



STAFF REPORT

DATE: 6/19/2018

REGULAR

ITEM #: 18

MOTION

TO: City Council

FROM: Rob Weldon, Public Works Director

AGENDA ITEM: Eden Park Storm Sewer Repair

REVIEWED BY: Kristina Handt, City Administrator
Chad Isakson, Asst. City Engineer

BACKGROUND: The Eden Park Neighborhood of Lake Elmo is bordered by 20th St. N to the south, open space to the north, Lake Elmo Ave to the west, and Downs Lake to the east. On Lisbon Ave. within Eden Park, storm water runoff is collected and discharged to Downs Lake. Over time, the discharge/outfall pipe to Downs Lake has become blocked with debris resulting in pipe failure and subsequent washout of the pipe, manhole structure and surrounding landscape.

ISSUE BEFORE COUNCIL: Should the council approve repairs to the storm water discharge/outfall pipe and structure on Lisbon Ave. in the Eden Park Neighborhood?

PROPOSAL DETAILS/ANALYSIS: Engineering and Public Works have created a repair plan and quote package to address the storm sewer repair and restoration of existing landscape. Since the discharge point of the pipe is located a significant distance from the road, access will be gained through side yards of two adjoining properties over an existing easement. Staff has initiated property owner engagement and both property owners support the project.

The scope of the project will largely replace the existing storm water pipe and structure in kind. Some tree removal will be necessary to access the work area. After completion of pipe work the area will be graded and seeded, this will include disturbed yard areas of both adjoining properties.

FISCAL IMPACT: Not to exceed \$30,000 funded through CIP Storm Sewer System Improvements.

OPTIONS:

- Approve Eden Park Storm Sewer Repair
- Deny Eden Park Storm Sewer Repair

RECOMMENDATION:

“Motion to approve repairs of Eden Park Storm sewer for an amount not to exceed \$30,000 to C. W. Houle Inc.”

ATTACHMENTS:

- Repair Quote Package
- C.W. Houle Inc. - Quote
- Dahn Construction - Quote

**CITY OF LAKE ELMO, MINNESOTA
EDEN PARK STORM SEWER REPAIR
PROJECT NO. 2018.117**

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**CONSTRUCTION CONTRACT FOR THE
EDEN PARK STORM SEWER REPAIR**

This Contract, made this _____ day of _____, **2018**, by the City of Lake Elmo, Minnesota (hereinafter called the "Owner") and _____ (hereinafter called the "Contractor").

WITNESSETH that the parties hereto agree as follows:

(A) The Contractor shall provide all labor, services, materials, equipment and machinery, transportation, tools, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals, including profit and overhead, necessary for the performance, testing, start-up, and completion of the work as described herein:

DESCRIPTION OF WORK: Contractor shall replace a storm sewer pipe per the plan and subsequent specifications as attached to the quote package dated March, 2018.

Actual quantities will be measured and paid per the unit price provided in the quote form completed by the Contractor. No additional work in excess of the estimated quantities listed on the quote form will be paid unless approved by the City of Lake Elmo, prior to the work being completed.

All work shall be completed within the specified time frame and under the terms and conditions provided within this Construction Contract, and in accordance with the "General Conditions" shown in this contract. The contractor shall complete the proposed work by September 30, 2018.

The Owner will make payment for the whole contract upon acceptance by the Owner of all work required hereunder and in compliance with all the terms and conditions of this contract.

TOTAL PROJECT COST (INSERT FROM QUOTE FORM): _____

IN WITNESS WHEREOF, the parties hereto have executed this contract as of the date first above written.

(Contractor)

(City of Lake Elmo)

GENERAL CONDITIONS

- I. **CHANGES IN WORK.** - The Owner may at any time, make changes in the drawings and specifications, within the general scope thereof. If such changes cause an increase or decrease in the amount due under this contract or in the time required for its performance, an equitable adjustment will be made, and this contract will be modified accordingly by a "Contract Change Order". No charge for any extra work or material will be allowed unless the same has been ordered on such contract change order by the Owner and the price therefore stated in the order.
- II. **INSPECTION OF WORK.** - All materials and workmanship will be subject to inspection, examination, and test, by the Owner, who will have the right to reject defective material and workmanship or require its correction.
- III. **COMPLETION OF WORK.** - If the Contractor refuses or fails to complete the work within the time specified in paragraph B of this contract, or any extension thereof, the Owner may terminate the Contractor's rights to proceed. In such event the Owner may take over the work and prosecute the same to completion by contract or otherwise, and the Contractor will be liable for any excess cost occasioned the Owner thereby; and the Owner may take possession of and utilize in completing the work such materials and equipment as may be on the site of the work and necessary therefore. If the Owner does not terminate the right of the Contract to proceed, the Contractor will continue the work, in which event, actual damages for delay will be impossible to determine, and in lieu thereof, the Contractor may be required to pay to the Owner the sum of **\$100** as liquidated damages for each calendar day of delay, and the Contractor will be liable for the amount thereof: Provided, however, that the right of the Contractor to proceed will not be terminated because of delays in the completion of the completion of the work due to unforeseeable causes beyond the Contractor's control and without Contractor's fault or negligence.
- IV. **RELEASES.** - Prior to final payment, the Contractor will submit evidence that all payrolls, material bills, and other indebtedness connected with the work have been paid as required by the Owner.
- V. **OBLIGATION TO DISCHARGE LIENS.** - Acceptance by the Owner of the completed work performed by the Contractor and payment therefore by the Owner will not relieve the Contractor of obligation to the Owner (which obligation is hereby acknowledged) to discharge any and all liens for the benefit of subcontractors, laborers, material-person, or any other persons performing labor upon the work or furnishing material or machinery for the work covered by this contract, which have attached to or may subsequently attach to the property, or interest of the Owner.
- VI. **NOTICES AND APPROVAL IN WRITING.** - Any notice, consent, or other act to be given or done hereunder will be valid only if in writing.
- VII. **CLEANING UP.** - The Contractor shall keep the premises free from accumulation of waste material and rubbish and at the completion of the work shall remove from the premises all rubbish, implements and surplus materials.
- VIII. **WARRANTY.** - Contractor warrants and guarantees that title to all work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens. If within one year after completion of the work, any work is found to be defective, Contractor shall promptly, without cost to the Owner, correct such defective work as approved by the Owner.
- IX. **IDEMNIFICATION.** - Contractor shall defend and indemnify the city against claims brought or actions filed against the city or any of its officers, employees or agents for property damage, bodily injury or death to third persons, arising out of or relating to contractors work under the contract.
- X. **WORKERS' COMPENSATION INSURANCE.** - Contractor shall provide a certificate of insurance showing evidence of workers' compensation coverage or provide evidence of qualification as a self-insurer of workers' compensation.
- XI. **LIABILITY INSURANCE REQUIREMENTS.** - A certificate of insurance acceptable to the City shall be filed with the City prior to the commencement of the work. The certificate and the required insurance policies shall contain a provision that the coverage afforded under the contract will not be canceled or allowed to expire until at least 30 days prior written notice has been given to the city. Contractor shall maintain commercial general liability (CGL) insurance with a limit of not less than \$1,000,000 each occurrence and an aggregate limit of not less than \$2,000,000. The CGL insurance shall cover liability arising from premises, operations, independent contractors, subcontractors, products-completed operations, personal injury and advertising injury, and contractually-assumed liability. The city shall be named as an additional insured under the CGL. Contractor shall maintain automobile liability insurance, and if necessary, umbrella liability insurance with a limit of not less than \$1,000,000 each accident and an aggregate limit of not less than \$2,000,000. The insurance shall cover liability arising out of any auto, including owned, hired, and non-owned autos.

**QUOTE PROPOSAL FOR
EDEN PARK STORM SEWER REPAIR
PROJECT NO. 2018.117
CITY OF LAKE ELMO, MINNESOTA**

ITEM NO.	ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL AMOUNT
1	MOBILIZATION	LS	1		
2	CLEARING AND GRUBBING	SY	200		
3	REMOVE AND DISPOSE OF EXISTING STORM SEWER PIPE (ALL SIZES, INCLUDING FES)	LF	120		
4	REMOVE AND DISPOSE OF EXISTING STORM SEWER MANHOLE	EA	1		
5	REMOVE AND DISPOSE OF WOVEN WIRE FENCE	LF	40		
6	15" RC PIPE SEWER, DES 3006	LF	120		
7	CONST DRAINAGE STRUCTURE TYPE 406 (W/ CASTING) (INCLUDES DIAMETER SIZING AND CONNECT TO EXISTING 12-INCH RCP)	EA	1		
8	15" FES W/ TRASHGUARD	EA	1		
9	CLASS 3 RIP RAP	CY	4		
10	SEEDING	SY	200		
11	EROSION CONTROL BLANKET CATEGORY 3N	SY	200		
12	IMPORT BORROW MATERIAL TO FILL ERODED CHANNEL AND RE-ESTABLISH COVER OVER PIPE (LV)	CY	170		
13	IMPORT TOPSOIL (LV) (6-INCH DEPTH)	CY	65		
14	SODDING TYPE LAWN	SY	100		
TOTAL EDEN PARK STORM SEWER REPAIR PROJECT				\$	

The quantities herein are approximate only. Payment will be made for the actual quantities of work ordered and installed. We have examined the site of the work and are acquainted with all conditions affecting the construction of the work.

We understand and agree that the City may chose to award the project to the lowest responsible quote or in the best interest of the City. The City reserves the right to reject any or all quotes, to waive any informalities in any Quote, and to omit any part of the above work.

We agree that if this Proposal is accepted, we will execute a Contract in the form attached to this bid package. If we are awarded the Contract, we will complete the work by **September 30, 2018**.

Respectfully submitted,

Firm Name

Signature

Signed by

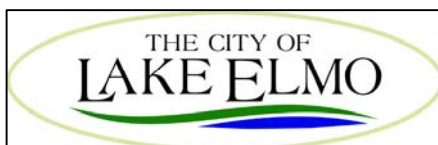
Title

Contact Phone
Number

Address

GENERAL NOTES:

- 1) REMOVE & DISPOSE OF 12-INCH STORM SEWER PIPE AND MANHOLE IN HATCHED AREA.
- 2) CLEAR AND GRUB AREA APPROVED BY CITY TO MAKE REPAIR.
- 3) FURNISH AND INSTALL NEW MANHOLE AND CONCRETE PIPE
- 4) IMPORT MATERIAL TO BACKFILL AREA ERODED TO RE-ESTABLISH COVER OVER PIPE
- 5) RESTORE DISTURBED AREA



EDEN PARK STORM SEWER
REPAIR

PROJECT NO. 2018.117
MARCH, 2018

FIGURE NO. 1
SCOPE OF
IMPROVEMENTS

CITY OF LAKE ELMO, MINNESOTA

1. ALL STORM SEWER AND ACCESSORIES MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF LAKE ELMO STANDARD SPECIFICATIONS AND DETAILS.
2. REINFORCED CONCRETE PIPE AND FITTINGS SHALL CONFORM WITH THE REQUIREMENTS OF MnDOT SPEC 3236 (REINFORCED CONCRETE PIPE) FOR THE TYPE, SIZE, AND STRENGTH CLASS SPECIFIED HEREIN.
3. PRECAST CONCRETE MANHOLE AND CATCH BASIN SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-477.
4. A 1'-0" TO 1'-4" MANHOLE SECTION SHALL BE INSTALLED UNDER THE CONE SECTION TO ALLOW FOR HEIGHT ADJUSTMENT WHENEVER POSSIBLE.
5. JOINTS OF MANHOLE RISER SECTIONS SHALL BE TONGUE AND GROOVE WITH RUBBER "O" RING JOINTS PROVIDED ON ALL STORM SEWER MANHOLES.
6. RIP-RAP SHALL BE HAND-PLACED OVER GEOTEXTILE FABRIC AND CONFORM TO MnDOT SPEC. 3601, CLASS III, OR AS SPECIFIED HEREIN.
7. THE GEOTEXTILE FABRIC USED UNDER RIP-RAP SHALL EXTEND 3 FT UNDER THE APRON.
8. FURNISH & INSTALL TRASH GUARDS ON ALL FLARED END SECTIONS.
9. ALL SILT SHALL BE CLEANED OUT FROM THE RIP-RAP AT THE END OF THE PROJECT.
10. STORM SEWER STRUCTURES WITHIN 10 FT OF WATERMAIN ARE TO HAVE WATER TIGHT CONNECTIONS PER MDH REQUIREMENTS.

STANDARD PLAN NOTES

STORM SEWER PLANS

MARCH 2017

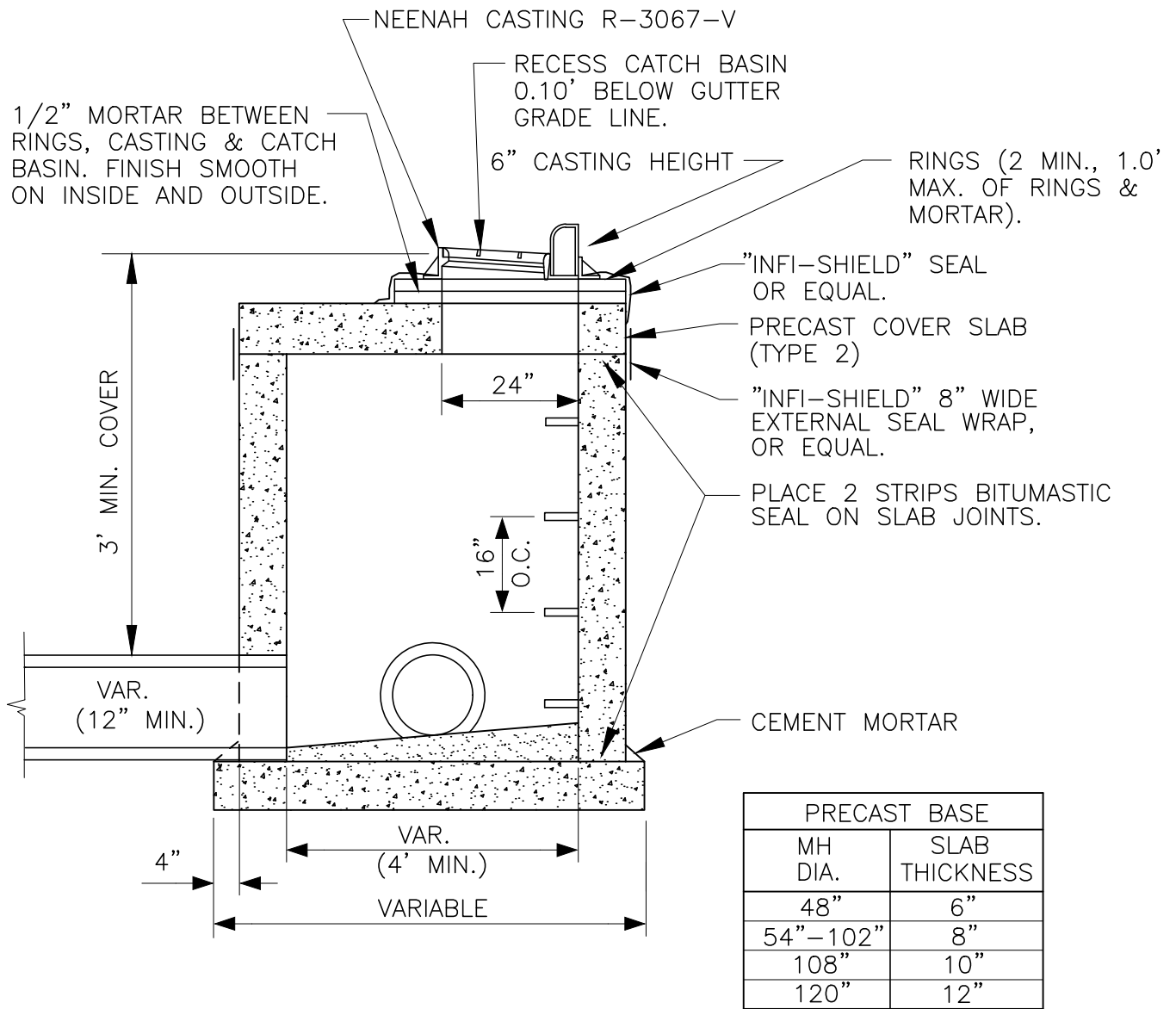


CITY OF LAKE ELMO

STANDARD DRAWING NO.

400A

LAKE ELMO



NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.

CAST IRON FRAME & GRATE CASTINGS PER SPECIFICATIONS.

MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM OR STEEL REINFORCED PLASTIC PER ASTM C478. LOCATION SHALL BE AS NOTED IN THE SPECIFICATIONS.

PRECAST REINFORCED CONCRETE BASE SLAB & COVER SLAB PER ASTM C478,

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478, OR 8" CONCRETE MANHOLE BLOCK WITH 1/2" MORTARED EXTERIOR.

FURNISH PRECAST CONCRETE MANHOLE SECTIONS WITH O-RING GASKETS & LUBRICANT EXCEPT AS OTHERWISE SPECIFIED.

FILL OPENING BETWEEN PIPE AND MANHOLE WALL WITH CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH.

CATCH BASIN/MANHOLE, TYPE 406

MARCH 2017



CITY OF LAKE ELMO

STANDARD DRAWING NO.

406

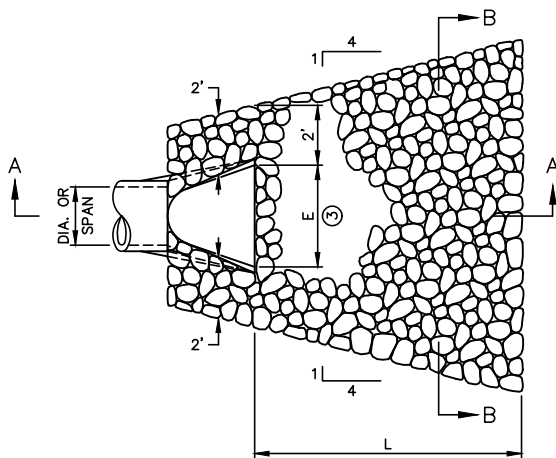
LAKE ELMO

TABLE OF QUANTITIES
RIPRAP AT RCP OUTLETS

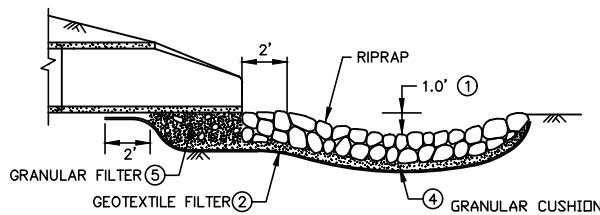
		CLASS II $d_{50} = 6"$			CLASS III $d_{50} = 9"$			CLASS IV $d_{50} = 12"$		
DIA. OF ROUND PIPE (IN.)	L (FT.)	GEO-TEXTILE FILTER (SQ.YD.)	GRANULAR FILTER UNDER APRON (CU.YD.)	12" DEPTH RIPRAP (CU.YD.)	GEO-TEXTILE FILTER (SQ.YD.)	GRANULAR FILTER UNDER APRON (CU.YD.)	18" DEPTH RIPRAP (CU.YD.)	GEO-TEXTILE FILTER (SQ.YD.)	GRANULAR FILTER UNDER APRON (CU.YD.)	24" DEPTH RIPRAP (CU.YD.)
12	8	16.9	0.2	3.0	19.6	0.3	4.4	22.6	0.3	5.9
15	8	18.0	0.2	3.2	20.8	0.3	4.8	23.9	0.4	6.4
18	10	22.4	0.3	4.3	25.6	0.4	6.4	29.0	0.5	8.5
21	10	24.1	0.4	4.7	27.4	0.6	7.1	30.9	0.7	9.4
24	12	29.7	0.5	6.2	33.4	0.8	9.2	37.3	1.0	12.3
27	12	31.4	0.6	6.6	35.2	0.9	9.9	39.2	1.2	13.2
30	14	37.4	0.8	8.2	41.6	1.1	12.3	46.0	1.5	16.4
36	16	45.9	1.1	10.6	50.5	1.6	15.8	55.4	2.1	21.1
42	18	52.8	1.2	12.5	57.8	1.7	18.7	63.0	2.3	24.9
48	20	61.1	1.5	14.8	66.5	2.2	22.2	72.0	2.9	29.6

TABLE OF QUANTITIES
RIPRAP AT RCP-A OUTLETS

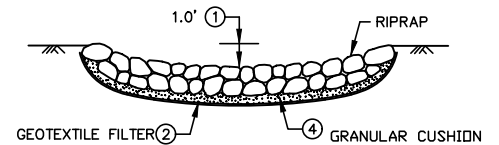
		CLASS II $d_{50} = 6"$			CLASS III $d_{50} = 9"$			CLASS IV $d_{50} = 12"$		
SPAN OF PIPE ARCH (IN.)	L (FT.)	GEO-TEXTILE FILTER (SQ.YD.)	GRANUL FILTER UNDER APRON (CU.YD.)	12" DEPTH RIPRAP (CU.YD.)	GEO-TEXTILE FILTER (SQ.YD.)	GRANUL FILTER UNDER APRON (CU.YD.)	18" DEPTH RIPRAP (CU.YD.)	GEO-TEXTILE FILTER (SQ.YD.)	GRANUL FILTER UNDER APRON (CU.YD.)	24" DEPTH RIPRAP (CU.YD.)
22	10	22.4	0.3	4.1	25.6	0.4	6.1	29.0	0.5	8.1
28	12	29.5	0.5	5.7	33.2	0.7	8.5	37.1	0.9	11.3
36	14	37.3	0.8	7.5	41.5	1.1	11.2	45.8	1.5	14.9
43	16	45.9	1.1	9.5	50.5	1.6	14.3	55.3	2.1	19.0
51	18	52.5	1.2	11.3	57.5	1.7	16.9	62.7	2.3	22.5
58	20	59.9	1.3	13.2	65.2	1.9	19.8	70.7	2.5	26.4



PLAN



SECTION A-A



SECTION B-B

NOTES:

REQUIREMENTS FOR GEOTEXTILE TYPE, RIPRAP SIZE AND THICKNESS WILL BE DESIGNATED IN THE PLANS.

PIPE SIZES LARGER THAN THOSE SHOWN REQUIRE A SPECIAL DESIGN.

- (1) FOR PIPES GREATER THAN OR EQUAL TO 30", USE 1.5'.
- (2) GEOTEXTILE FILTER, SPEC. 3733, SHALL COVER THE BOTTOM AND SIDES OF THE AREA EXCAVATED FOR THE RIPRAP, GRANULAR FILTER MATERIALS.
- (3) DIMENSION E IS GIVEN ON STANDARD PLATES 3100 AND 3110.
- (4) GRANULAR FILTER, SPEC. 3601, MAY BE USED AS A CUSHION LAYER. PLACE FILTER PER SPEC. 2511. THE CUSHION LAYER IS INCIDENTAL.
- (5) GRANULAR FILTER OR RIPRAP, SPEC. 3601, TO EXTEND UNDER ENTIRE OPEN PORTION OF PIPE APRON. DEPTH OF MATERIAL UNDER APRON SHALL MATCH RIPRAP DEPTH. WHEN USING RIPRAP INCREASE RIPRAP QUANTITY ACCORDINGLY AND PLACE A 3" LAYER OF 1.5" CRUSHED ROCK UNDER THE APRON TO AID IN GRADING FOR APRON PLACEMENT. CRUSHED ROCK IS INCIDENTAL.

MARCH 2017

RIPRAP AT RCP OUTLETS



CITY OF LAKE ELMO

STANDARD DRAWING NO.

411

LAKE ELMO

SECTION 3111 – CLEARING AND GRUBBING

SCOPE:

Under this Section of the Specifications shall be included the Clearing and Grubbing operation within the construction limits and areas for excavation and grading.

EXECUTION

1. **CLEARING.** The clearing operation shall consist of cutting and removing the trees, shrubs, bushes, windfalls, and other vegetation designated for removal and within the construction limits. Trees not designated for removal shall be protected and saved from damage. Tree removal shall be only allowed in accordance with the City approved Tree Preservation and Replacement Plans.
2. **GRUBBING.** The grubbing operation shall consist of removing and disposing of the stumps, roots, and other remains. Unless otherwise permitted, stumps shall be removed completely. If any stumps are permitted to remain, they shall be cut off not more than six inches above ground.
3. **TREE PRESERVATION.** Trees not designated for removal shall be protected and saved from damage during construction. All trees shall be protected by placing brightly colored high density polyethylene safety fence around or along the trees. The protective fencing must be placed to protect the critical root zone of the trees. Should any damage happen to occur to the trunks or branches of trees along the project, the damage shall be treated in accordance with nursery approved methods. Any broken branches shall be trimmed as per Engineer's direction. All bruise and cut wounds shall be treated with asphalt base tree paint. Removal of tree fence may result in a Stop Work Order.
4. **DISPOSAL OPERATIONS.** All timber, stumps, roots, and other debris or byproducts resulting from the clearing and grubbing operations shall be disposed of by the Contractor in accordance with the provisions of MnDOT Specification 2104.3C as applied to combustible materials, subject to the additional requirements and limitations set forth herein.

All Elmwood timber, stumps, roots, and debris, together with the bark and any byproducts with adhering bark of Elm tree origin, that are not disposed of within the right-of-way by burning or burying shall be disposed of in accordance with MnDOT Specification 2101.3D2. All timber, stumps, roots, and debris from oak wilt infested trees of the Red Oak family shall be disposed of in accordance with MnDOT Specification 2101.3D2.

If any wood is run through a chipping machine, the wood chips shall be recovered, removed, and disposed of properly. Materials shall not be left on-site unless otherwise approved by the Engineer.

END OF SECTION

SECTION 3123 – TRENCH EXCAVATION AND BACKFILLING

SCOPE:

This Section of the Specifications shall include the excavation, trenching, and backfill required for the underground utility systems.

EXECUTION:

1. CONSTRUCTION REQUIREMENTS.

- A. Trench Preparation. The sewer or watermain excavation and trench preparation shall be in accordance with Article 2600.3B, Excavation and Preparation of Trench in the City Engineer Association of Minnesota Standard Specifications. The Earth Foundation Bedding Method as shown in the Standard Detail Drawings shall be used for all pipe installation (excluding PVC sanitary sewer) where groundwater or unstable material does not create a problem. PVC sanitary sewer shall be installed in accordance with the Granular Material Bedding Method Standard Detail. Where unstable material prevents use of standard bedding methods, the Contractor shall install Granular Bedding or Trench Stabilization Rock as directed by the Engineer.
- B. Backfilling. Backfill of the utility trenches shall be in accordance with the following methods. Utilize Type "B" backfilling methods within any street or roadway and shoulders and also within all driveways. Utilize Type "D" backfilling methods in the ditches or open areas where roadways or proposed housepads will not be affected.

Mixtures of gravel meeting the Granular Material Gradation Classifications for those zones as outlined in the Standard Utility Specification shall be spread in three-inch layers and hand tamped or compacted by approved mechanical methods to a density of 95% of Standard Proctor Density by the Mn/DOT "Specified Density Method." Care shall be taken to deposit the material simultaneously on both sides of the pipe for the full width of the trench. At the top of the encasement zone, the backfill shall be well compacted by using mechanical tamping equipment in such manner so as not to damage the pipe joints or shift the pipe alignment. The Contractor may not use water to obtain compaction at the pipe zone.

All surplus and unusable or waste material shall be disposed of in conformance with Mn/DOT 2105. Backfilling shall not be done in freezing weather except by permission of the Engineer, and it shall not be made with frozen material nor where the material already in the trench is frozen. After backfilling has been accomplished, the Contractor shall be responsible for furnishing backfill or surfacing material as necessary and filling settlement depressions resulting from inadequate compaction or any other construction defect until the acceptance of the Work.

In areas receiving Type "B" backfilling, settlement after one year of one inch or more from finish grade shall be considered evidence of inadequate compaction and the area shall be restored at the Contractor's expense.

1. Type "B" Backfilling. Type "B" backfilling consists of placing suitable materials excavated from the trench in succeeding 12 inch thick layers from a point 12 inch from the top of the pipe. Each 12 inch thick layer shall be compacted before additional backfill material is placed in the excavation.

The top 12 inch of this backfill shall be compacted with the use of a sheepsfoot roller or approved similar compaction equipment. Only approved mechanical tamping or compacting will be allowed. Use of bucket compaction or wheel rolling will not be permitted.

The density of the backfilled material after compaction shall be 95% of Standard Proctor Density from the encasement zone to three feet below the surface and 100% of Standard Proctor Density in the upper three feet. One test for each 500 feet, or fraction thereof, of pipe installed is required. A minimum of one test daily when backfilling is required. The testing shall be repeated for each three-foot vertical lift. Additional testing may be required where deemed necessary in the opinion of the Engineer.

If the existing moisture content of the backfill material below three feet of subgrade is greater than 3 percentage points above the optimum moisture content, the soil shall be compacted to a minimum density of 3 pounds per cubic feet less than the standard Proctor curve at that moisture content. At no time shall the density be less than 90 percent of the standard Proctor density. This modification of the compaction specification shall at no time be used or applied to the upper 3 feet of the subgrade or the aggregate base. This modification of the compaction specification may not be used without prior written approval from the City Engineer. This modification of the compaction specification will not be allowed to be used if the contractor does not implement appropriate construction techniques to dry or keep dry all backfill material prior to the written request.

Suitable backfill material may contain any mixture of loam, clay, sand, or coarse gravel, but shall be free of stones, boulders, chunks, or lumps with any dimension greater than eight inches and shall contain no ashes, refuse, rubbish, roots, frozen material, or vegetation or organic material that would cause settlement. In any case, where rocks are present in the backfill material, adequate sand shall also be present and mixed in to fill all voids.

2. Type "D" Backfilling. The backfill material shall be free from boulders, rock, concrete and bituminous chunks, and clay lumps more than one-foot in any dimension and shall contain no stumps, rubbish, decayed vegetation, or frozen materials and other similar articles where presence in the backfill would cause excessive settlement. The backfill may be placed in three-foot layers and compacted by wheel type equipment weighing not less than six tons.

If the compaction of the backfill material is specifically authorized by the Engineer to be done by flooding the trench, the Contractor shall exercise due precautions so as not to float the pipe or permit water to enter the pipe, causing mud to be deposited in the pipe. The Contractor shall be wholly responsible for neglect of his workmen in carrying out the proper precautions.

If the existing moisture content of the backfill material below three feet of subgrade is greater than 3 percentage points above the optimum moisture content, the soil shall be compacted to a minimum density of 3 pounds per cubic feet less than the standard Proctor curve at that moisture content. At no time shall the density be less than 90 percent of the standard Proctor density. This modification of the compaction specification may not be used without prior written approval from the City Engineer. This modification of the compaction specification will not be allowed to be used if the contractor does not implement appropriate construction techniques to dry or keep dry all backfill material prior to the written request.

The density obtained in Type "D" trench backfilling shall be 95% of Standard Proctor Density above the pipe encasement zone. One test for each 500 feet, or fraction thereof, of pipe installed is required. The testing shall be repeated for each three-foot vertical lift.

- C. Trench Limits. When the trench excavation limits exceed the right-of-way/easement boundaries and/or there are obstructions (trees, private/public utilities, etc.) that need to be left in place undamaged, the contractor will be responsible for adjusting the trench limits accordingly to protect these items shown on the plans, or as directed by the Engineer.
- D. TRENCH SAFETY. The Contractor shall be responsible for trench/stockpiling safety at all times during the construction process. Further, the Contractor shall backfill all trench excavations at the end of the work day and for weekends. If the Engineer concurs that a trench location may be left unbackfilled overnight or on weekends, then the Contractor shall be responsible for securing the trench area in accordance with OSHA regulations and guidelines (e.g., safety fencing, etc.).

END OF SECTION

SECTION 3124 – EXCAVATION AND EMBANKMENT

SCOPE:

This Work shall consist of constructing roadway excavations and embankments as shown on the Plans, and in accordance with MnDOT Specification 2105.

PRODUCTS:

1. MATERIALS. Granular borrow material shall be in accordance with the requirements of MnDOT Specification 2105.

EXECUTION:

1. EXCAVATION shall conform to the planned grades and cross sections. All topsoil and organic material shall be removed below the typical section.
2. EMBANKMENTS shall be constructed from approved excess excavation material. Compaction shall be as follows:
 - A. 100% Standard Proctor Density in the upper three feet of the planned subgrade. One test for each 500 feet, or fraction thereof, of roadway prepared is required with a minimum of one test each work day.
 - B. 95% Standard Proctor Density below three feet from the planned subgrade. One test for each 500 feet, or fraction thereof, of roadway prepared is required with a minimum of one test each work day. The testing shall be repeated for each three-foot vertical lift.
3. TOPSOIL shall be salvaged and placed to a six-inch minimum depth on all disturbed areas outside the finished roadway.

END OF SECTION

SECTION 3292 – TURF ESTABLISHMENT AND RESTORATION

SCOPE:

Under this Section of the Specifications shall be included the general clean-up and restoration of areas disturbed by construction, and the temporary and permanent turf establishment measures for seeding and sodding.

GENERAL REQUIREMENTS:

1. RESTORATION OF PAVED SURFACES If the Project requires cutting through a sidewalk, trail, street or private property, the Contractor will be required to restore these areas within five working days after completing the work or installation.

PRODUCTS:

1. FERTILIZER Commercial fertilizer, analysis 23-0-30, MnDOT Specification 3881, shall be spread at the rate of 350 pounds per acre.
2. TOPSOIL. The topsoil shall meet MnDOT Specification 3877, for the applicable area to be restored. Unless otherwise called for on the Plans, the top soil shall meet MnDOT Specification 3877-A Common Topsoil Borrow with at least 6.0% organic matter.
3. SEED The grass seed mixtures shall meet MnDOT Specification 3876, for the applicable area to be restored. Unless otherwise called for on the Plans, the grass seed shall meet MnDOT Specification 3876, Seed Mixture 25-141 applied at a rate of 70 pounds per acre. In high maintained areas such as residential and commercial lawns, Seed Mixture 25-151 shall be applied at a rate of 120 pounds per acre. The seed mixture for temporary erosion control shall comply with MnDOT Specification 3876, Seed Mixture series 21-112 as applicable and only with prior approval by the Engineer.
4. SOD All sod shall meet the requirements of MnDOT Specification 3878 for the applicable area to be restored. Unless otherwise called for on the Plans, the sod shall meet MnDOT Specification 3878.2A Lawn Sod, a premium quality sod for use in high maintained areas, such as lawns. Native Sod, MnDOT Specification 3878.2E, an average to high density sod with low maintenance requirements, may be used in ditch bottoms and at pipe inlets or outlets.
5. WOOD FIBER BLANKET The erosion control blanket shall be MnDOT 3885 Category 3, Type 2S (netting on both sides), and shall be made of wood fiber material. Straw fiber material will not be allowed.
6. MULCH Type 3 Mulch meeting the requirements of MnDOT Specification 3882.
7. HYDRAULIC EROSION CONTROL PRODUCTS. Type Bonded Fiber Matrix. (BFM) meeting the requirements of MnDOT Specification 3884, dyed green.

EXECUTION:

1. TURF ESTABLISHMENT The requirements and operations for tilling, fertilizing, seeding, sodding and mulching shall be in accordance with MnDOT Specification 2575. Seed or sod restoration shall be applied as designated on the Plans.

Boulevards shall be graded upon completion of curb work and graded to allow for placement of six inches of topsoil and two rows of sod. Beyond the sod the Contractor shall place heavy duty silt fence along each lot line and seed the remaining boulevard and disturbed areas. When a platted lot is not adjacent to the boulevard the entire boulevard shall be restored with quality lawn sod. Seeding shall be completed beyond designated sod limits.

2. SOIL PREPARATION Finished grades shall slope uniformly between elevations shown and shall meet flush with walks and pavement. Allow for the thickness of sod, as applicable. The finished Work shall be true, smooth and sightly.

Topsoil shall be spread smooth but shall not be compacted. Topsoil shall be raked free of lumps and rocks to provide a smooth, mowable surface. Sticks, stones, and trash over one inch, shall be removed. The surface shall be finished to the designated slope and contour. The topsoil shall be loosened and thoroughly pulverized by discing to a depth of six inches.

Fertilizer shall be spread and worked into the top six inches of soil during preparation. Apply fertilizer in two passes at approximately right angles to each other, each pass placing approximately half of the fertilizer.

3. SEEDING Seeding shall be done between April 1 and June 1 or between July 20 and September 20, except as otherwise may be allowed by the Engineer. Reseeding will be required as may be necessary to obtain a satisfactory stand of grass. Sow seed (for lawn areas) uniformly at the seed mixture specified application rate, adjusting for the certified purity and germination.

Seeds are to be sown by hand operated or machine operated mechanical seeder, which shall continuously mix the seeds to prevent segregation. Seeding shall be performed in two passes at approximately right angles, each pass placing approximately half of the seed. Immediately after the seed has been sown, the entire area shall be raked lightly and rolled lightly to pack the soil firmly around the seed.

4. WOOD FIBER BLANKET Erosion control fabric shall be placed on all slopes at 3:1 or greater, where indicated on the plans, and in ditches. Erosion control fabric shall be placed over newly seeded areas within 24 hours of seeding. Install in accordance with the manufacturer's instructions, including spacing anchors.

5. MULCH Seeded areas shall be mulched and disc-anchored with the specified mulch type, except where plastic netting or hydraulic erosion control products for stabilization are specified. Mulch shall be spread by mechanical means to provide a uniform distribution at the target application rate. When poor mulch distribution occurs The Contractor will be required to remulch areas where coverage is too light and remove excess where coverage is too heavy, as determined by the Engineer.

6. SODDING Sod operations shall not be started until all necessary equipment, supplies, and labor forces are available to sufficiently place the sod without avoidable delays. Immediately before the sod is laid, the prepared bed shall be sprinkled until all of the loose material is moist. Sodding shall be done only when soil and weather conditions are favorable. The sod strips shall be carefully placed by hand beginning at the toes of the slopes and progressing upwards, the length of the strips as nearly as practical at right angles to the direction of the flow of the surface water. All joints shall be tightly butted and the end joints shall be staggered at least 12 inches. After sod has been placed, the sod shall be pressed into the underlying soil by rolling or tamping. The sod shall be pegged with suitable wood stakes as necessary to keep it in place.

7. MAINTENANCE The Contractor shall water and maintain seeded and sodded areas on a timely basis as the need arises and without the Engineer having to so order. Seed, Mulch, Erosion Control Fabric and Sod shall be maintained until final acceptance of the improvements by the City. The Contractor shall promptly replace all sod that dries out, or is damaged, displaced, or weakened, or is heavily infected by weed growth. Seeded areas shall be reseeded as necessary to establish a permanent vegetative cover acceptable to the City.

END OF SECTION

SECTION 3340 – STORM DRAINAGE UTILITIES

SCOPE:

Under this Section shall be included the complete construction of a storm sewer extension within the street right-of-way or easement. The sewer shall be laid as shown on the Plans, including manholes and all necessary excavation and backfilling, as required.

GENERAL REQUIREMENTS:

1. **MATERIALS TO BE FURNISHED.** All material required for the construction shall be furnished by the Contractor and all materials shall be new, of first grade, and shall be products of reputable manufacturers known to the trade.

Prior to ordering precast manhole or catch basin components, the Contractor shall submit for review manhole and catch basin detail books in order that verification can be made that the materials to be supplied are in conformance with the design concept of the Project and in compliance with the information given in the Contract Documents.

PRODUCTS:

1. **STORM SEWER PIPE.** Reinforced Concrete Pipe shall conform to ASTM Specification C76 with Bureau of Reclamation R-4 joint.
2. **CORRUGATED METAL PIPE CULVERT** shall have 2-2/3 inch by 1/2 inch corrugations and shall conform to the applicable requirements of AASHTO M36, as shown on the Mn/DOT Standard Plate No. 3040F.

Coupling bands shall be the same base metal and coating as the pipe. Bands shall have the same thickness as the pipe. Bands shall be 10-1/2 inch minimum width.

Corrugated metal aprons shall conform to the requirements shown on Mn/DOT Standard Plate No. 3123J.

3. **MANHOLE AND CATCH BASIN STRUCTURES.** The Contractor shall use precast sections whenever possible.

If the Contractor must construct the manholes and catch basins using segmental block, the following shall apply:

Block work shall be laid up in good workmanlike manner to the dimensions shown. All block shall be wetted thoroughly with water just before laying, and headers and vertical joints shall be broken from course to course. Each horizontal course shall be completed before starting the next course above. Horizontal joints shall be not more than 1/2 inch thick and vertical joints on inside face not more than 3/8 inch thick. All joints shall be completely filled with mortar. All joints on inside shall be plastered smooth with mortar, thickness to be not less than 1/4 inch at any point.

All Work shall be covered when not being worked upon. Masonry shall be kept at a temperature above freezing until mortar has attained sufficient strength and set so that it will not be damaged by freezing. In freezing weather, all materials shall be heated before laying and shall be protected as necessary to prevent damage after laying. No Work shall be done in unsuitable weather, unless suitable protection is provided.

The blocks shall be radial blocks and shall conform to the radius of the manhole as detailed. The blocks shall have a vertical groove with one inch radius on both ends. The batter blocks for the tapered tops shall be a minimum of five inches in thickness and the blocks used in the four-foot diameter manhole section shall be a minimum of six inches in thickness.

The manhole depth to which the six inch thickness blocks may be used shall not exceed 12 feet. Below this point, the block thickness shall be increased to 10 inch for manholes up to 20 feet in depth, and for manholes deeper than 20 feet, the block thickness shall be not less than 12 inches. A flat slab top may be required instead of a tapered top. Precast adjusting rings shall be used to form the upper eight inches of the structure.

4. MANHOLE/CATCH BASIN STEPS. Manholes and catch basins shall be furnished with aluminum steps, polypropylene plastic reinforced, or approved equal, and shall be in accordance with Mn/DOT Standard Plate No. 4180. Steps shall be located over the downstream pipe.
5. MANHOLE CASTINGS. Manhole casting shall be Neenah Catalog No. R-1642 Type "B" solid cover with concealed pickholes, or equal. Casting covers shall have no positioning lugs.
6. CATCH BASIN CASTINGS. Catch basin casting and grate shall be as follows:

Surmountable Concrete Curb and Gutter - Neenah Catalog No. R-3501-TB

B618 Concrete Curb and Gutter - Neenah Catalog No. R-3067-V

Ditch or Yard Area Inlet - Neenah Catalog No. R-4342

EXECUTION:

1. ALIGNMENT AND GRADE. All pipe shall be laid and maintained to the required lines and grades, with manholes, catch basins, and special structures at the required locations. No deviation from line or grade shall be made without the written consent of the Engineer.
2. PIPELAYING. The alignment of pipe between manholes shall be such as to permit the entire inside circumference being seen from any manhole to the next adjacent manhole. Piping that does not conform to line and grade shall be relaid at the Contractor's expense.

Laser Beam Grade Control: When the Contractor uses laser beam control for grade and alignment, the Contractor shall verify grades using provided grade stakes. Any discrepancies found between the laser beam elevation and grade stake elevation shall be immediately brought to the Engineer's attention before continuing pipe installation. If the Contractor fails to follow the steps, the Contractor shall be responsible for any removal and reinstallation of pipe as necessary to conform to the line and grade shown on the plans.

Pipe shall be laid against the grade of the sewer. The spigot end of the pipe shall be inserted full depth into the bell, and when completed, each line of pipe shall have a uniform and smooth invert.

Joints for all sewers shall be made watertight. As soon as the joint is made, the bell depression shall be filled with granular bedding material which shall be pressured under and around the joint, by hand, in such a way as to protect it from sagging or being disturbed.

Joint ties shall be installed on the last three joints at all end section locations.

The interior of all pipe shall, as the work progresses, be cleaned of all dirt and superfluous materials. The exposed end of the pipe shall be protected with suitable temporary covers. Pipe laid in place shall be protected from injury and disturbance.

3. MANHOLE AND CATCH BASIN INSTALLATION. Manholes and catch basins shall be constructed as detailed and set plumb with a maximum deviation of ± 0.1 -foot from vertical.

Catch basins and manholes shall be constructed on a minimum 6 inch thickness of granular bedding material. If additional stabilization is required, a minimum 6 inch thickness of 1 1/2" crushed rock or washed rock shall be used as directed by the Engineer.

The adjusting rings and the castings shall be set in a bed of mortar, and the exterior of the adjusting rings shall be given a 1/2-inch mortar covering. The joints of the adjusting rings shall be completely filled with mortar and the interior joints struck smooth. Infi-Shield external watertight gasket shall be installed on all manholes and catch basins.

All rows of steps shall be set vertical through the height of the manholes.

Precast manholes over seven feet deep shall have a 1'-0" or 1'-4" manhole section installed under the cone section to allow for height adjustment.

4. MANHOLES AND CATCH BASINS. The Contractor shall be responsible for keeping all new and existing manholes and catch basins clean and free of dirt at all times. Storm sewer structures within 10 feet of watermain are to have water tight connections per Minnesota Department of Health requirements.

The Contractor shall adjust all castings located within the street section including existing castings. Adjustments shall be as follows:

Non-Inlet Castings: .04 feet below finished grade

Inlet Castings: .10 feet below gutter line grade

Castings located in the bituminous section shall be coated with a material which allows removal of bituminous material applied to the casting lid. Castings shall have a wooden cut-out or other approved material placed over the structure during the paving operation. The cut-out shall allow pavement to be placed around the structure causing a uniform lip after rolling conforming to the information given above. The top of the castings shall be adjusted to the finished elevation just prior to paving.

Upon completion of compacting bituminous pavement, all manhole and valve box covers shall be removed and surfaces, lift holes, and casting lips cleaned of all bituminous materials.

Interim adjustment of castings to the surface will be required to allow for access during lengthy periods of work suspension. Cuts in the bituminous pavement resulting from interim adjustments shall be restored with a minimum compacted thickness of three inches of bituminous mixture. In conjunction with final adjustments, patches from interim adjustments shall be removed in their entirety and the roadway structure restored to the plan thicknesses.

Infi-shield external seals shall be installed on the outside surface adjustment ring area covering all rings. Installation shall be in accordance with manufacturer recommendations. Primer shall be applied to areas where attaching non-hardening butyl mastic to casting flanges and cone section. Inspection tab shall be attached to manhole lid before backfilling.

5. RIP RAP. Rip Rap shall be hand placed and conform to MnDOT 3601, Class III. The Contractor shall hand place Class III rip rap at the locations as shown on the Plans and as directed by the Engineer.
6. GEOTEXTILE FILTER. Contractor shall place MnDOT Type IV (Specification 3733) geotextile filter under all rip rap and extend three feet under the culvert apron.
7. TRASHGUARDS. Trashguards shall be installed on all flared end sections.

END OF SECTION

C.W. Houle, Inc.

1300 WEST COUNTY ROAD I
SHOREVIEW, MN 55126

QUOTE PROPOSAL FOR
EDEN PARK STORM SEWER REPAIR
PROJECT NO. 2018.117
CITY OF LAKE ELMO, MINNESOTA

ITEM NO.	ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL AMOUNT
1	MOBILIZATION	LS	1	1,200 ⁻	1,200 ⁻
2	CLEARING AND GRUBBING	SY	200	13 ⁻	2,600 ⁻
3	REMOVE AND DISPOSE OF EXISTING STORM SEWER PIPE (ALL SIZES, INCLUDING FES)	LF	120	18 ⁻	2,160 ⁻
4	REMOVE AND DISPOSE OF EXISTING STORM SEWER MANHOLE	EA	1	630 ⁻	630 ⁻
5	REMOVE AND DISPOSE OF WOVEN WIRE FENCE	LF	40	6 ⁻	240 ⁻
6	15" RC PIPE SEWER, DES 3006	LF	120	61 ⁻	7,320 ⁻
7	CONST DRAINAGE STRUCTURE TYPE 406 (W/ CASTING) (INCLUDES DIAMETER SIZING AND CONNECT TO EXISTING 12-INCH RCP)	EA	1	4,240 ⁻	4,240 ⁻
8	15" FES W/ TRASHGUARD	EA	1	1,620 ⁻	1,620 ⁻
9	CLASS 3 RIP RAP	CY	4	108 ⁻	432 ⁻
10	SEEDING	SY	200	70	140 ⁻
11	EROSION CONTROL BLANKET CATEGORY 3N	SY	200	4 ⁻	800 ⁻
12	IMPORT BORROW MATERIAL TO FILL ERODED CHANNEL AND RE-ESTABLISH COVER OVER PIPE (LV)	CY	170	18 ⁻	3,060 ⁻
13	IMPORT TOPSOIL (LV) (6-INCH DEPTH)	CY	65	28 ⁻	1,820 ⁻
14	SODDING TYPE LAWN	SY	100	9 ⁻	900 ⁻
TOTAL EDEN PARK STORM SEWER REPAIR PROJECT				\$	27,162 ⁰⁰

The quantities herein are approximate only. Payment will be made for the actual quantities of work ordered and installed. We have examined the site of the work and are acquainted with all conditions affecting the construction of the work.

We understand and agree that the City may chose to award the project to the lowest responsible quote or in the best interest of the City. The City reserves the right to reject any or all quotes, to waive any informalities in any Quote, and to omit any part of the above work.

We agree that if this Proposal is accepted, we will execute a Contract in the form attached to this bid package. If we are awarded the Contract, we will complete the work by **June 30, 2018**.

Respectfully submitted,

Firm Name CW Howe Inc

Signature Bryan W Howe

Signed by Bryan W Howe

Title President

Contact Phone 651 484-6077
Number bhowe@cwhowe.com

Address 1300 W Co Rd I
Shoreview, MN 55126

**QUOTE PROPOSAL FOR
EDEN PARK STORM SEWER REPAIR
PROJECT NO. 2018.117
CITY OF LAKE ELMO, MINNESOTA**

ITEM NO.	ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL AMOUNT
1	MOBILIZATION	LS	1	\$14,800	\$14,800.00
2	CLEARING AND GRUBBING	SY	200	\$24.00	\$4,800.00
3	REMOVE AND DISPOSE OF EXISTING STORM SEWER PIPE (ALL SIZES, INCLUDING FES)	LF	120	\$13.00	\$1,560.00
4	REMOVE AND DISPOSE OF EXISTING STORM SEWER MANHOLE	EA	1	\$500.00	\$500.00
5	REMOVE AND DISPOSE OF WOVEN WIRE FENCE	LF	40	\$1.00	\$40.00
6	15" RC PIPE SEWER, DES 3006	LF	120	\$87.50	\$10,500.00
7	CONST DRAINAGE STRUCTURE TYPE 406 (W/ CASTING) (INCLUDES DIAMETER SIZING AND CONNECT TO EXISTING 12-INCH RCP)	EA	1	\$2,800.00	\$2,800.00
8	15" FES W/ TRASHGUARD	EA	1	\$750.00	\$750.00
9	CLASS 3 RIP RAP	CY	4	\$100.00	\$400.00
10	SEEDING	SY	200	\$1.50	\$300.00
11	EROSION CONTROL BLANKET CATEGORY 3N	SY	200	\$2.25	\$450.00
12	IMPORT BORROW MATERIAL TO FILL ERODED CHANNEL AND RE-ESTABLISH COVER OVER PIPE (LV)	CY	170	\$15.00	\$2,550.00
13	IMPORT TOPSOIL (LV) (6-INCH DEPTH)	CY	65	\$30.00	\$1,950.00
14	SODDING TYPE LAWN	SY	100	\$6.00	\$600.00
TOTAL EDEN PARK STORM SEWER REPAIR PROJECT				\$ 42,000.00	

The quantities herein are approximate only. Payment will be made for the actual quantities of work ordered and installed. We have examined the site of the work and are acquainted with all conditions affecting the construction of the work.

We understand and agree that the City may chose to award the project to the lowest responsible quote or in the best interest of the City. The City reserves the right to reject any or all quotes, to waive any informalities in any Quote, and to omit any part of the above work.

We agree that if this Proposal is accepted, we will execute a Contract in the form attached to this bid package. If we are awarded the Contract, we will complete the work by **September 30, 2018**.

Respectfully submitted,

Firm Name

DAHN CONSTRUCTION INC, LLC

Signature

BMA

Signed by

PM/EST BRENT M. JOHANSON

Title

Contact Phone
Number

651-302-4256

Address

13135 DOYLE PATH
ROSEMOUNT MN 55068