

STATE OF ARIZONA
INDIVIDUAL INDUSTRIAL RECYCLED WATER PERMIT NO. R513319
PLACE ID 198939, LTF 91497

1.0 AUTHORIZATION

In compliance with the provisions of Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Article 7 and A.A.C. Title 18, Chapter 11, Article 3 and amendments thereto, and the conditions set forth in this permit, Mark Anthony Brewing Inc., located in Waddell, in Maricopa County, Arizona is hereby authorized to use industrial reclaimed water for beneficial purposes in accordance with the limitations, monitoring requirements and other conditions set forth in this permit and in the rules cited above.

Conditions established in this permit are designed to protect public health and safety, prevent contamination of groundwater through consumptive water use, and conserve potable water by using reclaimed resources. Water application rates authorized herein do not supersede the requirements of the Arizona Department of Water Resources.

1.1 PERMITTEE INFORMATION

Facility Name: Mark Anthony Brewing System
Facility Physical Address: 9601 N. Reems Road.,
Waddell, Arizona 85355

Permittee: Mark Anthony Brewing Inc.
Mailing Address: 145 S. Wells Street, Suite 900
Chicago, IL 60606

Facility Contact: Rick Shippey
Position/Title: General Manager
Emergency Phone No.: (480) 604-8916

Latitude/Longitude: 33° 34' 22" N / 112° 23' 33" W

Legal Description: Mark Anthony Brewing System is located in Township 3N, Range 1W, Section 22, of the Gila and Salt River Baseline and Meridian

AUTHORIZING SIGNATURE

Randall Matas, Deputy Director
Water Quality Division
Arizona Department of Environmental Quality

Signed this _____ day of _____, 2022

2.0 RECLAIMED WATER USE

2.1 Legal Description

Treatment Facility: Mark Anthony Brewing Wastewater Treatment Plant
Physical Address: 9601 N Reems Rd.,
Waddle, Arizona 85355
County: Maricopa
Latitude/Longitude: 33° 34' 22" N / 112° 23' 33" W
Cadastral: Township 3N, Range 1W, Section 22, of the Gila and Salt River Baseline and Meridian, Arizona

Reuse Sites: Approximately 487 acres of site for irrigation of alfalfa, roses, cantaloupe, and cabbage (Fields #1, #2 and #3)
Location: Approximately 2000 feet north and east of the Mark Anthony Brewing System
County: Maricopa
Cadastral: The reuse sites are collectively located in Township 3N, Range 1W, parts of Sections 27, 28, 33 and 34 of the Gila and Salt River Baseline and Meridian, Arizona

Facility Contact: Rick Shippey, General Manager
(480) 604-8916

Field #1 Contact: Justice Family Farms
Selwyn Justice, Operator
(602) 463-8469

Field #2 Contact: Woolf Family Enterprises
Matt Woolf, Operator
(623) 910-8968

Field #3 Contact: Rousseau Farming Company
Will Rousseau, Operator
(602) 763-7766

2.2 Source of Industrial Reclaimed Water:

Mark Anthony Brewing Inc. operates an industrial Wastewater Treatment Plant (WWTP) to treat wastewater from the Mark Anthony Brewing (MAB) System. MAB System is a beverage manufacturer located in Waddell, Arizona.

The water used for production of beverage products will be pumped from an on-site production well at a maximum rate of 1440 gallons per minutes (gpm). The water will be treated through a Reverse Osmosis (RO) system and the RO reject water will be discharged to an onsite industrial WWTP. The WWTP treats the wastewater generated at the site. The WWTS will receive up to 1.24 million gallons per day wastewater generated by brewing operations including cleaning tanks, cleaning equipment, any product spillage, cooling tower blowdown water, boiler blowdown water and RO reject water. The wastewater is treated through pH polishing tank, AquaTex Bioreactors #1, #2 and #3, Dissolve Air Flotation (DAF) unit, and tertiary disk filters. The WWTS effluent will flow to discharge sump, and then it will be conveyed to the reuse sites located near to the MAB System. The WWTP includes two surge tanks for the storage of any effluent or plant upsets.

This permit authorizes the use of industrial reclaimed water for irrigation of up to 487 acres of a combination of alfalfa, roses, fruits and vegetables which will be used as a food or forage crop for animal or human consumption (A.A.C. R18-9-C701(A)(2)).

2.3 Reuse Site Description

The industrial reclaimed water from the MAB System will be conveyed to the reuse sites (Fields) located near the System. The permittee will be constructing ~1500 linear feet of 8” force main and connecting to an existing 36” concrete irrigation pipe at the existing manhole. The 36” irrigation pipe continues easterly until it reached the outfall at the storage pond (Justice Pond). The industrial reclaimed water will be collected in the Justice Pond located on the Field #1 where it will then be pumped into a sprinkler system for irrigation or conveyed easterly up to ~6,100 feet through an earthen ditch which terminates in a storage pond (Rousseau Pond) on the Field #3. The farmers will be supplementing the industrial reclaimed water with water from the Maricopa Water District (MWD) during the higher demand of irrigation water. The facility has estimated MAB industrial reclaimed water as only 40% of the irrigation water demand for Fields #1, #2 and #3. The MWD water will be blended with MAB industrial reclaimed water in the same irrigation pipe and will be stored in the Justice Pond prior to applying to the fields or conveying through earthen ditch to Field #3.

The industrial reclaimed water will be applied at consumptive use rates at Fields #1, #2 and #3 for irrigation of up to 487 acres of combination of alfalfa, roses, fruits and vegetables which will be used as a food or forage crop for animal or human consumption (A.A.C. R18-9-C701(A)(2)).

The Department has determined that the Justice Pond and Rousseau Pond are not a part of this Industrial Recycled Water Permit and will be regulated under an Aquifer Protection Permit. The permittee will be required to obtain Type 3.01 General Permit for Lined Impoundment for these storage ponds prior to utilizing these ponds for the storage of industrial reclaimed water. The storage capacity of Justice Pond will be 0.598 million gallons and Rousseau Pond will be 0.448 million gallons.

This permit only authorizes the use of industrial reclaimed water or blended water (MWD water and MAB industrial reclaimed water) for agricultural irrigation at the Fields #1, #2 and #3. The industrial reclaimed water or blended water will be provided to the additional Fields #4 to #8 to irrigate up to 605 acres of field as needed in the future. Table I provides the information for reuse fields and irrigation of types of the crop at each field. Prior to providing the reclaimed water to the Fields #4 to #8, the facility shall notify the Department, and provide the information for the conveyance system and provide a copy of the Contractual Agreement as described in Sections 3.3.1 and 3.3.2 of this permit. Upon approval from the Department, the facility may provide the industrial reclaimed water to additional Fields #4 to #8.

The monitoring requirements and discharge limits are specified in Table II and Table III for the industrial reclaimed water from the MAB System and blended water in the Justice Pond respectively. The Discharge Limit for flow from the industrial discharges through the MAB System to the Direct Reuse Irrigation fields shall not exceed 1,240,000 gallons per day. Total daily flow to the reuse site shall be monitored and recorded.

| TABLE I: LIST OF REUSE FIELDS | | | | | |
|-------------------------------|--|-----------------|------------------|-----------------|---|
| Fields and Owner | Parcel # | Latitude | Longitude | Acreage (acres) | Types of crops to be irrigated |
| #1 - Dwayne Justice | 501-42-005 501-42-006 501-43-018 501-43-019 | 33° 34' 36.3" N | 112° 22' 34.4" W | 197.04 | Alfalfa, Fruits & Vegetables |
| #2 – Leyton Woolf | 501-43-016A | 33° 34' 10.5" N | 112° 22' 19.4" W | 153.76 | Roses |
| #3 - Suburban Land Preserve | 501-43-015E | 33° 34' 35.9" N | 112° 21' 48.3" W | 136.37 | Fruits & Vegetables |
| #4 - Tall Wi Wi | 501-43-023A | 33° 34' 9.8" N | 112° 21' 47.5" W | 134.95 | Variety of Alfalfa, Fruits & Vegetables |
| #5 - Tall Wi Wi | 501-43-013C | 33° 34' 36.8" N | 112° 21' 17.3" W | 133.86 | Variety of Alfalfa, Fruits & Vegetables |
| #6 - Tall Wi Wi | 501-43-012C | 33° 34' 9.7" N | 112° 21' 16.7" W | 114.12 | Variety of Alfalfa, Fruits & Vegetables |

| TABLE I: LIST OF REUSE FIELDS | | | | | |
|--------------------------------------|-------------|-----------------|------------------|--------|---|
| #7 - Tall Wi Wi | 501-42-024B | 33° 33' 43.7" N | 112° 21' 40.6" W | 72.00 | Variety of Alfalfa, Fruits & Vegetables |
| #8 - Tall Wi Wi | 501-47-007G | 33° 33' 43.5" N | 112° 21' 16.3" W | 149.61 | Variety of Alfalfa, Fruits & Vegetables |

3.0 ALLOWABLE PERMIT LIMITS AND MONITORING REQUIREMENTS

3.1 Discharge Monitoring

MAB is authorized to provide industrial reclaimed water as stated in Sections 2.2 and 2.3 of this permit subjects to the limitations and monitoring requirements specified in Table II below. Reclaimed water samples shall be collected downstream of the Tertiary Filters at the treatment site prior to delivery to the storage ponds and/or to the reuse site.

The blended water sample shall be collected at the Justice Pond as required in Table III. The blended water shall be analyzed for the total nitrogen, pH, Total Suspended Solids, fecal coliform and metals. The discharge limit of Total nitrogen in blended water is set to 17.6 mg/l based on the demonstration provided by the facility and estimated blending ration of 60% to 40% for MWD water to MAB industrial reclaimed water. Also, it was demonstrated that the total nitrogen concentration in blended water will be less than the observed nitrogen concentrations in nearby wells. The discharge limit for Total Nitrogen of 17.6 mg/l in the blended water ensures that the seepage from the unlined earthen ditch will not further degrade groundwater quality due to the high background nitrate concentrations in shallow groundwater.

| TABLE II – ROUTINE MONITORING FOR MAB INDUSTRIAL RECLAIMED WATER | | | | |
|---|--------------------------------------|------------------|---------------------------|----------------------------|
| Sampling Point Number | Sampling Point Identification | | Latitude | Longitude |
| 1 | Downstream of the Tertiary Filters | | 33° 34' 13.2" N | 112° 23' 9.2" W |
| Parameter | Discharge Limit | Units | Sampling Frequency | Reporting Frequency |
| Flow ¹ : Daily | Not Applicable ² | mgd ³ | Daily | Quarterly |
| Flow: Monthly Average Flow Provided for Reuse ⁴ | 1.24 | mgd | Monthly | Quarterly |
| Total Nitrogen ⁵ | Not applicable | mg/l | Monthly | Quarterly |
| Fecal Coliform | Non-detect | CFU ⁶ | Monthly | Quarterly |
| Cyanide (as free cyanide) | 0.2 | mg/l | Quarterly | Quarterly |
| Fluoride | 4.0 | mg/l | Quarterly | Quarterly |

¹Flow rate shall be measured using a continuously recording totalizing flow meter and shall be located to gauge the flow of reclaimed water from tertiary filters to the storage ponds and/or to the reuse site. Flow rate shall be measured on days when reclaimed water is delivered from the lift station vault to the storage ponds and/or to the reuse site. On days when there is no delivery of reclaimed water, indicate “no flow” on the Self-monitoring Report Form (SMRF).

²Not Applicable means that monitoring is required, but no limits have been specified at the time of permit issuance

³mgd = million gallons per day

⁴Monthly Average means the calculated average of daily flow values in a month

⁵Total Nitrogen = Nitrate as N + Nitrite as N + Total Kjeldahl Nitrogen

⁶CFU = Colony Forming Units / 100 ml sample. For CFU, a value of <1.0 shall be considered to be non-detect.

| TABLE II – ROUTINE MONITORING FOR MAB INDUSTRIAL RECLAIMED WATER (Continued) | | | | |
|---|--------------------------------------|--------------|---------------------------|----------------------------|
| Sampling Point Number | Sampling Point Identification | | Latitude | Longitude |
| 1 | Downstream of the Tertiary Filters | | 33° 34' 13.2" N | 112° 23' 9.2" W |
| Parameter | Discharge Limit | Units | Sampling Frequency | Reporting Frequency |
| Metals (Total) | | | | |
| Antimony | 0.006 | mg/l | Quarterly | Quarterly |
| Arsenic | 0.05 | mg/l | Quarterly | Quarterly |
| Barium | 2.00 | mg/l | Quarterly | Quarterly |
| Beryllium | 0.004 | mg/l | Quarterly | Quarterly |
| Cadmium | 0.005 | mg/l | Quarterly | Quarterly |
| Chromium | 0.1 | mg/l | Quarterly | Quarterly |
| Lead | 0.05 | mg/l | Quarterly | Quarterly |
| Mercury | 0.002 | mg/l | Quarterly | Quarterly |
| Nickel | 0.1 | mg/l | Quarterly | Quarterly |
| Selenium | 0.05 | mg/l | Quarterly | Quarterly |
| Thallium | 0.002 | mg/l | Quarterly | Quarterly |

| TABLE III – ROUTINE MONITORING FOR BLENDED WATER | | | | |
|--|-------------------------------|------------------|----------------------|---------------------|
| Sampling Point Number | Sampling Point Identification | | Latitude | Longitude |
| 2 | At the Justice Pond | | 33° 34' 23.4" N | 112° 22' 49.9" W |
| Parameter | Discharge Limit | Units | Sampling Frequency | Reporting Frequency |
| Total Nitrogen ⁷ :Five-sample rolling geometric mean ⁸ | 17.6 | mg/l | Monthly Calculations | Quarterly |
| Fecal Coliform | Non-detect | CFU ⁹ | Monthly | Quarterly |
| pH | 6-9 | Standard Unit | Monthly | Quarterly |
| Cyanide (as free cyanide) | 0.2 | mg/l | Quarterly | Quarterly |
| Fluoride | 4.0 | mg/l | Quarterly | Quarterly |
| Metals (Total) | | | | |
| Antimony | 0.006 | mg/l | Quarterly | Quarterly |
| Arsenic | 0.05 | mg/l | Quarterly | Quarterly |
| Barium | 2.00 | mg/l | Quarterly | Quarterly |
| Beryllium | 0.004 | mg/l | Quarterly | Quarterly |
| Cadmium | 0.005 | mg/l | Quarterly | Quarterly |
| Chromium | 0.1 | mg/l | Quarterly | Quarterly |
| Lead | 0.05 | mg/l | Quarterly | Quarterly |
| Mercury | 0.002 | mg/l | Quarterly | Quarterly |
| Nickel | 0.1 | mg/l | Quarterly | Quarterly |
| Selenium | 0.05 | mg/l | Quarterly | Quarterly |
| Thallium | 0.002 | mg/l | Quarterly | Quarterly |

⁷Total Nitrogen = Nitrate as N + Nitrite as N + Total Kjeldahl Nitrogen

⁸The five-sample rolling geometric mean is determined by multiplying the five (5) most recent monthly sample values together then taking the fifth root of the product. *Example: $GM_5 = \sqrt[5]{(m_1)(m_2)(m_3)(m_4)(m_5)}$*

For the first four samples enter “Not Required” on SMRFs

⁹CFU = Colony Forming Units / 100 ml sample. For CFU, a value of <1.0 shall be considered to be non-detect.

3.2 Monitoring Methodology

Unless otherwise specified in this permit, all monitoring required in this permit shall continue for the duration of the permit, regardless of the status of the facility. Unless otherwise provided, monitoring shall commence the first full monitoring period following permit issuance. All sampling, preservation and holding times shall be in accordance with currently accepted standards of professional practice. Trip blanks, equipment blanks and duplicate samples shall also be obtained, and Chain-of-Custody procedures shall be followed, in accordance with currently accepted standards of professional practice. Copies of laboratory analyses and Chain-of-Custody forms shall be maintained at the permitted facility. Upon request, these documents shall be made immediately available for review by ADEQ personnel.

All samples shall be analyzed by a laboratory certified by the Arizona Department of Health Services (ADHS), Office of Laboratory Licensure and Certifications using Environmental Protection Agency (EPA) or ADHS approved analytical methods. If the levels listed in the permit are less than the detection limits of the appropriate EPA or ADHS analytical methods, then the methods with lowest detection limits shall be applied for the analysis. Analytical methods shall be recorded on the Self-monitoring Report Forms (SMRFs). A list of certified laboratories can be obtained from:

Arizona Department of Health Services
Office of Laboratory Licensure and Certifications
250 North 17th Avenue
Phoenix, Arizona 85007
Phone: (602) 364-0720

3.3 Monitoring and Reporting Schedule

3.3.1 Notification for Addition of Fields #4 to #8:

The facility shall notify the Department regarding its intent to provide the industrial reclaimed water to any of the additional Fields #4 to #8 for irrigation purposes. The facility shall provide the notification at least 15 days prior to providing the industrial reclaimed water per Section 3.3.5.

3.3.2 Submittal of Information for Conveyance System and Contractual Agreement

The facility shall notify the Department regarding its intent to provide the industrial reclaimed water to any of the additional Fields #4 to #8 for irrigation purposes. The facility shall provide the information on the conveyance system which shall include a site map, details of the conveyance system and Contractual Agreement with each end user. The Department shall be provided with this information at least 15 days prior to providing the industrial reclaimed water to additional fields.

3.3.3 Monitoring Schedule:

Monitoring for flow rate shall be commenced immediately once the industrial reclaimed water is provided to the Justice Pond. Monitoring for all other parameters of Tables II and III shall commence within the first month (following the signature date of this permit) in which there is delivery of industrial reclaimed water from the MAB System to the Justice Pond.

3.3.4 Self-Monitoring Report Forms

All monitoring results shall be recorded on the Self-monitoring Report Forms (SMRFs) provided by ADEQ, and submit the completed report through the myDEQ online reporting system. The permittee shall use the format devised by ADEQ.

The permittee shall complete the SMRFs to the extent that the information reported may be entered on the form. If no information is required during a reporting period, the permittee shall enter "not required" on the form, include an explanation, and submit the form to the Water Reuse Value Stream.

3.3.5 Reporting Location

All Self-Monitoring Report Forms (SMRFs) shall be submitted through the myDEQ portal accessible on the ADEQ website at: <http://www.azdeq.gov/welcome-mydeq>. Contact at 602-771-4571 for any inquiry related to the SMRFs.

5-day and 30-day contingency notification and reports, and laboratory reports required by this permit should be submitted through the myDEQ portal accessible on the ADEQ website at: <http://www.azdeq.gov/welcome-mydeq>.

All other documents required by this permit shall be mailed electronically to: waterreuse@azdeq.gov

3.3.6 Reporting Deadline

The following table lists the quarterly report due dates:

| TABLE IV: QUARTERLY REPORTING DEADLINES | |
|--|---------------------------------|
| Monitoring conducted during quarter: | Quarterly Report due by: |
| January-March | April 30 |
| April-June | July 30 |
| July-September | October 30 |
| October-December | January 30 |

3.4 Records Retention

Records of monitoring activities and results (including all original strip chart recordings for continuous monitoring instrumentation, calibration, electronic recording, and maintenance records) shall be maintained for a minimum of five (5) years at the facility office for inspection.

4.0 MANAGEMENT PRACTICES

4.1 Irrigation Practices

Application of reclaimed water to the reuse area shall be performed according to the following requirements:

1. Run-off of reclaimed water from the irrigation area to any surface water body or wash is prohibited. Application of reclaimed water for irrigation is limited to the specific area as indicated in the permit application and supporting documentation.
2. Use application methods that reasonably preclude human contact with industrial wastewater.
3. Prevent reclaimed water from standing on open access areas during normal periods of use.
4. Prevent reclaimed water from coming into contact with drinking fountains, water coolers, or eating areas.
5. Secure hose bibbs discharging reclaimed water to prevent use by the public.

4.2 Public Information

Signs shall be posted at locations which inform employees, visitors, and the general public that reclaimed water is in use and that no one may drink water from the Storage Ponds or the conveyance system.

5.0 COMPLIANCE

5.1 Violations of Discharge Limits and Permit Conditions

1. Permittee shall notify the ADEQ Water Reuse Value Stream in writing according to Section 3.3.5 and within five (5) days of becoming aware of a violation of any permit condition or discharge limitation.

2. Permittee shall submit a written report to the ADEQ Water Reuse Value Stream according to Section 3.3.5 and within 30 days of becoming aware of the violation of any permit condition or discharge limitation. The report shall document all of the following:
 - a. Identification and description of the permit condition for which there has been a violation and a description of the cause;
 - b. The period of violation including exact date(s) and time(s), if known, and the anticipated time period during which the violation is expected to continue;
 - c. Description of any malfunction or failure of pollution control devices or other equipment or processes;
 - d. Any corrective action taken or planned to mitigate the effects of the violation, or to eliminate or prevent a recurrence of the violation;
 - e. Any monitoring activity or other information that indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard or cause endangerment to public health and safety;
 - f. Proposed changes to the monitoring which include changes in constituents or increased frequency of monitoring.

5.2 Unauthorized Release

Permittee shall notify ADEQ within 24 hours after becoming aware of an unauthorized release of reclaimed water to the land surface, surface, surface water bodies, or to the aquifer. This notification shall include:

1. a description of the release;
2. a description of the cause of the release;
3. the location and duration of the release including exact dates and times;
4. a plan of action which addresses remedial or mitigative action.

Notifications of unauthorized releases and violations of discharge limits and permit conditions shall be submitted to through the myDEQ portal accessible on the ADEQ website at: <http://www.azdeq.gov/welcome-mydeq>.

6.0 GENERAL PROVISIONS

6.1 Information Changes [A.A.C. R18-9-A705(B) and (D)]

If a change in the following information occurs, the permittee shall update the ADEQ Water Reuse Value Stream with such changes at least once annually by January 31:

1. Permittee,
2. Ownership,
3. Contact person,
4. Phone number, address, email address, or telephone number, or any combination of any of the above, for permittee or contact person,
5. Name of the use site,
6. An increase in Class A, B, or C reclaimed water use of more than ten percent but less than twenty percent above the volume of reclaimed water currently permitted for use at the reuse site, if applicable.

For changes not described above, the permittee must submit a new Recycled Water Individual Permit application, as applicable.

6.2 Duty to Comply [A.R.S. §§ 49-221 through 49-263]

The permittee is notified of the obligation to comply with all conditions of this permit and all applicable provisions of A.R.S. § Title 49, Chapter 2, Articles 1, 2 and 3, A.A.C. Title 18, Chapter 7 and A.A.C. Title 18, Chapter 11, Article 3. Any permit non-compliance constitutes a violation and is grounds for an enforcement action pursuant to A.R.S. § Title 49, Chapter 2, Article 4 or permit amendment, suspension, or revocation.

6.3 Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby. The filing of a request by the Permittee for a permit action does not stay or suspend the effectiveness of any existing permit condition.

6.4 Other Laws and Rules

The issuance of this permit does not waive any federal, state, county, or local government rules, regulations, or permits with which this facility may have to comply.

6.5 Permit Continuance [A.A.C. R18-9-B703(A)]

This permit is valid for five (5) years. The permit must be updated as prescribed by A.A.C. R18-9-A705. The terms and conditions of an expired permit are automatically continued pending issuance of a new permit if:

1. The permitted activity is of a continuing nature;
2. Permittee has submitted a timely (60 days before expiration date of permit) and sufficient application for a new permit; and
3. ADEQ is unable, through no fault of the permittee, to issue a new permit before the expiration date of the previous permit.

7.0 REFERENCES AND PERTINENT INFORMATION

The terms and conditions set forth in this permit have been developed based upon the information contained in the following, which are on file with the Department:

1. Individual Reclaimed Water Permit application: November 23, 2021
2. Public Notice: XXX