

# **CSI MASTERFORMAT 95 RESIDENTIAL SPECIFICATION**

Between the Owner:

**Veterans Rehabilitation and Employment Office  
Pittsburgh, PA**

And the Contractor:

**Company Name  
Company Phone**

For the Project:

**Veterans Residence  
Houston, PA**

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## **DIVISION 01. GENERAL REQUIREMENTS**

### **01000 - Purpose**

These Residential Specifications are designed to define specific materials and installation processes used in residential construction.

### **01500 - Temporary Facilities and Controls**

This work shall consist of the application of temporary measures throughout the life of the project.

### **01510 - Temporary Utilities**

All connections and extensions required to provide temporary utilities shall be made by the Contractor at the Contractor's expense.

### **01511 - Temporary Electricity**

Contractor to provide and install temporary power for construction site if needed. Connect to existing power service without disrupting local service requirements. Power feeder service characteristics shall be compatible with the service from which it is taken. Size, type and loading shall be per requirements as established by the National Electric Code (NEC). The contractor shall provide main service disconnect and over-current protection at a convenient location in accordance with the NEC. The Contractor shall provide power outlets for construction operations, with branch wiring and distribution boxes located as necessary and shall provide flexible power cords as required. Provide and install distribution equipment, wiring and outlets to provide single phase branch circuits for power and lighting.

### **01514 - Temporary Heating, Cooling, and Ventilation**

NA

### **01515 - Temporary Lighting**

NA

### **01517 - Temporary Telephone**

NA

### **01518 - Temporary Water**

NA

### **01520 - Construction Facilities**

No temporary field offices are allowed.

### **01523 - Sanitary Facilities**

Existing facilities shall not be used. Contractor shall provide and maintain in a neat and sanitary condition such accommodations for the use of his employees as will comply with laws and regulations. Temporary toilet facilities may consist of portable toilets. The number shall be based on number of workers, 1 toilet per 15 workers. Toilet facilities shall be kept supplied and clean and in sanitary condition until the completion of the work and then shall be removed from the site. Upon removal the site shall be properly cleaned and graded.

### **01530 - Temporary Construction**

NA

### **01540 - Construction Aides**

The contractor to provide all construction aids needed during construction which shall include but not limited to; elevators, hoists, cranes, etc.

**01542 - Construction Scaffolding and Platforms**

NA

**01550 - Vehicular Access and Parking**

Construct and maintain temporary roads accessing public thoroughfares to serve construction area. Arrange parking areas to accommodate construction personnel. Do not allow vehicle parking on existing pavement. When site space is not adequate provide additional off-site parking.

**01560 - Temporary Barriers and Enclosures**

NA

**01570 - Temporary Controls**

NA

**01600 - Product Requirements (Scope of Work)**

All materials shall be installed in strict accordance with the manufacturer's written specifications or Material's Institute Standards. Where the manufacturer's recommended details are used, the manufacturer shall be responsible for the performance of their product. All Items not specifically mentioned that are required to make the work complete and operational shall be included.

**Installation and Storage** - All materials, supplies and equipment shall be installed per manufacturer's recommendations and per applicable codes and requirements. Material stored on site shall be protected from damage by moisture, wind, sun, abuse or any other harmful effects.

**01630 - Product Substitution Procedures**

Contractor to investigate proposed products and determine that they are equal or superior in all respects to products specified. Coordinate installation of accepted substitutions into the Work, making such changes as may be required for the Work to be complete in all respects. Meet with clients and get change order request signed.

**01640 - Owner Furnished Products**

Contractor is not responsible for products furnished by the owner that are damaged prior to opening or receiving. Additional work required to install owner furnished products will be charged to the owner and due upon installation.

**01700 - Execution Requirements**

The execution of all work shall be in strict accordance with these specifications and manufacturer's written specifications or Material's Institute Standards. Where the manufacturer's recommended details are used, the manufacturer shall be responsible for the performance of their product. All work not specifically mentioned that is required to make the work complete and operational shall be included.

**Codes** - Construction shall comply with all applicable national, state and local building codes. It is the responsibility of the Contractor and the Government to insure compliance with said codes and modify the specifications as needed to comply with such codes.

**Measurements** - The Contractor shall check and verify all dimensions and conditions before proceeding with construction. Do not scale drawings. Noted dimensions take precedence. Any questions, RFI should be submitted in writing via email to the Contracting Officer.

**Workmanship** - Workmanship shall conform to the best and highest standards of quality in each trade and shall include all items of fabrication, construction and installation. All work shall be completed by skilled tradesmen and mechanics. Installation of all equipment and materials shall be in strict accordance with manufacturers recommendations.

**Insurance** - Builders Risk Insurance shall be maintained by the contractor during the course of construction until final acceptance by the owner. All bonding and insurance requirements shall be coordinated with the Owner prior to beginning construction. All contractors shall provide and be solely responsible for necessary barricades and safety precautions, and strictly adhere to all governing codes on safety, including the OSHA Act.

#### **01712 - Local Conditions**

Building requirements in your area will vary due to local and regional codes, construction techniques and weather conditions. These Specifications may not be all-inclusive for every area. Review this information with a local architect, engineer, builder or building official to understand specific requirements for your locality. The Veterans Administration accepts no responsibility for any structural failings due to deficiencies or errors in the construction of a project using these specifications.

#### **01740 - Cleaning**

Construction site to be in a clean and orderly condition throughout the construction process. Clean interior spaces prior to the start of finish painting and the application of other finishes. At the conclusion of construction, the project shall be properly cleaned. This should include but not be limited to; cleaning the interior and exterior glass, surfaces exposed to view, remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surface areas, sweep and mop all tiled surfaces, etc. Replace filters of operating equipment. Clean equipment and fixtures to a sanitary condition. Clean exterior such as debris from roof, gutters, landscape areas, driveways and walks, etc. Remove all waste and surplus materials.

#### **01760 - Protecting Installed Construction**

Contractor to protect all installed construction. If products or materials come with a protective coating, contractor shall maintain protective coating until construction is complete. Contractor shall replace any items that become defective or damaged.

#### **01903 - Hazardous Materials Abatement**

Contractor to abate any hazardous material or substance before beginning construction. Contractor shall contract with a properly licensed and qualified hazardous material contractor.

**01904 - Hazardous Materials Removal and Disposal**

Remove and dispose of any hazardous material before beginning construction. Contractor shall contract with a properly licensed and qualified hazardous material contractor.

**DIVISION 02. SITE WORK**

**02000 - General**

Contractor shall review construction documents and provide necessary site work, excavation and grading as required to construct said project.

**02200 - Site Preparation**

The area of clearing shall be maintained within the limits shown on the appropriate site plans. Remove stumps and matted roots to a depth of 24 inches below existing ground surface. Dispose of trees and shrubs in accordance with applicable garbage, refuse or weeds ordinance.

**Soil Bearing** - Foundation designs are based on a soil bearing value of 2500 psf. Foundations and slabs are designed to uniformly bear on well-compacted, well-drained non-expansive soils. A certified soils engineer shall review foundation designs and building loads and compare with subsurface soil investigation. Should on-site observations show that foundation designs are not satisfactory, a structural engineer should be contacted immediately to redesign foundations to accommodate conditions.

**02220 - Site Demolition**

NA

**02230 - Site Clearing**

NA

**02240 - Dewatering**

NA

**02250 - Shoring and Underpinning**

NA

**02260 - Excavation Support and Protection**

NA

**02300 - Earthwork**

Excavate bottom of all foundation walls and footings at building perimeter a minimum of 12" below frost line and 20" wide, (check with local building officials for frost line level requirements). Base of footings shall extend down to undisturbed virgin soil which has been compacted to 95 percent proctor density. All excavation shall be to a level below existing demolition debris. Board form all footing as required by soil conditions.

**For basement walls**, excavate area indicated on construction documents, allowing an additional 18" minimum clearance around the perimeter of foundation walls for proper drainage and waterproofing assembly.

**At slab foundations**, compact sub-grade under slabs to a minimum 95% density. Compact backfill areas not under slabs or foundation to a minimum 90% ASTM D-689. Sub-base directly under concrete slabs on grade shall be a minimum of four inches of compacted granular fill.

#### **02310 - Grading**

Carefully remove loam and topsoil to be incorporated in the finished work and store separate from the other excavated material. Failure to isolate loam and topsoil from the other excavations shall require that said soils not be used as topsoil..

#### **02311 - Final Grading**

Keep exterior finished grade a minimum of 6 1/2" below finished floor elevation (see construction documents for exact locations) by backfilling with appropriate soils. Provide swales with positive outfall and slope grade away from building to allow water to drain away from the building foundation. Do not backfill against foundation until project is completely framed and roof structure is in place. Soil type of fill shall be specified by Geotechnical Engineer.

#### **02312 - Rough Grading**

Prior to commencement of earthwork, perform such soil and rock removal and filling as may be required to facilitate the progress of the work and bring all elevations to the rough grade lines indicated on the Contract Documents. Fill or backfill as required.

#### **02315 - Excavation**

Carry out the excavation, dewatering, sheeting and bracing in such manner as to eliminate any possibility of undermining or disturbing the foundations or any existing structure or any work previously completed..

#### **02316 - Backfilling**

Correct any part of the trench bottom excavated below the specified grade with approved materials and thoroughly compact. Complete all backfilling to the dimensions and levels shown on the construction documents. Where excavated material or any portion thereof is deemed unsuitable for backfilling material, procure and place approved select borrow materials. Backfill as promptly as is consistent with non-damage to the installed structures. Do not place frozen material in the backfill. No material shall be placed or compacted when it is too wet or frozen or when the sub-grade or previously placed material is too wet or frozen.

#### **02317 - Select Borrow**

NA

#### **02320 - Excavation and Fill**

Backfill material to be used from the excavations shall be of such nature that after it has been placed and properly compacted, it will make a dense, stable fill. It shall not contain

vegetation, masses of roots, stones over 3-inches in diameter, or porous matter and shall not be saturated. Organic matter shall not exceed minor quantities and shall be well distributed.

**02362 - Termite Control**

If required, Foundations shall be pre-treated under all slabs and crawlspace areas between vapor barrier and granular sub-base to conform with HUD minimum standards and applicable building codes. Treatments shall not be made when soil is excessively wet or after heavy rains. Contractor shall provide a one-year renewable warranty.

**02370 - Erosion and Sedimentation Control**

NA

**02500 - Utility Services**

NA

**02621 - Foundation Drainage Piping**

NA

**02625 - Retaining Wall Drainage Piping**

NA

**02740 - Flexible Pavement - Asphalt Pavement**

NA

**Grading - NA**

**Asphalt Installation - NA**

**02750 - Concrete Pads and Walks**

Provide light duty paving at automobile parking areas consisting of a 4" thick slab on sub-grade compacted to 98 percent density with 3000 psi concrete. A 4" thick concrete walkway will be provided from front door to the driveway. Consult site plan for additional information. Expansion joints shall be installed as in standard concrete practices. Control joints shall be installed at pre-determined locations no later than 12 hours after installation.

**02770 - Curb and Gutters**

NA

**02800 - Site Amenities**

NA

**02820 - Fences and Gates**

NA

**02830 - Retaining Walls**

NA

**02900 - Landscaping**



### **02915 - Mulch**

### **02917 - Soil Preparation**

#### **02919 - Topsoil**

A three (3") inch cover of topsoil or appropriate soil amendment shall be spread uniformly over the soil (9 yards per 1000 sq. ft.) and tilled into the top six (6") inches of soil. Topsoil shall be a natural, fertile, friable soil, typical of productive soil in the vicinity, obtained from naturally well drained areas. Rototill all areas indicated on plans and on areas damaged by construction, to depth of 4", removing stumps, all foreign objects and stones larger than one inch diameter. Place topsoil on all areas and incorporate by rototilling into subsoil.

#### **02923 - Seeding and Soil Supplements**

Seed only when weather conditions are suitable. All newly seeded turf areas shall be free of broadleaf weeds. Sow seed with mechanical spreaders at the specified rate on a calm day. Sow one half the seed in one direction and the other half at right angles. Seed shall be raked lightly into the soil to a depth of 1/4 inch and rolled with a roller weighing not more than 100 pounds per linear foot of tread. Keep the surface moist by a fine spray until the grass shows uniform germination over the entire area. Wherever poor germination occurs in areas larger than three (3) square feet, reseed, roll and water as necessary to obtain proper germination. Infested areas shall be treated with a selective broadleaf insecticide; Trimec or approved equal.

#### **02924 - Sodding**

NA

## **DIVISION 03. CONCRETE**

### **03000 - General**

Contractor shall review construction documents and provide labor and materials pertaining to concrete and foundations as required in said documents and as specified herein, while complying with all applicable building codes.

### **03050 - Concrete Specifications**

All concrete work shall be designed on the basis of "Strength Design" in accordance with ACI 318 "Building Code Requirements for reinforced Concrete." Concrete work shall be proportioned in accordance with ACI 301 "Specifications for Structural Concrete" and ACI 211.1 "Recommended Practice for Selecting Proportions for Normal Weight Concrete". Concrete slabs, patios, driveways, walls and foundations shall be constructed of a minimum 3000 to 3600 psi concrete, 28 day test, with a 4" minimum to 6" maximum slump maximum, air-entrained to 5 - 8%. No additional water shall be added to concrete after slump test is recorded. Cylinders shall be taken from every batch truck and tested for compressive strength at 7 and 28 days. Concrete should be a mix of high grade Portland cement, clean sand or granular fill and washed gravel or crushed stone as coarse aggregate per ACI 530. Maximum aggregate size shall be 3/4". All aggregates shall conform to ASTM C33. Gravel should be well graded and not exceed 1 1/2" in size. Water shall not exceed 5 1/2 gallons for each bag, unless sand is very dry. Concrete shall be mixed using an approved batch machine or mobile mixer until uniform in color and providing a 4" minimum to 6" maximum slump.

### **03100 - Concrete Formwork, Reinforcement, and Materials**

Provide all labor, materials and equipment necessary for the completion of the plain and reinforced concrete called for on the plans. Concrete when deposited shall have a temperature ranging between a minimum of 50 degrees Fahrenheit and a maximum of 90 degrees Fahrenheit.

**Construction of Forms** - Construct wood forms of sound material, and of the correct shape and dimensions, constructed tightly and of sufficient strength. Brace and tie the forms together. Make joints and seams mortar tight. Install leakage control materials in accordance with manufacturer's installation instructions.

**Chamfered Corners** - Unless otherwise noted, provide chamfered corners on all exposed corners. Provide 3/4 inch moldings in forms for all chamfering required.

**Embedded Items** - make provisions for sleeves, anchors, inserts, water-stops and other features.

**Form Ties** - Use form ties of sufficient strength and in sufficient quantities to prevent spreading of the forms. Place ties at least 1 inch away from the finished surface of the concrete. Do not use ties consisting of twisted wire loops. Leave inner rods in concrete when forms are stripped. Space all form ties equidistant and symmetrical and line up both vertically and horizontally.

**Cleanouts and Access Panels** - Provide removable cleanout sections or access panels at the bottom of all forms to permit inspection and effective cleaning of loose dirt, debris and water material. Clean all forms and surfaces to receive concrete of all chips, sawdust, and other debris and thoroughly blow out with compressed air just before concrete is placed.

### **03210 - Reinforcing Steel**

NA

### **03220 - Welded Wire Mesh**

Welded wire fabric shall conform to ASTM A105 and be located in the center of the depth. Install at slab on grade conditions.

### **03230 - Anchor Bolts**

NA

### **03300 - Footings**

NA

### **03301 - Slab Foundations**

NA

### **03302 - Poured Concrete Basement Walls**

### **03303 - Expansion Joints**

**03350 - Concrete Finishing**

Repair of surface defects shall begin immediately after removal of form or pouring of slab foundation. Provide smooth steel trowel finish for all interior slab areas and garage surfaces. Provide broom finish texture for all exterior slabs. Slope exterior patio or porch slabs away from building at 1/4" of drop in elevation for every 1'-0" in distance. At garage slab, provide positive drainage and taper lip at garage/overhead door. Patch all voids and depressions exceeding 3/8 inch in any direction.

**03400 - Precast Concrete**

NA

**03500 - Cementitious Decks and Underlayments**

NA

**03540 - Cementitious Underlayment**

NA

**DIVISION 04. MASONRY****04000 - General**

NA

**04060 - Mortar and Masonry Grout**

NA

**04080 - Masonry Anchorage and Reinforcement**

NA

**04090 - Masonry Accessories**

NA

**04220 - Concrete Masonry Units (CMU)**

NA

**04810 - Crawlspace/Basement Foundations**

NA

**DIVISION 05. METALS****05000 - General**

Contractor shall review construction documents and provide labor and materials pertaining to metal work as required in said documents and as specified herein, while complying with all applicable building codes.

**05100 - Structural Metals**

NA

**05500 - Architectural Metal Fabrication**

Install metal detailing as specified on construction documents. Install metal gates, grilles, iron work, etc. to meet all applicable building codes, with appropriate detailing

and patterns as shown in construction documents. Metal shall be shop built, welded together, cleaned thoroughly and painted with two coats of an anti-rust primer. After installation, apply an additional coat and anti-rust primer in preparation for finish coats.

**05520 - Metal Stairs and Hand Railings**

Install metal hand railings and gates to meet all applicable building codes, with appropriate detailing and patterns as shown in construction documents. Metal shall be shop built, welded together, cleaned thoroughly and painted with two coats of an anti-rust primer. After installation, apply an additional coat and anti-rust primer in preparation for finish coats.

**Location:** All decks, stairs and ramps

**Surface Finish/Texture:** Smooth, Bronze

**Material:** Aluminum,

**Specify:** 1.9" diameter

**05521 - Pipe Handrails**

NA

**DIVISION 06. CARPENTRY**

**06000 - General**

Contractor shall review construction documents and provide labor and materials pertaining to carpentry work as required in said documents and as specified herein, while complying with all applicable building codes.

**06100 - Rough Carpentry**

Lumber shall be of live, sound stock and properly dried. Pressure treated lumber shall be used where any lumber shall come into contact with concrete, masonry block or soil and when using as support members for decks, porches or balconies. Lumber for use at exterior shall have a maximum 12 percent moisture content, for dry climates 9 percent is recommended. Provide adequate bracing and shoring during the construction process. Studs and joists cut to install plumbing and/or wiring shall be reinforced by adding metal or wood structural reinforcing to strengthen member back to original capacity and maintain structural integrity. Holes bored shall not be larger than 1/3 the depth and not closer than 2" to the top or bottom of the joist.

**Wood Species:** #2 Pressure treated Douglas Fir, etc.

**06110 - Wood Framing**

**Floor Framing - NA.**

### **07300 - Shingles, Roof Tiles and Roof Coverings**

Provide and install roof system in accordance with all applicable building codes and manufacturers guidelines. Do not set tiles in mortar when the ambient temperature is less than 4 ° C (40 ° F). Do not start installation until other trades requiring traffic on roof have completed their work. Do not start installation until vent pipes and other projections through roofs and flashing materials are in place. Main roof slope shall be:

**Installation** - Snap chalk lines parallel to eave line. Set out as shown in applicable manufacturer Installation Guide detailing roof layout and coursing. If installing battens, fix battens to conform to chalk lines securing to deck at not more than 24 inches (600mm) on center using 8 penny corrosion resistant nails. Size and configuration shall suit tile system. Battens shall be installed in such a manner as to provide drainage past or beneath them at a maximum of 4'-0" intervals by using packers beneath battens. Lay up field tile in straight bond with side lap of successive courses aligned. Align each tile so that horizontal lines are parallel to eave line and vertical lines are at right angles and batten lugs are firmly engaged on sheathing or battens. Remove foreign matter from interlocking ribs to ensure correct fit and interlock. Cracked or broken tile shall not be installed nor allowed to remain on the roof. Align each tile so as to allow at least 1/16 inch (1.5mm) between tiles while ensuring the tiles do interlock completely. Do not abut tiles tightly. Cut tiles at roof penetrations, to match angle of hips, valleys and elsewhere as required in a manner not to damage or weaken tiles. Discard cracked, broken, chipped or otherwise damaged tile. Where pieces of cut tiles, especially in hip and valley areas, are too small to nail, they should be secured with an approved adhesive substance and/or wired. Nail perimeters to include three tile courses and not less than 36 inches (915mm) from either side of hips or ridge and edges of eaves and gable rakes. Nails shall be driven snug to tile surfaces. Lay hip and ridge tile snug to abutting shoulder. Nail to supporting member using one corrosion resistant nail of sufficient length to penetrate 3/4 inches into supporting member. Install rake tile to overlap field tile and barge board fitting over barrel of tile. Secure with two corrosion resistant nails of sufficient length to penetrate 3/4 inches into supporting member. Paint flashings, roof projections associated with roof with Tile Manufacturer's color coordinated paint to match tiles.

### **07311 - Composite/Asphalt Shingles**

Provide 15, 20, 25, 30, 35 year Composite/Asphalt three tab, dimensional, shadow line shingles over one, two layer(s) of 15, 30# felt. Minimum recommended pitch is a 4:12 slope. Support roof system with joist/rafter system or pre-engineered truss system to meet dead and live load requirements as specified by manufacturer.

**Asphalt shingles shall be:** specify manufacturer, style, color, thickness and weight.

### **07460 - Siding Exterior**

NA

### **07600 - Flashing and Sheet Metal**

Install appropriate flashing at all joints of chimneys, dormers, walls, vent pipes and other connection points to prevent the infiltration of water. Flashing shall be assembled of 26 gauge minimum galvanized, corrosion resistant sheet metal. Valleys shall be wrapped with 20" wide galvanized flashing and extend 10" in each direction from center-line of valley. Use 4" wide x 4" high x 10' long galvanized flashing between wall siding and roof

surfaces and step flashing between masonry and roof surfaces. Keep flashing concealed except where exposed on vertical surfaces or counter flashing. If copper is used, install 16 ounce hard copper.

**07630 - Termite Shield**

NA

**07720 - Roof Accessories**

NA

**07920 - Caulking and Sealants**

NA

**DIVISION 08. DOORS & WINDOWS**

NA

**DIVISION 09. FINISHES**

NA

**DIVISION 10. SPECIALITIES**

NA

**DIVISION 13. SPECIAL CONSTRUCTION**

NA

**DIVISION 15. MECHANICAL**

NA

**DIVISION 16. ELECTRICAL**

NA