

# Information for File #2011-05445-RMM

**Applicant:** City of Lakeville

**Corps Contact:** Ryan Malterud

**Address:** 180 Fifth Street East, Suite 700, St. Paul, Minnesota 55101-1678

**E-Mail:** ryan.m.malterud@usace.army.mil

**Phone:** (651) 290-5286

**Project Location:** NE 1/4 Sec. 16, T. 114N., R. 20W., Dakota County, Minnesota

**Information Complete On:** April 14, 2015

**Posting Expires On:** August 9, 2015

**Authorization Type:** LOP-05-MN

This application is being reviewed in accordance with the practices for documenting Corps jurisdiction under Sections 9 & 10 of the Rivers and Harbor Act of 1899 and Section 404 of the Clean Water Act identified in Regulatory Guidance Letter 07-01. We have made a preliminary determination that the aquatic resources that would be impacted by the proposed project are regulated by the Corps of Engineers under Section 404 of the Clean Water Act. Our jurisdictional review and final jurisdictional determination could result in modifications to the scope of the project's regulated waterbody/wetland impacts and compensatory mitigation requirements identified above.

## **Project Description (as described by the applicant)**

The City of Lakeville has teamed up with the Vermillion River Watershed Joint Powers Organization and Mattamy homes to construct this project. The applicant has proposed to restore meanders to a ½-mile reach of tributary known as Middle Creek, which is a DNR public water. Several years of agricultural activities have filled in the tributary. The project area is now comprised of wetland.

The proposed ½-mile stream restoration project will consist of a new centerline channel being constructed that will have a bottom width of approximately 6'. The new channel will have a second level known as the floodplain bench, which will be excavated to prevent bank scour. The 10-year flood event boundary is expected to be 22' from the centerline, and the 100-year flood even is 54' from the centerline. Slopes along the stream will range from 5:1 nearest the channel to 30:1 past the 10-yr flood event boundary. Three open water ponds are proposed along the length of the stream to provide retention of water. Rip-rap overflows are proposed at the downstream end of each of those water ponds. Rip-rap stabilization is also proposed at the Glenbridge Avenue culvert.

## **Name, Area and Types of Waters (Including Wetlands) Subject to Loss:**

The proposed project will impact approximately 2.99 acres of wetland. The impacts are comprised of 0.03 acre of permanent wetland fill and 2.96 acres of wetland excavation associated with the discharge of dredged material.

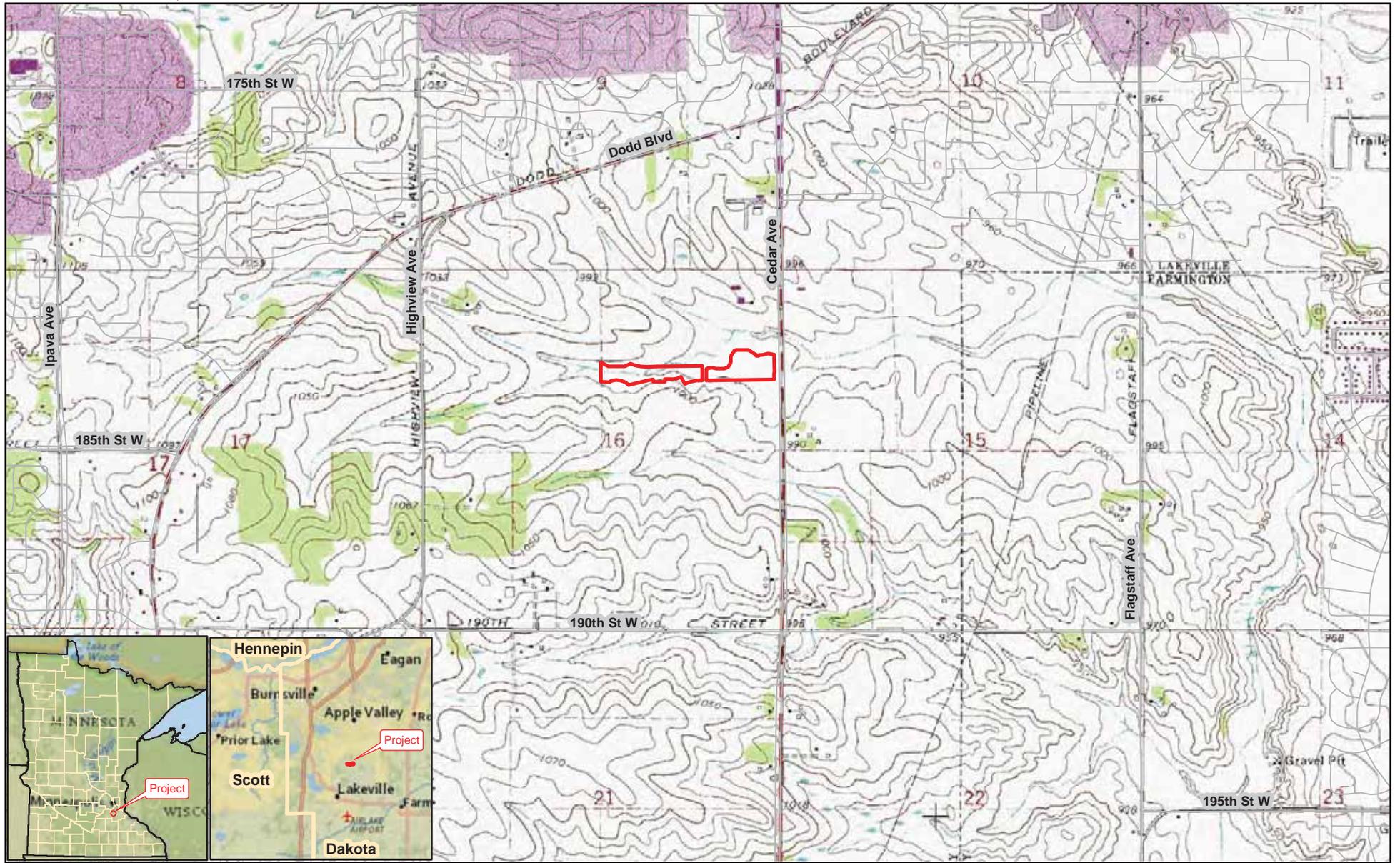
**Mitigation**

The applicant has not proposed any mitigation. The applicant has proposed to seed all areas of wetland that are temporarily impacted.

**Drawings**

See attached MVP-2011-05445-RMM, Page 1 of 5 through Page 5 of 5.

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Data Source(s): Westwood Professional Services Survey Data (2015); ESRI USGS DRG and National Geographic (ESRI) Basemaps, Accessed 2015; Digital Raster Graphic Mosaic of Dakota County, Minnesota (2002); MnDOT (2011).

- Legend**
- Project Area
  - Road

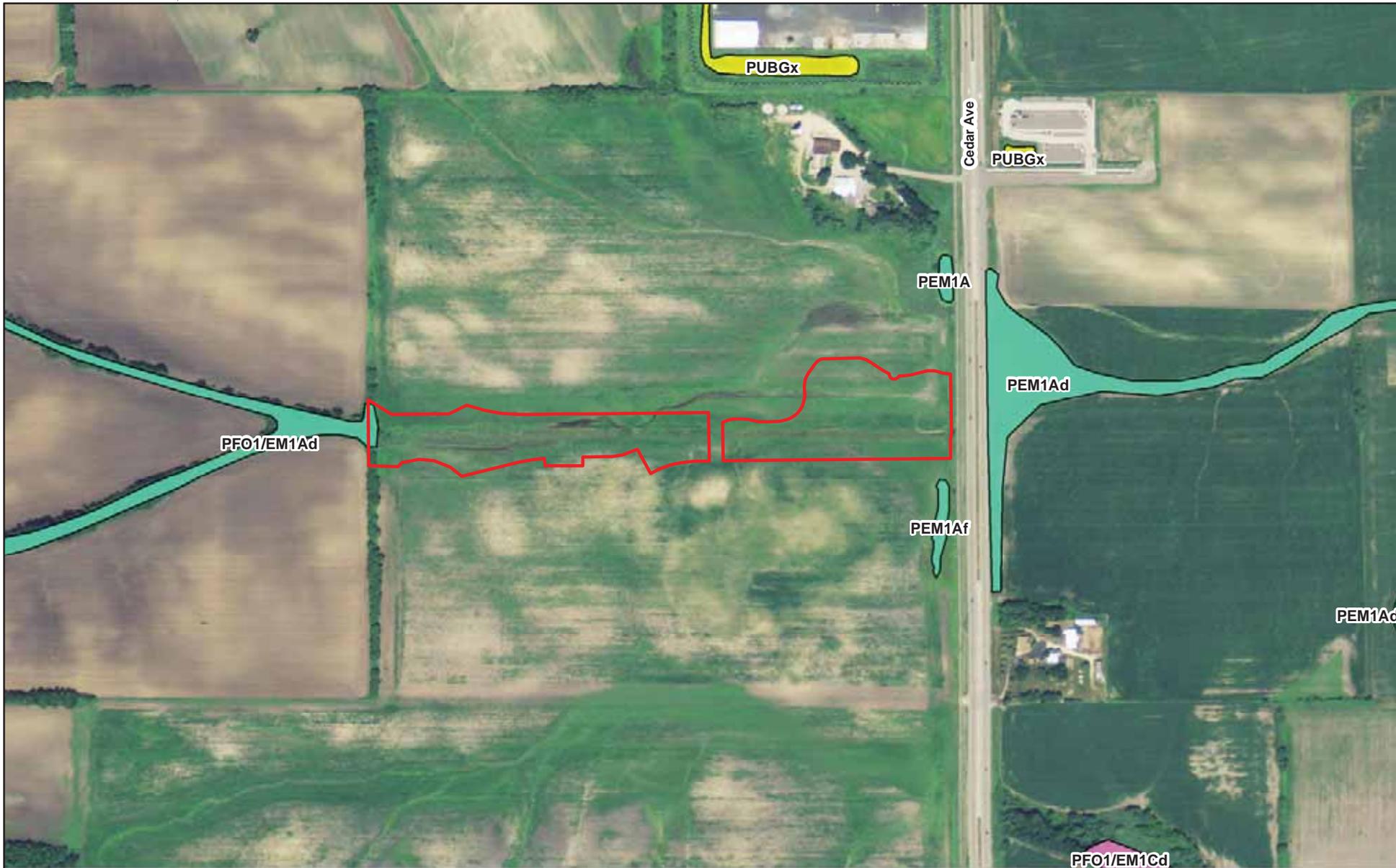
# Avonlea Stream Restoration Project

Lakeville, Minnesota



USGS and Site Location

**Westwood**  
 Toll Free (888) 937-5150 [www.westwoodps.com](http://www.westwoodps.com)  
 Westwood Professional Services, Inc.



Data Source(s): Westwood Professional Services Survey Data (2015); ESRI USGS DRG and National Geographic (ESRI Basemaps, Accessed 2015); Digital Raster Graphic Mosaic of Dakota County, Minnesota (2002); MnDOT (2011); NAIP/Minnesota Image (2013); 2015 NWI Update for East-Central MN, Ducks Unlimited, MnDNR, St. Mary's University of Mn (2015).



- Legend**
- Project Area
  - NWI Wetland Types**
  - Type 1
  - Type 5
  - Type 7

# Avonlea Stream Restoration Project

Lakeville, Minnesota



National Wetlands Inventory (NWI)

EXHIBIT 2



Data Source(s): Westwood Professional Services Survey Data (2015); ESRI USGS DRG and National Geographic (ESRI Basemaps, Accessed 2015); MnDOT (2011); NAIP/Minnesota Image (2013).

**Legend**

- Project Area
- Delineated Wetland Boundary

**Total Delineated Wetland within Project Area is 3.22 Acres.**

# Avonlea Stream Restoration Project

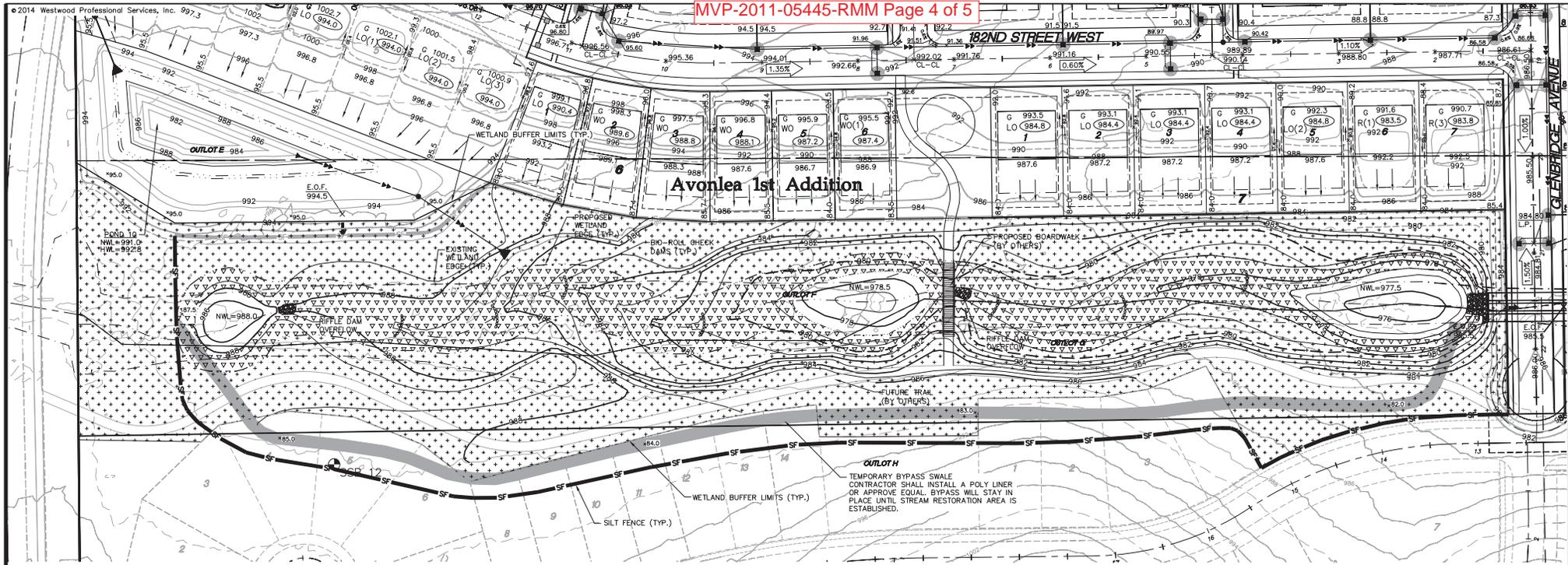
Lakeville, Minnesota

Wetland Boundaries



**Westwood**

Toll Free (888) 937-5150 [westwoodps.com](http://westwoodps.com)  
Westwood Professional Services, Inc.



**LEGEND:**

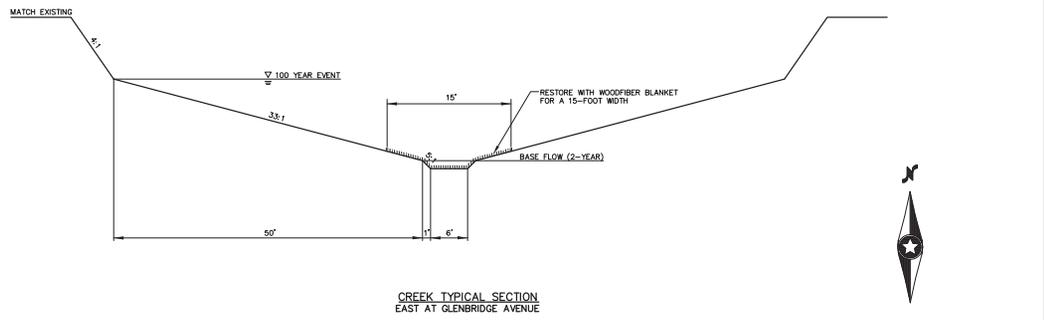
- SF --- DENOTES SILT FENCE
- 980 --- DENOTES EXISTING CONTOURS
- 990 --- DENOTES PROPOSED CONTOURS
- 980 --- DENOTES PROPOSED INTERIM CONTOURS
- SF --- DENOTES FUTURE STORM SEWER
- SF --- DENOTES EXISTING STORM SEWER
- SF --- DENOTES PROPOSED STORM SEWER
- SF --- DENOTES PROPOSED DRAIN TILE
- SF --- DENOTES EXISTING TREE LINE
- x 856.3 DENOTES EXISTING SPOT ELEVATION
- x 66.30 DENOTES PROPOSED SPOT ELEVATION
- E.O.F. DENOTES EMERGENCY OVERFLOW ELEVATION
- 3:1 SLOPE STABILIZATION EROSION CONTROL BLANKET
- INLET PROTECTION AT CATCH BASINS
- DENOTES NEW CREEK CENTERLINE
- DENOTES ORIGINAL WETLAND BOUNDARY 88,580 SF
- DENOTES NEW WETLAND BOUNDARY 93,750 SF
- ▽▽▽▽▽ RIPARIAN SOUTH & WEST MIX (34-261)
- +++++ DRY PRAIRIE SOUTHEAST MIX (34-262)

**GENERAL GRADING & DRAINAGE NOTES:**

- ALL CONTOURS AND SPOT ELEVATIONS ARE SHOWN TO FINISHED SURFACE/OUTTER GRADES UNLESS OTHERWISE NOTED.
- REFER TO THE SITE PLAN/RECORD PLAT FOR MOST CURRENT HORIZONTAL SITE DIMENSIONS AND LAYOUT.
- THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF EXISTING UTILITIES AND TOPOGRAPHICAL FEATURES WITH THE OWNERS AND FIELD-VERIFY PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR VARIATIONS FROM PLAN.
- ALL ROP FOR STORM SEWER SHALL BE CLASS III UNLESS OTHERWISE NOTED
- ALL CATCH BASINS AND MANHOLE CASTINGS IN PAVED AREAS SHALL BE SUMPED 6 TO FEET. RIM ELEVATIONS ON PLANS REFLECT THE SUMPED ELEVATIONS.
- ALL CONSTRUCTION SHALL CONFORM TO LOCAL RULES.
- POSITIVE DRAINAGE FROM THE SITE MUST BE PROVIDED AT ALL TIMES.
- RIFLE DAM OVERFLOWS TO BE A MIXTURE OF 12-16" BUILDERS AND SMALLER ROCKS AS REQUIRED BY THE WATERSHED.

**PROJECT IMPACT SUMMARY**

1,260 S.F.	PERMANENT RIFLE DAM RSP RAP FILL
200 S.F.	TEMPORARY BIO ROLL CHECK DAM FILL
(3,291 C.Y.) 51,601 S.F.	PERMANENT WETLAND FILL
(8,912 C.Y.) 78,443 S.F.	PERMANENT WETLAND EXCAVATION
130,044 S.F.	TOTAL PERMANENT IMPACTS
200 S.F.	TOTAL TEMPORARY IMPACTS



Call 48 Hours before digging:  
**811 or call811.com**  
 Common Ground Alliance

**Avonlea Stream Restoration**

Lakeville, Minnesota

Date: 05/18/15 Sheet: 1 OF 2

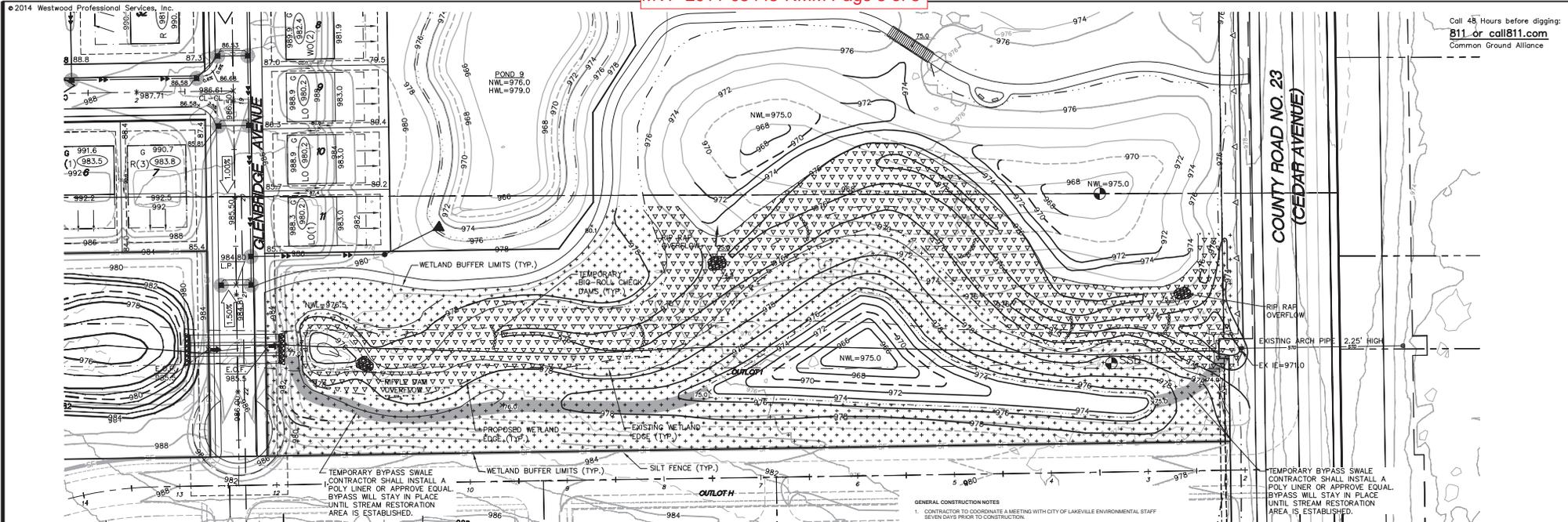
0000557SKP03.dwg  
 Stream Restoration Grading & Erosion Control  
 Exhibit 7

**Westwood Professional Services, Inc.**  
 7539 Argonne Drive  
 Eden Prairie, MN 55344  
 PHONE 952-937-5159  
 FAX 952-937-5822  
 TOLL FREE 1-888-937-5150  
 www.westwoodps.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer.  
**Kyan M. Bickan**  
 Date: 05/18/15 License No. 41237

Reviewed:	Checked:	Drawn:	City:

Prepared for:  
**City of Lakeville**



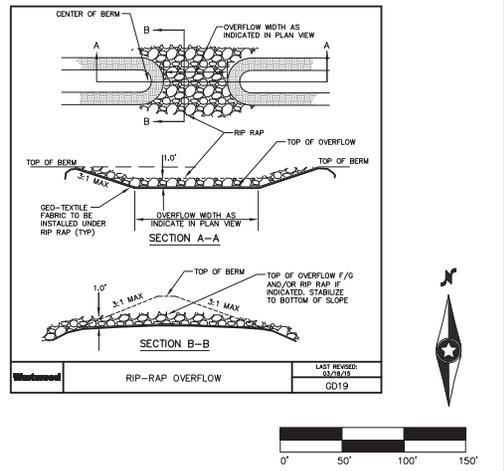
Call 48 Hours before digging:  
**811** or **call811.com**  
 Common Ground Alliance

- LEGEND:**
- 5' --- DENOTES SILT FENCE
  - 980 --- DENOTES EXISTING CONTOURS
  - 980 --- DENOTES PROPOSED CONTOURS
  - 980 --- DENOTES PROPOSED INTERIM CONTOURS
  - 980 --- DENOTES FUTURE STORM SEWER
  - 980 --- DENOTES EXISTING STORM SEWER
  - 980 --- DENOTES PROPOSED DRAINLINE
  - 980 --- DENOTES EXISTING TREE LINE
  - 980 --- DENOTES EXISTING SPOT ELEVATION
  - 980 --- DENOTES PROPOSED SPOT ELEVATION
  - 980 --- DENOTES BIO-ROLL EROSION CHECKS
  - 980 --- DENOTES EMERGENCY OVERFLOW ELEVATION
  - 980 --- 3:1 SLOPE STABILIZATION EROSION CONTROL BLANKET
  - 980 --- DENOTES INLET PROTECTION AT CATCH BASINS
  - 980 --- DENOTES NEW CREEK CENTERLINE
  - 980 --- DENOTES ORIGINAL WETLAND BOUNDARY 41.663 SF
  - 980 --- DENOTES NEW WETLAND BOUNDARY 125.580 SF
  - 980 --- RIPARIAN SOUTH & WEST MIX (34-261)
  - 980 --- DRY PRAIRIE SOUTHEAST MIX (35-621)

Common Name	Scientific Name	Rate (kg/ha)	Rate (lb/acre)	% by wt	Seed/ sq ft
American blough grass	<i>Blachyrodia subspicata</i>	1.52	1.36	4.20%	29.93
Common wild rye	<i>Elymus caput-medusae</i>	0.86	0.80	1.88%	17.53
Virginia wild rye	<i>Elymus virginicus</i>	1.96	1.79	5.56%	21.99
Red top grass	<i>Lycopodium obscurum</i>	0.29	0.27	0.80%	6.00
Blue wild rye	<i>Lycopodium obscurum</i>	0.10	0.09	0.29%	2.90
Red top grass	<i>Lycopodium obscurum</i>	0.18	0.16	0.51%	2.00
Red top grass	<i>Lycopodium obscurum</i>	0.94	0.84	2.56%	40.00
Common wild rye	<i>Elymus caput-medusae</i>	0.34	0.32	0.96%	9.14
<b>Total Grasses</b>		<b>5.88</b>	<b>5.29</b>	<b>14.88%</b>	<b>80.37</b>
Smooth cordgrass	<i>Carex stricta</i>	0.04	0.04	0.12%	0.80
Smooth cordgrass	<i>Carex stricta</i>	0.07	0.06	0.21%	2.00
Blue wild rye	<i>Elymus virginicus</i>	0.22	0.20	0.65%	7.50
Blue wild rye	<i>Elymus virginicus</i>	0.83	0.76	2.29%	10.00
Blue wild rye	<i>Elymus virginicus</i>	0.13	0.12	0.38%	20.00
Blue wild rye	<i>Elymus virginicus</i>	0.99	0.92	2.59%	35.00
Blue wild rye	<i>Elymus virginicus</i>	0.84	0.78	2.18%	28.00
<b>Total Sedges and Rushes</b>		<b>0.34</b>	<b>0.32</b>	<b>0.98%</b>	<b>78.30</b>
Canada warbler	<i>Ammodramus caryocarpus</i>	0.13	0.12	0.38%	0.21
Common horned lark	<i>Eurostoichia alpestris</i>	0.02	0.02	0.11%	0.00
Smooth cordgrass	<i>Carex stricta</i>	0.07	0.06	0.19%	2.00
Smooth cordgrass	<i>Carex stricta</i>	0.09	0.09	0.27%	2.50
Smooth cordgrass	<i>Carex stricta</i>	0.08	0.07	0.23%	0.25
Smooth cordgrass	<i>Carex stricta</i>	0.06	0.06	0.17%	0.08
Smooth cordgrass	<i>Carex stricta</i>	0.03	0.03	0.09%	0.00
Smooth cordgrass	<i>Carex stricta</i>	0.01	0.01	0.03%	0.00
Smooth cordgrass	<i>Carex stricta</i>	0.06	0.06	0.16%	4.00
Smooth cordgrass	<i>Carex stricta</i>	0.02	0.02	0.07%	0.00
Smooth cordgrass	<i>Carex stricta</i>	0.06	0.06	0.16%	0.25
Smooth cordgrass	<i>Carex stricta</i>	0.02	0.02	0.07%	0.00
Smooth cordgrass	<i>Carex stricta</i>	0.17	0.15	0.46%	9.00
Smooth cordgrass	<i>Carex stricta</i>	0.07	0.06	0.19%	0.50
<b>Total Forbs</b>		<b>0.86</b>	<b>0.79</b>	<b>2.33%</b>	<b>28.88</b>
<b>Total Cover Crop</b>		<b>28.02</b>	<b>25.50</b>	<b>79.37%</b>	<b>11.14</b>
<b>Total</b>		<b>35.71</b>	<b>31.92</b>	<b>100.00%</b>	<b>139.86</b>

Common Name	Scientific Name	Rate (kg/ha)	Rate (lb/acre)	% by wt	Seed/ sq ft
Big bluestem	<i>Andropogon gerardii</i>	1.12	1.00	6.89%	3.67
Big bluestem	<i>Andropogon gerardii</i>	1.00	0.90	6.26%	3.00
Big bluestem	<i>Andropogon gerardii</i>	0.04	0.04	0.27%	4.00
Big bluestem	<i>Andropogon gerardii</i>	1.96	1.79	12.07%	2.70
Big bluestem	<i>Andropogon gerardii</i>	0.17	0.15	1.00%	0.80
Big bluestem	<i>Andropogon gerardii</i>	0.12	0.11	0.73%	3.50
Big bluestem	<i>Andropogon gerardii</i>	0.04	0.04	0.27%	0.80
Big bluestem	<i>Andropogon gerardii</i>	0.22	0.20	1.39%	0.80
Big bluestem	<i>Andropogon gerardii</i>	0.06	0.06	0.44%	2.20
Big bluestem	<i>Andropogon gerardii</i>	0.06	0.06	0.44%	1.90
<b>Total Grasses</b>		<b>7.29</b>	<b>6.60</b>	<b>44.78%</b>	<b>48.80</b>
Smooth cordgrass	<i>Carex stricta</i>	0.06	0.06	0.44%	1.90
Smooth cordgrass	<i>Carex stricta</i>	0.11	0.10	0.77%	17.74
Smooth cordgrass	<i>Carex stricta</i>	0.03	0.03	0.18%	16.00
<b>Total Sedges and Rushes</b>		<b>0.34</b>	<b>0.32</b>	<b>2.69%</b>	<b>38.18</b>
Canada warbler	<i>Ammodramus caryocarpus</i>	0.03	0.03	0.21%	0.00
Common horned lark	<i>Eurostoichia alpestris</i>	0.09	0.08	0.55%	0.14
Canada warbler	<i>Ammodramus caryocarpus</i>	0.16	0.15	1.01%	1.00
Canada warbler	<i>Ammodramus caryocarpus</i>	0.06	0.06	0.34%	1.00
Canada warbler	<i>Ammodramus caryocarpus</i>	0.03	0.03	0.23%	2.00
Canada warbler	<i>Ammodramus caryocarpus</i>	0.02	0.02	0.11%	0.00
Canada warbler	<i>Ammodramus caryocarpus</i>	0.04	0.04	0.30%	1.00
Canada warbler	<i>Ammodramus caryocarpus</i>	0.06	0.06	0.39%	1.00
Canada warbler	<i>Ammodramus caryocarpus</i>	0.06	0.06	0.39%	0.30
Canada warbler	<i>Ammodramus caryocarpus</i>	0.02	0.02	0.17%	0.10
Canada warbler	<i>Ammodramus caryocarpus</i>	0.01	0.01	0.06%	1.40
Canada warbler	<i>Ammodramus caryocarpus</i>	0.01	0.01	0.06%	0.40
Canada warbler	<i>Ammodramus caryocarpus</i>	0.06	0.06	0.56%	0.20
Canada warbler	<i>Ammodramus caryocarpus</i>	0.17	0.16	1.06%	2.20
Canada warbler	<i>Ammodramus caryocarpus</i>	0.03	0.03	0.23%	0.30
Canada warbler	<i>Ammodramus caryocarpus</i>	0.02	0.02	0.14%	0.00
Canada warbler	<i>Ammodramus caryocarpus</i>	0.28	0.25	1.76%	0.00
<b>Total Forbs</b>		<b>1.48</b>	<b>1.40</b>	<b>14.45%</b>	<b>48.80</b>
<b>Total Cover Crop</b>		<b>6.90</b>	<b>6.20</b>	<b>42.91%</b>	<b>2.76</b>
<b>Total</b>		<b>16.38</b>	<b>14.90</b>	<b>100.00%</b>	<b>121.86</b>

- GENERAL CONSTRUCTION NOTES**
- CONTRACTOR TO COORDINATE A MEETING WITH CITY OF LAKEVILLE ENVIRONMENTAL STAFF BEFORE ANY PROPOSED CONSTRUCTION.
  - CONTRACTOR TO NOTIFY CITY OF LAKEVILLE ENVIRONMENTAL STAFF IF ANY LATELY CONDITIONS APPEAR OR IF UNKNOWN PHYSICAL, CULTURAL, OR ENVIRONMENTAL CONDITIONS ARE FOUND.
  - CONTRACTOR SHALL COMPLY WITH STORM WATER POLLUTION PREVENTION PLAN PROVIDED WITH CONTRACT DOCUMENTS, AND COMPLY WITH LOCAL, STATE, AND FEDERAL CLEAN WATER ACT REGULATIONS.
  - RE-CONNECT OR CONNECT ALL THE OUTLETS FOUND TO STREAM.
- SEED MIXTURES AND RATES**
- THE DRAINAGE WAY PORTION OF WETLAND A AND SURROUNDING WETLANDS WILL BE SEEDING WITH SEED MIX 34-261 RIPARIAN SOUTH AND WEST SEED MIX. STATE SEED MIX 34-261 DRY PRAIRIE SOUTHEAST SEED MIX SEED MIX US SHALL BE SEEDING ON DISTURBED SOILS WITHIN RIPARIAN BUFFER.
  - SEED MIXES SHALL BE INSTALLED AT THE RATES SPECIFIED BELOW.
  - SUBSTITUTIONS OF SIMILAR SPECIES OR MIXES MUST BE APPROVED BY THE ENVIRONMENTAL SCIENTIST.
- | MIX                            | SEED/ SQ FT | LBS. PURE SEED/ TON |
|--------------------------------|-------------|---------------------|
| 34-261 RIPARIAN SOUTH AND WEST | 80          | 8.0                 |
| 34-261 DRY PRAIRIE SOUTHEAST   | 80          | 8.0                 |
- SEEDING METHODS**
- SEED MIXES SHALL BE INSTALLED IN ACCORDANCE WITH
  - RESTORING & MANAGING NATIVE WETLANDS & UPLAND VEGETATION (JACOBSON, 2006, MINNESOTA DEPARTMENT OF WATER & SOIL RESOURCES) (BWSR) AND MINNESOTA DEPARTMENT OF TRANSPORTATION (see <http://www.dnr.state.mn.us/bwsr/landmanagement/landmanagement.htm>)
  - 2014 SEEDING MANUAL, MINNESOTA DEPARTMENT OF TRANSPORTATION OFFICE OF ENVIRONMENTAL STewardship, 2014 (see <http://www.dot.state.mn.us/transportation/transportation/2014/>)
  - STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2010, DOT/DMV MINNESOTA DEPARTMENT OF TRANSPORTATION, 2010.
- SEED MIX 34-261 SHALL BE BROADCAST EVENLY OVER THE SEEDING BY HAND OR BY USE OF A MECHANICAL 'CYCLONE' SEEDER.
  - SEED MIX 34-261 SHALL BE BROADCAST OR SEEDING WITH A NATIVE GRASS DRILL.
  - AREAS SEEDING TO MIX 34-261 MUST BE FIMED WITH A ROLLING-TYPE PAGER WITHIN TWO DAYS AFTER SEEDING.
- EROSION CONTROL NOTES**
- ALL SILT FENCES AND OTHER EROSION CONTROL FEATURES SHALL BE IN PLACE PRIOR TO ANY EXCAVATION CONSTRUCTION AND SHALL BE MAINTAINED UNTIL VEGETATION OR GRASS COVER HAS BEEN ESTABLISHED. SLOPE STABILIZATION EROSION CONTROL SHALL BE MAINTAINED WITH LOGS OR MATS AND SHALL BE CONSIDERED INCIDENTAL TO THE GRADING CONTRACT. IT IS OF EXTREME IMPORTANCE TO BE AWARE OF CURRENT FIELD CONDITIONS WITH RESPECT TO EROSION CONTROL. TEMPORARY PONDING, DYES, HAY BALE, ETC., REQUIRED BY THE CITY SHALL BE INCIDENTAL TO THE GRADING CONTRACT.
  - ALL STREETS DISTURBED DURING WORKING HOURS MUST BE CLEANED AT THE END OF EACH DAY. MATERIAL AT RATES OF 2 TONS PER ACRE SHALL BE ANCHORED WITH LOGS OR MATS TO REDUCE TRACKING OF DIRT ONTO PUBLIC STREETS.
  - SEEDING AREAS SHALL BE MULCHED WITH MWDOT #3 (MCA CERTIFIED WEED FREE GRAIN STRAW), MULCH AT A RATE OF 2 TONS PER ACRE. MULCH SHALL BE ANCHORED WITH LOGS OR MATS TO REDUCE TRACKING OF DIRT ONTO PUBLIC STREETS.
  - FOLLOW REQUIRED SWPPP DOCUMENTATION, INSPECTION, AND MAINTENANCE PRACTICES AS PER THE PROVIDED SWPPP PLAN FOR THE PROJECT.
  - SEED ALL DISTURBED AREAS AS NOTED ABOVE WITHIN 14 DAYS OF FINAL GRADING. CONFIRM SEED ESTABLISHMENT OF 70% COVERAGE.
  - ANY TEMPORARY STOCKPILES SHOULD BE PROTECTED WITH BEST APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING FINAL STABILIZATION OF THE ENTIRE SITE AS PER THE SWPPP.
  - CONTRACTOR TO SWEEP VEHICLE TRACKING WITHIN 24 HOURS PER SWPPP.



Westwood Professional Services, Inc.  
 7529 Argon Drive  
 Eden Prairie, MN 55444  
 PHONE 952-937-5159  
 FAX 952-937-5822  
 TOLL FREE 1-888-937-5150  
 www.westwoodpro.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer.  
**Kyan M. Bihlan**  
 Date: 05/18/15 License No. 41257

Drawn by: \_\_\_\_\_  
 Checked by: \_\_\_\_\_  
 Revised Drawing by: \_\_\_\_\_

Checked: **CH**  
 Drawn: **MB**  
 Revised Drawing by: **MY**

Prepared for:  
**City of Lakeville**

**Avonlea Stream Restoration**  
 Lakeville, Minnesota

Stream Restoration Grading & Erosion Control  
 Exhibit 8

Date: 05/18/15 Sheet: 2 OF 2  
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