CENTRAL CREDIT UNION OF FLORIDA

You Belong.

SPECIFICATIONS FOR THE

CENTRAL CREDIT UNION OF FLORIDA

PANAMA CITY SERVICE BRANCH

PANAMA CITY, FLORIDA

December 7, 2012

SET NO._____

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AA C000293

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TABLE OF CONTENTS

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PART 1 GENERAL

GENERAL CONDITIONS:
The General Conditions of this Contract are the American Institute of Architects Document A201, "General Conditions of the contract for Construction," 2007 Edition, Article 1 through 14 inclusive, here referred to as the "General Conditions". The term Contractor and Construction Manager are one and the same.

PART 2 CONTRACT DOCUMENTS

2.01 The Contract Documents shall consist of the following component parts:

A. Bidding Requirements:
Contractor's Guaranteed Maximum Price as accepted by the Owner (GMP)

B. Contract Forms:
Contract Agreement is the Form of Agreement Between Owner and General Contractor as prepared by SMA, includes payment and performance bonds as required in the contract.

C. General Conditions:
General Conditions (A201, 2007 - Edition), American Institute of Architects)

Supplementary General Conditions

Insurance Certifications

D. Technical Specifications:
Divisions 1 through 17 as listed in the Table of Contents.
Titled: Central Credit Union of Florida, Panama City Service Branch, Panama City, FL

E. Drawings:
Titled: Central Credit Union of Florida, Panama City Service Branch, Panama City, FL
Sheets comprising these Drawings: As shown on the documents by index on sheet number T-1.

2.02 INTENT
The Contract Documents shall be complementary to each other and what is called for by one shall be as binding as if called for by all.

In cases of conflict between drawings and specifications or within either document, submit prompt request for direction before proceeding. The requirement for the greatest quantity

and the highest quality shall govern unless otherwise directed.

The Specifications are divided into headings for the convenience of the Contractor. The Contractor, however, shall be held to the furnishing of a complete building, facility, etc., according to the meaning and intent of the Contract Documents, whether all of the items involved under any trade are mentioned in one or several places.

2.03 PRECEDENCE

In the event that any provision of the component parts of the Contract Documents conflicts with any provisions of any other component part, the provisions on the Contract Agreement shall govern; the Supplementary General Conditions shall take precedence over the General Conditions.

Should the details and schedules shown on the Drawings conflict on any point, the schedules shall prevail and large-scale details shall prevail over small-scale plans and elevations. Should the Structural and Architectural Drawings conflict; the work shall be done in accordance with the Structural Drawings.

All conflicts shall be brought to the attention of the Architect by the Contractor and shall be resolved by the Architect/Engineer through written and/or graphic clarifications prior to proceeding with the work. The Contractor assumes full responsibility for the cost of corrective action required if work in any area of known conflict is commenced prior to the receipt of written and/or graphic clarification from the Architect/Engineer.

END OF SECTION

PART 1 - GENERAL

RELATED DOCUMENTS
Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Section, apply to this Section.

PROJECT DESCRIPTION
Central Credit Union of Florida, Service Branch Location, 2615 Highway 77, Panama City, Florida, 32405.

The work includes site work grading and fill dirt, utility infrastructures, storm water management, ATM, paving, landscaping, and the construction of the Branch Location Building, which includes the building and entry, drive –through, parking, service drives and sidewalks. All work shall be as shown on the Contract Documents prepared by Sam Marshall Architects.

CONTRACTOR USE OF PREMISES
General: During the construction period the contractor shall have use of the premises for construction operations, including use of the site.

The Contractor shall confine operations to areas within Contract limits indicated and designated access. Portions of the site beyond areas in which construction operations are indicated are not to be disturbed, nor used for parking of vehicles of the contractor and workmen or for storage of materials and equipment.

OWNER FURNISHED EQUIPMENT
Separate bids will be taken by the Owner for: fixtures, furnishings and equipment.

Contracts for these items will be issued by the Owner separately from the Building. Execution for these and separate contracts will be concurrent with the construction operations of the construction contract. The General Contractor will be responsible for certain duties pertaining to scheduling and general coordination of said separate contracts. Separate contracts are as follows:

(1) Equipment will be furnished and installed by others. The General Contract shall include electrical connections to components and shall coordinate the installation of all items, by others, as required.

(2) Fixtures, furnishings and equipment shall be furnished and installed by others. Coordination will be the responsibility of the General Contractor as is the furnishing and installation of electrical power and communications to said systems.

(3) The General Contractor will be responsible for material once delivered and material shall be included in insurance coverage outlined in para. 11.3 of the AIA General Conditions and 11.3.1, 11.3.1.2, 11.3.1.3, 11.3.8, 11.3.9 & 10 of 00900 Supplementary General Conditions. In general, the division of responsibilities is as follows:

a. The Separate Contractors will furnish all material, equipment and services that will be required for each package or system, but not limited to the following: Banking equipment, tables, chairs, and associated equipment.

b. The General Contractor shall be responsible for providing all material, labor, and services to provide power and communications to materials and equipment included.

c. The General Contractor will be provided with a complete set of Contract Documents governing the FF&E. The documents will be furnished for informational purposes only and shall not be construed as part of the General Contract Documents.

OWNER FURNISHED ITEMS

A. The work includes providing support systems to receive Owner's equipment, and mechanical and electrical connections.

1. The Owner will arrange for and pay for delivery of Owner-furnished items in accordance with the General Contractor's Construction Schedule and will inspect deliveries for damage.

2. If Owner-furnished items are damaged, defective or missing, the Owner will arrange for replacement. The Owner will also arrange for manufacturer's field services, and the delivery of manufacturer's warranties and bonds to the Contractor.

3. The General Contractor is responsible for designating the delivery dates of Owner-furnished items in the General Contractor's Construction Schedule and for receiving, unloading and handling Owner-furnished items at the site. The General Contractor is responsible for protecting Owner-furnished items from damage, including damage from exposure to the elements, and is to repair or replace items damaged as a result of his own operations.

4. The General Contractor is responsible for the removal of all packaging rubbish generated by owner-purchased equipment.

END OF SECTION

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

SUMMARY

This Section specifies administrative and procedural requirements governing the Contractor's Applications for Payment.

Coordinate the Schedule of Values and Applications for Payment with the Contractor's Construction Schedule, List of Subcontracts, and Submittal Schedule.

The Contractor's Construction Schedule and Submittal Schedule are included in Section "Submittals".

SCHEDULE OF VALUES

Coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule, pursuant to Section 01300 "Submittals".

Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:

Contractor's construction schedule.
Application of Payment form.
List of subcontractors.
Schedule of alternates.
List of products.
List of principal suppliers and fabricators.
Schedule of submittals.
Schedule of optimum delivery dates for owner furnished materials and equipment.

Submit the Schedule of Values to the Architect at the earliest feasible date, but in no case later than 7 days before the date scheduled for submittal of the initial Application for Payment.

Format and Content: As a minimum use the Project Manual Table of Contents as a guide to establish the format for the Schedule of Values. Use AIA Form G703.

Identification: Include the following Project identification on the Schedule of Values:

Project name and location.
Name of the Architect.
Project number.
Contractor's name and address.
Date of submittal.

Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Break principal subcontract amount down into several line items.

Round amounts off to the nearest whole dollar; the total shall equal the Contract Sum.

For each part of the Work where an Application for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed, provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent state of completion, and for total installed value of that part of the Work.

Schedule Updating: Update and resubmit the Schedule of Values when Change Orders or Construction Change Directives result in a change in the Contract Sum, pursuant to Section 01300 "Submittals".

APPLICATION FOR PAYMENT:

Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect and paid for by the Owner.

The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.

Payment Application Times: Each progress payment date is as indicated in the Agreement. The period of construction Work covered by each Application or Payment is the period indicated in the Agreement.

Payment Application Forms: Use AIA Document G 702 and Continuation Sheets G 703 as the form for Application for Payment or other similar format, subject to Architect's approval.

Application Preparation: Complete every entry on the form, including notarization and execution by person authorized to sign legal documents on behalf of the Owner. Incomplete applications will be returned without action.

Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions have been made.

Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.

Transmittal: Submit 3 executed copies of each Application for Payment to the Architect by means ensuring receipt within 24 hours; one copy shall be complete, including waivers of lien and similar attachments, when required.

Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of the first Application for Payment include the following:

1. List of subcontractors.
2. List of principal suppliers and fabricators.
3. Schedule of Values.
4. Contractor's Construction Schedule (preliminary if not final).
5. Schedule of principal products (including owner supplied items).
6. Schedule of unit prices.
7. Submittal Schedule (preliminary if not final).
8. List of Contractor's staff assignments.
9. List of Contractor's principal consultants.
10. Copies of authorizations and licenses from governing authorities for performance of the Work.
11. Initial progress report.
12. Report of pre-construction meeting.
13. Certificates of insurance and insurance policies.

Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment, this application shall reflect any Certificates of Partial Substantial completion issued previously for Owner occupancy of designated portions of the Work.

Administrative actions and submittals that shall proceed or coincide with this application include:

1. Occupancy permits and similar approvals.
2. Warranties (guarantees) and maintenance agreements.
3. Test/adjust/balance records.
4. Maintenance instructions.
5. Start-up performance reports.
6. Change-over information related to Owner's occupancy, use, operation and maintenance.
7. Final cleaning.
8. Application for reduction of retainage, and consent of surety.
9. Advice on shifting insurance coverage’s.
10. List of incomplete Work, recognized as exceptions to Architect's Certificate of Substantial Completion.

Final Payment Application: Administrative actions and submittals, which must precede or coincide with submittal of the final payment Application for Payment, include the following:

1. Completion of Project closeout requirements.
2. Completion of items specified for completion after Substantial Completion.
3. Assurance that unsettled claims will be settled.
4. Assurance that Work not complete and accepted will be completed without undue delay.
5. Transmittal of required Project construction records to Owner.
6. Proof that taxes, fees and similar obligation have been paid.
7. Removal of temporary facilities and services.
8. Removal of surplus materials, rubbish and similar elements.
9. Change of door locks to Owner's access.
10. Consent of surety to final payment.
11. Contractors Affidavit of Release of Liens and/or Contractors Affidavit of Payment of Debits.

END OF SECTION

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

SUMMARY

ALTERNATE NO. 1 (ADDITIVE)
Includes all work necessary for the west side loop road extension, the retention pond, and associated drainage features, including extension of the water loop from the Observatory back to the campus water line loop. Sleeves for future utilities are included in the alternate as shown. The base bid leaves the areas as they are.

ALTERNATE NO. 2 (ADDITIVE)
Includes all work necessary for the west parking lot, including the lighting and landscaping, and drives. The base bid leaves the existing parking lot, drives and open grassed field in place.

END OF SECTION

PART 1 - GENERAL

RELATED DOCUMENTS
Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections.

SUMMARY
This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:

- Coordination.
- Administrative and supervisory personnel.
- General installation provisions.
- Cleaning and protection.

Progress meetings, coordination meetings and pre-installation conferences are included to Section "Project Meetings".

Requirements for the Contractor's Construction Schedule are included in Section "Submittals".

COORDINATION
Coordination: Coordinate construction activities included under various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections of the Specifications that are dependent upon each other for proper installation, connection, and operation.

Where installation of one part of the Work is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.

Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.

Make adequate provisions to accommodate items scheduled for later installation.

Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.

Prepare similar memoranda for the Owner and separate Contractors where coordination of their Work is required.

Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the

Work. Such administrative activities include, but are not limited to, the following:

Preparation of schedules.
Installation and removal of temporary facilities.
Delivery and processing of submittals,
Progress meetings.
Project Close-out activities.

SUBMITTALS

Staff Names: Within 15 days of Notice to Proceed, submit a list of the Contractor's principal staff assignments, including the Superintendent and other personnel in attendance at the site; identify individual, their resumes showing experience and training, their duties and responsibilities; list their addresses and telephone numbers.

Post copies of the list in the Project meeting room, the temporary field office, and each temporary telephone.

PART 2 - EXECUTION

GENERAL INSTALLATION PROVISION

Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.

Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extend that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.

Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.

Provide attachment and connection devices and methods necessary for securing Work. Secure Work true to line and level. Allow for expansion and building movement.

Visual Effects: Provide uniform joint widths in exposed Work. Arrange joints in exposed Work to obtain the best visual effect. Refer questionable choices to the Architect for final decision.

Recheck measurements and dimensions, before starting each installation.

Install each component during weather conditions and Project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.

Limiting Exposures: Facilities, or portions of facilities shall not be occupied during construction, unless exits, fire detection and early warning systems, fire protection, and safety

barriers are continuously maintained and clearly marked at all times.
Reference: Florida Building Code Section 423.6.1 Occupancy During Construction.

CLEANING AND PROTECTION

During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

Clean and maintain completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to the following:

Excessive static or dynamic loading.
Excessive internal or external pressures.
Excessively high or low temperatures.
Thermal shock.
Excessively high or low humidity.
Air contamination or pollution.
Water or ice.
Solvents.
Chemicals.
Light.
Radiation.
Puncture.
Abrasion.
Heavy traffic.
Soiling, staining and corrosion.
Bacteria.
Rodent and insect infestation.
Combustion.
Electrical current.
High speed operation.
Improper lubrication.
Unusual wear or other misuse.
Contact between incompatible materials.
Destructive testing.
Misalignment.
Excessive weathering.
Unprotected storage.
Improper shipping or handling.
Theft.

Vandalism.

END OF SECTION

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

SUMMARY

General: This Section specifies administrative and procedural requirements for field engineering services, including, but not necessarily limited to the following:

Land survey Work.
Civil engineering services.
Structural engineering services.

SUBMITTALS

Certificates: Submit a certificate signed by the Land Surveyor or Professional Engineer certifying that the location and elevation of improvements comply with the Contract Documents.

Project Record Documents: Submit a record of Work performed and record survey data as required under provisions of Sections "Submittals" and "Project Closeout".

QUALITY ASSURANCE

Surveyor: Engage a Registered Land Surveyor registered in the State where the project is located, to perform land-surveying services required.

Engineer: Engage a Professional Engineer of the discipline required; registered in the state in which the Project is located, to perform required engineering services.

PART 2 - EXECUTION

EXAMINATION

Verify layout information shown on the Drawings, in relation to the property survey and existing benchmarks before proceeding to layout the Work. Locate and protect existing benchmarks and control points. Preserve permanent reference points during construction.

Do not change or relocate benchmarks or control points without prior written approval. Promptly report lost or destroyed reference points, or requirements to relocate reference points because of necessary changes in grade or locations.
Promptly replace lost or destroyed project control points.
Base replacements on the original survey control points.

Existing utilities and equipment: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verity the existence and location of underground utilities and other construction.

Prior to construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer and water service piping.

PERFORMANCE

Working from lines and levels established by the property survey, establish benchmarks and markers to set lines and levels at each story of construction and elsewhere as needed to properly locate each element of the Project. Calculate and measure required dimensions within indicated or recognized tolerances. Do not scale Drawings to determine dimension.

Advise entities engaged in construction activities, of marked lines and levels provided for their use.

As construction proceeds, check every major element for line, level and plumb.

Surveyor's Log: Maintain a surveyor's log of control and other survey Work. Make this lob available for reference.

Record deviation from required lines and levels, and advise the Architect when deviations that exceed indicated or recognized tolerances are detected. On Project Record Drawings, record deviations that are accepted and not corrected.

Site Improvements: Locate and lay out site improvements, including pavements, stakes for grading, fill and topsoil placement, utility slopes and invert elevations by instrumentation and similar appropriate means.

Building Lines and Levels: Locate and lay out batter boards for structures, building foundations, column grids and locations, floor levels and control lines and levels required for mechanical and electrical Work.

Existing Utilities: Furnish information necessary to adjust, move or relocate existing structures, utility poles, line, services, or other appurtenances located in, or affect by construction. Coordinate with local authorities having jurisdiction.

END OF SECTION

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provision of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

SUMMARY

This Section specifies administrative and procedural requirements for project meetings including but not limited to:

Pre-Construction Conference.
Pre-Installation Conferences.
Coordination Meetings.
Progress Meetings.

PRE-CONSTRUCTION CONFERENCE

Schedule a pre-construction conference and organizational meeting at the Project site or other convenient location no later than 15 days after execution of the Agreement and prior to commencement of construction activities. Conduct the meeting to review responsibilities, personnel assignments, and the administration of the project.

Attendees: The Owner, Architect and their consultant, the Contractor and its superintendent, major subcontractors, manufacturers, suppliers and other concerned parties shall each be represented at the conference by persons familiar with and authorized to conclude matters relating to the work.

Agenda: Discuss items of significance that could affect progress including such topics as, but not limited to the following:

Tentative construction schedule.
Critical Work sequencing.
Designation of responsible personnel.
Procedures for processing field decision and Change Orders.
Procedures for processing Applications for Payment.
Distribution of Contract Documents.
Submittal of Shop Drawings, Product Data and Samples.
Preparation of record documents.
Use of the premises.
Office, Work and storage areas.
Equipment deliveries and priorities.
Safety procedures.
First aid.
Security.
Housekeeping.
Working hours.

PRE-INSTALLATION CONFERENCE

Conduct a pre-installation conference at the site before each major construction activity that requires coordination with other construction. The installer and representatives of manufacturers and fabricators involved in or affected by the installation, and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise the Architect of scheduled meeting dates.

Review the progress of other construction activities and preparations for the particular activity under consideration at each pre-installation conference, including requirements for:

- Contract Documents.
- Options.
- Related Change orders.
- Purchases.
- Deliveries.
- Shop Drawings, Product Data and quality control Samples.
- Possible conflicts.
- Compatibility problems.
- Time schedules.
- Weather limitations.
- Manufacturer's recommendations.
- Compatibility of materials.
- Acceptability of substrates.
- Temporary facilities.
- Space and access limitations.
- Governing regulation.
- Safety.
- Inspection and testing requirements.
- Required performance results.
- Recording requirements.
- Protection.

Record significant discussions and agreements and disagreements of each conference, along with the approved schedule. Distribute the record of the meeting to everyone concerned, promptly including the Owner and Architect.

Do not proceed if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of Work and reconvene the conference at the earliest feasible date.

COORDINATION MEETINGS

Conduct project coordination meetings at regularly scheduled times convenient for all parties involved. Project coordination meetings are in addition to specific meetings held for other purposes, such as regular monthly progress meetings and special pre-installation meetings.

Request representation at each meeting by every party currently involved in coordination or planning of the construction activities involved.

Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PROGRESS MEETINGS

Conduct progress meetings at the Project site at regularly monthly schedules intervals. Notify the Owner and Architect of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request.

Attendees: In addition to representatives of the Owner and Architect, each subcontractor, supplier or other entity concerned with current progress or involved in planning, coordination or performances of future activities shall be represented at these meetings by persons familiar with the Project and authorized to conclude matters relating or progress.

Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topic for discussion as appropriate to the current status of the Project.

Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time. If the Contractor is 30 days or more behind schedule on any major activity of work or major element of work activity, or 30 days behind delivery of a major material, the Contractor shall submit a narrative report with an updated progress analysis within 15 days which shall include, but not be limited to, a description of problem areas, current and anticipated delaying factors and their impact, an explanation of corrective action taken and proposed logic for a recovery schedule.

Review the present and future needs of each entity present, including such items as:

- Interface requirements.
- Time.
- Sequences.
- Deliveries.
- Off-site fabrication problems.
- Access.
- Site utilization.
- Temporary facilities and services.
- Hours of Work.
- Hazards and risks.
- Housekeeping.
- Quality and Work standards.
- Change Orders.
- Documentation of information for payment requests.

Reporting: No later than 3 days after each progress meeting date, distribute copies of minutes of the meeting to each party present and to other parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.

Schedule Updating: Revise the construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.

END OF SECTION

PART 1 - GENERAL

RELATED DOCUMENTS
Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

SUMMARY
This Section specifies administrative and procedural requirement for submittals required for performance of the Work, including;

- Contractor's construction schedule and updates.
- Submittal schedule and updates.
- Daily construction reports.
- Shop Drawings.
- Product Data.
- Samples.

Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:

- Permits.
- Applications for payment.
- Performance and payment bonds.
- Insurance certificates.
- List of Subcontractors and Major suppliers.

The Schedule of Values submittal is included in Section "Applications of Payment."

Inspection and test reports are included in Section "Quality Control Services."

SUBMITTAL PROCEDURES
Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.

Coordinate each submittal with the construction schedule, fabrication, and purchasing, testing, delivery, other submittals and related activities that require sequential activity.

Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.

The Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

Processing: Allow sufficient review time so that installation and construction will not be delayed as a result of the time required to process submittals, including time for resubmittals.

Allow three weeks for initial review. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The Architect will promptly advise the Contractor when a submittal being processed must be delayed for coordination.

If an intermediate submittal is necessary, process the same as the initial submittal.

Allow three weeks for reprocessing each submittal.

No-extension of Contract Time will be authorized because of failure to transmit submittals to the Architect sufficiently in advance of the Work to permit processing and the responsibility of notification of a delay is the requirement of the Contractor.

Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.

Provide a space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.

Include the following information on the label for processing and recording action taken.

Project name.
Date.
Name and address of Architect.
Name and address of Contractor.
Name and address of subcontractor.
Name and address of supplier.
Name of manufacturer.
Number and title of appropriate Specification Section.
Drawing number and detail references, as appropriate.

Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.

Include Contractor's certification that information complies with Contract Document requirements.

CONTRACTOR'S CONSTRUCTION SCHEDULE

Bar-Chart Schedule: Prepare a fully developed, horizontal bar-chart type Contractor's construction schedule. Submit within 30 days of the date established for "Commencement of the Work".

Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Each Pay item designated in the Contractors Schedule of Values shall be denominated as a separate activity and represented by a horizontal bar or bars on the chart. The horizontal bar(s) shall indicate the start and finish dates, as well as the total time period of performance for each Pay Item activity. (An activity is defined as any portion or element of work, action, and/or reaction that is precisely

described, readily identifiable and is a function of a logical sequential process.)

Each Work Activity/Item on the Bar Chart, as well as being correlated to the payment document, shall be broken into reasonable work segments/activities with individual starting and topping dates. AS a minimum, work shall be segmented to demonstrate its relationship to the Milestone dates and other activities. The segmented work activities shall be cost loaded to show their dollar value as a part of the entire Pay Item.

Within each time bar indicate estimated completion percentage in 10 percent increments. AS work progresses, place a contracting mark in each bar to indicate Actual Completion.

Prepare the schedule on a sheet, or series of sheets, or stable transparency, or other reproducible media, or sufficient width to show data for the entire construction period.

Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved in the sequence of the Work. Show each activity in proper sequence. Indicate graphically sequences necessary for completion of related portions of the Work.

Coordinate the Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests and other schedules.

Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion go the schedule to allow time for the Architect's procedures necessary for certification of Substantial Completion.

Work Stages: Indicate important stages of construction for each major portion of the Work, including testing and installation.

Cost Correlation: At the head of the schedule, provide a two-item costs correlation line, indicating "precalculated" and "actual" costs. On the line show dollar-volume of Work performed as of the date used for preparation of payment requests.

Refer to Section "Applications for Payment" for cost reporting and payment procedures.

Distributions: Following response to the initial submittal, print and distribute copies to the Architect, Owner, subcontractors, and other parties required to comply with scheduled dates. Post copies in the Project meeting room and temporary field office.

When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and rate no longer involved in construction activities.

Schedule Updating:

1. The Bar Chart Schedule shall be updated to show actual progress and the effect of modifications, delays and other events. A second bar for each work item, in a contrasting color or pattern, shall be drawn parallel to the proposed schedule to show actual progress

and to forecast future progress. The actual chart and to date shall be entered, as well as the actual dates of milestone event. Updates are to be submitted monthly to the Architect with, and as a part of, each payment request.

SUBMITTAL SCHEDULE

After development and acceptance of the Contractor's construction schedule, prepare a complete schedule of submittals. Submit the schedule concurrently with the Contractor's construction schedule.

Coordinate submittal schedule with the list of subcontract, schedule of values and the list of products as well as the Contractor's construction schedule.

Prepare the schedule in chronological order; include submittals required during the first 90 days of construction. Provide the following information:

Scheduled date for the first submittal.
Related Section number.
Submittal category.
Name of subcontractor.
Description of the part of the Work covered.
Scheduled date for resubmittal
Scheduled date the Architect's final release or approval.

Distribution: Following response to initial submittal, print and distribute copies to the Architect, Owner, subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the Project meeting room and field office.

When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

Schedule Updating: Revise the schedule after each meeting or activity, where revision have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

DAILY CONSTRUCTION REPORTS

Prepare a daily construction report, recording the following information concerning events at the site; and submit duplicate copies to the Architect at weekly intervals:

List of subcontractors at the site.
Approximate count of personnel at the site.
High and low temperatures, general weather conditions.
Accidents and unusual events.
Meetings and significant decisions.
Stoppages, delays shortages, losses.
Emergency procedures.
Orders and requests of governing authorities.
Change Orders received, implemented.
Services connected, disconnected.
Equipment or system tests and start-ups.

Substantial Completions authorized.
List of work items.

SHOP DRAWINGS

Submit newly prepared information, drawn to accurate scale, Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.

Shop Drawings include fabrication and installation drawings, sheeting diagrams, schedules, patterns, templates and similar drawings. Include the following information:

Dimensions.
Identification of products and materials included.
Compliance with specified standards.
Notation of coordination requirements.
Notation of dimensions established by field measurement.

Sheet Size: Except for templates, patterns and similar full- size Drawings, submit Shop Drawings on sheets at least 8½" x 11" but no larger than 30" x 42".

Final Submittal: Submit a PDF and one original print or submit 6 blue or black-line prints; submit 8 prints where required for maintenance manuals. 4 prints will be retained; the remainder will be returned. Electronic submissions are encouraged.

Do not use Shop Drawings without an appropriate final stamp indicating action taken in connection with construction.

PRODUCT DATE

Collect Product Data into a single submittal for each element of construction or system. Product Date includes printed information such a manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed is not suitable for use, submit as "Shop Drawings."

Mark each copy with a heavy dark pen (not highlight) to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate that applicable information. Include the following information:

Manufacturer's printed recommendation.
Compliance with recognized trade association standard.
Compliance with recognized testing agency standards.
Application of testing agency labels and seals.
Notation of dimensions verified by field measurement.
Notation of coordination requirements.
As noted in each applicable Specification Section.

Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.

Submittals: Submit a PDF and one original print or submit 6 copies of each required submittal; submit 8 copies where required for maintenance manuals. The Architect will retain four, and will return the others marked with action taken and corrections or modifications required. Electronic submittals are encouraged.

Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.

SAMPLES

Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern.

Mount, display, or package Samples in the manner specified to facilitate review of qualities indicated. Include the following:

Generic description of the Sample.
Sample source.
Product name of name of manufacturer.
Compliance with recognized standards.
Availability and delivery time.

Submit Samples for review of kind, color, pattern, and texture, for a final check of these characteristics with other elements, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed.

Where variation in color, pattern texture or other characteristics are inherent in the material or product represents, submit multiple units (not less than 3) that show approximate limits of the variations.

Preliminary submittals will be reviewed and returned with the Architect's mark indicating selection and other action.

Field Samples specified in individual Sections are special types of Samples. Field Samples are full-size examples erected on site to illustrate finishes, coatings, or finish materials and to establish the standard by which the Work will be judged.

Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

END OF SECTION

PART 1 - GENERAL

RELATED DOCUMENTS
Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

SUMMARY
This Section specifies administrative and procedural requirements for quality control services.

Quality control services include inspections and tests and related actions including reports, performed by independent agencies, governing authorities, and the Contractor. They do not include Contract enforcement activities performed by the Architect.

Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve the Contractor of responsibility for compliance with Contractor Document requirements.

Requirements of this Section relate to customized fabrication and installation procedures, not production of standard products.

Specific quality control requirements for individual construction activities include but are not limited to these and maybe listed in each section that specify those activities. The Contractor shall pay for the following test:

A. Testing for analysis of top soils and fill material for ph factor, mechanical analysis, percentages of organic content and recommendation on type and quantity of additive required to establish satisfactory ph facto r& supply of nutrients to bring nutrients to satisfactory level for planting.

B. Test required to satisfactory sub base and base compaction and to meet COT standards for paving.

C. Tests for subsoil and soils compaction and analysis for bearing of structures and fill.

D. Tests for requirement of soils poisoning for Termite Control.

E. Tests for welded and bolted connections for structural and miscellaneous steel.

F. Tests required assuring compliance with painting specifications.

The following tests will be paid for by the Architect or the Owner but the Contractor(s) shall cooperate in these tests and provide the necessary accommodations for them to be performed.

A. Test and Balance service for the mechanical and air-conditioning system.

B. Sound transmission tests for the mechanical and air-condition system.

C. Balancing and testing required for the Special Systems.

Those requirements, including inspections and tests, cover production of standard products as well as customized fabrication and installation procedures.

Inspections, test and related actions specified are not intended to limit the Contractor's quality control procedures that facilitate compliance with Contract Document requirements.

Requirements for the Contractor to provide quality control services required by the Architect, Owner, or authorities having jurisdiction are not limited by provision of this Section.

RESPONSIBILITIES

Contractor Responsibilities: The contractor shall provide inspections, tests and similar quality control services, specified in individual Specification Section and required by governing authorities, except where they are specifically indicated to be the Owner's responsibility, or are provided by another identified entity; these services include those specified to be performed by an independent agency and not by the Contractor. Costs for these services shall be included in the Contract Sum.

The Contractor shall employ and pay an independent agency, to perform specified quality control services.

The Owner will engage and pay for the services of an independent agency to perform inspections and tests specified as the Owner's responsibility.

Where the Owner has engaged a testing agency or other entity for testing and inspection of a part of the Work, and the Contractor is also required to engage an entity for the same or related element, the Contractor shall not employ the entity engaged by the Owner, unless otherwise agreed in writing with the Owner.

Retesting: The Contractor is responsible for retesting where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance with Contract Document requirements, regardless of whether the original test was the Contractor's responsibility.

Cost of retesting construction revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original construction.

Associated Services: The Contractor shall cooperate with agencies performing required inspections, tests and similar services and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but are not limited to:

Providing access to the Work and furnishing incidental labor and facilities necessary to facilitate inspections and tests.

Taking adequate quantities of representative samples of materials that require testing or assisting the agency in taking samples.

Providing facilities for storage and curing of test samples and delivery of samples to testing laboratories.

Providing the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.

Security and protection of samples and test equipment at the Project site.

Duties of the Testing Agency: The independent testing agency engaged to perform inspections, sampling and testing of materials and construction specified in individual Specification Sections shall cooperate with the architect and Contractor in performance of its duties, and shall provide qualified personnel to perform required inspections and tests.

The agency shall notify the Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.

The agency is not authorized to release, alter or enlarge requirements of the Contract Documents, or approve or accept any portion of the Work.

The agency shall not perform any duties of the Contractor.

Coordination: The Contractor and each agency engaged to perform inspections, tests and similar services shall coordinate the sequence of activities to accommodate required services with a minimum of delay. In addition the Contractor and each agency shall coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.

The Contractor is responsible for scheduling times for inspections, tests, taking samples and similar activities.

SUBMITTALS

The independent testing agency shall submit a certified written report of each inspection, test or similar service, to the Architect, in duplicate, unless the Contractor is responsible for the service. If the Contractor is responsible for the service, submit a certified written report of each inspection, test or similar service through the Contractor, in duplicate. Each report shall specifically indicate the exact location of each test on each report.

Submit additional copies of each written report directly to the governing authority, when the authority so directs.

Report Data: Written reports of each inspection, test or similar service shall include, but not be limited to:

Date of issue.
Project title and number,
Name, address and telephone number of testing agency.
Dates and locations of samples and tests or inspections.
Names of individuals making the inspection or test.
Designation of the Work and test method.
Identification of product and Specification Section.
Complete inspection or test data.
Test results and an interpretations of test results.
Ambient condition s at the time of sample-taking and testing.
Comments or professional opinion as to whether inspected or tested Work complies with Contract Document. requirements.
Name and signature of laboratory inspector.
Recommendations on retesting.

QUALITY ASSURANCE

Qualification for Service Agencies: Engage inspection and testing service agencies, including independent testing laboratories, which are prequalified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories, and which specialize in the types of inspections and tests to be performed. A State of Florida Registered Engineer shall sign each test report. Each independent inspection and testing agency engaged on the Project shall be authorized by authorities having jurisdiction to operate in the State in which the Project is located.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION

REPAIR AND PROTECTION

General: Upon completion of inspection, testing, sample-taking and similar services repair damaged construction and restore substrates and finishes to eliminate deficiencies, including deficiencies in visual qualities of exposed finishes. Comply with Contract Document requirements for "Cutting and Patching."

Protect construction exposed by or for quality control service activities, and protect repaired construction.

Repair and protection is the Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

END OF SECTION

PART 1 - GENERAL

RELATED DOCUMENTS
Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

SUMMARY
This Section specifies requirements from temporary services and facilities, including utilities, construction and support facilities, security and protection.

Temporary utilities required include but are not limited to:
- Water service and distribution.
- Temporary electric power and light.
- Telephone service.
- Storm and sanitary sewer.

Temporary construction and support facilities required include but are not limited to:
- Temporary heat.
- Field offices and storage sheds.
- Temporary roads and paving.
- Sanitary facilities, including drinking water.
- Dewatering facilities and drains.
- Temporary enclosures.
- Hoists and temporary elevator use.
- Temporary Project identification signs and bulletin boards.
- Waste disposal services.
- Rodent and pest control.
- Construction aids and miscellaneous services and facilities.

Security and protection facilities required include but are not limited to:
- Temporary fire protection.
- Barricades, warning signs, lights.
- Environmental protection.

Location of temporary offices and storage facilities will be in the designated assembly area or as otherwise shown by the Architect and/or the College.

QUALITY ASSURANCE
Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction, including but not limited to:
- Building Code requirements.
- Health and safety regulations.
- Utility company regulations.

Police, Fire Department and Rescue Squad rules.
Environmental protection regulations.
Florida Department of Environmental Regulations
Florida Department of Natural Resources
U.S. Corps of Engineers

Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measure. Do not overload facilities, or permit them to interfere with progress. Do not allow hazardous dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

TEMPORARY FACILITIES
Electrical Power Cords: Provide grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas where construction activities are in progress.

Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered glass enclosures, where exposed to breakage. Provide exterior fixtures where exposed to moisture.

Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM or another recognized trade association related to the type of fuel being consumed.

Temporary Offices: Provide prefabricated or mobile units or similar job-built construction with lockable entrances, operable windows and serviceable finishes. Provide heated and air-conditioned units on foundations adequate for normal loading.

Northwest Florida State College will provide a prefabricated mobile unit for the use of their Clerk of the Works (owner's job site representative) and the Architect. Contractor to provide temporary power.

Temporary Toilet Units: Provide self-contained single-occupant toilet units of the chemical, aerated recirculation, or combustion type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material.

First Aid supplies: Comply with governing regulation.

Fire Extinguishers: Provide hand-carried, portable UL-rated, Class "A" fire extinguishers for temporary offices and similar spaces. In other locations provide hand-carried, portable UL-rated, class "ABC" dry chemical extinguishers, of a combination of extinguishers of NFPA recommended classes for the exposures.

Comply with NFPA 10 and 241 for classification, extinguishing agent and size required by location and class of fire exposure.

PART 2 - EXECUTION

TEMPORARY UTILITY INSTALLATION

General: Engage the appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials, and equipment; comply with the company's recommendations.

Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.

Obtain easements to bring temporary utilities to the site, where the Owner's easements cannot be used for that purpose.

Use Charges: Cost or use charges for temporary facilities are not chargeable to the Owner or Architect, and will not be accepted as a basis of claims for a Change Order.

Water Service: Install water service and distribution piping of sizes and pressures adequate for construction until permanent water service is in use.

Sterilization: Sterilize temporary water piping prior to use.

Temporary Electric Power Service: Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload protected disconnects, automatic ground-fault interrupters and main distribution switch gear.

Power Distribution System: Install wiring overhead , and rise vertically where least exposed to damage. Where permitted, wiring circuits not exceeding 125 Volts, AC 20 ampere rating,
and lighting circuits may be nonmetallic sheathed cable where overhead and exposed for surveillance.

Temporary Lighting: Whenever overhead floor or roof deck has been installed, provide temporary lighting with local switching.

Install and operate temporary lighting that will fulfill security and protection requirements, without operating the entire system, and will provide adequate illumination for construction operations and traffic conditions.

Temporary Telephones: Provide temporary telephone service for all personnel engaged in construction activities, throughout the construction period. Install telephone on a separate line for each temporary office and first aid station. Where an office has more than two occupants, install a telephone for each pair of occupants. At each telephone, post a list of important telephone numbers.

TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION

Locate field offices, storage sheds, sanitary facilities and other temporary construction and support facilities for easy access in area and designated.

Maintain temporary construction and support facilities until near Substantial Completion. Remove

prior to Substantial Completion. Personnel remaining after Substantial Completion willbe permitted to use permanent facilities, under conditions acceptable to the Owner.

Temporary Heat: Provide temporary heat required by construction activities, for curing or drying of completed installations or protection of installed construction from adverse effects of low temperatures or high humidity. Select safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required.

Heating Facilities: Except where use of the permanent system is authorized, provide vented self-contained LP gas or fuel oil heaters with individual space thermostatic control.

Sanitary facilities include temporary toilets, wash facilities and drinking water fixtures. Comply with regulations and health codes for the type, number, location, operation and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs.

Provide toilet tissue, paper towels, paper cups and similar disposable materials for each facility. Provide covered waste container for used material.

Toilets: Install self-contained toilet units. Shield toilets to ensure privacy. Use of pit-type privies will be not permitted.

Wash Facilities: Install wash facilities supplied with potable water at convenient locations for personnel involved in handling materials that require wash-up for a health and sanitary condition. Dispose of drainage properly. Supply cleaning compounds appropriate for each condition.

Drinking Water Facilities: Provide containerized tap-dispenser bottled-water type drinking water units, including paper supply.

Dewatering Facilities and Drains: For temporary drainage and dewatering facilities and operations not directly associated with construction activities included under individual Sections, comply with dewatering requirements of applicable Division-2 Sections. Where feasible, utilize the same facilities. Maintain the site, excavations and construction free of water.

Temporary Enclosure: Provide temporary enclosure for protection of construction in progress and completed, from exposure, foul weather, other construction operations and similar activities.

Where heat is needed and the permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.

Install tarpaulins securely, with incombustible wood framing and other materials. Close openings of 25 square feet or less with plywood or similar materials.

Close openings through floor or roof decks and horizontal surfaces with load-bearing wood-framed construction.

Temporary Lifts and Hoists: Provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment: and not temporary facilities.

Project Identification Signs: Engage an experienced sign painter to apply graphics. Comply with details provided by Architect. Project sign shall be as shown on drawings.

Temporary Signs: Prepare signs to provide directional information to construction personnel and visitors.

Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg F (27 deg c). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material in a lawful manner.

Rodent and Pest Control: Before deep foundation Work has been completed, retain a local exterminator or pest control company to recommend practices to minimize attraction and harboring of rodents, roaches and other pests. Employ this service to perform extermination and control procedures at regular intervals so the Project will be relatively free of pests and their residues at

Substantial Completion. Perform control operations in a lawful manner using environmentally safe materials.

Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate. Cover finished permanent stairs with a protective covering of plywood or similar materials so finishes will be undamaged at the time of acceptance.

SECURITY AND PROTECTION FACILITIES INSTALLATION

Except for use of permanent fire protection as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Substantial Completion, or longer as requested by the Architect.

Temporary Fire Protection: Until fire protection needs are supplied by permanent facilities, install and maintain temporary fire protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers," and NFPA 241 "Standard for Safeguarding Construction, Alterations and Demolition Operations."

Locate fire extinguishers where convenient and effective for this intended purpose, but not less than two extinguishers on each floor at or near each usable stairwell.

Store combustible materials in containers in fire-safe locations.

Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires. Prohibit smoking in

hazardous fire exposure areas.

Provide supervision of welding operations, combustion type temporary heating units and similar sources of fire ignition.

Permanent Fire Protection: At the earliest feasible date in each area of the Project, complete installation of the permanent fire protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.

Barricades, Warning Signs and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against.
Where appropriate and needed provide lighting, including flashing red or amber lights.

Enclosure Fence: When excavation begins, install an enclosure fence with lockable entrance gates. Locate where indicated, or enclose the entire site or the portion determined sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs and other animals from easily entering the site, except by the entrance gates.

Provide open-mesh, chain-link fencing with posts set in a compacted mixture of gravel and earth. Note existing fencing in place to be turned over to the owner at completion.

Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft and similar violations of security.

Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.

Environmental Protection: Provide protection, operate temporary facilities and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effect might result. Avoid use of tools and equipment, which produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near the site.

Termination and Removal: Unless the Architect requests that it be maintained longer, remove each temporary facility when the need has ended, or when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces and replace construction that cannot be satisfactorily repaired.

Materials and facilities that constitute temporary facilities are property of the Contractor. The Owner reserves the right to take possession of Project identification signs.

At Substantial Completion, clean and renovate permanent facilities that have been used during the construction period, including but not limited to:

Replace air filters and clean inside of ductwork and housings.

Replace significantly worn parts and parts that have been subject to unusual operating conditions.

Replace lamps that are burned out or noticeably dimmed by substantial hours of use, or other reason

END OF SECTION

PART 1 - GENERAL

RELATED DOCUMENTS
Drawings and general provision of Contract, including General and Supplementary Conditions and other Division-1 Specifications Sections, apply to this Section.

SUMMARY
This Section specifies administrative and procedural requirements governing the Contractor's selection of products for use in the Project.

Administrative procedures for handling request of substitutions made after award of the Contract are included under Section "Product Substitutions."

SUBMITTALS
Product List Schedule: Prepare a schedule showing products specified in a tabular form acceptable to the Architect. Include generic names of products required. Include the manufacturer's name and proprietary product names for each item listed.

Coordinate the product list schedule with the contractor's Construction Schedule and the Schedule of Submittals.

Completed Schedule: Within 60 days after date of commencement of the Work, submit 3 copies of the completed product list schedule. Provide a written explanation for omissions of data, and for known variations from Contract requirements.

Architect's Action: The Architect will respond in writing to the Contractor within 3 weeks of receipt of the completed product list schedule. No response within this time period constitutes no objection to listed manufacturers or products, but does not constitute a waiver of the requirement that products comply with Contract Documents. The Architect's response will include the following:

A list of unacceptable product selections.

QUALITY ASSURANCE
Source Limitations: To the fullest extent possible, provide products of the same kind, from a single source.

When specified products are available only from sources that do not or cannot produce a quantity adequate to complete project requirements in a timely manner, consult with the Architect for a determination of the most important product qualities before proceeding. Qualities may include attributes relating to visual appearance, strength, durability, or compatibility. When a determination has been made, select products from sources that produce products that possess these qualities, to the fullest extent possible.

Compatibility of Options: When the Contractor is given the option of selecting between two or more products for use on the Project, that product selected shall be compatible with products previously selected.

PRODUCT DELIVERY, STORAGE, AND HANDLING

Deliver, store and handle products in accordance with the manufacturer's recommendations, using means and methods that will prevent damage, deterioration and loss, including theft.

Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.

Inspect products upon delivery to ensure compliance with the Contract Documents, and to ensure that products are undamaged and properly protected.

Store products subject to damage by the elements above ground, under cover in a weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

PART 2 - PRODUCTS

General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, unused at the time of installation.

Product Selection Procedures: Product selection is governed by the Contract Documents and governing regulation. Procedures governing product selection include the following:

Proprietary Specification Requirements: Where only a single product or manufacturer is named, provide the product indicated. No substitutions will be permitted.

Semiproprietary Specification Requirements: Where two or more products or manufacturers are name, provide one of the products indicated. No substitutions will be permitted.

Where products or manufacturers are specified by name, accompanied by the term "or equal," or "or approved equal" comply with the Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.

Non-Proprietary Specifications: When the Specifications list products or manufacturers that are available and may be incorporated in the Work, but do not restrict the Contractor to use of these products only, the Contractor may propose any available product that complies with Contract requirements. Comply with Contractor Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.

Descriptive Specification Requirements: Where Specification describe a product or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.

Performance Specification Requirements: Where Specification require compliance with performance requirements, provide products that comply with these requirements, and are recommended by the manufacturer for the application indicated. General overall performance of a product is implied where the product is specified for a specific application.

Manufacturer's recommendations may be contained in published product literature, or by the manufacturer's certification of performance.

Compliance with Standards, Codes and Regulations: Where the Specifications only require compliance with an imposed code, standard or regulation, select a product that complies with the standard, codes or regulations specified.

END OF SECTION

PART 1 - GENERAL

RELATED DOCUMENTS
Drawings and general provision of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

SUMMARY
This section specifies administrative and procedural requirements for handling requests for substitutions made after award of the Contract.

The Contractor's Construction Schedule and the Schedule of Submittals are included under Section "Submittals."

DEFINITIONS
Definitions used in this Article are not intended to change or modify the meaning of other terms used in the Contract Documents.

Substitutions: Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by the Contractor after award of the Contract are considered requests for "substitutions." The following are not considered substitutions:

Substitutions requested by Bidders before 10 days prior to bid date, and accepted by the Architect prior to Bid Date of Contract, are considered as included in the Contract Documents and are not subject to requirements specified in the Section for substitutions.

Specified options of products and construction methods included in Contract Documents.

SUBMITTALS
Substitution Request Submittal: Requests for substitution will be considered if received within 60 days after commencement of the Work. Requests received more than 60 days after commencement of the Work may be considered or rejected at the discretion of the Architect.

Submit 4 copies of each request for substitution for consideration. Submit requests in the form and in accordance with procedures required for Change Order proposals.

Identify the product, or the fabrication or installation method to be replaced in each request. Include related

Specification Section and Drawing numbers. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:

Product Data, including Drawings and descriptions of products, fabrication and installation procedures.

Samples, where applicable or requested.

A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements such a size, weight, durability, performance and visual effect.

Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate Contractors, that will become necessary to accommodate the proposed substitution.

A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.

Cost information, including a proposal of the net change, if any in the Contract Sum.

Certification by the Contractor that the substitution proposed is equal-to or better in every significant respect to that required by the Contract Documents, and that it will perform adequately in the application indicated. Include the Contractor's waiver of rights to additional payment or time, which may subsequently become necessary because of the failure of the substitution to perform adequately.

Architects Action: Within 10 days of receipt of the request for substitution, the Architect will request additional information or documentation necessary for evaluation of the request. Within 3 weeks of receipt of the request, or one week of receipt of the additional information or documentation, which ever is later, the Architect will notify the Contractor of acceptance or rejection of the proposed substitution. If a decision on use of a proposed substitute cannot be made or obtained within the time allocated, use the product specified by name.

PART 2 - PRODUCTS

SUBSTITUTIONS

Conditions: The Contractors substitution request will be received and considered by the Architect when extensive revisions to Contract Documents are not required, proposed changes are in keeping with the general intent of Contract Documents, the request is timely, fully documented and properly submitted, and when one or more of the following conditions are satisfied, as determined by the Architect' otherwise requests will be returned without action except to record noncompliance with these requirements.

The request is directly related to an "or equal" clause of similar language in the Contract Documents.

The specified product or method of construction cannot be provided within the Contract Time. The request will not be considered if the product or method cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.

The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.

A substantial advantage is offered the Owner, in term of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. Additional responsibilities for the Owner may include additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner or separate Contractors, and similar consideration.

The specified product or method of construction cannot be provided in a manner that is compatible with other materials, and where the Contractor certifies that the substitution will overcome the incompatibility.

The specified product or method of construction cannot be coordinated with other materials, and where the Contractor certifies that the proposed substitution can be coordinated.

The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provide the required warranty.

The Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

PART 1 - GENERAL

RELATED DOCUMENTS
Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

SUMMARY
This Section specifies administrative and procedural requirements for project closeout, including but not limited to:

Inspection procedures.
Project record document submittal.
Operating and maintenance manual submittal.
Submittal of warranties.
Final cleaning.
Owner Instruction.

SUBSTANTIAL COMPLETION
Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exception in the request.

In the Application for Payment at Substantial Completion, show 100 percent completion for the portion of the Work claimed as substantially complete.

If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.

Advise Owner of pending insurance changeover requirements.

Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.

Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities; include occupancy permits, operating certificates and similar releases.

Submit as built drawings, record drawings, maintenance manuals, final project photographs, damage or settlement survey, and similar final record information.

Deliver tools, spare parts, extra stock, and similar items.

Make final changeover of permanent locks and transmit keys to the Owner. Advise the Owner's personnel of changeover in security provisions.

Complete start-up testing of systems, and instruction of the Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups and similar elements.

Complete final clean up requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes.

Inspection Procedures: On receipt of a request for inspection, the Architect will either proceed with inspection or advise the Contractor of unfilled requirements. The Architect will prepare the Certificate of Substantial Completion following inspection, or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.

The Architect will repeat inspection when requested and assured that the Work has been substantially completed.

Results of the completed inspection will form the basis of requirements for final acceptance.

FINAL ACCEPTANCE

Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.

Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operation where required.

Submit an updated final statement, accounting for final additional changes to the Contract Sum.

Submit a certified copy of the Architect's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the Architect.

Submit consent of surety to final payment (AIA Form G707)

Submit a final liquidated damages settlement statement.

Submit evidence of final, continuing insurance coverage complying with insurance requirements.

Reinspection Procedure: The Architect and Owner will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to the Architect.

Upon completion of reinspection, the Architect will prepare a certificate of final acceptance, or advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.

If necessary, reinspection will be repeated. Payment for the cost of services from the Architect for reinspection beyond one (1) at each substantial completion phase and one (1) at Final Inspection will be the responsibility of the Contractor.

RECORD DOCUMENT SUBMITTALS

General: Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Architect's reference during normal working hours.

Record Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark whichever drawing is most capable of showing condition fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to the concealed elements that would be difficult to measure and record at a later date.

Mark record sets with red erasable pencil; use other colors to distinguish between variations in separate categories of the Work.

Mark new information that is important to the Owner, but was not shown on Contract Drawings of Shop Drawings.

Note related Change Order numbers where applicable.

Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, date and other identification on the cover of each set.

As Built Drawing: The contractor shall engage a competent draftsperson to prepare as-built drawings using information from the record drawings. Draft modifications to the Project on correctable, reproducible prints of the original drawing. Provide the Owner with all corrected and unmodified sheets to comprise a complete set of reproducible, and one printed copy of these documents - bound. Reproducible copies of the original drawings may be obtained from the Architect at reproduction cost.

Record Specifications: Maintain one complete copy of the Project Manual, including addenda, and one copy of other written construction documents such as Change Orders and modifications issued in printed form during construction. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and Product Data.

Upon completion of the Work, submit record Specifications to the Architect for the Owner's records.

Record Product Data: Maintain one copy of each Product Data submittal. Mark these documents

to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the site, and from the manufacturer's installation instructions and recommendations. Give particular attention to concealed products and portions of the Work which cannot otherwise be readily discerned later by direct observation. Note related Change Orders and mark-up of record drawings and Specifications.

Upon completion of mark-up, submit complete set of record Product Data to the Architect for the Owner's records.

Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Architect for the Owner's records.

Maintenance Manuals: Organize operating and maintenance data into suitable sets of manageable size. Bind properly indexed data in individual heavy-duty 2-inch, 3-ring vinyl-covered binders, with picket folders for folded sheet information. Mark appropriate identification on front and spine of each binder. Include the following types of information:

Emergency instructions.
Spare parts list.
Copies of warranties.
Wiring diagrams.
Recommended "turn around" cycles.
Inspection procedures.
Shop Drawings and Product Data.
Fixture lamping schedule.

PART 2 - EXECUTION

CLOSEOUT PROCEDURES

Operating and Maintenance Instructions: Arrange for each installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. If installers are not experienced in procedures, provide instruction by manufacturer's representatives. Include a detailed review of the following items:

As Built Drawings.
Record documents.
Maintenance manuals.
Spare parts and materials.
Tools.
Lubricants.
Fuels,
Identification systems.
Control sequences.

Hazards.
Cleaning.
Warranties and bonds.
Maintenance agreements and similar continuing commitments.

As part of instructions for operating equipment, demonstrate the following procedures:
Start-up.
Shutdown.
Emergency operations.
Noise and vibration adjustments.
Safety procedures.
Economy and efficiency adjustments.
Effective energy utilization.

FINAL CLEANING

General: General cleaning during construction is required by the General Conditions and included in Section "Temporary Facilities".

Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.

Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion.

Remove labels that are not permanent labels.

Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compound and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.

Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films and similar foreign substances. Restore reflective surfaces to their original reflective condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.

Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.

Clean the site, including landscape development areas, of rubbish, litter and other foreign substances. Sweep paved areas broom clean, remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.

Pest Control: Engage an experienced exterminator to make a final inspection, and rid the project of rodents, insect and other pests.

Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.

Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.

Where extra materials of value remaining after completion of associated Work have become the Owner's property, arrange for disposition of these materials as directed.

END OF SECTION

PART 1 - GENERAL

RELATED DOCUMENTS
Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specifications Sections, apply to this Section.

SUMMARY
This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturer's standard warranties on products and special warranties.

Refer to the General Conditions for terms of the Contractor's special warranty of workmanship and materials.

General closeout requirements are included in Section "Project Closeout".

Specific requirements for warranties for the Work and products and installations that are specified to be warranted are included in the individual Section of Divisions-2 through -16.

Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.

Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

WARRANTY REQUIREMENTS
Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.

Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.

Owner's Recourse: Written warranties made to the Owner are in addition to implied warranties,

and shall not limit the duties, obligations, rights and remedies otherwise available under the law, not shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.

Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.

The Owner reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

SUBMITTALS

Submit written warranties to the Architect prior to the date certified for Substantial Completion. If the Architect's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Final Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Architect. Warranties are to be for one year from the date of final completion unless specifically accepted in writing.

Form of Submittal: At Final Completion compile two copies of each required warranty and bond properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual and bind in a durable 3 ring loose leaf binder.

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS:

The General Provision of the Contract, including bidding conditions and contractual conditions, apply to the work specified in this section.

1.02 SCOPE:

The geotechnical exploration, boring log and recommendation of the Soil Engineer is made a part of this specification.

IMPORTANT

Notice Regarding This PDF File Transmission

To the Authorized Recipient:

This PDF is an electronic transmission of our final report. An authenticated copy will also be issued to you on request for your files. The authenticated copy will be affixed with original signatures and engineering seal. While we have taken precautions to assure a complete and secure electronic transmission, please be certain to check this report against the authenticated copy for conformity. The PDF file may not be used as an authenticated copy, nor re-copied without express permission from the engineer of record.

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Geotechnical & Environmental
Consultants

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Design Build Concepts
3475 Lenox Road N.E., Suite 700
Atlanta, GA 30325

April 22, 2008
File No.: P-08-0198

Attention: Mr. Tim Black

Subject: Geotechnical Services for Stormwater Design at the Proposed Vanguard Bank on State Road 77 in Lynn Haven, Florida

Dear Mr. Black:

Southern Earth Sciences, Inc., has completed the geotechnical services for stormwater design at the proposed Vanguard Bank on State Road 77 in Lynn Haven, Florida. Our services were performed in general accordance with proposal number P-08-04-013, dated April 7, 2008. This report presents the results of our field and laboratory testing and includes estimated seasonal high groundwater levels and horizontal conductivity.

FIELD INVESTIGATIVE PROCEDURES:

On April 11, 2008, personnel with our firm traveled to the project site and completed the field testing for the above referenced project. For our geotechnical investigation, two (2) Macro-Core borings were performed to a depth of approximately 15 feet below the existing ground surface. The Macro-Core system is a closed-piston sampler, with an inner piston rod and outer drive casing, and is driven to the top of the sampling interval. The inner piston rod is removed and the Macro-Core sampler is driven to collect a soil sample. The soil sample is collected in a clear 5-foot PVC liner and is delivered back to our laboratory for soil classifications and laboratory testing.

At test location P-2, a piezometer was installed to a depth of approximately 12 feet below the existing ground surface. The piezometers consisted of ten (10) feet of 2-inch diameter schedule 40 PVC well screen (0.010 inch slot), from approximately 2 to 12 feet below the existing ground surface, attached to 2-inch Schedule 40 PVC casing. The piezometer was then developed and slug tests were performed to determine the horizontal hydraulic conductivity of the soils within the screen interval. A total of two (2) slug tests were performed.

Test locations were established in the field by using a 300-foot tape and estimating right angles with reference to existing landmarks; therefore, the locations of our borings should be considered approximate. See the attached Figure for our approximate test locations.

LABORATORY TESTING PROCEDURES:

Laboratory investigative work consisted of physical examination of samples obtained during the soil test boring operation. Soil samples were visually classified in the laboratory in accordance with the Unified Soil Classification System. Evaluation of the samples, in conjunction with penetration resistance, have been used to estimate soil characteristics.

Natural Moisture: Four (4) samples were selected for determination of their natural moisture content. In the laboratory, each sample was weighed, dried, and its moisture content was calculated in accordance with ASTM D-2216-92.

Percent Passing 200 Mesh Sieve: Four (4) samples were selected to determine their percent of materials, by dry weight, finer than the U.S. Number 200 Mesh Sieve. This test was performed in accordance with ASTM D-1140-92.

The laboratory test results are shown on the boring logs at the depth of the tested sample. Abbreviations of laboratory data are shown below:

NM = Natural Moisture Content (%)
-200 = Percent Finer than the U.S. No. 200 Mesh Sieve

SITE AND SOIL CONDITIONS:

Based upon the proposed site plan we were provided, it is our understanding the retention pond will be constructed along the western property line. This area is partially cleared with some brush. The topographic information that we were provided, indicates the existing elevations within the proposed pond range from approximately +31.5 to +32.5 Feet

The logs of our Macro-Core borings are attached. The elevations of our test locations were interpolated from the topographic information we were provided; therefore, the elevations of our test locations should be considered approximate.

At test location P-1, clean to slightly silty and silty sands were typically encountered to a depth of approximately 6.5 feet below the existing ground surface and then slightly clayey to clayey sands and silty sands were encountered throughout the remaining depth of our Macro-Core boring. However; organic soils (sandy peat) were encountered from an approximate depth of 0.5 to 1.0 feet and 11.5 to 12.0 feet below the existing ground surface.

At test location P-2, clean to slightly silty sands were typically encountered to a depth of approximately 3.5 feet below the existing ground surface and then clayey to slightly clayey sands and slightly silty sands were typically encountered throughout the

remaining depth of our Macro-Core boring. However, organic soils (sandy peat and peat sands) were encountered from an approximate depth of 0 to 0.5 feet, 3.5 to 4 feet, and 13.5 to 14.5 feet below the existing ground surface.

On the date of our field testing (April 11, 2008), the groundwater level was measured at the depths shown on the attached logs, which was approximately 1.0 feet below the existing ground surface. Fluctuations in the water table will occur due to seasonal precipitation/evapotranspiration differences, ditch influences, and perched groundwater conditions.

FIELD TESTING FOR STORMWATER DESIGN:

While the Macro-Core borings performed for this project are representative of subsurface soil conditions at their respective locations and for their respective vertical reaches, local variations of the subsurface materials are anticipated and may be encountered. Delineation between soil types shown on the logs is approximate, and soil descriptions represent our interpretation of subsurface conditions at the designated locations on the particular date drilled.

SEASONAL HIGH GROUNDWATER LEVELS:

Based upon the results of our Macro-Core borings and the Soil Survey of Bay County, Florida, it is our opinion that the seasonal high groundwater level is near the existing ground surface. Seasonal high groundwater levels were determined by characteristics such as natural vegetation, soil colors, soil mottles, and depth to the root zone. However, it should be noted that groundwater levels may rise above seasonal high groundwater levels for short periods of time.

HORIZONTAL HYDRAULIC CONDUCTIVITY:

Bouwer and Rice (1976, updated 1989) was used to determine the horizontal hydraulic conductivity of the Surficial Aquifer. It should be noted that a confining layer was not encountered within the depth of our Macro-core borings performed, therefore; for calculation purposes a confining layer is assumed at a depth of (1) foot below the bottom of the piezometer well screen. The effective radial distance over which the head difference is dissipated is calculated to be 2.8 feet.

Tabulated results of our slug tests are shown in Charts I and II and the results of our Bouwer and Rice calculations are shown in Graphs I and II. We should note that the hydraulic conductivities are unfactored and should be used with an appropriate factor of safety. The Table below summarizes the results of horizontal hydraulic conductivity.

Test Location	Test Number	Horizontal Hydraulic Conductivity (ft/day)
P-2	1	0.29
	2	0.27

VERTICAL INFILTRATION RATES:

Typically to determine the vertical infiltration rates, a double-ring infiltrometer test is performed at the proposed pond bottom. However, due to the high groundwater level and the organic soils, a double-ring infiltrometer test could not be performed.

GENERAL COMMENTS:

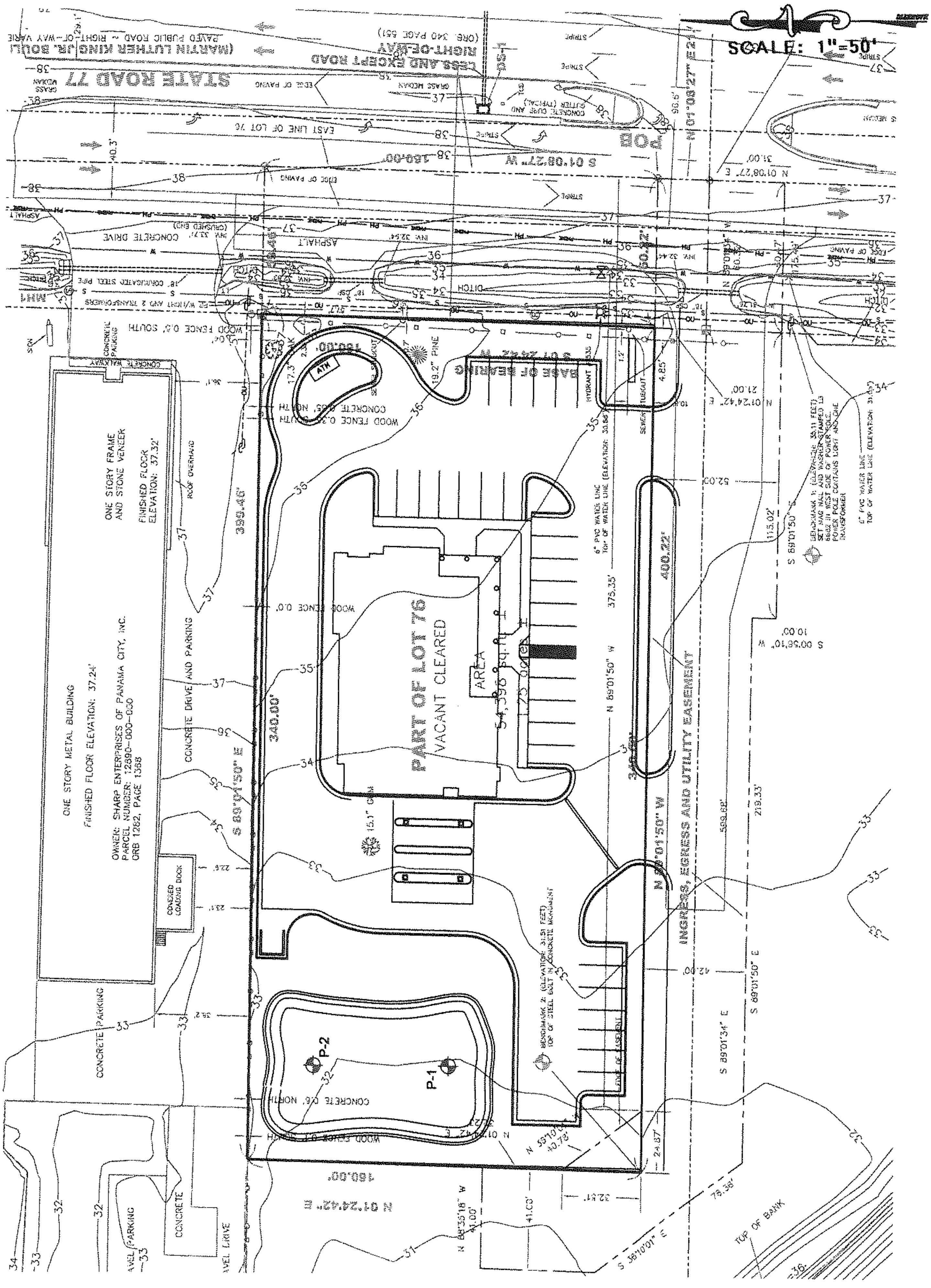
This report has been prepared in order to aid in the evaluation of this property and to assist the engineers in the stormwater design. It is intended for use with regard to the specific project discussed herein, and any substantial changes in, locations or grades shall be brought to our attention immediately so that we may determine how such changes may effect our conclusions and recommendations. We would appreciate the opportunity to review the plans and specifications for the stormwater. Our report does not address environmental issues which may be associated with the subject property.

We appreciate the opportunity to be of service to you on this project. Should additional information be required please advise.

Yours Very Truly,
SOUTHERN EARTH SCIENCE, INC.

Brian W. Bloomfield, P.E. 4/22/08
Eng. Reg. No. 65580
State of Florida

cc: Robert Carroll, P.E.



SCALE: 1"=50'
STATE ROAD 77
(MARTIN LUTHER KING, JR. BOUL
PAVED PUBLIC ROAD ~ RIGHT-OF-WAY VARIE
LESS AND EXCEPT ROAD
RIGHT-OF-WAY
(ORB. 340 PAGE 551)
EAST LINE OF LOT 76
POB
S 01°08'27" W
160.00'
BASE OF BEARING
CONCRETE DRIVE
ASPHALT
DITCH
HYDRANT
SEWER CLEANOUT
390.46'
400.22'
340.00'
375.35'
S 89°01'50" E
N 89°01'50" W
PART OF LOT 76
VACANT CLEARED
AREA
54,396 sq.ft.
1.25 acres
ONE STORY METAL BUILDING
FINISHED FLOOR ELEVATION: 37.24'
OWNER: SHARP ENTERPRISES OF PANAMA CITY, INC.
PARCEL NUMBER: 12890-000-000
ORB 1282, PAGE 1368
ONE STORY FRAME AND STONE VENEER
FINISHED FLOOR ELEVATION: 37.32'
ROOF OVERHANG
CONCRETE DRIVE AND PARKING
COVERED LOADING DOCK
CONCRETE PARKING
WOOD FENCE 0.0'
INGRESS, EGRESS AND UTILITY EASEMENT
6" PVC WATER LINE
P-1
P-2
N 01°24'42" E
TOP OF BANK

FIGURE I

LOG OF BORING P-1

PROJECT: Vanguard Bank
LOCATION: Panama City, Florida
PROJECT NO.: P-08-0198
DATE: 04/11/08

METHOD: Direct-Push
DRILLER: William Watkins
ENGR / GEOL: Brian W. Bloomfield
SURFACE ELEVATION: +32 ft

Elevation / Depth	Soil Symbols Sampler Symbols and Field Test Data	USCS	LOCATION / MATERIAL DESCRIPTION	▲ N Value (blows/ft) 20 40 60 80 / Atterberg Limits Natural Moisture PL MC LL 20 40 60 80	NATURAL MOISTURE (%)	ATTERBERG LIMITS (%) LIQUID LIMIT LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI	PASSING #200 SIEVE (%)
0		SP-SM	Dark Gray & Gray Slightly Silty Fine SAND						
		PT	Dark Gray Sandy PEAT						
		SP-SM	Dark Gray & Dark Brown Slightly Silty Fine SAND						
30		SP-SM	Gray & Brown Slightly Silty Fine SAND						
		SP	Light Gray Fine SAND						
		SP-SM	Dark Gray Slightly Silty Fine SAND						
5		SP-SM	Dark Gray & Gray Slightly Silty Fine SAND						
25		SM	Dark Gray & Dark Brown Silty Fine SAND						
		SC	Gray & Brown Clayey Fine SAND						
10		SC	Gray & Brown Clayey Fine SAND						
		PT	Dark Brown Sandy PEAT with Organics						
20		SP-SC	Gray & Brown Slightly Clayey Fine SAND						
15									
15									

Water Level Est.: ▽ Measured: ▼ Perched: ▽ **Notes:**

Water Observations: The groundwater level was measured at 1.0 feet below the existing ground surface

N - SPT Data (Blows/Ft) P - Pocket Penetrometer (tsf)

Sample Key: SPT Shelby Tube

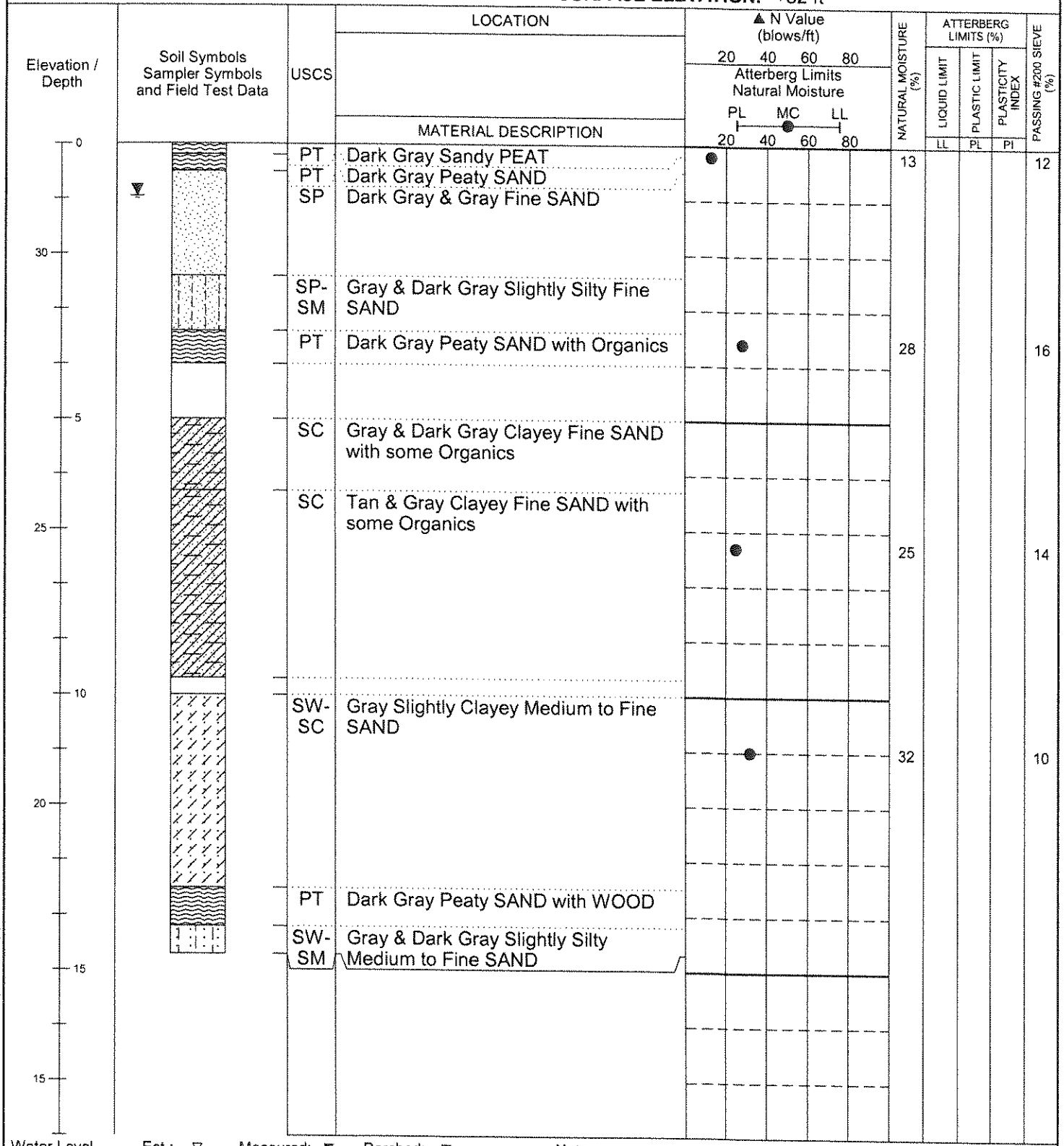
SOUTHERN EARTH SCIENCES, inc.

LOG OF BORING POND LOGS.GPJ SES PC FL.GDT 4/16/08

LOG OF BORING P-2

PROJECT: Vanguard Bank
LOCATION: Panama City, Florida
PROJECT NO.: P-08-0198
DATE: 04/11/08

METHOD: Direct-Push
DRILLER: William Watkins
ENGR / GEOL: Brian W. Bloomfield
SURFACE ELEVATION: +32 ft



Water Level Est.: ▽ Measured: ▼ Perched: ▽ **Notes:**

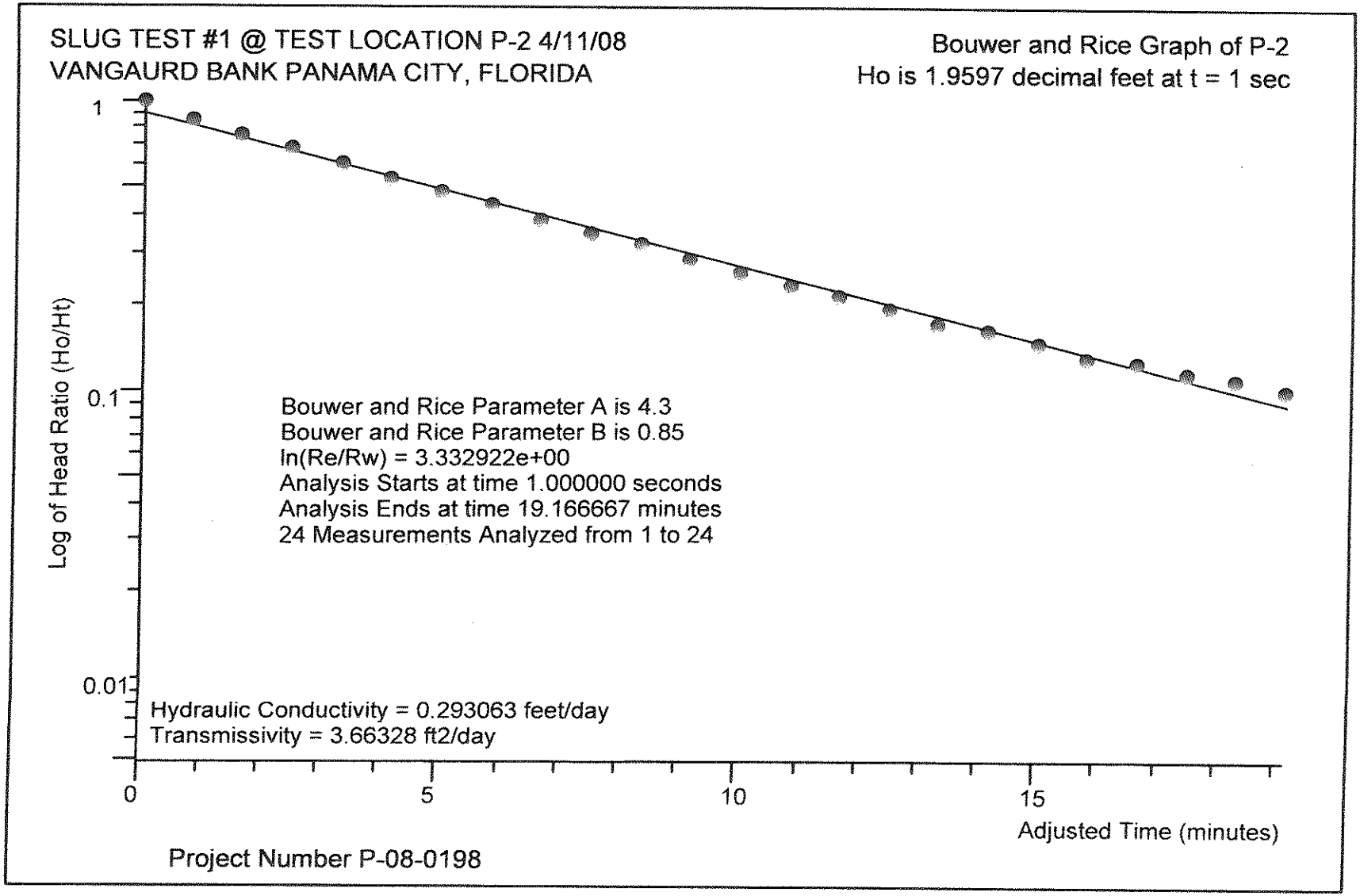
Water Observations: The groundwater level was measured at 1.0 feet below the existing ground surface

N - SPT Data (Blows/Ft) P - Pocket Penetrometer (tsf)

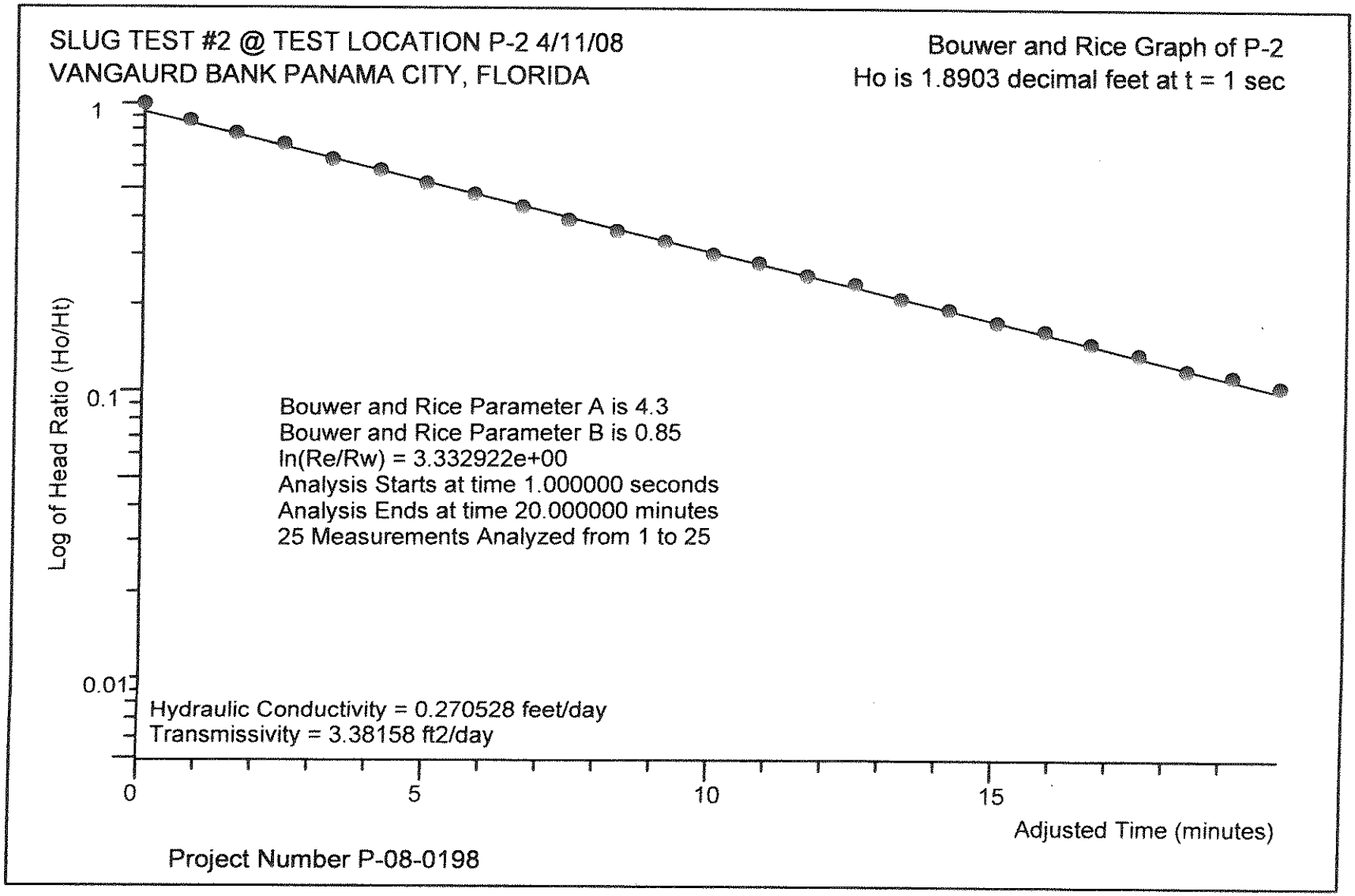
Sample Key: SPT Shelby Tube

SOUTHERN EARTH SCIENCES, inc.

LOG OF BORING POND LOGS.GPJ SES PC FL.GDT 4/22/08


SLUG TEST #1 @ TEST LOCATION P-2 4/11/08
VANGAURD BANK PANAMA CITY, FLORIDA
Bouwer and Rice Graph of P-2
Ho is 1.9597 decimal feet at t = 1 sec
Log of Head Ratio (Ho/Ht)
1
0.1
0.01
Bouwer and Rice Parameter A is 4.3
Bouwer and Rice Parameter B is 0.85
ln(Re/Rw) = 3.332922e+00
Analysis Starts at time 1.000000 seconds
Analysis Ends at time 19.166667 minutes
24 Measurements Analyzed from 1 to 24
Hydraulic Conductivity = 0.293063 feet/day
Transmissivity = 3.66328 ft2/day
0
5
10
15
Adjusted Time (minutes)
Project Number P-08-0198

GRAPH 1


SLUG TEST #2 @ TEST LOCATION P-2 4/11/08
VANGAURD BANK PANAMA CITY, FLORIDA
Bouwer and Rice Graph of P-2
Ho is 1.8903 decimal feet at t = 1 sec
Log of Head Ratio (Ho/Ht)
1
0.1
0.01
Bouwer and Rice Parameter A is 4.3
Bouwer and Rice Parameter B is 0.85
ln(Re/Rw) = 3.332922e+00
Analysis Starts at time 1.000000 seconds
Analysis Ends at time 20.000000 minutes
25 Measurements Analyzed from 1 to 25
Hydraulic Conductivity = 0.270528 feet/day
Transmissivity = 3.38158 ft2/day
0
5
10
15
Adjusted Time (minutes)
Project Number P-08-0198

GRAPH II

CHART I:

SLUG TEST #1 @ TEST LOCATION P-2

Elapsed Time (sec)	Displacement (ft.)	H/H_o
0	0	---
1	1.9597	1.0000
10	1.8608	0.9495
20	1.8014	0.9192
30	1.7519	0.8940
40	1.7024	0.8687
50	1.6628	0.8485
60	1.6232	0.8283
70	1.5836	0.8081
80	1.5539	0.7929
90	1.5143	0.7727
100	1.4747	0.7525
110	1.4352	0.7324
120	1.4055	0.7172
130	1.3758	0.7020
140	1.3461	0.6869
150	1.3164	0.6717
160	1.2768	0.6515
170	1.2471	0.6364
180	1.2273	0.6263
190	1.1976	0.6111
200	1.1679	0.5960
210	1.1481	0.5859
220	1.1184	0.5707
230	1.0986	0.5606
240	1.0689	0.5454
250	1.0392	0.5303
260	1.0195	0.5202
270	0.9997	0.5101
280	0.9799	0.5000
290	0.9502	0.4849
300	0.9304	0.4748
310	0.9205	0.4697
320	0.8908	0.4546
330	0.8809	0.4495
340	0.8512	0.4344
350	0.8413	0.4293
360	0.8215	0.4192
370	0.8017	0.4091
380	0.7918	0.4040
390	0.7621	0.3889
400	0.7522	0.3838
410	0.7324	0.3737
420	0.7126	0.3636
430	0.7126	0.3636
440	0.6928	0.3535
450	0.673	0.3434
460	0.6631	0.3384
470	0.6433	0.3283
480	0.6334	0.3232
490	0.6136	0.3131
500	0.6136	0.3131
510	0.6037	0.3081
520	0.584	0.2980
530	0.5642	0.2879
540	0.5543	0.2828
550	0.5444	0.2778
560	0.5345	0.2727
570	0.5246	0.2677
580	0.5147	0.2626
590	0.5048	0.2576
600	0.4949	0.2525
610	0.485	0.2475
620	0.4751	0.2424
630	0.4652	0.2374
640	0.4553	0.2323
650	0.4454	0.2273
660	0.4355	0.2222
670	0.4256	0.2172
680	0.4256	0.2172
690	0.4157	0.2121
700	0.4058	0.2071
710	0.4058	0.2071
720	0.386	0.1970
730	0.3761	0.1919
740	0.3761	0.1919
750	0.3662	0.1869
760	0.3662	0.1869
770	0.3563	0.1818
780	0.3464	0.1768
790	0.3365	0.1717
800	0.3266	0.1667
810	0.3266	0.1667
820	0.3167	0.1616
830	0.3167	0.1616
840	0.3068	0.1566
850	0.3068	0.1566
860	0.2969	0.1515
870	0.2969	0.1515
880	0.2969	0.1515
890	0.287	0.1465
900	0.2771	0.1414
910	0.2771	0.1414
920	0.2672	0.1363
930	0.2672	0.1363
940	0.2672	0.1363
950	0.2474	0.1262
960	0.2573	0.1313
970	0.2573	0.1313
980	0.2375	0.1212
990	0.2375	0.1212
1000	0.2375	0.1212
1010	0.2276	0.1161
1020	0.2375	0.1212
1030	0.2177	0.1111
1040	0.2177	0.1111
1050	0.2177	0.1111
1060	0.2177	0.1111
1070	0.2177	0.1111
1080	0.2078	0.1060
1090	0.2078	0.1060
1100	0.2078	0.1060
1110	0.2078	0.1060
1120	0.1979	0.1010
1130	0.1979	0.1010
1140	0.1979	0.1010
1150	0.188	0.0959
1160	0.188	0.0959
1170	0.188	0.0959
1180	0.1781	0.0909
1190	0.1781	0.0909
1200	0.1781	0.0909
1210	0.1781	0.0909
1220	0.1781	0.0909
1230	0.1682	0.0858
1240	0.1682	0.0858
1250	0.1682	0.0858

CHART II:

SLUG TEST #2 @ TEST LOCATION P-2

Elapsed Time (sec)	Displacement (ft.)	H/H_o
0	0	---
1	1.8903	1.0000
10	1.8013	0.9529
20	1.7518	0.9267
30	1.7122	0.9058
40	1.6726	0.8848
50	1.6429	0.8691
60	1.6132	0.8534
70	1.5736	0.8325
80	1.534	0.8115
90	1.5043	0.7958
100	1.4746	0.7801
110	1.4449	0.7644
120	1.4152	0.7487
130	1.3855	0.7330
140	1.3658	0.7225
150	1.3361	0.7068
160	1.3064	0.6911
170	1.2767	0.6754
180	1.2569	0.6649
190	1.2272	0.6492
200	1.1975	0.6335
210	1.1777	0.6230
220	1.148	0.6073
230	1.1282	0.5968
240	1.1183	0.5916
250	1.0886	0.5759
260	1.0688	0.5654
270	1.049	0.5549
280	1.0292	0.5445
290	1.0094	0.5340
300	0.9896	0.5235
310	0.9599	0.5078
320	0.95	0.5026
330	0.9303	0.4921
340	0.9105	0.4817
350	0.9006	0.4764
360	0.8808	0.4660
370	0.861	0.4555
380	0.8511	0.4502
390	0.8313	0.4398
400	0.8115	0.4293
410	0.8016	0.4241
420	0.7818	0.4136
430	0.7719	0.4083
440	0.7521	0.3979
450	0.7323	0.3874
460	0.7224	0.3822
470	0.7125	0.3769
480	0.7026	0.3717
490	0.6828	0.3612
500	0.6729	0.3560
510	0.663	0.3507
520	0.6432	0.3403
530	0.6432	0.3403
540	0.6234	0.3298
550	0.6135	0.3246
560	0.6036	0.3193
570	0.5838	0.3088
580	0.5739	0.3036
590	0.564	0.2984
600	0.5541	0.2931
610	0.5442	0.2879
620	0.5343	0.2827
630	0.5244	0.2774
640	0.5145	0.2722
650	0.5145	0.2722
660	0.5047	0.2670
670	0.4849	0.2565
680	0.4849	0.2565
690	0.475	0.2513
700	0.4651	0.2460
710	0.4552	0.2408
720	0.4453	0.2356
730	0.4354	0.2303
740	0.4354	0.2303
750	0.4354	0.2303
760	0.4156	0.2199
770	0.4057	0.2146
780	0.4057	0.2146
790	0.3958	0.2094
800	0.3859	0.2041
810	0.376	0.1989
820	0.3661	0.1937
830	0.3661	0.1937
840	0.3661	0.1937
850	0.3562	0.1884
860	0.3463	0.1832
870	0.3364	0.1780
880	0.3364	0.1780
890	0.3265	0.1727
900	0.3166	0.1675
910	0.3166	0.1675
920	0.3166	0.1675
930	0.2968	0.1570
940	0.2968	0.1570
950	0.2968	0.1570
960	0.2869	0.1518
970	0.277	0.1465
980	0.277	0.1465
990	0.2671	0.1413
1000	0.2671	0.1413
1010	0.2572	0.1361
1020	0.2671	0.1413
1030	0.2572	0.1361
1040	0.2572	0.1361
1050	0.2473	0.1308
1060	0.2374	0.1256
1070	0.2374	0.1256
1080	0.2275	0.1204
1090	0.2275	0.1204
1100	0.2176	0.1151
1110	0.2275	0.1204
1120	0.2176	0.1151
1130	0.2176	0.1151
1140	0.2176	0.1151
1150	0.2077	0.1099
1160	0.1978	0.1046
1170	0.2077	0.1099
1180	0.1978	0.1046
1190	0.1978	0.1046
1200	0.1879	0.0994
1210	0.1879	0.0994
1220	0.1978	0.1046
1230	0.1879	0.0994
1240	0.178	0.0942
1250	0.178	0.0942
1260	0.1681	0.0889
1270	0.1681	0.0889
1280	0.1582	0.0837
1290	0.1681	0.0889
1300	0.1582	0.0837
1310	0.1681	0.0889
1320	0.1582	0.0837
1330	0.1582	0.0837
1340	0.1483	0.0785
1350	0.1483	0.0785
1360	0.1483	0.0785
1370	0.1483	0.0785
1380	0.1384	0.0732
1390	0.1384	0.0732
1400	0.1384	0.0732
1410	0.1285	0.0680
1420	0.1384	0.0732
1430	0.1384	0.0732
1440	0.1285	0.0680
1450	0.1285	0.0680
1460	0.1186	0.0627
1470	0.1285	0.0680
1480	0.1285	0.0680
1490	0.1186	0.0627
1500	0.1186	0.0627
1510	0.1186	0.0627

IMPORTANT

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3475 Lenox Road N.E., Suite 700
Atlanta, GA 30325

April 27, 2008
File No.: P-08-0198

Attention: Mr. Tim Black

Subject: Geotechnical Services for the Proposed Vanguard Bank on State Road 77 in Lynn Haven, Florida

Dear Mr. Black:

Southern Earth Sciences, Inc., has completed the geotechnical services for the proposed Vanguard Bank on State Road 77 in Lynn Haven, Florida. Our services were performed in general accordance with proposal number P-08-03-035, dated March 27, 2008. This report presents the results of our field and laboratory testing and includes recommendations with regard to the design and construction of the foundations and pavement.

FIELD INVESTIGATIVE PROCEDURES:

On April 10 and 11, 2008, personnel with our firm traveled to the project site and completed the field testing for the above referenced project. For shallow foundation evaluation, five (5) cone soundings were performed to a depth of approximately 15 feet below the existing ground surface. The cone penetrometer is track mounted and rather than sampling and testing at five foot intervals, as normally done with a standard penetration borings, the cone penetrometer is an electronic device that provides continuous evaluation of the soils bearing capacity through point and frictional resistances. The cone penetrometer is hydraulically pushed into the soil with point and frictional resistances obtained continuously on a computer printout. This testing equipment provides a more accurate definition of the soil strength characteristics and the changes in stratification. Cone soundings were performed in general accordance with ASTM D5778. To verify soil conditions at our cone soundings, ten (10) Macro-Core samples were taken at various depths ranging from 0 to 5 feet and 5 to 10 feet below the existing ground surface.

For pavement recommendations, four (4) additional Macro-Core borings were performed to a depth of approximately 5 feet below the existing ground surface. The Macro-Core system is a closed-piston sampler, with an inner piston rod and outer drive casing, and is driven to the top of the sampling interval. The inner piston rod is removed and the Macro-Core sampler is driven to collect a soil sample. The soil sample is collected in a clear 5-foot PVC liner and is delivered back to our laboratory for soil classifications and laboratory testing.

Test locations were established in the field by using a 100-foot tape and estimating right angles with reference to existing landmarks; therefore, our test locations should be considered approximate. See the attached Figure for our approximate test locations.

LABORATORY TESTING PROCEDURES:

Laboratory investigative work consisted of physical examination of samples obtained during the soil test boring operation. Soil samples were visually classified in the laboratory in accordance with the Unified Soil Classification System. Evaluation of the samples, in conjunction with penetration resistance, have been used to estimate soil characteristics.

Natural Moisture: Eleven (11) samples were selected for determination of their natural moisture content. In the laboratory, each sample was weighed, dried, and its moisture content was calculated in accordance with ASTM D-2216-92.

Percent Passing 200 Mesh Sieve: Eleven (11) samples were selected to determine their percent of materials, by dry weight, finer than the U.S. Number 200 Mesh Sieve. This test was performed in accordance with ASTM D-1140-92.

The laboratory test results are shown on the boring logs at the depth of the tested sample. Abbreviations of laboratory data are shown below:

NM = Natural Moisture Content (%)
-200 = Percent Finer than the U.S. No. 200 Mesh Sieve

CONE SOUNDINGS:

CPT Log sheets are attached, graphically showing the cone tip resistance, friction ratio, equivalent N-value and interpreted soil type at each sounding location. Soil classifications and data were interpreted from methods recommended by Robertson and Campanella and/or the Sweidh Geotechnical Institute Information Publication No. 15E. Correlations between Cone Resistance values and Standard Penetration Testing "N" values were performed according to the methods developed by Robertson, Campanella and Wightman.

The soil types and stratigraphy shown on the CPT Log sheets are based upon material parameters measured and evaluated as the cone is advanced. The CPT Log sheets were developed for general information only.

SITE AND SOIL CONDITIONS:

The proposed site is located approximately 2000 feet north of the intersection of 23rd Street and State Road 77. The site is bound to the north by an existing one story metal building, to the east by State Road 77, and to the south and west by undeveloped parcels. Based upon the topographic information we were provided, the site slopes downward from east to west with an approximate relief of 6 feet.

The logs of our cone soundings and Macro-Core borings are attached. The elevations of our test locations were interpolated from the topographic information we were provided; therefore, the elevations of our test locations should be considered approximate.

The soils encountered throughout the depth of our Macro-Core borings were sands. The sands varied in color and texture, which ranged from clean to slightly silty sands, slightly clayey to clayey sands, and silty sands. It should be noted that various amounts of organic laden sands were encountered near the surface and at a depth ranging from approximately 7 to 9.5 feet below the existing ground surface. Based upon the results of our cone soundings, the soils were typically loose to medium dense to a depth ranging from 2 feet, at test location C-3, and to 6 feet below the existing ground surface, at test locations C-1 and C-2. Below this depth and throughout the remaining depth of test location C-5 and to a depth of approximately 10 feet below the existing ground surface at our remaining test locations, the soils ranged from very loose to loose. At our remaining test locations, the soils ranged from loose to medium dense throughout the remaining depth of our cone soundings.

On the dates of our field testing (April 10 and 11, 2008), the groundwater level was measured at the depths shown on the attached logs, which ranged from approximately 3.8 to 4.8 feet below the existing ground surface. It should be noted that groundwater levels were recorded approximately 5 minutes after our cone soundings were performed and actual groundwater levels may be significantly higher. Fluctuations in the water table will occur due to seasonal precipitation/evapotranspiration differences; therefore, groundwater levels should be verified prior to foundation construction.

STRUCTURAL INFORMATION:

It is our understanding the proposed bank will be a one-story structure with the approximate dimensions of 70 by 95 feet. Along the west side of the building will be a drive-thru with the approximate dimensions of 30 by 40 feet. We have discussed the project with your Structural Engineer, Mr. Jinyoung Kim, at James Westbrook & Associates. Mr. Kim has indicated the building will have metal studs, with a synthetic stucco exterior, and will have a maximum wall and column loads of 2 kips per lineal foot and 30 kips, respectively.

We have also discussed the project with your Civil Engineer, Mr. Alan Kirkland, P.E., at McNeil Carroll Engineering, Inc. Mr. Kirkland has provided us with the existing and proposed grades. Based upon the grading information provided, the existing elevations ranging from approximately +32.5 to +35.5 Feet and the final floor has been established at elevation +39 Feet. Therefore, filling will be required to achieve the final floor elevation.

For shallow foundation evaluation, we have assumed the bottoms of the footings are two (2) feet below the existing ground surface. Any changes in the loads, locations, or assumed grades shall be brought to our attention immediately so that we may determine how such changes may effect our conclusions and recommendations.

FOUNDATION RECOMMENDATIONS:

Our evaluation of foundation conditions has been based on structural information presented in this report and subsurface data obtained during our investigation. In evaluating soundings, we have used correlations that were previously made between resistances and foundation stabilities observed in soil conditions similar to those encountered at your site.

Based upon the results of our field and laboratory testing, it is our opinion that the proposed building may be supported by a conventionally designed shallow foundation system. We recommend that the footings be proportionally designed for an allowable soil contact pressure of 2000 pounds per square foot, or less. However, if continuous footings are wider than 2 feet or column footings are larger than 4 feet square to resist uplift forces, we should be contacted immediately to re-evaluate settlements. This is due to footings stressing the very loose to loose soils encountered below a depth ranging from 2 to 6 feet below the existing ground surface. We recommend column footings have a minimum width of 30 inches and a minimum width of 18 inches for the continuous footings. We also recommend a minimum embedment depth of 18 inches from the bottom of the footings to the outside finished grade.

Prior to foundation construction we recommend the following site and soil preparations:

1. Clear and grub the surface soils within the building perimeter extending at least five (5) feet beyond the building perimeter to remove all topsoil, organics, and other deleterious materials.

   At test locations C-1, C-3, C-4, and C-5, organic laden soils and organic soils were encountered to a depth ranging from approximately 1.0 to 1.5 feet below the existing ground surface. At these test locations, we recommend excavations extend to the required depths to removal these unsuitable soils. It should be noted that unsuitable soils may extend to greater depths. The excavation should extend in all directions

until suitable soils are encountered or five (5) feet beyond the building perimeter. To ensure that unsuitable soils are removed, we recommend that an Engineering Technician, with our firm, be present during excavations. Dewatering may be required to lower the groundwater level to the bottom of the excavated areas.

2. Prior to the addition of fill soils, we recommend that the existing ground surface be compacted until a density of 95% of the Modified Proctor (ASTM D-1557) maximum dry density is achieved to a depth of twelve (12) inches. We do not recommend a vibratory roller for compaction if there are existing structures within fifty (50) feet of the compaction area. It should also be noted that pumping and yielding of very loose to loose clayey sands may occur. If this occurs, we recommend adding one (1) to two (2) feet of fill soils and then re-compacting the soils until the densities are achieved to the required depths.

3. Fill soils, shall be sands to slightly silty sands containing no more than 12%, by dry weight, finer than the U.S. No. 200 mesh sieve. Fill should be placed in thin level lifts not to exceed twelve (12) inches, loose, and compacted to a density of 95% of the Modified Proctor maximum dry density throughout its full depth.

4. Once the footings have been excavated, re-compact the soils at the bottom of the footing trenches until a density of 95% of the Modified Proctor (ASTM D-1557) maximum dry density is achieved to a depth of twelve (12) inches.

5. Laboratory moisture-density relationships (Proctors) and in-place density tests should be performed to verify compliance with the foregoing compaction recommendations. We recommend one density test per 50 lineal feet of wall footing, one (1) density test per two (2) column footings, and one (1) density test per 1500 square feet of existing soils and for each foot of fill soils.

PAVEMENT RECOMMENDATIONS:

It is our understanding that asphalt-pavement is planned for the proposed parking areas and access drives. The topographic information that we were provided indicates the existing elevations within the proposed parking areas range from approximately +33 to +37 Feet. Based upon the proposed grades, the pavement has been established at elevations ranging from approximately +37 to +38 Feet. Therefore, filling will typically be required to achieve final pavement grades.

Pavement recommendations are based upon a 15-year life. It should be noted that pavement maintenance and rehabilitation, including an overlay, might be required within the life of the pavement. We have assumed automobiles and light trucks as the primary traffic for this pavement. If this assumption is incorrect, we should be notified to provide revisions to our pavement recommendations.

Fill soils, shall be sands to slightly silty sands containing no more than 12%, by dry weight, finer than the U.S. No. 200 mesh sieve and shall be free of organics, rubble, clay balls, and other deleterious materials. Fill soils shall be placed in thin level lifts and compacted to a density of 95% of the Modified Proctor (AASHTO T-180) maximum dry density throughout its full depth.

Subgrade Preparation: Clear and grub the surface soils within the pavement perimeter, extending at least three (3) feet beyond the curbline, to remove all topsoil, organics, and other deleterious materials. At test locations M-1, M-4, C-1, C-3, C-4 and C-5, organic laden soils and organic soils were encountered to a depth ranging from approximately 0.5 to 1.5 feet below the existing ground surface. At these test locations, we recommend excavations extend to the required depths to removal these unsuitable soils. It should be noted that unsuitable soils may extend to greater depths. The excavation should extend in all directions until suitable soils are encountered or three (3) feet beyond the curbline. To ensure that unsuitable soils are removed, we recommend that an Engineering Technician, with our firm, be present during excavations. Dewatering may be required to lower the groundwater level to the bottom of the excavated areas.

Prior to the addition of fill soils and once the unsuitable soils have been removed, we recommend that the existing ground surface be compacted until a density of 95% of the Modified Proctor (ASTM D-1557) maximum dry density is achieved to a depth of twelve (12) inches below compacted grades. We do not recommend a vibratory roller for compaction if there are existing structures within fifty (50) feet of the compaction area. It should also be noted that pumping and yielding of very loose to loose clayey sands may occur. If this occurs, we recommend adding one (1) to two (2) feet of fill soils and then re-compacting the soils until the densities are achieved to the required depths.

Fill soils described above should be placed to achieve final pavement grades. We also recommend that the top twelve (12) inches of subgrade soils be stabilized to achieve a minimum LBR value of 40%. However, we do not recommend sand-clay for stabilization.

Base: We recommend either a limerock or graded aggregate base with a minimum thickness of six (6) inches. Crushed concrete may be used if it meets the F.D.O.T. specifications requirements for a graded aggregate base.

Wearing Surface: We recommend a SP-9.5 (Traffic Level A) asphaltic concrete wearing surface having a minimum thickness of 1.5 inches.

All materials and methods of placement shall be in accordance with applicable sections of the Florida Department of Transportation's "Standard Specifications for Road and Bridge Construction", (Latest Edition).

TESTING:

The effectiveness of the pavement and foundation will depend significantly on the proper preparation of the soils, as indicated previously. Therefore, we recommend that the owner employ a qualified engineering testing laboratory to perform construction testing services. The laboratory should be invited to the pre-construction conference to discuss the project with all interested parties so that the project may be completed expeditiously and to the intent of our geotechnical report. We would be pleased to review the plans and specifications as they relate to the soil preparation and provide a fee proposal for construction testing.

GENERAL COMMENTS:

This report has been prepared in order to aid in the evaluation of this property and to assist the engineers in foundation and pavement design. It is intended for use with regard to the specific project discussed herein, and any changes in the loads, locations, or assumed grades shall be brought to our attention immediately so that we may determine how such changes may effect our conclusions and recommendations. We would appreciate the opportunity to review the plans and specifications to verify that our conclusions and recommendations are interpreted correctly. Our report does not address environmental issues which may be associated with the subject property.

While the cone soundings and hand auger borings performed for this project are representative of subsurface soil conditions at their respective locations and for their respective vertical reaches, local variations of the subsurface materials are anticipated and may be encountered. Delineation between soil types shown on the boring logs is approximate, and soil descriptions represent our interpretation of subsurface conditions at the designated boring location on the particular date drilled.

We appreciate the opportunity to be of service to you on this project. Should additional information be required please advise.

Yours Very Truly,

SOUTHERN EARTH SCIENCE, INC.

Brian W. Bloomfield, P.E. 4/24/08
Eng. Reg. No. 65580
State of Florida

cc: Alan Kirkland, P.E. - Jinyoung Kim

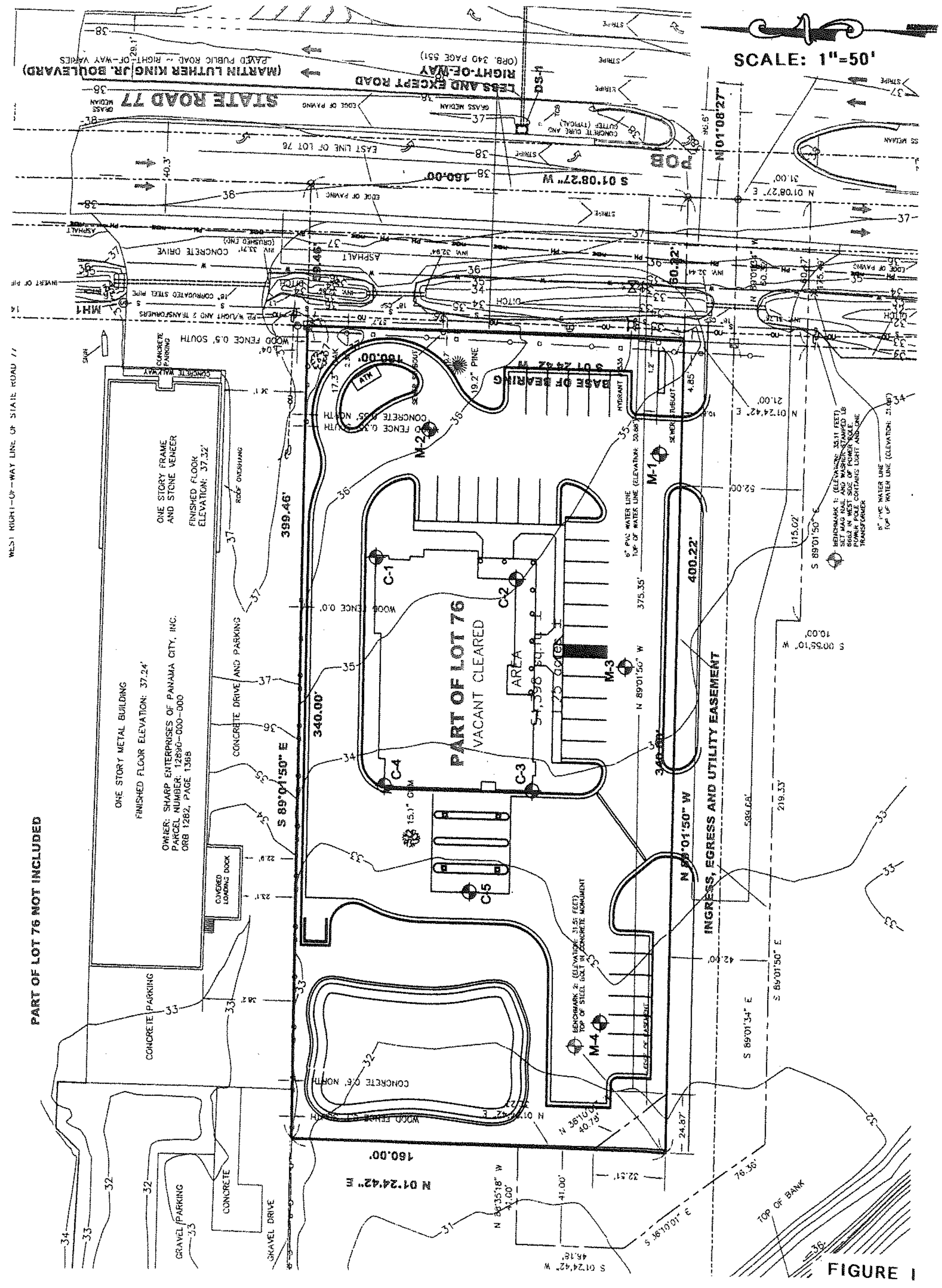
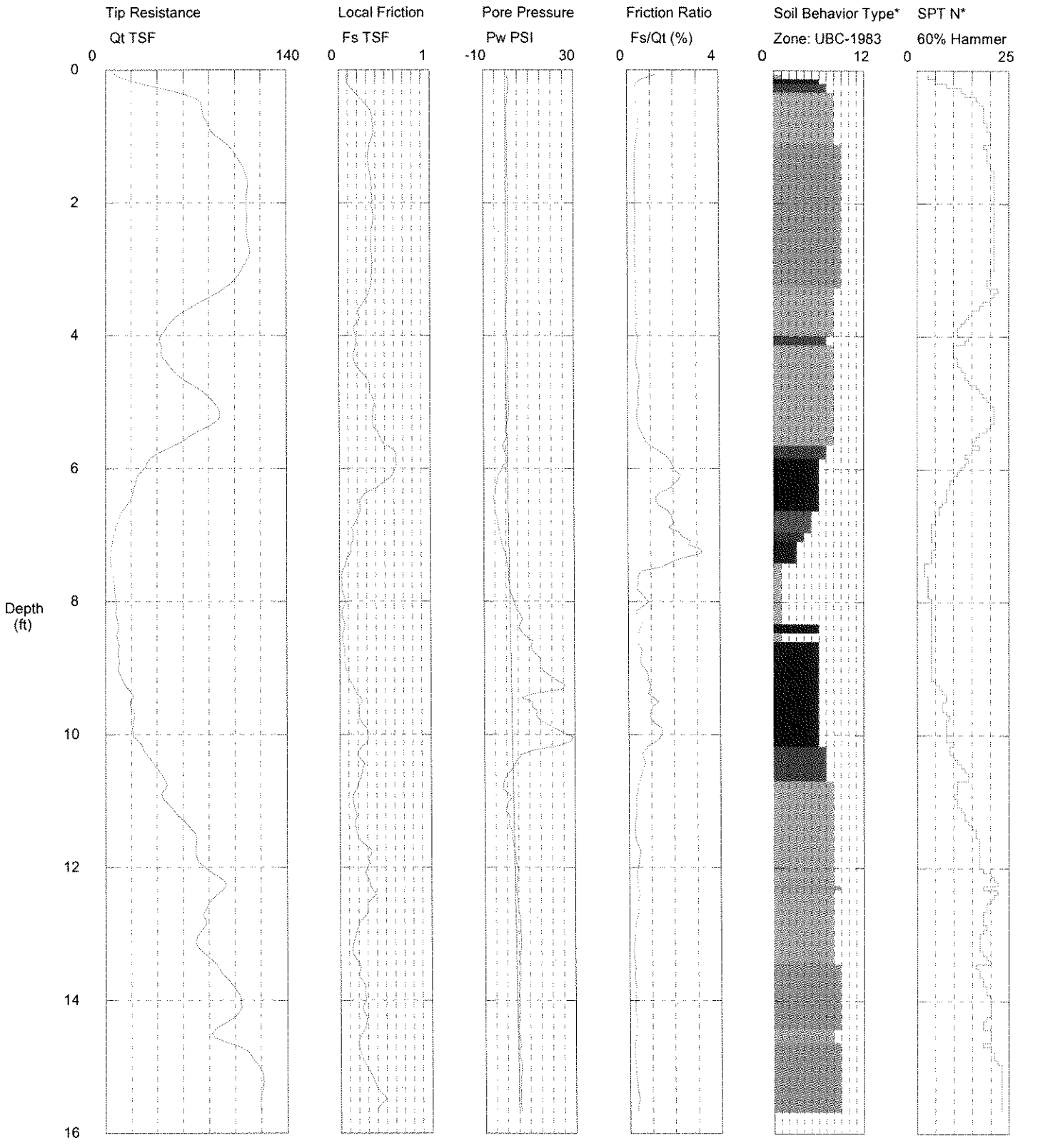

SCALE: 1"=50'
STATE ROAD 77
(MARTIN LUTHER KING JR. BOULEVARD)
PAVED PUBLIC ROAD ~ RIGHT-OF-WAY VARIES
LESS AND EXCEPT ROAD RIGHT-OF-WAY
(ORB. 340 PAGE 551)
EAST LINE OF LOT 76
POB
S 01°08'27" W
160.00'
N 01°08'27" E
CONCRETE DRIVE
ASPHALT
DITCH
18" CORRUGATED STEEL PIPE
MH1
WOOD FENCE 0.5' SOUTH
BASE OF BEARING
S 01°24'42" W
HYDRANT
SEWER STUBOUT
ATM
19.2" PINE
CONCRETE 0.5' NORTH
M-1
M-2
M-3
M-4
C-1
C-2
C-3
C-4
C-5
WEST RIGHT-OF-WAY LINE OF STATE ROAD 77
ONE STORY FRAME AND STONE VENEER
FINISHED FLOOR ELEVATION: 37.32'
ROOF OVERHANG
399.46'
WOOD FENCE 0.0'
PART OF LOT 76
VACANT CLEARED
375.35'
400.22'
N 89°01'50" W
340.00'
S 89°01'50" E
ONE STORY METAL BUILDING
FINISHED FLOOR ELEVATION: 37.24'
OWNER: SHARP ENTERPRISES OF PANAMA CITY, INC.
PARCEL NUMBER: 12890-000-000
ORB 1282, PAGE 1368
CONCRETE DRIVE AND PARKING
COVERED LOADING DOCK
15.1" GUM
INGRESS, EGRESS AND UTILITY EASEMENT
PART OF LOT 76 NOT INCLUDED
CONCRETE PARKING
BENCHMARK 2: (ELEVATION: 31.51 FEET) TOP OF STEEL BOLT IN CONCRETE MONUMENT
EDGE OF EASEMENT
CONCRETE 0.6' NORTH
WOOD FENCE
N 36°10'01" E
40.78'
24.87'
160.00'
N 01°24'42" E
S 89°01'34" E
S 89°01'50" E
219.33'
599.68'
115.02'
S 00°55'10" W
GRAVEL PARKING
GRAVEL DRIVE
CONCRETE
S 36°10'01" E
76.36'
TOP OF BANK
S 01°24'42" W
BENCHMARK 1: (ELEVATION: 35.11 FEET)
8" PVC WATER LINE

FIGURE 1

SOUTHERN EARTH SCIENCES, INC.

Operator: WATKINS
Sounding: C-1
Cone Used: DSG1034
Groundwater Level: 4.3 feet

CPT Date/Time: 4/10/2008 2:52:10 PM
Location: Vanguard Bank, Panama City, FL
Job Number: P-08-0198
Elevation: +35.5 Feet



Maximum Depth = 15.68 feet

Depth Increment = 0.066 feet

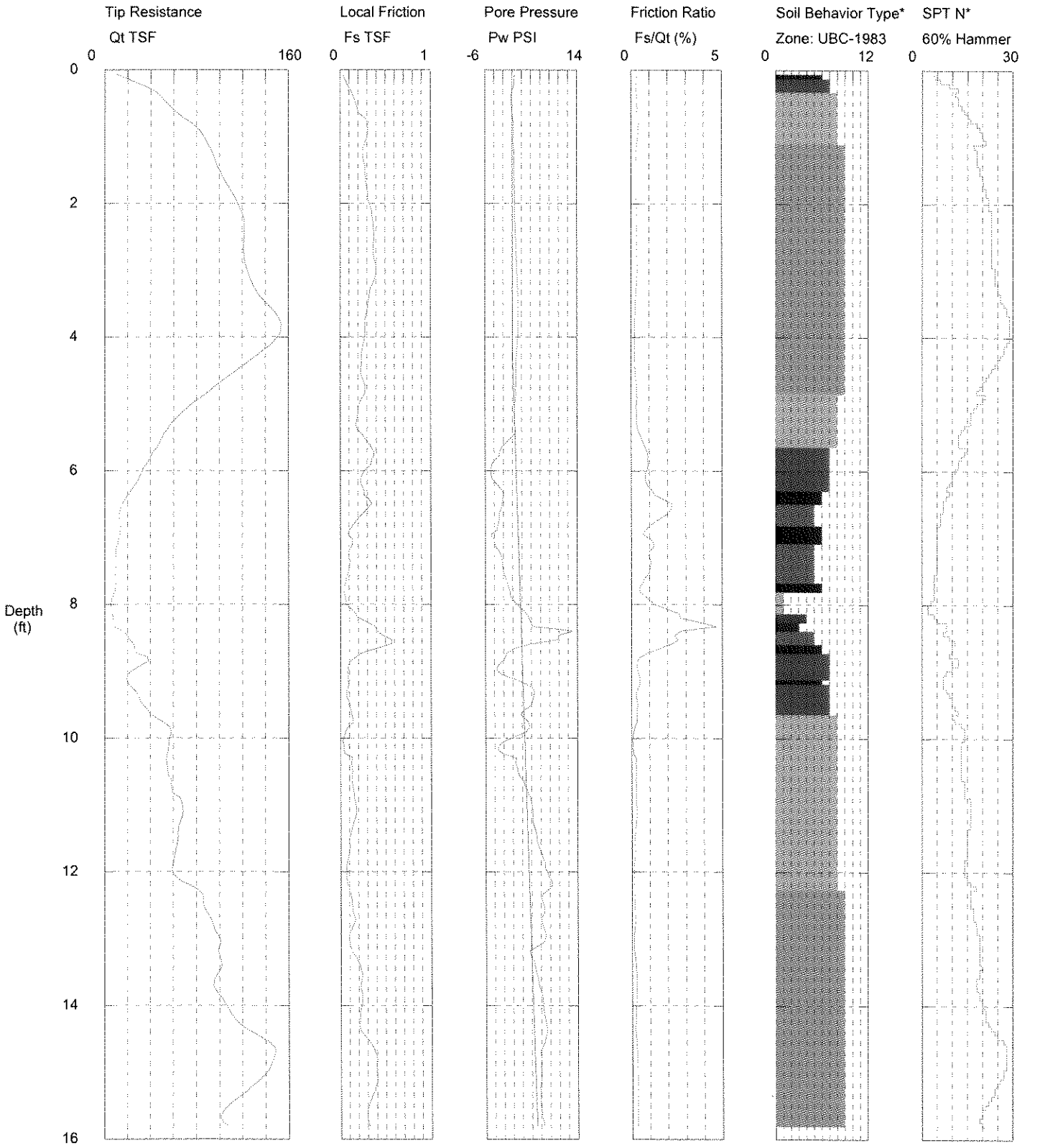
1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

SOUTHERN EARTH SCIENCES, INC.

Operator: WATKINS
Sounding: C-2
Cone Used: DSG1034
Groundwater Level: 4.2 feet

CPT Date/Time: 4/10/2008 3:04:51 PM
Location: Vanguard Bank, Panama City, FL
Job Number: P-08-0198
Elevation: +35.0 Feet



Maximum Depth = 15.81 feet

Depth Increment = 0.066 feet

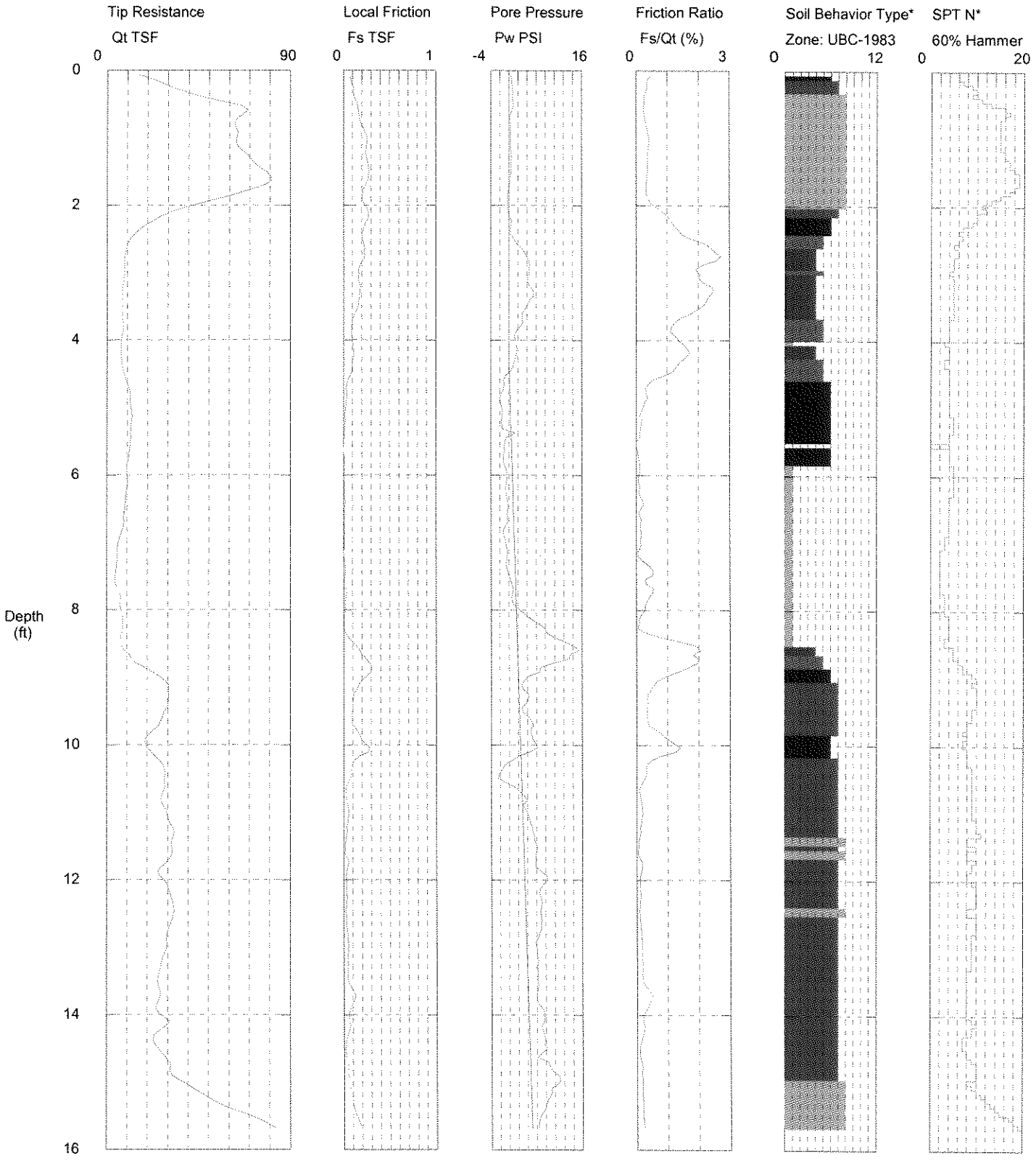
1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

SOUTHERN EARTH SCIENCES, INC.

Operator: WATKINS
Sounding: C-3
Cone Used: DSG1034
Groundwater Level: 4.3 feet

CPT Date/Time: 4/10/2008 2:27:41 PM
Location: Vanguard Bank, Panama City, FL
Job Number: P-08-0198
Elevation: +33.8 Feet



Maximum Depth = 15.68 feet

Depth Increment = 0.066 feet

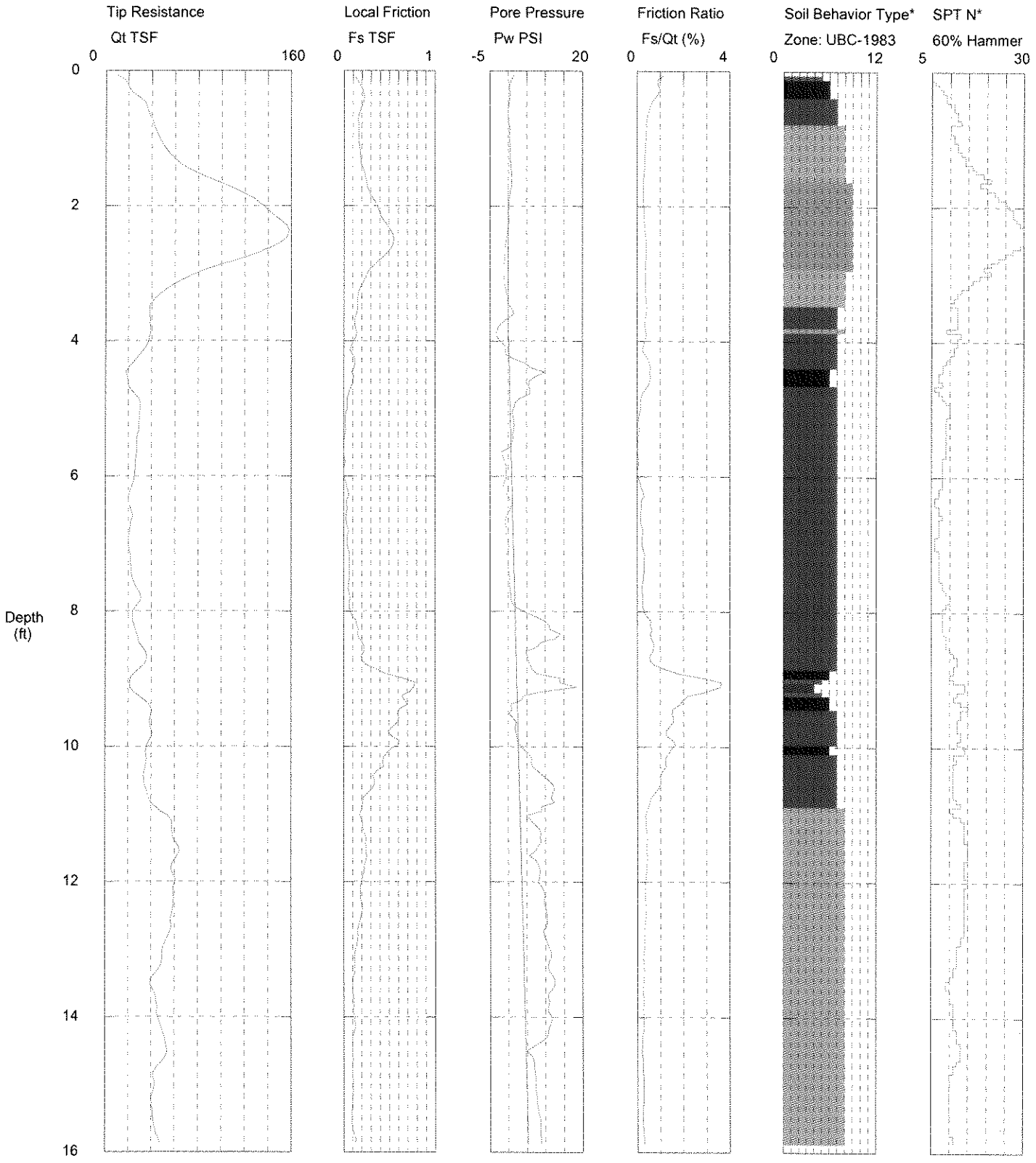
1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

SOUTHERN EARTH SCIENCES, INC.

Operator: WATKINS
Sounding: C-4
Cone Used: DSG1034
Groundwater Level: 3.8 feet

CPT Date/Time: 4/10/2008 2:39:41 PM
Location: Vanguard Bank, Panama City, FL
Job Number: P-08-0198
Elevation: +33.7 Feet



Maximum Depth = 15.88 feet

Depth Increment = 0.066 feet

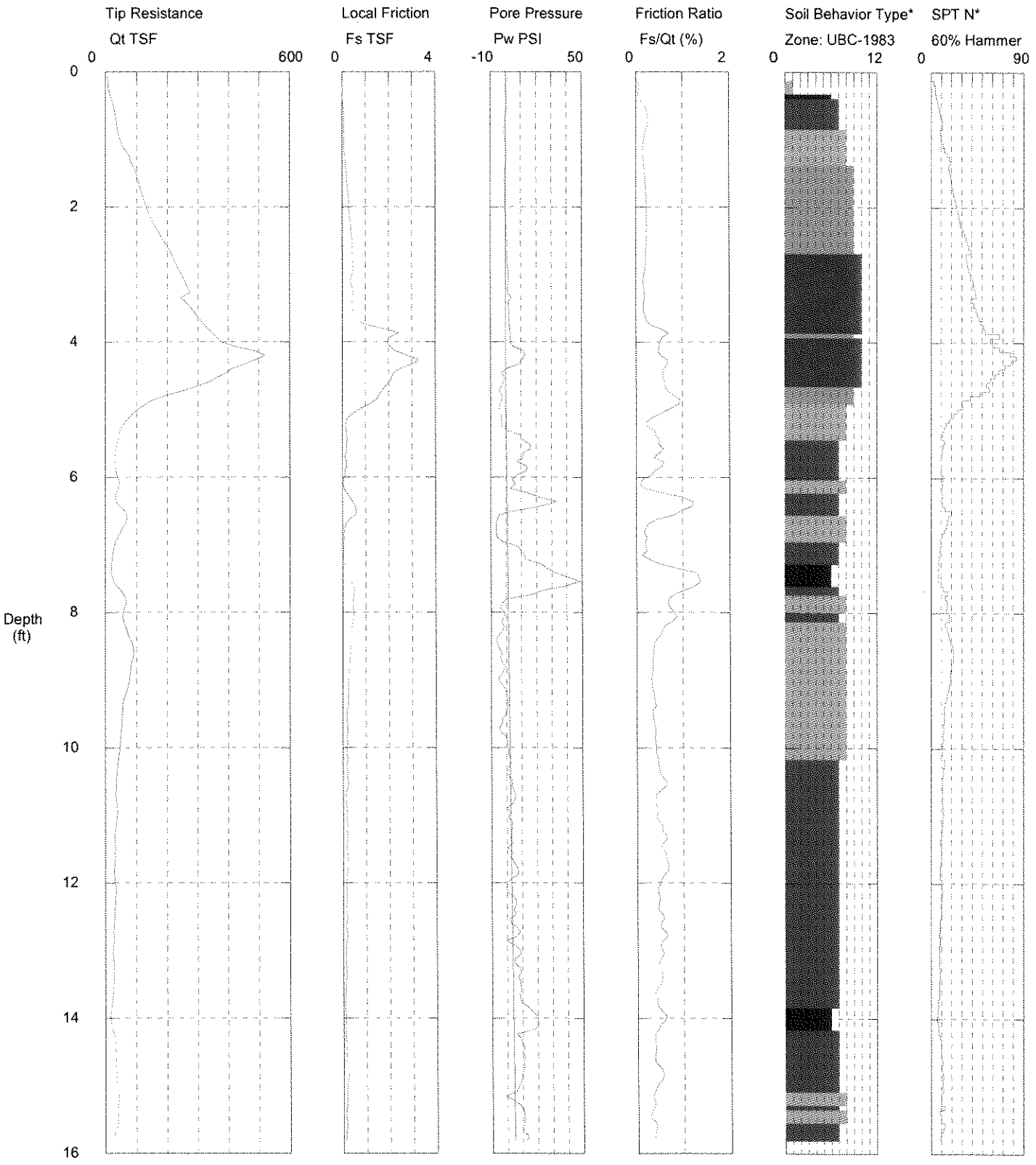
1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

SOUTHERN EARTH SCIENCES, INC.

Operator: WATKINS
Sounding: C-5
Cone Used: DSG1034
Groundwater Level: 4.8 feet

CPT Date/Time: 4/10/2008 2:15:08 PM
Location: Vanguard Bank, Panama City, FL
Job Number: P-08-0198
Elevation: +32.8 Feet



Maximum Depth = 15.81 feet

Depth Increment = 0.066 feet

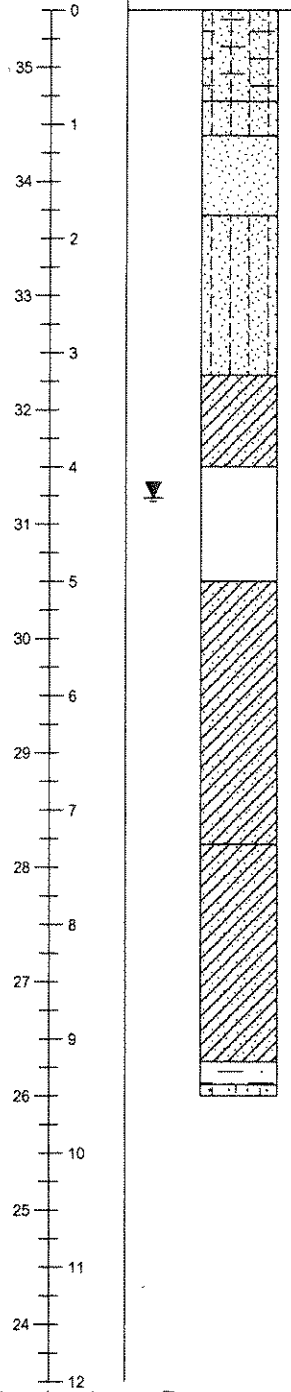
1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

LOG OF BORING C-1

PROJECT: Vanguard Bank
LOCATION: Panama City, Florida
PROJECT NO.: P-08-0198
DATE: 04/11/08

METHOD: Direct-Push
DRILLER: William Watkins
ENGR / GEOL: Brian W. Bloomfield
SURFACE ELEVATION: +35.5 ft



Elevation / Depth	USCS	LOCATION / MATERIAL DESCRIPTION	N Value (blows/ft) 20 40 60 80 / Atterberg Limits Natural Moisture PL MC LL 20 40 60 80	NATURAL MOISTURE (%)	ATTERBERG LIMITS (%) LIQUID LIMIT LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI	PASSING #200 SIEVE (%)
0 / 35	SP-SM	Gray Slightly Silty Fine SAND with Organics						
1 / 34	SP-SM	Dark Brown Slightly Silty Fine SAND						
	SP	Brown & Tan Fine SAND						
2 / 33	SP-SM	Light Gray Slightly Silty Fine SAND						
3 / 32	SC	Gray Clayey Fine SAND						
4 / 31								
5 / 30	SC	Gray Clayey Fine SAND						
6 / 29				24				14
7 / 28	SC	Gray & Dark Gray Clayey Fine SAND						
8 / 27								
9 / 26		WOOD						
10 / 25	SW-SM	Dark Gray Slightly Silty Medium to Fine SAND						
11 / 24								
12								

Water Level Est.: ▽ Measured: ▼ Perched: ▽ **Notes:**

Water Observations: The groundwater level was measured at 4.3 feet below the existing ground surface

N - SPT Data (Blows/Ft) P - Pocket Penetrometer (tsf)

Sample Key: ▨ SPT ■ Shelby Tube

SOUTHERN EARTH SCIENCES, inc.

LOG OF BORING MC LOGS.GPJ SES PC FL.GDT 4/27/08

LOG OF BORING C-2

PROJECT: Vanguard Bank
LOCATION: Panama City, Florida
PROJECT NO.: P-08-0198
DATE: 04/11/08

METHOD: Direct-Push
DRILLER: William Watkins
ENGR / GEOL: Brian W. Bloomfield
SURFACE ELEVATION: +35 ft

Elevation / Depth	USCS	LOCATION / MATERIAL DESCRIPTION	N Value (blows/ft) 20 40 60 80 / Atterberg Limits Natural Moisture PL MC LL 20 40 60 80	NATURAL MOISTURE (%)	ATTERBERG LIMITS (%) LIQUID LIMIT LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI	PASSING #200 SIEVE (%)
35 — 0	SP-SM	Gray & Brown Slightly Silty Fine SAND						
34 — 1	SM	Tan & Brown Silty Fine SAND		11				13
33 — 2								
32 — 3	SP-SM	Light Gray Slightly Silty Fine SAND						
	SC	Gray Clayey Fine SAND						
31 — 4								
30 — 5	SC	Gray Clayey Fine SAND						
29 — 6								
28 — 7								
	SC	Dark Gray & Gray Clayey Fine SAND		28				14
27 — 8								
26 — 9								
	SM	Dark Gray Silty Fine SAND with Organics						
25 — 10								
24 — 11								
23 — 12								

Water Level Est.: ▽ Measured: ▼ Perched: ▼ **Notes:**

Water Observations: The groundwater level was measured at 4.2 feet below the existing ground surface

N - SPT Data (Blows/Ft) P - Pocket Penetrometer (tsf)

Sample Key: SPT Shelby Tube

SOUTHERN EARTH SCIENCES, inc.

LOG OF BORING MC LOGS.GPJ SES PC FL.GDT 4/27/08

LOG OF BORING C-3

PROJECT: Vanguard Bank
LOCATION: Panama City, Florida
PROJECT NO.: P-08-0198
DATE: 04/11/08

METHOD: Direct-Push
DRILLER: William Watkins
ENGR / GEOL: Brian W. Bloomfield
SURFACE ELEVATION: +33.8 ft

Elevation / Depth	Soil Symbols Sampler Symbols and Field Test Data	USCS	LOCATION / MATERIAL DESCRIPTION	▲ N Value (blows/ft) 20 40 60 80 / Atterberg Limits Natural Moisture PL MC LL 20 40 60 80	NATURAL MOISTURE (%)	ATTERBERG LIMITS (%) LIQUID LIMIT LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI	PASSING #200 SIEVE (%)
33 / 0		SP-SM	Gray Slightly Silty Fine SAND with Organics						
33 / 1		SP-SM	Dark Brown Slightly Silty Fine SAND						
32 / 2		SC	Gray & Brown Clayey Fine SAND						
31 / 3		SC	Gray Clayey Fine SAND		23				16
30 / 4	▼								
29 / 5		SC	Gray Clayey Fine SAND						
28 / 6		SC	Gray & Dark Gray Clayey Fine SAND		13				24
27 / 7									
26 / 8		SP-SM	Dark Gray Silty Fine SAND with Organics		39				9
25 / 9		SP-SM	Gray & Dark Gray Slightly Silty Fine SAND						
24 / 10									
23 / 11									
22 / 12									

Water Level Est.: ▽ Measured: ▼ Perched: ▼ **Notes:**

Water Observations: The groundwater level was measured at 4.3 feet below the existing ground surface

N - SPT Data (Blows/Ft) P - Pocket Penetrometer (tsf)

Sample Key: SPT Shelby Tube

SOUTHERN EARTH SCIENCES, inc.

LOG OF BORING MC LOGS.GPJ SES PC FL.GDT 4/27/08

LOG OF BORING C-4

PROJECT: Vanguard Bank
LOCATION: Panama City, Florida
PROJECT NO.: P-08-0198
DATE: 04/11/08

METHOD: Direct-Push
DRILLER: William Watkins
ENGR / GEOL: Brian W. Bloomfield
SURFACE ELEVATION: +33.7 ft

Elevation / Depth	Soil Symbols Sampler Symbols and Field Test Data	USCS	LOCATION / MATERIAL DESCRIPTION	▲ N Value (blows/ft) 20 40 60 80 / Atterberg Limits Natural Moisture PL MC LL 20 40 60 80	NATURAL MOISTURE (%)	ATTERBERG LIMITS (%) LIQUID LIMIT LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI	PASSING #200 SIEVE (%)
33 / 0		SM	Dark Gray Silty Fine SAND with Organics						
		SP-SM	Gray Slightly Silty Fine SAND						
32 / 1		SP-SM	Dark Gray & Dark Brown Slightly Silty Fine SAND						
		SP-SM	Gray & Brown Slightly Silty Fine SAND						
31 / 2		SP-SC	Gray Slightly Clayey Fine SAND						
		SC	Gray Clayey Fine SAND						
30 / 3	▼								
29 / 4									
28 / 5		SC	Gray & Dark Gray Clayey Fine SAND						
27 / 6									
26 / 7									
25 / 8									
24 / 9									
23 / 10									
22 / 11									
12									

Water Level Est.: ▽ Measured: ▼ Perched: ▽ **Notes:**

Water Observations: The groundwater level was measured at 3.8 feet below the existing ground surface

N - SPT Data (Blows/Ft) P - Pocket Penetrometer (tsf)

Sample Key: SPT Shelby Tube

SOUTHERN EARTH SCIENCES, inc.

LOG OF BORING MC LOGS.GPJ SES PC FL.GDT 4/27/08

LOG OF BORING C-5

PROJECT: Vanguard Bank
LOCATION: Panama City, Florida
PROJECT NO.: P-08-0198
DATE: 04/11/08

METHOD: Direct-Push
DRILLER: William Watkins
ENGR / GEOL: Brian W. Bloomfield
SURFACE ELEVATION: +32.8 ft

Elevation / Depth	Soil Symbols Sampler Symbols and Field Test Data	USCS	LOCATION / MATERIAL DESCRIPTION	▲ N Value (blows/ft) 20 40 60 80 / Atterberg Limits Natural Moisture PL MC LL 20 40 60 80	NATURAL MOISTURE (%)	ATTERBERG LIMITS (%) LIQUID LIMIT LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI	PASSING #200 SIEVE (%)
0 / 32		SP-SM	Gray Slightly Silty Fine SAND with little Organics						
1 / 31		PT	Dark Gray Peaty SAND						
2 / 30		SP-SM	Gray & Brown Slightly Silty Fine SAND						
3 / 29		SP-SM	Light Gray Slightly Silty Fine SAND						
4 / 28	▼	SC	Gray Clayey Fine SAND						
5 / 27		SM	Dark Gray Silty Fine SAND	●	18				12
6 / 26		SC	Dark Gray Clayey Fine SAND						
7 / 25		SM	Dark Gray Silty Fine SAND	●	29				18
8 / 24		SM	Dark Gray & Brown Silty Fine SAND						
9 / 23		SC	Brown & Gray Clayey Fine SAND						
10 / 22									
11 / 21									
12									

Water Level Est.: ▽ Measured: ▼ Perched: ▽ **Notes:**

Water Observations: The groundwater level was measured at 4.8 feet below the existing ground surface

N - SPT Data (Blows/Ft) P - Pocket Penetrometer (tsf)

Sample Key: SPT Shelby Tube

SOUTHERN EARTH SCIENCES, inc.

LOG OF BORING MC LOGS.GPJ SES PC FL.GDT 4/27/08

LOG OF BORING M-1

PROJECT: Vanguard Bank
LOCATION: Panama City, Florida
PROJECT NO.: P-08-0198
DATE: 04/11/08

METHOD: Direct-Push
DRILLER: William Watkins
ENGR / GEOL: Brian W. Bloomfield
SURFACE ELEVATION: +34.8 ft

Elevation / Depth	Soil Symbols Sampler Symbols and Field Test Data	USCS	LOCATION / MATERIAL DESCRIPTION	▲ N Value (blows/ft) 20 40 60 80 / Atterberg Limits Natural Moisture PL MC LL 20 40 60 80	NATURAL MOISTURE (%)	ATTERBERG LIMITS (%) LIQUID LIMIT LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI	PASSING #200 SIEVE (%)
34 / 0		SP-SM	Brown & Gray Slightly Silty Fine SAND with Organics						
33 / 1		SP-SM	Brown & Tan Slightly Silty Fine SAND						
32 / 2									
31 / 3		SP-SM	Light Gray & Tan Slightly Silty Fine SAND						
30 / 4		SC	Gray & Brown Clayey Fine SAND						
29 / 5									
28 / 6									
27 / 7									
8									

Water Level Est.: ▽ Measured: ▼ Perched: ▼ **Notes:**

Water Observations: The groundwater level was not recorded

N - SPT Data (Blows/Ft) P - Pocket Penetrometer (tsf)

Sample Key: SPT Shelby Tube

SOUTHERN EARTH SCIENCES, inc.

LOG OF BORING MC LOGS.GPJ SES PC FL.GDT 4/27/08

LOG OF BORING M-2

PROJECT: Vanguard Bank
LOCATION: Panama City, Florida
PROJECT NO.: P-08-0198
DATE: 04/11/08

METHOD: Direct-Push
DRILLER: William Watkins
ENGR / GEOL: Brian W. Bloomfield
SURFACE ELEVATION: +36 ft

Elevation / Depth	Soil Symbols Sampler Symbols and Field Test Data	USCS	LOCATION / MATERIAL DESCRIPTION	▲ N Value (blows/ft) 20 40 60 80 / Atterberg Limits Natural Moisture PL MC LL 20 40 60 80	NATURAL MOISTURE (%)	ATTERBERG LIMITS (%) LIQUID LIMIT LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI	PASSING #200 SIEVE (%)
36 — 0		SP-SM	Brown Slightly Silty Fine SAND						
		SP-SM	Tan & Brown Slightly Silty Fine SAND						
35 — 1									
34 — 2		SC	Gray & Brown Clayey Fine SAND	●	13				14
33 — 3									
32 — 4		SP-SM	Light Gray Slightly Silty Fine SAND						
		SC	Gray Clayey Fine SAND						
31 — 5									
30 — 6									
29 — 7									
28 — 8									

Water Level Est.: ▽ Measured: ▼ Perched: ▽ **Notes:**

Water Observations: The groundwater level was not recorded

N - SPT Data (Blows/Ft) P - Pocket Penetrometer (tsf)

Sample Key: ◪ SPT ■ Shelby Tube

SOUTHERN EARTH SCIENCES, inc.

LOG OF BORING MC LOGS.GPJ SES PC FL.GDT 4/27/08

LOG OF BORING M-3

PROJECT: Vanguard Bank
LOCATION: Panama City, Florida
PROJECT NO.: P-08-0198
DATE: 04/11/08

METHOD: Direct-Push
DRILLER: William Watkins
ENGR / GEOL: Brian W. Bloomfield
SURFACE ELEVATION: +34.4 ft

Elevation / Depth	Soil Symbols Sampler Symbols and Field Test Data	USCS	LOCATION / MATERIAL DESCRIPTION	▲ N Value (blows/ft) 20 40 60 80 / Atterberg Limits Natural Moisture PL MC LL 20 40 60 80	NATURAL MOISTURE (%)	ATTERBERG LIMITS (%) LIQUID LIMIT LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI	PASSING #200 SIEVE (%)
0 / 34		SP-SM	Gray Slightly Silty Fine SAND						
1 / 33		SP-SM	Dark Brown Slightly Silty Fine SAND						
2 / 32		SP-SM	Tan & Brown Slightly Silty Fine SAND						
3 / 31		SC	Gray Clayey Fine SAND		16				13
4 / 30									
5 / 29									
6 / 28									
7 / 27									
8									

Water Level Est.: ▽ Measured: ▼ Perched: ▼ **Notes:**

Water Observations: The groundwater level was not recorded

N - SPT Data (Blows/Ft) P - Pocket Penetrometer (tsf)

Sample Key: ☐ SPT ■ Shelby Tube

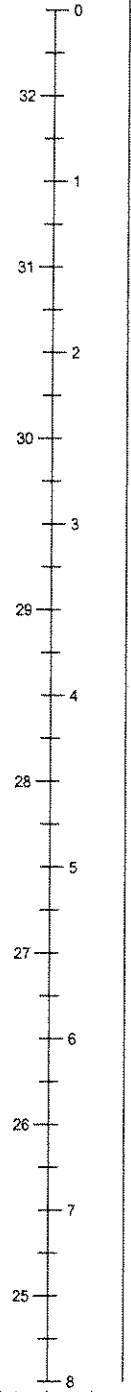
SOUTHERN EARTH SCIENCES, inc.

LOG OF BORING MC LOGS.GPJ SES PC FL.GDT 4/27/08

LOG OF BORING M-4

PROJECT: Vanguard Bank
LOCATION: Panama City, Florida
PROJECT NO.: P-08-0198
DATE: 04/11/08

METHOD: Direct-Push
DRILLER: William Watkins
ENGR / GEOL: Brian W. Bloomfield
SURFACE ELEVATION: +32.5 ft



USCS	MATERIAL DESCRIPTION	N Value (blows/ft) 20 40 60 80 / Atterberg Limits Natural Moisture PL MC LL 20 40 60 80	NATURAL MOISTURE (%)	ATTERBERG LIMITS (%) LIQUID LIMIT LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI	PASSING #200 SIEVE (%)
SM	Dark Gray Silty Fine SAND						
PT	Dark Gray Peaty SAND						
SP-SM	Dark Gray & Gray Slightly Silty Fine SAND						
SC	Gray & Dark Gray Clayey Fine SAND		37				22

Water Level Est.: ▽ Measured: ▼ Perched: ▽

Notes:

Water Observations: The groundwater level was not recorded

N - SPT Data (Blows/Ft) P - Pocket Penetrometer (tsf)

Sample Key: SPT Shelby Tube

SOUTHERN EARTH SCIENCES, inc.

LOG OF BORING MC LOGS.GPJ SES PC FL.GDT 4/27/08

PART 1 GENERAL

1.01 RELATED DOCUMENTS:

Drawings and General Provisions of the Contract including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 SCOPE:

This section includes labor, materials and equipment necessary for excavation, backfilling and grading. It is the responsibility of this Contractor to bring final grades to those required by the final documents regardless of conditions.

1.03 TESTS:

A. Compaction tests shall be made by an approved, independent testing laboratory paid for by the Contractor. The structure is designed for allowable soil loadings of 2500 PSF. Compaction tests shall be taken to verify the allowable bearing capacity of each isolated footing and every 50 feet of continuous footings and every 2,000 sq ft of fill in each foot of thickness of fill. A qualified soils engineer paid by the Contractor shall inspect and test each footing area for acceptance prior to pouring any concrete.

B. Test Log: The Contractor shall keep a log showing the date and location of each compaction test taken and the results of the test, and if probing is done by the testing laboratory, the areas probed and the results.

PART 2 COMPACTION OF EXISTING SOIL

2.01 The top or subgrade of the entire area below the Buildings shall be compacted to 95% of the Standard Proctor Test (ASTM D698). All required fill should be placed in 6" to 8" lifts and compacted to 95% of the Standard Proctor Test. Areas below walks, patio and drives shall be compacted to a minimum density of 95% of Standard Proctor Test (ASTM D698). Compaction tests shall be made on each 2,000 sq ft of compacted surface.

PART 3 EXCAVATION FOR SITE, BUILDINGS AND STRUCTURES

3.01 Excavate for site, building, footings and structures to depths indicated. The bottom of the excavations shall be compacted to a minimum of 95% of Standard Proctor Test ASTM (D698) all unless indicated otherwise.

3.02 DRAINAGE: Contractor shall control the grading around the building and structures so that ground is pitched or trenched to prevent water from running into excavated areas or damaging the structures. Maintain all pits and trenches, where footings are to be placed, free of water at all times. Provide all pumping and dewatering required to keep excavated spaces clear of water during construction. Additionally, protect roots of trees to be saved from silting with earth or straw barriers or other acceptable means. Should any springs or running water from underground sources be encountered in the excavation, the Architect shall be notified and the Contractor shall provide free discharge of it by trenches and drain to an appropriate point of disposal, as directed.

3.03 FOOTING EXCAVATIONS: A qualified Soils Engineer paid by the Contractor shall inspect and test each footing area for acceptance prior to compaction work by the Contractor.

A. All continuous wall footings and those isolated column footings indicated on the plans to be undercut to depths indicated. Bottom of over excavation to be compacted to a minimum of 95% of the Standard Proctor Test and the over excavation backfill compacted to a minimum of 95% with the soils immediately beneath the footing compacted to 98% of the Standard Proctor Test.

3.04 SHORING: When necessary to protect workmen, banks, adjacent paving, structures and utilities, excavations shall be shored and brace by members of suitable sizes and arrangements. Shoring, bracing and sheeting shall be removed, as excavations are backfilled, in a manner to prevent injurious caving. Where directed by the Engineer, the sheeting shall be left in place in the backfill with proper bracing to provide lateral support.

When trench excavations exceed 5' in depth the items listed below must be followed:

A. Contractor shall follow and adhere to OSHA Standard 29CFR, Section 1926.650, Subpart P, which is a portion of Florida Law Chapter 90-96.

B. The Contractor must supply written assurance of compliance with this law.

C. The Contractor shall supply a separate cost item identifying the cost of compliance with the OSHA requirements.

D. A trench safety system shall be designed by the Contractor and approved by the Owner and Architect.

PART 4 FILLING

4.01 All fill material shall be free of roots, stone, brick, plaster, concrete and deleterious material and shall be sand or sand clay containing 5% clay approved by the Architect. Sand fill in specific areas below building shall be free of clay and silt.

4.02 Fill shall be placed on the site in 8" deep layers up to required grade. Each layer shall be compacted to a minimum of 95% of maximum dry density per ASTM D698 below and outside buildings and walls shall be tested in locations designated by Architect.

PART 5 BACKFILLING OF PIPING AND UTILITY EXCAVATIONS

5.01 Backfill material may be clean material excavated from the trench and clean sand. Piping over 2" in diameter shall be bedded in 6" clean sand with a 6" clean sand cover. Bedding and cover shall be compacted to tightly enclose piping.

5.02 Warning tape shall be polyethylene plastic tape in appropriate coded colors with integral embedded wires or foil backing to enable detection by a metal detector for all piping and utilities.

5.03 Backfilling: Place fill material over bedding and cover material in 9" loose lift. Compact each lift to 90% of the Standard Proctor Maximum Dry Density except under paving and structures where it will be 95%. Where settlements occur, excavate to depth necessary to rectify the problem, backfill and recompact as specified. Coordinate backfilling with testing of utilities.

PART 6 GRADING

6.01 Perform all grading required as indicated or reasonably inferred to facilitate installation and completion of work by others. At the completion of the work, the entire site shall be left in a clean, well draining and finished condition conforming to plans and specifications.

PART 7 TOPSOIL

7.01 All topsoil material shall be fertile, friable, natural topsoil of loamy character without admixtures of subsoil material obtained from a well drained arable site reasonably free from clay, lumps, coarse sand, stones,
plants, roots, sticks and other foreign material with an acidity range between ph 6.0 and 6.8.

A. Identify source location of topsoil proposed for the Architect's approval.

B. Provide topsoil free of substances harmful to the plants, which will be grown in the soil.

C. Top samples will be tested for ph and will be submitted to the Architect for approval.

D. Topsoil shall be placed where designated, where contours have been changed and where subsoil has been deposited on top of natural soil in a 6" layer and compacted to 85% of Standard Proctor Test (ASTM D698).

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS:
Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 SCOPE:
This section includes soil poisoning beneath the building and the areas around the perimeter of the building under this contract. The applicator shall be licensed in the area, have a good track record, and have a good history with the Department of Agriculture.

1.03 RELATED WORK:
A. Backfilling

1.04 TESTS:
An independent testing laboratory shall take tests to determine compliance with the specifications. The Contractor will pay for laboratory tests.

PART 2 MATERIALS

Treat with a subterranean termiticide, registered by EPA, for said purpose and in full accordance and compliance with label thereon.

Chemicals to be used include, but are not limited to, the following:

- Premise 75 by Bayer Corp. 0.1%
  EPA Registration No. 3125-455
- Termidor SC by Aventis Environmental Science
  EPA Registration No. 432-901 0.125%

PART 3 APPLICATION

Shall be strictly in accordance with the recommendations of National Pest Control Association, applied at the following rates:

1. At each side of exterior walls, apply two gallons per five lineal feet. Apply exterior treatment after final grading.
2. At all penetrations through floor slab, including columns, wall, conduit, etc., apply two gallons per five lineal feet.
3. Under all interior floor slabs on grade, one gallon per ten square feet of area.
4. The treatment of the soil must be done in accordance with the memorandum (no.685) from the Florida department of Agriculture. The application of horizontal and vertical barriers must be done at the full label concentration

and in volumes specified on the label. This will require three separate trips by the soils treatment contractor.

5. Forty eight (48) hours prior to application of soil poisoning, the Contractor shall notify the ARCHITECT, David Alsop, Sam Marshall Architects at 433-7842, for the purpose of allowing observation of the application if desired.

PART 4 GUARANTEE

Furnish the Owner with a Certified Guarantee, stating the following:

1. Concentration of Poison

2. Rate

3. Method of Application

4. 5 year re-treat warranty

END OF SECTION

PART 1: GENERAL

1.01 CONDITIONS AND REQUIREMENTS:

A. The General Conditions, Supplementary Conditions and Division 1-General Requirements apply.

1.02 RELATED WORK SPECIFIED ELSEWHERE IN THE SPECIFICATIONS:

A. Concrete Reinforcement - Section 03200
B. Cast-in-Place Concrete - Section 03300
C. Rough Carpentry - Section 06100

1.03 QUALITY ASSURANCE:

A. Requirements of Regulatory Agencies: Comply with the applicable standards and specifications of the following:
   1. American Concrete Institute (ACI):
      a. ACI 347, Practice for Concrete Formwork.
   2. National Bureau of Standards Product Standard Section (NBS):
      a. PSI, Softwood Plywood, Construction and Industrial Product Standards and Amendments No. 1-6.

PART 2: PRODUCTS

2.01 FORMS FOR UNEXPOSED FINISH CONCRETE:

A. Use plywood, boards, metal and other material approved by Architect. Provide lumber that is dressed on at least 2 edges and 1 side for tight fit.

2.02 FORMS FOR EXPOSED FINISH CONCRETE:

A. Unless otherwise shown, construct all formwork for exposed concrete surfaces with plywood, metal, and other panel type materials acceptable to the Architect, to provide continuous, straight, smooth exposed surfaces. Furnish in the largest practicable sizes to minimize number or joints.

B. Provide form material with sufficient thickness to withstand the pressure of newly placed concrete without bow or deflection.

C. Unless otherwise shown, use plywood complying with NBS Product Standard PS-1, "HD OVERLAY PLYFORM CLASS I, EXT-DFPA."

2.03 FORM-COATING COMPOUNDS:

A. Coat the contact surfaces of forms with a form-coating compound before reinforcement is placed. Provide commercial formulation form-coating compounds that will not bond with stain, nor adversely affect concrete surfaces, and will not impair subsequent treatment of concrete surfaces requiring bond or adhesion, not impede the wetting of surfaces to be cured with water or curing compounds. Thin form-coating compounds only with the thinning agent of the type, and in amount, and under the conditions of the form-coating compound manufacturer's latest published directions. Do not allow excess form coating material to accumulate in the forms or to come into contact with concrete surfaces against which fresh concrete will be placed. Apply in compliance with the manufacturer's latest published instructions.

PART 3: EXECUTION

3.01 FORM DESIGN AND CONSTRUCTION:

A. Design, erect, support, brace and maintain formwork so that it will safely support all vertical and lateral loads that might be applied until such loads can be supported by the concrete structure. Carry vertical and lateral loads to the ground by the formwork system and by the in-place construction that has attained adequate strength for that purpose. Construct formwork so that concrete members and structures are of the correct size, alignment, elevation and position.

B. Construct forms in compliance with ACI 347, to the exact sizes, shapes, lines and dimensions shown, and as required to obtain accurate alignment, location, grades, level and plumb work in the finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustifications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required on the work. Use selected materials to obtain the required finishes.

C. Design forms and false work to include assumed values of live load, weight of moving equipment operated on formwork, concrete mix, height of concrete drop, vibrator frequency, ambient temperature, foundation pressures, stresses, lateral stability, and other factors pertinent to safety of structure during construction.

D. Provide shores and struts with positive means of adjustment capable of taking up all formwork settlement during concrete placing operations, using wedges or jacks or a combination thereof. Provide trussed supports when adequate foundations for shores and struts cannot be secured.

E. Support form facing materials by structural members spaced sufficiently close to prevent deflection of the form facing material. Fit forms placed in successive units for continuous surfaces to accurate alignment to assure a smooth completed surface, free from irregularities and within the allowable tolerances. Provide camber in formwork as required for anticipated deflections in formwork due to weight and pressure of fresh concrete and construction loads for long span members without intermediate supports.

F. Provide temporary openings in wall forms, column forms and at other locations necessary to permit inspection and facilitate clean-out.

G. Design formwork to be readily removable without impact, shock or damage to the cast-in-place concrete surfaces and adjacent materials.

H. Provide formwork sufficiently tight to prevent leakage of cement paste during concrete placement. Solidly butt all joints and provide backup material at joints as may be required to prevent leakage and fins.

I. Side forms of footings may be omitted and concrete placed directly against the neat excavation only when requested by the Contractor and accepted by the Architect.

J. Provide all openings in forms to accommodate other work, including mechanical and electrical work. Accurately place and securely support all items required to be built into the forms.

K. Chamfer exposed external corners and edges where shown, using chamfer strips accurately fabricated to produce uniform smooth lines and tight edge joints. Provide chamfers of wood, metal, PVC, or rubber, to form the required corner or edge shapes as shown.

L. Carefully form-intersecting planes to provide true, clean-cut corners, with edge grain of plywood not exposed as form for concrete.

3.02 REMOVAL OF FORMS:

A. Formwork not supporting the weight of concrete, such as sides of beams, wall, columns, and similar parts of the work, may be removed 48 hours after placing the concrete, provided the concrete is sufficiently hard to not be damaged by the form removal operation, and provided that curing and protection operations are maintained.

B. Formwork supporting the weight of concrete, such as beam soffits, slabs and other structural elements of work, may not be removed in less than 7 days and

until the concrete has attained 80% of the design minimum compressive strength at 28 days for applicable type of concrete.

C. Form facing material may be removed 4 days after placement, only if the shores and other vertical supports have been arranged to permit removal of the form facing material without loosening or disturbing the shores and supports.

END OF SECTION

PART 1: GENERAL

1.01 CONDITIONS AND REQUIREMENTS:

A. The General Conditions, Supplementary Conditions and Division 1-General Requirements apply.

1.02 RELATED WORK SPECIFIED ELSEWHERE IN THE SPECIFICATIONS:

A. Concrete Formwork - Section 03100
B. Cast-in-Place Concrete - Section 03300

1.03 QUALITY ASSURANCE:

A. Requirements of Regulatory Agencies: Comply with the applicable standards and specifications of the following:
   1. American Concrete Institute (ACI):
      a. ACI 315: Manual of Standard Practice for Detailing Reinforced Concrete Structures.
      b. ACI 318: Building Code Requirements for Reinforced Concrete.
   2. American Society for Testing Materials (ASTM):
      a. ASTM A185, Specification for Welded Steel Wire Fabric for Concrete Reinforcement.
      b. ASTM A615, Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
   3. American Welding Society (AWS):
      a. AWS D1.4, Structural Welding Code - Reinforcing Steel.
   4. Concrete Reinforcing Steel Institute (CRSI):
      a. Manual of Standard Practice.

1.04 SUBMITTALS:

A. Shop Drawings: Submit shop drawings for fabrication, bending and placement of concrete reinforcement. Include bar schedules, stirrup spacing, details of bar bending and placing special reinforcement, and wall reinforcement.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING:

A. Deliver to job sites in bundles tagged for identification in accordance with shop drawings.
B. Store steel off ground.

PART 2: PRODUCTS

2.01 MATERIALS:

A. Reinforcing Bars: ASTM A615, Grade 60, free of excessive rust, scale or coating.
B. Welded Wire Fabric: ASTM A185
C. Accessories: Provide wire spacers, chairs, ties and all devices necessary for properly placing, spacing, supporting and fastening reinforcement in place.
   1. Use form ties with 1" snapback for exposed concrete surfaces.
   2. For slabs on grade, use supports with sand plates or horizontal runners where base materials will not support chair legs.

PART 3: EXECUTION

3.01 REINFORCEMENT INSTALLATION:

A. Clean reinforcement of loose rust, mill scale, earth and other materials which reduce or destroy bond with concrete.
B. Accurately position, support, and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcement, by metal chairs, runners, bolsters, spacers and hangers, as required.
C. Space reinforcing bars to comply with ACI 318, Section 7.6. Reinforcing bars may be relocated as necessary to avoid interference with other reinforcement, conduit, or other embedded items. However, if any reinforcing bar is moved a distance exceeding one bar diameter or the specified placing tolerance, the resulting rearrangement of the reinforcement will be subject to acceptance by the Architect.
D. Splice reinforcement by lapping ends, placing bars in contact, and tightly wire tieing. Comply with the requirements of ACI 318, Chapter 12 for minimum lap of spliced bars.
E. No welding of any kind will be permitted unless specifically indicated on the drawings.
F. Place reinforcement to obtain at least the minimum coverages for concrete protection. Arrange, space, and securely tie bars and bar supports together with 16 gauge wire to hold reinforcement accurately in position during concrete placement operations. Set wire ties so that ends are directed into the concrete, not toward exposed concrete surfaces.
G. Cast-In-Place Concrete Reinforcement Protection:

Exposure	Minimum Concrete Cover
Concrete cast against and permanently exposed to earth	3"
Concrete exposed to earth or weather:	
#6 through #18	2"
#5, W31 or D31 wire, and smaller	1-1/2"

Concrete not exposed to weather or in contact with ground:	
Slabs, walls, joists:	
#14 and #18 bars	1-1/2"
#11 bar and smaller	3/4"
Beams, columns:	
Primary reinforcement, ties, stirrups spirals	1-1/2"
Shells, folded plate members:	
#6 bar and larger	3/4"
#5 bar, W31 or D31 wire, and smaller	1/2"

3.02 WIRE FABRIC:

A. Lap minimum six inches (6") where not specifically designated as load carrying reinforcement.

B. Extend across supports to within two inches (2") of concrete edges, unless detailed otherwise.

C. Lace splices with 16 gauge wire.

D. Offset end laps in adjacent widths to prevent continuous laps in either direction.

END OF SECTION

PART 1: GENERAL

1.01 CONDITIONS AND REQUIREMENTS:

A. The General Conditions, Supplementary Conditions and Division 1-General Requirements apply.

1.02 RELATED WORK SPECIFIED ELSEWHERE IN THE SPECIFICATIONS:

A. Earthwork - Section 02200

B. Concrete Formwork - Section 03100

C. Concrete Reinforcement - Section 03200

1.03 QUALITY ASSURANCE:

A. Requirements of Regulatory Agencies: Comply with the applicable standards and specifications of the following:

1. American Concrete Institute (ACI):

   a. ACI 301, Specifications for Structural Concrete for Buildings.

   b. ACI 304, Practice for Measuring, Mixing, Transporting, and Placing of Concrete.

   c. ACI 311, Practice for Concrete Inspection.

   d. ACI 318, Building Code Requirements for Reinforced Concrete.

2. American Society for Testing Materials (ASTM):

   a. ASTM C31, Method of Making and Curing Concrete Test Specimens in the Field.

   b. ASTM C33, Specifications for Concrete Aggregates.

   c. ASTM C39, Method of Test for Compressive Strength of Cylindrical Concrete Specimens.

d. ASTM C42, Method of Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.

e. ASTM C94, Specifications for Ready-Mixed Concrete.

f. ASTM C150, Specification for Portland Cement.

g. ASTM C172, Methods of Sampling Fresh Concrete.

h. ASTM C309, Specifications for Liquid Membrane-Forming Compounds for Curing Concrete.

1.04 SUBMITTALS:

A. Design Mix: Submit design mixes for approval for each concrete strength and type required. Show cement brand and type, aggregate gradation and source, admixture brands, and mixture composition as prepared by a recognized testing laboratory.

PART 2: PRODUCTS

2.01 MATERIALS:

A. Portland Cement: ASTM C150, Type I or Type III.

B. Normal Weight Aggregate: ASTM C33, Light Weight Aggregate: ASTM C330.

C. Water: Clean and free from oils, acids, alkalis, salts, organic materials and other deleterious substances; potable.

D. Curing Compound: ASTM C309, Lambert Corp. No. 64-RB Resin Base (Clear); Master Builders Co. 'Masterseal'; Sonneborn Building Products, Inc. 'Kure-N-Seal'; Guardian Chemical Co. 'Clear Bond', or equal.

E. Concrete Sealer: Guardian Chemical Co. 'Clear Bond'; Lambert Corp. No. 64-RB Resin Base (clear); Master Builders Co. 'Master Kure', or equal.

F. Expansion Joint Filler: Premolded material composed of fiberboard impregnated with asphalt, for locations not required to be caulked, and a thermosetting plastic of closed cell structure for locations required to be caulked.

G. Control Joints: Provide keyed joints as shown on the drawings.

H. Vapor Barrier: See section 07100 – Water Proofing & Sealants

2.02 PROPORTIONING AND MIXING:

A. Mix: Ready mixed and in accordance with ASTM C94

B. Minimum Compressive Strengths:

1. Normal Weight: 3000 psi in 28 days, minimum 5 bags of cement per cu. yd. in accord with ASTM C94. Admixture for water reduction optional, subject to prior approval.

C. Slump: Maximum allowable is 4 inches, with one (1) inch plus or minus tolerance, or 8 inches for concrete with verified slump of 2 to 4 inches before adding high range water-reducing admixture or plasticizing admixture.

D. Job Tempering: Place all concrete within 1-1/2 hours after introduction of water to the mix. Submit time stamped batching tickets upon delivery of concrete to job site.

PART 3: EXECUTION

3.01 CONCRETE PLACEMENT:

1. Concrete should be deposited as nearly as practicable to its final position to avoid segregation of materials due to re-handling or flowing.

2. Concreting should be carried on at such a rate that the concrete is at all times plastic and flows readily into spaces between reinforcement.

3. The following concrete will be prohibited:

1. Partially hardened concrete.
2. Contaminated concrete.
3. Re-tempered concrete.
4. Concrete that has been re-mixed after it has taken its initial set.

4. After concreting has been started, it should be carried on as a continuous operation until placing or a panel or section, as determined by its boundaries or joints, is completed.

5. All concrete should be thoroughly consolidated by suitable means during placement and should be worked around reinforcement and embedded

fixtures and into corners of forms.

6. Wet all forms not having been coating prior to pouring. Deposit concrete continuously or in layers of such thickness that no concrete will be deposited on concrete which has hardened sufficiently to cause formation plane of weakness within the section.

7. Grout: One part cement, two parts of well graded sand by volume to be used for exposed concrete required to be rubbed.

8. Variation from Level: Not more than 1/4 inch in 16 feet except floor slabs to receive resilient coverings and shall be 1/8" in 10 feet.

3.02 CURING:

A. Keep all concrete thoroughly wet for a period of seven days at 50 degrees minimum temperature, except if otherwise cured by curing agents.

B. Apply floor sealing compound on concrete floor slabs scheduled to receive resilient flooring or carpet, and apply floor hardener to exposed interior concrete floor slabs.

3.03 SURFACE FINISHES:

A. Formed Concrete Finishes: Remove loose particles. Fill voids, cracks, honeycombs, pits and air holes with grout immediately after stripping forms.

B. Concrete Surfaces which will remain exposed to view:

1. When the concrete is hard enough so that the aggregate is not pulled out by the operation, perform the first rubbing with coarse carborundum stones.

2. After curing the concrete, rub with finer stones. Do not spread the mortar that is worked up by the rubbing or that is applied to assist in the rubbing in a thick layer. Do not use to fill large depressions.

C. Slab Finishes:

1. Float Finish: Shortly after screeding and while the concrete is still plastic and workable, work the surface sparingly with a wood float or finishing machine. Do not overwork. Avoid bringing an excess of water and mortar to surface.

2. Smooth Trowel Finish: Following floating by steel troweling after the moisture film or sheen disappears from the floated surface and when the concrete has hardened enough to prevent fine material and water from being worked to the surface. When wet spots occur, delay finishing operations until water has been absorbed, has evaporated or has been mopped up. Do not spread dry cement to take up excessive water.

D. Broom Finish for Walks: After the first troweling, broom the surface with a soft-bristled push broom transverse to the line of traffic.

3.04 FIELD QUALITY CONTROL:

A. Concrete Tests:

1. Make all tests in accordance with applicable ASTM recommendations.

2. Mix design, slump and cylinder tests and reports to be performed and prepared by a recognized laboratory approved by the Architect. Send test results to the Architect in duplicate. Contractor will pay for all testing. Strength level of an individual class of concrete shall be considered satisfactory if both of the following requirements are met:

1. Every arithmetic average of any three consecutive strength test equals or exceeds f'c.

2. No individual strength test (average of two cylinders) falls below f/c by more than 500 psi.

3. Make one set of five cylinders and one slump test for every 50 cubic yards or fraction thereof of concrete poured. Make at least one set for each day's pour. Give the cylinders identification marks and record for reference.

4. Break one cylinder at three (3) days, one at seven (7) days, and two (2) at 28 days. Hold one cylinder for future use if test does not comply at 28 days.

5. Any batch with excessive slump will be rejected. In the event that 28 day cylinders fail to meet the required strength, a minimum of three 4 inch diameter cores will be taken from the area involved at the direction of the Architect for testing by the approved laboratory, with cost of obtaining and testing core samples paid for by the Contractor.

6. In the event of failure of the core boring tests, the subject concrete of less than minimum strength will be load-tested at no expense to the Owner.

7. In the event of failure of the load test, the subject concrete will be replaced at no expense to the Owner.

END OF SECTION

PART 1 GENERAL

A. SECTION INCLUDES

1. Mortar and grout for masonry.

B. SUBMITTALS

1. Samples: Submit two samples of mortar, illustrating mortar color and color range.

C. QUALITY ASSURANCE

1. Perform Work in accordance with ACI 530 and ACI 530.1.

D. ENVIRONMENTAL REQUIREMENTS

1. Cold Weather Requirements: IMIAC - Recommended Practices and Guide Specifications for Cold Weather Masonry Construction.

2. Hot Weather Requirements: IMIAC - Recommended Practices and Guide Specifications for Hot Weather Masonry Construction.

PART 2 PRODUCTS

E. MATERIALS

A. Premix Mortar: (1) For Concrete Masonry ASTM C387, using dark cement normal strength. (2) For Brick Masonry ASTM C270 Type N, H Series colored mortar by Soloman-Grind Chemical Co., or Flamingo.

B. Mortar Aggregate: ASTM C144, standard masonry type.

C. Epoxy Mortar for Cast Caps and Sills: Shall be equal to Latapoxy 210 by Laticrete International Inc.

D. Hydrated Lime: ASTM C207, Type S.

E. Grout Aggregate: ASTM C404.

F. Water: Clean and potable.

2.2 MORTAR MIXES

A. Mortar for Load Bearing Walls and Partitions: ASTM C270, Type S using the Property Method.

B. Mortar for Non-load Bearing Walls and Partitions: ASTM C270, Type S using the Property Method.

2.3 MORTAR MIXING

A. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C270 C780.

B. Add mortar color and admixtures in accordance with manufacturer's instructions.

2.4 MIX TESTS

A. Testing of Mortar Mix: In accordance with ASTM C780.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

A. Apply bonding agent to existing concrete surfaces.

3.2 INSTALLATION

A. Install mortar in accordance with ASTM C780.

B. Work grout into masonry cores and cavities to eliminate voids. Do not displace reinforcement.

END OF SECTION

SECTION 04200 - UNIT MASONRY

PART 1 - GENERAL

1.01 SUMMARY

A. Provide unit masonry for walls and partitions as indicated on drawings:

1. Brick and ICF cavity walls.
2. Concrete masonry bearing walls and non-bearing partitions.
3. Brick and block infill at existing construction.

1.02 SUBMITTALS

A. Submit for approval samples, product data, and test reports.

1.03 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Brick -: Brick is modular size. Use an allowance of $500/ thousand for brick, selection by Architect. Boral brick was used at the CCUF Cordova Service Branch and is to be matched.

B. Concrete masonry unit: Lightweight, ASTM C 145 and C 90 Type II, Grade N; 11 - 5/8" by 15-5/8" face size. Special shapes as indicated or as required. Provide units with minimum average net-area compressive strength of 1900 psi. Provide bull nose units at jambs and sills of all openings, and at all outside corners and end wall terminations, unless otherwise indicated.

C. Wall flashing: See section 07199 Waterproofing and Sealants

D; Mortar: ASTM C 91, masonry cement mortar, Type N above grade; Type M below grade; other types as required by application. Inorganic oxide mortar pigments.

E. Grout for unit masonry: Comply with ASTM C 476.

F. Reinforcing:

1. Ties and reinforcing: Hot-dipped galvanized, ASTM a 153
2. Horizontal reinforcing: Welded truss type, 9 gage wire with deformed side rods.
3. Brick to ICF ties: VB 3/16" diameter Flexible tie with DW- 10HS anchors; by Hohmann & Barnard or approved equal.
4. Brick to steel stud ties: 18 guage corrugated wall ties Hohmann & Barnard CWT or approved equal.
5. Reinforcing bars: Deformed bars, ASTM A 615, Grade 60.

G. Miscellaneous Materials:

1. Cavity Drainage Material: 2-inch thick, 200 denier 100% recycled polyester, 90% open mesh, dovetail shaped to maintain unobstructed drainage at weep holes. Mortar Net Green or approved equal.
2. Weeps Holes: Rectangular plastic tubing, Similar to Quadro Vent by Hohman and Bernard clear butyrate, 3/8” by 2-1/2” by 3-3/8”. Install 6” or more above finished grade.
3. Mastic: Rubberized asphalt based mastic for use with flashing membrane, Bituthane Mastic.
4. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials, Sure Klean 600 or Vanatrol.
5. Brick cleaning solution for existing brick where shown is Enviro Klean 2010- by ProSoCo.
6. Moisture barrier see section 07100 Waterproofing and Sealants

PART 3 - EXECUTION

3.01 INSTALLATION

A. Comply with PCA "Recommended Practices for Laying Concrete Block" and BIA Tech Notes 11, 11A, 11B, 11C, 11D, and 11E.

B. Weather Protection: Cold weather; heat mortar water and sand, enclose walls and provide temporary heat as recommended by BIA Tech Notes 1, 1A, 1B, and 1C.

Hot weather; use mortar within 1-1/2" hours after mixing for ambient 80 degrees F or above.

C. Tolerances: From dimensions and locations in Contract Documents for plumb, level and alignment, plus or minus 1/8 in 20'.

D. Fire-Rating: Where indicated, provide assemblies identical to tested assemblies and accepted by authorities having jurisdiction.

E. Bond: Lay exposed face brick in running bond except in areas of special coursing as indicated on Drawings.

F. Joints: Maintain uniform 3/8" width; tool concave. Provide full bed, head and collar joints except at weep holes; keep cavity clean at cavity walls.

G. Weep holes: Provide plastic weeps at 16” o.c. above all ledges, flashings and lintels. Fill cavity 10" high with cavity drainage material.

H. Install steel lintels and provide reinforced masonry lintels where indicated.

I. Coordinate installation of flashings; prepare masonry surfaces smooth and bed flashings in mortar. Comply with manufacturer's instructions for asphaltic membrane flashings. Install termination bars at top of each run of flashing.

J. Ties and Horizontal Reinforcing: Comply with codes; space ties not more than 16" o.c. vertically and horizontally.

K. Provide L and T sections of reinforcing at corners and intersections. Lap reinforcing a minimum of 6". Reinforce masonry openings greater than 1'-0" wide with horizontal reinforcements place in 2 horizontal joints approximately 8" apart immediately above the lintel and below the sill. Extend the reinforcement a minimum of 2'-0" beyond jambs of the openings.

L. Remove and replace damaged units. Enlarge holes in mortar and re-point.

M. Brick masonry cleaning: Apply ProSoCo Enviro-Klean 2010 All Surface cleaner per manufacturers’ instructions and application rate. Scrub heavily soiled surfaces with a non abrasive brush. Protect people, vehicles plants and all surfaces not set for cleaning from splash and wind rift.

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

Drawings and general Provision of the Contract, including General and Supplementary Conditions and Division 1 specifications sections, apply to work of this section.

1.02 SECTION INCLUDES

Cast stone units and their installation.

1.03 ACCEPTABLE MANUFACTURERS

1. Corbell Stone Flowery Branch, GA
2. Gates Lazenby, Morrowville, AL
3. Dallas Cast Stone, Dallas, TX

1.04 SUBMITTALS

A. Before fabrication, submit for Architect's approval four (4) 12"x12"x2" samples showing color and texture of material proposed and list of sealants, anchors and accessories.
B. Shop drawing (7 copies) showing profile and reinforcing of the units.

PART 2 PRODUCTS

A. Portland Cement ASTM C150, Type Type II, color, white or I. Cement shall be supplied from a single source.
B. Fine Aggregate: Shall be light brown, which shall impart a uniform tan color to the cast stone.
C. Course aggregate shall be light brown.
D. Water: Potable
E. Air Entraining Admixture: ASTM C260
F. Pigment shall be color selected to result in tone and color of approved sample. Pigment shall be weather resistant, non-fading and shall meeet ASTM C979 and be equal to that manufactured by Davie Colors.
G. Reinforcing: ASTM A615, Grade 60 Galvanized, meeting ASTM A123.
H. Anchors shall be galvanized meeting ASTM A123.
I. Waterproofing materials shall be Soloxane by ProSoCo or equal.
J. Imbedded attachments shall be stainless steel as indicated on drawings.

PART 3 EXECUTION

3.01 Provide metal anchors, inserts, clip angles, bolts, grout and shims or other devices to secure cast units in place.

3.02 Erect units in accordance with approved shop drawings and details and allow for expansion.

3.03 Drench stone units with water just before setting.

3.04 Caulk joints between cast stone units with approved caulking

3.05 Protection: Protect cast stone units against damage by other operations and replace any damaged items. Protect units with heavy plastic to prevent stains.

All finished work shall be cleaned with soap and water and fiber brushes. Fine sandpaper may be used to remove stains difficult to remove with brushes. Work will be inspected by architect prior to the application of waterproofing. Any chipped or lightly damaged stone may be repaired with patch kits. Misaligned, severely damaged or improperly set stones shall be removed and realigned, or replace.

3.06 Seal with waterproofing agent specified.

END OF SECTION

PART 1: GENERAL

1.01 CONDITIONS AND REQUIREMENTS:

A. The General Conditions, Supplementary Conditions and Division 1-General Requirements apply.

1.02 QUALITY ASSURANCE:

A. Requirements of Regulatory Agencies: comply with the applicable standards and specifications of the following:

1. American Institute of Steel Construction (AISC):
   a. Specification for Structural Steel Buildings and Allowable Stress Design and Plastic Design.

2. American Society for Testing Materials (ASTM):
   a. ASTM A36, Specification for Structural Steel.
   b. ASTM A307, Specification for Carbon Steel Externally and Internally Threaded Standard Fasteners.
   c. ASTM A325, Specification for High-Strength Bolts for Structural Steel Joints, Including Suitable Nuts and Plain Hardened Washers.
   d. ASTM A449, Specification for Quenched and Tempered Bolts and Studs.
   e. ASTM A490, Specification for Quenched and Tempered Alloy Steel Bolts for Structural Steel Joints.
   f. ASTM A500, Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
   g. ASTM A572, Specification for High-Strength Low-Alloy Columbium-Vanadium Steels of Structural Quality.

3. American Welding Society (AWS):
   a. AWS D1.1, Code for Welding in Building Construction.

B. Qualifications:

1. Welding procedure, welders, welding operations and tackers to be qualified in accordance with AWS D1.1.

1.03 SUBMITTALS:

A. Shop Drawings: Submit shop drawings indicating all shop and erection details including cuts, connections, holes, threaded fasteners, rivets and welds. Submit description of erection procedures, including sequence or erection, temporary bracing and welding procedures.

B. Proofs of Compliance of Materials: Furnish certified copies of mill reports and other data as may be required to show compliance with these specifications (including specified standards) for the following products:
   1. Structural Steel
   2. Primer paint
   3. Shrinkage-resistant grout

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING:

A. Deliver structural steel and fabricated items to job site with shop coat paint already applied.

B. Storage of Materials: Store structural materials above the ground upon platforms, skids, or other supports. Keep material free from dirt, grease and other foreign matter and protect from corrosion.

PART 2: PRODUCTS

2.01 MATERIALS:

A. Steel Shapes, Bars and Plates, ASTM A36, or ASTM A992, Grade 50.
B. Structural Tubing: ASTM A500, Grade B.
C. Standard Bolts and Nuts: ASTM A307, Grade A.
D. High-Strength Treaded Fasteners: ASTM A325 (or ASTM A449 Bolts with A325 nuts and washers, or ASTM A490 nuts and washers.)
E. Grout: Shrinkage-resistant, pre-mixed, factory packaged. Provide one of the following or equal:
   1. Master Builders: Embeco
   2. Sonneborn: Ferrolith
   3. Toch Brothers: Irontox
   4. W.R. Grace: Vibra-Foil
   5. Sika Chemical: Kemox C
F. Shop-Paint: comply with FS-TT-P-86e, Type I or II.

2.02 FABRICATION:

A. Fabricate structural steel in accordance with AISC specifications.
B. Fabricate for delivery sequence which will expedite erection and minimize field handling.
C. Shop Paint: Shop paint all structural steel except those members or portions of members to be encased in concrete, and surfaces to be welded. Shop paint at a rate producing a dry film thickness of 2.0 mils.

PART 3: EXECUTION

3.01 ERECTION:

A. Erect in accordance with AISC Specifications.

B. Erect all items plumb, properly spaced, and true to line and dimension.

C. Furnish all anchor or foundation bolts and other connections between the structural steel and the work of other trades to the respective trades at the proper time, including instructions or templates for installation if required.

D. All bearing surfaces to be as indicated on the drawings and the approved shop drawings. Use steel wedges or shims as required and pack solidly with the mortar bedding specified.

E. All field welding to be by certified welders. Furnish Architect with name and certificate number of all welders.

F. Set column bases true and level by means of double nuts. Grout under bearing plates.

3.02 FINISH PAINTING:

A. Immediately after erection, clean field welds, bolted connections and abraded areas, and paint all exposed areas with two coats of finish paint color.

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS:
Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 SCOPE:
Includes carpentry work and material necessary for a complete installation. Wall sheathing and cover board, blocking, and miscellaneous carpentry.

1.03 RELATED WORK:
1. Light Steel Framing
2. Roof and Coping Framing
3. Roofing

1.04 STANDARDS:
Each piece of lumber and plywood shall have a grade mark of an agency certified by the board of review of the American Lumber Standards Committee.

1.05 SUBMITTALS:
Provide (7) seven copies of manufacturers shop drawings and installation instructions.

PART 2 MATERIALS

2.01 Framing and blocking shall be #2 dense SYP of sizes and dimensions shown. Members used on the exterior and in contact with concrete or masonry shall be pressure treated wolmanized.

2.02 Plywood shall be 3/4" CDX, pressure treated on exterior applications, and tongue & groove where shown.

PART 3 INSTALLATION

3.01 Blocking and grounds shall be installed in a manner to eliminate cupping and warping. Members over 4" nominal width shall be kurfed on down side. Blocking shall be bolted to sub structure or otherwise securely attached to prevent movement. Nails will be double galvanized common nails of appropriate size (or galvanized screw nails). Provide solid blocking in framed partitions for support of doorstops, other hardware items mounted to the walls, and for light switches, electrical outlets and devices, recessed speakers, projection screen brackets, etc.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Wood roof trusses.
2. Wood girder trusses.
3. Wood truss bracing.
4. Metal truss accessories.

1.2 ACTION SUBMITTALS

A. Product Data: For metal-plate connectors, metal truss accessories, and fasteners.

B. Shop Drawings: Show fabrication and installation details for trusses.

1. Show location, pitch, span, camber, configuration, and spacing for each type of truss required.
2. Indicate sizes, stress grades, and species of lumber.
3. Indicate locations, sizes, and materials for permanent bracing required to prevent buckling of individual truss members due to design loads.
4. Indicate type, size, material, finish, design values, orientation, and location of metal connector plates.
5. Show splice details and bearing details.

C. Delegated-Design Submittal: For metal-plate-connected wood trusses indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.3 INFORMATIONAL SUBMITTALS

A. Product certificates.

B. Evaluation Reports: For the following, from ICC-ES:

1. Metal-plate connectors.
2. Metal truss accessories.

1.4 QUALITY ASSURANCE

A. Metal Connector-Plate Manufacturer Qualifications: A manufacturer that is a member of TPI and that complies with quality-control procedures in TPI 1 for manufacture of connector plates.

1. Manufacturer's responsibilities include providing professional engineering services needed to assume engineering responsibility.
2. Engineering Responsibility: Preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.

B. Fabricator Qualifications: Shop that participates in a recognized quality-assurance program that complies with quality-control procedures in TPI 1.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Handle and store trusses to comply with recommendations in TPI BCSI**,** "Building Component Safety Information: Guide to Good Practice for Handling, Installing, Restraining, & Bracing Metal Plate Connected Wood Trusses."

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design metal-plate-connected wood trusses.

B. Structural Performance: Provide metal-plate-connected wood trusses capable of withstanding design loads within limits and under conditions indicated. Comply with requirements in TPI 1 unless more stringent requirements are specified below.

2.2 DIMENSION LUMBER

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Provide dry lumber with 19 percent maximum moisture content at time of dressing.

B. Permanent Bracing: Provide wood bracing that complies with no. 2 grade southern yellow pine.

2.3 METAL CONNECTOR PLATES

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

1. Alpine Engineered Products, Inc.; an ITW company.
2. Cherokee Metal Products, Inc.; Masengill Machinery Company.

3. CompuTrus, Inc.
4. Eagle Metal Products.
5. Jager Building Systems, Inc.; a Tembec/SGF Rexfor company.
6. MiTek Industries, Inc.; a subsidiary of Berkshire Hathaway Inc.
7. Robbins Engineering, Inc.
8. Truswal Systems Corporation; an ITW company.

B. General: Fabricate connector plates to comply with TPI 1.

C. Hot-Dip Galvanized-Steel Sheet: ASTM A 653/A 653M; Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G60 coating designation; and not less than 0.036 inch thick.

2.4 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Provide fasteners for use with metal framing anchors that comply with written recommendations of metal framing manufacturer.
2. Where trusses are exposed to weather, in ground contact, made from pressure-preservative treated wood, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

B. Nails, Brads, and Staples: ASTM F 1667.

2.5 METAL FRAMING ANCHORS AND ACCESSORIES

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

B. Basis-of-Design Product: Subject to compliance with requirements, provide product by Simpson Strong-Tie Co., Inc. indicated on drawings or comparable product by USP Structural Connectors.

C. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, that meet or exceed those of basis-of-design products. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

D. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G185 (1.85 oz per sq ft zinc) coating designation.

2.6 FABRICATION

A. Assemble truss members in design configuration indicated; use jigs or other means to ensure uniformity and accuracy of assembly with joints closely fitted to comply with tolerances in TPI 1. Position members to produce design camber indicated.

1. Fabricate wood trusses within manufacturing tolerances in TPI 1.

B. Connect truss members by metal connector plates located and securely embedded simultaneously in both sides of wood members by air or hydraulic press.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install wood trusses only after supporting construction is in place and is braced and secured.

B. If trusses are delivered to Project site in more than one piece, assemble trusses before installing.

C. Hoist trusses in place by lifting equipment suited to sizes and types of trusses required, exercising care not to damage truss members or joints by out-of-plane bending or other causes.

D. Install and brace trusses according to TPI recommendations and as indicated.

E. Anchor trusses securely at bearing points; use metal truss tie-downs or floor truss hangers as applicable. Install fasteners through each fastener hole in metal framing anchors according to manufacturer's fastening schedules and written instructions.

F. Securely connect each truss ply required for forming built-up girder trusses.

G. Install and fasten permanent bracing during truss erection and before construction loads are applied. Anchor ends of permanent bracing where terminating at walls or beams.

H. Install wood trusses within installation tolerances in TPI 1.

I. Do not alter trusses in field. Do not cut, drill, notch, or remove truss members.

J. Replace wood trusses that are damaged or do not meet requirements.

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS:

Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specifications sections, apply to work of this section.

1.02 SCOPE:

A. Furnish all architectural woodwork shown on drawings and specified herein. Architectural woodwork includes all interior woodwork exposed to view, and includes cabinets, running trim, millwork, casework, plywood, related doors, panel work and high-pressure laminates, and splashes.

B. Work specified in other sections.
1. Carpentry
2. Finishing
3. Electrical
4. Plumbing

1.03 QUALITY ASSURANCE

A. STANDARDS
1. The "Quality Standards" of the Architectural Woodwork Institute shall apply and by reference are hereby made a part of this specification.
2. Any item not given a specific quality grade shall be Custom grade as defined in the latest edition of the AWI "Quality Standards".

B. COMPETENCE

The approved woodwork manufacturer must have a reputation for doing satisfactory work on time and shall have successfully completed comparable work. The qualifications of the woodwork manufacturer proposed by the contractor will be submitted to the Architect for approval.

1.04 SUBMITTALS

A. SHOP DRAWINGS: Submit shop drawings (7 copies) on all items of architectural woodwork.

B. BROCHURES: Submit manufacturer's descriptive literature of specialty items not manufactured by the architectural woodworker, as requested by the Architect.

C. SAMPLES: Submit samples of each wood species, which is to receive transparent finish at job site, as requested by the Architect.

1.05 FIELD DIMENSIONS

The woodwork manufacturer is responsible for details and dimensions not controlled by conditions and shall show on his shop drawings all required field measurements beyond his control. The general contractor and the woodwork manufacturer shall cooperate to establish and maintain these field dimensions.

PART 2 PRODUCT

2.01 STANDING & RUNNING TRIM & PANELING

Interior for Clear Finish:

1. Solid Wood: "Red Oak" AWI Custom Grade
2. Plywood: Quarter sawn flat cut. "Red Oak" AWI Custom Grade

2.02 CASEWORK

A. Casework for Transparent Finish:
   1. AWI Quality Grade: Custom grade.
   2. Construction: Details shall conform to flush overlay design and drawings.
   3. Exposed Parts: "Red Oak"; Flat cut.
   4. Semi-Exposed Parts: AS governed by selected AWI quality grade.

B. Casework with High Pressure Laminate Finish and/or Bonded Wood Paneling:
   1. High Pressure Laminate: Formica or Westinghouse. Color selected by Architect.
   2. Plastic Top Material: Surell by Formica or Fountain-Head by Nevamar of thickness and detail shown. Color selected by Architect.

C. Casework Hardware: All cabinet hardware shall be furnished and installed by the casework manufacturer.

   HARDWARE TO BE AS FOLLOWS:
   1. Drawer Slides: Grass - 6022
   2. Hinges: Grass - 1201
   3. Shelf Standards and Brackets: Type optional with manufacturer.
   4. Catches, Magnetic Type: Optional with manufacturer.
   5. Pulls: Forms and surfaces. HC-225. Required for each door. Two required for each drawer.

PART 3 INSTALLATION

3.01 TRIM AND PANELING: Workmanship shall meet AWI Custom Grade Standards. Work exposed to view shall be free from defects which show after finishing. Natural finish work will be bright and uniform in color. Joints shall be formed to conceal shrinkage. Nails and screws will be set and plugged. All work will be back primed. Exposed trim shall be shop finished prior to delivery at the job site.

3.02 PREASSEMBLED WOOD PANEL: Vertical installation shall be attached to wood blocking with horizontal reveal joint as shown.

3.03 CABINET: Workmanship shall meet AWI Custom Grade Standards. Cabinets will be finished smooth and free of tool marks, abrasions and raised grain on exposed faces. Joints shall be glued with waterproof glue, as well as mechanically fastened. Nails and screws shall be set and plugged. Plywood shelves and doors will have hardwood edges on all edges. Plastic laminate will be one piece where possible or joints will be evenly spaced and will be glued to plywood backing with contact cement. (No flake core or chip core material will be used.) Edges will be beveled. Hardware will be fitted and properly installed.

3.04 FINISHING:

A. Transparent Finish:
   1 coat Pratt & Lambert Paste Wood filler.
   1 coat Pratt & Lambert Tonic Wood stain.
   3 coats Pratt & Lambert 38 Clear Finish; satin.

B. Pigmented Finish:
   1 coat Pratt & Lambert Interior Trim Primer.
   2 coats Pratt & Lambert Pro Hide Plus Alkyd Satin Enamel.

C. SAND & CLEAN:
   1. All surfaces to be finished.
   2. Apply finish smoothly and evenly to proper film thickness, spray apply.
   3. Sand with 5-0 paper of steel wool between all coats. Wood filler shall be rubbed with rough cloth.
   4. Back prime all millwork.

D. Final coat may be field applied.

3.05 Plastic laminate tops of exterior grade plywood for millwork items with sinks. Tops shall be set in mastic.

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS:
Drawings and General Provisions of the Contract including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 SCOPE:
This section includes waterproofing and damp proofing, under slabs on grade, under and behind ceramic tile, thru walls and at faces of walls, masonry waterproofing, and sealant caulking, and related items.

1.03 RELATED WORK:
A. Cast in Place Concrete
B. Masonry
C. Metal Roofs
D. Ceramic Tile
E. Windows and Doors

PART 2 MATERIALS

2.01 ADHESIVES: Shall be Nerva-Plast by Rubber and Plastic Compound Company and Bituthane 3000 by W.R. Grace or equal.

2.02 WATERPROOFING MEMBRANE: Grace Ice and Water Shield, peel and stick membrane.

2.03 EMULSION WATERPROOFING: Seal mastic type 1 or type 2 by W.R. Meadows Co. or equal product by W. R. Grace.

2.04 THRU WALL FLASHING: Shall be Nervastral sealproof HD, 20 mil thickness elastomeric sheeting by Rubber and Plastic Compound CO., or equal products by Phoenix or B.F. Goodrich. Asphalt coated copper at grade.

2.05 n.a.

2.06 UNDER FLOOR SLABS: Stego Industries, LLC., Stego Wrap Vapor Barrier, 15 mil, Class A.

2.07 BUILDING ENVELOPE: Prosoco, R-Guard Spray Wrap Fluid-Applied Air & Water-Resistive Barrier. R-Guard Joint & Seam Filler, fiber reinforced fill coat and seam treatment. Prosoco, R-Guard FastFlash, liquid-applied flashing membrane.

2.08 BONDING TYPE: Flashing sheets of 5 oz. copper between two layers of asphalt impregnated fiberglass.

2.09 BRICK MASONRY WATERPROOFING: Soloxane by Sure Klean spray applied to all masonry surfaces.

2.10 CAULKING

A. One part caulk shall be Dymonic by Tremco or #995 or #795, Silicone by Dow Corning or equal products by GE.

B. Three part caulk shall be Dymeric by Tremco or #790 Silicone by Down Corning or equal products by GE.

2.11 BACKER ROD: Shall be polyethylene rod.

2.12 PRECOMPRESSED EXPANDING FOAM SEALANT: Emseal joint systems or equal.

PART 3 INSTALLATION

3.01 UNDER FLOOR SLABS ON GRADE: Stego Wrap Vapor Barrier membrane shall be continuous under all interior slabs on grade and shall be lapped 12 inches with joints taped. Carry membrane up between premolded expansion joint material and wall at all junctions. All holes from dowels and pipes projecting through membrane shall be patched over pipe and pulled up tight and taped to provide a watertight installation. Vapor barrier is to be a complete manufacturer's system (tape, etc…)

3.02 UNDER ASPHALT SHINGLE ROOFING: Apply self-adhering membrane (Bituthane) to prepped plywood decking and down and up vertical surfaces lapping as recommended by manufacturer

3.03 THRU WALL FLASHING: Shall be continuous, lapped 8 inches and sealed with plastic cement and extended to with ½" of the exterior of masonry and extend 8" up behind plywood.

3.04 MASONRY DAMPROOFING: Shall be continuous on the outside face of all concrete block masonry backup. Apply two coats of type 2-emulsion type by W.R. Meadows. Brush or spray application with a total thickness of two coats 1/8" minimum.

3.05 BRICK MASONRY WATERPROOFING: Shall be Soloxane by Sure Klean or approved equal. Surface shall be thoroughly cleaned with all joints properly pointed up and tooled. All surfaces treated shall be saturated, flooded with solution using a low-pressure airless spray in accordance with the manufacturer's recommendations. Ten-year warranty against leaks through masonry, not due to structural failure, by the manufacturer and signed by the applicator, shall be issued to the Owner after application.

3.06 CAULKING:

A. Apply one part caulk around perimeter of windows and outside doorframes and as indicated in prepared recesses. Flow on smoothly for even surface. Color selected.

B. Apply three part caulk to expansion joints of masonry and where detailed and noted. Install backer rod, mask tape edges of joints. Clean and prime recesses according to manufactured data. Apply sealant evenly and tool joint within 10 minutes of application and remove masking tape immediately. Color shall be as selected by Architect.

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS:
Drawings and General Provisions of the contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 SCOPE:
This section includes rigid roof insulation, flexible aluminum foil insulation, cavity wall insulation, batt thermal and sound insulation.

1.03 RELATED WORK:
A. Roof Decking
B. Ceiling Systems
C. Exterior Coatings
D. Masonry

PART 2 MATERIALS

2.01 Roof insulation is a polyisocyanurate spray foam to underside of wood truss/plywood roof deck/structure, with a minimum aged R-value of 38.

2.02 ACOUSTICAL INSULATION: Batts or blankets mineral fiber, 4 pcf density, 3" thick by Owen Corning, JM or equal. Coordinate with wall thicknesses.

2.03 THERMAL INSULATION: Exterior walls to be polyisocyanurate spray foam insulation to wood stud frame / plywood structure. Coordinate with wall thickness.

PART 3 INSTALLATION

3.01 Roof insulation shall be spray applied with installation recommended by the roofing manufacturer and the insulation manufacturer.

3.02 Batt insulation shall be laid above ceiling systems continuously without voids. Troffer light fixtures will be covered with a ceiling tile supported on 3/4" battens to provide ventilation for the ballast and the insulating batt shall be continuous over this device. Insulation in studs will be mechanically attached and shall fill all voids.

3.03 Acoustical insulation shall fit snugly between studs or woven through studs as detailed or laid above ceilings. All installations shall fill voids and leave no gaps. Isolate spaces indicated to have sound isolation (restrooms).

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 SCOPE

This section covers fascias, gutters, downspouts, and column covers and related items and their installation. The column covers are specified here, all other items are part of the metal roof work, described here for performance standards.

A. Related work specified elsewhere:
    1. Roofing system.
    2. Light steel framing.
    3. Carpentry.
    4. Structural steel.
    5. Caulking and sealants.

1.03 PERFORMANCE CRITERIA

A. Thermal Movement
    1. Fascia shall be capable of withstanding expansion and contracting of components cause by changes in temperature without buckling, producing excess stress on structure, anchors or fasteners, or reducing performance ability.
B. Uniform Wind Load Capacity
    1. Installed coping system shall withstand positive and negative design wind loading pressure complying with UL 90.

1.04 SUBMITTALS

A. Shop Drawings: Indicate material types, sizes, shapes, thicknesses, finish, fabrication details, anchors, connections and relation to adjacent work. Details and profiles shall be drawn at appropriate scale. Provide seven (7) copies.
B. Product Data: Indicate product description, finishes and installation instructions, including interface with adjacent materials and surfaces.
C. Warranties: Submit sample warranty forms indicating compliance with specified warranty requirements.

1.05 QUALITY ASSURANCE

A. Applicable Standards
    1. Aluminum Association, Design System for Aluminum Finishes (AA).
    2. American Architectural Manufacturers Association (AAMA), standards

as referenced herein.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Store materials off ground, under cover. Protect from damage and deterioration.

B. Handle materials to prevent damage to surfaces, edges and ends of sheet metal items. Damaged material shall be rejected and removed from site.

1.07 WARRANTIES

A. Warrant work to be free of defects in materials and workmanship, to resist blow-off and to be leak tight, due to conditions within stated design limits.

B. Warrant fluoropolymer coating to remain free, under normal atmospheric conditions, from peeling checking or cracking (except for slight crazing as may occur on tightly roll-formed edges or brake bends at time of forming prepainted sheet), chalking in excess of numerical rating of 8 when measured in accord with ASTM D659-86, or fading in excess of 5 N.B.S. unites during warranty period. Warranty period shall be twenty years beginning at Date of Substantial Completion.

PART 2 PRODUCTS

2.01 FORMED ALUMNIMUM FASCIAS, COPINGS, GUTTERS, DOWNSPOUTS, and COLUMN COVERS.

A. Acceptable products, subject to compliance with specified requirements:

1. MM Systems Crop.
2. W.P. Hickman Co.
3. Metalcom Architecture Finish Systems

B. Characteristics:

1. Material: smooth surfaced formed aluminum alloy. Thickness shall be determined by manufacturer to comply with specified performance, minimum thickness shall be 0.040”. Column covers shall have a 16 gauge galvanized backer or be of increased thickness to maintain shape.
2. Finish: KYNAR 500.
3. Lengths: AS SHOWN ON DRAWINGS.
4. Joints: splice plates, concealed.
5. Prefabricated corners.

C. Accessories:

1. Fascia / splice plates: minimum 0.040” thickness aluminum sheet, 6” minimum length. Finish shall match fascia.
2. Fasteners: fasteners shall be stainless steel and as recommended by coping system manufacturer. In no case shall structural adhesive be used without mechanical fastening devices.
3. Prefabricated sections: Factory-assembled end pieces and mitered corners, with welded joints to match in design and finish.

2.02 FINISH

A. KYNAR 500:
    1. Shop-applied to meet AAMA.
    2. Coating system shall provide minimum 2.5 mils dry film thickness.
    3. Color shall be selected by Architect from manufacturer's color chart.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install prefabricated fascia, gutters, downspouts, and column covers in accord with manufacturer's product data, true to line.
B. Make weather tight fit, allowing for expansion and contraction.
C. Gutters, downspouts, and column covers shall be formed to profile, shall be properly anchored and supported, shall be designed to allow expansion and remain watertight.

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 SCOPE

Specifications apply to steel doors, steel doorframes, and steel frame components such as sidelites, borrowed lites, transom frames, and architectural stick assemblies as shown on Architect's plans and schedules.

1.03 RELATED WORK

A. Hardware
B. Glazing
C. Painting
D. Masonry
E. Gypsum Dry Wall
F. Veneer Plastering

1.04 SHOP DRAWINGS

Doors, frames, and steel frame components shall be as shown on shop drawings and schedules and shall be approved by the architect before fabrication.

1.05 TEST REPORTS AND LABELING COMPLIANCE

Where fire-rated door assemblies are indicated or required, provide fire-rated door frame assemblies that comply with NFPA 80 "Standard for Fire Doors, Smoke Doors and Windows," and have been tested. Listed and labeled in accordance with ASTM E 152 "Standard Methods of Fire Test of Door Assemblies." Doors and frames shall bear a label from Underwriters Laboratories, Inc. of North Brook, IL showing compliance.

1.06 PACKAGE / STORAGE AND HANDLING

Doors and frames should be stored at the building site on 4" woodsills or on suitable surfaces that will prevent rust and damage. Doors and frames should always be stored under cover. Avoid non-vented plastic or canvas shelters that create a humidity chamber. If door wrapper becomes wet, remove carton immediately. Provide ¼" space between doors to promote air circulation.

1.07 QUALITY ASSURANCE

To the greatest extent possible, obtain all frames and doors from one manufacturer. Hollow metal supplier shall maintain an office and warehouse equipped with a sufficient inventory and equipment to properly maintain and service job during and after construction is complete. This facility shall be located within 75 miles from job

site.

1.08 ACCEPTABLE MANUFACTURERS

A. Steelcraft – Cincinatti, Ohio
B. Ceco – Chicago, Illinois
C. Curries – Mason City, Iowa

PART 2 PRODUCTS

2.01 MATERIALS AND FINISHES

A. Doors, frames, and frame components shall be manufactured from hot-dipped galvanized steel, G60 zinc coating conforming to ASTM specification A525.
B. All doors, frames, and frame components shall be cleaned, phosphatized and finished as standard with one coat of baked-on rust inhibiting prime paint in accordance with the ANSI A224.1 "Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames."
C. Doors and frames shall be cleaned, phosphatized and finished with baked-on ruse inhibiting paint capable of passing a 200-hour salt spray and 500-hour humidity test in accordance with ASTM test method B117 and D1735.

2.02 CONSTRUCTION OF DOORS

A. Flush Steel Doors: Doors shall be full flush fabricated from hot-dipped galvanized steel (see Section 2.01A), 16 gage for 1 ¾" doors. Doors shall be reinforced, stiffened, sound deadened and insulated with impregnated kraft honeycomb core completely filling the inside of the doors and laminated to inside faces of both panels. Door shall have continuous vertical mechanical interlocking joints at lock and hinge edges with visible edge seams. Doors shall have beveled (1/8" in 2") hinge and lock edges. Top and bottom steel reinforcement channels shall be 14 gage and spot welded within the doors. Hinge reinforcements shall be 8 gage fro 1 2/3" doors. Lock reinforcements shall be 16-gage and closer reinforcements, 14 gage. Galvanized doors shall have galvanized hardware reinforcements. Adequate reinforcements shall be provided for other hardware as required.
B. Stile and Rail doors: Shall be of tubular stile and rail construction 1 ¾" thick and fabricated from 16-gage galvanized steel (see Section 2.01A) Door corners shall be mitered reinforced and continuously welded and ground smooth. Hinge reinforcements shall be 8-gage, lock reinforcements 16-gage, and closer reinforcements 14-gage. Galvanized doors shall have galvanized hardware reinforcements. Adequate reinforcements shall be provided for other hardware as required.

2.03 CONSTRUCTION OF FRAMES

A. Flush frames: shall be formed from 16-gage galvanized steel (see Section 2.010-A). F series frames shall be 2" faces. Frames shall be set up and arc-welded. Mitered corners shall have reinforcements with four integral tabs for secure and easy interlocking of jambs to head. Frames shall be supplied with factory installed rubber bumpers, (3) per strike jamb and two (2) per head for

paid of doors. Frames for 1 ¾" doors shall be 8-gage steel hinge reinforcements and prepared for 4 ½" x 4 ½" standard or heavy weight template hinges. Strike reinforcements shall be 16-gage and prepared for an ANSI-A115.1-2 strike. Metal plaster guards shall be provided for all mortised cutouts. Reinforcements for surface closer shall be 14-gage steel. Galvanized frames shall have galvanized hardware reinforcements. Adequate reinforcements shall be provided for other hardware when required. Frames shall be furnished with a minimum of six wall anchors and two base anchors of manufacturer's standard design.

2.04 CONSTRUCTION OF ARCHITECTURAL STICK COMPONENTS

Architectural stick frame assemblies shall be made of standard Steelcraft frame components, fabricated from 16-gage galvanized steel (see Section 2.01A). Where sticks are used at door openings and frame assemblies, they shall be fabricated from three basic components: Open sections (perimeter members), closed sections (intermediate members), and sill section. Open section shall be identical in configuration to standard frames. Closed sections shall have identical jamb depths, face dimensions, and stops as open section. Closed section shall have full length internal reinforcement of 16-gage steel, spot welded to both soffits at 8" on center. Sill section shall be either flush with both faces of adjacent vertical members or recessed from one face of the adjacent vertical members. Individual components shall be cut to length and notched to assure square joints and shall be welded and ground smooth at the face of the sections. Frame assemblies shall be shipped to job site completely welded. Field joints shall be permitted only when the size of the total assembly exceeds shipping limitations. When frame assemblies are subjected to windloads, vertical members shall be free of splices. When specified steel panels shall be furnished 3/8" or 1 3/8" as required. 3/8" panels shall be made of 18-gage cold-rolled steel faces with a corrugated fiberboard filler. 1 3/8" panels shall be made of 2-gage cold-rolled steel faces with a honeycomb core. Cores shall be laminated to inside faces of both panels. Panels shall be standard finished (see Section 2.01B). Steel channel glazing beads shall be provided with assemblies for all areas in which glass or panels are to be installed. All necessary anchors for jambs, heads, and sills of assemblies shall be provided. When verification of field dimensions are necessary, they shall be made by the contractor. Frame fabrication shall not begin until these dimensions have been submitted.

PART 3 INSTALLATION OF DOORS AND FRAMES

3.01 Doors and frames shall be installed in accordance with Door and Hardware Institution Publication "The Installation of Commercial Doors and Steel Frames, Insulated Steel Doors in Wood Frames and Builders Hardware."

END OF SECTION

PART 1 GENERAL

1.01 Summary

A. Furnish and install louvers, bird screens, blank-off panels, structural supports and attachment brackets as shown on the drawings, as specified, and as needed for a complete and proper installation.

B. The louvers to be furnished include the following:

1. Dade County approved louvers.

C. Related sections include:

1. Division 7 Section "Joint Sealants" for sealants installed in perimeter joints between louver frames and adjoining construction.

1.02 References

A. Air Movement and Control Association International, Inc.

1. AMCA Standard 500-L-99 Laboratory Methods of Testing Louvers for Rating
2. AMCA Publication 501 Application Manual for Louvers

B. The Aluminum Association Incorporated

1. Aluminum Standards and Data
2. Specifications and Guidelines for Aluminum Structures

C. American Society of Civil Engineers

1. Minimum Design Loads for Buildings and Other Structures

D. American Society for Testing and Materials

1. ASTM B209
2. ASTM B211
3. ASTM B221
4. ASTM E90-90

E. Architectural Aluminum Manufacturers Association

1. AAMA 800 Voluntary Specifications and Test Methods for Sealants
2. AAMA 605.2 Voluntary Specification for High Performance Organic Coatings on Aluminum Extrusions and Panels.
3. AAMA TIR Metal Curtain Wall Fasteners
4. AAMA 2605-98 Superior Performing Organic Coatings on Aluminum Extrusions and Panels

F. Canadian Standards Association

1. CAN3-S157-M83 Strength Design in Aluminum
2. S136 94 Cold Formed Steel Structural Members

G. Dade County Protocols

1. PA 100(A)-95 Test Procedure For Wind and Wind Driven Rain Resistance and/or Increased Wind Speed Resistance of Soffit Ventilation Strip and Continuous or Intermittent Ventilation System Installed at Ridge Area.
2. PA-201-95 Impact Test Procedure.
3. PA-202-95 Criteria for Testing Impact and Non-Impact Resistant Building Envelope Components Using Uniform Static Air Pressure.
4. PA-203-95 Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.

1.03 Submittals
A. Product Data
1. Air flow and water entrainment performance test results.
2. Material types and thickness.
B. Shop Drawings
1. Include elevations, sections and specific details for each louver.
2. Show anchorage details and connections for all component parts.
3. Include signed and sealed structural calculations.

1.04 Quality Assurance
A. Single subcontract responsibility: Subcontract the work to a single firm that has had not less than six years experience in the design and manufacturing of work similar to that shown and required.
B. Performance Requirements: Provide AMCA and BSRIA test data as required to confirm that the louvers have the specified air and water performance characteristics.
C. Acoustical Performance: Where applicable, submit test reports to confirm that the louvers meet the specified STC and Noise Reduction requirements.
D. Structural Requirements: Design all materials to withstand wind and snow loads as required by the applicable building code. Maximum allowable deflection for the louver structural members to be l/180 or 0.75 inches, whichever is less. Maximum allowable deflection for the louver blades to be l/120 or 0.50 inch across the weak axis, whichever is less.
E. Professional Engineer Requirements: Drawings and structural calculations to be signed and sealed by a professional engineer licensed to practice in the state of New Jersey (or Mississauga, Ontario).
F. Warranty: Provide written warranty to the owner that all products will be free of defective materials or workmanship for a period of one year from date of installation.

1.05 Delivery, Storage and Handling
A. Delivery: At the time of delivery all materials shall be visually inspected for damage. Any damaged boxes, crates, louver sections, etc. shall be noted on the receiving ticket and immediately reported to the shipping company and the material manufacturer.
B. Storage:
1. Material may be stored flat, on end or on its side.
2. Material may be stored either indoors or outdoors.
3. If stored outdoors the material must be raised sufficiently off the ground to prevent it being flooded.
4. If stored out doors the material must be covered with a weather proof flame resistant sheeting or tarpaulin.
C. Handling:
1. Material shall be handled in accordance with sound material handling practices and in such a way as to minimize racking.
2. Louver sections may be hoisted by attaching straps to the jambs and lifting the section while it is in a vertical position.

3. Louver sections should only be lifted and carried by the jambs. Heads, sills and blades are not to be used for lifting or hoisting louver sections.

PART 2 PRODUCTS

2.01 Manufacturers
A. The louvers and related materials herein specified and indicated on the drawings shall be as manufactured by:
Construction Specialties, Inc.
49 Meeker Avenue
Cranford, New Jersey 07016
Telephone: 800-631-7379
Construction Specialties, LTD.
895 Lakefront Promenade
Mississauga, Ontario L5E 2C2
Telephone: 888-895-8955
B. Products equal to the C/S materials may be offered providing that the manufacturer and materials are pre-approved at least 10 working days before the bid date.

2.02 Materials
A. Aluminum Extrusions: ASTM B211, Alloy 6063-T5, 6063-T6 or 6061-T6.
B. Aluminum Sheet: ASTM B3209, Alloy 1100, 3003 or 5005.

2.03 Fabrication, General
A. Provide C/S louver models, bird screens, blank-off panels, structural supports and accessories as specified and/or shown on the drawings. Materials, sizes, depths, arrangements and material thickness to be as indicated or as required for optimal performance with respect to strength; durability; and uniform appearance. B. Louvers to be mechanically assembled using stainless steel or aluminum fasteners.
C. Include supports, anchorage, and accessories required for complete assembly.

2.04 Louver Models
A. C/S 4” (102mm) Deep Dade County Approved Fixed Horizontal Hurricane Louver Model DC-4174
1. Material: Heads, sills, jambs and mullions to be one-piece structural aluminum members with integral caulking slot and retaining beads. Blades to be one-piece aluminum extrusions with front lip gutter designed to catch and direct water to sill. Louvers to be supplied with 4” high by full depth sill flashings formed from minimum 0.050” thick aluminum. Sill flashings to have welded side panels. Louvers and sill flashings to be installed in accordance with the manufacturer’s recommended procedures to ensure complete water integrity performance of the louver system. Material thickness to be as follows: Heads: 0.060”, Sills: 0.080” jambs and mullions: 0.125”, fixed blades: 0.070”.
2. Structural Performance: Louvers shall have been tested in accordance with Dade County Protocols PA201, PA202 and PA 203; and shall be Dade County Approved for open structure building envelope protection (including missile) for allowable design wind loading up to 170 psf. Section sizes are to be in accordance with the Notice of Acceptance No. 11-0218.04

3. AMCA Performance: A 4’ x 4’ unit shall conform to the following:
Free Area 8.80 sq. ft.
Free area velocity at the point of beginning water penetration 1087 FPM
Intake Pressure drop at the point of beginning water penetration 0.18 in. H2O
Exhaust Pressure drop at the point of beginning water penetration 0.15 in. H2O

2.05 Finishes
A. General: Comply with NAAMM "Metal Finishes Manual" for finish designations and application recommendations, except as otherwise indicated. Apply finishes in factory. Protect finishes on exposed surfaces prior to shipment. Remove scratches and blemishes from exposed surfaces that will be visible after completing finishing process. Provide color as indicated or, if not otherwise indicated, as selected by architect.
B. Fluorocarbon Coating
1. Louvers to be finished with an inhibitive thermo-cured primer, 0.2 mil minimum dry film thickness, and a thermo-cured fluorocarbon coating containing "Kynar 500" resin, 1.0 mil minimum dry film thickness.
2. All aluminum shall be thoroughly cleaned, etched and given a chromated conversion pretreatment before application of the Kynar/Hylar coating. The coating shall receive a bake cycle of 17 minutes at 4500.
F. All finishing procedures shall be one continuous operation in the plant of the manufacturer.
3. Manufacturer to furnish an extended 20 limited warranty for the Kynar/Hylar coating. This limited warranty shall begin on the date of material shipment.
Fluoropolymer system.
1. All aluminum shall be thoroughly cleaned, etched and given a chromated conversion pretreatment before application of the Kynar/Hylar coating. The coating shall consist of a primer, a high metallic color coat and a clear PVF2 topcoat. It shall receive a bake cycle of 17 minutes at 4500
F. All finishing procedures shall be one continuous operation in the plant of the manufacturer. 3. Manufacturer to furnish an extended 20 limited warranty for the Kynar/Hylar coating. This limited warranty shall begin on the date of material shipment.
G. All finishing procedures shall be one continuous operation in the plant of the manufacturer.
3. Manufacturer to furnish an extended 20 limited warranty for the Kynar/Hylar coating. This limited warranty shall begin on the date of material shipment.

2.07 Blank Offs
A. Furnish where indicated on the drawings blank–off panels fabricated by the louver manufacturer.
B. Blank-off panels to be 0.050” thick aluminum sheet. Panels to be finished with Kynar 500 minimum I mil thick full strength 70% resin Fluoropolymer coating. Color to be selected by the architect.

PART 3 EXECUTION
3.01 Examination: Examine openings to receive the work. Do not proceed until any unsatisfactory conditions have been corrected.

3.02 Installation

A. Comply with manufacturer's instructions and recommendations for installation of the work.

B. Verify dimensions of supporting structure at the site by accurate field measurements so that the work will be accurately designed, fabricated and fitted to the structure.

C. Anchor louvers to the building substructure as indicated on architectural drawings.

D. Erection Tolerances:

1. Maximum variation from plane or location shown on the approved shop drawings: 1/8" per 12 feet of length, but not exceeding 1/2" in any total building length or portion thereof (noncumulative).

2. Maximum offset from true alignment between two members abutting end to end, edge-toedge in line or separated by less than 3": 1/16" (shop or field joints). This limiting condition shall prevail under both load and no load conditions.

E. Cut and trim component parts during erection only with the approval of the manufacturer or fabricator, and in accordance with his recommendations. Restore finish completely. Remove and replace members where cutting and trimming has impaired the strength or appearance of the assembly.

F. Do not erect warped, bowed, deformed or otherwise damaged or defaced members. Remove and replace any members damaged in the erection process as directed.

G. Set units level, plumb and true to line, with uniform joints.

3.03 Protection

A. Protect installed materials to prevent damage by other trades. Use materials that may be easily removed without leaving residue or permanent stains.

3.04 Adjusting and cleaning

A. Immediately clean exposed surfaces of the louvers to remove fingerprints and dirt accumulation during the installation process. Do not let soiling remain until the final cleaning.

B. Before final inspection, clean exposed surfaces with water and a mild soap or detergent not harmful to the to the material finishes. Thoroughly rinse surfaces and dry.

C. Restore louvers and accessory components damaged during installation and construction so no evidence remains of corrective work. If results of restoration are unsuccessful, as determined by the Architect, remove damaged materials and replace with new materials.

1. Touch up minor abrasions in finishes with a compatible air-dried coating that matches the color and gloss of the factory applied coating.

D. Dissimilar Metals - Provide separation between aluminum louvers and any dissimilar metals. Peel and stick mastic or other similar materials will be usde to separate thse dissimilar metals.

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 SCOPE

This section includes flush wood doors and fiberglass doors and frame.

1.03 RELATED WORK

A. Hollow metal frames
B. Carpentry
C. Hardware
D. Painting

1.04 SHOP DRAWINGS

Submit seven (7) copies of schedule, manufacturers literature and one corner sample of each door type.

A. Product Data: Submit door manufacturer's product construction data, hardware attachment performance data, specifications and installation instructions for each type of wood door, including details of core and edge construction, trim for lite openings and similar components.

B. Specific Product Warranty: The door shall be warranted by the manufacturer to be free of manufacturing defects for the life of the original installation. Warranty shall provide for repair or replacement of the door as originally furnished. Manufacturer shall elect to repair or replace defective door(s), and will assume reasonable costs associated with same. Manufacturer may, per its discretion, elect to use either its own or third party resources to resolve warranty claims.

1.05 QUALITY CONTROL

A. Quality Standard: Doors to comply with WDMA IS 1A (Window and Door Manufacturers Association).

B. Fire Ratings Compliance: Fire-rated wood doors to comply with NFPA-80 requirements according to building code standards having local jurisdiction.
1) Neutral Pressure Testing - UBC 43-2 or 7-2-94; or UL10B.

C. Delivery/Storage/Handling**:** Store and protect doors in accordance with manufacturer's recommendations and WDMA. Following are general guidelines. For more specific information refer to WDMA's Appendix Section “Care and Installation at Job Site.”

1) Store doors flat and off the floor on a level surface in a dry, well-ventilated building. Do not store on edge. Protect doors from dirt, water and abuse.

2) Certain wood species are light sensitive. Protect doors from exposure to light (artificial or natural) after delivery.

3) Do not subject interior doors to extremes in either heat or humidity. HVAC systems should be operational and balanced, providing a temperature range of 50 to 90 degrees Fahrenheit and 30% to 50% relative humidity.

4) When handling doors, always lift and carry. Do not drag across other doors or surfaces. Handle with clean hands or gloves.

5) Each door will be marked on top rail with opening number.

(1) Completely factory pre-fit to required size ready for installation at project site. No on-job site trimming permitted.

A. Fabricating tolerances:

(1) Pre-fit size +/- $^{1}/_{32}$" overall dimensions

(2) Squareness: Length or diagonal measured on face of door from upper left corner to lower right corner with maximum difference of 1/8"

(3) Maximum Warp: ¼"

(4) Show-through (telegraphing): 1/100" deviation from true plane in any 3" span on door face

1.06 ACCEPTABLE MANUFACTURERS

Marshfield, Eggers, Algoma & Buell for wood doors, and Corrim Company, Oshkosh, WI for fiberglass doors and frame.

PART 2 MATERIAL

2.01 Flush wood doors – type SLC 1 ¾" thick of sizes and types shown and scheduled, 5-ply construction. Face veneers are of plain sliced red oak, cross band 1/16", stiles are solid wood, minimum 1 3/8" matching face veneer. Top and bottom rails are 1 1/8" hard wood. For doors with ratings up to 20 minutes, core is Stave Lumber Core (SLC-5) or Structural Composite Lumber Core (SCLC-5). Use Mineral Core for doors with greater than 20 minute rating. Provide 5" x 18" solid wood lock rail. Adhesives – hot pressed, type I (exterior) or Type II (interior). Doors are factory machined for hardware.

2.02 Doors shall be factory finished with clear finish.

2.03 Fiberglass reinforced plastic doors are standard gelcoat, 15 mils thick, white finish, resin reinforced with fibreglass, 40% by weight. Frames are corner reinforced with 4" x 4" x 5-3/8" x ¼" thick fibreglass angle, attached with

stainless steel countersunk screws. Gelcoat 15 mils thick on all exposed surfaces, white. Anchors to properly fit jobsite conditions. Fabricate exposed surfaces free from warp, wave or buckles. Doors and frame shall be mortised and reinforced for hardware in accordance with the hardware manufactures instructions.

PART 3 INSTALLATION

3.01 Doors shall be factory machined for hardware and fit and shall be installed in accordance with the manufacturers latest publication. Adjust for proper fit and uniform clearance at each edge. Clearances: 3/32" at head and jambs, 3/8" at bottom above floor surface of vinyl tile, marble threshold, metal threshold, carpet, etc. (coordinate with room finish schedule). When hanging doors, do not subject them to extreme heat and/or humid conditions. Relative humidity shall not be less than 30% or more than 50%.

PART 4 WARRANTY

4.01 Submit a written warranty on manufacturer's standard form signed by official of door manufacturer agreeing to repair or replace defective doors which have:

Delaminated in any degree

Warp or twist of ¼" or more in plane of door face

Telegraphing of stile, rail or core through face to cause surface variation in excess of $^{1}/_{100}$" in any 1" span.

4.02 Warranty shall also include refinishing and reinstallation, which may be required due to repair or replacement of the defective doors.

4.03 Warranty shall be in effect for the life of original installation (interior use).

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS:

Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 SCOPE:

Furnish all necessary material, labor and equipment to complete installation of window framing shown on drawings and specified herein. Includes fixed windows. See steel doors and frames for entry units.

1.03 RELATED WORK:

A. Glass
B. Masonry
C.. Hardware

1.04 PRODUCTS:

A. Kawneer Aluminum Hurricane Resistant Storefront System.
B. Series: IR 501 Storefront System.
C. Framing Member Profile: 2-1/2" x 5" (63.5 x 127) nominal dimension; Non-Thermal; Center Glazed; Interior Structural Silicone Glazed; Screw Spline Fabrication.
D Product is to be center glazed. Casement window is to be Kawneer AA900 set into the IR 501 frame. Use same glass as the IR-501.

1.05 SUBMITTALS:

Shop drawings will be submitted to the Architect for approval prior to fabrication.

PART 2 MATERIALS

2.01 Window system

A. Aluminum (Storefront and Components):
1. Material Standard: ASTM B 221; 6063-T6 alloy and temper
2. Member Wall Thickness: Each storefront member shall provide structural strength to meet specified performance requirements.
3. Tolerances: Reference to tolerances for wall thickness and other cross-sectional dimensions of storefront members are nominal and in compliance with AA Aluminum Standards and Data.

2.02 Accessories

A. Fasteners: Shall be 300 Series Stainless Steel.
B. Gaskets: Exterior Glazing gaskets shall be extruded EPDM rubber. Interior Spacer shall be compatible with Silicone Sealant.
C. Perimeter Strap Anchors (Optional): Aluminum 6063-T6 Alloy and Temper.
D. Perimeter Anchors: When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.

2.03 FABRICATION:

A. General:
1. Fabricate components per manufacturer's installation instructions and with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.
2. Accurately fit and secure joints and corners. Make joints flush, hairline and weatherproof.
3. Prepare components to receive anchor devices. Fabricate anchors.
4. Arrange fasteners and attachments to conceal from view.

2.04 Finishes

A. Factory Finishing:
1. Fluropon® (70% PVDF), AAMA 2605, Fluoropolymer Coating (Color as selected from manufacturer’s standard finishes).

2.05 Source Quality Control

A. Source Quality: Provide aluminum storefront specified herein from a single source.
1. Building Enclosure System: When aluminum storefront is part of a building enclosure system, including entrances, entrance hardware, windows, curtain wall system and related products, provide building enclosure system products from a single source manufacturer.
B. Fabrication Tolerances: Fabricate aluminum storefront in accordance with framing manufacturer's prescribed tolerances.

PART 3 EXECUTION

3.01 Examination

A. Site Verification of Conditions: Verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions. Verify openings are sized to receive storefront system and sill plate is level in accordance with manufacturer's acceptable tolerances.
1. Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements, fabrication schedule with construction progress to avoid construction delays.

3.02 Installation

A. General: Install storefront system in accordance with manufacturer's instructions and AAMA storefront and entrance guide specifications manual.
1. Dissimilar Materials: Provide separation of aluminum materials from sources

of corrosion or electrolytic action contact points.

2. Weather Tight Construction: Install sill members and other members in a bed of sealant or with joint filler or gaskets, to provide weather tight construction. Coordinate installation with wall flashings and other components of construction.
3. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
4. Provide alignment attachments and shims to permanently fasten system to building structure.
5. Align assembly plumb and level, free of warp and twist. Maintain assembly dimensional tolerances aligning with adjacent work.

B. Related Products Installation Requirements:
   1. Sealants (Perimeter): Refer to Joint Treatment (Sealants) Section.
   2. Glass: Refer to Glass and Glazing Section.
      a. Reference: ANSI Z97.1, CPSC 16 CFR 1201 and GANA Glazing Manual.

3.03 Field Quality Control

A. Manufacturer's Field Services: Upon Owner’s written request, provide periodic site visit by manufacturer’s field service representative.

3.04 Protection and Cleaning

A. Protection: General Contractor shall protect installed product's finish surfaces from damage during construction. Protect aluminum storefront system from damage from grinding, weld burns and polishing compounds, plaster, lime, acid, cement, or other harmful contaminants.

B. Cleaning: Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance. Remove construction debris from project site and legally dispose of debris.

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 WORK INCLUDES

"Finish hardware" includes items known commercially as finish hardware which are required for swing, sliding and folding doors, except special types of unique and non-matching hardware specified in the same section as the door and door frame.

1.03 RELATED WORK

Hardware supplier shall check with other sections of this specification for related work such as aluminum entrances, metal doors and frames, wood doors, toilet partitions and accessories, or any other items that may relate to work in this section.

1.04 QUALITY ASSURANCE

A. The finish hardware supplier shall furnish to the General Contractor all finishing hardware as hereinafter specified or as obviously required to complete the project. Items not specifically mentioned but necessary to complete the work shall be furnished, matching in quality and finish to the items hereinafter specified or described. Should an opening be omitted, this supplier shall provide finish hardware equal to that specified for similar or adjacent openings and as approved by the architect for function and quality. No extras will be allowed for omitted buy required items. Clarify all questions with the architect in writing, prior to bid opening.

B. Experience: Hardware shall be furnished by those having experience in the builders hardware field, competent to correctly interpret the plans, specifications; to furnish appropriate technician regularly employed by them to immediately service the job as required. This technician shall operate out of a stocking builders warehouse located within 75 miles of the job site in order to insure immediate servicing of the project. This supplier shall make two scheduled visits to the job site during the application of the finish hardware. Prior to each visit, he shall notify the General Contractor and the Architect in writing of his intention to visit the job so that either or both parties may heave representation on the job to discuss any hardware problems that might need to be discussed. In addition, this supplier shall immediately service the job upon the call of the General Contractor and/or the Architect. Upon the completion of the job and prior to the final construction inspection, this supplier shall lubricate and adjust all hardware according to the manufacturer's recommendations. These service requirements shall be demanded and strictly enforced by the architects.

C. Product Delivery: All items of finish hardware shall be received at supplier's warehouse, checked for correctness of product, strikes, brackets, screws and miscellaneous items, etc. Hardware is to be accumulate at supplier's warehouse and as far as practical be delivered in one complete delivery by supplier's own personnel. Contractor shall refuse drop or factory shipments. Supplier is to coordinate delivery with Contractor and Contractor is to check all items of hardware at the time of delivery with personnel from supplier's office.

D. Product Handling: Provide secure lock-up for hardware delivered to the project, but not yet installed. Control the handling and installation of hardware items which are not completely replaceable so that the completion of the work will not be delayed by hardware losses, both before and after installation.

E. Fire Rated Openings: Provide hardware for fire-rated openings in compliance with NFPA Standard No. 80 and the Florida Department of Educations Code requirements. Provide only hardware that has been tested and listed by Underwriters Laboratories, Inc. for types and sizes of doors required and complies with requirements of door and doorframe labels.

F. Adjust and Clean:
   1. Adjust and check each operating item of hardware and each door to insure proper operation or function of every unit. Lubricate moving parts with type lubrication recommended by manufacturer (graphite-type if no other recommended). Replace units which cannot be adjusted and lubricated to operate freely and smoothly as intended for the application made.
   2. Clean adjacent surfaces soiled by hardware installation.
   3. Final Adjustment: Wherever hardware installation is made more than one month prior to acceptance or occupancy of a space or area, return to the work during the week prior to acceptance or occupancy, and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door controls devices to compensate for final operation of heating and ventilating equipment.

PART 2 PRODUCTS

2.01 FASTENINGS

A. Furnish all finish hardware with all necessary screws, bolts, and other fasteners of suitable size and type to anchor the hardware in position for long life under hard use.

B. Furnish sex bolts for all panic or exit devices and closers.

C. All fastenings shall harmonize with the hardware as to material and finish.

2.02 KEYING

A. Hardware supplier shall consult with Architect to secure written approval of the complete keying layout prior to placing lock order with factory. Supply Construction key for use until project is complete. All permanent keys and

keying are to be completed at factory. This is to insure that the integrity and security of the system is maintained.

B. Stamp all keys with “Do Not Duplicate”.

C. All master keys shall be identified for the specific job, tagged and above all will be delivered to: Architect.

D. Supply 6 ea. Master Keys and 3 keys per Lock. Supply 10 ea. Construction Keys.

2.03 ACCEPTABLE MANUFACTURERS

Hinges

McKinney	Hager
T2314	1191
TA2314	BB1191
T4A3386	BB1199

Locks (Functions as listed on Schedule)

Sargent	Corbin
8215	M2010
8265	M2020
8204	M2057
8205	M2051
8225	M2065
8226	M2022
8237	M2055

Lock Design

Sargent	Corbin
LNA	DSA

Safety Deadlock

Sargent	Corbin
4878	Dbl. Cyl. Classroom Lock

Closers (Check Schedule for Arm Selections)

Sargent	Corbin
1431	6000

Overhead Holders

Sargent	ABH
590H	9010

Miscellaneous Items

Rockwood	Hager
70C	30C
107 x 70C	3G x 30S
BF15847-2	160D Plus 130S
K1050	193S
555 – 12”	282D
406	232W
443	243F

Weatherstrip

National Guard	Hager
896V	520SV
160V	891SA
C627A	770SA
5050D	726S
425E	412E
16A	810S

Hardware Set #1
Door #1 Exterior From Entry 100

Cylinders As Required
Balance of Hardware by others

Hardware Set #2
Door #14 Exterior From Hall 11

3 ea. Hinges	TA2314 4.5 x 4.5 NRP	US32D
1 ea. Mortise Lock	8225 LNA	US26D
1 ea. Closer	1431 – PS	EN
1 ea. Door Viewer	622 (Rockwood)	CRM
1 ea. Threshold	896V x DW	Alum
1 set Weatherstrip	160V x LR	Alum
1 ea. Door Sweep	C627A x DW	Alum

Hardware Set #3
Door #15 Exterior From Mechanical 115

3 ea. Hinges	TA2314 4.5 x 4.5 NRP	US32D
1 ea. Storeroom Lock	8204 LNA	US26D
1 ea. Overhead Hld.	590H	US26D
1 ea. Threshold	896V x DW	Alum
1 set Weatherstrip	160V x LR	Alum
1 ea. Door Sweep	C627A x DW	Alum

Hardware Set #4
Door #2 Lobby To Office 101
Door #3 Lobby To Office 102
Door #4 Lobby To Office 104
Door #7 Hall 108 To Office 107

3 ea. Hinges	T2714 4.5 x 4.5	US26D
1 ea. Office Lock	8205	
1 ea. Wall Bumper	406	US26D

Hardware Set #5
Door #11 Hall #11 to Break Room 112

3 ea. Hinges	T2714 4.5 x 4.5	US26D
1 ea. Passage Set	8215 LNA	US26D
1 ea. Wall Bumper	406	US26D

Hardware Set #6
Door #9 Hall To Men's Room 109
Door #10 Hall To Women's Room 110

3 ea. Hinges	T2714 4.5 x 4.5	US26D
1 ea. Privacy Set	8265 LNA	US26D
1 ea. Wall Bumper	406	US26D

Hardware Set #7
Door #5 Lobby To Tellers 107

3 ea. Hinges	TA2714 4.5 x 4.5	US26D
1 ea. Storeroom Lock	8204 LNA	US26D
1 ea. Closer	1431 – Reg. Arm	EN
1 ea. Door Viewer	622 (Rockwood)	CRM
1 ea. Wall Bumper	406	US26D

Hardware Set #8
Door #12 Storage 113 from Hall 111
Door #13 Electrical from Hall 111

3 ea. Hinges	T2714 4.5 x 4.5	US26D
1 ea. Storeroom Lock	8204 LNA	US26D
1 ea. Wall Bumper	406	US26D
1 ea. Door Viewer	622 (Rockwood)	CRM

Hardware Set #9
Door #6 Vault 106 from Tellers 104

3 ea. Hinges	T2714 4.5 x 4.5	US26D
1 ea. Storeroom Lock	8204 LNA	US26D
1 ea. Wall Bumper	406	US26D

Hardware Set #10
Door #8 Lobby 100 To Hall 111

3 ea. Hinges	TA2714 4.5 x 4.5	US26D
1 ea. Classroom Lock	8237 LNA	US26D
1 ea. Closer	1431 – UO	EN

1 ea. Door Viewer	622 (Rockwood)	CRM
1 ea. Wall Bumper	406	US26D
1 ea. Door Viewer	622 (Rockwood)	CRM

Hurricane Code Compliance

Note: Hardware to be compatible with Doors and Frames and Wind Requirements for this Building. If another brand is to be used, the supplier shall get other products approved in advance as outlined in Section 1 of this specification.

End of Section

PART 1 GENERAL

1.01 RELATED DOCUMENTS:
Drawings and General Provisions of the contract, including General and Supplementary Conditions and Division 1 Specification section, apply to work of this section.

1.02 SCOPE:
This section includes mirrors, glass and glazing and all related items necessary for a complete installation.

1.03 SCHEDULES: Sizes, types and location of glass is shown on the architectural drawings.

1.04 LABELS: Glass shall be delivered with original Manufacturer's trade and grade mark. Labels shall remain on glass.

1.05 SUBSTITUTIONS: Material specified is by OldCastle Building Envelope, but similar and equal products by AGC Flat Glass, Viracon, Inc. will be acceptable.

1.06 RELATED WORK:
- A. Entry Doors and Frames
- B. Windows
- C. Doors

1.07 SUBMITTALS:
- A. Samples:
  1. Color sample of Sealant to be used other than clear.
- B. Product Data:
  1. Two copies of product manufacturer's specifications, recommendations, and installation instruction for sealant and associated materials.
  2. Manufacturer's published data, letter of certification, or certified test laboratory report that each material complies with requirements and is intended for application shown.

1.08 GUARANTEE
- A. Provide manufacturer's standard 10-year material guarantee.
- B. Guarantee workmanship for a period of one year.

PART 2 MATERIALS

2.01 SHEET GLASS: Shall be equal to Pilkington ¼", 3/8" plate glass, clear and of color selected.

2.02 HEAT STRENGTHENED AND TEMPERED GLASS: All glass where required by code shall be tempered safety glass.

2.03 INSULATED GLASS: Shall be 1 5/16" thick with ¼" panes. Exterior pane is PPG Solar Gray, ½" air space. ¼" clear heat strengthened, .090 SGP interlayer, ¼" clear heat strengthened laminated hurricane impact interior lite. Provide Low "E" coating on the #3 surface of insulated unit.

2.04 MIRRORS: Shall be equal to Lenoir ¼" mirror, provide mirror with safety backing. Where shown, provide chrome frames for mounting on plywood backing. Size is indicated on plans. Where detailed without frame, mirrors will have ground edges and be adhesion mounted to solid plywood backing.

2.05 SEALANTS:

A. Dow Corning 999 Silicone Building Sealant
B. G.E. Construction 1200 Sealant
C. Silicone formed Glazing Gaskets
D. Neoprene Setting Blocks

2.06 G.E. Caulk silicone and silicone formed tapes and neoprene setting block etc...

2.07 MISCELLANEOUS MATERIALS

A. Joint cleaner for glass: Xylol. Tuluol or Methyl Ethyl Ketone (MEK).
B. Masking Tape; Pressure sensitive adhesive paper tape.

PART 3 FABRICATION

3.01 Cut glass to allow for expansion.

3.02 PLATE GLASS: Shall be cut and installed so that any wave distortion runs horizontally.

PART 4 INSTALLATION

4.01 Refer to plans for type of glass required on each installation. All glazing on the interior of the building will be clear unless otherwise noted.

4.02 GENERAL: Glass shall be installed by mechanics skilled in this trade.

4.03 GLAZING WINDOWS, DOORS AND FRAMES: Shall be installed in accordance with the Flat Glass Jobbers Association Glazing manual. All surfaces shall be clean and dry. Work only when the outside temperature is above 40 degrees F. Where operating sash is being glazed, no operation is permitted until compound is set. All glass, plastic window trim and metal frames shall be cleaned and polished at end of job.

4.04 Butt glazing installations shall require neoprene setting blocks at ¼ points. Clear silicone gaskets at head sill and jamb and clear silicone caulking at meeting point of glass panes. Apply sealant to insure entire cavity is filled. Voids along edge are not acceptable. Immediately tool finish sealant into contact with sides of joint. Tooling shall be done without soap or detergents. Remove excess sealant by mechanical means or with Xylol Xylene) or mineral spirits.

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SCOPE

This Section includes all labor and materials for Gypsum board screw-attached to steel framing and furring members.

1.03 RELATED DOCUMENTS

A. Light Steel Framing
B. Painting

1.04 SUBMITTALS

Product data from manufacturers for each type of product specified, including installation recommendations.

Shop Drawings of proposed control joint locations, in accordance with recognized standards and manufacturer's recommendations.

1.05 DELIVERY, STORAGE AND HANDLING

Deliver materials in original packages, containers or bundles bearing brand name and identification of manufacturer or supplier.

Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface, surface contamination, corrosion, construction traffic and other causes. Neatly stack gypsum boards flat to prevent sagging.

Handle gypsum boards to prevent damage to edges, ends, and surfaces. Do not bend or otherwise damage metal corner beads and trim.

1.06 ACCEPTABLE

Gypsum Boards and Related Products:
Georgia-Pacific Corp
Gold Bond Building Products Div., National Gypsum Co.
United States Gypsum Co.

PART 2 PRODUCTS

2.01 STEEL FRAMING COMPONENTS FOR SUSPENDED AND FURRED CEILINGS:

General: Provide components which comply with ASTM C 754 for materials and sizes, unless otherwise indicated.

1. Wire for Hangers and Ties: ASTM A 641, Class 1 zinc coating, soft temper.
2. Hanger Rods: Mild steel, zinc coated or protected with rust-inhibitive paint.
3. Channels: Cold-rolled steel, 0.0598 inch minimum thickness of base (uncoated) metal and 7/16 inch wide flanges, galvanized and as follows:
   A. Carrying Channels: 1½ inch deep, 475 lbs per 1000 ft., unless otherwise indicated.
   B. Furring Channels: ¾ inch deep, 300 lbs per 1000 ft., unless otherwise indicated.
4. Steel Rigid Furring Channels: ASTM C 645, hat-shaped, depth of 7/8 inch, and minimum thickness of base (uncoated) metal 0.0179".
5. Resilient Channels: ASTM C 645, USG RC1, depth 7/8".
6. Vibration Isolation Hangers: Type WHR-40 DNS B-A Braces, Type WIC & Isolations Type SWW - by Mason Industries Inc., or equal.
7. Fasteners: Provide fasteners of type, material, size, corrosion resistance, holding power and other properties required to fasten steel framing and furring members securely to substrates involved; complying with the recommendations of gypsum drywall manufacturers for applications indicated.

2.02 GYPSUM BOARD

General: Provide gypsum board of types indicated in maximum lengths available to minimize end-to-end joints.

Provide gypsum board in thicknesses indicated with tapered edges or if not otherwise indicated, 5/8 inch thickness to comply with ASTM C 840 for application system and support spacing indicated. Gypsum boards shall have tapered edges and shall be regular and type X for fire resistant assemblies.

Type: Regular, unless otherwise indicated.

Type: Type X for fire-resistance-rated assemblies.

2.03 TRIM ACCESSORIES

Corner and Edge Trim for Interior Installation: Provide corner beads, edge trim and control joints which comply with ASTM C 1047.

2.04 GYPSUM BOARD JOINT TREATMENT MATERIALS:

1. General: Provide materials complying with ASTM C 475, ASTM C 840, and recommendations of manufacturer of both gypsum board and joint treatment materials for the application indicated.
2. Joint Tape: Paper reinforcing tape, unless otherwise indicated.
3. Setting-Type Joint Compounds: Factory-prepackaged, job-mixed, chemical-hardening powder products formulated for uses indicated.

   Where setting-type joint compounds are indicated for use as taping and topping compounds, use formulation for each which develops greatest bond strength and crack resistance and is compatible with other joint compounds applied over it.

For prefilling gypsum board joints, use formulation recommended by gypsum board manufacturer for this purpose.

2.05 MISCELLANEOUS MATERIALS

General: Provide auxiliary materials for gypsum drywall construction, which comply with reference standards and the recommendations of the manufacturer of the gypsum board.

Spot Grout: ASTM C 475, setting-type joint compound of type recommended for spot grouting hollow metal door frames.

1. Gypsum Board Screws: ASTM C 1002, Type S screws 1" & 1 5/8" long.
2. Concealed Acoustical Sealant: Nondrying, nonhardening, nonskinning, nonstaining, nonbleeding, gunnable sealant complying with requirement specified in Division - 7 Section "Joint Sealers".
3. Sound Attenuation Blankets: Unfaced mineral fiber blanket insulation produced by combining mineral fibers of type described below with thermosetting resins to comply with ASTM C 665 for Type I (blankets without membrane facing).

PART 3 EXECUTION

3.01 INSTALLATION OF STEEL FRAMING FOR SUSPENDED AND FURRED CEILINGS:

1. Secure hangers to structural support by connecting directly to structure where possible, otherwise connect to other anchorage devices or fasteners as indicated.
   Do not attach hangers to metal roof deck.
2. Do not connect or suspend steel framing from ducts, pipes or conduits.
3. Keep hangers and braces 2 inches clear of ducts, pipes and conduits.
4. Sway-brace suspended steel framing with hangers used for support.
5. Install suspended steel framing components in sizes and at spacings indicated but not less than that required by referenced steel framing installation standard.
   A. Wire Hangers: Provide a minimum of 0.1620 inch diameter (8 gage), 4 ft. on center.
   B. Carrying Channels (Main Runners): Provide a minimum of 1½ inch, 4 ft. on center.
   C. Rigid Furring Channels (Furring Members): 16 inches on center, unless otherwise indicted.
6. Installation Tolerances: Install steel framing components for suspended ceilings so that cross furring members or grid suspension members are level to within 1/8 inch in 12 ft. as measured both lengthwise on each member and transversely between parallel members.

   Wire-tie or clip furring members to main runners and to other structural supports as indicated.

3.02 APPLICATION AND FINISHING OF GYPSUM BOARD, GENERAL:

1. Gypsum Board Application and Finishing Standard: Install and finish gypsum board to comply with ASTM C 840.
2. Install sound attenuation blankets where indicated, prior to gypsum board unless readily installed after board has been installed.
3. Locate exposed end-butt joints as far from center of walls and ceilings as possible, and stagger not less than 24 inches in alternate courses of board.
4. Install ceiling boards across framing in the manner which minimizes the number of end-butt joints, and which avoids end joints in the central area of each ceiling. Stagger end joints at least 24 inches.
5. Install wall/partition boards in manner that minimizes the number of end-butt joints or avoids them entirely where possible. At stairwells and similar high walls, install boards horizontally with end joints staggered over studs.
6. Install exposed gypsum board with face side out. Do not install imperfect, damaged or damp boards. Butt boards together for a light contact at edges and ends with not more than 1/16-inch open space between boards. Do not force into place.
7. Locate either edge or end joints over supports, except in horizontal applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Position boards so that like edges abut, tapered edges against tapered edges and mill-cut or field-cut ends against mill-cut or field-cut ends. Do not place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partitions.
8. Attach gypsum board to steel studs so that leading edge or end of each board is attached to open (unsupported) edge of stud flange first.
9. Attach gypsum board to supplementary framing and blocking provided for additional support at openings and cutouts.
10. Form control joints and expansion joints at locations indicated on ship drawings, with space between edges of boards, prepared to receive trim accessories.

    Fit gypsum board around ducts, pipes, and conduits.

    Isolate perimeter of non-load-bearing drywall partitions at structural abutments. Provide ¼" to ½" space and trim edge with "U" bead edge trim. Seal joints with acoustical sealant.
11. For Sound rated drywall construction, seal construction at perimeters, control and expansion joints, openings and penetrations with a continuous bead of acoustical sealant including a bead at both faces of partitions. Comply with ASTM C 919 and manufacturer's recommendations for location of edge trim, and close off sound-flanking paths around or through construction, including sealing of partitions above acoustical ceilings.

3.03 GYPSUM BOARD APPLICATION

1. On ceilings, apply Gypsum Board prior to wall/partition applications to the greatest extent possible.
2. On partitions/wall apply gypsum board vertically (parallel to framing) unless

otherwise indicated.

3. Position all edges over studs or framing. Use maximum lengths possible to minimize end joints.
4. Fit ends closely but not forced together.
5. For double-layer application, space type S screw on base layer at 24" o.c. at joints and in field and on face layer and 12" o.c. at joints and 24" in field and offset joints between layers at least over stud and 16" and butt ends. Use 1" Type S screws on base and 1 5/8" Type S screws on face.

3.04 INSTALLATION OF DRYWALL ACCESSORIES

General: Where feasible, use the same fasteners to anchor trim accessory flanges as required to fasten gypsum board to the supports. Otherwise, fasten flanges to comply with manufacturer's recommendations.

1. Install corner beads at external corners.
2. Install metal edge trim whenever edge of gypsum board would otherwise be exposed or semi-finishing type) is indicated.
   A. Install "LC" bead where drywall construction is tightly abutted to other construction and back flange can be attached to framing or supporting substrate.
   B. Install "L" bead where edge trim can only be installed after gypsum board is installed.
   C. Install U-type trim where edge is exposed, revealed, gasketed, or sealant-filled (including expansion joints).
3. Install control joints at locations indicated, or if not indicated, at spacings and locations required by referenced gypsum board application and finish standard, and approved by the Architect for visual effect.

3.05 FINISHING OF DRYWALL

General: Apply joint treatment at gypsum board joints (both directions); flanges of corner bead, and control joints; penetrations; fastener heads, surface defects and elsewhere as required to prepare work for decoration.

1. Prefill open joints and rounded or beveled edges, if any, using setting-type joint compound.
2. In double layer installation, fill joints of lower layer with acoustical sealant.
3. Apply joint tape at joints between gypsum boards, except where item accessories are indicated.
4. Finish interior gypsum wallboard by applying the following joint compounds in 3 coats (not including prefill of openings in base), and sand between coats and after last coat:

   Embedding and First Coat: Ready-mix drying-type all-purpose or taping compound.
   Fill (Second) Coat: Ready-mix drying-type all-purpose or topping compound.
   Finish (Third) Coat: Ready-mix drying-type all-purpose or topping compound.

5. Partial Finishing: Omit third coat and sanding on concealed drywall construction in fly loft of stage and in mechanical or electrical equipment spaces indicated for drywall finishing or which requires finishing to achieve fire-resistance rating, sound rating or to act as air or smoke barrier.

6. Penetrations of Fire Rated Partitions require finishing and seal by fire stopping sealant, which is specified within "Section 07900 - Joint Sealer".

END OF SECTION

GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Ceramic tile.
2. Stone thresholds.
3. Waterproof membrane.
4. Crack isolation membrane.
5. Tile backing panels.
6. Metal edge strips.
7. Mortar Bed

B. Related Sections:
1. Division 7 Section "Joint Sealants" for sealing of expansion, contraction, control, and isolation joints in tile surfaces.
2. Division 9 Section "Gypsum Board" for cementitious backer units.

1.3 DEFINITIONS

A. General: Definitions in the American National Standards Institute-ANSI A108/137.1 series and in the Tile Council of North America-TCNA Handbooks for the Installation of Ceramic Tile apply to Work of this Section unless otherwise specified.

B. Module Size: Actual tile size plus joint width indicated.

C. Face Size: Actual tile size, excluding spacer lugs.

1.4 PERFORMANCE REQUIREMENTS

A. Static Coefficient of Friction: For tile installed on walkway surfaces, provide products with the following values as determined by testing identical products per ASTM C 1028:

Level Surfaces: Minimum. Wet: ≧ **0.60**; Dry: ≧ **0.80."**

1.5 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples for Initial Selection: For each type of tile and grout indicated. Include Samples of accessories involving color selection.

C. Samples for Verification:

1. Full-size units of each type and composition of tile and for each color and finish required.
2. Full-size units of each type of trim and accessory for each color and finish required.
3. Stone thresholds in 6-inch lengths.
4. Metal edge strips in 6-inch lengths.

D. Qualification Data: For qualified Installer.

E. Master Grade Certificates: For each shipment, type, and composition of tile, signed by tile manufacturer and Installer.

F. Product Certificates: For each type of product, signed by product manufacturer.

G. Material Test Reports: For each tile-setting and -grouting product.

H. See section 01300 for submittal requirements.

1.6 QUALITY ASSURANCE

A. Source Limitations for Tile: Obtain tile of each type and color or finish from one source or producer.

1. Obtain tile of each type and color or finish from same production run and of consistent quality in appearance and physical properties for each contiguous area.

B. Source Limitations for Installation Materials: Obtain sand, cement and other mortar bed materials of uniform quality and all surface preparation, backer board, membrane, thin-set and grout material from a single source manufacturer to be in compliance with their single source, full system warranty for this Project.

C. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

D. Pre-installation Conference: Conduct conference at Project site.

1. To be present are representatives of the A/E, GC, TC and setting materials manufacturers.

2. Review requirements in the ANSI and TCNA Handbooks for substrates conditions and for preparation by other trades and general coordination of the Work.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling tile packages.

B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.

C. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.

D. Store liquid materials in unopened containers and protected from freezing.

E. Handle tile that has temporary protective coating on exposed surfaces to prevent coated surfaces from contacting backs or edges of other units. If coating does contact bonding surfaces of tile, remove coating from bonding surfaces before setting tile.

1.8 PROJECT CONDITIONS

1. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 PRODUCTS, GENERAL

A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.

1. Provide tile complying with Standard grade requirements unless otherwise indicated.

B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCNA installation methods specified in tile installation schedules, and other requirements specified.

C. Factory Blending: For tile exhibiting color variations within ranges, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.

D. Mounting: For factory-mounted tile, provide back- or edge-mounted tile assemblies as standard with manufacturer unless otherwise indicated.

E. Factory-Applied Temporary Protective Coating: Where indicated under tile type, protect exposed surfaces of tile against adherence of mortar and grout by pre-coating with continuous film of petroleum paraffin wax, applied hot. Do not coat unexposed tile surfaces.

2.2 TILE PRODUCTS

A. Tile Type: Unglazed square-edged quarry tile.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following: BASIS OF DESIGN DALTILE but equal material from American Olean or American Tile will be reviewed by architect upon request

2. Face Size: 6 by 6 inches.
3. Thickness: ½”
4. Retain first subparagraph below for unglazed tile. If striated surface or raised pattern is required, insert description.
5. Wearing Surface: Smooth
6. Finish: UNGLAZED
7. Tile Color and Pattern: As selected by Architect from manufacturer's full range.
8. Grout Color: As selected by Architect from manufacturer's full range. Basis of design Custom Building Products
9. Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of adjoining flat tile. Provide shapes as follows, selected from manufacturer's standard shapes: TRIM UNITS – PROVIDE COVE BASE AND COORDINATING INSIDE AND OUTSIDE CORNERS

B. Tile Type: INTERIOR GLAZED WALL TILE CERAMIC BODY
shall be 4" x 4" x ¼” and 2”x2”x 1/4” tile by Dal-Tile.
Equal material from American Olean or American Tile will be reviewed by architect upon request. Semi-gloss finish, 5/16” thick. Provide accent tile of the same size. See drawings for location and quantities of accent tile. Provide with coves caps and inside and outside corners. Color will be selected by Architect from price group 1 & 2. Grout to be selected from manufacturer’s full range – basis of design Custom Building products. External Corners for Thin-Set Mortar Installations: Surface bull nose, same size as adjoining flat tile. Internal Corners: Field-butted square corners. For coved base and cap use angle pieces designed to fit with stretcher shapes.

C. Tile Type: Un Glazed porcelain paver tile

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following: BASIS OF DESIGN DALTILE Porcealto series but equal material from American Olean or American Tile will be reviewed by architect upon request. Colors will be selected by Architect from price group 1 & 2 tile.
2. Composition: Porcelain.
3. Face Size: 8x8 ; sizes vary depending on color
4. Thickness: 5/16 inch.
5. Face: Plain with square or cushion edges.
6. Finish: UNGLAZED color body
7. Tile Color and Pattern: As selected by Architect from manufacturer's full range.
8. Grout Color: As selected by Architect from manufacturer's full range. Basis of design Custom Building Products
9. Trim units: cove base and inside and outside corners.

D. Porcelain Tile: Color body porcelain

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following: BASIS OF DESIGN DALTILE Cliff Pointe series but equal material from American Olean or American Tile will be reviewed by architect upon request. Colors will be selected by Architect from price group 1 & 2 tile.
2. Composition: Porcelain.
3. Face Size: 18x18 ; sizes vary depending on color
4. Thickness: 5/16 inch.
5. Face: Plain with square or cushion edges.
6. Finish: UNGLAZED color body
7. Tile Color and Pattern: As selected by Architect from manufacturer's full range.
8. Grout Color: As selected by Architect from manufacturer's full range. Basis of design Custom Building Products
9. Trim units: cove base and inside and outside corners.

2.3 THRESHOLDS

A. General: Fabricate to sizes and profiles indicated or required to provide transition between adjacent floor finishes.

1. Bevel edges at 1:2 slope, with lower edge of bevel aligned with or up to 1/16 inch above adjacent floor surface. Finish bevel to match top surface of threshold. Limit height of threshold to 1/2 inch or less above adjacent floor surface.

B. Marble Thresholds: ASTM C 503, with a minimum abrasion resistance of 10 per ASTM C 1353 or ASTM C 241 and with honed finish. MARBLE THRESHOLDS: Shall be cut to profile from Alabama Cream "A" Marble

1. Description: Uniform, fine- to medium-grained white stone with gray veining.

2.4 TILE BACKING PANELS

A. Cementitious Backer Units: ANSI A118.9 and ASTM C 1325, in maximum lengths available to minimize end-to-end butt joints.

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

a. C-Cure; C-Cure Board 990.
b. Custom Building Products; Wonder board.
c. Jamo CBU Backer Board

2. Thickness: 1/2 inch.

2.5 WATERPROOF MEMBRANE

A. General: Manufacturer's standard product that complies with ANSI A118.10 and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer. Water proof membrane required at all floor tile in toilet rooms. Laticrete is the basis of design for tile thinset system, waterproofing system, etc…concerning the application of tile. Equal materials from Red Guard will be considered.

B. Fluid-Applied Membrane: Liquid-latex rubber or elastomeric polymer.

1. Products: Subject to compliance with requirements, provide one of the following:
a. Laticrete Waterproofing System
b. Laticrete Crack Prevention Membrane.

2.6 CRACK ISOLATION MEMBRANE

A. General: Manufacturer's standard product that complies with ANSI A118.12 for high performance and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.

B. Fabric-Reinforced, Modified-Bituminous Sheet: Self-adhering, modified-bituminous sheet with fabric reinforcement facing; 0.040-inch nominal thickness.

1. Products: Subject to compliance with requirements, Basis of Design (Laticrete):

a. Custom Building Products Crack Buster Pro Crack Isolation Membrane.

b. C-Cure Crack Isolation Membrane

c. Jamo Crack Isolation Membrane

2.7 SETTING MATERIALS

A. Portland Cement Mortar (Thickset) for Quarry Tile. Installation Materials: ANSI A108.02.

1. Cleavage Membrane: Asphalt felt, ASTM D 226, Type I (No. 15); or polyethylene sheeting, ASTM D 4397, 4.0 mils thick.
2. Reinforcing Wire Fabric: Galvanized, welded wire fabric, 2 by 2 inches by 0.062-inch diameter; comply with ASTM A 185 and ASTM A 82 except for minimum wire size.

3. Latex Additive: Manufacturers latex emulsion, serving as replacement for part or all of gaging water, of type specifically recommended by latex-additive manufacturer for use with field-mixed Portland cement and aggregate mortar bed.

    a. Basis of Design- Thin-Set Additive by Laticrete

B. Latex-Portland Cement Mortar (Thin Set) for color body porcelain and glazed wall tile: ANSI A118.4.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following (basis of design is Laticrete):
    a. Custom Building Products- Basis of Design- Flex Bond Thin-Set Mortar
    b. C-Cure.
    c. Jamo Inc.

2. Provide prepackaged, dry-mortar mix containing dry, re-dispersible polymer to which only water must be added at Project site.
3. For wall applications, provide mortar that complies with requirements for non-sagging mortar in addition to the other requirements in ANSI A118.4.

C. Medium-Bed, Latex-Portland Cement Mortar: Comply with requirements in ANSI A118.4. Provide product that is approved by manufacturer for application thickness of 3/4 inch. This is necessary for tiles in a 12x12 format or larger.

1. Manufacturers: Subject to compliance with requirements (basis of design is Laticrete):
    a. Custom Building Products- Basis of Design- Marble & Granite Mortar Mix
    b. C-Cure
    c. Jamo Inc.

2. Provide prepackaged, dry-mortar mix containing dry, re-dispersible, Polymer to which only water must be added at Project site.

D. Water-Cleanable, Tile-Setting Epoxy: ANSI A118.3[, with a VOC content of 65 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24)].

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following (basis of design is Laticrete):
    a. Custom Building Products- Basis of Design- 100% Solids Epoxy Mortar
    b. C-Cure.
    c. Jamo Inc.

2.8 Provide product capable of withstanding continuous and intermittent exposure to temperatures of up to 140 deg F and 212 deg F, respectively, and certified by manufacturer for intended use.

A. Water-Cleanable Epoxy Grout: ANSI A118.3.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following (basis of design is Laticrete):
    a. Custom Building Products- Basis of Design- 100% Solids Epoxy Grout or CEG2000
    b. C-Cure.
    c. Jamo Inc.

2. Provide product capable of withstanding continuous and intermittent exposure to temperatures of up to 140 deg F and 212 deg F, respectively, and certified by manufacturer for intended use.

3. GROUT MATERIALS

B. Standard Portland Cement Grout: ANSI A118.6
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    a. Custom Building Products- Basis of Design is Laticrete Grout
        1) Poly-Blend Sanded Grout for joint widths 1/8” – 1/2"
        2) Poly-Blend Un-sanded Grout for joint widths 1/8” and less.
    b. C-Cure.
    c. Jamo Inc.

2.9 ELASTOMERIC SEALANTS

A. General: Provide sealants, primers, backer rods, and other sealant accessories that comply with the following requirements and with the applicable requirements in Division 7 Section "Joint Sealants."

1. Use sealants that have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2. Use primers, backer rods, and sealant accessories recommended by sealant manufacturer.

B. Colors: Provide colors of exposed sealants to match colors of grout in tile adjoining sealed joints unless otherwise indicated.

C. One-Part, Mildew-Resistant Silicone Sealant: ASTM C 920; Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to nonporous joint substrates indicated, O; formulated with fungicide, intended for sealing interior ceramic tile joints and other nonporous substrates that are subject to in-service exposures of high humidity and extreme temperatures.

1. Products: Subject to compliance with requirements, provide the following:

a. DAP Inc.; Titanium Enriched Kitchen and Bath Sealant
b. GE Silicones; a division of GE Specialty Materials; Sanitary 1700.
c. Pecora Corporation; Pecora 898 Sanitary Silicone Sealant.

D. Multipart, Pourable Urethane Sealant for Use T: ASTM C 920; Type M; Grade P; Class 25; Uses T, M, A, and, as applicable to joint substrates indicated, O.

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

a. Degussa Building Systems; Sonneborn Sonolastic SL 2.
b. Pecora Corporation; Dynatrol II-SG
c. Sika Corporation; Sikaflex-2c SL.

2.10 MISCELLANEOUS MATERIALS

A. Trowelable Underlayments and Patching Compounds: Latex-modified, Portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.

B. Metal Edge Strips: Angle or L-shape, height to match tile and setting-bed thickness, metallic or combination of metal and PVC or neoprene base, designed specifically for flooring applications; stainless-steel, ASTM A 666, 300 Series exposed-edge material.

C. Temporary Protective Coating: Either product indicated below that is formulated to protect exposed surfaces of tile against adherence of mortar and grout; compatible with tile, mortar, and grout products; and easily removable after grouting is completed without damaging grout or tile.

1. Petroleum paraffin wax, fully refined and odorless, containing at least 0.5 percent oil with a melting point of 120 to 140 deg F per ASTM D 87.
2. Grout release in form of manufacturer's standard proprietary liquid coating that is specially formulated and recommended for use as temporary protective coating for tile.

D. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

2.11 MIXING MORTARS AND GROUT

A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.

B. Add materials, water, and additives in accurate proportions.

C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.

1. Verify that substrates for setting tile are firm, dry, clean, and free of coatings that are incompatible with tile-setting materials including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.
2. Verify that concrete substrates for tile floors installed with bonded mortar bed or thin-set mortar comply with surface finish requirements in ANSI A108.01 for installations indicated.

    a. Verify that surfaces that received a steel trowel finish have been mechanically scarified.
    b. Verify that protrusions, bumps, and ridges have been removed by sanding or grinding.

3. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed.
4. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with thin-set mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.

1. Basis of Design- Speed-Finish Patching & Leveling Compound by Custom Building Products

B. Where indicated, prepare substrates to receive waterproofing by applying a reinforced mortar bed that complies with ANSI A108.1A and is sloped 1/4 inch per foot toward drains.

C. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

D. Field-Applied Temporary Protective Coating: If indicated under tile type or needed to prevent grout from staining or adhering to exposed tile surfaces, pre-coat them with continuous film of temporary protective coating, taking care not to coat unexposed tile surfaces.

3.3 TILE INSTALLATION

A. Comply with TCNA's "Handbook for Ceramic Tile Installation" for TCA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 Series "Specifications for Installation of Ceramic Tile" that are referenced in TCA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.

1. For the following installations, follow procedures in the ANSI A108 Series of tile installation standards for providing 95 percent mortar coverage:
    a. Tile floors in wet areas.
    b. Tile floors composed of tiles 8 by 8 inches or larger.
    c. Tile floors composed of rib-backed tiles.

B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

C. For Relocation of saw cut joints to the next nearest grout joint (s), follow TCNA method F125 using Crack Buster Pro by Custom Building products.

D. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

E. Jointing Pattern: Lay tile in grid pattern unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.

1. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so joints between sheets are not apparent in finished work.
2. Where adjoining tiles on floor, base, walls, or trim are specified or indicated to be same size, align joints.
3. Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on floor, base, walls, or trim, align joints unless otherwise indicated.

F. Joint Widths: Unless otherwise indicated, install tile with the following joint widths:
1. Quarry Tile: 3/8 inch.
2. Paver Tile: 1/4 inch.
3. Glazed Wall Tile: 1/16 inch.

G. Lay out tile wainscots to dimensions indicated or to next full tile beyond dimensions indicated.

H. Expansion Joints: Provide expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated. Form joints during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.

1. Where joints occur in concrete substrates, locate joints in tile surfaces directly above them.
2. Prepare joints and apply sealants to comply with requirements in Division 7 Section "Joint Sealants."

I. Stone Thresholds: Install stone thresholds in same type of setting bed as adjacent floor unless otherwise indicated.

1. At locations where mortar bed (thickset) would otherwise be exposed above adjacent floor finishes, set thresholds in latex-Portland cement mortar (thin set).
2. Do not extend waterproofing or crack isolation membrane under thresholds set in or latex-Portland cement mortar. Fill joints between such thresholds and adjoining tile set on waterproofing or crack isolation membrane with elastomeric sealant.

J. Metal Edge Strips: Install where exposed edge of tile flooring meets carpet, wood, or other flooring that finishes flush with or below top of tile and no threshold is indicated.

K. Grout Sealer: Apply grout sealer to all cementitious grouts on floor and walls.
   1. Basis of Design- Surface-Guard by Custom Building Products.

3.4 TILE BACKING PANEL INSTALLATION

A. Install cementitious backer units and treat joints according to ANSI A108.11 and manufacturer's written instructions for type of application indicated.

3.5 WATERPROOFING INSTALLATION in toilet rooms

A. Install waterproofing to comply with ANSI A108.13 and manufacturer's written instructions to produce waterproof membrane of uniform thickness and bonded securely to substrate.

B. Do not install tile or setting materials over waterproofing until waterproofing has cured and been tested to determine that it is watertight.

3.6 CRACK ISOLATION MEMBRANE INSTALLATION as required over cold joints, control joints or movement joints

A. Install crack isolation membrane to comply with ANSI A108.17 and manufacturer's written instructions to produce membrane of uniform thickness and bonded securely to substrate.

B. Do not install tile or setting materials over crack isolation membrane until membrane has cured.

C. For Relocation of Saw Cut Joints, follow TCNA method F125 using Crack Buster Pro by Custom Building products.

3.7 CLEANING AND PROTECTING

A. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.

   1. Remove epoxy grout residue from tile as soon as possible.
   2. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.
   3. Remove temporary protective coating by method recommended by coating manufacturer and that is acceptable to tile and grout manufacturer. Trap and remove coating to prevent drain clogging.

B. Protect installed tile work with Kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. If recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors.

C. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.

D. Before final inspection, remove protective coverings and rinse neutral protective cleaner from tile surfaces.

3.8 INTERIOR TILE INSTALLATION SCHEDULE

A. Interior Floor Installations, Concrete Subfloor: Restrooms

1. Tile Installation F111: Cement mortar bed (thickset) with cleavage membrane; TCA F111 and ANSI A108.1B.

    a. Tile Type: Quarry Tile

    b. Med Bed Additive- Thin-Set Additive by Custom Building Products.

    c. Waterproofing Membrane: RedGard by Custom Building Products to be applied to the surface of the cured mud bed for subsequent thin-set application.
    d. Thin-Set Mortar for Cured-Bed Method: Flex Bond by Custom Building Products
    e. Grout: 100% Solids Epoxy Grout or CEG2000 by Custom Building Products

2. Tile Installation W244: Thin-set mortar on cementitious backer units or fiber cement underlayment; TCA W244 for Glazed Wall Tile

    a. Tile Type: glazed wall tile
    b. Thin-Set Mortar: Wall Tile Thin-Set Mortar by Custom Building Products
    c. Grout: Poly-Blend Cementitious
    d. Backer Board- Wonder Board by Custom Building Products.

3. Tile Installation At toilet room floors F122-09: Thin set porcelain tile with water proof membrane

    a. Tile Type: Color Body porcelain tile
    b. Thin Set Mortar: Thinset mortar by Custom Building products
    c. Grout: polyblend cementitious or 100% Solids Epoxy Grout or CEG2000 by Custom Building Products
    d. Backer board: wonder board by Custom Building Products

e. Waterproofing Membrane: RedGard by Custom Building Products to be applied to the surface of the thin-set for subsequent thin-set application

END OF SECTION 09310.

PART 1 GENERAL

1.01 RELATED DOCUMENTS:
Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 SCOPE:
This section includes all labor, materials and appliances necessary for the installation of the complete ceiling suspension systems as shown on plans and finish schedule.

1.03 SUBMITTALS: Shop Drawings (7 copies) showing components, supports, samples of systems and tile will be furnished the Architect for approval prior to fabrication.

1.04 ACCEPTABLE MANUFACTURERS: The ceiling tile system specified is by USG. Similar and equal tile systems by Armstrong will be considered. Exposed grid system specified is by USG but equal and similar system by Gordon Interior Specialties, Armstrong and Chicago Metallic will be considered.

PART 2 MATERIALS

2.01 CEILING

1. Ceiling Board Lay-In Units are USG Frost Clima Plus Premium Fineline, 24" x 24" x ¾" CAC Range 35-39 & NRC Range .70 - .80.

2. Interior linear metal ceiling: A painted metal channel 3 ¼" wide mounted to a carrier system similar to Paraline 1 Linear System by USG or Alcan or Interfinish. Support channel shall be capable of being curved on a radius +/-. Panels shall be 12'0" long minimum without splices. Refer to drawing for exact dimensions. System shall be complete with trim members as detailed and acoustical batt similar to Johns Manville 1" Theater Shield Plus, black painted fiberglass with fabric face.

2.02 GRID SYSTEM

1. Type A - Grid USG Fineline DXF 9/16" face Suspension Systems for 2' x 2' pattern and Fineline Panels.

2. WALL ANGLES: Type MS174 Shadowmold with Type A.

PART 3 INSTALLATION

3.01 EXPOSED SUSPENSION SYSTEM: Suspend mains from structure above, by means of properly secured 12 gauge galvanized hanger wires at 5'-0" maximum

spacing. All work shall be laid out on pattern shown. Lines shall be straight and true. In the event that some of the hanger wire cannot be used because of interference with ducts or other work, this Contractor shall provide all additional framing to properly support his work. Join cross tees to main beam with positive interlock. Secure channel molding to vertical surfaces. Neatly miter all corners and install corner covers.

Fit tee and main beams tightly to angle mold. Cross brace hanger wires to eliminate lateral movement and deflection. Acoustical ceiling boards shall be snugly secured in support system and shall be held in place with hold down clips, two acting on each panel in entries to the building.

3.02 Linear ceiling: Space paralock tee 48” o.c. (max spacing) and secure with screw to tube framing. Install Hanger wire to metal decking and or bar joists support, not to exceed 48” and snap pans into MTO position and install trim.

3.03 One area of the building shall be completed as a mockup at the earliest possible date, complete with lights and ceiling terminals.

3.04 Perform general cleaning maintenance with non-solvent cleaner. Touch up minor scratches or replace as required. Remove all debris resulting from this work.

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS:
Drawings and General Provisions of the contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 SCOPE:
Carpeting will be provided in this contract. Carpet installation will be scheduled prior to the installation of casework and wood bases. The General Contractor is required to cooperate with the carpet subcontractor to the extent that: access to the building and to areas scheduled for carpeting is available; that the floors to receive carpet are level, clean, and free of foreign materials; and that the indoor environmental conditions are suitable for the installation of carpet prior to installation of casework and wood base.

1.03 QUALIFICATION OF BIDDER:
Subcontractor providing the carpet installation shall be required to prove his qualifications to perform the contract by presenting to the Architect at least ten days prior to bid date a validated list of installations he has provided under his own name or company's name in the past five years. To be qualified to bid on this project he shall have had at least one satisfactory installation of more than two thousand yards of carpeting in the past five years. The Architect will be the judge of qualifications.

1.04 MEASUREMENTS: The Contractor shall verify all dimensions for the carpeting at the building site before supplying and cutting carpets.

1.05 The Manufacturer's written guarantee shall be furnished for replacement, including labor and material, for five years against 10% loss of yarn and 20 lb. tuft bind over a five-year period and the published static performance over a five-year period.

1.06 SAMPLES: Sample of actual carpet being bid by carpet Contractor shall be a minimum size of 9" x 9".

1.07 SUBMITTALS: The successful bidder shall submit shop drawings for Architect's approval indicating layout of carpet and where metal edging is required. The Carpet Contractor will be held responsible for the accuracy of measurement and fit of this work. See section 01300 for submittal requirements.

1.08 SUBSTITUTIONS: Carpets specified are listed under the material section, but similar and equal carpet will be considered, provided a complete description, including quality sample of the alternate material is submitted to the Architect for examination and consideration for approval at least ten days prior to the bid opening.

1.09 QUALITY STANDARDS OF MATERIAL: If desired by the Owner, carpet shall be subjected to dissection by the Pittsburgh Testing Laboratory, to determine the "equality" of materials proposed or furnished, as compared with the items specified. The cost of dissection or analysis shall be borne by the Contractor.

PART 2 MATERIALS

2.01 Carpet Type

LEES WORKPLACE COLLECTION
MODULAR W/ SELF-LOCK (TILE)

Weave..... Tufted
Surface Texture..... Textured Patterned Loop
Gauge.....1/12”
Stitches.....7.8 per inch
Pile Height.....0.136 avg.
Face Yarn.....Type 6,6 Antron Legacy , Duratech
Dye System.....Yarn Dyed/duracolor
Finished yards wt.....20 oz. per sq. yd.
Backing Materials:
Primary.....Reinforced Synthetic
Secondary.....Fiberglass reinforced
thermoplastic composite
Bonding agent.....Premium Vinyl

.
Size.....24” x 24”
Static.....3.0 kv maximum
Yarn will be treated with Bio-guard.

See drawings for new carpet location.

2.03 PERFORMANCE SPECIFICATIONS:

A. Static: As specified above when tested under the Standard Shuffle Test (70 degrees F 20% RH) (21 degrees C 20% RH)

B. Flammability: DOC-EE-1-70 Pill Test passes flooring radiant panel meets proposed commercial criteria NBS1R 75-950 glue down. NBS smoke chamber NFPA-258 meets proposed criteria.

C. Edge Ravel: Guaranteed no edge ravel under normal consumer use. Backing lamination guaranteed not to delaminate. Tuft bind guaranteed average 20# (ASTM D1336-67).

D. Secondary Back Adhesion: guaranteed not to delaminate in 10 years.

2.05 ACCESSORIES:

A. Binder Bar: Shall be equal to vinyl moldings custom edge by Mercer Plastic Co., Inc. or equal in colors to compliment carpet color as specified by Architect.

PART 3 INSTALLATION

3.01 Three copies of a printed installation manual written by the Carpet Manufacturer's technical service department will be supplied to the Architect before acceptance of material. Installation shall be under the supervision of Manufacturer's representative.

3.02 Floor construction and surfaces to receive carpeting shall be inspected by the Subcontractor and he shall promptly notify the General Contractor of any and all defects in the floor which affect this work so they may be corrected before start of this work. Proceeding with this work shall be deemed as acceptance by the Subcontractor of the pertinent floor areas and he shall be held responsible thereafter for the installation of this work.

3.03 The Subcontractor shall be held responsible for the accuracy of measurement and fit of this work.

3.04 The work specified herein shall be done by skilled workmen fully experienced in this type of work.

3.05 Floor areas to receive carpet shall be smooth, broom clean and dry prior to installation of carpeting.

3.06 Carpeting shall be secured to floor with waterproof adhesive per Manufacturer's recommendations. Burlington's Hot Melt adhesive will be used where static conductive woven polypropylene backing is used for broadloom carpet.

3.07 Carpet shall be installed in accordance with Manufacturer's recommendations.

3.08 Binder bars shall be installed at all areas where floor covering material changes, or

at carpet edges that do not abut a vertical surface.

3.9 Installed carpet shall be free of spots, dirt or soil and shall be without tears, frayed or pulled tufts.

3.10 This Contractor shall apply appropriate covering over carpeted areas until final acceptance if requested by Owner. Upon acceptance of this work by the Owner, this Contractor shall remove all debris and the protective coverings from the site and dispose of them in a legal manner.

PART 4 REPLACEMENT, REMNANTS, AND MAINTENANCE

4.01 For replacement and repairs, the Contractor shall furnish the Owner with remnants, overage and usable scraps of each type and color of carpet installed, from the same dye lot as the installed carpet. Replacement carpet, remnants and usable scrap and overage in carpeting shall be packaged in appropriate wrapping, labeled and delivered to the Owner at the job site.

4.02 Two copies of a printed maintenance manual written by the Carpet Manufacturer's technical service department will be delivered by the Contractor to the Owner at job site.

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS:
Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 SCOPE:
This section includes the furnishing of all labor and material and equipment necessary for the complete painting of all surfaces (unless specifically excepted) on both interior and exterior of the project.

1.03 The painting Contractor will be responsible for the inspection of the work of others prior to the application of paint or other finishes. If any surface to be finished cannot be put in proper condition of finishing by customary cleaning, sanding or puttying operations, the Painting Contractor shall immediately notify the General Contractor or Architect in writing or assume responsibility for and rectify and unsatisfactory finish resulting.

1.04 RELATED WORK:
A. Carpentry and Architectural Woodwork
B. Concrete
C. Plastering
D. Structural Steel
E. Miscellaneous Metals

1.05 SUBSTITUTIONS: Paints specified are the products of the Pratt & Lambert Co., but similar and equal first line products will be considered. Special coatings are as manufactured by the Tnemec Co., Inc.

PART 2 MATERIALS

2.01 INTERIOR PLASTER& GYP BOARD:
A. One coat (P/L) PVA primer
B. Two coats (P/L) Accolade Interior Velvet

2.02 CONCRETE BLOCK AND INTERIOR CONCRETE:
A. One coat (P/L) Block filler
B. Two coats (P/L) Accolade interior velvet

2.03 INTERIOR WOOD SURFACES (PIGMENT PAINTED):
A. One coat (P/L) Enamel Undercoat
B. Two coat (P/L) Cellutone Semi-Gloss Enamel

2.04 INTERIOR WOOD (STAIN & VARNISH):
A. One coat (P/L) Best Wood Filler (stain as required)
B. One coat (P/L) Sanding sealer
C. Two coats (P/L) 38 clear finish, satin

2.05 INTERIOR FERROUS METAL:
Sand and touch up abraded and rusted surfaces in shop coat primer.
A. One coat (P/L) Suprime 9
B. Two coats (P/L) Cellutone Semi-Gloss Enamel

2.06 PAINTED CONCRETE SURFACES:
A. One coat. Tnemec 52 Tneme-Crete
B. Two coat. Tnemec 52 Tneme-Crete

2.07 STAINED CONCRETE FLOORS:
Two coats H&C Stain

2.08 BACK PRIME WOOD TRIM AND MILLWORK:
One coat (P/L) interior trim primer or sanding sealer.

2.09 CANVAS COVERED PIPE:
A. One coat (P/L) PVA primer
B. One coat (P/L) Accolade interior velvet

2.10 EXTERIOR CEMENT STUCCO:
Two coats (P/L) Pro-hide plus latex flat exterior.

2.11 EXTERIOR FERROUS METAL:
Sand and touch up abraded and rusted surfaces with Pratt Lambert Roxide protective primer. Galvanized surface shall receive one coat Pratt & Lambert Roxide protective galvanized metal primer.
A. One coat (P/L) Suprime 9
B. Two coats (P/L) Effecto enamel

2.12 EXTERIOR WOOD SURFACES (PIGMENT PAINTED):
A. One coat (P/L) Suprime 8
B. Two coats (P/L) Effecto enamel

PART 3 WORKMANSHIP

3.01 Properly prepare, fill, sand and clean all surfaces to be painted.

3.02 Apply paint to flow on smoothly and evenly to proper film thickness with brush, roller or spray as indicated for various surfaces and materials. Cut paint neatly at unpainted materials and areas.

3.03 The number of coats specified herein is normally sufficient to obtain a satisfactory finish, but, should the finish not be acquired, it will be the responsibility of the Painting Contractor to apply such additional coats as may be required at no additional expense to the Owner.

3.04 Apply all items under this specification in strict accordance with the Manufacturer's directions. Adhere to specified drying times between coats.

3.05 Sand lightly with 5-0 paper on steel wool between all coats of pigment paint and varnish. Wood fillers shall be rubbed with rough cloth.

3.06 Work only under favorable weather conditions.

3.07 Top and bottom edges of all cabinet and passage doors will be finished same as faces.

3.08 Back prime all millwork before installation.

3.09 Fill all holes after prime coat.

3.10 Protect all hardware, plate accessories, etc., from paint.

PART 4 SURFACES NOT TO BE PAINTED

4.01 Brick
4.02 Metal Roofing and Siding.
4.03 Walks, Floor Covering
4.04 Glazed and unglazed tile
4.05 Plastic laminate
4.06 Aluminum and copper surfaces
4.07 Stainless steel surfaces
4.08 Toilet partitions
4.09 Acoustical Ceilings
4.10 Hardware
4.11 Glass
4.12 Stone & Marble
4.13 Banking Equipment and Casework.

ALL OTHER SURFACES UNLESS OTHERWISE DIRECTED BY ARCHITECT ARE TO BE PAINTED.

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS:

Drawings and General Provisions of the contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 SCOPE:

This section includes the furnishing and installation of extinguisher cabinets and extinguishers.

1.03 SUBMITTALS:

Shop drawings (7 copies) will be furnished the Architect for approval prior to ordering.

1.04 SUBSTITUTIONS:

Cabinets and Extinguishers Specified are as manufactured by Larsen Manufacturing Co., but equal & similar units by Elkhart Brass Manufacturing Co., or J. & L. Industries or equal will be considered.

PART 2 MATERIALS

2.01 EXTINGUISHER CABINET & EXTINGUISHERS:

Shall be Larsen's Occult series recessed cabinets with Vertical Duo doors. There are 3 ALO2409 units required glazing in door is clear safety glass.

Provide 3 extinguishers MP10 - UL Rating 4A-60B-C for cabinet mounting.

Provide 2 extinguishers MP10 - UL Rating 4A-60B-C with wall mounting brackets.

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS:

Drawings and General Provision of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 SCOPE:

The Contractor shall furnish all labor, materials, tools, equipment and perform all work and services for toilet and bath accessories as shown on drawings and as specified, in accordance with provision of the contract documents, and completely coordinate with work of all other trades.

1.03 RELATED WORK:

A. Hard Tile
B. Light Steel Framing
C. Carpentry (provide blocking)
D. Toilet Partitions
E. Painting

1.04 SUBSTITUTIONS:

Units as manufactured by Bobrick are specified but equal and similar units by Bradley and Architectural Supplements, Inc., acceptable.

1.05 Alternates include the classrooms building. Those items are included in the Quantity Listing in this section and should be included in the appropriate alternate.

1.06 SUBMITTALS:

Submit for approval to the Architect 7 copies of the following:

A. Copies of manufacturer's installation instructions.
B. Shop Drawings showing quantities.

PART 2 MATERIAL

2.01 Furnish and install the following items:

ITEM	DESCRIPTION	QUANTITY
A.	Towel dispenser/waste rec. B-3944 Recessed	2 ea.
B.	Towel dispenser /waste rec. B369-SM Surface mount	1 ea.

C. Toilet paper holders	B6867	2 ea.
D. Sanitary Napkin Disposals	B353 recessed	1 ea.
E. Grab Bars	18 Gage, Type 304 SS, Satin Finish, 1½" dia. Bobrick with concealed mountings & set screws	
	36" B6806.99	2 ea.
	42" B 6806.99	2 ea.
F. Mop & Broom Holders W/Shelf Rooms 103 and 306	B224 x 30"	1 ea.

PART 3 INSTALLATION

3.01 Grab bars and installation of same shall comply with ANSI A 117/1 (1980).

3.02 Verify all quantities and details.

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specifications Sections, apply to this section.

1.02 SCOPE

Includes: Drive Up Remotes, Envelope Depositories, Currency Handling System, Coin Counter, and Walk up Tellers. All equipment provided by Owner.

1.03 RELATED WORK

A. Masonry
B. Miscellaneous Metal
C. Glass & Glazing
D. Millwork
E. Electrical

1.04 SUBMITTALS

Shop drawings will be submitted to the Architect/Contractor for coordination prior to fabrication.

PART 2 MATERIAL

2.01 Descriptions to be provided by Owner.

2.02 Envelope Depositories will be equal to ….

2.03 Currency Handling System shall be equal to ….

2.04 Coin counter etc…..

PART 3 INSTALLATION

3.01 All installed units (Drive Up Tellers, Envelope Depositories, Under Counter Currency Drawers and etc.) shall be placed and secured in accordance with manufacturer's directions.

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS:

Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 SCOPE:

Provide and install venetian blinds for exterior windows. Blinds are for exterior windows, excluding lobbies and corridors and clerestory windows.

1.03 SUBMITTALS:

Samples & shop drawings shall be submitted to Architect for approval. Include dimensions, materials and colors. See section 01300 for submittal requirements.

1.04 SUBSTITUTIONS:

Venetian blinds specified are as manufactured by Levalor Lorentzen, Inc., but similar and equal units by Alcan Building Products Corporation or the Marathon Carey-McFall Company will be acceptable.

PART 2 MATERIALS

2.01 Blinds shall be 1" slat Rivera blinds by the Levalor Blind Co., or equal. The blind shall be 1" wide horizontal slats supported by braided polyester ladders. All hardware shall be enclosed in a metal head. Aluminum slats shall be flexible .010 inches thick. Bottom rail shall be .031 inches thick atomized steel and shall have a plastic type coating. Lift cord shall be braided high strength synthetic fiber. All workmanship, details and procedures shall comply with Levalor specifications and standards. 12" o.c. and shall be equipped with a heavy jute webbing. Each pleat shall have a snap hook fastener attached thru a heavy webbing strap.

PART 3 INSTALLATION

3.01 Opening curtain sizes shall be field measured by supplier. Blinds and trim shall be fabricated to provide a perfect fit.

3.02 Installation shall be secure with all necessary hardware, supports provided and securely installed. Operation shall be smooth & non-binding.

END OF SECTION