



## COLORADO

### Colorado Water Conservation Board

Department of Natural Resources

1313 Sherman Street  
Denver, CO 80203

P (303) 866-3441  
F (303) 866-4474

John Hickenlooper, Governor

Robert W. Randall, DNR Executive Director

Rebecca Mitchell, CWCB Director

**TO:** Colorado Water Conservation Board Members

**FROM:** Erik Skeie, Program Associate  
Interstate, Federal and Water Information Section

**DATE:** July 19-20<sup>th</sup> 2017 Board Meeting

**AGENDA ITEM:** 28. HB15-1178 Dewatering Grant Application from the Town of Gilcrest

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### Introduction

There have been increased occurrences of high groundwater issues since about 2008 in several areas in the lower South Platte Basin. HB12-1278 authorized a study of the South Platte alluvial aquifer focusing on these groundwater issues. The South Platte Basin Roundtable formed a Groundwater Technical Committee (Technical Committee) in 2014 to review recommendations from the HB12-1278 report, the first of which concerns mitigation of localized high groundwater conditions.

HB15-1178 (Saine & Humphrey—Marble) established an emergency dewatering grant program, to be administered by CWCB, for the purpose of lowering the water table in the Gilcrest and Sterling areas. The Pawnee Ridge subdivision on the northwest side of Sterling is one of the areas that has been experiencing damaging high groundwater.

This agenda item concerns an application submitted by the The Town of Gilcrest (Gilcrest) for \$57,986.30 from the emergency dewatering grant program. The funds will be used to construct a permanent dewatering well near the wastewater treatment plant.

### Background

Dewatering was identified by the Technical Committee as a means to relieve Gilcrest from these damaging high groundwater conditions. Gilcrest has been dewatering using well WDID 0207026 (the Lorenz Well) under Permit No. 78949-F. This well was previously selected by the Technical Committee to provide Gilcrest some relief from the damaging high groundwater. However, a recent change in land ownership and the inability to consistently pump the well have created an immediate need for a more reliable system.

Through the recommendations of the Dewatering Improvements Study (JVA-Bishop Brogden Associates), which was funded with a previous HB15-1178 grant to Gilcrest, a dewatering well will be drilled and installed near the wastewater treatment plant in Gilcrest.

### Application Summary

This application is to partially fund the installation of a permanent dewatering well for Gilcrest. This well will be drilled near the westernmost pond of the wastewater treatment plant, as recommended by the Dewatering Improvements Study. Pumped water will be conveyed to the South Platte River via the existing effluent line that runs west.

This well will also be equipped with a variable frequency drive (VFD) to provide the town with flexibility in how much or how little is pumped out of the well. This VFD will have a higher maximum pumping capacity than the current effluent line to account for potential future enlargement of the line.



The funds requested in this application will cover the engineering costs, well drilling, and purchase of the pump itself. The remaining tasks (installation of the pump, pipeline to tie the well to the effluent line, and the VFD purchase and installation) will be funded through a separate grant request. The total project cost will be \$112,250.06.

### **Attachments**

- 1) Town of Gilcrest 1178 Application

### **Staff Recommendation**

CWCB staff have reviewed the application and it meets the grant program criteria and guidelines as approved by the Board in July 2015. CWCB staff recommends that the Board approve this HB 15-1178 emergency dewatering grant request from the Town of Gilcrest for up to \$57,986.30.

## **HB15-1178 Grant Application**

**Project: Waste Water Treatment Plant Well Dewatering System**

**Applicant: Town of Gilcrest**

**Total Grant Request: \$57,986.30**

### **Contact Information:**

**Trudy Peterson**

**P.O. Box 128, 304 8<sup>th</sup> Street**

**Gilcrest CO 80623**

**Phone: 970-737-2426**

**Email: [trudy@townofgilcrest.org](mailto:trudy@townofgilcrest.org)**

### **1. Introduction:**

This application is being submitted by Trudy Peterson, Town Administrator for the Town of Gilcrest, P.O. Box 128, 304 8th Street, Gilcrest CO 80623 – 970-737-2426 – [trudy@townofgilcrest.org](mailto:trudy@townofgilcrest.org).

The groundwater levels in Gilcrest have been rising for the past the 10 years. Noticeable damage started occurring at the wastewater treatment plant in 2010. Large bubbles appeared in the lagoon liner material. The bubbles were later determined to be caused by rising groundwater. The retention pond in Municipal Park began holding water continually in 2010 as well. The pond is now a groundwater pond and the capacity for storm water is used thusly. The pond must be pumped to additional storm water ponds on the same site as the wastewater treatment facility. Those storm water ponds are also full with groundwater and the storm water needs to be pumped alternately with the wastewater effluent. In the summer of 2014 basement flooding began occurring. The basement flooding appears to be somewhat seasonal however the filling of the storm water ponds occurs on a constant basis. Additionally, in 2010 the town constructed a large regional storm water retention pond on the west side of town. Since 2014 that pond has had varying levels of groundwater year round.

The Town began emergency dewatering in the spring of 2015 using well WDID 0207026 (the Lorenz Well) under Permit No. 78949-F. This well was selected by the South Platte Basin Roundtable Groundwater Technical Committee (the committee) for immediate action to provide Gilcrest some relief from the damaging high groundwater. However, recent change in land ownership and inability to consistently pump the well has created an immediate need for a more reliable system. The Town has constructed needed repairs and improvements at the wastewater treatment plant to help protect those facilities from further damage, and dewatering was required for that purpose. The cost of those improvements exceeded \$1,500,000. The Town now needs to install more permanent dewatering facilities that will prevent further private property damage and mitigate the cost to those who have already installed sump pumps from the flooding experienced in 2014. Additionally, our water distribution lines and sewer collection lines continue to sit in water. In 2009 the Town experienced a collapse of 380 feet of sewer collection line along with 4 manholes. We still have a significant amount of

clay pipe in the ground and we fear that another collapse is in our future if the groundwater level is not brought back to a level below our utility lines.

Dewatering was identified by the committee as a means to relieve the Town of Gilcrest from these damaging high groundwater conditions. Through the recommendations of the Dewatering Improvements Study (JVA-Bishop Brogden Associates), a dewatering well needs to be drilled and installed near the waste water treatment plant in the town of Gilcrest as the first phase in a proposed total dewatering plan. This application is for the engineering work, well drilling, and purchase of a pump for a new dewatering well. The remaining costs to complete the well will be requested through an Energy Impact Assistance Fund grant application from DOLA.

## **2. Figure:**

Please see attached map (Appendix A, Figure 1).

## **3. Proposed and/or Existing Infrastructure:**

This well will be a new well located on the waste water treatment plant property. Its final location will be determined by an engineering study also proposed through this grant application. This new well will be tied into an existing effluent line that carries water from the treatment plant to the South Platte river (Appendix A, Figure 2).

An existing monitoring system can be seen in Figure 1.

## **4. Permissions**

As this well will be on Gilcrest property and utilize Gilcrest infrastructure, a dewatering permit is the only permission needed to move forward.

## **5. Permitting:**

The Town of Gilcrest has applied for a dewatering permit (Appendix B).

## **6. Real-time Monitoring for Data Collection:**

This well will be tied directly to an effluent line that will carry the water to the South Platte River.

Three wells near the waste water treatment plant will be the primary monitoring wells for the project. There are also several wells within the town that are monitored by Town staff on a weekly basis.

## **7. Measurable Outcome and Duration of Pumping:**

The anticipated outcome is to lower the water table as much as necessary to prevent damaging of the ponds, and nearby basements. Pumping will occur as soon as practical for 2017, and will continue for as long as damaging high groundwater conditions exist. Success will be measured by the cessation of the problems experienced due to high groundwater (i.e. waste water treatment plant damage, basement flooding, and groundwater at or above utility lines).

The pumping schedule will be dependent upon when the waste water treatment plant will need to discharge effluent, as it will be a shared line.

**8. Itemized Grant Request**

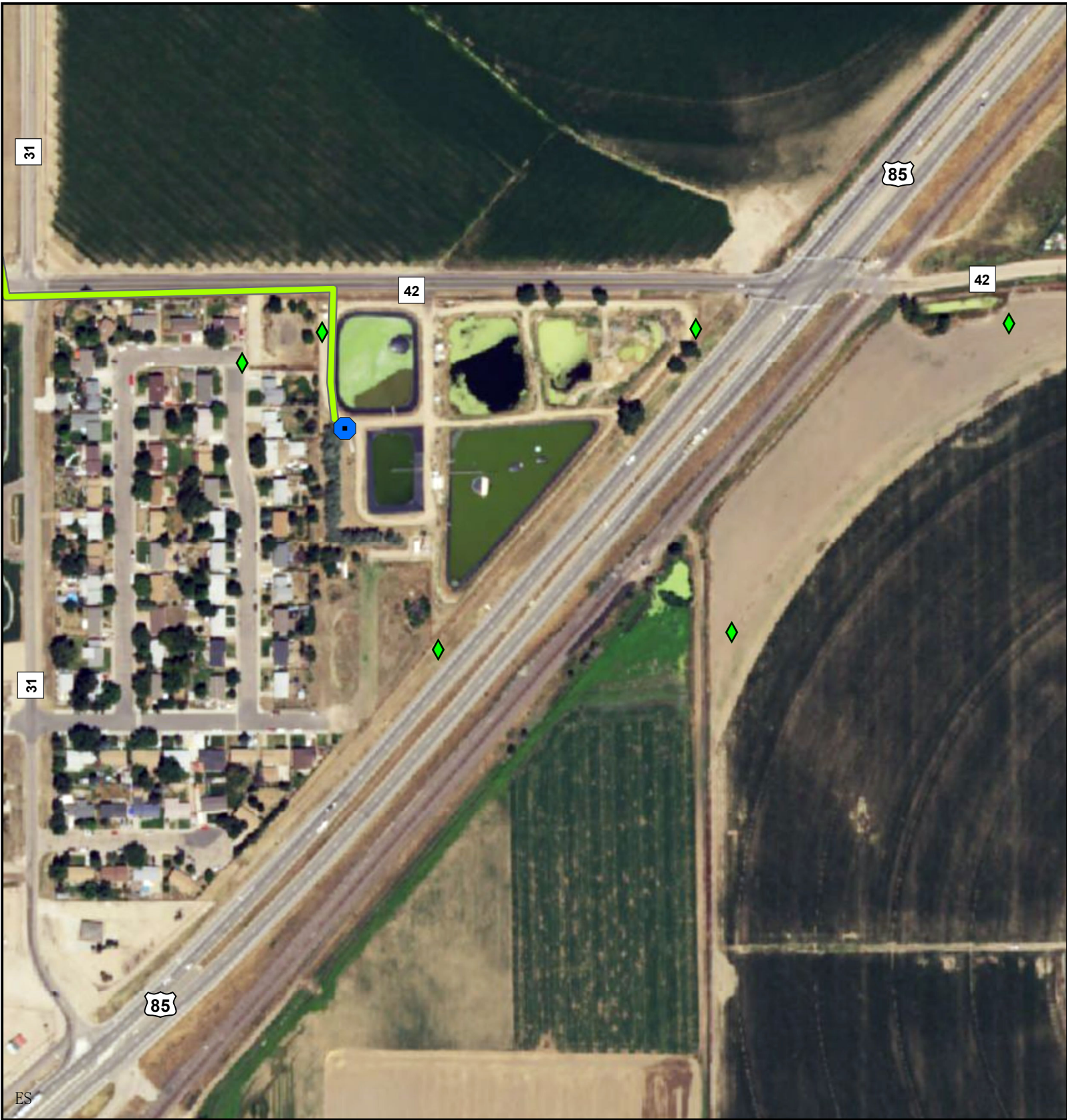
Item	Cost
Engineering	\$12,200
Pump Purchase	\$4,352.67
Well Drilling	\$41,433.63
TOTAL:	\$57,986.30

# Appendix A

Project Maps



Figure 1: Waste Water  
Treatment Plant Dewatering Well



0 0.14 Miles

NAD 1983 Zone 13N  
NAIP2015 Imagery and Other Data by CWCB




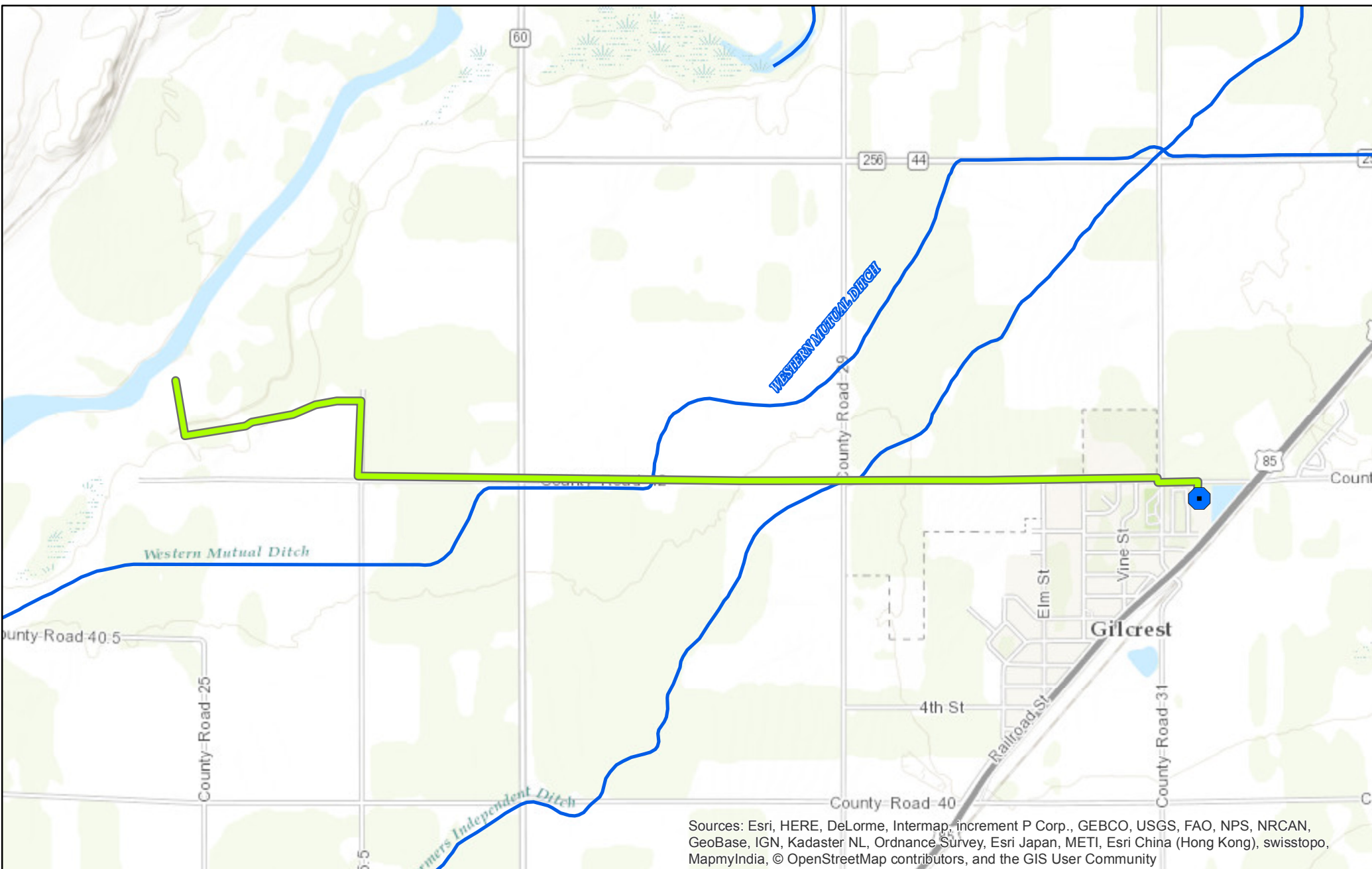
-  Dewatering Well
-  Monitoring Wells
-  WWTP Effluent

Figure 2: Conveyance to the South Platte



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



0.35 0 0.35 0.7 1.05 Miles



NAD 1983 Zone 13N  
Topo Map Provided by ESRI  
Data Provided by CWCB



Proposed Dewatering Well



WWTP Effluent



# Appendix B

Dewatering Well Permit Application

COLORADO DIVISION OF WATER RESOURCES  
DEPARTMENT OF NATURAL RESOURCES  
1313 SHERMAN ST, RM 821, DENVER, CO 80203  
Main: (303) 866-3581 [dwrpermitsonline@state.co.us](mailto:dwrpermitsonline@state.co.us)

Office Use Only

Form GWS-45 (07/2013)

## GENERAL PURPOSE

### Water Well Permit Application

Review instructions on reverse side prior to completing form.  
The form must be computer generated, typed or in black or blue ink.

**COPY**

#### 1. Applicant Information

Name of applicant

Town of Gilcrest

Mailing address

P.O. Box 128

City State Zip code  
Gilcrest CO 80623

Telephone # (area code & number) E-mail (online filing required)  
970-737-2426 trudy@townofgilcrest.org

#### 2. Type Of Application (check applicable boxes)

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Construct new well | <input type="checkbox"/> Use existing well              |
| <input type="checkbox"/> Replace existing well         | <input type="checkbox"/> Change or increase use         |
| <input type="checkbox"/> Change source (aquifer)       | <input type="checkbox"/> Reapplication (expired permit) |
| <input type="checkbox"/> COGCC Well                    | <input type="checkbox"/> Other: _____                   |

#### 3. Refer To (if applicable)

Well permit # Water Court case #

Designated Basin Determination # Well name or #

#### 4. Location Of Proposed Well

County 1/4 of the 1/4  
Weld

Section Township N or S Range E or W Principal Meridian  
27 4 ☒ N ☐ S 66 ☐ E ☒ W Sixth

Distance of well from section lines (section lines are typically not property lines)  
300.56 Ft. from ☒ N ☐ S 713.96 Ft. from ☒ E ☐ W

For replacement wells only - distance and direction from old well to new well  
feet direction

Well location address (Include City, State, Zip) ☐ Check if well address is same as in Item 1

14949 WCR 42, Gilcrest, CO 80623

Optional: GPS well location information in UTM format. You must check GPS unit for required settings as follows:

Format must be UTM <input type="checkbox"/> Zone 12 or <input type="checkbox"/> Zone 13 Units must be Meters Datum must be NAD83 Unit must be set to true north Was GPS unit checked for above? <input type="checkbox"/> YES	Easting _____ Northing _____ Remember to set Datum to NAD83
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#### 5. Parcel On Which Well Will Be Located

(PLEASE ATTACH A CURRENT DEED FOR THE SUBJECT PARCEL)

A. Legal Description (may be provided as an attachment)

Attached

B. # of acres in parcel C. Owner  
Approximately 3 acres Town of Gilcrest

D. Will this be the only well on this parcel? ☒ YES ☐ NO (if no list other wells)

E. State Parcel ID# (optional)

#### 6. Use Of Well (check applicable boxes)

Attach a detailed description of uses applied for.

- |                                     |   |
|-------------------------------------|---|
| <input type="checkbox"/> Industrial | <input checked="" type="checkbox"/> Dewatering System           |
| <input type="checkbox"/> Municipal  | <input type="checkbox"/> Geothermal (production or reinjection) |
| <input type="checkbox"/> Irrigation | <input type="checkbox"/> Other (describe): _____                |
| <input type="checkbox"/> Commercial |   |

#### 7. Well Data (proposed)

Maximum pumping rate	gpm	Annual amount to be withdrawn
1000		Unknown acre-feet
Total depth	feet	Aquifer
100'		South Platte Alluvial

#### 8. Land On Which Ground Water Will Be Used

Legal Description of Land (may be provided as an attachment)

Groundwater will be transported directly to the South Platte River via the existing effluent line from the Gilcrest Wastewater Treatment Plant.

(If used for crop irrigation, attach a scaled map that shows irrigated area.)

A. # Acres B. Owner  
C. List any other wells or water rights used on this land

#### 9. Proposed Well Driller License #(optional): TBD

#### 10. Sign or Entered Name Of Applicant(s) Or Authorized Agent

The making of false statements herein constitutes perjury in the second degree, which is punishable as a class 1 misdemeanor pursuant to C.R.S. 24-4-104 (13)(a). I have read the statements herein, know the contents thereof and state that they are true to my knowledge.

Sign or enter name(s) of person(s) submitting application

Date (mm/dd/yyyy)

*[Signature]*

06/22/2017

If signing print name and title

Trudy Peterson - Town Administrator

#### Office Use Only

USGS map name DWR map no Surface elev

Receipt area only

AQUAMAP

WE

WR

CWCB

TOPO

MYLAR

SB5

DIV \_\_\_\_ WD \_\_\_\_ BA \_\_\_\_ MD \_\_\_\_

Legal Description

GIL 1WSS L16 BLK2 & LOTS 10-11-12-13 BLK4 & LOTS 1 THRU 7 BLK5 WATSON SUB 1ST  
FILING ALSO VAC PT OF WATSON AVE WHERE IT BORDERS L1 THRU 7 BLK5 & L10 THRU 13  
BLK4 ALSO VAC PT OF 14 ST WHERE IT BORDERS L10 BLK4 & L16 BLK2

**TOWN OF GILCREST**

VENDOR: 10294 COLORADO DIVISION OF WATER RESOURCES

6/22/2017

Check No: 23209

**23209**

INVOICE #	INV DATE	DESCRIPTION	INV AMOUNT
DEWATERING	6/22/2017	Dewatering Well Permit Application	100.00

TOTAL AMOUNT

100.00

**TOWN OF GILCREST**304 8TH STREET  
P.O. BOX 128  
GILCREST, CO 80623-0128  
970-737-2426

Check #: 23209

PAY \*\*\*One Hundred and 00/100 Dollars\*\*\*

DATE  
6/22/2017AMOUNT  
\*\*100.00\*\*TO THE  
ORDER  
OFCOLORADO DIVISION OF WATER RESOURCES  
1313 SHERMAN STREET, RM 821  
DENVER CO 80203  
AUTHORIZED SIGNATURE

Security features. Details on back.

⑈023209⑈ ⑆111909579⑆

⑈0841051901⑈

600K

BOOK 835

Recorded at 2:00 o'clock P.M. JUN 21 1978  
Reception No. 1757400 MARY ANN FEUERSTEIN Recorder.

150K

9

1757400

01950

JUN 21 78

47-  
\$1.80

THIS DEED, Made this \_\_\_\_\_ day of \_\_\_\_\_, 1978, between

-----MARLYNN INC.,-----

a corporation duly organized and existing under and by virtue of the laws of the State of Colorado of the first part, and -----GILCREST SANITATION DISTRICT-----

of the \_\_\_\_\_ County of Weld \_\_\_\_\_ and State of Colorado \_\_\_\_\_, of the second part;

WITNESSETH, That the said party of the first part, for and in consideration of the sum of

Other valuable consideration and ten-----DOLLARS,

to the said party of the first part in hand paid by the said party \_\_\_\_\_ of the second part, the receipt whereof is

hereby confessed and acknowledged, hath granted, bargained, sold and conveyed and by these presents doth grant,

bargain, sell, convey and confirm unto the said party \_\_\_\_\_ of the second part, its \_\_\_\_\_ heirs and assigns

forever, all the following described lot s \_\_\_\_\_ or parcel s of land, situate, lying and being in the

County of Weld \_\_\_\_\_ and State of Colorado, to wit:

Lots One (1), Two (2), Three (3), Four (4), Five (5), Six (6), and Seven (7), Block Five (5); Lot Sixteen (16), Block Two (2); Lot Ten (10), Eleven (11), Twelve (12), and Thirteen (13), Block Four (4); all such property located in WATSON Subdivision, First filing

State Documentary Fee  
Date JUN 21 1978  
\$ 1.80

19

0

02360

JUN 21 78

TOGETHER with all and singular the hereditaments and appurtenances thereunto belonging, or in anywise appertaining, and the reversion and reversions, remainder and remainders, rents, issues and profits thereof; and all the estate, right, title, interest, claim and demand whatsoever of the said party of the first part, either in law or equity, of, in and to the above bargained premises, with the hereditaments and appurtenances.

TO HAVE AND TO HOLD the said premises above bargained and described, with the appurtenances, unto the said party of the second part, its heirs and assigns forever. And the said

party of the first part,

for itself, and its successors, doth covenant, grant, bargain and agree to and with the said party of the second part, its heirs and assigns, that at the time of the ensenling and delivery of these presents it is well seized of the premises above conveyed, as of good, sure, perfect, absolute and indefensible estate of inheritance, in law, in fee simple, and hath good right, full power and lawful authority to grant, bargain, sell and convey the same in manner and form aforesaid, and that the same are free and clear from all former and other grants, bargains,

sales, liens, taxes, assessments and incumbrances of whatever kind or nature soever; Except such taxes, including real property taxes, as may be due but not yet payable as of the date of this instrument, covenants, conditions, restrictions and reservations, if any, of record. Also that certain farm lease in favor of Lessee Max Warden who shall be free to farm said property and keep all crops after the date of this deed through the harvest in the fall of 1978 of his potato crop

and the above bargained premises in

the quiet and peaceable possession of the said party of the second part, its heirs and assigns, against all and every person or persons lawfully claiming or to claim the whole or any part thereof, the said party of the first part shall and will WARRANT AND FOREVER DEFEND.



IN WITNESS WHEREOF, The said party of the first part hath caused its corporate name to be hereunto sub-  
scribed by its president, and its corporate seal to be hereunto affixed, attested by its secretary,  
the day and year first above written.

Attest:

*Marian B. Lehan*  
Secretary



MARLYNN INC., A Colorado Corporation  
*Mike Lehan*  
President

STATE OF COLORADO,  
County of Weld ss.

The foregoing instrument was acknowledged before me this 14th day of June  
19 78, by Mike Lehan as President and  
Marian B. Lehan as Secretary of  
Marlynn Inc., a corporation.

My notarial commission expires My Commission expires Dec. 30, 1980

Witness my hand and official seal.

*Wilma H. Campbell*  
Notary Public

No.

WARRANTY DEED  
CORPORATION



TO

STATE OF COLORADO,  
County of Alamosa ss.

I hereby certify that this instrument was filed  
for record in my office at 9:50 o'clock  
P. M. JUN 21 1978, and is duly

recorded in book 835 page 935  
Filing No. 935 Reception No. 935

By Maureen Fenwick Recorder.  
Deputy.

Fees: \$ 6.00

Deepest Sanctions Not  
to Boy P. Alamosa Co