



Buckman Direct Diversion

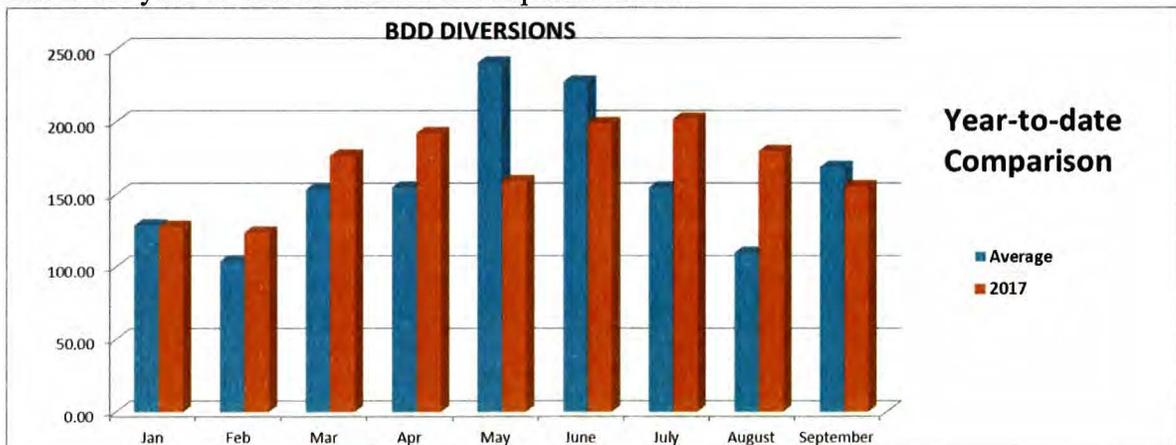
A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.

Memorandum

Date: September 21, 2017
To: Buckman Direct Diversion Board
From: Michael Dozier, Operations Superintendent MD
Subject: Update on BDD Operations for the Month of September 2017

ITEM:

1. This memorandum is to update the Buckman Direct Diversion Board (BDDDB) on BDD operations during the month of September 2017. The BDD diversions and deliveries have averaged, in Million Gallons Daily (MGD) as follows:
 - a. Raw water diversions: 7.76 MGD Average
 - b. Drinking water deliveries through Booster Station 4A/5A: 6.61 MGD Average
 - c. Raw water delivery to Las Campanas at BS2A: 0.84 MGD Average
 - d. Onsite treated and non-treated water storage: 0.31 MGD Average
2. The BDD is providing approximately 57 % percent of the water supply to the City and County for the month.
3. The BDD year-to-date diversions are depicted below



4. Background Diversion tables:

Buckman Direct Diversion Monthly SJC and Native Diversions

Sep-17

In Acre-Feet

Month	Total SJC + Native Rights	SP-4842 RG Native COUNTY	SD-03418 RG Native LAS CAMPANAS	SJC Call Total	SP-2847-E SJC Call CITY	SP-2847-N-A SJC Call LAS CAMPANAS	All Partners Conveyance Losses
JAN	395.248	84.736	0.000	310.512	310.512	0.000	2.717
FEB	383.179	26.107	3.426	353.646	353.646	0.000	3.087
MAR	547.849	17.804	11.643	518.402	518.402	0.000	4.564
APR	592.385	381.170	0.000	211.216	211.216	0.000	1.821
MAY	488.240	478.925	0.000	9.315	9.315	0.000	0.072
JUN	616.871	12.970	0.000	603.900	477.780	126.121	5.517
JUL	626.113	23.719	0.000	602.394	484.406	117.988	5.429
AUG	557.303	17.073	0.000	540.230	540.230	0.000	4.871
SEP	480.049	197.499	0.000	282.550	280.285	2.265	2.682
OCT	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NOV	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DEC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	4,687.236	1,240.001	15.069	3,432.166	3,185.793	246.374	30.761

In Acre-Feet

Month	Native COUNTY	Native Las Campanas	SJC TOTAL	SJC CITY	SJC Las Campanas	All Partners Diversions
JAN	84.736	0.000	307.795	307.795	0.000	392.531
FEB	26.107	3.426	350.559	350.559	0.000	380.091
MAR	17.804	11.643	513.838	513.838	0.000	543.285
APR	381.170	0.000	209.395	209.395	0.000	590.565
MAY	478.925	0.000	9.243	9.243	0.000	488.168
JUN	12.970	0.000	598.383	473.415	124.969	611.354
JUL	23.719	0.000	596.965	480.040	116.925	620.684
AUG	17.073	0.000	535.359	535.359	0.000	552.431
SEP	197.499	0.000	279.868	277.624	2.243	477.366
OCT	0.000	0.000	0.000	0.000	0.000	0.000
NOV	0.000	0.000	0.000	0.000	0.000	0.000
DEC	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	1,240.001	15.069	3,401.405	3,157.268	244.137	4,656.475

2016 Buckman Direct Diversion Monthly SJC and Native Diversions

Month	Total SJC Release (Ac-ft)	Convey-ance Losses (Ac-ft)	Total SJC Available at BDD Diversion (Ac-ft)	CITY Total SJC Diversion (Ac-ft)	Las Campanas Total SJC Diversion (Ac-ft)	Total Native Rio Grande Diversion (Ac-ft)	Total BDD Surface Diversion (Ac-ft)	SJC used to offset Buckman Wells
JAN	328.16	3.03	325.13	325.13		50.54	375.67	
FEB	248.93	2.29	246.65	246.65		77.48	324.13	
MAR	459.31	4.26	455.05	455.05		128.55	583.60	
APR	562.55	5.04	557.51	557.51		145.95	703.46	
MAY	407.82	3.63	404.19	404.19		179.69	583.88	
JUN	291.83	2.66	289.17	191.31	97.86	34.26	323.43	
JUL	360.03	3.26	356.77	251.89	104.87	113.93	470.69	
AUG	133.52	1.22	132.30	88.75	43.55	67.55	199.85	
SEP	313.61	2.52	311.09	311.09		316.73	627.82	
OCT	585.70	4.23	581.47	563.60	17.88	149.97	731.45	
NOV	288.72	2.58	286.14	282.09	4.05	122.83	408.97	
DEC	277.86	2.22	275.64	275.64		109.01	384.65	
TOTALS	4,258.04	36.94	4,221.11	3,952.90	268.21	1,496.49	5,717.60	

Source of SJC Releases in reporting month. Includes conveyance losses.

Month	Total Release (Ac-ft)	ABIQUIU		
		City	County	Club at Las Campanas
JAN	328.16	328.16		
FEB	248.93	248.93		
MAR	459.31	459.31		
APR	562.55	562.55		
MAY	407.82	407.82		
JUN	291.83	193.07		98.76
JUL	360.03	254.20		105.83
AUG	133.52	89.57		43.95
SEP	313.61	313.61		
OCT	585.70	567.69		18.01
NOV	288.71	284.63		4.08
DEC	277.86	277.86		
TOTALS	4,258.03	3,987.40		270.63

2015 Buckman Direct Diversion Monthly SJC and Native Diversions

Month	Total SJC Release (Ac-ft)	Convey-ance Losses (Ac-ft)	Total SJC Available at BDD Diversion (Ac-ft)	CITY Total SJC Diversion (Ac-ft)	Las Campanas Total SJC Diversion (Ac-ft)	Total Native Rio Grande Diversion (Ac-ft)	Total BDD Surface Diversion (Ac-ft)
JAN	246.57	2.40	244.17	244.17		66.12	310.29
FEB	272.15	2.36	269.79	269.79		56.73	326.52
MAR	180.19	1.60	178.59	178.59		178.02	356.61
APR	0.00	0.00	0.00	0.00		40.13	40.13
MAY	226.67	2.15	224.53	224.53		238.73	463.26
JUN	563.77	5.04	558.72	448.40	110.33	128.54	687.27
JUL	299.65	2.70	296.95	234.93	62.02	148.67	445.62
AUG	279.43	2.54	276.89	276.89		213.73	490.62
SEP	552.16	4.98	547.18	547.18		130.85	678.03
OCT	597.48	5.30	592.18	592.18		80.41	672.59
NOV	428.42	3.89	424.52	424.52		66.27	490.79
DEC	197.65	1.76	195.89	195.89		111.20	307.09
TOTALS	3,844.14	34.72	3,809.41	3,637.07	172.35	1,459.40	5,268.82

Source of SJC Releases in reporting month. Includes conveyance losses.

2015 Month	Total Release (Ac-ft)	ABIQUIU		
		City	County	Club at Las Campanas
JAN	246.57	246.57		
FEB	272.15	272.15		
MAR	180.19	180.19		
APR	0.00	0		
MAY	226.67	226.67		
JUN	563.76	452.44		111.32
JUL	299.65	237.07		62.58
AUG	279.43	279.43		
SEP	552.16	552.16		
OCT	597.48	597.48		
NOV	428.42	428.42		
DEC	197.65	197.65		
TOTALS	3,844.13	3,670.23		173.90

2014 Buckman Direct Diversion Monthly SJC and Native Diversions

Month	Total SJC Release (Ac-ft)	Convey-ance Losses (Ac-ft)	Total SJC Available at BDD Diversion (Ac-ft)	CITY Total SJC Diversion (Ac-ft)	COUNTY Total SJC Diversion (Ac-ft)	Total Native Rio Grande Diversion (Ac-ft)	Total BDD Surface Diversion (Ac-ft)	SJC used to offset Buckman Wells
JAN	383.35	3.74	390.34	390.34		12.68	403.02	
FEB	349.51	3.28	341.55	341.55		11.38	352.93	
MAR	373.88	3.66	381.69	357.07	34.09	148.83	539.99	
APR	178.75	1.70	176.78	92.46	84.47	227.22	404.15	
MAY	491.46	4.61	480.35	389.13	91.22	374.86	855.21	
JUN	427.50	3.96	412.65	295.07	117.58	292.84	705.49	
JUL	425.22	4.14	431.96	399.51	32.46	72.32	504.29	
AUG	496.68	4.60	479.66	479.66		96.07	575.73	
SEP	552.71	5.40	562.83	562.83		84.85	647.68	
OCT	381.93	3.63	378.30	378.30		142.46	520.76	
NOV	441.14	4.09	426.17	426.17		11.59	437.76	
DEC	423.99	4.13	430.74	430.74		19.56	450.30	
TOTALS	4,926.12	46.94	4,893.02	4,542.83	359.82	1,494.66	6,397.31	

Source of SJC Releases in reporting month. Includes conveyance losses.

2014 Month	Total Release (Ac-ft)	ABIQUIU		
		City	County	Club at Las Campanas
JAN	383.35	383.35		
FEB	349.51	349.51		
MAR	373.74	346.37		27.37
APR	178.83	93.42		85.41
MAY	491.82	399.41		92.41
JUN	427.82	307.54		120.28
JUL	425.22	397.13		28.09
AUG	496.68	496.68		
SEP	552.71	552.71		
OCT	381.93	381.93		
NOV	441.14	441.14		
DEC	423.99	423.99		
TOTALS	4,926.74	4,573.18		353.56

2013 Buckman Direct Diversion Monthly SJC and Native Diversions

Month	Total SJC Release (Ac-ft)	Convey-ance Losses (Ac-ft)	Total SJC Available at BDD Diversion (Ac-ft)	CITY Total SJC Diversion (Ac-ft)	COUNTY Total SJC Diversion (Ac-ft)	Total Native Rio Grande Diversion (Ac-ft)	Total BDD Surface Diversion (Ac-ft)	SJC used to offset Buckman Wells
JAN	439.04	4.24	441.79	441.79		44.09	485.88	
FEB	261.03	2.47	257.94	257.94		10.49	268.43	
MAR	353.69	3.30	343.57	343.57		75.66	419.23	
APR	680.73	6.34	661.33	661.33		89.47	750.80	
MAY	1,045.27	9.88	1,030.46	1030.46		22.86	1,053.32	
JUN	817.91	7.85	734.56	734.56	83.44	260.03	1,078.03	
JUL	606.85	5.90	397.47	397.47	78.83		476.30	138.43
AUG	108.68	0.91	41.68	41.68	36.91		78.59	16.46
SEP	136.77	1.43	63.86	63.86	53.76		117.62	31.68
OCT	255.24	2.46	213.87	213.87	42.66	72.92	329.45	
NOV	196.45	1.88	187.02	187.02	8.48	117.33	312.83	
DEC	293.76	2.63	274.19	274.19		12.25	286.44	
TOTALS	5,195.42	49.29	4,647.74	4,647.74	304.08	705.10	5,656.92	186.57

Source of SJC Releases in reporting month. Includes conveyance losses.

2013	Total Release (Ac-ft)	ABIQUIU		
Month		City	County	Club at Las Campanas
JAN	439.04	439.04		
FEB	261.03	261.03		
MAR	353.69	353.69		
APR	680.73	680.73		
MAY	1,045.27	1045.27		
JUN	817.90	729.3		88.6
JUL	606.85	473.27		133.58
AUG	108.68	65.21		43.47
SEP	136.77	83.87		52.9
OCT	255.24	211.15		44.09
NOV	196.46	186.31		10.15
DEC	293.76	293.76		
TOTALS	5,195.42	4,822.63		372.79

2012 Buckman Direct Diversion Monthly SJC and Native Diversions

Month	Total SJC Release (Ac-ft)	Conveyance Losses (Ac-ft)	Total SJC Available at BDD Diversion (Ac-ft)	Total SJC Diversion (Ac-ft)	Total Native Rio Grande Diversion (Ac-ft)	Total BDD Surface Diversion (Ac-ft)	SJC used to offset Buckman Wells
JAN	448.09	4.06	447.00	411.56	5.02	416.58	35.44
FEB	210.29	1.97	216.94	208.13	32.21	240.34	8.81
MAR	335.75	2.94	323.61	312.85	59.21	372.06	10.76
APR	528.63	4.72	519.90	519.90	108.61	628.51	
MAY	660.18	6.24	651.05	651.05	145.51	796.56	
JUN	722.36	6.79	692.21	692.21	120.92	813.13	
JUL	152.03	2.23	191.75	157.16		157.16	34.60
AUG	86.08	0.58	60.90	60.90	239.96	300.86	
SEP	637.17	6.05	630.92	630.92	110.07	740.99	
OCT	747.21	7.14	744.87	744.87	50.82	795.69	
NOV	479.19	4.63	482.65	482.65	120.91	603.56	
DEC	442.67	4.17	434.71	434.71	119.44	554.15	
TOTALS	5,449.65	51.52	5,396.51	5,306.91	1,112.68	6,419.59	89.61

Source of SJC Releases in reporting month. Includes conveyance losses.

2012		HERON		EL VADO		ABIQUIU	
Month	Total Release (Ac-ft)	City	County	City	County	City	County
JAN	448.09					448.09	
FEB						210.29	
MAR						335.75	
APR						528.63	
MAY						660.18	
JUN			27.21			695.15	
JUL			21.42			130.61	
AUG						86.08	
SEP						637.17	
OCT						747.21	
NOV						479.19	
DEC						442.67	
TOTALS	448.09		48.63			5,401.02	

Drought/Monsoon, Storage, and ESA Update

NOAA has recently (9/14/17) updated ENSO (El Nino/La Niña) status to: **“There is an increasing chance (~55-60%) of La Niña during the Northern Hemisphere fall and winter 2017-18.”** Heron and El Vado reservoir levels on the Rio Grande and Chama Rivers are no longer rising, but Abiquiu is still slightly increasing storage. Local Upper Santa Fe River reservoir storage is slowly decreasing. The City has received 100% delivery from BoR of full firm-yield of San Juan-Chama Project (SJCP) water. There are no water-related Endangered Species Act (ESA) updates. Updates on ESA issues will be made as needed. Rio Grande Compact Article VII storage restrictions are in effect, which means the City will not be allowed to impound “native” runoff into Nichols and McClure Reservoirs above the pre-Compact pool of 1,061 acre-feet (AF). Rio Grande Compact status regarding Article VII is not expected to change any time soon. Updates to this condition will be made as needed.

Most current City of Santa Fe SJCP Reservoir Storage:

Heron:

5,230 AF. 2017 deliveries were 100% of annual total.

El Vado:

0 AF.

Abiquiu:

11,417 AF. SJCP carry-over from previous years plus 2017 deliveries. No time limit to vacate due to storage agreement with ABCWUA

TOTAL:

16,647 AF



Buckman Direct Diversion Project

A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.

Memorandum

DATE: For October 5, 2017 Board Meeting
TO: Buckman Direct Diversion Board
THROUGH: Charles M. Vokes, BDD Facilities Chair
FROM: Nancy R. Long and Charles M. Vokes
SUBJECT: Letter of Support for the FY2018 Water Trust Board Application for Construction of a 4 Million Gallon Finished Water Storage Tank at the Buckman Direct Diversion Regional Water Treatment Facility

ITEM AND ISSUE:

Letter of support for the FY 2018 Water Trust Board Application for the construction of a 4 Million Gallon Finished Water Storage Tank ("Application").

BACKGROUND AND SUMMARY:

At the September 7, 2017 BDD meeting, the Board directed that a Letter of Support from the Board for the Application be sent to the New Mexico Water Trust Board. The proposed Letter of Support is attached for your consideration and action.

RECOMMENDATION:

It is recommended that the Board approve the Letter of Support.





Buckman Direct Diversion

A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.

October 5, 2017

Water Trust Board
New Mexico Finance Authority
207 Shelby St.
Santa Fe, NM 87501

RE: City of Santa Fe Application for 2018 Water Trust Board Funding in the amount of \$895,843.00 ("Application")

Honorable Chair and Board Members:

The Buckman Direct Diversion Board would like to unanimously provide this letter of support for the Application to the Water Trust Board for the construction of a new 4 million gallon finished water storage tank at the Buckman Direct Diversion Regional Water Treatment Facility (BDD). The BDD is jointly owned by the City and County of Santa Fe and the community of Las Campanas, as a limited partner. The City has submitted the Application as the BDD's fiscal agent.

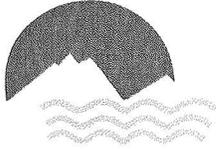
The BDD diverts raw water from the Rio Grande to provide excellent drinking water to the water utility customers within the service area of the City and County of Santa Fe. This tank will expand the onsite storage of finished water from four to eight million gallons. Adequate storage is an absolute necessity at this facility due to rapid water quality changes that can occur in the Rio Grande.

The BDD Board and the City and County of Santa Fe are all committed to providing the funding and services required for the construction of the new tank. We encourage your support of the Application.

Sincerely,

Buckman Direct Diversion Board
Commission Henry Roybal, Chair





Buckman Direct Diversion

A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.

Memorandum

Date: September 22, 2017
To: Buckman Direct Diversion Board
From: Kyle Harwood, Legal Counsel
Subject: BDD Board Letter to New Mexico Environment Department Regarding Rio Grande Water Quality Regulations

Per the request of the BDD Board and Member Denise Fort, please see attached a draft letter consistent with the BDDB discussion at previous Board meetings.



Butch Tongate
Cabinet Secretary
New Mexico Environment Department
1190 Saint Francis Dr.
Santa Fe, NM 87505

Date tbd

Re: Buckman Direct Diversion Rio Grande Surface Water Quality

Dear Secretary Tongate:

The Buckman Direct Diversion (“BDD”) supplies drinking water to the residents of the City of Santa Fe and Santa Fe County from San Juan Chama Diversion Project water diverted from the surface waters of Rio Grande River below the Otowi Gage. The BDD treats the raw water it diverts to the high standards of the Safe Drinking Water Act and the Drinking Water Bureau before distribution to its customers.

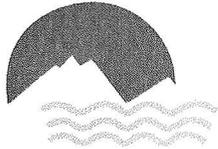
As part of its strong commitment to providing the highest quality water possible to its customers and to further protect the source water for the BDD, the BDD Board is interested in reviewing with the New Mexico Environment Department the full range of possible protections for the surface water of the Rio Grande River. To this end, the Board would like to request information from the New Mexico Environment Department regarding water quality monitoring for the surface waters of the Rio Grande.

Specifically, the BDD Board would like to discuss with the Environment Department staff the establishment of water quality criteria for the Cochiti Reservoir to San Ildefonso bend segment of the Rio Grande for the designated use of Public Water Supply. While this stream segment has a range of designated uses, including use as a Public Water Supply, criteria for this use have not been assessed. It is the Board’s understanding that this designated use is not assessed in this segment because Public Water Supply criteria have not been developed under the Environment Department’s rulemaking authority.

The Board would appreciate the opportunity to discuss the absence of this criteria and possible next steps.

Sincerely,

(BDD Board, signature lines tbd)



Buckman Direct Diversion

A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.

Memorandum

Date: September 22, 2017
To: Buckman Direct Diversion Board
From: Kyle Harwood, Legal Counsel
Subject: New and Revised BDD Board LANL MOU Regarding RG Water Quality

Chuck Vokes and Kyle Harwood have worked with the DOE/LANL staff on this recommended successor to the current MOU which expires December 1, 2017. The changes to the current MOU can be summarized as follows:

1. All dates have been updated to reflect the current MOU period.
2. Several edits have been made to correct typographical errors or simply to make the MOU more consistent.
3. Several sections have been removed from the previous MOU because that requirement has either been completed or is no longer necessary. In other places the wording has been changed to “maintain” instead of “install” or “implement”.
4. Deadline associated with obtaining grant funding has been removed.
5. Contract information has been updated to show current personnel.



1 *MEMORANDUM OF UNDERSTANDING BETWEEN THE*
2 *U.S. DEPARTMENT OF ENERGY AND THE BUCKMAN DIRECT DIVERSION BOARD*
3 *REGARDING NOTIFICATION AND WATER QUALITY MONITORING*

4 **A. Parties**

5 The Parties to this MOU are the Buckman Direct Diversion Board (BDD Board) and the U.S. Department
6 of Energy (DOE).

7 **B. Background**

8 The Buckman Direct Diversion (BDD) is designed to divert water from the Rio Grande for use by the City
9 and County of Santa Fe water utilities in the Santa Fe area and to provide a source for the water supply
10 systems of Santa Fe County, the City of Santa Fe and the Club at Las Campanas. The diverted water is
11 San Juan-Chama Project water (a U.S. Bureau of reclamation interbasin water transfer project) and
12 native New Mexico state waters regulated by the State of New Mexico.

13 The point of diversion for the BDD is on the east bank of the Rio Grande in northern New Mexico, near
14 the historic Buckman townsite. The point of diversion is approximately 15 miles northwest of the City of
15 Santa Fe and is located about three miles downstream from the confluence of the Rio Grande and Los
16 Alamos Canyon (where Route 502 crosses the Rio Grande at Otowi Bridge).

17 The Los Alamos National Laboratory (LANL) is located on the Pajarito Plateau above the Los
18 Alamos/Pueblo Canyon watershed. The Los Alamos/Pueblo Canyon system intermittently and
19 infrequently flows to the Rio Grande just below the Otowi Bridge and upstream of the BDD Project point
20 of diversion. The Los Alamos/Pueblo Canyon watershed contains sediments with LANL-origin
21 contamination from historic releases from LANL. Rain events may cause the transport of sediments, and
22 these sediments have in the past and may in the future be transported to the Rio Grande and then to
23 the BDD intake. The Los Alamos/Pueblo system has been investigated under the 2005 (as revised) and
24 2016 Compliance Order on Consent between DOE and the State of New Mexico Environment
25 Department. Measures have been implemented (including infrastructure installation) to reduce the
26 transport of contaminated sediment.

27 The New Mexico legislature encouraged the BDD Board and DOE to memorialize their agreement to
28 certain activities relating to the mitigation and monitoring of LANL-origin water quality contaminants.
29 The BDD Board requested a written agreement with LANL and DOE in 2007 and the New Mexico
30 legislature passed resolutions in 2009 and 2010 that ultimately resulted in the Memorandum of
31 Understanding that was executed on May 13, 2010 (the 2010 MOU). The 2010 MOU represented an
32 agreement between the Parties that water quality management and monitoring are mutual priorities
33 and that the activities described were consistent with, and would be carried out subject to, the policies,
34 regulations, and applicable laws that pertain to the Parties. On January 12, 2015, the parties executed a
35 second and renegotiated MOU to further govern operations of the BDD Project. Upon the execution of

36 this MOU, the 2015 MOU will be terminated in accordance with Section J of that 2015 MOU and this
37 MOU shall evidence the consent of the Parties to the termination.

38 **C. Objective**

39 This MOU establishes roles and responsibilities with regard to coordination of notification activities by
40 the DOE and their contractor in Los Alamos and Pueblo Canyons and with regard to water quality
41 sampling by the BDD at the BDD intake in relation to operation of the BDD Project. The primary
42 objectives of this MOU include the following:

- 43 1. To continue the relationship developed between DOE and the BDD, and
- 44 2. To maintain the Early Notification System (ENS) to enable BDD staff to make decisions regarding
45 facility operations, and
- 46 3. To support water quality surveillance monitoring at the BDD Project location as part of its
47 sampling program.

48 **D. Authorities**

49 The Parties represent that they have the authority to enter into this MOU and are able to meet the
50 respective commitments herein to the extent permitted by law.

- 51 1. DOE. DOE is authorized to enter into this MOU pursuant to the Atomic Energy Act, as amended
52 (Title 42 U.S.C. 2011, et seq.).
- 53 2. BDD Board. The BDD Board is authorized to enter into this MOU pursuant to the March 7, 2005,
54 Joint Powers Agreement between Santa Fe County and the City of Santa Fe and associated state,
55 county, and municipal laws.

56 **E. Agreement Principles**

57 **E.1 Memorandum of Agreement and Protocols between DOE and the Pueblo** 58 **de San Ildefonso**

59 The Parties recognize that DOE must comply with the requirements of the 2014 Memorandum
60 of Agreement between DOE and the Pueblo de San Ildefonso (Pueblo), as amended in 2015, and the
61 associated *Protocols for Access to Pueblo Lands and for Protecting Confidential Pueblo Information*
62 pertaining to activities on, and information gathered by, DOE on Pueblo property. DOE will consult with
63 the Pueblo as necessary regarding the use of information gathered pursuant to this MOU.

64 **E.2 Los Alamos / Pueblo Canyons Early Notification System**

65 The ENS will continue to provide real time stream flow data or visual verification of flow to the BDD at
66 the following gage station locations to enable the BDD staff to make decisions regarding facility
67 operations, including temporarily ceasing diversion of water from the Rio Grande. The ENS includes the
68 following parts:

- 69 • LANL Gage Station E050.1 in Los Alamos Canyon above the Pueblo Canyon confluence,
70 • LANL Gage Station E060.1 in Pueblo Canyon above the Los Alamos Canyon confluence,
71 • Station E062 in the narrow canyon below the confluence of Los Alamos and Pueblo Canyons
72 (visual verification of flow only), and
73 • Station E099 in Guaje Canyon on Pueblo property above the confluence of Los Alamos canyon
74 (transducer flow verification only). Date transmission to BDD is dependent upon BDD obtaining a
75 permit from the Pueblo to receive the data.

76 LANL ENS stations E050.1 and E060.1 will be equipped with gaging (flow measurement) capabilities,
77 real-time conveyance of stream-flow data (telemetry), and camera capability to act as a visual
78 verification and backup for the gaging capabilities. Flows at the LANL gage stations E050.1 and E060.1
79 are measured within a trapezoidal supercritical-flow flume design as reported in "Techniques of Water-
80 resources Investigations of the United States Geological Survey, Chapter A14, Use of Flumes in
81 Measuring Discharge" (F.A. Kilpatrick and V.R. Snyder, 1983), and between approximately 1 and 350
82 cubic feet per second (cfs). The system shall be capable of a low flow trigger stage of 5 cfs (adjustable).

83 Secondary flow indication at all stations will consist of either a visual (camera) or transducer signal as
84 confirmation of storm water flows. Note that stations E062 and E099 provide secondary flow
85 verification only. Maintenance of the flow indication equipment shall be the responsibility of DOE.

86 Should force majeure destroy or render inoperable some or all of the identified ENS stations, or if
87 operational costs become excessive for some or all of the identified stations, DOE shall have the
88 prerogative to utilize the most cost effective and technologically advanced techniques to provide BDD
89 with equivalent flow data to meet the objective of the ENS.

90 The BDD Board will, at its discretion, consult with the Pueblo regarding the installation of a real-time
91 flow indicator(s) at the lower Los Alamos Canyon and the Rio Grande and to obtain permission for data
92 transmittals from ENS station E099.

93 **E.4 Rio Grande at BDD Project Location Sampling Program**

94 The purpose is to provide both base-flow and event-based sampling of the Rio Grande when triggered
95 by notification of flows in Los Alamos and/or Pueblo Canyons or as determined by the BDD Board for the
96 purpose of water quality sampling of the Rio Grande at BDD in the search for operational criteria for
97 ceasing diversion (BDD Project Location Sampling Program).

98

99 DOE shall pay up to \$96,000 in sampling and analytical costs per year for each of the three (3) years
100 under this MOU (2018, 2019, and 2020) toward the BDD Project Location Sampling Program at the BDD
101 intake. The BDD Board shall be responsible for any additional sampling and analytical costs, and the
102 BDD Board is responsible for all maintenance, inspection and repair of the sampling station located at
103 the BDD intake. DOE will seek funding via a grant to the BDD Board for the sampling and analytical
104 costs..

105 **E.5 TREAT Study**

106 BDD Board will fund a continuation of the Contaminant Fate Analysis that was started under the 2010
107 MOU under “The Removal Efficiency and Assessment of Treatments” (TREAT) Study. The TREAT Study
108 will examine the treatment efficiency of the conventional and advanced treatments at the BDD with
109 respect to contaminants in order to help determine the BDD operational criteria for diversion from the
110 Rio Grande. The TREAT Study will focus on the capabilities of the BDD with respect to removal of
111 contaminants as they are found to occur in the Rio Grande at the BDD intake.

112 **E.6 Analysis**

113 The BDD Board will evaluate the BDD Project Sampling Program results and TREAT data and make a
114 determination on operational parameters or criteria on whether or when to cease diverting waters from
115 the Rio Grande.

116 **F. BDD Project Data Sharing**

117 Real-time flow data and secondary visual verification data from the ENS stations shall be provided by
118 DOE and their contractors to BDD Project as specified in Section E.2. Analytical results from the BDD
119 intake will be made available to both the BDD Board and DOE via the Intellus database as soon as they
120 are available.

121 The BDD Board will make records available to the DOE consistent with requirements specified in the
122 grant.

123 **G. Coordination**

124 DOE and the BDD Board will coordinate as necessary with the Pueblo on any issues related to the
125 implementation of this MOU, and will engage in any consultation required to accomplish the purposes
126 of this MOU.

127 Coordination between the Parties shall be to the mutual benefit of both Parties and shall include data
128 sharing (as above), technical assistance, and data and analysis reviews. Both Parties should allow at
129 least one week for response when requesting technical assistance or data and for analysis reviews..
130 Additional coordination will occur on an as needed basis.

131

132 **H. Contacts**

133 All notices, correspondence, and communications arising under this MOU shall be provided to the
134 representatives listed below, and any notice, demand, request, or information authorized of related to
135 this MOU shall be deemed to have been given if mailed (return receipt requested), hand-delivered, or
136 faxed (with confirmation of transmission) as follows:

- 137 • **DOE**
138 Douglas E. Hintze
139 Manager
140 DOE, Environmental Management
141 Los Alamos Field Office
142 1900 Diamond Drive, MSM984
143 Los Alamos, NM 87544
144 Phone: 505-6655658
145 Cell: 505-695-5103
146 Email: douglas.hintze@em.doe.gov
147
148 With copy to:
149 DOE Counsel
150 Ben Underwood
151 Phone: 505-667-4995
152 Email: ben.underwood@em.doe.gov
153
154 • **BDD Board**
155 Charles Vokes
156 BDD Facility Manager
157 Buckman Direct Diversion
158 341 Caja De Rio Road
159 Santa Fe, NM 87506
160 Phone: 505-955-4507
161 Email: cmvokes@ci.santa-fe.nm.us
162
163 With copy to:
164 BDD Board Counsel
165 Nancy Long
166 Long, Komer & Associates
167 2200 Brothers Road
168 P.O. Box 5098
169 Santa Fe, NM 87502
170 Cell: 505-470-2158
171 Email nancy@longkomer.com
172

I. Period of Agreement, Modification or Termination

173 This MOU is effective upon the signature of the BDD Board and DOE as shown below. This agreement is
174 intended to address 2018, 2019 and 2020 and shall expire on December 1, 2020, UNLESS both Parties
175

176 agree to extend this MOU for an optional three (3) year period. This optional extension may be
177 executed by a re-signed copy of the signature page by the respective authorized parties to this MOU.

178 The Parties may modify this MOU by written amendment and in the same manner as this MOU was
179 executed. Either Party may unilaterally terminate this MOU before the date of expiration, provided the
180 Party seeking termination provides written notice to the other Party's representative 90 days before the
181 intended termination date.

182 **J. Dispute Resolution**

183 If the Parties disagree over any issue related to this MOU, representatives of the Parties shall present
184 their differences in writing to the Points of Contact for the other Party. If the Parties fail to resolve their
185 differences within 30 days, the BDD Project Facility Manager and the DOE, Environmental Management,
186 Los Alamos Field Office (EM-LA) Manager shall prepare a written description of the dispute and the BDD
187 Board Chair and the DOEEM-LA Manager, along with appropriate staff, shall meet to reconcile the
188 dispute. These representatives shall use efforts such as negotiation, facilitation, and mediation to
189 resolve the dispute.

190 **K. Other Provisions**

191 Nothing in this MOU is intended to conflict with requirements of the Parties or applicable laws. Any
192 such conflicting terms shall be invalid, but the remainder of this MOU shall remain in effect. If a term is
193 deemed invalid, the Parties shall take appropriate action, including amendment or termination. The
194 activities described in this MOU are consistent with, and will be carried out subject to, all known
195 policies, regulations, and applicable laws that pertain to the Parties.

196 This MOU in no way restricts the Parties from participating in any activity with other public or private
197 agencies, organizations, or individuals.

198 Activities described in this MOU are subject to the availability of appropriated funds. Both the BDD
199 Board and DOE EM-LA Manager shall make the appropriations of funds for the activities described in this
200 MOU a priority when seeking regular or project specific funding requests.

201 This MOU describes the basis on which the Parties will cooperate on the topics described herein. This
202 MOU is NOT a financial obligation that serves as a basis for expenditures, and any financial obligations
203 necessary to carry out the activities described herein shall be addressed in other documents internal to
204 each Party. Expenditure of funds, human resources, equipment, supplies, facilities, training, public
205 information, and technical expertise will be provided by each Party as necessary to fulfill its obligations
206 under this MOU.

207 This MOU is neither a fiscal nor a funds obligation document. Nothing in this MOU authorizes or is
208 intended to obligate the parties to expend, exchange, or reimburse funds, services, or supplies, or
209 transfer or receive anything of value. Any requirement for the payment or obligation of funds by DOE

210 established by the terms of this MOU shall be subject to availability of funds and Secretarial discretion,
211 and no provision herein shall be interpreted to require obligation or payment of funds in violation of the
212 Anti-Deficiency Act, 31 U.S.C. §1341.

213 This MOU is not legally enforceable and shall not be construed to create any legal obligation on the part
214 of either Party. This MOU shall not be construed to provide a private right, or cause of action, for or by
215 any person or entity.

216 **L. Signatures**

217 NOW, each of the BDD Board and DOE has caused this MOU to be executed and delivered by its duly
218 authorized representatives as of the last date shown below,

219

220 BDD Board

221

222

223

224 _____
Henry Roybal, BDD Board Chair

_____ Date

225

226

227

228 DOE

229

230

231

232 _____
Douglas E. Hintze, Manager

_____ Date

233 Environmental Management, Los Alamos Field Office

234 This Memorandum of Understanding expires on December 1, 2020.

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