

PLANNING AND DEVELOPMENT DEPARTMENT MEMORANDUM
#22-2019

DATE: April 8, 2019

TO: Honorable Mayor Carol Dodge and City Council Members

THROUGH: Heather Geyer, City Manager 

FROM: Brook Svoboda, Director of Planning and Development 
Kent Kisselman, P.E. Public Works Director 

SUBJECT: CR-37 – Reimbursement Agreement with Karl's Farm Investors, LLC for construction of Bunker Hill Lift Station

PURPOSE

The Karl's Farm project will require upsizing the existing Bunker Hill Lift Station. The agreement under consideration will require the development team to pay for their pro-rata share of the cost for the construction of the lift station.

BACKGROUND

The existing Bunker Hill Lift Station does not have the capacity to accommodate the entire proposed development for Karl's Farm. Staff and the development team's engineering consultants have studied the impact and have mutually agreed that a 1.288 MGD (Million Gallons per Day) facility will need to be constructed in order to accommodate the project as shown in Attachment 1. If not for the proposed development, the City would only be replacing the existing station with a similar sized facility. Since the proposed development will require an upsizing of the station, staff is recommending that the Karl's Farm development cover their prorated share for the additional lift station capacity. The prorated share is 28% City, and 72% developer.

The attached agreement contemplates the shared cost for the the construction of the facility. A separate agreement was previously entered into for the design in August of 2018, see Attachment 1. Design of the new lift station is underway and on track to meet expectations that the facility be operational when Phase 1 construction is completed.

STAFF RECOMMENDATION

Staff recommends approval of CR-37 Reimbursement Agreement between the City of Northglenn and Karl's Farm Investors, LLC for construction of Bunker Hill Lift Station.

BUDGET/TIME IMPLICATIONS

The project is identified as a priority in the 2019 Wastewater Fund budget. The estimated project cost is \$2,520,000, the City's contribution is \$705,600 and the developer's share is \$1,814,400. The developer will be required to deposit their share into a special account prior to the City expending any funds on the construction of the project. The Project is slated to begin construction in the last quarter in 2019.

STAFF REFERENCE

If Council members have any comments or questions they may contact Brook Svoboda, Director of Planning and Development, at 303.450.8937 or bsvoboda@northglenn.org.

CR-37 – Reimbursement Agreement with Karl’s Farm Investors, LLC for construction of
Bunker Hill Lift Station
April 8, 2019
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ATTACHMENTS

1. Staff Memo for CR-100 dated August 13, 2018 and Resolution No. 18-99 – Reimbursement Agreement for the Bunker Hill Lift Station Design Costs

CR-37 – Reimbursement Agreement with Karl’s Farm Investors, LLC for construction of Bunker Hill Lift Station

PLANNING AND DEVELOPMENT DEPARTMENT

MEMORANDUM 18-30

DATE: August 13, 2018

TO: Honorable Mayor Carol Dodge and City Council Members

FROM: Rob Webber, Acting City Manager *RW*
 Brook Svoboda, Director of Planning and Development *BS*
 Kent Kisselman, P.E., Engineering Manager *KK*

SUBJECT: CR- 100 – Reimbursement Agreement between the City of Northglenn and Karl's Farm Investors LLC

PURPOSE

The Karl's Farm project will require upsizing the existing lift station. The agreement under consideration would obligate the development team to pay for their pro-rata share of the cost for the design.

BACKGROUND

The existing lift station (Bunker Hill Lift Station) will be inadequate to accommodate the entire proposed development for Karl's Farm. Staff and the development team's engineering consultants have studied the impact and have mutually agreed that 1.288 MGD (Million Gallons per Day) facility will need to be constructed in order to accommodate the project – **Attachment 1**. The City's 2018 CIP budgeted design for the lift station with the purpose to replace in future years.

If not for the proposed development, the City would only be replacing the existing station with similar sized facility. Since the proposed development will require an upsizing of the station, result Staff is recommending that the project cover their prorated share for the additional lift station capacity. The prorated share 28% City, and the 72% Project.

The attached agreement only contemplates the shared cost for the design and not the construction of the facility. A separate agreement will be prepared to address the shared cost to construct the facility. State and Federal permitting will take approximately 1 year, which is one of the reasons for bringing this agreement forward in advance of the entire project. This would decrease the possibility for delay of the construction phase of the project by considering this request now.

The budget estimate for the design is approximately \$180k-\$200k for the design of which the City's share would be \$50.4k-\$56k.

BUDGET IMPLICATIONS

As stated above the City has budgeted funds for design of the Bunker Hill Lift Station in the 2018 (\$100k). The shared cost as contemplated in the agreement would be less than current budgeted amount.

SCHEDULE/TIME IMPLICATIONS

- An approximate schedule for the project, with phases is listed below
 - Q4 2018 – Selection Design Firm, Application for site approval to CDPHE
 - Q1 2019 – Design report submittal, CMAR RFP
 - Q2 2019 – Selection CMAR, 60% design
 - Q3 2019 – 95% design, Begin construction
 - Q2 2020 – Finish construction, startup
 - Q3 2020 – Project closeout/Record drawings

STAFF RECOMMENDATION

Staff recommends Council approve CR-100, a resolution for reimbursing the City for shared costs to design a new lift station in anticipation of the development of Karl's Farm.

STAFF Reference

Brook Svoboda, Director of Planning and Development, bsvoboda@northglenn.org 303.450.8937
Kent Kisselman, Engineering Manager, kkisselman@northglenn.org 303.280.4005

ATTACHMENTS

ATTACHMENT 1 W2 Engineers Memo dated 6/18/18



18 June 2018

City of Northglenn
11701 Community Center Drive
Northglenn, Colorado 80233-8061
Attention: Daniel Martinez

Re: Bunker Hill Lift Station Facility Assessment and Conceptual Design

Dear Mr. Martinez:

W2 Engineers, LLC (W2E) has completed this letter report for the City of Northglenn (City) documenting a facility assessment and conceptual design for the Bunker Hill Lift Station. The scope of work included meeting with City staff to discuss the Karl's Farm development plans, review of projected flows by the developer's engineer, onsite visual reconnaissance of the lift station and nearby City-owned property, review of the existing lift station capacity and design, an independent calculation of projected flows using City criteria, a conceptual design for a new lift station, a cost opinion for the new lift station, and a schedule for future steps to permit, design, and construct the new lift station. The findings of the facility assessment and conceptual design are discussed below.

1 EXISTING LIFT STATION

The Bunker Hill Lift Station consists of a single precast concrete wet well, two submersible pumps, a valve vault, a short force main connected to the force main in Claude Court, and a 60 kW diesel generator. The following details on the lift station components are based on the record drawings for the Bunker Hill Village Subdivision (Merrick & Company; November 20, 1986), Wastewater Utility Plan Update (HDR Engineering, Inc.; July 2012), and information obtained during the site visit and/or provided by City staff. The wet well is 6 feet in diameter and has a normal operating level range of 8 feet, for a normal operating volume of approximately 1690 gallons. The submersible pumps are listed as Ebara Model 100 DLU 65.5 with a 7.5 horsepower (HP) motor. Based on the available information, these pumps have a rated capacity of approximately 355 gallons per minute (gpm) at an estimated 22 feet of head. The force main consists of 4-inch ductile iron pipe (DIP) from each pump that increases to 6-inch DIP in the valve vault. The valve vault includes individual check valves and gate valves for each pump, with an additional plug valve on the 6-inch DIP. The 6-inch force main is approximate 40 feet in length and connects to the 27-inch Lift Station A force main. Based on the above information, the firm capacity of the Bunker Hill Lift Station is 0.51 million gallons per day (355 gpm).

Section 3, Conceptual Design, will reveal that the existing lift stations does not meet several design parameters. First, there is not enough capacity with the existing pumps, nor is there enough room for additional pumps or larger pumps to meet the design flow rate. Second, the force main is primarily 6-inch diameter and cannot handle the design flow rate without excessive velocities and headlosses. Third, there is only one wet well and no mechanism for it to be taken out of service as required by the design criteria (Chapter 4, Wastewater Lift Stations and Force Mains, of the State of Colorado Design Criteria for Domestic Wastewater Treatment Works, WPC-DR-1; Colorado Department of Public Health and

Environment, Water Quality Control Division, 2012). Fourth, there is no emergency overflow storage as required by the design criteria. For these reason, W2E recommends replacement of the existing lift station.

2 FLOW PROJECTIONS

Flow projections for the Bunker Hill Lift Station were based on proposed build-out plans and densities for the Karl's Farm development (Kennedy/Jenks Consultants; April 17, 2018) and other values in the Wastewater Utility Plan Update. Based on flow meter data, the existing service area for the lift station has experienced a peak flow of 0.36 MGD, and this value was used to back calculate other flows in the table for that line item. The Karl's Farm development is proposed to include medium density residential (Planning Areas A and B), high density residential (Planning Area C), and a Commercial/Retail area. The following values were used for the calculations:

Medium Density Population:	2.7 persons/unit
High Density Population:	1.8 persons/unit
Wastewater Flow per Capita:	85 gallons/person/day
Maximum Month Flow (MMF) Factor:	1.2 X AAF (annual average flow)
Peak Hour Flow (PHF) Factor:	5.0 X AAF
Inflow and Infiltration:	2,389 gallons/acre/day

A table was developed to total existing and projected flows for the lift station service area (Attachment A). The total design flow for the lift station service area is 1.288 MGD. The Karl's Farm development flow subtotal is 0.928 MGD, approximately 72% of the total flow, and the existing service area flows represent 0.36 MGD, approximately 28% of the total flow. W2E estimates that the existing lift station has capacity to accept a wastewater flow of 0.15 MGD, which equates to approximately 114 medium density residential units or 180 high density residential units.

3 CONCEPTUAL DESIGN

A conceptual design for a replacement Bunker Hill Lift Station was developed as the existing lift station does not have sufficient capacity, cannot be upgraded to accommodate the projected flows, and has several other deficiencies per the current design criteria. The conceptual design parameters were based on the above flow projections and current design criteria.

The pertinent flows and capacities for conceptual design of a new Bunker Hill Lift Station are as follows:

- Minimum Flow (estimated): 0.13 MGD
- AAF: 0.26 MGD
- PHF: 1.3 MGD
- Firm Pumping Capacity: 1.3 MGD

The lift station will include a grinder vault, wet wells, submersible pumps, piping, a valve vault, emergency operation features, and a building to primarily house the electrical and controls. Other miscellaneous design details will also be covered at the end of this section.

3.1 GRINDER VAULT

The grinder vault is envisioned to be a precast concrete structure approximately 10 feet in all dimensions (length, width, depth) to house a grinder in separate structure from the lift station. The inlet pipe would enter a single channel and run through the grinder (sized for a flow capacity of 1.3 MGD), then be split into two channels and piped to the two wet wells. Each of the secondary channels would be equipped with a slide gate to allow each wet well to be isolated for maintenance and inspection. If the grinder failed, wastewater would overflow the channel and grinder and continue to the wet wells. A single large hatch would be used to access the grinder vault. The grinder would be included in the backup power provided by the generator.

3.2 WET WELLS

Two precast concrete wet wells are envisioned for the Bunker Hill Lift Station. Influent from the grinder vault could be split evenly between the two wet wells or diverted to just one or the other wet well during the initial lower flows or for maintenance. The two wet wells would be connected at the floor level via a slide gate to allow them to be hydraulically connected during normal operation. Additionally, the wet wells would be connected via an opening just above the high water level, which would overflow to the adjacent wet well if isolated. Each wet well would house two submersible pumps. A hatch would be located over each pump to provide access to the wet wells and allow for easy removal of the pumps.

Preliminary sizing of the wet wells is 8 feet by 6 feet, and the estimated total depth would be 25 feet (similar to the existing lift station). The liquid levels would include approximately 3 feet of depth to submerge the pumps and 8 feet of operating range between low water level and high water level. The operating volume for a single wet well would be 2,872 gallons and double that with both wet wells in service (5,745 gallons). With a single wet well in service and at the current average daily flow 0.072 MGD, the operating volume equates to approximately 57 minutes of hydraulic residence time, which is under the 1 hour maximum detention time required by the design criteria. With both wet wells in service and at the design AAF of 0.26 MGD, the operating volume equates to approximately 32 minutes of hydraulic residence time. With both wet wells in service and at the design PHF of 1.3 MGD, the operating volume equates to approximately 6.4 minutes of hydraulic residence time.

3.3 SUBMERSIBLE PUMPS

Conceptual design of the lift station presumes there will be two wet wells and four submersibles pumps (two submersible pumps in each wet well). As alluded to above, two wet wells allow the operators to reduce hydraulic residence time for the lift station until flows increase, and also allows for isolation of a wet well for maintenance and inspection. Each pump will have a capacity of 0.43 MGD (301 gpm), thus there are three duty pumps required to meet the design/firm capacity (1.3 MGD) and a standby pump should a duty pump fail. Initially, a single pump can handle the current flows. As the Karl's Farm development occurs, there will be sufficient pump capacity to meet the projected flows at buildout.

The preliminary design point for each pump is 301 gpm at 60 feet of head. Each pump will utilize variable frequency drives, allowing the lift station to continually process flows down to 150 gpm. Lower flows would require on/off cycling of the pumps, and it is recommended to rotate through all pumps as the lead pump to minimize starts per hour on any individual pump. However, the wet well(s) are sufficiently sized to minimize starts. For reference, based on pump capacity, the minimum wet well volume ($V_{MIN} = Q*t/4$) required for 6 starts per hour (i.e. $t = 10$ minutes) is 752.5 gallons, and based on PHF, the minimum wet well volume is 2,257.5 gallons.

3.4 PIPING

Conceptual design of the piping is based on using ductile iron pipe (DIP), fittings, and valves for pump discharge piping within the lift station and valve vault, transitioning to high density polyethylene (HDPE) pipe thereafter for the force main. A velocity chart (Attachment B) was developed to select the appropriate size pipe for each pump based on pump capacity and using the combined flow for the force main sizing. There are three key design criteria that govern the sizing of the force main.

1. The minimum velocity in the force main piping shall be no less than 2 feet per second (fps).
2. The force main can be operated at a velocity no less than 3.5 fps on a periodic basis to re-suspend settled solids and flush accumulated solids from the pipeline.

In addition to the above design criteria, headlosses and corrosion control are also key factors in the pipe size and material selection, respectively. To address both these issues, W2E recommends using high density polyethylene (HDPE) pipe. Fusible PVC pipe may be an option to explore further as it has many similar benefits as HDPE pipe, provided the pressure cycling is within the manufacturer's specifications.

For the individual pump discharge piping, 4-inch DIP is best suited to the flow conditions. At the minimum pump flow of 150 gpm, the resulting velocity is 4.61 fps. At the maximum pump capacity of 301 gpm, the resulting velocity is 7.62 fps. Both conditions meet the design criteria referenced above. The individual 4-inch lines will be combined within the valve vault to 8-inch DIP (see Section 3.5).

The length and route of the force main is not known at this time, however, 1,500 feet was used for the conceptual design and cost opinion. It was further presumed that the force main would be run to the gravity portion of the Lift Station A force main. Several HDPE pipe sizes and thickness (and corresponding pressure ratings) were evaluated for the ability to meet the velocity criteria above and the resulting headloss associated with the pipe. The 8-inch ductile iron pipe sized HDPE pipe conforming to a DR13.5 thickness and pressure rating of 160 pounds per square inch (psi), with an internal diameter of 7.63 inches was determined to be the best balance of velocity, headloss, and wall thickness. For velocity, the calculations show that the 2 fps requirement is met by a flow of 285 gallons per minute (gpm; 0.41 MGD)), which is approximately the capacity of a single pump in service (0.43 MGD). At the design capacity of the lift station (1.3 MGD or 903 gpm), the calculated velocity is 6.34 fps and exceeds the periodic 3.5 fps design criteria. The presumed operating pressure is 60 feet (26 psi). DR13.5 pipe is being recommended for the following reasons. The DR13.5 specification adds a significant thickness to the pipe wall, providing an allowance for wear of material due to abrasives found in wastewater. The thicker pipe wall also adds rigidity to the pipe for bury depth and traffic loading.

3.5 VALVE VAULT

The valve vault is envisioned to be a precast concrete structure approximately 10 feet in all dimensions (length, width, depth) to house valves and fitting related to the pump discharge piping and force main. The 4-inch DIP lines would include an isolation plug valve and check valve for each pump. The 4-inch DIP lines would combine via crosses and/or tees into an 8-inch DIP, with the transition to 8-inch HDPE occurring outside of the valve vault. A single large hatch would be used to access the valve vault.

3.6 EMERGENCY OPERATION FEATURES

The proposed lift station would include several features to accommodate emergency operation. A diesel generator (estimated size is 100 kW) will be sized to fully power the proposed lift station in the event of

a power outage. An overflow storage vault is also envisioned. The overflow storage vault proposed dimensions would be 40 feet square with a depth of 25 feet. Assuming a useful depth of 15 feet, the containment volume would be approximately 180,000 gallons. Two hatches would be used to access the overflow storage vault. That volume represents over 3 hours of containment at the design flow (PHF) and over 16 hours at the AAF. In addition, an emergency pumping connection would be included to allow for additional emergency response options.

3.7 BUILDING

A building is envisioned for the lift station. The primary purpose of the building would be to house the electrical and controls equipment. The building also could be used to store spare pumps and parts and provide a sheltered area for maintenance. The building will have a footprint of 20 feet square and could be placed on a portion of overflow storage vault to eliminate the costs for a building foundation and minimize the overall footprint of the lift station and required land area.

3.8 MISCELLANEOUS ITEMS

Several miscellaneous items were considered as part of the conceptual design of the lift station. W2E reviewed the potential areas for locating the proposed lift station. The existing lift station area could potentially fit the lift station and valve vault, but there would not be sufficient room to accommodate the overflow storage vault. Another potential area identified by City staff is a triangular piece of land to the southwest of the maintenance and operations yard and south of the Eastlake Reservoir Number 1 drainage. This area is approximately 0.25 acres, and could potentially fit all components of the proposed lift station. Based on the Adams County assessor's map, the area consists of City-owned property and right-of-way. Based on available flood maps, this land is located in Zone X (area of minimal flood hazard).

The cost opinion in Section 4 includes additional items not directly related to the proposed lift station, but necessary for the overall project. First, demolition of the existing lift station and abandonment of the existing force main is included, along with site restoration. Abandonment of the existing force main is included as part of the project. The abandonment is envisioned to require flushing of the existing force main with potable water to remove sewage to the extent practical. Additionally, the existing force main will be filled with concrete or removed. It may be possible to reuse the existing generator for the new lift station, however, the cost opinion presumes a new generator as part of the project. Second, relocation of the lift station would require replacing and reversing the slope of the sanitary sewer main serving the apartment complex, and this cost is included. Third, an allowance for odor control is included with the mechanical costs.

4 COST OPINION

The cost opinion for the proposed lift station is \$1,946,000.00. The construction items, quantities, units, and costs per unit are detailed in Attachment C. The largest costs for the project are the overflow vault, force main, and gravity sanitary sewer pipe. Additional costs over the subtotaled items are as follows. A 15% factor was used for permitting and design, and would cover surveying, utility locating, geotechnical investigation, site location application, basis of design report, and construction drawings and specifications. A 15% factor for contractor overhead and profit is an industry standard. A 10% factor was used for construction administration and would include bidding services, submittal reviews, construction observations, and project closeout. A 20% factor for the overall contingency was used as several

unknowns exist at this point in the project, as well as the potential for changes in material prices and construction costs between now and the time the project would actually go to bid. Another way to view this total cost is to break it down by design and permitting, construction (includes contractor overhead and profit), construction administration, and contingency. With that in mind, the values are as follows:

- Design and Permitting: \$182,475
- Construction: \$1,398,975
- Construction Administration: \$121,650
- Contingency: \$243,300

5 PERMITTING AND PRELIMINARY SCHEDULE

Permitting requirements for a proposed lift station are as follows and corresponds to the preliminary schedule in Attachment D. The state review process begins with the site location application and preliminary engineering report under Section 22.7, Application Procedures for Interceptor Sewers Not Eligible for Certification and Lift Station, in Regulation 22, Site Location and Design Approval Regulations for Domestic Wastewater Treatment Works. The next step in the state review process is the basis of design report to show the new lift station and force main will meet the design criteria of Chapter 4, Wastewater Lift Stations and Force Mains, of the State of Colorado Design Criteria for Domestic Wastewater Treatment Works, WPC-DR-1. The final state review is of the design construction plans and specification. Each step is a separate review, and the preliminary schedule has shown an estimate of the review time expected (typically about 3 months per review period). In general, it takes about 1 year to get a project through permitting and design and ready to bid. Construction for a lift station of this size is anticipated to take approximately 6 months with additional 2 weeks for startup and testing.

6 SUMMARY

W2E completed a facility assessment and conceptual design for the Bunker Hill Lift Station. The existing lift station does not have capacity to meet the project flows. Based on the conceptual design, the cost opinion for a proposed replacement lift station is \$1,946,000.00.

If there are any questions regarding the recommendations or any other aspect of this letter report, please feel free to contact me at your convenience via phone (720.331.2332) or e-mail (will.raatz@w2eng.com).

Sincerely,

William A. Raatz, P.E.
Principal

Attachments: A: Flow Projections
B: Velocity Calculations
C: Cost Opinion
D: Preliminary Schedule

Attachment A - Flow Projections for Bunker Hill Lift Station

	Area (acres)	Units/acre	Persons/Unit	Population	Flow/Person (gpcd)	Calculated Flow (gpd)	Annual Average Flow (AAF; MGD)	Maximum Month Flow (MMF = 1.2xAAF; MGD)	Peak Hour Flow (PHF = 5xAAF; MGD)	I&I Flow (2,389 gpd/acre)	Design Flow (MGD)
Existing Development							0.072	0.086	0.360	0.000	0.360
Karl's Farm											
<i>Planning Area A</i>	7.8	93	2.7	251	85	21,344	0.021	0.026	0.107	0.019	0.125
<i>Planning Area B</i>	16.5	247	2.7	667	85	56,687	0.057	0.068	0.283	0.039	0.323
<i>Planning Area C</i>	14.9	506	1.8	911	85	77,418	0.077	0.093	0.387	0.036	0.423
<i>Commercial/Retail</i>	8.5	32.5	2.7	88	85	7,459	0.007	0.009	0.037	0.020	0.058
Subtotal	47.7			1917		162,907	0.163	0.195	0.815	0.114	0.928
Total							0.235	0.282	1.175	0.114	1.288

Existing Flow (%) =	28%
Karl's Farm Flow (%) =	72%

Bunker Hill Lift Station Firm Capacity	0.510	MGD
Existing Development Flow	0.360	MGD
Available Lift Station Capacity	0.150	MGD
Equivalent Medium Density Residential	114	units
Equivalent High Density Residential	180	units
Additional Lift Station Capacity Required	0.778	MGD

Attachment B - Velocity Calculations

		Flow								
		[MGD]	0.13	0.26	0.41	0.43	0.65	1	1.288	1.3
		[gpm]	90	181	285	299	451	694	894	903
		[cfs]	0.20	0.40	0.63	0.67	1.01	1.55	1.99	2.01
Pipe Size [in]	Pipe Area [ft ²]	Velocity [fps]								
4	0.09	2.31	4.61	7.27	7.62	11.53	17.73	22.84	23.05	
6	0.20	1.02	2.05	3.23	3.39	5.12	7.88	10.15	10.24	
7.63	0.32	0.63	1.27	2.00	2.10	3.17	4.87	6.28	6.34	
8	0.35	0.58	1.15	1.82	1.91	2.88	4.43	5.71	5.76	
12	0.79	0.26	0.51	0.81	0.85	1.28	1.97	2.54	2.56	

Attachment C - Cost Opinion

Item	Quantity	Units	\$/Unit	Subtotal
Mobilization	1	Lump Sum	\$ 50,000	\$ 50,000
Excavation/Backfill	1	Lump Sum	\$ 25,000	\$ 25,000
Building	400	Square Feet	\$ 150	\$ 60,000
Grinder Vault	1	Lump Sum	\$ 25,000	\$ 25,000
Grinder	1	Lump Sum	\$ 25,000	\$ 25,000
Wet Wells	1	Lump Sum	\$ 50,000	\$ 50,000
Valve and Flow Meter Vault	1	Lump Sum	\$ 20,000	\$ 20,000
Overflow Vault	1	Lump Sum	\$ 138,000	\$ 138,000
Hatches	8	Each	\$ 2,500	\$ 20,000
Submersible Pumps	4	Each	\$ 30,000	\$ 120,000
VFDs	4	Each	\$ 5,000	\$ 20,000
Piping and Fittings	1	Lump Sum	\$ 10,000	\$ 10,000
Emergency Pumping Connection	1	Lump Sum	\$ 5,000	\$ 5,000
Check Valves	4	Each	\$ 2,000	\$ 8,000
Plug Valves	9	Each	\$ 2,000	\$ 18,000
Magmeter	1	Each	\$ 10,000	\$ 10,000
Sump Pump and Appurtenances	1	Lump Sum	\$ 5,000	\$ 5,000
Gantry Crane	1	Each	\$ 10,000	\$ 10,000
8" HDPE Pipe	1500	Feet	\$ 100	\$ 150,000
8" PVC Pipe	900	Feet	\$ 100	\$ 90,000
Generator and ATS	1	Lump Sum	\$ 80,000	\$ 80,000
Mechanical/Odor Control	1	Lump Sum	\$ 70,000	\$ 70,000
Electrical	1	Lump Sum	\$ 75,000	\$ 75,000
Controls and Instrumentation	1	Lump Sum	\$ 50,000	\$ 50,000
Civil Site Work	1	Lump Sum	\$ 40,000	\$ 40,000
Bypass Pumping	7	Days	\$ 2,500	\$ 17,500
Startup/Testing	1	Lump Sum	\$ 5,000	\$ 5,000
Demolition of Existing Lift Station/Restoration	1	Lump Sum	\$ 15,000	\$ 15,000
Abandon Existing Force Main	1	Lump Sum	\$ 5,000	\$ 5,000
			<i>Subtotal</i>	\$ 1,216,500
			<i>Permitting and Design</i>	<i>15% \$ 182,475</i>
			<i>Contractor Overhead and Profit</i>	<i>15% \$ 182,475</i>
			<i>Construction Administration</i>	<i>10% \$ 121,650</i>
			<i>Contingency</i>	<i>20% \$ 243,300</i>
			Total (rounded)	\$ 1,946,000

Attachment D - Preliminary Schedule

W2E

ID	Task Name	Duration	Start	Finish	Predecessors	2019																				
						Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
1	Project Start	0 days	Tue 9/4/18	Tue 9/4/18		◆ 9/4																				
2	Lift Station Site Location Application and PER	45 days	Tue 9/4/18	Mon 11/5/18	1	■																				
3	CDPHE Review	60 days	Tue 11/6/18	Mon 1/28/19	2	■																				
4	Lift Station BDR	45 days	Tue 11/27/18	Mon 1/28/19	2,3FF	■																				
5	CDPHE Review	60 days	Tue 1/29/19	Mon 4/22/19	4	■																				
6	Lift Station Design	45 days	Tue 2/19/19	Mon 4/22/19	5FF,4	■																				
7	CDPHE Review	60 days	Tue 4/23/19	Mon 7/15/19	6	■																				
8	Lift Station Bidding	20 days	Tue 7/16/19	Mon 8/12/19	7	■																				
9	Lift Station Construction	130 days	Tue 8/13/19	Mon 2/10/20	8	■																				
10	Lift Station Startup/Testing	10 days	Tue 2/11/20	Mon 2/24/20	9	■																				
11	Project Completion	0 days	Mon 2/24/20	Mon 2/24/20	10	◆ 2/24																				

SPONSORED BY: MAYOR DODGE

COUNCILMAN'S RESOLUTION

RESOLUTION NO.

No. CR-100
Series of 2018

18-99
Series of 2018

A RESOLUTION APPROVING AN AGREEMENT BETWEEN THE CITY OF NORTHGLENN AND KARL'S FARM INVESTORS, LLC REGARDING THE DESIGN OF THE KARL'S FARM LIFT STATION

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTHGLENN, COLORADO, THAT:

Section 1. The Agreement between the City of Northglenn and Karl's Farm Investors, LLC, attached hereto as Exhibit A, for the design of the Karl's Farm Lift Station, is hereby approved and the Mayor is authorized to execute the agreement on behalf of the City of Northglenn.

DATED at Northglenn, Colorado, this 13th day of August, 2018.



CAROL A. DODGE
Mayor

ATTEST:



JOHANNA SMALL, CMC
City Clerk

APPROVED AS TO FORM:



COREY Y. HOFMANN
City Attorney

AN AGREEMENT BETWEEN THE CITY OF NORTHGLENN AND KARL'S FARM INVESTORS, LLC, REGARDING THE DESIGN OF THE KARL'S FARM LIFT STATION

The following Agreement is made on this 13th day of August, 2018, between the City of Northglenn and Karl's Farm Investors, LLC, regarding the design of the Karl's Farm Lift Station:

WHEREAS, the City of Northglenn (the "City") has budgeted funds for the design of the Karl's Farm Lift Station with a capacity of approximately 500,000 gallon per day or .5 MGD (the "Lift Station");

WHEREAS, Karl's Farm Investors, LLC (the "Developer") is proposing certain development that requires additional capacity in the Lift Station of approximately .815 MGD;

WHEREAS, the City and the Developer desire to share in the costs of the design of the Lift Station with a capacity of approximately 1.288 MGD, based on the parties agreed upon proportionate share of the design cost, taking into account the Developer's impact on the expanded size of the Lift Station necessitated by Developer's proposed development; and

WHEREAS, by this Agreement, the City and the Developer desire to set forth their understanding of the terms and conditions to pay for the cost of the initial design of the Lift Station.

TERMS

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein, the City and Developer hereby agree as follows:

1. Recitals Incorporated. The recitals set forth above are incorporated into this Agreement, and shall be deemed terms and provisions hereof, to the same extent as if fully set forth in this Section.

2. Design of the Lift Station. The City and the Developer agree that the Lift Station shall be designed in such a manner so as to have the approximately 1.288 MGD capacity to address not only the existing .36 MGD need of the existing lift station that needs to be upgraded, but the additional capacity necessitated by the Developer's proposed development.

3. Allocation of the Cost of Design. The City and the Developer agree to proportionately split the costs of design with the City paying twenty-eight percent (28%) and the Developer paying seventy-two percent (72%) of the cost of design (the "Design Costs"). The Developer shall contribute the Design Costs in calendar year 2018 upon fifteen (15) days' advance notice in writing from the City of Northglenn, upon the City completing the procurement process set forth in Section 4 of this Agreement. The Design Costs received by the City shall be deposited into a special account set up by the City for the sole purpose of meeting the obligations of this Agreement (the "Special Account"). Such amount shall be paid into the Special Account prior to the City expending, or agreeing to spend, any funds on the design of the Lift Station. If any funds remain after completion of the design of the Lift Station, such funds shall be returned to Developer.

4. Procurement Process. The City shall undertake the requisite procurement process to solicit bids and award a contract for and manage the contract(s) for the design of the Lift Station. The City shall utilize the contracting procedures set forth in the Northglenn Municipal Code for contracting for the design of the Lift Station, in consultation with the Applicant. Provided, however, the Applicant shall participate to the extent the Applicant determines necessary in the process of working with the selected design consultant to complete the design of the Lift Station.

5. Work Product. All work products produced as a result of this Agreement, including but not limited to, any Engineer's Opinion of Probable Cost and Engineering Design Construction Plans, shall be owned by and made available to the City and the Applicant in an appropriate format

6. Miscellaneous.

A. The City and the Applicant are separate, independent entities and shall maintain such status throughout.

B. It is understood and agreed that this Agreement is intended to facilitate cooperation between the City and the Applicant regarding the design of the Lift Station, but nothing in this Agreement shall be construed to establish a separate legal entity and, except as set forth herein, this Agreement does not authorize any Party to act for another for any other purpose whatsoever.

C. Notices. Any notice required or permitted by this Agreement shall be in writing and shall be deemed to have been sufficiently given for all purposes if hand delivered, sent by certified mail or registered mail, postage and fees prepaid, addressed to the Party to whom such notice is to be given at the address set forth on the signature page below, or at such other address as has been previously furnished in writing, to the City and the Applicant. Such notice shall be deemed to have been given when deposited in the United States mail.

D. Paragraph Captions. The captions of the paragraphs are set forth only for the convenience and reference of the City and the Applicant and are not intended in any way to define, limit or describe the scope or intent of this Agreement.

E. Integration and Amendment. This Agreement represents the entire agreement between the City and the Applicant with regard to the subject matter of this agreement and there are no oral or collateral agreements or understandings. This Agreement may be amended only by an instrument in writing signed by the City and the Applicant. If any provision of this Agreement is held invalid or unenforceable, no other provision shall be affected by such holding, and all of the remaining provisions of this Agreement shall continue in full force and effect.

F. Governing Law. This Agreement shall be governed by the laws of the State of Colorado.

G. Venue. Venue for any actions under this contract shall be in Adams County, Colorado.

SPONSORED BY: MAYOR DODGE

COUNCILMAN'S RESOLUTION

RESOLUTION NO.

No. CR-37
Series of 2019

Series of 2019

A RESOLUTION APPROVING AN AGREEMENT BETWEEN THE CITY OF NORTHGLENN AND KF DEVELOPERS, INC. REGARDING THE CONSTRUCTION OF THE KARL'S FARM LIFT STATION

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTHGLENN, COLORADO, THAT:

Section 1. The Agreement between the City of Northglenn and KF Developers, Inc., attached hereto as Exhibit A, regarding reimbursement of costs for the construction of the Karl's Farm Lift Station, is hereby approved and the Mayor is authorized to execute the agreement on behalf of the City of Northglenn.

DATED at Northglenn, Colorado, this _____ day of _____, 2019.

CAROL A. DODGE
Mayor

ATTEST:

JOHANNA SMALL, CMC
City Clerk

APPROVED AS TO FORM:

COREY Y. HOFFMANN
City Attorney

AN AGREEMENT BETWEEN THE CITY OF NORTHGLENN AND KF DEVELOPERS, INC, REGARDING THE CONSTRUCTION OF A LIFT STATION

The following Agreement is made on this ___day of _____, 2019, between the City of Northglenn (the "City") and KF Developers, Inc (the "Developer") regarding the construction and construction management of a Lift Station. The City and the Developer are collectively referred to as the Parties.

WHEREAS, the City and the Developer desire to share in the costs of the construction and construction management of a Lift Station with a capacity of approximately 1 million gallons that serves both the Karl's Farm development and serves the City generally (the "Lift Station"), based on the Parties' agreed upon proportionate share of the construction cost, taking into account the Developer's impact on the expanded size of the Lift Station necessitated by Developer's proposed development;

WHEREAS, the total project cost for the construction and construction management of the Lift Station has been estimated at the cost of \$2,100,000 plus a 20% contingency for a total of \$2,520,000, based on a design previously funded by the Parties hereto in the same proportions as the proportionate share of the cost of construction set forth hereinbelow; and

WHEREAS, the Parties desire to fund the construction and construction management of the Lift Station as more particularly described in this Agreement.

TERMS

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein, the City and Developer hereby agree as follows:

1. Recitals Incorporated. The recitals set forth above are incorporated into this Agreement, and shall be deemed terms and provisions hereof, to the same extent as if fully set forth in this Section.

2. Contribution by the Parties to the Cost of Construction and Construction Management.

A. The Parties shall contribute the total amount of \$2,520,000, in the proportionate amounts of \$705,600, reflecting a twenty-eight percent (28%) contribution by the City and \$1,814,400, reflecting a seventy-two percent (72%) contribution by the Developer (the "Funding Allocation") to the cost of construction and construction management of the Lift Station.

B. The Parties shall each contribute the amounts set forth above to a Special Account created by the City for the sole purpose of funding the construction and construction management of the Lift Station (the "Special Account"). Such amounts shall be paid into the Special Account prior to the City expending, or agreeing to spend, any

funds on the construction and construction management of the Lift Station. On or before ____, 2019, the City will provide formal notice of the amount due under this Agreement, and the Parties shall remit the amounts due to the Special Account no later than thirty (30) calendar days after receiving formal notice from the City that the City has received an acceptable bid in order for the City to accept a bid for the construction and construction management of the Lift Station. The City agrees to provide copies of the bids received to the Developer for review and approval together with notice of which bid the City intends to accept. If the Developer does not object to the proposed bid within five (5) days following receipt of the same, it shall be deemed that the Developer has approved the same and thereafter, the City agrees to accept a bid and award the construction and management agreement within ten (10) days following Developer's approval or deemed approval of the bid and full funding of the Special Account.

- C. The City shall not enter into any contract for the construction of the Lift Station until the City, at its sole discretion, determines that it has sufficient funding within the Special Account to contract for the total cost of constructing the Lift Station. The parties acknowledge that this does not include the design of the Lift Station which has been funded pursuant to a separate agreement.
- D. In the event the Parties, collectively or individually, do not make the contributions necessary to cause the Lift Station to be completed, the City shall have the sole discretion to terminate the Lift Station Project, and return the funds in the Special Account to the Parties in the same proportion in which they were received. The Developer hereto further waives any right to seek recovery of any funds actually paid by the City to others to pay for costs of the Lift Station Project as set forth herein.
- E. Following full funding of the Special Account and award of a construction and management contract for the Lift Station, any change orders that would increase the cost thereof by more than 10% must be approved by the City and Developer. Prior to issuing any change orders that increase the cost of the Lift Station, such cost increase must be funded by the Parties in the same proportions as set forth in Section 2A above. The City agrees to provide the Developer with copies of invoices from the contractor as well as monthly status updates on the construction schedule and completion.
- F. Upon completion of the Project, which shall be triggered by the Final Settlement by the City in accordance with the provisions of C.R.S. § 38-26-107, the City shall, within thirty (30) days thereafter, return funds, if any, remaining in the special account to the Parties in the same proportion in which they were received.

3. Construction and Construction Management of the Lift Station. The City shall contract for, manage, and cause the construction of the Lift Station. The City shall utilize the contracting procedures set forth in the Northglenn Municipal Code for the construction and on-site construction management of the Lift Station. The City agrees to spend the amounts more

particularly described in this Agreement that are received from the Developer for the construction and construction management of the Lift Station. Subject to *force majeure*, the City agrees that construction shall be completed no later than fifteen (15) months after the City issues a Notice to Proceed to the Contractor, provided that the Developer has placed its contributions in the Special Account.

4. Step-In Right. In the event the City fails to: 1) diligently pursue construction of the Lift Station; or 2) complete the same as set forth in Section 3 above, then Developer or any entity that acquires property within Karl's Farm from Developer, shall have the right, after written notice of such failure to the City and the City's failure to cure the same within thirty (30) days of such notice, to step-in and assume the City's contract to construct and manage the Lift Station construction (the "Step-in Right"). Notwithstanding the foregoing, no Step-in Right shall exist unless and until: 1) full funding by the Parties of the Special Account; and 2) the City awarding a contract for construction and management of the Lift Station. Following exercise of such Step-in Right, the step-in party shall have the right to submit draws to the City for payment from the Special Fund. In the event the step-in party determines that the contractor has not fulfilled its obligations, the step-in party shall have the right to terminate such construction and management agreement and enter into a new agreement, provided, however, selection of a new contractor must comply with the contracting procedures set forth in the Northglenn Municipal Code for the construction and on-site construction management of the Lift Station, and such construction must be done in accordance with the previously approved design of the Lift Station. Nothing in this Section 4 shall obligate the City to pay any amounts in excess of the amount appropriated for the construction of the Lift Station as set forth in Section 2A of this Agreement.

5. Miscellaneous.

- A. The City and the Developer are separate, independent entities and shall maintain such status throughout.
- B. It is understood and agreed that this Agreement is intended to facilitate cooperation between the City and the Developer regarding the construction and construction management of the Lift Station, but nothing in this Agreement shall be construed to establish a separate legal entity and, except as set forth herein, this Agreement does not authorize any Party to act for another for any other purpose whatsoever.
- C. Notices. Any notices required or permitted by this Agreement shall be in writing and shall be deemed to have been sufficiently given for all purposes if hand delivered, sent by certified mail or registered mail, postage and fees prepaid, addressed to the Party to whom such notice is to be given at the address set forth on the signature page below, or at such other address as has been previously furnished in writing, to the City and the Developer. Such notice shall be deemed to have been given when deposited in the United States mail.
- D. Paragraph Captions. The captions of the paragraphs are set forth only for the convenience and reference of the City and the Developer and are not intended in any way to define, limit or describe the scope or intent of this Agreement.

- E. Integration and Amendment. This Agreement represents the entire agreement between the City and the Developer with regard to the subject matter of this agreement and there are no oral or collateral agreements or understandings. This Agreement may be amended only by an instrument in writing signed by the City and the Developer. If any provision of this Agreement is held invalid or unenforceable, no other provision shall be affected by such holding, and all of the remaining provisions of this Agreement shall continue in full force and effect.
- F. Governing Law. This Agreement shall be governed by the laws of the State of Colorado.
- G. Venue. Venue for any actions under this contract shall be in Adams County, Colorado.
- H. Force Majeure. Subject to the following provisions, time is of the essence. Any delays in or failure of performance by either the City or the Developer of its obligations under this Agreement shall be excused if such delays or failure are a result of acts of God, fires, floods, earthquake, strikes, labor disputes, regulation or order of civil or military authorities, or other causes, similar or dissimilar, which are beyond the control of the City or the Developer.

IN WITNESS WHEREOF, the City and Developer have caused this Agreement to be executed as of the day and year first above written.

CITY OF NORTHGLENN, COLORADO

By: _____
 Carol A. Dodge, Mayor

ATTEST:

 Johanna Small, CMC, City Clerk

KF DEVELOPERS, INC

[Handwritten Signature]

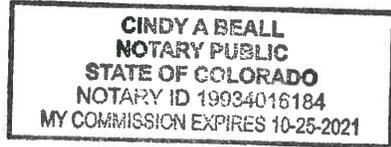
By: Daniel Frank
Its: Director

STATE OF COLORADO)
city &) ss.
COUNTY OF Denver)

The foregoing instrument was subscribed, sworn to, and acknowledged before me this 26th day of March, ~~2018~~, by Daniel Frank, as the Director of KF Developers Inc. 2019

My commission expires: 10-25-2021

(S E A L)



[Handwritten Signature]
Notary Public