
- b. Sweeping: At the end of each working day, and more often if necessary, thoroughly sweep all surfaces where refuse from this portion of the work has settled. Remove the refuse to the area of the job site set aside for its storage. Upon completion of this portion of the work, thoroughly broom clean all surfaces.

SECTION 6B: FINISH CARPENTRY

1. GENERAL CONDITIONS

Division One, "General Requirements" is hereby made a part of this section.

2. SUBMITTALS:

- a. Shop Drawings: Submit shop drawings to scale indicating all details for finished millwork carpentry.
- b. Samples: Submit samples of materials and color for approval and selection by the Architect.

3. GUARANTEES AND CERTIFICATES

- a. Provide certificate showing compliance with Section 6C - Preservative Treated Lumber.
- b. Provide one (1) Year Guarantee against defective finished carpentry materials and workmanship for all individual products or assemblies or products shown on the drawings and specified herein.

4. FINISH HARDWARE

Furnishing of finish hardware is covered under the Section 8A - Finish Hardware. Installation shall be included in this section.

5. MATERIALS

- a. Asbestos Prohibition: No asbestos containing material or equipment shall be used under this section. The Contractor shall ensure that all materials and equipment incorporated in the project are asbestos free.
- b. Softwood: Comply with the standards of Rule Book No. 16, "Standard Grading Rules for West Coast Lumber", latest edition, including Supplements I through IV of the West Coast Lumber Inspection Bureau. Finish lumber, kiln-dried, S4S Douglas Fir unless otherwise specified or indicated; B and better grade, vertical grain.
- c. Hardwood: Comply with National Hardwood Lumber Association Rules, latest edition. Hardwood to be White Oak, clear, kiln dried and color matched.
- d. Particle Board: Shall be Duraflake, Novaply or approved equal, factory treated.
- e. Hardwood Plywood: Comply with U.S. Department of Commerce, Commercial Standard CS-35-61. Hardwood veneer to be White Oak, clear, kiln dried and color matched
- f. Softwood Plywood: Shall be Douglas Fir, laminated veneers, exterior type, bonded with waterproof phenolic resin glue, DFPA grade marked; A- where exposed two sides; A-B where one side is concealed.

- g. Hardboard: Standard, natural finish, conforming to Federal Specification LLL-H-35.
- h. Rough Hardware: Furnish and install all rough hardware, such as nails, screws, bolts, nuts and washers, ramset pins and studs, expansion shields, etc., required to complete the work. Exposed nail heads shall be set in where wood is to be painted, but not stained. All nuts, bolts and washers called for on the drawings shall be galvanized.

6. **WORKMANSHIP**

Erect all work accurately to required lines, level, plumb, to true planes and rigidly secure.

7. **HEADER TRIM AND OTHER TRIM**

Eased edges and mitered corner joints. Hand sand to provide smooth, fine, splinter-free surface ready for finishing.

8. **PROTECTION OF WORK IN PLACE**

Protect finish millwork from being defaced or marred by workmen during execution of other trades. Replace any damaged work with new work.

9. **BACK PRIMING**

All frames and trim shall be back-painted at the jobsite. Notify painter when materials are ready to prime and cooperate to be certain that back painting is complete before installation.

10. **INSTALLATION OF ITEMS SPECIFIED IN OTHER SECTIONS**

- a. Cabinet Work: Install items specified in Section 6D – Cabinet Work
- b. Finish Hardware: Install items specified in Section 8A - Finish Hardware. Finish hardware to be installed in accordance with best standard practice. Adjust moving parts to operate freely and easily without binding. All hardware shall be in perfect working order and keys tagged on delivery to Architect.
- c. Metal Doors and Frames: Install items specified in Section 8B – Metal Doors and Frames.
- d. Laminate Wood Doors: Install items specified in Section 8C - Wood Doors.
- e. Aluminum Doors and Frames: Install items specified in Section 8D – Aluminum Doors and Frames.
- f. Casing Frames: Install items specified in Section 8E – Casing Frames.
- g. Wainscot Wallcovering: Install items specified in Section 9F – Wainscot Wallcovering.
- h. Corner Guards, Chair Rails and Handrails: Install items specified in Section 10A - Corner Guards, Chair Rails and Handrails.
- i. Toilet and Sink Accessories: Install items specified in Section 10B – Toilet and Sink Accessories.

11. FIRE EXTINGUISHER CABINET WALL TENT SIGN

Provide wall tent sign above new fire extinguisher cabinets. Sign is to be 5"x6" plastic 3D "tent", Model FE #24S from JL Industries. www.jlindustries.com Bottom of sign to be 84" above finished floor.



12. MOBILE PEDESTAL UNITS

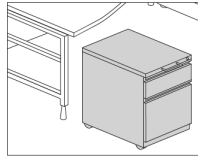
Herman Miller Tu W-Pull Mobile Pedestal Box/Box/File. 14.625" wide x 19.375" deep x 27.625" high with keyed locks. All locks to be keyed alike. Item number LW110.20BBFSRXS—KANNHN. Confirm unit color (white, studio white or warm grey neutral) with hospital staff. 4 units required.

13. CLEANUP

At the completion of the work, at frequent intervals during the construction, and when directed by the Engineer, remove from the premises all rubbish, debris and unused materials which may be accumulated during the progress of the work.

W-Pull Mobile Pedestal

LW110.



Specification Information

Step 1.

LW110.

Step 2. Depth

20 20" deep

24 24" deep

Step 3. Configuration

For 20" deep (20)

BBF box/box/file

BF box/file

FF file/file

For 24" deep (24)

BBF box/box/file

FF file/file

Prices for Steps 1-3.

	BBF	BF	FF
LW110. 20	\$612	515	556
24	\$617	—	564

Step 4. Slides

For box/box/file (BBF)

SR ¾-extension roller slides on box drawer, full-extension ball bearing on file drawer +\$0

SB full-extension ball-bearing +\$50

For box/file (BF)

SR ¾-extension roller slides on box drawer, full-extension ball bearing on file drawer +\$0

For file/file (FF)

SB full-extension ball-bearing +\$0

Step 5. Paint/Steel Type

SS smooth paint on smooth steel +\$0

XS textured paint on smooth steel +\$0

Step 6. Surface Finish

For smooth paint on smooth steel (SS)

8Q folkstone grey +\$0

98 studio white +\$0

BU black umber +\$0

CN metallic champagne +\$0

EH metallic bronze +\$0

HF inner tone light +\$0

LT light tone +\$0

LU soft white +\$0

MS metallic silver +\$0

MT medium tone +\$0

WL sandstone +\$0

Sand Texture Paint

For textured paint on smooth steel (XS)

98 studio white +\$0

Bright Sand Texture Paint

For textured paint on smooth steel (XS)

91 white +\$0

CL cool grey neutral +\$0

WN warm grey neutral +\$0

Step 7. Lock

KA keyed alike -\$10

KC keyed differently, chrome +\$0

KD keyed differently, black +\$0

Step 8. Drawer Interior

For box/box/file (BBF)

NN none +\$0

3M drawer divider in one box drawer, pencil tray in one box drawer, 2 file converters in file drawer +\$25

For box/file (BF)

NN none +\$0

5M pencil tray in box drawer, 2 file converters in file drawer +\$20

For file/file (FF)

NN none +\$0

1M 2 file converters in each file drawer +\$25

Tu® Metal Storage

SECTION 6C - PRESERVATIVE TREATED LUMBER

1. GENERAL CONDITIONS

Division One, "General Requirements" is hereby made a part of this section.

2. GENERAL REQUIREMENTS:

- a. A Certificate of Treatment shall be issued showing compliance with these specifications and type of treatment performed.
- b. The Contractor shall submit a written certification that all wood used and left in place on this job was treated in accordance with these specifications and that all cuts and penetrations made subsequent to the treatment were coated with preservatives in compliance with Paragraph 6(a) of this Section.

3. GENERAL

- a. All wood to be treated with Hi-Bor (SBX).
- b. Lumber shall be milled to finish size and shape prior to treating, and it shall be treated before assembly.

4. MATERIALS

- a. Asbestos Prohibition: No asbestos containing material or equipment shall be used under this section. The Contractor shall ensure that all materials and equipment incorporated in the project are asbestos-free.
- b. Water-Borne Preservatives shall be Hi Bor (SBX) in accordance with American Wood Preservers Association (AWPA) Standard P5 - Standards for Waterborne Preservatives. Preservatives shall be EPA registered.
- c. Water-Borne Preservatives used to coat end cuts and penetrations in Hi-Bor (SBX) treated wood shall be Clear-Bor F.T. or an equivalent solution of 10% inorganic boron. The end coating solution must be approved and labeled by the Environmental Protection Agency and must be accepted by the State of Hawaii, Department of Agricultural Pesticide Division for this purpose. The treatment solution shall have a colorant added which will tint the wood surface to indicate treatment.

5. WOOD PRESERVATION WITH WATER-BORNE PRESERVATIVES

- a. Unless otherwise stipulated, all lumber shall be pressure treated.
- b. Lumber and shall be treated with Hi Bor (SBX), using the full cell pressure method in conformance with AWPA Standard C1-93. Lumber and treated with Hi-Bor (SBX) shall attain the following penetration and retention requirements:

1. Lumber:
 - a. Penetration requirement for lumber under 5-inch nominal thickness: 0.40 inch in heartwood and 100% in sapwood.
 - b. Penetration requirement for lumber 5-inch nominal thickness and over: 0.50 inch in heartwood and 100% in sapwood.
 - c. Retention requirement for lumber shall be a minimum of 1.25 % (by weight) or 0.35 pounds per cu. ft. in an assay zone of 0.0 - 0.6 inches.

6. INSTALLATION

- a. Wherever it is necessary to end cut or penetrate into (such as by drilling or notching) treated wood on the job, all such cuts and penetrations shall be treated in accordance with AWWPA Standard M4-84 using two heavy brush coats of a treating solution noted in the following schedule. Exceptions: Cuts and penetrations made in Hi-Bor (SBX) treated wood 2 inches or less in nominal thickness need not be field treated.

INITIAL WOOD TREATMENT

Hi-Bor (SBX)

FIELD TREATMENT

Clear-Bor F.T.

- b. Hi-Bor (SBX) treated wood shall not be used in areas exposed to direct precipitation (e.g. exposed decking, trellises, fencing, etc.) unless painted or covered with a finishing material.

SECTION 6D: CABINET WORK

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. WORK INCLUDED

This section covers furnishing and installing the following items of cabinet work where noted on drawings: countertops (plastic laminate or solid surface) and splashes (solid surface), base cabinets, overhead cabinets and tall cabinet units.

3. MATERIALS

- a. Nailer blocking, furring, grounds, bucks, etc.: No. 2 common Douglas Fir.
- b. Plastic laminate base cabinets, overhead cabinets and open shelf units:
 1. Door faces, drawer faces and cabinet boxes: As manufactured by Wilsonart. Refer to PLAM-1 in Finish Schedule.
 2. Adjustable shelves: and exposed surfaces of open shelf units: General Purpose Type 107 with matte finish as manufactured by Wilsonart. Provide color matched edge banding on all four shelf edges.
 3. Exposed interior faces of cabinet boxes with doors and drawers: Thermally-Fused Melamine Panels by Domtar Decorative Panels, 3/4" thick, with white satin finish or approved equal.
 4. Exposed exterior bottom surfaces of overhead cabinet boxes to be finished with same laminate as provided on cabinet doors or exposed open shelf units.
 5. Screw head covers: Provide white plastic screw head covers over all exposed screws within base and overhead cabinets to secure units to wall.
- c. Solid surface countertops:
 1. Provide 3/4" marine plywood substrate for solid surface material. Exposed underside (open knee spaces) of countertop substrate is to be covered by melamine.
 2. Refer to Section 6E – Solid Surfacing.
- d. Drawer slides and cabinet door hardware: Soft-close type.
- e. Cabinet pulls: Emtex Trail Pull 86266. 6-1/2" overall length. 6" center to center. Finish: US15 Satin Nickel. Available at Fiddlers (808) 592-0233.

4. STORAGE AND WORKMANSHIP

- a. Shop fabricate countertop, base and overhead cabinets with weatherproof glue and deliver to the project ready to install.

- b. Plastic laminate countertops, base and overhead cabinets to be carefully stored and protected from damage prior to installation.
- c. All damaged countertops, base and overhead cabinet units to be replaced or repaired to the satisfaction of the Architect.
- d. Countertops, base and overhead cabinets to be of sizes and dimensions shown on plans and scale details.
- e. Maintain workmanship of highest quality. Secure to grounds and furring provided under Finish Carpentry - Section 6B. Field verify dimensions at building and construct or modify cabinets to suit.
- f. Verify size and modify countertops, base and overhead cabinets as necessary ready to receive all built-in items.

5. **SHOP DRAWINGS**

Provide shop drawings for review of all countertop and cabinet work including dimensions, details of construction, size of members and cut-outs such as grommets, etc.

6. **INSTALLATION**

Refer to Section 6B - Finish Carpentry for installation of countertops, base and overhead cabinets units.

SECTION 6E: SOLID SURFACING

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE

This section includes everything necessary for and incidental to the execution and installation of solid surfacing countertops, back splashes and wall panels (where noted on plans).

3. DEFINITION

Solid surface is defined as nonporous, homogeneous material maintaining the same composition throughout the part with a composition of acrylic polymer, aluminum trihydrate filler and pigment.

4. SUBMITTALS

- a. Shop drawings:
 1. Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices and other components.
 2. Show details, edge details, thermoforming requirements, attachments, etc.
 3. Show locations and sizes of furring, blocking, including concealed blocking and reinforcement specified in other Sections.
 4. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets and other items installed in solid surface.
- b. Samples: For each type of product indicated submit minimum 6-inch by 6-inch sample in specified finish.
- c. Product data: Indicate product description, fabrication information and compliance with specified performance requirements.

5. QUALITY ASSURANCE

- a. Qualifications: Shop that employs skilled workers who custom fabricate products similar to those required for this project and whose products have a record of successful in-service performance.
- b. Fabricator/installer qualifications: Work of this section shall be by a certified fabricator/installer, certified in writing by the manufacturer.
- c. Applicable standards:
 1. American National Standards Institute (ANSI)
 2. American Society for Testing and Materials (ASTM)
 3. National Electrical Manufacturers Association (NEMA)
 4. NSF International

d. Fire test response characteristics:

1. Provide with the following Class A (Class I) surface burning characteristics as determined by testing identical products per UL 723 (ASTM E84) or another testing and inspecting agency acceptable to authorities having jurisdiction:
 - a. Flame Spread Index: 25 or less.
 - b. Smoke Developed Index: 450 or less.

6. DELIVERY, STORAGE AND HANDLING

- a. Deliver no components to project site until areas are ready for installation.
- b. Store components indoors prior to installation.
- c. Handle materials to prevent damage to finished surfaces. Provide protective coverings to prevent physical damage or staining following installation for duration of project.

7. WARRANTY

- a. Provide manufacturer's warranty against defects in materials.
 1. Warranty shall provide material and labor to repair or replace defective materials.
 2. Damage caused by physical or chemical abuse or damage from excessive heat will not be warranted.

8. MAINTENANCE

Provide maintenance requirements as specified by the manufacturer.

9. MATERIALS

- a. Solid polymer components:
 1. Cast, nonporous, filled polymer, not coated, laminated or of composite construction with through body colors meeting ANSI Z124.3 or ANSI Z124.6, having minimum physical and performance properties specified.
 2. Superficial damage to a depth of 0.010 inch (.25 mm) shall be repairable by sanding and/or polishing.
- b. Countertop Substrate: ¾" thick marine plywood.
- c. Countertops and Splashes: ½" thick by LG. Size of sheet to be as required to perform work indicated on plans. Refer to Finish Schedule for color selection.
- d. Wall Panel: ½" thick by Corian. Size of sheet to be as required to perform work indicated on plans. Color to be Glacier White.
- e. Finish: Factory-provided matte finish, approximating 220 grit sandpaper.

10. EXECUTION

- a. Fabricate solid surface countertop front edge and splash as shown in drawings.

- b. Front Edge Detail: 1-1/2" flat face with top eased edge or bullnose edge. See details.
- c. Installation shall be by installers trained and certified in the use of LG and Corian solid surfacing.

11. INSTALLATION

- a. Install components plumb, level and rigid, scribed to adjacent finishes, in accordance with approved shop drawings and product data.
 - 1. Provide product in the largest pieces available.
 - 2. Form field joints using manufacturer's recommended adhesive, with joints inconspicuous in finished work.
 - 3. Exposed joints/seams shall not be allowed.
 - 4. Reinforce field joints with solid surface strips extending a minimum of 1 inch on either side of the seam with the strip being the same thickness as the top.
 - 5. Cut and finish component edges with clean, sharp returns.
 - 6. Rout radii and contours to template.
 - 7. Anchor securely to base cabinets or other supports.
 - 8. Align adjacent countertops and form seams to comply with manufacturer's written recommendations using adhesive in color to match countertop.
 - 9. Carefully dress joints smooth, remove surface scratches and clean entire surface.
 - 10. Install countertops with no more than 1/8-inch (3 mm) sag, bow or other variation from a straight line.

12. COORDINATION

Coordinate with other trades in placement and installation of solid surfacing material. Provide cut-outs as required for plumbing fixtures at countertops and electrical outlets, voice/data outlets, door operators, etc. at wall panels.

13. REPAIR

Repair or replace damaged work which cannot be repaired to architect's satisfaction.

14. CLEANING AND PROTECTION

- a. Keep components clean during installation.
- b. Remove adhesives, sealants and other stains.

SECTION 7A: SEALANT AND CAULKING

1. GENERAL REQUIREMENTS

Division One, "General Requirement" is hereby made a part of this section.

2. WORK INCLUDED

Throughout the Work, caulk and seal all joints where shown on the drawings and elsewhere as required to provide a positive barrier against passage of air and passage of moisture.

3. QUALITY ASSURANCE

Qualifications of Manufacturers: Products used in the work of this section shall be produced by manufacturers regularly engaged in manufacture of similar items and with a history of successful production.

4. SUBMITTALS

Manufacturer's specifications, recommendations and installation instructions for each type of sealant, caulking compound and associated miscellaneous material required.

5. PRODUCT HANDLING

- a. Delivery and Storage: Deliver all materials of this section to the jobsite in original unopened containers with all labels intact and legible at time of use. Store only under conditions recommended by the manufacturers. Do not retain on the job site any material which has exceeded the shelf life recommended by its manufacturer.
- b. Replacements: In the event of damage, immediately make all repairs and replacements necessary at no additional cost.

6. JOB CONDITIONS

Do not proceed with installation of sealants when temperatures are below or above manufacturer's recommended temperature range for installation. Where joint width is affected by ambient temperature variations, install elastomeric sealants only when temperature is in lower third of the manufacturer's recommended installation temperature range, so that sealant will not be subjected to excessive elongation and bond stress at subsequent low temperatures. Coordinate time schedule with Contractor to avoid delay of project.

7. MATERIALS

- a. Asbestos Prohibition: No asbestos containing material or equipment shall be used under this section. The Contractor shall ensure that all materials and equipment incorporated in the project are asbestos free.
- b. General: Except as specifically otherwise directed, use only the type of sealants described in this Section.

c. Acrylic-Emulsion Sealant:

1. Acrylic-emulsion or latex-rubber-modified acrylic-emulsion sealant compound; permanently flexible, non-staining and non-bleeding; recommended by manufacturer for protected exterior exposure and general interior exposure.

2. Provide one of the following products:

Dap Acrylic Latex Caulk; Dap, Inc.
Acrylic Latex Caulk; Tremco, Inc.

d. Security Sealant:

1. Dyna-Poxy EP-1200 by Pecora Corporation. Rigid, two-part, high solids, high modulus epoxy resin compound. Install where solid surface wall panels meet door frame at Safe Room.

e. Colors:

1. Colors for each sealant installation will be selected by the Architect from standard colors normally available from the specified manufacturers.
2. In concealed installations, and in partially or fully exposed installations, standard gray or black sealant may be used.

8. **PRIMERS**

Use only those primers which are non-staining, have been tested for durability on the surfaces to be sealed, and are specifically recommended for this installation by the manufacturer of the sealant used.

9. **BACKUP MATERIAL**

General: Use only those backup materials which are specifically recommended for this installation by the manufacturer of the sealant used, and which are non-absorbent and non-staining.

10. **MASKING TAPE**

Use masking tape around joints. provide masking tape conforming to Fed. Spec. UU-T-106c.

11. **OTHER MATERIAL**

All other materials, not specifically described but required for complete and proper installation of sealants, shall be first quality of their respective kinds. new and as selected by the Contractor.

12. **INSPECTION**

Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

13. **PREPARATION**

- a. Clean joint surfaces immediately before installation of sealant or caulking compound. Remove dirt, insecure coatings, moisture and other substances which would interfere with bond of sealant or caulking compound.
- b. Concrete and Masonry Surfaces:
 1. All surfaces in contact with sealant shall be dry, sound and well brushed and wiped free from dirt.
 2. Use appropriate solvents to remove oil and grease, wiping the surfaces with clean rags.
 3. Where surfaces have been treated, remove the surface treatment by use of sandblasting or wire brushing.
 4. Remove all laitance and mortar from the joint cavity.
 5. Where backstop is required, insert the approved backup material in the joint cavity to the depth required.
- c. Metal Surfaces such as Door Frames:
 1. All surfaces in contact with sealant shall be dry, sound and well brushed and wiped free from dirt.
 2. Use appropriate solvents to remove oil and grease, wiping the surfaces with clean rags.
 3. Use as recommended by the manufacturer.
- d. Wood Surfaces:
 1. Wood surfaces in contact with sealant shall be cleaned of temporary protective coatings, dirt, oil and grease.
 2. When masking tape is used for a protective cover, remove the tape just prior to applying the sealant.
 3. Use as recommended by the manufacturer.

14. **INSTALLATION OF SEALANTS**

- a. General: Prior to start of installation in each joint, verify the joint type according to the details in the drawings and verify that the required proportion of width of joint to depth of joint has been secured. Apply primer to all surfaces as recommended by the manufacturer.
- b. Equipment: Apply sealant under pressure with hand or power-actuated gun or other appropriate means. Guns shall have nozzle of proper size and shall provide sufficient pressure to completely fill joints as designed.
- c. Masking: Thoroughly and completely mask all joints where the appearance of sealant on adjacent surfaces would be objectionable.

- d. Installation of Sealant: Install the sealant in strict accordance with the manufacturer's recommendations, thoroughly filling all joints to the recommended depth.
- e. Tooling: Tool all joints to the profile shown on the details in the drawings.
- f. Cleaning Up:
 - 1. Remove masking tape immediately after joints have been tooled.
 - 2. Clean adjacent surfaces free from sealant as the installation progresses. Use solvent or cleaning agent as recommended by the sealant manufacturer.
 - 3. No cleaning of tools or equipment will be permitted within building wash areas.

SECTION 7B: WATERPROOF MEMBRANE

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE

Provide waterproof membrane "system" by Laticrete (25-year warranty) below sheet vinyl and tile at all Toilets, ADA Bathroom, Shower/Toilet Room and Janitor Closet.

3. MATERIAL

- a. Concrete Slab Leveler: Laticrete 86 Latilevel cementitious leveling mortar.
- b. Waterproof/ Anti Fracture membrane: Laticrete Hydro Ban.
- c. Thinset: Laticrete 254 Platinum polymer-fortified thin set.
- d. Grout: Laticrete SpectraLOCK PRO epoxy grout.
- e. Sealant at Joints: Laticrete Latasil 100% silicone sealant, color matched to epoxy grout.

4. SURFACE PREPARATION

All concrete must be dry and free of sharp protrusions and voids, loose stones, dust and any other foreign matter.

5. INSTALLATION

- a. Install waterproof membrane "system" below sheet vinyl and tile flooring as recommended by the waterproofing manufacturer and as shown on drawings.
- b. Wrap waterproof membrane up perimeter walls a minimum of 6".
- c. Due to the odors generated by the waterproof membrane system, Contractor shall use caution when installing so as not to affect occupied patient floors. Provide means of ventilating area where waterproof membrane is to be applied.

SECTION 7C - ROOFING

1. GENERAL CONDITIONS

Division One, "General Requirements" is hereby made a part of this section.

2. SUMMARY

- a. Sika Corporation - Roofing System: This specifies the following adhered roofing system.
 - 1. Water Based Adhesive (Bareback)

3. REFERENCES

- a. Current Edition of: Identified reference requirements as put forth by the project specification.
 - 1. International Building Code (IBC)
 - 2. American Society of Testing Materials (ASTM)
 - 3. Sika Corporation Roofing Applicator Handbook
 - 4. Technical Bulletins

4. SUBMITTALS

- a. Literature: Copies of current relevant information pertaining to the primary components to be used in the roof system including but not limited to:
 - 1. Specifications
 - 2. Sika Corporation - Roofing's Warranty
 - 3. Applicator's Warranty
 - 4. Product Data Sheets
 - 5. Material Safety Data Sheets
- b. Samples for Verification: Representative samples of primary components to be used in the roof system.
- c. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work, including:
 - 1. Base flashings and membrane terminations.
 - 2. Tapered insulation, including slopes.
 - 3. Roof plan showing orientation of roof deck, orientation of roofing membrane, patterns for insulation attachment, and membrane fastening spacing.
 - 4. Fastening patterns for corner, perimeter, and field-of-roof locations.

5. QUALITY ASSURANCE

- a. Sika Corporation Roofing Qualifications:
 - 1. Demonstrated performance history of producing PVC roof membranes no less, in duration of years, than the warranty duration specified.
 - 2. Manufactured by membrane supplier and not private labeled.

3. Minimum of five years' experience recycling membranes at the end of their service life back into new membrane products. Provide a minimum of five reference projects.
- b. Installer Qualifications:
 1. A qualified firm that is authorized by Sika Corporation - Roofing to install all work pertaining to product manufacturer's roof system and that is eligible to receive manufacturer's warranty.
- c. Pre-installation Roofing Conference: Conduct conference at Project site.
 1. Sika Corporation – Roofing representative, Owner, Owner's Insurer, Roofing Installer, Deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
 2. Review methods and procedures related to roofing installation, including manufacturer's most current requirements.
 3. Review base flashings, special roofing details and transitions, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
 4. Review temporary protection requirements for roofing system during and after installation.
 5. Deviations from the project specifications or the approved shop drawings are not permitted without prior written approval by Sika Corporation – Roofing, the owner, the owner's representative, and the designer.

6. DELIVERY, HANDLING, AND STORAGE

- a. Deliver roofing materials to project site in original containers with seals unbroken and labeled with product manufacturer's name or product brand name.
- b. Comply with most current product data sheet requirements when handling, storing, protecting, or installing roofing materials. Including but not limited to avoiding physical damage, deterioration by sunlight, excessive moisture, or other potentially damaging conditions.
- c. Store liquid materials in their original undamaged containers in a clean, dry, protected location; away from direct sunlight; within the temperature range noted on the product data sheet.
- d. Handle and store roofing materials and equipment in a manner to avoid permanent deflection of deck.

7. FIELD CONDITIONS

- a. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's most current requirements and warranty requirements.
- b. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required and confirmed by roofing manufacturer.

8. WARRANTY

- a. Sika Corporation - Roofing Warranty: Sika warrants to the owner the specified warranty for the specified warranty period as long as the roofing is installed according to Sika's Technical instructions by a Sika Authorized Roofing Applicator. The warranty must be non-prorated and must not exclude coverage due to ponding water.

- 1. System Warranty:

- Warranty Period: **10** years from date of substantial completion.

- b. Applicator's Warranty: Signed by installing applicator, covering the work of a System Warranty, including all components of roofing system installation such as membrane roofing, base flashing, roof insulation, fasteners, cover boards, vapor retarders, and walkway products, for the following warranty period:

- 1. Warranty Period: **2** Number of years from date of substantial completion.

9. PERFORMANCE / DESIGN CRITERIA

- a. ASTM D4434: Type II
- b. NSF/ANSI Standard 347: Platinum
- c. Guarantee membrane thickness meets or exceeds specified thickness when tested according to ASTM D751.
- d. Zone 1, Rating 1-135 per FM Global.

10. SIKA CORPORATION – ROOFING MATERIALS

- a. PVC Sheet Thickness: Sarnafil G410, 72 mil (1.8 mm).
- b. PVC Sheet Exposed Face Color:
 - 1. EnergySmart White, initial solar reflectance of 0.83, emittance of 0.90, and solar reflective index (SRI) of 104.
- c. Membrane Attachment Component: Sarnacol 2121 (water based adhesive).
- d. Insulation Attachment Components: Sarnafastener-CD10 (concrete decks).
- e. Insulation: Sarnatherm EPS.
- f. Flashing Materials: Wall/Curb Flashing: As detailed in drawings
- g. Misc. Flashing Accessories:
 - 1. Sarnacircles
 - 2. Sarnacorners Inside
 - 3. Sarnacorners Outside
 - 4. Open Post Flashing
 - 5. Sarnareglet
 - 6. Sarnacol 2170 adhesive
 - 7. Sarnacol 2170 VC adhesive
 - 8. Sarnafelt
 - 9. Sarnadrain UFlow
 - 10. G410 Coverstrip

h. Miscellaneous Materials:

1. Aluminum Tape
2. Perimeter Warning Tape
3. Perimeter Warning Membrane
4. Seam Cleaner
5. Sarnastop
6. Sarnacord

i. Sealants:

1. Sikaflex-1a
2. Sarnafiller
3. Multi-Purpose Tape

j. Temporary Overnight Tie-ins (must be removed prior to start of next day's roofing): Sarnafiller

k. PVC Welding Equipment: Sarnamatic

l. Walkway Protection: Sarnatred-V to mechanical room door, rooftop HVAC equipment and exhaust fans.

11. EXAMINATION

a. Applicator shall verify that the work done under related sections meets the following conditions:

1. Roof drains and scuppers have been installed properly, or reconditioned, or replaced.
2. Roof curbs, nailers, equipment supports, vents and other roof penetrations are properly secured and prepared to receive new roofing materials.
3. All surfaces are smooth and free of dirt, debris and incompatible materials.
4. For concrete deck, verify that concrete substrate is dry and free of moisture. Verify that concrete curing compounds that will impair adhesion of roofing components to roof deck have been removed.
5. All roof surfaces shall be free of water.
6. Proceed with installation only after unsatisfactory conditions have been corrected.

12. PREPARATION

- a. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's most current requirements. Remove sharp projections.
- b. Prevent materials from entering and clogging roof drains and flashings and from spilling or migrating onto surfaces of other construction. Remove roof drain plugs when no work is taking place or when rain is forecast.

13. ROOFING INSTALLATION, GENERAL

- a. Install roofing system according to product manufacturer's most current requirements including but not limited to roofing applicator handbook, product data sheets, specifications, and or relevant technical bulletins.
- b. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.
- c. For tie-in with existing roofing, install roofing and auxiliary materials to maintain weather tightness of transitions.
- d. Roofing to comply with FM Global Property Loss Prevention Data Sheet 1-29, Roof Deck Securement and Above-Deck Roof Components.

14. SARNATHERM INSULATION INSTALLATION

- a. Coordinate installing roofing system components so insulation is not exposed to precipitation or other sources of moisture.
- b. Comply with product manufacturer's most current requirements for installing insulation.
- c. Install tapered insulation to conform to slopes indicated.
- d. Install insulation to achieve required thickness. Use at least 2 layers of insulation when the total insulation thickness exceeds 2.7 inches. Stagger joints in both directions at least 12 inches between layers.
- e. Where installing composite and non-composite insulation in two or more layers, install non-composite board insulation for bottom layer and intermediate layers, if applicable, and install composite board insulation for top layer.
- f. Trim insulation where necessary at roof drains so completed surface is smooth and does not restrict flow of water.
- g. Drains shall be properly sumped to allow membrane to sit flat without stretching or wrinkling.
- h. Fill gaps exceeding 1/4 inch with insulation. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.
- i. Installation Method:
 - 1. Urethane Adhered: Install layer/s of insulation and secure by adhering to substrate by using at the spacing rate and application method according to FM Global Property Loss Prevention Data Sheet 1-29.

15. SIKA ROOFING MEMBRANE INSTALLATION

- a. The surface of the insulation or substrate shall be inspected prior to installation of the Sarnafil roof membrane. The substrate shall be clean, dry, free from debris and smooth with no surface roughness or contamination
- b. Accurately align roofing, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- c. Apply roofing with side laps shingled with slope of roof deck where possible.

- d. Make sure seam areas are free of debris, dirt, and dust, overlap membrane sheets, and hot-air weld side and end laps of roofing and sheet flashings according to manufacturer's most current requirements to ensure a watertight seam installation.
 - 1. Verify in-field weld strength of seams a minimum of twice daily, repair seam sample areas.
 - 2. Test lap edges with probe to verify seam weld continuity.
 - 3. If any tears or voids in lapped seams are found repair using appropriate approved technique.
- e. Adhered System: Water Based Adhesive:
 - 1. Roller apply Sarnacol 2121 adhesive to the substrate with medium nap rollers. Place membrane into wet adhesive and immediately broom and roll with minimum 100 lb steel membrane roller. Adhesive shall not be used if temperatures below 40°F are expected during application or subsequent drying time. Modify as required to meet FM Global Property Loss Prevention Data Sheet 1-29.

16. BASE / FIELD FLASHING INSTALLATION

- a. Install all membrane and preformed flashings according to roofing system manufacturer's most current requirements.
- b. Install membrane base flashing by applying bonding adhesive to substrate and underside of membrane flashing at required rate. Do not apply to seam area of flashing.
- c. Flash field penetrations and inside/outside corners with appropriate prefab flashing components or by approved custom in-field fabrication technique.
- d. Firmly roll membrane flashing into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
- e. Terminate and seal top of membrane flashings and mechanically anchor to substrate by approved Sika Corporation - Roofing detail.
- f. Spread continuous sealant bead leaving no gaps over deck drain flange at roof drains, and securely seal roofing in place with clamping ring.

17. WALKWAY INSTALLATION

Sarnatred-V: Install walkway product in locations indicated, adhere (except edges) to deck sheet, and hot-air weld edges.

18. FIELD QUALITY CONTROL

- a. Arrange for roofing system manufacturer's technical personnel to inspect roofing installation upon completion.
- b. Repair or remove and replace components of roofing system that do not comply with specified requirements.
- c. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

- d. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

19. **PROTECTION**

- a. Protect new roofing system from damage and wear during construction period. Inspect new roofing for damage if used during construction.

SECTION 7D: SHEET METAL

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE

This section includes everything necessary for and incidental to the execution and completion of sheet metal edge flashing work.

Coordinate work with other trades as required.

3. QUALITY ASSURANCE

Industry Standards: Provide products which comply with applicable requirements of SMACNA "Architectural Sheet Metal Manual".

4. JOB CONDITIONS

Coordinate work of this section with adjoining work for proper sequencing of each installation to ensure best possible weather resistance and protection of materials and finished against damage.

5. MATERIALS

- a. 20 gauge. galvanized sheet metal.
- b. Fasteners - Stainless steel with soft neoprene washers at exposed fasteners.
- c. Sealant - Type specified.
- d. Plastic Cement - FS SS-C-153, Type 1 - asphaltic base cement.

6. FABRICATION GENERAL

- a. Provide sheet metal which is designed and fabricated to fit applications indicated and to perform optimally with respect to weather resistance, water tightness, durability, strength, and uniform appearance. Height and profile of edge flashing to match existing.
- b. Expansion Provision: Fabricate sheet metal to allow controlled expansion in running lengths not only for movement of metal components in relationship to one another but also to adjoining dissimilar materials, including flashing and roofing membrane materials, in a manner which is sufficient to prevent water leakage, deformation or damage.
- c. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- d. Fabricate cleats and starter strips of same materials as sheet, interlockable with sheet.
- e. Form pieces in longest practical lengths.

- f. Hem exposed edges on underside 1/2 inch (13mm): miter and seam corners.
- g. Form material with cover plate seam.

7. **INSTALLATION**

- a. General: Coordinate with installation of roof deck and other substrates to receive work of this section as required to ensure that each element of the work performs properly, and that combined elements are waterproof and weathertight. Anchor products included in this section securely to structural substrates, adequate to withstand lateral and thermal stresses as well as inward and outward loading pressures.
- b. Field measure site conditions prior to fabrication.
- c. Install starter and edge strips, and cleats before starting installation.
- d. Isolation: Where metal surfaces of units are installed in contact with dissimilar metal or corrosive substrates, including wood, apply bituminous coating on concealed metal surfaces.
- e. Secure flashings in place using concealed fasteners.
- f. Apply plastic cement compound between metal flashing and roof flashing.
- g. Fit flashing tight in place. Make corners square. surfaces true and straight in planes, and lines accurate to profiles.
- h. Make metal joints watertight for full metal surface contact.

8. **CLEANING AND PROTECTION**

Protection: Provide protective measures as required to ensure that work of this section will be without damage or deterioration at time of substantial completion.

9. **WARRANTY**

- a. Contractor shall provide written warranty to owner for workmanship and materials, free from defects for a period of two (2) years beginning from the date of substantial completion.
- b. The following types of work shall be adjudged to be defective work: leaking, failure to stay in place, undue expansion, lifting, separating of seams, deformation or loosening.

SECTION 7E - EXTERIOR FINISH SYSTEM

1. GENERAL REQUIREMENTS

Division One "General Requirements" is hereby made a part of this section.

2. SUMMARY

- a. Section includes description of requirements for materials and construction of exterior wall finish system as shown on the drawings and as specified herein to complete work.
 - 1. DEFS - Exterior finish system applied to exterior sheathing board on stud and concrete walls as shown on drawings.

3. REFERENCED DOCUMENTS

- a. ASTM Standards
 - 1. B117 - Salt Spray Resistance.
 - 2. C297 - Adhesion.
 - 3. C1177 - Specifications for Glass Mat Gypsum Substrate for use as Sheathing.
 - 4. D968 - Abrasion Resistance.
 - 5. D2247 - Water Resistance of Coatings in 100% Relative Humidity.
 - 6. D3273 - Mildew Resistance.
 - 7. E390 - Traverse Load.
 - 8. E72 - Racking Test.
 - 9. G23 - Accelerated Weathering.

4. DESIGN REQUIREMENTS FOR DEFS

- a. Design for maximum allowable system deflection, normal to the plane of the wall, of $L/360$.
- b. Design for wind load in conformance with code requirements.
- c. Prevent the accumulation of water behind the system, either by condensation or leakage through the wall construction, in the design and detailing of the wall assembly.
- d. Select finish coat with a lightness value of 45 or greater.
- e. Design minimum 3/4 inch wide expansion joints in the DEFS where they exist in the substrate or supporting construction, where the DEFS adjoins dissimilar construction or materials, at changes in building height, and at floor lines in multi-level frame construction.
- f. Specify compatible backer rod and sealant in accordance with "EIMA Guide for Use of Sealants with Exterior Insulation and Finish System (EIFS), Class PB. Specify sealant in compliance with minimum 50% elongation requirement before and after conditioning when tested in accordance with EIMA Standard 300.01.
- g. Not recommended for use on weather exposed horizontal or sloped surfaces.
- h. Not recommended for use above the 4000 degree day line.
- i. Install appropriate weather-resistive barrier behind exterior sheathing as shown in drawings.

5. SUBMITTALS

- a. Manufacturer's specifications, details, installation instructions and product data.
- b. Applicator's certificate of instruction.
- c. Samples for approval.
- d. Manufacturer's standard warranty.
- e. A list of a minimum of three (3) job references.
- f. Prepare and submit project-specific details.

6. QUALITY ASSURANCE

- a. Manufacturer Requirements:
 - 1. Member in good standing of the EIFS Industry Members Association (EIMA).
 - 2. System manufacturer for a minimum of five (5) years.
- b. Contractor Requirements:
 - 1. Engaged in application of DEFS for a minimum of three (3) years.
 - 2. Employ skilled mechanics who are experienced and knowledgeable in DEFS application, and familiar with the requirements of the specified work.
 - 3. Provide the proper equipment, manpower and supervision on the job site to install the system in compliance with EFS manufacturer's published specifications and details and the project plans and specifications.

7. DELIVERY, STORAGE AND HANDLING

- a. Deliver all materials, required to complete the work, in their original sealed containers bearing manufacturer's name and identification of product.
- b. Protect all pail products from temperatures above 90 degrees F. Store away from direct sunlight.

8. PROJECT/SITE CONDITIONS

- a. Maintain, ambient and surface temperatures above 40 degrees F during application and drying period, minimum 24 hours after application of DEFS.
- b. Provide protection of surrounding areas and adjacent surfaces from application of materials.

9. COORDINATION/SCHEDULING

- a. Install sealant immediately after installation of the system and when DEFS coating are dry.

10. PRODUCTS/MANUFACTURERS

- a. The following are acceptable manufacturers:
 - 1. STO Industries, Parex and Georgia Pacific.

11. MATERIAL

- a. Accessories
 - 1. Corner bead, casing bead, starter track, expansion and control joint accessories shall be installed in accordance with ASTM C1063 and its referenced documents. Accessories shall be vinyl (ASTM D1784).
- b. Sheathing substrate
 - 1. 5/8" thick, Type "X" rated, silicone-treated gypsum with inorganic fiberglass mat surface with an alkali-resistant surface coating.
- c. Base Coat
 - 1. STO Guard Assembly or equal, composed of 267 STO Guard Mesh 4.25", 265 STO Gold Coat, 266 STO Gold Fill. A liquid applied building wrap that offers waterproofing/air barrier.
- d. Reinforcing Mesh
 - 1. Nominal 4.8 oz/sq. yd., symmetrical, interlaced open weave glass fiber fabric made with a minimum of 26% by weight alkaline resistant coating compatible with EFS materials.
 - 2. Specialty Meshes
 - a. Detail Mesh: Nominal 4.5 oz/sq. yd., symmetrical, interlaced glass fiber fabric made with alkaline resistant coating for compatibility with EFS materials (used to encapsulate aesthetic foam shapes or reveals, and to reinforce inside corners, and window and door corners).
 - b. Corner Mat: Nominal 6.25 oz/sq. yd., pre-creased, heavy duty open weave glass fiber fabric with alkaline resistant coating compatible with EFS materials (used for maximum impact protection at inside, outside corners and in areas noted on drawings).

12. PRIMER

Acrylic based primer.

13. FINISH COAT

STO Stochastic acrylic-based, elastomeric coating or equal. Textured to be 1.5 mm textured finish.

14. ACCEPTABLE INSTALLERS

Prequalify under Quality Assurance requirements of this specification (Paragraph 6).

15. INSTALLATION

- a. Framing shall be a minimum of 20 gauge, metal studs spaced a maximum of 16" on-center for walls and 24" on center for ceiling and soffits. Provide venting of soffits to prevent condensation in the system. Framing shall be straight and true and of uniform dimension. Vertical alignment shall be 1/4" in 10'-0" of the wall length. Framing shall be provided wherever joints in sheathing occur, and shall be constructed in accordance with applicable building code requirements.
- b. Sheathing shall be handled, installed and protected in accordance with manufacturer's requirements.
 1. Vertical installation of the long dimension of the sheathing board reduces the amount of blocking required.
 2. Vertical board joints should be staggered.
- c. Appropriate starter accessories shall be installed on a level plane to the sill plate and allowed to slightly overhand the foundation. Casing beads or "L" trims shall be installed at all perimeters (doors, windows, penetrations, etc.), 1/2" gap shall be maintained at all termination to provide a sealant joint between the accessory and the abutment.
- d. Sheathing shall be attached to framing using corrosion resistant screws.
 1. Locate screws 8" maximum on-center along framing members. Screw spacing may be closer, as recommended by manufacturer, to increase wind load or shear value.
 2. Screw at board edges shall be placed 3/8" in from the edge.
 3. Screws shall be staggered at all joints.
 4. Screws shall be driven flush with the surface of the sheathing.
 5. Screws shall penetrate surface mounted accessories, through the sheathing, and into the framing.
- e. The base coat shall be applied to the sheathing (and foam trim, if used) with proper spray equipment or stainless steel trowel to uniform thickness of 1/16". Base coat shall be installed horizontally or vertically, in strips of 40" and reinforcing mesh shall be immediately be imbedded into the wet ground coat. The mesh shall overlap a minimum of 2-1/2" at mesh joints and mesh overlaps shall be staggered at least 8" from sheathing joints. Mesh shall also overlap all surface mounted accessories. Avoid wrinkles in the mesh. The finish thickness of the base coat shall be such that the mesh is fully imbedded and mesh overlaps have been properly feathered to avoid "reading". No mesh color shall be visible. Allow the base coat to thoroughly dry before application of the primer or finish.
 1. EFS on masonry or concrete requires a clean, sound surface. The base coat may then be applied, in such a manner to achieve a smooth flat surface. Mesh may be imbedded, as described above, to aide in levelling or to add crack resistance to the surface.
- f. Apply primer with brush, roller or spray equipment over a clean, dry base coat and allow to dry before applying finish.
- g. The finish shall be applied directly over the base coat only after it has thoroughly dried. The finish shall be applied by spraying, rolling or troweling with a stainless steel trowel, depending on the finish specified. General rules for application of finishes are as follow:
 1. Use a clean, rust free mixer to thoroughly stir the finish to a uniform consistency (small amounts of clean water may be added to aid workability).
 2. Avoid application in direct sunlight.
 3. Apply finish in a continuous application, always working to a wet edge.
 4. Weather conditions affect application and drying time (refer to section 1.07).
 5. Avoid installing separate batches of finish side by side.
 6. Do not apply finish into or over sealant joints. Apply finish to outside face of wall only.
- h. All open joints in the system shall be sealed with appropriate sealant in accordance with manufacturer's recommendations to prevent any water from getting into or behind the system.

SECTION 8A: FINISH HARDWARE

1. GENERAL CONDITIONS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE OF WORK

- a. The work included in this section of the specifications shall provide for the furnishing and delivering of all finish hardware required for all carpentry, etc. complete as shown on plans.
- b. The hardware list specified hereinafter has been made for the convenience of the Contractor and covers in general the necessary hardware for work shown on the plans.

3. MATERIALS

- a. Asbestos Prohibition: No asbestos containing material or equipment shall be used under this section. The Contractor shall ensure that all materials and equipment incorporated in the project are asbestos free.
- b. Finish: Except as otherwise indicated, finish of hardware throughout shall be Satin Chrome Plated US26D. Hinges shall be provided with a Satin Chrome Plated US26D finish. Door closers and hold open devices shall be furnished with an aluminum enamel finish.
- c. Hardware Delivery: Examine the plans, specifications and details in order to check all items. Hardware shall be separately unit packed, labeled and numbered, so that they can be checked with the hardware list.

4. KEYING

- a. All lockset cylinders shall be provided with Sargent removable cores.
- b. Provide 4 cut keys (2 original and 2 copies) for each lock. Key all locksets to existing Mahelona Medical Center Schlage grand master system.
- d. The suppliers shall deliver the keys directly to Mr. John Pimental, Mahelona Medical Center Director of Facilities, in separate envelopes, sealed and identified by lock and location.

5. GENERAL CHARACTER

All hardware shall be of the best quality in construction design and finish, free of defects. Any defective piece shall be replaced by the Contractor at his own expense.

6. FASTENING

Furnish necessary screws, bolts and other fastenings for proper application of hardware. Fastenings shall be of a suitable size and type to securely install hardware from heavy use. Fastenings must harmonize with the hardware as to material and finish.

7. HARDWARE SCHEDULE

Quality, function, design and finish are specified herein. Match numbers indicated in hardware column of the door schedule with hardware sets listed below.

HW-1: Pair Doors D/1 to/from Hallway

4 prs.	Swing Clear Hinges	FB268 4.5 x 4.5	26D	Stanley
2	Exit Devices	ED5000 903 Newport w/Concealed Vert Rod	32D	Corbin Russwin
2	Closer	1461DEL	EN	LCN
2	Electromagnetic Locks *	M420	28	SCE
1	Power Supply	PS914-2RS		VON
1	Recessed Actuator	8310-856		LCN
2	Kick Plate	K0050 16" x 41"	32D	Trimco

Access Card Reader on outside of unit by Mahelona Medical Center Security Vendor.

HW-2: Pair Doors D/2 to Exterior Landing

Door Hardware by Aluminum Door Manufacturer

HW-3: Single Door D/3 to New Exam Room/123

2 prs.	Swing Clear Hinges	BB1263 4.5 x 4.5	26D	Hager
1	Latchset	11U15OL	26D	Sargent
1	Wall Stop	WS402CVX	26D	Ives

HW-4: Single Door D/4 from Janitor/101

1-1/2 prs	Hinges	BB1279 4.5 x 4.5	26D	Hager
1	Push Button Lockset	Simplex 5066	26D	Kaba
1	Overhead Stop **	10-126	630	Rixson

HW-5: Single Door D/5 from Soiled Holding/102

1-1/2 prs	Hinges	BB1279 4.5 x 4.5	26D	Hager
1	Push Button Lockset	Simplex 5066	26D	Kaba
1	Overhead Stop **	10-126	630	Rixson

HW-7: Single Door D/7 to ADA Bathroom/103

1-1/2 prs	Hinges	BB1279 4.5 x 4.5	26D	Hager
1	Latchset	11U65OL	26D	Sargent
1	Wall Stop	WS402CVX	26D	Ives

HW-8: Single Door D/8 to Patient Room 1/104

2 prs.	Swing Clear Hinges	BB1263 4.5 x 4.5	26D	Hager
1	Passage Latchset	8215ALP	32D	Sargent
1	Wall Stop	WS402CVX	26D	Ives

HW-9: Single Door D/9 to Patient Room 2/105

2 prs.	Swing Clear Hinges	BB1263 4.5 x 4.5	26D	Hager
1	Passage Latchset	8215ALP	32D	Sargent
1	Wall Stop	WS402CVX	26D	Ives

HW-10: Single Door D/10 to Toilet 2/106

1-1/2 prs	Hinges	BB1279 4.5 x 4.5	26D	Hager
1	Latchset	11U65OL	26D	Sargent
1	Wall Stop	WS402CVX	26D	Ives

HW-13: Single Door D/13 to Toilet 3/107

1-1/2 prs	Hinges	BB1279 4.5 x 4.5	26D	Hager
1	Latchset	11U65OL	26D	Sargent
1	Wall Stop	WS402CVX	26D	Ives

HW-14: Single Door D/14 to Patient Room 3/108

2 prs.	Swing Clear Hinges	BB1263 4.5 x 4.5	26D	Hager
1	Passage Latchset	8215ALP	32D	Sargent
1	Wall Stop	WS402CVX	26D	Ives

HW-15: Single Door D/15 to Patient Room 4/109

2 prs.	Swing Clear Hinges	BB1263 4.5 x 4.5	26D	Hager
1	Passage Latchset	8215ALP	32D	Sargent
1	Wall Stop	WS402CVX	26D	Ives

HW-16: Single Door D/16 to Toilet 4/110

1-1/2 prs	Hinges	BB1279 4.5 x 4.5	26D	Hager
1	Latchset	11U65OL	26D	Sargent
1	Wall Stop	WS402CVX	26D	Ives

HW-18: Single Door D/18 to Clean Supply Storage/111

1-1/2 prs	Hinges	BB1279 4.5 x 4.5	26D	Hager
1	Push Button Lockset	Simplex 5066	26D	Kaba
1	Closer *	DC3200 M71	EN	Corbin Russwin
1	Wall Stop	WS402CVX	26D	Ives

HW-19: Single Door D/19 to Ante Room/113A

2 prs.	Swing Clear Hinges	BB1263 4.5 x 4.5	26D	Hager
1	Passage Latchset	8215ALP	32D	Sargent
1	Wall Stop	WS402CVX	26D	Ives

HW-20: Single Door D/20 to Shower & Toilet/112

1-1/2 prs	Hinges	BB1279 4.5 x 4.5	26D	Hager
1	Latchset	11U65OL	26D	Sargent
1	Wall Stop	WS402CVX	26D	Ives

HW-21: Single Door D/21 from Closet

1-1/2 prs	Hinges	BB1279 4.5 x 4.5	26D	Hager
1	Latchset	11U15OL	26D	Sargent
1	Wall Stop	WS402CVX	26D	Ives

HW-22: Single Door D/22 to Airborne Infection Isolation Room/113

2 prs.	Swing Clear Hinges	BB1263 4.5 x 4.5	26D	Hager
1	Passage Latchset	8215ALP	32D	Sargent
1	Closer *	DC3200 M71	EN	Corbin Russwin
1	Wall Stop	WS402CVX	26D	Ives
1	Smoke Seal	S88C x 18'		Pemko

HW-23: Single Door D/23 to Med Room/118

1-1/2 prs	Hinges	BB1279 4.5 x 4.5	26D	Hager
1	Push Button Lockset	Simplex 5066	26D	Kaba
1	Closer *	DC3200 M71	EN	Corbin Russwin
1	Wall Stop	WS402CVX	26D	Ives

HW-24: Single Door D/24 to Nourishment Room/117

1-1/2 prs	Hinges	BB1279 4.5 x 4.5	26D	Hager
1	Latchset	11U15OL	26D	Sargent
1	Closer *	DC3200 M71	EN	Corbin Russwin
1	Wall Stop	WS402CVX	26D	Ives

HW-25: Single Door D/25 to Pharmacy/116

1-1/2 prs	Hinges	BB1279 4.5 x 4.5	26D	Hager
1	Lockset	8204OL	26D	Sargent
1	Closer *	DC3200 M71	EN	Corbin Russwin
1	Wall Stop	WS402CVX	26D	Ives

HW-26: Single Door D/26 to Pharmacy/116

1-1/2 prs	Hinges	BB1279 4.5 x 4.5	26D	Hager
1	Lockset	8204OL	26D	Sargent
1	Closer *	DC3200 M71	EN	Corbin Russwin
1	Wall Stop	WS402CVX	26D	Ives

HW-27: Pair Doors D/27 to/from Hallway/122

4 prs.	Swing Clear Hinges	FBF268 4.5 x 4.5	26D	Stanley
2	Exit Device	ED5000 903 Newport w/Concealed Vert Rod	32D	Corbin Russwin
2	Closer	1461DEL	EN	LCN
2	Electromagnetic Locks *	M420	28	SCE
1	Power Supply	PS914-2RS		VON
1	Recessed Actuator	8310-856		LCN
2	Kick Plate	K0050 16" x 41"	32D	Trimco

Access Card Reader on outside of unit by Mahelona Medical Center Security Vendor.

HW-28: Sliding Doors D/28 to Vestibule/114A

Door Hardware by Automatic Sliding/Breakaway Door Manufacturer

HW-29: Sliding Doors D/29 to IV Prep Room/114

Door Hardware by Automatic Sliding/Breakaway Door Manufacturer

HW-31: Single Door D/31 to Toilet 1/120

1-1/2 prs	Hinges	BB1279 4.5 x 4.5	26D	Hager
1	Latchset	11U65OL	26D	Sargent
1	Closer *	DC3200 M71	EN	Corbin Russwin
1	Wall Stop	WS402CVX	26D	Ives

HW-32: Single Door D/32 to Office

1-1/2 prs	Hinges	BB1279 4.5 x 4.5	26D	Hager
1	Lockset	11G05OL	26D	Sargent
1	Wall Stop	WS402CVX	26D	Ives

HW-33: Single Door D/33 to Med Gas Room 1

2 prs	Hinges	BB1279 4.5 x 4.5	32D	Hager
1	Lockset	8204OL	32D	Sargent
1	Wall Stop	WS402CVX	26D	Ives
1	Smoke Seal	S88C x 17'		Pemko
1	Door Shoe	2221AV		Pemko
1	Threshold	271A		Pemko

HW-34: Single Door D/34 to Med Gas Room 1

1-1/2 prs	Hinges	BB1279 4.5 x 4.5	32D	Hager
1	Lockset	8204OL	32D	Sargent
1	Wall Stop	WS402CVX	26D	Ives
1	Smoke Seal	S88C x 17'		Pemko
1	Door Shoe	2221AV		Pemko
1	Threshold	271A		Pemko

* Mount on pull side of door.

** Mount on push side of door

8. SCHEDULE

Furnish copies of Schedule of Hardware in compliance with specifications and drawings. List each opening and hardware to be applied. State, material, finish and manufacturer's number for each item.

9. FINISH HARDWARE

The Contractor shall carefully adjust all new hardware to perfect working order, to the satisfaction of the Architect. Any defective, damaged and/or missing parts shall be replaced by the Contractor at his own expense.

SECTION 8B: METAL DOORS AND FRAMES

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE

This section includes everything necessary for and incidental to the execution and completion of metal frame work as shown on the drawings and specified herein.

3. RELATED WORK IN OTHER SECTIONS

- a. Section 8A - Finish Hardware.
- b. Section 8C – Laminate Wood Doors.

4. PRODUCTS

- a. Metal Frames
 - 1. Gauge: Minimum 16 U.S. standard gauge.
 - a. Metal Door Frames: Supply welded door frame for Doors D/8, D/9, D/14, D/15, D/19 & D/22. All other frames to be "KD" knocked-down type frames.
 - 2. Finish: Factory finished prime coat.
 - 3. Frame Fastening: Provide anchors 6" from head to sill and not over 2' - 0" o.c. equally spaced or as recommended by hollow metal frame manufacturer. To stud wall construction: wire well to studs as recommended by hollow metal frame manufacturer.
 - 4. Hardware Reinforcement: Provide suitable sinkages for mortise or countersunk hardware. Insert steel reinforcement for attaching hardware, of ample size to stiffen sheet metal against the required surface strain. Provide 3/16-inch continuous hinge reinforcement and 12 gauge channel head reinforcing. All other reinforcing to be minimum thickness of 14 gauge.
- b. Metal Doors
 - 1. Thickness: 1-3/4" x size noted on plans.
 - 2. Gauge: Minimum 18 U.S. standard gauge.

5. WORKMANSHIP

- a. General: Finished work must be strong, rigid, and neat in appearance, and comply with the following requirements:
 - 1. Surfaces: Smooth, free from defects, warps and buckles.

2. Miters: Well formed, in true alignment.
3. Welds: Neatly made, ground flush.
4. Fastenings: Concealed when practical. When exposed, use countersunk ovalhead screws.
5. Labels: Not applicable.

6. SHOP DRAWINGS AND SAMPLES

Drawings to show elevations, sizes, hardware locations and construction of all metal doors and metal frames. Frames shall be identified and correlated with types as indicated on the drawings.

SECTION 8C: LAMINATE WOOD DOORS

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE

This section includes everything necessary for and incidental to the execution and completion of solid core laminate doors work as shown on the drawings and specified herein.

3. QUALITY ASSURANCE

Furnishing of all material for the work of this section to comply with the requirements of the following standards unless otherwise indicated:

- a. ANSI A208.1 - Particleboard.
- b. ASTM E90-90 - Measurement of Airborne Sound Transmission Loss of Building Partitions.
- c. ASTM E 413 - Classification for Rating Sound Insulation.
- d. Architectural Woodwork Standards - AWS Section 9, Doors; Quality Standards of the Architectural Woodwork Institute (AWI) and Woodwork Institute (WI).
- e. Forestry Stewardship Council (FSC) - Guidelines for environmentally certified wood doors.
- f. Intertek Testing Service (ITS Warnock Hersey) - Certification Listings for Fire Doors.
- g. NFPA 80 - Standard for Fire Doors and Fire Windows; National Fire Protection Association.
- h. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; National Fire Protection Association.
- i. UL 10C - Positive Pressure Fire Tests of Door Assemblies; UL 1784 - Standard for Air Leakage Tests of Door Assemblies.
- j. UL 10B - Fire Tests of Door Assemblies.
- k. United States Green Building Council (USGBC).
- l. Window and Door Manufacturers Association - WDMA I.S.1-A Architectural Wood Flush Doors.
- m. Window and Door Manufacturers Association - WDMA I.S. 10 Industry Standard for Testing Cellulosic Composite Materials for Use in Fenestration Products.

4. WARRANTY

- a. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace doors that fail in materials or workmanship within the specified warranty period.
 1. Failures include, but are not limited to, the following:
 - a. Warping (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section.
 - b. Delaminating of face in decorative laminate faced doors.
 - c. Warranty includes installation that may be required due to repair or replacement of defective doors.

- d. Warranty Period for Solid Core Interior Doors: Life of installation according to manufacturer's written warranty.

5. PRODUCT DELIVERY, STORAGE AND HANDLING

- a. Comply with requirements of referenced standard and manufacturer's written instructions.
- b. Package clad wood doors individually in plastic bags or cardboard cartons and wrap bundles of doors in plastic sheeting.
- c. Mark each door on top rail with opening number used on Shop Drawings.

6. PRODUCTS

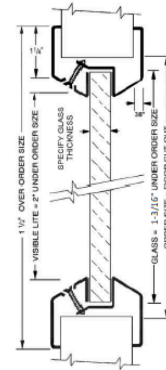
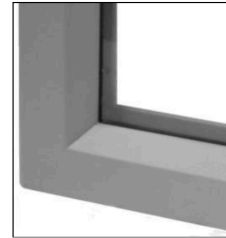
- a. Decorative Laminate Doors:
 - 1. Thermal fused flush doors, Aspiro Series as manufactured by Masonite Architectural Doors.
 - a. Color: Fusion Maple 7909-60, Matte Finish.
 - b. Provide doors with pilot holes factory drilled for vertical edge hinges and lock sets.
 - c. Fire Rated Labels: 20 minute at Doors D/26 & D/27.
- b. Vision Lite at Door D/19
 - 1. 12" wide x 24" high door vision lite. VISTA-MAX by Vistamatic with the following features:
 - a. Clear polycarbonate panels.
 - b. Ligature free control knob.
 - c. Hollow metal framing, 20 gauge CRS frame for 1-3/4" thick door. Provide primer finish.
 - d. Secure with #12 x 1" tamper proof torx head screws.
 - 2. Contact: Privacy Glass Solutions, 11713 NW 39th Street, Coral Springs, FL Phone: (866) 466-9525. Email: info@privacyglasssolutions.com
- c. Vision Lites at Pair Doors D/27
 - 1. 6" wide x 21" high door vision lite, 20 minute UL fire rated metal frame and clear fire rated tempered glass panel.

VISTAMATIC - Hollow Metal Framing

Recommended for Applications Requiring Safety and or Insulated Glazing

SPECIFICATIONS:


Material:	20 gauge CRS frame. Min Size 3" x 3", Max 60" x 104".
Construction:	1-1/4" trim with radius corners, mitered and welded. Continuous glass retainer, countersunk mounting holes either in the bevel or on the face of the non-corridor side, depending on thickness required. Frame projects 3/8".
Door:	1-3/8" - 2-1/2" door. Specify door thickness: <input type="text"/> . Door cutout = order size.
Fasteners:	#12 x 1" Tamper proof screws.
Powder Coat Finishes:	<input type="checkbox"/> (P) Primed for paint (standard) VISTAMATIC can match any RAL number. *An additional cost will apply
Customization:	• Lead Line
Wall:	4-3/8" - 7-1/2" wall. Specify wall thickness: <input type="text"/> . Wall cutout = order size.
Glass:	<input type="text"/> " Glass Thickness Will Be Used for this Order Visible light is 2" under rough opening size. Glass is 1-3/16" under order size. Must specify glass thickness above.



Order Format:



Interpretation of Fire and Building Codes May Vary. Consult with the Local Authority Having Jurisdiction (AHJ) to determine appropriate standards.

 ISTATMMATIC Privacy Glass Solutions	Distributor:	Width: <input type="text"/> x Height: <input type="text"/>
	Architect:	Quantity: <input type="text"/> Thickness: <input type="text"/>
	Contractor:	Glass Thickness: <input type="text"/>
	Project:	Date: <input type="text"/>

7. INSTALLATION

- Storage: Condition all door to the prevailing humidity in the installation area prior to hanging. Do not expose doors to variations of heat, humidity or moisture. Store all doors in a cool, dry place and by method recommended by door manufacturer.
- Job Fit All Doors: Provide adequate rough opening for all doors, making provision for shimming, frame installation and frame trim. Align doors to frame for proper fit and uniform clearance at each edge and machine for hardware.
- Clearance: Provide clearances of 1/8" at jambs and heads, and 3/8" from bottom of door to top of floor finish or covering.

8. ADJUST AND CLEAN

Upon completion of the work and before final acceptance, ensure all doors operate smoothly. Rehang or replace doors which are hinge bound or do not swing or operate freely, and as directed by the Architect.

SECTION 8D: ALUMINUM DOORS AND FRAMES

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE

Provide all aluminum doors and frames complete with glass and hardware for Doors D/2, D/28 & D/29.

3. SHOP DRAWINGS

- a. Submit shop drawings for the Architect's review and do not fabricate prior to acceptance.
- c. Aluminum system for Door D/2 shall be based on performance for a 105 mph wind speed criteria.

4. WARRANTY

Provide a warranty from the manufacturer that the completed work will not be defective in workmanship, materials, or installation for a period of two (2) years from the date of acceptance of its work, and that repair or replacement of any work that may prove to be defective will be done promptly. This warranty does not extend to defects caused by unusual abuse.

5. MATERIALS AND MANUFACTURER

- a. Entrance Doors D/2: Arcadia, Inc. NS212 Series narrow stile entrance door.
 1. Hardware:
 - a. Hinges: Continuous aluminum hinges.
 - b. Closer: Arcadia standard concealed overhead closer with ADA option.
 - c. Locking Hardware: Panic hardware in push side of door. Latch lock on exterior. Provide cylinder ready to receive hospital Schlage core. Finish to be satin aluminum.
 - d. Push/Pull Hardware: Arcadia radius 1" round bent bar push/pull set. Finish: clear aluminum.
 2. Glazing: 1-inch (25mm) units with ½-inch (13mm) airspace and two 1/4" (6mm) lites. Interior lite is clear. Solarban 60 Solexia + Clear as manufactured by PPG Industries, Inc.
 3. Finish: Anodized #11 clear finish with clear protective coating.
- b. Automatic Sliding/Breakaway Doors D/28 & D/29: Stanley Dura-Glide 3000. 7'-0" package.
 1. Glazing: 3/8-inch clear tempered glass.
 2. Finish: Anodized #11 clear finish with clear protective coating.

6. **INSTALLATION**

- a. Install component parts level, plumb, and true to line with uniform joints. Do not use defective parts (warped, twisted, bowed, dented, or abraded). Secure to structure with non-staining, non-corrosive shims, anchors, fasteners, spacers, and fillers. Use care in erection so as not to mar, abrade, or stain finished surfaces. Where aluminum is to be placed in contact with steel, concrete, concrete block, and other dissimilar surfaces, backpaint the aluminum before erection with an acceptable bituminous paint.
- b. Seal frames with a Thiokol approved sealant in color to match the frames, making a neat, fully weatherproof job. Refer to Section 7A – Sealant and Caulking and comply with requirements of that section.

7. **PROTECTION**

After erection, adequately protect, by masking or other acceptable covering, all exposed parts of the work and the anodized finish from damage by grinding and polishing machines and/or by plaster, cement, acid, or other harmful substances.

8. **CLEANING**

After completion of all other work in the vicinity of the aluminum door frame and door, remove all masking and/or other covering used to protect the work, and thoroughly clean the aluminum surfaces with plain water or a petroleum product such as white gasoline, kerosene, or distillate. **Do not use abrasive cleaning agents.**

TYPICAL PACKAGE DIMENSIONS (NARROW STYLE)			
PACKAGE WIDTH	NOMINAL CLEAR DOOR OPENING	DOOR PANEL NOMINAL WIDTH	EMERGENCY BREAKOUT NOM. WIDTH
84"	35.3"	41.5"	75.0"
96"	41.3"	47.5"	87.0"
108"	47.3"	53.5"	99.0"

SECTION 8E: CASING FRAMES

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE

This section includes everything necessary for and incidental to the execution and completion of aluminum door frame work which will serve as casing opening frames for Doors D/28 & D/29 as shown on the drawings and specified herein.

3. QUALITY ASSURANCE

Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section and authorized by the manufacturer to install all products specified in this section.

4. SUBMITTALS

a. Product data:

1. Materials list of items proposed to be provided under this Section.
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
3. Shop drawings showing details of each frame type, elevations of door design details of openings, and details of construction, installation, and anchorage.

5. SURFACE CONDITIONS

Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

6. MATERIALS

a. Classic Frame C-Series 18-gauge pre-finished steel cased opening frames (without door stop) by Timely.

1. C- Series cased opening frames to be provided with Elite Series 304 #4 Brushed stainless steel (ES206) finish.
2. Snap-on trims to be TA-23 aluminum.

7. INSTALLATION

a. Install cased opening frames prior to installation of Doors D/28 & D/29".

1. Install frames in accordance with manufacturer's instructions.
2. Coordinate with all wall construction for anchor placement.

3. Field cut jamb legs if required to fit actual finished opening dimension.
4. Install plumb and true to lines, with all necessary clips, anchors, and fastenings. Brace until adjacent walls and finishes are constructed and securely anchored.
5. Accurately join, fit and reinforce corners to flush hairline joints.
6. Remove defective work and replace with work complying with the specified requirements.
7. Touch-up as needed so that touch-up is not visible from a distance of 4 feet. Remove & replace frames that cannot be satisfactorily adjusted.

SECTION 9A: PAINTING

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE OF WORK

Furnish all labor, materials, tools and equipment necessary to provide all painting and finishing as specified to assure a thoroughly complete job in every respect whether every item is herein specifically mentioned or not. Where items are not mentioned they shall be finished the same as if specified for similar work.

3. WORK NOT INCLUDED

No painting is required on aluminum or other factory finished items.

4. MATERIALS

Treatment schedules are based on specified products of named manufacturer's, and are intended as a guide to designate desired quality and standard of materials to be used. Equal products of other manufacturers are acceptable, based on approval of the Architect. All materials shall be delivered to the site in original, properly labeled, unopened containers. Color as selected by Architect.

5. MIXING, THINNING AND STORAGE

- a. Store and mix paints only in areas designated, and provide proper protection for walls and floors.
- b. Mix and thin paints in strict accordance with recommendations of manufacturer.
- c. Deliver and store paints and inflammable materials in the manufacturer's original unopened containers, as far as practicable. Keep partially used materials in tightly closed containers. Do not store oil or paint soaked rags inside the building.

6. PROTECTION OF THE WORK

- a. Close off the various spaces while painting and exclude dust until finish is dry. Post signs immediately after completion.
- b. Protect finishing work under this section and also protect all adjacent work and materials by suitable covering or other method during progress of the work. Assume responsibility for repair or replacement of any materials damaged by painting operations.

7. **PRELIMINARY INSPECTION**

- a. Verify that all surfaces are properly prepared, dry and clean before starting the work.
- b. Any defects or imperfections appearing in work after application of first coat shall be corrected by the Plasterer, Drywall Contractor or General Contractor who installed the work.

8. **PREPARATION OF SURFACES**

Thoroughly broom clean each space immediately before beginning work and maintain the spaces in clean condition during the progress of painting and finishing work.

9. **COATS AND COLORS**

- a. Number of coats schedule are minimum; provide paint finishes free from cloudy or mottled surfaces, and with complete coverage of even uniform color. Spot prime or undercoat as necessary.
- b. Apply paints and finishes in order scheduled, unless otherwise directed. Where more than one coat of paint is scheduled, tint undercoats to approximately same color, but vary the shade of succeeding coats for identification.
- c. Do not apply succeeding coats until undercoats are thoroughly dry.
- d. After completion of work, do all necessary touching up of all the painting and finishing and leave work in perfect condition. Additional coats will be required where finished work is not in complete compliance with all requirements of these specifications, including required inspections and approvals made during the course of the work.

10. **APPLICATION AND WORKMANSHIP**

- a. Perform all painting and finishing, using specified materials applied by thoroughly experienced, skilled workmen.
- b. Apply by hand brushing or rollers, except where specifically authorized by Architect to do otherwise.
- c. Flow on materials to insure smooth, even coats, free from soil, runs, brush marks, sags and laps. Apply proprietary paint products in strict accordance with manufacturer's directions.
- d. Painting where executed in contrasting color tones. Cut to meet true lines against contrasting colors. Holidays and restrikes in painted areas shall be considered sufficient cause to require recoating of entire surface.
- e. Doors: Finish all edges, including tops and bottoms, of wood doors same as face.
- f. Sanding: In addition to preparatory sanding, fine sand between succeeding coats of enamel, using sandpaper appropriate to the finish.
- g. Putty nail holes in all pre-finished trim and touch-up putty and other defects to match finish.
- h. Application: Shall be by brush or roller. *Airless spraying not permitted.*

- i. Colors: Each coat shall be tinted a different shade from the preceding coat. Colors to match existing. Refer to Interior Finish Schedule for paint color and location.

11. SCHEDULE OF PAINT TREATMENTS

- a. The schedule of finishes is made for the convenience of the Contractor and indicates the types and quality of finishes to be applied to the surfaces. Number of coats shown are for guide only. **Additional coats may be required to provide proper coverage.**
- b. Any existing painted surfaces not specifically noted in the finish schedule shall be finished to match adjoining work.
- c. All paints specified are by Benjamin Moore Paints and Glidden, unless otherwise noted.
- d. **Interior Finish Schedule:**

1. Drywall

First Coat..... N23 Multi-Purpose Latex Primer
Second Coat 524 Aura Waterborne Interior Eggshell Finish
Third Coat..... 524 Aura Waterborne Interior Eggshell Finish

2. Drywall Ceiling at Toilet Rooms, ADA Bathroom, Shower/ Toilet and IV Prep Room

First Coat..... N23 Multi-Purpose Latex Primer
Second Coat 528 Aura Waterborne Interior Semi-Gloss Finish
Third Coat..... 528 Aura Waterborne Interior Semi-Gloss Finish

3. Drywall Soffits

First Coat..... 1030 Prep & Prime Interior PVA Primer-Sealer
Second Coat 1210 Ultra Hide Interior Latex Flat Wall Paint
Third Coat..... 1210 Ultra Hide Interior Latex Flat Wall Paint

4. Concrete Walls and Ceilings at Med Gas Rooms 1 & 2

First Coat..... N23 Multi-Purpose Latex Primer
Second Coat 528 Aura Waterborne Interior Semi-Gloss Finish
Third Coat..... 528 Aura Waterborne Interior Semi-Gloss Finish

5. Existing Painted Surfaces (Plaster, Concrete, CMU and Drywall)

First Coat..... 524 Aura Waterborne Interior Eggshell Finish
Second Coat 524 Aura Waterborne Interior Eggshell Finish

6. Wood (Painted)

First Coat..... 3210 Prep & Prime Gripper Multi-Purpose Water-Based Primer-Sealer
Second Coat 528 Aura Waterborne Interior Semi-Gloss Finish
Third Coat..... 528 Aura Waterborne Interior Semi-Gloss Finish

7. Metal (Galvanized)

First Coat..... 4020 Devflex Waterborne DTM Primer & Flat Finish
Second Coat..... 528 Aura Waterborne Interior Semi-Gloss Finish
Third Coat..... 528 Aura Waterborne Interior Semi-Gloss Finish

8. Metal Door Frames

First Coat.....M04 Acrylic Primer
Second Coat..... M22 Urethane Alkyd Gloss Enamel
Third Coat..... M22 Urethane Alkyd Gloss Enamel

e. **Exterior Finish Schedule:**

1. Existing Concrete and CMU

First Coat..... Ultra Spec Masonry Interior/Exterior Acrylic Primer
Second Coat..... Ultra Spec Masonry Elastomeric Waterproof Coating (12.0 mils)
Third Coat..... Ultra Spec Masonry Elastomeric Waterproof Coating (12.0 mils)

2. Existing Painted Surfaces

First Coat..... Ultra Spec Masonry Interior/Exterior Acrylic Primer
Second Coat..... Ultra Spec Masonry Elastomeric Waterproof Coating (12.0 mils)
Third Coat..... Ultra Spec Masonry Elastomeric Waterproof Coating (12.0 mils)

12. **ELECTRICAL**

- a. Electrical apparatus, light fixtures, and equipment having a factory applied baked enamel finish are not to be painted. Touch-up painting of this equipment shall be the responsibility of the Electrical Contractor.
- b. Paint **all exposed non-factory finished** interior and exterior electrical conduits, fittings, boxes, etc. Galvanized items to receive one coat of galvanized iron primer and two coats finish to match surrounding surfaces. Factory primed items to receive two coats finish to match surrounding surfaces.
- c. Paint front of flush mounted electrical panels and cabinets in finished areas to match adjacent wall surfaces.

13. **CLEAN-UP**

- a. During the progress of the work, all debris, empty crates, waste, drippings, etc., shall be removed by the Contractor and the grounds around the areas to be painted shall be left clean and orderly at the end of each work day.
- b. Upon completion of the work, staging, scaffolding, containers and all other debris shall be removed from the site. All paint and stains splashed or spilled upon adjacent surfaces not requiring treatment (hardware, fixtures, floor, glass) shall be removed and the entire job left clean and acceptable.

SECTION 9B: ACOUSTICAL TILE

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. SUMMARY

Section includes acoustical ceiling panels installed in new exposed 15/16" ceiling grid as noted on drawings.

3. REFERENCES

- a. American Society for Testing and Materials (ASTM).
- b. ASTM C 423 Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
- c. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- d. ASTM E 1414 Standard Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum.
- e. ASTM E 1111 Standard Test Method for Measuring the Interzone Attenuation of Ceilings Systems.
- f. ASTM E 1264 Classification for Acoustical Ceiling Products.
- g. ASTM E 1477 Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers.
- h. ASTM D 3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
- i. ASTM E 119 Standard Test Methods for Fire Tests of Building Construction and Material.
- j. ASHRAE Standard 62.1-2004, "Ventilation for Acceptable Indoor Air Quality."

4. SUBMITTALS

- a. Product Data: Submit manufacturer's technical data for acoustical ceiling unit.
- b. Samples: Minimum 6 inch x 6 inch samples of specified acoustical panel.
- c. Certifications: Manufacturer's certifications that products comply with specified requirements, including laboratory reports showing compliance with specified tests and standards. For acoustical performance, each carton of material must carry an approved independent laboratory classification of NRC, CAC, and AC.
- d. If the material supplied by the acoustical subcontractor does not have an Underwriter's Laboratory classification of acoustical performance on every carton, subcontractor shall be required to send material from every production run appearing on the job to an independent or NVLAP approved laboratory for testing, at the architect's or owner's discretion. All products not conforming to manufacturer's current published values must be removed, disposed of and replaced with complying product at the expense of the Contractor performing the work.

5. QUALITY ASSURANCE

- a. Single-Source Responsibility: Provide acoustical panel units by a single manufacturer.

- b. Fire Performance Characteristics: Identify acoustical ceiling components with appropriate markings of applicable testing and inspecting organization.
- c. Surface Burning Characteristics: As follows, tested per ASTM E 84 and complying with ASTM E 1264 for Class A products.
 - 1. Flame Spread: 25 or less
 - 2. Smoke Developed: 50 or less
- d. Handle acoustical ceiling units carefully to avoid chipping edges or damaged units in any way.

6. DELIVERY, STORAGE, AND HANDLING

- a. Deliver acoustical ceiling units 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 damaged units in any way.

7. PROJECT CONDITIONS

- a. Space Enclosure:
 - 1. All ceiling products must be installed and maintained in accordance with Armstrong written installation instructions for that product in effect at the time of installation and best industry practice. Prior to installation, the ceiling product must be kept clean and dry, in an environment that is between 32oF (0o C) and 120oF (49o C) and not subject to Abnormal Conditions. Abnormal conditions include exposure to chemical fumes, vibrations, moisture from conditions such as building leaks or condensation, excessive humidity, or excessive dirt or dust buildup.
 - 2. HumiGuard Plus Ceilings: Installation of the products shall be carried out where the temperature is between 32°F (0° C) and 120°F (49° C). It is not necessary for the area to be enclosed or for HVAC systems to be functioning. All wet work (plastering, concrete, etc) must be complete and dry. The ceilings must be maintained to avoid excessive dirt or dust buildup that would provide a medium for microbial growth on ceiling panels. Microbial protection does not extend beyond the treated surface as received from the factory, and does not protect other materials that contact the treated surface such as supported insulation materials.

8. WARRANTY

- a. Acoustical Panel: Submit a written warranty executed by the manufacturer, agreeing to repair or replace acoustical panels that fail within the warranty period. Failures include, but are not limited to:
 - 1. Acoustical Panels: Sagging and warping as a result of defects in materials or factory workmanship.

2. Acoustical Panels with BioBlock Plus or designated as inherently resistive to the growth of micro-organisms installed with Armstrong suspension systems: Visible sag and will resist the growth of mold / mildew and gram positive and gram negative odor and stain causing bacteria.
- b. Warranty Period Humiguard:
1. Acoustical panels: Ten (10) years from date of substantial completion.
 2. Acoustical panels with HumiGuard Plus or HumiGuard Max performance supplied by one source manufacturer is thirty (30) years from date of substantial completion.
- c. The Warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.

9. MAINTENANCE

- a. Extra Materials: Deliver extra materials to Owner. Furnish extra materials described below that match products installed. Packaged with protective covering for storage and identified with appropriate labels.
1. Acoustical Ceiling Units: Furnish quality of full-size units equal to 5.0 percent of amount installed.

10. MANUFACTURER

- a. Acoustic Ceiling Tile (Pharmacy 116, Office and Nourishment Room 117 & New Exam Room 123):
1. Surface Texture: Fine Texture.
 2. Composition: Wet-formed Mineral Fiber.
 3. Color: White.
 4. Size: 24in x 48in x 7/8 in.
 5. Edge Profile: Square Lay-in for 15/16" exposed tee grid.
 6. Noise Reduction Coefficient (NRC): ASTM C 423; Classified with UL label on product carton, 0.80.
 7. Ceiling Attenuation Class (CAC): ASTM C 1414; Classified with UL label on product carton, 35.
 8. Flame Spread: ASTM E 1264; Class A (UL)
 9. Light Reflectance (LR): ASTM E 1477; White Panel: Light Reflectance: 0.86.
 10. Dimensional Stability: HumiGuard Plus - temperatures up to 120 degrees F and high humidity excluding only exterior use, use over standing water, and direct contact with moisture.
 11. Mold / Mildew Inhibitor: The front and back of the product have been treated with BioBlock, a paint that contains a special biocide that inhibits or retards the growth of mold or mildew, ASTM D 3273.
 12. Product: Ultima Health Zone High NRC #1448 as manufactured by Armstrong World Industries.
- b. Acoustical Panel (Vestibule 114A):
1. Surface Texture: Smooth
 2. Composition: Mineral Fiber
 3. Color: White
 4. Size: 24in x 48in x 5/8in
 5. Edge Profile: Square Lay-In for interface with 15/16" Co-Extruded Clean Room Grid.
 6. Noise Reduction Coefficient (NRC): NA.

7. Ceiling Attenuation Class (CAC): 40 (ASTM C 1414; Classified with UL label on product carton).
 8. Emissions Testing: Section 01350 Protocol, < 13.5 ppb of formaldehyde when used under typical conditions required by ASHRAE Standard 62.1-2004, "Ventilation for Acceptable Indoor Air Quality"
 9. Flame Spread: ASTM E 1264; Fire Resistive
 10. Light Reflectance (LR): ASTM E 1477; White Panel: Light Reflectance: 0.80.
 11. Dimensional Stability: HumiGuard Plus - Temperature is between 32°F (0° C) and 120°F (49° C). It is not necessary for the area to be enclosed or for HVAC systems to be functioning. All wet work (plastering, concrete, etc) must be complete and dry.
 12. Antimicrobial Protection: BioBlock Plus - Resistance against the growth of mold / mildew and gram positive and gram negative odor and stain causing bacteria.
 13. Product: Clean Room VL Unperforated, #870 as manufactured by Armstrong World Industries.
- c. Acoustic Ceiling Tile (All Other Areas):
1. Surface Texture: Fine Texture.
 2. Composition: Wet-formed Mineral Fiber.
 3. Color: White.
 4. Size: 24in x 24in x 7/8 in.
 5. Edge Profile: Square Lay-in for 15/16" exposed tee grid.
 6. Noise Reduction Coefficient (NRC): ASTM C 423; Classified with UL label on product carton, 0.80.
 7. Ceiling Attenuation Class (CAC): ASTM C 1414; Classified with UL label on product carton, 35.
 8. Flame Spread: ASTM E 1264; Class A (UL)
 9. Light Reflectance (LR): ASTM E 1477; White Panel: Light Reflectance: 0.86.
 10. Dimensional Stability: HumiGuard Plus - temperatures up to 120 degrees F and high humidity excluding only exterior use, use over standing water, and direct contact with moisture.
 11. Mold / Mildew Inhibitor: The front and back of the product have been treated with BioBlock, a paint that contains a special biocide that inhibits or retards the growth of mold or mildew, ASTM D 3273.
 12. Product: Ultima Health Zone High NRC #1445 as manufactured by Armstrong World Industries.
- d. Suspension System:
1. Components: All main beams and cross tees shall be commercial quality hot-dipped galvanized steel as per ASTM A 653. Main beams and cross tees are double-web steel construction with type exposed flange design. Exposed surfaces chemically cleansed, capping pre-finished galvanized steel in baked polyester paint. Main beams and cross tees shall have rotary stitching.
 2. Structural Classification: ASTM C 635 Intermediate Duty.
 3. Color: White.
 4. Acceptable Product: Prelude 15/16" and Clean Room (steel) 15/16" exposed tee as manufactured by Armstrong World Industries, Inc.
 5. Attachment Devices: Size for five times design load indicated in ASTM C 635, Table 1, Direct Hung unless otherwise indicated.
 6. Wire for Hangers and Ties: ASTM A 641, Class 1 zinc coating, soft temper, pre-stretched, with a yield stress load of at least time three design load, but not less than 12 gauge.
 7. 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, including light fixtures, that fit type of edge detail and suspension system indicated. Provide moldings with exposed flange of the same width as exposed runner.

11. EXAMINATION

Do not proceed with installation until all wet work such as plastering and painting has been completed and thoroughly dried out, unless expressly permitted by manufacturer's printed recommendations. (Exception: HumiGuard Max Ceilings)

12. PREPARATION

Coordinate panel layout with mechanical, fire sprinkler, nurse call lights, lighting fixtures, etc.

13. INSTALLATION

Install acoustical panels in coordination with existing suspended system, with edges resting on flanges of main runner and cross tees. Cut and fit panels neatly against abutting surfaces. Support edges by wall moldings. Cut tiles as necessary to install items such as fire sprinkler heads, supply air grilles, return air registers, smoke detectors, etc.

14. ADJUSTING AND CLEANING

- a. Replace damaged and broken panels.
- b. Clean exposed surfaces of acoustical ceilings. 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.



Product Data Sheet

Product Name

16 oz. Acoustiblok® Sound Isolation Material

For Manufacturer Info:

Contact:

Acoustiblok, Inc.
6900 Interbay Boulevard
Tampa, FL 33616
Call - (813) 980-1400
Fax - (813)849-6347
Email - sales@acoustiblok.com
www.acoustiblok.com

Product Description

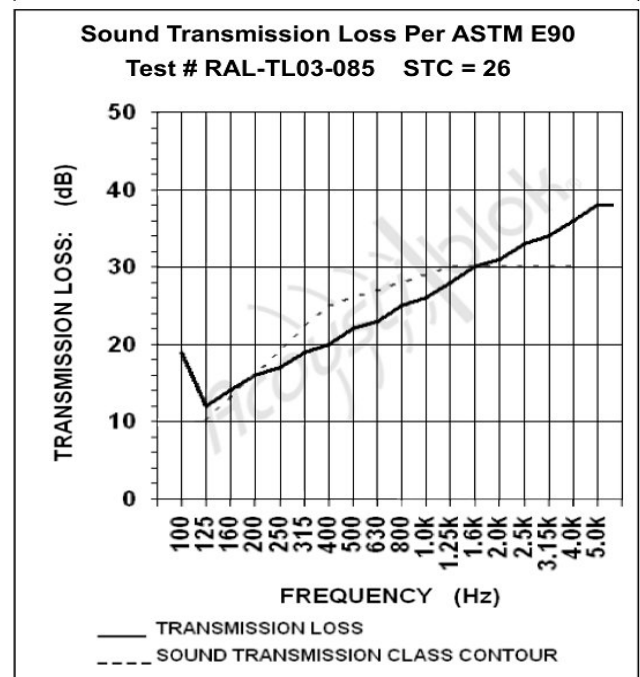
Basic Use

Acoustiblok offers high performance sound reduction solutions for multifamily projects, condominiums, hotel, hospitals, construction sites, industrial areas and other project where privacy and sound control are important.

Acoustiblok Sound Isolation Material

Acoustiblok is a heavy, yet very flexible viscoelastic polymer material that provides sound reduction through a unique adiabatic process. Rather than attempting to block or absorb sound, Acoustiblok transforms sound energy into inaudible friction energy as the material flexes from sound waves.

A 1/8th inch thick layer of Acoustiblok in a single stud wall assembly can provide more sound reduction than a foot of poured concrete.



Sound Transmission Loss Results

Benefits:

- Effectively reduces interior sound
- Over 300 UL Classifications
- Easy to install
- Resistant to UV, dirt and water
- Resistant to corrosion, mold and mildew



Product Name

16 oz. Acoustiblok® Sound Isolation Material

Sound Transmission Class (STC)

Sound Transmission Class (STC) is a single number that represents the sound blocking capacity of a partition such as a wall or ceiling.

STC numbers are often called out in architectural specifications, to assure that partitions will reduce noise levels adequately. For performance similar to laboratory test numbers, it is necessary to adhere closely to the construction materials and techniques used in the tested partition.

STC is calculated by comparing the actual sound loss measured when 18 test frequencies pass through a partition, with fixed values for each STC level. The highest STC curve that the measured sound loss numbers fit under, determines the STC rating of the partition.

STC calculations emphasize sound frequencies that match the human voice. A high STC partition will block the sound of human speech and block noise that interferes with human speech. To estimate high and low frequency performance, consult the Sound Transmission Loss graph included in STC test reports. Impact Insulation Class (IIC) measure

transmitted impact noise and are specified for floor-ceiling assemblies only.

Acoustiblok is the most efficient and cost effective solution for controlling transmitted sound in commercial, industrial and residential construction. A standard metal stud & gypsum board wall with only one layer of 16 oz. Acoustiblok (STC 53) blocks more sound than a 12" thick poured concrete wall (STC 51).

UL Classified for application in wall and floor/ceiling construction in the U300, U400, V400 and L500 categories (277 designs). Acoustiblok assures compliance with life safety and building code requirements.

Acoustiblok sound barrier material can be cut easily with a box knife and requires no special tools or skills to install.

Acoustical test reports for numerous wall and floor/ceiling designs are available from Acoustiblok on request. All our test data is taken directly from independent 3rd party laboratories under NVLAP certification.

Product Name

16 oz. Acoustiblok® Sound Isolation Material

Physical Properties

- Barium free
- Minimum STC 26 per ASTM E90-02 & ASTM E413-87
- Minimum sound attenuation 19 dBA @ 100Hz
- Width 54" \pm 0.125" (1.372 Meters \pm 3.175 mm)
- Color black
- High UV resistance
- Heat tolerance: 200°F (93°C) for 7 days, less than 1% shrinkage with no deformation.
- Freezes at -40°F (-40°C). Do not unroll or flex frozen material. Properties not affected by freeze/thaw cycles.
- No fungal or algal growth and no visible disfigurement, per ASTM D3273 and ASTM D3274 (rating=10)
- Tensile strength min. 510 PSI
- UL Classified, file #R21490
- Weight 1 lb. square foot (4.89 kg square meter)
- Weight per roll:
 - 30' (9.14m) = 150 lb. (68kg)
 - 60' (18.29m) = 300 lb. (136kg)
 - 350' (106.68m) = 1600 lb. (725.75kg)



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B-10 NR Noise Barrier

B-10 NR is a flexible **non-reinforced** loaded vinyl barrier that is designed to reduce the transmission of noise through walls, ceilings, and floors. Also used as a noise barrier component in acoustical composites.

- Rolls are available 54" wide up to 60' long
- Limp, flexible, formable, versatile
- High tear and tensile strength
- Extremely easy to install

Applications:

Typically used as a noise barrier in gypsum wallboard and stud construction to substantially improve transmission loss between rooms. Also, utilized as a barrier septum material in acoustical curtain construction to form BSC style composites.

Product Data

Description	1 lb-psf non-reinforced loaded vinyl barrier
Nominal thickness	0.10 inches
Standard width	54" wide
Roll length	30' or 60' long
Weight	1.0 lb psf
Tensile (PSI)	220
Elongation	140%
Service Temperature	-20° F to +180°



Acoustical Performance:

Sound Transmission Loss

Product	OCTAVE BAND FREQUENCIES (Hz)						
	125	250	500	1000	2000	4000	STC
B-10 NR	13	17	22	26	32	37	26

ASTM E-90 & E 413

SECTION 9C: GYPSUM WALLBOARD

1. GENERAL CONDITIONS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE

Install gypsum wallboard partitions shown on drawings and herein specified.

3. DELIVERY, STORAGE AND HANDLING

- a. Deliver materials to the jobsite with manufacturer's labels intact, including testing agency label and fire classification numbers for fire rated materials.
- b. Store materials under cover, completely protected from moisture. Stack materials flat and off the floor or ground.
- c. Handle materials with care to prevent damage.

4. MATERIALS

- a. Hazardous Material Prohibition: No hazardous materials or equipment shall be used under this section. The Contractor shall ensure that all materials and equipment incorporated in the project are non-hazardous.
- b. Gypsum Board: 5/8", type "X", ProRoc by CertainTeed, moisture and mold resistant gypsum board or approved equal at all areas except as noted.
- c. WR (Water-resistant) Gypsum Board: 5/8", type "X", ProRoc by CertainTeed, moisture and mold resistant gypsum board or approved equal. Provide at all wet locations behind sinks and counters with sinks where solid surface splashes occur. For locations with wall tile refer to Section 9H – Cement Wallboard.
- d. Studs: 20 gauge electro-galvanized steel in 7/8", 1-5/8", 2-1/2", 3-5/8" and 6" widths with floor and ceiling tracks as shown on drawings.
- e. Taped Joint System: Standard perforated tape system, including corner reinforcement and recommended joint compound conforming to ASTM C475.
- f. Fasteners: Self-drilling, self-tapping 1-1/4" or length as required at wood or metal stud framing (Type W), buglehead drywall screws for power driving with special head design for gypsum attachment, producing surface depression for proper concealment. Use other fasteners as required.
- g. WR (Water-resistant) Sealer: W/R joint compound, mixed with 1/2 pint of water per quart of compound to obtain a paint-like viscosity.
- h. Caulking: Highly elastic acrylic caulking as manufactured by the plasterboard manufacturer.

- i. Sound Attenuation Batts: 16"/406 mm wide, unfaced glass fiber batt insulation as manufactured by Owens-Corning. Sound Attenuation Batts to have the following characteristics:
 - 1. Thickness to be 3-1/2".
 - 2. Flame spread: 10.
 - 3. Smoke developed: 10.
 - 4. NRC: 1.00 minimum.
- j. Thermal Batts at all exterior walls: Unfaced batt insulation as manufactured by Owens-Corning. Thickness to be 3-1/2". Batts to have R-Value of 15.
- k. Sound Sheeting: B-10NR by Sound Seal or Acoustiblok where noted on wall sections. Attach with screws. Be sure to not completely penetrate the sheet material. Seams are to be overlapped (1"-2"), caulked and taped. Caulk and tape as necessary around all cut-outs such as j-boxes, pipes, conduits, etc. where they penetrate sheet. Space all j-boxes so they are not back-to-back. Glue scraps of sheet material to the back of j-boxes. Caulk the edges and inside corners of sheet.
- l. Gypsum Board Finish: Provide "Level 5" finish at all walls, soffits and ceilings.

5. INSTALLATION

Shall be in strict accordance with manufacturer's instructions and as specified and/or indicated on drawings.

- a. Fasten gypsum board metal studs with screws spaced as per the manufacturer's instructions or as indicated by the wall system design number.
- b. Treat all joints, screw heads and other depressions in the surface of the wallboard in accordance with manufacturer's printed recommendations, with a taped joint system.
- c. Treat all internal angles formed by the intersection of wallboard with either wallboard or other wall surfaces with a taped joint system.
- d. Treat all vertical or horizontal external corners with metal bead corner reinforcement applied in accordance with manufacturer's directions.
- e. No painting over gypsum board work until taped joints are thoroughly dry
- f. Locate metal studs not more than 2" from all door jambs abutting partitions and partition corners.
- g. Where horizontal metal supports for fixtures are required, they shall be constructed using metal studs cut to length to fit between studs and notched so as to form legs at each end which shall be securely attached to the vertical studs by screws. Provisions for heavy fixture support shall be as detailed on the drawings.
- h. Arrange joints so that joints on opposite sides of wall occur on different studs.

SECTION 9D: TILE

1. GENERAL CONDITIONS

Division One, "General Requirements" is hereby made a part of this section.

2. SUBMITTALS

- a. Samples: Samples of tiles shall be submitted to the Architect for review and approval.

3. MATERIALS

- a. Asbestos Prohibition: No asbestos containing material or equipment shall be used under this section. The Contractor shall ensure that all materials and equipment incorporated in the project are asbestos free.
- b. Porcelain Wall and Floor Tiles: Refer to PORC-1 and PORC-2 in Finish Schedule.
- c. Glass Accent Tile: Refer to GT-1, GT-3 and GT-3 in Finish Schedule.
- e. Thinset: Laticrete 254 Platinum polymer-fortified thin set.
- f. Grout: Laticrete SpectraLOCK PRO epoxy grout. 1/8" grout joint. Refer to G-1 as noted in Finish Schedule.,
- g. Water: Fresh, clean and drinkable.

4. PREPARATION

- a. Install waterproof membrane specified in Section 7B-Waterproof Membrane and as detailed below floor tile and behind wall tile.
- b. Before any work is begun, the Tile Contractor shall inspect the floors on which tile work is to be applied. Such surfaces shall be sound, clean, free of oily film, and in proper condition: if not, the Tile Contractor should report defective conditions to the Contractor for corrective measures. Proceeding with the tile work will imply acceptance of the surface by the Tile Contractor. Coordinate work with other trades as necessary.

5. INSTALLATION

- a. Tile:
 - 1. All cutting and drilling shall be done without marring the surfaces. If cutting is necessary, all cut ends shall be rubbed smooth and even.
 - 2. Laticrete 254 Platinum thinset shall be freshly prepared prior to use.
- b. Grouting and Pointing of Joints: Joints shall be saturated with water and then grouted with a prepared tile grout mixed to a uniform creamy consistency by forcing the grout into the joints to full depth. Remove surplus grout before it has hardened and leave the face of the tile clean. Tool joints of cushion edge tile to depth of cushion.
- d. Cleaning: Upon completion of tile work, remove all rubbish, unused material, etc., and give the finished surface a thorough cleaning. Protect tile work until acceptance of the project.

SECTION 9E: SHEET VINYL FLOORING

1. GENERAL CONDITIONS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE OF WORK

- a. Sheet vinyl flooring and integral base to be installed where noted on plans.
- b. Provide sheet vinyl seaming plan of each area for approval prior to installation.

3. MATERIALS

- a. Sheet Vinyl: Refer to RF-1, RF-2, RF-3 and RF-4 in Finish Schedule.
- b. Base: Provide integral 6" high sheet vinyl base or resilient base as noted in "F" drawings.

4. INSPECTION

- a. Examine subfloors prior to installation to determine that surfaces are smooth and free from cracks, holes, ridges, and other defects that might prevent adhesive bond or impair durability or appearance of the flooring material.
- b. Inspect subfloors prior to installation to determine that surfaces are free from curing, sealing, parting and hardening compounds; residual adhesives; adhesive removers; and other foreign materials that might prevent adhesive bond. Visually inspect for evidence of moisture, alkaline salts, carbonation, dusting, mold, or mildew.
- c. Report conditions contrary to contract requirements that would prevent a proper installation. Do not proceed with the installation until unsatisfactory conditions have been corrected.
- d. Failure to call attention to defects or imperfections will be construed as acceptance and approval of the subfloor. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.

5. WORKMANSHIP

Applicators must be approved by the manufacturer of the materials used. Install finished materials after other Trades have completed their work. Apply all materials in strict accordance with the printed specification of the manufacturer. Seams must be straight and close fitting.

6. PREPARATION

- a. Smooth concrete surfaces, removing rough areas, projections, ridges, and bumps, and filling low spots, control or construction joints as recommended by the flooring manufacturer.
- b. Remove paint, varnish, oils, release agents, sealers, and waxes. Remove residual adhesives as recommended by the flooring manufacturer. Remove curing and hardening compounds not compatible with the adhesives used, as indicated by a bond test or by the compound manufacturer's recommendations for flooring. Avoid organic solvents.
- c. Perform Relative Humidity Test (In-Situ Probe Test) on concrete slab to receive sheet vinyl flooring per most current ASTM F2170 standards.

- d. Vacuum or broom-clean surfaces to be covered immediately before the application of flooring. Make subfloor free from dust, dirt, grease, and all foreign materials.

7. INSTALLATION OF SHEET FLOORING

- a. Install flooring as recommended by flooring manufacturer.
- b. Install flooring wall to wall before the installation of floor-set cabinets, casework, furniture, equipment, movable partitions, etc. Extend flooring into toe spaces, door recesses, closets, and similar openings as shown on the drawings.
- c. If required, install flooring on pan-type floor access covers. Maintain continuity of color and pattern within pieces of flooring installed on these covers. Adhere flooring to the subfloor around covers and to covers.
- d. Scribe, cut, and fit or flash cove to permanent fixtures, columns, walls, partitions, pipes, outlets, and built-in furniture and cabinets.
- e. Adhere flooring to the subfloor without cracks, voids, raising and puckering at the seams. Roll with a 100-pound (45.36 kilogram) roller in the field areas. Hand-roll flooring at the perimeter and the seams to assure adhesion. Refer to specific rolling instructions of the flooring manufacturer.
- f. Lay flooring to provide a minimum number of seams. Avoid cross seams, filler pieces, and strips. Match edges for color shading and pattern at the seams in compliance with the manufacturer's recommendations.
- g. Install flooring with adhesives, tools, and procedures in strict accordance with the manufacturer's written instructions. Observe the recommended adhesive trowel notching, open times, and working times.
- h. Prepare heat-welded seams with special routing tool supplied for this purpose and heat weld with vinyl welding rod in seams. Use methods and sequence of work in conformance with written instructions of the flooring manufacturer. Finish all seams flush and free from voids, recesses, and raised areas.
- i. Provide integral flash cove wall base as shown on the drawings, including cove fillet support strip and top metal edge cap trim. Construct flash cove base in accordance with the flooring manufacturer's instructions.

8. INSTALLATION OF ACCESSORIES

- a. Apply top set wall base to walls, casework, and other permanent fixtures in areas where top-set base is required. Install base in lengths as long as practical, with inside corners fabricated from base materials that are mitered or coped. Tightly bond base to vertical substrate with continuous contact at horizontal and vertical surfaces.
- b. Fill voids with plastic filler along the top edge of the resilient wall base or integral cove cap on masonry surfaces or other similar irregular substrates.

9. CLEANING AND PROTECTION

- a. Perform initial maintenance according to manufacturer's recommendations.
- b. Protect installed flooring as recommended by the flooring manufacturer against damage from rolling loads, other trades, or the placement of fixtures and furnishings.

- c. Remove adhesives from face of flooring and from work of other Trades in manner and with materials recommended by the floor covering manufacturer. Do not wet mop nor move equipment over floors until flooring has become set. Thoroughly clean all surfaces of covering. The General Contractor shall provide cover protection of sheet vinyl flooring as required.

SECTION 9F: WAINSCOT WALLCOVERING

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. SUMMARY

Provide rigid sheet on wall where noted as "wall protection".

3. SYSTEM DESCRIPTION

- a. Performance Requirements: Provide rigid sheet systems that conform to the following requirements of regulatory agencies and the quality control of Korogard.
 - 1. Fire Performance Characteristics: Provide UL Class A fire rating. Surface burning characteristics as determined by UL-723 (ASTM E-84). Adhesive shall be a maximum flame spread of 20 and a maximum smoke developed of 350 for .060" (1.5mm) thick material.

4. SUBMITTALS

- a. Product Data: Manufacturer's printed product data.
- b. Samples: Verification samples of type and color indicated.
- c. Manufacturer's Installation Instruction.

5. DELIVERY, STORAGE AND HANDLING

- a. Deliver materials in unopened factory packaging to the jobsite.
- b. Inspect materials at delivery to assure that specified products have been received.
- c. Store in original packaging in a climate controlled location away from direct sunlight.

6. PROJECT CONDITIONS

Environmental Requirements: Products must be installed in an interior climate controlled environment.

7. WARRANTY

Standard Warranty against material and manufacturing defects.

8. PRODUCTS

Refer to WP-1 in Finish Schedule.

9. EXECUTION

a. Examination

1. Examine areas and conditions in which the rigid sheet will be installed. Complete all finishing operations, including painting, before beginning installation of rigid sheet materials.
2. Wall surface shall be dry and free from dirt, grease and loose paint.

b. Preparation

1. General: Prior to installation, clean substrate to remove dust, debris and loose particles.

c. Installation

1. General: Locate the rigid sheet as indicated on the approved detail drawing for the appropriate substrate and in compliance with the manufacturer's installation instructions. Install level and plumb at the height indicated on the drawings.
2. Installation of Rigid Sheet.
 - a. Adhere to substrate with a stable, nonflammable, high strength, water based adhesive that trowels on and allows approximately 20 minutes working time before firming.
 - b. Cut sheet as required to allow for electrical outlets, voice/data junction boxes, etc.

10. CLEANING

At completion of the installation, clean surfaces in accordance with manufacturer's clean-up and maintenance instructions.

SECTION 9G: LUXURY VINYL TILE

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE OF WORK

Luxury vinyl tile shall be installed in areas noted on plan.

3. MATERIALS

- a. Luxury Vinyl Tiles: Refer to LVT-1 in Finish Schedule.
- b. Base: Refer to finish schedule and "F" drawing interior elevations.

4. SUBSURFACES

Areas must be clean and dry. Slab must be level and true. Notify Architect in writing of any unsatisfactory conditions. Starting of work implies acceptance of the subsurface, and the applicator is responsible for defective work, whatever the cause.

5. WORKMANSHIP

Applicators must be approved by the manufacturer of the materials used. Install finished materials after other Trades have completed their work. Apply all materials in strict accordance with the printed specification of the manufacturer. Seams must be straight and close fitting.

6. EXECUTION/INSTALLATION

Install in strict accordance with manufacturer's written instructions with a minimum of seams over approved subfloors using Xpress Step Spray glue down installation or product recommended by manufacturer for expected type of "traffic" in areas where installed.

7. CLEANING

Remove adhesives from face of flooring and from work of other Trades in manner and with materials recommended by the floor covering manufacturer. Do not wet mop nor move equipment over floors until flooring has become set. Thoroughly clean all surfaces of covering. The General Contractor shall provide cover protection of vinyl plank flooring as required.

SECTION 9H: FIBERGLASS REINFORCED POLYESTER PANELS

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE

This section includes everything necessary for and incidental to the installation Fiberglass Reinforced Polyester (FRP) panels on the walls in the Soiled Holding Room as indicated on drawings and as specified.

3. MATERIAL

FRP Panels: Fiber Reinforced Plastic Panel with textured finish, 4' wide x 8' high x 0.090" thick, Class A. Product #LP-F9 as manufactured by Nudo Fiber Lite Fiberglass. Provide system matched inside corner, outside corner, and top trim for a complete installation. System to be fastened with non-corroding fasteners. Color: Ivory.

4. INSTALLATION

Panels shall be installed in the "Seamed Edge Joint" method. Use system adhesive and sealants recommended by manufacturer.

SECTION 10A: CORNER GUARDS, CHAIR RAILS AND HANDRAILS

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE OF WORK

- a. Install corner guards, chair rails and handrails where indicated on drawings.
- b. Submit manufacturer's product data and shop drawings showing components, dimensions and anchorage details.
- c. Submit selected material color samples.

3. MATERIALS

- a. Comply with NFPA 101 for interior finish materials. Smoke developed less than 450 and flame spread of 25 or less in accordance with ASTM E 84.
- b. Corner Guards: 2" wings, ¼" cover, 0.080" (2mm) thick over continuous aluminum retainer, Acrovyn SSM-25AN and SSM-25AN series. Height and finish as noted on interior elevations. Refer to CG-1 and CG-2 in Finish Schedule.
- c. Chair Rails: 6" high x ½" thick. Refer to CH-1 in Finish Schedule.
- d. Hand Rails at Hallway 122: Acrovyn HR-6CN. Refer to HR-1 in Finish Schedule.

4. MOUNTING SURFACES

Examine areas and conditions under which work is to be performed and identify conditions detrimental to proper and timely completion. Do not proceed until unsatisfactory conditions have been corrected.

5. INSTALLATION

Install in strict accordance with manufacturer's recommendations, using only approved mounting hardware, and locating all components firmly into position, level and plumb. Provide backing as necessary in stud walls.

6. CLEANING

Immediately upon completion of installation, clean vinyl covers, accessories and stainless steel finish in accordance with manufacturer's recommended cleaning method. Remove surplus materials, rubbish and debris resulting from installation as work progresses and upon completion of work.

SECTION 10B: TOILET AND SINK COUNTER ACCESSORIES

1. GENERAL REQUIREMENTS

Division One, "General Requirements" is hereby made a part of this section.

2. SCOPE

This section includes everything necessary for and incidental to the execution and completion of the toilet rooms and shower rooms (furnishing and installing) as indicated on the drawings and as specified herein.

Coordinate with Section 6B - Finish Carpentry, all required backing (provide fire treated lumber if wood is used) for proper installation of toilet room accessories.

3. MATERIALS

- a. Toilet and sink accessories shall be models listed below or approved equals. Model numbers refer to "Contura" Series by Bobrick equipment unless noted otherwise.

- | | |
|--|-----------------------------|
| 1. Surface Mounted Toilet Seat Cover Dispenser | B-4221 |
| 2. Paper Towel Dispenser | OFCI |
| 3. Double Robe Hook (where noted) | B-76727 |
| 4. Surface Mounted Multi-Roll Toilet Paper Dispenser | B-288 |
| 5. 1-1/2" Diameter Grab Bars w / Concealed Mounting | B-6806 (36" & 42") |
| 6. Soap Dispensers | OFCI |
| 7. Towel Bar | B-530 (24") |
| 8. Shower Curtain Rod & Curtain (HW-3)..... | Refer to
Finish Schedule |

- b. Electric Mirrors: Refer to EM-1 and M-1 in Finish Schedule.

4. INSTALLATION

Accessories shall be located in areas indicated on the drawings or as directed. Provide necessary grounds, inserts, screws and bolts as required to provide adequate anchorage.