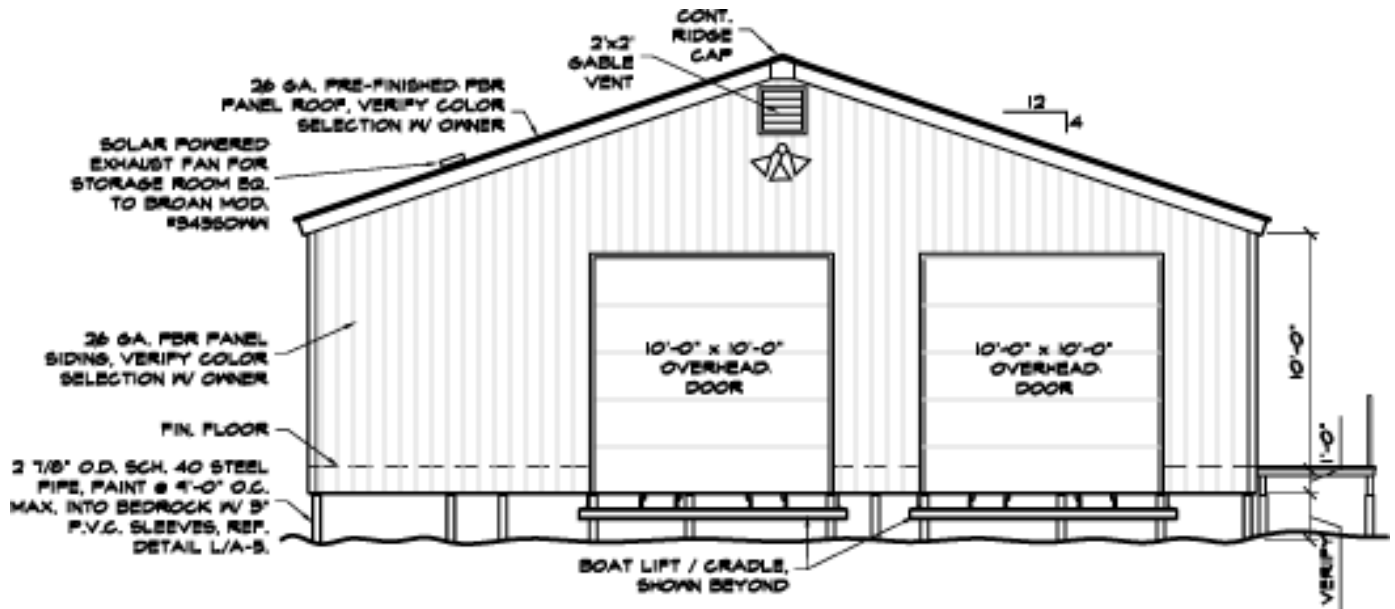


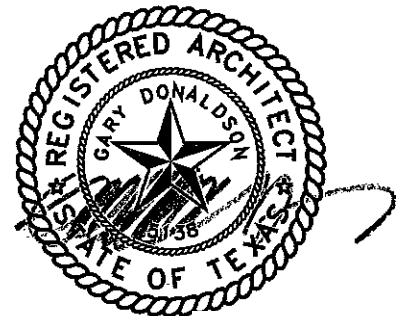
# SPECIFICATIONS



## POLICE DOCK AT LAKE NASWORTHY SAN ANGELO, TEXAS

PROJECT NO. 201423  
APRIL 30, 2014  
(revised 11/12/14)

SET	NO.



11/14/2014



**DIVISION 1 – GENERAL REQUIREMENTS:**

- 0101 Summery of Work
- 0120 Job Organization
- 0125 Samples and Shop Drawings
- 0130 Temporary Construction Facilities
- 0150 Cleaning Up and Damages

**DIVISION 2 – SITE WORK:**

- 0210 Modernization

**DIVISION 6 – WOOD & PLASTICS:**

- 0632 Composite Decking

**DIVISION 7 – THERMAL & MOISTURE PROTECTION:**

- 0753 Preformed Metal Roof & wall Panels
- 0791-2 Pre-primed Hardboard Siding

**DIVISION 8 – DOORS, WINDOWS & GLASS:**

- 0810 Hollow Metal Doors & Frames
- 0827 Over-head Sectional Steel Doors

**DIVISION 11 – EQUIPMENT**

- 1125 Floating Dock & Ramp System

**DIVISION 16 – ELECTRICAL:**

- 16000 General Conditions
- 16100 Raceways, Conductors, Wiring Devices, Grounding, Distribution, Motors & Lighting



**GENERAL:**

1. Site of the project is located at Lake Nasworthy in San Angelo, Texas at 2022 Cat Tail Lane.
2. Before submitting a bid for this work, each Bidder is responsible for having examined the site and is aware of existing conditions under which he will operate and could in any manner affect the work under this Contract. No allowance will be made subsequently in this connection to Contractor for error or negligence on his part, or slight discrepancies in Drawings.

**SCOPE OF WORK:**

City of San Angelo will be seeking sealed proposals for the construction of a New 1,298 sq/foot Boat House complete with 10'x10' floating boat dock and related site work for the San Angelo Police Department.

All Contractors, regardless of proposal submitted, shall be subject to submissions criteria set forth by the City of San Angelo in accompanying sections in the bid documents.

**GENERAL:**

A.I.A. General and Supplementary Conditions govern work of this Section.

**USE OF PREMISES:**

1. Owner retains the right at all times to deliver, place, and install furnishings as work progresses where there is no interference with the Contractor. Such preliminary occupancy shall not be construed as acceptance of such portions of the building.
2. Adjacent Property: Under no circumstances will any persons connected with this contract use any adjacent property outside project limits for the purpose of parking, fabricating, or storing materials.

**PROTECTION:**

1. General Contractor shall protect all existing streets, walks, curbs, fences, landscaping, etc., make all necessary repairs at his own expense, and maintain them during the course of the work.
2. Contractor shall at all times provide protection against weather, rain, windstorms, frost, or heat so as to maintain all work, materials, apparatus, and fixtures free from injury, theft or damage.
3. At the end of the day's work, all new work likely to be damaged shall be covered in such a manner as to provide maximum protection.
4. Fire Protection: General Contractor and subcontractors shall observe and the Contractor shall enforce throughout the period of construction all requirements of city, county, state, and insurance authorities to minimize the fire hazards during the progress of the work. In addition, the Contractor shall post signs and warnings as required to insure that these requirements are observed.

**EXAMINATION OF SITE, PLANS, SPECIFICATIONS, & CONTRACT DOCUMENTS:**

1. All bidders submitting proposals for this work shall first examine the site and all conditions thereon and/or therein.
2. All proposals shall take into consideration all such conditions as may affect the work under this contract, including but not limited to:
  - a. Soil and water conditions likely to be encountered.
  - b. Improvements to be protected and the safety of persons in and around the work areas.
  - c. Disposal sites for surplus materials not designated to be salvaged.

- d. Methods of providing ingress and egress to private and public properties.
- e. Methods of handling traffic during construction of entire work.
- 3. All bidders shall satisfy themselves as to existing grades, actual formation, and soil conditions.
- 4. Bidders are advised that Plans, Specifications, and other documents on file with Owner shall constitute all information which the Owner will furnish.
- 5. Existing Structures: Drawings indicate the locations of all known surface and subsurface structures. However, the locations of utility mains, water mains, conduits, sewers, etc. may be unknown and neither the Architect. Engineers or the Owner assume any responsibility for failure to show them in their exact location. Work shall be stopped immediately upon encountering such obstructions.

**WORK LAYOUT:**

- 1. Locate, protect reference points. Lay out work, lines, levels, grades, measurements of building, walks, utilities, and other work.
- 2. Provide, maintain well-built batter boards at corners and establish bench marks at two widely separated points. As work progresses, establish bench marks on floor; lay out, on forms or rough flooring, exact location of partitions as a guide to all trades.

**REQUIREMENTS FOR RECORD DOCUMENTS:**

- 1. Contractor shall maintain at the site one (1) copy of all Drawings, Specifications, Addenda, approved Shop Drawings, Contract Modifications, and all project correspondence. Contractor shall maintain Drawings and Specifications in good order and marked to record all changes made during construction. Contractor shall keep on the site of work a copy of the current and updated Contract Drawings and Specifications.
- 2. Contractor shall maintain this record set of Drawings and Specifications which reflect the "As-Constructed" conditions and representations of the work performed, whether it be directed by Addendum, Change Order or otherwise.
- 3. Prior to final payment, Contractor shall furnish two (2) complete sets of the "mark-up" blue-line "As-Constructed" drawings and specifications for filing and distribution to the Owner.

**PROGRESS SCHEDULE:**

Contractor, immediately after being awarded the Contract, shall prepare and submit an estimated progress schedule for the work. Progress schedule shall be related to the entire project to the extent required by the Contract Documents. This schedule shall indicate the dates for the starting and completion of the various stages of construction and shall be revised as required by the conditions of the work.

**CONTRACTOR'S RESPONSIBILITIES:**

Project Superintendent shall be responsible to do the first in the series of punch lists that lists all items deficient for each subcontractor and these are to be completed prior to the Architects/Engineers/Owners walk-thru and punch list.

**PROJECT SUPERINTENDENT**

Contractor shall employ an experienced, full-time project Superintendent to oversee and supervise the work. Contractor shall establish a temporary project office within the facility or a free-standing building on site and provide a plan layout area within this office. This Facility shall also include lines of communication for telephone, fax or email.



**GENERAL:**

Purpose of this Section is to establish the procedures for submitting and approval of shop drawings and samples.

**SCHEDULE:**

Contractor shall compile and submit a complete schedule of all shop drawings and samples required for the project. This schedule shall be submitted to Architect for distribution.

**SHOP DRAWINGS AND SAMPLES:**

All shop drawings and samples shall be in accordance with the General Conditions of the Contract (AIA Document A201), Section 4.12, especially noting the following:

1. Contractor shall review for quality, quantity and dimensions all shop drawings and samples prior to submission to Architect. No shop drawings or samples will be reviewed by Architect until checked by the Contractor.
2. At the time of submission, Contractor shall submit in writing and/or diagram of any deviation in the shop drawings or samples from the requirements of the Contract Documents.
3. All charges relating to shop drawings, or revisions thereof, samples, or resubmittals shall be the responsibility of the Contractor(s) and included in the original contract bid.
4. Structural steel shop drawings are to be formatted to minimize the number of sheets submitted. Structural submittals having less than eight members to the page will not be reviewed.
4. Contractor shall be responsible for all postage and/or shipping charges for shop drawings and samples to and from the Architect's office.

**SUBSTITUTIONS:**

Products not specified herein, which are comparable in quality and design, may be submitted for approval. Before any such approval, the Contractor and/or supplier must provide the following: Only after the below conditions are met will such substitute items be reviewed for approval.

1. Contractor shall approve all items as outlined elsewhere in this Section.
2. Contractor and/or suppliers submitting items for substitution shall prepare a detailed comparison between the specified item & the substitute item, proving their equality in design, quality, & performance.

**SAMPLES:**

1. Samples of required materials shall be submitted to the Architect and shall be of a size large enough to determine patterns, colors, textures, etc. All samples shall be submitted early on in the project and in an expeditious manner.
2. Actual samples submitted shall be of the material specified (or provide allowance) i.e., plastic shall be plastic, metal shall be metal etc.

**GENERAL:**

Furnish, install, maintain temporary facilities, utility services necessary for expeditious and safe completion of the project. Remove all temporary facilities upon completion of the project.

**FIELD OFFICE AND UTILITIES:**

1. Office for General Contractor shall be watertight, painted, heated, ventilated, and lighted. Provide with doors, locks, table, bench, and rack for Drawings.
2. Install telephone in office, connect to local exchange, and pay for use thereof. Telephone service shall be ordered and installed no later than ten (10) days after start of construction.
3. Light, Power, and Heat: General Contractor shall furnish all temporary light and power, complete with wiring, lamps, similar equipment as required for completion of the proper execution of work including inspection. General Contractor shall provide approved temporary heating as required for proper protection, during all work. Electrical Contractor shall furnish connection of temporary electric service for General Contractor.
4. General Contractor, as stated, shall furnish and pay for all building permits and temporary utilities; however, it is required that Plumbing, Mechanical and Electrical Contractors make and pay for all utility taps and connections as necessary for the General Contractor.

**SANITARY FACILITIES:**

1. From commencement to completion of operations, approved sanitary arrangements shall be provided by the General Contractor in the form of porta-toilets or other acceptable means. Toilets shall be serviced as required by code. Toilets shall be located on site and within the designated fenced areas when provided.
2. All sanitary arrangements shall be acceptable to public authorities having jurisdiction.

**TEMPORARY ENCLOSURES, PUMPING, AND SHORING:**

1. General Contractor shall provide, maintain on premises where directed, watertight storage sheds with floors raised above the ground for all materials which might be damaged by weather.
2. Plumbing, Heating, and Electrical Contractors shall provide their own storage for their own use.

3. Operate suitable pumping equipment as necessary to keep excavations, pits, trenches, other temporary or permanent parts of the work free of water.
4. Provide shoring, cribbing, retaining structures, etc., to support structures, excavations, and other elements under construction.

**SCAFFOLDING, HOISTING, TEMPORARY ELEVATORS:**

1. General Contractor shall furnish, maintain all equipment such as temporary ladders, stairs, scaffolds, runways etc., as required for proper execution of the work.
2. All such apparatus, equipment and construction shall meet all requirements of the labor laws and other state and local laws applicable thereto, and all insurance requirements.
3. General Contractor shall install, operate hoists, elevators, etc. Other Contractors, Subcontractors shall arrange with General Contractor for use of same. General Contractor shall, at his option, assess others using hoists, elevators, on an hourly basis including cost of power and operation.

**PROTECTION:**

General Contractor shall provide protection of all adjacent properties, provide safety equipment required, protect materials, new construction and other damageable items that require protection. Repair work to these items shall be provided by General Contractor at his expense.

**TESTING:**

Testing required under this contract shall be performed by an independent testing laboratory selected and paid for by the General Contractor, and approved by the Owner. Tests shall consist of concrete, and special materials. Test documentation required with one (1) copy each to the Architect and Contractor.

**STORAGE AND HANDLING OF MATERIALS:**

General Contractor shall provide areas and shelter for the storage and protection of all materials delivered to the site. Material shall be stored in such a manner as to prevent any damage to the product or material stored. All materials shall be kept dry, ventilated, and protected from extreme temperature changes. All materials shall be delivered to the job site in original containers.

**COOPERATION WITH OTHER TRADES:**

General Contractor shall coordinate all Subcontractors and work to prevent any conflicts in work schedule. All trades shall coordinate with each other in related areas.

**DAMAGE:**

General Contractor shall be responsible for scratches and damage to finish materials, equipment, fixtures and related materials and workmanship prior to acceptance by the Owner. Contractor shall repair or replace all damaged or defective materials and workmanship at no cost to the Owner.

**CLEANING:**

1. Building: General Contractor and each Subcontractor shall be responsible for the cleaning, removing and disposing of debris from the building during progress of work. Final cleaning of the building and polishing of hardware and glazing materials, etc. shall be the responsibility of the General Contractor.
2. Grounds: General Contractor or each Subcontractor using ground area shall clean the area used for temporary facility and storage of materials, restoring the ground area to a clean, neat condition.
3. Project: Building and site shall be kept clean and uncluttered during construction. If the project is not clean after five (5) days of written notice, monthly payments will be withheld until project is clean as required by Architect.

**GENERAL:**

Furnish all materials, equipment, and labor to complete the demolition and clearing of the areas as shown on the Drawings.

**UTILITIES AND EQUIPMENT:**

Before starting construction, disconnect or arrange for disconnection or relocation of all utilities within construction area in such a manner that utility functions in other parts of site are not interrupted.

**CONSTRUCTION AREAS:**

Contractor shall keep his storage and work areas at locations as approved or as shown on the Drawings unless other areas are requested and assigned to him.

**CLEAN-UP AND DISPOSAL OF MATERIAL:**

1. Remove all debris, rubbish, and related items from the site. Do not store or accumulate on the site.
2. Material or debris shall not be burned on the premises.

**GENERAL:**

Furnish and install composite decking material over all floor surfaces as shown or scheduled on Drawings, complete with all trim pieces.

**MANUFACTURER:**

Composite decking to be equal to "EverGrain Composite Decking" as manufactured by Tamko. Specifications of Tamko are made a part of these Specifications. Products of other manufacturers which are comparable in design and quality may be submitted for approval.

**SUBMITTALS:**

Submit four (4) copies of manufacturer's brochures clearly indicating type of system to be used.

**INSTALLATION:**

1. Install with EG1.2.3 hidden fasciners and stainless steel screws in accordance with manufacturer's instructions. Securely anchor in place-plumb and true.
2. Protect materials from damage, and replace all damaged or defective items.
3. Install as shown on Plans to fit job conditions.

**DECKING MATERIAL:**

EverGrain decking shall be 2"x6" nom. in either 16'-0" or 20'-0" lengths with square edges. Deck color shall be manufacturer's standard "Cape Cod Grey"

**WARRANTY:**

Supply manufacturer's standard 20 year limited warranty which includes a 5 year full start period.

**GENERAL:**

1. Furnish and install preformed metal roof panels, wall panels, flashing, sheet metal items, and all related items necessary to provide new roof where indicated.
2. Scope of Work: Refer to drawings and details for types, qualities, locations, and conditions affecting the roofing wall panels and sheet metal required by this contract.
3. Commencing Work: This Contractor shall examine all surfaces to receive his work, then notify Architect of any conditions or scheduling problems which might affect the proper installation of his work. Commencement of work by the Roofing and Sheet Metal Contractor will otherwise be considered acceptance by him of work done by others, and of scheduling and coordination considerations proposed or adopted.
4. Furnish miscellaneous items of metal work required for proper execution of this work, complete with anchorages, nuts, bolts, screws, fasteners, sleeves, accessories necessary for proper assembly, installation and fitting to adjoining work.

**WORK INCLUDED:**

Generally, work required by this contract and included under this heading shall involve the furnishing of all labor, materials, and equipment necessary to install complete the following:

1. All sloped roof surfaces and wall surfaces as shown on drawings.
2. All coping and metal edging shown, specified, or required to complete the work in an attractive and workmanlike manner.
3. All sheet metal flashing and counter-flashing show, detailed, or required at all roof and water-proofing conditions.
4. Install with all clips and panel fasteners as per manufacturer's recommendations and as shown on Drawings.
5. Install factory finished flashing and other exposed components as shown on Drawings.

This outline shall in no way limit or restrict the intent of this Specification to require a complete installation of work normally executed by this trade contractor. It shall be the responsibility of this trade contractor to inform himself completely of all specific work required, and to include in his proposal sufficient allowances to carry out all such work in an acceptable manner.



**QUALIFICATIONS:**

Contractor shall be established and recognized as a contractor installing materials of this type for a period of not less than five (5) years.

**MATERIALS:**

1. Manufacturer's Specifications: Over all sloped roof and wall surfaces which call for preformed metal roof panels, Contractor shall install MBCI 26 gauge "PBR" panels with width of 36" coverage.
2. Manufacturing Recommendations: Prior to commencing application of roofing, this Trade Contractor with a letter, over the signature of responsible representative of roofing products manufacturer, which shall acknowledge a review of the drawings, the specifications and all recommendations to roofing contractor for proper installation of roof specified to meet all warranty and, if required, bonding requirements.
3. Panels shall be one (1) piece for each roof slope direction & finish shall be stock "Signature 300" factory finish..

**WARRANTY:**

All work under this Contract shall be performed by a reliable company acceptable to Architect and Owner. This trade contractor shall furnish a standard twenty (20) year warranty covering rupture, structural failure, panel finish cracking, peeling, etc., due to normal atmospheric corrosion exposure.

**SUBMITTALS AND SAMPLES:**

Submit three (3) copies of manufacturer's literature for approval. Also submit actual samples of roofing panels for final color selection.

**GENERAL:**

Furnish and install pre-primed hardboard siding as shown or scheduled on Drawings, complete with all trim pieces.

**MANUFACTURER:**

Panels to be equal to "LP SmartSide Panels" as manufactured by Louisiana-Pacific Corp. Specifications of Louisiana-Pacific are made a part of these Specifications. Products of other manufacturers which are comparable in design and quality may be submitted for approval.

**SUBMITTALS:**

Submit four (4) copies of manufacturer's brochures clearly indicating type of panel to be used.

**INSTALLATION:**

1. Install in accordance with manufacturer's instructions.  
Securely anchor in place-plumb and true.
2. Protect materials from damage, and replace all damaged or defective items.
3. Install as shown on Plans to fit job conditions.

**PANELS:**

**LP SmartSide Wall Panels:**

Surface shall be 8" O.C. groove design with shiplap edge in 3/8" thick x 4'-0" x 8'-0" sheets. Factory Finished pre-primed for field finishing.

**GENERAL:**

Furnish all necessary materials, labor and equipment for the complete fabrication, installation and weatherproofing of hollow metal doors and frames in all openings as shown in Drawings.

**MATERIALS:**

1. Doors and frames shall be constructed to conform to Commercial Standard CS242-62, Products Standard PS4-66, and Steel Door Institute Standard SDI-100.
2. Doors and frames shall be constructed of cold rolled steel in accordance with ASTM-A366.

**FINISHES:**

All doors and frames shall be thoroughly cleaned, phosphitized, and finished as standard with one coat of baked-on rust inhibiting gray prime paint, capable of passing as 120 hour salt spray test in accordance with Federal Standard 141 or ASTM Specification B117 and a 250 hour humidity test in accordance with ASTM Specification D1735.

**FRAMES:**

1. Frames shall be FE Series universal frames as manufactured by Republic Builders Products Corporation, McKenzie, Tennessee, or approved equal.
2. Frames shall be 16 gauge, formed to profiles as shown on Plans. Weld corners full length of joints, and grind joints smooth. No screws or other fastenings shall be exposed unless from mechanical necessity.
3. Frames shall have proper reinforcement for all hardware when required. Reinforcements, drilling and tapping for mortise applied hardware shall be done at the factory. Surface applied hardware reinforcements shall be installed at the factory, all drilling and tapping shall be done in the field by others. Reinforcement for surface applied closer to be 12 gauge steel.
4. Door frames shall be supplied with pressure applied rubber silencers, three (3) per strike jamb and two (2) per head for double openings. Frames shall have 9 gauge steel hinge reinforcement plates, projection welded with provisions for scheduled hinges and 14 gauge steel strike reinforcement plate, extruded and formed to the equivalent of 10 gauge, projection welded with provisions for universal ANSI A115.1 or ANSI A115.2 strike. Mortar guards of 26 gauge steel, 1" depth, shall be welded to each hinge or strike reinforcement.

5. Frames shall be rigidly attached to metal girt construction with proper anchors of manufacturer's standard design. Minimum of six (6) anchors per opening shall be furnished loose for field installation. All frames shall have an integral or welded on sill anchor. Where metal frames are mounted to special or non-standard wall conditions provide special anchors to suit conditions.

**DOORS:**

1. Doors shall be DM Series as manufactured by Republic Builders Products Corp., McKenzie, Tennessee, or approved equal. All doors to be 1 3/4" thick.
2. Doors shall be 16 gauge. Lock edge shall be non-beveled with continuous lap seam welded and planished. Hinge edge shall be non-beveled and reinforced with a continuous 16 gauge channel projection, welded at 5" on center. Additional reinforcing plates to be provided at the hinge locations to give a total 3/16" thickness.
3. Cylindrical and mortise lock reinforcement to be box type configuration and in accordance with ANSI A115 standards.
4. Doors shall have proper reinforcement for all hardware when required. Reinforcements, drilling and tapping for mortise applied hardware shall be done at the factory. Surface applied hardware reinforcements shall be installed at the factory, all drilling and tapping shall be done in field by others. Reinforcement for surface applied closer to be 12 gauge steel.
5. Doors shall be reinforced by laminating panels to a 3/4" cell honeycomb core completely filling the inside of the door. Doors shall have flush top and inverted bottom 16 gauge projection welded at 1-1/2" on centers.
6. Where glass or other panels are shown, provide fixed stops keyed to the door assembly and removable stops secured in place with countersunk oval-head machine screws. Stops shall be mitered and welded at corners. All stops to be steel.

**LOCATION OF HARDWARE:**

1. Unless otherwise noted or shown on Drawings, locate all hardware as recommended by manufacturer or as suggested by the Door and Hardware Institute Standards. Refer to Division 1 for Handicap Standards.
2. No finish hardware will be furnished under this Section. Hardware contractor will deliver prepaid to metal door and frame manufacturer all templates and finish hardware required by him. Manufacturer shall prepare all material at the factory for hardware application. Hardware shall be delivered directly to the building by the hardware contractor.

**SHOP DRAWINGS AND SAMPLES:**

Submit for approval shop drawings showing typical construction of all items. For metal bucks and trim, shop drawings shall also show the conditions at doors with various wall thicknesses and materials and a schedule listing the location in the building for each item.

**INSTALLATION:**

Installation shall be plumb, straight and true, rigidly secured in place and properly braced. Frames shall be set in mastic and anchored to floors through sill anchors with expansion bolts or power actuated bolts.

**COMPLETION:**

After installation, protect doors and frames from damage of subsequent construction and operations. Damaged doors and frames shall be replaced by Contractor.

**CONTRACTOR'S RESPONSIBILITIES:**

Contractor shall provide materials and placement of required items in order to eliminate barriers to the physically handicapped. Contractor shall verify any T.A.S. (Texas Accessibility Standards) requirements and locations prior to installation.

**GENERAL:**

Provide and install over-head doors where shown on Plans, complete with all mounting accessories, tracks, hardware and trim.

**MANUFACTURERS:**

Over-head doors shall be equal to doors manufactured by Raynor. Specifications of Raynor doors shall be made a part of these Specifications. Products of other manufacturers which are comparable in design and quality may be submitted for approval.

**INSTALLATION:**

1. Installation shall be done in accordance with manufacturer's direction.
2. Contractor shall install all necessary bracing and blocking to building structure as based on manufacturer's recommendations and requirements for proper installation and warranty.

**MATERIALS:**

1. 24 gauge galvanized smooth finish "Steel Form" standard S-24 sectional 2" thick (non-insulated) doors. Sizes as scheduled on Plans.
2. Door Locks: Key cylinder lock ( outside handle and security face plate ) with interior track engagement and release.
3. Galvanized normal headroom hardware and 3" wide track.
4. Electric Door Operations: Torsion spring counterbalance with minimum of safety factor 5. Electric lift motor shall be continuous 1/2 hp, trolley type, 115 volt single phase with radio controller and light. Manual chain hoist shall be provided in the event of power failure.

**FINISHES:**

Pre-primed and painted finish: Both inside and outside Kynar paint shall be selected for the manufactures standard (4) color palate. 10 year finish warranty against cracking, splitting or deterioration due to rust-through.

**GENERAL:**

This work shall include all labor, materials, equipment and services required to furnish, deliver and install the following floating boat dock and ramp system. Dock and ramp shall be furnished with all necessary anchors, caps, fasteners and brackets to provide a complete installation.

**TYPE & MANUFACTURER:**

Floating boat dock and ramp shall be equal to or exceed the manufacturer's specifications for polyethylene modular dock and gangway (ramp) system by EZ Dock of Texas, regional distributor, 3500 Raider Drive, Hurst Texas 76053, (800) 654-8168.

**SIZES AND QUANTITY:**

Dock shall consist of two (2) 60" wide x10'-0" long sections p/n 206010 interlocked together and three (3) 48" wide x 6'-0" long interlocking ramp sections p/n 400406 with handrails mounted on outboard side only.

**COMPONENTS:**

1. Heavy-duty Pipe Anchor Brackets: Two (2) p/n 210350 brackets with two (2) sets of connection pockets.
2. Anchoring Pipes with Auger Ends: Two (2) 3.5"O.D. x 8 gauge wall galvanized pipe in length as determined at job site with two (2) pipe auger p/n 100355 install on ends.
3. Abutment Hinge Assembly: One (1) stainless steel hinge assy. to be attached to fixed steel boat house walkway to gangway.
4. Roller Kit & Roller: One (1) roller kit p/n 300350 for polyethylene gangway to maintain gangway connection to dock in changing water elevations.
5. Tie-Up Cleats: Four (4) 10" aluminum tie-ip cleats p/n 300110. Verify exact locations.
6. Dock Edging: 20 lin/ft vinyl dock edging p/n/ 400117 installed continuous on north and west sides of dock.
7. Pocket Fillers: Install pocket fillers p/n 201030 as required for dock safety in all empty or unused coupler pockets.

**WORKMANSHIP: & INSTALLATION:**

All components, anchors accessories, etc. shall be furnished to the building site and installed as per manufacturers specifications.

**WARRANTIES:**

1. Limited warranty on floatation products shall be free from defects in materials and workmanship for a period of no less than eight (8) years for date of purchase.
2. Limited warranty on misc. hardware and accessories shall be free from defects in materials and workmanship for a period of no less than one (1) years for date of purchase.



**GENERAL:**

Provisions and requirements of the following shall apply to all work under the Electrical Contract:

1. Conditions of the Contract (General, Supplementary and Other Conditions)
2. Bidding Requirements
3. General Requirements
4. Documents, Addenda, and Drawings

**SCOPE OF WORK:**

Electrical Contractor shall supply all labor, materials, transportation, lights, energy, scaffolding and tools necessary for proper completion of his work. His installation shall be complete as shown on Drawings, specified or implied, and in accordance with the Contract Documents.

**PHASES OF WORK:**

Phases of work shall include, but not be limited to, the following: service entrance, disconnect switches, lighting fixtures complete with lamps and control devices, and switching devices.

**CODES AND ORDINANCES:**

Entire electrical installation shall be in accordance with the National Electrical Code and local city codes.

**WIRE AND CABLES:**

All wire and cables shall be THW, THWN, or THNN copper.

**GROUNDING:**

All conduit systems, supports, junction boxes and cabinets shall be permanently grounded, with separate bare conductor connected to the system ground.

**GUARANTEE:**

All materials, equipment, fixtures, and workmanship by this contractor shall be guaranteed for a period of one (1) year from date of acceptance by the Owner.

**GENERAL:**

Contractor shall furnish all equipment, materials, labor, design and shop drawings as necessary to provide a complete and approved electrical system as shown on the plans and specified herein.

**SUBMITTALS:**

1. Cut sheets: Six (6) copies; include all equipment and materials, devices and fittings.
2. As-builts: one (1) blueline; red mark actual routing and sizing of equipment used and all significant changes to original plans and specifications. Advise Owner/Engineer as necessary to correct original contract drawings to reflect actual installation for future reference.
3. Maintenance and Operation Manuals: three (3) copies; include all cut sheet data describing proper operation, maintenance procedures, part numbers, etc. for reference by plant operations and maintenance personnel.

**EQUIPMENT AND MATERIALS:**

1. Panels: Size, type, manufacturer per panel schedule or approved equal. Minimum size circuit breakers shall be 20 amp.
2. Wire: THNN for wire sizes AWG 1 - 12 (wire sizes AWG 14 and smaller are not allowed). THW for 1/0 to 750 MCM. Copper conductors only; aluminum not allowed. Solid wire for #10 AWG and smaller; stranded wire in #8 AWG sizes and larger.
3. Conduit and fittings:
  - a. Rigid steel conduit in areas.
  - b. Electrical Metallic Tubing (EMT)
  - c. Flexible Metal Conduit (pvc coated for outdoor or damp locations).
  - d. PVC - for underground use with approved transition to metal conduit above ground.

4. Devices:
  - a. Receptacles: All receptacles shall be GFI.  
Wall - shall be rated for 125 volt, 20 amp with grounding poles.
  - b. Wall switches shall be quiet operating, rated for 120/277 volt AC, suitable for inductive loads, and equal to the following:
    1. Single pole - Hubbell 1121-1
    2. Two pole - Hubbell 1122-1
    3. Three way - Hubbell 1123-1

5. Lighting Fixtures: As scheduled on Plans

**INSTALLATION:**

1. Conduit runs shall be parallel to each other and square with building lines. Flex conduit hookups at light fixtures shall not exceed 24 inches in length. All wire shall be run in conduit. Conduit shall not be used as system ground.
2. Outlet cover plate heights to centerline above finished floor:

Wall toggle switch	48"
Receptacle	16"
Telephone/computer	16"
3. Conductors:
  - a. Wire color codes listed on panel schedules shall be strictly adhered to. Wire sized #8 AWG and larger may be taped with corresponding color tape to comply.
  - b. Conductor amp capacities shall be derated per NEC when run in conduit in quantities specified therein.