CITY OF WILLMAR, MINNESOTA
REQUEST FOR COMMITTEE ACTION

Agenda Item Number: 2.

Meeting Date: December 20, 2013

Attachments: ☐ Yes ☐ No

CITY COUNCIL ACTION

Date: _____

☐ Approved ☐ Denied
☐ Amended ☐ Tabled
☐ Other

_____

_____

Originating Department: Public Works

Agenda Item: Improvement Report for Project 1310

Recommended Action: Recommend adoption of a resolution receiving the improvement report and ordering the improvement hearing on January 6, 2014.

Background/Summary: Bollig Inc. has prepared the improvement report for Project 1310. The project includes the new Minn West Lift Station and force main, mill and overlay of Lakeland Drive, a new trail along Lakeland Drive and a quiet zone.

Alternatives: 1. Receive the report and order the hearing.
2. Delay for additional review.

Financial Considerations: The project will be funded by a combination of PFA, MSA, LOST, and CIP funds, as well as assessments.

Preparer: Bruce D. Peterson, Acting Public Works Director

Signature:

Comments:

City of Willmar Improvement Report

Bituminous Mill and Overlay on Lakeland Drive from Willmar Avenue to Civic Center Drive, MinnWest Lift Station Improvements, Quiet Zone and Bituminous Trail

City Project Number: CP 1310

State Aid Project Number: TBD

Project Purpose: To provide a long-term fix for the roadway structure and for the sewer infrastructure in the project area. To improve the smoothness of the pavement and improve accessibility for pedestrians and bicyclists. Provide a quiet zone to improve safety and reduce noise. Improve traffic flow with new striping.

Location: On Lakeland Drive from Willmar Avenue to Civic Center Drive and on the MinnWest Campus North of Civic Center Avenue.

Description: Mill and Overlay, Pedestrian Ramps Improvements, Quiet Zone Establishment, Sewer and MinnWest Lift Station Improvements. See Exhibit A for project location.

Length: 2.5 miles

Total Project Cost: $4,745,000

Schedule: Open Bids on March 3, 2014, and construct in the summer of 2014

Background

The City of Willmar has aging infrastructure that is need of replacement. Lakeland Drive has bituminous pavement that is becoming deteriorated with longitudinal cracking creating a rough ride for motorists. The pedestrian ramps are inadequate and are not up to current standards. A bike path and quiet zone at the railroad crossing are proposed to improve safety. The City sewer forcemain and lift station is aging, undersized, and deteriorating and is in need of replacement.

Project Scope

Roadway

It is proposed to mill the existing pavement 2" and overlay with bituminous to a 2 percent cross-slope. The roadway will be striped to allow a center left turn lane on Lakeland Drive from Willmar Avenue to just north of Becker Avenue. Signing will be removed and new signing will be placed according to the latest MUTCD standards and to accommodate the new center left turn lane.

Sewer Infrastructure

The City of Willmar will replace the current wet-well lift station with a dry-well lift station. The old lift station will be demolished, and new site grading will improve the access to the facility (See Exhibit B). The old forcemain will be abandoned in-place and a new 12" forcemain will be bored (See Exhibit A).

Trail

A new trail will be constructed from Olena Avenue to Civic Center Drive. The trail will be 8 feet wide and constructed with a 6 inch aggregate base and 3 inches of bituminous. A center median refuge island will be installed south of Trott Avenue where the trail will cross Lakeland Drive. Striping and signing will accompany the new trail for both the motorists and the bicyclists. Gate arms will be installed at the railway crossing.

Quiet Zone

A quiet zone will be established at the four-track Burlington Northern Sante Fe railroad crossing just north of Litchfield Avenue. The process and design will meet the Federal Railway Administration guidelines. Center medians will be installed 60 feet to the north and 100 feet to the south.

Exhibits

Exhibit A – *Project Overview showing whole Project and labeling trail location, Quiet Zone etc.*

Exhibit B – *Lift Station Site Plan*

EXHIBITS

CITY OF WILLMAR, MINNESOTA
REQUEST FOR COMMITTEE ACTION

Agenda Item Number: ____

Meeting Date: December 10, 2013

Attachments: **X** Yes No

CITY COUNCIL ACTION

Date: December 16, 2013

☐ Approved ☐ Denied
☐ Amended ☐ Tabled
☐ Other

Originating Department: Engineering

Action Requested: Receive for information

Recommended Action: Receive for information

Background/Summary: Information regarding potential stormwater management improvements was requested by the Committee. The attached memo and figures provide information concerning the City's stormwater management system and potential improvements to the system. Should the Committee desire to proceed with any improvements, a motion would be in order.

Alternatives: 1. Make Improvements
2. Do Nothing

Financial Considerations: Estimated costs associated with potential improvements are between $75,000 and $85,000.

Preparer: Jared Voge, P.E., Interim City Engineer

Signature:

Comments:

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
2040 Highway 12 East • Willmar, MN 56201-5818
Phone (320) 231-3956 • Fax (320) 231-9710
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MEMORANDUM

Date: December 2, 2013

To: Bruce Peterson
Director of Planning and Development Services

From: Jared Voge, P.E.
Interim City Engineer

Subject: Stormwater Management
City of Willmar
BMI Project No.: W18.105587

As requested by the Public Works/Public Safety Committee, we have conducted additional research regarding improvements to the City's stormwater management system. Our analysis was initiated by reviewing the City's entire stormwater management system while incorporating the findings of the numerous previously completed Stormwater Management Analysis reports. As indicated in my May 20, 2013 memo which is attached and was previously presented to the Public Works/Public Safety Committee, the primary finding is that the tailwater effect is the primary limiting factor within the City of Willmar's stormwater management system. The tailwater effect is a result of the lack of elevation change along County Ditch 23A, approximately 0.60 feet, from the City of Willmar system to Lake Wakanda. More simply stated, tailwater is essentially water from Lake Wakanda and County Ditch 23A backing up into the City of Willmar storm sewer network. The backup results in localized flooding until the water elevation in Lake Wakanda recedes to permit the water from the City's storm sewer system to drain.

Our analysis considered areas throughout the City in which stormwater management improvements might be made to reduce the overall periodic stormwater concerns. One area discussed perhaps most frequently is near the intersection of 10th Street and Kandiyohi Avenue. Our analysis evaluated the benefits associated with the construction of a stormwater pond in the northwest quadrant of the intersection on a parcel which is currently undeveloped. The model, which incorporates Lidar elevation information, not field obtained topography, indicated that by constructing a pond in the northwest quadrant of the intersection and connecting a 30-inch storm sewer outlet into the existing system on 10th Street and Kandiyohi Avenue, a reduction in the 100 year, 50 year, and 10 year flood elevations of 3.5 inches, 5.0 inches, and 5.0 inches respectively, is attainable. The cost associated with the pond and storm sewer construction is estimated between $75,000 and $85,000. The enclosed Figure Nos. 1, 2, and 3 illustrate the potential reduction in flood elevation. Additional analysis was also completed regarding the potential expansion of a stormwater pond north of Kandiyohi Avenue and west of 10th Street. The additional ponding area provided a reduction in 100 year, 50 year, and 10 year flood elevations of 6.5 inches, 8 inches, and 8 inches respectively. The estimated cost associated with this option is approximately $3,000,000 since property acquisition would be required. The enclosed Figure No. 4 illustrates the reduction in the 100 year flood elevation with the expanded pond area. The flood elevation reductions and estimated costs have been summarized in the table below.

Improvements	100 Year Flood Elevation Reduction (inches)	50 Year Flood Elevation Reduction (inches)	10 Year Flood Elevation Reduction (inches)	Estimated Cost
Dry Pond Northwest Quadrant of 10th Street & Kandiyohi Ave	3.5	5.0	5.0	$75,000 - $85,000
Dry Pond Between Kandiyohi Ave and Monongalia Ave West of 10th Street	6.5	8.0	8.0	$3,000,000

Based on the information included in the table above and the enclosed figures, it may be feasible to construct a dry pond in the northwest quadrant of 10th Street and Kandiyohi Avenue with a 30-inch pipe connection to the existing storm sewer system. The 5 inch reductions in both the 10 year and 50 year flood elevations will result in less frequent periodic flooding in the vicinity of the intersection. However it should be noted that the construction of a pond in the northwest corner of the intersection will NOT eliminate the flooding at the intersection. Based on the benefits received and the corresponding cost, I do not recommend that additional properties be acquired for the construction of a larger dry pond on the west side of 10th Street between Monongalia and Kandiyohi Avenue.

We have also analyzed the potential benefits associated with utilizing the former wastewater treatment plant site for the construction of stormwater management improvements. We referenced the previously completed wastewater treatment plant site stormwater analysis memo completed by Barr Engineering in April 2012. Barr's analysis indicated that flood elevation reductions between 0.2 feet and 0.5 feet could be expected depending on the option considered. The costs for the various options ranged from $1.6 million to $3.6 million based on the 2012 analysis. These options when compared to the construction of a dry pond at the intersection of 10th Street and Kandiyohi Avenue do not provide the same level of cost effectiveness. Although, the reduction in flood elevations by the construction of a stormwater pond at the former wastewater treatment facility site is not significant, the pond would provide reductions in total phosphorus and total suspended solids. Since the City of Willmar is currently in the process of updating the MS4 permit through the MPCA, I would recommend that no improvements be conducted at the former wastewater treatment facility plant site until the requirements associated with the City's MS4 permit can be evaluated. The improvements may provide nutrient and sediment loading reductions which may be incorporated into the revised permit.

Finally, our analysis investigated the potential for the construction of an overflow ditch from the area near Menards west to Hawk Creek. This option, provided the ditch is constructed large enough, will provide relief of the tailwater condition within the existing system. The costs associated with the ditch construction and analysis required to facilitate the permitting process associated with redirecting water from the Lake Wakanda watershed to the Hawk Creek watershed are enormous. This option would likely result in a redetermination of benefits for the entire Hawk Creek Watershed as well as numerous concerns from a number of property owners within the watershed. In addition, such a process would take years at best.

Based on our analysis, the most cost effective method for reducing flood elevations within the City of Willmar is to continue to implement the City's stormwater management ordinance which requires that all properties be developed with no increases in the stormwater volumes leaving the properties. Preventing additional water from entering the City's overloaded storm sewer network will help in preventing flood

elevations from increasing. Should the City Council desire to pursue a stormwater management construction project, I recommend that consideration be given to the construction of a dry pond in the northwest quadrant of 10th Street and Kandiyohi Avenue which would include a 30 inch pipe connecting the pond to the existing storm sewer system. I also recommend that improvements at the former wastewater treatment facility site be reevaluated following approval of the City's MS4 permit.

As previously described in my May 20, 2013 memo regarding stormwater management, until the affect of the Lake Wakanda tailwater is eliminated, periodic flooding within the City of Willmar, specifically within the southeast Willmar watershed will continue as it has prior to 1950. As previously described, it is estimated that approximately 26 acres of land for the purposes of stormwater storage, pumps, easements, additional analysis, and approximately 20 million dollars would be necessary to eliminate the tailwater effect.

It is important to note that whether or not a capital project is pursued at this time, costs associated with stormwater treatment and maintenance in Minnesota will continue to increase. Therefore, it is important that a revenue stream be identified for the ever increasing regulations and improvements required to satisfy them. It is equally important that prior to investigating potential revenue streams that a clear goal be identified moving forward. The costs associated with incremental improvements are significantly less than the costs associated with a solution to reduce the Lake Wakanda tailwater effect within the City of Willmar's storm sewer system.

If you have any questions on the above please call.

JAV/kg

Enclosure

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MEMORANDUM

Date: May 20, 2013

To: Charlene Stevens, City Administrator
Bruce Peterson, Director of Planning and Development Services

From: Jared Voge, P.E.
Interim City Engineer

Subject: Stormwater Management
City of Willmar
BMI Project No.: W18.105587

Based on the direction provided by the Public Works/Public Safety Committee, we have reviewed the City stormwater management system as well as drainage concerns throughout the City. In the past, a variety of stormwater management documents have been prepared regarding the City's storm sewer system. Such documents include the 1998 Surface Water Management Plan, the 2006 Barr Engineering Report, the Wastewater Treatment Plant Site Stormwater Management Analysis completed by Barr Engineering in April 2010, the Draft Watershed Management Plan completed by Barr Engineering in May 2012, and the County Ditch 23A and Southeast City Flooding Problems memo written by Vern Carlson, P.E. in February 2013. Based on the number of documents and analyses conducted, the City of Willmar has been actively investigating and implementing projects to reduce flood elevations within the City. Photographs from the 1950's and earlier also indicate that localized flooding within the City of Willmar has been common for many years.

The City of Willmar and surrounding areas are composed of four primary watersheds. They are the Lake Wakanda, Hawk Creek, Foot Lake, and Southeast Willmar Watersheds. Generally speaking, the localized flooding areas of greatest concern are within the Southeast Willmar Watershed. The Southeast Willmar Watershed discharges to the Lake Wakanda Watershed through County Ditch 23A and Peach Creek.

The three most recent stormwater memos and plans were used as the foundation for the following analysis. The Wastewater Treatment Plant Site Stormwater Analysis memo completed by Barr Engineering in April 2012 analyzed the construction of detention basins at the former Wastewater Treatment Plant (WWTP) site and their corresponding effects on upstream flooding in localized areas. Barr's analysis indicated that a reduction in flood elevations ranging from 0.2 feet to 0.5 feet could be expected if the detention basins were constructed at the former WWTP site. As part of the City of Willmar Wastewater Program - Project B - Decommissioning of the Existing Wastewater Treatment Facility, excavation and grading was completed at the former WWTP site. Based on record drawings dated July 2011 for the project, the recommendations from the April 2010 Barr Engineering memo were not followed exactly due to MPCA concerns related to ground disturbance activities, and therefore are not likely to achieve the 0.2 feet to 0.5 feet in flood elevation reduction. However, the improvements are an incremental step in improving the periodic flooding in localized areas. Although a reduction of 0.5 feet in peak flooding elevations would improve the situation near 10th Street and Kandiyohi Avenue, it does not eliminate the periodic problem. Based on data obtained during the August 21, 2007 rain event, approximately 3 feet of water existed within the intersection (1119.22 water elevation vs. 1116.15 roadway elevation).

The Draft Watershed Management Plan (WMP) completed by Barr Engineering in May 2012 analyzed the entire City storm sewer system and identified areas of inadequate storm sewer capacity. Within the Southeast Willmar Watershed, the WMP discussed the effect that the tailwater condition created by Lake Wakanda and County Ditch 23A has on the City system. The tailwater effect is a result of the lack of elevation change along County Ditch 23A from the City of Willmar's system to Lake Wakanda. More simply stated, tailwater is essentially water from Lake Wakanda and County Ditch 23A backing up into the City of Willmar storm sewer network. The backup results in localized flooding until the water elevation in Lake Wakanda recedes to permit the water within the City storm sewer system to drain. This backup without a doubt affects the performance of the storm sewer in Willmar and is referred to as a tailwater condition. The WMP also identified locations within the Southeast Willmar Watershed where pipe sizes were deemed inadequate based on the level of service required. Although the pipe sizes have been identified as inadequate, no recommended sizes have been suggested to reduce surface flooding in the periodic flood prone areas. Based on the fact that with increased pipe sizes, surface flooding still exists, it is unclear whether or not pipe size increases will mitigate the tailwater condition created by County Ditch 23A and Lake Wakanda. Additional analysis will be required to verify the benefits of pipe size increases with respect to the tailwater condition. Outside of the Southeast Willmar Watershed, the WMP also highlights other areas within the Hawk Creek Watershed which should be considered for storm sewer pipe size upgrades. Based on the information provided, it appears the only location where tailwater conditions affect storm sewer performance is in the Southeast Willmar Watershed. Increased pipe sizes within the Hawk Creek Watershed are likely justified and should continue to be incorporated into street reconstruction projects as they have been to date.

The final document we reviewed as part of our analysis was the County Ditch 23A and Southeast City Flooding Problems memo prepared by Vern Carlson, P.E. in February 2013. This memo focused on the Southeast Willmar Watershed area and also discussed the tailwater condition created by County Ditch 23A and Lake Wakanda. The memo discussed four potential improvement options. The first option consists of lowering the Normal Water Level (NWL) elevation of Lake Wakanda. By doing so, the capacity of County Ditch 23A would be improved and consequently drastically improve the tailwater condition which currently impedes the City stormwater sewer system. Based on our experience in advising various Lake Associations on normal water levels in Minnesota, this option is highly unlikely. In most cases, 100% of all affected property owners are required to sign off on any NWL changes before the Minnesota DNR will entertain changing the NWL. This stipulation in itself makes changing lake levels especially difficult. The time associated with this is many years at best. In addition, lowering the lake would result in significant shoreline/wetland loss. The loss of wetland would need to be justified and then mitigated. If mitigation was even an option, the required replacement ratio would be very costly.

The second option discussed considers bypassing or re-aligning County Ditch 23A. This option would have a positive effect on the tailwater condition for the City storm sewer; however, processes associated with this option must adhere to Minnesota Statute 103.E requirements which would take many years. In addition, significant easements would be required to re-align the ditch. Although this option may improve the localized flooding within the City of Willmar, additional water will be directed downstream and will require significant analysis, permitting, and may simply move the problem downstream to adjacent watersheds.

The third option consists of the partial bypass of Grass Lake and re-alignment of County Ditch 23A. Similar to the second option, the process associated with this option must adhere to the Minnesota Satute 103.E requirements and would also require easements for the re-alignment and widening. This however, would not change the NWL of Lake Wakanda. As previously stated, the NWL in combination with the flat grade of County Ditch 23A are the driving forces behind the tailwater condition which limits the City storm sewer capacity. It should be noted that Kandiyohi County is currently exploring a restoration

project within Grass Lake. The City will continue to work closely with Kandiyohi County and evaluate the model prepared for the Grass Lake Improvements project with respect to the City's model.

The fourth option considered in Mr. Carlson's February 2013 memo consists of the utilization of Grass Lake as a detention basin with the installation of a pumping system to control the water elevation. These improvements would be constructed within Grass Lake outside of the existing City limits.

Based on our analysis, we agree with previously completed reports that the tailwater condition is the driving force behind the underperformance of the City's storm sewer system within the Southeast Willmar Area Watershed. Pages 6-14 of the Draft Watershed Management Plan 2012, identify mitigation measures with an estimated cost of approximately $30 – $80 million. Based on our preliminary analysis and exploring the regional approach suggested in the WMP, our findings are further discussed below.

The existing NWL of Lake Wakanda and the flat grade of County Ditch 23A create a tailwater (backup) condition for the City storm sewer. The tailwater condition does not allow runoff to be conveyed through the City system in an efficient manner and runoff begins to pond in localized areas throughout the City. In order to reduce the tailwater effect, ponding volume must be provided below the storm sewer pipe outlets. Given these considerations, we believe that another option similar to Option Number 4 presented in Vern Carlson's memo from February 2013 should be further analyzed. This option consists of the construction of a detention pond on County Ditch 23A immediately upstream of the TH 71/23 bypass with the installation of a pumping system to control the peak water elevation of the new pond. The pond pumping system will be sized to reduce the potential for storm sewers to backup and allow the existing pipe system to operate with improved capacity. This option may be viable because it reduces the recurrent localized flooding problems; it avoids the inevitable time-consuming and environmental justifications and agency permitting associated with lowering the NWL of Lake Wakanda; it improves the existing capacity of the City's storm sewer network; and, although costly, a single project can provide immediate results. Additionally, upon the construction of a pond and pumping system, the City could continue to upgrade the storm sewer system for 10-year rain events and could expect the elimination of surface flooding as the system is upgraded. The interim performance of the existing storm sewer system would also improve as the tailwater condition would be managed by the pond and pump.

If this option is pursued, the City will need to work closely with Kandiyohi County and their Grass Lake Improvement Project. Through the control of the tailwater condition with a pond and pump system, flows downstream of TH71/23 and County Ditch 23A would increase. Additional analysis would be required to establish the effect of the increased flows on County Ditch 23A and the possible increase in the peak water levels of Lake Wakanda and Big Kandiyohi Lake. Additional drainage easements may be needed to account for the increased flows in County Ditch 23A. Area wetland peak elevations will also likely be affected. We anticipate peak water level changes would be minimal and could be mitigated as minor increases in peak water levels not NWLs, and as such should not affect any structures along existing shorelines. A very preliminary cost estimate for the construction associated with the pond and pump improvements indicates a cost of $18 - $20 million. This cost does not include any land acquisition, easements, or additional analysis downstream of the potential pond location. Based on our very preliminary analysis, a pond of approximately 25 acres would be required to reduce the tailwater effect on the City's storm sewer system. Through the analysis of the County's Stormwater Model for the Lake Wakanda Watershed and the City's Stormwater Model, the improvements could be analyzed in greater detail to determine the most effective solution.

Since the tailwater condition is the primary contributing factor to the less than optimum performance of the City's storm sewer system, other improvements which provide an incremental improvement with respect to localized flooding will not eliminate the flooding concerns within the City's system. As long as Lake Wakanda water is permitted to backup into the City of Willmar's system, localized flooding will continue. It should be noted that the proposed pond and piping system will not completely eliminate

localized flooding for events such as the event that occurred on August 21, 2007, however, it will reduce the frequency of flooding concerns.

Since the costs associated with the construction of a stormwater pond and pump system are significant, additional investigation regarding the removal of structures from 10th Street and Kandiyohi Avenue may be appropriate. The ramifications associated with this approach extend beyond monetary and include zoning as well as roadway network concerns. Although structures may not be impacted if they are removed from the area, the roadways will continue to be flooded periodically.

The City will continue to implement its existing stormwater ordinance which requires that all new development run off rates and volumes be consistent with the pre-development condition rates and volumes. This means that new development will not contribute to additional flooding within the City and has not since the 1998 Surface Water Management Plan was implemented. Additionally, the City of Willmar will continue to make improvements to the storm sewer network as part of street reconstruction projects.

Questions have also been raised previously regarding MPCA stormwater credits. Stormwater credits are typically a result of a Total Maximum Daily Load (TMDL) study and the study's corresponding waste load allocation. Based on the information provided on the MPCA website, Lake Wakanda has been identified on the Section 303d impaired waters list for nutrients/eutrophication. After a water body has been identified on a 303d impaired waters list, the TMDL is completed and a waste load allocation is identified for that specific watershed. According to the MPCA website, the Lake Wakanda TMDL is expected to be completed in 2013. Improvements which contribute to the reduction of the specific parameters associated with the TMDL, in the case of Lake Wakanda – nutrients, may qualify for stormwater credits. The potential for stormwater credits can be further reviewed should the City of Willmar decide to pursue improvements to reduce the tailwater effect of County Ditch 23A and Lake Wakanda. Whether or not stormwater credits would be applicable, after the TMDL has been completed and a waste load allocation has been provided, Best Management Practices (BMPs) will be required to be implemented. Monitoring of the stormwater for nutrients is also likely. The construction of a pond and pumping system will assist the City in achieving the dictated standard. The completion of the TMDL and the corresponding waste load allocation will result in additional staff time and capital to comply with the requirements and will affect the City's MS4 Permit.

Based on our analysis of the City stormwater system and localized flooding concerns, incremental improvements can be made however, they will not eliminate the controlling tailwater condition. In addition, new stormwater treatment regulations are imminent. As a result of the costs associated with the improvements required to eliminate the tailwater condition and complying with the forthcoming waste load allocation, the City should consider establishing a funding source for these improvements. The most common source of funding for these types of improvements throughout the State of Minnesota is the creation of a stormwater utility. Stormwater utilities collect a nominal fee and are used to develop a cash balance to be used for stormwater improvements and maintenance. A stormwater utility is typically determined based on land use classifications whereby the more intensive uses pay a higher rate. If a dedicated funding source and methodology for determining fees associated with stormwater improvements and maintenance is not established, the burden will be borne by other funds such as the City's General Fund. Stormwater maintenance, monitoring, and improvements to comply with the City's MS4 Permit and looming MPCA TMDL is mandatory.

Costs associated with stormwater treatment and maintenance in Minnesota will continue to increase. When added to the costs for improving stormwater storage and conveyance, those costs become significant. It is important that a revenue stream be identified for the regulations and improvements. It is equally important that prior to investigating potential revenue streams that a clear goal be identified

moving forward, specifically the desired outcome of the periodic stormwater concerns. The goal will shape the direction of additional analysis.

If the City Council desires to continue to pursue improvements associated with localized periodic flooding concerns, we recommend that a goal be defined and additional analysis be conducted regarding the two potential options discussed above. In addition, the investigations of a revenue stream must be incorporated into the analysis.

If you have any questions on the above please call.

JAV/kg

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN WILLMAR, MN
CHASKA, MN RAMSEY, MN MAPLEWOOD, MN BAXTER, MN ROCHESTER, MN
AMES, IA SPENCER, IA DES MOINES, IA FARGO, ND

DES.	BY	DATE

CITY OF WILLMAR, MN
FLOOD REDUCTION ANALYSIS
10TH & KANDIYOHI POND ADDITION
100-YR EVENT FLOOD REDUCTION AREA

FIGURE 1

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN WILLMAR, MN
CHASKA, MN RAMSEY, MN MAPLEWOOD, MN BAXTER, MN ROCHESTER, MN
AMES, IA SPENCER, IA DES MOINES, IA FARGO, ND

CITY OF WILLMAR, MN
FLOOD REDUCTION ANALYSIS
10TH & KANDIYOHI POND ADDITION
50-YR EVENT FLOOD REDUCTION AREA

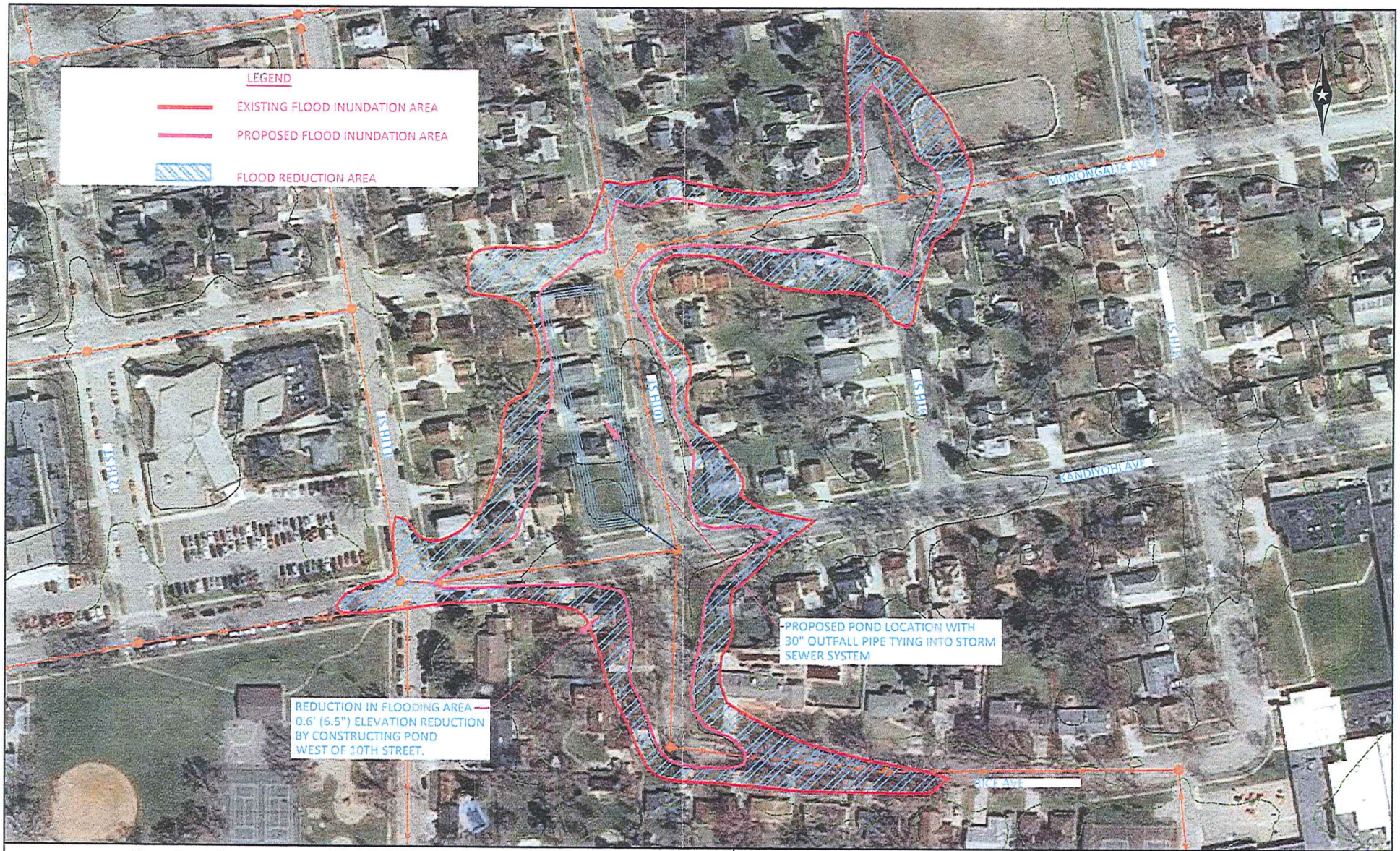
FIGURE 2

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN WILLMAR, MN
CHASKA, MN RAMSEY, MN MAPLEWOOD, MN BAXTER, MN ROCHESTER, MN
AMES, IA SPENCER, IA DES MOINES, IA FARGO, ND

BY	BY	DES

CITY OF WILLMAR, MN
FLOOD REDUCTION ANALYSIS
10TH & KANDIYOHI POND ADDITION
10-YR EVENT FLOOD REDUCTION AREA

FIGURE 3



BOLTON & MENK, INC.
Consulting Engineers & Surveyors
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AMES, IA SPENCER, IA DES MOINES, IA FARGO, ND

CITY OF WILLMAR, MN			
FLOOD REDUCTION ANALYSIS			FIGURE 4
10TH & KANDIYOHI POND ADDITION 100-YR EVENT FLOOD REDUCTION AREA			

CITY OF WILLMAR, MINNESOTA
REQUEST FOR COMMITTEE ACTION

Agenda Item Number: ____

Meeting Date: December 10, 2013

Attachments: ☒ Yes ☐ No

CITY COUNCIL ACTION

Date: December 16, 2013

☐ Approved ☐ Denied
☐ Amended ☐ Tabled
☐ Other

Originating Department: Engineering

Agenda Item: Western Interceptor Sewer – Change Order #2

Recommended Action:

Approve Change Order #2 to the Western Interceptor Sewer Contract.

Background/Summary:

This change order will revise the contract final completion date from December 1, 2013 to June 1, 2014. The project is substantially complete, but weather conditions have justified additional time to perform the remaining punch list work before final payment is made. The revised completion date will subject the project to a winter freeze/thaw cycle and ensure vegetative establishment.

Alternatives:

NA

Financial Considerations:

There will be no additional compensation to the contractor associated or resulting from Change Order #2.

Preparer: Joshua Halvorson, PE

Signature:

Comments:

CHANGE ORDER NO. 2

CHANGE ORDER DATE OF ISSUANCE: November 26, 2013

COMMENCEMENT OF CONTRACT TIME: November 12, 2012

OWNER: City of Willmar

CONTRACTOR: Geislinger & Sons, Inc.

PROJECT: Western Interceptor Sewer

CONTRACT NO.: 1110

ENGINEER: Donohue & Associates, Inc.

YOU ARE DIRECTED TO MAKE THE FOLLOWING CHANGES IN THE CONTRACT DOCUMENTS:

DESCRIPTION:

The agreement of the contract shall amend the contract time on readiness for final payment from December 01, 2013 to June 1, 2014.

REASON FOR CHANGE ORDER:

Due to weather conditions, the Contractor has requested additional time to perform the remaining punch list work before final payment. The revised completion date will subject the project to a freeze/thaw cycle and ensure vegetative establishment. There will be no effect of the contract price as a result of this Change Order.

ATTACHMENTS:

None.

CHANGE IN CONTRACT PRICE
Original Contract Price: $ 3,069,585.25
Net increase (decrease) from previous Change Orders: $ 238,251.25
Net increase (decrease) of this Change Order: $ 0.00
Revised Contract Price: $ 3,307,836.50

CHANGE IN CONTRACT TIMES
Original Contract Times: *(days or dates)* Substantial Completion: September 1, 2013 Ready for Final Payment: November 1, 2013
Net increase (decrease) from previous Change Orders: *(days)* Substantial Completion: 30 Ready for Final Payment: 30
Net increase (decrease) of this Change Order: *(days)* Substantial Completion: No Change Ready for Final Payment: 180
Revised Contract Times: *(days or dates)* Substantial Completion: October 1, 2013 Ready for Final Payment: June 1, 2014

CONTRACTOR agrees that this Change Order includes any and all costs associated with or resulting from the change ordered herein, including all impacts, delays, and accelerated costs. Other than the dollar amount and time allowance listed above, there shall be no other dollar or time compensation as a result of this Change Order.

THIS DOCUMENT SHALL BECOME AN AMENDMENT TO THE CONTRACT AND ALL STIPULATIONS AND COVENANTS OF THE CONTRACT SHALL APPLY HERETO.

RECOMMENDED:

By: _____
ENGINEER *(signature)*

Date: 11/26/13

APPROVED:

By: _____
OWNER *(signature)*

Date: _____

ACCEPTED:

By: _____
CONTRACTOR *(signature)*

Date: 11/26/13

CITY OF WILLMAR, MINNESOTA
REQUEST FOR COMMITTEE ACTION

Agenda Item Number: _____

Meeting Date: December 10, 2013

Attachments: ☒ Yes No

CITY COUNCIL ACTION

Date: December 16, 2013

☐ Approved ☐ Denied
☐ Amended ☐ Tabled
☐ Other

_____

_____

Originating Department: Public Works

Agenda Item: Accept Change Order to Project and Authorize Final Payment

Recommended Actions: Accept Change Order No. 1 for $550.00 (Resolution)

Accept project and authorize final payment to Greystone Construction in the amount of $9,200.00. (Resolution)

Background/Summary: The City Council entered into an agreement with Greystone Construction on September 20, 2013 for the construction of a Salt Storage Facility. During construction, the contractor encountered poor soils that required removal of six inches of soil to be replaced with Class 5 under the footings. The cost for the additional work, noted as Change Order No. 1, was $550.00 increasing the total contract amount to $184,000.00. The 2013 Capital Improvement Program includes $200,000 for the storage facility. With the inclusion of the costs for the installation of the bituminous pad by Duininck Inc. and the soils borings by Independent Testing Technologies, this brings the total project cost to $198,390.00. Staff is recommending approval of Change Order No. 1 and issuance of final payment to Greystone Construction.

Alternatives: N/A

Financial Considerations: Adding payment of the Change Order totaling $550.00 brings the final project amount to $198,390.00 which is covered by the CIP.

Preparer: Bruce D. Peterson, AICP, Acting Public Works Director

Signature:

Comments:

GREYSTONE
CONSTRUCTION

500 S. Marschall Road, Suite 300
Shakopee, MN 55379
Ph : (952)496-2227

Change Order

Contractor: Greystone Construction Company
500 S. Marschall Road, Suite 300
Shakopee, MN 55379

Change Order: 1
Date: 11/19/2013
Job: BG13-5500 Willmar Public Works Salt/Sand

Description: Change Order #1

The Contract is changed as follows:

CR01 Additional Labor to Place Class 5 Under Footings	$550.00

TOTAL:	**$550.00**
The original Contract Amount was	$183,450.00
Net change by previously authorized Change Orders	$0.00
The Contract Amount prior to this Change Order was	$183,450.00
The Contract will be increased by this Change Order in the amount of	$550.00
The new Contract Amount including this Change Order will be	$184,000.00

The date of Substantial Completion as of the date of this Change Order therefore is

ARCHITECT	CONTRACTOR	OWNER
	Greystone Construction Company	Scott Ledeboer (City of Willmar)
	500 S. Marschall Road, Suite 300	City Office Building, Box 755
	Shakopee, MN 55379	Willmar, MN 56201
Signed Date	Signed 11-19-13 Date	Signed Scott Ledeboer 11-25-13 Date

Please sign and return Original to Greystone Construction Company

b

CITY OF WILLMAR, MINNESOTA
REQUEST FOR COMMITTEE ACTION

Agenda Item Number: _____

Meeting Date: December 10, 2013

Attachments: ☒ Yes No

CITY COUNCIL ACTION

Date: December 16, 2013

☐ Approved ☐ Denied
☐ Amended ☐ Tabled
☐ Other

_____

_____

Originating Department: Engineering

Agenda Item: Accept Project and Authorize Final Payment

Recommended Action: Accept Project No. 1201-B and authorize final payment to Duininck Inc. in the amount of $44,289.64.

Background/Summary: The City Council entered into an agreement with Duininck Inc. on June 7, 2012 for the reconstruction of various streets as listed on the pay estimate. The final pay request with quantities is hereby submitted for consideration. The contract came in below the original bid amount and was constructed prior to the completion date. Staff is recommending final payment be made.

Alternatives: N/A

Financial Considerations: Payment of the final amount of $44,289.64 from within the project budget.

Preparer: Bruce D. Peterson, AICP, Acting Public Works Director

Signature:

Comments:

CONTRACTOR'S ESTIMATE NO. 8 (FINAL)
PROJECT NO. 1201-B

CONTRACTOR: DUININCK INC.
P.O. BOX 208
PRINSBURG, MN 56281

CONSTRUCTION OF: SANITARY SEWER, WATERMAIN, STORM SEWER, CONCRETE PAVING, CURB & GUTTER , SIDEWALK & BITUMINOUS PAVING

LOCATION: ROISE AVE. SW , 24TH AVE. SE , RUSSELL ST. NW , OAK LANE NW , BERNARD ST. SE , ELIZABETH AVE. SE , 22ND ST. SW , & 14TH ST. SW

DATE: OCTOBER 24 , 2013

HONORABLE MAYOR AND CITY COUNCIL
CITY OF WILLMAR, MINNESOTA

IN ACCORDANCE WITH THE CONTRACT WITH DUININCK INC.
I HEREWITH PRESENT THE FOLLOWING ESTIMATE

1201-B

ITEM NO.	STREET ITEMS:	UNIT	QTY	BID	TOTAL
2104.501	Remove Concrete Curb/Curb and Gutter	LF	6,109.6	$2.25	$13,746.60
2104.503	Remove 4" Sidewalk	SF	3,926.9	$0.60	$2,356.14
2104.505	Remove Concrete Driveway Pavement	SY	395.0	$7.05	$2,784.75
2104.505	Remove Concrete Pavement	SY	18.0	$7.05	$126.90
2104.509	Remove Manhole or Catchbasin	EA	5	$250.00	$1,250.00
2104.509	Remove Bituminous Pavement	SY	17,877.7	$1.15	$20,559.36
2104.505	Remove Concrete Cross Gutter	SY	38.9	$7.05	$274.25
2104.511	Saw Concrete Pavement	LF		$6.00	$0.00
2105.501	Common Excavation	CY	5,531	$7.90	$43,694.90
2105.525	Topsoil Borrow (CV)	CY	184.3	$17.15	$3,160.75
2105.533	Salvaged Aggregate Base (CV)	CY	787.5	$8.75	$6,890.63
2105.604	Geotextile Fabric Type V	SY	14,014.3	$1.20	$16,817.16
2123.503	Motor Grader	HR	10	$110.00	$1,100.00
2123.509	Dozer	HR	9	$119.50	$1,075.50
2123.510	10 cy Truck	HR	13	$79.85	$1,038.05
2123.514	3 cy Loader	HR	12.5	$132.00	$1,650.00
2123.610	Skidsteer Loader	HR	17.5	$83.85	$1,467.38
2211.501	Aggregate Base (Class 5)	TON	9,523.80	$10.10	$96,190.38
2301.604	Concrete Pavement 6" (P)	SY	1,080	$39.25	$42,390.00
2301.511	Structural Concrete (P)	CY	17	$275.00	$4,675.00
2401.541	Reinforcement Bars (Epoxy Coated) #13 (P)	LB	520	$1.50	$780.00
2401.541	Reinforcement Bars (Epoxy Coated) #22 (P)	LB	485	$1.50	$727.50
2357.502	Bituminous Material For Tack	GAL	1,123	$2.65	$2,975.95
2360.502	Type SP 12.5 Non Wear Course Mix (3,B)	TON	2,315.32	$60.05	$139,034.97
2360.501	Type SP 12.5 Wearing Course Mix (3,B)	TON	1,547.61	$68.90	$106,630.33
2360.501	Type SP 9.5 Wearing Course Mixture	TON	217.53	$71.85	$15,629.53

2503.511	12" RC Pipe Cl. 2	LF	348.00	$21.00	$7,308.00
2503.603	F& I 12" PVC Pipe	LF	111.50	$25.00	$2,787.50
2503.603	F& I 8" PVC Pipe	LF	83	$16.00	$1,328.00
2504.602	Adjust Valve Casting	EA	4	$186.50	$746.00
2506.501	Const. Drainage Structure Design 4020-72	LF	2.8	$800.00	$2,240.00
2506.501	Const. Drainage Structure Design F	LF	7.3	$250.00	$1,825.00
2506.501	Const. Drainage Structure Design H	LF	24.9	$125.00	$3,112.50
2506.516	Casting Assembly Manhole	EA	4	$450.00	$1,800.00
2506.516	Casting Assembly (Catchbasin) B624 Curb	EA	10	$675.00	$6,750.00
2506.522	Adjust Frame & Ring Casting	EA	7	$317.00	$2,219.00
2521.501	4" Concrete Walk	SF	6,239.2	$3.50	$21,837.20
2531.501	Concrete Curb and Gutter, Design B624	LF	6,174.0	$10.50	$64,827.00
2531.507	6" Concrete Driveway Pavement	SY	764.46	$41.00	$31,342.86
2531.603	Concrete Cross Gutter	SY	53.6	$61.00	$3,269.60
2531.618	Truncated Domes	SF	16	$40.00	$640.00
2502.541	5" PE Corr. Perf. Pipe Drain	LF	997.5	$8.00	$7,980.00
2502.541	5" PE Corr. Perf. Pipe Drain Service	EA	17	$8.00	$136.00
2573.502	Silt Fence, Type Machine Sliced	LF		$2.00	$0.00
2575.501	Seeding	AC	1.74	$500.00	$870.00
2575.502	Seed Mixture 270	LB	208.8	$2.20	$459.36
2575.523	Erosion Control Blanket Category 1	SY	8,406.1	$1.20	$10,087.32
2575.532	Fertilizer Analysis 20-10-20 Type 3	LB	609	$0.95	$578.55
	TOTAL STREET ITEMS CONCRETE ALTERNATE				**$699,169.92**
	ADD/DEDUCT FOR PHASED CONCRETE PAVING				
	GRAND TOTAL STREET ITEMS CONCRETE ALTERNATE				**$699,169.92**
ITEM NO.	**SANITARY ITEMS:**	**UNIT**	**QTY**	**BID**	**TOTAL**
2104.509	Remove Manhole	EA	8	$250.00	$2,000.00
2451.609	Granular Foundation and/or Bedding	TON		$10.00	$0.00
2451.609	Rock Stabilization	TON		$25.00	$0.00
2503.601	6" Neoprene Sleeve	EA	2	$25.00	$50.00
2503.601	4 x6" Neoprene Sleeve (Eccentric)	EA	5	$30.00	$150.00
2503.601	4" Neoprene Sleeve	EA	65	$22.00	$1,430.00
2503.602	8" X 11.25 P.V.C. Bend	EA	1	$65.00	$65.00
2503.602	8" X 6" P.V.C. Wye	EA	2	$130.00	$260.00
2503.602	8" X 4" P.V.C. Wye	EA	75	$130.00	$9,750.00
2503.603	8" PVC	LF	3,472.5	$15.50	$53,823.75
2503.603	6" PVC	LF	23.8	$25.00	$595.00
2503.603	4" PVC	LF	460.9	$13.00	$5,991.70
2504.602	6" PVC Bend	EA	2	$20.00	$40.00
2504.602	4" PVC Bend	EA	112	$13.00	$1,456.00
2506.602	F&I Manhole (8'-10')	EA	9	$2,250.00	$20,250.00
2506.602	F&I Manhole (10'-12')	EA	3	$2,500.00	$7,500.00
	TOTAL SANITARY ITEMS:				**$103,361.45**

ITEM NO.	WATER MAIN ITEMS:	UNIT	QTY	BID	TOTAL
2504.602	1" Curb Stop & Box	EA	26	$185.00	$4,810.00
2504.603	1" Copper Type K Pipe	LF	935.5	$16.00	$14,968.00
2504.602	1"x3/4" Coupling	EA	58	$30.00	$1,740.00
2504.602	Reconnect 2" Water Service	EA	1	$650.00	$650.00
2504.602	Reconnect Water Service	EA	70	$350.00	$24,500.00
2504.602	8" Gate Valve And Box	EA	8	$1,300.00	$10,400.00
2504.602	F& I 5" Hydrant	EA	6	$3,200.00	$19,200.00
2504.603	8" Water Main	LF	3,400.2	$19.00	$64,603.80
2504.603	6" Water Main	LF	69.5	$20.00	$1,390.00
2504.608	Water Main Fittings	LB	4,155	$6.50	$27,007.50
	TOTAL WATER MAIN ITEMS:				$169,269.30
	TOTAL PROJECT 1201-B (CONCRETE ALTERNATE)				$971,800.67
	(Price includes all applicable sales and use taxes)				
	LESS CREDIT FOR BITUMINOUS SALVAGE:				$34,500.00
	TOTAL WITH BITUMINOUS SALVAGE CREDIT APPLIED:				$937,300.67
	LESS BITUMINOUS DENSITY DISINCENTIVE (SEE ATTACHED)				$4,300.39
	GRAND TOTAL OF PROJECT:				$933,000.28

LESS PREVIOUS ESTIMATE #1	$56,602.15
LESS PREVIOUS ESTIMATE #2	$93,276.05
LESS PREVIOUS ESTIMATE #3	$199,720.72
LESS PREVIOUS ESTIMATE #4	$185,675.42
LESS PREVIOUS ESTIMATE #5	$229,573.21
LESS PREVIOUS ESTIMATE #6	$61,110.09
LESS PREVIOUS ESTIMATE #7	$62,753.00
AMOUNT DUE CONTRACTOR THIS ESTIMATE:	$44,289.64

DUININCK, INC.

APPROVED: _____
CONTRACTOR

APPROVED: _____
CITY ENGINEER

CONTRACT AMOUNT: $968,617.30
BUDGET NO.: 412.48451.0336

Project 1201-B Incentive /Disincentive Summary					
1201-B Incentive/Disincentive (2012 Work)					
	Incentive	Disincentive	Location	Core #'s	Date
			Russell St NW	5	8/24/2012
			Bernard St SE	6	9/17/2012
			Oak Lane NW	7	9/17/2012
		$1,649.99	Elizabeth Ave SE	8&9	10/24/2012
		$226.15	Roise Ave SW	10	10/29/2012
		$1,361.33	14th St SW	11	10/31/2012
			Roise Ave SW	12	11/20/2012
Total		$ 3,237.47			
Total Disincentive (2012)		($3,237.47)			
1201-B Incentive/Disincentive (2013 Work)					
	Incentive	Disincentive	Location		
	$ 524.81		Oak Lane NW	13	5/23/2013
		$2,589.95	Russell St NW	14	5/23/2013
			14th St SW	15	5/23/2013
	$ 415.05		Bernard St SE	16	5/23/2013
	$ 587.17		Elizabeth Ave SE	17	5/23/2013
Total	$ 1,527.03	$2,589.95			
Total Disincentive (2013)		$ (1,062.92)			
Total Project Incentive /Disincentive		($4,300.39)			