

**STATE OF MISSOURI**  
**DEPARTMENT OF NATURAL RESOURCES**  
**MISSOURI CLEAN WATER COMMISSION**



**CONSTRUCTION PERMIT**

The Missouri Department of Natural Resources hereby issues a permit to:

Grand Crowne Resort/Crown View Estates Phase III  
430 State Highway 165  
Branson, MO 65616

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo, and regulation promulgated thereunder, or this permit may be revoked by the Department of Natural Resources (Department).

As the Department does not examine structural features of design or the efficiency of mechanical equipment, the issuance of this permit does not include approval of these features.

A representative of the Department may inspect the work covered by this permit during construction. Issuance of a permit to operate by the Department will be contingent on the work substantially adhering to the approved plans and specifications.

This permit applies only to the construction of water pollution control components; it does not apply to other environmentally regulated areas.

November 24, 2021  
Effective Date

November 23, 2023  
Expiration Date

  
\_\_\_\_\_  
Chris Wieberg, Director, Water Protection Program

## **CONSTRUCTION PERMIT**

### **I. CONSTRUCTION DESCRIPTION**

The Grand Crowne Resort WWTF is located along CJ Perme Expressway, Branson, in Stone County, Missouri. The purpose of construction is to provide wastewater treatment to new units being constructed. The STEP system will include 12-2,000 gallon septic tanks and 12-1,600 pump tanks, each capable of pumping 8 gpm at 184 ft TDH. The collection system will have approximately 1,910 lf of 1.5 to 3 inch SDR 21 PVC pipe with 3 air release valves. Chemical phosphorus removal will be accomplished with alum feed at the beginning of the treatment system. Construction of a Smith and Loveless Titan MBR system, with an Orbox 3mm fine screen, a flow equalization basin with 11,363 gallons, an MBR system with a hydraulic retention time of 7.8 hours, and a sludge holding basin with a capacity of 6,232 gallons. Disinfection will be by 2 Tipton WWD-UV-8L2 connected in series for redundancy, each unit has a 136 gpm capacity. The facility has a design average flow of 48,000 gpd and serves a hydraulic population equivalent of approximately 738.

This project will also include general site work appropriate to the scope and purpose of the project and all necessary appurtenances to make a complete and usable wastewater treatment facility.

### **II. COST ANALYSIS FOR COMPLIANCE**

Pursuant to Section 644.145, RSMo, when issuing permits under this chapter that incorporate a new requirement for discharges from publicly owned combined or separate sanitary or storm sewer systems or publicly owned treatment works, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publicly owned combined or separate sanitary or storm sewer system or [publicly owned] treatment works, the Department of Natural Resources shall make a “finding of affordability” on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the Federal Water Pollution Control Act. This process is completed through a cost analysis for compliance. Permits that do not include new requirements may be deemed affordable.

The Department is not required to complete a cost analysis for compliance because the facility is not a combined or separate sanitary sewer system for a publically-owned treatment works.

### **III. CONSTRUCTION PERMIT CONDITIONS**

The permittee is authorized to construct subject to the following conditions:

1. This construction permit does not authorize discharge.

2. All construction shall be consistent with plans and specifications signed and sealed by Michael Stalzer, P.E. with CPWG, Inc. and as described in this permit.
3. The Department must be contacted in writing prior to making any changes to the plans and specifications that would directly or indirectly have an impact on the capacity, flow, system layout, or reliability of the proposed wastewater treatment facilities or any design parameter that is addressed by 10 CSR 20-8, in accordance with 10 CSR 20-8.110(11).
4. State and federal law does not permit bypassing of raw wastewater, therefore steps must be taken to ensure that raw wastewater does not discharge during construction. If a sanitary sewer overflow or bypass occurs, report the appropriate information to the Department's Southwest Regional Office per 10 CSR 20-7.015(9)(G).
5. The wastewater treatment facility shall be located at least fifty feet (50') from any dwelling or establishment per 10 CSR 20-8.140(C)(2).
6. The wastewater treatment facility shall be located above the twenty-five (25)-year flood level.
7. The wastewater facility structures, electrical equipment, and mechanical equipment shall be protected from physical damage by not less than the one hundred- (100-) year flood elevation per 10 CSR 20-8.140(2)(B). The minimum distance between wastewater treatment facilities and all potable water sources shall be at least three hundred feet (300') per 10 CSR 20-8.140(2)(C)1.
8. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of 1 acre or more to obtain a Missouri state operating permit to discharge stormwater. The permit requires best management practices sufficient to control runoff and sedimentation to protect waters of the state. Land disturbance permits will only be obtained by means of the Department's ePermitting system available online at [dnr.mo.gov/env/wpp/epermit/help.htm](http://dnr.mo.gov/env/wpp/epermit/help.htm). See [dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm](http://dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm) for more information.
9. A United States Army Corps of Engineers (USACE) Clean Water Act Section 404 Department of the Army permit and a Section 401 Water Quality Certification issued by the Department may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied or notification is provided that no Section 404 permit is required by the USACE. You must contact your local USACE district since they determine what waters are jurisdictional and which permitting requirements may apply. You may call the Department's Water Protection Program, Operating Permits Section at 573-522-4502 for more information. See [dnr.mo.gov/env/wpp/401/](http://dnr.mo.gov/env/wpp/401/) for more information.

10. All construction must adhere to applicable 10 CSR 20-8 (Chapter 8) requirements listed below.

- Rain water from roofs, streets, and other areas and groundwater from foundation drains shall be excluded from all new sewers. 10 CSR 20-8.120 (2)
- Facilities shall be readily accessible by authorized personnel from a public right-of-way at all times. 10 CSR 20-8.140 (2) (D)
- Enclose the facility site with a fence designed to discourage the entrance of unauthorized persons and animals. 10 CSR 20-8.140 (8) (A)
- The distance between wastewater pumping stations and all potable water sources shall be at least fifty feet (50') in accordance with 10 CSR 23-3.010(1)(B). 10 CSR 20-8.130 (2) (D)
- There shall be no physical connections between a public or private potable water supply system and a sewer or appurtenance that would permit the passage of any wastewater or polluted water into the potable supply. Sewers shall be laid at least fifty feet (50') in a horizontal direction from any existing or proposed public water supply well or other water supply sources or structures. Sewers must also comply with 10 CSR 23-3.010. 10 CSR 20-8.120 (5)
- Service connections to the sewer main shall be watertight and cannot protrude into the sewer. 10 CSR 20-8.120 (3) (C) 1.
- Locator wire must be utilized when sewer lines are installed within the public right-of-way in accordance with 319.033, RSMo. 10 CSR 20-8.125 (5) (A) 5.
- Appurtenances shall be compatible with the piping system and full bore with smooth interior surfaces to eliminate obstruction and keep friction loss to a minimum. 10 CSR 20-8.125 (5) (B)
  - Isolation valves shall be—
    - Comprised of resilient seated gate valve or ball valve with a position indicator;
    - Constructed from corrosion resistant materials; and
    - Enclosed in a watertight and lockable valve box.
  - Isolation valves shall be installed on—
    - The upstream side of major pipe intersections;
    - Both sides of stream, bridge, and railroad crossings, and unstable soil; and
    - The terminal end of the system to facilitate future extensions.
  - Proper support (e.g., crushed stone, concrete pads, or a well compacted trench bottom) shall be provided for valves so the weight of the valve not carried by the pipe.
- The minimum diameter service line pipe shall be one and one quarter inches (1.25"). 10 CSR 20-8.125 (5) (C)
- Water level controls must be accessible without entering the wet well. 10 CSR 20-8.130 (3) (C)
- Electrical systems and components in raw wastewater or in enclosed or partially enclosed spaces where hazardous concentrations of flammable gases or vapors that are normally present, shall comply with the NFPA 70 *National Electric Code (NEC)* (2017 Edition), as approved and published August 24, 2016, requirements for Class I, Division 1, Group D locations. 10 CSR 20-8.140 (7) (B)

- Electrical Equipment shall utilize corrosive resistant equipment located in the wet well. 10 CSR 20-8.130 (3) (B) 2. B.
- Electrical Equipment shall provide a watertight seal and separate strain relief for all flexible cable. 10 CSR 20-8.130 (3) (B) 2. C.
- Install a fused disconnect switch located above ground for the main power feed for all pumping stations. 10 CSR 20-8.130 (3) (B) 2. D.
- When electrical equipment is exposed to weather, it shall comply with the requirements of weather proof equipment; enclosure NEMA 4; NEMA 4X where necessary; and *NEMA Standard 250-2014*, published December 15, 2014. 10 CSR 20-8.130 (3) (B) 2. E.
- Install lightning and surge protection systems. 10 CSR 20-8.130 (3) (B) 2. F.
- Install a one hundred ten volt (110 V) power receptacle inside the control panel located outdoors to facilitate maintenance. CSR 20-8.130 (3) (B) 2. G.
- Provide Ground Fault Circuit Interruption (GFCI) protection for all outdoor receptacles. 10 CSR 20-8.130 (3) (B) 2. H.
- When the continuing authority operates and maintains the grinder pump stations, provisions must be made for periods of mechanical or power failure. 10 CSR 20-8.125 (5) (D) 8.
- The septic tank shall be baffled. 10 CSR 20-8.180 (2) (B)
- Septic tank design shall provide at least one (1) septic tank to serve each EDU. 10 CSR 20-8.125 (6) (D) 1.
- Septic tank design shall provide at least one thousand (1,000) gallons capacity. 10 CSR 20-8.125 (6) (D) 2.
- When existing on-site septic tanks are proposed for reuse in an alternative sewer system, they must be inspected and verified watertight prior to acceptance. 10 CSR 20-8.125 (6) (E)
- Duplex pumps shall be provided where the design flow from the EDUs, or other, is one thousand five hundred (1,500) gallons per day or greater. 10 CSR 20-8.125 (6) (F) 1.
- Submersible pumps shall be readily removable and replaceable without personnel entering, dewatering, or disconnecting any piping in the wet well. 10 CSR 20-8.130 (5) (A)
- The following valves must be provided in the grinder pump vaults: 10 CSR 20-8.125 (5) (D) 4.
  - A shutoff valve accessible from the ground surface;
  - A check valve to prevent backflow; and
  - An anti-siphon valve, where siphoning could occur.
- Electrical systems and components in raw wastewater or in enclosed or partially enclosed spaces where hazardous concentrations of flammable gases or vapors that are normally present, shall comply with the *NFPA 70 National Electric Code (NEC)* (2017 Edition), as approved and published August 24, 2016, requirements for Class I, Division 1, Group D locations. 10 CSR 20-8.140 (7) (B)
- Electrical Equipment shall utilize corrosive resistant equipment located in the wet well. 10 CSR 20-8.130 (3) (B) 2. B.
- Electrical Equipment shall provide a watertight seal and separate strain relief for all flexible cable. 10 CSR 20-8.130 (3) (B) 2. C.

- Install a fused disconnect switch located above ground for the main power feed for all pumping stations. 10 CSR 20-8.130 (3) (B) 2. D.
- When electrical equipment is exposed to weather, it shall comply with the requirements of weather proof equipment; enclosure NEMA 4; NEMA 4X where necessary; and *NEMA Standard 250-2014*, published December 15, 2014. 10 CSR 20-8.130 (3) (B) 2. E.
- Install lightning and surge protection systems. 10 CSR 20-8.130 (3) (B) 2. F.
- Install a one hundred ten volt (110 V) power receptacle inside the control panel located outdoors to facilitate maintenance. CSR 20-8.130 (3) (B) 2. G.
- Provide Ground Fault Circuit Interruption (GFCI) protection for all outdoor receptacles. 10 CSR 20-8.130 (3) (B) 2. H.
- Provisions must be made for periods of mechanical or power failure. 10 CSR 20-8.125 (6) (F) 6.
- The minimum diameter for Septic Tank Effluent Gravity (STEG) sewer main pipe shall not be less than four inches (4"). 10 CSR 20-8.125 (7) (A) 1.
- When manholes are utilized at major junctions of sewer mains,
  - Manholes shall be installed—10 CSR 20-8.120 (4) (A)
    - At the end of each line;
    - At all changes in grade, size, or alignment;
    - At all sewer pipe intersections; and
    - At distances appropriate to allow for sufficient cleaning and maintenance of sewer lines.
  - A drop pipe shall be provided for a sewer entering a manhole at an elevation of twenty-four inches (24") or more above the manhole invert. 10 CSR 20-8.120 (4) (B) 1.
  - When using precast manholes, drop connections must not enter the manhole at a joint. 10 CSR 20-8.120 (4) (B) 2.
  - The minimum diameter of manholes shall be forty-two inches (42") on eight-inch (8") diameter gravity sewer lines and forty-eight inches (48") on all sewer lines larger than eight inches (8") in diameter. A minimum access diameter of twenty-two inches (22") (56 cm) shall be provided. Cleanouts shall be a minimum of eight inches (8") for pipes eight inches (8") in diameter or larger and equal to the diameter for pipes less than eight inches (8"). 10 CSR 20-8.120 (4) (C)
  - No sewer, service connection, or drop manhole pipe shall discharge onto the surface of the manhole bench. 10 CSR 20-8.120 (4) (D)
  - Manholes shall be watertight, constructed, and installed in accordance with the manufacturer's recommendations and procedures. 10 CSR 20-8.120 (4) (E)
  - Vacuum testing, if specified for concrete sewer manholes, shall conform to the test procedures in ASTM C1244 – 11(2017) Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill, as approved and published April 1, 2017, or the manufacturer's recommendation. 10 CSR 20-8.120 (4) (F) 1.

- Exfiltration testing, if specified for concrete sewer manholes, shall conform to the test procedures in ASTM C969 – 17 Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines, as approved and published April 1, 2017. 10 CSR 20-8.120 (4) (F) 2.
- The minimum diameter service line pipe shall be one and one quarter inches (1.25") for pressure sewers. 10 CSR 20-8.125 (7) (C) and 10 CSR 20-8.125 (5) (C)
- When existing on-site septic tanks are proposed for reuse in an alternative sewer system, they must be inspected and verified watertight prior to acceptance. 10 CSR 20-8.125 (6) (E)
- A pressure sewer system discharging to a downstream STEP or STEG sewer system shall not be permitted, as effluent sewers are not designed to carry settleable solids and grease. 10 CSR 20-8.125 (8)
- Flood protection shall apply to new construction and to existing facilities undergoing major modification. The wastewater facility structures, electrical equipment, and mechanical equipment shall be protected from physical damage by not less than the one hundred- (100-) year flood elevation. 10 CSR 20-8.140 (2) (B)
- Unless another distance is determined by the Missouri Geological Survey or by the department's Public Drinking Water Branch, the minimum distance between wastewater treatment facilities and all potable water sources shall be at least three hundred feet (300'). 10 CSR 20-8.140 (2) (C) 1.
- Facilities shall be readily accessible by authorized personnel from a public right-of-way at all times. 10 CSR 20-8.140 (2) (D)
- The outfall shall be so constructed and protected against the effects of flood water, ice, or other hazards as to reasonably ensure its structural stability and freedom from stoppage. 10 CSR 20-8.140 (6) (A)
- All sampling points shall be designed so that a representative and discrete twenty-four (24) hour automatic composite sample or grab sample of the effluent discharge can be obtained at a point after the final treatment process and before discharge to or mixing with the receiving waters. 10 CSR 20-8.140 (6) (B)
- All outfalls shall be posted with a permanent sign indicating the outfall number (i.e., Outfall #001). 10 CSR 20-8.140 (6) (C)
- All wastewater treatment facilities shall be provided with an alternate source of electric power or pumping capability to allow continuity of operation during power failures. 10 CSR 20-8.140 (7) (A) 1.
- Disinfection and dechlorination, when used, shall be provided during all power outages. 10 CSR 20-8.140 (7) (A) 2.
- Electrical systems and components in raw wastewater or in enclosed or partially enclosed spaces where hazardous concentrations of flammable gases or vapors that are normally present, shall comply with the NFPA 70 *National Electric Code (NEC)* (2017 Edition), as approved and published August 24, 2016, requirements for Class I, Division 1, Group D locations. 10 CSR 20-8.140 (7) (B)
- An audiovisual alarm or a more advanced alert system, with a self-contained power supply, capable of monitoring the condition of equipment whose failure could result in a violation of the operating permit, shall be provided for all wastewater treatment facilities. 10 CSR 20-8.140 (7) (C)

- No piping or other connections shall exist in any part of the wastewater treatment facility that might cause the contamination of a potable water supply. 10 CSR 20-8.140 (7) (D) 1.
- Where a potable water supply is to be used for any purpose in a wastewater treatment facility other than direct connections, a break tank, pressure pump, and pressure tank or a reduced pressure backflow preventer consistent with the department's Public Drinking Water Branch shall be provided. 10 CSR 20-8.140 (7) (D) 3. A.
- For indirect connections, a sign shall be permanently posted at every hose bib, faucet, hydrant, or sill cock located on the water system beyond the break tank or backflow preventer to indicate that the water is not safe for drinking. 10 CSR 20-8.140 (7) (D) 3. B.
- Where a separate non-potable water supply is to be provided, a break tank will not be necessary, but all system outlets shall be posted with a permanent sign indicating the water is not safe for drinking. 10 CSR 20-8.140 (7) (D) 4.
- A means of flow measurement shall be provided at all wastewater treatment facilities. 10 CSR 20-8.140 (7) (E)
- Effluent twenty-four (24) hour composite automatic sampling equipment shall be provided at all mechanical wastewater treatment facilities and at other facilities where necessary under provisions of the operating permit. 10 CSR 20-8.140 (7) (F)
- Adequate provisions shall be made to effectively protect facility personnel and visitors from hazards. The following shall be provided to fulfill the particular needs of each wastewater treatment facility:
  - Fencing. Enclose the facility site with a fence designed to discourage the entrance of unauthorized persons and animals; 10 CSR 20-8.140 (8) (A)
  - Gratings over appropriate areas of treatment units where access for maintenance is necessary; 10 CSR 20-8.140 (8) (B)
  - First aid equipment; 10 CSR 20-8.140 (8) (C)
  - Posted "No Smoking" signs in hazardous areas; 10 CSR 20-8.140 (8) (D)
  - Appropriate personal protective equipment (PPE); 10 CSR 20-8.140 (8) (E)
  - Portable blower and hose sufficient to ventilate accessed confined spaces; 10 CSR 20-8.140 (8) (F)
  - 10 CSR 20-8.140 (8) (G) Portable lighting equipment complying with NEC requirements. See subsection (7)(B) of this rule;
  - 10 CSR 20-8.140 (8) (H) Gas detectors listed and labeled for use in NEC Class I, Division 1, Group D locations. See subsection (7)(B) of this rule;
  - Appropriately-placed warning signs for slippery areas, non-potable water fixtures (see subparagraph (7)(D)3.B. of this rule), low head clearance areas, open service manholes, hazardous chemical storage areas, flammable fuel storage areas, high noise areas, etc.; 10 CSR 20-8.140 (8) (I)
- The materials utilized for storage, piping, valves, pumping, metering, and splash guards, etc., for chemical handling, shall be specially selected considering the physical and chemical characteristics of each hazardous or corrosive chemical. 10 CSR 20-8.140 (9) (A) 1.



- Secondary containment storage areas contain the stored volume of chemical until it can be safely transferred to alternate storage or released to the wastewater treatment plant at controlled rates that will not damage the facilities, inhibit the treatment processes, or contribute to stream pollution. Secondary containment shall be designed as follows:
  - A minimum volume of one hundred twenty-five percent (125%) of the volume of the largest storage container located within the containment area plus the space occupied by any other tanks located within the containment area when not protected from precipitation; 10 CSR 20-8.140 (9) (A) 2. A.
  - A minimum volume of one hundred ten percent (110%) of the volume of the largest storage container located within the containment area plus the space occupied by any other tanks located within the containment area when protected from precipitation; 10 CSR 20-8.140 (9) (A) 2. B.
  - Walls and floors of the secondary containment structure constructed of suitable material that is compatible with the specifications of the product being stored. 10 CSR 20-8.140 (9) (A) 2. C.
- All pumps or feeders for hazardous or corrosive chemicals shall have guards that will effectively prevent spray of chemicals into space occupied by facility personnel. 10 CSR 20-8.140 (9) (A) 3.
- Piping, labeling, and coupling guard locations. 10 CSR 20-8.140 (9) (A) 4.
- All piping containing or transporting corrosive or hazardous chemicals shall be identified with labels every ten feet (10') and with at least two (2) labels in each room, closet, or pipe chase. 10 CSR 20-8.140 (9) (A) 4. A.
- All connections (flanged or other type), except those adjacent to storage or feeder areas, shall have guards that will direct any leakage away from space occupied by facility personnel. 10 CSR 20-8.140 (9) (A) 4. B.
- Facilities shall be provided for automatic shutdown of pumps and sounding of alarms when failure occurs in a pressurized chemical discharge line. 10 CSR 20-8.140 (9) (A) 5.
- Dust collection equipment shall be provided to protect facility personnel from dusts injurious to the lungs or skin and to prevent polymer dust from settling on walkways that become slick when wet. 10 CSR 20-8.140 (9) (A) 6.
- The following shall be provided to fulfill the particular needs of each chemical housing facility:
  - Provide storage for a minimum of thirty (30) days' supply, unless local suppliers and conditions indicate that such storage can be reduced without limiting the supply; 10 CSR 20-8.140 (9) (B) 1.
  - Construct the chemical storage room of fire and corrosion resistant material; 10 CSR 20-8.140 (9) (B) 2.
  - Equip doors with panic hardware. To prevent unauthorized access, doors lock but do not need a key to exit the locked room using the panic hardware; 10 CSR 20-8.140 (9) (B) 3.
  - Provide chemical storage areas with drains, sumps, finished water plumbing, and the hose bibs and hoses necessary to clean up spills and to wash equipment; 10 CSR 20-8.140 (9) (B) 4.

- Construct chemical storage area floors and walls of material that is suitable to the chemicals being stored and that is capable of being cleaned; 10 CSR 20-8.140 (9) (B) 5.
- Install floor surfaces to be smooth, chemical resistant, slip resistant, and well drained with three inches per ten feet (3"/10') minimum slope; 10 CSR 20-8.140 (9) (B) 6.
- Provide adequate lighting; 10 CSR 20-8.140 (9) (B) 7.
- Comply with the NEC recommendation for lighting and electrical equipment based on the chemicals stored. 10 CSR 20-8.140 (9) (B) 8.
- Store chemical containers in a cool, dry, and well-ventilated area; 10 CSR 20-8.140 (9) (B) 9.
- Design vents from feeders, storage facilities, and equipment exhaust to discharge to the outside atmosphere above grade and remote from air intakes; 10 CSR 20-8.140 (9) (B) 10.
- Locate storage area for chemical containers out of direct sunlight; 10 CSR 20-8.140 (9) (B) 11.
- Maintain storage temperatures in accordance with relevant Material Safety Data Sheets (MSDS). 10 CSR 20-8.140 (9) (B) 12.
- Control humidity as necessary when storing dry chemicals; 10 CSR 20-8.140 (9) (B) 13.
- Design the storage area with designated areas for "full" and "empty" chemical containers; 10 CSR 20-8.140 (9) (B) 14.
- Provide storage rooms housing flammable chemicals with an automatic sprinkler system designed for four tenths gallons per minute per square foot (0.4 gpm/ft<sup>2</sup>) and a minimum duration of twenty (20) minutes; 10 CSR 20-8.140 (9) (B) 15.
- Store incompatible chemicals separately to ensure the safety of facility personnel and the wastewater treatment system. Store any two (2) chemicals that can react to form a toxic gas in separate housing facilities; 10 CSR 20-8.140 (9) (B) 16.
- Design and isolate areas intended for storage and handling of chlorine and sulfur dioxide and other hazardous gases. 10 CSR 20-8.140 (9) (B) 17.
- Design an isolated fireproof storage area and explosion proof electrical outlets, lights, and motors for all powdered activated carbon storage and handling areas in accordance with federal, state, and local requirements; 10 CSR 20-8.140 (9) (B) 18.
- Vent acid storage tanks to the outside atmosphere, but not through vents in common with day tanks; 10 CSR 20-8.140 (9) (B) 19.
- Keep concentrated acid solutions or dry powder in closed, acid-resistant shipping containers or storage units; 10 CSR 20-8.140 (9) (B) 20.
- Pump concentrated liquid acids in undiluted form from the original container to the point of treatment or to a covered storage tank. Do not handle in open vessels. 10 CSR 20-8.140 (9) (B) 21.

- The following shall be provided, where applicable, for the design of chemical handling:
  - Make provisions for measuring quantities of chemicals used for treatment or to prepare feed solutions over the range of design application rates; 10 CSR 20-8.140 (9) (C) 1.
  - Select storage tanks, piping, and equipment for liquid chemicals specific to the chemicals; 10 CSR 20-8.140 (9) (C) 2.
  - Install all liquid chemical mixing and feed installations on corrosion resistant pedestals; 10 CSR 20-8.140 (9) (C) 3.
  - Provide sufficient capacity of solution storage or day tanks feeding directly for twenty-four- (24-) hour operation at design average flow; 10 CSR 20-8.140 (9) (C) 4.
  - Provide a minimum of two (2) chemical feeders for continuous operability. Provide a standby unit or combination of units of sufficient capacity to replace the largest unit out-of-service; 10 CSR 20-8.140 (9) (C) 5.
  - Chemical feeders shall—
    - Be designed with chemical feed equipment to meet the maximum dosage requirements for the design average flow conditions; 10 CSR 20-8.140 (9) (C) 6. A.
    - Be able to supply, at all times, the necessary amounts of chemicals at an accurate rate throughout the range of feed; 10 CSR 20-8.140 (9) (C) 6. B.
    - Provide proportioning of chemical feed to the rate of flow where the flow rate is not constant; 10 CSR 20-8.140 (9) (C) 6. C.
    - Be designed to be readily accessible for servicing, repair, and observation; 10 CSR 20-8.140 (9) (C) 6. D.
    - Protect the entire feeder system against freezing; 10 CSR 20-8.140 (9) (C) 6. E.
    - Be located adjacent to points of application to minimize length of feed lines; 10 CSR 20-8.140 (9) (C) 6. F.
    - Provide for both automatic and manual operation for chemical feed control systems; 10 CSR 20-8.140 (9) (C) 6. G.
    - Utilize automatic chemical dose or residual analyzers, and where provided, include alarms for critical values and recording charts; 10 CSR 20-8.140 (9) (C) 6. H.
    - Provide screens and valves on the chemical feed pump suction lines; 10 CSR 20-8.140 (9) (C) 6. I.
    - Provide an air break or anti-siphon device where the chemical solution enters the water stream; 10 CSR 20-8.140 (9) (C) 6. J.
    - Dry chemical feed system shall—
      - Be equipped with a dissolver capable of providing a minimum retention period of five (5) minutes at the maximum feed rate; 10 CSR 20-8.140 (9) (C) 7. A.
      - Be equipped with two (2) solution vessels and transfer piping for polyelectrolyte feed installations; 10 CSR 20-8.140 (9) (C) 7. B.

- Have an eductor funnel or other appropriate arrangement for wetting the polymer during the preparation of the stock feed solution on the makeup tanks; 10 CSR 20-8.140 (9) (C) 7. C.
- Provide adequate mixing by means of a large diameter, low-speed mixer; 10 CSR 20-8.140 (9) (C) 7. D.
- Make provisions to measure the dry chemical volumetrically or gravimetrically; 10 CSR 20-8.140 (9) (C) 7. E.
- Completely enclose chemicals and prevent emission of dust; 10 CSR 20-8.140 (9) (C) 7. F.
- Provide for uniform strength of solution consistent with the nature of the chemical solution for solution tank dosing; 10 CSR 20-8.140 (9) (C) 8.
- Use solution feed pumps to feed chemical slurries that are not diaphragm or piston type positive displacement types; 10 CSR 20-8.140 (9) (C) 9.
- Provide continuous agitation to maintain slurries in suspension; 10 CSR 20-8.140 (9) (C) 10.
- Provide a minimum of two (2) flocculation tanks or channels having a combined detention period of twenty to thirty (20 – 30) minutes. Provide independent controls for each tank or channel; 10 CSR 20-8.140 (9) (C) 11.
- Insulate pipelines carrying soda ash at concentrations greater than twenty percent (20%) solution to prevent crystallization; 10 CSR 20-8.140 (9) (C) 12.
- Prohibit bagging soda ash in a damp or humid place. 10 CSR 20-8.140 (9) (C) 13.
- The following chemical safety items shall be provided in addition to the safety provisions in section (8) of this rule:
  - Appropriate personal protective equipment (PPE). 10 CSR 20-8.140 (9) (D) 1.
  - Eye wash fountains and safety showers utilizing potable water shall be provided in the laboratory and on each level or work location involving hazardous or corrosive chemical storage, mixing (or slaking), pumping, metering, or transportation unloading. The design of eye wash fountains and safety showers shall include the following:
    - Eye wash fountains with water of moderate temperature, fifty degrees to ninety degrees Fahrenheit (50°–90°F), suitable to provide fifteen to thirty (15–30) minutes of continuous irrigation of the eyes; 10 CSR 20-8.140 (9) (D) 2. A.
    - Emergency showers capable of discharging twenty gallons per minute (20 gpm) of water of moderate temperature, fifty degrees to ninety degrees Fahrenheit (50°–90°F), and at pressures of thirty to fifty pounds per square inch (30–50 psi); 10 CSR 20-8.140 (9) (D) 2. B.
    - Eye wash fountains and emergency showers located no more than twenty-five feet (25') from points of hazardous chemical exposure; CSR 20-8.140 (9) (D) 2. C.

- Eye wash fountains and showers that are to be fully operable during all weather conditions; 10 CSR 20-8.140 (9) (D) 2. D.
  - Warning signs requiring use of goggles shall be located near chemical stations, pumps, and other points of frequent hazard. 10 CSR 20-8.140 (9) (D) 3.
- The identification and hazard warning data included on chemical shipping containers, when received, shall appear on all containers (regardless of size or type) used to store, carry, or use a hazardous substance. 10 CSR 20-8.140 (9) (E)
- All wastewater treatment facilities must have a screening device, comminutor, or septic tank for the purpose of removing debris and nuisance materials from the influent wastewater. 10 CSR 20-8.150 (2)
- All screening devices and screening storage areas shall be protected from freezing. 10 CSR 20-8.150 (4) (A) 1.
- Provisions shall be made for isolating or removing screening devices from their location for servicing. 10 CSR 20-8.150 (4) (A) 2.
- Mechanically cleaned screen channels shall be protected by guard railings and deck gratings. 10 CSR 20-8.150 (4) (A) 3. A. (II)
- Mechanical screening equipment shall have adequate removal enclosures to protect facility personnel against accidental contact with moving parts and to prevent dripping in multi-level installations. 10 CSR 20-8.150 (4) (A) 3. B. (I)
- A positive means of locking out each mechanical screening device shall be provided. 10 CSR 20-8.150 (4) (A) 3. B. (II)
- An emergency stop button with an automatic reverse function shall be located in close proximity to the mechanical screening device. 10 CSR 20-8.150 (4) (A) 3. B. (III)
- Electrical systems and components in raw wastewater or in enclosed or partially enclosed spaces where hazardous concentrations of flammable gases or vapors that are normally present, shall comply with the NFPA 70 *National Electric Code (NEC)* (2017 Edition), as approved and published August 24, 2016, requirements for Class I, Division 1, Group D locations. 10 CSR 20-8.140 (7) (B)
- Where two (2) or more mechanically cleaned bar screens are used, the design shall provide for taking the largest unit out-of-service without sacrificing the capability to handle the average design flow. Where only one mechanically cleaned screen is used, it shall be sized to handle the design peak instantaneous flow. 10 CSR 20-8.150 (4) (B)
- Provisions for location and safety of comminutors shall be in accordance with screening devices,
  - Mechanically cleaned channels shall be protected by guard railings and deck gratings. 10 CSR 20-8.150 (4) (A) 3. A. (II)
  - Mechanical equipment shall have adequate removal enclosures to protect facility personnel against accidental contact with moving parts and to prevent dripping in multi-level installations. 10 CSR 20-8.150 (4) (A) 3. B. (I)
  - A positive means of locking out each mechanical device shall be provided. 10 CSR 20-8.150 (4) (A) 3. B. (II)

- An emergency stop button with an automatic reverse function shall be located in close proximity to the mechanical device. 10 CSR 20-8.150 (4) (A) 3. B. (III)
- Electrical systems and components in raw wastewater or in enclosed or partially enclosed spaces where hazardous concentrations of flammable gases or vapors that are normally present, shall comply with the NFPA 70 National Electric Code (NEC) (2017 Edition), as approved and published August 24, 2016, requirements for Class I, Division 1, Group D locations. 10 CSR 20-8.140 (7) (B)
- Effective flow splitting devices and control appurtenances (e.g. gates and splitter boxes) shall be provided to permit proper proportioning of flow and solids loading to each settling unit, throughout the expected range of flows. 10 CSR 20-8.160 (2) (B)
- Overflow weirs shall be readily adjustable over the life of the structure to correct for differential settlement of the tank. 10 CSR 20-8.160 (3) (C) 1.
- A septic tank must have a minimum capacity of at least one thousand (1,000) gallons. 10 CSR 20-8.180 (2) (A)
- The septic tank shall be baffled. 10 CSR 20-8.180 (2) (B)
- Membrane Bioreactor preliminary treatment systems shall be consistent with the membrane manufacturer recommendations; 10 CSR 20-8.180 (7) (B) 1.
- Grit removal facilities are required for wastewater treatment facilities that utilize membrane bioreactors for secondary treatment. 10 CSR 20-8.150 (6) and 10 CSR 20-8.180 (7) (B) 2.
- Membrane Bioreactors shall provide oil and grease removal when the levels in the influent may cause damage to the membranes; 10 CSR 20-8.180 (7) (B) 3.
- Membrane Bioreactors shall provide a fine screen and high water alarm, designed to treat peak hourly flow. Coarse screens followed by fine screens may be used in larger facilities to minimize the complications of fine screening; and 10 CSR 20-8.180 (7) (B) 4.
- Membrane Bioreactors preliminary treatment shall comply with 10 CSR 20-8.150(4)(B) for reliability. 10 CSR 20-8.180 (7) (B) 5.
- The Membrane Bioreactor's aeration blowers must provide adequate air for membrane scour and process demands. 10 CSR 20-8.180 (7) (C)
- Redundancy. The Membrane Bioreactor shall have at least one (1) of the following:
  - The ability to run in full programmable logic control (PLC) or standby power mode in case of an automatic control failure; 10 CSR 20-8.180 (7) (D) 1.
  - An operational battery backup PLC if manual control is not possible; or 10 CSR 20-8.180 (7) (D) 2.
  - Sufficient standby power generating capabilities to provide continuous flow through the membranes during a power outage (e.g., preliminary screening, process aeration, recycle/RAS/permeate pumps, air scour, vacuum pumps) or an adequate method to handle flow for an indefinite period (e.g., private control of influent combined with contingency methods). 10 CSR 20-8.180 (7) (D) 3.

- Operations and Maintenance. The MBR design shall—
  - Include provisions to monitor membrane integrity; 10 CSR 20-8.180 (7) (E) 1.
  - Provide on-line continuous turbidity monitoring of filtrate or an equivalent for operational control and indirect membrane integrity monitoring for a treatment plant with design average flow greater than or equal to one hundred thousand gallons per day (100,000 gpd); 10 CSR 20-8.180 (7) (E) 2. and
  - Include provisions to remove membrane cassette for cleaning considering the membrane cassette wet weight plus additional weight of the solids accumulated on the membranes. 10 CSR 20-8.180 (7) (E) 3.
- Emergency Power. Disinfection and dechlorination processes, when used, shall be provided during all power outages. 10 CSR 20-8.190 (2) (A)
- The UV dosage shall be based on the design peak hourly flow, maximum rate of pumpage, or peak batch flow. 10 CSR 20-8.190 (5) (A) 1.
- If no flow equalization is provided for a batch discharger, the UV dosage shall be based on the peak batch flow. 10 CSR 20-8.190 (5) (A) 2.
- The UV system shall deliver the target dosage based on equipment derating factors and, if needed, have the UV equipment manufacturer verify that the scale up or scale down factor utilized in the design is appropriate for the specific application under consideration. 10 CSR 20-8.190 (5) (A) 3.
- The UV system shall deliver a minimum UV dosage of thirty thousand microwatt seconds per centimeters squared ( $30,000 \mu\text{W} \cdot \text{s}/\text{cm}^2$ ). 10 CSR 20-8.190 (5) (A) 4.
- Open channel UV systems. The combination of the total number of banks shall be capable of treating the design peak hourly flow, maximum rate of pumpage, or peak batch flow. 10 CSR 20-8.190 (5) (B) 1.
- The UV system must continuously monitor and display at the UV system control panel the following minimum conditions:
  - The relative intensity of each bank or closed vessel system; 10 CSR 20-8.190 (5) (C) 1. A.
  - The operational status and condition of each bank or closed vessel system; 10 CSR 20-8.190 (5) (C) 1. B.
  - The ON/OFF status of each lamp in the system; 10 CSR 20-8.190 (5) (C) 1. C. and
  - The total number of operating hours of each bank or each closed vessel system. 10 CSR 20-8.190 (5) (C) 1. D.
- The UV system shall include an alarm system. Alarm systems shall comply with 10 CSR 20-8.140(7)(C). 10 CSR 20-8.190 (5) (C) 2.

11. Upon completion of construction:

- A. Crown View Resort will become the continuing authority for operation and maintenance of these facilities;
- B. Submit an electronic copy of the as builts if the project was not constructed in accordance with previously submitted plans and specifications; and

- C. Submit the enclosed form Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N) with a request for the operating permit to be issued.

#### **IV. REVIEW SUMMARY**

##### **1. CONSTRUCTION PURPOSE**

The purpose of construction is to provide wastewater treatment to new units being constructed. A portion of the resort is connected to the Village of Indian Point, however the resort has used its allotted capacity at the Village and is constructing a new treatment plant to handle the resort's expansion. This construction permit does not remove or supersede the resort's agreement with the Village and its obligations.

##### **2. FACILITY DESCRIPTION**

The Grand Crowne Resort WWTF is located along CJ Perme Expressway, Branson, in Stone County, Missouri. The facility has a design average flow of 48,000 gpd and serves a hydraulic population equivalent of approximately 738 people.

##### **3. COMPLIANCE PARAMETERS**

The proposed project is required to meet final effluent limits established in the Antidegradation review dated March 20, 2020. The limits following the completion of construction will be applicable to the facility:

Parameter	Units	Monthly average limit
Biochemical Oxygen Demand <sub>5</sub>	mg/L	20
Total Suspended Solids	mg/L	20
Ammonia as N-summer	mg/L	1.4
Ammonia as N-winter	mg/L	2.9
pH	SU	6.5-9.0
<i>E. coli</i>	#/100mL	126
Total Phosphorus	mg/L	0.5

##### **4. ANTIDEGRADATION**

The Department has reviewed the antidegradation report for this facility and issued the Water Quality and Antidegradation Review dated March 20, 2020, due to the new discharge. See **APPENDIX B – ANTIDEGRADATION**.

##### **5. REVIEW of MAJOR TREATMENT DESIGN CRITERIA**

**Existing major components that will remain in use include the following:**

- 18,000 gallons of the Crown View Resort/ Grand Crown Resort is treated at the Village of Indian Point's Jake's Trail WWTP.



- Graywater system - The grey wastewater generated from the proposed buildings will be treated by ten (10) septic tanks with the capacity of 2,000 gallons each and the subsurface drip fields.
  - The collection system for 10 new buildings will include the STEP tanks (10 of 2,000-gallon tanks for gray water) each with an HE8-51 effluent pump. The gray water low pressure main (1,418 lf of 2" SDR-21 PVC) will be constructed to transfer gray water into one (1) of 22,978 gallons (32'x12'x10') recirculation concrete tank.
  - The design flow of the proposed drip irrigation system is 15,052 gpd. The system will dose 6 zones at 0.2 gpd/sq. ft, which provides 24 doses per day per zone. Each zone is 0.288 acres, for a total of 1.72 acres.
  - There will be one (1) 22,978-gallon concrete dose tank with an effluent filter AP4E-2F, two (2) effluent pumps each capable of pumping 55.5 gallon per minute (gpm) with a total dynamic head of 54.1 feet.
  - The drip field area is 75,260 square feet and contains 25,086 linear feet of 0.5 inch tubing fitted with emitters every 2 ft with cleanouts and air release valves and capable of a loading at peak flow of less than 0.2 gallons per sq. foot per day.

**Construction will cover the following items:**

- STEP system- Septic Tank – A septic tank provides passive primary treatment as the settleable solids in raw wastewater settle onto the bottom of the tank. Raw wastewater will flow from the 30 single unit condos to a 12 STEP tank system.
  - There will be 12-2,000 gallon septic tanks, connected in series to a 1600 gallon septic tank with submersible pump, Orenco Submerible pump PF100511 capable of pumping 8 gpm at 184 ft TDH.
  - For 4 hours of peak flow, there needs to be 1279 gallons of storage, which the 1,600 gallon septic tank provides.
  - Settled solids in the septic tank shall be removed by a contract hauler.
  - There will be audiovisual alarms on the septic tanks and pumps to notify if service is needed.
  - Grit removal will be provided through the septic tanks.
- The collection system will have approximately
  - 247.29 lf of 1.5-inch SDR-21 PVC,
  - 720.44 lf of 2 inch SDR-21 PVC,
  - 942 lf of 3 inch SDR-21 PVC, and
  - 3 air release valves, placed at all high points in the forcemain. Clean outs and flushing connections will be installed on the force main at the end of each line, at horizontal directional changes in the lines.
- Alum will be added at the head of the plant to help reduce phosphorus. This will be accomplished by using a Posiprime metering pump in conjunction with a

- 55-gallon storage drum. The pump will be capable of providing 0.2 gallons per hour of alum.
- The Smith and Loveless Titan MBR is a package treatment system including screening, flow equalization, aeration combined with the membrane, and sludge holding. The treatment system is designed to treat a design average flow of 48,000 gpd.
  - Screening – Installation of screening devices removes nuisance inorganic materials from raw wastewater.
    - Obex Spiral Fine Screen in each MBR system with a perforated 1/8 inch (3mm) spacing. Fine screenings will go into the 6 inch screening discharge chute with bagger for disposal.
    - From the fine screening, wastewater flows into the flow equalization basin.
  - Flow Equalization – The flow equalization basin has a volume of 11,363 gallons, providing 5.7 hours of equalization at design average flow. Air mixing will be provided in the flow equalization basin of 28 scfm through coarse bubble diffusers.
  - Membrane Bioreactor (MBR) – The MBR system is by Titan MBR system from Smith and Loveless.
    - The membrane is a flat sheet with a pore size of 0.08 microns.
    - The design flux rate through the membranes at peak flow is 13 gpd/ft<sup>2</sup> (22 lmh) with an average day flux at winter temperature of 11.8 gpd/ft<sup>2</sup>
    - The surface area of the membranes is 4,521 ft<sup>2</sup>
    - The design hydraulic retention time is 7.8 hours.
    - Solids retention time is 18 days.
    - The filtration rate through the membranes is 8.0 gpm
    - The maximum MLSS is 10,000 mg/L
    - The maximum F/M ratio at design flow is 0.116
    - Total air supplied through the membrane is 217 scfm, which is greater than the required 212 scfm.
  - Sludge Holding Basin – Construction of one sludge holding basin with volume of 6232 gallons. Coarse bubble diffusers will provide aeration and mixing of the sludge to prevent anaerobic conditions. The sludge holding basin has volume of 833.1 ft<sup>3</sup> with an average of 863 gpd wasted activated sludge. Storage time in the sludge holding basin is approximately 14 days with decanting at design average flow.
  - Disinfection – Disinfection is the process of removal, deactivation, or killing of pathogenic microorganisms.
    - Open Channel Ultraviolet (UV) – An open channel, gravity flow, low pressure high intensity UV disinfection system capable of treating a peak flow of 200,000 gpd while delivering a minimum UV intensity of 30 mJ/cm<sup>2</sup> with an expected ultraviolet transmissivity of 65% or greater. Disinfection will be provided by using two Tipton WWD-UV-8L2 connected in series for redundancy. The open channel UV system consists of 12 lamps per unit. Each UV unit has a 136 gpm capacity. The disinfected effluent will flow by gravity through flow measurement equipment and to Outfall No. 001.

- Flow Measurement – Installation of accurate flow measurement devices will give the treatment facility a means of improved data analysis. A v-notch weir will be installed. This measurement device does not include flow totalizing or recording.

## **6. OPERATING PERMIT**

The Grand Crowne Resort WWTF, MO-0139696, was successfully public noticed from September 3, 2021 to October 4, 2021 with no comments received. Submit the Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(N) and request the operating permit be issued.

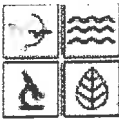
## **V. NOTICE OF RIGHT TO APPEAL**

If you were adversely affected by this decision, you may be entitled to an appeal before the Administrative Hearing Commission (AHC) pursuant to Section 621.250 RSMo. To appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

Administrative Hearing Commission  
U.S. Post Office Building, Third Floor  
131 West High Street, P.O. Box 1557  
Jefferson City, MO 65102-1557  
Phone: 573-751-2422  
Fax: 573-751-5018  
Website: <https://ahc.mo.gov>

Leasue Meyers, EI  
Engineering Section  
[leasue.meyers@dnr.mo.gov](mailto:leasue.meyers@dnr.mo.gov)

Cailie Carlile, P.E.  
Engineering Section  
[cailie.carlile@dnr.mo.gov](mailto:cailie.carlile@dnr.mo.gov)



**APPLICATION FOR CONSTRUCTION PERMIT –  
WASTEWATER TREATMENT FACILITY**

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED \$ 1000.00	CHECK NO. 20023977
DATE RECEIVED 5-14-21	

Water Protection Program

**APPLICATION OVERVIEW**

The Application for Construction Permit – Wastewater Treatment Facility form has been developed in a modular format and consists of Part A and B. **All applicants must complete Part A.** Part B should be completed for applicants who currently land-apply wastewater or propose land application for wastewater treatment. **Please read the accompanying instructions before completing this form. Submittal of an incomplete application may result in the application being returned.**

**PART A – BASIC INFORMATION**

**1.0 APPLICATION INFORMATION** (Note – If any of the questions in this section are answered NO, this application may be considered incomplete and returned.)

- 1.1 Is this a Federal/State funded project?  YES  N/A Funding Agency: \_\_\_\_\_ Project #: \_\_\_\_\_
- 1.2 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?  
 YES Date of Approval: 3/23/20  N/A
- 1.3 Has the department approved the proposed project's facility plan\*?  
 YES Date of Approval: \_\_\_\_\_  NO (If No, complete No. 1.4.)
- 1.4 [Complete only if answered No on No. 1.3.] Is a copy of the facility plan\* for wastewater treatment facilities included with this application?  
 YES  NO  Exempt because \_\_\_\_\_
- 1.5 Is a copy of the appropriate plans\* and specifications\* included with this application?  
 YES Denote which form is submitted:  Hard copy  Electronic copy (See instructions.)  NO
- 1.6 Is a summary of design\* included with this application?  YES  NO
- 1.7 Has the appropriate operating permit application (A, B, or B2) been submitted to the department?  
 YES Date of submittal: \_\_\_\_\_  
 Enclosed is the appropriate operating permit application and fee submittal. Denote which form:  A  B  B2  
 N/A: However, In the event the department believes that my operating permit requires revision to permit limitation such as changing equivalent to secondary limits to secondary limits or adding total residual chlorine limits, please share a draft copy prior to public notice?  YES  NO
- 1.8 Is the facility currently under enforcement with the department or the Environmental Protection Agency?  YES  NO
- 1.9 Is the appropriate fee or JetPay confirmation included with this application?  YES  NO  
See Section 7.0

\* Must be affixed with a Missouri registered professional engineer's seal, signature and date.

**2.0 PROJECT INFORMATION**

2.1 NAME OF PROJECT Crown View Estates - Phase 3	2.2 ESTIMATED PROJECT CONSTRUCTION COST \$ 750,000
2.3 PROJECT DESCRIPTION Step tanks, low pressure sewer lines, and package MBR WWTF for the construction of 25 new nightly-rental residential buildings	
2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION Pre-treated, screened effluent enters the membrane bioreactor, where biodegradation takes place. Permeate from the membranes constitutes treated effluent. The reject stream, consisting of concentrated biosolids, is wasted from the bioreactor.	
2.5 DESIGN INFORMATION A. Current population: <u>0</u> ; Design population: <u>738</u> B. Actual Flow: _____ gpd; Design Average Flow: <u>48000</u> gpd; Actual Peak Daily Flow: _____ gpd; Design Maximum Daily Flow: <u>186240</u> gpd; Design Wet Weather Event: _____	
2.6 ADDITIONAL INFORMATION A. Is a topographic map attached? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO B. Is a process flow diagram attached? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	

**3.0 WASTEWATER TREATMENT FACILITY**

NAME Crown View - Phase 3		TELEPHONE NUMBER WITH AREA CODE 417-332-8319	E-MAIL ADDRESS lifestyles.jim@gmail.com	
ADDRESS (PHYSICAL) CJ Perme Expressway	CITY Branson	STATE MO	ZIP CODE 65616	COUNTY Stone
Wastewater Treatment Facility: Mo- (Outfall Of )				
3.1 Legal Description: _____ ¼, _____ ¼, NE ¼, Sec. 32, T 23N, R 22W (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): 93'19'45 Northing (Y): 36'39'23 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: Table Rock Lake				

**4.0 PROJECT OWNER**

NAME Lifestyles Vacation Resort		TELEPHONE NUMBER WITH AREA CODE 417-332-8319	E-MAIL ADDRESS lifestyle.jim@gmail.com	
ADDRESS 430 State Hwy 165 South	CITY Branson	STATE MO	ZIP CODE 65616	

**5.0 CONTINUING AUTHORITY: A continuing authority is a company, business, entity or person(s) that will be operating the facility and/or ensuring compliance with the permit requirements.**

NAME SAME AS ABOVE		TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS	
ADDRESS	CITY	STATE	ZIP CODE	

5.1 A letter from the continuing authority, if different than the owner, is included with this application.  YES  NO  N/A

5.2 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A MISSOURI PUBLIC SERVICE COMMISSION REGULATED ENTITY.

A. Is a copy of the certificate of convenience and necessity included with this application?  YES  NO

5.3 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A PROPERTY OWNERS ASSOCIATION.

A. Is a copy of the as-filed restrictions and covenants included with this application?  YES  NO

B. Is a copy of the as-filed warranty deed, quitclaim deed or other legal instrument which transfers ownership of the land for the wastewater treatment facility to the association included with this application?  YES  NO

C. Is a copy of the as-filed legal instrument (typically the plat) that provides the association with valid easements for all sewers included with this application?  YES  NO

D. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application?  YES  NO

**6.0 ENGINEER**

ENGINEER NAME / COMPANY NAME DAVID LUNDSTROM/CPWG		TELEPHONE NUMBER WITH AREA CODE 417-320-6065	E-MAIL ADDRESS DAVID.LUNDSTROM@MADRIDCPWG.COM	
ADDRESS 301 WEST PACIFIC ST, SUITE B	CITY BRANSON	STATE MO	ZIP CODE 65616	

**7.0 APPLICATION FEE**

CHECK NUMBER  JETPAY CONFIRMATION NUMBER

**8.0 PROJECT OWNER:** I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

PROJECT OWNER SIGNATURE 		DATE 5/6/21
PRINTED NAME Jim Braatz	TITLE OR CORPORATE POSITION Director of Finance and Operations	E-MAIL ADDRESS lifestyle.jim@gmail.com
		TELEPHONE NUMBER WITH AREA CODE 417-332-8319

Mail completed copy to: MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WATER PROTECTION PROGRAM  
P.O. BOX 176  
JEFFERSON CITY, MO 65102-0176

**END OF PART A.**  
**REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHETHER PART B NEEDS TO BE COMPLETE.**