

## GUIDE FOR WRITING OUTLINE SPECIFICATIONS

Based on definitions from the AIA Handbook and the CSI Manual of Practice, an outline specification is an itemized list, using brief, concise statements, of significant materials, systems, and equipment and their criteria and levels of quality. In Addition, any criteria having a special cost impact would be indicated.

Categorize the outline by the appropriate CSI Division, listing all Divisions, even those that are not being used, noting those that will not be used. Also, include Section numbers and titles following the list of possible section numbers and titles found in the CSI Masterformat Master List.

Attached is an example of an outline specification made up of sections from previous projects. Please note that the materials, methods, and systems included here may not be appropriate for every project. Note also, that some section names and numbers may be out of date. The intention of this example is to provide only a general style and content guide for the preparation of an outline specification. Tailor each outline specification to the specific project.

(Project Name)  
(Park Name and Project Number [PMIS No. XXXXXX])

## OUTLINE SPECIFICATION

### DIVISION 02: EXISTING CONDITIONS

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Section not used.

### DIVISION 03: CONCRETE

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#### 033100 CONCRETE

Use 4,000 psi concrete with a maximum slump of 4". Contractor is responsible for providing the mix design. Use Grade 60 reinforcing steel (epoxy coated when required). Contractor is responsible for all concrete testing (strength, slump, and air content). Actual type and size of footing and foundation system used will be based on soil borings. Slab on grade floors.

### DIVISION 04: MASONRY

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#### 042113 BRICK MASONRY

Brick masonry over metal stud framing and solid masonry where shown. Mortar ASTM C270.

#### 042200 CONCRETE UNIT MASONRY

ASTM C90, normal weight, Type I, concrete masonry units. Mortar ASTM C270. Grout ASTM C476, 2000 psi. Reinforcing ASTM A615, Grade 60.

### DIVISION 05: METALS

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#### 051200 STRUCTURAL STEEL - GENERAL

Structural steel frame (beams and columns) and miscellaneous members to conform to ASTM A992, 50 ksi. Bolts to conform to either ASTM A307 or A325. Painting to consist of 1-coat of rust-inhibitive primer.

### DIVISION 06: WOOD, PLASTICS, & COMPOSITES

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#### 061000 ROUGH CARPENTRY

Wood furring, sheathing, and blocking for built in casework and nailers for the top of all roof-framing members; minimum 5/8-inch thick structural grade plywood for roof sheathing.

#### 062000 FINISH CARPENTRY

Wood veneer finish casework, solid wood and/or plastic laminate counters, in AWI premium quality for the Information Desk, Sales Area, Library, and Staff Office. Solid wood standing and running trim.

## DIVISION 07: THERMAL AND MOISTURE PROTECTION

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### 072100 BUILDING INSULATION

2-1/2-inch thick (R-11+) extruded polystyrene board perimeter insulation at foundations. R-19 batt insulation for exterior walls. R-38 batt insulation in roofs.

### 072600 VAPOR RETARDERS

4 mil thick polyethylene under slab on grade and on walls where indicated.

### 073100 SHINGLES

Mineral fiber cement roof shingles.

### 074100 METAL ROOFING

2-inch high standing seam, Kynar 500 finished Galvalume metal roofing.

### 076000 FLASHING AND SHEET METAL

Galvanized sheet metal, painted where exposed.

### 077200 ROOF ACCESSORIES

Provide continuous metal gravity ridge and fascia ventilators.

### 079200 JOINT SEALANTS

Use silicone or polyurethane sealants in color to match adjacent surfaces.

## DIVISION 8: OPENINGS

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### 081100 METAL DOORS AND FRAMES

Hollow metal doors and frames at toilets, mechanical rooms, and emergency exits.

### 081400 WOOD DOORS

Provide paneled oak and glass entrance doors with oak frames. On interior, use oak wood veneer solid core wood doors with oak wood frames.

### 085213 METAL CLAD WOOD WINDOWS

Aluminum clad wood custom windows.

### 086200 UNIT SKYLIGHTS

Aluminum frame and laminated glass skylight.

### 087000 HARDWARE

Latch sets, hinges, stops, plates, pulls etc. in oil rubbed and oxidized satin bronze (BHMA 613 or US10B) finish. Use levers on all latch and lock sets, except at service or utility areas use spherical knobs. Master key all locks to the system in use at the park.

### 088000 GLAZING

Provide 1-inch sealed insulated glass, made up of 1/4-inch thick clear float glass with e2 coating on interior panes of South and East walls. Provide heat mirror glass units on North walls. Use tempered glass where required.

## DIVISION 9: FINISHES

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### 092216 NON-STRUCTURAL METAL FRAMING

Metal stud wall and ceiling framing.

### 092900 GYPSUM BOARD

Use 5/8" regular gypsum board on designated interior walls and on all ceilings. 5/8" water resistant gypsum board in wet areas. Use cementitious glass mesh mortar units on walls designated to have ceramic tile applied. Use Type X gypsum board on partitions requiring fire rating.

### 093013 CERAMIC TILE

Ceramic mosaic tile walls and quarry tile floors in Toilets (Public and Staff).

### 096500 RESILIENT FLOORING

Provide resilient flooring in utility, storage, and mechanical spaces.

### 096813 TILE CARPETING

Continuous filament, soil repellent, recycled material carpet tile with a pile weight of not less than 36 oz. per square yard in Offices, Exhibits, Multipurpose Room, and Library.

### 099100 PAINTING

Epoxy coatings in toilet rooms, alkyd enamel semi-gloss paints on scheduled walls and ceilings. Use clear stain on interior and exterior wood trim. Ceilings painted white. Meet state volatile organic compound requirements.

## DIVISION 10: SPECIALITIES

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### 101400 SIGNAGE

Signs for selected rooms.

### 102113 TOILET COMPARTMENTS

Floor mounted and overhead braced high-density solid polyethylene partitions with self-closing doors with latches and coat hooks.

### 102813 TOILET ACCESSORIES

Stainless steel (satin finish) recessed accessories including soap dispensers, towel dispensers, waste receptacles, toilet paper holders, grab bars, feminine napkin dispensers and disposals, and framed glass mirrors.

#### 104400 FIRE PROTECTION SPECIALTIES

Manual extinguishing equipment located in accordance with NFPA 10.

#### 107500 FLAGPOLE

Aluminum flagpole located near front entrance walk.

### DIVISION 11: EQUIPMENT

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#### 1126000 UNIT KITCHENS

Unit kitchen in Staff Office.

### DIVISION 12: FURNISHINGS

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#### 122100 WINDOW BLINDS

Vertical blinds in Library and Multipurpose Room.

#### 125651 LIBRARY FURNITURE

Free standing shelving units, study carrels, armchairs, and task lights.

#### 125916 SYSTEMS FURNITURE

Freestanding component systems furniture in offices.

#### 126200 PORTABLE AUDIENCE SEATING

Stackable/ganging chairs and folding tables in Multipurpose Room, color and fabric as selected.

#### 129333 TRASH AND LITTER RECEPTORS

Steel receptacle with top to prevent rain from entering trash bin, including plastic trash bin

### DIVISION 13: SPECIAL CONSTRUCTION

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#### 133400 FABRICATED ENGINEERED STRUCTURES

Provide a pre-engineered single span rigid frame metal building including primary and secondary structural framing, metal roofing and exterior wall covering, doors, windows, insulation, and miscellaneous metal building components and accessories necessary for a complete metal building.

### DIVISION 14: CONVEYING EQUIPMENT

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Section not used.

### DIVISION 21: FIRE SUPPRESSION

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## 211300 FIRE SUPPRESSION SPRINKLER SYSTEMS

Design, furnish, install, and test automatic wet pipe fire sprinkler and standpipe systems for the entire building, including attics, crawl spaces, and concealed spaces in accordance with NFPA 13.

## DIVISION 22: PLUMBING

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### 220500 COMMON WORK RESULTS FOR PLUMBING

Materials and methods common to all sections including pipe and equipment identification, seismic restraint systems, pipe hangers and anchors, equipment drives, etc.

### 220700 PLUMBING INSULATION

Pipe, equipment insulation

### 221100 FACILITY WATER DISTRIBUTION

Service weight cast iron waste, vent, and sanitary sewer systems; Type L copper domestic cold and hot water supply systems; and all related equipment accessories and appurtenances.

### 221123 DOMESTIC WATER PUMPS

Pumping equipment for domestic hot water.

### 224200 COMMERCIAL PLUMBING FIXTURES

Low-flow type plumbing fixtures and related trim, fittings, and valves meeting ADA requirements. Use plumbing fixtures and fittings in accordance with NPS guidelines as follows:

Water Closets -	1.6 gallons per flush (max)
Urinals -	Waterless
Showerheads -	2.5 gpm (max) at 80 psi
Kitchen Faucet -	2.2 gpm (max) at 60 psi
Lavatory Faucet (Public) -	0.5 gpm (max) at 60 psi
Lavatory Faucet (Private) -	2.2 gpm (max) at 60 psi

Wall-hung water closets in the public restrooms. Electronic sensor operated flush valves and faucets in toilets. Freeze-proof drinking fountains located on the exterior of the building with operating mechanisms accessible from the interior of the building. Electric tank-type water heaters located near points-of-use.

## DIVISION 23: HEATING, ENTILATING, AND AIR CONDITIONING

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### 230713 DUCT INSULATION

External fiberglass blanket type thermal insulation with fiber-scrim-kraft facing and internal duct acoustical insulation for all supply and outside air ducts, plenums, and return air ducts passing through ambient air or unconditioned spaces.

### 232113 HYDRONIC PIPING

Complete and operable hydronic heating system using Type L copper piping.

### 235200 HEATING BOILERS

Modular, high efficiency, closed-combustion condensing type gas-fired boilers, flue gas vents, and vent terminations. AL29-4C stainless steel flue gas vents with sidewall vent terminations.

### 236000 CENTRAL COOLING EQUIPMENT

Provide packaged air conditioning equipment with indoor condensing units with centrifugal fans, suitable for ducted connections to exterior wall louvers. Provide coatings and fasteners suitable for providing longevity in a coastal environment. Provide ventilation air during all occupied hours.

### 233100 HVAC DUCTS AND CASINGS

Ductwork and appurtenances in connection with HVAC. Spiral-wound round ductwork in exposed ceiling areas; rectangular ductwork in concealed locations such as the mechanical equipment room, chases, or above finished ceilings.

### 233300 AIR DUCT ACCESSORIES

Duct accessories such as automatic control dampers, manual control dampers, balancing dampers, fire dampers, turning vanes, flexible duct connections, etc. Provide heavy-duty two-position dampers immediately behind all air inlet and outlet louvers to close off the louvers openings in a hurricane event.

### 233713 DIFFUSERS, REGISTERS, AND GRILLS

Registers, grilles, and diffusers in heating, ventilating, and air conditioning systems.

### 230593 TESTING, ADJUSTING, AND BALANCING OF HVAC SYSTEMS

Provide testing apparatus and instruments, and perform all procedures to test, adjust, and balance the various air, fluid, mechanical, and electrical systems associated with the heating, ventilating, and air conditioning systems to optimum performance.

## DIVISION 25: INTEGRATED AUTOMATION

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### 255000 INTEGRATED AUTOMATION FACILITY CONTROLS

Building automation and control system for clerestory windows, HVAC, and lighting.

### 255500 INTEGRATED AUTOMATION CONTROL OF HVAC

Provide complete electrical/electronic systems of automatic temperature control for the heating, ventilating, and air-conditioning systems in conjunction with the building automation system.

## DIVISION 26: ELECTRICAL

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## 260500 COMMON WORK RESULTS FOR ELECTRICAL

- A. Conduit And Fittings: Rigid steel or intermediate metal conduits. Use compression type conduit fittings, but in trade sizes 3-inch and larger setscrew type connectors will be permitted. Where setscrew type connectors are installed, individual ground wires must be installed along with the circuit conductors.
- B. Wiring: All copper 600-volt, type THW insulation except that all wiring running underground or in areas susceptible to moisture shall be rubber insulated type RHW. Wire sizes smaller than #6 AWG solid, sizes #6 and larger stranded. Wiring Devices: Receptacles 125-volt, 20-ampere specification grade comparable to Hubbell Cat. #5262, or approved equal, single phase, 3-wire, grounding type except as noted otherwise. Snap switches 125-volt, 15-ampere specification grade, silent type. Metal device plates.

## 262000 ELECTRICAL DISTRIBUTION

Run the new 120/208 volt, 3-phase 4-wire 60 hertz service to the high side of the transformer located on the east side of the Visitor Center and Museum. Locate electrical equipment serving site utilities in the electrical equipment room. Locate transformer on concrete pad behind a safety barrier.

## 262400 SWITCHBOARDS AND PANELBOARDS

Bolt-on type panelboards with ratings exceeding the connected loads and available fault current in accordance with applicable sections of the National Electric Code. Protect branch circuits serving exterior receptacles or circuits located in toilets, damp, or wet locations with ground fault circuit interrupters.

## 264100 FACILITY LIGHTNING PROTECTION

Provide lightning protection in accordance with Lightning Protection Institute Standard LPI 175, with concealed copper conductors including protection of trees adjacent to Visitor Center and Museum.

## 265100 INTERIOR LIGHTING

In compliance with IES, dimmable luminaires on light track in exhibit areas, indirect luminaires in Lobby, cove lighting in Multipurpose Room, task lighting in office areas, flush fluorescent in mechanical rooms and toilets, and both task and flush fluorescent in the Library. Use energy efficient compact fluorescent and T-5 fluorescent lamps where possible.

## 265600 EXTERIOR LIGHTING

Metal-halide building security and parking lot lighting with high cutoff luminaires to minimize light pollution and glare.

# DIVISION 27: COMMUNICATIONS

## 270500 COMMON WORK RESULTS FOR COMMUNICATIONS

Existing overhead telephone lines will be relocated underground by the telephone company, using the same path and trench as the under-ground power. Provide an empty conduit system for the installation of telephone wiring and equipment by the telephone company. System to consist of all cabinets, pull and junction boxes, bullets, sleeves, fittings, etc. to form a complete



telephone system. Extend telephone conduit out to project limit and cap for extension by Telephone Company.

## DIVISION 28: ELECTRONICS SAFETY AND SECURITY

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### 2183100 FIRE DETECTION AND ALARM

Supervised, non-coded, shunt-trip, non-interfering fire conduit, wire, control panels, cabinets, pull stations, automatic fire and smoke detection devices, etc., for an operating fire alarm and smoke detection system.

## DIVISION 31: EARTHWORK

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### 311400 CLEARING, GRUBBING, SELECTIVE THINNING AND TREE REMOVAL

Clear and grub stumps and undergrowth. Thin undergrowth and remove trees as directed. Dispose of debris.

### 312213 SITE AND ROADWAY EXCAVATION AND GRADING

Strip, stockpile and place topsoil. Excavate roadway, embankment, backfill, compact backfill, and place imported borrow. Compact subgrade and do finish grading.

### 312316 STRUCTURE EXCAVATION

General Site Preparation - Proof roll entire building site after clearing, grubbing, and stripping. Excavate for foundation and concrete slab-on-grade. After placement of foundation, backfill and compact excavated area utilizing original soil. Density testing will be the responsibility of the Contractor.

### 312333 TRENCHING AND BACKFILL

Provide trenching and backfilling for utilities

### 313716 RIPRAP

Furnish and place stone riprap for embankment protection and ends of storm drains.

## DIVISION 32: EXTERIOR IMPROVEMENTS

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### 320519 ENGINEERING FABRIC

Furnish and place engineering fabric, landscape fabric, and filter fabric on the subgrade of roads, parking lots, riprap, underdrains, downspouts.

### 321613 CONCRETE CURBS AND GUTTERS

Concrete and curbs in selected color.

### 321213 BITUMINOUS PRIME COAT AND TACK COAT

Treat aggregate base course and existing asphalt surfaces with bituminous material. Include blotting material if required.

### 321216 ASPHALT PAVING

Construct one or more bituminous surface courses, placed on a prepared base including all pavement transitions and curbs where required.

#### 321236 BITUMINOUS SEAL COAT

Apply bituminous material as a seal coat to a prepared surface.

#### 329213.18 HYDRO SEEDING, FERTILIZING, AND MULCHING

Seed, fertilize, and mulch landscaped areas, roadway shoulders, and steep slopes.

#### 329223 SODDING

Sod lawn areas.

### DIVISION 33: UTILITIES

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#### 331100 WATER DISTRIBUTION PIPING

Provide a water system including all accessories and piping from the well to the storage tank and then throughout the project. Include fire hydrants, road crossings, and connections to fire protection sprinkler systems.

#### 333113 SEWAGE PIPING

Provide a gravity fed sewage treatment system including accessories, road crossings, and leaching fields.

#### 334213 PIPE CULVERTS

Install new pipe culverts, and end sections.

#### 334413 CONCRETE DROP INLETS AND CATCH BASINS

Construct concrete drop inlets and catch basins with metal grates.

#### 334619 UNDERDRAINS

Install underdrains, pipe, granular filter material, and synthetic fabric.

### DIVISION 34: TRANSPORTATION

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Section not used.

### DIVISION 35: WATERWAY AND MARINE CONSTRUCTION

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Section not used.

### DIVISION 40: PROCESS INTEGRATION

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Section not used.

DIVISION 41: MATERIAL PROCESSING AND HANDLING EQUIPMENT

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Section not used.

DIVISION 42: PROCESS HEATING, COOLING, AND DRYING EQUIPMENT

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Section not used.

DIVISION 43: PROCESS GAS AND LIQUID HANDLING, PURIFICATION, AND STORAGE EQUIPMENT

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Section not used.

DIVISION 44: POLLUTION CONTROL EQUIPMENT

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Section not used.

DIVISION 45: INDUSTRY – SPECIFIC MANUFACTURING EQUIPMENT

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Section not used.

DIVISION 48: ELECTRICAL POWER GENERATION

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Section not used.

End of Outline Specifications