CONSTRUCTION NOTES

SITE ACCESS

The access and limits of construction are identified on the plans. Actual access routes and limits of construction will be staked in the field by the engineer. Contractor may obtain additional access at their own risk.

GENERAL CONSTRUCTION NOTES

1. CONTRACTOR is responsible to locate and field verify all existing utilities prior to work. Existing roads, parking lots, trails, fences, signs, utilities, irrigation systems and all other associated and existing facility site features shall be protected during construction. Contractor is responsible for repairing any damage that occurs to existing elements.
2. CONTRACTOR shall install all erosion control BMPs prior to commencement of grading.
3. CONTRACTOR shall install ALL erosion control BMPs prior to commencement of grading.
4. ALL TREES with a diameter of 4 inches or larger shall be marked for removal by owner or owner’s representative. TREES REMOVED THAT ARE NOT MARKED SHALL BE REPLACED BY CONTRACTOR.
5. ALL DISTURBED AREAS MUST BE TEMPORARILY STABILIZED WITHIN 48 HOURS OF INACTIVITY.
7. SEED MIXES SHOWN ON PLANS WILL REQUIRE 20 LBS/AC OF SEED. THE SEED MAMMOTH MULCH 500 CST MULCH WITH A DENSITY OF 200 CUBIC YARDS PER MILE TO UPGRADE THE BUFFER ZONE, ALONG THE TRENCH LINES, AND IN AREAS WHERE MATERIAL CANNOT BE BALANCED ON SITE.
9. REMOVE SILT CURTAIN, OTHER SEDIMENT CONTROLS AND ANY MISCELLANEOUS DEBRIS THAT WAS REMOVED FROM THE CHANNEL.
10. REMOVE STUMP REMAINS AND ANY MISCELLANEOUS DEBRIS THAT WAS REMOVED FROM THE CHANNEL.

RECOMMENDED CONSTRUCTION SEQUENCE

1. INSTALL SILT CURTAIN AND OTHER SEDIMENT CONTROLS.
2. INSTALL SILT CURTAIN AND OTHER SEDIMENT CONTROLS.
3. CONTRACTOR SHALL INSTALL ALL EROSION CONTROL BMPs PRIOR TO COMMENCEMENT OF GRADING.
4. INSTALL ALL EROSION CONTROL BMPs PRIOR TO COMMENCEMENT OF GRADING.
5. INSTALL ALL EROSION CONTROL BMPs PRIOR TO COMMENCEMENT OF GRADING.
6. INSTALL ALL EROSION CONTROL BMPs PRIOR TO COMMENCEMENT OF GRADING.
7. INSTALL ALL EROSION CONTROL BMPs PRIOR TO COMMENCEMENT OF GRADING.
8. INSTALL ALL EROSION CONTROL BMPs PRIOR TO COMMENCEMENT OF GRADING.
9. INSTALL ALL EROSION CONTROL BMPs PRIOR TO COMMENCEMENT OF GRADING.
10. INSTALL ALL EROSION CONTROL BMPs PRIOR TO COMMENCEMENT OF GRADING.

UTILITY COORDINATION AND CONFLICT:

UTILITY LOCATION INFORMATION IS LOCATED IN AN APPENDIX OF THE SPECIFICATIONS AND NOT SHOWN ON THE PLANS. CONTRACTOR SHALL SCHEDULE OR REDIRECT HIS/HER WORK TO ENSURE THAT UTILITY COMPANY LOCATES, INSTALLATIONS AND/OR REMOVALS DO NOT IMPAIR PROGRESS OF THE PROJECT. THE CONTRACTOR SHALL ALSO COORDINATE ALL UNANTICIPATED UTILITY RELOCATIONS OR ADJUSTMENTS DETERMINED TO BE NECESSARY TO COMPLETE THE WORK. NO CLAIMS FOR EXTRA COMPENSATION TO PERFORM THE WORK IN ACCORDANCE WITH THE PLANS THAT ARE DUE TO CONFLICTS WITH IN-PLACE UTILITIES SHALL BE CONSIDERED.

CONTRACTOR RESPONSIBILITY

CONTRACTOR IS RESPONSIBLE TO PROTECT THE PROJECT AREA, INCLUDING AREAS THAT HAVE BEEN RESTORED AND AREAS THAT HAVE NOT BEEN COMPLETED. CONSTRUCTION EQUIPMENT, AND CONSTRUCTION MATERIALS DURING ADVERSE WEATHER CONDITIONS AND PERIODS OF HIGH FLOWS WITHIN THE CHANNEL AT ALL TIMES. NO COMPENSATION WILL BE MADE TO THE CONTRACTOR FOR ADDITIONAL COSTS INCURRED FOR REPAIR OR REPLACEMENT OF ANY DAMAGE THAT MAY OCCUR DUE TO ADVERSE WEATHER CONDITIONS.

SEEDING SPECIFICATIONS:

SEEDING SPECIFICATIONS:

SEEDING SPECIFICATIONS:

SEEDING SPECIFICATIONS:

SOIL STABILIZATION REQUIREMENTS FOR SEEING NATIVE GRASSES:

- STRAW MULCH @ 200 LBS/AC (MAMMOTH MULCH @ 400 LBS/AC)
- BLANKET MULCH @ 2 TON/AC AND DISC ANCHORED (SLOPES LESS THAN 4:1)
- SLOPE MULCH @ 2 TON/AC AND DISC ANCHORED (SLOPES LESS THAN 4:1)
- EROSION CONTROL BMPS FOR SLOPES GREATER THAN 4:1

TURF ESTABLISHMENT

Turf establishment will be reestablished with the following:

- SEED MIX 620 @ 100 LBS/AC
- FERTILIZER MANDATORY TYPE 2 @ 200 LBS/AC
- MNDOT TYPE IV FOR SLOPES GREATER THAN 4:1

- SEEDING MATERIALS WILL BE USED ALONG THE DISTURBED SLOPES OF BASSETT CREEK FROM THE APPROXIMATE 10 YEAR STAGE ELEVATION TO THE TOE OF THE STREAM BANK. THE EXACT LOCATION AND ELEVATION OF THE BOULDER TOE WILL BE STAKED IN THE FIELD BY THE ENGINEER.

- SEEDING NATIVE GRASSES
- SEEDING SPECIFICATIONS:
- SEEDING NATIVE GRASSES
- SEEDING SPECIFICATIONS:
- SEEDING NATIVE GRASSES
- SEEDING SPECIFICATIONS:

- SEED MIXES SHOWN ON PLANS WILL REQUIRE 20 LBS/AC OF SEED. THE SEED MAMMOTH MULCH 500 CST MULCH WITH A DENSITY OF 200 CUBIC YARDS PER MILE TO UPGRADE THE BUFFER ZONE, ALONG THE TRENCH LINES, AND IN AREAS WHERE MATERIAL CANNOT BE BALANCED ON SITE.

- THE PLACEMENT OF SEED MIXES WILL BE DIRECTED BY THE ENGINEER IN THE FIELD.

- ADDITIONAL TEMPORARY SEED: ADDITIONAL OATS OR WINTER WHEAT SHALL BE MIXED INTO PRI MIXES @ 50 LBS/AC TO PROVIDE A FAST GROWING VEGETATIVE COVER.
**CONSTRUCTION NOTES:**

1. NO NET CUT/FILL ALLOWED WITHIN CHANNEL CROSS SECTION, EXISTING CHANNEL SECTION AREA MUST BE MAINTAINED. FILL VOLUMES RESULTING FROM BOULDERS, AGGREGATE, AND OTHER MATERIALS BROUGHT IN FOR STABILIZATION WILL BE OFFSET WITH AN EQUAL VOLUME OF COMMON EXCAVATION. SEE SPECIFICATIONS FOR MORE INFORMATION ON COMMON EXCAVATION. THE OVERALL EARTHWORK WILL LIKELY NOT BALANCE AND THAT IMPORTED ROCK AND OTHER MATERIAL WILL REQUIRE AN EQUAL AMOUNT OF EXCAVATION.

2. ALL IMPROVEMENTS SHALL FOLLOW THE MEANDERS AND CURVES OF THE EXISTING STREAMBANK AS INDICATED ON PLANS AND AS STAKED/DIRECTED IN THE FIELD. ALL PREEXISTING POOLS AND RIFFLES SHALL BE PROTECTED AND MAINTAINED.

3. EACH AREA (A THROUGH E) TO BE INSPECTED AND REVIEWED BY OWNER AND ENGINEER FOLLOWING CONSTRUCTION TO ENSURE PROPER INSTALLATION.

4. QUANTITIES FOR MATERIALS USED IN EACH CONSTRUCTION AREA WILL BE TABULATED AND AGREED UPON PRIOR TO BEGINNING CONSTRUCTION IN EACH AREA.

5. DUE TO UNCERTAINTY IN MATERIAL DELIVERY QUANTITIES AND WEIGHTS, A RANGE OF ACCEPTABLE QUANTITIES MAY BE AGREED UPON PRIOR TO CONSTRUCTION IN EACH AREA. CONTRACTOR MAY NOT INSTALL ANY QUANTITIES IN EXCESS OF PLANNED OR AGREED UPON NUMBERS WITHOUT FIRST CONSULTING THE ENGINEER.

6. FINAL HEIGHTS OF IMPROVEMENTS TO BE STAKED IN THE FIELD BY THE ENGINEER. SEE THE PLANS FOR APPROXIMATE ELEVATIONS FOR TOP OF IMPROVEMENTS.
BIO-LOG STABILIZATION DETAIL

TOP OF BANK
PLANTINGS (CORD GRASS PLUGS 3' ON CENTER)
12" NATURAL FIBER ROLL
SECURE WITH TWINE
NORMAL WATER LEVEL

CATEGORY IV
WOOD FIBER BLANKET AND NATIVE SEED MIX
2:1 SLOPE MAXIMUM
PARTIAL SINK REQUIRED
3" x 3" x 36" WOOD STAKES
STAKE MAY BE REALIGNED TO AVOID CONTACT WITH ROCK

WATER LEVEL

LIVE STAKE DETAIL

STEP 1
PREPARE 24" PLANTING HOLE WITH SPIKE
CREATE UPSTREAM DEPRESSION TO COLLECT WATER
BURY 1/4 OF PLANTING
SOIL MUST BE FIRMED AROUND PLANTING TO ELIMINATE AIR POCKETS
PLANTING MUST BE TRIMMED IF MORE THAN 2 BUDS ARE ABOVE GROUND
1" TO 3" SPACING FROM EACH PLANTING

STEP 2
CUT AND TRIM LIVE WILLOW BRANCH 0.5 TO 1.5" IN DIAMETER AND 36" LONG
BULBS

2015 MAIN STEM OF BASSETT CREEK GOLDEN VALLEY RESTORATION PROJECT
CITY OF
STREAMBANK STABILIZATION DETAILS
1. Prepare soil before installing blankets, including any necessary application of lime, fertilizer, and seed.

2. Begin at the top of the slope by anchoring the blanket in a 6" (15cm) deep x 6" (15cm) wide trench with approximately 12" (30cm) of blanket extended beyond the up-slope portion of the trench. Anchor the blanket with a row of staples/stakes approximately 12" (30cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to compacted soil and fold remaining 12" (30cm) portion of blanket back over seed and compacted soil. Secure blanket over compacted soil with a row of staples/stakes spaced approximately 12" (30cm) apart across the width of the blanket.

3. Roll the blankets (A.) down or (B.) horizontally across the slope. Blankets will unroll with appropriate side in appropriate locations as shown in the staple pattern guide. When using optional dot system, staples/stakes should be placed through each of the colored dots corresponding to the appropriate staple pattern.

4. The edges of parallel blankets must be stapled with approximately 2"-5" (5cm-12.5cm) overlap depending on blanket type. To ensure proper seam alignment, place the edge of the overlapping blanket (blanket being installed on top) even with the colored seam stitch on the previously installed blanket.

5. Consecutive blankets spliced down the slope must be placed end over end (shingle style) with an approximate 2" (5cm) overlap. Staple through overlapped area, approximately 12" (30cm) apart across entire blanket width.

Note: In loose soil conditions, the use of staple or stake lengths greater than 6" (15cm) may be necessary to properly secure the blankets.
- Contractor to restore all access points, staging locations, and haul roads to pre-project conditions.
- Disturbed areas within 15’ of bank to be reseeded with native vegetation; other disturbed areas to be restored to pre-project conditions to the maximum extent practicable.
- Contractor to restore all access points, staging locations, and haul roads to pre-project conditions.
- Disturbed areas within 15’ of bank to be reseeded with native vegetation; other disturbed areas to be restored to pre-project conditions to the maximum extent practicable.
- Contractor to restore all access points, staging locations, and haul roads to pre-project conditions.
- Disturbed areas within 15’ of bank to be reseeded with native vegetation; other disturbed areas to be restored to pre-project conditions to the maximum extent practicable.

Legend
- Staging
- Parcels
- 20’ Construction Zone and Access
- Creek Edge
- Proposed Grading Limits
- Creek Stationing
- Preferred Access

2015 Bassett Creek Main Stem Restoration Project
City of Golden Valley
Minnesota

Construction Zone and Access Area C
- Contractor to restore all access points, staging locations, and haul roads to pre-project conditions.
- Disturbed areas within 15’ of bank to be reseeded with native vegetation; other disturbed areas to be restored to pre-project conditions to the maximum extent practicable.
- Contractor to restore all access points, staging locations, and haul roads to pre-project conditions.
- Disturbed areas within 15’ of bank to be reseeded with native vegetation; other disturbed areas to be restored to pre-project conditions to the maximum extent practicable.
Remove debris from channel in this location as directed by engineer in the field.

Sta 0+00:
- Remove existing gabions at culvert
- Remove grouted rip rap
- Place 30 tons of class III rip rap at culverts

Sta 3+25 to 8+00:
- Remove existing gabions at culvert
- Remove grouted rip rap
- Place 30 tons of class III rip rap at culverts

Sta 8+00:
- Stabilize steep sections with Vegetated bench in areas where shaping not feasible
- Stabilize Streambanks with 12" Biolog and stone toe

Tree Removals:
- Sta 0+50 to 8+00
  - Clear dead, dying, and leaning trees
  - Clear brush along streambank
  - Clearing shall be limited to the maximum extent feasible. Final clearing limits to be staked and directed in the field by the Engineer.

Contractor to plant live stakes along length of restored sections, as staked in the field, in the following proportions:
2/3 dogwood, 1/3 willow

Legend
- Storm Sewer
- Vegetated Bench
- Biolog with Stone Toe
- Parcels
- Creek Stationing
**Tree Removals:**
- Sta 36+75 to 41+50, Both Banks - Remove approximately 50 trees
- Clear dead, dying, and leaning trees
- Clear brush along streambank
- Clearing shall be limited to the maximum extent feasible. Final clearing limits to be staked and directed in the field by the Engineer.

**Station 38+75 to 41+50:**
- Stabilize with slope shaping, 12'' Biolog, and stone toe

**Tree Removals:**
- Sta 36+50 to 41+50 - Both banks
- Remove approximately 50 trees
- Clear dead, dying, and leaning trees
- Clear brush along streambank
- Clearing shall be limited to the maximum extent feasible. Final clearing limits to be staked and directed in the field by the Engineer.

**Station 37+00, Left and Right:**
- Remove portions of chain link fence closest to creek as directed in the field by Engineer and only to the extent needed to perform bank stabilization.

**Station 36+00 to 37+00, Left and Right:**
- Coordinate seeding & restoration with property owner

**Legend:**
- Storm Sewer
- Vegetated Bench
- Biolog with Stone Toe
- Parcels
- Creek Stationing

2015 Bassett Creek Main Stem
Restoration Project
City of Golden Valley
Minnesota

Construction Plans
Area B
**2015 Bassett Creek Main Stem Restoration Project**  
City of Golden Valley  
Minnesota

**Construction Plans**  
Area C

---

**Legend**
- Storm Sewer
- Rip Rap Toe Stabilization
- Boulder Wall
- Previously Stabilized
- Vegetated Bench
- Biolog with Stone Toe
- Parcels
- Creek Stationing

---

**Tree Removals:**
- Sta 45+00 to 47+00: Remove box elder immediately west of bridge.
- Sta 42+50 to 45+50 (both banks); Sta. 46+75 to 47+25 (south bank): Stabilize using 12" biolog with stone toe.
- Sta 48+00 to 53+50: Stabilize streambanks with fieldstone rip rap toe stabilization and limited slope shaping.
- Sta 50+90: Place 48" manhole in existing alignment, 10' back from bank. MH to have 4' sump.
- Sta 55+00 to 57+00: Stabilize with vegetated bench. Top of bench section at approximately 868.00 (field verify).
- Sta 54+50 to 58+70: Stabilize streambanks with 12" Biolog with Stone Toe.
- Sta 58+70 to 59+70: Stabilize north and south banks with 6 ft. fieldstone boulder wall on the upbank side of the timber bridge piers. Top of boulders at approximately 871.00 (field verify). Transition downstream ends into existing banks to reduce scour. Boulder walls must be built into the existing bank and must not constrict the channel in this location.

---

**Contractor to plant live stakes along length of restored sections, as staked in the field, in the following proportions:**  
2/3 dogwood, 1/3 willow

---

**Stabilize using 12" biolog with stone toe**

**Stations:**
- Sta 55+00 to 57+00: Stabilize with vegetated bench. Top of bench section at approximately 868.00 (field verify).
- Sta 54+50 to 58+70: Stabilize streambanks with 12" Biolog with Stone Toe.
- Sta 58+70 to 59+70: Stabilize north and south banks with 6 ft. fieldstone boulder wall on the upbank side of the timber bridge piers. Top of boulders at approximately 871.00 (field verify). Transition downstream ends into existing banks to reduce scour. Boulder walls must be built into the existing bank and must not constrict the channel in this location.

---

**Clear brush along streambank**
**Clear brush along streambank**

**Protect emergency overflow emergency overflow & protect emergency overflow**

---

**Remove approximately 35 trees**

---

**Apply herbicide treatment to buckthorns**
**Clear brush along streambank**
**Clear brush along streambank**

---

**Stations:**
- Sta 58+70 to 59+70: Stabilize north and south banks with 6 ft. fieldstone boulder wall on the upbank side of the timber bridge piers. Top of boulders at approximately 871.00 (field verify). Transition downstream ends into existing banks to reduce scour. Boulder walls must be built into the existing bank and must not constrict the channel in this location.
- Sta 55+00 to 55+90: Remove approximately 35 trees. Clear dead, dying, and leaning trees. Clear brush along streambank.
- Sta 54+50 to 55+25: Right. Do not shape slope back.

---

**Clear dead, dying, and leaning trees**
**Clear dead, dying, and leaning trees**

---

**Raise channel immediately west**
**Raise channel immediately west**

---

**Save large cottonwood**

---

**Do not shape slope back**

---

**Remove Box Elder immediately west of bridge.**

---

**Clear buckthorn on south bank**

---

**Station 46+75 to 47+25:**
- Stabilize north bank with vegetated bench.
- Clear brush on north bank. Clear buckthorn on south bank.

---

**Station 42+50 to 45+50 (both banks); Sta. 46+75 to 47+25 (south bank):**
- Stabilize using 12" biolog with stone toe.
- Clear dead, dying, and leaning trees.
- Clear brush along streambank.
- Clear brush along streambank.

---

**Clear dead, dying, and leaning trees**

---

**Station 46+75 to 47+25:**
- Stabilize north bank with vegetated bench.
- Clear brush on north bank. Clear buckthorn on south bank.

---

**Stations:**
- Sta 48+00 to 53+50: Stabilize streambanks with fieldstone rip rap toe stabilization and limited slope shaping.
- Sta 50+90: Place 48" manhole in existing alignment, 10' back from bank. MH to have 4' sump.
- Sta 55+00 to 57+00: Stabilize with vegetated bench. Top of bench section at approximately 868.00 (field verify).
- Sta 54+50 to 58+70: Stabilize streambanks with 12" Biolog with Stone Toe.
- Sta 58+70 to 59+70: Stabilize north and south banks with 6 ft. fieldstone boulder wall on the upbank side of the timber bridge piers. Top of boulders at approximately 871.00 (field verify). Transition downstream ends into existing banks to reduce scour. Boulder walls must be built into the existing bank and must not constrict the channel in this location.
- Sta 55+00 to 55+90: Remove approximately 35 trees. Clear dead, dying, and leaning trees. Clear brush along streambank.
- Sta 54+50 to 55+25: Right. Do not shape slope back.

---

**Clearing shall be limited to the maximum extent feasible.**
**Clearing shall be limited to the maximum extent feasible.**

---

**Apply herbicide treatment to buckthorns**
**Apply herbicide treatment to buckthorns**

---

**Transition downstream ends into existing banks to reduce scour.**

---

**Stabilize streambanks with fieldstone rip rap toe stabilization.**
**Stabilize streambanks with fieldstone rip rap toe stabilization.**

---

**Do not shape slope back**

---

**Raise channel immediately west**

---

**Clear buckthorn on south bank**

---

**Station 46+75 to 47+25:**
- Stabilize north bank with vegetated bench.
- Clear brush on north bank. Clear buckthorn on south bank.

---

**Stations:**
- Sta 48+00 to 53+50: Stabilize streambanks with fieldstone rip rap toe stabilization and limited slope shaping.
- Sta 50+90: Place 48" manhole in existing alignment, 10' back from bank. MH to have 4' sump.
- Sta 55+00 to 57+00: Stabilize with vegetated bench. Top of bench section at approximately 868.00 (field verify).
- Sta 54+50 to 58+70: Stabilize streambanks with 12" Biolog with Stone Toe.
- Sta 58+70 to 59+70: Stabilize north and south banks with 6 ft. fieldstone boulder wall on the upbank side of the timber bridge piers. Top of boulders at approximately 871.00 (field verify). Transition downstream ends into existing banks to reduce scour. Boulder walls must be built into the existing bank and must not constrict the channel in this location.
- Sta 55+00 to 55+90: Remove approximately 35 trees. Clear dead, dying, and leaning trees. Clear brush along streambank.
- Sta 54+50 to 55+25: Right. Do not shape slope back.

---

**Clear dead, dying, and leaning trees**

---

**Raise channel immediately west**

---

**Remove Box Elder immediately west of bridge.**

---

**Clear buckthorn on south bank**

---

**Station 46+75 to 47+25:**
- Stabilize north bank with vegetated bench.
- Clear brush on north bank. Clear buckthorn on south bank.
Stations: 63+00 to 70+50 (Left); Stations: 65+50 to 69+00 (Right); Stations: 71+00 to 72+25 (Right):
- Repair boulder wall as directed in the field by the Engineer.
- Clear brush along streambank.
- Clear dead, dying, and leaning trees.
- Remove 140 to 150 trees.
- Clear brush along streambank.
- Clearing shall be limited to the maximum extent feasible. Final clearing limits to be considered within this reach – as topography and other conditions allow -- as directed in the field by the Engineer.

Approximately station 62+00:
- Repair boulder wall as directed in the field by Engineer.
- Protect tree surrounded by wooden wall.
- Clearing shall be limited to the maximum extent feasible. Final clearing limits to be considered within this reach -- as topography and other conditions allow -- as directed in the field by the Engineer.

Sta 74+25 to 74+75:
- Limited slope shaping as needed in previously restored area.
- Protect tree surrounded by wooden wall.
- Clearing shall be limited to the maximum extent feasible. Final clearing limits to be considered within this reach -- as topography and other conditions allow -- as directed in the field by the Engineer.

Station 77+25 to 77+75:
- Stabilize with 30-34" boulder wall 6-8 feet tall in severely eroded area.
- Tie top of wall into existing bank at approximately 861.00 (field verify).
- Transition upstream and downstream ends of wall by tapering into existing bank.
- Station 68+50 to 71+00:
  - Stabilize steep bank section with 9' fieldstone boulder wall.
  - Top of wall elevation approximately 875.

Sta 79+00 to 79+80:
- Replace washed out portions of previously installed boulder wall.
- Boulder wall from here to Duluth.
- Remove remnants of block wall.

Sta 66+75 to 67+50:
- Remove cinder blocks and foreign material from creek.

Sta 66+75 to 75+50:
- Remove debris and other material from creek near outfall.

Sta 74+75 to 75+50:
- Boulder wall from here to Duluth.
- Previously installed boulder wall.
- Replace washed out portions of previously installed boulder wall.

Station 68+50 to 71+00:
- Stabilize steep bank section with 9' fieldstone boulder wall.
- Top of wall elevation approximately 875.

Sta 66+75 to 67+50:
- Remove debris and other material from creek near outfall.

Sta 63+20:
- Retallach 42" RCP FES at 864.60 (field verify).
- Remove old sheeptiling and replace with new sheeptiling under FES.
- Stabilize with Class II Rip Rap (SEE DETAILS).

Sta 63+25:
- Install 18" galvanized FES FES on 18" CMP at existing elevation.

Sta 63+60:
- Remove remnants of block wall.

Sta 67+00:
- Stabilize 18" RCP FES with Class II Rip Rap (SEE DETAILS).

Sta 66+75 to 75+50:
- Remove debris and other material from creek near outfall.

Sta 77+25 to 77+75:
- Stabilize with 30-34" boulder wall 6-8 feet tall in severely eroded area.
- Tie top of wall into existing bank at approximately 861.00 (field verify).
- Transition upstream and downstream ends of wall by tapering into existing bank.

Sta 63+25:
- Install 18" galvanized FES FES on 18" CMP at existing elevation.

Tree Removals:
Sta 62+50 to 82+50:
- Remove 140 to 150 trees.
- Clear dead, dying, and leaning trees.
- Clear brush along streambank.
- Clearing shall be limited to the maximum extent feasible. Final clearing limits to be staked and directed in the field by the Engineer.

NOTE: The predominant restoration practice in this reach is the biolog and boulder toe. Other stabilization practices will be considered within this reach -- as topography and other conditions allow -- as directed in the field by the Engineer.
Sta 83+00 to 94+00
- Stabilize streambanks with 12" biolog, slope shaping, and submerged stone toe
- See sheets 2-6 for details

Sta 89+25
- Install FES on 12" CMP at 860.0 (field verify)
- Install FES on 10" PVC at 858.2 (field verify)
- Stabilize each outfall with Class II Rip Rap
(SEE DETAILS)

Sta 87+90
- Install galvanized FES on 15" PVC pipe at 858.52 (field verify)
- Stabilize outfall with Class II Rip Rap
(SEE DETAILS)

Sta 87+60
- Install FES on 12" CMP at approximately 860.5 (field verify)
- Install FES on 24" RCP at approximately 860.0 (field verify)
- Stabilize outfalls with Class II Rip Rap
(SEE DETAILS)

Approximately Sta 86+00 to 88+00:
- Realign trail to the east approximately 15’ (where feasible)
to provide room to pull back steep bank

Sta 86+50 to 86+70
- Remove gabion baskets

Place vegetated bench where trail realignment not feasible

Sta 85+50 to 86+70
- Remove gабion baskets

Sta 85+90
- Install FES on 12" RCP at 858.42 (field verify)
- Stabilize outfall with Class II Rip Rap
(SEE DETAILS)

Contractor to plant live stakes along length of restored sections, as staked in the field, in the following proportions:
- 2/3 dogwood, 1/3 willow

Save oak in yard near bank

Trees Removals:
Sta 83+00 to 94+00
- Remove 100 to 120 Trees
- Clear dead, dying, and leaning trees
- Clear brush along streambank
- Clearing shall be limited to the maximum extent feasible. Final clearing limits to be staked and directed in the field by the Engineer.
2015 Bassett Creek Main Stem Restoration Project
City of Golden Valley
Minnesota

Erosion & Sediment Control
Area D

Legend
- Rock Construction Entrance
- Silt Fence
- Floating Silt Fence
- Staging
- Parcels
- Creek Stationing
- Preferred Access
STORMWATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE

PROJECT SITE EVALUATION, ASSESSMENT, AND PLANNING

The analysis of the project site revealed issues that may affect the project site, such as the presence of stormwater pollutants. The project site was assessed to determine if it is suitable for the proposed activities.

PROJECT LOCATION/DESCRIPTION

The project site is located at 2015 Main Stem of Basset Creek, Golden Valley, MN 55411. The project site includes the construction of a stormwater management system to address stormwater pollution issues.

CONSTRUCTION ACTIVITIES

The construction activities include grading, excavation, and installation of stormwater management structures to manage stormwater runoff.

CONSTRUCTION SCHEDULE

The construction schedule is as follows:

- Stormwater Management System Installation: October 2015
- System Activation: November 2015

PROJECT CONTACTS

- ICE HOUSE ENTERPRISES, LLC
  Address: 123 Main Street, Golden Valley, MN 55411
  Phone: 763-555-1234

- ICE HOUSE MANAGEMENT
  Address: 123 Main Street, Golden Valley, MN 55411
  Phone: 763-555-1234

- ICE HOUSE CONSTRUCTION
  Address: 123 Main Street, Golden Valley, MN 55411
  Phone: 763-555-1234

- ICE HOUSE DESIGN
  Address: 123 Main Street, Golden Valley, MN 55411
  Phone: 763-555-1234

- ICE HOUSE SERVICES
  Address: 123 Main Street, Golden Valley, MN 55411
  Phone: 763-555-1234

EXISTING CONDITIONS, SOILS, AND WATER RESOURCES

The existing conditions include soil characteristics and water resources that may affect the stormwater management system. The soils are classified as "highly erodible land," and the water resources are monitored to ensure compliance with environmental regulations.

STORMWATER POLLUTION PREVENTION PLAN

The stormwater pollution prevention plan includes measures to reduce the impact of stormwater runoff on the environment. The plan includes best management practices to minimize stormwater pollution.

SWPPP NARRATIVE

The SWPPP narrative includes the following sections:

- SWPPP PLAN
- SWPPP IMPLEMENTATION
- SWPPP MONITORING

SWPPP PLAN

The SWPPP plan includes the following activities:

- Sediment and nutrient control
- Hydrologic modeling
- Non-stormwater pollution control

SWPPP IMPLEMENTATION

The SWPPP implementation involves the following measures:

- On-site sediment control
- Off-site sediment control
- Water quality monitoring

SWPPP MONITORING

The SWPPP monitoring includes the following activities:

- Water quality sampling
- Sediment sampling
- Stormwater flow monitoring

This document is a narrative of the stormwater pollution prevention plan for the project site located at 2015 Main Stem of Basset Creek, Golden Valley, MN 55411. The plan includes measures to reduce stormwater pollution and ensure compliance with environmental regulations.
ADDITIONAL IMP'S FOR SPECIAL WATER MANAGEMENT CONTROL CONSTRUCTION ACTIVITY (DATA FROM APPENDIX A)

ALL REQUIREMENTS ARE SUBJECT TO THIS SECTION. IN ADDED SPECIFICITY TO THE PROCEDURE. WHERE REQUIREMENTS ARE NOT metodo SPECIFIC REQUIREMENTS ARE SHOWN. ALL ENDS USED TO COMPLY WITH THIS APPENDIX ARE SUBJECT TO REVISION FOR THE PROJECT (APPENDIX A).

2.1.2 OPERATING DAILY: OPERATOR SHALL UTILIZE ALL PERMITTED ACTIVITY AREAS WITHIN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THIS PHASE TO THE PROJECT LIMITS.(1) PERMANENTLY PERMITTED AREA (A.C.G.)

2.1.3 PROJECT LIMITS: PROJECT LIMITS SHALL AGREE TO THE PERMANENTLY PERMITTED AREA (A.C.G.)

2.1.4 ACTIVITIES: ACTIVITIES WHICH ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT.

2.2 CONSTRUCTION: THE WATER QUALITY VOLUME SHALL BE REGULATED AS PERMITTED ACTIVITY IN THIS PHASE. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT.

2.2.1.1 OPERATING DAILY: OPERATOR SHALL UTILIZE ALL PERMITTED ACTIVITY AREAS WITHIN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THIS PHASE TO THE PROJECT LIMITS.(1) PERMANENTLY PERMITTED AREA (A.C.G.)

2.2.1.2 PROJECT LIMITS: PROJECT LIMITS SHALL AGREE TO THE PERMANENTLY PERMITTED AREA (A.C.G.)

2.2.1.3 ACTIVITIES: ACTIVITIES WHICH ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT.

2.2.2 CONSTRUCTION: THE WATER QUALITY VOLUME SHALL BE REGULATED AS PERMITTED ACTIVITY IN THIS PHASE. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT.

2.2.2.1 OPERATING DAILY: OPERATOR SHALL UTILIZE ALL PERMITTED ACTIVITY AREAS WITHIN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THIS PHASE TO THE PROJECT LIMITS.(1) PERMANENTLY PERMITTED AREA (A.C.G.)

2.2.2.2 PROJECT LIMITS: PROJECT LIMITS SHALL AGREE TO THE PERMANENTLY PERMITTED AREA (A.C.G.)

2.2.2.3 ACTIVITIES: ACTIVITIES WHICH ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT.

2.2.3 CONSTRUCTION: THE WATER QUALITY VOLUME SHALL BE REGULATED AS PERMITTED ACTIVITY IN THIS PHASE. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT.

2.2.3.1 OPERATING DAILY: OPERATOR SHALL UTILIZE ALL PERMITTED ACTIVITY AREAS WITHIN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THIS PHASE TO THE PROJECT LIMITS.(1) PERMANENTLY PERMITTED AREA (A.C.G.)

2.2.3.2 PROJECT LIMITS: PROJECT LIMITS SHALL AGREE TO THE PERMANENTLY PERMITTED AREA (A.C.G.)

2.2.3.3 ACTIVITIES: ACTIVITIES WHICH ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT.

2.3 CONSTRUCTION: THE WATER QUALITY VOLUME SHALL BE REGULATED AS PERMITTED ACTIVITY IN THIS PHASE. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT.

2.3.1 OPERATING DAILY: OPERATOR SHALL UTILIZE ALL PERMITTED ACTIVITY AREAS WITHIN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THIS PHASE TO THE PROJECT LIMITS.(1) PERMANENTLY PERMITTED AREA (A.C.G.)

2.3.2 PROJECT LIMITS: PROJECT LIMITS SHALL AGREE TO THE PERMANENTLY PERMITTED AREA (A.C.G.)

2.3.3 ACTIVITIES: ACTIVITIES WHICH ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT.

2.4 CONSTRUCTION: THE WATER QUALITY VOLUME SHALL BE REGULATED AS PERMITTED ACTIVITY IN THIS PHASE. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT.

2.4.1 OPERATING DAILY: OPERATOR SHALL UTILIZE ALL PERMITTED ACTIVITY AREAS WITHIN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THIS PHASE TO THE PROJECT LIMITS.(1) PERMANENTLY PERMITTED AREA (A.C.G.)

2.4.2 PROJECT LIMITS: PROJECT LIMITS SHALL AGREE TO THE PERMANENTLY PERMITTED AREA (A.C.G.)

2.4.3 ACTIVITIES: ACTIVITIES WHICH ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT.

2.5 CONSTRUCTION: THE WATER QUALITY VOLUME SHALL BE REGULATED AS PERMITTED ACTIVITY IN THIS PHASE. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT.

2.5.1 OPERATING DAILY: OPERATOR SHALL UTILIZE ALL PERMITTED ACTIVITY AREAS WITHIN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THIS PHASE TO THE PROJECT LIMITS.(1) PERMANENTLY PERMITTED AREA (A.C.G.)

2.5.2 PROJECT LIMITS: PROJECT LIMITS SHALL AGREE TO THE PERMANENTLY PERMITTED AREA (A.C.G.)

2.5.3 ACTIVITIES: ACTIVITIES WHICH ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT. ACTIVITIES SHOWN ARE NOT SPECIFICALLY CONVERTED TO THE PROJECT.
2015 MAIN STEM OF BASSETT CREEK
GOLDEN VALLEY
RESTORATION PROJECT
CITY OF
STORM WATER POLLUTION PREVENTION PLAN

- EMBANKMENT AND FLOOD CONTROL (NEXT TO POTENTIAL FLOOD PLANE) MUST BE COVERED WITH NON-EROSIVE MATERIAL MENTIONED IN THE PROJECT SPECIFICATIONS.
- PANELS ARE PERMITTED TO BE TIGHTENED AROUND THE PERIMETER OF THE PANELS.
- A MINIMUM OF 30 LINEAR FEET OF BARBED WIRE PER POUND MENTIONED ON THE PANELS.
- A MINIMUM OF 30 LINEAR FEET OF BARBED WIRE PER POUND MENTIONED ON THE PANELS.
- A MINIMUM OF 30 LINEAR FEET OF BARBED WIRE PER POUND MENTIONED ON THE PANELS.
- A MINIMUM OF 30 LINEAR FEET OF BARBED WIRE PER POUND MENTIONED ON THE PANELS.
- A MINIMUM OF 30 LINEAR FEET OF BARBED WIRE PER POUND MENTIONED ON THE PANELS.

STORM WATER POLLUTION PREVENTION PLAN

- EMBANKMENT AND FLOOD CONTROL (NEXT TO POTENTIAL FLOOD PLANE) MUST BE COVERED WITH NON-EROSIVE MATERIAL MENTIONED IN THE PROJECT SPECIFICATIONS.
- PANELS ARE PERMITTED TO BE TIGHTENED AROUND THE PERIMETER OF THE PANELS.
- A MINIMUM OF 30 LINEAR FEET OF BARBED WIRE PER POUND MENTIONED ON THE PANELS.
- A MINIMUM OF 30 LINEAR FEET OF BARBED WIRE PER POUND MENTIONED ON THE PANELS.
- A MINIMUM OF 30 LINEAR FEET OF BARBED WIRE PER POUND MENTIONED ON THE PANELS.
- A MINIMUM OF 30 LINEAR FEET OF BARBED WIRE PER POUND MENTIONED ON THE PANELS.

STORM WATER POLLUTION PREVENTION PLAN

- EMBANKMENT AND FLOOD CONTROL (NEXT TO POTENTIAL FLOOD PLANE) MUST BE COVERED WITH NON-EROSIVE MATERIAL MENTIONED IN THE PROJECT SPECIFICATIONS.
- PANELS ARE PERMITTED TO BE TIGHTENED AROUND THE PERIMETER OF THE PANELS.
- A MINIMUM OF 30 LINEAR FEET OF BARBED WIRE PER POUND MENTIONED ON THE PANELS.
- A MINIMUM OF 30 LINEAR FEET OF BARBED WIRE PER POUND MENTIONED ON THE PANELS.
- A MINIMUM OF 30 LINEAR FEET OF BARBED WIRE PER POUND MENTIONED ON THE PANELS.
- A MINIMUM OF 30 LINEAR FEET OF BARBED WIRE PER POUND MENTIONED ON THE PANELS.
2015 MAIN STEM OF BASSETT CREEK GOLDEN VALLEY RESTORATION PROJECT

STORM WATER POLLUTION PREVENTION PLAN

CITY OF

STORM WATER POLLUTION PREVENTION PLAN

SWPPP: 2015 Main Stem of Bassett Creek
Restoration Project
City of Golden Valley, MN

STORM WATER POLLUTION PREVENTION PLAN

CITY PROJECT NUMBER 13-25
PROJECT NUMBER C0202-09

SHEET 27 OF 27 SHEETS