



VEENSTRA & KIMM INC.

3000 Westown Parkway
West Des Moines, Iowa 50266

515.225.8000 // 800.241.8000
www.v-k.net

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Cindy Riesselman
City Clerk
City of Dallas Center
1502 Walnut Street
P.O. Box 396
Dallas Center, Iowa 50063

DALLAS CENTER, IOWA
NORTHEAST SEWER PLANNING STUDY
LIFT STATION ALTERNATIVES

The developers of Skye View Estates recently requested the City of Dallas Center to identify a timeline for construction of the lift station that would serve portions of the Skye View Estates Development. The developers of Skye View Estates indicate most of that development will not move forward until a lift station is available.

Stubbs Engineering preliminary grading plan indicates the amount of fill material to sewer most of Skye View Estates to the existing sanitary sewer located at Fairview Drive and Highway 44 renders the project no longer cost effective. Stubbs Engineering has determined it would be less costly to sewer most of the Skye View Estates area northeasterly to a lift station. This includes part of the area located east of the Dollar General store and southwesterly of the natural ridge line.

The Dallas Center City Council previously indicated an interest in evaluating alternatives for the lift station near S Avenue and Highway 44. The writer believes it is also appropriate to evaluate the lift station location in Skye View Estates. This alternative has a much smaller service area but is less costly. The evaluation of alternatives does not include any alternatives locating the lift station farther to the southeast than the south side of Highway 44.

For purposes of the analysis a total of three alternatives were identified. Enclosed is a figure showing the Alternative 1, Alternative 2 and Alternative 3 locations for a lift station. Alternative 1 would locate the lift station along S Avenue approximately 2,000 feet north of Highway 44. The lift station would be located along the natural draw. The Alternative 1 location for a lift station would serve the area west of S Avenue from north of Highway 44 to approximately one quarter mile west of R Avenue and north between one half and one mile. A small area on the east side of S Avenue can be served to the lift station at the Alternative 1 location.

Alternative 2 locates the lift station on the south side of Highway 44. Under Alternative 2 all of the service area for Alternative 1 can be served. In addition, there is another one quarter to one half mile area north of Highway 44 and east of S Avenue that can be served. Alternative 2 also provides the potential to serve a significant area on the south side of Highway 44 extending as far westerly as the one quarter mile east of Fairview Drive and extending as far south as 250th Street.

Alternative 3 locates the lift station near the east boundary of Skye View Estates. This lift station location would server Skye View Estates and the area to the west of Skye View Estates. Depending on the invert elevation of the lift station the Alternative 3 location could provide service to some areas located to the east of Skye View Estates. Preliminary planning would indicate the service area for Alternative 3 would be slightly more than half the service area for Alternative 1.

For each of the three alternatives the proposed lift station would be a two pump submersible design. For planning purposes, it is assumed the lift station will have outdoor mounted controls and a standby generator. Based on a recent project the cost for this type of project constructed about 18 months ago was approximately \$400,000. With recent cost increases the lift station cost is now estimated to be in the range of \$550,000.

The writer would note the proposed lift station would be a basic design. There are options that would increase the cost of the project. Options to consider would be sizing the lift station for a third pump and locating the control equipment in a small building. The third pump and control building options would each increase the cost of the project. A decision on these details concerning the lift station design can be addressed if and when the project moves forward.

In addition to the lift station costs each of the alternatives has the cost for a force main. The force main would need to extend south and west to connect to the existing sewer near the Dollar General. The length of the force main is based on the location of the lift station. Alternative 3 has the shortest length of force main. Alternative 2 has the longest length of force main.

For both Alternative 1 and Alternative 2 it is assumed there will be a sanitary sewer that would extend from the lift station to the east boundary of Skye View Estates. It is assumed the sewer within Skye View Estates would be constructed as part of the development project and would not require any construction by the City. Alternative 3 does not include any sanitary sewer cost as the lift station is located in the Skye View Estates development and all of the sewer would be constructed as part of the development.

Under Alternative 1 the sewer would extend westerly slightly less than one half mile from the lift station to Skye View Estates. Under Alternative 2 the sanitary sewer would extend northwesterly from Highway 44 to S Avenue and then continue west to Skye View Estates.

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The estimated cost for Alternative 1 including the sanitary sewer, lift station and force main is:

<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Extended Price</u>
Lift Station	LS	1	\$550,000	\$550,000
8" Force Main in Open Cut	LF	6,400	\$40	\$256,000
8" Force Main Bored in Place	LF	200	\$200	\$40,000
10" Sanitary Sewer	LF	1,500	\$75	\$112,500
Manholes	EA	6	\$7,500	\$45,000
Erosion Control	LS	1	\$15,000	\$15,000
Seeding	ACRE	10	\$2,500	\$25,000
Traffic Control	LS	1	\$15,000	\$15,000
Estimated Construction Cost				\$1,058,500
Contingency @ 15%				\$159,000
Engineering, Legal and Administrative @ 18%				\$190,500
Estimated Project Cost				\$1,408,000

The estimated cost for Alternative 2 including the sanitary sewer, lift station and force main is:

<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Extended Price</u>
Lift Station	LS	1	\$550,000	\$550,000
8" Force Main in Open Cut	LF	7,000	\$40	\$280,000
8" Force Main Bored in Place	LF	300	\$200	\$60,000
10" Sanitary Sewer	LF	4,100	\$75	\$307,500
10" Sanitary Sewer Tunneled	LF	100	\$300	\$30,000
Manholes	EA	14	\$7,500	\$105,000
Erosion Control	LS	1	\$15,000	\$15,000
Seeding	ACRE	15	\$2,500	\$37,500
Traffic Control	LS	1	\$15,000	\$15,000
Estimated Construction Cost				\$1,400,000
Contingency @ 15%				\$210,000
Engineering, Legal and Administrative @ 18%				\$252,000
Estimated Project Cost				\$1,862,000

The estimated cost for Alternative 3 including the lift station and force main is:

<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Extended Price</u>
Lift Station	LS	1	\$550,000	\$550,000
8" Force Main in Open Cut	LF	4,300	\$40	\$172,000
8" Force Main Bored in Place	LF	100	\$200	\$20,000
Erosion Control	LS	1	\$10,000	\$10,000
Seeding	ACRE	5	\$2,500	\$12,500
Traffic Control	LS	1	\$10,000	\$10,000
Estimated Construction Cost				\$774,500
Contingency @ 15%				\$116,000
Engineering, Legal and Administrative @ 18%				\$139,500
Estimated Project Cost				\$1,030,000

A summary of the cost of the three alternatives is:

Alternative 1	\$1,408,000
Alternative 2	\$1,862,000
Alternative 3	\$1,030,000

From a cost perspective Alternative 3 is the least costly and the Alternative 1 and Alternative 2 is the most costly. However, from a cost per service area basis the order of the alternatives is reversed. The following tabulation shows the cost, approximate service area and cost per acre:

<u>Alternative</u>	<u>Project Cost</u>	<u>Service Area</u>	<u>Cost per Acre</u>
1	\$1,408,000	660	\$2,133
2	\$1,862,000	1630	\$1,142
3	\$1,030,000	320	\$3,219

It is entirely at the discretion of the City to determine which alternative is preferable to implement. There is no clear alternative as the actual cost and the cost per service area acre are inverse to each other for this project.

The City previously discussed the possibility of financing the lift station through the use of a residential TIF. Under the residential TIF concept the City could enter into a development agreement in which the developer would construct the lift station and the City would reimburse the developer from the incremental taxes collected within Skye View Estates. Alternatively, the City could construct and finance the project and pay the debt service from the incremental revenue collected in the residential TIF.

Regardless of the alternative, all of the improvements would need to be located in the urban renewal area. Currently the lift station and sanitary sewer and force main under Alternative 1 and Alternative 2 are located partially or completely outside of the City of Dallas Center. With the consent of the Board of Supervisors, the City can establish an urban renewal area outside of the city limits. If the City pursues Alternative 1 or Alternative 2 the City would need to establish an extraterritorial urban renewal area unless the City annexes the area of the facilities prior to constructing the project.

It is more common for reimbursement residential TIF projects to be located inside the development rather than outside of the development. When there are significant improvements located outside of the development it is less common for those improvements to be constructed by the developer and more common for the improvements to be constructed by the City. Property acquisition often plays into account as the City would have the power to acquire property interest by eminent domain while the developer does not have that ability.

The writer would note in some instance there are projects where the City has constructed the project outside of the development with funds provided by the developer. The City then reimburses the developer for internal costs within the development resulting in the same level of reimbursement to the developer. Although this approach is not common it has been used in circumstances similar to providing sanitary sewer services under Alternative 1 or Alternative 2.

The developer funded project places the risk with the developer. Conversely, the City funded project places much more of the risk with the City.

A residential TIF can recover taxes for a period of ten years. With the consent of the Board of Supervisors and the school district the reimbursement can extend to fifteen years. For purposes of the analysis, it is assumed there would only be a ten year recovery. In the residential TIF the City must take into account the approximately 25% of LMI set aside.

If it is assumed each house would have an assessed value in the range of \$250,000 the taxable value would be about \$125,000. If the recoverable tax levy under the TIF is between \$25/\$1,000 and \$28/\$1,000 The City would be able to collect between \$2,500 and \$2,700 per year per residence.

Typically, projects funded by residential TIF will be funded over a ten year period. If the City were to fund the project the normal practice would be to finance the project with a ten year bond issue. The bond issue would count against the City's 5% constitutional debt limit, as any debt that is paid from TIF revenue is considered to count against the constitutional debt limit even if the actual financing mechanism were to be revenue debt.

If the City were to fund the lift station project using TIF, it would need to take into account how that debt would impact the City's ability to fund other projects. Given the City's upcoming capital improvement requirements and the level of outstanding debt it would be advantageous for the City not to fund the project.

For purposes of illustration the writer assumed the City would construct Alternative 1 with a cost of \$1,408,000 and that improvement would be financed over ten years at an effective interest rate of 4%. The debt service, whether the City or developer, would be approximately \$174,000 per year. This annual debt service would be the equivalent of about 70 single family residences each with a total assessed valuation of \$250,000.

Even though it may only take 70 residences to cover the debt service, one of the challenges for any residential TIF is the build out schedule. The frozen base for the TIF is the valuation on January 1 of the year prior to the year the City first requests reimbursement. There is a balancing act as to when to request reimbursement. If the City starts the reimbursement period too early the number of residences in the first year or two will likely be too small to cover the cost of debt service. If the City waits until there are more houses constructed it is likely some of those houses will have already been on the tax role prior to January 1 of the year prior to the reimbursement request and those valuation increases would no longer be part of the TIF as the frozen base would be the based value of the house and not the value of the undeveloped property.

The City needs to take into consideration the natural delay between the time the project would be constructed and the time when tax revenue would be collected. This is the result in the delay between the establishment of the assessed value and collection of taxes. The longer the City waits to request reimbursement the longer the financing party needs to carry the debt service until there is a reimbursement. There is a natural tendency to want to request reimbursement as soon as possible to minimize this period. In some circumstances it may be preferable to wait to request reimbursement. However, in most instances the deferral of requesting reimbursement would be a year or possibly two years. Any longer deferral generally is not cost effective as too much of the frozen base is lost and the cost to carry the debt until the recovery of TIF revenue becomes too burdensome to extend the waiting period.

In summary, to respond to the request by Skye View Estates the City will need to make several decisions and there will need to be discussions with Skye View Estates. One of the first decisions is what alternative, if any, will be implemented. A second decision would be when the improvements would be constructed.

The third decision is how would the project be financed. This financing option is inevitably an interrelated with both the selection of the alternative and the timeline for implementation as the project cannot be implemented until the financing plan has been developed and put in place.

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If you have any questions or comments concerning the project, please contact the writer at 515-225-8000, or bveenstra@v-k.net.

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H. R. Veenstra Jr.

HRVJr:rdp

212188

Enclosure

Cc: Ralph Brown, Brown, Fagen & Rouse

