

Information for File # 2013-02748-JTF

Applicant City of Duluth

Corps Contact Josh Fitzpatrick

Address 1554 Highway 2, Suite 2, Two Harbors, MN 55616

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Phone (651) 290-5694

Primary County St. Louis County

Sec/Township/Range: SE ¼, Sec. 6, T. 49N., R. 14W.

Information Complete On July 26, 2013

Posting Expires On August 5, 2013

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. An approved jurisdictional determination will be made prior to reaching a permit decision, and will be posted on the St. Paul District web page at <http://www.mvp.usace.army.mil/>.

PROJECT PURPOSE & NEED: A June, 2012 flood event severely damaged the abutments of a foot bridge across Merritt Creek in the City of Duluth. The bridge is unsafe to cross and in risk of failure.

PROJECT DESCRIPTION:

The project would include removing and replacing a gabion wall that partially failed during the flood event. The repair would consist of a rip-rap slope graded as shallow as possible to retain the existing trees along the stream. To prevent sloughing, the slope would be retained by a small concrete 'curb' at the toe. Compost grouting would be applied to the rip-rap above the ordinary high water line to provide a more natural looking slope.

The pedestrian bridge in risk of failure would be completely removed and not replaced.

NAME, AREA AND TYPES OF WATERS (INCLUDING WETLANDS) SUBJECT TO LOSS: There would be a permanent discharge of fill material onto 4,500 square feet of the bed of Merritt Creek for the construction of the rip-rap slope.

ALTERNATIVES CONSIDERED: The no-build alternative was dismissed since it would not address the need to remove the unsafe bridge and repair the unstable stream bank.

A second alternative of gabion replacement in kind and slope repair was considered. However, this alternative was not chosen because it would not allow the stream to look natural.

The third alternative of rip-rap slope reinforcement, compost grouting, and complete bridge removal was chosen as the preferred alternative. This alternative meets the project purpose and need while providing a more natural looking stream bank.

COMPENSATORY MITIGATION: Compensatory mitigation would not be required. There are no impacts to wetlands for this project.

DRAWINGS: See attached.

CITY OF DULUTH

MERRITT CREEK FLOOD REPAIRS

DEPARTMENT OF PUBLIC WORKS AND UTILITIES - ENGINEERING DIVISION

CITY PROJECT NO. 1202

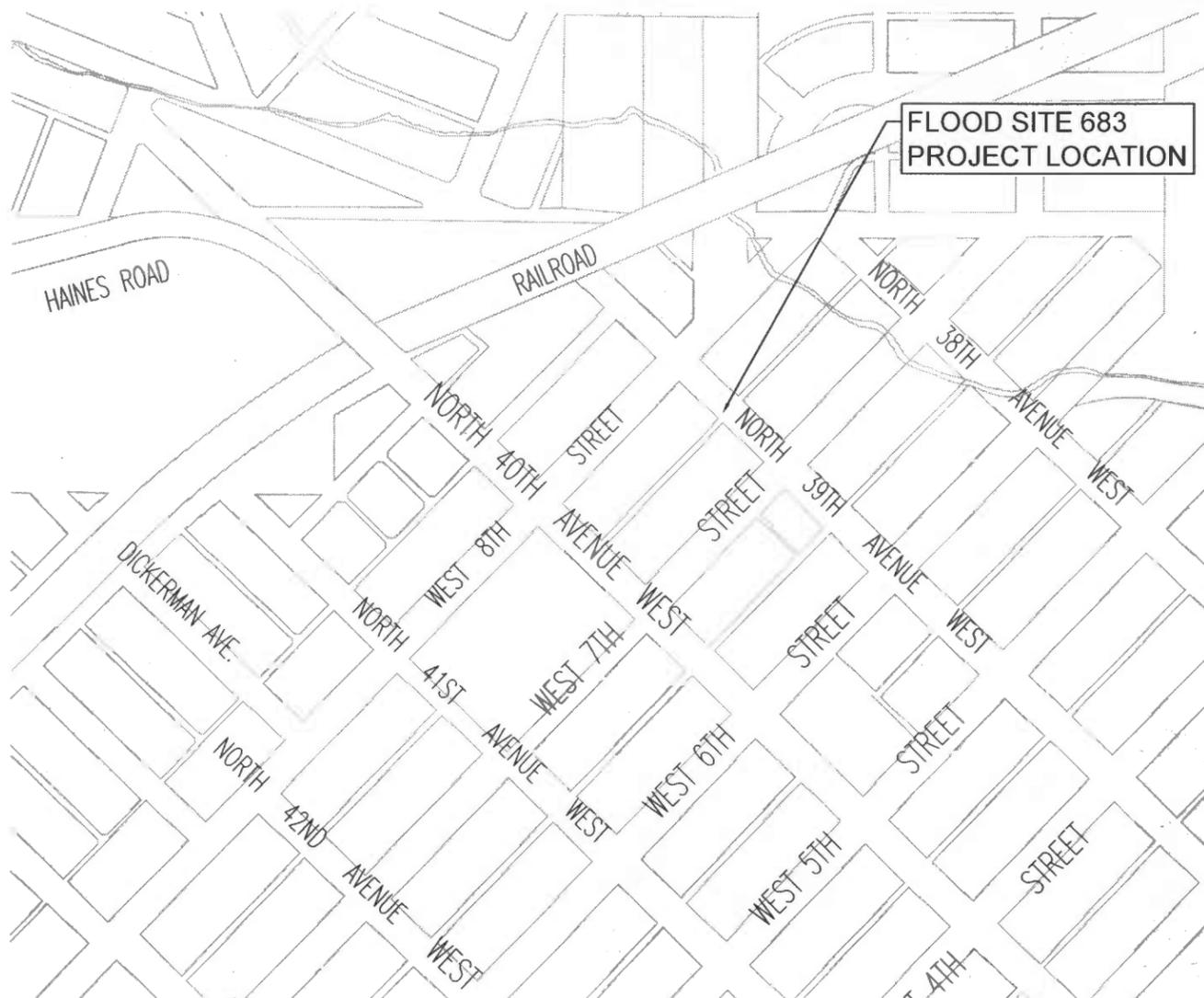
2013-02748-JTF
Drawing 1 of 5

PROJECT ADDRESS: NOT APPLICABLE

CONSTRUCTION PLANS FOR: REMOVAL AND REPLACEMENT OF A
GABION WALL, SLOPE STABILIZATION AND
REMOVAL OF PEDESTRIAN BRIDGE.

SITE SYMBOLS LEGEND

	EXISTING WATER MAIN
	EXISTING GATE VALVE & HYDRANT
	WATER SERVICE & CURB STOP
	PROPOSED WATERMAIN, VALVE, & HYDRANT
	PROPOSED WATER SERVICE & CURB STOP
	EXISTING SANITARY SEWER & MANHOLE
	EXISTING FORCEMAIN
	EXISTING STORM SEWER & INLET
	PROPOSED STORM SEWER & INLET
	PROPOSED MANHOLE & SEWER MAIN (LESS THAN 24"Ø)
	PROPOSED MANHOLE & SEWER MAIN (24"Ø AND LARGER)
	BURIED ELECTRIC
	BURIED GAS & VALVE
	BURIED CABLE TELEVISION
	BURIED TELEPHONE
	BURIED FIBER OPTICS
	RAILROAD TRACKS
	EXISTING CURB & GUTTER
	PROPOSED CURB & GUTTER
	EXISTING SIDEWALK
	PROPOSED SIDEWALK
	EXISTING CULVERT PIPE
	PROPOSED CULVERT PIPE
	FENCE LINE
	DRAINAGE ARROW
	SILT FENCE
	RIGHT-OF-WAY
	BASELINE
	PROPERTY LINE
	TREE LINE
	PROPOSED DRAINTILE
	IRON PIPE
	IRON ROD
	CONTROL POINT
	POWER POLE & GUY
	SOIL BORING
	LIGHT POLE
	PEDESTAL
	STREET SIGN
	FLAGPOLE
	EROSION BALES
	PROPOSED CATCH BASIN
	TREE - CONIFEROUS
	EXISTING CATCH BASIN



SHEET INDEX	
SHEET NO.	SHEET TITLE
G-1	TITLE SHEET
G-2	EXISTING CONDITIONS
G-3	SITE PLAN
G-4	SITE DETAILS

UTILITIES

SANITARY SEWER
WATER & GAS
STORM SEWER
CITY OF DULUTH-ENGINEERING DEPT
211 CITY HALL
DULUTH, MN 55802
TEL (218) 723-3278

ELECTRIC
MINNESOTA POWER
30 WEST SUPERIOR ST.
DULUTH, MN 55802
TEL (218) 722-2641

TELEPHONE
QWEST TELEPHONE CO.
322 WEST FIRST ST.
DULUTH, MN 55802
TEL (218) 723-4210 (MANAGER)

CABLE TV
CHARTER COMMUNICATIONS INC.
302 EAST SUPERIOR ST.
DULUTH, MN 55802
TEL (218) 722-1066

STREET LIGHTS
CITY OF DULUTH-TRAFFIC OPERATIONS
1532 WEST MICHIGAN ST.
DULUTH, MN 55802
TEL (218) 723-3580



PROJECT LOCATION
DULUTH
MINNESOTA
ST. LOUIS COUNTY
CITY OF DULUTH



GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN (AVAILABLE AT: <http://www.dot.state.mn.us/tscsup/specindex.html>)

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MMUTCD, INCLUDING FIELD MANUAL DATED: JULY 2012 (FIELD MANUAL DATED FEBRUARY 2011) (AVAILABLE AT: <http://www.mnroad.dot.state.mn.us/trafficeng/otepub/mutcd/index.html>)

THE 2360 PLANT MIXED ASPHALT PAVEMENT COMBINED 2360/2350 (GYRATORY/MARSHALL DESIGN) SPECIFICATION FOR 2010 CONSTRUCTION SEASON SHALL GOVERN (AVAILABLE AT: <http://www.mnroad.dot.state.mn.us/pavement/bituminous/bituminous.asp>)

CITY OF DULUTH ENGINEERING DIVISION 2013 EDITION, STANDARD CONSTRUCTION SPECIFICATIONS SHALL APPLY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PROJECT ENGINEER:  JOSEPH JUREWICZ, P.E. DATE _____ REG. NO. 50396

CITY APPROVAL

Caroline Pedersen
APPROVED _____ CHIEF ENGINEER OF TRANSPORTATION DATE _____

Eric R. Shaffer
APPROVED _____ CHIEF ENGINEER OF UTILITIES DATE _____

Cindy Voigt
APPROVED _____ CITY ENGINEER DATE _____

WARNING
LOCATION OF UNDERGROUND UTILITIES
TO BE VERIFIED BY CONTRACTOR
GOPHER STATE ONE CALL
CALL BEFORE DIGGING,
1-800-252-1166
REQUIRED BY LAW

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CIASCE 38-2, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

Plot time & date: 10:46am 05 Jun 2013

P:\0108\0161000616089\CADD\Construction Documents\G-1 TITLE SHEET.dwg

Revision: 1
Date: 5/10/13
Author: JJ



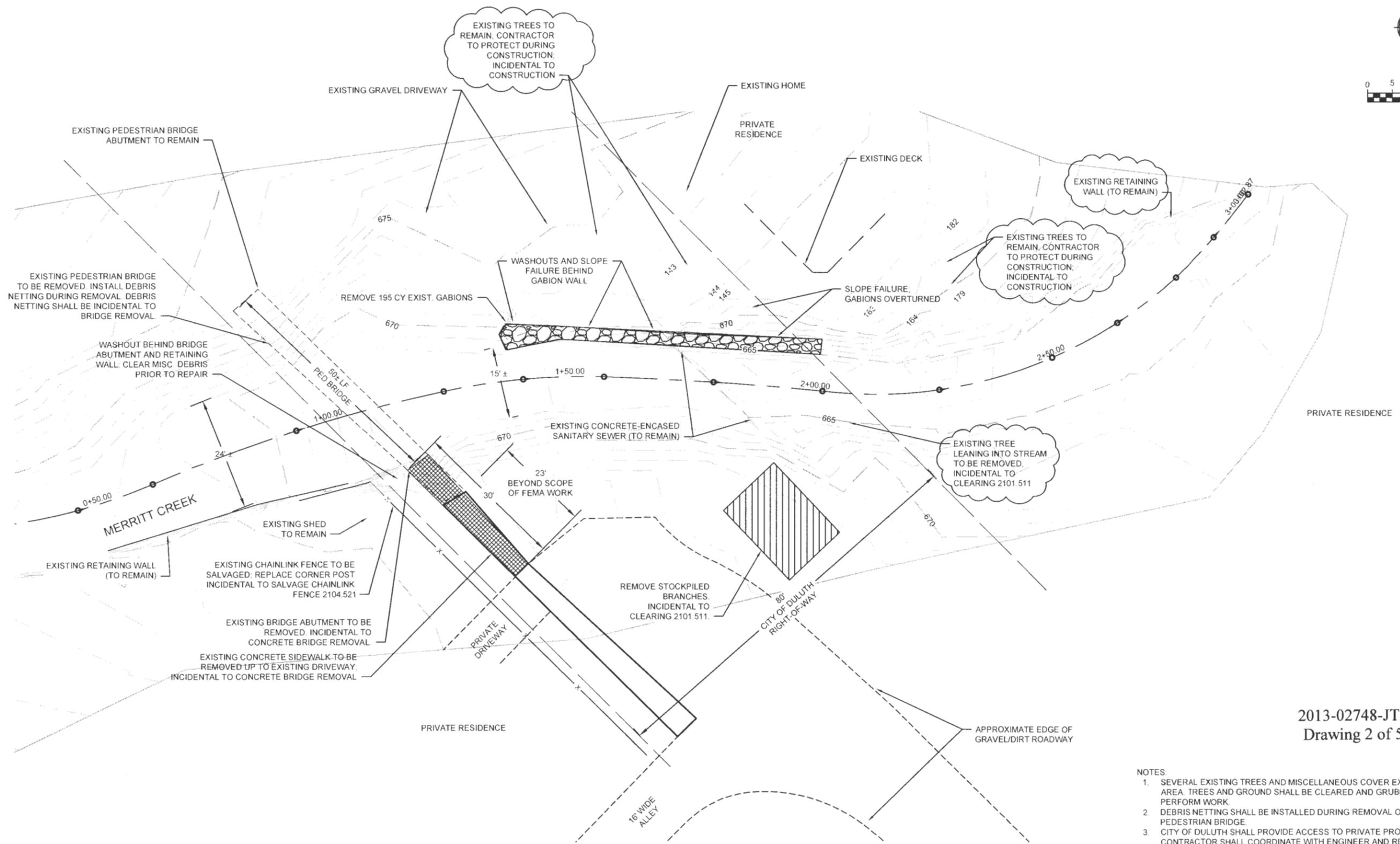
Designed By: JJ
Drawn By: JJ
Checked By: JJ

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
SIGNATURE: _____
JOSEPH JUREWICZ, P.E.
REG. NO. 50396 DATE 5/10/13

CITY PROJ. NO. 1202

CITY OF DULUTH
MERRITT CREEK FLOOD REPAIR

SHEET NO. G-1 - TITLE SHEET



2013-02748-JTF
Drawing 2 of 5

- NOTES:
- SEVERAL EXISTING TREES AND MISCELLANEOUS COVER EXIST IN THE PROJECT AREA. TREES AND GROUND SHALL BE CLEARED AND GRUBBED AS NECESSARY TO PERFORM WORK.
 - DEBRIS NETTING SHALL BE INSTALLED DURING REMOVAL OF THE EXISTING PEDESTRIAN BRIDGE.
 - CITY OF DULUTH SHALL PROVIDE ACCESS TO PRIVATE PROPERTY FOR WORK. CONTRACTOR SHALL COORDINATE WITH ENGINEER AND RESIDENTS AS NEEDED TO COMPLETE THE WORK.
 - MULTIPLE MATURE TREES WITHIN THE STREAM CHANNEL SHALL BE PROTECTED DURING CONSTRUCTION ACTIVITIES. THESE TREES EXIST IN LOCATIONS BETWEEN STA. 1+40 TO APPROXIMATELY STA 1+60.

P:\19105\616100516069\CAD\Construction Documents\G-2 EXISTING CONDITIONS.dwg



Designed By:	JJJ	1	PER MNDNR	6/13	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Drawn By:	JJJ				
Checked By:	JJJ				

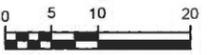
NUM	REVISIONS	DATE	SIGNATURE
			JOSEPH JUREK, PE

REG. NO. 50396 DATE 5/10/13

CITY PROJ. NO. 1202

CITY OF DULUTH
MERRITT CREEK FLOOD REPAIR

G-2 EXISTING CONDITIONS



PROTECT EXISTING TREES DURING CONSTRUCTION ACTIVITY (TYP.)

25 LF 4" PERFORATED PIPE; SEE REPAIR SECTION DETAIL

INSTALL CONCRETE ANCHOR PER DETAIL AT TOE OF SLOPE. ATTACH TO EXISTING BEDROCK; TYPICAL BOTH SIDES OF STREAM

REGRADE EXISTING SLOPE PER PROPOSED SLOPE REPAIR DETAIL. MAXIMUM SLOPE SHALL BE 1.5:1 (H:V) UNLESS DIRECTED OTHERWISE BY THE ENGINEER IN THE FIELD.

PROTECT EXISTING TREES WITHIN STREAM (TYP.)

PROTECT EXISTING TREES DURING CONSTRUCTION ACTIVITY (TYP.)

BLEND PROPOSED SLOPES INTO EXISTING ROCK WALL

BLEND PROPOSED SLOPES INTO EXISTING GROUTED ROCK WALL

REPLACE EXISTING CORNER FENCE POST; INCIDENTAL TO SALVAGE CHAINLINK FENCE 2104.521

EXISTING RETAINING WALL TO REMAIN

TYPE 4 OBJECT MARKERS X4-11 RED-ON-RED

CONCRETE SEWER ENCASEMENT TO REMAIN

APPROXIMATE STREAM ACCESS ROUTE. FOLLOW EXISTING CLEARED PATH, PRUNE TREE AS NECESSARY.

10 LF 4" PERFORATED HDPE DRAIN; SEE SLOPE REPAIR DETAIL; DAYLIGHT TO STREAM

REPAIR WASHOUT BEHIND WALL PER SLOPE REPAIR DETAIL WITH CONCRETE ANCHOR. SEE DETAILS.

BLEND PROPOSED AND EXISTING SLOPES AROUND AREA OF WORK; TYPICAL OF ALL AREAS

35 LF W-BEAM GUARDRAIL (STD. PLATE B307)

SIDEWALK TO BE SAWCUT AND REMOVED AT PRIVATE DRIVEWAY; INCIDENTAL TO CONCRETE BRIDGE REMOVAL; SEE SHEET G-2

PRIVATE RESIDENCE

80' CITY OF DULUTH RIGHT-OF-WAY

2013-02748-JTF
Drawing 3 of 5

NOTES:

1. CONTRACTOR TO GRADE ALL RESTORED AREAS TO DRAIN AWAY FROM STRUCTURES AND ROADWAYS UNLESS NOTED.
2. CONTRACTOR TO RESTORE ALL AREAS DISTURBED AS A RESULT OF CONSTRUCTION. PRIVATE PROPERTY AND RIGHT-OF-WAY SHALL INCLUDE 4-INCHES OF TOPSOIL AND SEED. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. EROSION CONTROL BLANKET SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER IN THE FIELD.
3. NO TREE REPLACEMENT IS INCLUDED WITH THIS PROJECT.
4. CONTRACTOR SHALL REFER TO SPECIFICATIONS FOR ROOT-RAP MATERIAL INFORMATION.
5. CONTRACTOR TO BLEND AND MATCH EXISTING GRADES AT EDGES OF WORK. DRAINAGE SHALL FALL OVER RIP-RAP AND NOT BE RETAINED BEHIND IT.
6. CONTRACTOR TO USE GRANULAR FILL FOR ALL BACKFILL. CONTRACTOR MAY SUBSTITUTE SUITABLE IN-PLACE MATERIAL FOR GRANULAR FILL WITH WRITTEN AUTHORIZATION BY THE ENGINEER.
7. ANY EXPOSED SLOPES SHALL BE STABILIZED IN A METHOD APPROVED BY THE ENGINEER WITHIN 24 HOURS.
8. CONTRACTOR IS RESPONSIBLE FOR DESIGN, INSTALLATION AND MAINTENANCE OF TEMPORARY STREAM DIVERSIONS REQUIRED TO PERFORM WORK WITHIN THE STREAM.
9. MERRITT CREEK IS CLASSIFIED AS A TROUT STREAM. CONTRACTOR SHALL BE AWARE OF AND RESPONSIBLE FOR ALL PRECAUTIONS TAKEN FOR WORK WITHIN TROUT STREAMS.
10. CONTRACTOR SHALL COORDINATE WITH SOUTH ST. LOUIS COUNTY SOIL AND WATER CONSERVATION DISTRICT AS NECESSARY TO COMPLETE ADJACENT PROJECT. SWCD WILL BE INVITED TO THE PRE-CONSTRUCTION MEETING AND PROVIDE AN UPDATE ON THE STATUS OF THEIR PROJECT AND CONTACT INFORMATION FOR ANY NEEDED COORDINATION.

P: 9:33am 28 Jun 2013

P: 6/10/13 10:00:16 60699CADD0683 - Merritt CreekCADD0683 Construction DocumentsG-3 SITE PLAN.dwg

Scale: 1"=1'



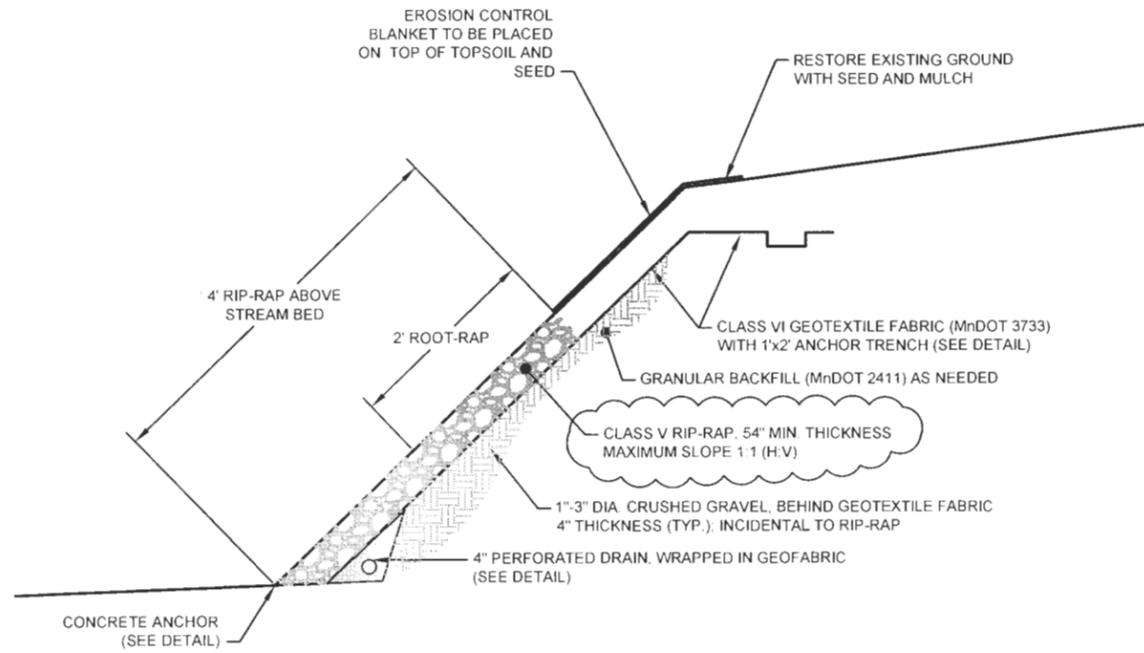
Designed By: JJ
Drawn By: JJ
Checked By: JJ

1	PER MN/DNR	6/13	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
	NUM REVISIONS	DATE	SIGNATURE
			JOSEPH JUREVICZ, P.E.

CITY PROJ. NO. 1202

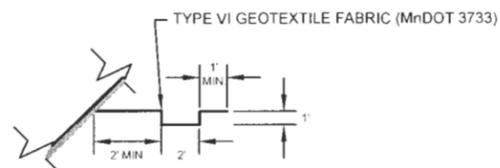
CITY OF DULUTH
MERRITT CREEK FLOOD REPAIR

G-3 SITE PLAN



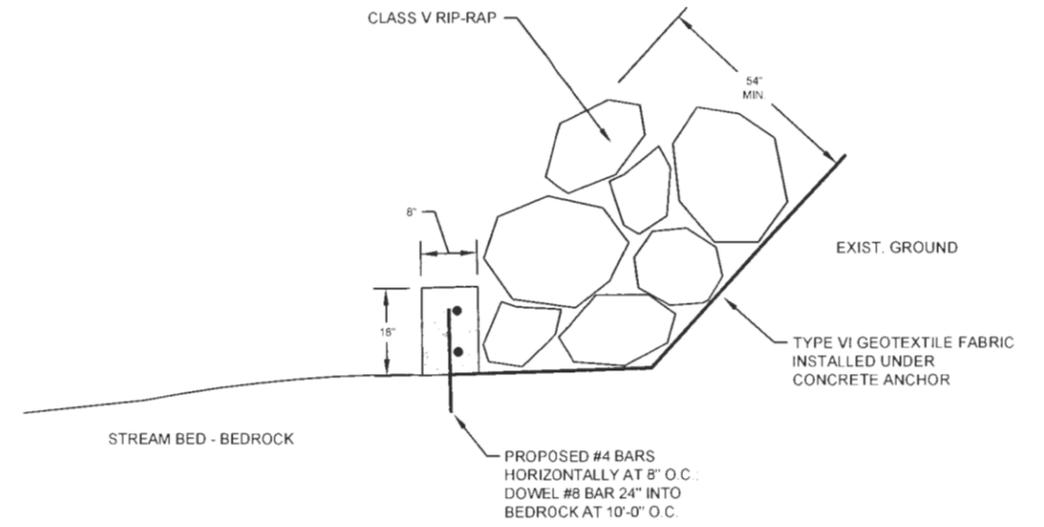
- NOTES
1. ROOT-RAP ALSO KNOWN AS COMPOST-GROUTING. SEE SPECIAL PROVISIONS.

TYPICAL BANK REPAIR SECTION
SCALE: NONE



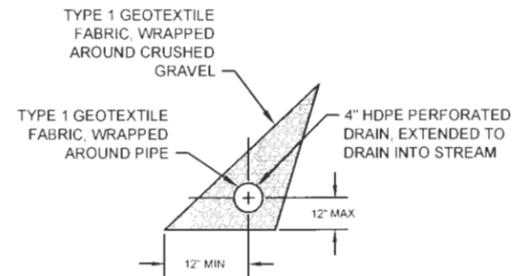
- NOTES
1. ANCHOR TRENCH TO RUN ALONG ENTIRE BANK, TYPICAL OF BOTH SIDES
 2. TRENCH SHALL BE A MINIMUM OF TWO-FEET IN DEPTH FROM THE TOP OF BANK

GEOTEXTILE ANCHOR TRENCH
SCALE: NONE



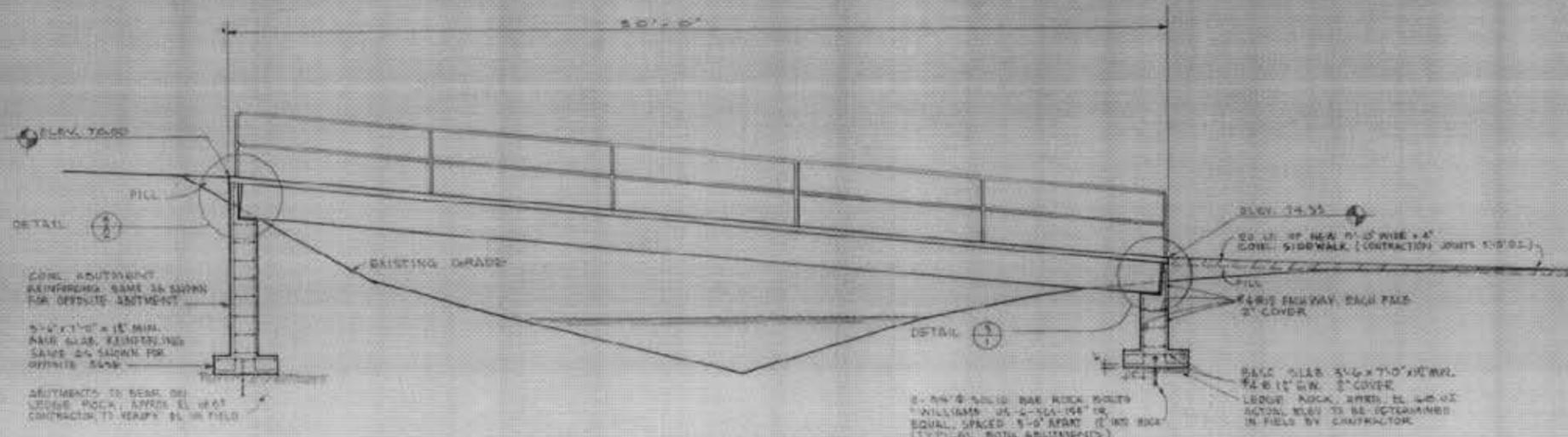
- NOTES
1. SEE SPECIFICATIONS FOR CONCRETE MIX SELECTION.

TYPICAL CONCRETE ANCHOR DETAIL
SCALE: NONE



- NOTES
1. INVERT OF 4" PERFORATED DRAIN SHALL BE BETWEEN 6" (MIN) AND 10" (MAX) FROM THE BOTTOM OF THE SURROUNDING GRAVEL.

PERFORATED DRAIN DETAIL
SCALE: NONE

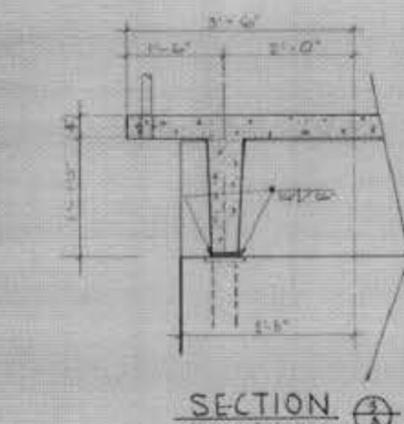


BRIDGE ELEVATION
SCALE 1/4" = 1'-0"

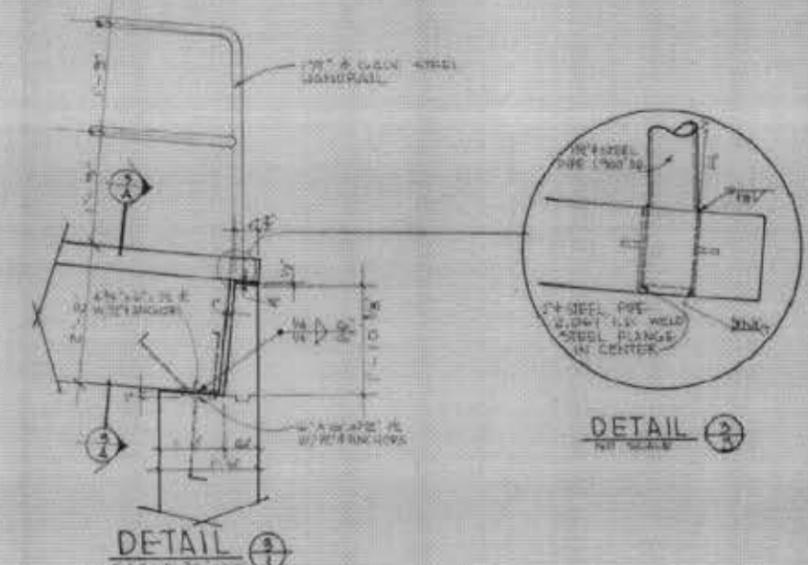
SPCC. NO.	ITEM	UNIT	QUANTITY	FOOTING
2105,831	Select Granular Screen (1/4")	C.Y.	10	
2111,800	Aggregate Base Class 5 (1.5)	C.Y.	2	
2411,803	Structural Concrete (Minor Structures)	C.Y.	5	
2441,801	Structural Reinforcing, Class 2	C.Y.	As Req'd	
2511,801	Asphalt Chip-Top Class A	C.Y.	4	
2521,801	4" Concrete Walk	S.F.	100	
2-10	Galvan. Retaining Wall	C.Y.	30	
2-11	Groutfill	LF	100	
2-12	Reinforced Concrete Double Tee Bridge Deck	DL	1	
2123,801	Common laborers	HR	As authorized by Engineer	
2123,810	10 C.Y. Truck	HR	As authorized by Engineer	
2123,811	45 H.P. Tractor with box	HR	As authorized by Engineer	

CONC. ABUTMENT REINFORCING SAME AS SHOWN FOR OPPOSITE ABUTMENT.
5'-0" x 1'-0" = 15' MIN. BARS SPACED 18" ON CENTER. SAME AS SHOWN FOR OPPOSITE SIDE.
ABUTMENTS TO BEAR ON LEDGEBE ROCK. APPROX. EL. 100.0. CONTRACTOR TO VERIFY EL. IN FIELD.

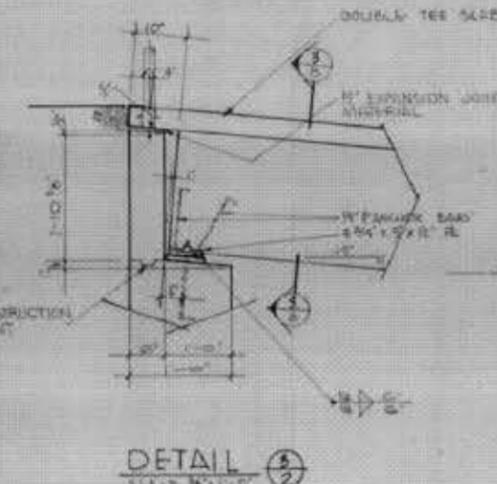
2" DIA. 1/2" DIA. BAR ROCK BOLTS WILLIAMS 05-2-104-104 OR EQUAL SPACED 5'-0" APART (TYPICAL BOTH ABUTMENTS)
BASE SLAB 3'-6" x 7'-0" x 18" MIN. 14-6 #5 BARS 2" COVER. LEDGE ROCK APPROX. EL. 100.0. ACTUAL EL. TO BE DETERMINED IN FIELD BY CONTRACTOR.



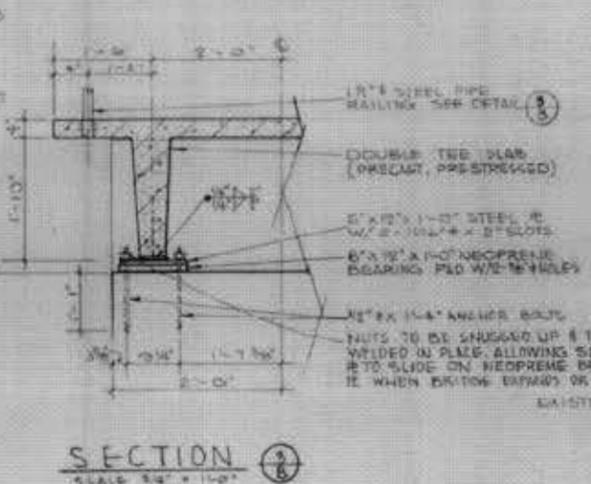
SECTION 1
SCALE 3/4" = 1'-0"



DETAIL 1
NO SCALE

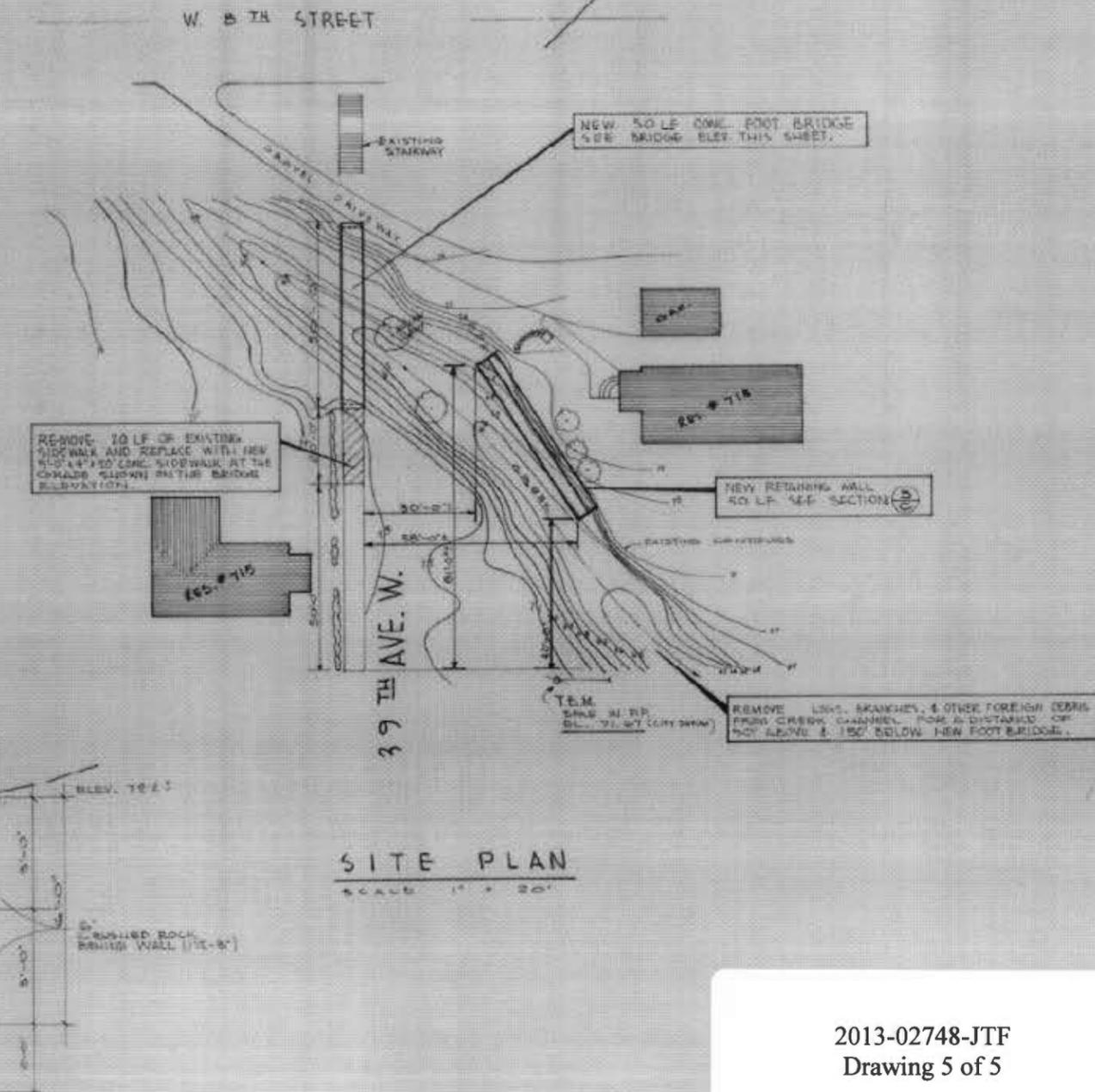


DETAIL 2
SCALE 3/4" = 1'-0"



SECTION 2
SCALE 3/4" = 1'-0"

- NOTES**
- EXPOSED METALS SHOWN IN DETAILS 1, 2, 3 TO BE COATED WITH HOT BITUM OR ASPHALT.
 - CRACK BANKS DISTURBED DURING CONSTRUCTION BELOW HIGH WATER ELEV. TO BE RE-RAPPED.



SITE PLAN
SCALE 1" = 20'

DESIGNED BY: [Signature]
DRAWN BY: [Signature]
CHECKED BY: [Signature]
SUPERVISOR: [Signature]
SCALE: AS SHOWN

AS BOARD OF TRADE BUILDING
DULUTH, MINNESOTA 55801

PREM, INC.
CONSULTING ENGINEERS
WATER AND WASTE WATER SYSTEMS DESIGN
CIVIL ENGINEERING DIVISION

DATE: [Blank]
DESCRIPTION: [Blank]
NO.: [Blank]
PERSON: [Blank]

STORM DAMAGE REPAIR
ADJACENT TO 715 N. 99TH AVE. W.
ITEM NO. 17-177 CITY JOB NO. 7230-58-1
DULUTH, MINNESOTA
SITE PLAN & DETAILS