Exhibit B
Chapter 3 (Municipal and Industrial Water Projects)
Submission Requirements

(1) A completed application form;

See attached Application.

(2) An abstract of the proposal indicating the scope and need for the development;

See Application paragraph 2.

(3) Preliminary review and comment on the proposal by the appropriate agency of the Colorado Department of Natural Resources and/or the Colorado Department of Public Health & Environment, as applicable;

N/A.

(4) For the purpose of assisting in evaluation of the applicant's selected development alternative only, a listing of alternative site locations and general degree of feasibility of each or, at the option of the applicant, the environmental analyses, assessments and statements developed under any required review pursuant to the National Environmental Policy Act (NEPA);

ARF bought the Project farms and water rights from Pure Cycle Corporation in a block. No similar-sized block of farms is available for purchase in Bent County so no alternatives were considered. No NEPA review is required for the Project because no federal action is implicated.

(5) Proponents of proposal:

Arkansas River Farms, LLC
1400 16th St., Suite 320
Denver, CO 80202

Lower Arkansas Water Management Association
310 S. 6th Street
Lamar, CO 81052

(b) Counsel for ARF
Steve Sims
410 17th St., Suite 2200
Denver, CO 80202

Counsel for LAWMA
Richard Mehren
2595 Canyon Blvd, Suite 300
Boulder, CO 80302

ARF Representatives
LAWMA Representative

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1 Bent County directed Applicants to submit its application under both Chapters 3 and 4. Applicants contend that Chapter 3 does not apply since the activities of Applicants do not include municipal or industrial uses. By filing this Exhibit B, Applicants do not waive its right to judicially challenge Bent County’s determination that Chapter 3 applies if in its final agency action, Bent County adopts terms or conditions in its determination of this application that would not have been applicable if Applicants had not based its application on Chapter 3.
(6) A detailed report on the proposed municipal or industrial water project to include:

(a) Location and scope of the proposed project;

A. Location of dry-up farms and numbers of associated FLCC Shares involved:

The FLCC Shares historically have been used along the Fort Lyon Canal from Bent County Road 1 on the west to Bent County Road 35 to the east. The 28 dry-up farms that are part of this application, and the numbers of shares historically used to irrigate those farms, are described as follows:

i. Farm No. 1. Approximately 165 acres generally located in the NW ¼ of Section 25 and the NE ¼ of Section 26, Township 22 South, Range 51 West in Bent County, Colorado. Historically irrigated by 204 of the FLCC Shares.

ii. Farm No. 2. Approximately 92.3 acres generally located in the SE ¼ of Section 23, Township 22 South, Range 51 West in Bent County, Colorado. Historically irrigated by 144 of the FLCC Shares.

iii. Farm No. 13. Approximately 105.7 acres generally located in the SE ¼ of Section 29, Township 22 South, Range 52 West in Bent County, Colorado. Historically irrigated by 188 of the FLCC Shares.

iv. Farm No. 14. Approximately 150.6 acres generally located in the S ½ of the NW ¼ and the SW ¼ of Section 19, Township 22 South, Range 49 West in Bent County, Colorado. Historically irrigated by 118 of the FLCC Shares.

v. Farm No. 19. Approximately 189.1 acres generally located in the E ½ of Section 17, Township 22 South, Range 51 West in Bent County, Colorado. Historically irrigated by 288 of the FLCC Shares.

vi. Farm No. 21. Approximately 55.1 acres generally located in the N ½ of the SE ¼ of Section 20, Township 22 South, Range 51 West in Bent County, Colorado. Historically irrigated by 162 of the FLCC Shares.
vii. Farm No. 22. Approximately 74.6 acres generally located in the N ½ of the SE ¼ and the NE ¼ of the SW ¼ of Section 31, Township 22 South, Range 51 West, in Bent County, Colorado. Historically irrigated by 101 of the FLCC Shares.

viii. Farm No. 23. Approximately 4.1 acres generally located in the S ½ of the S ½ of Section 31, Township 22 South, Range 51 West, in Bent County, Colorado. Historically irrigated by 245 of the FLCC Shares.

ix. Farm No. 25. Approximately 462 acres generally located in the NW ¼, the W ½ of the NE ¼, and the S ½ of Section 11; and in the S ½ of Section 2, all in Township 22 South, Range 48 West, in Bent County, Colorado. Historically irrigated by 322 of the FLCC Shares.

x. Farm No. 27. Approximately 366.5 acres generally located in the W ½ of Section 26 and the NE ¼ of Section 35, Township 22 South, Range 51 West, in Bent County, Colorado. Historically irrigated by 660 of the FLCC Shares.

xi. Farm No. 30N. Approximately 94.1 acres generally located in the NW ¼ of Section 1, Township 22 South, Range 48 West in Bent County, Colorado. Historically irrigated by 88 of the FLCC Shares.

xii. Farm No. 33. Approximately 107.3 acres generally located in the E ½ of Section 27; and the N ½ of the NE ¼ of Section 34, all in Township 22 South, Range 51 West, in Bent County, Colorado. Historically irrigated by 104 of the FLCC Shares.

xiii. Farm No. 36. Approximately 147.1 acres generally located in the SW ¼ of Section 14, Township 22 South, Range 51 West in Bent County, Colorado. Historically irrigated by 212 of the FLCC Shares.

xiv. Farm No. 37. Approximately 153.5 acres generally located in the E ½ of Section 10, Township 22 South, Range 48 West, in Bent County, Colorado. Historically irrigated by 144 of the FLCC Shares.

xv. Farm No. 39N. Approximately 234.3 acres generally located in portions of Section 12 and 24, Township 22 South, Range 49 West in Bent County, Colorado. Historically irrigated by 191 of the FLCC Shares.

xvi. Farm No. 41. Approximately 115.2 acres generally located in the SE ¼ of Section 24, Township 22 South, Range 50 West in Bent County, Colorado. Historically irrigated by 79 of the FLCC Shares.

xvii. Farm No. 42. Approximately 155.2 acres generally located in the W ½ of Section 28, Township 22 South, Range 48 West, in Bent County, Colorado. Historically irrigated by 166 of the FLCC Shares.
xviii. Farm No. 53. Approximately 143.5 acres generally located in the E ½ of the SE ¼ of Section 27 and the NW ¼ of Section 34, Township 22 South, Range 48 West in Bent County, Colorado. Historically irrigated by 170 of the FLCC Shares.

xix. Farm No. 54B. Approximately 159.2 acres generally located in the SE ¼ of Section 19, Township 22 South, Range 49 West, in Bent County, Colorado. Historically irrigated by 80 of the FLCC Shares.

xx. Farm No. 57. Approximately 63.9 acres generally located in the SW ¼ of Section 6, Township 23 South, Range 53 West, in Bent County, Colorado. Historically irrigated by 83 of the FLCC Shares.

xxi. Farm No. 58. Approximately 144.2 acres generally located in the S ½ of the NE ¼, and the SE ¼ of Section 18, Township 22 South, Range 49 West, in Bent County, Colorado. Historically irrigated by 116 of the FLCC Shares.

xxii. Farm No. 59. Approximately 64.5 acres generally located in the SW ¼ of Section 28, Township 22 South, Range 51 West, in Bent County, Colorado. Historically irrigated by 144 of the FLCC Shares.

xxiii. Farm No. 64. Approximately 198.1 acres generally located in the N ½ of Section 32 and the NW ¼ of Section 33, Township 22 South, Range 48 West, in Bent County, Colorado. Historically irrigated by 224 of the FLCC Shares.

xxiv. Farm No. 65. Approximately 155.7 acres generally located in the SE ¼ of Section 25, Township 22 South, Range 49 West, in Bent County, Colorado. Historically irrigated by 144 of the FLCC Shares.

xxv. Farm No. 110. Approximately 218.5 acres generally located in the S ½ of the SW ¼ and in the SE ¼ of Section 11, Township 21 South, Range 48 West, in Bent County, Colorado. Historically irrigated by 152 of the FLCC Shares.

xxvi. Farm No. 114. Approximately 225.5 acres generally located in the N ½ of Section 11, Township 21 South, Range 48 West in Bent County, Colorado. Historically irrigated by 144 of the FLCC Shares.

xxvii. Farm No. 127. Approximately 95.2 acres generally located in the W ½ of the SW ¼ of Section 19, Township 22 South, Range 48 West in Bent County, Colorado. Historically irrigated by 72 of the FLCC Shares.

xxviii. Coen Farm. Approximately 152.8 acres generally located in the SW ¼ of Section 26 and the E ½ of Section 27, Township 22 South, Range 48 West in Bent County, Colorado. Historically irrigated by 144 of the FLCC Shares.

II. New ARF Augmented Structures
ARF will use its LAWMA Shares to augment 26 new wells, all but two of which will be located in Bent County. The list of augmented wells is in Table 2 below:

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(b) Current and future needs for such development;

See description of ARF and LAWMA water use below.

**ARF Water Use**

As described above, ARF’s need to change from flood irrigation to center-pivot irrigation arose from the need to increase the efficiency of irrigation and to allow the Bent County farms to be irrigated with a full water supply when the water was needed instead of when the water was available in rotation from the FLCC. This change in irrigation methods allows Project farms to increase crop yields.

**LAWMA Water Use**

LAWMA’s water use is described in Section (2) above.

LAWMA allocates water to its common shares based on the annual estimated yield of LAWMA’s portfolio. A full, or 100%, allocation amounts to one acre-foot of fully consumable water per common share. Based on LAWMA’s existing portfolio, an average allocation to a LAWMA share is approximately 75%, or 0.75 acre-feet of water per share. In dry years, that allocation can drop to 40% (0.4 acre-feet per share) or lower. Under its existing portfolio, LAWMA cannot deliver a full allocation to LAWMA shares on a consistent or long-term basis. Therefore, LAWMA needs to add additional supplies, including the FLCC Shares, to its portfolio to boost and to firm up the amount of pumping and other diversions available to LAWMA’s members in average and dry years.
For LAWMA to obtain a water court decree changing the water rights associated with the FLCC Shares so that they may be used in accordance with LAWMA’s Bylaws, including without limitation for augmentation and replacement purposes, ARF must dry up and either revegetate or dry-land farm the dry-up farms. As part of the exchanges of FLCC Shares for LAWMA shares, ARF gave (or, for the pending second exchange, will give) LAWMA real covenants for such dry-up and either revegetation or dry-land farming.

(c) **Inventory of existing water projects presently serving the municipality or area in question and excess service capacity of each project;**

Attached Exhibit F is a summary of the types and numbers of the structures included in LAWMA’s decreed plan for augmentation and in SWSPs for which LAWMA shares are the source of augmentation supply. There is no municipal alluvial well-pumping covered by LAWMA’s plan for augmentation in 2017. There are 6 acre-feet of municipal bedrock well-pumping covered by the plan for augmentation in 2017.

Attached Exhibit G is summary of the types and numbers of the structures included in LAWMA’s Rule 14 plan. The 8,500 acre-feet of mainstem municipal well-pumping shown on Exhibit F should be disregarded, because that pumping is for non-consumptive use by the City of Lamar for its power plant, and LAWMA does not owe augmentation water to the stream as a result of that use (which has a presumptive depletion factor of 0).

Attached Exhibit H is a summary of LAWMA’s existing portfolio of water rights and other water sources, not including the FLCC Shares.

Attached Exhibit I includes a summary of the allocation to a LAWMA common share over the last 16 years (beginning in 2002, when LAWMA began using its current method of allocating water to shares). As shown in Exhibit I, the average allocation over that period has been 75%, and there has been a full (100%) allocation in only 5 of the 16 years.

(d) **Population trends, projections and growth rates (if a municipal project);**

N/A

(e) **Primary source of proposed water resources;**

Water for the Project and for the addition to LAWMA’s portfolio will come from shares in the Fort Lyon Canal Company. The Company diverts water from the following sources:

1. The Fort Lyon Company owns three direct-flow water rights originally decreed in the District Court for Bent County, Colorado, on April 8, 1905, and more particularly described as follows: The first water right is for 164.64 cubic feet per second (“cfs”) from the Arkansas River with an appropriation date of April 15, 1884. The second water right is for 597.16 cfs from the Arkansas River with an appropriation date of March 1, 1887. The third water right is for 171.20 cfs from the Arkansas River with an appropriation date of August 31, 1893. These water rights total 933 cfs.
2. The Fort Lyon Company also owns water rights to divert and store water in Horse Creek and Adobe Creek Reservoirs. These water rights were decreed in the District Court for Bent County, Colorado, on November 8, 1928, and are summarized in Table 3 below.

Table 3
Storage Rights – Horse Creek Reservoir and Adobe Creek Reservoir

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3. Additionally, the Fort Lyon Company owns two water rights associated with Thurston Reservoir, a/k/a Thurston Lake, as follows: The first water right is for storage of 1,515 acre-feet (“af”) of water in Thurston Reservoir, with said water diverted from the Arkansas River into the FLCC main canal at a rate of up to 355.20 cfs. This water right was originally decreed for Prince Reservoir in the District Court for Bent County, Colorado, on April 8, 1905. The water right was conditionally transferred to Thurston Reservoir in 1972 in Case No. W-27, Water Division 2, and made absolute in 1979 in Case No. 79CW085, Water Division 2. The second water right is a direct-flow water right for the Thurston Pipeline, which was decreed in Case No. W-27, Water Division 2, to divert 25 cfs from Thurston Reservoir into the FLCC’s main canal, with an appropriation date of July 15, 1969. The source of water is Thurston Lake, a/k/a Thurston Reservoir, whose water is accumulated from springs in said lake, seepage flowing into the lake from all sides thereof, waste water from a canal of the Fort Lyon Company, rainfall, and waste water flowing in the lake from land of owners adjoining the lake; said water is not tributary to any natural stream of the State of Colorado. In Case No. 83CW119, Water Division 2, 6.68 cfs of the 25 cfs decreed to the Thurston Pipeline was made absolute, and in Case No. 10CW69, Water Division 2, the remaining 18.32 cfs was made absolute.

4. In addition to its direct-flow and storage rights described in Recitals D, E, and F above, the Fort Lyon Company owns, controls, and/or operates the water rights and water supply agreements summarized in Table 4 below.
### Table 4
**FLCC - Other Water Rights and Water Supply Agreements**

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<td>Change in Diversion Point</td>
<td>79CW178</td>
<td>933 cfs</td>
<td>Horse Creek Reservoir</td>
</tr>
<tr>
<td>Winter Water Storage Program</td>
<td>84CW179</td>
<td>38,160 af of the first 100,000 af and 38.16% of all water over 103,106 af</td>
<td>Horse Creek Reservoir</td>
</tr>
<tr>
<td>John Martin Reservoir Exchange</td>
<td>90CW047</td>
<td>Absolute: flow rate 544 cfs, annual limit 15,288.95 af Conditional: 606 cfs</td>
<td>John Martin Reservoir</td>
</tr>
<tr>
<td>John Martin Operating Plan</td>
<td>Arkansas River Compact Administration April 24, 1980</td>
<td>20,000 af</td>
<td>John Martin Reservoir</td>
</tr>
<tr>
<td>Project</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informal Basis</td>
<td></td>
<td></td>
<td>Periodically the FLCC works with other area canals to increase water availability to shareholders</td>
</tr>
</tbody>
</table>

The foregoing identification of the Fort Lyon Company’s water rights is based on the Parties’ current information and is not intended to exclude any other water rights that the Fort Lyon Company may own or control.

(6) **Describe the relationship, if any, of the proposed project to formally adopted regulations and policies of federal, state, regional or county governments, which regulations or policies would govern the use of land or water resources impacted by the project;**

**N/A**

(7) **Describe proposed methods of insuring efficient and beneficial use of water resources within the municipality or area to which the water is proposed to be delivered. Such methods should consider metering of all users, examination of rate structure to discourage waste and recycling of water for reuse where permissible by Colorado water law;**

Neither LAWMA nor ARF is a municipality or a municipal water provider. Further, as shown on attached Exhibits I, less than 1% of LAWMA’s 2017 operations involves augmenting consumptive use of water pumped by municipal wells. This item therefore is not applicable to the requested permit application.
Applicants note, however, that LAWMA’s operations are governed by the water court decree for LAWMA’s plan for augmentation, and by annual approvals by the Division of Water Resources for the Rule 14 plan and substitute water supply plans. As a matter of Colorado water law, the water court decree and the annual administrative approvals require LAWMA to make non-wasteful beneficial use of water available to LAWMA’s water rights and other water supplies. The Water Right Determination and Administration Act of 1969 requires the Division Engineer’s Office to curtail wasteful diversions or use of water.

(8) Provide a description and detailed engineering plans and specifications of the proposed construction of structures, buildings, and improvements associated with the project and the financial and environmental impacts thereof on the community or surrounding areas;

Please see attached plans for the proposed construction of structures and improvements. Please also see the attached Fiscal Impact analysis. Exhibit L

(9) Provide assurance that the proposed municipal or industrial water project is capable of supplying water of a quality acceptable to the Colorado Department of Public Health & Environment;

As explained above, LAWMA is not a municipal water supplier. LAWMA does not provide potable water supplies to any of its members, including municipal members.

(10) Identify and locate on a map of an appropriate scale any of the following features present in the source development area and detail the potential impact of the municipal or industrial water project upon each feature:

Please see attached map. Exhibit K-1.

(a) Marshlands and wetlands

The development will not affect marshlands or wetlands.

(b) Aquifer recharge areas,

The development will not affect existing groundwater recharge areas. LAWMA will deliver water to new recharge ponds on ARF Farm Nos. 60, 63, 65, 110, and 132/133 as a means of returning water to the stream system to replicate historical return flows from irrigation of the dry-up farms, and to generate augmentation and replacement credits. Before use, each of the recharge ponds’ design and operation must be approved in writing by the Office of the Division Engineer.

(c) Potential natural hazards
The development will not affect potential natural hazards.

(d) Forests and woodlands

The development will not affect forests or woodlands.

(e) Critical wildlife habitat or other wildlife protection areas

LAWMA’s diversion of water available to the FLCC Shares will have no adverse effects upon wildlife habitat because that diversion will replicate historical use of the FLCC Shares. Likewise, LAWMA will deliver water to the stream to replicate historical return flows from use of the FLCC Shares. Accordingly, LAWMA’s use of the FLCC Shares will have no impact on the amount or location of water available for wildlife. In fact, the eight or more recharge ponds that ARF will be constructing and that LAWMA will be operating on Farm Nos. 65 and 132/133 should have a positive impact on wildlife habitat, particularly for migratory waterfowl. Further, dry-land crops planted on certain of the dry-up farms may provide cover for pheasants and other wildlife.

Applicants assert that because no impacts exist they do not believe that they need to provide anything other than testimony to the lack of impact; however, ARF agrees to hire an outside wildlife consultant to produce a letter confirming Applicants’ testimony. The wildlife consultant’s letter will be labeled Exhibit S, and ARF will produce that report on or before November 16, 2017.

(f) Public, outdoor recreation areas

The development will not affect public outdoor recreation areas.

(g) Unique areas of geological, historic and archeological importance

The development will not affect unique areas of geological, historical, or archeological importance.

(h) Critical aquatic life habitat;

The development will not affect critical aquatic life habitat.

(i) Agricultural areas;

All farms are active farmland. As described above, and as required by the FLCC Board approval of the proposed change of use of the FLCC shares and by the dry-up covenants that ARF has given or will give to LAWMA for the dry-up farms, ARF will implement revegetation and dry-land farming practices to prevent soil degradation or loss, blowing dust, and development of noxious weeds on the dry-up farms. Those lands therefore will retain their agricultural character.
(12) Describe the potential adverse effects of the diversions of water upon plant and animal life dependent upon the water resources in question;

LAWMA’s diversion of water available to the FLCC Shares will have no adverse effects upon plant or animal life because that diversion will replicate historical use of the FLCC Shares. Likewise, LAWMA will deliver water to the stream to replicate historical return flows from use of the FLCC Shares. Accordingly, LAWMA’s use of the FLCC Shares will have no impact on the amount or location of water available for plant and animal life.

(13) Describe and indicate on an appropriate map surface water bodies (streams, lakes, reservoirs (existing or proposed), etc.) and aquifer recharge areas in the source development area and their uses. Describe the effects of the diversion of water for the municipal or industrial water project on the above-described water feature(s) including the effects on present water quality, current and foreseeable uses. Include a detailed statement of the impacts of the proposed project upon water quality standards including, but not limited to anti-degradation standards, and all applicable basic or numeric standards for physical, biological, organic, inorganic, and metals pollutants;

Please see the map attached as Exhibit K-1. LAWMA’s diversion of water available to the FLCC Shares will have no adverse effect on the water features shown on Exhibit K-1. Historical diversions and return flows, including groundwater return flows, associated with the use of the FLCC Shares will not change from historical conditions. Applicant will not cause adverse impacts on water quality or wetlands due to its dry-up of irrigated lands. Both the return flows and historical consumptive use of the water are returned to the streams following the dry-up thus the stream regime is maintained without adding salt loads from irrigating the dry-up lands. A 2012 Colorado Water Institute Study investigated the relationship between irrigation and water quality. Irrigation Practices, Water Consumption, & Return Flows in Colorado’s Lower Arkansas River Valley (Garcia et al. 2012). Exhibit Z. The study reported that in Lower Arkansas Valley areas with salty soils, surface irrigation resulting in large volumes of deep percolation return flows (water moving below the crop root zone) create salt loading which increases the salinity of the streams receiving the return flows. Removing irrigation will therefore improve and not degrade water quality. Any wetlands artificially maintained by the historical return flows will continue to be maintained, because all historical return flows will returned to the same location as the historical return flows.

(14) Describe the present zoning of the land in the source development area;

Currently, all the farms are designated as Agricultural Zoning in Bent County. This will not change after the project is completed.

(15) Describe the agricultural productivity capability of the land in the source development area (NRCS classification) and describe the potential effects of the diversion of water for the municipal or industrial water project on that agricultural productivity capability;
Crop irrigation requirement information for the historically irrigated lands is contained in Hendrix Wai Engineering’s report that was filed in support of the application for Rule 14 plan. That report is part of Exhibit V.

Also See the materials in Exhibit K. Exhibit K contains the following information:

K-1 ARF Reveg-Dryland Farm Location Map  
K-2 List of ARF reveg farms  
K-3 List of ARF dryland farms  
K-4 ARF Revegetation activity  
K-5 ARF Dryland Farm activity  
K-6 Reveg Soil Profile Maps  
K-7 Dryland Soil Profile Maps  
K-8 FSA Reveg Map  
K-9 FSA Dryland Map  
K-10 Revegetation Grass Mix  
K-11 Crop Consultant Report

(16) Increased domestic and/or municipal water treatment costs and/or wastewater treatment costs:

As described in Section (13) above, LAWMA’s and ARF’s operations under the requested permit will not cause a change to existing diversion or return flow patterns, and therefore will not have adverse effects on water quality. As described in Section (9) above, LAWMA does not deliver potable water supplies to any end-user. As a result the Application will not result in additional costs to County municipalities operating water and wastewater treatment plants.

(17) Any demographic data needed to fulfill the requirements of these Regulations shall be consistent with those used for the applicable 208 area-wide waste treatment management plan;

N/A

(18) The benefits of the project, both in natural and socioeconomic terms, and the degree to which benefits, both within the County and to the applicant, outweigh the adverse impacts of the project within the County.

Please see the Fiscal Impact analysis performed by BBC. Exhibit L and Y.

(19) For each alternative site or expansion area for which a permit is being sought by the applicant, the information specified in subsections (1) through (18) of this Section. An application need not meet the identified submission requirements for other than the particular development alternative for which a permit is being sought in order for such application to be considered complete.
N/A