

LEGEND

	STREET CENTERLINE
	SURVEY BASELINE
	COUNTY
	SECTION
	QUARTER
	SIXTEENTH
	CORPORATE LIMITS
EXISTING	
	RIGHT OF WAY
	PERMANENT EASEMENT
	PROPERTY LINE
	R.R. RIGHT OF WAY
	SANITARY SEWER AND MANHOLE
	FORCE MAIN
	SANITARY SEWER SERVICE & CLEANOUT
	WATER MAIN, HYDRANT AND VALVE
	WATER SERVICE AND CURB STOP BOX
	WATER VALVE MANHOLE
	STORM SEWER, APRON, MANHOLE AND CATCH BASIN
	CULVERT
	BULKHEAD
	BURIED FIBER OPTIC CABLE
	BURIED FIBER OPTIC DUCT OR CONDUIT
	BURIED PHONE CABLE AND PEDESTAL
	BURIED PHONE DUCT OR CONDUIT AND MANHOLE
	BURIED TV CABLE AND PEDESTAL
	BURIED ELECTRIC CABLE
	BURIED ELECTRIC DUCT OR CONDUIT AND MANHOLE
	OVERHEAD ELECTRIC, POLE AND DOWN GUY ANCHOR
	LIGHT POLE
	TRAFFIC SIGNAL STANDARD
	GAS MAIN
	GAS SIGN, VALVE AND VENT
	PETROLEUM PIPELINE
	SOIL BORING
	TRAVERSE POINT
	CONCRETE CURB AND GUTTER
	EXISTING PAVEMENT OR SIDEWALK
	SIGN (HWY, PARK, STOP, ETC.)
	STREET NAME SIGN
	DITCH
	RAILROAD TRACKS
	FENCE (UNIDENTIFIED)
	BARBED WIRE FENCE
	CHAIN LINK FENCE
	ELECTRIC WIRE FENCE
	WOOD FENCE
	WOVEN WIRE FENCE
	PLATE BEAM GUARDRAIL
	CABLE GUARDRAIL
	DECIDUOUS AND CONIFEROUS TREE
	BUSH-SHRUB
	WOODED AREA
	WETLAND
	BUILDING
PROPOSED	
	NEW RIGHT OF WAY
	PERMANENT EASEMENT
	TEMPORARY EASEMENT
	SANITARY SEWER AND MANHOLE
	FORCE MAIN
	SANITARY SEWER SERVICE & CLEANOUT
	WATER MAIN, HYDRANT AND VALVE
	WATER SERVICE AND CURB STOP BOX
	WATER VALVE MANHOLE
	STORM SEWER, MANHOLE AND CATCH BASIN
	CULVERT
	BULKHEAD
	DRAIN PIPE
	DITCH
	CONCRETE CURB AND GUTTER
	SILT FENCE
	FLOTATION SILT CURTAIN
	BIOROLL
	LIGHT POLE
	TRAFFIC SIGNAL, STANDARD
	SIGN (HWY, PARK, STOP, ETC.)
	STREET LIGHT FEED POINT
	STREET LIGHTING CABLE

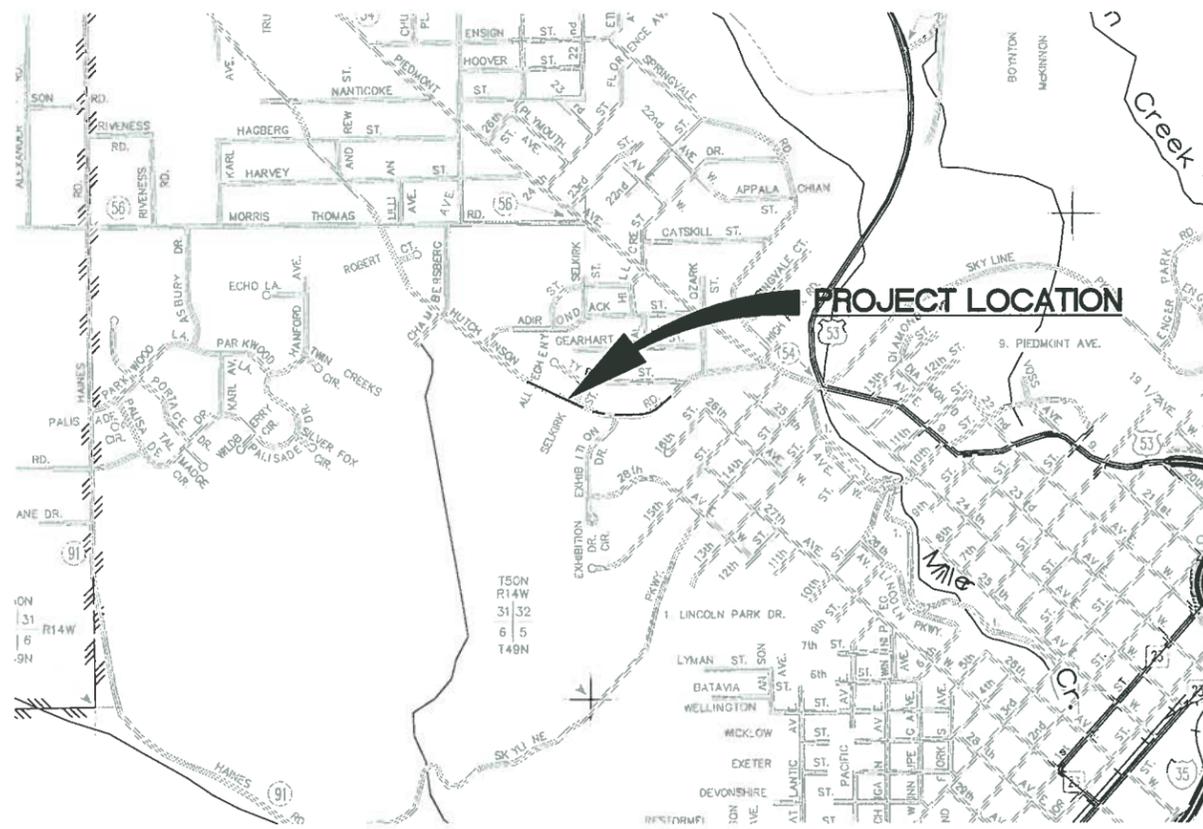
CITY OF DULUTH, MINNESOTA

CONSTRUCTION PLANS FOR CULVERT REPLACEMENT, DITCHING, AND STORM SEWER

HUTCHINSON ROAD

CITY PROJECT NO. 1135

CITY FLOOD LOCATION NO. 43, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88

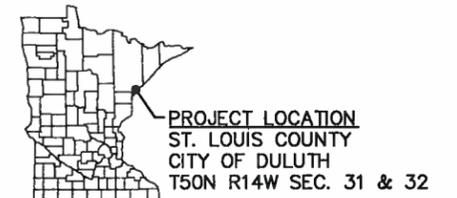


GOVERNING SPECIFICATIONS
 THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN EXCEPT AS MODIFIED BY THE SPECIFICATIONS FOR THIS PROJECT.
 THE 2011 EDITION OF THE CITY OF DULUTH PUBLIC WORKS AND UTILITIES DEPARTMENT STANDARD CONSTRUCTION SPECIFICATIONS AND ALL AMENDMENTS SHALL APPLY.
 ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MMUTCD, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS", - CURRENT EDITION.

INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
2	PLAN & PROFILE
3	PLAN
4	CONSTRUCTION DETAILS
5	CONSTRUCTION DETAILS

THIS PLAN CONTAINS 5 SHEETS.

PROJECT LOCATION



APPROVED: 9-25-12
 CITY ENGINEER OF TRANSPORTATION DATE

APPROVED: 9-25-12
 CITY ENGINEER OF UTILITIES DATE

APPROVED: 9-25-12
 CITY ENGINEER DATE

CITY OF DULUTH, MINNESOTA

SEH PHONE: 218.279.3000
 418 W SUPERIOR ST STE 200
 DULUTH, MN 55802-1512
 www.sehinc.com



Know what's below.
 Call before you dig.

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: Matthew J. Bolf, P.E.
 Date: 09/24/2012 Lic. No. 43913

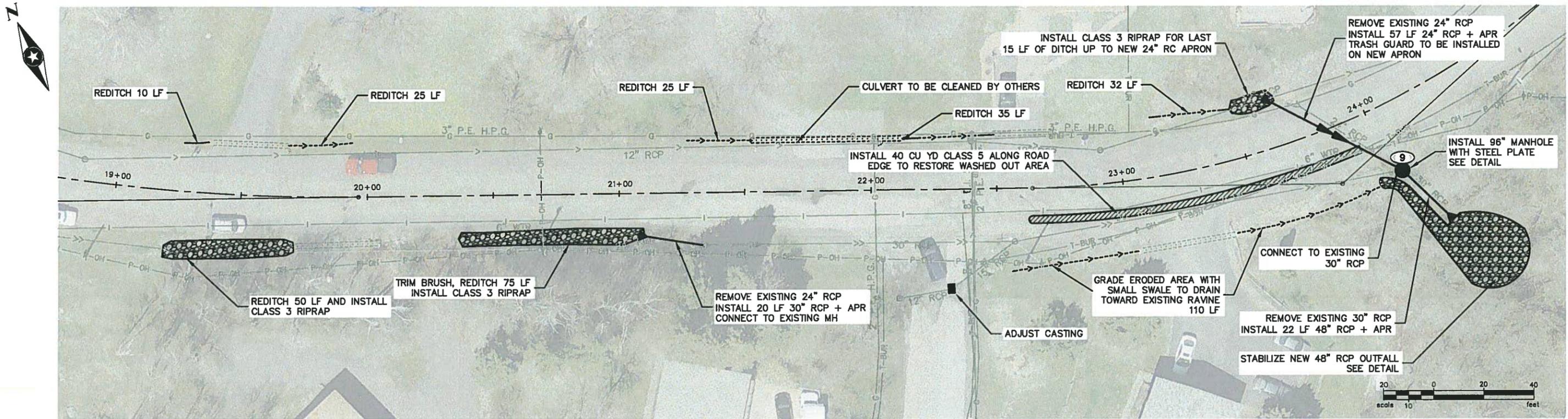
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SCALES

INDEX MAP	0	1000
PLAN	0	20
PROFILE	0	20 0
	HOR	VER
	5	5

NOTE:
 THE SUBSURFACE UTILITY QUALITY INFORMATION IN THIS PLAN IS LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02 ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."
 THE CONTRACTOR SHALL CALL THE GOPHER STATE ONE CALL SYSTEM AT 811 BEFORE COMMENCING EXCAVATION.

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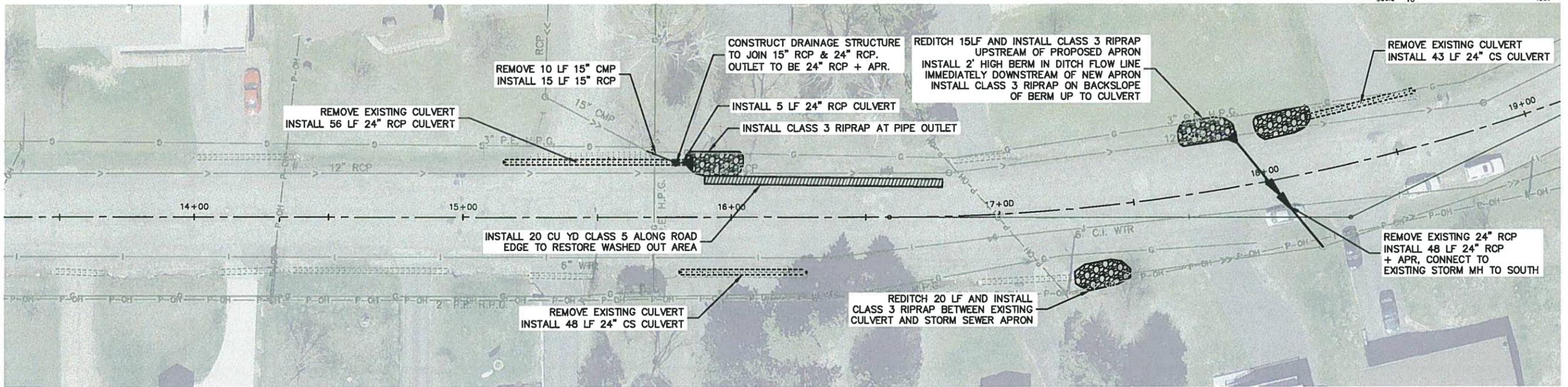
STATEMENT OF ESTIMATED QUANTITIES					
NOTE	ITEM NO.	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITIES	FINAL QUANTITIES
	2021.501	MOBILIZATION	LUMP SUM	1	
	2104.501	REMOVE PIPE CULVERTS	LIN FT	380	
4	2104.601	REMOVE MISCELLANEOUS DEBRIS	LUMP SUM	1	
3	2105.522	SELECT GRANULAR BORROW MOD 7% (LV)	CU YD	5	
5,6	2105.523	COMMON BORROW (LV)	CU YD	500	
	2105.603	CONSTRUCT DRAINAGE DITCH	LIN FT	432	
	2211.502	AGGREGATE BASE (LV) CLASS 5	CU YD	60	
7	2411.507	CONCRETE DROP WALL	EACH	1	
	2501.511	15" RC PIPE CULVERT	LIN FT	15	
	2501.511	18" CS PIPE CULVERT	LIN FT	60	
	2501.511	24" CS PIPE CULVERT	LIN FT	91	
	2501.515	18" CS PIPE APRON	EACH	6	
	2501.515	24" CS PIPE APRON	EACH	4	
1	2501.515	24" RC PIPE APRON	EACH	3	
1	2501.515	30" RC PIPE APRON	EACH	1	
1	2501.515	48" RC PIPE APRON	EACH	1	
	2501.602	TRASH GUARD FOR 24" PIPE APRON	EACH	1	
1	2503.541	24" RC PIPE SEWER CLASS III	LIN FT	166	
1	2503.541	30" RC PIPE SEWER CLASS III	LIN FT	20	
1	2503.541	48" RC PIPE SEWER CLASS III	LIN FT	22	
	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	1	
	2503.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	2	
2	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL	EACH	1	
1	2506.603	CONSTRUCT DRAINAGE STRUCTURE DESIGN 96-4020 SPECIAL	LIN FT	25.74	
	2506.522	ADJUST FRAME AND RING CASTING	EACH	1	
8	2511.501	RANDOM RIPRAP CLASS III	CU YD	115	
8	2511.501	RANDOM RIPRAP CLASS V	CU YD	71	
	2563.601	TRAFFIC CONTROL	LUMP SUM	1	
	2573.601	TEMPORARY EROSION CONTROL	LUMP SUM	1	
	2575.555	TURF ESTABLISHMENT	LUMP SUM	1	

STANDARD PLATES	
THESE STANDARD PLATES AS APPROVED BY THE FHWA SHALL APPLY	
PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE
3006G	GASKET JOINT FOR R.C. PIPE
3007D	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3040F	CORRUGATED METAL PIPE CULVERT
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3123J	METAL APRON FOR C.S. PIPE
3124B	METAL APRON CONNECTION
3133C	RIPRAP AT RCP OUTLETS
3145F	CONCRETE PIPE TIES
3221C	CORRUGATED STEEL PIPE COUPLING BAND
4011E	PRECAST CONCRETE BASE
4020J	MANHOLE OR CATCH BASIN
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4108F	ADJUSTING RINGS FOR CATCH BASINS AND MANHOLES
8000I	STANDARD BARRICADES

NOTES:	
1	TIE APRONS, ALL PIPE, AND MANHOLE NO. 9 (INCIDENTAL)
2	CONTRACTOR TO SUBMIT PLANS TO ENGINEER FOR APPROVAL
3	ESTIMATED
4	AREA FOR CLEAN-UP IS FROM EXISTING MANHOLE TO EXISTING OUTLET AT APPROXIMATELY STA. 24+00 RT. SEE SPECIAL PROVISIONS
5	FOR FILLING WASHOUTS AND DITCHES AS DIRECTED BY THE ENGINEER. SEE PLAN SHEETS FOR LOCATIONS.
6	COMMON BORROW IS DEFINED AS ANY SOILS WITH THE EXCEPTION OF UNPROCESSED ROCK, CLAY, TOPSOIL, PEAT, SILT LOAM, WOOD, OR OTHER ORGANIC SOILS. NO MATERIAL SHALL BE LARGER THAN 6" IN SIZE.
7	FOR 48" RCP OUTFALL
8	FILTER MATERIAL IS INCIDENTAL

1170				
1165				
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1125				

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DRAWN BY:	ACO			
DESIGNER:	DRH			
CHECKED BY:	MJB			
DESIGN TEAM				
	NO.	BY	DATE	REVISIONS

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.

Matthew J. Bolf
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**CITY OF DULUTH
 HUTCHINSON ROAD
 CITY PROJECT NO. 1135**

PLAN AND PROFILE

FILE NO.
 DULUT 121350

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