



CITY of NOVI CITY COUNCIL

Agenda Item E
November 10, 2014

SUBJECT: Approval of an amendment to the engineering services agreement with URS Corporation for additional design engineering services for the Christina Lane Culvert Rehabilitation Project in the amount of \$14,820.

SUBMITTING DEPARTMENT: Department of Public Services, Engineering Division ^{R4} ^{BTC}

CITY MANAGER APPROVAL: 

EXPENDITURE REQUIRED	\$ 14,820
AMOUNT BUDGETED	\$ 22,000
LINE ITEM NUMBER	210-211.00-805.136 (Drain Fund)

BACKGROUND INFORMATION:

The Department of Public Services has been monitoring a section of Christina Lane where it crosses Munro Creek and has required periodic maintenance to repair small sink holes adjacent to the sidewalks along the road. These issues are attributed to the deterioration of the four (4) parallel 49"x33" corrugated metal culverts under Christina Lane, where the bottoms of the culverts have begun to fail due to corrosion, although the pipes are generally structurally sound. Holes are forming in the culverts allowing water to flow beneath and in between the culverts, causing erosion and resulting in the sinkholes observed at the surface; therefore this issue needs to be addressed before more damage occurs.

In 2011, URS Corporation performed an analysis of the culverts and the various methods of rehabilitation that should be considered, including cured-in-place pipe (CIPP), spray-on lining, removal and replacement, and a couple others. The spray-on lining was selected due to its low cost and ease of installation. In June 2014, the City solicited and received bids for the spray-on lining option. However, the prices were considerably higher than expected, so the bids were rejected and the project was put on hold to allow for further evaluation of the alternatives.

The attached September 30, 2014 URS report outlines the re-evaluation of CIPP and removal and replacement option, but excluded spray-on lining due to its cost. The two options have similar construction costs, but since CIPP would only address the existing corrosion within the culvert, the report recommends remove and replacement which would fully restore the roadbed and surface improvements, such as the pavement and the railing to new condition with minimal future maintenance costs.

An amendment to the engineering services agreement is required for URS to complete the design of the project as a culvert replacement rather than the sprayed-on lining method that was previously designed and bid. URS' engineering fees are based on the fixed fee schedule established in the Agreement for Professional Engineering Services for Public Projects. The design fees for this project will be \$14,820 (9.75% of the estimated construction cost of \$152,000). The construction phase engineering fees will be awarded at the time of construction award and will be based on the construction contractor's bid price and the fee percentage established in the Agreement for Professional Engineering Services for Public Projects. A draft of the Supplemental Professional Engineering Services Agreement for this project is enclosed and includes the project scope and schedule.

The project will be designed over the fall and winter months. Construction of this project is expected to commence in summer 2015.

RECOMMENDED ACTION: Approval of an amendment to the engineering services agreement with URS Corporation for additional design engineering services for the Christina Lane Culvert Rehabilitation Project in the amount of \$14,820.

	1	2	Y	N
Mayor Gatt				
Mayor Pro Tem Staudt				
Council Member Casey				

	1	2	Y	N
Council Member Markham				
Council Member Mutch				
Council Member Wrobel				

CHRISTINA LANE CULVERT REPLACEMENT

Location Map



Map Author: Croy
 Date: 10/31/14
 Project: Christina Culvert Replacement
 Version #: v3.0

MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.



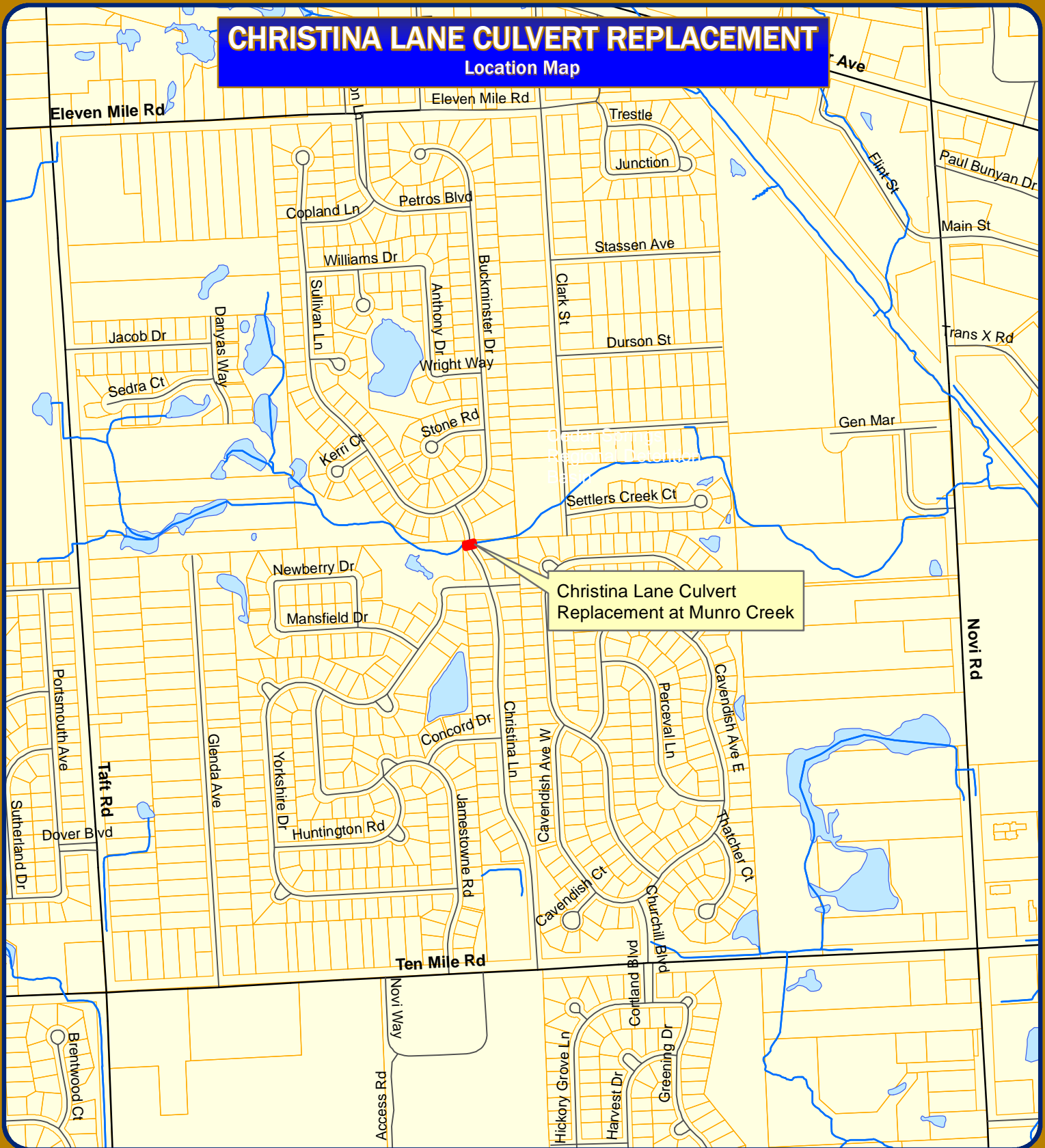
1 inch = 140 feet



City of Novi
 Engineering Division
 Department of Public Services
 26300 Lee BeGole Drive
 Novi, MI 48375
cityofnovi.org

CHRISTINA LANE CULVERT REPLACEMENT

Location Map



Map Author: Croy
 Date: 10/31/14
 Project: Christina Culvert Replacement
 Version #: v3.1

MAP INTERPRETATION NOTICE

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1 inch = 800 feet



City of Novi
 Engineering Division
 Department of Public Services
 26300 Lee BeGole Drive
 Novi, MI 48375
cityofnovi.org



September 30, 2014

City of Novi
Department of Public Services
Ben Croy, P.E., Civil Engineer
Field Services Complex
26300 Lee BeGole Drive
Novi, MI 48375

Reference: Cedar Springs RDB Culvert Piping Rehabilitation

Dear Mr. Croy:

URS Corporation (URS) was retained to evaluate and design a method to repair structurally deficient culvert piping for the Cedar Springs Regional Detention Basin (RDB). The culvert piping consists of four parallel 49" x 33" arched corrugated metal pipes crossing Christina Lane. Sinkholes have developed above the southernmost culvert pipe, indicating a localized failure in the piping. Visual inspection has revealed areas of pipe deformation and potentially some water flowing beneath the culvert pipes.

Previous studies identified several alternatives for repair of the culvert piping, including:

- Slip-lining
- Cured-in-place pipe (CIPP)
- Segment paneling
- Spray-on lining

Since open cutting of the roadway to replace the piping could be disruptive to the neighborhood, the previous studies focused on these in-situ repairs.

Evaluation of these alternatives considered constructability, resulting capacity and cost. Based on the evaluation, the CIPP alternative was initially recommended for first cost and the flexibility of the product to adapt to the existing pipe geometry. Subsequent to the initial study, the City and URS became aware of two new products; Centripipe which is a spray-on coating specifically for corrugated metal pipes and Innerflow, an HDPE liner that can be manufactured in an arched profile. A brief review of these products was conducted and indicated potential benefits over CIPP, although long term product experience was limited.

URS Corporation
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Southfield, Michigan 48034
Tel: 248.204.5900
Fax: 248.204.5901
www.urscorp.com



The subsequent evaluation identified the advantages and disadvantages of the Centripipe and Innerflow products, compared to the previous CIPP option. URS has compared the rehabilitation options based on cost, constructability, feasibility and life expectancy. Innerflow lining was eliminated from consideration due to limited application history, along with concerns with reducing the hydraulic capacity and fitting the liner pipe to the shape of the existing conduits.

Based on the evaluation conducted, URS indicated that both the CIPP and Centripipe options would provide satisfactory results for rehabilitation of the Christina Lane culverts. Both alternatives provide structural integrity to the existing culvert pipe without impacting the hydraulic capacity of the system. Considering the alternatives to be equal, the spray-on lining option was chosen to move forward for design and bidding based on lower initial cost. Approved products for the spray-on lining included both Centripipe and Ecocast (an approved equivalent to Centripipe).

In June, 2014, bids were received for culvert rehabilitation using the spray-on lining. The bids were considerably higher than expected, and the City decided to hold off on the rehabilitation pending further analysis of alternatives, including culvert removal and replacement.

This letter report presents updated costs for:

- Cured-in-Place Pipe
- Removal and replacement with 30-inch diameter concrete pipe
- Removal and replacement with 34-inch x 53-inch concrete box culvert

Cured –in-Place Pipe

CIPP liners are constructed of a tubular layer(s) of non-woven polyester felt with an exterior polyurethane coating. A catalyzed thermosetting resin mixture is impregnated into the felt. The felt acts as both a resin carrier and adds flexible strength to the finished liner. At the installation site, the CIPP liner is positioned within the culvert pipe either by inversion (air or water) or winched into place. Once in position, the CIPP liner is inflated by air pressure or by a water column to press the material against the host pipe wall. When fully inflated, steam or hot water is circulated within the liner to start the thermosetting resin to cure or harden. After the cure has completed, the liner is slowly cooled to prevent shrinkage.

The cost of CIPP installation is typically based on the pipe size and length. In addition, the culverts will need to be isolated, requiring sandbagging to divert flow during the installation. Typically these installations are televised upon completion to verify satisfactory performance. The CIPP alternative would include new CMP end sections and a concrete headwall on the upstream inlet. The opinion of probable cost for this



alternative is approximately \$145,000, as shown on the attachment.

Removal and Replacement

In lieu of in-situ rehabilitation, removal of the existing culverts and replacement with either concrete pipe or concrete box culverts was considered. This alternative would require closure, demolition and reconstruction of the road after placement of the new culverts. Options for the culverts include 30-inch diameter concrete (or other material) pipe or 34-inch x 53-inch concrete box culverts. Use of piping would require end sections and construction of a headwall both upstream and downstream, whereas with box culverts, the end sections can be fabricated with an integral headwall.

The opinion of probable cost for removal and replacement with 30-inch piping is approximately \$151,000. Use of box culverts for removal and replacement is estimated to be approximately \$153,000 as shown on the attachment.

Summary

URS has identified the probable cost of rehabilitation of the Christina Lane culverts using either CIPP or removing/replacing the culverts with new piping or box culverts. Each alternative will provide satisfactory results without impacting the hydraulic capacity of the system. The estimated costs of the alternatives are within 5% of each other.

With a probable need for maintenance of sidewalks, fencing, roadway and localized sinkholes in the area of the culverts, and to take advantage of more competitive bidding, URS recommends that the City move forward with removal and replacement of the culvert piping. URS would be pleased to review this recommendation with the City prior to proceeding to the next step.

Respectfully Submitted,

URS CORPORATION

Terry L. Woodward, PE
Sr. Project Manager

Cc: J. Hauser – URS
J. Hess - URS

URS Corporation
27777 Franklin Road, Suite 2000
Southfield, Michigan 48034
Tel: 248.204.5900
Fax: 248.204.5901
www.urscorp.com

ENGINEER'S OPINION OF PROBABLE COST 9-25-2014

City of Novi
Christina Lane Culvert Rehabilitation

List of Unit Prices				Remove and Replace		Remove and Replace		CIPP	
				Four-30" Culverts		Four-34 x 53" Box Culvert		Four 49" x 33" Culverts	
				Unit Price	Bid Price	Unit Price	Bid Price	Unit Price	Bid Price
Mobilization/General Conditions	LS	1.00		\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00
Soil Erosion and Sedimentation Control	LS	1.00		\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00
Concrete Demo and Removal	LS	1.00		\$ 15,000.00	\$ 15,000.00	\$ 15,000.00	\$ 15,000.00	\$ 7,500.00	\$ 7,500.00
Flow Diversion	LS	1.00		\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00
Roadway Demo and Removal	SY	130.00		\$ 50.00	\$ 6,500.00	\$ 50.00	\$ 6,500.00	\$ -	\$ -
Sidewalk Demo and Removal	SY	25.00		\$ 35.00	\$ 875.00	\$ 35.00	\$ 875.00	\$ -	\$ -
Concrete Curb and Gutter Removal	LI	90.00		\$ 6.00	\$ 540.00	\$ 6.00	\$ 540.00	\$ -	\$ -
30" CI 4 Concrete Pipe	LF	244.00		\$ 180.00	\$ 43,920.00	\$ -	\$ -	\$ -	\$ -
34" x 53" Concrete Box Culvert	LF	244.00		\$ -	\$ -	\$ 240.00	\$ 58,560.00	\$ -	\$ -
30" Concrete End Section	EA	8.00		\$ 580.00	\$ 4,640.00	\$ -	\$ -	\$ -	\$ -
34" x 53" Concrete Box Culvert End Section	EA	8.00		\$ -	\$ -	\$ 3,240.00	\$ 25,920.00	\$ -	\$ -
CIPP	LF	244.00		\$ -	\$ -	\$ -	\$ -	\$ 325.00	\$ 79,300.00
Spot Repairs	EA	2.00		\$ -	\$ -	\$ -	\$ -	\$ 1,500.00	\$ 3,000.00
49" x 33" End Sections	EA	4.00		\$ -	\$ -	\$ -	\$ -	\$ 2,000.00	\$ 8,000.00
Riprap, Plain	CY	2.00		\$ 760.00	\$ 1,520.00	\$ 760.00	\$ 1,520.00	\$ 760.00	\$ 1,520.00
Riprap, Plain, Mortared	SY	26.00		\$ 275.00	\$ 7,150.00	\$ 275.00	\$ 7,150.00	\$ 275.00	\$ 7,150.00
Reinforced Concrete Headwall (Two Sides)	CY	19.00		\$ 1,800.00	\$ 34,200.00	\$ -	\$ -	\$ -	\$ -
Reinforced Concrete Headwall (One Side)	CY	9.50		\$ -	\$ -	\$ -	\$ -	\$ 1,800.00	\$ 17,100.00
6a Base Material	CY	130.00		\$ 20.00	\$ 2,600.00	\$ 20.00	\$ 2,600.00	\$ -	\$ -
Roadway Replacement	TON	49.50		\$ 90.00	\$ 4,455.00	\$ 90.00	\$ 4,455.00	\$ -	\$ -
Concrete Curb and Gutter Replacement	FT	90.00		\$ 20.00	\$ 1,800.00	\$ 20.00	\$ 1,800.00	\$ -	\$ -
Concrete Sidewalk Replacement	SY	25.00		\$ 6.50	\$ 162.50	\$ 6.50	\$ 162.50	\$ -	\$ -
Split Rail Fence Removal and Reinstallation	LF	45.00		\$ 20.00	\$ 900.00	\$ 20.00	\$ 900.00	\$ -	\$ -
Wood Guard Post Removal and Reinstallation	EA	15.00		\$ 20.00	\$ 300.00	\$ 20.00	\$ 300.00	\$ -	\$ -
Seeding and Mulching	LS	1.00		\$ 7,500.00	\$ 7,500.00	\$ 7,500.00	\$ 7,500.00	\$ 3,500.00	\$ 3,500.00
Traffic Control	LS	1.00		\$ 4,200.00	\$ 4,200.00	\$ 4,200.00	\$ 4,200.00	\$ 2,500.00	\$ 2,500.00
				Total=	\$ 151,262.50	Total=	\$ 152,982.50	Total=	\$ 144,570.00
Crew Days	PER DAY	\$640		28.00	\$ 17,920.00	28.00	\$ 17,920.00	20.00	\$ 12,800.00
TOTAL BID					\$ 169,182.50		\$ 170,902.50		\$ 157,370.00
Inspections Reduction					\$ 17,920.00		\$ 17,920.00		\$ 12,800.00
Christina Lane Culvert Rehabilitation					\$ 151,262.50		\$ 152,982.50		\$ 144,570.00

SUPPLEMENTAL PROFESSIONAL ENGINEERING SERVICES AGREEMENT

CHRISTINA LANE CULVERT REPLACEMENT

This Agreement shall be considered as made and entered into as of the date of the last signature hereon, and is between the City of Novi, 45175 W. Ten Mile Road, Novi, MI 48375-3024, hereafter, "City," and URS Corporation – Great Lakes., whose address is 27777 Franklin Road, Suite 2000, Southfield, MI 48034, hereafter, "Consultant."

RECITALS:

This Agreement shall be supplemental to, and hereby incorporates the terms and conditions of the AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES FOR PUBLIC PROJECTS, and attached exhibits, entered into between the City and the Consultant on December 17, 2012.

The project includes the design and the preparation of plans and specifications for the replacement of the four culverts under Christina Lane along Munro Creek. The project will include the replacement of the portion of the roadway, sidewalk and fencing disturbed by the construction.

NOW, THEREFORE, in consideration of the foregoing, the City and Consultant agree as follows:

Section 1. Professional Engineering Services.

For and in consideration of payment by the City as provided under the "Payment for Engineering Services" section of this Agreement, Consultant shall perform the work described in the manner provided or required by the following Scope of Services, which is attached to and made a part of this Agreement as Exhibit A, all of said services to be done in a competent, efficient, timely, good and workmanlike manner and in compliance with all terms and conditions of this Agreement.

Exhibit A Scope of Services

Section 2. Payment for Professional Engineering Services.

1. Basic Fee.

- a. Design Phase Services: The Consultant shall complete the design phase services as described herein for a lump sum fee of \$14,820, which is 9.75% of the estimated construction cost (\$152,000.00) as indicated on the Design and Construction Engineering Fee Curve.
- b. Construction Phase Services will be awarded at the time of construction award, should it occur.

2. Payment Schedule for Professional Engineering Services Fee.

Consultant shall submit monthly statements for professional engineering services rendered. The statements shall be based on Consultant's estimate of the proportion of the total services actually completed for each task at the time of billing. The City shall confirm the correctness of such estimates, and may use the City's own engineer for such purposes. The monthly statements should be accompanied by such properly completed reporting forms and such other evidence of progress as may be required by the City. Upon such confirmation, the City shall pay the amount owed within 30 days.

Final billing under this agreement shall be submitted in a timely manner but not later than three (3) months after completion of the services. Billings for work submitted later than three (3) months after completion of services will not be paid. Final payment will be made upon completion of audit by the City.

3. Payment Schedule for Expenses.

All expenses required to complete the scope of services described herein, including but not limited to costs related to mileage, vehicles, reproduction, computer use, etc., shall be included in the basic fee and shall not be paid separately. However, as compensation for expenses that are not included in the standard scope of services, when incurred in direct connection with the project, and approved by the City, the City shall pay the Consultant its actual cost times a factor of 1.15.

Section 4. Ownership of Plans and Documents; Records.

1. Upon completion or termination of this agreement, all documents prepared by the Consultant, including tracings, drawings, estimates, specifications, field notes, investigations, studies, etc., as instruments of service shall become the property of the City.

2. The City shall make copies, for the use of the Consultant, of all of its maps, records, laboratory tests, or other data pertinent to the work to be performed by the Consultant under this Agreement, and also make available any other maps, records, or other materials available to the City from any other public agency or body.

3. The Consultant shall furnish to the City, copies of all maps, records, field notes, and soil tests that were developed in the course of work for the City and for which compensation has been received by the Consultant.

Section 5. Termination.

1. This Agreement may be terminated by either party upon 7- days' prior written notice to the other party in the event of substantial failure by the other party to fulfill its obligations under this agreement through no fault of the terminating party.

2. This Agreement may be terminated by the City for its convenience upon 90 days' prior written notice to the Consultant.

3. In the event of termination, as provided in this Article, the Consultant shall be paid as compensation in full for services performed to the date of that termination, an amount calculated in accordance with Section 2 of this Agreement. Such amount shall be paid by the City upon the Consultant's delivering or otherwise making available to the City, all data, drawings, specifications, reports, estimates, summaries, and that other information and materials as may have been accumulated by the Consultant in performing the services included in this Agreement, whether completed or in progress.

Section 6. Disclosure.

The Consultant affirms that it has not made or agreed to make any valuable gift whether in the form of service, loan, thing, or promise to any person or any of the person's immediate family, having the duty to recommend, the right to vote upon, or any other direct influence on the selection of consultants to provide professional engineering services to the City within the two years preceding the execution of this Agreement. A campaign contribution, as defined by Michigan law shall not be considered as a valuable gift for the purposes of this Agreement.

Section 7. Insurance Requirements.

1. The Consultant shall maintain at its expense during the term of this Agreement, the following insurance:

- A. Worker's Compensation insurance relative to all Personnel engaged in performing services pursuant to this Agreement, with coverage not less than that required by applicable law.
- B. Comprehensive General Liability insurance with maximum bodily injury limits of \$1,000,000 (One Million Dollars) each occurrence and/or aggregate and minimum Property Damage limits of \$1,000,000 (One Million Dollars) each occurrence and/or aggregate.
- C. Automotive Liability insurance covering all owned, hired, and non-owned vehicles with Personal Protection insurance to comply with the provisions of the Michigan No Fault Insurance Law including Residual Liability insurance with minimum bodily injury limits of \$1,000,000 (One Million Dollars) each occurrence and/or aggregate minimum property damage limits of \$1,000,000 (One Million Dollars) each occurrence and/or aggregate.
- D. The Consultant shall provide proof of Professional Liability coverage in the amount of not less than \$1,000,000 (One Million Dollars) per claim and/or aggregate, and Environmental Impairment coverage. The retroactive date indicated on the policy shall either be unlimited, or, shall be the date that the Consultant established its initial coverage.

In the event that Consultant is sold or dissolved, Consultant shall provide purchase, at its expense, a "tail" or extended reporting period for the professional liability coverage for a period not less than 5 years.

2. The Consultant shall be responsible for payment of all deductibles contained in any insurance required hereunder.

3. If during the term of this Agreement changed conditions or other pertinent factors should in the reasonable judgment of the City render inadequate insurance limits, the Consultant will furnish on demand such additional coverage as may reasonably be required under the circumstances. All such insurance shall be effected at the Consultant's expense, under valid and enforceable policies, issued by the insurers of recognized responsibility which are well-rated by national rating organizations and are acceptable to the City.

4. All policies shall name the Consultant as the insured and shall be accompanied by a commitment from the insurer that such policies shall not be canceled or reduced without at least thirty (30) days prior notice to the City.

With the exception of professional liability, all insurance policies shall name the City of Novi, its officers, agents, and employees as additional insured. Certificates of Insurance evidencing such coverage shall be submitted to Sue Morianti, Purchasing Manager, City of Novi, 45175 West Ten Mile Road, Novi, MI 48375-3024 prior to commencement of performance under this Agreement and at least fifteen (15) days prior to the expiration dates of expiring policies.

5. If any work is sublet in connection with this Agreement, the Consultant shall require each subconsultant to effect and maintain at least the same types and limits of insurance as fixed for the Consultant.

6. The provisions requiring the Consultant to carry said insurance shall not be construed in any manner as waiving or restricting the liability of the Consultant under this Agreement.

Section 8. Indemnity and Hold Harmless.

A. The Consultant agrees to hold harmless and indemnify the City, its officers, agents, employees from and against all claims, demands, suits liability, losses, damages or costs (including reasonable attorney fees and costs) arising out, of or resulting from the Consultant's tortious or negligent acts, errors, or omissions in performing this Agreement.

B. The City agrees, to the extent permitted by law, to indemnify and hold harmless the Consultant, its officers, partners, employees, stockholders, and sub-consultants (collectively Consultant) from and against any and all claims, suits, demands, liability, losses, damages or costs, including reasonable attorney's fees and costs arising out of or resulting from the City's tortious or negligent acts or errors in performing this Agreement.

C. Section 8(B) of this Agreement shall not apply to individual design and/or construction management projects.

The Consultant agrees that it is its responsibility and not the responsibility of the City to safeguard the property and materials used in performing this Agreement. Further, this Consultant agrees to hold the City harmless for any loss of such property and materials used pursuant to the Consultant's performance under this Agreement.

Section 9. Nondiscrimination.

The Consultant shall not discriminate against any employee, or applicant for employment because of race, color, sex, age or handicap, religion, ancestry, marital status, national origin, place of birth, or sexual preference. The Consultant further covenants that it will comply with the Civil Rights Act of 1973, as amended; and the Michigan Civil Rights Act of 1976 (78. Stat. 252 and 1976 PA 4563) and will require a similar covenant on the part of any consultant or subconsultant employed in the performance of this Agreement.

Section 10. Applicable Law.

This Agreement is to be governed by the laws of the State of Michigan and the City of Novi Charter and Ordinances.

Section 11. Approval; No Release.

Approval of the City shall not constitute nor be deemed release of the responsibility and liability of Consultant, its employees, associates, agents and subconsultants for the accuracy and competency of their designs, working drawings, and specifications, or other documents and services; nor shall that approval be deemed to be an assumption of that responsibility by the City for any defect in the designs, working drawings and specifications or other documents prepared by Consultant, its employees, subconsultants, and agents.

After acceptance of final plans and special provisions by the City, Consultant agrees, prior to and during the construction of this project, to perform those engineering services as may be required by City to correct errors or omissions on the original plans prepared by Consultant and to change the original design as required.

Section 12. Compliance With Laws.

This Contract and all of Consultants professional services and practices shall be subject to all applicable state, federal and local laws, rules or regulations, including without limitation, those which apply because the City is a public governmental agency or body. Consultant represents that it is in compliance with all such laws and eligible and qualified to enter into this Agreement.

Section 13. Notices.

Written notices under this Agreement shall be given to the parties at their addresses on page one by personal or registered mail delivery to the attention of the following persons:

City: Rob Hayes, P.E., Director of Public Services and Maryanne
Cornelius, Clerk, with a copy to Thomas R. Schultz, City Attorney

Consultant: Jan M. Hauser, P.E., Vice President Water/Wastewater

Section 14. Waivers.

No waiver of any term or condition of this Agreement shall be binding and effective unless in writing and signed by all parties, with any such waiver being limited to that circumstance only and not applicable to subsequent actions or events.

Section 15. Inspections, Notices, and Remedies Regarding Work.

During the performance of the professional services by Consultant, City shall have the right to inspect the services and its progress to assure that it complies with this Agreement. If such inspections reveal a defect in the work performed or other default in this Agreement, City shall provide Consultant with written notice to correct the defect or default within a specified number of days of the notice. Upon receiving such a notice, Consultant shall correct the specified defects or defaults within the time specified. Upon a failure to do so, the City may terminate this Agreement by written notice and finish the work through whatever method it deems appropriate, with the cost in doing so being a valid claim and charge against Consultant; or, the City may preserve the claims of defects or defaults without termination by written notice to Consultant.

All questions which may arise as to the quality and acceptability of work, the manner of performance and rate of progress of the work, and the interpretation of plans and specifications shall be decided by the City. All questions as to the satisfactory and acceptable fulfillment of the terms of this agreement shall be decided by the City.

Section 16. Delays.

No charges or claims for damages shall be made by the Consultant for delays or hindrances from any cause whatsoever during the progress of any portions of the services specified in this agreement, except as hereinafter provided.

In case of a substantial delay on the part of the City in providing to the Consultant either the necessary information or approval to proceed with the work, resulting, through no fault of the Consultant, in delays of such extent as to require the Consultant to perform its work under changed conditions not contemplated by the parties, the City will consider supplemental compensation limited to increased costs incurred as a direct result of such delays. Any claim for supplemental compensation must be in writing and accompanied by substantiating data.

When delays are caused by circumstances or conditions beyond the control of the Consultant as determined by the City, the Consultant shall be granted an extension of time for such reasonable period as may be mutually agreed upon between the parties, it being understood, however, that the permitting of the Consultant to proceed to complete the services, or any part of them, after the date to which the time of completion may have been extended, shall in no way operate as a waiver on the part of the City of any of its rights herein set forth.

Section 17. Assignment.

No portion of the project work, heretofore defined, shall be sublet, assigned, or otherwise disposed of except as herein provided or with the prior written consent of the City. Consent to sublet, assign, or otherwise dispose of any portion of the services shall not be construed to relieve the Consultant of any responsibility for the fulfillment of this agreement.

Section 18. Dispute Resolution.

The parties agree to try to resolve any disputes as to professional engineering services or otherwise in good faith. In the event that the parties cannot resolve any reasonable dispute, the parties agree to seek alternative dispute resolution methods agreeable to both parties and which are legally permissive at the time of the dispute. The parties agree to use their best efforts to

resolve any good faith dispute within 90 (ninety) days notice to the other party. In the event the parties cannot resolve that dispute as set forth above, they may seek such remedies as may be permitted by law.

WITNESSES

URS Corporation – Great Lakes

By: Jan M. Hauser
Its: Vice President

The foregoing _____ was acknowledged before me this ____ day of _____,
20____, by _____ on behalf of _____
_____.

Notary Public
_____ County, Michigan
My Commission Expires: _____

WITNESSES

CITY OF NOVI

By:
Its:

The foregoing _____ was acknowledged before me this ____ day of _____, 20____,
by _____ on behalf of the City of Novi.

Notary Public
Oakland County, Michigan
My Commission Expires: _____

DRAFT

EXHIBIT A - SCOPE OF SERVICES

Consultant shall provide the City professional engineering services in all phases of the Project to which this Agreement applies as hereinafter provided. These services will include serving as the City's professional engineering representative for the Project, providing professional engineering consultation and advice and furnishing customary civil, structural, mechanical and electrical engineering services and customary engineering services incidental thereto, as described below.

A. Basic Services.

1. See attached.

B. Performance.

1. The Consultant agrees that, immediately upon the execution of this Agreement, it will enter upon the duties prescribed in this agreement, proceed with the work continuously, and make the various submittals on or before the dates specified in the attached schedule. The City is not liable and will not pay the Consultant for any services rendered before written authorization is received by the Consultant.
2. The Consultant shall submit, and the City shall review and approve a timeline for submission of plans and/or the completion of any other work required pursuant to this Scope of Services. The Consultant shall use its best efforts to comply with the schedule approved by the City.
3. If any delay is caused to the Consultant by order of the City to change the design or plans; or by failure of the city to designate right-of-way, or to supply or cause to be supplied any data not otherwise available to the Consultant that is required in performing the work described; or by other delays due to causes entirely beyond the control of the Consultant; then, in that event, the time schedules will be adjusted equitably in writing, as mutually agreed between the City and the Consultant at the moment a cause for delay occurs.
4. Since the work of the Consultant must be coordinated with the activities of the City (including firms employed by and governmental agencies and subdivisions working with the City), the Consultant shall advise the City in advance, of all meetings and conferences between the Consultant and any party, governmental agency, political subdivision, or third party which is necessary to the performance of the work of the Consultant.



October 29, 2014

City of Novi
Department of Public Services
Ben Croy, P.E., Civil Engineer
Field Services Complex
26300 Lee BeGole Drive
Novi, MI 48375

Reference: Christina Lane Culvert Replacement

Dear Mr. Croy:

At your request, URS Corporation (URS) has prepared this proposal for engineering services to design removal and replacement of four (4) existing culverts crossing Christina Lane at the Cedar Springs Basin. The existing CMP culverts will be replaced with either concrete pipe or rectangular concrete box culverts. Replacement will also include reconstruction of the portion of the roadway, sidewalk and fencing disturbed by the construction.

MDEQ Hydraulic Report Guidelines indicate that a hydraulic report is not necessary for the following:

“Culvert or bridge replacement where the size is increased such that there is a net increase in end area opening below the 100-year floodplain elevation with all other hydraulic factors remaining the same- i.e. same culvert length/bridge width, same or improved roughness condition, same or improved entrance conditions, same road grade unless the existing road grade is above the 100 year floodplain elevation, same slope.”

The proposed concrete pipe or box culvert will be sized to increase the end area opening and will have improved roughness characteristics compared to CMP. The road grade will remain constant and entrance conditions will be improved. Therefore, we do not believe a hydraulic analysis is needed.

Scope of Services

Presented below is the proposed scope of services for the Christina Lane Culvert Replacement. The objective of the project is to develop biddable plans and specifications for removal and replacement of the culverts, followed by bidding assistance and construction phase engineering and observation.



To complete this project in an efficient manner URS proposes to break it into four tasks.

Task 1: Preliminary design;

Task 2: Preparation of construction plans and specifications and permitting;

Task 3: Bid phase assistance

Task 4: Construction administration.

Each of these four tasks and deliverables are described in the following paragraphs:

Task 1: Preliminary Design

The project will begin with a kickoff meeting at the site to review the scope, schedule and deliverables, in addition to obtaining concurrence on the work limits and materials of construction for the road and fencing.

Preliminary design will include an evaluation of the type of replacement (concrete pipe or box culvert) and will include an analysis of the type of end section. Expected load ratings will also be established. Preliminary plans and sections will be prepared for discussion with the City.

Deliverables will include meeting minutes, a technical memorandum and preliminary plans/sections.

Task 2: Preparation of Construction Plans/Specifications and Permitting

After reviewing and discussing the technical memorandum and preliminary plans and sections with the City, the concepts and comments will be finalized into plans suitable for bidding and construction. An updated construction cost estimate will be prepared. Specifications and a Soil Erosion and Sedimentation Control (SESC) plan will be developed for the construction activities during this phase. City of Novi and Oakland County Water Resource Commission Standard Details will be incorporated into the plans.

Deliverables for this phase will include final plans, specifications and an updated cost estimate. Plans will be provided to the City at 90% completion for review. Comments and changes will be incorporated and final plans completed for bidding. Permit applications (SESC, MDEQ, etc.) will be developed and submitted as part of this task.

Task 3: Bid Phase Assistance

Upon approval of the final design documents, URS will prepare bid documents and provide assistance to the City with bidding of the project. Bidding assistance will include coordinating and facilitating the pre-bid meeting, preparing contract addenda, making plan revisions, responding to bidder inquiries, review of bids and preparing a recommendation of award.



Deliverables for this task include meeting minutes, addenda, bid tabulation and a recommendation for award letter.

Task 4: Construction Administration

URS will provide construction administration services that will include the activities listed below.

- Reviewing shop drawings;
- Coordinating/ running pre-construction meeting;
- Reviewing compliance with contract documents;
- Consultation with City Engineering staff;
- Interpretation of plans and specifications;
- Preparation and certification of pay estimates;
- Construction Staking;
- Construction inspection during active construction;
- Administering the soil erosion and sedimentation control plan;
- Material testing;
- Attend to resident concerns and complaints, and;
- Prepare record drawings within 3 months of construction completion.

Deliverables for this task include meeting minutes, daily inspection reports, and preparation of record drawings.

Opinion of Probable Construction Cost

Provided below is a preliminary opinion of probable construction cost for completion of the project. The detailed cost breakdown is attached.

Mobilization/Demobilization	\$16,500
Demolition	\$24,500
Culvert and Headwalls	\$84,500
Rip Rap	\$8,500
Road/Sidewalk Replacement	\$10,500
Restoration	\$7,500
Total	\$152,000



Fee Estimate and Schedule

Design and construction phase services are proposed to be provided under the 2012-2014 Engineering Agreement (Road Construction section). Based on the estimated construction cost, the design phase engineering fee (Tasks 1-3) would be 9.75%, or \$14,820. Construction phase services (Task 4) would be provided at 7.5% of the actual construction bid.

It is anticipated that the design can begin within two weeks of notice to proceed. A bar chart schedule for completion of the design is attached.

If you have any questions, please feel free to contact me at (248) 204-4140. URS appreciates the opportunity to work with the City of Novi on this project.

Sincerely,

URS CORPORATION

A handwritten signature in blue ink that reads "Jan M. Hauser".

Jan M. Hauser, PE
Vice President

Cc: T. Woodward – URS
J. Hess - URS

ENGINEER'S OPINION OF PROBABLE COST 10-23-2014

City of Novi
Christina Lane Culvert Rehabilitation

				Remove and Replace		Remove and Replace	
				Four-30" Culverts		Four-34 x 53" Box Culvert	
List of Unit Prices				Unit Price	Bid Price	Unit Price	Bid Price
Mobilization/General Conditions	LS	1.00		\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00
Soil Erosion and Sedimentation Control	LS	1.00		\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00
Concrete Demo and Removal	LS	1.00		\$ 15,000.00	\$ 15,000.00	\$ 15,000.00	\$ 15,000.00
Flow Diversion	LS	1.00		\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00
Roadway Demo and Removal	SY	130.00		\$ 50.00	\$ 6,500.00	\$ 50.00	\$ 6,500.00
Sidewalk Demo and Removal	SY	25.00		\$ 35.00	\$ 875.00	\$ 35.00	\$ 875.00
Concrete Curb and Gutter Removal	LF	90.00		\$ 6.00	\$ 540.00	\$ 6.00	\$ 540.00
30" CI 4 Concrete Pipe	LF	244.00		\$ 180.00	\$ 43,920.00	\$ -	\$ -
34" x 53" Concrete Box Culvert	LF	244.00		\$ -	\$ -	\$ 240.00	\$ 58,560.00
30" Concrete End Section	EA	8.00		\$ 580.00	\$ 4,640.00	\$ -	\$ -
34" x 53" Concrete Box Culvert End Section	EA	8.00		\$ -	\$ -	\$ 3,240.00	\$ 25,920.00
CIPP	LF	244.00		\$ -	\$ -	\$ -	\$ -
Spot Repairs	EA	2.00		\$ -	\$ -	\$ -	\$ -
49" x 33" End Sections	EA	4.00		\$ -	\$ -	\$ -	\$ -
Riprap, Plain	CY	2.00		\$ 760.00	\$ 1,520.00	\$ 760.00	\$ 1,520.00
Riprap, Plain, Mortared	SY	26.00		\$ 275.00	\$ 7,150.00	\$ 275.00	\$ 7,150.00
Reinforced Concrete Headwall (Two Sides)	CY	19.00		\$ 1,800.00	\$ 34,200.00	\$ -	\$ -
Reinforced Concrete Headwall (One Side)	CY	9.50		\$ -	\$ -	\$ -	\$ -
6a Base Material	CY	130.00		\$ 20.00	\$ 2,600.00	\$ 20.00	\$ 2,600.00
Roadway Replacement	TON	49.50		\$ 90.00	\$ 4,455.00	\$ 90.00	\$ 4,455.00
Concrete Curb and Gutter Replacement	FT	90.00		\$ 20.00	\$ 1,800.00	\$ 20.00	\$ 1,800.00
Concrete Sidewalk Replacement	SY	25.00		\$ 6.50	\$ 162.50	\$ 6.50	\$ 162.50
Split Rail Fence Removal and Reinstallation	LF	45.00		\$ 20.00	\$ 900.00	\$ 20.00	\$ 900.00
Wood Guard Post Removal and Reinstallation	EA	15.00		\$ 20.00	\$ 300.00	\$ 20.00	\$ 300.00
Seeding and Mulching	LS	1.00		\$ 7,500.00	\$ 7,500.00	\$ 7,500.00	\$ 7,500.00
Traffic Control	LS	1.00		\$ 4,200.00	\$ 4,200.00	\$ 4,200.00	\$ 4,200.00
				Total=	\$ 151,262.50	Total=	\$ 152,982.50
Crew Days		PER DAY	\$640	28.00	\$ 17,920.00	28.00	\$ 17,920.00
TOTAL BID					\$ 169,182.50		\$ 170,902.50
Inspections Reduction					\$ 17,920.00		\$ 17,920.00
Christina Lane Culvert Rehabilitation					\$ 151,262.50		\$ 152,982.50