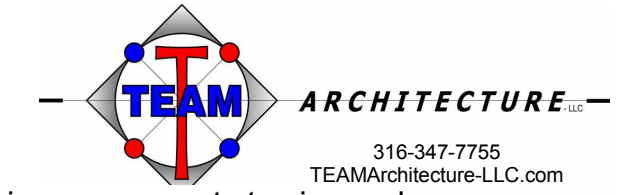


# ARCHITECTURAL SPECIFICATIONS



Wichita, KS • 316-684-9600

## RE-USE WATER PUMP STATION

CITY OF WICHITA, KANSAS

TO SERVE SPIRT AEROSYSTEMS

### 3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."  
B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

### 3.4 CLEANING AND PROTECTION

- A. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.  
B. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

### 3.5 INTERIOR PAINTING SCHEDULE

#### A. Concrete Substrates, Traffic Surfaces:

1. Latex Floor Enamel System:  
a. Prime Coat: Floor paint, latex, low gloss (maximum Gloss Level 3), MPI #60.  
b. Intermediate Coat: Floor paint, latex, low gloss (maximum Gloss Level 3), MPI #60.  
c. Topcoat: Floor paint, latex, low gloss (maximum Gloss Level 3), MPI #60.

#### 2. Water-Based Clear Sealer System:

- a. First Coat: Sealer, water based, for concrete floors, MPI #99.  
b. Topcoat: Sealer, water based, for concrete floors, MPI #99.

#### 3. Solvent-Based Clear Sealer System:

- a. First Coat: Sealer, solvent based, for concrete floors, MPI #104.  
b. Topcoat: Sealer, solvent based, for concrete floors, MPI #104.

#### B. Steel Substrates:

1. Latex over Alkyd Primer System:  
a. Prime Coat: Primer, alkyd, anti-corrosive, for metal, MPI #79.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### C. Galvanized-Metal Substrates:

1. Latex over Waterborne Primer System:  
a. Prime Coat: Primer, galvanized, water based, MPI #134.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### D. Wood Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### E. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer sealer, latex, interior, MPI #50.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### F. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### G. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer sealer, latex, interior, MPI #50.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### H. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### I. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### J. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### K. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### L. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### M. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### N. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### O. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### P. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### Q. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### R. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### S. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### T. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### U. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### V. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### W. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### X. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### Y. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

#### Z. Gypsum Board Substrates:

1. Latex System:  
a. Prime Coat: Primer, latex, for interior wood, MPI #39.  
b. Intermediate Coat: Latex, interior, matching topcoat.

### SECTION 104416 - FIRE EXTINGUISHERS

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Section includes portable, hand-carried fire extinguishers and mounting brackets for fire extinguishers.

##### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.

##### 1.3 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

##### 1.4 COORDINATION

- A. Coordinate type and capacity of fire extinguishers with fire-protection cabinets to ensure fit and function.

##### PART 2 - PRODUCTS

##### 2.1 PERFORMANCE REQUIREMENTS

- A. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Portable Fire Extinguishers."

- B. Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.

##### 2.2 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS

- A. Fire Extinguishers: Type, size, and capacity for each fire-protection cabinet and mounting bracket indicated.

##### 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. Amerex Corporation.  
b. Ansul Incorporated.  
c. Guardian Fire Equipment, Inc.  
d. J.L. Industries, Inc.; a division of the Activar Construction Products Group.

##### e. Larsens Manufacturing Company.

##### f. Nystrom Building Products.

2. Instruction Labels: Include pictorial marking system complying with NFPA 10, Appendix B, and bar coding for documenting fire-extinguisher location, inspections, maintenance, and recharging.

- B. Multipurpose Dry-Chemical Type: UL-rated 4A-80B:C nominal capacity, with monoammonium phosphate-based dry chemical in manufacturer's standard enameled container.

##### 2.3 MOUNTING BRACKETS

- A. Mounting Brackets: Manufacturer's standard steel, designed to secure fire extinguisher to wall or structure, of sizes required for types and capacities of fire extinguishers indicated, with plated or red baked-enamel finish.

- B. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location.

1. Identify bracket-mounted fire extinguishers with the words "FIRE EXTINGUISHER" in red letter decals applied to mounting surface.

##### PART 3 - EXECUTION

##### 3.1 INSTALLATION

- A. Examine fire extinguishers for proper charging and tagging.

1. Remove and replace damaged, defective, or undercharged fire extinguishers.

- B. Install fire extinguishers and mounting brackets in locations indicated and in compliance with requirements of authorities having jurisdiction.

1. Mounting Brackets: 54 inches (1372 mm) above finished floor to top of fire extinguisher.

- C. Mounting Brackets: Fasten mounting brackets to surfaces, square and plumb, at locations indicated.

##### END OF SECTION 104416

### SECTION 133419 - METAL BUILDING SYSTEMS

#### PART 1 - GENERAL

##### 1.1 SUMMARY

##### A. Section Includes:

1. Structural-steel framing.  
2. Metal roof panels.  
3. Metal wall panels.

4. Metal soffit / ceiling panels.  
5. Thermal insulation.

6. Accessories.

##### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of metal building system component.

- B. Shop Drawings: For metal building system components. Include plans, elevations, sections, details, and attachments to other work.

- C. Samples: For each type of exposed finish required.

- D. Delegated-Design Submittal: For metal building systems indicated to comply with performance requirements and design criteria, including analysis data and calculations signed and sealed by the qualified professional engineer responsible for their preparation.

##### 1.3 CLOSEOUT SUBMITTALS

##### A. Maintenance data.

##### 1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer and member of MBMA.

1. Accreditation: According to the International Accreditation Service's AC472.

2. Engineering Responsibility: Preparation of comprehensive engineering analysis and Shop Drawings by a professional engineer who is legally qualified to practice in jurisdiction where Project is located.

- B. Erector Qualifications: An experienced erector who specializes in erecting and installing work similar in material, design, and extent to that indicated for this Project and who is acceptable to manufacturer.

- C. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."  
2. AWS D1.3, "Structural Welding Code - Sheet Steel."

- D. Structural Steel: Comply with AISC 360, "Specification for Structural Steel Buildings," for design requirements and allowable stresses.

- E. Cold-Formed Steel: Comply with AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members" for design requirements and allowable stresses.

##### 1.5 WARRANTY

- A. Special Warranty on Metal Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Finish Warranty Period: 20 years from date of Substantial Completion.

- B. Special Weather-tightness Warranty for Standing-Seam Metal Roof Panels: Manufacturer's standard form in which manufacturer agrees to repair or replace standing-seam metal roof panel assemblies that leak or otherwise fail to remain weather-tight within specified warranty period.

1. Warranty Period: 20 years from date of Substantial Completion.

##### PART 2 - PRODUCTS

##### 2.1 METAL BUILDING SYSTEM PERFORMANCE

- A. Delegated Design: Design metal building system, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

- B. Structural Performance: Metal building systems shall be designed according to procedures in MBMA's "Metal Building Systems Manual."

1. Design Loads: As indicated on Drawings.

2. Metal panel assemblies shall withstand the effects of gravity loads and winds and stresses within limits and under conditions indicated according to ASTM E 1592.

- C. Thermal Movements: Allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects.

- Base engineering calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

- D. Water Penetration for Metal Roof Panels: No water penetration when tested according to ASTM E 1646 at test-pressure difference of 2.86 lbf/sq. ft. (137 Pa).

- E. Water Penetration for Metal Wall Panels: No water penetration when tested according to ASTM E 331 at a wind-load design pressure of not less than 2.86 lbf/sq. ft. (137 Pa).

##### 2.2 STRUCTURAL-STEEL FRAMING

- A. Primary Framing: Manufacturer's standard primary-framing system, designed to withstand required loads and specified requirements. Primary framing includes transverse and lean-to frames; rafter, rake, and canopy beams; sidewall, intermediate, end-wall, and corner columns; and wind bracing.

1. General: Provide frames with attachment plates, bearing plates, and splice members. Factory drill for field-bolted assembly.

- B. End-Wall Framing: Manufacturer's standard primary end-wall framing fabricated for field-bolted assembly.

- C. Secondary Framing: Manufacturer's standard secondary framing, including purlins, girts, eave struts, flange bracing, base members, gable angles, clips, headers, jamps, and other miscellaneous structural members. Unless otherwise indicated, fabricate framing from either cold-formed, structural-steel sheet or roll-formed, metallic-coated steel sheet, prepainted with coil coating.

- D. Bolts: Provide plain-finish bolts for structural-framing components that are primed or finish painted. Provide zinc-plated or hot-dip galvanized bolts for structural-framing components that are galvanized.

- E. Finish: Galvanized.

### 2.3 METAL ROOF PANELS

- A. Vertical-Rib, Standing-Seam Metal Roof Panels: Formed with ribs at panel edges and intermediate stiffening ribs symmetrically spaced flat pan between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels and engaging opposite edge of adjacent panels.

1. Material: Zinc-coated (galvanized) steel sheet, 0.028-inch (0.71-mm) nominal thickness.

- a. Exterior Finish: Two-coat fluoropolymer.

- b. Color: As selected by Owner or Architect from manufacturer's full range.

2. Clips: Manufacturer's standard, floating type to accommodate thermal movement; fabricated from zinc-coated (galvanized) steel sheet.

3. Joint Type: Mechanically seamed, folded according to manufacturer's standard.

4. Panel Coverage: 16 inches (406 mm) minimum.

5. Panel Height: 2 inches (51 mm).

##### 2.4 METAL WALL PANELS

- A. Tapered-Rib-Profile, Exposed-Fastener Metal Wall Panels: Formed with raised, trapezoidal major ribs and intermediate stiffening ribs symmetrically spaced between major ribs; designed to be installed by lapping side edges of adjacent panels and mechanically attaching panels to supports using exposed fasteners in side laps.

1. Material: Zinc-coated (galvanized) steel sheet, 0.028-inch (0.71-mm) nominal thickness.

- a. Exterior Finish: Two-coat fluoropolymer.

- b. Color: As selected by Owner or Architect from manufacturer's full range.

2. Major-Rib Spacing: 12 inches (305 mm) o.c.

3. Panel Coverage: 36 inches (914 mm).

4. Panel Height: 1.5 inches (38 mm).

##### 2.5 METAL SOFFIT PANELS

##### A. General: Match wall panels.

##### 2.6 THERMAL INSULATION

- A. Faced Metal Building Insulation: ASTM C 991, Type II, glass-fiber-blanket insulation; 0.5-lb/cu. ft. (8-kg/cu. m) density; 2-inch- (51-mm-) wide, continuous, vapor-tight edge tabs; with a flame-spread index of 25 or less.

1. Vapor-Retarder Facing: ASTM C 1136, with permeance not greater than 0.02 perm (1.15 ng/Pa x s x sq. m) when tested according to ASTM E 96/E 96M, Desiccant Method.

##### 2.7 ACCESSORIES

- A. General: Provide accessories as standard with metal building system manufacturer and as specified. Fabricate and finish accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes. Comply with indicated profiles and with dimensional and structural requirements.

1. Form exposed sheet metal accessories that are without excessive oil-canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.

- B. Roof Panel Accessories: Provide components required for a complete metal roof panel assembly including copings, fasciae, corner units, ridge closures, clips, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels unless otherwise indicated.

- C. Wall Panel Accessories: Provide components required for a complete metal wall panel assembly including copings, fasciae, mullions, sills, corner units, clips, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal wall panels unless otherwise indicated.

- D. Flashing and Trim: Formed from 0.022-inch (0.56-mm) nominal-thickness, metallic-coated steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating; finished to match adjacent metal panels.

- E. Gutters: Formed from 0.022-inch (0.56-mm) nominal-thickness, metallic-coated steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating; finished to match roof fascia and rake trim. Match profile of gable trim, complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum 96-inch- (2438-mm-) long sections, sized according to SMACNA's "Architectural Sheet Metal Manual."

1. Gutter Supports: Fabricated from same material and finish as gutters.

2. Strainers: Bronze, copper, or aluminum wire ball type at outlets.

- F. Downspouts: Formed from 0.022-inch (0.56-mm) nominal-thickness, zinc-coated (galvanized) steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating; finished to match metal wall panels. Fabricate in minimum 10-foot- (3-m-) long sections, complete with formed elbows and offsets.

1. Mounting Straps: Fabricated from same material and finish as gutters.

- G. Pipe Flashing: Premolded, EPDM pipe collar with flexible aluminum ring bonded to base.

##### 2.8 FABRICATION

- A. General: Design components and field connections required for erection to permit easy assembly.

1. Mark each piece and part of the assembly to correspond with previously prepared erection drawings, diagrams, and instruction manuals.

2. Fabricate structural framing to produce clean, smooth cuts and bends. Punch holes of proper size, shape, and location. Members shall be free of cracks, tears, and ruptures.

- B. Tolerances: Comply with MBMA's "Metal Building Systems Manual" for fabrication and erection tolerances.

### C. Primary Framing: Shop fabricate framing components to size and section, with baseplates, bearing plates, stiffeners, and other items required for erection welded into place. Cut, form, punch, drill, and weld framing for bolted field assembly.

- D. Secondary Framing: Shop fabricate framing components to size and section by roll-forming or break-forming, with baseplates, bearing plates, stiffeners, and other plates required for erection welded into place. Cut, form, punch, drill, and weld secondary framing for bolted field connections to primary framing.

- E. Metal Panels: Fabricate and finish metal panels at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

- PART 3 - EXECUTION

- 3.1 ERECTION OF STRUCTURAL FRAMING

- A. Erect metal building system according to manufacturer's written erection instructions and erection drawings.

- B. Do not field cut, drill, or alter structural members without written approval from metal building system manufacturer's professional engineer.

- C. Set structural framing accurately in locations and to elevations indicated, according to AISC specifications referenced in this Section. Maintain structural stability of frame during erection.

- D. Base and Bearing Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.

1. Set plates for structural members on wedges, shims, or setting nuts as required.

2. Tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.

3. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

- E. Align and adjust structural framing before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with framing. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

1. Level and plumb individual members of structure.

- F. Primary Framing and End Walls: Erect framing level, plumb, rigid, secure, and true to line. Level baseplates to a true even plane with full bearing to supporting structures, set with double-nutted anchor bolts. Use grout to obtain uniform bearing and to maintain a level base-line elevation. Moist-cure grout for not less than seven days after placement.

1. Make field connections using high-strength bolts installed according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for bolt type and joint type specified.

- a. Joint Type: Snug tightened or pretensioned.

- G. Secondary Framing: Erect framing level, plumb, rigid, secure, and true to line. Field bolt secondary framing to clips attached to primary framing.

1. Provide rake or gable purlins with tight-fitting closure channels and fasciae.

2. Locate and space wall girts to suit openings such as doors and windows.

3. Locate canopy framing as indicated.

4. Provide supplemental framing at entire perimeter of openings, including doors, windows, louvers, ventilators, and other penetr