OTTER TAIL COUNTY BOARD OF COMMISSIONERS

SUPPORTING DOCUMENTS

Tuesday, September 14, 2021
8:30 a.m.
Government Services Center & Via Livestream
515 West Fir Avenue, Fergus Falls, MN

- 2.1 Draft Otter Tail County Board Minutes for 08.24.2021
- 2.2 Warrants/Bills for 09.14.2021
- 2.3 Human Services & Public Health Warrants/Bills for 09.14.2021
- 2.4 Approval of Federal Equipment Grant Extension
- 2.8 Approval of Solid Waste Hauler's License for Tom Kraemer, Inc.
- 2.9 Request for Approval of Final Payment to City of Perham - S.A.P. 056-594-001
- 4.0 Tax Forfeited Repurchase Resolution – Bergerud
- 4.0 Amendment to June 22, 2021 Motion
- 5.0 Planning Commission Recommendation
- 6.0 SCORE Grant Agreement FY22-26
- 7.0 Redistricting Letter and Testimony
- 8.0 Request for Public Hearing - Tax Abatement Request
- 8.0 Modifications to Single Family Tax Rebate Program
- 8.0 Sale of Vergas Public Works Garage
- 9.0 Style-Heaven Holstein Feedlot Application
- 9.0 Style-Heaven Holstein Feedlot Newspaper Affidavit
- 9.0 Style-Heaven Holstein Feedlot Sample Letter
- 10.0 Hiring Request-Public Health Nurse
- 11.0 2020 Children's Mental Health Case Management Services
- 11.0 2020 Adult Mental Health Case Management Services
- 11.0 Otter Tail County Adult Mental Health Local Advisory Council Recommendations to the Commissioners 2021 Final
- 12.0 Request for Approval of Amendment to Construction Services Agreement with Houston Engineering - Perham to Pelican Rapids Regional Trail - 4001-401 Silent Lake Segment
- 13.0 Request for Approval of Geotechnical Evaluation Agreement with Braun Intertec - S.A.P. 056-667-043, Bridge 02516 Replacement
- 13.0 Request for Approval of Geotechnical Evaluation Agreement with Braun Intertec - S.A.P. 056-635-0YY
- 13.0 Request for Approval of Contracts & Bonds - S.A.P. 056-614-014, 4012-014
- 14.0 COVID Update

MINUTES OF THE
OTTER TAIL COUNTY BOARD OF COMMISSIONERS

Government Services Center, Commissioners' Room & Via Livestream
515 West Fir Avenue, Fergus Falls, MN

August 10, 2021
8:30 a.m.

Call to Order

The Otter Tail County Board of Commissioners convened at 8:33 a.m. Tuesday, August 24, 2021, at the Government Services Center in Fergus Falls, MN. Commissioners Lee Rogness, Chair; Betty Murphy; Vice Chair, Kurt Mortenson, Wayne Johnson, and Dan Bucholz were present.

Approval of Agenda

Chair Rogness called for approval of the Board Agenda. Motion by Mortenson, second by Bucholz and unanimously carried to approve the Board of Commissioners' agenda of August 24, 2021, with the following additions:

Echo Bay Discussion
Authorization to Sign Warranty Deed for County Owned Property on County Highway 27
Administration/Operations Committee: Environmental Health Position

Consent Agenda

Motion by Johnson, second by Murphy and unanimously carried to approve the consent agenda items as follows:

1. August 10, 2021 Board of Commissioners' Meeting Minutes
2. Warrants/Bills for August 24, 2021 (Exhibit A)
3. Human Services & Public Health Warrants/Bills for August 24, 2021 (Exhibit A)
4. Request for Approval of Final Payment to Brown Excavating, Inc., Glenwood, MN for 4122-203, Class 1 Crushing for Shouldering
5. Approval of Sentence to Service Joint Powers Agreement
6. Approval of the Issuance of a Temporary Liquor License to Fergus Brewing Company for an Event Scheduled for September 11, 2021 at Anna Lake Animal Sanctuary Located at 26329 County Highway 35, Underwood, MN

Hiring Requests

Motion by Mortenson, second by Johnson and unanimously carried to approve a Financial Assistance Specialist position in the Human Services Department to support the complexity of knowledge required in multiple mandated program areas. This position is a conversion of an existing vacant Eligibility Worker position and will better align with the work and support needed by staff.

Motion by Johnson, second by Murphy and unanimously carried to approve the creation of a new Social Worker position to support Mental Health and Chemical Dependency in the Detention facility. The intent of this position is to advocate and assist people with their unmet needs and connect individuals to services and resources. This position will be funded through the American Rescue Plan Act..

New Deputy County Administrator

County Administrator Nicole Hansen informed the Board that the new Deputy County Administrator position was filled by Lynne Penke Valdes from Hennepin County and that she is expected to begin her role on September 13, 2021. Ms. Hansen expressed excitement of her wide range of experience and skills and plans to introduce her to the Board at the September 14th meeting.

Transfer Station Front End Loader Purchase

Motion by Johnson, second by Mortenson and unanimously carried to authorize the purchase of a Front-End Loader for the Fergus Falls Transfer Station in the amount of $191,940.00 from Ziegler, Inc. as recommended by the Assistant Solid Waste Director. The current used truck is planned to be relocated to the Henning Transfer Station to be used as part of their operations.

Transfer Station Glass Storage Building Contract

Motion by Johnson, second by Bucholz and unanimously carried to authorize appropriate County Officials' signatures to execute the agreement between Otter Tail County and Greystone Construction for the purchase of a glass storage building at the Fergus Falls Transfer Station in the amount of $330,147.00.

Recess & Reconvene

At 8:53 a.m., Chair Rogness declared the meeting of the Otter Tail County Board of Commissioners recessed for a short break. The Board of Commissioners meeting was reconvened at 8:59 a.m.

Out of State Travel

Motion by Murphy, second by Mortenson and unanimously carried to authorize the Land & Resource Director as well as one (1) other staff member to travel out of state to attend the National Onsite Wastewater Recycling Association Conference in San Marcos, TX, October 17th – 20th, 2021.

Final Plat – Long Bay Retreat

Motion by Johnson, second by Bucholz and unanimously carried to approve the final Plat titled "Long Bay Retreat" located south of 40430 Long Lake Drive, Section 31 of Rush Lake Township; Long Lake (56-210), RD.

Otter Tail Water Management District SSTS Loan Participation Agreement

Motion by Johnson, second by Murphy and unanimously carried to authorize appropriate County Officials' signatures to execute the agreement between Otter Tail County and the Otter Tail Water Management District to allow individual members of the District to participate in the Otter Tail County SSTS Loan Program. The motion encouraged the Management District to consider modifying language under the scope of services by the District to "may participate" rather than "must participate" due to availability concerns expressed by the Board.

Planning Commission Recommendation

Pleasant Lake RV Village/Tom & Brenda Masloski:

A conditional use permit application for the expansion of Pleasant Lake RV Village was approved by Planning Commission on August 11, 2021. It was determined at that time that the proposed met and exceeded the requirements of the Shoreland Management Ordinance for density in units, docks & boat slips. The Board recognized the correspondence received by concerned constituents and shared feedback regarding the decision of Planning Commission and received correspondence. Commissioner Murphy abstained from all discussion and votes.

Motion by Mortenson, second by Bucholz to circulate the application back to Planning Commission for further review and consideration, specifically but not limited to the compatibility with the surrounding area; both land and water. The application will be reconsidered at the September 8th Planning Commission meeting and will not be open for public comment. After discussion, the motion passed on a roll call vote as follows:

BOARD OF COMMISSIONERS	YEA	NAY	ABSENT	ABSTAIN
Dan Bucholz	X			
Wayne Johnson		X		
Kurt Mortenson	X			
Betty Murphy				X
Leland Rogness	X			

Lee & Sandra Lindquist, Tst / Jamielind Inc.:

Motion by Johnson, second by Mortenson to approve a conditional use permit with conditions as recommended by Planning Commission to construct a 740' long driveway with a 20' top. Will cut approximately 2' off and replace with class 5 gravel. The cut spoils will be used for side sloping on driveway. Total cubic yards of fill to be moved is approximately 3,000 cubic yards. The motion includes a condition that a new survey be provided to the Land & Resource Department showing the driveway on Lot A as conditioned by Planning Commission. The proposed driveway will be a shared driveway between the parcels and is located East of 34581 State Hwy 108, Section 30 of Edna Township; Big McDonald Lake (56-386), RD. After discussion, the motion passed on a roll call vote as follows:

BOARD OF COMMISSIONERS	YEA	NAY	ABSENT	ABSTAIN
Dan Bucholz	X			
Wayne Johnson	X			
Kurt Mortenson	X			
Betty Murphy		X		
Leland Rogness	X			

Bass Harbor Storage / Scott Adelman/Troy Tooz:
Motion by Johnson, second by Mortenson and unanimously carried to approve a conditional use permit with conditions as recommended by Planning Commission to Construct a 21 Storage Unit Non-Dwelling PUD and build a road to access the Storage Units. Request to perform earthwork and road construction to build approximately 21 recreation storage building. An approx. 3,243 cubic yards will be cut for the project and an approx. 2,598 cubic yards of will be needed for project. The proposal is located at 43915 Bass Harbor Road, Section 9 of Lida Township; Lida Lake (56-747), GD.

BA Kern Holdings, LLC / Aaron Kern:
Motion by Johnson, second by Bucholz and unanimously carried to approve a conditional use permit with conditions as recommended by Planning Commission to conduct a topographic alteration for the construction of a home, detached garage, driveway, and a path to the bottom of a steep slope. The home construction will include a walk out basement with the home built into the steep slope. Total yards of excavation will be 1,209 CY with 444 CY of that being placed as fill for the walk out patio, sidewalk, paths. A total of 75 CY of class 5 will be brough in for the driveway and 62 CY of riprap for a total of 1,654 CY of excavation, fill and imported material. Construction slated to start fall of this year and continuing into 2022. The proposal is located NE of 30213 Four Winds Dr., Section 30 of Otter Tail Township; Otter Tail Lake (56-242), GD.

Echo Bay

Deputy County Administrator Nick Leonard invited the Board to view a property from the lake on August 31, 2021 at 1:00 p.m. that may potentially be donated to the county later this year.

Buffalo-Red Watershed Appointment

Motion by Johnson, second by Murphy and unanimously carried to appoint Peter Fjestad as the Watershed District Manager representing Otter Tail County on the Buffalo-Red River Watershed Board of Managers serving a three (3) year term.

County Highway 27 Property

Motion by Johnson, second by Mortenson and unanimously carried to authorize the Chair and the Clerk to sign the warranty deed conveying Parcel 26-000-15-0096-001(25037 County Highway 27 Property) to Roger E. Engleson and Rebecca L. Engleson.

Highway Projects

Bid Award:
Motion by Murphy, second by Mortenson and unanimously carried to award project No. S.A.P. 056-614-014 4012-014, FDR, wear course, topsoil and curve re-alignment to Central Specialties, Inc., Alexandria, MN in the amount of $2,991,217.91 as recommended by the County Engineer.

OTTER TAIL COUNTY RESOLUTION
Resolution No. 2021 - 138

BE IT RESOLVED that Otter Tail County act as the legal sponsor for the project contained in HF 52 Sec. 32. Laws 2020, Fifth Special Session chapter 3, article 1, section 21, subdivision 44 entitled Wadena; Access Road.

BE IT FURTHER RESOLVED that Otter Tail County has the legal authority to receive financial assistance, and the institutional, managerial, and financial capability to ensure adequate project administration.

BE IT FURTHER RESOLVED that the sources and amounts of the local match identified in the development proposal are committed to the project identified.

BE IT FURTHER RESOLVED that Otter Tail County has not violated any Federal, State or local laws pertaining to fraud, bribery, graft, kickbacks, collusion, conflict of interest or other unlawful or corrupt practice.
BE IT FURTHER RESOLVED that upon approval of its development proposal by the state, Otter Tail County may enter into an agreement with the State of Minnesota for the above-referenced project(s), and that Otter Tail County certifies that it will comply with all applicable laws and regulation as stated in all contract agreements.

NOW, THEREFORE BE IT RESOLVED that the County Engineer is hereby authorized to execute such agreements as are necessary to implement the project(s) on behalf of Otter Tail County.

The motion for the adoption of the foregoing resolution was introduced by Commissioner Johnson, duly seconded by Commissioner Murphy and, after discussion thereof and upon vote being taken thereon, passed unanimously.

Adopted at Fergus Falls, MN this 24th day of August, 2021.

OTTER TAIL COUNTY BOARD OF COMMISSIONERS Dated: September 14, 2021

By: _____ Attest_____
Leland R. Rogness, Board of Commissioners Chair Nicole Hansen, Clerk

Highway Projects Continued

Agreement with City of Perham – S.A.P. 056-608-031:
Motion by Bucholz, second by Murphy and unanimously carried to authorize appropriate County Officials' signatures to execute the agreement between Otter Tail County and the City of Perham regarding Project No. S.A.P. 056-608-031, repair and replacement of CSAH 8 in the City of Perham.

Agreement with Apex Engineering - S.A.P. 056-608-031,
Motion by Bucholz, second by Mortenson and unanimously carried to authorize appropriate County Officials' signatures to execute the agreement between Otter Tail County and Apex Engineering regarding Project No. S.A.P. 056-608-031, repair and replacement of CSAH 8 in the City of Perham.

Geotechnical Evaluation Agreement with Braun Intertec - S.A.P. 056-601-067:
Motion by Johnson, second by Murphy and unanimously carried to authorize appropriate County Officials' signatures to execute the agreement between Otter Tail County and Braun Intertec for Project No. S.A.P. 056-601-067.

Sale of County Owned Snowplow Truck:
Motion by Murphy, second by Johnson and unanimously carried to approve the sale of a county owned 1998 Ford snowplow truck to Folden Township in the amount of $15,000.00.

Project Updates:
County Engineer Charles Grotte provided a brief update on various projects throughout the county. CSAH 8 bridge is planned to be completed before winter; Soil issues were discovered with CSAH 34 resulting in a delay, however, will receive a first layer of bituminous before winter; CSAH 41 bridge received state bonding and will soon be ready for bid for construction to begin in the spring of 2022.

Amendment to Grant Agreement – Phelps Mill Dam

Motion by Murphy, second by Mortenson and unanimously carried to authorize appropriate County Officials' signatures to execute the amended grant agreement between Otter Tail County and the Minnesota Department of Natural Resources regarding the extension of the Phelps Mill Dam project to June 20, 2022.

County Ditch 52

Motion by Johnson, second by Mortenson and unanimously carried to authorize the removal of beaver dams in County Ditch 52 as recommended by the County Ditch Inspector.

County Ditch 70

Motion by Mortenson, second by Bucholz and unanimously carried to authorize property owner, Tim Risbrudt, to repair tile within County Ditch 70 at his expense using Weets Custom Services. Compliance will be checked during the repair by county drainage staff.

Adjournment

At 10:28 a.m., Chair Rogness declared the Otter Tail County Board of Commissioners meeting adjourned. The next regular Board meeting is scheduled at 8:30 a.m. on Tuesday, September 14, 2021, at the Government Services Center in Fergus Falls and via live stream.

OTTER TAIL COUNTY BOARD OF COMMISSIONERS

Dated: September 14, 2021

By: _____
Leland R. Rogness, Board of Commissioners Chair

Attest_____
Nicole Hansen, Clerk

Vendor Name	Amount
A-1 LOCK & KEY LLC	34.60
A-OX WELDING SUPPLY CO INC	141.38
ABM SUPPLY	3,365.00
ACME TOOLS FARGO	50.99
ALBANY RECYCLING CENTER	2,427.67
ALEX RUBBISH & RECYCLING INC	599.73
AMAZON CAPITAL SERVICES INC	5,028.32
AMERICAN SOLUTIONS FOR BUSINESS	637.27
AMERICAN WELDING & GAS INC	88.35
API SUPPLY INC	906.18
APPLE TREE DENTAL	107.00
ARAMARK UNIFORM SERVICES	431.41
ASPEN MILLS INC	280.27
AUTO VALUE FERGUS FALLS	952.83
AUTO VALUE PERHAM	15.48
AVERY, ATTORNEY AT LAW/JILL	1,021.50
BATTLE LAKE STANDARD	154.47
BEYER BODY SHOP INC	670.00
BHH PARTNERS	48,319.50
BOLTON & MENK INC	1,340.00
BOUND TREE MEDICAL LLC	765.94
BOYER/RODNEY	334.76
BRAUN INTERTEC CORPORATION	35,580.00
BRAUN VENDING INC	16.00
BRIAN'S REPAIR INC	57.30
BROWN EXCAVATING INC	87,397.03
BUELOW/DAVID	82.32
BUY-MOR PARTS & SERVICE LLC	7,068.18
CAILLIER/DEAN & CATHERINE ANN	1,000.00
CARR'S TREE SERVICE INC	99,993.00
CERTIFIED AUTO REPAIR	295.49
CLAY CO SHERIFF	52.15
CLEAN SWEEP COMMERCIAL SERVICES	1,758.00
COOPER'S OFFICE SUPPLY INC	497.00
COVERTTRACK GROUP INC	600.00
CULLIGAN OF DETROIT LAKES	136.50
CULLIGAN OF ELBOW LAKE	33.50
CULLIGAN OF WADENA	74.00
D & T VENTURES LLC	1,089.00
DACOTAH PAPER CO	536.98
DAIKIN APPLIED	5,678.00
DHS DCT ARC 476	425.00

Vendor Name	Amount
DONAIS/BRINN	49.50
DOUBLE A CATERING	96.00
DRIVEWAY SERVICE	5,000.00
DS SOLUTIONS INC	500.00
EAST SIDE OIL COMPANIES	180.00
EIFERT/DANA	377.00
ELDIEN/HUNTER	95.76
FARGO GLASS & PAINT CO INC	4,186.33
FARMER'S DAUGHTER RUSTIC BAKERY L	28.00
FARNAM'S GENUINE PARTS INC	488.38
FERGUS FALLS DAILY JOURNAL	4,785.91
FERGUS POWER PUMP INC	2,460.00
FERGUS TIRE CENTER INC	683.20
FERGUSON ASPHALT PAVING INC	97,129.20
FIELD/TERRY	80.64
FISCHER/JUDD	216.08
FORMANEK/ROBERT	123.20
FORUM COMMUNICATIONS COMPANY	445.26
FRANZ REPROGRAPHICS INC	191.82
FRAZIER/BRENT	324.12
FREDERICK/PHILIP	65.52
FRESONKE/GEORGE	6,650.00
GABE/RICHARD	248.00
GALLS LLC	2,450.47
GAUSTAD/LYNETTE	759.51
GOPHER STATE ONE CALL	20.25
GRAINGER INC	1,982.02
HAWES SEPTIC TANK PUMPING LLC	95.00
HELPSYSTEMS LLC	1,130.70
HENNING HARDWARE	19.92
HERZBERG/RICHARD	650.00
HONEYWELL INTERNATIONAL INC	2,301.38
HOUSTON ENGINEERING INC	66,863.06
HUBER ELECTRIC MOTOR & PUMP REPAI	229.00
INTERSTATE ENGINEERING INC	2,110.50
INTOXIMETERS INC	197.50
J & K MARINE	73.00
JK SPORTS INC	632.00
JOHNSON CONTROLS INC	12,327.52
JOHNSON/KENT	111.44
JONES LAW OFFICE	240.00
JORGENSON/KURT	49.99

Vendor Name	Amount
KIESLER'S POLICE SUPPLY INC	441.96
KRESS/JEFF	59.92
KUGLER/JOSEPHINE	52.64
LAKE REGION HEALTHCARE	15,162.75
LAKES AREA COOPERATIVE	843.74
LAKES COUNTRY SERVICE COOP	29.50
LARRY OTT INC TRUCK SERVICE	2,750.00
LEIGHTON BROADCASTING - DETROIT LA	730.50
LEIGHTON BROADCASTING - FERGUS FA	1,273.65
LENTZ/PAM	1,000.00
LOCATORS & SUPPLIES INC	193.87
LOE/DORIS	87.36
MARCO INC ST LOUIS	6,014.26
MARCO TECHNOLOGIES LLC	31,058.17
MARK LEE EXCAVATING INC	174,378.51
MARK SAND & GRAVEL CO	15,630.26
MARKS FLEET SUPPLY INC	64.78
MATTHEW BENDER & COMPANY INC	1,625.34
MCIT	3,397.00
MCKESSON MEDICAL-SURGICAL INC	654.16
MIDWEST MACHINERY CO	516.00
MIDWEST PRINTING CO	1,160.00
MILLER/JACOB	82.32
MINNESOTA MOTOR COMPANY	526.24
MINNESOTA NATIVE LANDSCAPES	500.00
MINNESOTA SHERIFFS' ASSOCIATION	110.00
MINNKOTA ENVIRO SERVICES INC	28.00
MN BWSR	425.00
MN CONTINUING LEGAL EDUCATION	145.30
MN DEPT OF LABOR & INDUSTRY	260.00
MN STATE BOARD OF ASSESSORS	50.00
MNDRIVERSMANUALS.COM	225.26
MOONEY/ABIGAIL	25.76
MOORE ENGINEERING INC	38,105.36
MORRIS ELECTRONICS INC	40.00
MOSKE/HALI	113.12
MUCHOW/GREGORY	80.08
NELSON AUTO CENTER	52.01
NELSON AUTO CENTER INC	24,522.33
NEWMAN SIGNS INC	816.66
NORTHERN SAFETY TECHNOLOGY INC	415.72
NORTHWEST TIRE INC	373.21

Vendor Name	Amount
NUSS TRUCK & EQUIPMENT	1,540.61
OFFICE OF MNIT SERVICES	2,162.44
OLSON OIL CO INC	1,425.67
OLSON TILE & EXCAVATING LLC	465.00
OPG-3 INC	4,625.00
OTTER TAIL CO PUBLIC HEALTH	60.00
OTTER TAIL CO TREASURER	1,303.85
OTTERTAIL TRUCKING INC	23,346.24
OVERHEAD DOOR CO OF FERGUS FALLS	362.50
PARKERS PRAIRIE/CITY OF	325.00
PEBBLE LAKE AUTO REPAIR	248.15
PELICAN RAPIDS PRESS	514.87
PEMBERTON LAW PLLP	2,252.50
PETE'S AUTOBODY LLC	1,250.00
PETERSON/CODY	75.54
PETERSON/JOEL	56.90
PETERSON/KADEN	71.12
PHILLIPPI/DR JAY	400.00
PHOENIX SUPPLY	1,098.14
POWERPLAN OIB	5,093.13
PRAXAIR DISTRIBUTION INC	584.37
PREMIER ELECTRIC INC	6,200.00
PREMIUM WATERS INC	29.09
PRO AG FARMERS CO OP	81.60
PRO AG FARMERS COOPERATIVE	125.40
PRO-WEST & ASSOCIATES INC	554.85
PRODUCTIVE ALTERNATIVES INC	1,675.03
PROFESSIONAL DEVELOPMENT ACADEM	15,450.00
PSICK CAPITOL SOLUTIONS INC	3,000.00
RDO TRUCK CENTERS	8,120.99
RED DOT PEST CONTROL	90.00
RINKE NOONAN LAW FIRM	9,666.00
RMB ENVIRONMENTAL LABORATORIES II	100.00
ROLLIE/WILLIAM	138.88
ROTHSAY FIRE & RESCUE	400.00
SAFELITE FULFILLMENT INC	486.51
SALATHE/KELVIN	83.44
SCHWANTZ/CHRISTOPHER	43.68
SCOTT HOFLAND CONSTRUCTION INC	8,440.00
SERVICE FOOD SUPER VALU	114.62
SIGNWORKS SIGNS & BANNERS LLC	90.00
SIMENGAARD/PAUL	69.66

Vendor Name	Amount
SONNENBERG EXCAVATING	1,170.00
SRF CONSULTING GROUP INC	11,752.51
STEINS INC	8,637.22
STEVE'S SANITATION INC	12,112.00
STIGMAN/RYAN	59.92
STOEL RIVES LLP	2,490.00
STONE/BRUCE	224.48
STRAND ACE HARDWARE	26.97
STREICHERS	111.99
SUMMIT FOOD SERVICE LLC	8,804.99
THIS WEEKS SHOPPING NEWS	55.44
THOMSON REUTERS - WEST	5,239.69
THRIFTY WHITE PHARMACY	21.38
TRITES/DAVID	229.52
TSCHIDA/CRAIG	72.80
TUNGSETH/CHRISTINE	51.57
UNDERWOOD QUIK STOP	133.29
UNIQUE PAINT BODY & TRIM	3,478.45
VAUGHN AUTO & MARINE CO	488.20
VFW POST 612	50.00
VICTOR LUNDEEN COMPANY	1,200.50
VIPOND/KRIS	131.12
VOSS LIGHTING	29.75
WADENA ASPHALT INC	170,060.00
WADENA CO SHERIFF	75.00
WALLWORK TRUCK CENTER	1,187.76
WASTE MANAGEMENT	32,186.57
WILSON/WARREN R	207.68
WISKOW/MICHAEL	98.00
WSB & ASSOCIATES INC	21,916.00
ZIEGLER INC	1,750.45
Final Total:	**1,236,984.05**

Vendor Name	Amount
AMAZON CAPITAL SERVICES INC	410.01
BEYER BODY SHOP INC	85.00
CASS CO SHERIFF-ND	28.50
COOPER'S OFFICE SUPPLY INC	115.64
DAN'S TOWING & REPAIR	97.03
FERGUS FALLS DAILY JOURNAL	78.50
LARSON/NICK	74.95
MIDWEST MONITORING & SURVEILANCE	2,506.00
MINNESOTA MONITORING INC	63.75
MN DEPT OF HUMAN SERVICES	31,151.57
OTTER TAIL CO RECORDER	52.00
OTTER TAIL CO TREASURER	7,859.12
OTTER TAIL COUNTY TREASURER-EXPRI	1,875.31
PACIFIC INTERPRETERS INC	755.30
POTTER/TARA	45.00
PREMIER BIOTECH LABS LLC	800.15
QUALITY TOYOTA	2,774.02
SCHMIDT/HEATHER	53.48
WHIPPLE/VANESSA	52.76
Final Total:	**48,878.09**

Vendor Name	Amount
AMAZON CAPITAL SERVICES INC	563.78
CLAY CO HEALTH DEPT	2,304.31
COUNTRY INN & SUITES FERGUS FALLS	400.00
LAKE REGION HEALTHCARE	667.67
LEIGHTON BROADCASTING - FERGUS FA	1,192.00
LYSNE CONSULTING & COUNSELING LLC	460.00
MIDWEEK INC/THE	221.76
MINNKOTA ENVIRO SERVICES INC	33.00
NURSE FAMILY PARTNERSHIP	21,744.00
OTTER TAIL COUNTY TREASURER-EXPRI	1,139.48
PACIFIC INTERPRETERS INC	137.80
Final Total:	**28,863.80**

Otter Tail County Auditor

Print List in Order By:	4	1 - Fund (Page Break by Fund) 2 - Department (Totals by Dept) 3 - Vendor Number 4 - Vendor Name
Explode Dist. Formulas?:	N	
Paid on Behalf Of Name on Audit List?:	Y	
Type of Audit List:	D	D - Detailed Audit List S - Condensed Audit List
Save Report Options?:	N	

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
6147	**106 GROUP LTD/THE**						
	09-507-510-0000-6278		23,864.90	PM SEC 106 - FISH PASSAGE	2902-2536-4	Engineering & Hydrological Testing	N
6147	**106 GROUP LTD/THE**		**23,864.90**	**1 Transactions**			
13408	**A&A RECYCLING LLC**						
	50-000-000-0130-6857		200.00	APPLIANCE DISPOSAL	8/12/21	Appliance Disposal	N
	50-000-000-0150-6857		390.00	APPLIANCE DISPOSAL	8/12/21	Appliance Disposal	N
	50-000-000-0110-6857		410.00	APPLIANCE DISPOSAL	9/2/21	Appliance Disposal	N
13408	**A&A RECYCLING LLC**		**1,000.00**	**3 Transactions**			
11409	**ABRA FERGUS FALLS**						
	01-149-000-0000-6354		273.93	UNIT 1707 REPLACE WINDSHIELD	16070	Insurance Claims	N
11409	**ABRA FERGUS FALLS**		**273.93**	**1 Transactions**			
14813	**ALBANY RECYCLING CENTER**						
	50-000-000-0170-6859		2,219.67	MISC RECYCLING	6546	Electronic Disposal	N
	50-000-000-0170-6859		1,700.99	MISC RECYCLING	6550	Electronic Disposal	N
14813	**ALBANY RECYCLING CENTER**		**3,920.66**	**2 Transactions**			
7588	**ALEX RUBBISH & RECYCLING INC**						
	50-000-000-0140-6290		599.73	ACCT 1478400 AUG 2021	2222898	Contracted Services.	N
7588	**ALEX RUBBISH & RECYCLING INC**		**599.73**	**1 Transactions**			
8803	**ALLEN'S AUTO BODY & TOWING**						
	01-201-000-0000-6396		511.00	TOW CF 21026072 TRAILBLAZER	890771	Special Investigation	Y
	01-201-000-0000-6396		511.00	TOW CF 21026072 DODGE TRUCK	890772	Special Investigation	Y
8803	**ALLEN'S AUTO BODY & TOWING**		**1,022.00**	**2 Transactions**			
14386	**AMAZON CAPITAL SERVICES INC**						
	01-042-000-0000-6406		15.75	A2RJVV5AA0WI1P CANNED AIR	1HC6-XX1N-HJRQ	Office Supplies	N
	01-061-000-0000-6406		99.18	A2RJVV5AA0WI1P POWER STRIPS	131Y-WTMN-HGDT	Office Supplies	N
	01-061-000-0000-6406		235.00	A2RJVV5AA0WI1P KEYBOARDS	1337-9GW3-PYR9	Office Supplies	N
	01-061-000-0000-6680		313.98	A2RJVV5AA0WI1P HEADSETS	1337-9GW3-TWTY	Computer Hardware	N
	01-061-000-0000-6406		44.49	A2RJVV5AA0WI1P KEYBOARD	1HD3-NQPP-GG1T	Office Supplies	N
	01-061-000-0000-6680		1,201.90	A2RJVV5AA0WI1P SWITCHES	1JW6-CVWX-4TKM	Computer Hardware	N
	01-061-000-0000-6406		275.12	A2RJVV5AA0WI1P MOUSES/CASES	1MK1-JNGT-NKTW	Office Supplies	N
	01-063-000-0000-6406		7.25	A2RJVV5AA0WI1P INK PAD	1HC6-XX1N-HJRQ	Office Supplies	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
	01-091-000-0000-6406		25.97	A2RJVV5AA0WI1P TAPE/DISPENSER	16QD-JY7F-HGJJ	Office Supplies	N
	01-091-000-0000-6406		92.81	A2RJVV5AA0WI1P SUPPLIES	1YG3-YKLH-1KHX	Office Supplies	N
	01-112-101-0000-6572		52.80	A2RJVV5AA0WI1P PART	1T3H-DXY3-DR6N	Repair And Maintenance Supplies	N
	01-127-000-0000-6406		66.95	A2RJVV5AA0WI1P INK CARTRIDGE	11JN-JJ7Q-GKW1	Office Supplies	N
	01-201-000-0000-6396		1,256.00	A2RJVV5AA0WI1P CAMERAS	13WJ-C4RM-3P1C	Special Investigation	N
	01-201-000-0000-6492		71.88	A2RJVV5AA0WI1P SUPPLIES	174K-TV7K-1XNP	Police Equipment	N
	01-201-000-0000-6492		93.57	A2RJVV5AA0WI1P FOLDING SCALE	1FMD-G6P9-7HJ3	Police Equipment	N
	01-201-000-0000-6406		18.94	A2RJVV5AA0WI1P STAMPERS	1J3X-N6FD-4X6V	Office Supplies	N
	01-201-000-0000-6526		296.95	A2RJVV5AA0WI1P BINOCULARS	1Q9F-TVL1-NNFG 10519	Uniforms BRASEL/RYAN	N
	01-201-000-0000-6406		49.99	A2RJVV5AA0WI1P KLEENEX	1TMJ-XFGR-GKND	Office Supplies	N
	01-201-000-0000-6491		37.00	A2RJVV5AA0WI1P PADLOCKS	1TPH-J1FX-PDRQ	General Supplies	N
	01-250-000-0000-6406		14.95	A2RJVV5AA0WI1P STICKY NOTES	17W1-YT6W-WLG4	Office Supplies	N
	01-250-000-0000-6432		13.99	A2RJVV5AA0WI1P PROPEL POWDER	17W1-YT6W-WLG4	Medical Incarcerated	N
	01-250-000-0000-6406		20.94	A2RJVV5AA0WI1P SUPPLIES	1VFG-RWRY-QLCQ	Office Supplies	N
	01-250-000-0000-6491		25.49	A2RJVV5AA0WI1P BATTERIES	1VFG-RWRY-QLCQ	Jail Supplies	N
	02-225-000-0000-6369		107.45	A2RJVV5AA0WI1P RIBBON/CARDS	1VMY-TKJN-P1J3	Miscellaneous Charges	N
	10-303-000-0000-6406		2,933.90	ACCT #A2RJVV5AA0WI1P-SUPPLIES	1JRM-FRRT-CQKH	Office Supplies	N
	10-303-000-0000-6501		92.67	ACCT #A2RJVV5AA0WI1P-SUPPLIES	1MK1-JNGT-JCPR	Engineering And Surveying Supplies	N
	50-000-000-0000-6848		45.82	A2RJVV5AA0WI1P PLANTER MOLDS	1FQW-HQ6P-4RTF	Public Education	N
14386	**AMAZON CAPITAL SERVICES INC**		**7,510.74**	**27 Transactions**			
5244	**ANOKA CO TREASURY OFFICE**						
	01-205-000-0000-6273		2,000.00	ACCT 142997 AUTOPSY 5/11/21	AR018468	Coroner Expense	N
5244	**ANOKA CO TREASURY OFFICE**		**2,000.00**	**1 Transactions**			
13620	**ARAMARK UNIFORM SERVICES**						
	50-000-000-0000-6290		19.04	ACCT 160002035	252000013281	Contracted Services	N
	50-000-000-0000-6290		19.04	ACCT 160002035	252000020705	Contracted Services	N
	50-390-000-0000-6290		19.04	ACCT 160002035	252000013281	Contracted Services.	N
	50-390-000-0000-6290		19.04	ACCT 160002035	252000020705	Contracted Services.	N
	50-399-000-0000-6290		33.04	ACCT 160002035	252000013281	Contracted Services.	N
	50-399-000-0000-6290		33.04	ACCT 160002035	252000020705	Contracted Services.	N
13620	**ARAMARK UNIFORM SERVICES**		**142.24**	**6 Transactions**			
13988	**AVENU INSIGHTS & ANALYTICS LLC**						
	10-301-000-0000-6264		6,224.20	ANNUAL SUPPORT	INVB-028524	Data Processing Techn Support	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
13988	**AVENU INSIGHTS & ANALYTICS LLC**		**6,224.20**	**1 Transactions**			
15262	**AVERY, ATTORNEY AT LAW/JILL**						
	01-013-000-0000-6262		1,584.50	CLIENT SERVICES AUG 2021	AUG2021	Public Defender	Y
15262	**AVERY, ATTORNEY AT LAW/JILL**		**1,584.50**	**1 Transactions**			
16	**BALLARD SANITATION INC**						
	50-000-000-0150-6291		2,580.00	ACCT 4965 ROLLOFF MAY-JUL 2021	JUL2021	Contract Transportation	N
16	**BALLARD SANITATION INC**		**2,580.00**	**1 Transactions**			
16172	**BARLAGE-LILLEMON/MYA**						
	01-044-000-0000-6331		156.57	MEALS - VALUATION CLASS	8/27/21	Meals And Lodging	N
	01-044-000-0000-6331		482.32	LODGING - VALUATION CLASS	8/27/21	Meals And Lodging	N
16172	**BARLAGE-LILLEMON/MYA**		**638.89**	**2 Transactions**			
11932	**BARNESVILLE RECORD REVIEW**						
	01-002-000-0000-6240		100.00	APPOINTMENT TO BRRWD BOARD	84044	Publishing & Advertising	N
11932	**BARNESVILLE RECORD REVIEW**		**100.00**	**1 Transactions**			
15204	**BCA TRAINING**						
	01-201-000-0000-6171		375.00	REF 22701 DMT-G CERTIFICATION	19158	Tuition And Education Expenses	N
	01-201-000-0000-6171		25.00	TAC WORKSHOP REGISTRATION	19267	Tuition And Education Expenses	N
					8425	WINDELS/LORI	
15204	**BCA TRAINING**		**400.00**	**2 Transactions**			
1386	**BECKLUND OIL INC**						
	10-304-000-0000-6565		2,084.52	DIESEL FUEL	39511	Fuels - Diesel	N
1386	**BECKLUND OIL INC**		**2,084.52**	**1 Transactions**			
6469	**BEERY/ELIZABETH**						
	10-000-000-0000-2270		250.00	2021-16 WORKING IN ROW DEPOSIT	PERMIT #2021-1	Customer Deposits	N
6469	**BEERY/ELIZABETH**		**250.00**	**1 Transactions**			
6500	**BELIVEAU/DAVID**						
	10-000-000-0000-2270		1,000.00	2021-14 APPROACH DEPOSIT REFUN	PERMIT #2021-1	Customer Deposits	N
6500	**BELIVEAU/DAVID**		**1,000.00**	**1 Transactions**			

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
1755	**BEN HOLZER UNLIMITED WATER LLC**						
	50-000-000-0110-6290		10.00	COOLER RENT	7567	Contracted Services.	N
	50-000-000-0130-6290		10.00	COOLER RENT	7687	Contracted Services.	N
	50-000-000-0130-6200		35.00	DRINKING WATER	AH-5091	Telephone	N
1755	**BEN HOLZER UNLIMITED WATER LLC**		**55.00**	**3 Transactions**			
31803	**BEYER BODY SHOP INC**						
	01-149-000-0000-6354		1,858.67	UNIT 20061 REPAIRS	0FDCF309	Insurance Claims	N
	01-201-000-0000-6304		250.00	TOW BOAT #6 8/6/21	17134	Repair And Maintenance	N
	01-201-000-0000-6396		250.00	TOW CF 21025383 7/31/21	35923	Special Investigation	N
	01-201-000-0000-6396		395.00	TOW CF 21023764 7/19/21	36190	Special Investigation	N
	50-399-000-0000-6304		348.50	UNIT 15987 REPLACE BRACKETS	12	Repair And Maint-Vehicles	N
	50-399-000-0000-6304		599.28	UNIT 15987 SOLENOID SWITCH	13	Repair And Maint-Vehicles	N
31803	**BEYER BODY SHOP INC**		**3,701.45**	**6 Transactions**			
533	**BOBCAT OF OTTER TAIL COUNTY**						
	01-250-000-0000-6399		16.99	ACCT OTTER011 CHAIN DISPLAY	P05372	Sentence To Serve	N
533	**BOBCAT OF OTTER TAIL COUNTY**		**16.99**	**1 Transactions**			
11652	**BOYER/RODNEY**						
	01-123-000-0000-6140		150.00	BA - PER DIEM	8/12/21	Per Diem	Y
	01-123-000-0000-6330		137.76	BA - MILEAGE	8/12/21	Mileage	Y
11652	**BOYER/RODNEY**		**287.76**	**2 Transactions**			
24	**BRANDON COMMUNICATIONS INC**						
	10-304-000-0000-6315		664.20	NEW RADIO INSTALLATION, UNIT #	INV-30589	Radio Repair Charges	N
24	**BRANDON COMMUNICATIONS INC**		**664.20**	**1 Transactions**			
3957	**BRAUN VENDING INC**						
	10-304-000-0000-6252		9.00	DRINKING WATER	139354	Water And Sewage	N
	10-304-000-0000-6252		7.00	DRINKING WATER	139355	Water And Sewage	N
3957	**BRAUN VENDING INC**		**16.00**	**2 Transactions**			
10371	**BRIAN'S REPAIR INC**						
	50-399-000-0000-6304		41.25	TIRE REPAIR	37042	Repair And Maint-Vehicles	N
10371	**BRIAN'S REPAIR INC**		**41.25**	**1 Transactions**			

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
267	**BROGARD PLUMBING HTG & EXC INC**						
	10-304-000-0000-6600		3,104.00	NEW WATER SERVICE HENNING GARA	35832	Site Improvement Expense	N
267	**BROGARD PLUMBING HTG & EXC INC**		**3,104.00**	**1 Transactions**			
6441	**BROWN/JEFFREY & JESSICA**						
	09-507-570-4000-6683		500.00	P - JOB #4000 PARCEL 34	9/14/21	Right Of Way, Ect. West Segment	N
6441	**BROWN/JEFFREY & JESSICA**		**500.00**	**1 Transactions**			
8095	**BUELOW/DAVID**						
	02-612-000-0000-6330		94.08	AIS INSPECTOR MILEAGE	8/31/21	Mileage	N
8095	**BUELOW/DAVID**		**94.08**	**1 Transactions**			
6481	**BURR INC**						
	10-304-000-0000-6600		4,965.00	NEW WATER SERVICE HENNING GARA	1099	Site Improvement Expense	N
6481	**BURR INC**		**4,965.00**	**1 Transactions**			
1227	**CARR'S TREE SERVICE INC**						
	10-302-000-0000-6350		447.75	SERVICE	123144	Maintenance Contractor	N
1227	**CARR'S TREE SERVICE INC**		**447.75**	**1 Transactions**			
8930	**CERTIFIED AUTO REPAIR**						
	01-201-000-0000-6396		285.00	TOW CF 21024028 7/22/21	48689	Special Investigation	N
	01-201-000-0000-6304		32.27	UNIT 1704 OIL CHANGE	48794	Repair And Maintenance	N
	01-201-000-0000-6304		333.41	UNIT 1109 OIL CHG/BLOWER MOTOR	48797	Repair And Maintenance	N
	01-201-000-0000-6304		32.27	UNIT 1703 OIL CHANGE	48914	Repair And Maintenance	N
	01-201-000-0000-6304		59.00	UNIT 1309 WHEEL ALIGNMENT	48927	Repair And Maintenance	N
	01-201-000-0000-6304		104.89	UNIT 2005 OIL CHG/IMOUNT TIRES	48993	Repair And Maintenance	N
	01-201-000-0000-6304		32.27	UNIT 1704 OIL CHANGE	49082	Repair And Maintenance	N
	10-304-000-0000-6306		50.22	SERVICE	49007	Repair/Maint. Equip	N
	10-304-000-0000-6306		1,440.95	REPAIR	49007	Repair/Maint. Equip	N
	10-304-000-0000-6572		888.00	TIRES	49007	Repair And Maintenance Supplies	N
8930	**CERTIFIED AUTO REPAIR**		**3,258.28**	**10 Transactions**			
503	**CHRISTENSEN CONSTRUCTION**						
	10-303-000-0000-6369		4,135.00	SERVICE - CLEAN DITCH QUINN PR	11771	Miscellaneous Charges	N
	22-622-000-0621-6369		1,732.50	CLEAN PLUGGED CULVERT DITCH 21	0011597	Miscellaneous Charges	Y
	22-622-000-0642-6369		3,655.00	DIG NEW INLET TO TILE DITCH 42	0011602	Miscellaneous Charges	Y

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
	22-622-000-0644-6369		1,500.00	REMOVE BEAVER DAMS DITCH 44	0011671	Miscellaneous Charges	Y
	22-622-000-0608-6369		1,280.00	CLEAN OUT CULVERT DITCH 8	0011678	Miscellaneous Charges	Y
	22-622-000-0629-6369		1,120.00	REMOVE BEAVER DAM DITCH 29	0011689	Miscellaneous Charges	Y
	22-622-000-0608-6369		1,160.00	REMOVE BEAVER DAMS DITCH 8	0011705	Miscellaneous Charges	Y
	22-622-000-0629-6369		960.00	REMOVE BEAVER DAMS DITCH 29	0011705	Miscellaneous Charges	Y
	22-622-000-0641-6369		960.00	REMOVE BEAVER DAMS DITCH 41/65	0011705	Miscellaneous Charges	Y
	22-622-000-0629-6369		1,500.00	REMOVE BEAVER DAM DITCH 29	0011709	Miscellaneous Charges	Y
	22-622-000-0604-6369		1,600.00	REMOVE BEAVER DAMS DITCH 4	0011712	Miscellaneous Charges	Y
	22-622-000-0629-6369		1,280.00	REMOVE BEAVER DAM DITCH 29	0011717	Miscellaneous Charges	Y
	22-622-000-0616-6369		14,800.00	RIPRAP/LANDSCAPING DITCH 16	0011758	Miscellaneous Charges	Y
	22-622-000-0618-6369		7,470.00	CULVERT WORK DITCH 18/37	0011766	Miscellaneous Charges	Y
	22-622-000-0642-6369		2,170.00	CLEAN & RESHAPE DITCH 42	0011768	Miscellaneous Charges	Y
503	**CHRISTENSEN CONSTRUCTION**		**45,322.50**	**15 Transactions**			
5580	**CITIZEN'S ADVOCATE**						
	01-122-000-0000-6240		84.48	SUBDIV CONTROLS ORDINANCE AD	15626	Publishing & Advertising	N
5580	**CITIZEN'S ADVOCATE**		**84.48**	**1 Transactions**			
9688	**CLEAN PLUS INC**						
	01-250-000-0000-6491		2,200.00	EMSOTTERTAILJAILMN EXAM GLOVES	2108384	Jail Supplies	N
9688	**CLEAN PLUS INC**		**2,200.00**	**1 Transactions**			
12058	**CLEAN SWEEP COMMERCIAL SERVICES**						
	50-000-000-0000-6290		1,183.00	OFFICE CLEANING AUG 2021	PA 046318	Contracted Services	Y
12058	**CLEAN SWEEP COMMERCIAL SERVICES**		**1,183.00**	**1 Transactions**			
9087	**CODE 4 SERVICES INC**						
	01-149-000-0000-6369		150.25	UNIT 1775 GPS INSTALL	6530	Miscellaneous Charges	N
	01-149-000-0000-6369		150.25	UNIT 1776 GPS INSTALL	6531	Miscellaneous Charges	N
	01-149-000-0000-6369		139.75	UNIT 14996 REMOVE GPS	6533	Miscellaneous Charges	N
	01-149-000-0000-6369		150.25	UNIT 1761 GPS INSTALL	6540	Miscellaneous Charges	N
	01-201-000-0000-6315		679.25	UNIT 1802 REMOVE EQUIPMENT	6513	Radio Repair Charges	N
	01-201-000-0000-6304		52.25	UNIT 2002 COMPUTER DIAGNOSTIC	6515	Repair And Maintenance	N
	01-201-000-0000-6315		627.00	UNIT 1506 REMOVE EQUIPMENT	6517	Radio Repair Charges	N
	01-201-000-0000-6315		3,037.12	UNIT 2109 INITIAL UP-FIT	6519	Radio Repair Charges	N
	01-201-000-0000-6315		3,370.85	UNIT 2108 POLICE EQUIPMENT	6534	Radio Repair Charges	N
9087	**CODE 4 SERVICES INC**		**8,356.97**	**9 Transactions**			

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
608	**COMMISSIONER OF TRANSPORTATION**						
	10-303-000-0000-6278		240.74	STRUCTURAL METALS INS - NON DO	P00013619	Engineering & Hydrological Testing	N
	10-303-000-0000-6278		318.43	TESTING	P00013619	Engineering & Hydrological Testing	N
608	**COMMISSIONER OF TRANSPORTATION**		**559.17**	**2 Transactions**			
3068	**COMPUTER INFORMATION SYSTEMS INC**						
	01-250-000-0000-6342		6,247.10	CIS LICENSES & MAINT	237306	Service Agreements	N
	02-214-000-0000-6342		14,197.95	CIS LICENSES & MAINT	237306	Service Agreements	N
	02-214-000-0000-6348		4,560.00	CIS LICENSES & MAINT	237306	Software Maintenance Contract	N
3068	**COMPUTER INFORMATION SYSTEMS INC**		**25,005.05**	**3 Transactions**			
32603	**COOPER'S OFFICE SUPPLY INC**						
	01-041-000-0000-6406		30.12	ACCT 2189988030 CALC RIBBONS	455626	Office Supplies	N
	01-042-000-0000-6406		15.39	ACCT 2189988030 DETECTOR PENS	455567	Office Supplies	N
	01-043-000-0000-6406		15.39	ACCT 2189988030 DETECTOR PENS	455567	Office Supplies	N
	01-250-000-0000-6406		50.32	ACCT 2189988556 SUPPLIES	455366	Office Supplies	N
	01-250-000-0000-6406		23.98	ACCT 2189988556 ENVELOPES	455373	Office Supplies	N
	01-250-000-0000-6491		11.77	ACCT 2189988556 FILTERS	455528	Jail Supplies	N
	01-601-000-0000-6406		9.93	ACCT 2189988760 ENVELOPE	455421	Office Supplies	N
32603	**COOPER'S OFFICE SUPPLY INC**		**156.90**	**7 Transactions**			
7356	**CROW WING CO SHERIFF'S OFFICE**						
	01-091-000-0000-6369		75.00	56-CR-21-550 SUBPOENA SERVICE	9342	Miscellaneous Charges	N
7356	**CROW WING CO SHERIFF'S OFFICE**		**75.00**	**1 Transactions**			
3710	**CULLIGAN OF DETROIT LAKES**						
	10-304-000-0000-6252		55.20	DRINKING WATER - ACCT #267-000		Water And Sewage	N
3710	**CULLIGAN OF DETROIT LAKES**		**55.20**	**1 Transactions**			
5407	**CULLIGAN OF ELBOW LAKE**						
	50-000-000-0170-6290		40.00	ACCT 327-00028118-5	8/31/21	Contracted Services.	N
5407	**CULLIGAN OF ELBOW LAKE**		**40.00**	**1 Transactions**			
2364	**CULLIGAN OF WADENA**						
	10-304-000-0000-6252		8.75	DRINKING WATER - ACCT #267-065		Water And Sewage	N
	10-304-000-0000-6252		8.75	DRINKING WATER - ACCT #267-098		Water And Sewage	N
	10-304-000-0000-6252		34.00	DRINKING WATER - ACCT #267-015		Water And Sewage	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
	50-000-000-0120-6290		40.50	ACCT 267-03388972-1	8/31/21	Contracted Services.	N
2364	**CULLIGAN OF WADENA**		**92.00**	**4 Transactions**			
687	**CUMMINS SALES & SERVICE**						
	01-112-101-0000-6572		2,165.85	ACCT 29176 REPLACE BATTERIES	E8-62974	Repair And Maintenance Supplies	N
	01-112-101-0000-6342		1,359.19	ACCT 29176 INSPECTION	E8-62975	Service Agreements	N
	01-112-108-0000-6572		175.74	ACCT 29176 REPLACE BATTERIES	E8-62976	Repair And Maintenance Supplies	N
	01-112-108-0000-6342		1,087.43	ACCT 29176 FULL SERVICE	E8-62977	Service Agreements	N
	01-112-109-0000-6342		1,245.38	ACCT 29176 FULL SERVICE	E8-63169	Service Agreements	N
687	**CUMMINS SALES & SERVICE**		**6,033.59**	**5 Transactions**			
15018	**CYBERSPROUT LLC**						
	02-705-000-1011-6290		180.00	EXCESS HOURS AUG 2021	5612	Branding/Website	Y
15018	**CYBERSPROUT LLC**		**180.00**	**1 Transactions**			
14949	**DAKOTA BUSINESS SOLUTIONS INC**						
	01-149-000-0000-6210		452.99	INK TANK	5163	Postage & Postage Meter	N
14949	**DAKOTA BUSINESS SOLUTIONS INC**		**452.99**	**1 Transactions**			
6708	**DAKOTA WHOLESALE TIRE INC**						
	01-201-000-0000-6304		584.04	ACCT 5146 TIRES FOR UNIT 1710	571128	Repair And Maintenance	N
6708	**DAKOTA WHOLESALE TIRE INC**		**584.04**	**1 Transactions**			
9672	**DEANS DISTRIBUTING**						
	10-304-000-0000-6565		368.35	D.E.F. FLUID	192715	Fuels - Diesel	N
	10-304-000-0000-6565		435.05	DELO ELC 50/50	192716	Fuels - Diesel	N
	10-304-000-0000-6565		1,995.76	DELO 400 10-30	192716	Fuels - Diesel	N
	10-304-000-0000-6565		284.95	D.E.F. FLUID	192716	Fuels - Diesel	N
9672	**DEANS DISTRIBUTING**		**3,084.11**	**4 Transactions**			
1261	**DENZEL'S REGION WASTE INC**						
	09-507-510-0000-6253		141.57	ACCT 1122 GARBAGE	SEP2021	Garbage	N
1261	**DENZEL'S REGION WASTE INC**		**141.57**	**1 Transactions**			
33013	**DICK'S STANDARD**						
	10-304-000-0000-6572		280.00	TIRE	83043	Repair And Maintenance Supplies	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
33013	**DICK'S STANDARD**		**280.00**	**1 Transactions**			
13736	**DM ENTERPRISES**						
	10-302-000-0000-6350		7,500.00	SERVICE	1035	Maintenance Contractor	N
	22-622-000-0648-6369		6,000.00	DITCH #48 EXCAVATOR HRS	1035	Miscellaneous Charges	Y
13736	**DM ENTERPRISES**		**13,500.00**	**2 Transactions**			
6198	**DONAIS/BRINN**						
	02-612-000-0000-6330		39.20	AIS INSPECTOR MILEAGE	8/31/21	Mileage	N
6198	**DONAIS/BRINN**		**39.20**	**1 Transactions**			
15993	**DONOHO/MICHAEL**						
	01-123-000-0000-6140		225.00	BA - PER DIEM	8/12/21	Per Diem	Y
	01-123-000-0000-6330		76.16	BA - MILEAGE	8/12/21	Mileage	Y
15993	**DONOHO/MICHAEL**		**301.16**	**2 Transactions**			
11391	**DOUBLE A CATERING**						
	01-002-000-0000-6369		35.00	SNACKS FOR BOARD MTG 1/12/21	1/12/21	Miscellaneous Charges	N
	01-002-000-0000-6369		35.00	SNACKS FOR BOARD MTG 3/23/21	3/23/21	Miscellaneous Charges	N
11391	**DOUBLE A CATERING**		**70.00**	**2 Transactions**			
6487	**DUININK CONCRETE**						
	10-302-000-0000-6500		232.40	SUPPLIES	107091	Supplies	N
6487	**DUININK CONCRETE**		**232.40**	**1 Transactions**			
941	**EGGE CONSTRUCTION INC**						
	50-000-000-0150-6300		488.30	FIX WASH OUT IN ROAD	32289	Building And Grounds Maintenance	Y
941	**EGGE CONSTRUCTION INC**		**488.30**	**1 Transactions**			
5430	**EIFERT/DANA**						
	13-012-000-0000-6369		60.00	LAW LIBRARY HOURS AUG 2021	AUG2021	Miscellaneous Charges	Y
5430	**EIFERT/DANA**		**60.00**	**1 Transactions**			
11889	**ERGOMETRICS & APPLIED PERSONNEL RES**						
	01-201-000-0000-6171		272.60	FRONTLINE NATIONAL TESTING	140754	Tuition And Education Expenses	N
11889	**ERGOMETRICS & APPLIED PERSONNEL RES**		**272.60**	**1 Transactions**			

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
6461	**EVER GREEN LAWNS**						
	02-612-000-0000-6369		1,703.00	RINSE STATION SET UP	6365	Miscellaneous Charges	N
6461	**EVER GREEN LAWNS**		**1,703.00**	**1 Transactions**			
13026	**EZWELDING LLC**						
	50-399-000-0000-6306		677.50	REPAIR ROLL OFF #104	000074	Repair/Maint. Equip	Y
13026	**EZWELDING LLC**		**677.50**	**1 Transactions**			
35594	**FARMERS CO-OP OIL**						
	50-399-000-0000-6565		891.99	ACCT 727196 SOY BIO DIESEL	5531	Fuels	N
35594	**FARMERS CO-OP OIL**		**891.99**	**1 Transactions**			
373	**FARNAM'S GENUINE PARTS INC**						
	50-399-000-0000-6304		55.25	ACCT 13050 SUPPLIES	813640	Repair And Maint-Vehicles	N
	50-399-000-0000-6487		19.99	ACCT 13050 EXTRACTOR KIT	814061	Tools & Minor Equipment	N
	50-399-000-0000-6304		3.78	ACCT 13050 HOSE CLAMP	814379	Repair And Maint-Vehicles	N
	50-399-000-0000-6304		19.98	ACCT 13050 LIGHT	814452	Repair And Maint-Vehicles	N
	50-399-000-0000-6304		30.47	ACCT 13050 SUPPLIES	815004	Repair And Maint-Vehicles	N
373	**FARNAM'S GENUINE PARTS INC**		**129.47**	**5 Transactions**			
35011	**FERGUS FALLS DAILY JOURNAL**						
	01-002-000-0000-6240		145.36	ACCT 530694 APPT BOARD BRRW	422097	Publishing & Advertising	N
35011	**FERGUS FALLS DAILY JOURNAL**		**145.36**	**1 Transactions**			
32679	**FERGUS FALLS/CITY OF**						
	50-000-000-0130-6863		810.00	ACCT 18240 LEACHATE JUL 2021	35500	Leachate Disposal	N
32679	**FERGUS FALLS/CITY OF**		**810.00**	**1 Transactions**			
5322	**FERGUS HOME & HARDWARE**						
	01-250-000-0000-6399		59.98	ACCT 5954 DRILL BIT SETS	104988	Sentence To Serve	N
	01-250-000-0000-6399		14.20	ACCT 5954 FASTENERS	105222	Sentence To Serve	N
	10-302-000-0000-6500		1,199.40	SUPPLIES	105059	Supplies	N
	10-302-000-0000-6500		280.00	SUPPLIES	105920	Supplies	N
	10-304-000-0000-6572		16.99	SUPPLIES	104430	Repair And Maintenance Supplies	N
5322	**FERGUS HOME & HARDWARE**		**1,570.57**	**5 Transactions**			
2153	**FERGUS POWER PUMP INC**						

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
	50-000-000-0130-6863		3,330.00	LEACHATE HAULING AUG 2021	46099	Leachate Disposal	N
	50-000-000-0170-6863		615.00	LEACHATE HAULING 9/2/21	46103	Leachate Disposal	N
2153	**FERGUS POWER PUMP INC**		**3,945.00**	**2 Transactions**			
13636	**FIDLAR TECHNOLOGIES INC**						
	02-103-000-0000-6369		3,294.56	LAREDO USAGE JUL 2021	0228309-IN	Miscellaneous Charges	N
13636	**FIDLAR TECHNOLOGIES INC**		**3,294.56**	**1 Transactions**			
16136	**FORMANEK/ROBERT**						
	02-612-000-0000-6330		77.84	AIS INSPECTOR MILEAGE	8/31/21	Mileage	N
16136	**FORMANEK/ROBERT**		**77.84**	**1 Transactions**			
959	**FORTWENGLER ELECTRIC INC**						
	01-250-000-0000-6399		28.52	SUPPLIES FOR WOODSPLITTER	0183160	Sentence To Serve	N
	01-250-000-0000-6399		1,599.95	20TON WOODSPLITTER	182769	Sentence To Serve	N
959	**FORTWENGLER ELECTRIC INC**		**1,628.47**	**2 Transactions**			
387	**FOTH INFRASTRUCTURE & ENVIRONMENT L**						
	50-000-000-0000-6276		12,408.93	SOLID WASTE MASTER PLAN	74075	Professional Services	N
	50-000-000-0120-6276		1,011.87	HENNING TECH/GW SERVICES	74076	Professional Services	N
	50-000-000-0130-6276		5,406.07	NEOT TECH/GW SERVICES	74077	Professional Services	N
387	**FOTH INFRASTRUCTURE & ENVIRONMENT L**		**18,826.87**	**3 Transactions**			
15168	**FREDERICK/PHILIP**						
	02-612-000-0000-6330		71.68	AIS INSPECTOR MILEAGE	8/31/21	Mileage	N
15168	**FREDERICK/PHILIP**		**71.68**	**1 Transactions**			
6460	**FRONNING/ASHLYN**						
	01-201-000-0000-6276		37.50	COMPLIANCE CHECKS	8/10/21	Professional Services	N
6460	**FRONNING/ASHLYN**		**37.50**	**1 Transactions**			
2	**G & R CONTROLS INC**						
	01-112-108-0000-6572		101.15	ACCT OTT100 AIR FLOW SWITCH	X20316T3	Repair And Maintenance Supplies	N
2	**G & R CONTROLS INC**		**101.15**	**1 Transactions**			
9218	**GALLAGHER BENEFIT SERVICES INC**						
	01-002-000-0000-6818		9,850.00	ACCT 46880 COMPENSATION STUDY	202132720	Board Contingency	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
9218	**GALLAGHER BENEFIT SERVICES INC**		**9,850.00**	**1 Transactions**			
392	**GALLS LLC**						
	01-201-000-0000-6526		414.13	ACCT 1002151493 TASER/HOLDER	019066940	Uniforms	N
	01-201-000-0000-6526		42.91	ACCT 1002151493 TIES	019067621	Uniforms	N
	01-201-000-0000-6526		121.24	ACCT 1002151493 GUN LIGHT	019072668	Uniforms	N
	01-201-000-0000-6526		99.00	ACCT 1002151493 TRAINING BOOT	019103239	Uniforms	N
	01-201-000-0000-6526		229.95	ACCT 1002151493 BOOTS	019155695	Uniforms	N
	01-250-000-0000-6526		137.41	ACCT 5287917 PANTS	018975370	Uniforms	N
					14630	BOECKERS/MICHELLE	
	01-250-000-0000-6526		84.94	ACCT 5287917 LEATHERMAN	019014804	Uniforms	N
	01-250-000-0000-6526		76.20	ACCT 5287917 CUFFS/PANTS	019030239	Uniforms	N
					5734	JAEGER/NICOLE	
	01-250-000-0000-6526		73.24	ACCT 5287917 APEX PANTS	019155705	Uniforms	N
					15046	BERG/PRESTON	
	01-250-000-0000-6526		504.86	ACCT 5287917 LIGHT/HOLDER/BELT	019161938	Uniforms	N
					7413	ERDMANN/SCOTT	
	01-250-000-0000-6526		110.88	ACCT 5287917 FLASHLIGHT	019165652	Uniforms	N
					5734	JAEGER/NICOLE	
392	**GALLS LLC**		**1,894.76**	**11 Transactions**			
16280	**GARY FISCHLER & ASSOCIATES**						
	01-201-000-0000-6433		1,800.00	ACCT GFA-0134 WELLNESS VISITS	3509820	Special Medical	6
16280	**GARY FISCHLER & ASSOCIATES**		**1,800.00**	**1 Transactions**			
5926	**GAUSTAD/LYNETTE**						
	01-044-000-0000-6331		92.66	MEALS - APPRAISAL COURSE	8/19/21	Meals And Lodging	N
	01-044-000-0000-6331		755.62	LODGING - APPRAISAL COURSE	8/19/21	Meals And Lodging	N
5926	**GAUSTAD/LYNETTE**		**848.28**	**2 Transactions**			
14795	**GIRARD'S BUSINESS SOLUTIONS INC**						
	01-043-000-0000-6342		2,410.00	ACCT OTT0751 MI PYMT PROCESS	211OTT0751	Service Agreements/Technical Support	N
14795	**GIRARD'S BUSINESS SOLUTIONS INC**		**2,410.00**	**1 Transactions**			
5066	**GODFATHER'S EXTERMINATING INC**						
	50-000-000-0170-6290		127.75	ACCT 12465 RODENT CONTROL	166109	Contracted Services.	N
	50-399-000-0000-6290		132.50	ACCT 7152 RODENT CONTROL	166073	Contracted Services.	N
	50-399-000-0000-6290		9.75	ACCT 7152 ODOR UNIT	166201	Contracted Services.	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
5066	**GODFATHER'S EXTERMINATING INC**		**270.00**	**3 Transactions**			
15941	**GONTAREK/JONAH**						
	13-012-000-0000-6369		100.00	LAW LIBRARY HRS AUG 2021	AUG2021	Miscellaneous Charges	N
15941	**GONTAREK/JONAH**		**100.00**	**1 Transactions**			
52564	**GRAINGER INC**						
	01-112-000-0000-6572		206.69	ACCT 813640729 DRAIN CABLE	9018665068	Repair And Maintenance Supplies	N
	50-399-000-0000-6453		186.62	ACCT 832582571 BIB APRON	9019934026	Ppe & Safety Equip.&Supplies	N
52564	**GRAINGER INC**		**393.31**	**2 Transactions**			
11754	**GRANITE ELECTRONICS INC**						
	01-201-000-0000-6315		179.15	ACCT 03188 RADIO REPAIR	154008139-1	Radio Repair Charges	N
	01-201-000-0000-6315		189.55	ACCT 03188 RADIO REPAIR	154008247-1	Radio Repair Charges	N
11754	**GRANITE ELECTRONICS INC**		**368.70**	**2 Transactions**			
13522	**GREATAMERICA FINANCIAL SVCS**						
	01-044-000-0000-6342		296.41	AGREE 013-1212517-000	30016130	Service Agreements	N
13522	**GREATAMERICA FINANCIAL SVCS**		**296.41**	**1 Transactions**			
9409	**GREENE/JULIE**						
	01-044-000-0000-6331		38.83	MEALS - MAAP CONFERENCE	8/20/21	Meals And Lodging	N
9409	**GREENE/JULIE**		**38.83**	**1 Transactions**			
6454	**GREFSRUD/JARED & ERIN**						
	09-507-570-4000-6683		1,050.00	P - JOB #4000 PARCEL 36	9/14/21	Right Of Way, Ect. West Segment	N
6454	**GREFSRUD/JARED & ERIN**		**1,050.00**	**1 Transactions**			
6456	**HAGEN/STEPHANIE HAGEN-JOHNSON & DA**						
	09-507-570-4002-6683		435.07	P - JOB #4002 PARCEL 67	9/14/21	Right Of Way, Ect.Silent Lk Segment	N
	09-507-570-4002-6683		448.27	T - JOB #4002 PARCEL 67	9/14/21	Right Of Way, Ect.Silent Lk Segment	N
6456	**HAGEN/STEPHANIE HAGEN-JOHNSON & DA**		**883.34**	**2 Transactions**			
37755	**HEALTHCARE ENVIRONMENTAL SERVICES I**						
	01-250-000-0000-6432		130.20	ACCT 325 WASTE DISPOSAL	59955	Medical Incarcerated	N
37755	**HEALTHCARE ENVIRONMENTAL SERVICES I**		**130.20**	**1 Transactions**			

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
6914	**HERMAN/CRYSTAL**						
	01-091-000-0000-6271		124.32	MILEAGE - MFIA BOARD MTG	8/5/21	Fraud Investigator Expenses	N
	01-091-000-0000-6271		10.85	MEAL - MFIA BOARD MTG	8/5/21	Fraud Investigator Expenses	N
6914	**HERMAN/CRYSTAL**		**135.17**	**2 Transactions**			
5835	**HOUSTON ENGINEERING INC**						
	09-507-570-4004-6278		26,422.00	R005197-0034 MAPLEWOOD SEG	0055417	Engineering & Hydrological Maplewood Seg	N
	09-507-570-4001-6278		33,070.93	R005197-0031 MCDONALD SEG	0055422	Engineering & Hydrological McDonald Seg	N
	09-507-570-4002-6278		33,070.93	R005197-0031 SILENT LAKE SEG	0055422	Engineering & Hydrological Silent Lk Seg	N
	10-303-000-0000-6278		430.00	SERVICE	0055415	Engineering & Hydrological Testing	N
	10-303-000-0000-6278		2,761.50	SERVICE	0055429	Engineering & Hydrological Testing	N
5835	**HOUSTON ENGINEERING INC**		**95,755.36**	**5 Transactions**			
6459	**HUUS/MAKAYLA**						
	01-201-000-0000-6276		37.50	COMPLIANCE CHECKS	8/10/21	Professional Services	N
6459	**HUUS/MAKAYLA**		**37.50**	**1 Transactions**			
38100	**INNOVATIVE OFFICE SOLUTIONS LLC**						
	01-201-000-0000-6406		140.41	ACCT 9988526 SUPPLIES	SUM-062725	Office Supplies	N
	50-000-000-0000-6406		31.32	ACCT 565373 SUPPLIES	SUM-062712	Office Supplies	N
38100	**INNOVATIVE OFFICE SOLUTIONS LLC**		**171.73**	**2 Transactions**			
10049	**INTERSTATE ENGINEERING INC**						
	10-303-000-0000-6683		10,580.00	SERVICE - ROW PLAT	40832	Right Of Way, Ect.	N
	10-303-000-0000-6683		4,100.00	SERVICE - ROW PLAT	44560	Right Of Way, Ect.	N
	50-000-000-0130-6290		5,272.60	PROJECT F2112025 STAKING	44561	Contracted Services.	N
	50-000-000-0170-6290		25,764.36	PROJECT F1900038 ENGINEERING	44574	Contracted Services.	N
10049	**INTERSTATE ENGINEERING INC**		**45,716.96**	**4 Transactions**			
1428	**INTOXIMETERS INC**						
	01-201-000-0000-6491		105.00	ACCT C00MNOTT1 DRYGAS	687316	General Supplies	N
1428	**INTOXIMETERS INC**		**105.00**	**1 Transactions**			
11098	**JAKE'S JOHNS LLC**						
	50-000-000-0110-6290		150.00	TOILET RENTAL	10902	Contracted Services.	Y
	50-000-000-0130-6290		200.00	TOILET RENTAL/CLEANING	10902	Contracted Services.	Y

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
11098	**JAKE'S JOHNS LLC**		**350.00**	**2 Transactions**			
39324	**JK SPORTS INC**						
	01-201-000-0000-6526		32.00	EMBROIDERY	92659	Uniforms	N
	01-250-000-0000-6452		299.40	CREW SWEATSHIRTS	92747	Prisioners Clothing Cost	N
39324	**JK SPORTS INC**		**331.40**	**2 Transactions**			
6435	**JMPK PROPERTIES LLC**						
	09-507-570-4000-6683		855.00	P - JOB #4000 PARCEL 22	9/14/21	Right Of Way, Ect. West Segment	N
	09-507-570-4000-6683		313.50	T - JOB #4000 PARCEL 22	9/14/21	Right Of Way, Ect. West Segment	N
	09-507-570-4000-6683		3,831.50	D - JOB #4000 PARCEL 22	9/14/21	Right Of Way, Ect. West Segment	N
6435	**JMPK PROPERTIES LLC**		**5,000.00**	**3 Transactions**			
6455	**JOHNSON/CRAIG T & JANE E**						
	09-507-570-4002-6683		870.13	P - JOB #4002 PARCEL 67	9/14/21	Right Of Way, Ect.Silent Lk Segment	N
	09-507-570-4002-6683		896.53	T - JOB #4002 PARCEL 67	9/14/21	Right Of Way, Ect.Silent Lk Segment	N
6455	**JOHNSON/CRAIG T & JANE E**		**1,766.66**	**2 Transactions**			
6468	**JOHNSON/ERIC & BRENDA**						
	10-000-000-0000-2270		1,000.00	2021-23 APPROACH DEPOSIT REFUN	PERMIT #2021-2	Customer Deposits	N
6468	**JOHNSON/ERIC & BRENDA**		**1,000.00**	**1 Transactions**			
6268	**JOHNSON/KENT**						
	02-612-000-0000-6330		141.12	AIS INSPECTOR MILEAGE	8/31/21	Mileage	N
6268	**JOHNSON/KENT**		**141.12**	**1 Transactions**			
16236	**JORGENSON/KURT**						
	10-304-000-0000-6572		181.98	SUPPLIES	D 9744	Repair And Maintenance Supplies	N
16236	**JORGENSON/KURT**		**181.98**	**1 Transactions**			
6501	**KACHELMYER/LYLE**						
	10-000-000-0000-2270		1,000.00	2021-05 APPROACH DEPOSIT REFUN	PERMIT #2021-0	Customer Deposits	N
6501	**KACHELMYER/LYLE**		**1,000.00**	**1 Transactions**			
6470	**KESSLER SOILS ENGINEERING PRODUCTS I**						
	10-303-000-0000-6501		2,063.50	K-100 A DCP KIT, TAG #001694	12025	Engineering And Surveying Supplies	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
6470	**KESSLER SOILS ENGINEERING PRODUCTS I**		**2,063.50**	**1 Transactions**			
1002	**KIMBALL MIDWEST**						
	10-304-000-0000-6572		557.35	SUPPLIES	9108879	Repair And Maintenance Supplies	N
1002	**KIMBALL MIDWEST**		**557.35**	**1 Transactions**			
6490	**KOEHLER/MATTHEW**						
	10-000-000-0000-2270		1,000.00	2021-42 APPROACH DEPOSIT REFUN	PERMIT #2021-4	Customer Deposits	N
6490	**KOEHLER/MATTHEW**		**1,000.00**	**1 Transactions**			
6467	**KRAEMER/JERRY F & MEGAN**						
	09-507-570-4000-6683		1,395.00	T - JOB #4000 PARCEL 38	9/14/21	Right Of Way, Ect. West Segment	N
6467	**KRAEMER/JERRY F & MEGAN**		**1,395.00**	**1 Transactions**			
16137	**KRESS/JEFF**						
	02-612-000-0000-6330		88.48	AIS INSPECTOR MILEAGE	8/31/21	Mileage	N
16137	**KRESS/JEFF**		**88.48**	**1 Transactions**			
7173	**LAKE COUNTRY GRAPHICS INC**						
	01-250-000-0000-6526		96.58	SHIRTS & EMBROIDERY	17654	Uniforms	N
7173	**LAKE COUNTRY GRAPHICS INC**		**96.58**	**1 Transactions**			
14807	**LAKE REGION ASSN OF REALTORS**						
	01-044-000-0000-6241		175.00	LRAR REALTOR DUES	1587	Membership Dues	N
14807	**LAKE REGION ASSN OF REALTORS**		**175.00**	**1 Transactions**			
79	**LAKE REGION HEALTHCARE**						
	01-201-000-0000-6433		95.76	LAB WORK CFS 21017487 6/6/21	3894286-0001	Special Medical	N
	01-201-000-0000-6433		95.76	LAB WORK CFS 21016506 5/31/21	3894615-0001	Special Medical	N
	01-201-000-0000-6433		95.76	LAB WORK CFS 21018298 6/12/21	3899961-0001	Special Medical	N
	01-201-000-0000-6433		95.76	LAB WORK CFS 21019347 6/19/21	3904831-0001	Special Medical	N
	01-201-000-0000-6433		95.76	LAB WORK CFS 21020173 6/26/21	3910135-0001	Special Medical	N
	01-201-000-0000-6433		95.76	LAB WORK CFS 21021916 7/7/21	3918139-0001	Special Medical	N
	01-201-000-0000-6433		95.76	LAB WORK CFS 21022485 7/11/21	3920686-0001	Special Medical	N
	01-201-000-0000-6433		95.76	LAB WORK CFS 21026200 6/6/21	3942039-0001	Special Medical	N
	01-205-000-0000-6273		1,028.00	ACCT OTAUD AUTOPSY ASSIST	IVC00001766	Coroner Expense	N
	01-205-000-0000-6273		775.00	ACCT OTAUD TECH SERVICES	IVC00001774	Coroner Expense	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
79	**LAKE REGION HEALTHCARE**		**2,569.08**	**10 Transactions**			
25146	**LAKELAND MENTAL HEALTH CENTER**						
	01-091-000-0000-6369		95.00	RECORD RESEARCH - G KEPPERS	8/17/21	Miscellaneous Charges	6
25146	**LAKELAND MENTAL HEALTH CENTER**		**95.00**	**1 Transactions**			
3879	**LAKES ACE HARDWARE**						
	10-302-000-0000-6500		63.98	SUPPLIES	J67310	Supplies	N
3879	**LAKES ACE HARDWARE**		**63.98**	**1 Transactions**			
6063	**LAKES ADVERTISING LLC**						
	23-705-000-0000-6240		75.00	SET UP FEE - JOB CAMPAIGN AD	2901	Publishing & Advertising	N
	23-705-000-0000-6240		750.00	DIGITAL BILLBOARD AD SEP 2021	2937	Publishing & Advertising	N
6063	**LAKES ADVERTISING LLC**		**825.00**	**2 Transactions**			
10350	**LAKES AREA COOPERATIVE**						
	50-000-000-0110-6565		162.40	ACCT 009080 FIELDMASTER 8/16	12494	Fuels	N
	50-000-000-0110-6565		91.56	ACCT 009080 FIELDMASTER 8/25	12546	Fuels	N
	50-000-000-0130-6565		204.45	ACCT 009080 LP GAS COMMERCIAL	68087	Fuels	N
10350	**LAKES AREA COOPERATIVE**		**458.41**	**3 Transactions**			
5960	**LAKES AREA DRAIN**						
	50-399-000-0000-6300		165.00	CLEAR DRAIN LINE 8/26/21	2348	Building And Grounds Maintenance	N
5960	**LAKES AREA DRAIN**		**165.00**	**1 Transactions**			
6000	**LARKIN HOFFMAN DALY & LINDGREN LTD**						
	50-000-000-0130-6276		1,060.00	MATTER 44599 REISSUE PERMIT	791898	Professional Services	N
6000	**LARKIN HOFFMAN DALY & LINDGREN LTD**		**1,060.00**	**1 Transactions**			
81	**LARRY OTT INC TRUCK SERVICE**						
	50-399-000-0000-6291		550.00	CARDBOARD 8/19/21	74501	Contract Transportation	N
	50-399-000-0000-6291		550.00	CARDBOARD 8/17/21	74507	Contract Transportation	N
	50-399-000-0000-6291		550.00	CARDBOARD 8/26/21	74523	Contract Transportation	N
	50-399-000-0000-6291		550.00	CARDBOARD 8/23/21	74524	Contract Transportation	N
	50-399-000-0000-6291		550.00	CARDBOARD 8/30/21	74525	Contract Transportation	N
	50-399-000-0000-6291		550.00	CARDBOARD 9/1/21	74526	Contract Transportation	N
	50-399-000-0000-6291		550.00	CARDBOARD 9/3/21	74530	Contract Transportation	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
81	**LARRY OTT INC TRUCK SERVICE**		**3,850.00**	**7 Transactions**			
15078	**LARSON/DOUG**						
	01-123-000-0000-6140		150.00	BA - PER DIEM	8/12/21	Per Diem	Y
	01-123-000-0000-6330		85.12	BA - MILEAGE	8/12/21	Mileage	Y
15078	**LARSON/DOUG**		**235.12**	**2 Transactions**			
41525	**LARUM/PAT**						
	01-061-000-0000-6330		71.68	MILEAGE - JULY/AUG 2021	AUG2021	Mileage	N
41525	**LARUM/PAT**		**71.68**	**1 Transactions**			
1020	**LAWSON PRODUCTS INC**						
	10-304-000-0000-6572		447.31	SUPPLIES	9308699535	Repair And Maintenance Supplies	N
1020	**LAWSON PRODUCTS INC**		**447.31**	**1 Transactions**			
11658	**LEE/THOMAS**						
	01-123-000-0000-6140		300.00	BA - PER DIEM	8/12/21	Per Diem	Y
	01-123-000-0000-6330		142.80	BA - MILEAGE	8/12/21	Mileage	Y
11658	**LEE/THOMAS**		**442.80**	**2 Transactions**			
198	**LEIGHTON BROADCASTING - FERGUS FALLS**						
	50-000-000-0000-6240		172.50	MINNESOTA TWINS 2021	174353-7	Publishing & Advertising	N
	50-000-000-0000-6240		160.00	MN VIKINGS	181405-1	Publishing & Advertising	N
	50-390-000-0000-6240		144.00	HH DROP OFF DATES - ROTHSAY	176688-1	Publishing & Advertising	N
	50-390-000-0000-6240		144.00	PARKERS PRAIRIE DROP-OFF DATES	181857-1	Publishing & Advertising	N
	50-390-000-0000-6240		144.00	PARKERS PRAIRIE DROP-OFF DATES	181859-1	Publishing & Advertising	N
198	**LEIGHTON BROADCASTING - FERGUS FALLS**		**764.50**	**5 Transactions**			
10094	**LIBERTY TIRE RECYCLING LLC**						
	50-000-000-0130-6858		510.15	ACCT 60635 TIRE DISPOSAL	2108108	Tire Disposal	N
	50-000-000-0150-6858		681.40	ACCT 60641 TIRE DISPOSAL	2108110	Tire Disposal	N
10094	**LIBERTY TIRE RECYCLING LLC**		**1,191.55**	**2 Transactions**			
14149	**LM ROAD SERVICES LLC**						
	22-622-000-0615-6369		104.53	DITCH #15 SPRAYING	13386	Miscellaneous Charges	Y
	22-622-000-0621-6369		356.69	DITCH #21 SPRAYING	13386	Miscellaneous Charges	Y
	22-622-000-0637-6369		356.69	DITCH #37 SPRAYING	13386	Miscellaneous Charges	Y

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
	22-622-000-0656-6369		1,266.89	DITCH #56 SPRAYING	13386	Miscellaneous Charges	Y
	22-622-000-0664-6369		1,023.63	DITCH #64 SPRAYING	13386	Miscellaneous Charges	Y
14149	**LM ROAD SERVICES LLC**		**3,108.43**	**5 Transactions**			
41638	**LOCATORS & SUPPLIES INC**						
	50-000-000-0130-6306		10.00	ACCT 23-52F1 DANGER SIGN	0294656-IN	Repair/Maint. Equip	N
	50-399-000-0000-6379		23.98	ACCT 23-52A28 GLOVES	0294654-IN	Miscellaneous Charges	N
	50-399-000-0000-6379		33.00	ACCT 23-52A28 EXTENSION POLE	0294995-IN	Miscellaneous Charges	N
41638	**LOCATORS & SUPPLIES INC**		**66.98**	**3 Transactions**			
15172	**LOE/DORIS**						
	02-612-000-0000-6330		64.40	AIS INSPECTOR MILEAGE	8/31/21	Mileage	N
15172	**LOE/DORIS**		**64.40**	**1 Transactions**			
6442	**LOREDO/BETTY A**						
	09-507-570-4000-6683		456.00	P - JOB #4000 PARCEL 57	9/14/21	Right Of Way, Ect. West Segment	N
	09-507-570-4000-6683		1,225.50	T - JOB #4000 PARCEL 57	9/14/21	Right Of Way, Ect. West Segment	N
	09-507-570-4000-6683		2,318.50	D - JOB #4000 PARCEL 57	9/14/21	Right Of Way, Ect. West Segment	N
6442	**LOREDO/BETTY A**		**4,000.00**	**3 Transactions**			
6436	**LUNDQUIST/ROBERT A & LYNN M**						
	09-507-570-4000-6683		252.00	P - JOB #4000 PARCEL 27	9/14/21	Right Of Way, Ect. West Segment	N
	09-507-570-4000-6683		108.00	T - JOB #4000 PARCEL 27	9/14/21	Right Of Way, Ect. West Segment	N
	09-507-570-4000-6683		240.00	D - JOB #4000 PARCEL 27	9/14/21	Right Of Way, Ect. West Segment	N
6436	**LUNDQUIST/ROBERT A & LYNN M**		**600.00**	**3 Transactions**			
511	**M-R SIGN CO INC**						
	10-302-000-0000-6515		1,957.80	SIGNS	213465	Signs And Posts	N
	10-302-000-0000-6515		2,442.75	SUPPLIES	213466	Signs And Posts	N
	10-303-000-0000-6501		156.59	SIGNS	213464	Engineering And Surveying Supplies	N
511	**M-R SIGN CO INC**		**4,557.14**	**3 Transactions**			
36132	**MARCO INC ST LOUIS**						
	01-122-000-0000-6342		171.46	ACCT 35700038 CN 500-0491119	451183206	Service Agreements	N
	01-250-000-0000-6342		325.09	ACCT 35700038 CN 500-0461307	451991640	Service Agreements	N
36132	**MARCO INC ST LOUIS**		**496.55**	**2 Transactions**			

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
2721	**MARCO TECHNOLOGIES LLC**						
	01-061-000-0000-6342		1,611.40	ACCT OT00 CN 115529-03	INV9072239	Service Agreements	N
2721	**MARCO TECHNOLOGIES LLC**		**1,611.40**	**1 Transactions**			
1026	**MARK SAND & GRAVEL CO**						
	10-302-000-0000-6511		44,027.21	HOT MIX	34251-1	Bituminous Mix	N
	10-302-000-0000-6511		35,901.77	HOT MIX	34474-1	Bituminous Mix	N
	10-302-000-0000-6511		26,911.27	HOT MIX	34529-1	Bituminous Mix	N
	10-302-000-0000-6511		35,732.04	HOT MIX	34600-1	Bituminous Mix	N
1026	**MARK SAND & GRAVEL CO**		**142,572.29**	**4 Transactions**			
9930	**MARKS FLEET SUPPLY INC**						
	50-000-000-0130-6300		49.97	ACCT 984898 ENAMEL PAINT	097462	Building And Grounds Maintenance	N
	50-000-000-0130-6306		23.19	ACCT 984898 SUPPLIES	097462	Repair/Maint. Equip	N
9930	**MARKS FLEET SUPPLY INC**		**73.16**	**2 Transactions**			
16072	**MARTHALER/TERENCE**						
	01-123-000-0000-6140		300.00	BA - PER DIEM	8/12/21	Per Diem	Y
	01-123-000-0000-6330		184.80	BA - MILEAGE	8/12/21	Mileage	Y
16072	**MARTHALER/TERENCE**		**484.80**	**2 Transactions**			
546	**MCIT**						
	01-149-000-0000-6354		50.00	ACCT 1140 ADD CEQ - BOBCAT	5988	Insurance Claims	N
546	**MCIT**		**50.00**	**1 Transactions**			
10425	**MEND CORRECTIONAL CARE**						
	01-250-000-0000-6449		14,033.50	HEALTHCARE SERVICES SEP 2021	6034	Medical Agreements	6
10425	**MEND CORRECTIONAL CARE**		**14,033.50**	**1 Transactions**			
8089	**MIDWEST MONITORING & SURVEILANCE**						
	01-250-000-0000-6435		300.81	DRUG TESTING SUPPLIES	DT 0821118	Drug Testing	N
8089	**MIDWEST MONITORING & SURVEILANCE**		**300.81**	**1 Transactions**			
16138	**MILLER/JACOB**						
	02-612-000-0000-6330		114.24	AIS INSPECTOR MILEAGE	8/31/21	Mileage	N
16138	**MILLER/JACOB**		**114.24**	**1 Transactions**			

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
2929	**MINNCOR INDUSTRIES**						
	01-042-000-0000-6406		70.00	ACCT ARC-001734 TITLE PAPER	SOI-098918	Office Supplies	N
2929	**MINNCOR INDUSTRIES**		**70.00**	**1 Transactions**			
42863	**MINNESOTA MOTOR COMPANY**						
	01-127-000-0000-6304		107.76	ACCT 9988312 OIL CHG/WIPERS	781313	Repair & Maintenance	N
	10-304-000-0000-6572		49.97	PARTS	236480	Repair And Maintenance Supplies	N
	10-304-000-0000-6306		49.70	SERVICE	779887	Repair/Maint. Equip	N
	10-304-000-0000-6306		50.89	SERVICE	780623	Repair/Maint. Equip	N
	10-304-000-0000-6306		50.65	SERVICE	780691	Repair/Maint. Equip	N
	10-304-000-0000-6306		82.60	SERVICE	780754	Repair/Maint. Equip	N
	10-304-000-0000-6306		54.60	SERVICE	780794	Repair/Maint. Equip	N
	10-304-000-0000-6306		54.60	SERVICE	781241	Repair/Maint. Equip	N
	10-304-000-0000-6306		63.35	SERVICE	781355	Repair/Maint. Equip	N
	10-304-000-0000-6306		50.65	SERVICE	781368	Repair/Maint. Equip	N
	10-304-000-0000-6306		50.65	SERVICE	781686	Repair/Maint. Equip	N
	10-304-000-0000-6306		49.70	SERVICE	781845	Repair/Maint. Equip	N
42863	**MINNESOTA MOTOR COMPANY**		**715.12**	**12 Transactions**			
7661	**MINNKOTA ENVIRO SERVICES INC**						
	01-031-000-0000-6369		28.00	ACCT 1143-12 SHREDDING SERVICE	426254	Miscellaneous Charges	N
	01-091-000-0000-6342		23.00	ACCT 1143-10 SHREDDING SERVICE	426253	Service Agreements	N
	01-201-000-0000-6342		53.00	ACCT 1159 SHREDDING SERVICES	426259	Service Agreements	N
7661	**MINNKOTA ENVIRO SERVICES INC**		**104.00**	**3 Transactions**			
928	**MN DEPT OF LABOR & INDUSTRY**						
	10-304-000-0000-6306		10.00	SERVICE - 742188 PRESSURE VESS	ABR0261454X	Repair/Maint. Equip	N
928	**MN DEPT OF LABOR & INDUSTRY**		**10.00**	**1 Transactions**			
565	**MN STATE AUDITOR**						
	01-045-000-0000-6266		23,598.00	AUDIT SERVICES 3/31-8/3/21	71273	Audit Cost	N
	10-301-000-0000-6266		2,844.00	AUDIT	71275	Audit Cost	N
565	**MN STATE AUDITOR**		**26,442.00**	**2 Transactions**			
6012	**MOORE ENGINEERING INC**						
	10-303-000-0000-6278		11,994.30	SERVICE	27815	Engineering & Hydrological Testing	N
	10-303-000-0000-6278		22,092.41	SERVICE	27875	Engineering & Hydrological Testing	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
6012	**MOORE ENGINEERING INC**		**34,086.71**	**2 Transactions**			
6496	**MR PLUMBER LLC**						
	10-304-000-0000-6300		136.47	SERVICE	1142	Building And Grounds Maintenance	N
6496	**MR PLUMBER LLC**		**136.47**	**1 Transactions**			
15174	**MUCHOW/GREGORY**						
	02-612-000-0000-6330		72.24	AIS INSPECTOR MILEAGE	8/31/21	Mileage	N
15174	**MUCHOW/GREGORY**		**72.24**	**1 Transactions**			
43227	**NELSON AUTO CENTER INC**						
	01-201-000-0000-6304		1,514.25	ACCT 7365421 UNIT 1705 REPAIRS	6249753	Repair And Maintenance	N
	01-201-000-0000-6304		5,269.92	ACCT 7365421 UNIT 1705 REPAIRS	6251250	Repair And Maintenance	N
	01-201-000-0000-6304		1,105.94	ACCT 7365421 UNIT 1907 REPAIRS	6252211	Repair And Maintenance	N
43227	**NELSON AUTO CENTER INC**		**7,890.11**	**3 Transactions**			
88000	**NELSON BROTHERS PRINTING**						
	01-250-000-0000-6406		141.81	ROUTING SLIPS	NB-2194	Office Supplies	N
88000	**NELSON BROTHERS PRINTING**		**141.81**	**1 Transactions**			
43482	**NELSON/STEFAN**						
	10-000-000-0000-2270		1,000.00	2021-09 APPROACH DEPOSIT REFUN	PERMIT #2021-0	Customer Deposits	N
43482	**NELSON/STEFAN**		**1,000.00**	**1 Transactions**			
595	**NETWORK SERVICES COMPANY**						
	01-112-108-0000-6485		567.96	ACCT 655-790197 SUPPLIES	34267	Custodian Supplies	N
	01-112-101-0000-6485		1,036.25	ACCT 655-790197 SUPPLIES	34268	Custodian Supplies	N
595	**NETWORK SERVICES COMPANY**		**1,604.21**	**2 Transactions**			
13242	**NEW YORK MILLS DISPATCH**						
	01-122-000-0000-6240		84.48	SUBDIV CONTROLS ORDINANCE AD	15675	Publishing & Advertising	N
13242	**NEW YORK MILLS DISPATCH**		**84.48**	**1 Transactions**			
14655	**NEWVILLE/DARREN**						
	01-123-000-0000-6140		375.00	BA - PER DIEM	8/12/21	Per Diem	Y
	01-123-000-0000-6330		225.12	BA - MILEAGE	8/12/21	Mileage	Y

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
14655	**NEWVILLE/DARREN**		**600.12**	**2 Transactions**			
6407	**NORTHWEST TIRE INC**						
	01-201-000-0000-6304		734.60	ACCT 57522 UNIT 2007 TIRES	27000512	Repair And Maintenance	N
	01-201-000-0000-6304		42.74	ACCT 57522 UNIT 1806 OIL CHG	27000597	Repair And Maintenance	N
6407	**NORTHWEST TIRE INC**		**777.34**	**2 Transactions**			
612	**OLSON OIL CO INC**						
	50-000-000-0170-6565		324.93	ACCT 20446 DIESEL 8/5/21	9975-2	Fuels - Diesel	N
612	**OLSON OIL CO INC**		**324.93**	**1 Transactions**			
5093	**ONE CALL LOCATORS LTD**						
	01-112-000-0000-6275		165.22	ACCT MN OTERCO01 11 TICKETS	E174017	Fiber Locating Service	N
5093	**ONE CALL LOCATORS LTD**		**165.22**	**1 Transactions**			
10890	**OTTER ELECTRIC LLC**						
	01-149-000-0000-6354		8,850.00	LIGHT POLE/BASE CSAH 84/HWY 10	13409	Insurance Claims	N
10890	**OTTER ELECTRIC LLC**		**8,850.00**	**1 Transactions**			
115	**OTTER TAIL CO PUBLIC HEALTH**						
	01-201-000-0000-6433		60.00	ACCT O2415 MANTOUX TEST	573	Special Medical	N
					2237	KARGER/JON	
	01-201-000-0000-6433		60.00	ACCT O2415 MANTOUX TEST	574	Special Medical	N
115	**OTTER TAIL CO PUBLIC HEALTH**		**120.00**	**2 Transactions**			
10009	**OTTER TAIL CO SHERIFF'S POSSE**						
	01-201-000-0000-6391		1,275.00	REIMB CPR/FIRST AID CLASSES	8/16/21	Posse	N
10009	**OTTER TAIL CO SHERIFF'S POSSE**		**1,275.00**	**1 Transactions**			
127	**OTTER TAIL CO TREASURER**						
	10-301-000-0000-6369		113.38	DITCH WAGES - KEVIN 8/3/21		Miscellaneous Charges	N
	10-301-000-0000-6369		283.45	DITCH WAGES - KEVIN 7/22/21		Miscellaneous Charges	N
	10-301-000-0000-6369		56.69	DITCH WAGES - KEVIN 8/11/21		Miscellaneous Charges	N
	10-301-000-0000-6369		113.38	DITCH WAGES - KEVIN 7/21/21		Miscellaneous Charges	N
	10-301-000-0000-6369		56.69	DITCH WAGES - KEVIN 8/10/21		Miscellaneous Charges	N
	10-301-000-0000-6369		396.82	DITCH WAGES - KEVIN 7/26/21		Miscellaneous Charges	N
	10-301-000-0000-6369		56.69	DITCH WAGES - KEVIN 7/29/21		Miscellaneous Charges	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
	10-301-000-0000-6369		56.69	DITCH WAGES - KEVIN 7/28/21		Miscellaneous Charges	N
	10-301-000-0000-6369		56.69	DITCH WAGES - KEVIN 7/27/21		Miscellaneous Charges	N
	10-303-000-0000-6278		85.03	DITCH WAGES - KEVIN 7/20/21		Engineering & Hydrological Testing	N
	10-303-000-0000-6278		340.14	DITCH WAGES - KEVIN 7/29/21		Engineering & Hydrological Testing	N
	10-303-000-0000-6278		113.38	DITCH WAGES - KEVIN 7/19/21		Engineering & Hydrological Testing	N
	10-303-000-0000-6278		170.07	DITCH WAGES - KEVIN 8/10/21		Engineering & Hydrological Testing	N
	10-303-000-0000-6278		170.07	DITCH WAGES - KEVIN 8/3/21		Engineering & Hydrological Testing	N
	10-303-000-0000-6278		170.07	DITCH WAGES - KEVIN 8/13/21		Engineering & Hydrological Testing	N
	10-303-000-0000-6278		113.38	DITCH WAGES - KEVIN 8/12/21		Engineering & Hydrological Testing	N
	10-303-000-0000-6278		340.14	DITCH WAGES - KEVIN 7/21/21		Engineering & Hydrological Testing	N
	10-303-000-0000-6278		340.14	DITCH WAGES - KEVIN 8/11/21		Engineering & Hydrological Testing	N
	10-303-000-0000-6278		56.69	DITCH WAGES - KEVIN 7/26/21		Engineering & Hydrological Testing	N
	10-303-000-0000-6278		85.03	DITCH WAGES - KEVIN 8/9/21		Engineering & Hydrological Testing	N
	10-303-000-0000-6278		170.07	DITCH WAGES - KEVIN 8/4/21		Engineering & Hydrological Testing	N
	10-303-000-0000-6278		226.76	DITCH WAGES - KEVIN 7/27/21		Engineering & Hydrological Testing	N
	10-303-000-0000-6278		113.38	DITCH WAGES - KEVIN 7/28/21		Engineering & Hydrological Testing	N
	10-304-000-0000-6565		38.00-	EQUIP RENTAL FOR PM FISH PASSA		Fuels - Diesel	N
	10-304-000-0000-6565		58.00-	EQUIP RENTAL FOR ECHO BAY - KE		Fuels - Diesel	N
127	**OTTER TAIL CO TREASURER**		**3,588.83**	**25 Transactions**			
2385	**OTTER TAIL POWER COMPANY**						
	01-149-000-0000-6354		2,635.14	ACCT 22007 REPLACE LIGHT POLE	369000	Insurance Claims	N
2385	**OTTER TAIL POWER COMPANY**		**2,635.14**	**1 Transactions**			
7392	**OTTERTAIL TRUCKING INC**						
	50-000-000-0120-6291		2,734.83	HAULING CHARGES 8/9/21	39370	Contract Transportation	N
	50-000-000-0170-6291		6,579.52	HAULING CHARGES 8/9/21	39370	Contract Transportation	N
	50-000-000-0120-6291		1,649.12	HAULING CHARGES 8/16/21	39372	Contract Transportation	N
	50-000-000-0170-6291		6,387.44	HAULING CHARGES 8/16/21	39372	Contract Transportation	N
	50-000-000-0120-6291		4,122.80	HAULING CHARGES 8/23/21	39374	Contract Transportation	N
	50-000-000-0170-6291		9,869.28	HAULING CHARGES 8/23/21	39374	Contract Transportation	N
	50-399-000-0000-6291		1,485.20	HAULING CHARGES 8/9/21	39370	Contract Transportation	N
	50-399-000-0000-6291		2,970.40	HAULING CHARGES 8/16/21	39372	Contract Transportation	N
	50-399-000-0000-6291		2,970.40	HAULING CHARGES 8/23/21	39374	Contract Transportation	N
7392	**OTTERTAIL TRUCKING INC**		**38,768.99**	**9 Transactions**			
6259	**PACE ANALYTICAL SERVICES INC**						
	50-000-000-0130-6278		168.00	ACCT 10-113622 ANALYSIS	21100328260	Engineering & Hydrological Testing	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
	50-000-000-0130-6278		317.00	ACCT 10-113622 ANALYSIS	21100332738	Engineering & Hydrological Testing	N
6259	**PACE ANALYTICAL SERVICES INC**		**485.00**	**2 Transactions**			
70	**PARKERS PRAIRIE INDEPENDENT LLC/THE**						
	01-122-000-0000-6240		148.40	SUBDIV CONTROLS ORDINANCE AD	2107049	Publishing & Advertising	N
70	**PARKERS PRAIRIE INDEPENDENT LLC/THE**		**148.40**	**1 Transactions**			
137	**PEMBERTON LAW PLLP**						
	01-031-000-0000-6276		166.50	20206302-000M EMPLOY MATTERS	16	Professional Services	Y
137	**PEMBERTON LAW PLLP**		**166.50**	**1 Transactions**			
6474	**PERALA/CORY**						
	10-000-000-0000-2270		1,000.00	2021-16 APPROACH DEPOSIT REFUN	PERMIT #2021-1	Customer Deposits	N
6474	**PERALA/CORY**		**1,000.00**	**1 Transactions**			
7145	**PETE'S AUTOBODY LLC**						
	50-399-000-0000-6306		1,250.00	BLASH & REPAINT DUMPSTER #2124	000325	Repair/Maint. Equip	Y
	50-399-000-0000-6306		1,250.00	BLAST & PAINT DUMPSTER #2125	000661	Repair/Maint. Equip	Y
7145	**PETE'S AUTOBODY LLC**		**2,500.00**	**2 Transactions**			
15190	**PETERSON/CODY**						
	02-612-000-0000-6330		81.14	AIS INSPECTOR MILEAGE	8/31/21	Mileage	N
15190	**PETERSON/CODY**		**81.14**	**1 Transactions**			
15175	**PETERSON/JOEL**						
	02-612-000-0000-6330		142.69	AIS INSPECTOR MILEAGE	8/31/21	Mileage	N
15175	**PETERSON/JOEL**		**142.69**	**1 Transactions**			
16140	**PETERSON/KADEN**						
	02-612-000-0000-6330		62.16	AIS INSPECTOR MILEAGE	8/31/21	Mileage	N
16140	**PETERSON/KADEN**		**62.16**	**1 Transactions**			
13134	**PHILLIPPI/DR JAY**						
	01-250-000-0000-6436		475.00	PYSCH ASSESSMENT - PETERSON	21-192	New hire start up cost	6
13134	**PHILLIPPI/DR JAY**		**475.00**	**1 Transactions**			
11290	**PHOENIX SUPPLY**						

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
	01-250-000-0000-6491		79.77	BLACK FLEX PENS	23344	Jail Supplies	N
	01-250-000-0000-6491		239.62	PILLOW COVERS	23355	Jail Supplies	N
11290	**PHOENIX SUPPLY**		**319.39**	**2 Transactions**			
8842	**POWERPLAN OIB**						
	10-302-000-0000-6343		3,090.00	EQUIPMENT RENTAL	R1809054	Equipment Rental	N
	10-302-000-0000-6343		3,090.00	EQUIPMENT RENTAL	R1819454	Equipment Rental	N
	10-304-000-0000-6572		117.82	PARTS	P3162649	Repair And Maintenance Supplies	N
	10-304-000-0000-6572		219.27	PARTS	P3189349	Repair And Maintenance Supplies	N
8842	**POWERPLAN OIB**		**6,517.09**	**4 Transactions**			
15836	**POWERS PSYD LP PLLC/AMANDA**						
	01-091-000-0000-6276		1,600.00	RECORD REVIEW - J SOLMON	8/30/21	Professional Services	Y
15836	**POWERS PSYD LP PLLC/AMANDA**		**1,600.00**	**1 Transactions**			
12940	**PRAIRIE SCALE SYSTEMS INC**						
	50-000-000-0170-6300		1,660.69	2 LOADCELLS	JW-101016	Building And Grounds Maintenance	N
12940	**PRAIRIE SCALE SYSTEMS INC**		**1,660.69**	**1 Transactions**			
3867	**PRAXAIR DISTRIBUTION INC**						
	50-399-000-0000-6565		621.12	ACCT 71928252 PROPANE AUG 2021	65790250	Fuels	N
3867	**PRAXAIR DISTRIBUTION INC**		**621.12**	**1 Transactions**			
12526	**PRECISE MRM LLC**						
	01-149-000-0000-6369		1,240.00	ACCT 679827 5MB DATA PLAN	200-1031987	Miscellaneous Charges	N
	01-149-000-0000-6369		3,028.31	ACCT 679827 SIM CARDS/ANTENNAS	200-1032356	Miscellaneous Charges	N
	01-149-000-0000-6369		1,280.00	ACCT 679827 5MB DATA PLAN	200-1032430	Miscellaneous Charges	N
	10-304-000-0000-6342		994.56	SERVICE	200-1032427	Service Agreements	N
12526	**PRECISE MRM LLC**		**6,542.87**	**4 Transactions**			
15542	**PREMIER ELECTRIC INC**						
	10-304-000-0000-6300		5,350.00	SERVICE	2023	Building And Grounds Maintenance	N
15542	**PREMIER ELECTRIC INC**		**5,350.00**	**1 Transactions**			
3730	**PREMIUM WATERS INC**						
	50-000-000-0150-6290		10.50	ACCT 376004 SEP 2021	SEP2021	Contracted Services.	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
3730	**PREMIUM WATERS INC**		**10.50**	**1 Transactions**			
15627	**PRO HYDRO-TESTING LLC**						
	01-201-000-0000-6395		455.00	INSPECT/TEST SCUBA CYLINDERS	103942	Dive Team	N
15627	**PRO HYDRO-TESTING LLC**		**455.00**	**1 Transactions**			
3871	**PRO SWEEP INC**						
	10-302-000-0000-6350		270.00	SWEEPING	17801	Maintenance Contractor	N
3871	**PRO SWEEP INC**		**270.00**	**1 Transactions**			
1836	**PRO-WEST & ASSOCIATES INC**						
	01-127-000-0000-6276		1,018.21	GIS TECH SUPPORT	005679	Professional Services	N
1836	**PRO-WEST & ASSOCIATES INC**		**1,018.21**	**1 Transactions**			
11855	**PROFESSIONAL PORTABLE X-RAY INC**						
	01-250-000-0000-6432		300.00	X-RAY CLAIMS 398912;398915	INV021282	Medical Incarcerated	6
11855	**PROFESSIONAL PORTABLE X-RAY INC**		**300.00**	**1 Transactions**			
12047	**QUADIENT LEASING USA INC**						
	14-043-000-0000-6687		7,121.10	LEASE N18021053 PYMT	N9015501	Equipment- Current Year	N
12047	**QUADIENT LEASING USA INC**		**7,121.10**	**1 Transactions**			
4318	**QUALIFICATION TARGETS INC**						
	01-201-000-0000-6490		196.89	SILHOUETTE TARGETS	22102700	Ammo, Shooting Supplies	N
4318	**QUALIFICATION TARGETS INC**		**196.89**	**1 Transactions**			
15293	**RAYS SPORT & MARINE - PERHAM**						
	01-204-000-0000-6675		34,795.00	2022 LUND BOAT	9/1/21	Machinery And Automotive Equipment	N
15293	**RAYS SPORT & MARINE - PERHAM**		**34,795.00**	**1 Transactions**			
9166	**RDO EQUIPMENT CO**						
	01-112-000-0000-6572		17.67	ACCT 0313001 BELT	P3404649	Repair And Maintenance Supplies	N
	50-000-000-0170-6306		2,124.95	ACCT 2382018 BACKHOE REPAIR	W3642749	Repair/Maint. Equip	N
9166	**RDO EQUIPMENT CO**		**2,142.62**	**2 Transactions**			
8622	**RDO TRUCK CENTERS**						
	50-399-000-0000-6304		112.93	ACCT 9660 HOSE	758104F	Repair And Maint-Vehicles	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
	50-399-000-0000-6304		56.40	ACCT 9660 AIR SPRING	758190F	Repair And Maint-Vehicles	N
	50-399-000-0000-6304		219.77	ACCT 9660 AIR SPRING	758307F	Repair And Maint-Vehicles	N
	50-399-000-0000-6304		56.40 -	ACCT 9660 AIR SPRING	CM758190F	Repair And Maint-Vehicles	N
8622	**RDO TRUCK CENTERS**		**332.70**	**4 Transactions**			
16192	**RED DOT PEST CONTROL**						
	01-112-109-0000-6342		229.00	ACCT 18458 FALL EXTERIOR SPRAY	59485	Service Agreements	N
16192	**RED DOT PEST CONTROL**		**229.00**	**1 Transactions**			
9547	**REGENTS OF THE UNIVERSITY OF MN**						
	01-601-000-0000-6292		2,791.25	ACCT 5007218 AUG COORD BILL	0300027666	Interns and Assistant Educators	N
	01-601-000-0000-6292		695.00	ACCT 5007218 AUG 2021 INTERN	0300027706	Interns and Assistant Educators	N
	01-601-000-0000-6292		535.15	ACCT 5007218 AUG 2021 INTERN	0300027709	Interns and Assistant Educators	N
9547	**REGENTS OF THE UNIVERSITY OF MN**		**4,021.40**	**3 Transactions**			
49316	**RENTAL STORE/THE**						
	50-399-000-0000-6240		195.00	ACCT 931 BLACK SIGN RENTAL	1-518852	Advertising	N
49316	**RENTAL STORE/THE**		**195.00**	**1 Transactions**			
675	**RINGDAHL AMBULANCE INC**						
	01-205-000-0000-6273		200.00	BODY TRANSPORT - O BEARD 7/31	21-6922	Coroner Expense	Y
	01-205-000-0000-6273		200.00	BODY TRANSPORT - J GROSSE 8/9	21-7635	Coroner Expense	Y
	01-205-000-0000-6273		200.00	BODY TRANSPORT - A BERUBE 8/21	21-7762	Coroner Expense	Y
	01-250-000-0000-6432		458.00	INMATE TRANSPORT - D BECKMAN	21-7584	Medical Incarcerated	Y
675	**RINGDAHL AMBULANCE INC**		**1,058.00**	**4 Transactions**			
10842	**RINKE NOONAN LAW FIRM**						
	09-507-570-4002-6683		2,589.50	TRAIL ACQUISITION LEGAL SVC	331257	Right Of Way, Ect.Silent Lk Segment	Y
10842	**RINKE NOONAN LAW FIRM**		**2,589.50**	**1 Transactions**			
49164	**RIVINGTON/SIGRID LINDA & DAVID D**						
	09-507-570-4000-6683		456.00	T - JOB #4000 PARCEL 29	9/14/21	Right Of Way, Ect. West Segment	N
	09-507-570-4000-6683		719.62	D - JOB #4000 PARCEL 29	9/14/21	Right Of Way, Ect. West Segment	N
	09-507-570-4000-6683		800.00	T - JOB #4000 PARCEL 40	9/14/21	Right Of Way, Ect. West Segment	N
	09-507-570-4000-6683		541.50	P - JOB #4000 PARCEL 29	9/14/21	Right Of Way, Ect. West Segment	N
49164	**RIVINGTON/SIGRID LINDA & DAVID D**		**2,517.12**	**4 Transactions**			

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
14645	**ROLLIE/WILLIAM**						
	02-612-000-0000-6330		124.32	AIS INSPECTOR MILEAGE	8/31/21	Mileage	N
14645	**ROLLIE/WILLIAM**		**124.32**	**1 Transactions**			
1819	**RUFFRIDGE-JOHNSON EQUIP CO INC**						
	10-304-000-0000-6572		203.72	PARTS	IA20485	Repair And Maintenance Supplies	N
1819	**RUFFRIDGE-JOHNSON EQUIP CO INC**		**203.72**	**1 Transactions**			
16125	**RUPP ANDERSON SQUIRES & WALDSPURGE**						
	01-122-000-0000-6369		348.50	REVIEW VARIANCE ISSUE	13384	Miscellaneous Charges	Y
16125	**RUPP ANDERSON SQUIRES & WALDSPURGE**		**348.50**	**1 Transactions**			
9012	**SAFELITE FULFILLMENT INC**						
	01-149-000-0000-6354		638.44	ACCT 83907030177 UNIT 1702	05537-658637	Insurance Claims	N
9012	**SAFELITE FULFILLMENT INC**		**638.44**	**1 Transactions**			
15178	**SALATHE/KELVIN**						
	02-612-000-0000-6330		84.56	AIS INSPECTOR MILEAGE	8/31/21	Mileage	N
15178	**SALATHE/KELVIN**		**84.56**	**1 Transactions**			
1770	**SANITATION PRODUCTS INC**						
	50-399-000-0000-6304		1,394.42	ASSEMBLIES FOR UNIT 16558	80134	Repair And Maint-Vehicles	N
1770	**SANITATION PRODUCTS INC**		**1,394.42**	**1 Transactions**			
16297	**SCHAKE/SARAH**						
	23-705-000-0000-6290		5,200.00	CDA SUPPORT SERVICES AUG 2021	0821	Contracted Services.	Y
16297	**SCHAKE/SARAH**		**5,200.00**	**1 Transactions**			
6471	**SCHIESSER/THOMAS**						
	10-000-000-0000-2270		1,000.00	2021-35 APPROACH DEPOSIT REFUN	PERMIT #2021-3	Customer Deposits	N
6471	**SCHIESSER/THOMAS**		**1,000.00**	**1 Transactions**			
15129	**SCHMITZ/DUANE**						
	10-302-000-0000-6350		400.00	SERVICE		Maintenance Contractor	N
	22-622-000-0629-6369		350.00	BEAVER TRAPPING DITCH 29	8/15/21	Miscellaneous Charges	Y
15129	**SCHMITZ/DUANE**		**750.00**	**2 Transactions**			

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
15192	**SCHWANTZ/CHRISTOPHER**						
	02-612-000-0000-6330		86.24	AIS INSPECTOR MILEAGE	8/31/21	Mileage	N
15192	**SCHWANTZ/CHRISTOPHER**		**86.24**	**1 Transactions**			
697	**SCOTT HOFLAND CONSTRUCTION INC**						
	50-000-000-0120-6290		2,520.00	EQUIP HRS/SALARY HENNING TSF	104386	Contracted Services.	N
	50-000-000-0130-6290		6,040.00	EQUIP HRS/SALARY NE LANDFILL	104386	Contracted Services.	N
697	**SCOTT HOFLAND CONSTRUCTION INC**		**8,560.00**	**2 Transactions**			
6209	**SEACHANGE PRINT INNOVATIONS**						
	01-063-000-0000-6232		282.40	SPECIAL ELECTION BALLOTS	39752-R	Printing-Ballots	N
6209	**SEACHANGE PRINT INNOVATIONS**		**282.40**	**1 Transactions**			
6475	**SEATWORKS LLC**						
	02-214-000-0000-6491		2,336.07	IRON HORSE ARM CHAIR	8/27/21	General Supplies	N
6475	**SEATWORKS LLC**		**2,336.07**	**1 Transactions**			
1742	**SHOEMAKER/BRENDA**						
	01-044-000-0000-6331		38.83	MEALS - MAAP CONFERENCE	8/20/21	Meals And Lodging	N
1742	**SHOEMAKER/BRENDA**		**38.83**	**1 Transactions**			
6466	**SIGNATURE HOME TECHNOLOGIES**						
	02-705-000-1010-6290		3,650.00	BLANDIN GRANT - OTTERTAIL BLDG	20005	Broadband	N
6466	**SIGNATURE HOME TECHNOLOGIES**		**3,650.00**	**1 Transactions**			
5746	**SONSALLA/ANGELA**						
	01-013-000-0000-6262		1,520.00	56-JV-20-1252; 56-JV-21-1045	8/19/21	Public Defender	N
5746	**SONSALLA/ANGELA**		**1,520.00**	**1 Transactions**			
8853	**SOS TECHNOLOGIES**						
	01-031-000-0000-6443		198.00	LIFEPAK KITS	86128	Ppe & Safety Equip. & Supplies	N
8853	**SOS TECHNOLOGIES**		**198.00**	**1 Transactions**			
10646	**STAPLES BUSINESS CREDIT**						
	10-301-000-0000-6406		142.67	SUPPLIES	1637423932	Office Supplies	N
10646	**STAPLES BUSINESS CREDIT**		**142.67**	**1 Transactions**			

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
48183	**STEINS INC**						
	01-112-101-0000-6485		154.12	ACCT 00224000 SUPPLIES	884555-1	Custodian Supplies	N
	01-112-101-0000-6485		695.73	ACCT 00224000 SUPPLIES	885005	Custodian Supplies	N
	01-112-108-0000-6485		53.21	ACCT 00224002 SUPPLIES	885006	Custodian Supplies	N
	01-112-101-0000-6485		680.44	ACCT 00224000 SUPPLIES	885197	Custodian Supplies	N
	01-112-108-0000-6485		567.48	ACCT 00224002 SUPPLIES	885199	Custodian Supplies	N
	01-112-108-0000-6485		105.73	ACCT 00224002 SUPPLIES	885199-1	Custodian Supplies	N
	01-112-106-0000-6485		778.65	ACCT 00224001 SUPPLIES	885539	Custodian Supplies	N
	01-112-106-0000-6485		140.50	ACCT 00224001 SUPPLIES	885542	Custodian Supplies	N
48183	**STEINS INC**		**3,175.86**	**8 Transactions**			
166	**STEVE'S SANITATION INC**						
	10-304-000-0000-6253		79.56	WASTE DISPOSAL - ACCT #1565		Garbage	N
	50-000-000-0110-6291		2,868.00	ACCT 20479 BATTLE LAKE	AUG2021	Contract Transportation	N
	50-000-000-0120-6291		2,050.00	ACCT 20489 HENNING	AUG2021	Contract Transportation	N
	50-000-000-0130-6291		2,687.00	ACCT 20487 NEW YORK MILLS	AUG2021	Contract Transportation	N
	50-000-000-0150-6291		2,450.00	ACCT 28477 PELICAN RAPIDS	AUG2021	Contract Transportation	N
166	**STEVE'S SANITATION INC**		**10,134.56**	**5 Transactions**			
8647	**STOCK/DAVID & DEBORAH**						
	10-000-000-0000-2270		1,000.00	2021-25 APPROACH DEPOSIT REFUN	PERMIT #2021-2	Customer Deposits	N
	10-000-000-0000-2270		1,000.00	2021-39 APPROACH DEPOSIT REFUN	PERMIT #2021-3	Customer Deposits	N
8647	**STOCK/DAVID & DEBORAH**		**2,000.00**	**2 Transactions**			
725	**STRAND ACE HARDWARE**						
	10-304-000-0000-6406		9.59	SUPPLIES	344114	Office Supplies	N
725	**STRAND ACE HARDWARE**		**9.59**	**1 Transactions**			
168	**STREICHERS**						
	01-201-000-0000-6526		99.00	ACCT 974 BADGE	I1518952	Uniforms	N
	01-201-000-0000-6481		305.00	ACCT 974 9MM MARKING ROUNDS	I1519210	Radar, Weapons Etc.	N
	01-201-000-0000-6526		154.99	ACCT 974 HOLSTER	I1520122	Uniforms	N
					5922	HILL/RODERIC	
168	**STREICHERS**		**558.99**	**3 Transactions**			
10126	**SUMMIT FIRE PROTECTION**						
	50-000-000-0170-6300		4,275.00	ACCT OTTERTR9 INSTALL WIRE	2185380	Building And Grounds Maintenance	N

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10126	**SUMMIT FIRE PROTECTION**		**4,275.00**	**1 Transactions**			
6642	**SUMMIT FOOD SERVICE LLC**						
	01-250-000-0000-6269		4,418.57	C1252000 MEALS 8/14-20/21	INV2000120251	Professional Services-Kitchen	N
	01-250-000-0000-6269		4,421.79	C1252000 MEALS 8/21-27/21	INV2000120809	Professional Services-Kitchen	N
	01-250-000-0000-6269		4,636.75	C1252000 MEALS 8/28-9/3/21	INV2000121366	Professional Services-Kitchen	N
6642	**SUMMIT FOOD SERVICE LLC**		**13,477.11**	**3 Transactions**			
2045	**SWANSTON EQUIPMENT CORP**						
	10-302-000-0000-6343		1,050.00	EQUIPMENT RENTAL	R00484	Equipment Rental	N
	10-304-000-0000-6572		8.95	SUPPLIES	P05417	Repair And Maintenance Supplies	N
	10-304-000-0000-6572		66.25	SUPPLIES	W01450	Repair And Maintenance Supplies	N
2045	**SWANSTON EQUIPMENT CORP**		**1,125.20**	**3 Transactions**			
15846	**T WALLS PLUMBING INC**						
	50-000-000-0170-6300		2,478.44	REMOVED TANK/INSTALLED METER	2523	Building And Grounds Maintenance	N
15846	**T WALLS PLUMBING INC**		**2,478.44**	**1 Transactions**			
12923	**TACTICAL SOLUTIONS**						
	01-201-000-0000-6304		1,334.00	CERTIFY RADAR/LASER UNITS	8618	Repair And Maintenance	N
12923	**TACTICAL SOLUTIONS**		**1,334.00**	**1 Transactions**			
8718	**TAG UP**						
	01-002-001-0000-6369		53.10	ACCT 01372 PLAQUES	227338R	Miscellaneous Charges	N
	01-201-000-0000-6276		26.95	ACCT 01372 PLAQUE	227484R	Professional Services	N
8718	**TAG UP**		**80.05**	**2 Transactions**			
183	**THOMSON REUTERS - WEST**						
	01-201-000-0000-6348		404.26	ACCT 1003940771 AUG 2021	844957800	Software Maintenance Contract	N
183	**THOMSON REUTERS - WEST**		**404.26**	**1 Transactions**			
7249	**THRIFTY WHITE PHARMACY**						
	01-250-000-0000-6432		28.48	ACCT 749765 MEDS/CART RENTAL	AUG2021	Medical Incarcerated	N
	01-250-000-0000-6432		1,197.91	ACCT 756389 MEDICATIONS	AUG2021	Medical Incarcerated	N
7249	**THRIFTY WHITE PHARMACY**		**1,226.39**	**2 Transactions**			
1999	**TNT REPAIR INC**						

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
	50-000-000-0130-6306		1,440.33	TRACTOR REPAIRS	026528	Repair/Maint. Equip	N
	50-000-000-0130-6306		123.88	HOOD CYLINDER FOR TRACTOR	035435	Repair/Maint. Equip	N
	50-000-000-0120-6306		117.05	AIR FILTERS	035522	Repair/Maint. Equip	N
1999	**TNT REPAIR INC**		**1,681.26**	**3 Transactions**			
14497	**TOSHIBA FINANCIAL SERVICES**						
	01-601-000-0000-6342		403.80	ACCT 3691600057 SEP 2021	5016395315	Service Agreements	N
14497	**TOSHIBA FINANCIAL SERVICES**		**403.80**	**1 Transactions**			
6443	**TREDENNICK/JOHN T & LIZABETH A**						
	09-507-570-4000-6683		500.00	T - JOB #4000 PARCEL 35	9/14/21	Right Of Way, Ect. West Segment	N
6443	**TREDENNICK/JOHN T & LIZABETH A**		**500.00**	**1 Transactions**			
15997	**TSCHIDA/CRAIG**						
	10-303-000-0000-6330		25.76	MILEAGE 8/31/21		Mileage	N
	10-303-000-0000-6330		7.28	MILEAGE 8/25/21		Mileage	N
	10-304-000-0000-6306		6.99	CAR WASH REIMBURSEMENT		Repair/Maint. Equip	N
15997	**TSCHIDA/CRAIG**		**40.03**	**3 Transactions**			
11064	**US AUTOFORCE**						
	01-201-000-0000-6304		665.56	ACCT 568303 TIRES	6599191	Repair And Maintenance	N
	01-201-000-0000-6304		600.00	ACCT 568303 TIRES	7359390	Repair And Maintenance	N
	01-201-000-0000-6304		842.96	ACCT 568303 TIRES	7397458	Repair And Maintenance	N
	01-201-000-0000-6304		665.56 -	ACCT 568303 TIRES	8836591	Repair And Maintenance	N
11064	**US AUTOFORCE**		**1,442.96**	**4 Transactions**			
15431	**US BANK EQUIPMENT FINANCE**						
	01-061-000-0000-6342		1,483.26	ACCT 33780558 CN 500-0589834	450904420	Service Agreements	N
15431	**US BANK EQUIPMENT FINANCE**		**1,483.26**	**1 Transactions**			
7819	**US POSTAL SERVICE**						
	01-149-000-0000-6210		20,000.00	POC #8041212	031-348	Postage & Postage Meter	N
7819	**US POSTAL SERVICE**		**20,000.00**	**1 Transactions**			
16131	**VANGUARD APPRAISALS INC**						
	01-044-000-0000-6369		250.00	ACCT MN0125 SERVICE FEES	17452	Miscellaneous Charges	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
16131	**VANGUARD APPRAISALS INC**		**250.00**	**1 Transactions**			
6480	**VEOLIA ES TECHNICAL SOLUTIONS LLC**						
	50-390-000-0000-6290		2,933.44	ACCT 112360 LIGHTING DISPOSAL	EW1615684	Contracted Services.	N
6480	**VEOLIA ES TECHNICAL SOLUTIONS LLC**		**2,933.44**	**1 Transactions**			
7857	**VEOLIA ES TECHNICAL SOLUTIONS LLC**						
	50-390-000-0000-6863		13,855.19	ACCT 444586 PAINT DISPOSAL	119837609	Disposal Costs	N
7857	**VEOLIA ES TECHNICAL SOLUTIONS LLC**		**13,855.19**	**1 Transactions**			
51002	**VICTOR LUNDEEN COMPANY**						
	01-043-000-0000-6406		166.45	ACCT 7496 LASER CHECKS	446526	Office Supplies	N
	01-250-000-0000-6406		337.85	ACCT 7449 NCR RECEIPT FORMS	446742	Office Supplies	N
	10-301-000-0000-6406		969.85	SUPPLIES	446572	Office Supplies	N
51002	**VICTOR LUNDEEN COMPANY**		**1,474.15**	**3 Transactions**			
5045	**VIKING GARAGE DOOR COMPANY INC**						
	50-399-000-0000-6300		260.59	REPAIRS TO DOOR OPERATOR	67938	Building And Grounds Maintenance	N
5045	**VIKING GARAGE DOOR COMPANY INC**		**260.59**	**1 Transactions**			
2071	**WADENA ASPHALT INC**						
	10-302-000-0000-6511		42,350.00	HOT MIX		Bituminous Mix	N
2071	**WADENA ASPHALT INC**		**42,350.00**	**1 Transactions**			
1655	**WALLWORK TRUCK CENTER**						
	10-304-000-0000-6572		272.34	PARTS	03P30651	Repair And Maintenance Supplies	N
	10-304-000-0000-6572		24.20	PARTS	03P33356	Repair And Maintenance Supplies	N
1655	**WALLWORK TRUCK CENTER**		**296.54**	**2 Transactions**			
2278	**WASTE MANAGEMENT**						
	50-000-000-0110-6853		1,951.53	ACCT 3-85099-73002 8/1-15/21	0003265-0010-5	MSW BY PASSED EXPENSE LANDFILL	N
	50-000-000-0120-6853		6,779.96	ACCT 3-85099-73002 8/1-15/21	0003265-0010-5	MSW BY PASSED EXPENSE LANDFILL	N
	50-000-000-0130-6853		5,429.57	ACCT 3-85099-73002 8/1-15/21	0003265-0010-5	MSW BY PASSED EXPENSE LANDFILL	N
	50-000-000-0150-6853		615.04	ACCT 3-85099-73002 8/1-15/21	0003265-0010-5	MSW BY PASSED EXPENSE LANDFILL	N
	50-000-000-0170-6853		12,183.41	ACCT 3-85099-73002 8/1-15/21	0003265-0010-5	MSW BY PASSED EXPENSE LANDFILL	N
	50-000-000-0110-6853		1,749.64	ACCT 3-85099-73002 8/16-31/21	0003286-0010-1	MSW BY PASSED EXPENSE LANDFILL	N
	50-000-000-0120-6853		4,918.34	ACCT 3-85099-73002 8/16-31/21	0003286-0010-1	MSW BY PASSED EXPENSE LANDFILL	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
	50-000-000-0130-6853		1,449.01	ACCT 3-85099-73002 8/16-31/21	0003286-0010-1	MSW BY PASSED EXPENSE LANDFILL	N
	50-000-000-0150-6853		1,418.19	ACCT 3-85099-73002 8/16-31/21	0003286-0010-1	MSW BY PASSED EXPENSE LANDFILL	N
	50-000-000-0170-6853		21,016.09	ACCT 3-85099-73002 8/16-31/21	0003286-0010-1	MSW BY PASSED EXPENSE LANDFILL	N
	50-000-000-0000-6978		1,761.92	ACCT 21-40690-33001 AUG 2021	0481073-1766-0	Ag Plastic Expenses	N
2278	**WASTE MANAGEMENT**		**59,272.70**	**11 Transactions**			
7235	**WATCHGUARD VIDEO**						
	01-201-000-0000-6492		205.00	OTTERTAILCOU001 MICROPHONE	ADVREP217212	Police Equipment	N
7235	**WATCHGUARD VIDEO**		**205.00**	**1 Transactions**			
6437	**WESTBY FARMS LLP**						
	09-507-570-4000-6683		912.00	P - JOB #4000 PARCEL 18	9/14/21	Right Of Way, Ect. West Segment	N
	09-507-570-4000-6683		1,225.50	T - JOB #4000 PARCEL 18	9/14/21	Right Of Way, Ect. West Segment	N
	09-507-570-4000-6683		2,062.50	D - JOB #4000 PARCEL 18	9/14/21	Right Of Way, Ect. West Segment	N
6437	**WESTBY FARMS LLP**		**4,200.00**	**3 Transactions**			
6440	**WESTBY FARMS LLP**						
	09-507-570-4000-6683		1,873.00	T - JOB #4000 PARCEL 28	9/14/21	Right Of Way, Ect. West Segment	N
	09-507-570-4000-6683		629.00	D - JOB #4000 PARCEL 46	9/14/21	Right Of Way, Ect. West Segment	N
	09-507-570-4000-6683		2,394.00	P - JOB #4000 PARCEL 50	9/14/21	Right Of Way, Ect. West Segment	N
	09-507-570-4000-6683		3,306.00	T - JOB #4000 PARCEL 50	9/14/21	Right Of Way, Ect. West Segment	N
	09-507-570-4000-6683		57.00	P - JOB #4000 PARCEL 46	9/14/21	Right Of Way, Ect. West Segment	N
	09-507-570-4000-6683		114.00	T - JOB #4000 PARCEL 46	9/14/21	Right Of Way, Ect. West Segment	N
	09-507-570-4000-6683		627.00	P - JOB #4000 PARCEL 28	9/14/21	Right Of Way, Ect. West Segment	N
6440	**WESTBY FARMS LLP**		**9,000.00**	**7 Transactions**			
2086	**ZIEGLER INC**						
	50-000-000-0170-6306		14.25	ACCT 6842300 COOLANT	IN000236556	Repair/Maint. Equip	N
	50-399-000-0000-6304		5.36	ACCT 6842300 CONNECTOR	IN000223340	Repair And Maint-Vehicles	N
	50-399-000-0000-6306		485.09	ACCT 6842300 REPAIR HOSE LEAK	SI000068611	Repair/Maint. Equip	N
2086	**ZIEGLER INC**		**504.70**	**3 Transactions**			
Final Total			**1,018,263.06**	**240 Vendors**	**552 Transactions**		

Recap by Fund	Fund	Amount	Name
	1	226,309.02	General Revenue Fund
	2	31,373.42	General Fund Dedicated Accounts
	9	150,571.95	Parks and Trails
	10	317,892.41	Road And Bridge Fund
	13	160.00	Law Library Fund
	14	7,121.10	Capital Improvement Fund
	22	50,645.93	County Ditch Fund
	23	6,025.00	Community Development Authori
	50	228,164.23	Solid Waste Fund
All Funds		1,018,263.06	Total

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Otter Tail County Auditor

Print List in Order By:	4	1 - Fund (Page Break by Fund) 2 - Department (Totals by Dept) 3 - Vendor Number 4 - Vendor Name
Explode Dist. Formulas?:	Y	
Paid on Behalf Of Name on Audit List?:	N	
Type of Audit List:	D	D - Detailed Audit List S - Condensed Audit List
Save Report Options?:	N	

	Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
	14386	**AMAZON CAPITAL SERVICES INC**						
8		11-406-000-0000-6406		47.54	Pads UAs-Acct #A2RJVV5AA0WI1P 08/18/2021 08/18/2021	1QQW-NPL7-3PQK	Office Supplies	N
33		11-420-601-0000-6406		12.97	Acct #A2RJVV5AA0WI1P 08/31/2021 08/31/2021	131Y-WTMN-DQL7	Office Supplies	N
35		11-420-601-0000-6677		76.21	Acct #A2RJVV5AA0WI1P 08/31/2021 08/31/2021	131Y-WTMN-DQL7	Office Furniture And Equipment - Im	N
26		11-420-601-0000-6406		10.32	Acct #A2RJVV5AA0WI1P 08/24/2021 08/24/2021	14YF-FMVJ-J77T	Office Supplies	N
28		11-420-601-0000-6677		32.55	Acct #A2RJVV5AA0WI1P 08/24/2021 08/24/2021	14YF-FMVJ-J77T	Office Furniture And Equipment - Im	N
20		11-420-601-0000-6677		15.66	Acct #A2RJVV5AA0WI1P 08/10/2021 08/10/2021	1NLM-MJFL-H3PL	Office Furniture And Equipment - Im	N
34		11-430-700-0000-6406		16.51	Acct #A2RJVV5AA0WI1P 08/31/2021 08/31/2021	131Y-WTMN-DQL7	Office Supplies	N
36		11-430-700-0000-6677		96.99	Acct #A2RJVV5AA0WI1P 08/31/2021 08/31/2021	131Y-WTMN-DQL7	Office Furniture And Equipment - Ss	N
27		11-430-700-0000-6406		13.13	Acct #A2RJVV5AA0WI1P 08/24/2021 08/24/2021	14YF-FMVJ-J77T	Office Supplies	N
29		11-430-700-0000-6677		41.43	Acct #A2RJVV5AA0WI1P 08/24/2021 08/24/2021	14YF-FMVJ-J77T	Office Furniture And Equipment - Ss	N
21		11-430-700-0000-6677		19.92	Acct #A2RJVV5AA0WI1P 08/10/2021 08/10/2021	1NLM-MJFL-H3PL	Office Furniture And Equipment - Ss	N
9		11-430-700-0000-6677		27.49	A2RJVV5AA0WI1P 08/17/2021 08/17/2021	1YHF-C3H1-1VPD	Office Furniture And Equipment - Ss	N
	14386	**AMAZON CAPITAL SERVICES INC**		**410.72**	**12 Transactions**			
	5580	**CITIZEN'S ADVOCATE**						
13		11-420-601-0000-6379		3.30	OSS ad 07/20/2021 07/20/2021	15647	Miscellaneous Charges Im Adm	N
14		11-430-700-0000-6379		4.20	OSS ad 07/20/2021 07/20/2021	15647	Miscellaneous Charges - Ss Adm	N
	5580	**CITIZEN'S ADVOCATE**		**7.50**	**2 Transactions**			
	13727	**COLE/MELANIE**						
18		11-430-700-0000-6331		8.90	Meal 07/29/2021 07/29/2021		Meals & Lodging - Ss Adm	N
19		11-430-710-1621-6097		8.90	Client Meal		In Home Service - Brief	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
				07/29/2021 07/29/2021			
13727	**COLE/MELANIE**		**17.80**	**2 Transactions**			
32603	**COOPER'S OFFICE SUPPLY INC**						
42	11-420-601-0000-6406		53.72	455325,455395,455500		Office Supplies	N
				08/10/2021 08/25/2021			
43	11-430-700-0000-6406		68.38	455325,455395,455500		Office Supplies	N
				08/10/2021 08/25/2021			
32603	**COOPER'S OFFICE SUPPLY INC**		**122.10**	**2 Transactions**			
35011	**FERGUS FALLS DAILY JOURNAL**						
41	11-406-000-0000-6379		202.00	#529337-Ad for probation agent	427614	Miscellaneous Charges	N
				08/21/2021 09/01/2021			
35011	**FERGUS FALLS DAILY JOURNAL**		**202.00**	**1 Transactions**			
9243	**FIX/KRISTA**						
22	11-430-700-0000-6242		75.00	K. Fix Conf registration		Registrations	N
				07/09/2021 08/27/2021			
23	11-430-700-0000-6331		15.00	Meal		Meals & Lodging - Ss Adm	N
				07/09/2021 08/27/2021			
9243	**FIX/KRISTA**		**90.00**	**2 Transactions**			
13028	**FOREMAN/MICHELLE**						
38	11-430-700-0000-6330		46.48	Mileage		Mileage - Ss Adm	N
				08/26/2021 08/31/2021			
37	11-430-700-0000-6331		9.13	Meal		Meals & Lodging - Ss Adm	N
				08/26/2021 08/31/2021			
13028	**FOREMAN/MICHELLE**		**55.61**	**2 Transactions**			
41450	**LAKES COUNTRY SERVICE COOP**						
30	11-409-000-0000-6261		5,583.00	Sept Collab Coord	94333	Collaborative Coordination	N
				09/01/2021 09/30/2021			
41450	**LAKES COUNTRY SERVICE COOP**		**5,583.00**	**1 Transactions**			
7661	**MINNKOTA ENVIRO SERVICES INC**						
1	11-406-000-0000-6406		55.26	Cust #1143-Shredding Services	426251	Office Supplies	N
				07/01/2021 07/31/2021			
2	11-420-601-0000-6406		56.00	Child Support - Shredding	426250	Office Supplies	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
				07/01/2021 07/31/2021			
3	11-420-601-0000-6406		84.48	Cust #1143 - Shredding	426250	Office Supplies	N
				07/01/2021 07/31/2021			
4	11-430-700-0000-6406		107.52	Cust #1143 - Shredding	426250	Office Supplies	N
				07/01/2021 07/31/2021			
7661	**MINNKOTA ENVIRO SERVICES INC**		**303.26**	**4 Transactions**			
43022	**MN DEPT OF HUMAN SERVICES**						
10	11-420-640-0000-6379		370.06	Federal Offset Fees	A300C122649	Miscellaneous Charges	N
				07/31/2021 07/31/2021			
43022	**MN DEPT OF HUMAN SERVICES**		**370.06**	**1 Transactions**			
13242	**NEW YORK MILLS DISPATCH**						
11	11-420-601-0000-6379		3.30	OSS ad	15691	Miscellaneous Charges Im Adm	N
				07/21/2021 07/21/2021			
12	11-430-700-0000-6379		4.20	OSS ad	15691	Miscellaneous Charges - Ss Adm	N
				07/21/2021 07/21/2021			
13242	**NEW YORK MILLS DISPATCH**		**7.50**	**2 Transactions**			
44086	**OTTER TAIL CO RECORDER**						
31	11-420-601-0000-6379		55.00	Birth/Death certificates		Miscellaneous Charges Im Adm	N
				08/01/2021 08/31/2021			
32	11-430-700-0000-6379		70.00	Birth/Death certificates		Miscellaneous Charges - Ss Adm	N
				08/01/2021 08/31/2021			
44086	**OTTER TAIL CO RECORDER**		**125.00**	**2 Transactions**			
44010	**OTTER TAIL CO SHERIFF**						
16	11-420-640-0000-6297		40.00	Case #20210797/Party 002		Iv-D Sheriff's Costs	N
				07/30/2021 07/30/2021			
17	11-420-640-0000-6297		40.00	Case #20210797/Party 001		Iv-D Sheriff's Costs	N
				08/04/2021 08/04/2021			
44010	**OTTER TAIL CO SHERIFF**		**80.00**	**2 Transactions**			
46006	**QUALITY TOYOTA**						
39	11-430-700-0000-6304		117.38	Acct #139	6056980	Motor Vehicle Service And Repair	N
				08/02/2021 08/02/2021			
40	11-430-700-0000-6304		513.72	Acct #139	6057261	Motor Vehicle Service And Repair	N
				08/13/2021 08/13/2021			

	Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
	46006	**QUALITY TOYOTA**		**631.10**	**2 Transactions**			
	48619	**SHERBURNE CO SHERIFF**						
15		11-420-640-0000-6297		154.50	Civil ID#21-001286 08/18/2021 08/18/2021		Iv-D Sheriff's Costs	N
	48619	**SHERBURNE CO SHERIFF**		**154.50**	**1 Transactions**			
	13803	**ULSCHMID/LIZA**						
6		11-430-700-0000-6331		62.59	Meals 06/03/2021 08/09/2021		Meals & Lodging - Ss Adm	N
5		11-430-710-1621-6097		9.25	Client Meal 06/03/2021 08/09/2021		In Home Service - Brief	N
	13803	**ULSCHMID/LIZA**		**71.84**	**2 Transactions**			
	9820	**VERIZON WIRELESS**						
24		11-406-000-0000-6200		501.50	Acct #780691296-00001 07/21/2021 08/20/2021	9886713438	Telephone Probation	N
	9820	**VERIZON WIRELESS**		**501.50**	**1 Transactions**			
	52139	**WEST CENTRAL REG JUVENILE CTR**						
7		11-406-000-0000-6000		40,562.00	Detention Costs 07/01/2021 07/31/2021		Detention Center Costs - Probation	N
	52139	**WEST CENTRAL REG JUVENILE CTR**		**40,562.00**	**1 Transactions**			
	13929	**WHIPPLE/VANESSA**						
25		11-430-700-0000-6331		9.98	Meal 08/25/2021 08/25/2021		Meals & Lodging - Ss Adm	N
	13929	**WHIPPLE/VANESSA**		**9.98**	**1 Transactions**			
	Final Total			**49,305.47**	**19 Vendors**	**43 Transactions**		

Recap by Fund	Fund	Amount	Name
	11	49,305.47	Human Services
	All Funds	49,305.47	Total

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Otter Tail County Auditor

Print List in Order By:	4	1 - Fund (Page Break by Fund) 2 - Department (Totals by Dept) 3 - Vendor Number 4 - Vendor Name
Explode Dist. Formulas?:	Y	
Paid on Behalf Of Name on Audit List?:	N	
Type of Audit List:	D	D - Detailed Audit List S - Condensed Audit List
Save Report Options?:	N	

	Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
	14386	**AMAZON CAPITAL SERVICES INC**						
24		11-407-300-0071-6488		12.68	ACCT #A2RJVV5AA0WI1P 08/19/2021 08/19/2021	1TGK-NNRL-3LGM	Imz Program Supplies	N
21		11-407-300-0071-6488		182.79	ACCT #A2RJVV5AA0WI1P 08/19/2021 08/19/2021	1XQY-VFF7-996X	Imz Program Supplies	N
20		11-407-600-0090-6406		58.43	ACCT #A2RJVV5AA0WI1P 08/19/2021 08/19/2021	1XQY-VFF7-996X	Office Supplies	N
	14386	**AMAZON CAPITAL SERVICES INC**		**253.90**	**3 Transactions**			
	13978	**BESEMAN/KAREN**						
37		11-407-200-0023-6330		1.12	AUG2021 MILEAGE/FHV - 2 08/31/2021 08/31/2021	AUG2021 MILEAG	FHV Mileage	N
38		11-407-200-0047-6330		23.52	AUG2021 MILEAGE/MECSH - 42 08/31/2021 08/31/2021	AUG2021 MILEAG	MECSH Mileage	N
	13978	**BESEMAN/KAREN**		**24.64**	**2 Transactions**			
	6757	**BYE/KRISTIN**						
39		11-407-200-0024-6330		24.64	AUG2021 MILEAGE/NFP - 44 08/31/2021 08/31/2021	AUG2021 MILEAG	Nfp Mileage	N
	6757	**BYE/KRISTIN**		**24.64**	**1 Transactions**			
	6148	**DAHL/MELISSA**						
40		11-407-200-0054-6330		24.64	AUG2021 MILEAGE/AGING - 44 08/31/2021 08/31/2021	AUG2021 MILEAG	Aging Mileage	N
	6148	**DAHL/MELISSA**		**24.64**	**1 Transactions**			
	15052	**DEMMER/ANDREA**						
41		11-407-500-0080-6330		35.28	AUG2021 MILEAGE/FPL - 63 08/31/2021 08/31/2021	AUG2021 MILEAG	FPL mileage	N
	15052	**DEMMER/ANDREA**		**35.28**	**1 Transactions**			
	5432	**ERICKSON/MONIQUE**						
42		11-407-500-0080-6330		89.60	AUG2021 MILEAGE/FPL - 160 08/31/2021 08/31/2021	AUG2021 MILEAG	FPL mileage	N
	5432	**ERICKSON/MONIQUE**		**89.60**	**1 Transactions**			
	35588	**FIELD/DEB**						
43		11-407-100-0033-6330		3.36	AUG2021 MILEAGE/MSC UCARE 6	AUG2021 MILEAG	Msc+ Ucare Mileage	N

	Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
					08/31/2021 08/31/2021			
44		11-407-400-0078-6330		5.60	AUG2021 MILEAGE/COVID 10	AUG2021 MILEAG	COVID-19 Mileage	N
					08/31/2021 08/31/2021			
	35588	**FIELD/DEB**		**8.96**	**2 Transactions**			
	12483	**FRUSTOL/ANNE**						
45		11-407-200-0024-6330		186.48	AUG2021 MILEAGE/NFP 333	AUG2021 MILEAG	Nfp Mileage	N
					08/31/2021 08/31/2021			
	12483	**FRUSTOL/ANNE**		**186.48**	**1 Transactions**			
	14398	**GEORGESON/ANTHONY**						
46		11-407-500-0080-6330		82.32	AUG2021 MILEAGE/FPL 147	AUG2021 MILEAG	FPL mileage	N
					08/31/2021 08/31/2021			
	14398	**GEORGESON/ANTHONY**		**82.32**	**1 Transactions**			
	36425	**GUCK/AMY**						
47		11-407-100-0030-6330		113.79	AUG2021 MILEAGE/MnCHOICE 203.2	AUG2021 MILEAG	Mileage - PAS/MNChoices	N
					08/31/2021 08/31/2021			
	36425	**GUCK/AMY**		**113.79**	**1 Transactions**			
	8471	**INDEPENDENT CONTRACT SERVICES OF FF**						
34		11-407-100-0017-6330		185.92	DENTAL SVC MILEAGE	20210831	Innovations Grant Blue Cross mileage	Y
					08/31/2021 08/31/2021			
33		11-407-100-0017-6488		5,416.67	DENTAL SVC COORDINATION/AUG	20210831	Innovations Grant Blue Cross prog supply	Y
					08/31/2021 08/31/2021			
	8471	**INDEPENDENT CONTRACT SERVICES OF FF**		**5,602.59**	**2 Transactions**			
	6063	**LAKES ADVERTISING LLC**						
36		11-407-100-0018-6488		6,075.00	DGTL BILLBRD 9/21-4/22 C&TC	2933	Ctc Outr Program	N
					09/01/2021 09/01/2021			
	6063	**LAKES ADVERTISING LLC**		**6,075.00**	**1 Transactions**			
	198	**LEIGHTON BROADCASTING - FERGUS FALLS**						
31		11-407-400-0078-6488		405.28	Z103FM/8/1-31 VACCINE AD COVID	181397-1	COVID-19 Supplies	N
					08/31/2021 08/31/2021			
30		11-407-400-0078-6488		393.36	KJJKFM/8/1-31 VACCINE AD COVID	181399-1	COVID-19 Supplies	N
					08/31/2021 08/31/2021			
32		11-407-400-0078-6488		393.36	KJJKAM/8/1-31 VACCINE AD COVID	181400-1	COVID-19 Supplies	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
				08/31/2021 08/31/2021			
198	**LEIGHTON BROADCASTING - FERGUS FALLS**		**1,192.00**	**3 Transactions**			
14121	**LEWIS/JODI**						
48	11-407-200-0047-6330		54.88	AUG2021 MILEAGE/MECSH 98	AUG2021 MILEAG	MECSH Mileage	N
				08/31/2021 08/31/2021			
14121	**LEWIS/JODI**		**54.88**	**1 Transactions**			
11105	**MAGNUSSON/LANE**						
49	11-407-400-0078-6330		3.36	AUG2021 MILEAGE/COVID 6	AUG2021 MILEAG	COVID-19 Mileage	N
				08/31/2021 08/31/2021			
11105	**MAGNUSSON/LANE**		**3.36**	**1 Transactions**			
6756	**METZGER/JESSICA**						
50	11-407-300-0070-6330		22.40	AUG2021 MILEAGE/DPC 40	AUG2021 MILEAG	Mileage D P & C	N
				08/31/2021 08/31/2021			
6756	**METZGER/JESSICA**		**22.40**	**1 Transactions**			
13389	**MIDWEEK INC/THE**						
18	11-407-400-0078-6488		110.88	CUST #1976/VACCINE INFO 8/22	64688	COVID-19 Supplies	G
				08/22/2021 08/22/2021			
19	11-407-400-0078-6488		110.88	CUST #1976/VACCINE INFO 8/29	64780	COVID-19 Supplies	G
				08/22/2021 08/22/2021			
26	11-407-400-0078-6488		110.88	CUST #1976 VACCINE INFO- 9/5	64843	COVID-19 Supplies	G
				09/05/2021 09/05/2021			
13389	**MIDWEEK INC/THE**		**332.64**	**3 Transactions**			
42863	**MINNESOTA MOTOR COMPANY**						
14	11-407-600-0090-6304		56.65	OIL CHANGE UNIT #19619	781413	Motor Vehicle Service And Repair	N
				08/20/2021 08/20/2021			
42863	**MINNESOTA MOTOR COMPANY**		**56.65**	**1 Transactions**			
51120	**OFFICE DEPOT**						
17	11-407-100-0030-6488		38.22	ACCT #71423628/YELLOW FOLDERS	187817021001	Phn Program Supplies -PAS/MNChoices/L	N
				08/17/2021 08/17/2021			
16	11-407-600-0090-6488		17.56	ACCT #71423628/WIPES, NOTE PAD	187817021001	Phn Program Supplies	N
				08/17/2021 08/17/2021			
15	11-407-500-0080-6488		9.58	ACCT #71423628/9V BATTERIES	187827020001	FPL Prog Supplies	N

	Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
					08/17/2021 08/17/2021			
25		11-407-600-0090-6488		58.97	ACCT #71423628/PENS, POST-ITS	191880150001	Phn Program Supplies	N
					08/27/2021 08/27/2021			
	51120	**OFFICE DEPOT**		**124.33**	**4 Transactions**			
	31020	**OTTER TAIL CO TREASURER**						
13		11-407-200-0060-6488		64.00	CAR SEAT EDUCATION (OM)	08032021	Program Supplies Inj Prev	N
					08/03/2021 08/03/2021			
	31020	**OTTER TAIL CO TREASURER**		**64.00**	**1 Transactions**			
	2385	**OTTER TAIL POWER COMPANY**						
22		11-407-200-0066-6488		37.56	ACCT #9022/100 THRIVE CARDS	363024	Mental Well Being program supplies	N
					08/18/2021 08/18/2021			
29		11-407-400-0078-6488		130.57	CUST #9022/1000 VAC FLYERS	8004411	COVID-19 Supplies	N
					04/23/2021 04/23/2021			
	2385	**OTTER TAIL POWER COMPANY**		**168.13**	**2 Transactions**			
	629	**OTTERTAIL GLASS**						
35		11-407-600-0090-6488		925.60	PLEXI-GLASS FRONT OFFICE	08262021	Phn Program Supplies	N
					08/26/2021 08/26/2021			
	629	**OTTERTAIL GLASS**		**925.60**	**1 Transactions**			
	12084	**SANOFI PASTEUR INC**						
27		11-407-300-0071-6488		5,518.71 -	CUST #70036172 /VACCINE RETURN	916591747	Imz Program Supplies	N
					06/04/2021 06/04/2021			
28		11-407-300-0071-6488		6,080.27	CUST #70036172 /FLU VACCINE	917105909	Imz Program Supplies	N
					08/31/2021 08/31/2021			
	12084	**SANOFI PASTEUR INC**		**561.56**	**2 Transactions**			
	48638	**SIGNWORKS SIGNS & BANNERS LLC**						
23		11-407-200-0060-6232		300.00	YARD SIGNS/TZD	7272	Printing Safe Commun - Inj Prev	Y
					08/30/2021 08/30/2021			
	48638	**SIGNWORKS SIGNS & BANNERS LLC**		**300.00**	**1 Transactions**			
	16294	**SONICU LLC**						
11		11-407-400-0078-6488		144.00	SNAP CALIBRATION PRM (2)	SO2772	COVID-19 Supplies	N
					08/09/2021 08/09/2021			
12		11-407-400-0078-6488		240.00	MONITORED DATA POINT 1YR	SO2772	COVID-19 Supplies	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
				08/09/2021 08/09/2021			
16294	**SONICU LLC**		**384.00**	**2 Transactions**			
15825	**VAN SANTEN/DANA**						
51	11-407-100-0015-6330		1.96	AUG2021 MILEAGE/FHV SN 3.5 08/31/2021 08/31/2021	AUG2021 MILEAG	MCH/ECS Mileage	N
52	11-407-200-0023-6330		2.24	AUG2021 MILEAGE/FHV NONEBHV 4 08/31/2021 08/31/2021	AUG2021 MILEAG	FHV Mileage	N
53	11-407-200-0047-6330		8.68	AUG2021 MILEAGE/MECSH 15.5 08/31/2021 08/31/2021	AUG2021 MILEAG	MECSH Mileage	N
15825	**VAN SANTEN/DANA**		**12.88**	**3 Transactions**			
9820	**VERIZON WIRELESS**						
9	11-407-100-0018-6200		66.38	ACCT #680689848-00001/CTC 08/20/2021 08/20/2021	9886702664	Ctc Outr Telephone	N
3	11-407-200-0024-6200		92.99	ACCT #680689848-00001/NFP 08/20/2021 08/20/2021	9886702664	NFP Telephone	N
4	11-407-200-0047-6200		232.50	ACCT #680689848-00001/MECSH 08/20/2021 08/20/2021	9886702664	MECSH Telephone	N
10	11-407-200-0053-6200		11.63	ACCT #680689848-00001/CHW 08/20/2021 08/20/2021	9886702664	CHW Telephone	N
8	11-407-200-0054-6488		50.53	ACCT #680689848-00001/AGING 08/20/2021 08/20/2021	9886702664	Aging Prog Supplies	N
5	11-407-300-0070-6200		46.50	ACCT #680689848-00001/DP&C 08/20/2021 08/20/2021	9886702664	Telephone	N
7	11-407-400-0078-6488		46.50	ACCT #680689848-00001/COVID 08/20/2021 08/20/2021	9886702664	COVID-19 Supplies	N
1	11-407-400-0083-6200		46.50	ACCT #680689848-00001/PHEP 08/20/2021 08/20/2021	9886702664	Telephone	N
6	11-407-500-0080-6488		139.50	ACCT #680689848-00001/NFP 08/20/2021 08/20/2021	9886702664	FPL Prog Supplies	N
2	11-407-600-0090-6488		46.50	ACCT #680689848-00001/ADMIN 08/20/2021 08/20/2021	9886702664	Phn Program Supplies	N
9820	**VERIZON WIRELESS**		**779.53**	**10 Transactions**			
52580	**WESTBY/LINDA**						
54	11-407-200-0024-6330		83.44	AUG2021 MILEAGE/NFP 149 08/31/2021 08/31/2021	AUG2021 MILEAG	Nfp Mileage	N

Vendor No.	Name / Account/Formula	Rpt Accr	Amount	Warrant Description / Service Dates	Invoice # / Paid On Bhf #	Account/Formula Description / On Behalf of Name	1099
55	11-407-400-0078-6330		16.80	AUG2021 MILEAGE/COVID 30 08/31/2021 08/31/2021	AUG2021 MILEAG	COVID-19 Mileage	N
52580	**WESTBY/LINDA**		**100.24**	**2 Transactions**			
Final Total			**17,604.04**	**28 Vendors**	**55 Transactions**		

Recap by Fund	Fund	Amount	Name
	11	17,604.04	Human Services
	All Funds	17,604.04	Total

Approved by, ...

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Amendment #1 for Grant Contract Agreement #192863

Grant Contract Agreement Start Date:	March 2, 2021	Total Grant Contract Agreement Amount:	$ 32,899.00
Original Grant Contract Agreement Expiration Date:	Sept. 30, 2021	Original Grant Contract Agreement Amount:	$
Current Grant Contract Agreement Expiration Date:	Sept. 30, 2021	Previous Amendment(s) Total:	$
Requested Grant Contract Agreement Expiration Date:	October 31, 2021	This Amendment:	$

This amendment is by and between the State of Minnesota, through its Commissioner of Natural Resources, Enforcement Division ("State") and Otter Tail County Sheriff's Office, 417 Court St. S., Fergus Falls, MN 56537 (DUNS 178803917) ("Grantee").

Recitals

1. The State has a grant contract agreement with the Grantee identified as SWIFT Contract Number 192863. Under Minnesota Statute §84.026, §86B.101 and Department of Homeland Security – through the Recreational Boating Safety Financial Assistance program to states, commonwealth and territories (FAIN 3319FAS190127), (CFDA number 97.012) in U.S.C. 13101-13110 the State is empowered to enter into this grant contract agreement. This grant contract agreement is a non-research and non-developmental grant. The State will make available supplementary funding in the amount noted in this grant contract agreement to cover the cost of the specific items for recreational boating safety. The Grantee represents that it is duly qualified and agrees to perform all services described in this grant contract agreement to the satisfaction of the State.

2. This grant contract is being amended to ensure the Grantee has sufficient time to purchase, receive delivery and request reimbursement from the State.

3. The State and the Grantee are willing to amend the Original Grant Contract Agreement as stated below.

Grant Contract Agreement Amendment

REVISION 1. Clause 1. **"Term of Grant Agreement"** is amended as follows:

1 Term of Grant Contract Agreement

1.1 ***Effective date:*** March 2, 2021, Per Minn. Stat. §16B.98, Subd. 5, the Grantee must not begin work until this grant contract agreement is fully executed and the State's Authorized Representative has notified the Grantee that work may commence. Per Minn. Stat. §16B.98 Subd. 7, no payments will be made to the Grantee until this grant contract agreement is fully executed. Reimbursements will only be made for expenditures made according to the terms of this grant contract agreement.

1.2 ***Expiration date:*** ~~September 30, 2021~~, October 31, 2021, or until all obligations have been satisfactorily fulfilled, whichever occurs first. The Grantee shall submit a final billing invoice within 30 days of the expiration of the grant contract agreement as specified herein.

Except as amended herein, the terms and conditions of the Original Contract Agreement and all previous amendments remain full in force and effect.

1. STATE ENCUMBRANCE VERIFICATION

Individual certifies that funds have been encumbered as required by Minn. Stat. 16A.15 *&* *16B.98.*

Signed: DocuSigned by: Stacey Stich 7B8DC6F9656342A...

Date: 9/7/2021

SWIFT Contract/PO No(s). 192863 / 3000187011

2. GRANTEE

The Grantee certifies that the appropriate person(s) have executed the grant contract on behalf of the Grantee as required by applicable articles, bylaws, resolutions, or ordinances.

By: [signature]

Title: Sheriff

Date: 9/7/21

By:

Title:

Date:

3. STATE AGENCY

By:

Title:

Date:

Distribution:
Agency
Grantee
State's Authorized Representative

APPLICATION NAME(Please type or print) Tom Kraemer Inc E-MAIL: info@tomkraemerinc.com

BUSINESS NAME: Tom Kraemer Inc

BUSINESS ADDRESS: 16994 County Road 158 Cold Spring MN 56320

(Street) (City) (State) (Zip)

NAME OF CONTRACT PERSON: Danessa Noyes PHONE NUMBER: 320-685-8226

APPLICATION TYPE (check one): RENEWAL ( ) NEW LICENSE: (✓) VEHICLE CHANGE OR ADDITIONS: ( )

VEHICLE SPECIFICATIONS: Complete the following by providing information for all vehicles used for the collection and/or transportation of solid waste by your business in Otter Tail County.

Vehicle Serial #:	License Plate #:	Make:	Model:	Year:	Vehicle Type Packer, Roll-Off, Other)	Capacity (Cubic Yds):
3HTDTAPT7JNS89428	YBT8618	INTERNATIONAL	HX620	2018	ROLL OFF	30

***If more than 8 vehicles are serving Otter Tail County, provide additional information on a separate sheet.**

How many accounts do you presently have in Otter Tail County?

Residential: _____ Commercial: 1

Do you offer a volume based fee to residential customers? Yes ( ) No (✓) Must Attach

Credit for Recycling Yes ( ) No (✓)

AREA OF OPERATION: Please list the Counties, cities and townships:

Wadena

List other areas on a separate sheet attached to this form

TYPE OF WASTE TRANSPORTED:

Construction/demolition debris

List other material on a separate sheet attached to this form

FEE SCHEDULE:

Annual License Application Fee:	= $100.00 per business	$ 100.00
Annual License Application Fee/Renewal	= $ 10.00 per truck	$ 10.00
	TOTAL	$ 110.00

INSURANCE:
Please attach to this application proof that all vehicles to be licensed are insured are insured in accordance with Otter Tail County Solid Waste Ordinance.

PENALTY FOR LATE FEE PAYMENT: Fee x 2 after December 31st of each year.

PERFORMANCE BOND:
A performance bond with sufficient sureties in the penal sum of $5,000 shall be submitted as part of this application.

APPLICATIONS WILL NOT BE PROCESSED WITHOUT VOLUME SHEETS BEING COMPLETED.....

MAKE CHECKS PAYABLE TO: OTTER TAIL COUNTY DEPARTMENT OF SOLID WASTE
RETURN APPLICATION FORMS TO: OTTER TAIL COUNTY DEPARTMENT OF SOLID WASTE
1115 NORTH TOWER ROAD
FERGUS FALLS, MN 56537
PHONE: 218-998-4898

SIGNATURE OF APPLICANT: Danessa Noyes DATE: 9/1/2021

APPICATION FOR OTTER TAIL COUNTY LICENSE TO COLLECT AND/OR TRANSPORT SOLID WASTE OR SOURCE SEPARTATED MATERIALS.

OTTER TAIL
COUNTY - MINNESOTA

HIGHWAY
505 South Court Street, Suite 1
Fergus Falls, MN 56537

September 7, 2021

Board of County Commissioners
Otter Tail County
Fergus Falls, MN 56537

Re: S.A.P. 056-594-001 Street and Utility Improvements
City of Perham, LRIP Project

Otter Tail County Board:

On April 9, 2020 the bid for S.A.P. 056-594-001 was awarded to R L Larson Excavating, Inc., 2255 12th Street S.E., St. Cloud, MN 56304.

This contract has been completed and the total cost amounted to $2,936,060.02.

Otter Tail County is the pass through for the LRIP portion of funds not to exceed $750,000. The final payment of $26,552.73 is payable to the City of Perham for Invoices 5151 and 5170. These invoices are attached and hereby recommended for approval and payment.

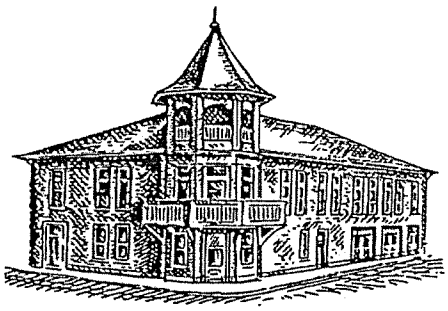
Yours truly,
Otter Tail County Highway Department

Charles Grotte, P.E.
County Engineer

CHG:co
Encls.

Cc: Project File

INVOICE



CITY OF PERHAM

PO BOX 130
PERHAM MN 56573
218-346-4455

Bill To: OTTER TAIL COUNTY
505 SOUTH COURT STREET, SUITE 1
FERGUS FALLS MN 56537

Date	Number	Page
06/30/2021	5151	1

Customer No. 1500

Terms: Due upon receipt

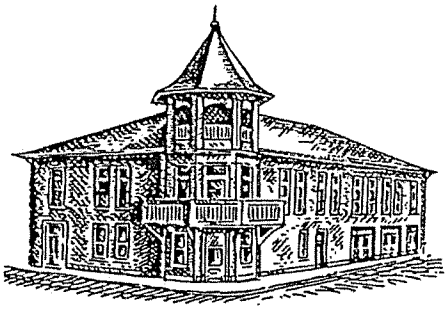
Quantity	Description	Unit Price	Net Amount
1	INDUSTRIAL PARK LRIP GRANT PAYMENT #6	47,616.77	47,616.77

Amount	47,616.77
Balance Due	47,616.77

PAY BY: **07/31/2021**

MAKE CHECK PAYABLE TO:
CITY OF PERHAM
PO BOX 130
PERHAM MN 56573

PLEASE INCLUDE INVOICE NUMBER ON CHECK



INVOICE

CITY OF PERHAM

PO BOX 130
PERHAM MN 56573
218-346-4455

Bill To: OTTER TAIL COUNTY
505 SOUTH COURT STREET, SUITE 1
FERGUS FALLS MN 56537

Date	Number	Page
07/23/2021	5170	1

Customer No. 1500

Terms: Due upon receipt

Quantity	Description	Unit Price	Net Amount
1	INDUSTRIAL PARK LRIP GRANT #6 CREDIT	21,064.04 CR	21,064.04 CR

Amount	21,064.04 CR
Balance Due	21,064.04 CR

PAY BY: **08/23/2021**

MAKE CHECK PAYABLE TO:
CITY OF PERHAM
PO BOX 130
PERHAM MN 56573

PLEASE INCLUDE INVOICE NUMBER ON CHECK

	Total	SAP 056-594-001 Participating	SAP 056-594-001 Storm Sewer Participating	Non Participating	County Portion	
Est #1	$ 358,516.54	$ 51,596.85	$ 154,477.00	$ 152,442.69	$ 206,073.85	Pd 9/29/20
Est #2	$ 575,799.20	$ 206,197.15		$ 369,602.05		
YTD Subtotal	$ 934,315.74	$ 257,794.00	$ 154,477.00	$ 522,044.74		
Retainage	$ (46,715.79)	$ (12,889.70)	$ (7,723.85)	$ (26,102.24)	$ 185,583.60	Pd 10/27/20
Est #3	$ 745,311.80	$ 217,704.17	$ 1,529.50	$ 526,078.13		
YTD Subtotal	$ 1,679,627.54	$ 475,498.17	$ 156,006.50	$ 1,048,122.87		
Retainage	$ (83,981.38)	$ (23,774.91)	$ (7,800.33)	$ (52,406.14)	$ 208,271.98	Pd 11/24/20
Est #4	$ 639,778.03	$ 128,031.77	$ 1,529.50	$ 510,216.76		
YTD Subtotal	$ 2,319,405.57	$ 603,529.94	$ 157,536.00	$ 1,558,339.63		
Retainage	$ (115,970.28)	$ (30,176.50)	$ (7,876.80)	$ (77,916.98)	$ 123,083.21	Pd 12/9/20
Est #5	$ 27,552.50	$ 457.50	$ -	$ 27,095.00		
YTD Subtotal	$ 2,346,958.07	$ 603,987.44	$ 157,536.00	$ 1,585,434.63		
Retainage	$ (117,347.90)	$ (30,199.37)	$ (7,876.80)	$ (79,271.73)	$ 434.63	Pd 12/31/20
Est #6	$ 13,860.00	$ -	$ -	$ 13,860.00		
YTD Subtotal	$ 2,360,818.07	$ 603,987.44	$ 157,536.00	$ 1,599,294.63		
Retainage	$ (118,040.90)	$ (30,199.37)	$ (7,876.80)	$ (79,964.73)	$ -	-
Est #7	$ 575,241.95	$ 9,540.60	$ -	$ 565,701.35		
Final Total	$ 2,936,060.02	$ 613,528.04	$ 157,536.00	$ 2,164,995.98		
Retainage	$ -	$ -	$ -	$ -	$ 47,616.77	
Credit-over Maximum Allowed		$ (21,064.04)			$ (21,064.04)	

$ 750,000.00	Total Paid to City of Perham

Seventh Avenue Northeast and Northeast Industrial Park
Street and Utility Improvements
City of Perham, Minnesota

Apex Project No. 19.183.0103

APPLICATION FOR PAYMENT NO. 7 - FINAL REVISED

Application for Payment Date: 6/30/2021
Application for Payment Period: 1/26/2021 through 6/25/2021

Summary of Approved Change Orders		
Change Order Number	Additions	Deductions
TOTALS	$0.00	$0.00
NET CHANGE BY CHANGE ORDERS	$0.00	

1. ORIGINAL CONTRACT PRICE		$2,791,189.87
2. Net change by Change Orders		$0.00
3. Current Contract Price (Line 1 ± 2)		$2,791,189.87
4. TOTAL COMPLETED AND STORED TO DATE (Column F total on Progress Estimates)		$2,936,060.02
5. RETAINAGE:		
a. 0.0% X	$2,936,060.02 Work Completed	$0.00
b. 0.0% X	$0.00 Stored Material	$0.00
c. Total Retainage (Line 5.a + Line 5.b)		$0.00
6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5.c)		$2,936,060.02
7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application)		$2,242,777.17
8. AMOUNT DUE THIS APPLICATION		$693,282.85

Contractor's Certification

The undersigned Contractor certifies, to the best of its knowledge, the following:

(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Partial Payment;

(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all Liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such Liens, security interest, or encumbrances); and

(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is

Contractor Signature

By: _____ Date: 6-30-21

RL Larson Excavating, Inc.
2255 12th Street SE
St. Cloud, MN 56304

Payment of: $ 693,282.85
(Line 8 or other - attach explanation of the other amount)

Is recommended by: _____ 6-30-21
Jade A. Berube (Engineer) (Date)

Payment of: $ 693,282.85
(Line 8 or other - attach explanation of the other amount)

Is approved by: _____ 6-30-21
City of Perham (Owner) (Date)

Approved by: _____ _____
Funding or Financing Entity (if applicable) (Date)

APPLICATION FOR PAYMENT NO. 7 - FINAL REVISED

Itemized Progress Summary

Apex Project No. 19.183.0103

Application for Payment Date: 6/30/2021

Application for Payment Period: 1/26/2021 through 6/25/2021

A						B	C	D	E	F		G
Item			Contract Information									
Bid Item No.	Description		Estimated Quantity	Unit	Unit Bid Price	Bid Total Value of Item ($)	Estimated Quantity Installed	Value of Work Installed to Date	Materials Presently Stored (not in C)	Total Completed and Stored to Date (D + E)	% (F / B)	Balance to Finish (B - F)
BASE BID:												
1	2021.501	MOBILIZATION	1.00	LUMP SUM	$79,000.00	$79,000.00	1.00	$79,000.00		$79,000.00	100.0%	$0.00
2	2101.524	CLEARING	5	TREE	$160.00	$800.00	3	$480.00		$480.00	60.0%	$320.00
3	2101.524	GRUBBING	5	TREE	$160.00	$800.00	3	$480.00		$480.00	60.0%	$320.00
4	2104.502	REMOVE CATCH BASIN	2	EACH	$280.00	$560.00	4	$1,120.00		$1,120.00	200.0%	($560.00)
5	2104.502	REMOVE MAIL BOX SUPPORT	7	EACH	$48.00	$336.00	9	$432.00		$432.00	128.6%	($96.00)
6	2104.503	REMOVE PIPE CULVERT	323	LIN FT	$6.00	$1,938.00	470	$2,820.00		$2,820.00	145.5%	($882.00)
7	2104.503	REMOVE WATER MAIN	147	LIN FT	$12.00	$1,764.00	86	$1,032.00		$1,032.00	58.5%	$732.00
8	2104.503	REMOVE SEWER PIPE (STORM)	60	LIN FT	$14.00	$840.00	154	$2,156.00		$2,156.00	256.7%	($1,316.00)
9	2104.503	REMOVE SEWER PIPE (SANITARY)	148	LIN FT	$14.00	$2,072.00	148	$2,072.00		$2,072.00	100.0%	$0.00
10	2104.503	REMOVE CURB & GUTTER	213	LIN FT	$2.63	$560.19	213	$560.19		$560.19	100.0%	$0.00
11	2104.504	REMOVE CONCRETE WALK	384	SQ YD	$6.30	$2,482.20	384	$2,482.20		$2,482.20	100.0%	$0.00
12	2104.504	REMOVE CONCRETE PAVEMENT	311	SQ YD	$8.40	$2,612.40	311	$2,612.40		$2,612.40	100.0%	$0.00
13	2104.504	REMOVE BITUMINOUS PAVEMENT	10,330	SQ YD	$1.10	$11,363.00	10,330	$11,363.00		$11,363.00	100.0%	$0.00
14	2105.504	GEOTEXTILE FABRIC TYPE 4	60	SQ YD	$3.00	$180.00	60	$180.00		$180.00	100.0%	$0.00
15	2105.507	COMMON EXCAVATION	26,677	CU YD	$6.85	$182,737.45	26,677	$182,737.45		$182,737.45	100.0%	$0.00
16	2105.507	CHANNEL AND POND EXCAVATION	6,810	CU YD	$5.00	$34,050.00	6,810	$34,050.00		$34,050.00	100.0%	$0.00
17	2118.507	AGGREGATE SURFACING (CV) CLASS 5	264	CU YD	$29.40	$7,761.60	200	$5,880.00		$5,880.00	75.8%	$1,881.60
18	2123.610.	MACHINE TIME (1)	10	HOUR	$1,000.00	$10,000.00	8	$8,000.00		$8,000.00	80.0%	$2,000.00
19	2211.507	AGGREGATE BASE (CV) CLASS 5 (P)	10,255	CU YD	$22.00	$225,610.00	10,255	$225,610.00		$225,610.00	100.0%	$0.00
20	2360.504	TYPE SP 9.5 WEAR CRS MIX(3,C) 1.5" THICK	18,334	SQ YD	$6.41	$117,520.94	18,680	$119,802.80		$119,802.80	101.9%	($2,281.86)
21	2360.504	TYPE SP 9.5 WEAR CRS MIX (3,C) 2.5" THICK	29,840	SQ YD	$8.90	$263,796.00	31,336	$278,890.40		$278,890.40	105.7%	($15,094.40)
22	2360.504	TYPE SP 12.5 NON WR CRS MIX (3,C) 2.5" THICK	33,537	SQ YD	$8.28	$277,686.36	35,233	$291,729.24		$291,729.24	105.1%	($14,042.88)
23	2402.503	PIPE RAILING	60	LIN FT	$220.00	$13,200.00	63	$13,860.00		$13,860.00	105.0%	($660.00)
24	2411.618	MODULAR BLOCK RETAINING WALL	130	SQ FT	$70.00	$9,100.00	135	$9,450.00		$9,450.00	103.8%	($350.00)
25	2501.502	15" CS PIPE APRON	2	EACH	$350.00	$700.00	2	$700.00		$700.00	100.0%	$0.00
26	2501.502	18" CS PIPE APRON	1	EACH	$380.00	$380.00	1	$380.00		$380.00	100.0%	$0.00
27	2503.503	12" CP PIPE SEWER	579	LIN FT	$29.00	$16,791.00	587	$17,023.00		$17,023.00	101.4%	($232.00)
28	2503.503	15" CP PIPE SEWER	1,270	LIN FT	$30.00	$38,100.00	1,270	$38,100.00		$38,100.00	100.0%	$0.00
29	2503.503	18" CP PIPE SEWER	795	LIN FT	$36.00	$28,620.00	798	$28,728.00		$28,728.00	100.4%	($108.00)
30	2503.503	24" CP PIPE SEWER	1,400	LIN FT	$51.00	$71,400.00	1,399	$71,349.00		$71,349.00	99.9%	$51.00
31	2503.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	7	EACH	$1,050.00	$7,350.00	8	$8,400.00		$8,400.00	114.3%	($1,050.00)
32	2503.602	6" CLEAN-OUT ASSEMBLY	7	EACH	$455.00	$3,185.00	9	$4,095.00		$4,095.00	128.6%	($910.00)
33	2503.602	8"X6" PVC WYE	1	EACH	$640.00	$640.00	2	$1,280.00		$1,280.00	200.0%	($640.00)
34	2503.602	10"X6" PVC WYE	6	EACH	$1,920.00	$11,520.00	7	$13,440.00		$13,440.00	116.7%	($1,920.00)
35	2503.603	SANITARY SEWER INSPECTION	1,810	LIN FT	$2.00	$3,620.00	1,900	$3,800.00		$3,800.00	105.0%	($180.00)
36	2503.603	8" PVC SANITARY SERVICE PIPE	323	LIN FT	$19.00	$6,137.00	458	$8,702.00		$8,702.00	141.8%	($2,565.00)
37	2503.603	8" PVC PIPE SEWER	1,810	LIN FT	$37.00	$66,970.00	2,102	$77,774.00		$77,774.00	116.1%	($10,804.00)
38	2503.603	10" PVC PIPE SEWER	30	LIN FT	$44.00	$1,320.00	27	$1,188.00		$1,188.00	90.0%	$132.00
39	2504.602	ADJUST VALVE BOX	4	EACH	$210.00	$840.00	4	$840.00		$840.00	100.0%	$0.00
40	2504.602	WATER SERVICE CONNECTION	6	EACH	$2,150.00	$12,900.00	7	$15,120.00		$15,120.00	116.7%	($2,160.00)
41	2504.602	DUCTILE IRON FITTINGS (WATER)	77	EACH	$0.01	$0.77	51	$0.51		$0.51	66.2%	$0.26
42	2504.602	HYDRANT	7	EACH	$5,125.00	$35,875.00	8	$41,000.00		$41,000.00	114.3%	($5,125.00)
43	2504.602	6" GATE VALVE & BOX	16	EACH	$1,810.00	$32,560.00	22	$39,820.00		$39,820.00	122.2%	($7,240.00)
44	2505.602	8" GATE VALVE & BOX	6	EACH	$2,280.00	$13,680.00	6	$13,680.00		$13,680.00	100.0%	$0.00
45	2505.602	12" GATE VALVE & BOX	6	EACH	$3,540.00	$21,240.00	6	$21,240.00		$21,240.00	100.0%	$0.00
46	2504.603	6" PVC WATERMAIN	661	LIN FT	$26.00	$17,186.00	742	$19,292.00		$19,292.00	112.3%	($2,106.00)
47	2504.603	8" PVC WATERMAIN	1,730	LIN FT	$26.00	$44,980.00	1,755	$45,630.00		$45,630.00	101.4%	($650.00)
48	2504.603	10" PVC WATERMAIN	18	LIN FT	$42.00	$756.00	23	$966.00		$966.00	127.8%	($210.00)
49	2504.603	12" PVC WATERMAIN	859	LIN FT	$35.00	$30,065.00	926	$32,410.00		$32,410.00	107.8%	($2,345.00)
50	2504.604	4" INSULATION (WATER)	32	SQ YD	$32.00	$1,024.00	115.3	$3,688.32		$3,688.32	360.2%	($2,664.32)
51	2506.502	CONST DRAINAGE STRUCTURE DESIGN G	22	EACH	$2,570.00	$56,540.00	22	$56,540.00		$56,540.00	100.0%	$0.00
52	2506.502	CONSTRUCT DRAINAGE STRUCTURE DES 4007	6	EACH	$4,440.00	$26,640.00	6	$26,640.00		$26,640.00	100.0%	$0.00
53	2506.502	CONST DRAINAGE STRUCTURE DES 48-4020	7	EACH	$2,830.00	$19,810.00	7	$19,810.00		$19,810.00	100.0%	$0.00
54	2506.502	CONST DRAINAGE STRUCTURE DES 60-4020	1	EACH	$5,430.00	$5,430.00	1	$5,430.00		$5,430.00	100.0%	$0.00
55	2506.502	ADJUST FRAME & RING CASTING	20	EACH	$350.00	$7,000.00	20	$7,000.00		$7,000.00	100.0%	$0.00

A						B	C	D	E	F		G
Item			Contract Information									
Bid Item No.		Description	Estimated Quantity	Unit	Unit Bid Price	Bid Total Value of Item ($)	Estimated Quantity Installed	Value of Work Installed to Date	Materials Presently Stored (not in C)	Total Completed and Stored to Date (D + E)	% (F / B)	Balance to Finish (B - F)
56	2506.602	MODIFY DRAINAGE STRUCTURE	4	EACH	$1,450.00	$5,800.00	5	$7,250.00		$7,250.00	125.0%	($1,450.00)
57	2511.507	RANDOM RIPRAP CLASS III	12	CU YD	$70.00	$840.00	7	$490.00		$490.00	58.3%	$350.00
58	2521.518	4" CONCRETE WALK	698	SQ FT	$7.35	$5,130.30	1,223	$8,989.05		$8,989.05	175.2%	($3,858.75)
59	2521.518	6" CONCRETE WALK	475	SQ FT	$10.50	$4,987.50	937	$9,838.50		$9,838.50	197.3%	($4,851.00)
60	2531.503	CONCRETE CURB & GUTTER DESIGN B618	13,327	LIN FT	$14.20	$189,243.40	13,458	$191,103.60		$191,103.60	101.0%	($1,860.20)
61	2531.504	8" CONCRETE DRIVEWAY PAVEMENT	1,531	SQ YD	$75.60	$115,743.60	1,776	$134,265.60		$134,265.60	116.0%	($18,522.00)
62	2531.618	TRUNCATED DOMES	90	SQ FT	$57.50	$5,175.00	128	$7,360.00		$7,360.00	142.2%	($2,185.00)
63	2540.602	MAIL BOX SUPPORT	7	EACH	$120.00	$840.00	8	$960.00		$960.00	114.3%	($120.00)
64	2540.602	RELOCATE MAIL BOX SUPPORT	1	EACH	$85.00	$85.00		$0.00		$0.00		$85.00
65	2563.601	TRAFFIC CONTROL	1	LUMP SUM	$8,400.00	$8,400.00	1.00	$8,400.00		$8,400.00	100.0%	$0.00
66	2564.601	TRAFFIC SIGNS AND DEVICES	1	LUMP SUM	$5,250.00	$5,250.00	1.15	$6,037.50		$6,037.50	115.0%	($787.50)
67	2573.501	STABILIZED CONSTRUCTION EXIT	1	LUMP SUM	$4,500.00	$4,500.00	1.00	$4,500.00		$4,500.00	100.0%	$0.00
68	2573.501	STORM DRAIN INLET PROTECTION	1	LUMP SUM	$3,000.00	$3,000.00	1.00	$3,000.00		$3,000.00	100.0%	$0.00
69	2573.503	SILT FENCE; TYPE MS	355	LIN FT	$1.75	$621.25		$0.00		$0.00		$621.25
70	2573.601	TEMPORARY EROSION CONTROL	1	LUMP SUM	$1,500.00	$1,500.00	1.00	$1,500.00		$1,500.00	100.0%	$0.00
71	2574.507	COMMON TOPSOIL BORROW	465	CU YD	$30.00	$13,950.00	465	$13,950.00		$13,950.00	100.0%	$0.00
72	2575.501	TURF ESTABLISHMENT	1	LUMP SUM	$48,000.00	$48,000.00	1.39	$66,500.00		$66,500.00	138.5%	($18,500.00)
73	2582.503	4" SOLID LINE PAINT	120	LIN FT	$1.50	$180.00	120	$180.00		$180.00	100.0%	$0.00
74	2582.518	PAVT MSSG PAINT	126	SQ FT	$8.25	$1,039.50	126	$1,039.50		$1,039.50	100.0%	$0.00
		SUBTOTAL BASE BID:				$2,244,395.48		$2,366,229.36	$0.00	$2,366,229.36	105.4%	($121,833.90)
ADDITIVE ALTERNATE NO. 1: RURAL ROAD IMPROVEMENTS												
1	2104.502	REMOVE MAIL BOX SUPPORT	1	EACH	$50.00	$50.00	1.00	$50.00		$50.00	100.0%	$0.00
2	2104.503	REMOVE CURB & GUTTER	88	LIN FT	$2.63	$231.44	88.00	$231.44		$231.44	100.00%	$0.00
3	2104.504	REMOVE CONCRETE PAVEMENT	10	SQ YD	$9.45	$94.50	17.00	$160.65		$160.65	170.0%	($66.15)
4	2104.504	REMOVE BITUMINOUS PAVEMENT	711	SQ YD	$1.26	$895.86	711.00	$895.86		$895.86	100.00%	$0.00
5	2105.507	COMMON EXCAVATION	5,715	CU YD	$6.85	$39,147.75	5,717.00	$39,161.45		$39,161.45	100.0%	($13.70)
6	2118.507	AGGREGATE SURFACING (CV) CLASS 5	39	CU YD	$26.25	$1,023.75	39.00	$1,023.75		$1,023.75	100.00%	$0.00
7	2211.507	AGGREGATE BASE (CV) CLASS 5 (P)	4,026	CU YD	$22.00	$88,572.00	4,026.00	$88,572.00		$88,572.00	100.0%	$0.00
8	2221.507	SHOULDER BASE AGGREGATE (CV) CLASS 5	165	CU YD	$31.50	$5,827.50	185.00	$5,827.50		$5,827.50	100.00%	$0.00
9	2360.504	TYPE SP 9.5 WEAR CRS MIX (3,C) 2.5" THICK	16,767	SQ YD	$8.91	$149,393.97	19,067.00	$169,886.97		$169,886.97	113.7%	($20,493.00)
10	2360.504	TYPE SP 12.5 NON WR CRS MIX (3,C) 2.5" THICK	16,695	SQ YD	$8.28	$138,234.60	16,695.00	$138,234.60		$138,234.60	100.00%	$0.00
11	2531.503	CONCRETE CURB & GUTTER DESIGN B624	132	LIN FT	$29.40	$3,880.80	128.00	$3,763.20		$3,763.20	97.0%	$117.60
12	2531.604	8" CONCRETE VALLEY GUTTER	33	SQ YD	$94.50	$3,118.50	17.00	$1,606.50		$1,606.50	51.52%	$1,512.00
13	2540.602	MAIL BOX SUPPORT	1	EACH	$120.00	$120.00	3.00	$360.00		$360.00	300.0%	($240.00)
14	2563.601	TRAFFIC CONTROL	1	LUMP SUM	$1,100.00	$1,100.00	1.00	$1,100.00		$1,100.00		$0.00
15	2564.601	TRAFFIC SIGNS AND DEVICES	1	LUMP SUM	$1,700.00	$1,700.00	1.00	$1,700.00		$1,700.00		$0.00
16	2573.501	STABILIZED CONSTRUCTION EXIT	1	LUMP SUM	$3,500.00	$3,500.00	1.00	$3,500.00		$3,500.00		$0.00
17	2573.601	TEMPORARY EROSION CONTROL	1	LUMP SUM	$500.00	$500.00	1.00	$500.00		$500.00		$0.00
18	2575.501	TURF ESTABLISHMENT	1	LUMP SUM	$17,000.00	$17,000.00	1.00	$17,000.00		$17,000.00	100.00%	$0.00
		SUBTOTAL ADDITIVE ALTERNATE:				$454,390.67		$473,573.92	$0.00	$473,573.92	104.2%	($19,183.25)
ADDITIVE ALTERNATE NO. 2: BONGARDS FORCEMAIN												
1	2104.503	REMOVE FORCEMAIN	10	LIN FT	$10.00	$100.00	40.00	$400.00		$400.00	400.0%	($300.00)
2	2104.503	SALVAGE FENCE	25	LIN FT	$10.00	$250.00	80.00	$800.00		$800.00	320.00%	($550.00)
3	2503.602	DUCTILE IRON FITTINGS (FORCEMAIN)	3	EACH	$355.00	$1,065.00	4.00	$1,420.00		$1,420.00	133.3%	($355.00)
4	2503.603	8" PVC FORCEMAIN	1,674	LIN FT	$29.00	$48,546.00	1,659	$48,111.00		$48,111.00	99.10%	$435.00
5	2557.603	INSTALL FENCE	25	LIN FT	$30.00	$750.00	80.00	$2,400.00		$2,400.00	320.00%	($1,650.00)
		SUBTOTAL ADDITIVE ALTERNATE:				$50,711.00		$53,131.00	$0.00	$53,131.00	104.8%	($2,420.00)
EXTRA WORK & OTHER PAYMENTS												
		BNSF Permit Fee				$0.00		$1,433.00		$1,433.00		($1,433.00)
		Scale - Common Excavation	610.00	CU YD	$6.85	$4,178.50	610.00	$4,178.50		$4,178.50		$0.00
		Scale - Aggregate Base	380.00	CU YD	$22.00	$8,360.00	380.00	$8,360.00		$8,360.00		$0.00
		Scale - Bituminous Base Course	1,696.00	SQ YD	$8.91	$15,111.36	1,696.00	$15,111.36		$15,111.36		$0.00
		Scale - Bituminous Wear Course	1,696.00	SQ YD	$8.28	$14,042.88	1,696.00	$14,042.88		$14,042.88		$0.00
		SUBTOTAL EXTRA WORK AND OTHER PAYMENTS:				$41,692.74		$43,125.74	$0.00	$43,125.74		($1,433.00)
CHANGE ORDERS:												
						$0.00		$0.00	$0.00	$0.00		$0.00
						$0.00		$0.00	$0.00	$0.00		$0.00
						$0.00		$0.00	$0.00	$0.00		$0.00
						$0.00		$0.00	$0.00	$0.00		$0.00
						$0.00		$0.00	$0.00	$0.00		$0.00
						$0.00		$0.00	$0.00	$0.00		$0.00
						$0.00		$0.00	$0.00	$0.00		$0.00
						$0.00		$0.00	$0.00	$0.00		$0.00

A					B	C	D	E	F		G
Item		Contract Information									
Bid Item No.	Description	Estimated Quantity	Unit	Unit Bid Price	Bid Total Value of Item ($)	Estimated Quantity Installed	Value of Work Installed to Date	Materials Presently Stored (not in C)	Total Completed and Stored to Date (D + E)	% (F / B)	Balance to Finish (B - F)
	TOTAL CHANGE ORDERS:				$0.00		$0.00	$0.00	$0.00		$0.00
	TOTAL CONTRACT:				$2,791,159.87		$2,936,060.02	$0.00	$2,936,060.02	105.2%	($144,670.15)

APPLICATION FOR PAYMENT NO. 7 - FINAL

Itemized Progress Summary

Apex Project No. 19.183.0103

Application for Payment Date: 6/30/2021

Application for Payment Period: 12/4/2020 through 6/25/2021

Item			Contract Information														
Bid Item No.	Description		Estimated Quantity	Estimated Quantity - 056-594-001 Participating	Estimated Quantity - 056-594-001 Storm Sewer	Estimated Quantity - Non Participating	Unit	Unit Bid Price	Bid Total Value of Item ($)	Estimated Quantity Installed	056-594-001 Participating	056-594-001 Storm Sewer Participating	Non Participating Quantity	Value of Work Installed to Date	Value of Work Installed to Date - 056-594-001 Participating	Value of Work Installed to Date - 056-594-001 Storm Sewer	Value of Work Installed to Date - Non Participating
BASE BID:																	
1	2021.501	MOBILIZATION	1.00	0.19	0.07	0.74	LUMP SUM	$79,000.00	$79,000.00	1.00	0.190	0.070	0.74	$79,000.00	$15,010.00	$5,530.00	$58,460.00
2	2101.524	CLEARING	5			5	TREE	$160.00	$800.00	3			3	$480.00			$480.00
3	2101.524	GRUBBING	5			5	TREE	$160.00	$800.00	3			3	$480.00			$480.00
4	2104.502	REMOVE CATCH BASIN	2			2	EACH	$280.00	$560.00	4	2		2	$1,120.00	$560.00		$560.00
5	2104.502	REMOVE MAIL BOX SUPPORT	7	6		1	EACH	$48.00	$336.00	9	8		1	$432.00	$384.00		$48.00
6	2104.503	REMOVE PIPE CULVERT	323	243		80	LIN FT	$6.00	$1,938.00	470	390		80	$2,820.00	$2,340.00		$480.00
7	2104.503	REMOVE WATER MAIN	147			147	LIN FT	$12.00	$1,764.00	86			86	$1,032.00			$1,032.00
8	2104.503	REMOVE SEWER PIPE (STORM)	60			60	LIN FT	$14.00	$840.00	154			154	$2,156.00			$2,156.00
9	2104.503	REMOVE SEWER PIPE (SANITARY)	148			146	LIN FT	$14.00	$2,072.00	148			148	$2,072.00			$2,072.00
10	2104.503	REMOVE CURB & GUTTER	213	35		178	LIN FT	$2.63	$560.19	213	35		178	$560.19	$92.05		$468.14
11	2104.504	REMOVE CONCRETE WALK	394			394	SQ YD	$6.30	$2,482.20	394			394	$2,482.20			$2,482.20
12	2104.504	REMOVE CONCRETE PAVEMENT	311	79		232	SQ YD	$8.40	$2,612.40	311	79		232	$2,612.40	$663.60		$1,948.80
13	2104.504	REMOVE BITUMINOUS PAVEMENT	10,330	8138		2192	SQ YD	$1.10	$11,363.00	10,330	8,138		2,192	$11,363.00	$8,951.80		$2,411.20
14	2105.504	GEOTEXTILE FABRIC TYPE 4	60			60	SQ YD	$3.00	$180.00	60			60	$180.00			$180.00
15	2105.507	COMMON EXCAVATION	26,677	10343		16334	CU YD	$6.85	$182,737.45	26,677	10,343		16,334	$182,737.45	$70,849.55		$111,887.90
16	2105.507	CHANNEL AND POND EXCAVATION	6,810			6810	CU YD	$5.00	$34,050.00	6,810			6,810	$34,050.00			$34,050.00
17	2118.507	AGGREGATE SURFACING (CV) CLASS 5	264	199		65	CU YD	$29.40	$7,761.60	200	199		1	$5,880.00	$5,850.60		$29.40
18	2123.610	MACHINE TIME (1)	10			10	HOUR	$1,000.00	$10,000.00	8			8	$8,000.00			$8,000.00
19	2211.507	AGGREGATE BASE (CV) CLASS 5 (P)	10,255	3485		6770	CU YD	$22.00	$225,610.00	10,255	3,485		6,770	$225,610.00	$76,670.00		$148,940.00
20	2360.504	TYPE SP 9.5 WEAR CRS MIX(3,C) 1.5" THICK	18,334	18334			SQ YD	$6.41	$117,520.94	18,690	18,244		446	$119,802.90	$116,944.04		$2,858.86
21	2360.504	TYPE SP 9.5 WEAR CRS MIX (3,C) 2.5" THICK	29,640	4683		24957	SQ YD	$8.90	$263,796.00	31,336	4,683		26,653	$278,890.40	$41,678.70		$237,211.70
22	2360.504	TYPE SP 12.5 NON WR CRS MIX (3,C) 2.5" THICK	33,537	13850		19687	SQ YD	$8.28	$277,686.36	35,233	13,850		21,383	$291,729.24	$114,678.00		$177,051.24
23	2402.503	PIPE RAILING	60			60	LIN FT	$220.00	$13,200.00	63			63	$13,860.00			$13,860.00
24	2411.618	MODULAR BLOCK RETAINING WALL	130			130	SQ FT	$70.00	$9,100.00	135			135	$9,450.00			$9,450.00
25	2501.502	15" CS PIPE APRON	2			2	EACH	$350.00	$700.00	2			2	$700.00			$700.00
26	2501.502	18" CS PIPE APRON	1			1	EACH	$380.00	$380.00	1			1	$380.00			$380.00
27	2503.503	12" CP PIPE SEWER	579		220	359	LIN FT	$29.00	$16,791.00	587		220	367	$17,023.00		$6,380.00	$10,643.00
28	2503.503	15" CP PIPE SEWER	1,270		508	762	LIN FT	$30.00	$38,100.00	1,270		508	762	$38,100.00		$15,240.00	$22,860.00
29	2503.503	18" CP PIPE SEWER	795		563	232	LIN FT	$36.00	$28,620.00	798		563	235	$28,728.00		$20,268.00	$8,460.00
30	2503.503	24" CP PIPE SEWER	1,400		1340	60	LIN FT	$51.00	$71,400.00	1,399		1,340	59	$71,349.00		$68,340.00	$3,009.00
31	2503.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	7		1	6	EACH	$1,050.00	$7,350.00	8		1	7	$8,400.00		$1,050.00	$7,350.00
32	2503.602	6" CLEAN-OUT ASSEMBLY	7			7	EACH	$455.00	$3,185.00	9			9	$4,095.00			$4,095.00
33	2503.602	8"X6" PVC WYE	1			1	EACH	$640.00	$640.00	2			2	$1,280.00			$1,280.00
34	2503.602	10"X6" PVC WYE	6			6	EACH	$1,920.00	$11,520.00	7			7	$13,440.00			$13,440.00
35	2503.603	SANITARY SEWER INSPECTION	1,810			1810	LIN FT	$2.00	$3,620.00	1,900			1,900	$3,800.00			$3,800.00
36	2503.603	6" PVC SANITARY SERVICE PIPE	323			323	LIN FT	$19.00	$6,137.00	458			458	$8,702.00			$8,702.00
37	2503.603	8" PVC PIPE SEWER	1,810			1810	LIN FT	$37.00	$66,970.00	2,102			2,102	$77,774.00			$77,774.00
38	2503.603	10" PVC PIPE SEWER	30			30	LIN FT	$44.00	$1,320.00	27			27	$1,188.00			$1,188.00
39	2504.602	ADJUST VALVE BOX	4	4			EACH	$210.00	$840.00	4	4			$840.00	$840.00		
40	2504.602	WATER SERVICE CONNECTION	6			6	EACH	$2,160.00	$12,960.00	7			7	$15,120.00			$15,120.00
41	2504.602	DUCTILE IRON FITTINGS (WATER)	77			77	EACH	$0.01	$0.77	51			51	$0.51			$0.51
42	2504.602	HYDRANT	7			7	EACH	$5,125.00	$35,875.00	8			8	$41,000.00			$41,000.00
43	2504.602	6" GATE VALVE & BOX	18			18	EACH	$1,810.00	$32,580.00	22			22	$39,820.00			$39,820.00
44	2505.602	8" GATE VALVE & BOX	6			6	EACH	$2,280.00	$13,680.00	6			6	$13,680.00			$13,680.00
45	2505.602	12" GATE VALVE & BOX	6			6	EACH	$3,540.00	$21,240.00	6			6	$21,240.00			$21,240.00
46	2504.603	6" PVC WATERMAIN	661			661	LIN FT	$26.00	$17,186.00	742			742	$19,292.00			$19,292.00
47	2504.603	8" PVC WATERMAIN	1,730			1730	LIN FT	$26.00	$44,980.00	1,755			1,755	$45,630.00			$45,630.00
48	2504.603	10" PVC WATERMAIN	18			18	LIN FT	$42.00	$756.00	23			23	$966.00			$966.00
49	2504.603	12" PVC WATERMAIN	859			859	LIN FT	$35.00	$30,065.00	926			926	$32,410.00			$32,410.00
50	2504.604	4" INSULATION (WATER)	32			32	SQ YD	$32.00	$1,024.00	115.26			115.26	$3,688.32			$3,688.32
51	2506.502	CONST DRAINAGE STRUCTURE DESIGN G	22		8	14	EACH	$2,570.00	$56,540.00	22		8	14	$56,540.00		$20,560.00	$35,980.00
52	2506.502	CONSTRUCT DRAINAGE STRUCTURE DES 4007	6			6	EACH	$4,440.00	$26,640.00	6			6	$26,640.00			$26,640.00
53	2506.502	CONST DRAINAGE STRUCTURE DES 48-4020	7		5	2	EACH	$2,830.00	$19,810.00	7		5	2	$19,810.00		$14,150.00	$5,660.00
54	2506.502	CONST DRAINAGE STRUCTURE DES 60-4020	1		1		EACH	$5,430.00	$5,430.00	1		1		$5,430.00		$5,430.00	
55	2506.502	ADJUST FRAME & RING CASTING	20	2		18	EACH	$350.00	$7,000.00	20	2		18	$7,000.00	$700.00		$6,300.00
56	2506.602	MODIFY DRAINAGE STRUCTURE	4			4	EACH	$1,450.00	$5,800.00	5			5	$7,250.00			$7,250.00
57	2511.507	RANDOM RIPRAP CLASS III	12			12	CU YD	$70.00	$840.00	7			7	$490.00			$490.00
58	2521.518	4" CONCRETE WALK	698			698	SQ FT	$7.35	$5,130.30	1,223			1,223	$8,989.05			$8,989.05
59	2521.518	6" CONCRETE WALK	475			475	SQ FT	$10.50	$4,987.50	937			937	$9,838.50			$9,838.50
60	2531.503	CONCRETE CURB & GUTTER DESIGN B618	13,327	5219		8108	LIN FT	$14.20	$189,243.40	13,458	5,219		8,239	$191,103.60	$74,109.80		$116,993.80
61	2531.504	8" CONCRETE DRIVEWAY PAVEMENT	1,531	806		725	SQ YD	$75.60	$115,743.60	1,776	929		847	$134,265.60	$70,232.40		$64,033.20
62	2531.618	TRUNCATED DOMES	90			90	SQ FT	$57.50	$5,175.00	128			128	$7,360.00			$7,360.00
63	2540.602	MAIL BOX SUPPORT	7	6		1	EACH	$120.00	$840.00	8	7		1	$960.00	$840.00		$120.00
64	2540.602	RELOCATE MAIL BOX SUPPORT	1			1	EACH	$85.00	$85.00								
65	2563.601	TRAFFIC CONTROL	1	0.19	0.07	0.74	LUMP SUM	$8,400.00	$8,400.00	1.00	0.190	0.070	0.74	$8,400.00	$1,596.00	$588.00	$6,216.00
66	2564.601	TRAFFIC SIGNS AND DEVICES	1	0.21		0.79	LUMP SUM	$5,250.00	$5,250.00	1.15	0.21		0.94	$6,037.50	$1,102.50		$4,935.00
67	2573.501	STABILIZED CONSTRUCTION EXIT	1	0.6		0.4	LUMP SUM	$4,500.00	$4,500.00	1.00	0.60		0.40	$4,500.00	$2,700.00		$1,800.00
68	2573.501	STORM DRAIN INLET PROTECTION	1	0.1		0.9	LUMP SUM	$3,000.00	$3,000.00	1.00	0.10		0.90	$3,000.00	$300.00		$2,700.00
69	2573.503	SILT FENCE; TYPE MS	355			355	LIN FT	$1.75	$621.25								
70	2573.601	TEMPORARY EROSION CONTROL	1	0.13		0.87	LUMP SUM	$1,500.00	$1,500.00	1.00	0.13		0.87	$1,500.00	$195.00		$1,305.00
71	2574.507	COMMON TOPSOIL BORROW	465			465	CU YD	$30.00	$13,950.00	465			465	$13,950.00			$13,950.00
72	2575.501	TURF ESTABLISHMENT	1	0.13		1	LUMP SUM	$48,000.00	$48,000.00	1.39	0.13		1.26	$66,500.00	$6,240.00		$60,260.00
73	2582.503	4" SOLID LINE PAINT	120			120	LIN FT	$1.50	$180.00	120			120	$180.00			$180.00
74	2582.518	PAVT MSSG PAINT	126			126	SQ FT	$8.25	$1,039.50	126			126	$1,039.50			$1,039.50
		SUBTOTAL BASE BID:							**$2,244,395.46**					**$2,366,229.36**	**$613,528.04**	**$157,536.00**	**$1,595,165.32**

Item			Contract Information														
Bid Item No.		Description	Estimated Quantity	Estimated Quantity - 056-594-001 Participating	Estimated Quantity - 056-594-001 Storm Sewer	Estimated Quantity - Non Participating	Unit	Unit Bid Price	Bid Total Value of Item ($)	Estimated Quantity Installed	056-594-001 Participating	056-594-001 Storm Sewer Participating	Non Participating Quantity	Value of Work Installed to Date	Value of Work Installed to Date - 056-594-001 Participating	Value of Work Installed to Date - 056-594-001 Storm Sewer	Value of Work Installed to Date - Non Participating
ADDITIVE ALTERNATE NO. 1: RURAL ROAD IMPROVEMENTS																	
1	2104.502	REMOVE MAIL BOX SUPPORT	1				EACH	$50.00	$50.00	1.00			1.00	$50.00			$50.00
2	2104.503	REMOVE CURB & GUTTER	88				LIN FT	$2.63	$231.44	88.00			88.00	$231.44			$231.44
3	2104.504	REMOVE CONCRETE PAVEMENT	10				SQ YD	$9.45	$94.50	17.00			17.00	$160.65			$160.65
4	2104.504	REMOVE BITUMINOUS PAVEMENT	711				SQ YD	$1.26	$895.86	711.00			711.00	$895.86			$895.86
5	2105.507	COMMON EXCAVATION	5,715				CU YD	$6.85	$39,147.75	5,717.00			5,717.00	$39,161.45			$39,161.45
6	2118.507	AGGREGATE SURFACING (CV) CLASS 5	39				CU YD	$26.25	$1,023.75	39.00			39.00	$1,023.75			$1,023.75
7	2211.507	AGGREGATE BASE (CV) CLASS 5 (P)	4,026				CU YD	$22.00	$88,572.00	4,026.00			4,026.00	$88,572.00			$88,572.00
8	2221.507	SHOULDER BASE AGGREGATE (CV) CLASS 5	185				CU YD	$31.50	$5,827.50	185.00			185.00	$5,827.50			$5,827.50
9	2360.504	TYPE SP 9.5 WEAR CRS MIX (3,C) 2.5" THICK	16,767				SQ YD	$8.91	$149,393.97	19,067.00			19,067.00	$169,886.97			$169,886.97
10	2360.504	TYPE SP 12.5 NON WR CRS MIX (3,C) 2.5" THICK	16,695				SQ YD	$8.28	$138,234.60	16,695.00			16,695.00	$138,234.60			$138,234.60
11	2531.503	CONCRETE CURB & GUTTER DESIGN B624	132				LIN FT	$29.40	$3,880.80	128.00			128.00	$3,763.20			$3,763.20
12	2531.604	8" CONCRETE VALLEY GUTTER	33				SQ YD	$94.50	$3,118.50	17.00			17.00	$1,606.50			$1,606.50
13	2540.602	MAIL BOX SUPPORT	1				EACH	$120.00	$120.00	3.00			3.00	$360.00			$360.00
14	2563.601	TRAFFIC CONTROL	1				LUMP SUM	$1,100.00	$1,100.00	1.00			1.00	$1,100.00			$1,100.00
15	2564.601	TRAFFIC SIGNS AND DEVICES	1				LUMP SUM	$1,700.00	$1,700.00	1.00			1.00	$1,700.00			$1,700.00
16	2573.501	STABILIZED CONSTRUCTION EXIT	1				LUMP SUM	$3,500.00	$3,500.00	1.00			1.00	$3,500.00			$3,500.00
17	2573.601	TEMPORARY EROSION CONTROL	1				LUMP SUM	$500.00	$500.00	1.00			1.00	$500.00			$500.00
18	2575.501	TURF ESTABLISHMENT	1				LUMP SUM	$17,000.00	$17,000.00	1.00			1.00	$17,000.00			$17,000.00
		SUBTOTAL ADDITIVE ALTERNATE:							**$454,390.67**					**$473,573.92**			**$473,573.92**
ADDITIVE ALTERNATE NO. 2: BONGARDS FORCEMAIN																	
1	2104.503	REMOVE FORCEMAIN	10				LIN FT	$10.00	$100.00	40.00			40.00	$400.00			$400.00
2	2104.503	SALVAGE FENCE	25				LIN FT	$10.00	$250.00	80.00			80.00	$800.00			$800.00
3	2503.602	DUCTILE IRON FITTINGS (FORCEMAIN)	3				EACH	$355.00	$1,065.00	4.00			4.00	$1,420.00			$1,420.00
4	2503.603	8" PVC FORCEMAIN	1,674				LIN FT	$29.00	$48,546.00	1,659.00			1,659.00	$48,111.00			$48,111.00
5	2557.603	INSTALL FENCE	25				LIN FT	$30.00	$750.00	80.00			80.00	$2,400.00			$2,400.00
		SUBTOTAL ADDITIVE ALTERNATE:							**$50,711.00**					**$53,131.00**			**$53,131.00**
EXTRA WORK & OTHER PAYMENTS																	
		BNSF Permit Fee												$1,433.00			$1,433.00
		Scale Paving												$41,692.74			$41,692.74
		SUBTOTAL EXTRA WORK AND OTHER PAYMENTS:												**$43,125.74**			**$43,125.74**
CHANGE ORDERS:																	
		TOTAL CHANGE ORDERS:															
		TOTAL CONTRACT:							**$2,698,786.13**					**$2,936,060.02**	**$613,528.04**	**$157,536.00**	**$2,164,995.98**
		Less Retainage (0%)															
		Less Partial Payment No. 1												**$357,083.54**	**$51,596.85**	**$154,477.00**	**$151,009.69**
		Less Partial Payment No. 2												**$530,516.41**	**$193,307.45**	**-$7,723.85**	**$344,932.81**
		Less Partial Payment No. 3												**$708,046.21**	**$206,818.96**	**$1,453.02**	**$499,774.23**
		Less Partial Payment No. 4												**$607,789.13**	**$121,630.18**	**$1,453.03**	**$484,705.92**
		Less Partial Payment No. 5												**$26,174.88**	**$434.63**		**$25,740.25**
		Less Partial Payment No. 6												**$13,167.00**			**$13,167.00**
		Total Shares Pay Application No. 7												**$693,282.85**	**$39,739.97**	**$7,876.80**	**$645,666.08**

Tuesday, September 14, 2021
Agenda Items

Non - Consent Items

1.

Request to Repurchase Tax Forfeited Property
Otter Tail County Resolution No. 2021 -

Commissioner introduced the following resolution and moved its adoption:

RESOLVED, by the Otter Tail County Board of Commissioners of Otter Tail County, Minnesota, that

WHEREAS, James A Bergerud, Jr. and Wanda J. Bergerud, previous owners, have made application to repurchase the following legally described parcel:

City of Fergus Falls

Legal Description From Tax Rolls -

71-001-50-0053-000
Section 3 Township 132 Range 43
Part of the Southeast Quarter of the Southeast Quarter (SE1/4 SE1/4) Formerly Block Seven (7) Hallberg's Second (2nd) Addition, Except Highway Right-of-Way and Except Tract

Property Address –
1510 Mabelle Ave, Fergus Falls, MN

Legal Description From Recorded Document No. 1174939 -

THAT PART OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 3, TOWNSHIP 132 NORTH, RANGE 43 WEST OF THE FIFTH PRINCIPAL MERIDIAN, OTTER TAIL COUNTY, MINNESOTA DESCRIBED AS FOLLOWS:

CO:MMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 3; THENCE ON AN ASSUMED BEARING OF NORTH 00 DEGREES 00 MINUTES 00 SECONDS EAST ALONG TIIE EAST LINE OF SAID SECTION 3 A DISTANCE OF 337.77 FEET TO A FOUND IRON MONUMENT ON THE NORTHERLY RIGHT OF WAY LINE OF MINNESOTA TRUNK HIGHWAY NUMBER 210; THENCE SOUTH 52 DEGREES 55 MINUTES 25 SECONDS WEST ALONG SAID MINNESOTA TRUNK HIGHWAY NUMBER 210 RIGHT OF WAY LINE 47.13 FEET TO THE EAST LINE OF FORMER BLOCK SEVEN, NOW VACATED, OF HALLBERG'S 2ND ADDITION TO THE CITY OF FERGUS FALLS, MINNESOTA AND THE POINT OF BEGINNING; THENCE CONTINUING SOUTH 52 DEGREES 55 MINUTES 25 SECONDS WEST ALONG SAID MINNESOTA TRUNK HIGHWAY NUMBER 210 RIGHT OF WAY LINE 119.94 FEET TO

A FOUND IRON MONUMENT; THENCE SOUTH 43 DEGREES 51 MINUTES 33 SECONDS WEST ALONG SAID MINNESOTA TRUNK HIGHWAY NUMBER 210 RIGHT OF WAY LINE 249.04 FEET TO THE SOUTH LINE OF SAID VACATED BLOCK 7; THENCE NORTH 89 DEGREES 57 MINUTES 00 SECONDS WEST ALONG THE SOUTH LINE OF SAID VACATED BLOCK 7 A DISTANCE OF 248.07 FEET TO A FOUND IRON MONUMENT AT THE SOUTHWEST CORNER OF SAID VACATED BLOCK 7; THENCE NORTH 00 DEGREES 02 MINUTES 25 SECONDS WEST ALONG THE WEST LINE OF SAID VACATED BLOCK 7 A DISTANCE OF 299.84 FEET TO A FOUND IRON MONUMENT AT THE NORTHWEST CORNER OF SAID VACATED BLOCK 7; THENCE SOUTH 89 DEGREES 58 MINUTES 06 SECONDS EAST ALONG THE NORTH LINE OF SAID VACATED BLOCK 7 A DISTANCE OF 516.52 FEET TO THE NORTHEAST CORNER OF SAID VACATED BLOCK 7; THENCE SOUTH 00 DEGREES 00 MINUTES 00 SECONDS WEST ALONG THE EAST LINE OF SAID VACATED BLOCK 7 A DISTANCE OF 47.89 FEET TO THE POINT OF BEGINNING AND CONTAINING 2.73 ACRES, MORE OR LESS.

LESS AND EXCEPT THE FOLLOWING:

THAT PART OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 3, TOWNSHIP 132 NORTH, RANGE 43 WEST OF THE FIFTH PRINCIPAL MERIDIAN, OTTER TAIL COUNTY, MINNESOTA DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 3; THENCE ON AN ASSUMED BEARING OR NORTH 00 DEGREES 00 MINUTES 00 SECONDS EAST ALONG THE EAST LINE OF SAID SECTION 3 A DISTANCE OF 337.77 FEET TO A FOUND IRON MONUMENT ON THE NORTHERLY RIGHT OF WAY LINE OF MINNESOTA TRUNK HIGHWAY NUMBER 210; THENCE SOUTH 52 DEGREES 55 MINUTES 25 SECONDS, WEST ALONG SAID MINNESOTA TRUNK HIGHWAY NUMBER 210 RIGHT OF WAY LINE 47.13 FEET TO THE EAST LINE OF FORMER BLOCK SEVEN, NOW VACATED, OF HALLBERG'S 2ND ADDITION, TO THE CITY OF FERGUS FALLS, MINNESOTA; THENCE CONTINUING SOUTH 52 DEGREES 55 MINUTES 25 SECONDS WEST ALONG SAID MINNESOTA TRUNK HIGHWAY NUMBER 210 RIGHT OF WAY LINE 119.94 FEET TO A FOUND IRON MONUMENT; THENCE SOUTH 43 DEGREES 51 MINUTES, 33 SECONDS WEST ALONG SAID MINNESOTA TRUNK HIGHWAY NUMBER 210 RIGHT OF WAY LINE 249.04 FEET TO THE SOUTH LINE OF SAID VACATED BLOCK 7; THENCE NORTH 89 DEGREES 57 MINUTES 00 SECONDS WEST ALONG SAID SOUTH LINE OF SAID VACATED BLOCK 7 A DISTANCE OF 12.53 FEET TO THE POINT OF BEGINNING OF THE PROPERTY TO BE DESCRIBED; TIHENCE CONTINUING NORTH 89 DEGREES 57 MINUTES 00 SECONDS WEST ALONG SAID SOUTH LINE OF SAID VACATED BLOCK 7 FOR A DISTANCE OF 235.54 FEET TO A FOUND IRON MONUMENT AT THE SOUTHWEST CORNER OF SAID VACATED BLOCK 7; THENCE NORTH 00 DEGREES 02 MINUTES 25 SECONDS WEST ALONG THE WEST LINE OF SAID VACATED BLOCK 7 A DISTANCE OF 299.84 FEET TO A FOUND IRON MONUMENT AT THE NORTHWEST CORNER OF SAID VACATED BLOCK 7; THENCE SOUTH 89 DEGREES 58 MINUTES 06 SECONDS EAST ALONG THE NORTH LINE OF SAID VACATED BLOCK 7 A DISTANCE OF 235.92

FEET; THENCE SOUTH 00 DEGREES 02 MINUTES 25 SECONDS EAST FOR A DISTANCE OF 299.92 FEET TO THE POINT OF BEGINNING AND THERE TERMINATE.

Said property having forfeited to the State of Minnesota on the 3rd day of August 2021, for nonpayment of the 2016, 2017, 2018, part of 2019, part of the 2020 and 2021 property taxes, and

WHEREAS, an application to repurchase the above-described property was submitted on Monday, August 30, 2021, and

WHEREAS, the sum of $4,645.46 represents the aggregate of all delinquent and current taxes, penalties, costs, assessments, and fees as of August 31, 2021, that would have been due and payable had the above-described parcel not forfeited to the State of Minnesota,

WHEREAS, the applicant has submitted $4,645.46 to cover all delinquent and current taxes, penalties, costs, assessments, and fees as of August 31, 2021, as well as the fees required to repurchase the property in the amount of $133.29. and

WHEREAS, the applicant has requested that the Otter Tail County Board of Commissioners consider his application to repurchase the above-described parcel and has requested that the Otter Tail County Board of Commissioners approve the applicant's request to repurchase the above-described property.

NOW, THEREFORE, BE IT RESOLVED, that the Otter Tail County Board of Commissioners hereby approves the repurchase of the above-described tax forfeited property, and

BE IT FURTHER RESOLVED, that the Otter Tail County Board of Commissioners hereby finds that the repurchase is in the best public interest, and that it will relieve any undue hardship which has result from the forfeiture.

Commissioner seconded the motion, and upon being put to vote, was unanimously carried.

Adopted this 14th day of September 2021.

Dated:_____ OTTER TAIL COUNTY BOARD OF COMMISSIONERS

By:_____

Lee Rogness, County Board Chair

Attest:_____

Nicole Hansen, Clerk

2. Motion by seconded by and unanimously carried to amend the June 22, 2021, motion titled "Bond Financed Capital Improvement Project Approvals", by replacing the following two items contained within the above noted motion:

Project	Contractor	Service	Amount
Ottertail Operation Center Boiler Replacement	BDT Mechanical, LLC	Furnish and Install Replacement Boiler	57,838.00
Ottertail Operation Center Boiler Replacement	Summerville Electric, Inc.	Wiring for Boiler and Circulation Pumps	6,420.00

with the following:

Ottertail Operation Center Boiler Replacement	Esser Plumbing & Heating	Furnish and Install Replacement Boiler	39,678.00
Ottertail Operation Center Boiler Replacement	Otter Electric, LLC.	Wiring for Boiler and Circulation Pumps	6,100.00

Note – These changes were recommended by Terry Hoff, Facilities Director

OTTER TAIL COUNTY PLANNING COMMISSION

Otter Tail County Government Services Center, 540 West Fir, Fergus Falls, MN 56537 218-998-8095

September 8, 2021

Meeting of the Otter Tail County Planning Commission was held on September 8, 2021 at 6:30 P.M. at the Bigwood Event Center, Fergus Falls Minnesota; the hearing was held in person and via Microsoft Teams due to the health pandemic and declared emergency in accordance with Minn. Stat. Sec. 13D.021.

Roll Call:
Members Present: Rod Boyer, Judd Fischer, Brent E. Frazier, Richard Gabe, Bruce Stone, David Trites, David Wass and Rick Wilson.

Members Absent: None.

Michelle Eldien represented the County Attorney's Office and Chris LeClair represented the Land & Resource Management Office.

Minutes of August 11, 2021: A motion by Frazier, second by Trites to approve the August 11, 2021 Minutes as presented. Voting: All members in favor.

Pleasant Lake RV Village / Tom & Brenda Masloski – Approved As Presented:
A Conditional Use Permit Application (*as stated by the Applicant on the Application)***:** Add 22 new sites to Pleasant Lake RV Village on Pleasant Lake and a permanent home. Currently have 27 full hook-up sites, one cabin and a fish cleaning/well building. Add appropriate septic to support new sites, a well for new sites, a home and metered electric to all new sites. Remove one existing site and eliminate an old shower/bath house (turn it into storage). Current septic system is compliant so we would add additional systems to support house and new sites. Would also convert 3 existing sites to new septic system so we can add three sites to old system. Add additional boat slips to existing docks and add a couple of more docks. (20). The proposal is located at 27101 Hagen Point Ln, Section 6 of Sverdrup Township; Pleasant Lake (56-449), RD.

Planning Commission Motion – August 11, 2021: A motion by Wilson, second by Fischer to approve as presented, the proposal meets and exceeds the requirements of the Shoreland Management Ordinance for density in units, docks & boat slips.

County Board Motion – August 24, 2021: A motion by Mortenson, second by Bucholz to circulate the application back to Planning Commission for further review and consideration, specifically but not limited to the compatibility with the surrounding area; both land and water. The application will be reconsidered at the September 8th Planning Commission meeting and will not be open for public comment.

Tom & Brenda Masloski represented the Application.

Chairman Wilson indicated that the County Board returned this Conditional Use Permit Application to the Planning Commission for reconsideration to further the record, specific to the factors under Section 3. Subp.7.D. and Subp.9.I.1. of the Shoreland Management Ordinance.

Motion: A motion by Gabe, second by Frazier to reaffirm the August 11, 2021 motion to approve as presented, the proposal meets and exceeds the requirements of the Shoreland Management Ordinance for density in units, docks & boat slips. As indicated by the Applicant, the maximum number of boat slips approved would be 42. Members discussed their motion and factors used for consideration in recommending approval of this Application. Voting By Roll Call: All Members in favor, except Trites and Wass (the additional boat slips are likely to generate additional traffic that is incompatible with the unique environmental attributes of Pleasant Lake).

Park Region Agency Inc. / James Swenson – Approved With Conditions:
A Conditional Use Permit Application (*as stated by the Applicant on the Application)***:** Excavate old ridge approx. 80' x 30' which will be placed in the old borrow area and then top-dress old borrow area with salvage topsoil from the construction of the cul-de-sac on Swenson Dr. in 2016 (approved under CUP #6809). The borrow area to be filled/leveled is approx. 80' x 120'. Total cubic yards of earthmoving is approx. 1,333 (cut = 444 & fill = 889). The existing grass drainage-way will not be touched, and the vegetation will remain. Proper erosion control measures will be used to stabilize the area during and after completion of the project. The proposal is located north of 20291 Swenson Dr, Section 7 of Nidaros Township; Clitherall Lake (56-238), RD.

John Christensen represented the Application.

All correspondence has been forwarded to the Planning Commission and Applicant for review.

Wally Senyk spoke in favor of the project, requesting that drainage (before & after), erosion, depths (cut & fill) and time frame of the work, are adequately addressed. Rick Volinski spoke in favor of the proposal, expressing appreciation of the property's natural state.

Motion: A motion by Trites, second by Wass to approve provided: 1. It is done in a manner that manages the confluences of 3 drainage areas maintaining a negative flow away from Clitherall Lake. 2. An MPCA Stormwater Management Permit is obtained. 3. The work will not start until April 15, 2022. Voting By Roll Call: All Members in favor.

"Borsheim Holdings" / Kim & Ann Borsheim – Approved With A Condition:
A Preliminary Plat of "Borsheim Holdings", consisting of 4 Single Family Residential Non-Riparian Lots, 1 Block. The proposal is located north of 48422 Petal Drive, Section 21 of Hobart Township; Rose Lake (56-360), RD.

Jack Rosenthal (surveyor) represented the Application.

All correspondence has been forwarded to the Planning Commission and Applicant for review.

Steve Knuttila had questions on the size of the lots, use and access.

Motion: A motion by Wass, second by Frazier to approve as presented provided the sewage treatment areas are protected with orange snow fence. Voting By Roll Call: All Members in favor.

"Little Mac Bay" / Curtis & Nicole Seifert, Eretz Shalom LLC – Approved With A Condition: A Preliminary Plat titled "Little Mac Bay", consisting of 4 Single Family Residential Non-Riparian Lots and 4 Riparian Lots Permanently Attached to 4 Non-Riparian Lots, 2 Blocks. The proposal is located north of 44243 W. Little McDonald Lake Drive, Section 9 of Edna Township; Little McDonald Lake (56-328), GD.

Jack Rosenthal (surveyor) represented the Application.

All correspondence has been forwarded to the Planning Commission and Applicant for review.

Cathy Tandon had a question regarding ownership and use of the proposed lots. Steve Blom had a question on an existing driveway. Trisha Hamman expressed concerns on the bay.

Motion: A motion by Stone, second by Fischer to approve as presented provided the septic areas are protected with orange snow fence. Voting By Roll Call: All Members in favor.

Break: At 7:44 P.M. the Commission took an 8-minute break.

Eretz Shalom LLC – Acceptance of Withdrawal:
A Conditional Use Permit Application (*as stated by the Applicant on the Application)***:** Non-dwelling PUD storage farm, with 25 buildings. Site drainage and grading plan have been professionally designed by Jade Berube with Apex Engineers. The site has a natural drainage pattern flowing from south to north, reshaping the knobs and maintaining the natural pattern. Earth material is contained on site and only gravel for private roadways will need to be hauled in. Units 1 through 18 are 36' x 56', 21' to peak (Units 1 through 18 are more than 400' from OHW, see page 29, Section 6, Subp. 5 – Confirmed by Chris LeClair). Units 19-25 are within 400' OHW setback, size 32' x 36' with a height of 20' to peak (20' height is allowed within 400' of OHW see page 29) Spoke to Julie Aadland with MNDNR, pond to the north is not a lake. The proposal is located north of 44243 W. Little McDonald Lake Dr, Section 9 of Edna Township; Little McDonald Lake (56-328), GD.

Jack Rosenthal (surveyor) & Jade Berube (Apex Engineering) represented the Application. A revised plan was submitted and explained to the Planning Commission.

All correspondence has been forwarded to the Planning Commission and Applicant for review.

Priya Tandon expressed concerns on safety, traffic, challenges of the existing road, financial burden and lack of access to the revised plans submitted tonight. Ken Farnham agrees with comments of Priya Tandon, he expressed concerns on the regulations of the lake's drainage pump and this use is proposed in a residential area. Larry Cornius stated this proposed use is located in a residential area. Angela Willenbring (LMKP LID) expressed concerns on the buildable area, the proposing of wells and no septic, density, existing road; submitted a petition to the Commission. Jean Hovertsen expressed concerns on the road and traffic. Roger Neitzke was glad to see the wash bay was removed, expressed concerns on run-off into the pond, drainage into Little McDonald Lake and drainage. Trissa Hamman expressed concerns on density, the location, safety, and traffic. Liz Blom expressed concern on drainage, proposed in a residential area and property values. Steve Blom expressed concerns on maintenance of the road. Steve Nelson not opposed with proper usage, expressed concerns on commercial use, drainage into Little McDonald Lake, requested a moratorium on storage units with drainage into

Little McDonald Lake. Cathy Tandan expressed concerns on the timeframe of notification, the road, traffic, density, size of the units, use of the units, not consistent with the residential neighborhood and the possibility of change in bylaws.

Motion Failed / Lack of a Second: A motion by Wass to deny: 1. The proposal is not suitable in this location. 2. The proposal is too close to the lake. 3. Safety and traffic issues exist.

Applicant requested to withdraw the Application.

Motion: A motion by Trites, second by Frazier to accept the request by the Applicant to withdraw the Application. Voting By Roll Call: All Members in favor.

Executive Resort / Carol Braaten – Approved As Presented:
A Conditional Use Permit Application (*as stated by the Applicant on the Application)***:** Executive Resort would like to convert the ownership structure to a residential PUD. Owners first applied for a variance (see enclosed) for structure setbacks and structure upgrades. The conversion will include many improvements such as reduction in impervious, orderly parking an impervious surface, and moving existing trailer house from the north line, and placing a unit in line with other units. Over the next years the cabins are intended to be taken down and replacing with new cabins. The proposal is located at 45560 Executive Drive, Section 4 of Lida Township; Franklin Lake (56-759), RD.

Steve Buzick and Jack Rosenthal (surveyor) represented the Application.

All correspondence has been forwarded to the Planning Commission and Applicant for review.

Motion: A motion by Boyer, second by Trites to approve as presented. Voting By Roll Call: All Members in favor.

Beaton Family Trust / Don Beaton Et Al – Approved Revised Design With A Condition:
A Conditional Use Permit Application (*as stated by the Applicant on the Application)***:** This is a re-visit application from the May meeting. Township has been contacted and support the Beaton Family (developers) request to build the formerly approved road (approved with conditions in May 2021) in conjunction with a road running north-south through the wetland (see proposed grading profile and cross section same as former approved road plan). The proposal is located at 26140 460th St, Sections 2 & 3 of Lida Township; Crystal Lake (56-749), RD.

Jack Rosenthal (surveyor) and Jade Berube represented the Application.

All correspondence has been forwarded to the Planning Commission and Applicant for review.

Mike McNabb (Lida Township) indicated that Lida Township has no objection to development, expressed concerns on the road that leads to this development from the east (Crystal Beach Road); he stated Crystal Beach Road does not meet Lida Township standards. Gary Hovland (Lida Township) indicated Crystal Beach Road does not meet Township standards. Mark Issacson had questions on the request and would like an alternative exit from Crystal Beach Road. Scot Manthe (developer of plat serviced by Crystal Beach Road) expressed concerns on an unrecorded road ordinance for Lida Township, stating that the Township signed-off on the Final Plat that includes Crystal Beach Road.

Break: The Commission took a 7-minute break at 9:54 P.M.

Motion: A motion by Trites, second by Boyer to approve the revised design dated September 2, 2021, subject to approval from the appropriate government agencies (i.e., Wetland Conversation Act) involved. Voting By Roll Call: All Members in favor.

Adjourn: At 10:10 P.M., Chairman Wilson adjourned the Meeting. The next Meeting is scheduled for 6:30 P.M. on October 13, 2021.

Respectfully submitted,

Marsha Bowman
Recording Secretary

MINNESOTA POLLUTION CONTROL AGENCY

SCORE GRANT AGREEMENT FY22-26

State of Minnesota
Doc Type: Contract/Grant Reference

SWIFT Contract Number: 192199
AI: 121914
Activity ID: PRO20210002

A. COVERSHEET WITH SIGNATURES

1. County ("Grantee")	
Name	Otter Tail County
2. County ("Grantee") Authorized Representative (SCORE Contact)	
Name	Chris McConn or successor
Address	1115 North Tower Road
City, State, Zip code	Fergus Falls, MN 56537
Phone Number	218-998-4898
Email	cmcconn@co.ottertail.mn.us

3. MPCA ("State") Authorized Representative	
Name	Cathy Latham or successor
Address	520 Lafayette Road North
City, State, ZIP	St. Paul, MN 55155
Phone	651-757-2466
Email	cathy.latham@state.mn.us

4. County ("Grantee") Signature

SIGNATURE OF OFFICIAL WITH AUTHORITY TO SIGN:

Chris McConn
NAME_____

SIGNED_____ DATE:_____

I certify I have read the Grant agreement and will comply with all provisions including additional state, local, federal regulations and policies governing the funding that apply to my organization.

B. GRANT AGREEMENT

1. Term of Grant Agreement

A. Effective date:

July 1, 2021, or the date the State obtains all required signatures, whichever is later.

B. Expiration date:

June 30, 2026, or until all obligations have been satisfactorily fulfilled, whichever occurs first.

C. Survival of Terms.

The following clauses survive the expiration or cancellation of this Grant agreement: Liability; State Audits; Government Data Practices and Intellectual Property; Publicity and Endorsement; Governing Law, Jurisdiction, and Venue; and Data Disclosure.

2. Grantee's Duties

The Grantee will carry out all duties under this agreement in accordance with Minn. Stat. § 115A.557.

3. Time

The Grantee must comply with all the time requirements described in this grant agreement. In the performance of this grant agreement, time is of the essence.

4. Conditions of Payment

All services provided by the Grantee under this grant agreement must be performed in accordance with Minn. Stat. § 115A.557 to the State's satisfaction, as determined by the State's Authorized Representative and in accordance with all applicable federal, state, and local laws, ordinances, rules, and regulations. The Grantee will not receive payment for work found by the State to be unsatisfactory or performed in violation of federal, state, or local law.

5. Terms of Payment

Payment amounts will be distributed according to Minn. Stat. § 115A.557, Subd.1.

6. Assignment Amendments, Waiver, and Grant agreement Complete

A. Assignment

The Grantee shall neither assign nor transfer any rights or obligations under this grant agreement without the prior written consent of the State, approved by the same parties who executed and approved this grant agreement, or their successors in office.

B. Amendments

Any amendments to this grant agreement must be in writing and will not be effective until it has been executed and approved by the same parties who executed and approved the original grant agreement, or their successors in office.

C. Waiver

If the State fails to enforce any provision of this grant agreement, that failure does not waive the provision or the State's right to enforce it.

D. Grant Agreement Complete

This grant agreement contains all negotiations and agreements between the State and the Grantee. No other understanding regarding this grant agreement, whether written or oral, may be used to bind either party.

7. Liability

Each party will be responsible for its own acts and behavior and the results thereof.

8. State Audits

Under Minn. Stat. § 16B.98, Subd.8, the Grantee's books, records, documents, and accounting procedures and practices of the Grantee or other party relevant to this grant agreement or transaction are subject to examination by the State and/or the State Auditor or Legislative Auditor, as appropriate, for a minimum of six years from the end of this grant agreement, receipt and approval of all final reports, or the required period of time to satisfy all state and program retention requirements, whichever is later.

9. Government Data Practices and Intellectual Property Rights

A. Government Data Practices

The Grantee and State must comply with the Minnesota Government Data Practices Act, Minn. Stat. Ch. 13, as it applies to all data provided by the State under this grant agreement, and as it applies to all data created, collected, received, stored, used, maintained, or disseminated by the Grantee under this grant agreement. The civil remedies of Minn. Stat. §13.08 apply to the release of the data referred to in this clause by either the Grantee or the State. If the Grantee receives a request to release the data referred to in this Clause, the Grantee must immediately notify the State. The State will give the Grantee instructions concerning the release of the data to the requesting party before the data is released. The Grantee's response to the request shall comply with applicable law.

B. Intellectual Property Rights

(a) Intellectual property rights. All rights, title, and interest in all of the intellectual property rights, including copyrights, patents, trade secrets, trademarks, and service marks in the Works and Documents created and paid for under this Grant shall be jointly owned by the Grantee and the State. Works means all inventions, improvements, discoveries (whether or not patentable), databases, computer programs, reports, notes, studies, photographs, negatives, designs, drawings, specifications, materials, tapes, and disks conceived, reduced to practice, created or originated by the Grantee, its employees, agents, and Contractors, either individually or jointly with others in the performance of this grant agreement. Works include "Documents." Documents are the originals of any databases, computer programs, reports, notes, studies, photographs, negatives, designs, drawings, specifications, materials, tapes, disks, or other materials, whether in tangible or electronic forms, prepared by the Grantee, its employees, agents, or subcontractors, in the performance of this grant agreement. The ownership interests of the State and the Grantee in the Works and Documents shall equal the ratio of each party's contributions to the total costs described in the budget of this grant agreement, except that the State's ownership interests in the Works and Documents shall not be less than fifty percent (50%). The party's ownership interest in the Works and Documents shall not be reduced by any royalties or revenues received from the sale of the products or the licensing or other activities arising from the use of the Works and Documents. Each party hereto shall, at the request of the other, execute all papers and perform all other acts necessary to transfer or record the appropriate ownership interests in the Works and Documents.

***(b) Obligations*.**

(1) **Notification**. Whenever any invention, improvement, or discovery (whether or not patentable) is made or conceived for the first time or actually or constructively reduced

to practice by the Grantee, including its employees and subcontractors, in the performance of this grant agreement, the Grantee shall immediately give the State's Authorized Representative written notice thereof, and must promptly furnish the Authorized Representative with complete information and/or disclosure therein.

(2) **Representation**. The Grantee must perform all acts, and take all steps necessary to ensure that all intellectual property rights in the Works and Documents are the joint property of the State and Grantee, and that neither Grantee nor its employees, agents, or subcontractors retain any interest in and to the Works and Documents. The Grantee represents and warrants that the Works and Documents do not and will not infringe upon any intellectual property rights of other persons or entities. Notwithstanding Clause Liability, the Grantee shall indemnify, defend, to the extent permitted by the Attorney General, and hold harmless the State, at the Grantee's expense, from any action or claim brought against the State to the extent that it is based on a claim that all or part of the Works or Documents infringe upon the intellectual property rights of others. The Grantee will be responsible for payment of any and all such claims, demands, obligations, liabilities, costs, and damages, including, but not limited to, attorney fees. If such a claim or action arises or in Grantee's or the State's opinion is likely to arise, the Grantee must, at the State's discretion, either procure for the State the right or license to use the intellectual property rights at issue or replace or modify the allegedly infringing Works or Documents as necessary and appropriate to obviate the infringement claim. This remedy of the State will be in addition to and not exclusive of other remedies provided by law.

(3) **License.** The State hereby grants a limited, no-fee, noncommercial license to the Grantee to enable the Grantee's employees engaged in research and scholarly pursuits to make, have made, reproduce, modify, distribute, perform, and otherwise use the Works, including Documents, for research activities or to publish in scholarly or professional journals, provided that any existing or future intellectual property rights in the Works or Documents (including patents, licenses, trade or service marks, trade secrets, or copyrights) are not prejudiced or infringed upon, that the Minnesota Data Practices Act is complied with, and that individual rights to privacy are not violated. The Grantee shall indemnify and hold harmless the State for any claim or action based on the Grantee's use of the Works or Documents under the provisions of Clause 10.2(b)(2). Said license is subject to the State's publicity and acknowledgement requirements set forth in this grant agreement. The Grantee may reproduce and retain a copy of the Documents for research and academic use. The Grantee is responsible for security of the Grantee's copy of the Documents. A copy of any articles, materials or documents produced by the Grantee's employees, in any form, using or derived from the subject matter of this license, shall be promptly delivered without cost to the State.

10. Workers Compensation

The Grantee certifies that it is in compliance with Minn. Stat. §176.181, Subd. 2, pertaining to workers' compensation insurance coverage. The Grantee's employees and agents will not be considered State employees. Any claims that may arise under the Minnesota Workers' Compensation Act on behalf of these employees and any claims made by any third party as a consequence of any act or omission on the part of these employees are in no way the State's obligation or responsibility.

11. Publicity and Endorsement

A. Publicity

Any publicity regarding the subject matter of this grant agreement must identify the State as the sponsoring agency and must use the MPCA logo and language provided by the State's Authorized Representative. For purposes of this provision, publicity includes notices, informational pamphlets, press releases, research, reports, signs, and similar public notices prepared by or for the Grantee individually or jointly with others, or any subcontractors, with respect to the program, publications, or services provided resulting from this grant agreement. All projects primarily funded by state grant appropriations must publicly credit the State of Minnesota, including on the grantee's website when practicable.

B. Endorsement

The Grantee must not claim that the State endorses its products or services.

12. Governing Law, Jurisdiction, and Venue

Minnesota law, without regard to its choice-of-law provisions, governs this grant agreement. Venue for all legal proceedings out of this Grant agreement, or its breach, must be in the appropriate state or federal court with competent jurisdiction in Ramsey County, Minnesota.

13. Termination

A. Termination by the State

The State may immediately terminate this grant agreement with or without cause, upon 30 days' written notice to the Grantee. Upon termination, the Grantee will be entitled to payment, determined on a pro rata basis, for services satisfactorily performed.

B. Termination for Cause

The State may immediately terminate this grant agreement if the State finds that there has been a failure to comply with the provisions of this grant agreement, that reasonable progress has not been made or that the purposes for which the funds were granted have not been or will not be fulfilled. The State may take action to protect the interests of the State of Minnesota, including the refusal to disburse additional funds and requiring the return of all or part of the funds already disbursed.

C. Termination for Insufficient Funding

The State may immediately terminate this grant agreement if:

(a) It does not obtain funding from the Minnesota Legislature

(b) Or, if funding cannot be continued at a level sufficient to allow for the payment of the services covered here. Termination must be by written or fax notice to the Grantee. The State is not obligated to pay for any services that are provided after notice and effective date of termination. However, the Grantee will be entitled to payment, determined on a pro rata basis, for services satisfactorily performed to the extent that funds are available. The State will not be assessed any penalty if the contract is terminated because of the decision of the Minnesota Legislature, or other funding source, not to appropriate funds. The State must provide the Grantee notice of the lack of funding within a reasonable time of the State's receiving that notice.

14. Data Disclosure

Under Minn. Stat. § 270C.65, Subd. 3, and other applicable law, the Grantee consents to disclosure of its social security number, federal employer tax identification number, and/or Minnesota tax identification number, already provided to the State, to federal and state tax agencies and state personnel involved in the payment of state obligations. These identification numbers may be used in the enforcement of federal and state tax laws which could result in action requiring the Grantee to file state tax returns and pay delinquent state tax liabilities, if any.

15. Availability of Records

In the event a monitoring visit(s) is required by the State, the Grantee shall cooperate with the State and shall comply with the State's request for documentation and other information, before, during and/or after the visit(s).

OTTER TAIL
COUNTY - MINNESOTA

BOARD OF COMMISSIONERS
Government Services Center
515 West Fir Avenue
Fergus Falls, MN 56537

September 14th, 2021

Chair Mary Murphy
House Redistricting Committee
343 State Office Building
St. Paul, MN 55155

Dear Chair Murphy and Members of the House Redistricting Committee,

On behalf of the Otter Tail County Board of Commissioners, I respectfully submit this written testimony for consideration in redistricting proceedings before the Legislature and Courts.

Per the latest Census, Otter Tail County is home to 60,081 residents and is a well-defined community of interest that we urge you to keep whole when drawing legislative districts. Otter Tail County is home to 22 cities and 62 townships and is the second most populous whole county in the current 7th Congressional District. Otter Tail County is a diverse county with communities of many different populations and languages spoken across the county. We are a county with a growing economic base, a job center, a tourism center, and regional population center. Our County Board knows that Otter Tail County residents' voice will be stronger with legislative representation that is focused on the unique issues and opportunities facing our community.

Historically, redistricting processes have recognized the importance of keeping Otter Tail County together for legislative districts. Following the 2002 redistricting process and drawing of legislative districts, all of Otter Tail County was included in one Senate District with one House District entirely within Otter Tail County. We believe that a Senate District that comprises the whole of Otter Tail County plus adjacent counties and one House District entirely within Otter Tail County will maximize effective legislative representation for our residents.

The Otter Tail County Board of Commissioners appreciates your consideration and dedication to a fair redistricting process.

Sincerely,

Leland R. Rogness
Chair, Otter Tail County Board of Commissioners

OTTER TAIL COUNTY, MINNESOTA

Business Assistance Financing Application – Tax Abatement

APPLICANT INFORMATION:

Business Name: East Silent Resort, LLC Date: 07/30/2021

Business Address: 30424 410th Street

City: Dent State: MN Zip Code: 56528

Business Type: ☐ Corporation ☐ Sole Proprietorship ☑ Partnership ☐ Other

Please select: ☐ New Business ☑ Existing Business # of Years in Business 15

Contact Person / Authorized Representative: Andrew Leonard Title: Owner

Daytime Phone: 320-492-3339 Alternate Phone: _____ Email: andy@eastsilentresort.com

PROJECT INFORMATION:

Please attach a description of the proposed project (including building size, building type, site plan and sketches).
Please attach a description of why the assistance is needed, be specific.
Please attach a legal description of the property.

Location of Proposed Project: 30424 410th Street Dent, MN 56528

Parcel #'s: 16000330184001 16000991082000 _____

Present ownership of site: LLC

Current Property Taxes: City/Township $ 2,441.98 County $ 7,227.07 School $ 5,211.30

Amount of Business Assistance Requested: $147,000.00

Anticipated project start date: 10/01/2021 Completion Date: 10/01/2025

PUBLIC PURPOSE:

What benefits will the County and its residents gain if assistance is provided?

- ☑ Increase or preserve the tax base
- ☑ Provide employment opportunities
- ☐ Help redevelop or renew blighted areas
- ☐ Help provide access to services for residents
- ☐ Development of quality child care opportunities
- ☑ Preservation and creation of resorts
- ☐ Creation of affordable workforce housing
- ☐ Other (please describe)

LENDER INFORMATION:

Business Name: Community Savings Bank
Contact Name: Brett Nagel
City/State/Zip: Edgewood, Iowa 52042
Phone Number: 563-928-6425

LEGAL COUNSEL:

Business Name: Hanft Fride
Contact Name: Jennifer L. Carey
City/State/Zip: Duluth, MN 55802
Phone Number: 218-529-2431

FINANCIAL INFORMATION:

Estimated Project Related Costs:

1.	Land Acquisition	$ 3,000,000.00
2.	Site Development	$ 250,000.00
3.	Building Cost	$ 3,250,000.00
4.	Equipment	$ 180,000.00
5.	Architectural/Engineering Fees	$ 11,000.00
6.	Legal Fees	$ 13,000.00
7.	Off-Site Development Costs	$
8.	Other (please explain)	$
9.	**TOTAL PROJECT COST**	**$** 6,704,000.00

Sources of Financing

1.	Private Financing Institution	$ 1,750,000.00
2.	Tax Abatement Funds (Total Request)	$ 147,000.00

County Participation:
Number of Years: 15
Annual Portion: $ 9,800.00
Total Abatement: $ 147,000.00

City/Township Participation:
Number of Years:
Annual Portion: $
Total Abatement: $ 0.00

School Participation:
Number of Years:
Annual Portion: $
Total Abatement: $ 0.00

3.	Other Public Funds	$
4.	Developer Equity	$ 3,650,000.00
5.	Other Financing	$ 1,157,000.00
6.	**TOTAL SOURCES**	**$** 6,704,000.00

FINANCIAL INFORMATION – continued:

Has the business, owners or parent company ever declared bankruptcy? No (•) Yes ( )

Has the business, owners or parent company ever defaulted on any loan commitment? No (•) Yes ( )

Has your business or parent company received a business subsidy, for this or any other project, from another Minnesota unit of government during the past 5 years?

No ( ) Yes (•), please describe:

PPP COVID-19 Loan and Otter Tail County COVID-19 Grant.

AUTHORIZED SIGNATURE OF APPLICANT

Applicants are required to provide the County with a $500 deposit to cover administration and consulting expenses associated with your project. Unused funds will be returned upon completion of this process. In some cases, administrative and consulting expenses may exceed $500. In such cases, applicant approval will be sought before incurring additional expenses. The applicant agrees to provide additional information if requested by the County.

Applicant	Andrew Leonard Title	7/30/21 Date

If abatement request is approved – an abatement agreement is required

When complete – please return to:

Otter Tail County Community Development Agency
520 Fir Avenue West
Fergus Falls, MN 56537
218-998-8050 phone
cda@co.ottertail.mn.us

PLEASE INCLUDE WITH COMPLETED APPLICATION:

- [x] Background material of company
- [x] Businesses Articles of Incorporation or Partnership Agreement
- [x] Description of the proposed project (including building size, building type, site plan and sketches)
- [x] Description of why the assistance is needed
- [x] Legal description of the property
- [ ] Preliminary financial commitment from bank (commitment letter)
- [ ] Pro Forma Analysis – including 3 years of projections
- [ ] 3 years of Financial Statements/History
- [ ] $500 application fee made payable to Otter Tail County Treasurer

OTTER TAIL COUNTY - MINNESOTA

Property Tax Rebate Program for New Single and Two-family Homes

Intent
The purpose of the Otter Tail County Tax Rebate Program is to encourage the construction of new primary residence single and two-family housing units and to encourage replacement of dilapidated housing structures within Otter Tail County between January 1, 2020 and December 31, 2024.

Eligible Participants
Any person who constructs a new single family or two-family home and who files application materials and seeks formal approval from appropriate local jurisdictions between January 1, 2020 and December 31, 2024 may be eligible to receive a 100% tax rebate of the County's share of increased real estate taxes as a result of building a new home, for a period of up to five (5) years or up to $10,000 (whichever is met first) provided all of the following criteria are met:

1. Property is located within Otter Tail County and zoned properly for the proposed residence.
2. The applicant/property shall not have benefitted other local financial assistance (including tax increment financing (TIF), Workforce Housing, Small Cities Development Program).
3. Project is built to all local, state and federal regulations at the time the building/zoning permit is obtained.
4. Property taxes are current and paid on time and in full. Failure to keep property taxes current shall result in revocation of the tax rebate for each year taxes are not current.
5. Administrative approval must be obtained prior to the start of construction of the new home.

The real estate taxes to be rebated shall be for up to the full amount of the real estate taxes collected resulting from the added tax base of the newly constructed home annually. The current value of the property (defined as "original value") will not be rebated as part of this program. Any eligible rebate is calculated on the tax increase due to a value increase resulting from the new improvement.

Partially constructed housing may result in the rebate in the first rebate year that may be significantly less than the following years. This will still be considered one of the five years of eligible rebate.

In the event the property owner refuses access to County Assessor staff to perform an appraisal for tax assessment purposes, the tax rebate shall expire for the remaining term of the rebate period.

The rebate period will begin in the tax year the property realizes a value increase over original value due to construction of the housing project. In the event construction has not commenced within one year of approval, the rebate is eliminated and the property owner will need to reapply in accordance with the program. Additionally, the rebate:

- Will transfer with the sale of the property for the balance of the five-year period or until the $10,000 maximum rebate is met
- Does not include voter approved property tax referendums
- Does not apply to or include existing and/or new assessments to the property
- Shall only be payable in the years in which the owner is a permanent resident of Otter Tail County

The County shall provide the awarded rebate payment following payment of due real estate taxes annually. One single payment shall be made to the owner of record at the time of the payment by December 30 for that calendar year.

Application
Minnesota Statute requires the County to approve each rebate application.

A complete application shall consist of the following:

- A statement requesting the tax rebate for eligible projects addressed to the Otter Tail County Community Development Director;
- Address (if assigned at time of application) and/or property identification number;
- A site plan for the proposed project; and
- Submit a copy of the building/zoning permit once issued, as applicable.

Applicant shall sign a statement to the effect that no construction has started prior to the administrative approval of the applicant's rebate request. For the purposes of this provision, construction shall include the installation of footings, slab, foundation, posts, walls or other portions of a building. Site preparation, land clearing or the installation of utilities shall not constitute construction.

The Community Development Director will forward the completed application to the County Board for consideration. The County Board shall schedule a date for a public hearing on the request(s) pursuant to Minnesota Statute, Sections 469.1812 to 469.1815 to receive public input on each request and shall pass a resolution providing a formal approval or denial said application.

The Community Development Director shall also forward the completed application to the appropriate City or Township and School District in the event one or more of these taxing jurisdictions have adopted policies and procedures for property tax rebates for single family or two-family residential construction.

Prior to the public hearing, Otter Tail County staff may perform a site inspection to verify no construction has commenced.

Each taxing entity retains its individual authority on property tax rebates. The County is solely responsible for its share of property tax rebates and this policy does not allow the County to rebate City, Township or School District property taxes.

RESOLUTION DIRECTING SALE OF COUNTY-OWNED PROPERTY IN VERGAS, MINNESOTA

Otter Tail County Resolution No. 2021 - Click here to enter text.

WHEREAS, the Otter Tail County (the "County") Public Works garage located at 140 East Linden Street, Vergas, Minnesota, Parcel Number: 82000990070002 (the "Property") will be vacated by the County in 2022 and no longer needed for County operations after such time; and

WHEREAS, the City of Vergas (the "City") has expressed interest in acquiring the Property to support the success of economic and housing development activities occurring in the City's downtown district as well as for possible use by the City of Vergas for its operations; and

WHEREAS, the County has determined that it is appropriate to support the City of Vergas in such activities by selling the Property to the City when no longer needed by the County for its operations; and

NOW, THEREFORE, IT IS HEREBY RESOLVED:

1. That staff is directed to develop terms of the sale and to prepare necessary documents to enter into the sale of the Property located at 140 East Linden Street, Vergas to the City of Vergas for future consideration by the Board of Commissioners.

The motion for the adoption of the foregoing resolution was introduced by Commissioner Click here to enter text., duly seconded by Commissioner Click here to enter text. and, after discussion thereof and upon vote being taken thereon, passed unanimously.

Adopted at Fergus Falls, MN this Click here to enter text. day of Click here to enter text. 2021.

OTTER TAIL COUNTY BOARD OF COMMISSIONERS

Dated: Click here to enter text.

By: _____
Leland R. Rogness, Board of Commissioners Chair

Attest_____
Nicole Hansen, Clerk

STATE OF MINNESOTA)

)

COUNTY OF OTTER TAIL)

I, Nicole Hansen, the County Administrator, do hereby certify that the foregoing resolution is a true and correct copy of the resolution presented to and adopted by Otter Tail County at a duly authorized meeting therefore held on the Click here to enter text. day of Click here to enter text. 2021.

_____
Nicole Hansen, Clerk

Purchase of County Property

Memo

To: Otter Tail County MN
From: City of Vergas
CC: Amy Baldwin
Date: August 11, 2021
Re: Vergas plan for County property located at 140 E Linden Vergas MN

Comments:

The City of Vergas is discussing the purchase the County property for the following:

1. To support the Economic and Housing development at 105 Main Street and 100 S Railway Avenue.
   A. 105 Main Street development will remove 6 parking spots currently used by our Main Street businesses.
   B. Railway Avenue will remove about 30 parking spaces from our Main Street businesses.

2. To support housing growth in Vergas.
   A. The 105 Main Street development will add 8 new housing units causing a need of 16 more parking spots.
   B. If current businesses add rental units above their businesses, 8-10 parking spots will be needed.

3. Parking available on the County Site.
   A. Current layout of property, City would add 10-12 parking spots.
   B. Removal of building, we could add 30-32 parking spots.

4. Reuse of current building for office space for City Clerk-Treasurer, Utilities Superintendent and Receptionist.
   A. Currently the Liquor Store Manager needs an office.
   B. Expansion of Liquor Store – City Office Space
      1. Managers Office
      2. Tasting room

Approved by the Council on this 10th day of August 2021.
CITY OF Vergas

Julie Bruhn

By: Julie Bruhn
Its Mayor

ATTEST: Julie Lammers

By: Julie Lammers
Its City Clerk-Treasurer

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

Animal feedlot or manure storage area permit application

CSF and Interim Permit Program

Doc Type: Permit Application

Applicability: Use this form to obtain, modify, or extend the term of a construction short form (CSF) or interim permit.
Keep a copy of this application form and all submittals for your records.

After completing and signing this form, submit it and any required enclosures as instructed below:

For facilities located in a delegated county, send the signed form and any enclosures to the County Feedlot Officer (CFO).
All other facilities must submit this form and any enclosures to the Minnesota Pollution Control Agency (MPCA) as follows:

- Scan and email the signed form and any enclosures to FeedlotSubmittal.pca@state.mn.us.
- If submission via email is not possible, you can mail the signed form and any enclosures to:

  Attn: Feedlot Master File Staff
  Minnesota Pollution Control Agency
  7381 Airport View Drive SW
  Rochester, MN 55902

I. Permit type and reason for application

Feedlot Registration Number: _____

Please indicate which type of feedlot permit you are applying for *(choose only one):*

☐ Construction Short Form ☐ Interim (correcting a pollution hazard)

Please indicate the reason for the permit application *(choose only one):*

☒ New Permit
(No existing CSF or interim permit)

☐ Permit Modification
(Changes to sites with an existing CSF or interim permit)

☐ Permit Extension - Current CSF or Interim Permit number: _____
(Work not completed prior to permit expiration)

For extension requests only - Indicate below the reason(s) the work may not be completed prior to permit expiration

Estimated amount of time required to complete the work: _____ ☐ days ☐ months
Note: The length of the extension is limited to 24 months for CSF permits and 90 days for interim permits

Note: When the notice to neighbors and property owners is required the content of the notice must include the date the original permit was issued and the new proposed completion date as well as the normally required information.

II. Owner's name(s) and address(es) - (All partners of a Limited Liability Partnership (LLP) must be listed.)

Primary owner – Will be used as the mailing address

Name: Kyle & Stephanie Goeller
Address: 45370 Cty Hwy 19
City: Sebeka State: MN
Phone: 218-539-0001 Zip: 56477
Email: stylehh10@hotmail.com

Additional owner – attach additional sheets as necessary

Name: _____
Address: _____
City: _____ State: _____
Phone: _____ Zip: _____
Email: _____

Note: *The term owner includes all persons having possession, control, or title to an animal feedlot or manure storage area (including lessees or renters). All owners must be listed. Attach to this application the names, addresses, and phone numbers of all additional owners.*

III. Facility name and site address

Site Name: Style-Heaven Holstein

☐ Facility is a MN Ag Water Quality Certified Farm (MAWQCP)

Complete if facility address is different than the primary owner address:

Street: 45370 Cty Hwy 19
City: Sebeka State: MN
Phone: 218-539-0001 Zip: 56477

Contact person for day-to-day activities

Name: Kyle & Stephanie Goeller
Street: 45370 Cty Hwy 19
City: Sebeka State: MN
Phone: 218-539-0001 Zip: 56477
Cell phone: 218-539-0001
Email: _____
(General letters/notices may be sent by email where one is indicated.)

IV. Facility location

County: Ottertail Township name: Blowers

Township (26 – 71 or 101 – 168)	Range (1 – 51)	Section (1 – 36)	¼ Section (160 acre) (NW, NE, SW, SE)	¼ of ¼ Section (40 acre) (NW, NE, SW, SE)
T 136 N	R 36 W	12	SW	SE

V. Sensitive features

1. Is any part of the facility within 1,000 feet of any type of surface waters or tile intake? ☒ Yes ☐ No

   If Yes, select all types below

   ☐ Lake ☐ River ☐ Stream (Perennial or Intermittent) ☐ Tile Intake
   ☐ Pond ☐ Creek ☐ Ditch ☒ Wetland ☐ Calcareous Fen ☐ Unknown

2. Is any part of the facility located within 300 feet of a river/stream? ☐ Yes ☒ No

3. Is any part of the facility located within a delineated flood plain *(100 year flood)*? ☐ Yes ☒ No

4. Is any part of the facility located within designated shoreland? ☐ Yes ☒ No

5. Is any part of the facility located within 1,000 feet of a karst feature? ☐ Yes ☒ No
   (sinkholes, caves, disappearing springs, resurgent springs, karst windows, dry valleys, or blind valleys)

   If Yes, complete a. and b. below:

   a. Are there 4 or more sinkholes within 1,000 feet? ☐ Yes ☐ No

   b. Is any part of the facility within 300 feet of a known sinkhole? ☐ Yes ☐ No

6. Is any part of the facility located within 1,000 feet of the following types of wells: ☐ Yes ☒ No

   If Yes, complete a. and b. below:

   a. What is the shortest distance from a well to any animal holding area? _____ ft.

      What is the shortest distance from a well to any manure storage area? _____ ft.

   b. Indicate if the well is any of the following types:

      ☐ a community water supply well
      ☐ a well serving a public school as defined under Minn. Stat. § 120A.05
      ☐ a well serving a private school excluding home school sites
      ☐ a well serving a licensed child care center where the well is vulnerable (Minn. R. 4720.5550, subp. 2)

VI. Environmental Review (complete when construction or expansion is proposed)

Mandatory environmental review is required for the addition of 1,000 or more animal units (AU) at any facility. This threshold is reduced to 500 AU in "sensitive areas". The facility is within a sensitive area when any of the following apply.

- Any part of the facility is within a delineated floodplain (yes to question 3 above)
- Any part of the facility is within designated shoreland (yes to question 4 above)
- Any part of the facility is within 1,000 feet of a karst feature (yes to question 5 above)
- Any part of the facility is within a vulnerable drinking water supply management area
- Any part of the facility is within a federal, state, or local wild and scenic river district
- Any part of the facility is located within the Minnesota River Project Riverbend area or the Mississippi headwaters area

Additionally mandatory environmental review is required for "Phased actions". Phased actions are two or more projects located in the same geographic area and constructed within three years of each other by the same proposer. When this is the case, the animal units from all projects are combined to determine if environmental review is required.

Do you have ownership interest in another livestock operation that was constructed/expanded within the past three years or are you substantially certain you will be constructing/expanding another livestock operation within the next three years?

☐ Yes ☒ No

If Yes, how far away *(straight-line distance)* is it located from the project proposed in this application? _____ miles

There are also rule provisions to require completion of the environmental review process in the event of a citizen petition or upon the discretion of the MPCA. Please see the MPCA fact sheet entitled "When is Environmental Review Required for Feedlots" (available on the MPCA website at https://www.pca.state.mn.us/quick-links/environmental-review and/or Minn. R. 4410 for further details.

VII. Animal numbers and animal unit (AU) calculation

Complete the table below to identify the **maximum** number of animals housed at that facility. All animal numbers and animal sizes used to complete this table should reflect the animal holding **capacity** of the facility even if the facility does not currently house or propose to house that number of animals. At no time is the number of animals at the facility allowed to exceed the capacity provided below without first obtaining a permit or permit modification.

Current Capacity - List the current head count **capacity** for each animal type in column 3 below. For sites with a permit, this should match the currently permitted number of animals. Next, multiply the AU Factor in column 2 by the number of animals listed in column 3 to get the *Current AU Capacity* for each animal type (column 4). Finally, add together all AU's in column 4 to get a total at the bottom of the chart. *If this application is for a brand-new feedlot site leave columns 3 and 4 blank. (ie. bare piece of ground)*

Final Capacity - List the final head count **capacity** for each animal type in column 5 below. This number should include current animals plus or minus any expansion or reduction in each animal type. This should reflect the maximum AU capacity requested with this permit application. Next, multiply the AU Factor in column 2 by the number of animals listed in column 5 to get the *Final AU Capacity* for each animal type (column 6). Finally, add together all AU's in column 6 to get a total at the bottom of the chart.

		***Current* facility capacity**		***Final* facility capacity** (Current +/- Changes)	
1. Animal type	**2. Animal unit factor**	**3. Head count**	**4. Animal units** = column 2 x column 3	**5. Head count**	**6. Animal units** = column 2 x column 5
A. Dairy cattle					
Mature cow (milked or dry) over 1,000 lbs.	1.4	185	259	185	259
Mature cow (milked or dry) under 1,000 lbs.	1.0	27	27	27	27
Heifer	0.7	80	56	80	26
Calf	0.2	30	6	30	6
B. Veal					
Veal	0.2				
C. Beef cattle					
Slaughter steer/heifer, stock cow, or bull	1.0				
Feeder cattle (stocker or backgrounding), heifer	0.7				
Cow and calf pair	1.2				
Calf (weaned)	0.2				
D. Swine					
Over 300 lbs.	0.4				
Between 55 and 300 lbs.	0.3				
Under 55 lbs.	0.05				
E. Horses					
Horse	1.0				
F. Sheep					
Sheep or Lamb	0.1				
G. Chickens with a *liquid* manure system					
Layer Hens or Broilers	0.033				
H. Chickens with a *dry* manure system					
Broilers over 5 lbs.	0.005				
Broilers under 5 lbs.	0.003				
Layer Hens over 5 lbs.	0.005				
Layer Hens under 5 lbs.	0.003				
I. Turkeys					
Over 5 lbs.	0.018				
Under 5 lbs.	0.005				
J. Ducks					
Duck (with a liquid manure handling system)	0.01				
Duck (with a dry manure handling system)	0.01				
K. Animals not listed in A to J (AU factor in column 2 = average weight of the animal type divided by 1,000 lbs.)					
Animal type:					
Total animal unit capacity Add all numbers in column 4 for Current AU total Add all numbers in column 6 for Final AU total			**Current AU capacity** **348**		**Final AU capacity** **348**

VIII. Animal holding areas

Do any animals at the facility have access to pasture? ☐ Yes ☐ No

Complete the table below for the following animal holding areas. If needed, continue your list on an additional copy of this page.

1. **Total confinement barn with underfloor pit** - A barn where animals cannot access an outdoor area and liquid manure enters storage directly beneath the floor. This includes "shallow pits" or "pull plugs".
2. **Total confinement barn** - A barn where animals cannot access an outdoor area.
3. **Partial confinement barn** - A barn where animals can directly access an outdoor area (ie. associated open lot).
4. **Open lot** - An uncovered area where animals are housed outdoors.
5. **Individual animal housing area** - A structure that houses only one animal at a time (ie. calf huts/hutches).
6. **Working-Sorting-Hospital area** - A structure or area, covered or uncovered, where animals temporarily enter during load-out or load-in events or when additional care is needed to address medical issues with the animal.
7. **Milk parlor-Holding area** - A structure or area where animals temporarily enter prior to or during milking.

Animal holding area ID	***List each animal holding area in a separate column*** *Use the far right column for non-rectangular holding areas*					*Non-Rectangular*
Facility Site Sketch ID (i.e., #1, A, Barn 1)	1	2	3	4	5	6-Hutches
Status: (check one box only) *Proposed* - not permitted previously or permitted but not yet operational *Existing* - current operational component	☐Proposed ☒Existing ☐Eliminating	☐Proposed ☒Existing ☐Eliminating	☐Proposed ☒Existing ☐Eliminating	☐Proposed ☐Existing ☒Eliminating	☐Proposed ☒Existing ☐Eliminating	☐Proposed ☒Existing ☐Eliminating

Type of animal holding areas	***List approximate holding area dimensions in feet*** *(If non-rectangular, use the far right column and list surface area)* *Length X Width*	*Length X Width*	*Length X Width*	*Length X Width*	*Length X Width*	*Non-Rectangular (Surface Area)*
Total confinement barn with underfloor pit Underfloor pit maximum depth (ft) Underfloor pit volume (gal)	X Pit Depth: gal	X Pit Depth: gal	X Pit Depth: gal	X Pit Depth: gal	X Pit Depth: gal	sq. ft Pit Depth: gal
Total confinement barn	176 X 76	X	X	X	X	sq. ft
Partial confinement barn	X	X	120 X 48	X	70 X 44	sq. ft
Associated open lot dimensions (list area for non-rectangular lots)	X sq. ft	X 87,120 sq. ft	X sq. ft	X 43,560 sq. ft	X sq. ft	X sq. ft
Open lot	X	X	120 X 80	X	70 X 20	sq. ft
Individual animal housing area (ie calf huts/hutches that house one animal)	X Quantity:	X Quantity:	X Quantity:	X Quantity:	X Quantity:	32 sq. ft Quantity: 30
Working-Sorting-Hospital area	X	X	X	X	X	sq. ft
Milk parlor-Holding area	X	X	X	X	X	sq. ft
Other buildings for animal husbandry	X	X	X	X	X	sq. ft

Animal numbers	***Indicate the maximum capacity (number of animals) of each animal holding area*** *The total number of all animals listed should match the final animal numbers listed on page 3.*					
Mature dairy cows (over 1,000 lbs.)	150	35				
Mature dairy cows (under 1,000 lbs.)			27			
Dairy heifers		40			40	
Dairy calves						30
Veal						
Slaughter steer/heifer, stock cow or bull						
Feeder cattle-stocker/background/heifer						
Cow and calf pair						
Beef calves (weaned)						
Swine over 300 lbs.						
Swine between 55 and 300 lbs.						
Swine under 55 lbs.						
Horses						
Sheep or lamb						
All chickens with liquid manure system						
Broiler chickens over 5 lbs. - dry system						
Broiler chickens under 5 lbs. - dry system						
Laying hens over 5 lbs. - dry system						
Laying hens under 5 lbs. - dry system						
Turkeys - over 5 lbs.						
Turkeys - under 5 lbs.						
Other:						

IX. Liquid Manure Storage Areas (LMSA)

Complete the table below for all your LMSAs based upon liner type. If needed, continue your list on an additional copy of this page.

Additional Instructions:

1. **Do not list below barn LMSAs in this table** – This information has been captured in the animal holding areas table.
2. LMSAs with more than one liner type - List this LMSA in the category that represents the sidewall primary liner type.
   For example: a LMSA with a concrete floor and earthen sidewalls should be listed in the LMSA - Earthen category.
3. LMSAs with dual liners, which is a primary liner underlain by a secondary liner (typically only in karst susceptible areas) - List the LMSA in the category that represents the primary liner; which is, the liner in direct contact with the manure.
   For example: a HDPE plastic lined LMSA underlain by a compacted clay liner should be listed in the LMSA - Synthetic category.
4. Use the two right columns for circular and other non-rectangular shapes.

LMSA ID	***List each LMSA in a separate column***					*Circular*	*Non-Rectangular*
Facility Site Sketch ID	8						
Status: (check only one) *See animal holding area table for definitions*	☒Proposed ☐Existing ☐Eliminating	☐Proposed ☐Existing ☐Eliminating	☐Proposed ☐Existing ☐Eliminating	☐Proposed ☐Existing ☐Eliminating	☐Proposed ☐Existing ☐Eliminating	☐Proposed ☐Existing ☐Eliminating	☐Proposed ☐Existing ☐Eliminating

List approximate LMSA dimensions in feet

Type of LMSA Liner *Do not list below barn LMSAs*	*(If non-rectangular, use the appropriate column and list diameter or surface area)* *Length X Width*	*Length X Width*	*Length X Width*	*Length X Width*	*Length X Width*	*Circular*	*Non-Rectangular (Surface Area)*
LMSA - Earthen Maximum depth (ft)	X Depth:	X Depth:	X Depth:	X Depth:	X Depth:	Diameter: Depth:	sq. ft Depth:
LMSA - Concrete Maximum depth (ft)	X Depth:	X Depth:	X Depth:	X Depth:	X Depth:	Diameter: Depth:	sq. ft Depth:
LMSA – Synthetic [a] Maximum depth (ft)	X Depth:	X Depth:	X Depth:	X Depth:	X Depth:	Diameter: Depth:	sq. ft Depth:
LMSA – GCL [b] Maximum depth (ft)	246 X 195 Depth: 13	X Depth:	X Depth:	X Depth:	X Depth:	Diameter: Depth:	sq. ft Depth:
LMSA – Steel tank [c] Maximum depth (ft)	X Depth:	X Depth:	X Depth:	X Depth:	X Depth:	Diameter: Depth:	sq. ft Depth:
LMSA – Other Maximum depth (ft)	X Depth:	X Depth:	X Depth:	X Depth:	X Depth:	Diameter: Depth:	sq. ft Depth:

List the LMSA volume in gallons

Volume of LMSA (gal)	2,688,671						

a. Synthetic liners include all plastic or rubber liners (HDPE, EPDM, LDPE, LLDPE, PVC, etc.).
b. GCL refers to all types of geosythetic clay liners where bentonite clay is confined between two synthetic membranes (ie. bentomat®).
c. Steel tank refers to above ground steel tanks including those with concrete floors (ie. slurrystore®).

X. Other Facility Components

Complete the table below for the following facility components. If needed, continue your list on an additional copy of this page.

1. **Permanent Stockpile** - An area where solid manure is stored or processed. Do not list temporary stockpiles
2. **Feed Storage Area** - Areas where any type of feed is stored in outdoor piles/bunkers, including those covered with plastic. **DO NOT** list vertical silos, grain bins, commodity sheds, or other totally enclosed structures.
3. **Mortality Compost Area** - **ONLY** list mortality management areas that compost dead animals with litter or manure.
4. **Vegetated Infiltration Area (VTA)** - A vegetated area with berms on all sides so that liquid can only leave via infiltration into the soil.
5. **Filter-Buffer Strip** - A vegetated area where liquid flows over a grassed area and is allowed to leave the area via surface flow.

Component ID	***List each component in a separate column*** *Use the two far right columns for non-rectangular shapes*					*Non-Rectangular*	*Non-Rectangular*
Facility Site Sketch ID	7	3	5	9		2	4
Status: (check only one) *See animal holding area table for definitions*	☐Proposed ☒Existing ☐Eliminating	☐Proposed ☒Existing ☐Eliminating	☐Proposed ☒Existing ☐Eliminating	☐Proposed ☐Existing ☐Eliminating	☐Proposed ☐Existing ☐Eliminating	☐Proposed ☒Existing ☐Eliminating	☐Proposed ☐Existing ☒Eliminating

List approximate component dimensions in feet

Type of Component	*(If non-rectangular, use one of the two far right columns and list surface area)* *Length X Width*	*Length X Width*	*Length X Width*	*Length X Width*	*Length X Width*	*Non-Rectangular*	*Non-Rectangular*
Permanent Stockpile	X	120 X 88	70 X 64	X	X	87,120 sq. ft	43,561 sq. ft
Feed Storage Area	230 X 60	X	X	X	X	sq. ft	sq. ft
Mortality Compost Area	X	X	X	X	X	sq. ft	sq. ft
Infiltration Area (VTA)	X	X	X	540 X 220	X	sq. ft	sq. ft
Filter-Buffer Strip	X	X	X	X	X	sq. ft	sq. ft

XI. Construction stormwater (CSW) requirements (complete only if construction is proposed)

When construction activities are proposed, indicate the expected acreage of soil disturbance: 2.0 acres

Construction at the facility disturbs one acre or more but less than 5 acres must comply with the requirements of the CSW NPDES general permit, unless a separate application is made for a CSW permit.

Prior to construction at the facility that disturbs 5 or more acres an application for a CSW permit is required.

XII. Notifications and public meetings

The notifications and public meetings below are required to be done **before** permit issuance.

A. Notification to local zoning officials

When required. This notification is required in ***either*** of the following situations:

- ***Construction of a new*** feedlot, or manure storage area (i.e. new site) of any AU capacity.
- ***Expansion of an existing*** feedlot, or manure storage area of any AU capacity.

Notification methods. The applicant must provide notification of the construction or expansion to all local zoning authorities, including county, town, and city zoning authorities, at least 30 days prior to commencement of the construction or expansion. This notification *must* include, at a minimum, the information provided in Minn. R. 7020.2000, subp.4.,A (1) (a) (i to v).

An example notification can be found in the factsheet *Public Notification Requirements – Feedlots* available on the MPCA website at https://www.pca.state.mn.us/feedlots.

B. Notice to residents and property owners within 5,000 feet of a proposed project

When required. This notice is required in ***either*** of the following situations:

- ***Construction of a new*** feedlot, or manure storage area, which will have a capacity of 500 AU or more (i.e. new site).
- ***Expansion of an existing*** feedlot, or manure storage area, which currently has, or will have upon completion of the expansion, a capacity of 500 AU or more.

Notice methods. The owner shall not less than 20 business days before the anticipated issuance date of the permit, provide notice to each resident and each owner of real property within 5,000 feet of the perimeter of the proposed facility. This notice *must* include, at a minimum, the information provided in Minn. R. 7020.2000, subp.4.

An example notice can be found in the factsheet *Public Notification Requirements – Feedlots* available on the MPCA website at https://www.pca.state.mn.us/feedlots.

Verification of notice.

The MPCA must verify that this notice has been completed prior to permit issuance.
Please include with this permit application one of the following options that provides verification that the required notice has been completed:

- An affidavit of publication from a newspaper of general circulation used to provide this notification.
- A list of all parties, with their location, that were notified by certified mail and copies of all signed mail return receipts.
- A list of all parties, with their location, that were personally visited with a date and signature from each party and certification signed by a notary public indicating in detail what was discussed.

C. Non-delegated county public meeting minutes (Minn. Stat. § 116.07, subd. 7(l))

A county which has not accepted delegation of the feedlot program must hold a public meeting prior to issuance of a feedlot permit by the MPCA for an animal feedlot with a capacity of 300 or more animal units.

Date meeting has occurred or is scheduled to occur: TBD

Verification of public meeting.

A copy of the meeting minutes must be provided to the MPCA for verification of completion of this requirement prior to permit issuance.

XIII. Certifications and signature

Notification to local officials

The Applicant certifies that, if the application includes construction of a new facility or expansion of an existing facility, all local zoning authorities have been notified in accordance with Minn. R. 7020.2000 subp. 5.

Construction Stormwater (CSW) Requirements

The Applicant certifies that, if construction will disturb 5 or more acres, they have made a separate application for a CSW permit. For construction activities that disturb at least 1 acre but less than 5 acres, the Applicant certifies to comply with the requirements of the current CSW NPDES general permit (Minn. R. 7090.2020 provides permit coverage without the need for an application).

Need for NPDES or SDS permit

If the MPCA determines that a NPDES or SDS permit is required, the Applicant certifies that this application will serve as an application for a NPDES or SDS permit, as appropriate. The Applicant agrees to submit additional information, as requested by the MPCA, in order to complete the NPDES or SDS permit application process including payment of the permit application fee.

Applicant Signature

I hereby certify that the design, construction, and operation of the facility will be in accordance with this application and plans, specifications, reports, and related communications approved by the MPCA, and in accordance with applicable permit conditions or regulations/standards of the MPCA. I also certify under penalty of law that this document and all attachments were prepared under my direction or supervision and the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

The person that signs this application must be one of the following:

A. For a corporation, a principal executive officer of at least the level of vice president
B. For a partnership, a general partner
C. For a sole proprietorship, the proprietor

***By typing/signing my name below**, I certify the above statements to be true and correct, to the best of my knowledge, and that this information can be used for the purpose of processing this form.*

Signature: Kyle Goeller *(This document has been electronically signed.)* Title: Owner

Date (mm/dd/yyyy): 8/10/2021

Office phone: _____ Cell phone: 218-539-0001

To sign up for electronic communications including the MPCA feedlot newsletters, please go to the MPCA website at https://public.govdelivery.com/accounts/MNPCA/subscriber/new.

Required enclosures (Permit applications submitted without all required enclosures are incomplete.)

All forms are available on the *CSF & Interim permits* page of the MPCA feedlot program website at: https://www.pca.state.mn.us/feedlots

☒ A. A site sketch/aerial photograph indicating the location of the existing and proposed facility components.

☒ B. A Manure/Nutrient Management Plan (MMP) – The following are optional forms to assist with MMP development:

When **all** manure is transferred to another entity for utilization, complete a MMP using the form:

MMP requirements when ownership of manure is transferred.

When **any** portion of manure is applied to land owned, rented, or leased by the applicant(s), or applied to other land where nutrient application decisions are made by the applicant(s), complete a MMP using the spreadsheet form:

MPCA Manure Management Planner.

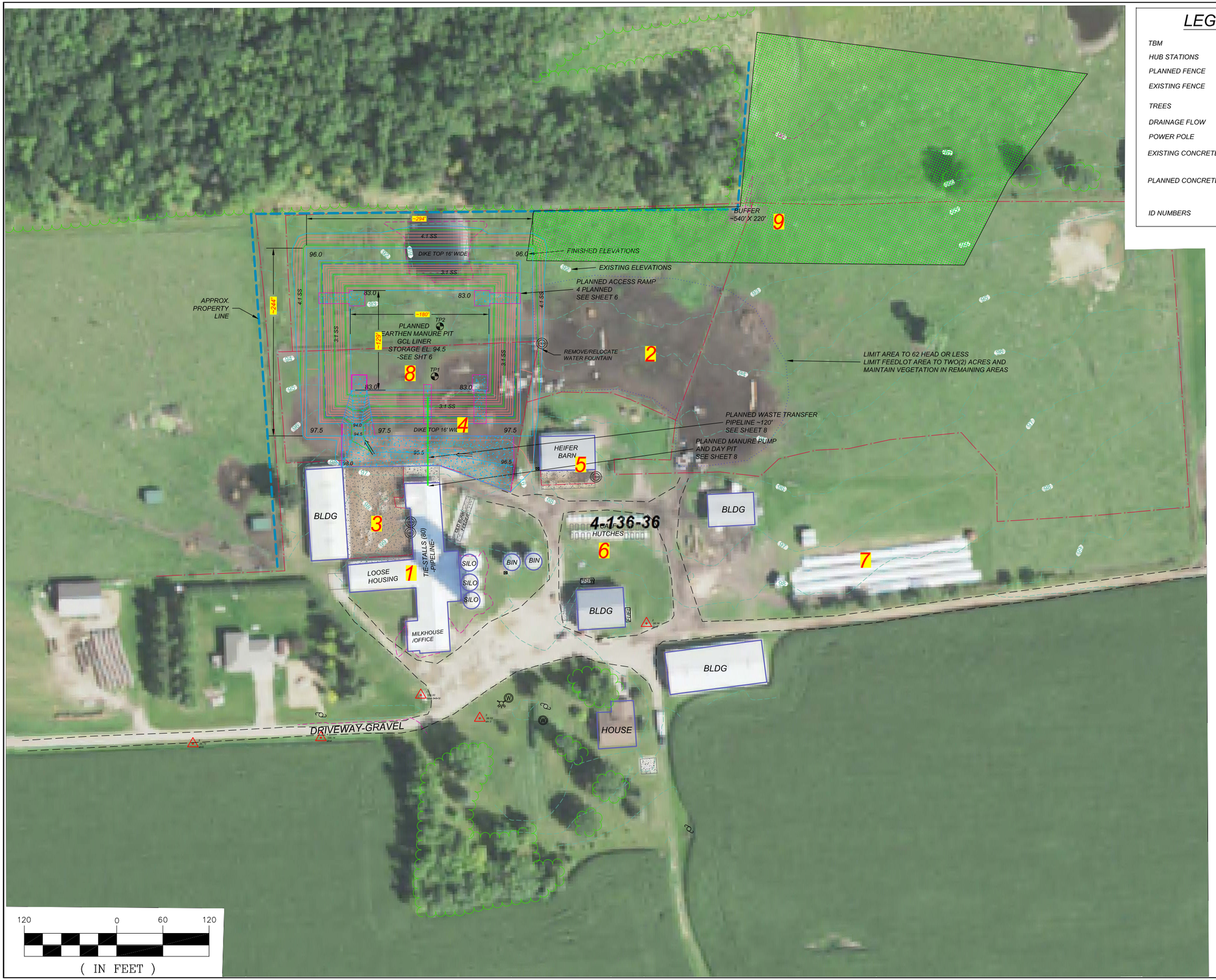
Notes: The MMP requirements when ownership of manure is transferred form is incorporated into the spreadsheet to account for instances when only some of the manure is transferred.

☒ C. Plans and Specifications for construction, modification, or expansion of any of the following:

- Liquid manure storage area
- Permanent manure stockpile
- Vegetative infiltration area (VTA)
- Filter-Buffer strip

☐ D. Environmental Assessment Worksheet (EAW) Fee. When environmental review is required **and** the site is located in a non-delegated county, there is a fee of $4,650 for processing of an Environmental Assessment Worksheet (EAW). The fee must be included with this permit application. (**Check payable to:** Minnesota Pollution Control Agency)

☐ E. Verification of the notifications required in part XII of this application. If not submitted with the application, the MPCA must receive the verification prior to permit issuance. It is strongly recommended that the applicable verifications be included with the permit application.



Date Shane Kjellberg P.E. 8-21

Approved By .....

Title .....

Date Surveyed 8-6-18
Date Drawn 8-21
Designed by skk
Drawn By skk
Date Checked
Checked by
File: final2021.dwg

Kyle Goeller
Ottertail County MN
AWS
Facilities Map

K2S ENGINEERING INC.
4209 94TH AVE SE
YPSILANTI, ND 58497
Phone 701-489-3322

Sheet No.
1 of 1

KYLE GOELLER DESIGN FOLDER

OTTERTAIL COUNTY, MN

A. General Information

This engineering design will focus on associated waste management systems, and runoff containment measures, nutrient management, that will allow this facility to be permitted through the Minnesota Pollution Control Agency (MPCA), Environmental Protection Agency (EPA) and any possible county and township ordinances. The information and design presented are final, but will need the approval of all governing agencies and as a result may need to be modified. These agencies may require additional measures to be included in the design to comply with their rules and regulations.

The Goeller Dairy is a crop raising and dairy operation located near Sebeka, Minnesota. Crops are primarily corn, corn silage and alfalfa, depending on markets. Harvested crops are marketed and used for animal feedstock. The current facility is not permitted. The facility plans to be permitted for **348** Animal Units.

Confinement Areas & Manure Storage:

- Map shows existing facilities and planned renovations. MinnFARM calculations are included to show compliance.
- Facility 8 will be a new earthen lined LMSA.

The ***potential*** environmental concern and a ***possible*** violation of existing regulations, is in the absence of a manure storage structure, manure could leave the site via drainages and overland flow and enter ***possible*** "sensitive waters" and impact water quality. This project has been designed to comply with rules and regulations and address environmental concerns.

Drainage:

Existing drainage patterns are primarily south to north into a series of tributaries and wetlands.

Soils/groundwater:

Through a cursory site inspection, soil survey review, and test pits the soils appear to be suitable for the proposed construction activities. The proposed manure/wastewater storage structures will be lined with a GCL liner. A perimeter tile is planned. Test pits did not show any seepage near the planned pond bottom. Soil stability is consistent and will provide adequate foundations for the proposed structures.

Local Weather/climate:

The local weather can vary from extremely warm dry summers to very cold winters. This area has an annual rainfall of approximately 24" and 25yr-24hr rainfall event of 4.6". Snowfall averages around 48"/year. Frost penetration for this area can be substantial varying from depths of 36" to 72".

Feed supply:

A high quality feed supply is important for maximizing milk production, fetal development, animal health, and minimizing waste. Anthony grows, stores, and feeds a majority of the "home grown" feeds with other specialties/supplement feeds purchased. Feed storage facilities will be as shown on drawings.

Water supply:

An existing well is planned to be used. It is strongly recommended that this well be pump tested to insure that it meets the planned watering needs. ***This should be done before final design and construction of the facilities to insure that there is adequate water at the site.***

Septic:

A toilet is not planned for this renovation.

Marketing:

This operation will consist of mainly dairy cows, calves, and heifers. Anthony will do his own marketing. Developing/renovating the facility and installing practices will improve overall efficiency and help offset costs associated with waste containment and management.

B. Goals, Options, Recommendations, and Comments/Issues

Project Goals:

1) To renovate the facility and associated waste management system in a manner that would be both beneficial environmentally and cost effective for the producer(s).
2) To maintain a facility that will be able to accommodate up to **348** animal units.
3) To maintain a facility that will be well received by the general public.

Project Options:

1. Renovate the facility at its existing location.
2. Quit milking cows. This would be a significant loss to the producer's main income and way of life.
3. Relocate facility to another area. Relocating is not economically feasible.

Items that would need to be addressed to implement option one would be as follows:

(1) manage stormwater as per regulations and guidelines,
(2) be cognizant of neighboring properties and do not increase runoff to these areas or create other nuisances,
(3) divert some clean water around and away from operation (-to minimize containment area/volumes),
(4) lay out facility to be efficient,
(5) address local zoning as required.

Implementing this plan will potentially provide significant environmental benefits. When manure laden runoff enters nearby water bodies/streams/wetlands, it has the potential to degrade water quality with its excess nutrients (nitrates, phosphorous), suspended solids (eroded soil particles and manure), and pathogens (*e.g.* Crypto-Sporidium, Giardia, E. Coli). The system designed would eliminate the potential of these pollutants entering nearby water bodies/streams/wetlands/groundwater and sustain the water quality of the nearby water bodies/streams/wetlands.

Facility design and recommendations:

Recommendations and design are based on past experience, literature from the NRCS Ag. Waste Field Manual, Midwest Plan Service Handbooks, several other related handbooks and literature, industry standards, regulating agencies design guidelines, and input from managers of livestock facilities. Since each site varies (as well as management styles) the individuals involved have to realize that you have to deal with what each site gives you and you cannot always apply the best/preferred practice.

An appropriately designed facility and management plan should provide ample space, dry stalls, enough bunk-space for planned cattle numbers, wind protection, ample bedding and regular stall cleaning, good quality feed and supplements, ample feed, well planned & constructed fences with planned gating for smooth cattle flows, and daily cattle inspections to name a few. These aforementioned items when implemented will maximize efficiencies, promote high cattle performance/milk production and maximize profits.

Water Supply System:

It is important to have ample quantity, good access, ample space, and good quality water to maximize cattle performance, milk production, and promote good herd health.

The well(s) and/or rural water will need to be designed to provide water for planned watering demands. It is recommended that a 2" pipeline is connected into the supply line (or new well) and then trenched to the tank locations shown on drawings. Larger pipelines are recommended since they have higher flow rates than smaller pipelines and create fewer issues (flows) when tying into the line for additional future waterers. Since the majority of the cost is involved in trenching, using a larger pipe vs. a smaller pipe is relatively inexpensive.

Pertinent data for 150 lactating cows and 142 other is listed below:

Supply Location: storage tank

Materials: pump, fittings for waterers, pressure tanks, valves, fittings, gauges, ***water meter***, and other necessary equipment and tools.

Estimated Daily Water Use for,:

150 x 40 gpd/hd = ~6,000 gallons;

142 x 10 gpd/hd = ~1,420 gallons;

Estimated demand for all head; 6,420 gallons over an 8 hr window = ~14 gpm

Does not include incidental water.

-with headloss's the system will need more than 14 gpm output;

This is a recommendation -if a higher output is preferred by manager then design accordingly.

Plumbing and new wells shall be in accordance with State Well Code and rural water authority.

Large stock-water tanks or additional waterers within buildings are recommended if well output/flow is low. In conclusion the wells should be pump tested and a rural water daily allotment should be secured to insure that the water system meets the planned needs, then designed accordingly.

Electrical Power Demands:
Additional power demands will be mainly for waterers, building lighting, pump systems, ventilation and light poles. Number, sizes and location of lights, waterers and other planned electrical devices needs to be determined, so that a licensed electrician can properly size wires and make necessary modifications to the existing electrical system to insure that conforms to all electrical codes. Concrete waterer pads (and any pads with an electrical device) need to be grounded as shown in drawings to control "stray" voltage.

Stormwater Management and associated practices:
Stormwater management rules and regulations generally require that soil erosion is controlled to acceptable limits, polluted water is contained and treated, ditches, pipes, and other structures are designed to handle certain type of storm event. The rules and regulations also have set standards for types of practices (e.g. minimum top width of a dike). Many of the practices shown in the plans and specifications reflect these standards and design criteria set by regulating agencies.

Heavy use roads and pads :
The concrete design has been derived from different experiences and design information, primarily American Concrete Institute (ACI) and Portland Cement Assc. (PCA) and older SCS details and literature. Heavy use roads and pads are recommended, since they will improve the efficiency of the system. Heavy use protection can be costly and is usually not required for permit certification, therefor the owner should research his alternatives and discuss them with the engineer. We typically require 9" of gravel underlain with a woven geotextile which helps keep fine material from migrating upward into gravel and also helps distribute the wheel load over a greater surface area. Maintenance of gravel roads is necessary (i.e. grading and maintaining design thickness), and the idea of the geotextile is to minimize this maintenance.

Fencing:
Four strand barbed wire is specified but most producers put up sucker rod, panels or guard rail with railroad ties or drill stem at 10' CC, which exceeds the barbed wire specification. Fencing around the ponds is required (liability-helps keep kids, young livestock out).

Critical Area Seeding:
Seeding, fertilizing and mulching is required to conform with storm water pollution prevention plans (SWPPP). Mulching provides a cover that reduces erosion and helps with seed germination. MPCA rules and regulations require this seeding with mulching, or that an erosion control type blanket is used and done so in a timely matter, therefore the plans and specifications reflect this.

Nutrient Management Plan:
The Nutrient Management Plan (NMP, MMP or CNMP) is included.

Feed Management Plan:
No recommendations on feed management are made for the following reasons:

1. Soil phosphorous levels are not high on nearby fields, and there are ample acres to apply manure.
2. The amount of feedstock (containing phosphorus) imported on to this farm/system is low.

Mortality Management Plan:
Mortality management plan makes recommendations on the locations, timing, rates and methods of disposing of dead animals. This is included in the CNMP.

Plans and Specifications

Plans and specifications are written to conform with rules of the regulating agencies and/or the standards set by cost-share agencies as well as conforming with local zoning ordinances. Deviating from the plans and specification without written approval of the engineer, and regulating agencies and sponsors will have the following effects;

1) the engineer will ***not*** be able to certify the project as completed as per plans and specifications,
2) certification is required for permit approval and cost-share approval. Therefore, it is imperative that the owner/project manager read the plans and specifications prior to final design approval and have questions addressed prior to approval.

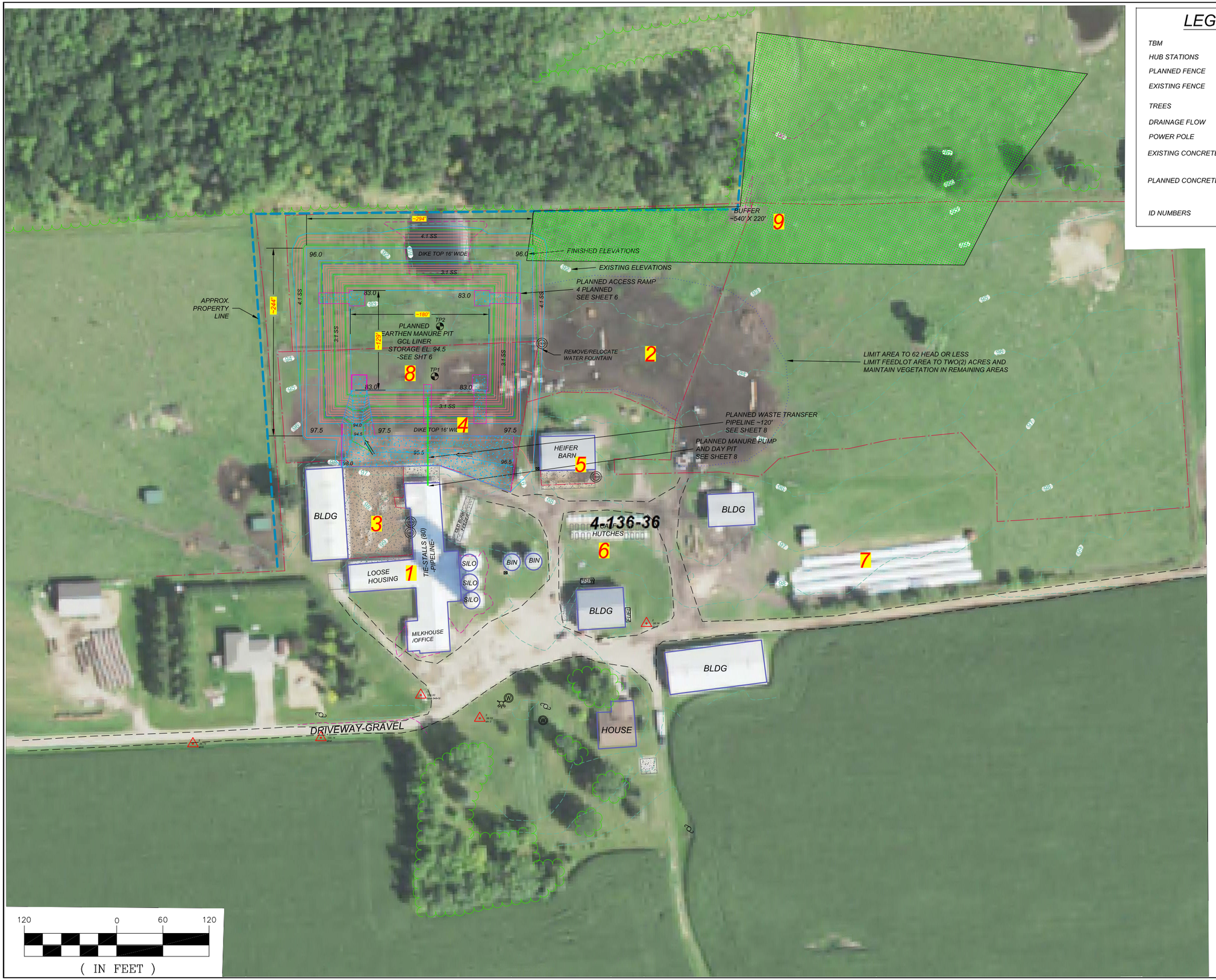
C. Design and Construction stages

Design Stages (brief summary)

1. Initial Site Visit -meeting with owner, farm inventory
2. Topographic Survey and geological investigations
3. Preliminary design -that would be this packet.
4. Meeting review preliminary design w/ owner/manager
5. Final Design -revised preliminary design, owner approval, permitting agency submittal and approval
6. Final design revisions -if needed
7. Construction management -staking, field inspections, quality assurance inspection, material testing to insure standards are met.
8. Final Approval -after construction is complete the engineer inspects the system, performs an as-built survey and composes a report for certification. This report is submitted to governing agencies as required.

Construction stages

This project is not part of a future expansion or phase, therefor one construction stage is assumed for this project. The project manager or owner will likely coordinate the bid solicitations and construction activities in accordance with the plans and specifications. The project manager can also employ an entity to manage the project for him/her.



Date Shane Kjellberg P.E. 8-21

Approved By .....

Title .....

Date Surveyed 8-6-18
Date Drawn 8-21
Designed by skk
Drawn By skk
Date Checked
Checked by
File: final2021.dwg

Kyle Goeller
Ottertail County MN
AWS
Facilities Map

K2S ENGINEERING INC.
4209 94TH AVE SE
YPSILANTI, ND 58497
Phone 701-489-3322

Sheet No.
1 of 1

MODEL INPUTS

Farm Name: **Kyle Goeller -Existing lot**
Address or other information: **Sebeka MN**
Evaluation Date: **8/6/18** Phone:
County: Otter Tail Evaluator: **skk**

Are animal numbers the same all year? YES

Compliance = YES
INDEX = 0

MinnFARM Version 2.2 UMN BBE
3/4/2009

Clear Farm Info

Average Annual Numbers

Feedlot area: 2 sq.ft
% paved: 0 %
Scrape lot every: 180 days
Slope: 1.0 %
% snow removed lot= 0
% snow removed A2= 0
Scrape lot every: 0

AUD= 2580092	Number Animals	Average weight pounds	Average hours/day on lot	Scrape lot every	AUD= 2580092	Number Animals	Average weight pounds	Average hours/day on lot	Scrape lot every 0	AUD= 2580092	Number Animals	Average weight pounds	Average hours/day on lot	Scrape lot every 0	AUD= 2580092	Number Animals	Average weight pounds	Average hours/day on lot
Type of Animal																		
Dairy Cow	35	1400	24															
Dairy Heifer	50	700	24															
Dairy Cow																		
None																		

Sub-lot 2 April-May or Annual

Feedlot area: sq.ft
% paved: %
Scrape lot every: days
Slope: %

Sub-lot 2 June - August

Scrape lot every:

Sub-lot 2 Sept - Oct

Scrape lot every:

Sub-lot 2 Nov - Mar

Scrape lot every:

AUD= 0	Number Animals	Average weight pounds	Average hours/day on lot	Scrape lot every	AUD= 0	Number Animals	Average weight pounds	Average hours/day on lot	Scrape lot every	AUD= 0	Number Animals	Average weight pounds	Average hours/day on lot	Scrape lot every	AUD= 0	Number Animals	Average weight pounds	Average hours/day on lot
Type of Animal																		
None																		
None																		
None																		
None																		

Sub-lot 3 April-May or Annual

Feedlot area: sq.ft
% paved: %
Scrape lot every: days
Slope: %

Sub-lot 3 June - August

Scrape lot every:

Sub-lot 3 Sept - Oct

Scrape lot every:

Sub-lot 3 Nov - Mar

Scrape lot every:

AUD= 0	Number Animals	Average weight pounds	Average hours/day on lot	Scrape lot every	AUD= 0	Number Animals	Average weight pounds	Average hours/day on lot	Scrape lot every	AUD= 0	Number Animals	Average weight pounds	Average hours/day on lot	Scrape lot every	AUD= 0	Number Animals	Average weight pounds	Average hours/day on lot
Type of Animal																		
None																		
None																		
None																		
None																		

Sub-lot 4 April-May or Annual

Feedlot area: sq.ft
% paved: %
Scrape lot every: days
Slope: %

Sub-lot 4 June - August

Scrape lot every:

Sub-lot 4 Sept - Oct

Scrape lot every:

Sub-lot 4 Nov - Mar

Scrape lot every:

AUD= 0	Number Animals	Average weight pounds	Average hours/day on lot	Scrape lot every	AUD= 0	Number Animals	Average weight pounds	Average hours/day on lot	Scrape lot every	AUD= 0	Number Animals	Average weight pounds	Average hours/day on lot	Scrape lot every	AUD= 0	Number Animals	Average weight pounds	Average hours/day on lot
Type of Animal																		
None																		
None																		
None																		
None																		

AREA 2 INFORMATION

Roof area: sq.ft

	Area	Units	Cover Type or Rotation	Your Soils	Hydro Group
Tributary A		acres	Row Crop-Contour	-	B
Tributary B		acres	Row Crop-Contour	-	B
Tributary C		acres	Row Crop-Contour	-	B
Tributary D		acres	Row Crop-Contour	-	B
Tributary E		acres	Row Crop-Contour	-	B
Tributary F		acres	Row Crop-Straight	-	B

Compliance = YES
INDEX = 0

BUFFER INFORMATION

	Length	Width		Slope		Cover Type or Rotation	Your Soils	Hydro Group
Buffer A	540	220	feet	1.0	%	Pasture/Grassland-Fair	-	C
Buffer B			feet		%	Permanent Meadow	-	D
Buffer C			feet		%	Row Crop-Contour	-	B
Buffer D			feet		%	Row Crop-Contour	-	B

AREA 3 INFORMATION (NOT INCLUDING BUFFER AREA)

	Area	Units	Cover Type or Rotation	Your Soils	Hydro Group
Adjacent A		sq.ft	Row Crop-Straight	-	B
Adjacent B		acres	Row Crop-Contour	-	B
Adjacent C		acres	Row Crop-Contour	-	B
Adjacent D		acres	Row Crop-Contour	-	B
Adjacent E		acres	Row Crop-Contour	-	B
Adjacent F		acres	Row Crop-Contour	-	B

Estimated max Area 3: 9.92 acres

Compliance = YES

INDEX = 0

RECEIVING WATER INFORMATION

Is this feedlot in a TMDL Area? NO — If yes, what for? (fecal, TSS, P,etc.)

Is the feedlot in a Riparian Area? NO — If yes, what type?

What is the End of Treatment (EoT)? Property Boundary

What is the Water of Concern (WoC)? Non-Public Wetland — Name of waterbody

0.3 miles

Other Comments?

MODEL RESULTS FOR: Kyle Goeller -Existing lot 8/6/18

MinnFARM Version 2.2 UMN BBE

3/4/2009

Site Summary

Total Feedlot Area = **0.00** acres

Roof Area = **0.00** acres

Total Area 2 = **0.00** acres

Total Buffer Area = **2.73** acres

Total Area 3 = **0.00** acres

Ratio of Buffer to Feedlot Area (includes Area 2)= **59400.00**

Site Evaluation Results

Does Evaluation Indicate Regulatory Compliance? ***YES***

Prioritization INDEX = 0

Receiving Water Summary

The Feedlot is **NOT in a TMDL area**

The Feedlot is **NOT in a Riparian Area as defined by BWSR**

The End of Treatment is a **Property Boundary**

The Water of Concern is a **Non-Public Wetland**

The name of the WoC is **was not provided**

The distance from the EoT to the WoC is **1320 ft**

Seasonal Runoff Summary

Average Seasonal and Annual Runoff Volume

Location (units)	Spring	Summer	Fall	Winter	Annual
Feedlot Edge (acre-in)	0.00	0.00	0.00	0.00	**0.00**
Buffer Edge (acre-in)	0.62	0.59	0.27	1.06	**2.54**

Average Annual Loading from Feedlot

Parameter (units)	Spring	Summer	Fall	Winter	Annual	*Compliance Indicator*	
COD (lbs)	0	0	0	0	**0**		
Phosphorus (lbs)	0	0	0	0	**0**	*4.0*	
Nitrogen (lbs)	0	0	0	0	**0**		
Fecal Coliform (cfu)	0.0E+00	0.0E+00	0.0E+00	0.0E+00	**0.0E+00**		
BOD 5 (lbs)	0	0	0	0	**0**	*100.4*	*<=Using BOD Based limit*

Comments

Manure Pit/Pond Design

Ag Waste Storage Pond Design

Level I - Rectangular

version 1.0

Producer: Kyle Goeller Dairy **Date:** 8/12/2021

County: Otter Tail, East **Designed by:** skk

Township: Blowers **Checked By:**

Date:

Section: 4 **T** 136 N **R** 36 **W**

Storage Period

	1	2
Start Month	January	
Through Month	December	
Days in Storage Period (D)	365	

Unpaved Drainage Area (Ac)	0.23
Paved Drainage Area (Ac)	0.97
Evaporation	P-E minimum of zero
Rolling Herd Average (lbs/cow/yr)	

Animal Units				Manure Production			Waste Water		Bedding		
Animal Type	**# of Animal (N)**	**Animal Weight lbs (W)**	**Animal Units (AU)**	**% to pond**	**Daily Volume per AU ft^3/day/AU (DVM)**	**Volume ft^3/day (VMD)/day**	**Daily Volume per AU ft^3/day/AU (DWW)**	**Volume ft^3/day (WWD)/day**	**Bedding Unit Weight lb/ft^3 (BUW)**	**Amount of Bedding Used lb/day/au (WB)**	**Bedding Volume ft^3/day (BV)/day**
Lactating Cow	150	1500	225	100	1.80	405	1	225	7.00	1.00	16
Dry Cow	35	1500	53	50	0.82	22	0	0	7.00	2.00	7
Springers	27	1200	32	60	0.93	18	0	0	7.00	2.00	5
Heifers	50	750	38	0	1.24	0	0	0	7.00	0.00	0
Calves	30	330	10	0	1.30	0					
Totals		**AU**	**357**		**ft^3/day**	**445**	**ft^3/day**	**225**		**ft^3/day**	**28**

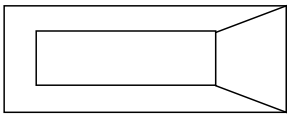
Totals for Given Storage Period							
	Period 1	TVM, (ft^3)	162,281	TWW, (ft^3)	82,125	TBV, (ft^3)	10,293
		(gallons)	1,214,021	(gallons)	614,377	(gallons)	77,001
	Period 2	TVM, (ft^3)		TWW, (ft^3)		TBV, (ft^3)	
		(gallons)		(gallons)		(gallons)	

Note: Leave ramp width and slope blank if no ramp is provided.

Side 1		
Pond Side Slope	3	:1
Ramp Width		ft
Ramp Slope		:1

Side 4		
Pond Side Slope	3	:1
Ramp Width		ft
Ramp Slope		:1

BW



BL

Side 2		
Pond Side Slope	3	:1
Ramp Width	0	ft
Ramp Slope		:1

Side 3		
Pond Side Slope	3	:1
Ramp Width		ft
Ramp Slope		:1

Accumulated Solids Depth (ft)	1.0
Effective Depth (ft)	10.0
Bottom Elevation	83.0
Freeboard (ft)	2.0
Rain Water Excluded?	No

	Design	**Effective**	**Total**
Bottom Width, ft (BW)	**129**	135	
Bottom Length, ft (BL)	**180**	186	
Bottom Area (ft^2)	23,220	25,110	
Top Width (ft)		195	207
Top Length (ft)		246	258
Top Area (ft^2)		47,970	53,406
Depth (ft)		10.0	13.0

Dilution Factor	
Storage Period 1	0.54
Storage Period 2	

Volume Needed	**ft^3**	**gal**
Total Normal Volume		
Storage Period 1	302,734	2,264,750
Storage Period 2		
Total Volume Required		
Storage Period 1	339,081	2,536,667
Storage Period 2		

Approx, Excavation Volume	17,958.8	cu yd
If not Concrete, Liner Type:	Clay Liner	
Liner Thickness	1.5	ft
Liner Volume (including ramp) 1.5 ft Thick	3,085	cu yd

Volume Provided	**Effective**	**Total**	**Without Freeboard**
Volume Provided (ft^3)	**359,400**	**484,887**	**383,559**
Volume Provided (gal)	**2,688,671**		

Pump Out Marker Determination	
Marker Height From Pond Bottom (ft)	9.7
Marker Elevation	92.7

Ag Waste Storage Pond Design

Hydrology Output

version 1.0

Producer: Kyle Goeller Dairy **Date:** 8/12/2021

County: Otter Tail, East **Designed by:**

Checked By:

Township: Blowers **Date:**

Section: 4 **T** ## N R **36 W**

	Storage Period 1	Storage Period 2
Start Month	January	
Through Month	December	
Days in Storage Period (D)	365	

Unsurfaced Drainage Area (Ac) 0.23
Surfaced Drainage Area (Ac) 0.97
Evaporation P-E minimum of zero

Storage Period 1 Totals

	Runoff				Precipitation & Evaporation, Pond Surface			
	Unpaved Area Runoff (in.)	Paved Area Runoff (in.)	Volume (ft^3)	Volume (gal)	Precip (in.)	P- E (in.)	Volume (ft^3)	Volume (gal)
Normal	4.81	12.50	48,035	359,352	25.89	0	0	0
25yr-24hr	3.50	4.26	17,919	134,053	4.61		18,428	137,863
Totals:			65,954	493,405			18,428	137,863

Storage Period 2 Totals

	Runoff				Precipitation & Evaporation, Pond Surface			
	Unpaved Area Runoff (in.)	Paved Area Runoff (in.)	Volume (ft^3)	Volume (gal)	Precip (in.)	P- E (in.)	Volume (ft^3)	Volume (gal)
Normal								
25yr-24hr								
Totals:								

Total Volumes Required		
Storage Period	1	
Normal Runoff Volume (ft^3)	48,035	
25 Year Storm Volume (ft^3)	36,348	
Total Water Inputs (ft^3)	166,508	
Total Non-water Inputs (ft^3)	172,573	
Normal Volume (no storm)(ft^3)	302,734	
Total Volume (ft^3)	339,081	

Control Points & Critical Area Seeding

STANDARD 342 – CRITICAL AREA PLANTING SPECIFICATIONS

Recommended seed mixtures are found in Table 11. Seeding rates are based on pounds of Pure Live Seed (PLS) per acre. Design custom seed mixtures as follows:

Introduced Grass/Legume: Mixture will result in a minimum 150 seeds/ft^2, at least 50% of the mixture must be grass. Sod forming grasses will comprise a minimum 30% of the mixture. Legume seed shall be inoculated with the appropriate strain of nitrogen fixing bacteria prior to planting.

Native Grasses: Mixture will result in a minimum 75 seeds/ft^2. Sod forming grasses will comprise a minimum 30% of the mixture.

TABLE 11: RECOMMENDED SEED MIXTURES FOR CRITICAL AREA PLANTING

Seeding Mixture	Lbs/ac	Seeds/ft^2 Total Mix	% Sod	Suitable Uses 1/	Drainage	Capacity Retardance	Remarks
Smooth Brome Perennial Ryegrass	28 10	150	58	CO, WW, CA	Moderate to well, Excessively drained	B	Add Red Clover or Alsike Clover if desired
Smooth Brome Timothy Perennial Ryegrass	15 3 3	155	30	CO, WW, CA	Moderate to well, Excessively drained	B	Add Red Clover or Alsike Clover if desired
Smooth Brome Red Top Perennial Ryegrass	15 1 5	190	83	CO	Moderate to excessively drained	B	Add Alfalfa or Alsike Clover if desired
Int. Wheatgrass Timothy Canada Wildrye	23 3 7	155	30	CO, WW	Well to somewhat poorly drained	B	Add Alsike clover or Alfalfa if desired
Kentucky Bluegrass Creeping Red Fescue Perennial Ryegrass	3 5 10	210	70	CO,CA	Well to somewhat poorly drained	C	Add alsike or red clover if desired
Creeping Foxtail Timothy Red Top Perennial Ryegrass	10 2 1 3	362	78	CO, WW, CA	Somewhat poorly to poorly drained	C	Add Red Clover if desired
Timothy Perennial Ryegrass Kentucky Bluegrass Tall Fescue Annual Ryegrass	2 4.5 2.5 3 3	198	40	CO,WW, CA	Moderate to somewhat poorly drained	C	
Big Bluestem Indiangrass Switchgrass Canada Wildrye	6 6 6 7	123	63	CO, CA	Moderate to well drained	B	
Big Bluestem Indiangrass Switchgrass Sideoats grama Little Bluestem	4 4 3 3 3	93	60	CO	Moderate to Excessively drained	B	
Switchgrass Sideoats Grama Canada Wildrye Western Wheatgrass	4 4 7 5	84	78	CO, CA	Moderately to well drained	B	
Prairie Cordgrass Switchgrass Western Wheatgrass Canada Wildrye	3 3 7 7	76	76	CO,CA, WW	Somewhat poorly to poorly drained	B	

1/ Suitable Uses: **CO** = construction sites **CA** = critical areas **WW** = waterways

Coordinate Point List:

Number	Northing	Easting	Elevation	Full Desc	
2	10093.1302'	10293.3246'	98.564'	stn 2	stn 2
3	9969.8630'	10076.6893'	99.526'	stn 3	stn 3
4	9944.6669'	9870.2033'	100.145'	stn4	stn4
5	9936.7883'	9703.8745'	99.734'	stn5	stn5

GCL information

PRODUCT DATA SHEET

GSE BentoLiner NSL Geosynthetic Clay Liner

GSE BentoLiner "NSL" is a needle-punched reinforced composite geosynthetic clay liner (GCL) comprised of a uniform layer of granular sodium bentonite encapsulated between a woven and a nonwoven geotextile. The product is intended for moderate to steep slopes and moderate to high load applications where increased internal shear strength is required.

AT THE CORE:

This composite clay liner is intended for moderate to steep slopes and moderate to high load applications where increased internal shear strength is required.

Product Specifications

Tested Property	Test Method	Frequency	Value	595 Standard	595 conformance
Geotextile Property					
Cap Nonwoven, Mass/Unit Area	ASTM D 5261	1/200,000 ft²	6.0 oz/yd² MARV(1)		
Carrier Woven, Mass/Unit Area	ASTM D 5261	1/200,000 ft²	3.1 oz/yd² MARV		
Bentonite Property					
Swell Index	ASTM D 5890	1/100,000 lb	24 ml/2 g min	24 ml/2 g min	yes
Moisture Content	ASTM D 4643	1/100,000 lb	12% max	12% max	yes
Fluid Loss	ASTM D 5891	1/100,000 lb	18 ml max	18 ml max	yes
Finished GCL Property					
Bentonite, Mass/Unit Area(2)	ASTM D 5993	1/40,000 ft²	0.75 lb/ft² MARV	0.75 lb/ft^2	yes
Tensile Strength(3)	ASTM D 6768	1/40,000 ft²	30 lb/in MARV		
Peel Strength	ASTM D 6496 ASTM D 4632(4)	1/40,000 ft²	3.5 lb/in MARV 21 lb MARV		
Hydraulic Conductivity(5)	ASTM D 5887	1/Week	5 x 10^{-9} cm/sec max		
Index Flux(5)	ASTM D 5887	1/Week	1 x 10^{-8} m³/m²/sec max	1 x 10^{-8} m/s max	yes
Internal Shear Strength(6)	ASTM D 6243	Periodically	500 psf Typical		
TYPICAL ROLL DIMENSIONS					
Width x Length(7)	Typical	Every Roll	15.5 ft x 150 ft	11.9' w X 73'	yes
Area per Roll	Typical	Every Roll	2,325 ft²		
Packaged Weight	Typical	Every Roll	2,600 lb		

NOTES:

- (1)Minimum Average Roll Value.
- (2)At 0% moisture content.
- (3)Tested in machine direction.
- (4)Modified ASTM D 4632 to use a 4 in wide grip. The maximum peak of five specimens averaged in machine direction.
- (5)Deaired, deionized water @ 5 psi maximum effective confining stress and 2 psi head pressure.
- (6)Typical peak value for specimen hydrated for 24 hours and sheared under a 200 psf normal stress.
- (7)Roll widths and lengths have a tolerance of ±1%.

GSE is a leading manufacturer and marketer of geosynthetic lining products and services. We've built a reputation of reliability through our dedication to providing consistency of product, price and protection to our global customers.

Our commitment to innovation, our focus on quality and our industry expertise allow us the flexibility to collaborate with our clients to develop a custom, purpose-fit solution.

GSE ENVIRONMENTAL™

DURABILITY RUNS DEEP

For more information on this product and others, please visit us at GSEworld.com, call 800.435.2008 or contact your local sales office.

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BENTOLINER GCL PRODUCTS

INSTALLATION QUALITY ASSURANCE MANUAL

Contents

1.0 INTRODUCTION

This manual provides an overview of the GSE Installation Quality Assurance procedures consistent with industry accepted practices to ensure that the GSE BentoLiner GCL products installed will best perform for its intended purpose. In addition, all installation work will be performed in strict accordance per the customer's specifications. Please read the procedures below completely before you begin. If you need further clarification, contact the GSE Engineering Support Staff for assistance or please refer to ASTM D 6102, Standard Guide for Installation of Geosynthetic Clay Liners and ASTM D 5888, Standard Guide for Storage and Handling of Geosynthetic Clay Liners. Remember safety first and use safe practices always on every project.

2.0 UNLOADING PROCEDURES

As with all lifting or unloading operations, appropriate equipment and experienced personnel should be employed along with proper safe handling methods. The party responsible for unloading the GSE BentoLiner should contact GSE prior to shipment to determine the correct unloading methods and equipment if different from the pre-approved and specified methods as described below.

Lifting GCL rolls can typically be accomplished with by using a 2.5 in - 3.0 in (63 mm - 75 mm) outside diameter (O.D.) steel pipe (preferably solid), with a wall thickness capable of providing sufficient beam strength to support the weight of the roll, which average less than 3,000 lb (1,364 kg) and the length is approximately 18 ft (5.5 m). This core pipe is inserted through the hollow center of the GCL cardboard core. Heavy-duty slings or chains, which are approximately 10 ft (3.1 m) long, each are attached to each end of the pipe, which are then fastened to a I-beam spreader bar or a GSE approved alternative. Care should be taken to ensure that lifting chains or straps do not rub, chafe, or otherwise damage the GCL. A crane, backhoe, front-end loader or another suitable piece of construction equipment can then lift the entire assembly.

An all-terrain, extendable boom forklift, such as a Lull or Caterpillar Telehandler, can be fitted with a special, solid steel "carpet pole" or stinger, typically 14.0 ft (4.3 m) in length having an outside diameter of no more then 3.38 in (8.6 mm). The carpet pole can be inserted into the hollow cardboard core of the GCL roll.

The roll should not be fully suspended until the pole extends through the entire length of the core tube or you run the risk that the core may break creating additional handling and unloading difficulties

A properly structured and supported pole can be used to unload GCL rolls onsite. As an alternative, straps that are appropriately rated can be used as a GSE approved lifting method to unload GCL rolls. Lifting straps are supplied on every roll. Each GCL roll label contains roll weight information that should be consulted in determining appropriate lifting equipment and factors of safety.

The CQA inspector or owner's representative should verify that only appropriate handling equipment is utilized, i.e. equipment that does not pose any danger to personnel or undue risk of damage or deformation to the liner material.

3.0 STORAGE

While stored GCL needs to be kept dry and away from potential flooding or high storm runoff. On the job site storage methods include; storing the rolls tarped on pallets; storing the rolls under roof in a clean, dry protected area; and storing the rolls on a flat, dry, stable surface suitably covered with protective waterproof tarps. Rolls can be stacked as long as it is done in a manner that prevents them from rolling, shifting, or spontaneously moving. Maximum roll height should be determined by CQA personnel, but never more than can be safely managed considering site conditions, equipment and personnel.

Stored rolls should be tarped and remain in their original, unopened plastic shipping sleeves to prevent damage and undue prehydration prior to installation. Any rolls that come in contact with water should be examined by CQA or an owner's representative prior to installation. Prehydrated or physically damaged rolls should be set aside for further examination to determine the plausibility of repair or need to replace.

4.0 SUBGRADE PREPARATION

The surface upon which the GSE BentoLiner is installed should be smooth and free of wheel ruts, debris, roots, sticks, and rocks larger than 1.0 in (25 mm). Site specific compaction requirements should be followed in accordance with the project plans and specifications. At a minimum, the site should be smooth rolled the level of compaction such that installation equipment and other construction vehicles traffic does not cause rutting greater than 1.0 in (25 mm) deep. Furthermore, all protrusions extending more than 0.5 in (12 mm) from the subgrade shall be removed, crushed, or pushed into the subgrade.

In applications where the product is the sole barrier, subgrade surfaces consisting of gravel or granular soils may not be acceptable due to their large void content. For these applications, the subgrade shall be greater than 80% fines and contain no particles larger than 1 in (25 mm). In all high head, water containment applications, i.e. maximum water depth greater than 1 ft (30.5 cm), GSE recommends the use of a coated or laminated GCL such as GSE BentoLiner CNSL.

Immediately prior to deployment of the GCL, the subgrade shall be final compacted to fill in any remaining voids or desiccation cracks and to ensure that no sharp irregularities or abrupt elevation changes exist greater than 1.0 in (25 mm). The surfaces to be lined shall be maintained in this condition and free of standing water. GCL can be deployed on a frozen subgrade, if the subgrade would meet all the conditions as previously outlined if unfrozen.

The subgrade surface and preparation should be inspected and certified by the CQA inspector prior to GSE BentoLiner placement. Upon approval by the CQA inspector, it is the geosynthetic installer's responsibility to communicate to the engineer of any changes in the condition of the subgrade that might render it out of compliance, with any of the requirements of the project specification or ASTM Standard D 6102.

5.0 DEPLOYMENT

As rolls are selected for deployment, the labels should be removed and recorded by the installer, along with any other pertinent information. The rolls should only be transported from the storage area using approved lifting equipment as described in section 2.0. The roll is supported during deployment, so that the fabric designated as the upper surface faces out, away from the installation vehicle. The free end of the roll can then be secured, while the vehicle supporting the roll slowly backs away, deploying the GCL as it moves. Alternatively, the free end can be manually pulled across an area to be lined by the installation crew while the equipment simply suspends the roll. Equipment traveling directly on GCL for deployment of overlying geosynthetics should be limited to lightweight ATVs maximum bearing capacity of 8.0 psi (34.5 kPa) or equivalent.

Successive panels are overlapped according to project specifications and/or within the overlap lines stenciled on the upper surface of each panel. Wherever possible, installation of GSE BentoLiner should begin at high elevation and proceed to low elevation. This allows any precipitation to accumulate and drain quickly without adversely affecting the GCL. The edges of exposed GCL should be weighted down with sandbags or equivalent ballast to prevent uplift in the event of substantially strong winds.

Only as much GSE BentoLiner as can be fully covered by the end of the day should be deployed or such amount that can be covered in a reasonably short time in the event of heavy precipitation. When GCL is being installed under a geomembrane, the leading edge should be folded back under the membrane at the end of the construction day. Temporary ballasting, such as sandbags, to prevent uplift and the infiltration of runoff water should secure the leading edge of the membrane.

GSE BentoLiner panels should be installed in a relaxed condition, free of wrinkles and folds. When fitting the product into small areas or around construction details, use a sharp utility or hook blade knife to cut the liner to the appropriate dimensions. Adjacent panels should overlap at the edges as described in section 6.0 below.

6.0 OVERLAPS & SEAMS

Unless specified differently adjacent lengthwise (longitudinal) seams should be overlapped a minimum of 6.0 in (150 mm). Granular bentonite should be used to augment all overlapped seams. Loose granular bentonite is placed between ajoining panels into the overlap area at a rate of 0.25 lb per linear foot (350 g per linear meter) of seam. Widthwise overlaps at the butt ends of rolls should be a minimum 12.0 in (300 mm). Seams should be shingled in a down slope direction, so that water flows across the seam from upslope sheet to the down slope sheet.

When the liner is cut to fit in small areas, i.e. into corners or around structures, adjacent panels should overlap a minimum of 1.0 ft (300 mm), adding abundant loose granular bentonite into the overlapped areas.

7.0 ATTACHMENT DETAILS

The product should be installed around penetrations, structures, pipes, structures and other appurtenances according to the contract drawings. GSE BentoLiner may be secured to appurtenances by use of a stainless steel batten or clamps, mechanical fasteners, or other appropriate device if necessary to minimizing movement. The use of additional granular bentonite or bentonite paste is recommended to maximize the seal around structures or protuberances.

8.0 ANCHORING

GSE BentoLiner is typically anchored in a trench around the perimeter of the lined area, which provides the required pullout resistance. In most cases, GCL can be anchored in the same trench as any adjacent geosynthetic liner components (if used). Dimensions and locations of the trench should be provided in the project drawings. Alternately, the material may be anchored by deploying additional run out of material, a minimum of 3.0 ft (1.0 m), past the slope crest and toe. Typically GCL should not be deployed in tension. The force holding the GCL in place should be provided by friction between the GCL and adjacent materials

Steps should be taken to ensure that precipitation does not accumulate in the trench prior to backfilling. The GCL should only cover the front face and bottom of the anchor trench. The trench should be back filled and properly compacted prior to placing cover soil on the slopes.

9.0 REPAIRS

In the event an area of GSE BentoLiner becomes damaged, torn, or punctured during installation, the affected area should be repaired. On relatively level surfaces, the damaged area should be covered with a separate piece of GSE BentoLiner extending at least 12.0 in (300 mm) beyond the damaged area in every dirRection. Granular bentonite should be used to augment the patch overlays as is required for all other seams. Patches on side slopes can be temporarily secured with construction adhesive such as Liquid Nails or tape.

Areas that are exposed to standing water or excess precipitation with resulting bentonite hydration, typically as defined as greater than 30% moisture, prior to soil covering, should be examined for bentonite displacement and damage by subsequent activities. If it is determined that the GCL has been hydrated and damaged, the GCL should be covered with new material over the affected area or removed and replaced. All GSE BentoLiner material exposed to hydrocarbon fuels, chemicals, pesticides, non-compatible leachates, or other harmful liquids during the installation should be removed and replaced with non-affected material.

10.0 INSPECTION

Prior to soil covering the panels, penetrations and any other details should be visually inspected to ensure full coverage and proper orientation. Once the installed GSE BentoLiner material has been approved the next layer of geosynthetics or soil covering may be applied.

11.0 COVER MATERIAL

Only the amount of GSE BentoLiner GCL that can be anchored, inspected, and covered the same day should be installed. In cases where the GSE BentoLiner GCL is the sole hydraulic barrier, the GCL should be covered with the specified thickness of cover soil (a minimum 1.0 ft (300 mm)) immediately following deployment. Where GSE BentoLiner GCL is used in conjunction with other membrane components, it should be covered with the geomembrane after placement, as soon as possible to protect it from the climatic elements.

When a geomembrane is being installed over the GCL, the leading edge of the GSE BentoLiner should be folded back under the geomembrane so that the geomembrane extends beyond the GCL a minimum of 2.0 ft (600 mm). The leading edge of the membrane should subsequently be weighted with sand bags or suitable ballast to safeguard against wind uplift and to prevent runoff water from undermining the liner.

When GSE BentoLiner is used with no overlying geomembrane, the soil cover should be placed within 2.5 ft (800 mm) of the leading edge of the GCL. The leading edge can then be covered with plastic sheeting that is folded under the exposed edge approximately 12.0 in (300 mm). Sand bags or suitable ballast should be placed on the liner to hold the plastic in place and to partially confine the GCL. The next morning the ballast and the plastic can be removed and subsequent rolls of GCL placed as described in section 5.0.

Cover soil placed directly on GCL should have a gradation to not damage or puncture the GCL. Cover soil should be free of all rocks greater than 0.75 in (18 mm) diameter, sharp or angular objects, sticks, roots or debris. Appropriate placement methods should be used at all times to protect the GCL. Compatibility of GSE BentoLiner GCL with the soil should be verified. Cover material should be pushed across the seams from top to bottom to prevent the cover material from lodging between the overlapped panel seams.

12.0 HYDRATION & ACTIVATION

In applications where the product is used as the sole hydraulic barrier, such as secondary containment, the GCL must first be hydrated with fresh water. Non-aqueous chemicals will not activate the bentonite. Therefore, bentonite hydration via rainwater or sprinkler and irrigation is necessary. When hydrated, the GSE BentoLiner is an excellent barrier to hydrocarbon fuels, fertilizers, and other such chemicals.

Only after the cover material has been placed should the GSE BentoLiner be allowed to hydrate. Once hydration has occurred no vehicles should be allowed to traffic the area directly above the GCL, unless minimum 1.0 ft (300 mm) separation exists between the GCL and the vehicle to adequately distribute the vehicle load. This should be increased to a minimum of 2.0 ft (600 mm) in high traffic areas such as roadways.

Periodic inspection of the liner to ensure proper coverage and adequate moisture content is recommended when GSE BentoLiner is used alone under a minimum 1.0 ft (300 mm) depth of cover soil. In arid regions, it may be necessary to irrigate the containment area, at a predetermined interval and/or a laminated or coated GCL used and deployed with the plastic component up in order to minimize dessication and wet – dry cycling.

GSE is a leading manufacturer and marketer of geosynthetic lining products and services. We've built a reputation of reliability through our dedication to providing consistency of product, price and protection to our global customers.

Our commitment to innovation, our focus on quality and our industry expertise allow us the flexibility to collaborate with our clients to develop a custom, purpose-fit solution.

For more information on this product and others, please visit us at GSEworld.com, call 800.435.2008 or contact your local sales office.

[DURABILITY RUNS DEEP]

GSE ENVIRONMENTAL™

REV 17JAN2013

Earthwork & Quantities

Kyle Goeller AWS Ottertail County Minnesota

	RAW CUT	RAW FILL	0.42 5 INCHES CONCRETE	0.33 4 INCHES DRAINFILL	0.75 9 INCHES GRAVEL	Adjusted cuts & fills CUT	FILL	
Manure Pit	13,688	3,755				13,688	3,755	*includes diversions & POND*
						0	0	
1.75' over ex for gcl	3,551	3,551						
		0						
Manure pump pit excavation	119					119	0	
			198	158	0	0	-356	
runoff pump pit	0	0	0	0		0	0	
						0	0	
								3,551
Topsoil Stripping	1,806							
Topsoiling		1,806						
			198	158	0	13,807	3,399	cu. yds.
						ratio =	4.06	
						req'd	1.32	

excavation 4,487 cu. yds.
Est. Borrow -9,319 cu. yds. *negative indicates extra cut,*

req'd excavation = 13,807 cu. yds.

Geotextile: 0 sq. yds.

stripping

97,500
97,500 10,833 sq yds
2.2 acres

topsoiling

97500
-66982
0
0 bldg & borrow
30,518 3,391 sq yds
0.7 acres

concrete areas -pads & waterers

area 12,800 *Pad area* 0 length
area 12 width
area
0
0 0 waterers 25
0 20
12,800 1,422 sq yds
198 cu.yds
158 drainfill

Gravel areas

0 walls
0 0 walls
0
0
0 Ramp
1000 ramp
0 1000 ramp
1000 ramp
3,240 360 sq yds
60 cu yds

concrete areas-s. sep.

240 headwall

concrete areas-silage pad

thickness inches 6
0 0
0 0
0 0
0
0 0
0 0
0 0
0 0
0 0 sq yds
0 drainfill

total outside drainfill 158.0247

Kyle Goeller Ottertail County Minnesota

New Fence		feedlot fence removal		other fence removal						
pond fence	1000	0		900						
feedlot	0	0		0						
feedlot	0	0		0						
feedlot	0	0		0						
feedlot	0	0		0						
		0		0						
feedlot Total	0	0		0						
other	0	0		0						
other	0	0	feet	900	GCL north	67500	sq ft	7,500	sq yds	
other	0				GCL south	0	sq fts	0	sq yds	
other total	0							*7,500*		

trenching			
	200	feet	
waterline	210	feet	
waterers	1		
sleeve	1		

windbreak fence removal
0 feet

waterer removal 1
Tree Removal 0.0 acres

solid separator	0	
concrete	0	
drainfill	0	
elbows	0	
18"PE pipe	0	
18" 22.5 elbow	0	
18" 90 elbow	0	

underground outlets		
*trenching	120	feet
18"	0	feet
manure pipe line	120	feet
8" pipe	0	feet
18" trash rack	0	each
18" outlet guard	0	each
18" CMP	0	feet
18" flared end	0	each
	0	each

*Includes Solid Separator Trenching

Rock Rip Rap
Rock 0 Cu. Yds.
Non Woven Geotextile Sq. Yds.

Erosion Blanket SB150
AREA 0 ft^2
AREA 0 yd^2
60sqyds/roll 0 rolls
Staples 0
use each

total

Seeding
Abandon 0 acres
construction 0.7 acres

Erosion Blanket C125
Length 0 feet
Roll width 6 feet
width req'd 4 rolls wide
Roll length 90 feet
rolls/length 0 rolls
x4rolls wide 0 rolls
60sqyds/roll 0 sqyds
Staples 0
use 0 each

Concrete Design

NONSTRUCTURAL CONCRETE SLAB REINFORCEMENT

The subgrade drag equation referenced in ACI 360, “Design of Slabs on Grade,” can be used to determine temperature and shrinkage control joint spacing in slabs based on the amount of steel reinforcement used. The equation is:

$$A_s = \frac{FLw}{2f_s} \quad \text{or} \quad L = \frac{A_s 2f_s}{Fw}$$

A_s = cross sectional area of steel reinforcement in square inches per lineal foot
f_s = allowable stress in the reinforcement in psi; use 0.70 x f_y (yield strength of the steel: 60 grade = 42,000 psi;)
F = friction factor; use 1.5
L = distance between control joints in feet
w = dead weight of the slab in pounds per square foot; use 12.5 pounds per square foot per inch of slab thickness

The number 2 in the subgrade drag equation is not a safety factor. The value of 2 is based on the assumption that the slab will shrink in such a manner that each end will move an equal distance towards the center.

Maximum Distance Between Control Joints (L) using the Subgrade Drag Equation

BAR Size	SPACING (in.)	A_S (sq. in./ft.)	5" SLAB L (ft.)	6" SLAB L (ft.)	7" SLAB L (ft.)	8" SLAB L (ft.)
#3	18	0.07	66	55	47	41
#3	15	0.09	79	66	56	49
#3	12	0.11	99	82	70	62
#4	18	0.13	119	100	85	75
#4	15	0.16	143	119	102	90
#4	12	0.20	179	149	128	112
#5	18	0.21	185	154	132	116
#5	15	0.25	222	185	159	139
#5	12	0.31	278	231	198	174
#6	18	0.29	263	219	188	164
#6	15	0.35	315	263	225	197
#6	12	0.44	394	329	282	246

Style-Heaven Holstein MMP

K2S Engineering Inc.
4209 94th Ave SE
Ypsilanti, ND 58497
701-489-3322

Manure Storage, Handling, and Testing Information

MINNESOTA POLLUTION CONTROL AGENCY

Facility Name: Style-Heaven Holstein | NPDES or SDS Permit? No | Permit Number: New

Owner/Operator Name: Kyle and Stephanie Goeller | Date Last Revised: New | Registration Number:

Version 8.14 Last Updated: 6/16/20

Manure Sources	Manure Source #1	Manure Source #2	Manure Source #3	Manure Source #4
Description of Manure Source Group sources with similar nutrient content if they have identical animal type, water usage, feed rations, and manure storage	Slurry Pond	Slurry Pond	Open Lot	
Livestock Information				
Predominate Animal Type (Contributing to Manure Source)	Dairy Milk Cow	Dairy Heifer	Dairy Heifer	
Average Animal Weight	1,500 lbs	750 lbs	750 lbs	lbs
Animal Number	150	40	40	
Length of Time Livestock Spend In Facility	365 days/yr	365 days/yr	365 days/yr	days/yr
Additional Animal Type (Contributing to Manure Source)	Dairy Heifer		Dairy Calf	
Average Animal Weight	1,200 lbs	lbs	330 lbs	lbs
Animal Number	27		30	
Length of Time Livestock Spend In Facility	365 days/yr	days/yr	365 days/yr	days/yr
Storage Information				
Storage Type	Lagoon	Lagoon	Stockpile	
Capacity	2,688,671 gals	2,688,671 gals	5,000 tons	
Storage Length	365 days	365 days	365 days	
Application Methods				
Commercial Applicator (Yes/No or Name)	NO	no	no	
Spreader Type	Towed Hose	Towed Hose	Solids Spreader	
How Volume/Tonnage Determined per Load	Unknown	Unknown	Unknown	
How Application Rate is Calibrated	Acres Covered by One Load	Acres Covered by One Load	Acres Covered by One Load	
Manure Analysis - Existing facilities should use actual manure test results				
Sampling Frequency	Every 4 Years	Every 4 Years	Every 4 Years	
Sampling Methods	MPCA or U of MN Guidelines	MPCA or U of MN Guidelines	MPCA or U of MN Guidelines	
Date Last Analyzed	08/09/18	08/09/18	08/09/18	
Basis for N,P, & K Values Below	Average of Previous	Average of Previous	Average of Previous Samples	
Total N - (do not enter lab estimated availability)	14 lbs/1000 gal	14 lbs/1000 gal	14 lbs/ton	
Total P_2O_5 - (do not enter lab estimated availability)	6 lbs/1000 gal	6 lbs/1000 gal	6 lbs/ton	
Total K_2O - (do not enter lab estimated availability)	14 lbs/1000 gal	14 lbs/1000 gal	14 lbs/ton	
Annual Generation - Existing facilities should use actual production values				
Total Manure Produced per Year (Estimated)	1,179,244 gals	76,084 gals	193 tons	
Total Manure Produced per Year (Actual)	gals	gals	tons	
Annual N Produced	16,863 lbs	1,065 lbs	2,704 lbs	lbs
Annual P_2O_5 Produced	6,604 lbs	457 lbs	1,159 lbs	lbs
Annual K_2O Produced	16,274 lbs	1,065 lbs	2,704 lbs	lbs

Average Book Values	
N	31
P_2O_5	15
K_2O	20

Average Book Values	
N	32
P_2O_5	14
K_2O	28

Average Book Values	
N	10
P_2O_5	3
K_2O	6

Average Book Values	
N	
P_2O_5	
K_2O	

General Field Information (Fields 1-35)

MINNESOTA POLLUTION CONTROL AGENCY

Unique Field ID Attach Aerial Photo or Map With Location Description (twp-rng-sec)	Field Acreage	Sensitive Features (Identify on Aerial Photo or Sketch) ***Insert a check mark by double-clicking the appropriate cells***												Soils Information (Test required once every 4 yrs)				Irrigation?	Anticipated Manure Application Timing **NOTE:** NPDES & SDS permitted sites cannot apply liquid manure in the winter (unless emergency)	Winter Application Field Info (If Applicable)		
		Tile Intakes	Drainage Ditch	Lake, River, Stream	Intermittent Stream (If farmed call MPCA)	Wetland (non-farmed)	Coarse-Textured Soil (soil type ends in "sand")	Floodplain	Public Well Management Area	Shallow Bedrock	Sinkhole	Well, Mine, or Quarry	Other Conduit to Water	Year of Soil Test (red if outdated)	Soil Test Phosphorus (P) Field Average (ppm)		Organic Matter			Distance from Field to Waters	Field Slope (%)
Example	80	✔	***You must double-click cells to insert a check mark***											2005	30	Olsen	Med/High	No	Late Fall	800	ft	3%
1	69					✔								2018	25	Olsen	Med/High	No	Late Fall			
2	68.5													2018	9	Olsen	Low	No	Late Fall			
3	55.5			✔										2018	12	Olsen	Med/High	No	Late Fall			
4	28			✔										2018	4	Olsen	Low	No	Late Fall			

Total Acres (Fields 1 - 35) 221

Sensitive Features Management Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

This worksheet identifies all allowable techniques that can be used to provide protection to sensitive features **as required** in Minnesota Rules and/or permit conditions. One of the following measures must be employed for the applicable sensitive feature. Any of the identified practices are acceptable.

Tile Intakes

Option A - Inject or incorporate within 24 hours and prior to rainfall within 300 ft, observe a 25 ft non-manured setback, and avoid long term soil P build-up
Option B - Inject or incorporate within 24 hours and prior to rainfall within 300 ft.
Option C - 35 ft grassed buffer
Option D - 100 ft setback with at least 16.5 ft as grassed buffer

Drainage Ditches

Option A - Inject or incorporate within 24 hours and prior to rainfall within 300 ft, observe a 25 ft non-manured setback, and avoid long term soil P build-up
Option B - 50 ft wide grassed buffer
Option C - 100 ft setback with at least 16.5 ft as grassed buffer
Option D - Protective Berm (prohibits runoff from entering the ditch)

Lakes, Rivers, and Streams

Option A - Inject or incorporate within 24 hours and prior to rainfall within 300 ft, observe a 25 ft non-manured setback, and avoid long term soil P build-up
Option B - 100 ft wide grassed buffer
Option C - 100 ft setback with at least 16.5 ft as grassed buffer

Intermittent Streams and/or Public Waters Wetlands (over 10 acres)

Option A - Inject or incorporate within 24 hours and prior to rainfall within 300 ft, observe a 25 ft non-manured setback, and avoid long term soil P build-up
Option B - 50 ft wide grassed buffer
Option C - 100 ft setback with at least 16.5 ft as grassed buffer

Wells, Mines, or Quarry

Option A - 50 ft setback - minimum (100 ft if NPDES permitted)

Sinkholes

Option A - Inject or incorporate within 24 hours and prior to rainfall upslope and within 300 ft and observe a 50 ft non-manured setback (100 ft non-manured setback for NPDES)
Option B - Berm that prevents runoff from entering the sinkhole

Application of Manure During the Summer Months (June, July, and August)

Option A - A cover crop will be planted on all fields that receive manure applications during June, July, and August

Other Conduits to Water

Option A - Inject or incorporate within 24 hours and prior to rainfall within 300 ft, observe a 25 ft non-manured setback, and avoid long term soil P build-up
Option B - 50 ft wide grassed buffer
Option C - 100 ft setback with at least 16.5 ft as grassed buffer
Option D - Protective Berm (prohibits runoff from entering the waters)

Early Fall Land Application - Unless otherwise required, this only applies to early fall manure application at NPDES or SDS permitted facilities

Option A - Fall Application onto fields that are dominated by coarse-textured soils shall be delayed until soil temperatures in the upper six (6) inches, are less than 50 degrees Fahrenheit, unless otherwise first approved by the MPCA.

Soil Erosion Conservation Measures - Required for ANY field used for winter application and for ALL fields at NPDES permitted sites

Option A - Establish grassed waterways
Option B - Contour stripcropping
Option C - No-Till cropping
Option D - Terracing
Option E - Meet tolerable soil erosion rates ("T") as defined by NRCS
Option F - Use rotations that include other than row crops (alfalfa, grass, etc)
Option G - Chisel or disk tillage with residue
Option H - Field edge buffers
Option I - Contour buffer strip
Option J - Sediment control basin
Option K - Plant a cover crop on bare ground

Sensitive Features Management Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

Even though no specific measures are required in Minnesota Rule, a complete MMP is required to identify measures that will be used to provide protection to the following areas. This worksheet will assist you in identifying which techniques will be used to provide protection to the following sensitive features even though **no specific practices are required** in Minnesota Rules.

This worksheet identifies possible techniques that can be used to provide protection to the following sensitive features.
One of the following measures will be employed for the applicable sensitive feature. Any of the identified practices are acceptable.

Wetlands Under 10 Acres (uncultivated)

No specific state requirements unless a public waters wetland or other permit conditions apply.

Option A - Observe a non-manured setback
Option B - Maintain a grass buffer
Option C - Incorporate manure near the wetland
Option D - Prevent long term soil P buildup
Option E - Utilize soil conservation practices
Option F - Other: _____

Public Well Management Area & Drinking Water Supply Management Areas

No specific state requirements unless other permit conditions apply.

Option A - Observe a non-manured setback
Option B - Follow practices recommended in city wellhead protection plan
Option C - Soil nitrate test will be used to refine nitrogen rate management decisions
Option D - Apply no earlier than late October or when soil temperatures are less than 50^{o}F
Option E - Other: _____

Shallow Bedrock - less than 3 feet of soil over limestone bedrock

No specific state requirements unless other permit conditions apply.

Option A - Use composted manure or other process which kill bacteria
Option B - Maximize separation between fractured bedrock and manure
Option C - Incorporate manure
Option D - Other: _____

Floodplain

No specific state requirements unless other permit conditions apply.

Option A - Avoid manure application during peak flooding periods
Option B - Incorporate or inject manure when there is a risk of flooding
Option C - Avoid winter-time manure applications
Option D - Other: _____

High Soil Test Phosphorus Management

MINNESOTA POLLUTION CONTROL AGENCY

This worksheet identifies all allowable techniques that will be used to manage soil phosphorus levels as required in Minnesota Rules. Based upon the soil test results for the field(s), one of the following measures will be employed to manage soil phosphorus levels on land where manure will be applied. Any of the identified practices are acceptable.

Soil Phosphorus: 22-75 ppm Bray or 17-60 ppm Olsen

Option A - Manure will **NOT** be applied within 300 ft of open tile intakes (NPDES Permits only), lakes, streams, intermittent streams, public waters wetlands, or drainage ditches without protective berms (indicate setbacks on aerial photos)

Option B - I will maintain or reduce soil P levels in this field over a six year period. (Example calculations are provided below)

Step 1 - Multiply expected crop yields by the P removal of the crop (Table C of this planner) and determine the average crop P removal over 6 years

Ex. *170 bu Corn* [170 * 0.34] = 58 lbs P removed/year & *45 bu Soybeans* [45 * 0.82] = 37 lbs P removed/year (Average of 48 lbs P removed/yr)

Step 2 - Determine the amount of P that is typically applied in manure applications

Ex. 4000 gals/ac * 35 lbs P/1000 gals * 0.8 = 112 lbs P applied

Step 3 - Divide step 2 by the average in step 1. (112 lbs P applied/48 lbs P removed = 2.3) Then take 6 years divided by this result and round down.

Ex. 112 lbs P applied/48 lbs P removed = 2.3 *THEN* 6 years/2.3 = 2.6 (round down to 2 out of 6 years manure can be applied)

Soil Phosphorus: 76-150 ppm Bray or 61-120 ppm Olsen

Option A - Manure will **NOT** be applied within 300 ft of open tile intakes, lakes, streams, intermittent streams, public waters wetlands, or drainage ditches without protective berms (indicate setbacks on aerial photos)

Option B - Use the University of MN soil P index and apply to fields with a low or very low rating and maintain or reduce soil P over six years

The Minnesota Soil Phosphorus Index can be found at : https://www.swac.umn.edu/extension-outreach/phosphorusloss

Option C - I will follow all NRCS 590 standards in accordance with the table below and maintain or reduce soil P over six years

Field within 300 feet of waters	Effective 100ft Grassed Buffer	Sheet and Rill Erosion (ton/acre-year)	Manure Application Allowed
No	Yes or No	Any Rate	Yes
Yes	Yes or No	More than 6	No
Yes	No	Less than 4	P removal basis
Yes	No	4 to 6	No
Yes	Yes	Less than 6	P removal basis

Soil Phosphorus: Over 150 ppm Bray or Over 120 ppm Olsen

Option A - Use the University of MN soil P index and apply to fields with a low or very low rating and maintain or reduce soil P over six years

The Minnesota Soil Phosphorus Index can be found at : https://www.swac.umn.edu/extension-outreach/phosphorusloss

Option B - I will follow all NRCS 590 standards in accordance with the table below and maintain or reduce soil P over six years

Field within 300 feet of waters	Effective 100ft Grassed Buffer	Sheet and Rill Erosion (ton/acre-year)	Manure Application Allowed
Yes	Yes or No	More than 6	No
Yes	No	Any Rate	No
Yes	Yes or No	2 or less	P removal basis
Yes	Yes or No	More than 2	No
No	No	Less than 4	P removal basis
No	No	More than 4	No
No	Yes	Less than 4	Yes
No	Yes	4 to 6	P removal basis
No	Yes or No	More than 6	No

6 Year Soil Phosphorus Management Plan

MINNESOTA POLLUTION CONTROL AGENCY

When soil phosphorus levels are required to be maintained (or reduced) over a 6 year period, one of the following crop rotation sceanrios will be employed for the applicable field or area near senstive features. You must complete at least one rotation below or indicate that manure will not be applied within 300 feet of sensitive features (this option will only be visible when all soil test results are below 150 Bray or 120 Olsen).

☐ Manure will not be applied within 300 ft of open tile intakes, lakes, streams, intermittent streams, public water wetlands, or drainage ditches without protective berms.

	Scenario 1			Scenario 2		Scenario 3		Scenario 4		Scenario 5		Scenario 6		Scenario 7		Scenario 8	
Crop (Year 1)	Alfalfa																
Yield	5		ton														
Manure Application Source (1-12) & Rate	1	15000	gals														
2nd Manure Application																	
Fertilizer P (total)			lbs														
Crop (Year 2)	Alfalfa																
Yield	5		ton														
Manure Application Source (1-12) & Rate	1	15000	gals														
2nd Manure Application																	
Fertilizer P (total)			lbs														
Crop (Year 3)	Alfalfa																
Yield	5		ton														
Manure Application Source (1-12) & Rate	1	15000	gals														
2nd Manure Application																	
Fertilizer P (total)			lbs														
Crop (Year 4)	Alfalfa																
Yield	5		ton														
Manure Application Source (1-12) & Rate	1	15000	gals														
2nd Manure Application																	
Fertilizer P (total)			lbs														
Crop (Year 5)	Corn Silage																
Yield	24		ton														
Manure Application Source (1-12) & Rate	1	10000	gals														
2nd Manure Application																	
Fertilizer P (total)			lbs														
Crop (Year 6)	Corn Silage																
Yield	24		ton														
Manure Application Source (1-12) & Rate	1	10000	gals														
2nd Manure Application																	
Fertilizer P (total)			lbs														

Results

P Applied over 6 Yrs	358	lbs		lbs		lbs		lbs		lbs		lbs		lbs		lbs	
P Removed over 6 Yrs	398.4	lbs		lbs		lbs		lbs		lbs		lbs		lbs		lbs	
Will Rotation Build Soil Phosphorus Levels?	No																

Crop and Nutrient Planning Worksheet (Fields 1-35)

MINNESOTA POLLUTION CONTROL AGENCY

Cropping Year: September 1, 2021 **to August 31,** 2022 **Crop Land Manager's Name:** _____

Field Information	Crop Information					Last Year's Manure App (Nutrients for 2021 Crop) leave blank if none applied			Nutrient Recommendations and Credits							
									N (lb/ac)						P_2O_5 (lb/ac)	
Field ID	Crop Grown to Utilize the Nutrients Applied 2022 Crop	Expected Yield (per acre) crop receiving nutrients		Crop Most Recently Harvested 2021 Crop	Crop Grown 2 Years Ago 2020 Crop	Last Year's Manure Test N	Animal Type of Manure Applied Last Year	Last Year's Application Rate (per acre) Typically 9/1/20 to 8/31/21		N Recommendation after 2021 crop credits	Legume-N Credit from the 2020 Crop	N Credit from Manure Applied to 2021 Crop	N Credit from Irrigation Water	N Needs after all credits	N Removal after all credits	P_2O_5 Needs (based on soil test data)	P_2O_5 Removal (based on crop uptake)
1	Corn Silage	24	ton	Corn Silage	Alfalfa	14				195	115	0	---	80	---	0	91
2	Alfalfa	5	ton	Alfalfa	Alfalfa	14	Dairy	10	ton	---	0	35	---	---	220	41	54
3	Oats	70	bu	Corn Silage	Corn Silage	14				50	0	0	---	50	---	11	20
4	Corn Silage	24	ton	Corn Silage	Alfalfa	14				195	115	0	---	80	---	101	91

Nutrient Application Planning Worksheet (Fields 1-25)

MINNESOTA POLLUTION CONTROL AGENCY

Manure Source Summary					
Source 1:	Slurry Pond (14.3-5.6-13.8)	**Source 5:**		**Source 9:**	
Source 2:	Slurry Pond (14-6-14)	**Source 6:**		**Source 10:**	
Source 3:	Open Lot (14-6-14)	**Source 7:**		**Source 11:**	
Source 4:		**Source 8:**		**Source 12:**	

☐ I will transfer ownership of some of the manure.

Field Information Summary		Crops Grown Summary		Nutrients Needed to Meet Yield Goal (lb/acre) after credits for nutrients from previous crops and manure applications			Manure Application Information (Nutrients for the 2022 Crop) Application Typically 9/1/2021 to 8/31/2022					Nitrogen (lb N/ac)				Phosphorus (lb P_2O_5/ac)			
Field ID	Acres After Setbacks	Crop Grown to Utilize the Nutrients Applied 2022 Crop	Crop Most Recently Harvested 2021 Crop	Nitrogen Needs	Nitrogen (Removal)	Phosphorus (Needs)	Manure Source (1-12)	Method of Application and Incorporation NPDES/SDS permitted sites cannot apply liquid manure in the winter (unless emergency)	Acres Receiving Manure (reduce to split the field)	Manure Application Rate (gals/tons per acre) Calculated Max Rate *based on Nitrogen*	Manure Application Rate (gals/tons per acre) Planned Rate *max used if blank*	N from Manure (Available this year)	Total Fertilizer Application (lbs/acre) Starter	Total Fertilizer Application (lbs/acre) Supplemental	Excess Available N (negative for deficiency)	P from Manure (Available this year)	Total Fertilizer Application (lbs/acre) Starter	Total Fertilizer Application (lbs/acre) Supplemental	P in Excess of Removal (negative for deficiency)
1	69	Corn Silage	Corn Silage	80	---	0	1	Sweep Injection	69	10,172	10000	79	0	0	-1	45	0	0	-46
2	69	Alfalfa	Alfalfa	---	220	41	1	Incorp. after 4 days	69	76,923	15000	43	0	0	-177	67	0	0	13
3	56	Oats	Corn Silage	50	---	11	2	Sweep Injection	56	6,494	6000	46	0	0	-4	29	0	0	9
4	28	Corn Silage	Corn Silage	80	---	101	3	Incorp. within 4 days	28	14	14	78	0	0	-2	67	0	0	-24

Nutrient Application Planning Worksheet (Fields 26-50)

Field Information Summary		Crops Grown Summary		Nutrients Needed to Meet Yield Goal (lb/acre) after credits for nutrients from previous crops and manure applications			Manure Application Information (Nutrients for the 2022 Crop) Application Typically 9/1/ to 8/31/2022					Nitrogen (lb N/ac)				Phosphorus (lb P_2O_5/ac)			
Field ID	Acres After Setbacks	Crop Grown to Utilize the Nutrients Applied 2022 Crop	Crop Most Recently Harvested 2021 Crop	Nitrogen Needs	Nitrogen (Removal)	Phosphorus (Needs)	Manure Source (1-12)	Method of Application and Incorporation NPDES/SDS permitted sites cannot apply liquid manure in the winter (unless emergency)	Acres Receiving Manure (reduce to split the field)	Manure Application Rate (gals/tons per acre) Calculated Max Rate *based on Nitrogen*	Manure Application Rate (gals/tons per acre) Planned Rate *max used if blank*	N from Manure (Available this year)	Total Fertilizer Application (lbs/acre) Starter	Total Fertilizer Application (lbs/acre) Supplemental	Excess Available N (negative for deficiency)	P from Manure (Available this year)	Total Fertilizer Application (lbs/acre) Starter	Total Fertilizer Application (lbs/acre) Supplemental	P in Excess of Removal (negative for deficiency)

Total Acres (Fields 1 - 50) = 221

☐ I will transfer ownership of the remaining amount of manure.

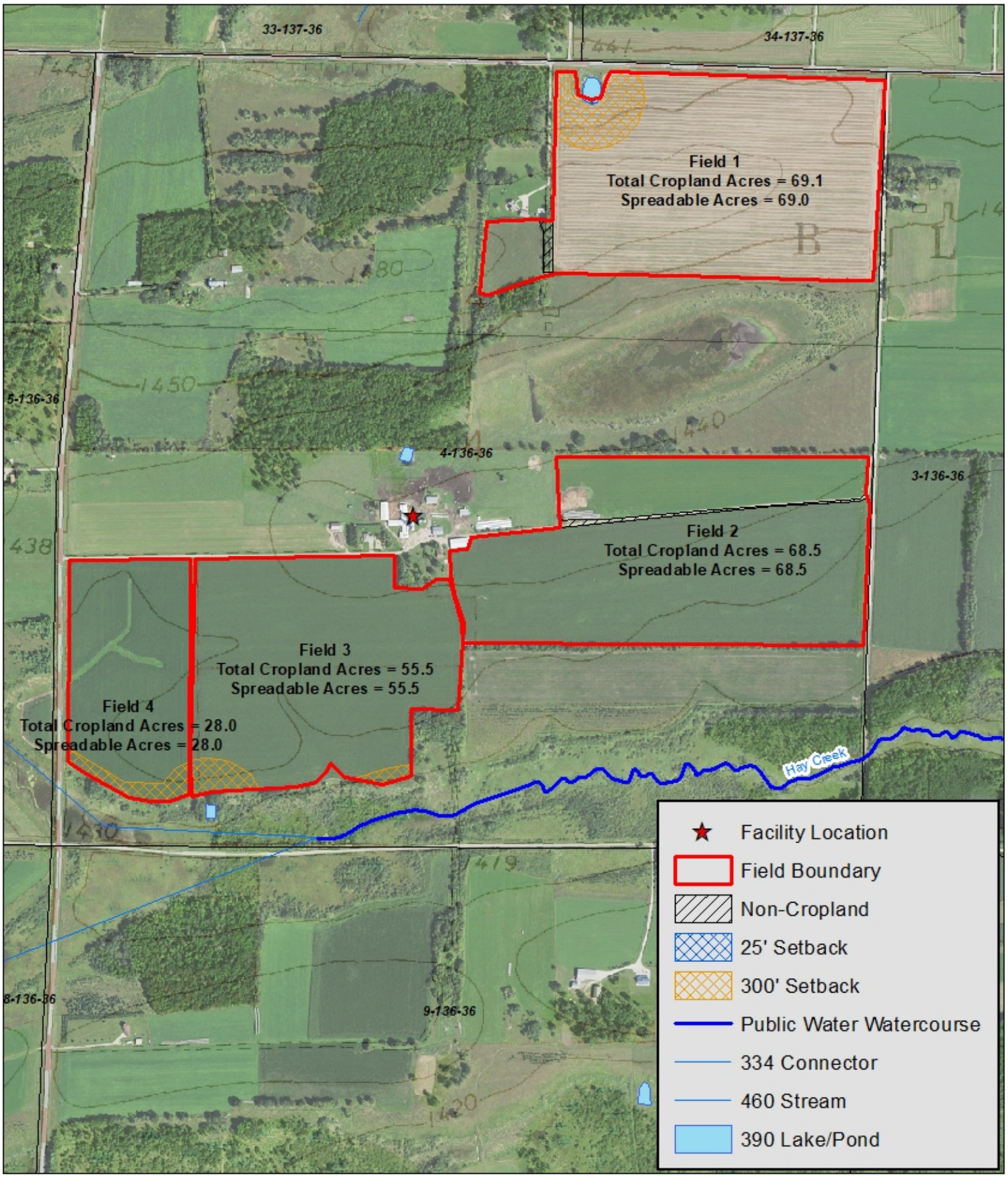
	Amount Applied	Amount Remaining	Acres Applied
Source 1:	1,179,244	0	138
Source 2:	76,084	0	56
Source 3:	193	0	28
Source 4:	---	---	---

	Amount Applied	Amount Remaining	Acres Applied
Source 5:	---	---	---
Source 6:	---	---	---
Source 7:	---	---	---
Source 8:	---	---	---

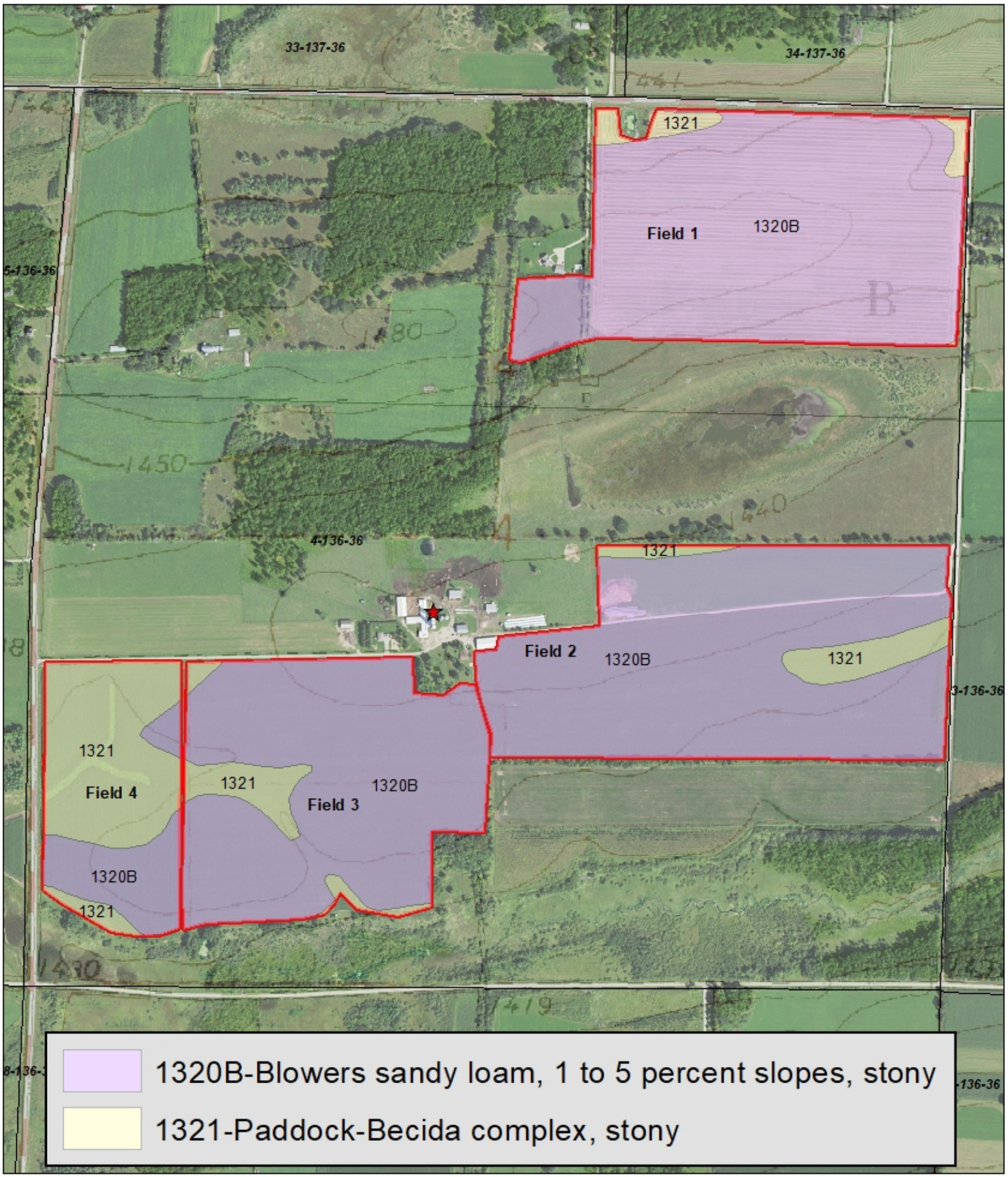
	Amount Applied	Amount Remaining	Acres Applied
Source 9:	---	---	---
Source 10:	---	---	---
Source 11:	---	---	---
Source 12:	---	---	---

Maps

Setbacks


33-137-36
34-137-36
Field 1
Total Cropland Acres = 69.1
Spreadable Acres = 69.0
5-136-36
4-136-36
3-136-36
Field 2
Total Cropland Acres = 68.5
Spreadable Acres = 68.5
Field 3
Total Cropland Acres = 55.5
Spreadable Acres = 55.5
Field 4
Total Cropland Acres = 28.0
Spreadable Acres = 28.0
Hay Creek
8-136-36
9-136-36
Facility Location
Field Boundary
Non-Cropland
25' Setback
300' Setback
Public Water Watercourse
334 Connector
460 Stream
390 Lake/Pond
0
700
1,400
2,800
4,200
5,600
Feet
N

Soils


33-137-36
34-137-36
1321
Field 1
1320B
1450
1440
4-136-36
1321
Field 2
1320B
1321
1321
Field 4
1321
1320B
Field 3
1320B
1321
1420
1419
1320B-Blowers sandy loam, 1 to 5 percent slopes, stony
1321-Paddock-Becida complex, stony
0
650
1,300
2,600
3,900
5,200
Feet
N

Soil & Manure Tests

Manure Analysis

AgSource LABORATORIES

Submitted By: **BN00084**

K2S ENGINEERING INC
4209 94TH AVE SE
YPSILANTI, ND 58497

Submitted For:
Goeller

Laboratory Sample #
BH77147

Date Received	Date Reported	Date Sampled	Information Sheet #
9-Aug-2018	13-Aug-2018	8/9/2018	M209072

Sample Id: Barn **Livestock Type:** DAIRY **Manure Type:** Solid

Dry Matter: 25.26 %
Moisture: 74.74 %

		Total Nutrients lbs/Ton	Estimated Available Nutrient Credits: In 1st Year of Application lbs/Ton	In 2nd Year of Application lbs/Ton	In 3rd Year of Application lbs/Ton
Nitrogen:	> 72h or Not Inc	14.32	3.58	1.43	0.72
	Inc in 1 to 72h		4.30	1.43	0.72
	Inc within 1h or Inj		5.01	1.43	0.72
Phosphorus	as P_2O_5	5.55	4.44	0.00	0.00
Potassium	as K_2O	13.76	11.01	0.00	0.00
Sulfur		1.95	1.07	0.20	0.10
Estimated Value of Available Nutrients			$7.48	$0.58	$0.29

Comments:

****1** Applications of manure on the same field for 2 consecutive years increases the availability of N and S by 10%, and for 3 or more consecutive years by 15%. There is zero availability on P and K for 2 or more consecutive years.
Availability of N changes depending on the application technique. Injection or incorporation within 3 days of application results in higher N availability.

***2** Value based on commercial ferilizer costs as of 01/08/2018.

N(Urea) $0.364 / lb, P2O5(Diammonium Phosphate(DAP)) $0.522 / lb, K2O(Potash) $0.274 / lb, S(Elemental Sulfur) $0.304 / lb.

***3** If minor elements are requested, they are reported on a 'dry matter' basis.
If ammonia, nitrate or pH are requested, they are reported on an 'as is' basis.

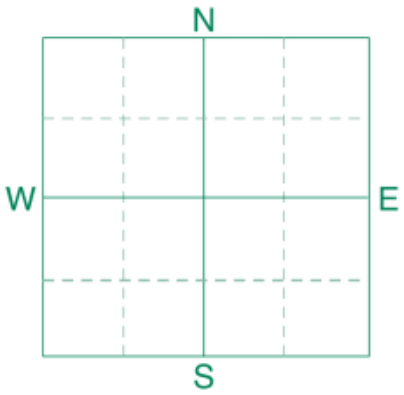
****** References: Nutrient application guidelines for field, vegetable, and fruit crops in Wisconsin (A2809), Table 9.1

106 North Cecil Street, PO Box 7 • Bonduel, WI 54107 • P: 715.758.2178 • bonduel@agsource.com

AGVISE LABORATORIES
Soil Analysis by Agvise Laboratories
(http://www.agvise.com)
Northwood: (701) 587-6010
Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **F1**
SAMPLE ID **1**
FIELD NAME
COUNTY **OTTERTAIL**
TWP **136-36** RANGE
SECTION **4** QTR **NE** ACRES **0**
PREV. CROP



SUBMITTED FOR:
KYLE GOELLER
45370 CTY HWY 19
SEBEKA, MN 56477

SUBMITTED BY: **KS6786**
KS2 ENGINEERING
4209 94TH AVE SE
YPSILANTI, ND 58497

REF # **19453293** BOX # **5802**
LAB # **NW34595**

Date Sampled **08/06/2018** Date Received **08/08/2018** Date Reported **12/26/2018**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
0-6" Nitrate	37 lb/ac	******	******	******	****
Olsen Phosphorus	27 ppm	******	******	******	******
Potassium	205 ppm	******	******	******	******
Chloride					
Sulfur					
Boron					
Zinc	6.26 ppm	******	******	******	******
Iron					
Manganese					
Copper					
Magnesium					
Calcium					
Sodium					
Org.Matter	3.7 %	******	******	***	
Carbonate(CCE)					
0-6" Sol. Salts	0.25 mmho/cm	******			

1st Crop Choice			2nd Crop Choice			3rd Crop Choice		
YIELD GOAL			YIELD GOAL			YIELD GOAL		
SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION	LB/ACRE		APPLICATION	LB/ACRE		APPLICATION
N			N			N		
P_2O_5			P_2O_5			P_2O_5		
K_2O			K_2O			K_2O		
Cl			Cl			Cl		
S			S			S		
B			B			B		
Zn			Zn			Zn		
Fe			Fe			Fe		
Mn			Mn			Mn		
Cu			Cu			Cu		
Mg			Mg			Mg		
Lime			Lime			Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **5.6**	**6.5**						

General Comments: (Reduce Lime by 1/2 for W.MN, W.IOWA and the DAKOTAS).

Soil Analysis by Agvise Laboratories
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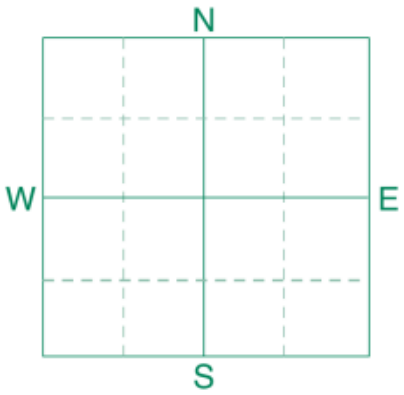
SOIL TEST REPORT

FIELD ID **F1**
SAMPLE ID **2**
FIELD NAME
COUNTY **OTTERTAIL**
TWP **136-36** RANGE
SECTION **4** QTR **NE** ACRES **0**
PREV. CROP



SUBMITTED FOR:
KYLE GOELLER
45370 CTY HWY 19
SEBEKA, MN 56477

SUBMITTED BY: **KS6786**
KS2 ENGINEERING
4209 94TH AVE SE
YPSILANTI, ND 58497

REF # **19453294** BOX # **5898**
LAB # **NW34596**

Date Sampled **08/06/2018** Date Received **08/08/2018** Date Reported **12/26/2018**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
0-6" Nitrate	49 lb/ac	******	******	******	******
Olsen Phosphorus	23 ppm	******	******	******	******
Potassium	205 ppm	******	******	******	******
Chloride					
Sulfur					
Boron					
Zinc	4.04 ppm	******	******	******	******
Iron					
Manganese					
Copper					
Magnesium					
Calcium					
Sodium					
Org.Matter	3.2 %	******	******		
Carbonate(CCE)					
0-6" Sol. Salts	0.27 mmho/cm	******			

1st Crop Choice			2nd Crop Choice			3rd Crop Choice		
YIELD GOAL			YIELD GOAL			YIELD GOAL		
SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION	LB/ACRE		APPLICATION	LB/ACRE		APPLICATION
N			N			N		
P_2O_5			P_2O_5			P_2O_5		
K_2O			K_2O			K_2O		
Cl			Cl			Cl		
S			S			S		
B			B			B		
Zn			Zn			Zn		
Fe			Fe			Fe		
Mn			Mn			Mn		
Cu			Cu			Cu		
Mg			Mg			Mg		
Lime			Lime			Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **5.9**	**6.7**						

General Comments: (Reduce Lime by 1/2 for W.MN, W.IOWA and the DAKOTAS).

AGVISE LABORATORIES

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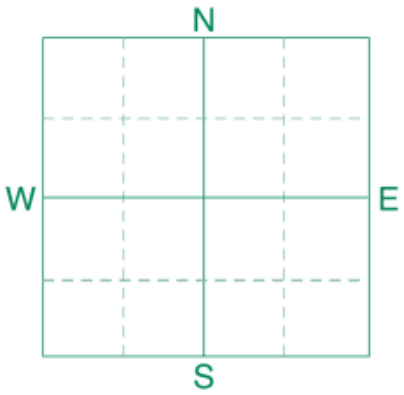
SOIL TEST REPORT

FIELD ID **F2**
SAMPLE ID **1**
FIELD NAME
COUNTY **OTTERTAIL**
TWP **136-36** RANGE
SECTION **4** QTR **SE** ACRES **0**
PREV. CROP



SUBMITTED FOR:
KYLE GOELLER
45370 CTY HWY 19
SEBEKA, MN 56477

SUBMITTED BY: **KS6786**
KS2 ENGINEERING
4209 94TH AVE SE
YPSILANTI, ND 58497

REF # **19453295** BOX # **5898**
LAB # **NW34597**

Date Sampled **08/06/2018** Date Received **08/08/2018** Date Reported **12/26/2018**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
0-6" Nitrate	15 lb/ac	********	***		
Olsen Phosphorus	11 ppm	*******	*******	*******	
Potassium	156 ppm	*******	*******	*******	******
Chloride					
Sulfur					
Boron					
Zinc	2.10 ppm	*******	*******	*******	*******
Iron					
Manganese					
Copper					
Magnesium					
Calcium					
Sodium					
Org.Matter	2.4 %	********	***		
Carbonate(CCE)					
0-6" Sol. Salts	0.09 mmho/cm	**			

1st Crop Choice			2nd Crop Choice			3rd Crop Choice		
YIELD GOAL			YIELD GOAL			YIELD GOAL		
SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION	LB/ACRE		APPLICATION	LB/ACRE		APPLICATION
N			N			N		
P_2O_5			P_2O_5			P_2O_5		
K_2O			K_2O			K_2O		
Cl			Cl			Cl		
S			S			S		
B			B			B		
Zn			Zn			Zn		
Fe			Fe			Fe		
Mn			Mn			Mn		
Cu			Cu			Cu		
Mg			Mg			Mg		
Lime			Lime			Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **5.3**	**6.4**						

General Comments: (Reduce Lime by 1/2 for W.MN, W.IOWA and the DAKOTAS).

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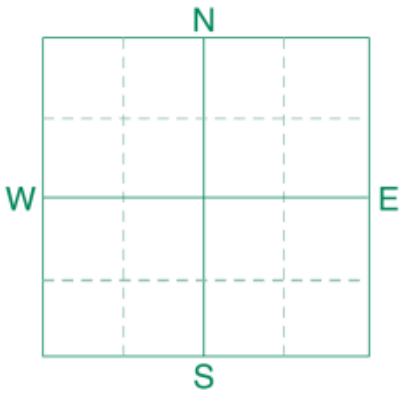
SOIL TEST REPORT

FIELD ID **F2**
SAMPLE ID **2**
FIELD NAME
COUNTY **OTTERTAIL**
TWP **136-36** RANGE
SECTION **4** QTR **SE** ACRES **0**
PREV. CROP



SUBMITTED FOR:
KYLE GOELLER
45370 CTY HWY 19
SEBEKA, MN 56477

SUBMITTED BY: **KS6786**
KS2 ENGINEERING
4209 94TH AVE SE
YPSILANTI, ND 58497

REF # **19453296** BOX # **5898**
LAB # **NW34598**

Date Sampled **08/06/2018** Date Received **08/08/2018** Date Reported **12/26/2018**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
0-6" Nitrate	45 lb/ac	******	******	******	******
Olsen Phosphorus	7 ppm	******	******		
Potassium	93 ppm	******	******	**	
Chloride					
Sulfur					
Boron					
Zinc	1.48 ppm	******	******	******	***
Iron					
Manganese					
Copper					
Magnesium					
Calcium					
Sodium					
Org.Matter	2.6 %	******	****		
Carbonate(CCE)					
0-6" Sol. Salts	0.18 mmho/cm	****			

1st Crop Choice			2nd Crop Choice			3rd Crop Choice		
YIELD GOAL			YIELD GOAL			YIELD GOAL		
SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION	LB/ACRE		APPLICATION	LB/ACRE		APPLICATION
N			N			N		
P_2O_5			P_2O_5			P_2O_5		
K_2O			K_2O			K_2O		
Cl			Cl			Cl		
S			S			S		
B			B			B		
Zn			Zn			Zn		
Fe			Fe			Fe		
Mn			Mn			Mn		
Cu			Cu			Cu		
Mg			Mg			Mg		
Lime			Lime			Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **5.7**	**6.7**						

General Comments: (Reduce Lime by 1/2 for W.MN, W.IOWA and the DAKOTAS).

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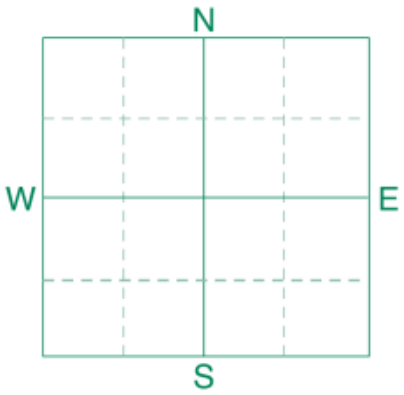
SOIL TEST REPORT

FIELD ID **F3**
SAMPLE ID **2**
FIELD NAME
COUNTY **OTTERTAIL**
TWP **136-36** RANGE
SECTION **4** QTR **SW** ACRES **0**
PREV. CROP



SUBMITTED FOR:
KYLE GOELLER
45370 CTY HWY 19
SEBEKA, MN 56477

SUBMITTED BY: **KS6786**
KS2 ENGINEERING
4209 94TH AVE SE
YPSILANTI, ND 58497

REF # **19453297** BOX # **5802**
LAB # **NW34599**

Date Sampled **08/06/2018** Date Received **08/08/2018** Date Reported **12/26/2018**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
0-6" Nitrate	24 lb/ac	******	******	**	
Olsen Phosphorus	11 ppm	******	******	******	
Potassium	186 ppm	******	******	******	******
Chloride					
Sulfur					
Boron					
Zinc	2.90 ppm	******	******	******	******
Iron					
Manganese					
Copper					
Magnesium					
Calcium					
Sodium					
Org.Matter	3.5 %	******	******	**	
Carbonate(CCE)					
0-6" Sol. Salts	0.16 mmho/cm	****			

1st Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
	LB/ACRE	APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

2nd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
	LB/ACRE	APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
	LB/ACRE	APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **6.1**							

AGVISE LABORATORIES
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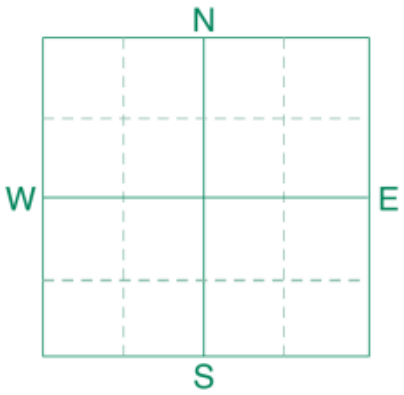
SOIL TEST REPORT

FIELD ID **F3**
SAMPLE ID **1**
FIELD NAME
COUNTY **OTTERTAIL**
TWP **136-36** RANGE
SECTION **4** QTR **SW** ACRES **0**
PREV. CROP



SUBMITTED FOR:
KYLE GOELLER
45370 CTY HWY 19
SEBEKA, MN 56477

SUBMITTED BY: **KS6786**
KS2 ENGINEERING
4209 94TH AVE SE
YPSILANTI, ND 58497

REF # **19453298** BOX # **5898**
LAB # **NW34600**

Date Sampled **08/06/2018** Date Received **08/08/2018** Date Reported **12/26/2018**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
0-6" Nitrate	107 lb/ac	******	******	******	******
Olsen Phosphorus	13 ppm	******	******	********	**
Potassium	171 ppm	******	******	******	******
Chloride					
Sulfur					
Boron					
Zinc	4.91 ppm	******	******	******	******
Iron					
Manganese					
Copper					
Magnesium					
Calcium					
Sodium					
Org.Matter	3.0 %	******	******		
Carbonate(CCE)					
0-6" Sol. Salts	0.37 mmho/cm	********	***		

1st Crop Choice			2nd Crop Choice			3rd Crop Choice		
YIELD GOAL			YIELD GOAL			YIELD GOAL		
SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION	LB/ACRE		APPLICATION	LB/ACRE		APPLICATION
N			N			N		
P_2O_5			P_2O_5			P_2O_5		
K_2O			K_2O			K_2O		
Cl			Cl			Cl		
S			S			S		
B			B			B		
Zn			Zn			Zn		
Fe			Fe			Fe		
Mn			Mn			Mn		
Cu			Cu			Cu		
Mg			Mg			Mg		
Lime			Lime			Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **5.5**	**6.8**						

General Comments: (Reduce Lime by 1/2 for W.MN, W.IOWA and the DAKOTAS).

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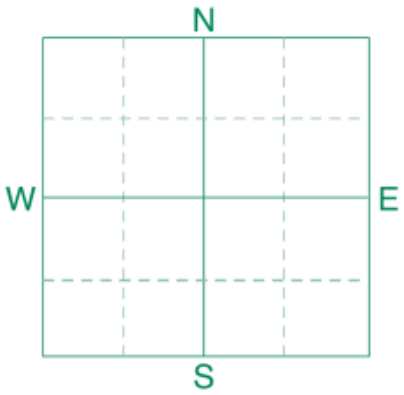
Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID
SAMPLE ID **F4**
FIELD NAME
COUNTY **OTTERTAIL**
TWP **136-36** RANGE
SECTION **4** QTR **SW** ACRES **0**
PREV. CROP



SUBMITTED FOR:
KYLE GOELLER
45370 CTY HWY 19
SEBEKA, MN 56477

SUBMITTED BY: **KS6786**
KS2 ENGINEERING
4209 94TH AVE SE
YPSILANTI, ND 58497

REF # **19453299** BOX # **5802**
LAB # **NW34601**

Date Sampled **08/06/2018** Date Received **08/08/2018** Date Reported **12/26/2018**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
0-6" Nitrate	50 lb/ac	******	******	******	******
Olsen Phosphorus	4 ppm	******			
Potassium	76 ppm	******	*****		
Chloride					
Sulfur					
Boron					
Zinc	1.02 ppm	******	******	******	
Iron					
Manganese					
Copper					
Magnesium					
Calcium					
Sodium					
Org.Matter	1.8 %	*******			
Carbonate(CCE)					
0-6" Sol. Salts	0.22 mmho/cm	*****			

1st Crop Choice			2nd Crop Choice			3rd Crop Choice		
YIELD GOAL			YIELD GOAL			YIELD GOAL		
SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION	LB/ACRE		APPLICATION	LB/ACRE		APPLICATION
N			N			N		
P_2O_5			P_2O_5			P_2O_5		
K_2O			K_2O			K_2O		
Cl			Cl			Cl		
S			S			S		
B			B			B		
Zn			Zn			Zn		
Fe			Fe			Fe		
Mn			Mn			Mn		
Cu			Cu			Cu		
Mg			Mg			Mg		
Lime			Lime			Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **5.9**	**7.0**						

General Comments: (Reduce Lime by 1/2 for W.MN, W.IOWA and the DAKOTAS).

Mortality Management Plan

NRCS

MINNESOTA

ANIMAL MORTALITY PLAN

Carcass Disposal is regulated by: Minnesota Statute 35.82; Minnesota Rules chs. 1719.0100 - 1719.4600 and the Minn. Board of Animal Health; Minn. Pollution Control Agency and Minn. Department of Natural Resources

Farm Name:	**Style Heaven Holstein**		**Feedlot Registration Number: ____**
Owner:	**Kyle and Stephanie Goeller**		**Operator: Kyle and Stephanie Goeller**
Location:	**Section ____**	**Township ____**	**County Ottertail**

PLANNED METHOD OF ANIMAL DISPOSAL					
Animal Type	**Bury**	**Incinerate**	**Render**	**Compost**	**Other**
Cattle	☐	☐	☒	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
If other, explain					

For each animal type, indicate dead animal handling methods to be used at your facilities. The minimum requirements for each management option are described below. Show locations of burial sites, incinerators, temporary mortality storage, and/or compost areas on your production facility maps.

SPECIES	**LEGAL METHODS OF DISPOSAL**				
	Bury	**Incinerate**	**Render**	**Compost**	**Exempt by Law**
Poultry	√	√	√	√	
Swine	√	√	√	√	
Cattle	√	√	√	*	
Horses	√	√	√	*	
Sheep/Goats	√	√	√	√	
Household Pets					√
Wild Animals					√
Game Farm/ Exotic Animals	√	√	√	*	

***Call Minnesota Board of Animal Health 651/296-2942, Ext. 27 or (800) 627-3529 for additional information.**

Carcass must be disposed of as soon possible within 48 to 72 hours. Any vehicles or containers transporting carcasses must be: leak-proof, covered, inspected and permitted by the Minn. Board of Animal Health (except if owner is transporting his own dead animals).

BURIAL

Burial requires great care in site selection because decomposing carcasses release materials that can pollute ground water. This practice is most suitable for small amounts of material (e.g. less than 2000-lb./burial pit/acre). This practice is not suitable for large facilities or catastrophic losses and is difficult to implement in winter.

Burial requires that the carcass be five feet above the seasonal high-water table and covered immediately with enough soil to keep scavengers out (at least three feet). Do not bury in sandy or gravelly areas. Maintain a vertical separation of 10 feet between dead animals and bedrock. Do not bury near streams, rivers, lakes, ditches etc. Do not bury in areas subject to flooding. Immediate burial is recommended.

COMPOSTING

Composting is the process of placing carcasses in layers with a carbon source and manure to allow the natural heating process to break down the carcass. It can be practiced year-round; destroys pathogens and insect larvae; is environmentally sound and is one of the best practices to handle catastrophic losses. Composting is an "art" that must be practiced. It is best to have the same person doing the composting to ensure compost performance.

The owner of the compost facility must have a written protocol for the operation containing at least the minimum steps listed below and instructing all employees to follow the protocol:

- Mortalities must be processed daily;
- A base of litter is required. The carcasses or discarded animal parts and litter plus bulking agent are added in layers so that the carbon to nitrogen ratio is in the range of 15:1 to 35:1 (optimal 23:1)
- The carcasses or discarded animal parts must be kept six (6) inches from the edges and sealed with litter each day;
- The temperature must be taken and recorded on site daily. The compost temperature must reach a minimum of 130 degrees Fahrenheit. Approximately seven (7) to ten (10) days are needed in each heat cycle to process carcasses and kill pathogens. A temperature drop indicates the time to mix and move the compost to generate a new heat cycle. A minimum of two (2) heat cycles are required.
- The finished compost must not contain visible pieces of soft tissue and must be handled, stored, and used according to all other applicable rules.

In addition, composting facilities must be:

- Built on an impervious, weight-bearing pad that is large enough to allow equipment to maneuver
- Covered with a roof to prevent excessive moisture on the composting material, but if sawdust or other water-repelling material is used as the bulking agent, a roof may not be necessary
- Built of rot-resistant material that is strong enough to withstand the force exerted by equipment
- Large enough to handle each day's normal mortality through the endpoint of the composting which consists of a minimum of two (2) heat cycles.

INCINERATION

Incineration can be used year-round and is a good cold weather alternative. The incinerator must be capable of producing emissions not to exceed 20 percent opacity; fitted with an afterburner that maintains flue gases at 1200 degrees Fahrenheit for at least 0.3 seconds; and ash from the incinerator must be handled to prevent particulate matter from becoming airborne. Incineration can be expensive for larger carcasses.

Recommendations

- Place your incinerator out of sight or enclosed with a decorative screen
- Consider the wind direction and time of the day, so as to least effect your neighbors

Do:

- Purchase MPCA-approved incinerator
- Purchase unit large enough to handle each day's mortality
- Properly maintain unit
- Incinerate mortality daily

RENDERING

Rendering offers the grower the chance to create a recyclable feed product if it is submitted to the renderer with proper handling. Rendering is a year-round option but is not available in all areas or for all species.

Carcasses left at an off-site pickup point must be in an animal-proof enclosed area that is at least 200 yards from a neighbor's buildings. Carcasses must be picked up within 72 hours, except if the enclosed area is refrigerated to less than 45 degrees Fahrenheit, then the carcasses must be picked up within seven days

Recommendations

- Get on an annual contract with the renderer rather than a "per call" charge
- If large enough farm, get on a scheduled weekly or twice weekly pick-up route
- Use off-site pick up points for biosecurity purposes
- Consider refrigerated off-site pick up points

Do:

- Know what substances the animals were exposed to in order to avoid residue problems in the rendered product
- Be aware of potential disease spread from a rendering truck.

ALTERNATIVE METHODS

The Board of Animal Health may permit alternative methods of carcass disposal that are effective for the protection of public health and the control of livestock diseases. **All alternative methods require a permit from the Board of Animal Health (651) 296-2942.**

This plan and fact sheet adapted from MPCA publication wq-f6-07 (Animal Mortality Plan).

April 2008

Style Heaven Holstein

Kyle & Stephanie Goeller

4-136-36 Ottertail County MN

45370 Cty HWY 19 Sebeka MN 56477

Dairy Facility
Waste Management System
Renovation

PLANS & SPECIFICATIONS

Table of Contents:

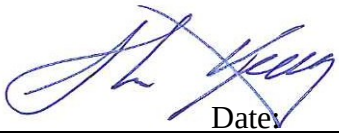
I. PLANS & SPECIFICATIONS

I-A. ENGINEER'S APPROVAL

Engineer's approval:

I, Shane K Kjellberg, hereby certify that these Plans and Specifications were 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.

To the best of my professional knowledge, judgement, and belief, these construction drawings and specifications meet Natural Resource Conservation Service (NRCS) standards and guide specifications.

Signature  Date: 8-11-21

ND License #4444
MN License #43321
SD License #8051
MT License #19692
WY License #13102
IA License #20669

USDA NRCS TSP CODE: TSP-03-2174

I-B. BID SECTION

INVITATION FOR BIDS

, 2021

Attention:
Concrete Contractors
Excavating Contractors
Backhoe/trenching Contractors

During the summer/fall of 2021, we are planning to renovate our dairy facility and implement an ag waste system, which is located near Sebeka MN. The design includes earthwork, concrete work and other structural practices. Attached you will find a bid packet that includes bid sheet with instructions, drawings and specifications.

We are asking all recipients of the attached bid package to review the material for any contractor applicable bid item(s). All bids (**completed on enclosed bid sheet**) must be returned to the _____. (_____), in a sealed envelope, no later than ***day, , 2021 @ .m. CST*** .
All bids will be considered, but the owner reserves the right to refuse or reject any or all bids.

Please review the attached information throughly, and if you have any questions, do not hesitate to contact one of the following individuals:

Kyle Goeller
Sebeka MN
218-539-0001

Shane Kjellberg P.E.
Ypsilanti ND
701-489-3322

It is encouraged that all bidding participants make an on-site visit and get all questions addressed **prior** to bidding. Feel free to contact one of the above mentioned individuals for an appointment.

Thank you for your time.

Sincerely,

Kyle & Stephanie Goeller

BID DEADLINE: ___, ___, 2021 @ ___ CST

BS-1 (10/00)

K2S Engineering Inc. -- Bid Sheet

Section I: Project Information

Name: Kyle & Stephanie Goeller Project Description: Waste Management System

Address: Facility address; 45370 Cty HWY 19 Sebeka MN 56477

Attached Plans: Sheets 1-12, Dated: Aug., 2021 Attached Specifications: 2, 3, 5, 6, 7, 8, 10, 11, 21, 23, 26, 32, 34, 44, 45,
Special Provisions: Yes: No: No. _____ 92, 98 522, 531, 532, 533, 534, 536, 539, 547, 591, 592, 595

Performance Time: The actual performance dates will be entered on the contract at the time of award.

Section II: Bidder Instructions:

[1] **Bids must be submitted on this form**, complete bid section on reverse.

[2] Mail all bids to the location denoted in the "Bid Opening" box below.

[3] All Bid Items shall be submitted as a sealed bid(s) and shall be **received no later** than deadline shown on top of this page.

[4] Note: Contractors are not required to bid on all bid items. Contractors may bid only on items in which they have expertise (e.g. Seeding or earthfill).

[5] Alternate Bids are not permitted. Where permitted, only one alternate bid may be submitted by each bidder. Any alternate bid must include a complete site specific design which can be reviewed and approved by the engineer.

[6] All bids must remain valid for 60 days.

[7] A contract shall be awarded based on the determination of the Lowest Responsible Bid.

[8] The Landowner and/or Producer, in consultation with the fiscal sponsor and engineer, may reject any or all bids for just cause, and waive informalities or minor irregularities in bids received.

[9] The award will be based upon the total price as corrected for errors. When unit prices are requested, the unit price shall be multiplied by the estimated number of units. In the event of an error on a submitted bid sheet, the price will be corrected to agree with submitted unit price. Total price will be corrected to be sum of corrected items.

[10] The contractor should examine the plans and specifications carefully as well as doing an on site examination of construction site prior to completing bid. No extras will be allowed because of a contractor's misunderstanding of the amount of work involved or lack of knowledge of existing conditions.

[11] **Estimated quantities for drainfill, gravel, rock, concrete & geotextile are based on "neat-line" calculations. No quantities for settlement, compaction, overfills, or over excavations have been figured into these estimated quantities. Estimated quantities for earthfill includes 32% for compaction. The contractor is responsible for computing his/her own estimated quantities and is responsible for computing the drainfill, gravel, rock, concrete, & geotextile material needed for loss due to compaction, overfills and overlaps. Estimated quantities are based on in place compacted fill to the depths and dimensions shown on drawings.**

	Bid Opening
Date:	
Time:	
Location:	

BID SCHEDULE

The following bid is submitted in response to the invitation for bids on the project described on this form. The price is based on my knowledge of the plans and specifications identified below. The following bid has been independently arrived at without collusion with any other bidder, competitor or potential competitor. This bid will remain valid for a period of 90 days after the date given below. I am willing to sign a contract with the landowner/sponsor and will provide referrals, proof of insurance, etc. if requested by the landowner/sponsor. If there are any special provisions which I will require to be added, they are attached to this bid.

Name: Kyle Goeller Project: Waste System

To Be Completed By K2S Engineering				*To Be Completed By Bidder*	
Bid Item	**Construction Specification No.**	**Estimated Quantity**	**Units**	**Unit Price**	**Price**
1. Structure Removal (Concrete removal for pump & pipe installation)	3	1	job		
2. Clearing & Grubbing-feed residue removal	2	~1	Acre		
3. Plastic Pipe – Pump System for perimeter drain.	45	1	job		
4. Plastic Pipe – 2'' discharge pipe for tile pump	45	~60	Feet		
5. **Plastic Pipe**–Manure Pump system; pump, control panels, floats, valves, associated materials & Installation -attach & itemize bid	45	1	Each		
6. Plastic Pipe –Manure Pipe	45	~120	Feet		
7. Corrugated PE Tubing -6" perforated HD -perimeter drain tile, -w/ geo-sock	44	~1,000	Feet		
			Feet		
8. Excavation - topsoil stripping	21	~1,806	Cu. yds.		
9. Excavation - structures & pond/pit (~9,319 cys of excess excavation assumed)	21	~13,807	Cu. yds.		
10. Excavation – over excavation for GCL	21	~3,551	Cu. yds.		
11. Excavation – anchor trench for GCL	21	~1,000	feet		
12. Earthfill – soil fill over GCL	23	~3,551	Cu. yds.		
13. Earthfill - Drainfill under concrete conc. pad	23	~160	Cu. yds.		
14. Top-soiling	26	~1,806	Cu. yds.		
15. Concrete – pond access ramps and headwall	32	~60	Cu. yds.		
15. Concrete –Pad & curb (~12,800 Sq. ft.)	32	~200	Cu. yds.		
16. Geo-synthetic Clay Liner (GCL)	98	By vendor	Sq. ft.		
17. Seeding	6	~0.7	Acres		
18. Protective Fence & Stop Fence (Pond)	92	~1,000	Feet		
19. Warning Signs	92	4-pond 1-day pit	each		
Electrical will be under a separate contract.					
			Total Price::	$	

Company Name: _____ **Signature**_____

Address: _____ **Phone _____** **Date**_____

Construction Management Plan

Project: **Kyle & Stephanie Goeller Facility & Waste Management System**

Staking by engineering firm: The basic staking shall be performed by K_2S Engineering Inc. or their designated representative. Basic staking will involve slope and/or offset staking at approximately 100 foot intervals and at points-of-intersections. Benchmarks shown on drawings will also be marked for contractor use. Note: any staking that is damaged and/or removed due to the contractor's own carelessness shall be re-staked at the contractor's expense. Staking removed due to general construction operations shall be re-staked by the engineering firm.

Staking by contractor: Contractor shall have the ability and equipment to transfer elevations and use offset or slope stakes to locate points (e.g. centerline channels or roads, pond corners, etc).

Required inspection by engineer or designated representative:

1. Installation of silt fences or other erosion control measures if required by MPCA storm water permit. **Inspector must check to see the location placement and securing of silt fence is done properly.**

2. Clearing, grubbing, and stripping per specifications by contractor. **Inspector must check to see that necessary clearing, grubbing and stripping is performed.**

3. Excavation and earth-fills for dikes, ponds, and pad areas as per specifications.
   Inspector must check earth-fill moisture content as required by specifications.
   Inspector must check grades and elevations prior to seeding and placement of subsequent fills/structures. Inspector must assure proper fill (e.g. gradations for gravel fill) and compaction in areas required.

5. Installation of pumps, pipes, electrical, and waterlines as per specifications.
   Inspector must check pipe size and materials, pipe depths, elevations, connections, and backfilling. Material certification will be required.

6. Installation of concrete pads, walls, and ramps. **Inspector must check to see that proper grades, dimensions, and elevations are attained. Material certification will be required for all materials. (e.g. batch tickets and gradations)**. **Inspector shall prepare tests cylinders as directed by Engineer to assure strength requirements are met.**

7. Installation of GCL liner. **Contractor shall provide engineer with testing results as per specifications.**
   Inspector must check to see that proper materials, grades, dimensions, and elevations are attained.

8. Seed and mulch all disturbed areas. **Seed and fertilizer slips will be required for certification.**

Contractor shall give engineer a minimum of 48 hours notice prior to completing or installing any bid item to allow scheduling for inspections. ***An on-site pre-construction meeting will be scheduled to review construction staking and project items.***

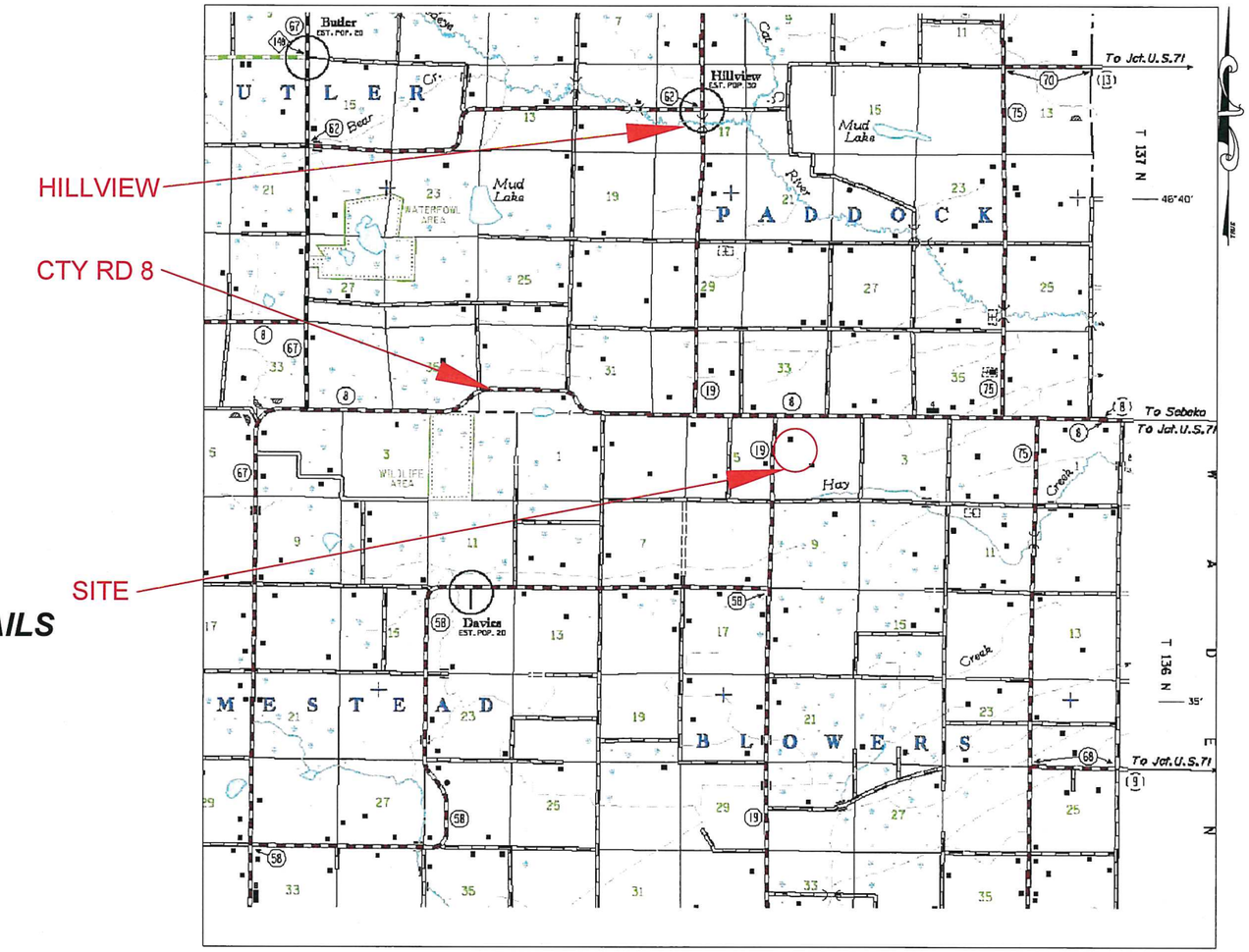
Payment schedule shall be between project owner/manager and contractor(s). It is recommended that final payments are made when engineer has approved work as completed to design specifications.

Project owner/manager:	Kyle Goeller
Contracting Officer (CO):	Kyle Goeller
Contracting Officer Technical Representative (COTR):	K_2S Engineering Inc.
Cost-share Representative(s):	USDA NRCS

I-C. DRAWINGS

AG. WASTE SYSTEM DESIGN
K2S ENGINEERING, INC.

CONTENTS



Owner/Operator/Producer Review:
I have reviewed the drawings, construction specifications, and additional items listed and I agree to construct, operate, and maintain this project in accordance with them. I understand that modifications during construction will require approval from the NRCS prior to installation. I agree to obtain all necessary permits, easements, and water rights. I will inform the NRCS of all conditions pertaining to project construction as stated in the acquired permits. I agree to comply with all federal, state, tribal, and local laws and regulations pertaining to this construction.

I agree to take the necessary precautions to prevent personal injuries and damage to utilities from accidental contact. The NRCS makes no representation of the existence or non-existence of any utility. Any individual(s) performing excavation work is responsible for calling 811 or the Gopher State One Call Center at (1-800-252-1166) at least two working days before work begins to have all publicly owned utilities marked. If excavation has not occurred within 21 days of obtaining a One-Call excavation ticket number, the One-Call system shall be notified and the ticket be updated. A utility locate request can also be made at the website which is available 24-hours a day: http://www.gopherstateonecall.org/

I understand and agree with the review information above:

Kyle A. Goeller — 8-11-21

Owner/Operator/Producer Signature — *Date*

NEM JOB CLASS IV

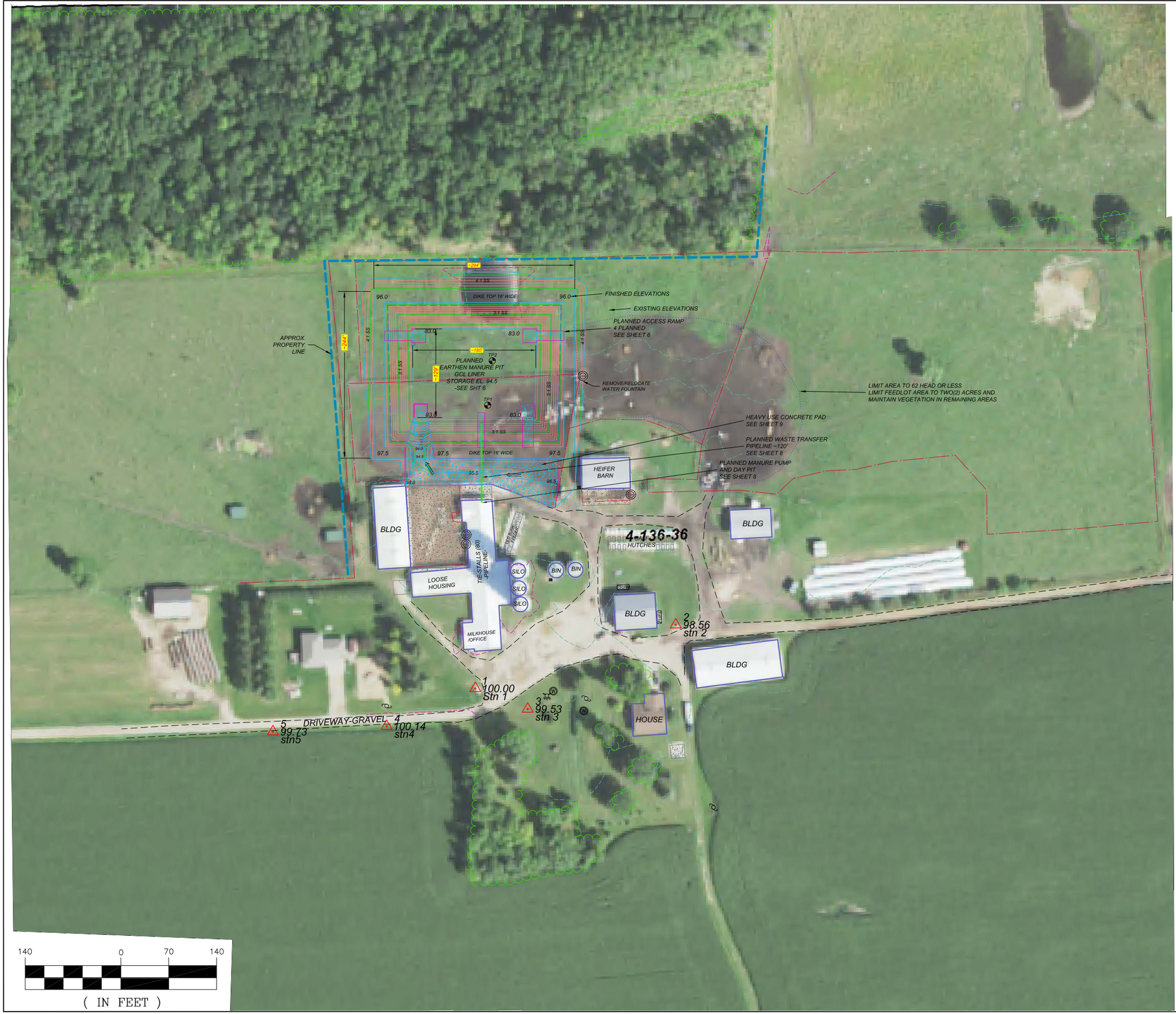
Date
Approved By Shane Kjellberg, P.E. 8-12
Title .....

Date Surveyed	8-6-18	8-21
Date Drawn		skk
Designed by		skk
Drawn By		8-21
Date Checked by		jak
File: final2021.dwg		

Kyle Goeller
Ottertail County MN
AWS
Cover Sheet

K2S ENGINEERING INC.
4209 94TH AVE SE
YPSILANTI, ND 58497
Phone 701-489-3322

Sheet No.
1 of 12



LEGEND

- TBM
- HUB STATIONS
- PLANNED FENCE
- EXISTING FENCE
- TREES
- DRAINAGE FLOW
- POWER POLE
- EXISTING CONCRETE
- PLANNED CONCRETE
- WELL
- EXISTING HYDRANT
- EXISTING WATERER
- PLANNED WATERER
- TEST PIT/SOIL BORING (TP, SB)
- NEW WATERLINE (NEW WL)
- DESIGN CONTOURS
- EXSTING CONTOURS

Date

Approved By Shane Kjellberg P.E. 7-21

Title

Date Surveyed 8-6-18
Date Drawn 8-21
Designed by skk
Drawn By skk
Date Checked 8-21
Checked by jak
File: final2021.dwg

Kyle Goeller
Ottertail County MN
AWS
Main Plan View-Aerial

K2S ENGINEERING INC.
4209 94TH AVE SE
YPSILANTI, ND 58497
Phone 701-489-3322

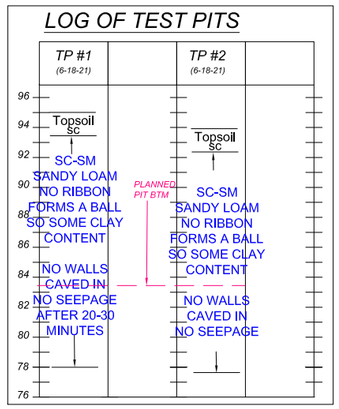
Sheet No.
2 of 12

LEGEND

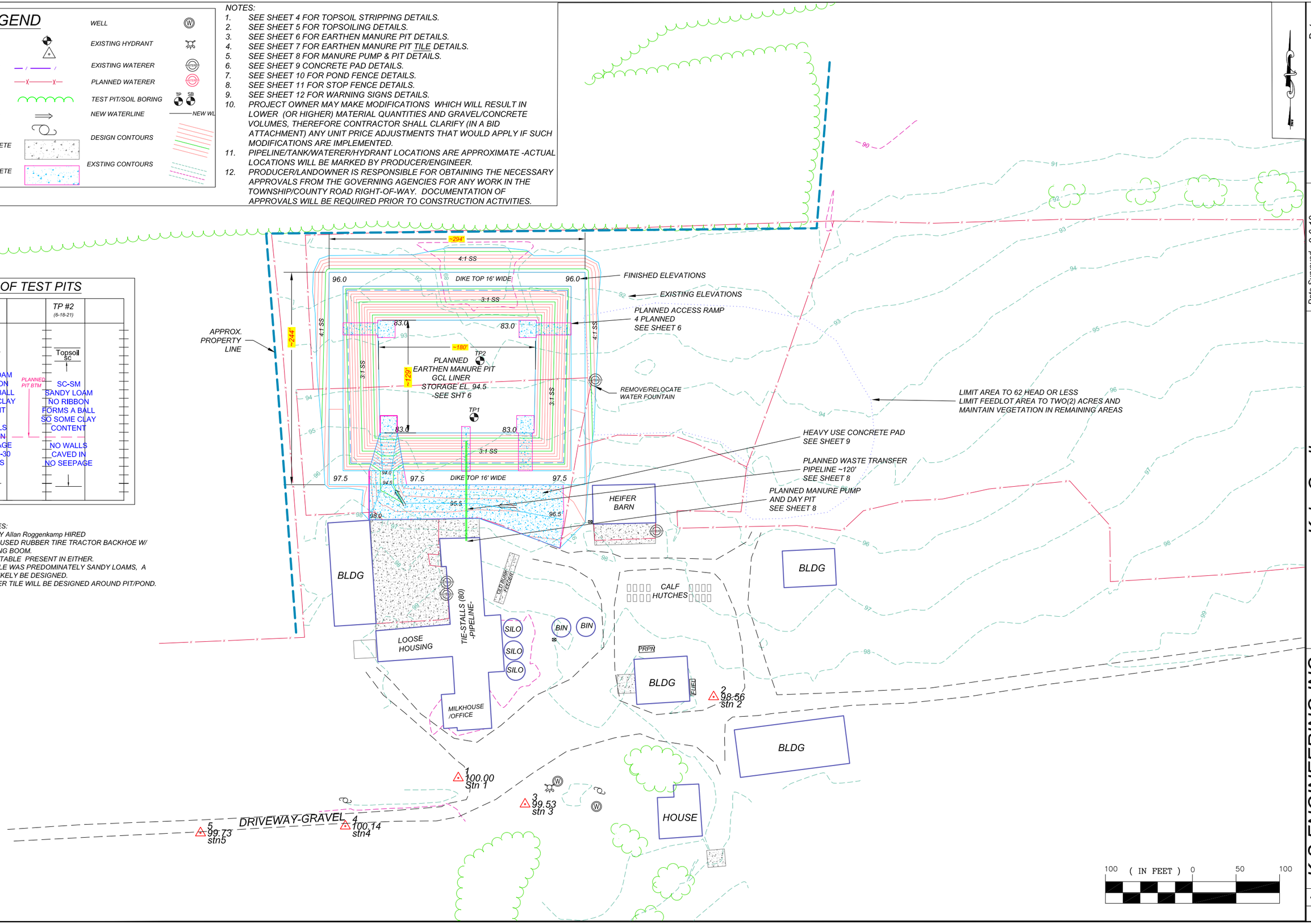
TBM
HUB STATIONS
PLANNED FENCE
EXISTING FENCE
TREES
DRAINAGE FLOW
POWER POLE
EXISTING CONCRETE
PLANNED CONCRETE
WELL
EXISTING HYDRANT
EXISTING WATERER
PLANNED WATERER
TEST PIT/SOIL BORING
NEW WATERLINE
DESIGN CONTOURS
EXSTING CONTOURS

NOTES:
1. SEE SHEET 4 FOR TOPSOIL STRIPPING DETAILS.
2. SEE SHEET 5 FOR TOPSOILING DETAILS.
3. SEE SHEET 6 FOR EARTHEN MANURE PIT DETAILS.
4. SEE SHEET 7 FOR EARTHEN MANURE PIT TILE DETAILS.
5. SEE SHEET 8 FOR MANURE PUMP & PIT DETAILS.
6. SEE SHEET 9 CONCRETE PAD DETAILS.
7. SEE SHEET 10 FOR POND FENCE DETAILS.
8. SEE SHEET 11 FOR STOP FENCE DETAILS.
9. SEE SHEET 12 FOR WARNING SIGNS DETAILS.
10. PROJECT OWNER MAY MAKE MODIFICATIONS WHICH WILL RESULT IN LOWER (OR HIGHER) MATERIAL QUANTITIES AND GRAVEL/CONCRETE VOLUMES, THEREFORE CONTRACTOR SHALL CLARIFY (IN A BID ATTACHMENT) ANY UNIT PRICE ADJUSTMENTS THAT WOULD APPLY IF SUCH MODIFICATIONS ARE IMPLEMENTED.
11. PIPELINE/TANK/WATERER/HYDRANT LOCATIONS ARE APPROXIMATE -ACTUAL LOCATIONS WILL BE MARKED BY PRODUCER/ENGINEER.
12. PRODUCER/LANDOWNER IS RESPONSIBLE FOR OBTAINING THE NECESSARY APPROVALS FROM THE GOVERNING AGENCIES FOR ANY WORK IN THE TOWNSHIP/COUNTY ROAD RIGHT-OF-WAY. DOCUMENTATION OF APPROVALS WILL BE REQUIRED PRIOR TO CONSTRUCTION ACTIVITIES.

LOG OF TEST PITS



TEST PIT NOTES:
1. PITS DUG BY Allan Roggenkamp HIRED BY OWNER, USED RUBBER TIRE TRACTOR BACKHOE W/ TELESCOPING BOOM.
2. NO WATER TABLE PRESENT IN EITHER.
3. SOIL PROFILE WAS PREDOMINATELY SANDY LOAMS, A GCL WILL LIKELY BE DESIGNED.
4. A PERIMETER TILE WILL BE DESIGNED AROUND PIT/POND.



Date
Approved By Shane Kjellberg P.E. 7-21
Title

Date Surveyed 8-6-18
Date Drawn 8-21
Designed by skk
Drawn By skk
Date Checked 8-21
Checked by jak
File: final2021dwg

Kyle Goeller
Ottertail County MN
AWS
Main Plan View

K2S ENGINEERING INC.
4209 94TH AVE SE
YPSILANTI, ND 58497
Phone 701-489-3322

Sheet No.
3 of 12

EXTENTS OF TOPSOIL STRIPPING
PLAN VIEW
1" = 100'

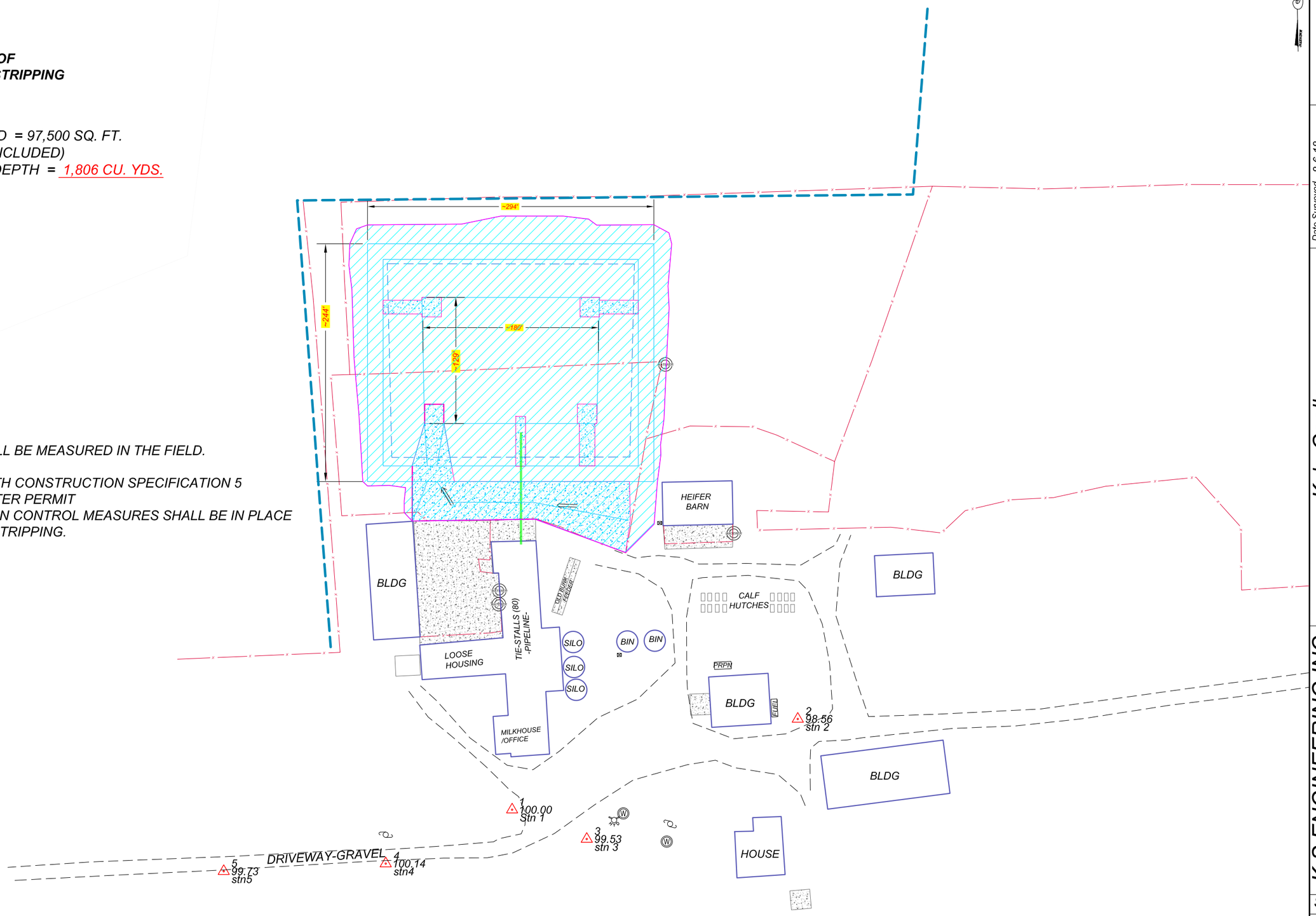
EXTENTS OF TOPSOIL STRIPPING

TOTAL AREA TO BE STRIPPED = 97,500 SQ. FT.
(0 ACRES OF BORROW INCLUDED)
ESTIMATED YARDAGE @ 6" DEPTH = 1,806 CU. YDS.

NOTES:

1. BORROW AREAS WILL BE MEASURED IN THE FIELD.

2. IN ACCORDANCE WITH CONSTRUCTION SPECIFICATION 5 AND THE STORMWATER PERMIT SEDIMENT/POLLUTION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO TOPSOIL STRIPPING.



Date
Approved By Shane Kjellberg P.E. 8-21
Title

Date Surveyed 8-6-18
Date Drawn 8-21
Designed by skk
Drawn By skk
Date Checked 8-21
Checked by jak
File: final2021.dwg

Kyle Goeller
Ottertail County MN
AWS
Topsoil Stripping

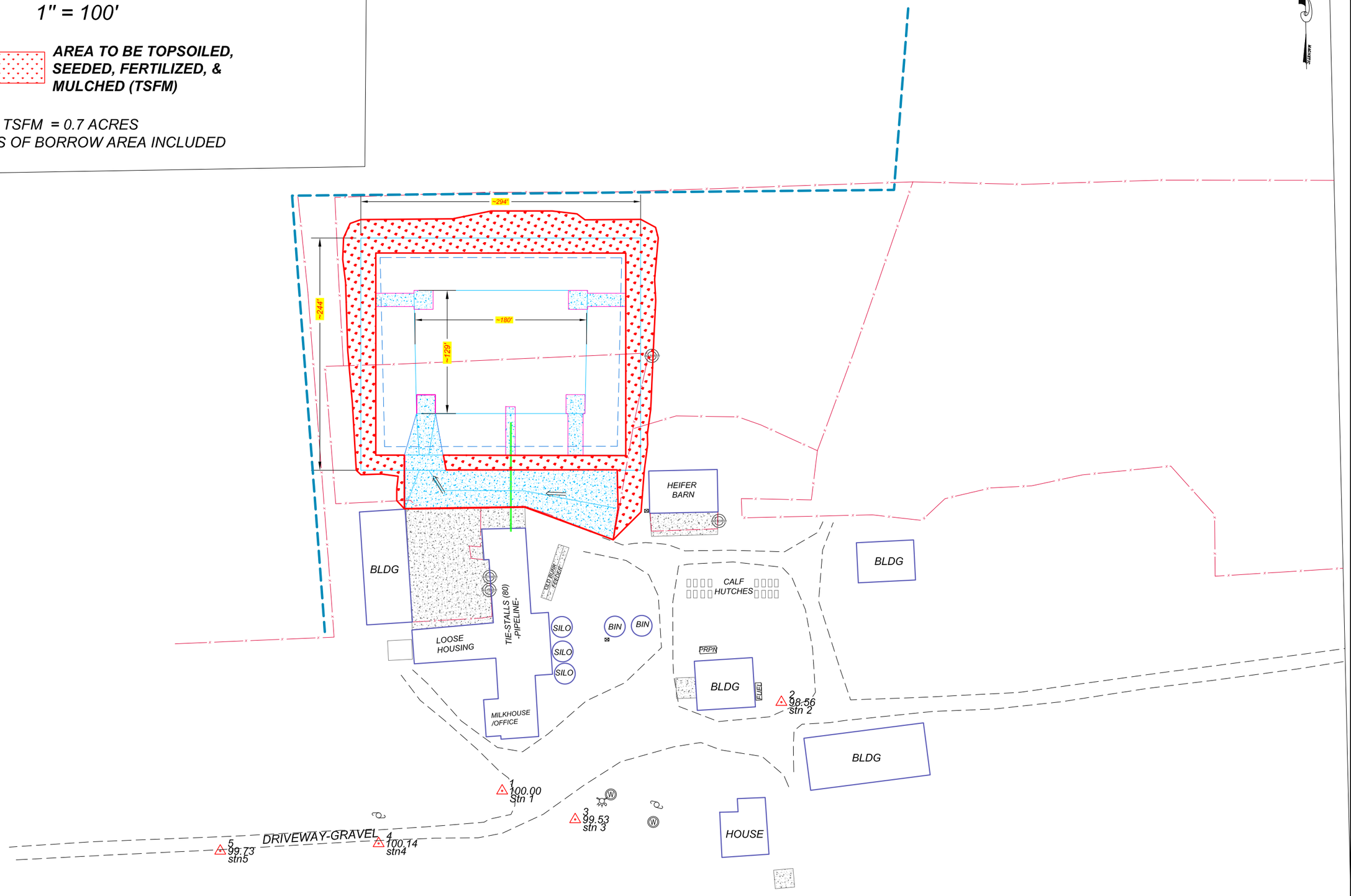
K2S ENGINEERING INC.
4209 94TH AVE SE
YPSILANTI, ND 58497
Phone 701-489-3322

Sheet No.
4 of 12

AREAS TO BE TOPSOILED, FERTILIZED, SEEDED & MULCHED (TSFM)
PLAN VIEW
1" = 100'

AREA TO BE TOPSOILED, SEEDED, FERTILIZED, & MULCHED (TSFM)

TOTAL AREA TO BE TSFM = 0.7 ACRES
-0 ACRES OF BORROW AREA INCLUDED



Date
Approved By Shane Kjellberg P.E. 8-21
Title

Date Surveyed 8-6-18
Date Drawn 8-21
Designed by skk
Drawn By skk
Date Checked 8-21
Checked by jak
File: final2021.dwg

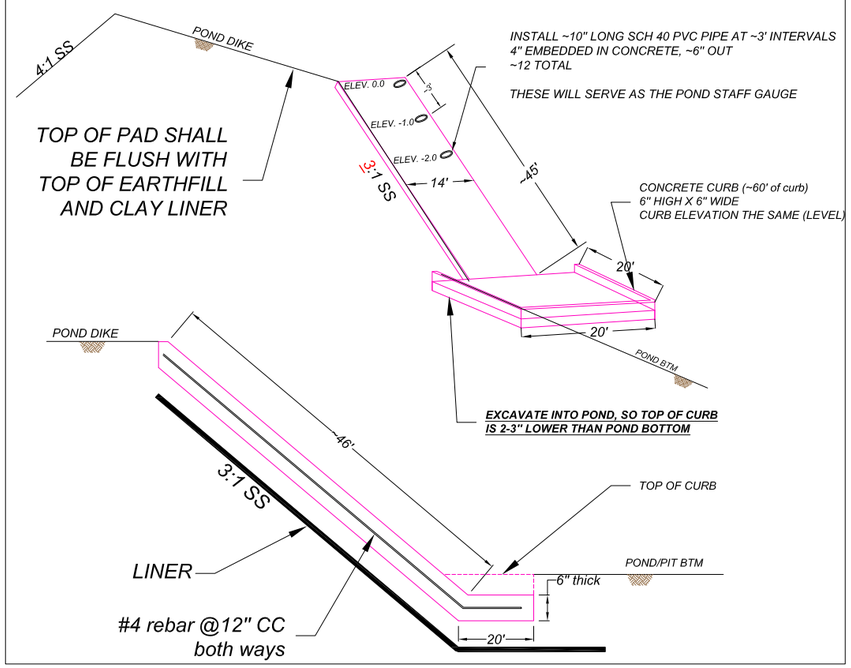
Kyle Goeller
Ottertail County MN
AWS
Topsoiling

K2S ENGINEERING INC.
4209 94TH AVE SE
YPSILANTI, ND 58497
Phone 701-489-3322

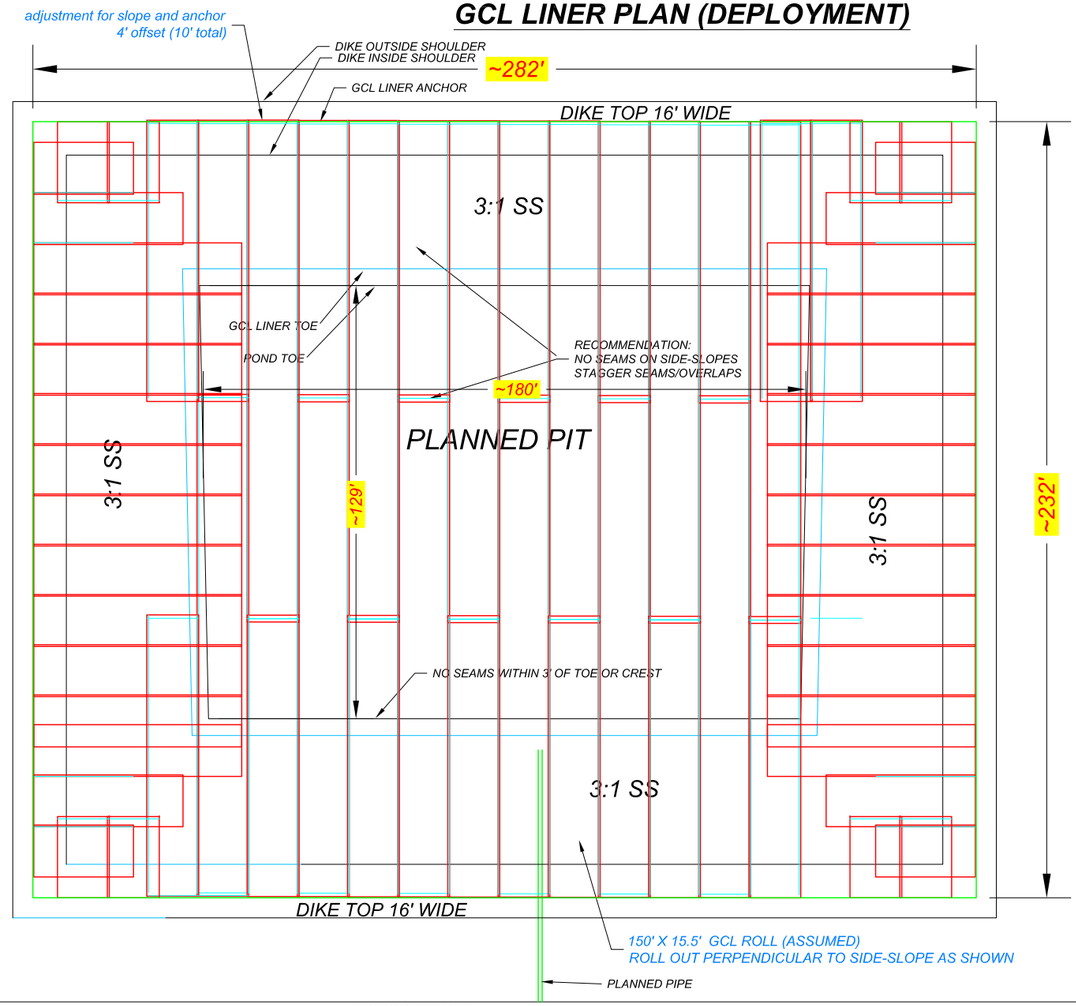
Sheet No.
5 of 12

REFER TO SPECIFICATION 98 FOR ADDITIONAL LINER REQUIREMENTS.

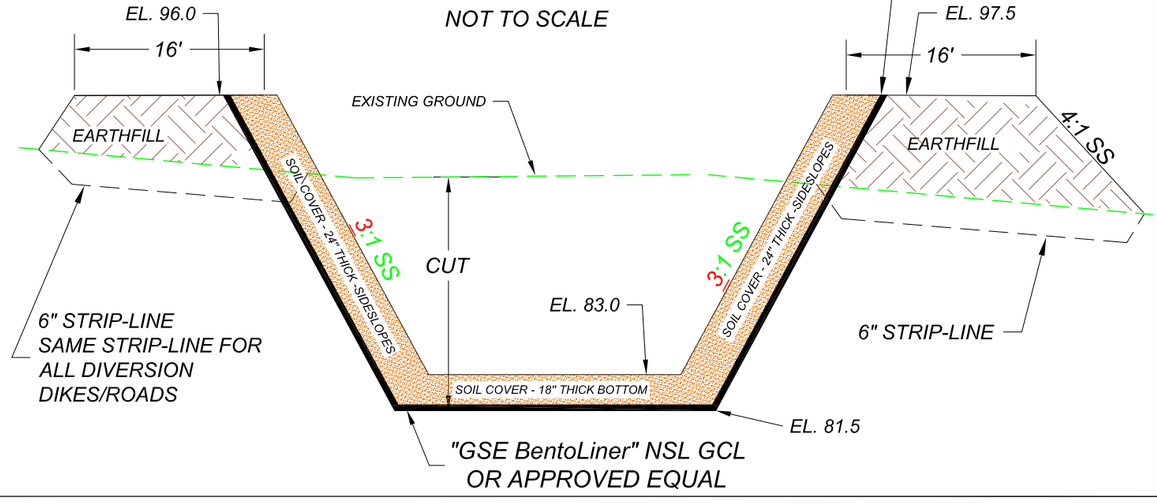
CONCRETE ACCESS RAMP (PUMP-OUT) DETAILS (3 PLANNED)
SLURRY POND
NOT TO SCALE



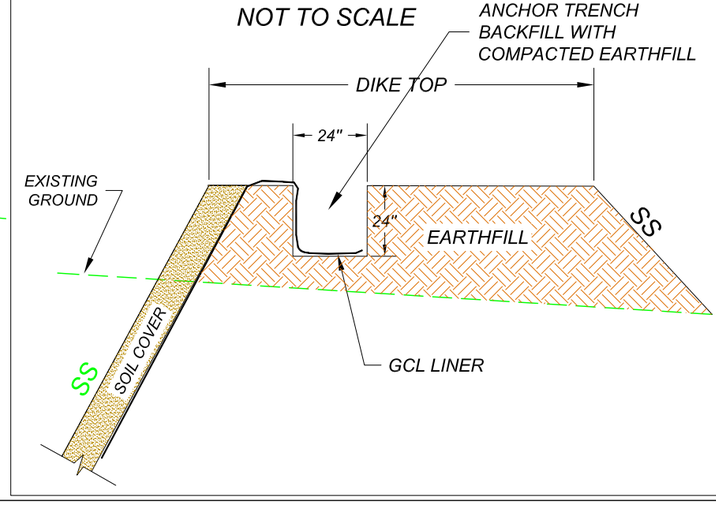
PLAN VIEW
GCL LINER PLAN (DEPLOYMENT)

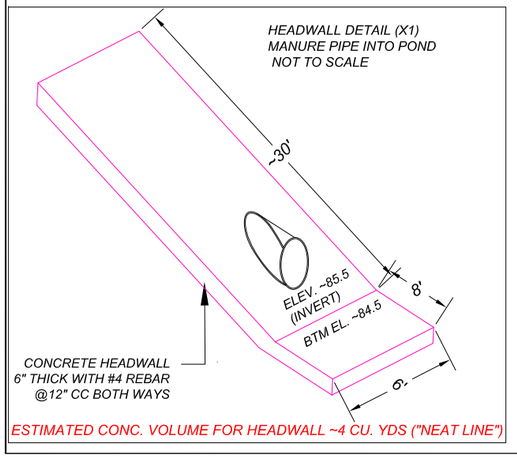


EARTHEN MANURE PIT
- TYPICAL SECTION
NOT TO SCALE



GCL TYPICAL ANCHOR TRENCH
NOT TO SCALE





Date
Approved By Shane Kjellberg P.E. 8-21
Title

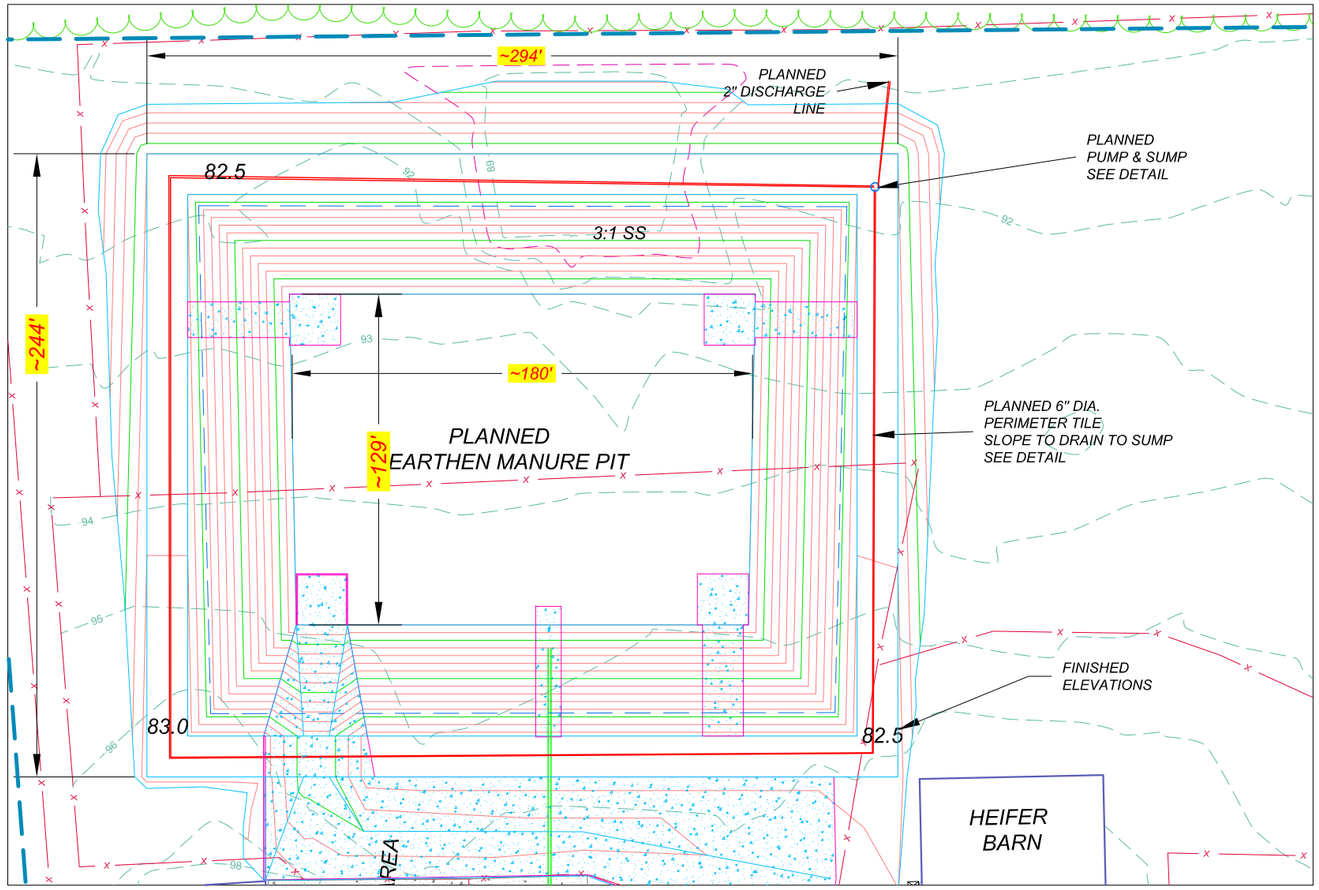
Date Surveyed 8-6-18
Date Drawn 8-21
Designed by skk
Drawn By skk
Date Checked 8-21
Checked by jak
File: final2021.dwg

Kyle Goeller
Ottertail County MN
AWS
Pond Details

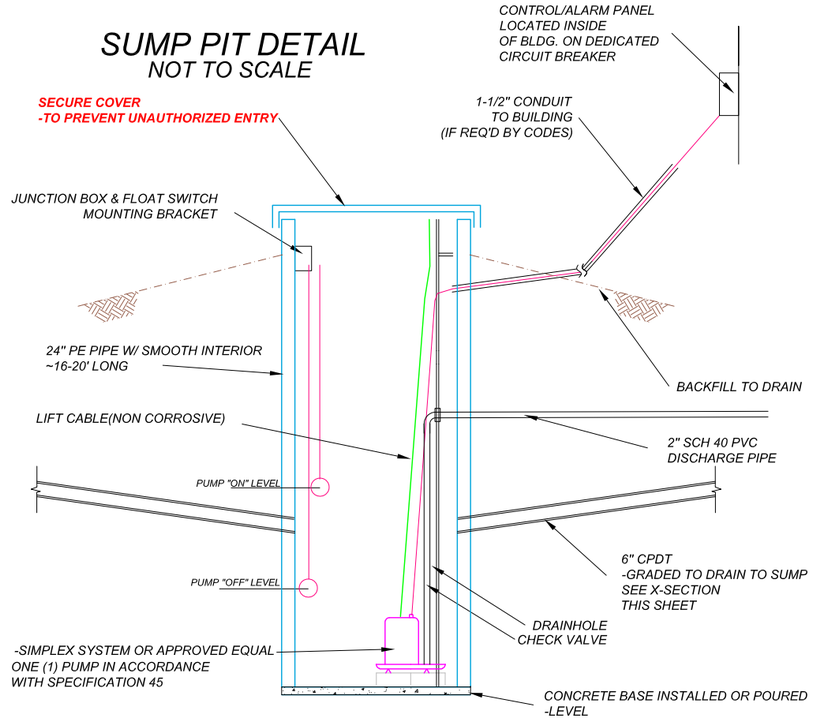
K2S ENGINEERING INC.
4209 94TH AVE SE
YPSILANTI, ND 58497
Phone 701-489-3322

Sheet No.
6 of 12

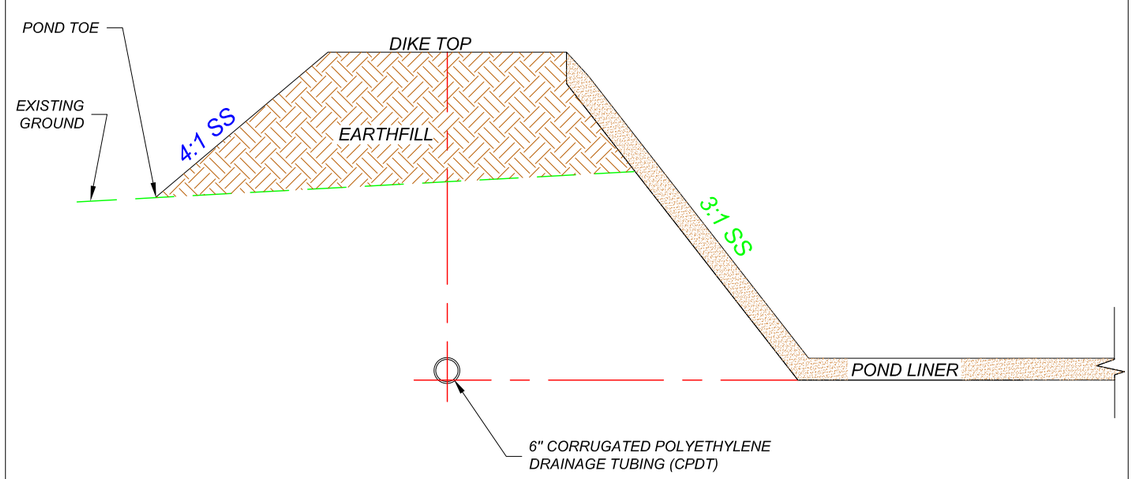
PLAN VIEW
1" =~60'



SUMP PIT DETAIL
NOT TO SCALE



PERIMETER DRAIN ALONG SLURRY POND
- TYPICAL SECTION-
NOT TO SCALE



CONSTRUCTION NOTES:

1. PLUMBING CONTRACTOR SHALL SUBMIT A DETAILED PLAN FOR THE COMPLETE PUMP & PLUMBING SYSTEM. THIS PLAN SHALL BE SUBMITTED TO THE PROJECT OWNER AND ENGINEER FOR APPROVAL AND CONCURRENCE.
2. PUMP SHOULD PUMP 5-20 GPM, W/ 2" DISCHARGE. -DUE TO THE UNKNOWN NATURE OF GROUND WATER SEEPAGE, THE PUMP SIZE MAY NEED TO BE INCREASED TO HANDLE INFLOW, IF THE INITIAL PUMP SELECTED DOES NOT.
3. ALL ELECTRICAL WORK SHALL BE CERTIFIED AND CONFORM TO ALL CODES.
4. SUMP COVER SHALL BE SECURED TO PREVENT UNAUTHORIZED ENTRY (E.G. SMALL CHILDREN), AND SHALL BE STRONG ENOUGH TO SUPPORT 500+ POUNDS. (LARGE ADULT).
5. 2" DISCHARGE PIPE SHALL HAVE A FLAP-TYPE GATE INSTALLED ON OUTLET END AND CONCRETE OR ROCK EROSION PROTECTION.
6. **THRUST BLOCKING SHALL BE USED ON 2" PUMPLINE.**

Date
Approved By Shane Kjellberg P.E. 8-21
Title .....

Date Surveyed 8-6-18
Date Drawn 12-18
Designed by skk
Drawn By skk
Date Checked
Checked by
File: prelim2018.dwg

Kyle Goeller
Ottertail County MN
AWS
Tile Details

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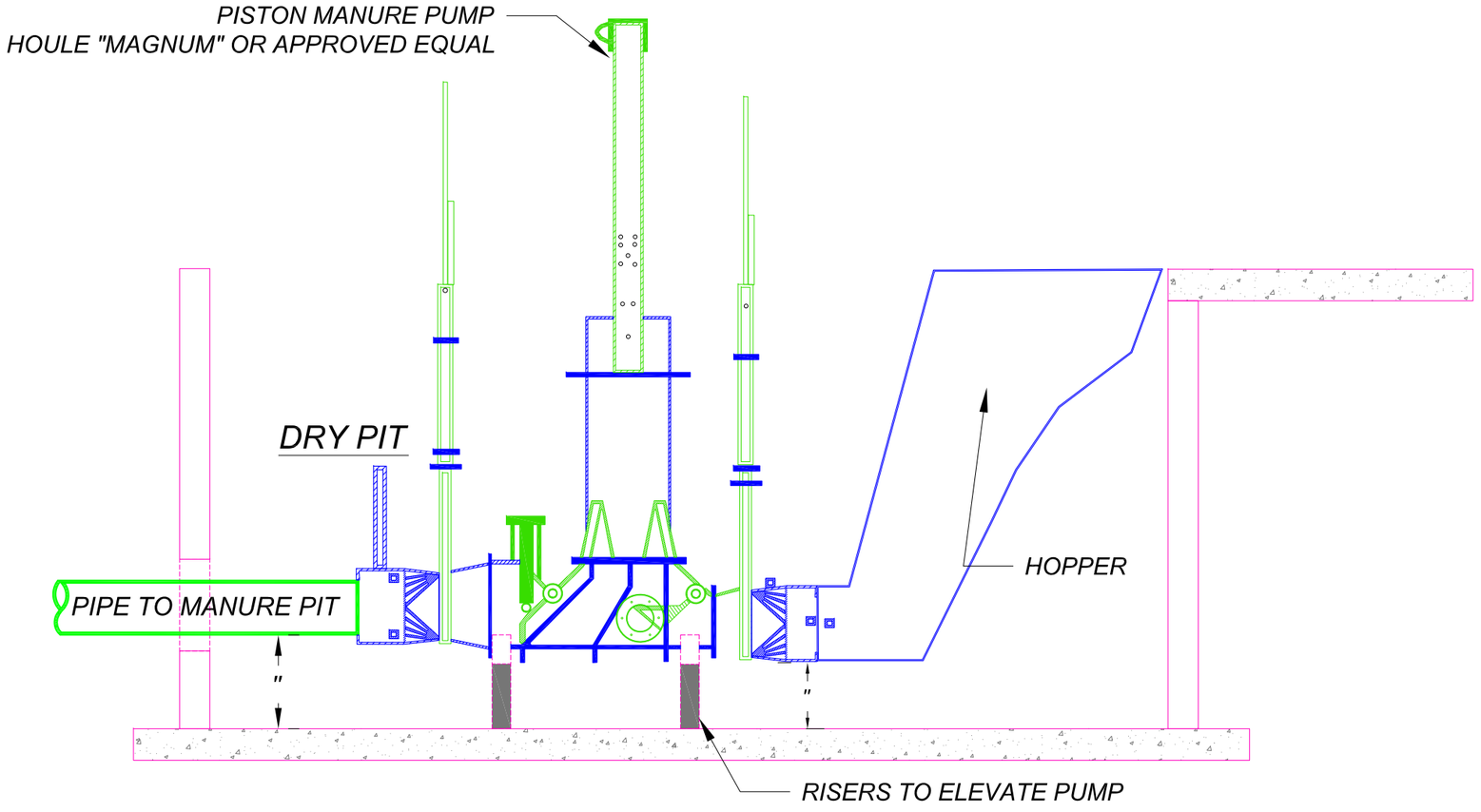
YPSILANTI, ND 58497
Phone 701-489-3322

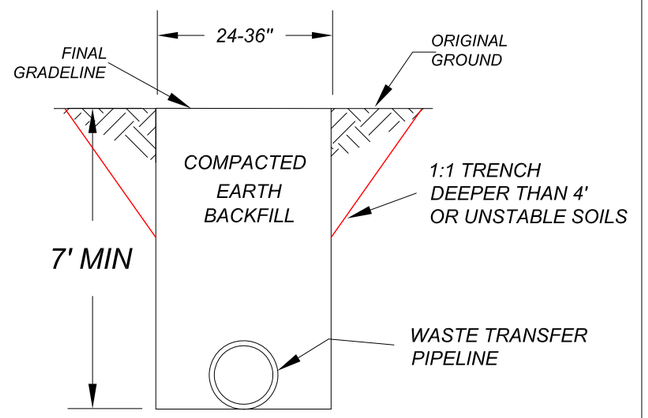
Sheet No.
7 of 12

MANURE PUMPING PLANT -SECTION VIEW

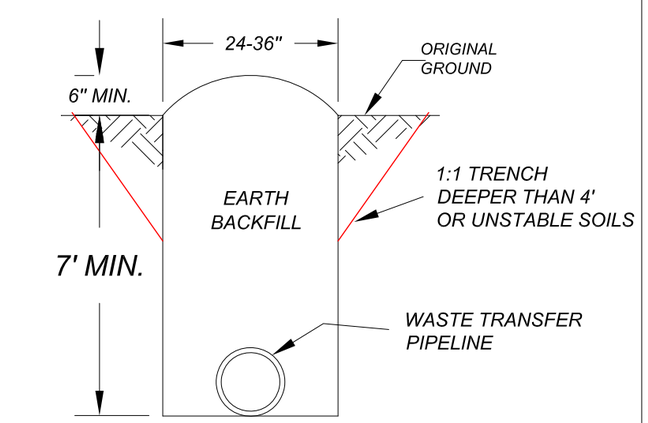
CONCEPT ONLY - TO BE DESIGNED BY PUMP VENDOR



TYPICAL TRENCH SECTION -PIPE
WHERE COMPACTION IS REQUIRED
NOT TO SCALE



TYPICAL TRENCH SECTION -PIPE
WHERE COMPACTION IS NOT REQUIRED
NOT TO SCALE



NOTES:
1. ALL TRENCHING SHALL BE IN ACCORDANCE WITH O.S.H.A RULES & REGULATIONS.
2. EARTH BACKFILL SHALL CONSIST OF ACCEPTABLE MATERIAL FROM EXCAVATION.

Date
Approved By Shane Kjellberg P.E. 8-21
Title

Date Surveyed 8-6-18
Date Drawn 8-21
Designed by skk
Drawn By skk
Date Checked 8-21
Checked by jak
File: final2021.dwg

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Ottertail County MN
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Manure Pump & Pipeline Details

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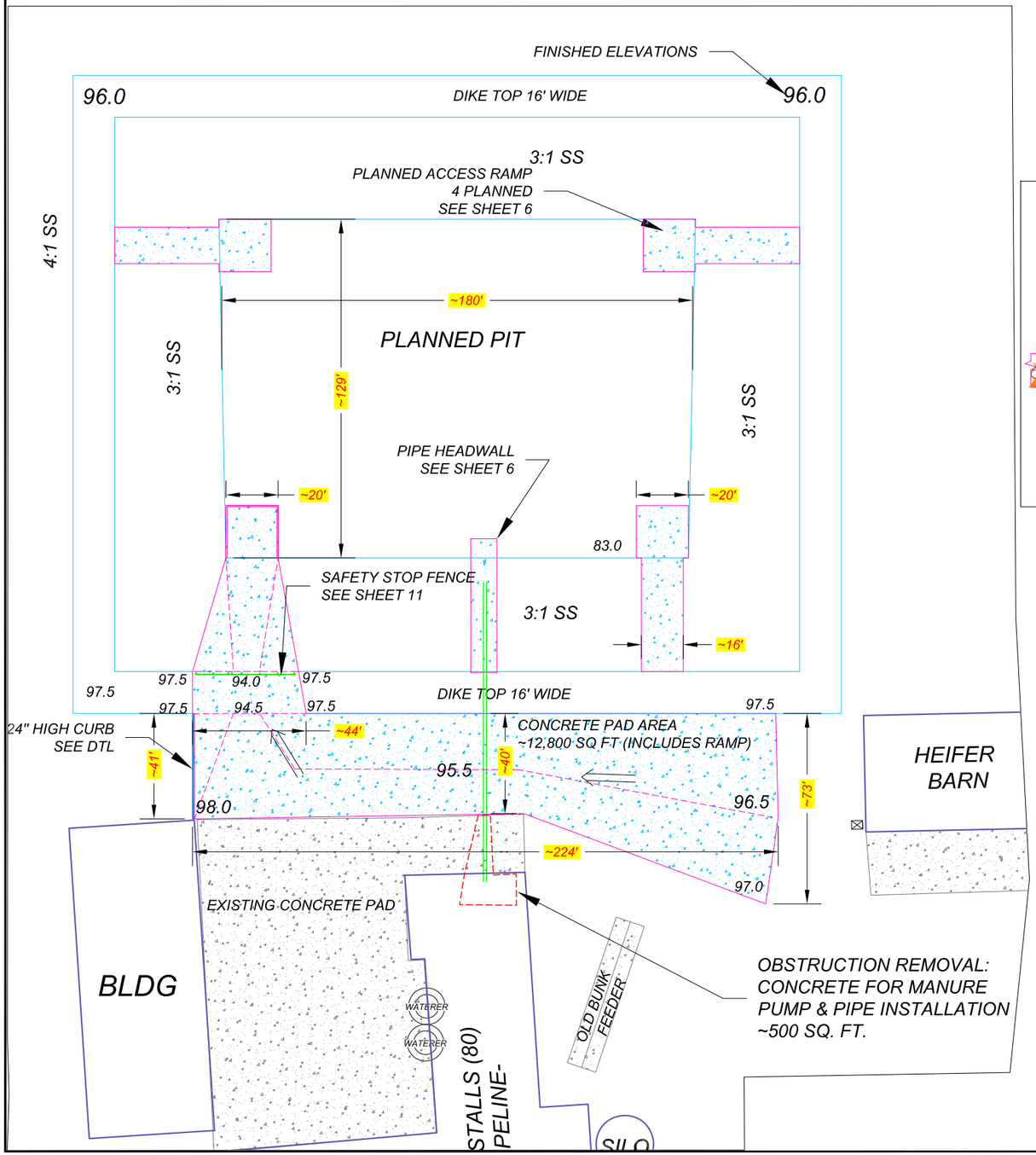
Sheet No.
8 of 12

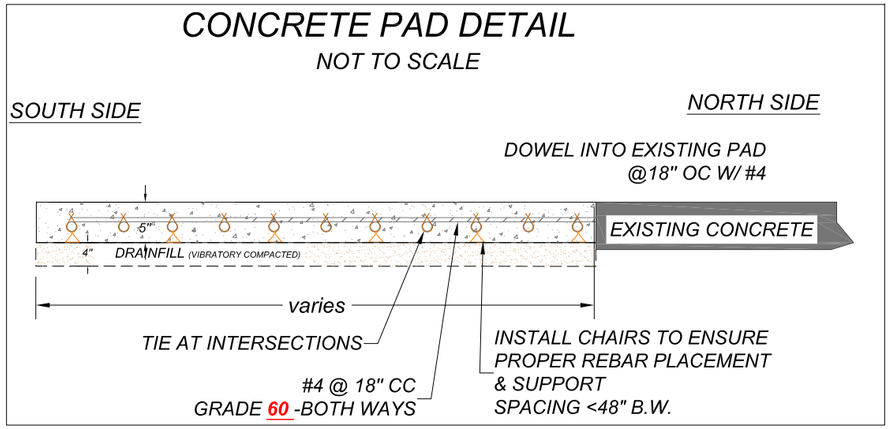
AREAS TO BE CONCRETED

OUTSIDE AREAS TO BE CONCRETED & OBSTRUCTION REMOVAL PLAN VIEW 1" = 50'



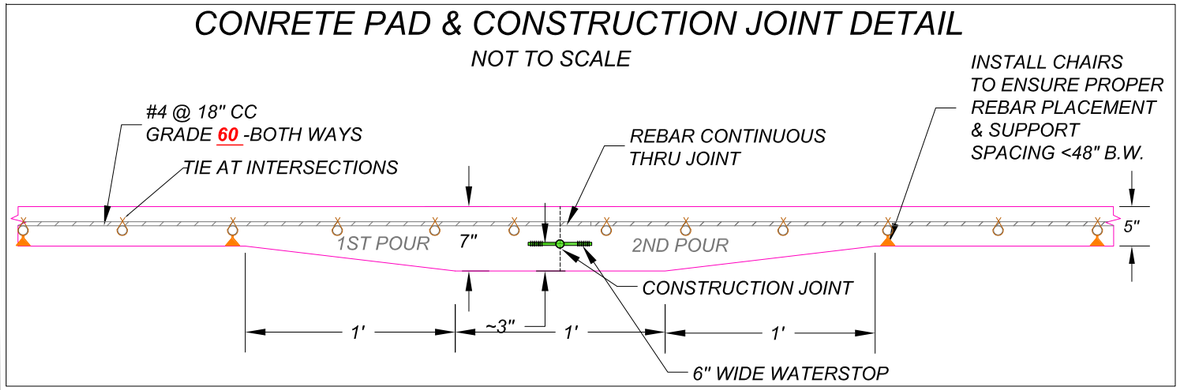
CONCRETE PAD DETAIL

NOT TO SCALE



CONRETE PAD & CONSTRUCTION JOINT DETAIL

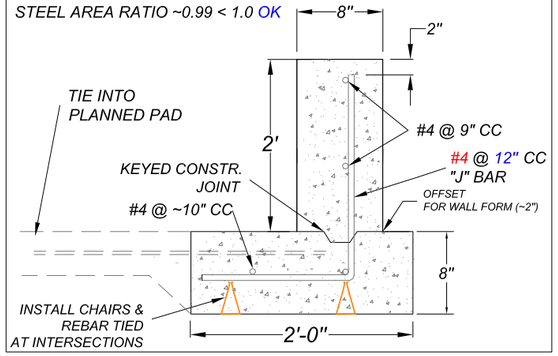
NOT TO SCALE



24" CONCRETE CURB/STEM WALL

NOT TO SCALE

NOTES:
BACKFILL 0' MIN.; 2' MAX.
SURCHARGE 0-100 PSF
ALL REBAR GRADE 60
STEEL AREA RATIO ~0.99 < 1.0 OK



NOTES:

1. ALL PAD EDGES SHALL BE CHAMFERED OR EDGED WITH AN EDGING TOOL.
2. PADS SHALL BE VIBRATORY SCREEDED, FLOATED, AND FINISHED TO PROVIDE A UNIFORM AND FLAT FINISH.
3. WATER SHALL NOT BE ADDED TO SURFACE OF CONCRETE.
4. UNIFORM APPLICATION OF CURING COMPOUND SHALL BE APPLIED WITHIN 20-30 MINUTES AFTER FINISHING.
5. CURING COMPOUND SHALL COMPLETELY COVER CONCRETE SURFACE.
6. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF POSTS IN CONCRETE.
7. LANDOWNER WILL PROVIDE POSTS.
8. **MAXIMUM CONTROL JOINT SPACING IS 100' (I.E. SAWCUTS OR GROOVED TOOL).**

Date
Approved By Shane Kjellberg P.E. 8-21
Title

Date Surveyed	8-6-18	
Date Drawn		8-21
Designed by		skk
Drawn By		skk
Date Checked		8-21
Checked by		JAK
File: final2021.dwg		

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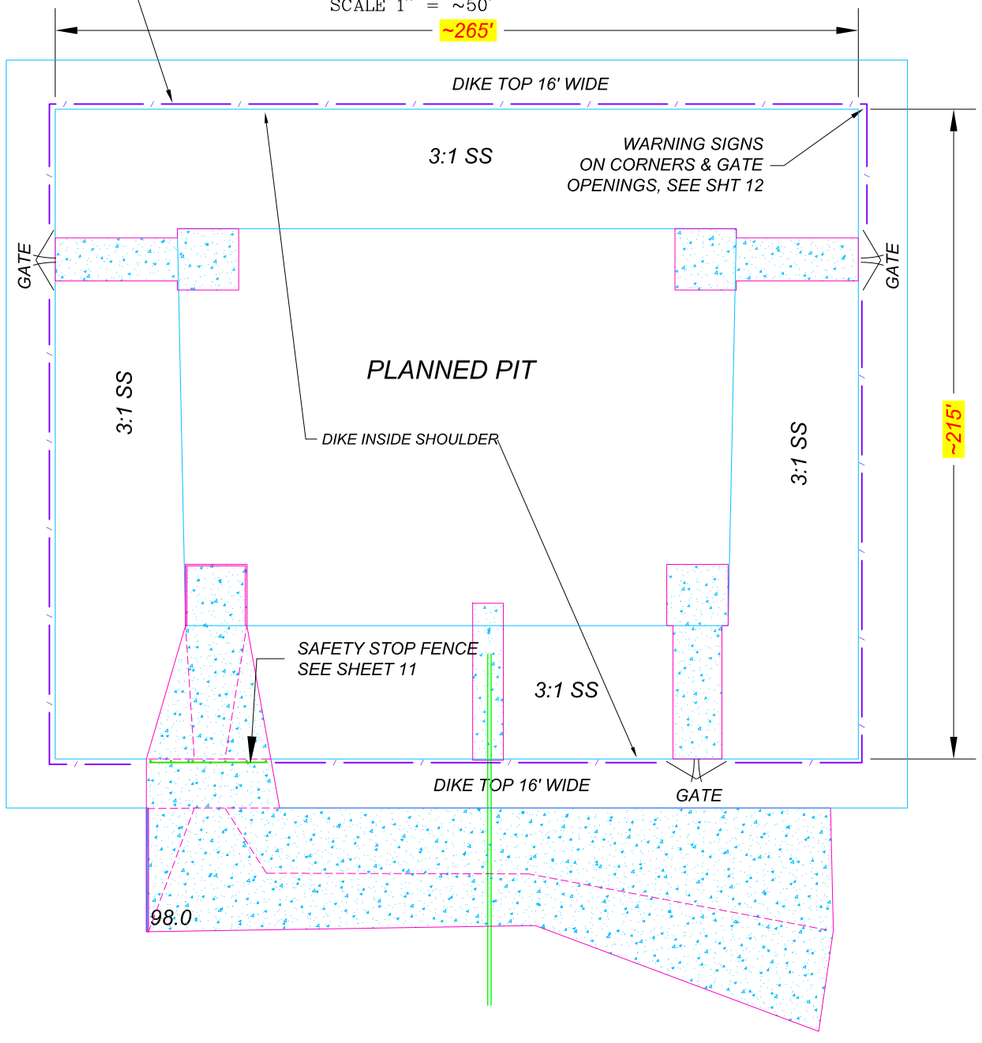
PLANNED SAFETY FENCE: LOCATION IS APPROXIMATE, GATE LOCATIONS & NUMBERS ARE APPROXIMATE

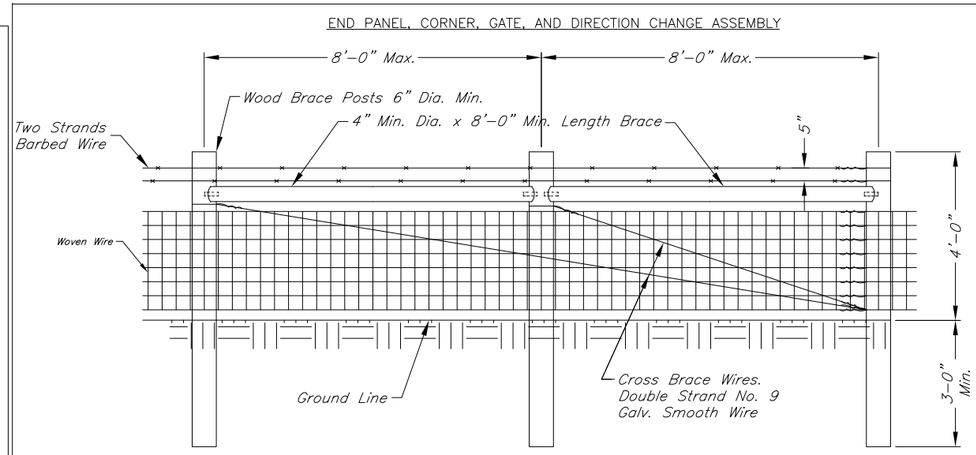
SAFETY FENCE PLAN VIEW

SCALE 1" = ~50'

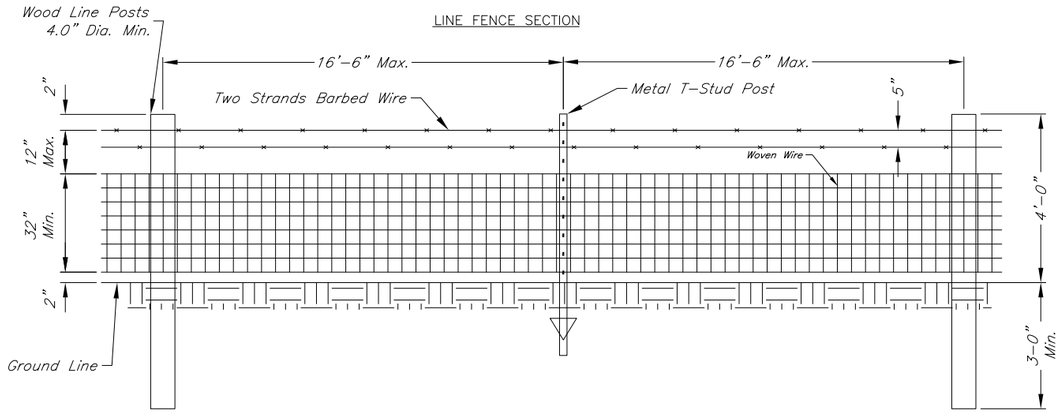


SAFETY FENCE AROUND POND

END PANEL, CORNER, GATE, AND DIRECTION CHANGE ASSEMBLY



LINE FENCE SECTION



CONSTRUCTION NOTES

1. Corner, end, brace, and pull posts shall be located and set first.
2. Wood posts shall be set in holes and backfilled with earth except where otherwise specified. Wood posts may be driven when approved by the engineer. Steel posts shall be driven unless otherwise specified.
3. Holes for installing fence posts shall be at least 6 inches larger than the diameter or side dimensions of the posts.
4. Earth backfill around posts shall be thoroughly tamped in layers not thicker than 4 inches and shall completely fill the posthole up to the ground surface.
5. Concrete backfill around posts shall be rodded into place in layers not thicker than 12 inches and shall completely fill the posthole to the surface of the ground. Backfill, either earth or concrete, shall be crowned up around posts at the ground surface. No stress shall be applied to posts set in concrete for a period of not less than 24 hours following the development of a firm set of the concrete.
6. Steel posts shall be used at least every 100 feet for grounding purposes. Steel posts may be used in line construction. Length of steel posts shall be 5.5 feet set to a depth of 1.5 feet or at least one inch over the anchor plate, which ever is greater.
7. Location and type of gates are to be determined by owner.
8. Horizontal brace should be placed approximately 3 feet above ground.
9. Staple no. 9 cross-brace, and fence wires to gate, brace and corner posts at quarter points of posts.
10. Install 2 strands of barbed wire above the woven wire on 5 inch spacings.

MATERIALS NOTES

1. All materials shall be sound, new, and free of decay and rust.
2. Treated posts shall be commercially available pressure treated.
3. Steel line posts shall be 'Tee' type with suitable appurtences for fastening line wires and shall have an attached anchor plate. Steel posts will be painted or galvanized and have a minimum weight of 1.25 pounds per foot exclusive of anchor plate.
4. Barbed wire shall be two twisted strands of 12 1/2 gauge or heavier wire with 14 gauge or heavier two point barbs on approximately 5 inch centers. Zinc coating is required.
5. Woven wire shall be at least 32 inches high with 11 gauge or heavier top and bottom wires. Line and stay wires shall be 12 1/2 gauge or heavier. Zinc coating is required.
6. Woven wire opening dimensions shall not exceed 4" horizontally or vertically.

Date
Approved By Shane Kjellberg P.E. 8-21
Title

Date Surveyed	8-6-18	
Date Drawn		8-21
Designed by		SKK
Drawn By		SKK
Date Checked		8-21
Checked by		jak
File: final2021.dwg		

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Fence Details

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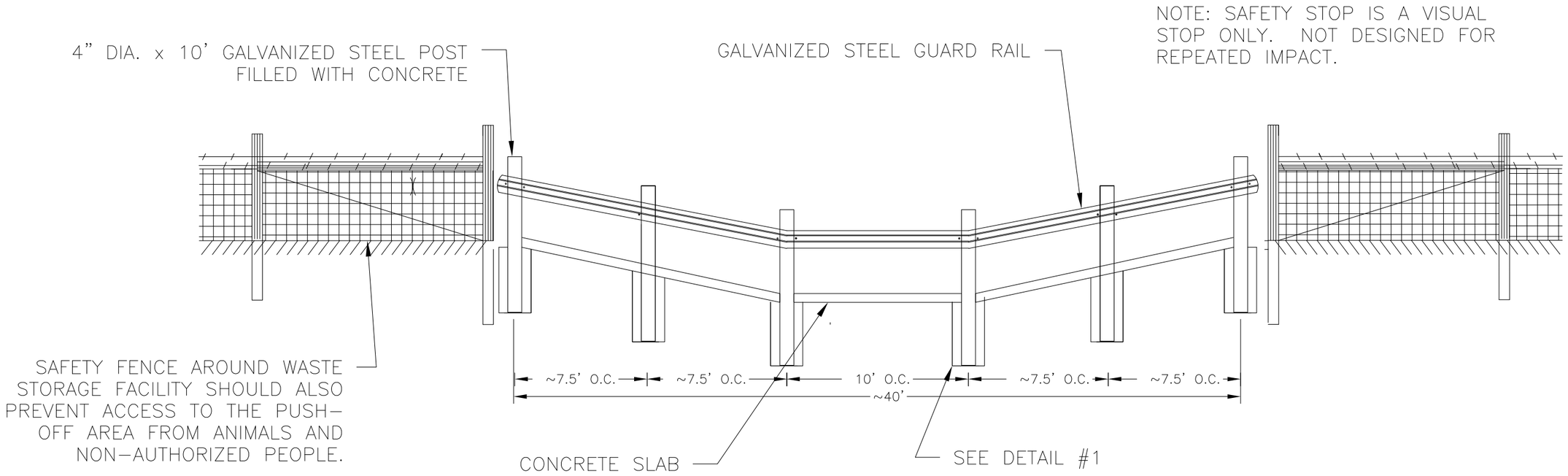
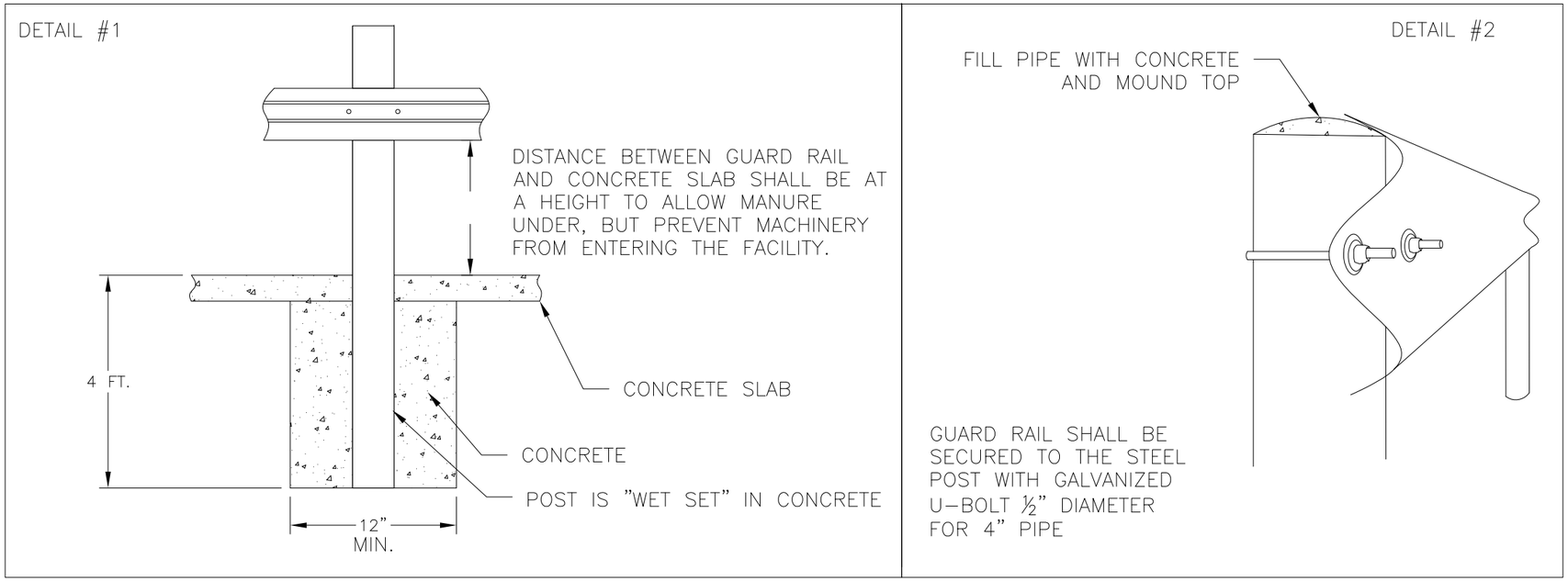
Sheet No.
10 of 12





Date
Approved By Shane Kjellberg P.E. 8-21
Title .....

Date Surveyed 8-6-18
Date Drawn 8-21
Designed by SKK
Drawn By SKK
Date Checked 8-21
Checked by jak
File: final2021.dwg

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Stop Fence Details

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Sheet No.
11 of 12

RUNOFF POND WARNING SIGNS: PLACE AT GATE OPENINGS & POND CORNERS

DANGER

DROWNING HAZARD!

SURFACE MAY BREAK THROUGH

KEEP OFF SURFACE

DANGER

LIQUID MANURE STORAGE

PELIGRO

¡PELIGRO DE AHOGARSE!

SUPERFICIE SE PUEDE QUEBRAR

MANTENGASE FUERA

PELIGRO

ALMACENAJE DE ESTIÉRCOL LÍQUIDO

THESE ARE ONLY EXAMPLES OF THE TYPES OF SIGNS THAT MUST BE POSTED AROUND THE FACILITY. OTHER COMMERCIALLY AVAILABLE SIGNS MAY BE USED.

DAY PIT ROOM

DANGER

DANGEROUS GASES!

VENTILATE ROOM BEFORE ENTRY.

LEAVE DOOR OPEN & FAN ON WHILE OCCUPIED

WATCH YOUR STEP! TANK OPENINGS!

PELIGRO

¡Gases peligrosos!

Ventile el cuarto antes de entrar.
Mientras adentro, deje abierta la puerta y use ventilador.

Tenga cuidado al caminar.

Las compuertas del tanque pueden estar abiertas.

THESE ARE ONLY EXAMPLES OF THE TYPES OF SIGNS THAT MUST BE POSTED AROUND THE FACILITY. OTHER COMMERCIALLY AVAILABLE SIGNS MAY BE USED.

Date
Approved By Shane Kjellberg P.E. 8-21
Title

Date Surveyed 8-6-18
Date Drawn 8-21
Designed by SKK
Drawn By SKK
Date Checked 8-21
Checked by jak
File: final2021.dwg

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Warning Signs Details

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Sheet No.
12 of 12

I-D. SPECIFICATIONS

CONSTRUCTION SPECIFICATIONS

2.	CLEARING AND GRUBBING
3.	STRUCTURE REMOVAL
5.	POLLUTION CONTROL
6.	SEEDING, SPRIGGING AND MULCHING
7.	CONSTRUCTION SURVEYS
8.	MOBILIZATION
10.	WATER FOR CONSTRUCTION
11.	REMOVAL OF WATER
21.	EXCAVATION
23.	EARTHFILL
26.	TOPSOILING
32.	STRUCTURE CONCRETE
34.	STEEL REINFORCEMENT
44.	CORRUGATED PE TUBING
45.	PLASTIC PIPE
92.	FENCE
98.	GEO-SYNTHETIC CLAY LINER (GCL)

Construction Specification 2—Clearing and Grubbing

1. Scope

The work consists of clearing and grubbing and disposal of trees, snags, logs, brush, stumps, shrubs, and rubbish from the designated areas.

2. Protection of existing vegetation

Trees and other vegetation designated to remain undisturbed shall be protected from damage throughout the duration of the construction period. Any damages resulting from the contractor's operations or neglect shall be repaired by the contractor.

Earthfill, stockpiling of materials, vehicular parking, and excessive foot or vehicular traffic shall not be allowed within the drip line of vegetation designated to remain in place. Vegetation damaged by any of these or similar actions shall be replaced with viable vegetation of the same species, similar condition, and like size unless otherwise approved by the contracting officer.

Any cuts, skins, scrapes, or bruises to the bark of the vegetation shall be carefully trimmed and local nursery accepted procedures used to seal damaged bark.

Any limbs or branches 0.5 inch or larger in diameter that are broken, severed, or otherwise seriously damaged during construction shall be cut off at the base of the damaged limb or branch flush with the adjacent limb or tree trunk. All roots 1-inch or larger in diameter that are cut, broken, or otherwise severed during construction operations shall have the end smoothly cut perpendicular to the root. Roots exposed during excavation or other operations shall be covered with moist earth or backfilled as soon as possible to prevent the roots from drying out.

3. Marking

The limits of the area(s) to be cleared and grubbed will be marked by stakes, flags, tree markings, or other suitable methods. Trees to be left standing and uninjured will be designated by special markings placed on the trunk about 6 feet above the ground surface.

4. Clearing and grubbing

All trees not marked for preservation and all snags, logs, brush, stumps, shrubs, rubbish, and similar materials shall be cleared from within the limits of the designated areas. Unless otherwise specified, all stumps, roots, and root clusters that have a diameter of 1 inch or larger shall be grubbed out to a depth of at least 2 feet below subgrade for concrete structures and 1 foot below the ground surface at embankment sites and other designated areas.

5. Disposal

All materials cleared and grubbed from the designated areas shall be disposed of at locations shown on the drawings or in a manner specified in section 7. The contractor is responsible for complying with all local rules and regulations and the payment of any and all fees that may result from disposal at locations away from the project site.

6. Measurement and payment

Method 1—For items of work for which specific units prices are established in the contract, the cleared and grubbed area is measured to the nearest 0.1 acre. Payment for clearing and grubbing is made for the total area within the designated limits at the contract unit price. Such payment will constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

Method 2—For items of work for which specific unit prices are established in the contract, the length of the cleared and grubbed area is measured to the nearest full station (100 feet) along the line designated on the drawing or identified in the specifications. Payment for clearing and grubbing is made for the total length within the designated limits at the contract unit price. Such payment will constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

Method 3—For items of work for which specific unit prices are established in the contract, each tree, stump, and snag having a diameter of 4 inches or larger and each log having a diameter of 4 inches or larger and a length of 10 feet are measured before removal. The size of each tree and snag is determined by measuring its trunk at breast height above the natural ground surface. The size of each log is determined by measuring the butt and by measuring its length from butt to tip. The size of each stump is measured at the top. Diameter is determined by dividing the measured circumference by 3.14.

Payment for clearing and grubbing of each tree, stump, and snag having a diameter of 4 inches or larger and each log having a diameter of 4 inches or larger and a length of 10 feet or larger is made at the contract unit price for its size designation as determined by the following schedule:

Measured diameter (in)	Size designation (in)
4 to 8	6
8 to 12	10
12 to 24	18
24 to 36	30
36 to 60	48
Over 60	60

The sum of such payments shall constitute full compensation for clearing and grubbing (including the clearing and grubbing of smaller trees, stumps, snags, logs, brush, shrubs, and roots), applicable permits and associated fees, and rubbish removal. Such payment shall constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

Method 4—For items of work for which specific lump sum prices are established in the contract, payment for clearing and grubbing is made at the contract lump sum price. Such payment shall constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

All Methods—The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 7.

7. ITEMS OF WORK AND CONDITIONS WHICH APPLY TO THIS PROJECT ARE:

A. BID ITEM 2, CLEARING AND GRUBBING

This item shall consist of the work and materials necessary to remove any trees, trash, debris, and plant and manure residues from construction areas as described in this specification.

1. Disposal area will be adjacent to construction areas. Landowner will be responsible for final disposal of materials. Topsoil will be redistributed over areas to be seeded by contractor.

2. Manure shall be applied in accordance with the manure management plan.

3. In section 6, Measurement and payment, Method 1 shall apply.

Construction Specification 3—Structure Removal

1. Scope
The work shall consist of the removal, salvage, and disposal of structures (including fences) from the designated areas.

2. Marking
Method 1—Each structure or structure part to be removed will be marked with stakes, flags, paint, or other suitable method.

Method 2—The area boundaries from which structures must be removed will be marked using stakes, flags, paint, or other suitable method. Structures to remain undisturbed or to be salvaged will be designated by special markings.

3. Removal
Method 1—All structures designated for removal in the contract shall be removed to the specified extent and depth.

Method 2—Within the areas so marked, all visible and buried structures identified shall be removed to the specified extent and depth.

4. Salvage
Structures or structure parts that are designated to be salvaged shall be carefully removed and neatly placed in the specified or approved storage location. Salvaged structures that are capable of being disassembled shall be dismantled into individual members or sections. Such structures shall be neatly and systematically match marked with paint before disassembly. All connectors and other parts shall be marked to indicate their proper location within the structure and shall be fastened to the appropriate structural member or packed in suitable containers.

Material from fences designated to be salvaged shall be placed outside the work area on the property on which the fence was originally located. Fence wire shall be rolled into uniform rolls of suitable size and neatly piled with other salvaged materials. Posts and rails shall be neatly stacked.

5. Disposal of refuse materials
Refuse materials resulting from structure removal shall be disposed of in a manner and at locations specified in section 7 of this specification or in an acceptable manner and at locations approved by the contracting officer. Disposal by burning shall be in accordance with local rules and regulations.

6. Measurement and payment
Method 1—For items of work for which specific unit prices are established by the contract, payment for the removal of each structure unit, except fences, is made at the contract unit price. Fences removed or removed and salvaged are measured to the nearest linear foot. Payment for fence removal or removal and salvage is made at the contract unit prices for each type and size of fence.

Such payment will constitute full compensation for all labor, equipment, tools, applicable permits and associated fees for burning and disposal of refuse, and all other items necessary and incidental to the completion of the work.

Method 2—For items of work for which specific lump sum prices are established by the contract, payment for structure removal is made at the contract lump sum price.

Such payment will constitute full compensation for all labor, equipment, tools, applicable permits and associated fees for burning and disposal of refuse, and all other items necessary and incidental to the completion of the work.

All Methods—The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed as a contract line item number in the bid schedule, is included in the payment for the item of work to which it is made subsidiary. Such items and items to which they are made subsidiary are identified in section 7 of this specification.

7. ITEMS OF WORK AND CONDITIONS WHICH APPLY TO THIS PROJECT ARE:

A. BID ITEM 1, STRUCTURE REMOVAL

This item shall consist of performing the work necessary to remove concrete, fence, hay bales/stacks from areas where construction activities will be performed.

1. In section 2, Marking and section 3, Removal, Method 1 shall apply for both.

2. In section 6, Measurement and payment, Method 1 shall apply.

Construction Specification 5—Pollution Control

1. Scope

The work consists of installing measures or performing work to control erosion and minimize the production of sediment and other pollutants to water and air from construction activities.

2. Material

All material furnished shall meet the requirements of the material specifications listed in section 8 of this specification.

3. Erosion and sediment control measures and works

The measures and works shall include, but are not limited to, the following:

Staging of earthwork activities—The excavation and moving of soil materials shall be scheduled to minimize the size of areas disturbed and unprotected from erosion for the shortest reasonable time.

Seeding—Seeding to protect disturbed areas shall occur as soon as reasonably possible following completion of that earthwork activity.

Mulching—Mulching to provide temporary protection of the soil surface from erosion.

Diversions—Diversions to divert water from work areas and to collect water from work areas for treatment and safe disposition. They are temporary and shall be removed and the area restored to its near original condition when the diversions are no longer required or when permanent measures are installed.

Stream crossings—Culverts or bridges where equipment must cross streams. They are temporary and shall be removed and the area restored to its near original condition when the crossings are no longer required or when permanent measures are installed.

Sediment basins—Sediment basins collect, settle, and eliminate sediment from eroding areas from impacting properties and streams below the construction site(s). These basins are temporary and shall be removed and the area restored to its original condition when they are no longer required or when permanent measures are installed.

Sediment filters—Straw bale filters or geotextile sediment fences trap sediment from areas of limited runoff. Sediment filters shall be properly anchored to prevent erosion under or around them. These filters are temporary and shall be removed and the area restored to its original condition when they are no longer required or when permanent measures are installed.

Waterways—Waterways for the safe disposal of runoff from fields, diversions, and other structures or measures. These works are temporary and shall be removed and the area restored to its original condition when they are no longer required or when permanent measures are installed.

Other—Additional protection measures as specified in section 8 of this specification or required by Federal, State, or local government.

4. Chemical pollution

The contractor shall provide watertight tanks or barrels or construct a sump sealed with plastic sheets to dispose of chemical pollutants, such as drained lubricating or transmission fluids, grease, soaps, concrete mixer washwater, or asphalt, produced as a by-product of the construction activities. At the completion of the construction work, sumps shall be removed and the area restored to its original condition as specified in section 8 of this specification. Sump removal shall be conducted without causing pollution.

Sanitary facilities, such as chemical toilets, or septic tanks shall not be located next to live streams, wells, or springs. They shall be located at a distance sufficient to prevent contamination of any water source. At the completion of construction activities, facilities shall be disposed of without causing pollution as specified in section 8 of this specification.

5. Air pollution

The burning of brush or slash and the disposal of other materials shall adhere to state and local regulations.

Fire prevention measures shall be taken to prevent the start or spreading of wildfires that may result from project activities. Firebreaks or guards shall be constructed and maintained at locations shown on the drawings.

All public access or haul roads used by the contractor during construction of the project shall be sprinkled or otherwise treated to fully suppress dust. All dust control methods shall ensure safe construction operations at all times. If chemical dust suppressants are applied, the material shall be a commercially available product specifically designed for dust suppression and the application shall follow manufacturer's requirements and recommendations. A copy of the product data sheet and manufacturer's recommended application procedures shall be provided to the engineer 5 working days before the first application.

6. Maintenance, removal, and restoration

All pollution control measures and temporary works shall be adequately maintained in a functional condition for the duration of the construction period. All temporary measures shall be removed and the site restored to near original condition.

7. Measurement and payment

Method 1—For items of work for which specific unit prices are established in the contract, each item is measured to the nearest unit applicable. Payment for each item is made at the contract unit price for that item. For water or chemical suppressant items used for dust control for which items of work are established in section 8 of this specification, measurement for payment will not include water or chemical suppressants that are used inappropriately or excessive to need. Such payment will constitute full compensation for the completion of the work.

Method 2—For items of work for which lump sum prices are established in the contract, payment is made as the work proceeds and supported by invoices presented by the contractor that reflect actual costs. If the total of all progress payments is less than the lump sum contract price for this item, the balance remaining for this item will be included in the final contract payment. Payment of the lump sum contract price will constitute full compensation for completion of the work.

Method 3—For items of work for which lump sum prices are established in the contract, payment will be prorated and provided in equal amounts on each monthly progress payment estimate. The number of months used for prorating shall be the number estimated to complete the work as outlined in the contractor's approved construction schedule. The final month's prorate amount will be provided with the final contract payment. Payment as described will constitute full compensation for completion of the work.

All Methods—The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed in the bid schedule is included in the payment for the item of work to which it is made subsidiary. Such items, and the items to which they are made subsidiary, are identified in section 8 of this specification.

8. ITEMS OF WORK AND CONDITIONS WHICH APPLY TO THIS PROJECT ARE:

A. SUBSIDIARY ITEM, POLLUTION CONTROL

This item shall consist of performing the work and providing the materials necessary for conforming with this specification.

1. Alternative erosion control measures shall have prior approval of the engineer.

2. Payment for this item will be included under the bid items for which pollution control by the contractor is required. Items that may require pollution control for construction by the contractor are, but not limited to: excavations, earthfills, plastic pipes, concrete work, pond liners.
   Note: be sure to adjust price on specific bid items to account for pollution control.

Construction Specification 6—Seeding, Sprigging, and Mulching

1. Scope

The work consists of preparing the area for treatment; furnishing and placing seed, sprigs, mulch, fertilizer, inoculant, lime, and other soil amendments; and anchoring mulch in designated areas as specified.

2. Material

Seed—All seed shall conform to the current rules and regulations of the state where it is being used and shall be from the latest crop available. It shall meet or exceed the standard for purity and germination listed in section 7.

Seed shall be labeled in accordance with the state laws and the U.S. Department of Agriculture rules and regulations under the Federal Seed Act in effect on the date of invitations for bids. Bag tag figures are evidence of purity and germination. No seed will be accepted with a test date of more than 9 months before the delivery date to the site.

Seed that has become wet, moldy, or otherwise damaged in transit or storage will not be accepted. The percent of noxious weed seed allowable shall be as defined in the current State laws relating to agricultural seeds. Each type of seed shall be delivered in separate sealed containers and fully tagged unless exception is granted in writing by the contracting officer.

Fertilizer—Unless otherwise specified, the fertilizer shall be a commercial grade fertilizer. It shall meet the standard for grade and quality specified by State law. Where fertilizer is furnished from bulk storage, the contractor shall furnish a supplier's certification of analysis and weight. When required by the contract, a representative sample of the fertilizer shall be furnished to the contracting officer for chemical analysis.

Inoculants—The inoculant for treating legume seeds shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species and shall not be used later than the date indicated on the container or as otherwise specified. A mixing medium, as recommended by the manufacturer, shall be used to bond the inoculant to the seed. Two times the amount of the inoculant recommended by the manufacturer shall be used except four times the amount shall be used when seed is applied using a hydraulic seeder. Seed shall be sown within 24 hours of treatment and shall not remain in the hydraulic seeder longer than 4 hours.

Lime and other soil amendments—Lime shall consist of standard ground agriculture limestone, or approved equivalent. Standard ground agriculture limestone is defined as ground limestone meeting current requirements of the State Department of Agriculture. Other soil amendments shall meet quality criteria and application requirements specified in section 7.

Mulch tackifiers—Asphalt emulsion tackifiers shall conform to the requirements of ASTM D 977, Specification for Emulsified Asphalt. The emulsified asphalt may be rapid setting, medium setting, or slow setting. Nonasphaltic tackifiers required because of environmental considerations shall be as specified in section 7.

Straw mulch material—Straw mulch shall consist of wheat, barley, oat or rye straw, hay, grass cut from native grasses, or other plants as specified in section 7. The mulch material shall be air-dry, reasonably light in color, and shall not be musty, moldy, caked, or otherwise of low quality. The use of mulch that contains noxious weeds is not permitted. The contractor shall provide a method satisfactory to the contracting officer for determining weight of mulch furnished.

***Other mulch materials*—**Mulching materials, such as wood cellulose fiber mulch, mulch tackifiers, synthetic fiber mulch, netting, and mesh, are other mulching materials that may be required for specialized locations and conditions. These materials, when specified, must be accompanied by the manufacturer's recommendations for methods of application.

3. Seeding mixtures, sod, sprigs, and dates of planting

The application rate per acre for seed mixtures, sprigs, or sod and date of seeding or planting shall be as shown on the plans or as specified in section 7.

4. Seedbed preparation and treatment

Areas to be treated shall be dressed to a smooth, firm surface. On sites where equipment can operate on slopes safely, the seedbed shall be adequately loosened (4 to 6 inches deep) and smoothed. Depending on soil and moisture conditions, disking or cultipacking, or both, may be necessary to properly prepare a seedbed. Where equipment cannot operate safely, the seedbed shall be prepared by hand methods by scarifying to provide a roughened soil surface so that broadcast seed will remain in place.

If seeding is to be accomplished immediately following construction operations, seedbed preparation may not be required except on a compacted, polished, or freshly cut soil surface.

Rocks larger than 6 inches in diameter, trash, weeds, and other debris that will interfere with seeding or maintenance operations shall be removed or disposed of as specified in section 7.

Seedbed preparation shall be discontinued when soil moisture conditions are not suitable for the preparation of a satisfactory seedbed as determined by the contracting officer's technical representative (COTR).

5. Seeding, sprigging, fertilizing, mulching, and stabilizing

All seeding or sprigging operations shall be performed in such a manner that the seed or sprigs are applied in the specified quantities uniformly in the designated areas. The method and rate of seed application shall be as specified in section 7. Unless otherwise specified, seeding or sprigging shall be accomplished within 2 days after final grading is completed and approved.

Fertilizer, lime, and other soil amendments shall be applied as specified in section 7. When specified, the fertilizer and soil amendments shall be thoroughly incorporated into the soil immediately following surface application.

The rate, amount, and kind of mulching or mesh shall be as specified in section 7. Mulches shall be applied uniformly to the designated areas. They shall be applied to areas seeded not later than 2 working days after seeding has been performed. Straw mulch material shall be stabilized within 24 hours of application using a mulch crimper or equivalent anchoring tool or by a suitable tackifier. When the mulch crimper or equivalent anchoring tool is used, it shall have straight blades and be the type manufactured expressly for and capable of firmly punching the mulch into the soil. Where the equipment can be safely operated, it shall be operated on the contour. Hand methods shall be used where equipment cannot safely operate to perform the work required.

The tackifier shall be applied uniformly over the mulch material at the specified rate, or it shall be injected into the mulch material as it is being applied. Mesh or netting stabilizing materials shall be applied smoothly, but loosely on the designated areas. The edges of these materials shall be buried or securely anchored using spikes or staples as specified in section 7.

The contractor shall maintain the mesh or netting areas until all work under the contract has been completed and accepted. Maintenance shall consist of the repair of areas damaged by water erosion, wind, fire, or other causes. Such areas shall be repaired to reestablish the intended condition and to the design lines and grades required by the contract. The areas shall be refertilized, reseeded, and remulched before the new application of the mesh or netting.

6. Measurement and payment

***Method 1*—**For items of work for which specific unit prices are established in the contract, each area treated is measured as specified in section 7 and the area calculated to the nearest 0.1 acre. Payment for treatment is made at the contract unit price for the designated treatment, which will constitute full compensation for completion of the work.

When specified as an item of work, mesh or netting is measured to the nearest square yard of surface area covered and accepted. Payment is made at the contract unit price and will constitute full compensation for completion of the work.

***Method 2*—**For items of work for which specific lump sum prices are established in the contract, the quantity of work will not be measured for payment. Payment for this item is made at the contract lump sum price for the item and will constitute full compensation for the completion of the work.

***Method 3*—**For items of work for which lump sum prices are established in the contract, payment is made as the work proceeds. Progress payments will be determined as specified in section 7. Payment of the lump sum contract price will constitute full compensation for completion of the work.

***All Methods*—**The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed in the bid schedule is included in the payment for the item of work to which it is made subsidiary. Such items and the item(s) to which they are made subsidiary are identified in section 7.

7. ITEMS OF WORK AND CONDITIONS WHICH APPLY TO THIS PROJECT ARE:

A. BID ITEM 17, SEEDING SPRIGGING AND MULCHING

This item shall consist of the work and materials necessary to create a smooth, firm, free draining seedbed. Backfill areas and areas noted on drawings, and all other areas disturbed by construction operations are to be seeded, fertilized, and mulched as described in this specification (note: gravel access roads, and concrete pads do **not** need to be seeded). ***Note: seeding and mulching shall be completed within 7 days of topsoiling.***

2. Salvaged topsoil shall be redistributed evenly over all disturbed areas designated by project engineer or his/her representative. **Payment for topsoiling shall be included under Bid Item 14, Topsoiling.**

3. Fertilizer shall be applied at a rate of 100 lbs/ac of 10-10-10.

3. Lime shall **not** be applied.

4. The soil surface shall be scarified to a depth of 2" with a disk or other suitable implement.

The seeding rates for the disturbed areas shall be as listed below (select one mixture and one companion crop):

Native mixture:

Certified Seed	Seed Mixture
Not selected	---%
	----%

Tame Grass mixture:

Certified Seed	Seed Mixture
Smooth Bromegrass	28 lbs/ac
Perennial Ryegrass	10 lbs/ac

Companion Crop:

Certified Seed	Rate
Oats, Barley	10 lbs./ac
Spring Wheat	15 lbs/ac

The seeding rate for the native and tame mixture shall be as specified above (this does not include the companion crop).

If the seeding is to be completed after September 1, add 5 lb./ac. of winter wheat.

Minimum seed germination rate shall be 85%, and minimum seed purity shall be 95%. Similar growth habit varieties may be substituted ***with prior approval***. Fescue (if specified) shall have low levels of endophyte.

Inoculate trefoil (if specified) with the proper fresh culture a maximum of 24 hours prior to sowing. Use four times the recommended inoculant when hydroseeding.

6. Firm the seedbed by cultipacking or rolling.

7. Straw or hay mulch shall be applied at a rate of 2 tons/ac. Mulch must be free of undesirable weed seeds. Anchor mulch by lightly disking.

8. Items subsidiary to this Bid item are:
   Mobilization & Demobilization, Construction Specification 8

9. In section 6, Measurement and Payment, Method 1 will apply.

Construction Specification 7—Construction Surveys

1. Scope

The work consists of performing all surveys, measurements, and computations required by this specification.

2. Equipment and material

Equipment for construction surveys shall be of a quality and condition to provide the required accuracy. The equipment shall be maintained in good working order and in proper adjustment at all times. Records of repairs, calibration tests, accuracy checks, and adjustments shall be maintained and be available for inspection by the engineer. Equipment shall be checked, tested, and adjusted as necessary in conformance with manufacturer's recommendations.

Material is field notebooks, stakes, templates, platforms, equipment, spikes, steel pins, tools, and all other items necessary to perform the work specified.

3. Quality of work

All work shall follow recognized professional practice and the standards of the industry unless otherwise specified in section 9 of this specification. The work shall be performed to the accuracy and detail appropriate for the type of job. Notes, sketches, and other data shall be complete, recorded neatly, legible, reproducible and organized to facilitate ease in review and allow reproduction of copies for job documentation. Survey equipment that requires little or no manual recording of field data shall have survey information documented as outlined in section 9 of this specification.

All computations shall be mathematically correct and shall include information to identify the bid item, date, and who performed, checked, and approved the computations. Computations shall be legible, complete, and clearly document the source of all information used including assumptions and measurements collected.

If a computer program is used to perform the computations, the contractor shall provide the engineer with the software identification, vendor's name, version number, and other pertinent data before beginning survey activities. Computer generated computations shall show all input data including values assigned and assumptions made.

The elevations of permanent and temporary bench marks shall be determined and recorded to the nearest 0.01 foot. Differential leveling and transit traverses shall be of such precision that the error of vertical closure in feet shall not exceed plus or minus 0.1 times the square root of the traverse distance in miles. Linear measurements shall be accurate to within 1 foot in 5,000 feet, unless otherwise specified in section 9 of this specification. The angular error of closure for transit traverses shall not exceed 1 minute times the square root of the number of angles turned.

The minimum requirements for placing slope stakes shall be at 100-foot stations for tangents, as little as 25 feet for sharp curves, breaks in the original ground surface and at any other intermediate stations necessary to ensure accurate location for construction layout and measurement. Slope stakes and cross sections shall be perpendicular to the centerline. Significant breaks in grade shall be determined for cross sections. Distances shall be measured horizontally and recorded to the nearest 0.1 foot. Side shots for interim construction stakes may be taken with a hand level.

Unless otherwise specified in section 9 of this specification, measurements for stationing and establishing the location of structures shall be made to the nearest 0.1 foot.

Elevations for concrete work, pipes, and mechanical equipment shall be determined and recorded to the

nearest 0.01 foot. Elevations for earth work shall be determined and recorded to the nearest 0.1 foot.

4. Primary control

The baselines and bench marks for primary control, necessary to establish lines and grades needed for construction, are shown on the drawings and have been located on the job site.

These baselines and bench marks shall be used as the origin of all surveys, layouts, and measurements to establish construction lines and grades. The contractor shall take all necessary precautions to prevent the loss or damage of primary control points. Any stakes or control points lost or damaged by construction activity will be reestablished by the contractor or at contractor expense.

5. Construction surveys

Before work starts that requires contractor performed surveys, the contractor shall submit in writing for the engineer's review: the name, qualifications, and experience of the individuals to be assigned to the survey tasks.

Method 1—Contractor performed surveys shall include:

- checking and any supplemental or interim staking
- performing quantity surveys, measurements, and computations for progress payment
- other surveys as described in section 9 of this specification

Method 2—Contractor performed surveys shall consist of all work necessary for:

- establishing line and grade for all work
- setting slope stakes for all work
- checking and any supplemental or interim staking
- establishing final grade stakes
- performing quantity surveys, measurements, and computations for progress payment
- other surveys as described in section 9 of this specification

Method 3—Contractor performed surveys shall consist of all work necessary for:

- establishing line and grade for all work
- setting slope stakes for all work
- checking and any supplemental or interim staking
- establishing final grade stakes
- performing quantity surveys, measurements, and computations for progress payments
- performing original (initial) and final surveys for determinations of final quantities
- other surveys as described in section 9 of this specification.

6. Staking

The construction staking required for the item shall be completed before work on any item starts. Construction staking shall be completed as follows or as otherwise specified in section 9 of this specification:

Clearing and grubbing—The boundary of the area(s) to be cleared and grubbed shall be staked or flagged at a maximum interval of 200 feet, closer if needed, to clearly mark the limits of work. When contractor staking is the basis for determining the area for final payment, all boundary stakes will be reviewed by the engineer before start of this work item.

***Excavation and fill*—**Slope stakes shall be placed at the intersection of the specified slopes and ground line. Slope stakes and the reference stakes for slopes shall be marked with the stationing, required cut or fill, slope ratio, and horizontal distance from the centerline or other control line. The minimum requirements for placing slope stakes is outlined in section 3, Quality of work.

***Structures*—**Centerline and offset reference line stakes for location, alignment, and elevation shall be placed for all structures.

7. Records

All survey data shall be recorded in fully identified standard hard-bound engineering survey field notebooks with consecutively numbered pages. All field notes and printed data shall include the purpose or description of the work, the date the work was performed, weather data, sketches, and the personnel who performed and checked the work. Electronically generated survey data and computations shall be bound, page numbered, and cross referenced in a bound field notebook containing the index for all survey activities. All work shall follow recognized professional practice.

The construction survey records shall be available at all times during the progress of the work for examination and use by the engineer and when requested, copies shall be made available. The original field notebooks and other records shall be provided to and become the property of the owner before final payment and acceptance of all work.

Complete documentation of computations and supporting data for progress payments shall be submitted to the engineer with each invoice for payment as specified in section 9 of the specification. When the contractor is required to conduct initial and final surveys as outlined in section 5, Construction Surveys, notes shall be provided as soon as possible after completion to the engineer for the purpose of determining final payment quantities.

8. Payment

***Method 1*—**For items of work for which lump sum prices are established in the contract, payment is made as the work proceeds, after presentation of correct and accurate invoices by the contractor showing related costs and evidence of the charges of suppliers, subcontractors, and others for supplies furnished and work performed. Invoices for the total amount of the contract price will not be accepted until all surveys are complete and required documentation has been determined complete. If the total of such payments is less than the lump sum contract price for this item, the unpaid balance will be included in the final contract payment. Payment of the lump sum contract price will constitute full compensation for completion of all work under the bid item.

***Method 2*—**For items of work for which lump sum prices are established in the contract, payment is made as the work proceeds with progress payment amounts determined as a percentage of the total work planned as projected from the contractor's approved construction schedule. Payment of the lump sum contract price will constitute full compensation for completion of all work under this bid item.

Payment will not be provided under this item for the purchase price of materials or equipment having a residual value.

Compensation for any item of work described in the contract, but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the item to which they are made subsidiary are identified in section 9 of this specification.

9. ITEMS OF WORK AND CONDITIONS WHICH APPLY TO THIS PROJECT ARE:

A. SUBSIDIARY ITEM, CONSTRUCTION SURVEYS

This item shall consist of all surveys required for the contractors' quality control; to insure that earthwork, gravel placement, pipe placement and concrete placement are to the specified elevations, line and grades shown on drawings.

1. In section 5, Construction surveys, Method 1 shall apply.

2. Initial staking provided by government or designated representative:

   a. centerline, slope and/or offset for all earthfill work, pipes, and concrete.

   b. grade hubs set for top of gravel fills (blue topping).

   c. original and final surveys for determination of adjusted quantities, if different from original design elevations and dimensions.

3. Final elevation tolerances are +/- 0.1'. Contractor shall have the equipment and ability to transfer elevations from construction stakes and blue tops.

4. A coordinate point list is provided at the end of this specification.

5. Payment for this item will be included under the bid items for which survey work by the contractor is required. Bid items that will require survey work by the contractor are, but not limited to: excavations, earthfills, plastic pipes, corrugated plastic tubing, concrete work, liners.

Coordinate Point List:

Number	Northing	Easting	Elevation	Full Desc	
1	10000.0000'	10000.0000'	100.000'	stn1	
2	10093.1302'	10293.3246'	98.564'	stn 2	stn 2
3	9969.8630'	10076.6893'	99.526'	stn 3	stn 3
4	9944.6669'	9870.2033'	100.145'	stn4	stn4
5	9936.7883'	9703.8745'	99.734'	stn5	stn5

Construction Specification 8—Mobilization and Demobilization

1. Scope

The work consists of the mobilization and demobilization of the contractor's forces and equipment necessary for performing the work required under the contract. It does not include mobilization and demobilization for specific items of work for which payment is provided elsewhere in the contract. Mobilization will not be considered as work in fulfilling the contract requirements for commencement of work.

2. Equipment and material

Mobilization shall include all activities and associated costs for transportation of contractor's personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary general facilities for the contractor's operations at the site; premiums paid for performance and payment bonds including coinsurance and reinsurance agreements as applicable; and other items specified in section 4 of this specification.

Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not required or included in the contract from the site; including the disassembly, removal, and site cleanup of offices, buildings, and other facilities assembled on the site specifically for this contract.

This work includes mobilization and demobilization required by the contract at the time of award. If additional mobilization and demobilization activities and costs are required during the performance of the contract as a result of changed, deleted, or added items of work for which the contractor is entitled to an adjustment in contract price, compensation for such costs will be included in the price adjustment for the item or items of work changed or added.

3. Payment

Payment for mobilization and demobilization will be made at the contract lump sum price for the item and will constitute full compensation for all labor, equipment, tools, and other items necessary and incidental to the completion of the work.

Construction Specification 10—Water for Construction

1. Scope
The work consists of furnishing, transporting, measuring, and applying water as specified.

2. Facilities and equipment
The contractor shall install and maintain access and haul roads and furnish, operate, and maintain all pumps, meters, piping, tanks, storage, and other facilities required to load, transport, store, distribute, and use construction water as specified.

These facilities shall be equipped with accurate, work dedicated meters; tanks of known volume; or other devices that provide a correct measurement of water supplied. Meters shall be installed at the point of delivery into water hauling equipment or application system, such as sprinkler systems or flooding systems, as specified.

3. Dust abatement and haul road maintenance
Water for dust abatement and haul road maintenance shall be applied to haul roads and other dust producing areas as needed to prevent air pollution or excessive dust (which causes impaired vision on trafficked roads and in work areas) and to maintain the roads in good condition for safe and efficient operation during periods of use. Roads that may be jointly used with the public and by the contractor's equipment shall have dust abatement provisions acceptable to the public entity that has road maintenance responsibility. Compensation for water used for dust abatement and haul road maintenance shall be as specified in section 8 of this specification.

4. Earthfill, drainfill, and rockfill
Water required for proper installation of earthfill, drainfill, and/or rockfill shall be used in the fill materials as specified in the applicable construction specification(s). Compensation for construction water used for earthfill, drainfill, and/or rockfill shall be as specified in section 8 of this specification.

5. Concrete, mortar, and grout
Water required in the mixing or curing of concrete, shotcrete, roller compacted concrete, or other portland cement mortar or grout shall meet the requirements of the applicable construction specifications and shall be used in conformance with those specifications. Payment for construction water used in these items is covered by the applicable concrete, mortar, or grout specification, or a combination of these.

6. Other construction requiring water
Water required and used for other construction activities under this contract, but not specifically covered by this specification shall be considered subsidiary to the item(s) of work that requires its use.

7. Measurement and payment
***Method 1*—**For water items for which specific unit prices are established in the contract, the volume of water furnished and used in accordance with the specifications will be measured to the nearest 1,000 gallons.

Payment for water is made at the contract unit price. Such payment will constitute full

compensation for the direct costs of water. All other costs necessary for applying water are subsidiary to the items of work they are associated.

***Method 2*—**For water items for which specific unit prices are established in the contract, the volume of water furnished and used in accordance with the specifications will be measured to the nearest 1,000 gallons.

Payment for water and the cost associated with transportation, distribution, and application is made at the contract unit price. Such payment will constitute full compensation for completion of the work.

***Method 3*—**For water items for which specific unit prices are established in the contract, the volume of water used in accordance with the specifications will be measured to the nearest 1,000 gallons.

Payment for water is made at the contract unit price. Such payment, excluding water cost, will constitute full compensation for completion of the work.

***All methods*—**The following provisions apply to all methods of measurement and payment:

- The measurement for payment will include all water used except as noted in sections 5, 6, and 8 of this specification. Measurement for payment will not include water that is used inappropriately or in excessive to need.
- Compensation for any item of work described in the contract, but not listed in the bid schedule is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 8 of this specification.

8. ITEMS OF WORK AND CONDITIONS WHICH APPLY TO THIS PROJECT ARE:

A. SUBSIDIARY ITEM, WATER FOR CONSTRUCTION

This item shall consist of performing the work and providing the water necessary for conforming with this specification.

1. Material and site conditions ***will likely exist where water for construction will be necessary***.

2. Payment for this item will be included under the bid items for which water for construction by the contractor is required. Items that may require water for construction by the contractor are, but not limited to: excavations, earthfills, plastic pipes, clay liner, concrete work.
   Note: be sure to adjust price on specific bid items to account for adding water.

Construction Specification 11—Removal of Water

1. Scope

The work consists of the removal of surface water and ground water as necessary to perform the construction required by the contract in accordance with the specifications. It shall include: (1) constructing, installing, building, and maintaining all necessary temporary water containment facilities, channels, and diversions; (2) furnishing, installing, and operating all necessary pumps, piping, and other facilities and equipment; and (3) removing all such temporary works and equipment after their intended function is no longer required.

2. Diverting surface water

The contractor shall install, maintain, and operate all cofferdams, channels, flumes, sumps, and all other temporary diversion and protective works needed to divert streamflow and other surface water through or around the construction site. Control of surface water shall be continuous during the period that damage to construction work could occur. Unless otherwise specified and/or approved, the diversion outlet shall be into the same drainageway that the water would have reached before being diverted.

The contractor shall furnish the contracting officer, in writing, a proposed plan for diverting surface water before beginning any construction activities for which a diversion is required, unless waived in section 8 of this specification. Acceptance of this plan or the waiving of the plan requirement will not relieve the contractor of the responsibilities related to this activity during the process of completing the work as specified.

3. Dewatering the construction site

Foundations, cutoff trenches, and all other parts of the construction site shall be dewatered and kept free of standing water and muddy conditions as necessary for the proper execution of the work. The contractor shall furnish, install, operate, and maintain all drains, sumps, pumps, casings, well points, and all other equipment required to properly dewater the site as specified. Dewatering systems that cause a loss of soil fines from the foundation areas will not be permitted.

The contractor shall furnish the contracting officer, in writing, a proposed plan for dewatering before commencing with any construction activity for which dewatering may be required, unless waived in section 8 of this specification. Acceptance of this plan or the waiving of the plan requirement will not relieve the contractor of the responsibilities for completing the specified work.

4. Dewatering borrow areas

The contractor shall maintain all borrow areas free of surface water or otherwise provide for timely and effective removal of surface and subsurface water that accumulates within the borrow area, unless waived in section 8 of this specification. Borrow material shall be processed as necessary to achieve proper and uniform moisture content at the time of placement.

If pumping to dewater borrow areas is included as a bid item of work in the bid schedule, each pump discharge pipe shall be equipped with a water meter. The meter shall be such that the measured quantity of water is accurate within 3 percent of the true quantity. The contractor shall provide necessary support to perform accuracy tests of the water meter when requested by the contracting officer.

5. Erosion and pollution control

Removal of water from the construction site, including the borrow areas, shall be accomplished so that

erosion and the transporting of sediment and other pollutants are minimized. Dewatering activities shall be accomplished in a manner that the water table water quality is not altered. Pollution control activities shall not conflict with the requirements of Construction Specification 5, Pollution Control, if it is a part of this contract.

6. Removal of temporary works

When temporary works are no longer needed, the contractor shall remove and return the area to a condition similar to that which existed before construction. Areas where temporary works were located shall be graded for sightly appearance with no obstruction to natural surface waterflows or the proper functioning and access to the works of improvement installed. The contractor shall exercise extreme care during the removal stages to minimize the loss of soil sediment and debris that was trapped during construction.

Pipes, casings, and any other material used to dewater the site shall be removed from temporary wells. The wells shall be filled to ground level with clean gravel or other suitable material approved by the contracting officer. The contractor shall exercise extreme care to prevent pollution of the ground water by these actions.

7. Measurement and payment

Method 1—Items of work listed in the bid schedule for removal of water, diverting surface water, and dewatering construction sites and borrow areas are paid for at the contract lump sum prices. Such payment will constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

Method 2—Items of work listed in the bid schedule for removal of water, diverting surface water, dewatering construction sites, and dewatering borrow areas are paid for at the contract lump sum prices. Such payment will constitute full compensation for furnishing, installing, operating, and maintaining the necessary trenches, drains, sumps, pumps, and piping and for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work. The exception is that additional payment for pumping to dewater borrow areas and the removal of water will be made as described in the following paragraph.

If pumping to dewater borrow areas is a contract bid item, payment is made at the contract unit price, which shall be the price per 1,000 gallons shown in the bid schedule. Such payment will constitute full compensation for pumping only. Compensation for equipment and preparation and for other costs associated with pumping is included in the lump sum payment for removal of water or the lump sum payment for dewatering the borrow areas. Payment is made only for pumping that is necessary to dewater borrow areas that cannot be effectively drained by gravity or that must have the water table lowered to be usable as a suitable borrow source. Pumping for other purposes will not be included for payment under this item.

All Methods—The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed in the bid schedule is included in the payment for the contract line item to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 8 of this specification.

8. ITEMS OF WORK AND CONDITIONS WHICH APPLY TO THIS PROJECT ARE:

A. SUBSIDIARY ITEM, REMOVAL OF WATER

This item shall consist of performing the work and providing the equipment necessary for conforming with this specification.

1. Material and site conditions ***will likely exist where removal of water will be necessary (e.g. rainfall during pond/pit excavation)***.

2. A written plan for water removal will not be required.

3. Payment for this item will be included under the bid items for which removal of water by the contractor is required. Items that may require removal of water by the contractor are, but not limited to: excavations, earthfills, plastic pipes, pond liners, concrete work.
   Note: be sure to adjust price on specific bid items to account for removal of water.

Construction Specification 21—Excavation

1. Scope

The work shall consist of the excavation required by the drawings and specifications and disposal of the excavated materials.

2. Classification

Excavation is classified as common excavation, rock excavation, or unclassified excavation in accordance with the following definitions.

Common excavation is defined as the excavation of all materials that can be excavated, transported, and unloaded using heavy ripping equipment and wheel tractor-scrapers with pusher tractors or that can be excavated and dumped into place or loaded onto hauling equipment by excavators having a rated capacity of one cubic yard or larger and equipped with attachments (shovel, bucket, backhoe, dragline, or clam shell) appropriate to the material type, character, and nature of the materials.

Rock excavation is defined as the excavation of all hard, compacted, or cemented materials that require blasting or the use of ripping and excavating equipment larger than defined for common excavation. The excavation and removal of isolated boulders or rock fragments larger than 1 cubic yard encountered in materials otherwise conforming to the definition of common excavation shall be classified as rock excavation. The presence of isolated boulders or rock fragments larger than 1 cubic yard is not in itself sufficient cause to change the classification of the surrounding material.

For the purpose of these classifications, the following definitions shall apply:

Heavy ripping equipment is a rear-mounted, heavy duty, single-tooth, ripping attachment mounted on a track type tractor having a power rating of at least 250 flywheel horsepower unless otherwise specified in section 10.

Wheel tractor-scraper is a self-loading (not elevating) and unloading scraper having a struck bowl capacity of at least 12 cubic yards.

Pusher tractor is a track type tractor having a power rating of at least 250 flywheel horsepower equipped with appropriate attachments.

Unclassified excavation is defined as the excavation of all materials encountered, including rock materials, regardless of their nature or the manner in which they are removed.

3. Blasting

The transportation, handling, storage, and use of dynamite and other explosives shall be directed and supervised by a person(s) of proven experience and ability who is authorized and qualified to conduct blasting operations.

Blasting shall be done in a manner as to prevent damage to the work or unnecessary fracturing of the underlying rock materials and shall conform to any special requirements in section 10 of this specification. When specified in section 10, the contractor shall furnish the engineer, in writing, a blasting plan before blasting operations begin.

4. Use of excavated material

Method 1—To the extent they are needed, all suitable material from the specified excavations shall be used in the construction of required permanent earthfill or rockfill. The suitability of material for specific purposes is determined by the engineer. The contractor shall not waste or otherwise dispose of suitable excavated material.

***Method 2*—**Suitable material from the specified excavations may be used in the construction of required earthfill or rockfill. The suitability of material for specific purposes is determined by the engineer.

5. Disposal of waste materials

***Method 1*—**All surplus or unsuitable excavated materials are designated as waste and shall be disposed of at the locations shown on the drawings.

***Method 2*—**All surplus or unsuitable excavated materials are designated as waste and shall be disposed of by the contractor at sites of his own choosing away from the site of the work. The disposal shall be in an environmentally acceptable manner that does not violate local rules and regulations.

6. Excavation limits

Excavations shall comply with OSHA Construction Industry Standards (29CFR Part 1926) Subpart P, Excavations, Trenching, and Shoring. All excavations shall be completed and maintained in a safe and stable condition throughout the total construction phase. Structure and trench excavations shall be completed to the specified elevations and to the length and width required to safely install, adjust, and remove any forms, bracing, or supports necessary for the installation of the work. Excavations outside the lines and limits shown on the drawings or specified herein required to meet safety requirements shall be the responsibility of the contractor in constructing and maintaining a safe and stable excavation.

7. Borrow excavation

When the quantities of suitable material obtained from specified excavations are insufficient to construct the specified earthfills and earth backfills, additional material shall be obtained from the designated borrow areas. The extent and depth of borrow pits within the limits of the designated borrow areas shall be as specified in section 10 or as approved by the engineer.

Borrow pits shall be excavated and finally dressed to blend with the existing topography and sloped to prevent ponding and to provide drainage.

8. Over-excavation

Excavation in rock beyond the specified lines and grades shall be corrected by filling the resulting voids with portland cement concrete made of materials and mix proportions approved by the engineer. Concrete that will be exposed to the atmosphere when construction is completed shall meet the requirements of concrete selected for use under Construction Specification 31, Concrete for Major Structures, or 32, Structure Concrete, as appropriate.

Concrete that will be permanently covered shall contain not less than five bags of cement per cubic yard. The concrete shall be placed and cured as specified by the engineer.

Excavation in earth beyond the specified lines and grades shall be corrected by filling the resulting voids with approved, compacted earthfill. The exception to this is that if the earth is to become the subgrade for riprap, rockfill, sand or gravel bedding, or drainfill, the voids may be filled with material conforming to the specifications for the riprap, rockfill, bedding, or drainfill. Before correcting an overexcavation condition, the contractor shall review the planned corrective action with the engineer and obtain approval of the corrective measures.

9. Measurement and payment

For items of work for which specific unit prices are established in the contract, the volume of each type and class of excavation within the specified pay limits is measured and computed to the nearest cubic yard by the method of average cross-sectional end areas or by methods outlined in section 10 of this specification. Regardless of quantities excavated, the measurement for payment is made to the specified pay limits except that excavation outside the specified lines and grades directed by the engineer to remove unsuitable material is included.

Excavation required because unsuitable conditions result from the contractor's improper construction operations, as determined by the engineer, is not included for measurement and payment.
***Method 1*—**The pay limits shall be as designated on the drawings.

***Method 2*—**The pay limits shall be defined as follows:

a. The upper limit shall be the original ground surface as it existed before the start of construction operations except that where excavation is performed within areas designated for previous excavation or earthfill, the upper limit shall be the modified ground surface resulting from the specified previous excavation or earthfill.
b. The lower and lateral limits shall be the neat lines and grades shown on the drawings.

***Method 3*—**The pay limits shall be defined as follows:

a. The upper limit shall be the original ground surface as it existed before the start of construction operations except that where excavation is performed within areas designated for previous excavation or earthfill, the upper limit shall be the modified ground surface resulting from the specified previous excavation or earthfill.
b. The lower and lateral limits shall be the true surface of the completed excavation as directed by the engineer.

***Method 4*—**The pay limits shall be defined as follows:

a. The upper limit shall be the original ground surface as it existed before the start of construction operations except that where excavation is performed within areas designated for previous excavation or earthfill, the upper limit shall be the modified ground surface resulting from the specified previous excavation or earthfill.
b. The lower limit shall be at the bottom surface of the proposed structure.
c. The lateral limits shall be 18 inches outside of the outside surface of the proposed structure or shall be vertical planes 18 inches outside of and parallel to the footings, whichever gives the larger pay quantity, except as provided in d below.
d. For trapezoidal channel linings or similar structures that are to be supported upon the sides of the excavation without intervening forms, the lateral limits shall be at the underside of the proposed lining or structure.
e. For the purposes of the definitions in b, c, and d, above, any specified bedding or drainfill directly beneath or beside the structure will be considered to be a part of the structure.

***All methods*—**The following provisions apply to all methods of measurement and payment.

Payment for each type and class of excavation is made at the contract unit price for that type and class of excavation. Such payment will constitute full compensation for all labor, materials, equipment, and all other items necessary and incidental to the performance of the work except that extra payment for backfilling overexcavation will be made in accordance with the following provisions.

Payment for backfilling overexcavation, as specified in section 8 of this specification, is made only if the excavation outside specified lines and grades is directed by the engineer to remove unsuitable material and if the unsuitable condition is not a result of the contractor's improper construction operations as determined by the engineer.

Compensation for any item of work described in the contract, but not listed in the bid schedule is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 10 of this specification.

10. ITEMS OF WORK AND CONDITIONS WHICH APPLY TO THIS PROJECT ARE:

A. BID ITEM 8, EXCAVATION -Topsoil Stripping

This item shall consist of the work and materials necessary to strip and stockpile topsoil. These shall be excavated to the lines, grades, elevations, and locations shown on drawings and as described in this specification. **Final elevation tolerances are +/- 0.1'. Contractor shall have the equipment and ability to transfer elevations from construction stakes and blue tops.**

1. In section 2, Classification, *Common excavation* shall apply.

2. In section 4, Use of excavated material, Method 1 shall apply.

3. In section 5, Disposal of waste materials, Method 1 shall apply.

4. All topsoil and organic materials shall be stripped from the graded site area, borrow areas, and along the access road areas shown on drawings and stockpiled adjacent to these areas. ***Excess clean topsoil can be used in dikes and side-slope areas, not in foundation areas.***

5. Items subsidiary to this Bid item are:
   Clearing & Grubbing, Construction Specification 2
   Pollution Control, Construction Specification 5
   Construction Surveys, Construction Specification 7
   Mobilization & Demobilization, Construction Specification 8
   Water for Construction, Construction Specification 10
   Removal of Water, Construction Specification 11
   Earthfill - Sub-grades, Backfills, Construction Specification 23

6. All excavations shall have a workmanlike finish (i.e. smoothed and graded with proper equipment).

7. Suitable topsoil material shall be used for topsoiling as described in **Bid Item 14, Topsoiling.**

8. Any existing waterlines or tiles uncovered and/or damaged shall be repaired and reburied to original condition or better.

9. In section 9, Measurement and payment, Method 3 shall apply.

B. <u>BID ITEM 12, EXCAVATION –structure and pond/pit</u>

This item shall consist of the work and materials necessary to; excavate pond/pit areas, diversions areas, dike areas and excavate structure (e.g. ramps & headwalls) areas. These areas shall be excavated to the lines, grades, elevations, and locations shown on drawings and as described in this specification. **Final elevation tolerances are +/- 0.1'. Contractor shall have the equipment and ability to transfer elevations from benchmarks, construction stakes and blue tops.**

1. In section 2, Classification, *Common excavation* shall apply.

2. In section 4, Use of excavated material, Method 1 shall apply.

3. In section 5, Disposal of waste materials, Method 1 shall apply.

4. All excavations shall have a workmanlike finish (i.e. smoothed and graded with proper equipment).

5. Suitable excavated material shall be used for needed fills and backfills as described in **Subsidiary Item, <u>Earthfill</u> -sub-grades, and backfilling.**

6. Items subsidiary to this Bid item are:
   Earthfill - Sub-grades, Backfills, Construction Specification 23;
   Pollution Control, Construction Specification 5
   Construction Surveys, Construction Specification 7;
   Mobilization & Demobilization, Construction Specification 8
   Water for Construction, Construction Specification 10;
   Removal of Water, Construction Specification 11

7. ***<u>Borrow areas are not anticipated</u>***. These areas shall be regraded and be free draining after fill is borrowed. Disposal area shall be areas adjacent to borrow areas.

8. Any existing waterlines or tiles uncovered and/or damaged shall be repaired and reburied to original condition or better.

9. In section 9, Measurement and payment, Method 3 shall apply.

C. BID ITEM 10, EXCAVATION - over excavation for GCL soil cover

This item shall consist of the work and materials necessary to; over excavate the pond area per drawings prior to placement of GCL and soil cover. The over-excavated material can be used as the soil cover, if it is clean, rock free soil with some clay content. These areas shall be excavated to the lines, grades, elevations, and locations shown on drawings and as described in this specification. **Final elevation tolerances are +/- 0.1'. Contractor shall have the equipment and ability to transfer elevations from benchmarks, construction stakes and blue tops.**

1. In section 2, Classification, *Common excavation* shall apply.

2. In section 4, Use of excavated material, Method 1 shall apply.

3. In section 5, Disposal of waste materials, Method 1 shall apply.

4. All excavations shall have a workmanlike finish (i.e. smoothed and graded with proper equipment).

5. Suitable excavated material shall be used for needed fills and backfills as described in **Subsidiary Items, Earthfill -sub-grades, and backfilling and/or sand cover.**

6. Items subsidiary to this Bid item are:
   Earthfill - Sub-grades, Backfills, Construction Specification 23;
   Pollution Control, Construction Specification 5
   Construction Surveys, Construction Specification 7;
   Mobilization & Demobilization, Construction Specification 8
   Water for Construction, Construction Specification 10;
   Removal of Water, Construction Specification 11

7. Any existing waterlines or tiles uncovered and/or damaged shall be repaired and reburied to original condition or better.

8. In section 9, Measurement and payment, Method 3 shall apply.

C. <u>BID ITEM 11, EXCAVATION – anchor trench for GCL</u>

This item shall consist of the work and materials necessary to; excavate anchor trench and backfill trench for the GCL liner as described on drawings. The excavated material can be used for trench backfill. These areas shall be excavated to the lines, grades, elevations, and locations shown on drawings and as described in this specification. **Final elevation tolerances are +/- 0.1'. Contractor shall have the equipment and ability to transfer elevations from benchmarks, construction stakes and blue tops.**

1. All excavations shall have a workmanlike finish (i.e. smoothed and graded with proper equipment).

2. Items subsidiary to this Bid item are:
   Earthfill - Sub-grades, Backfills, Construction Specification 23;
   Pollution Control, Construction Specification 5
   Construction Surveys, Construction Specification 7;
   Mobilization & Demobilization, Construction Specification 8
   Water for Construction, Construction Specification 10;
   Removal of Water, Construction Specification 11

3. Any existing waterlines or tiles uncovered and/or damaged shall be repaired and reburied to original condition or better.

4. In section 9, Measurement and payment, Method 3 shall apply.

Construction Specification 23—Earthfill

1. Scope

The work consists of the construction of earth embankments, other earthfills, and earth backfills required by the drawings and specifications.

Earthfill is composed of natural earth materials that can be placed and compacted by construction equipment operated in a conventional manner.

Earth backfill is composed of natural earth material placed and compacted in confined spaces or adjacent to structures (including pipes) by hand tamping, manually directed power tampers or vibrating plates, or their equivalent.

2. Material

All fill material shall be obtained from required excavations and designated borrow areas. The selection, blending, routing, and disposition of material in the various fills shall be subject to approval by the engineer.

Fill materials shall contain no frozen soil, sod, brush, roots, or other perishable material. Rock particles larger than the maximum size specified for each type of fill shall be removed prior to compaction of the fill.

The types of material used in the various fills shall be as listed and described in the specifications and drawings.

3. Foundation preparation

Foundations for earthfill shall be stripped to remove vegetation and other unsuitable material or shall be excavated as specified.

Except as otherwise specified, earth foundation surfaces shall be graded to remove surface irregularities and shall be scarified parallel to the axis of the fill or otherwise acceptably scored and loosened to a minimum depth of 2 inches. The moisture content of the loosened material shall be controlled as specified for the earthfill, and the surface material of the foundation shall be compacted and bonded with the first layer of earthfill as specified for subsequent layers of earthfill.

Earth abutment surfaces shall be free of loose, uncompacted earth in excess of 2 inches in depth normal to the slope and shall be at such a moisture content that the earthfill can be compacted against them to produce a good bond between the fill and the abutments.

Rock foundation and abutment surfaces shall be cleared of all loose material by hand or other effective means and shall be free of standing water when fill is placed upon them. Occasional rock outcrops in earth foundations for earthfill, except in dams and other structures designed to restrain the movement of water, shall not require special treatment if they do not interfere with compaction of the foundation and initial layers of the fill or the bond between the foundation and the fill.

Foundation and abutment surfaces shall be no steeper than one horizontal to one vertical unless otherwise specified. Test pits or other cavities shall be filled with compacted earthfill conforming to the specifications for the earthfill to be placed upon the foundation.

4. Placement

Earthfill shall not be placed until the required excavation and foundation preparation have been completed and the foundation has been inspected and approved by the engineer. Earthfill shall not be placed upon a frozen surface nor shall snow, ice, or frozen material be incorporated in the earthfill matrix.

Earthfill shall be placed in approximately horizontal layers. The thickness of each layer before compaction shall not exceed the maximum thickness specified in section 10 or shown on the drawings. Materials placed by dumping in piles or windrows shall be spread uniformly to not more than the specified thickness before being compacted.

Hand compacted earth backfill shall be placed in layers whose thickness before compaction does not exceed the maximum thickness specified for layers of earth backfill compacted by manually directed power tampers.

Earth backfill shall be placed in a manner that prevents damage to the structures and allows the structures to assume the loads from the earth backfill gradually and uniformly. The height of the earth backfill adjacent to a structure shall be increased at approximately the same rate on all sides of the structure.

Earthfill and earth backfill in dams, levees, and other structures designed to restrain the movement of water shall be placed to meet the following additional requirements:

(a) The distribution of materials throughout each zone shall be essentially uniform, and the earthfill shall be free from lenses, pockets, streaks, or layers of material differing substantially in texture, moisture content, or gradation from the surrounding material. Zone earthfills shall be constructed concurrently unless otherwise specified.

(b) If the surface of any layer becomes too hard and smooth for proper bond with the succeeding layer, it shall be scarified parallel to the axis of the fill to a depth of not less than 2 inches before the next layer is placed.

(c) The top surface of embankments shall be maintained approximately level during construction with two exceptions: A crown or cross-slope of about 2 percent shall be maintained to ensure effective drainage, or as otherwise specified for drainfill or sectional zones.

(d) Dam embankments shall be constructed in continuous layers from abutment to abutment except where openings to facilitate construction or to allow the passage of streamflow during construction are specifically authorized in the contract.

(e) Embankments built at different levels as described under (c) or (d) above shall be constructed so that the slope of the bonding surfaces between embankment in place and embankment to be placed is not steeper than 3 feet horizontal to 1 foot vertical. The bonding surface of the embankment in place shall be stripped of all material not meeting the requirements of this specification and shall be scarified, moistened, and recompacted when the new earthfill is placed against it. This ensures a good bond with the new earthfill and obtains the specified moisture content and density at the contact of the inplace and new earthfills.

5. Control of moisture content

During placement and compaction of earthfill and earth backfill, the moisture content of the material being placed shall be maintained within the specified range.

The application of water to the earthfill material shall be accomplished at the borrow areas insofar as

practicable. Water may be applied by sprinkling the material after placement on the earthfill, if necessary. Uniform moisture distribution shall be obtained by disking.

Material that is too wet when deposited on the earthfill shall either be removed or be dried to the specified moisture content prior to compaction.

If the top surface of the preceding layer of compacted earthfill or a foundation or abutment surface in the zone of contact with the earthfill becomes too dry to permit suitable bond, it shall either be removed or scarified and moistened by sprinkling to an acceptable moisture content before placement of the next layer of earthfill.

6. Compaction

Earthfill—Earthfill shall be compacted according to the following requirements for the class of compaction specified:

***Class A compaction*—**Each layer of earthfill shall be compacted as necessary to provide the density of the earthfill matrix not less than the minimum density specified in Section 10 or identified on the drawings. The earthfill matrix is defined as the portion of the earthfill material finer than the maximum particle size used in the compaction test method specified.

***Class B compaction*—**Each layer of earthfill shall be compacted to a mass density not less than the minimum density specified.

***Class C compaction*—**Each layer of earthfill shall be compacted by the specified number of passes of the type and weight of roller or other equipment specified or by an approved equivalent method. Each pass shall consist of at least one passage of the roller wheel or drum over the entire surface of the layer.

Earth backfill—Earth backfill adjacent to structures shall be compacted to a density equivalent to that of the surrounding inplace earth material or adjacent required earthfill or earth backfill. Compaction shall be accomplished by hand tamping or manually directed power tampers, plate vibrators, walk-behind, miniature, or self-propelled rollers. Unless otherwise specified heavy equipment including backhoe mounted power tampers or vibrating compactors and manually directed vibrating rollers shall not be operated within 2 feet of any structure. Towed or self-propelled vibrating rollers shall not be operated within 5 feet of any structure. Compaction by means of drop weights operating from a crane or hoist is not permitted.

The passage of heavy equipment will not be allowed:

- Over cast-in-place conduits within 14-days after placement of the concrete
- Over cradled or bedded precast conduits within 7 days after placement of the concrete cradle or bedding
- Over any type of conduit until the backfill has been placed above the top surface of the structure to a height equal to one-half the clear span width of the structure or pipe or 2 feet, whichever is greater, except as may be specified in section 10.

Compacting of earth backfill adjacent to structures shall not be started until the concrete has attained the strength specified in section 10 for this purpose. The strength is determined by compression testing of test cylinders cast by the contractor's quality control personnel for this purpose and cured at the work site in the manner specified in ASTM C 31 for determining when a structure may be put into service.

When the required strength of the concrete is not specified as described above, compaction of earth

backfill adjacent to structures shall not be started until the following time intervals have elapsed after placement of the concrete.

Structure	Time interval (days)
Vertical or near-vertical walls with earth loading on one side only	14
Walls backfilled on both sides simultaneously	7
Conduits and spillway risers, cast-in-place (with inside forms in place)	7
Conduits and spillway risers, cast-in-place (inside forms removed)	14
Conduits, pre-cast, cradled	2
Conduits, pre-cast, bedded	1
Cantilever outlet bents (backfilled both sides simultaneously)	3

7. Reworking or removal and replacement of defective earthfill

Earthfill placed at densities lower than the specified minimum density or at moisture contents outside the specified acceptable range of moisture content or otherwise not conforming to the requirements of the specifications shall be reworked to meet the requirements or removed and replaced by acceptable earthfill. The replacement earthfill and the foundation, abutment, and earthfill surfaces upon which it is placed shall conform to all requirements of this specification for foundation preparation, approval, placement, moisture control, and compaction.

8. Testing

During the course of the work, the engineer will perform quality assurance tests required to identify material; determine compaction characteristics; determine moisture content; and determine density of earthfill in place. Tests performed by the engineer will be used to verify that the earthfills conform to contract requirements of the specifications and not as a replacement for the contractor's quality control program.

Densities of earthfill requiring Class A compaction will be determined in accordance with ASTM D 1556, D 2167, D 2922, or D 2937 except that the volume and moist weight of included rock particles larger than those used in the compaction test method specified for the type of fill will be determined and deducted from the volume and moist weight of the total sample before computation of density or, if using the nuclear gauge, added to the specified density to bring it to the measure of equivalent composition for comparison (See ASTM D 4718). The density so computed is used to determine the percent compaction of the earthfill matrix. Unless otherwise specified, moisture content is determined by one of the following methods: ASTM D 2216, D 3017, D 4643, D 4944, or D 4959.

9. Measurement and payment

For items of work for which specific unit prices are established in the contract, the volume of each type and compaction class of earthfill and earth backfill within the specified zone boundaries and pay limits is measured and computed to the nearest cubic yard by the method of average cross-sectional end areas. Unless otherwise specified in section 10, no deduction in volume is made for embedded items, such as, but not limited to, conduits, inlet structures, outlet structures, embankment drains, sand diaphragm and outlet, and their appurtenances.

The pay limits shall be as defined below, with the further provision that earthfill required to fill voids resulting from overexcavation of the foundation, outside the specified lines and grades, will be included in the measurement for payment only under the following conditions:

- Where such overexcavation is directed by the engineer to remove unsuitable material, and
- Where the unsuitable condition is not a result of the contractor's improper construction operations as determined by the engineer.

Earthfill beyond the specified lines and grades to backfill excavation required for compliance with OSHA requirements will be considered subsidiary to the earthfill bid item(s).

Method 1—The pay limits shall be as designated on the drawings.

Method 2—The pay limits shall be the measured surface of the foundation when approved for placement of the earthfill and the specified neat lines of the earthfill surface.

Method 3—The pay limits shall be the measured surface of the foundation when approved for placement of the earthfill and the measured surface of the completed earthfill.

Method 4—The pay limits shall be the specified pay limits for excavation and the specified neat lines of the earthfill surface.

Method 5—The pay limits shall be the specified pay limits for excavation and the measured surface of the completed earthfill.

Method 6—Payment for each type and compaction class of earthfill and earth backfill is made at the contract unit price for that type and compaction class of earthfill. Such payment will constitute full compensation for all labor, material, equipment, and all other items necessary and incidental to the performance of the work.

Method 7—Payment for each type and compaction class of earthfill and earth backfill is made at the contract unit price for that type and compaction class of earthfill. Such payment will constitute full compensation for all labor, material, equipment, and all other items necessary and incidental to the performance of the work except furnishing, transporting, and applying water to the foundation and earthfill material. Water applied to the foundation and earthfill material is measured and payment made as specified in Construction Specification 10.

All methods—The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed in the bid schedule is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 10 of this specification.

10. ITEMS OF WORK AND CONDITIONS WHICH APPLY TO THIS PROJECT ARE:

A. SUBSIDIARY ITEM, EARTHFILL - SUB-GRADES, AND BACKFILLS

This item shall consist of the work and materials necessary to; construct pit/ponds & dikes, construct heavy use concrete pad sub-grade areas, backfill concrete walls, concrete pads and gravel fill areas, grade areas to drain to as indicated on drawings, and fill areas noted on drawings. These shall be constructed to the lines, grades, elevations, and locations shown on drawings and as described in this specification. **Final elevation tolerances are +/- 0.1'. Contractor shall have the equipment and ability to transfer elevations from construction stakes and blue tops.**

1. All earthfills shall have a workmanlike finish (i.e. smoothed and graded with proper equipment).

2. Earthfill material shall come from excavation of pond and borrow area; refer to **Bid Items 8 & 9, Excavation**.

3. Compaction shall be Class C for dikes, sub-grades and fill areas. Compaction of earthfill shall be accomplished by a minimum of two passes over entire lift thickness with machine track or wheel. Lift thickness shall be 6 inches. In subgrade fill areas each lift shall also be leveled prior to machine compaction to insure uniform compaction.

4. Excess excavated material (if any) shall be used to flatten side-slope areas around ponds and buildings and shall have a smooth and uniform appearance when completed. ***This area shall be free draining after grading.***

5. Stockpiled topsoil materials shall be redistributed over areas to be seeded. Refer to Specification 26.

6. The moisture content of the fill material shall be maintained within the limits required to:

- Prevent bulking or dilatence of the material under the action of hauling or compacting equipment.
- Prevent the adherence of the fill material to the treads and tracks of the equipment.
- Insure the crushing and blending of the soil clods and aggregation into a homogenous mass. Soils shall possess sufficient moisture to form a ball, which deforms plastically without cracking when kneaded by hand.

7. No payment will be made for this item. Compensation will be considered as included in the payment for **Bid Items 8 & 9, Excavation.**

B. BID ITEM 12, EARTHFILL - SOIL FILL OVER GCL

This item shall consist of performing the work necessary to supply and place soil fill over the GCL in accordance with construction specification 98 and to the locations, dimensions, and grades shown on drawings. **Final elevation tolerances are +/- 0.1'. Contractor shall have the equipment and ability to transfer elevations from construction stakes and blue tops.**

1. All soil fill shall have a workmanlike finish (i.e. smoothed and graded with proper equipment).

2. ***Soil*** shall be a clean mineral soil, with preferred clay content (8-20%) and stones no larger than 1/2".

3. It is assumed that on-site excavated soil will be used.

4. **Delivery and placement of the soil described above shall be paid for under this Bid Item. Placement of soil will be paid for under this bid item.**

5. Items subsidiary to this Bid item are:

   Pollution Control, Construction Specification 5
   Construction Surveys, Construction Specification 7
   Mobilization & Demobilization, Construction Specification 8
   Water for Construction, Construction Specification 10
   Removal of Water, Construction Specification 11

6. In section 9, Measurement and payment, Method 2 and Method 6 shall apply.

C. BID ITEM 13, EARTHFILL -DRAINFILL FOR CONCRETE AREAS

This item shall consist of performing the work necessary to supply and place drainfill for concrete areas and other specified areas (e.g. pipe bedding in trenches) to the locations, dimensions, and grades shown on drawings. **Final elevation tolerances are +/- 0.1'. Contractor shall have the equipment and ability to transfer elevations from construction stakes and blue tops.**

2. All drainfills shall have a workmanlike finish (i.e. smoothed and graded with proper equipment). Drainfill shall be compacted by two passes over a 4" lift with a vibratory roller or plate compactor.

2. ***Drainfill for concrete areas*** shall have a uniform range of sizes, with no more than 5% passing the No. 200 sieve and stones no larger than 2".

3. All organic material and topsoil shall be removed from areas with fill as shown on drawings, and replaced with compacted mineral earthfill. These areas shall be graded, roller compacted, and smoothed prior to geotextile and fill placement. These areas shall be brought up to top of subgrade in low lying areas with earthfill material (mineral soils; not topsoil or organic materials). **Payment for this subgrade preparation shall be made under Bid Item 8, Excavation - topsoil stripping.**

4. **Delivery of the drainfill described above shall be paid for under this Bid Item. Placement of drainfill will be paid for under this bid item 15.**

5. Items subsidiary to this Bid item are:

   Pollution Control, Construction Specification 5
   Construction Surveys, Construction Specification 7
   Mobilization & Demobilization, Construction Specification 8
   Water for Construction, Construction Specification 10
   Removal of Water, Construction Specification 11

6. In section 9, Measurement and payment, Method 2 and Method 6 shall apply.

Construction Specification 26—Topsoiling

1. Scope
The work consists of furnishing and spreading topsoil to specified depths at locations shown on the drawings.

2. Quality of topsoil
Topsoil shall consist of friable surface soil reasonably free of grass, roots, weeds, sticks, rocks, or other unsuitable material. Additional quality requirements, if any, are in section 7 of this specification.

3. Furnishing
Method 1—Topsoil shall be salvaged from designated earth surfaces that will be disturbed by construction activities. After designated sites have been cleared and grubbed, the topsoil shall be removed from the designated areas and stockpiled at locations shown on the drawings or acceptable to the engineer. Unsuitable material encountered during removal of topsoil shall be disposed of at locations shown on the drawings or approved by the engineer, or it will be otherwise hauled and disposed of at locations removed from the construction site. The contractor is responsible for complying with all local rules and regulations and the payment of any and all fees that may result from the disposal at locations outside the construction work limits.

Method 2—Topsoil shall be furnished from an offsite source designated by the contractor. The engineer shall be granted access to the source for inspection and acceptance before delivery to the site. Test results and samples shall be provided when specified in section 7 of this specification.

4. Stockpiling
Stockpiles of topsoil shall not conflict with the requirements of Construction Specification 5, Pollution Control, when made a part of this contract.

5. Spreading
Method 1—Spreading shall not be conducted when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to uniform spreading operations. Surfaces designated to receive a topsoil application shall be lightly scarified just before the spreading operation.

Following the spreading operation, the topsoil surface shall be left reasonably smooth and without ruts or surface irregularities that could contribute to concentrated waterflow downslope.

Method 2—Spreading shall not be performed when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to uniform spreading operations. Surfaces designated to receive a topsoil application shall be lightly scarified just before the spreading operation. Where compacted earthfills are designated to be topsoiled, the topsoil shall be placed concurrently with the earthfill and shall be bonded to the compacted fill with the compacting equipment.

Following the spreading operation, the topsoil surface shall be left reasonably smooth and without ruts or surface irregularities that could contribute to concentrated waterflow downslope.

6. Measurement and payment
Method 1—The total surface covered by topsoil is measured and the area(s) computed to the nearest square yard. Payment for furnishing and placing topsoil is made at the contract unit price.

***Method 2*—**The total surface covered by topsoil, except the surface area of embankments, levees, dikes, and other earthfills not included for payment, is measured and the area(s) computed to the nearest square yard.

Payment for topsoil spread on the surface of embankments, levees, dikes, and other earthfills is included in the measurement and payment for that item of earthfill where topsoil application occurred.

***Method 3*—**For items of work for which specific unit prices are established in the contract, the volume of topsoil furnished and spread is computed to the nearest cubic yard by the method of average cross-sectional end areas from surveys of the excavated topsoil stockpile or, if not stockpiled, cross-sectional surveys of the borrow area(s). Payment for furnishing and spreading topsoil is made at the contract unit price.

***All methods*—**The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed in the bid schedule is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 7 of this specification.

***All payment methods*—**Payment will constitute full compensation for all labor, equipment, material, and all other items necessary and incidental to the completion of the work. This includes excavating, stockpiling, hauling, spreading, and the wasting of unsuitable excavated material.

7. ITEMS OF WORK AND CONDITIONS WHICH APPLY TO THIS PROJECT ARE:

A. BID ITEM 14, TOPSOILING

This item shall consist of the work and materials necessary to place topsoil in areas to be seeded as described in this specification.

1. In section 3, Furnishing, Method 1 shall apply.

2. In section 5, Spreading, Method 2 shall apply.

3. All areas disturbed by construction operations with the exception of gravel roads, and building/concrete areas, which do **not** need topsoiling.

4. Topsoil depth shall be 4" minimum.

5. Excess topsoil shall be placed in diversions dikes and/or mounds (if required).

6. In section 6, Measurement and payment, Method 1 shall apply.

Construction Specification 32—Structure Concrete

1. Scope

The work shall consist of furnishing, forming, placing, finishing, and curing portland cement concrete as required to build the structures described in section 24 of this specification.

2. Material

Aggregates shall conform to the requirements of Material Specification 522, Aggregates for Portland Cement Concrete, unless otherwise specified. The grading of coarse aggregates shall be as specified in section 24.

Portland cement shall conform to the requirements of Material Specification 531, Portland Cement, for the specified type.

Fly ash shall conform to the requirements of Material Specification 532, Mineral Admixtures for Concrete.

Air-entraining admixtures shall conform to the requirements of Material Specification 533, Chemical Admixtures for Concrete. If air-entraining cement is used, any additional air-entraining admixture shall be of the same type as that in the cement.

Water reducing and/or retarding admixtures shall conform to the requirements of Material Specification 533, Chemical Admixtures for Concrete.

Curing compound shall conform to the requirements of Material Specification 534, Concrete Curing Compound.

Preformed expansion joint filler shall conform to the requirements of Material Specification 535, Preformed Expansion Joint Filler.

Waterstops shall conform to the requirements of Material Specifications 537, Nonmetallic Waterstops, and 538, Metal Waterstops, for the specified kinds.

Water used in mixing and curing concrete shall be clean and free from injurious amounts of oil, salt, acid, alkali, organic matter, or other deleterious substances.

3. Class of concrete

Concrete for structure concrete shall be classified as follows:

Class of concrete	Maximum net water content (gal/bag)	Minimum cement content (bags/yd^3)
3000M	6	5.5
4000M	6	6

4. Air content and consistency

Unless otherwise specified, the slump shall be 3 to 5 inches. If air entrainment is specified, the air content, by volume, shall be 4 to 7 percent of the volume of the concrete. When specified, directed, or approved by the engineer, a water-reducing, set-retarding, or other admixture shall be used. High range, water reducing agents

(superplasticizers) may be used to increase workability, reduce water content, and control concrete temperature in hot weather. The maximum slump after adding high range water reducing agents shall be 7.5 inches.

5. Design of the concrete mix

The proportions of the aggregates shall be such as to produce a concrete mixture that works readily into the corners and angles of the forms and around reinforcement when consolidated, but does not segregate or exude free water during consolidation.

Fly ash may be used as a partial substitution for portland cement in an amount of no more than 25 percent (by weight) of the cement in the concrete mix, unless otherwise specified.

Before the concrete is placed, the contractor shall furnish the contracting officer, for approval, a statement of the materials and mix proportions (including admixtures, if any) intended for use. The statement shall include evidence satisfactory to the contracting officer that the materials and proportions will produce concrete conforming to this specification. The materials and proportions so stated shall constitute the "job mix." After a job mix has been approved, neither the source, character, or grading of the aggregates nor the type or brand of cement or admixture shall be changed without prior notice to the contracting officer. If such changes are necessary, no concrete containing such new or altered material shall be placed until the contracting officer has approved a revised job mix.

6. Inspection and testing

The engineer shall have free entry to the plant and equipment furnishing concrete under the contract. Proper facilities shall be provided for the engineer to inspect materials, equipment, and processes and to obtain samples of the concrete. All tests and inspections will be conducted so as not to interfere unnecessarily with manufacture and delivery of the concrete.

7. Handling and measurement of material

Materials shall be stockpiled and batched by methods that prevent segregation or contamination of aggregates and ensure accurate proportioning of the ingredients of the mix. Except as otherwise provided in section 8, cement and aggregates shall be measured as follows:

Cement shall be measured by weight or in bags of 94 pounds each. When cement is measured in bags, no fraction of a bag shall be used unless weighed.

Aggregates shall be measured by weight. Mix proportions shall be based on saturated, surface-dry weight. The batch weight of each aggregate shall be the required saturated, surface-dry weight plus the weight of surface moisture it contains.

Water shall be measured, by volume or by weight, to an accuracy within 1 percent of the total quantity of water required for the batch.

Admixtures shall be measured within a limit of accuracy of 3 percent.

8. Mixers and mixing

Concrete shall be uniform and thoroughly mixed when delivered to the work site. Variations in slump of more than 1 inch within a batch are considered evidence of inadequate mixing and shall be corrected by increasing mixing time or other acceptable alternative.

For stationary mixers, the mixing time after all cement and aggregates are in the mixer drum shall be not less than 1.5 minutes. When concrete is mixed in a truck mixer, the number of revolutions of the drum or blades at mixing speed shall be not less than 70 nor more than l00.

Unless otherwise specified, volumetric batching and continuous mixing at the construction site are permitted. To produce concrete meeting the specified proportioning and uniformity requirements, the batching and mixing equipment shall conform to the requirements of ASTM Specification C 685 and shall be demonstrated by tests with the job mix before the concrete is placed. Concrete made by this method shall be produced, inspected, and certified in conformance with sections 6, 7, 8, 13, and 14 of ASTM Specification C 685.

No mixing water in excess of the amount called for by the job mix shall be added to the concrete during mixing or hauling or after arrival at the delivery point.

9. Forms

Forms shall be of wood, plywood, steel, or other approved material and shall be mortar tight. The forms and associated falsework shall be substantial and unyielding and shall be constructed so that the finished concrete will conform to the specified dimensions and contours. Form surfaces shall be smooth and free from holes, dents, sags, or other irregularities. Forms shall be coated with a nonstaining form release agent before being set into place.

Metal ties or anchorages within the forms shall be equipped with cones, she-bolts or other devices that permit their removal to a depth of at least 1 inch without injury to the concrete. Ties designed to break off below the surface of the concrete shall not be used without cones.

All edges that will be exposed to view when the structure is completed shall be chamfered, unless finished with molding tools as specified in Section l8.

10. Preparation of forms and subgrade

Prior to placement of concrete, the forms and subgrade shall be free of chips, sawdust, debris, water, ice, snow, extraneous oil, mortar, or other harmful substances or coatings and the temperature of all surfaces to be in contact with the new concrete shall be not be less than 40 degrees Fahrenheit. Any oil on the reinforcing steel or other surfaces required to be bonded to the concrete shall be removed. Rock surfaces shall be cleaned by air-water cutting, wet sandblasting, or wire brush scrubbing, as necessary, and shall be wetted immediately before placement of concrete. The earth surface shall be firm and damp. Placement of concrete on mud, dried earth, or uncompacted fill or frozen subgrade is not permitted.

Items to be embedded in the concrete shall be positioned accurately and anchored firmly.

Weepholes in walls or slabs shall be formed with nonferrous material.

11. Conveying

Concrete shall be delivered to the site and discharged into the forms within l-1/2 hours after the introduction of the cement to the aggregates. In hot weather or under conditions contributing to quick stiffening of the concrete, the time between the introduction of the cement to the aggregates and discharge shall not exceed 45 minutes.

The engineer may allow a longer time, provided the setting time of the concrete is increased a corresponding amount by the addition of an approved set-retarding admixture. In any case, concrete shall be conveyed from the mixer to the forms as rapidly as practicable by methods that prevent segregation of the aggregates and

assure no loss of mortar occurs.

12. Placing

Concrete shall not be placed until the subgrade, forms, steel reinforcement, and embedded items have been inspected and approved. No concrete shall be placed except in the presence of the engineer. The contractor shall give reasonable notice to the engineer each time concrete is to be placed. Such notice shall provide sufficient time for the engineer to inspect the subgrade, forms, steel reinforcement, and other preparations for compliance with the specifications. Other preparations include, but are not limited to, the concrete mixing plant; delivery equipment system; placing, finishing, and curing equipment and system; schedule of work; workforce; and heating or cooling facilities, if applicable. Deficiencies are to be corrected before concrete is delivered for placing.

The concrete shall be deposited as closely as possible to its final position in the forms. It shall be worked into the corners and angles of the forms and around all reinforcement and embedded items in a manner to prevent segregation of aggregates or excessive laitance. Formed concrete shall be placed in horizontal layers not more than 20 inches thick. Concrete shall not be dropped more than 5 feet vertically unless suitable equipment is used to prevent segregation. When high range water reducing agents are used, the concrete shall not be allowed to drop more than 10 feet. Hoppers and chutes, pipes, or "elephant trunks" shall be used as necessary to prevent segregation and the splashing of mortar on the forms and reinforcing steel above the layer being placed.

Immediately after the concrete is placed in the forms, it shall be consolidated by spading, hand tamping, or vibration as necessary to ensure a smooth surface and dense concrete. Each layer shall be consolidated to ensure monolithic bond with the preceding layer. If the surface of a layer of concrete in place sets to the degree that it will not flow and merge with the succeeding layer when spaded or vibrated, the contractor shall discontinue placing concrete and shall make a construction joint according to the procedure specified in section 13.

If placing is discontinued when an incomplete horizontal layer is in place, the unfinished end of the layer shall be formed by a vertical bulkhead.

13. Construction joints

Construction joints shall be made at the locations shown on the drawings. If construction joints are needed that are not shown on the drawings, they shall be placed in locations approved by the engineer.

Where a feather edge would be produced at a construction joint, as in the top surface of a sloping wall, an insert form shall be used so that the resulting edge thickness on either side of the joint is not less than 6 inches.

In walls and columns, as each lift is completed, the top surface shall be immediately and carefully protected from any condition that might adversely affect the hardening of the concrete.

Steel tying and form construction adjacent to concrete in place shall not be started until the concrete has cured at least 12 hours. Before new concrete is deposited on or against concrete that has hardened, the forms shall be retightened. New concrete shall not be placed until the hardened concrete has cured at least 12 hours.

The surface of construction joints shall be cleaned of all unsatisfactory concrete, laitance, coatings, or debris by washing and scrubbing with a wire brush or wire broom or by other means approved by the engineer. The surface shall be kept moist for at least 1 hour before the new concrete is placed.

14. Expansion and contraction joints

Expansion and contraction joints shall be made only at locations shown on the drawings.

Exposed concrete edges at expansion and contraction joints shall be carefully tooled or chamfered, and the joints shall be free of mortar and concrete. Joint filler shall be left exposed for its full length with clean and true edges.

Preformed expansion joint filler shall be held firmly in the correct position as the concrete is placed.

When open joints are specified, they shall be constructed by the insertion and subsequent removal of a wooden strip, metal plate, or other suitable template in such a manner that the corners of the concrete are not chipped or broken. The edges of open joints shall be finished with an edging tool before the joint strips are removed.

15. Waterstops

Waterstops shall be held firmly in the correct position as the concrete is placed. Joints in metal waterstops shall be soldered, brazed, or welded. Joints in rubber or plastic waterstops shall be cemented, welded, or vulcanized as recommended by the manufacturer.

16. Removal of forms

Forms shall not be removed without the approval of the engineer. Forms shall be removed in such a way as to prevent damage to the concrete. Supports shall be removed in a manner that permits the concrete to take the stresses of its own weight uniformly and gradually.

17. Finishing formed surfaces

Immediately after the forms are removed:

a. All fins and irregular projections shall be removed from exposed surfaces.
b. The holes produced on all surfaces by the removal of form ties, cone-bolts, and she-bolts shall be cleaned, wetted, and filled with a dry-pack mortar. The mortar will consist of one part portland cement, three parts sand that will pass a No. 16 sieve, and just sufficient water to produce a consistency such that the filling is at the point of becoming rubbery when the material is solidly packed.

18. Finishing unformed surfaces

All exposed surfaces of the concrete shall be accurately screeded to grade and then float finished, unless specified otherwise.

Excessive floating or troweling of surfaces while the concrete is soft is not permitted.

Adding dry cement or water to the surface of the screeded concrete to expedite finishing is not allowed.

Joints and edges on unformed surfaces that will be exposed to view shall be chamfered or finished with molding tools.

19. Curing

Concrete shall be prevented from drying for a curing period of at least 7 days after it is placed. Exposed surfaces shall be kept continuously moist for the entire period, or until curing compound is applied as specified below. Moisture shall be maintained by sprinkling, flooding, or fog spraying, or by covering with continuously moistened canvas, cloth mats, straw, sand, or other approved material. Wood forms left in place

during the curing period shall be kept continuously wet. A formed surface shall be thoroughly wetted immediately after forms are removed and shall be kept wet until patching and repairs are completed. Water or covering shall be applied in such a way that the concrete surface is not eroded or otherwise damaged.

Concrete, except at construction joints, may be coated with the approved curing compound instead of continued application of moisture, except as otherwise specified in section 24. The compound shall be sprayed on the moist concrete surface as soon as free water has disappeared, but shall not be applied to any surface until patching, repairs, and finishing of that surface are completed. The compound shall be applied at a uniform rate of not less than 1 gallon per 175 square feet of surface and shall form a continuous adherent membrane over the entire surface. Curing compound shall be thoroughly mixed before applying and continuously agitated during application. Curing compound shall not be applied to a surface requiring bond to subsequently placed concrete, such as construction joints, shear plates, reinforcing steel, and other embedded items. If the membrane is damaged during the curing period, the damaged area shall be resprayed at the rate of application specified above. Any surface covered by the membrane shall not be trafficked unless protected from wear.

20. Removal and replacement or repair

When concrete is honeycombed, damaged, or otherwise defective, the contractor shall remove and replace the structure or structural member containing the defective concrete or, where feasible, correct or repair the defective parts. The contracting officer determines the required extent of removal, replacement, or repair. Before starting repair work, the contractor shall obtain the contracting officer's approval of the plan for repairs. The contractor shall perform all repair work in the presence of the engineer.

21. Concreting in cold weather

Concrete shall not be mixed nor placed when the daily minimum atmospheric temperature is less than 40 degrees Fahrenheit unless facilities are provided to prevent the concrete from freezing. The use of accelerators or antifreeze compounds is not allowed.

22. Concreting in hot weather

The contractor shall apply effective means to maintain the temperature of the concrete below 90 degrees Fahrenheit during mixing, conveying, and placing.

23. Measurement and payment

For items of work for which specific unit prices are established in the contract, concrete is measured to the neat lines shown on the drawings and the volume of concrete is computed to the nearest 0.l cubic yard. Measurement of concrete placed against the sides of an excavation without using intervening forms is made only to the neatness or pay limits shown on the drawings. No deduction in volume is made for chamfers, rounded or beveled edges, or for any void or embedded item that is less than 5 cubic feet in volume.

Payment for each item of structure concrete is made at the contract unit price or the contract lump sum; whichever is applicable for that item. Such payment constitutes full compensation for all labor, material, equipment, transportation, tools, forms, falsework, bracing, and all other items necessary and incidental to the completion of the work except items listed for payment elsewhere in the contract. Compensation for any item of work described in the contract, but not listed in the bid schedule, is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 24 of this specification.

24. ITEMS OF WORK AND CONDITIONS WHICH APPLY TO THIS PROJECT ARE:

A. BID ITEM 15, STRUCTURE CONCRETE – floors, curbs, walls, ramps, & headwalls

This item shall consist of placing and furnishing concrete and steel reinforcement to construct the floors, walls, ramps, curbs, as well as the concrete for the feed storage pad. These items shall be placed in the locations and to the elevations, depths and grades shown on the drawings. ***Installation of pipe posts (if needed) for gates, panels shall also be included under this item, posts will be provided by owner.***

1. Portland cement shall be Type II or IIA. Type I with 20 % fly-ash may be used with prior approval of engineer and if the strength of the design mix is not compromised. Air entrainment shall be added and in accordance with material specification 533**.**

2. Concrete shall be Class 4000M (6 bag/cy) and shall have a minimum 28 day, in the field, compressive strength of 3000 psi. Test cylinders will be cast, cured, and submitted for testing by the engineer or his/her representative to insure that concrete conforms with minimum strength requirements. ***Concrete may also be tested by way of petro-graphic analysis to insure that a Class 4000M (6 bag/cy) is delivered.*** Concrete testing under 3000 psi will not be certified and the supplier will incur costs for replacing defective concrete.

3. Coarse aggregate shall conform to ASTM C 33 size designation number 67.

4. An approved set retarder shall be added to the concrete mix if concrete is poured between May 15 and September 15. Set retarder requirement may be waived with prior approval of engineer.

5. Drainfill shall be compacted by two passes over a 4" lift with a vibratory roller or plate compactor.
Payment for delivering drainfill will be included under Bid Item 13, Earthfill.

6. ***Pads, walls and curbs shall be straight, square, plumb, and true, and have a skilled, workmanlike finish.***

7. 1¼" deep sawcuts (No expansion joint material) filled with a flexible caulking shall be placed at 100' intervals. Areas where 1-1/4" deep sawcuts are not feasible, 1-1/4" preformed strips and/or grooving tooling shall be used to achieve continuous 1-1/4" deep separation. Sawcuts shall be cut within 36 hours of concrete placement.
Joint/sawcut sealant shall conform to Material Specification 536 and conform to ASTM C-920.

8. Curing compound shall conform to ASTM C-309 type 1 or 2 and ***shall be placed immediately (within 20-30 minutes) after floating and final finish is completed.***

9. Contractor shall provide the engineer a design mix 7 days prior to concrete placement for approval. Contractor shall give at least 48 hours notice to the inspector prior to concrete placement. A batch ticket shall be provided by the supplier for each load of concrete delivered to the site. The batch ticket shall state the class of concrete, amount of cement, coarse and fine aggregates, water and any admixtures used. Note: Material certification will be for all materials, be current(within 6 months), and the engineer can require the ready mix supplier to provide further testing results if he/she determines the provided certification is inadequate.

10. Inspecting and testing of concrete shall be conducted according to ***ACI 301*** at a minimum. All tests and inspections shall follow the following guidelines:

    Any portion of a batch may be tested by the engineer for any of the purposes shown below. Samples taken for testing shall be representative of that part of the batch.
    a. Determining uniformity of the batch.
    b. Checking compliance with requirements for slump and air content when the batch is discharged over an extended period.
    c. Checking compliance of the concrete with the specifications when the whole amount being placed in a small structure, or a distinct part of a larger structure, is less than full batch.

    If concrete is conveyed to the placement location by pumping or conveyor belts, the samples shall be collected at the discharge end.

When a plasticizing admixture is added to the concrete mix at the job site, slump tests are made both before the addition of the admixture to the concrete mix and after the admixture has been incorporated into the concrete mix.

The tests on concrete are performed by the following methods unless otherwise specified:

Type of test	**Test method (ASTM designation)**
Sampling	C 172
Slump test	C 143
Air content	C 231 or C 173
Compression test specimens	C 31 or C 42
Compressive strength testing	C 39
Unit weight	C 138
Temperature	C 1064

A strength test for concrete is the average of two standard cured concrete cylinders prepared in accordance with ASTM C 31 from the same sample of concrete and tested in accordance with ASTM C 39 at 28 days, unless otherwise specified. If one cylinder shows manifest evidence of improper sampling, molding, curing, or testing, it shall be discarded and the strength of the remaining cylinder shall then be considered the compressive strength of the concrete. Should both cylinders show such defects, the entire test shall be discarded. ***(Engineer or Inspector on-site may choose to prepare one cylinder for testing at 28 days and one cylinder for testing at 7 days).***

If both cylinders are discarded or in-place concrete that was not sampled is in question, the in-place concrete may be sampled by coring in accordance with ASTM C 42. For core tests, these requirements shall be followed:

a. At least three representative cores shall be taken from each area of concrete in question. If one or more of the cores shows signs of being damaged before testing, it shall be replaced by a new one.

b. Test cores shall be prepared for testing in accordance with moisture conditioning in ASTM C 42 unless the engineer determines that the concrete in the structure will be dry under service conditions. If the concrete is determined to be dry under service conditions, the cores shall be air dried (temperature 60 °F to 80 °F and relative humidity less than 60%) for 7 days before testing and shall be tested dry.

11. Methods for ***concreting in cold weather*** shall be performed when, for more than 3 consecutive days, the following conditions exist:

- The average daily air temperature at the job site is less than 40 degrees Fahrenheit. (The average daily air temperature is the average of the highest and lowest temperatures occurring during the period from midnight to midnight.)
- The air temperature at the job site is not more than 50 degrees Fahrenheit for more than half of any 24-hour period.

Concrete shall be protected against freezing during the first 24 hours after placement whether or not the average weather conditions specified above for cold weather concreting exist. The following provisions also shall apply unless otherwise specified:

a. When the cement is added to the mix, the temperature of the mixing water shall not exceed 140 degrees Fahrenheit nor shall the temperature of the aggregate exceed 150 F.

b. The temperature of the concrete at the time of placing shall be within the placement temperature range shown below, unless otherwise specified.

Least dimension of section, inches	**Placement temperature, °F**
Less than 12	55 – 75
12 to 36	50 – 70
36 to 72	45 – 65
Greater than 72	40 – 60

c. The minimum temperature of the concrete for the first 72 hours after placement shall not be less than the minimum temperature shown above. Concrete structures shall be immediately protected after concrete placement by *covering, housing, insulating, or heating concrete structures* sufficiently to maintain the minimum temperature adjacent to the concrete surface. If the minimum temperature requirements are not met and the concrete did not freeze, the protection time will be extended a period equal to twice the number of hours the temperature was below the minimum temperature.

d. Exhaust flue gases from combustion heaters shall be vented to the outside of the enclosure. The heat from heaters and ducts shall be directed in such a manner as to not overheat or dry the concrete in localized areas or to dry the exposed concrete surface.

e. At the end of the protection period, the concrete shall be allowed to cool gradually. The maximum decrease at the concrete surface in a 24-hour period shall not exceed 40 degrees Fahrenheit.

12. Methods for ***concreting in hot weather*** shall be in accordance with the requirements set forth below.

For the purpose of this specification, hot weather is defined as any combination of the following conditions that impair the quality of freshly mixed or hardened concrete by accelerating the rate of moisture loss and rate of cement hydration, or otherwise resulting in detrimental results:

- High ambient temperature
- High concrete temperature
- Low relative humidity
- Wind velocity
- Solar radiation

Whenever the above conditions exist or when climatic conditions are such that the temperature of the concrete may reasonably be expected to exceed 90 degrees Fahrenheit at the time of delivery to the worksite or during the placement operations, the following provisions shall apply:

a. The contractor shall maintain the temperature of the concrete below 90 degrees Fahrenheit during mixing, conveying, and placing.

b. Exposed concrete surfaces that tend to dry or set too rapidly shall be continuously moistened using fog sprays or other means to maintain adequate moisture during the time between placement and finishing. ***Water shall not be sprinkled or added directly to the surface of the concrete before finishing.***

c. Finishing of slabs and other exposed surfaces shall be started as soon as the condition of the concrete allows and shall be completed without delay. Water shall not be sprinkled or added to the surface of the concrete during the darbying, bull floating, floating, or other finishing operations to facilitate finishing.

d. Formed surfaces shall be kept completely and continuously wet from the time the concrete takes initial set to when the forms are removed. After the forms are removed, the concrete surfaces shall be kept completely and continuously wet for the duration of the curing period or until curing compound is applied in accordance to section 21.

e. Exposed and unformed concrete surfaces, especially flat work placed with large areas of surface, shall be kept completely and continuously wet for the duration of the curing period or until curing compound is applied in accordance to section 19. The concrete shall be protected against thermal shock from rapid cooling (5 °F per hour or more than 40 °F per 24-hour period) of the concrete by application of curing water or temperature changes during the first 24 hours of the curing period.

f. When any single or combination of conditions may result in very rapid setting or drying of the concrete, extreme conditions exist. For flat work and slab construction, extreme conditions exist when the evaporation rate exceeds 0.2 pound per square foot per hour. The engineer may:

(1) Restrict placement to the most favorable time of the day.

(2) Restrict the depth of layers to assure coverage of the previous layer while it will still respond readily to vibration.

(3) Suspend placement until conditions improve.

(4) Restrict the removal of forms, repair, and patching to small areas that can be protected with curing compound immediately.

The evaporation rate for flat work and slab construction may be determined by calculating the evaporation rate from a shallow cake pan having a surface area of at least 1 square foot or by other methods approved by the engineer.

13. Waterstops are <u>not</u> required for this project.

14. Items subsidiary to this Bid item are:

Pollution Control, Construction Specification 5
Construction Surveys, Construction Specification 7
Mobilization & Demobilization, Construction Specification 8
Water for Construction, Construction Specification 10
Removal of Water, Construction Specification 11
Steel Reinforcement, Construction Specification 34

15. <u>If required by electrical code, all grounding for reinforcing steel will need to be inspected prior to concrete placement.</u>

16. <u>Repairing concrete shall be as follows:</u>

A. **Repair cracks using Epoxy Injection as detailed in ACI RAP Bulletin 1, *Structural Crack Repair by Epoxy Injection* –**

B. **Repair eroded concrete by 1) cleaning surface using an approved blasting method to remove manure, oils, dirt, curing compounds, laitance, weak surface mortar, and other detrimental materials that may interfere with bonding and/or curing of patch. 2) Area shall then be patched with a rapid hardening hydraulic cement (HCC) (i.e. >2000 psi in 6 hours) as per manufacturer's instructions.**

17. Payment will be as described in section 23, Measurement and payment.

Construction Specification 34—Steel Reinforcement

1. Scope

The work shall consist of furnishing and placing steel reinforcement for reinforced concrete or pneumatically applied mortar.

2. Material

Steel reinforcement shall conform to the requirements of Material Specification 539, Steel Reinforcement (for concrete). Before reinforcement is placed, the surface of the bars and fabric and any metal supports shall be cleaned to remove any loose, flaky rust, mill scale, oil, grease, or other undesirable coatings or foreign substances. Epoxy-coated steel reinforcement shall be free of surface damage. After placement, the reinforcement shall be maintained in a clean and serviceable condition until it is completely embedded within the concrete.

3. Bar schedule, lists and diagrams

Any supplemental bar schedules, bar lists or bar-bending diagrams required in section 10 of this specification to accomplish the fabrication and placement of steel reinforcement shall be provided by the contractor. Before reinforcement is placed, the contractor shall furnish four copies of any such lists or diagrams to the contracting officer for approval. Acceptance of the reinforcement is not based on approval of these lists or diagrams, but on inspection of the steel reinforcement after it has been placed, tied, and supported and is ready to receive concrete.

4. Bending

Reinforcement shall be cut and bent in compliance with the requirements of the American Concrete Institute Standard 315. Bars shall not be bent or straightened in a manner that will injure or weaken the material. Bars with kinks, cracks, or improper bends will be rejected.

5. Splicing bar reinforcement

***Method 1*—**Splices of reinforcement shall be made only at locations shown on the drawings and provided by the steel schedule. Placement of bars at the lap splice locations shown, when not in contact, shall not be farther apart than one-fifth the shown lap length and in any case no greater than 6 inches.

***Method 2*—**Splices of reinforcement shall be limited to those locations shown on the drawings. Splice lengths shall be determined before fabrication and meet the requirements of ACI Standard 318, Building Code Requirements for Reinforced Concrete, based upon design information in section 10 of this specification. Bar placement drawings and schedules shall be provided for approval before fabrication. The drawings shall show all splice locations, layouts, and lap dimensions.

6. Splicing welded wire fabric

Unless otherwise specified, welded wire fabric shall be spliced in the following manner:

End-to-end—Adjacent sections shall be spliced end-to-end (longitudinal lap) by overlapping a minimum of one full mesh plus 2 inches plus the length of the two end overhangs. The splice length is measured from the end of the longitudinal wires in one piece of fabric to the end of the longitudinal wire in the lapped piece of fabric.

Side-to-side—Adjacent sections shall be spliced side to side (transverse lap) a minimum of one full mesh plus 2 inches. The splice length shall be measured from the centerline of the first longitudinal wire in one piece of fabric to the centerline of the first longitudinal wire in the lapped piece of fabric.

7. Placing

Reinforcement shall be accurately placed and secured in position to prevent its displacement during the placement of concrete. Tack welding of bars is not permitted. Metal chairs, metal hangers, metal spacers, and concrete chairs may be used to support the reinforcement. Metal hangers, spacers, and ties shall be placed in such a manner that they are not exposed in the finished concrete surface. The legs of metal chairs or side form spacers that may be

exposed on any face of slabs, walls, beams, or other concrete surfaces shall have a protective coating or finish. The coating or finish can be hot dip galvanizing, epoxy coating, plastic coating, or stainless steel. Metal chairs and spacers not fully covered by a protective coating or finish shall have a minimum cover of 0.75 inch of concrete over the unprotected metal part. The exception is that those with plastic coatings may have a minimum cover of 0.5 inch of concrete over the unprotected metal part. Precast concrete chairs shall be manufactured of the same class of concrete as specified for the structure and shall have the tie wires securely anchored in the chair or a V-shaped groove at least 0.75 inch in depth molded into the upper surface to receive the steel bar at the point of support. Precast concrete chairs shall be clean and moist at the time concrete is placed.

High density or structural plastic rebar accessories designed to ensure maximum concrete bond may be substituted for metal or concrete accessories in spacer applications as approved by the contracting officer. Exposure of plastic rebar accessories at the finished concrete surface shall be kept to a minimum. Plastic rebar accessories, when used, shall be staggered along adjacent parallel bars and shall be placed at intervals no closer than 12 inches. Plastic rebar accessories shall not be used in concrete sections 6 inches or less in thickness.

Reinforcement shall not be placed until the prepared site has been inspected and approved. After placement of the reinforcement, concrete shall not be placed until the reinforcement has been inspected and approved by the contracting officer's technical representative (COTR).

8. Storage

Steel reinforcement stored at the work site shall be placed on platforms, skids, or other supports. This is done so that contact with the ground is avoided and the material is protected from mechanical damage and/or corrosion.

9. Measurement and payment

***Method 1*—**For items of work for which specific unit prices are established in the contract, the weight of steel reinforcement placed in the concrete in accordance with the drawings is determined to the nearest pound by computation from the placing drawings. Measurement of hooks and bends is based on the requirements of ACI Standard 315. Computation of weights of reinforcement is based on the unit weights established in tables 34–1 and 34–2 of this specification. Computation of weights for welded wire fabric not shown in table 34–2 shall be based on ACI Standard 315. The area of welded wire fabric reinforcement placed in the concrete in accordance with the drawings is determined to the nearest square foot by computation from the placing drawings with no allowance for required laps. The weight of steel reinforcing in extra splices or extra-length splices approved for the convenience of the contractor or the weight of supports and ties is not included in the measurement for payment.

Payment for furnishing and placing reinforcing steel is made at the contract unit price. Such payment constitutes full compensation for all labor, material, equipment, and all other items necessary and incidental to the completion of the work including preparing and furnishing bar schedules, lists, or diagrams; furnishing and attaching ties and supports; and furnishing, transporting, storing, cutting, bending, cleaning, and securing all reinforcements.

***Method 2*—**For items of work for which specific unit prices are established in the contract, the weight of bar reinforcement placed in the concrete in accordance with the drawings is determined to the nearest pound by computation from the placing drawings. Measurement of hooks and bends is based on the requirements of ACI Standard 315. Computation of weights of bar reinforcement is based on the unit weights established in table 34–1 of this specification. The weight of steel reinforcing in extra splices or extra length splices approved for the convenience of the contractor or the weight of supports and ties is not included in the measurement for payment.

The area of welded wire fabric reinforcement placed in the concrete in accordance with the drawings is determined to the nearest square foot by computation from the placing drawings with no allowance for required laps.

Payment for furnishing and placing bar reinforcing steel is made at the contract unit price for bar reinforcement. Payment for furnishing and placing welded wire fabric reinforcing steel is made at the contract unit price for welded wire fabric reinforcement. Such payment constitutes full compensation for all labor, material, equipment,

and all other items necessary and incidental to the completion of the work including preparing and furnishing bar schedules, lists, or diagrams; furnishing and attaching ties and supports; and furnishing, transporting, cutting, bending, cleaning, and securing all reinforcement.

***All Methods*—**The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed in the bid schedule, is included in the payment for the item of work to which it is made subsidiary. Such items to which they are made subsidiary are identified in section 10 of this specification.

10. Items of work and construction details

Table 34–1 Standard reinforcing bars

Bar size no.	Weight (lb/ft)
3	0.376
4	0.668
5	1.043
6	1.502
7	2.044
8	2.670
9	3.400
10	4.303
11	5.313
14	7.650
18	13.600

Table 34–2 Rectangular welded wire fabric

Style designation 1/		Weight
by steel wire gauge	by W-number	(lb/100 ft²)
6 x 6 – 10 x 10	6 x 6 – W1.4 x W1.4	21
6 x 6 – 8 x 8	6 x 6 – W2.1 x W2.1	30
6 x 6 – 6 x 6	6 x 6 – W2.9 x W2.9	42
6 x 6 – 4 x 4	6 x 6 – W4.0 x W4.0	58
4 x 4 – 10 x 10	4 x 4 – W1.4 x W1.4	31
4 x 4 – 8 x 8	4 x 4 – W2.1 x W2.1	44
4 x 4 – 6 x 6	4 x 4 – W2.9 x W2.9	62
4 x 4 – 4 x 4	4 x 4 – W4.0 x W4.0	85
4 x 12 – 8 x 12	4 x 12 – W2.1 x W0.9 2/	25
4 x 12 – 7 x 11	4 x 12 – W2.5 x W1.1 2/	31

1/ Style designation is defined in ACI Standard 315 of the American Concrete Institute.
2/ Welded smooth wire fabric with wires smaller than size W1.4 is manufactured from galvanized wire.

10. ITEMS OF WORK AND CONDITIONS WHICH APPLY TO THIS PROJECT ARE:

A. SUBSIDIARY ITEM, STEEL REINFORCEMENT

This item shall consist of the work and materials necessary to supply and place reinforcing steel as shown on drawings and as described in this specification.

1. In section 5, Splicing bar reinforcement, Method 1 shall apply and minimum splice length shall be 30 times the bar diameter (e.g. 30 times 0.5" =15" overlap for #4 rebar).

2. Minimum concrete cover over reinforcing steel is 2 inches unless otherwise shown or specified.

3. Rebar shall be **grade 60**.

4. *Rebar shall be welded and properly grounded in pits, buildings and waterer pads.* ***If required by electrical code, all grounding for reinforcing steel will need to be inspected prior to concrete placement.***

5. No payment will be made for this item. Compensation will be considered as included in the payment for **Bid Item 15: Structure Concrete**.

Construction Specification 44—Corrugated Polyethylene Tubing

1. Scope

The work consists of furnishing and installing tubing and the necessary fittings and appurtenances as shown on the drawings and as outlined in this specification.

2. Material

Corrugated polyethylene tubing and fittings shall conform to the material requirements as outlined in Material Specification 548, Corrugated Polyethylene Tubing.

When perforations are specified, the water inlet area shall be a minimum of 1 square inch per lineal foot of tubing. The inlets either shall be circular perforations or slots equally spaced along the length and circumference of the tubing. Unless otherwise specified, circular perforations shall not exceed 3/16 inch in diameter, and slot perforations shall not be more that 1/8 inch wide.

Geotextile filter socks, when required, shall meet the material requirements outlined in section 9 of this specification.

Granular bedding material, when specified, shall conform to the requirements specified in section 9 of this specification.

The tubing shall be appropriately marked with ASTM or AASHTO designation.

3. Handling and storage

Tubing shall be delivered to the job site and handled by means that provide adequate support to the tubing and do not subject it to undue stresses or damage. When handling and placing corrugated polyethylene tubing, care shall be taken to prevent impact blows, abrasion damage, and gouging or cutting (by metal edges and/or surface or rocks). The manufacturer's special handling requirements shall be strictly observed. Special care shall be taken to avoid impact when the pipe must be handled at a temperature of 40 degrees Fahrenheit or less.

Tubing shall be stored on a relatively flat surface so that the full length of the tube is evenly supported. Unless the tube is specifically manufactured to withstand exposure to ultraviolet radiation, it shall be covered with an opaque material when stored outdoors for 15 days or longer.

4. Excavation

Unless otherwise specified or approved by the engineer, excavation for and subsequent installation of each tube line shall begin at the outlet end and progress upgrade. The trench or excavation for the tubing shall be constructed to the lines, depths, cross sections, and grade shown on the drawings, specified in Section 9 of this specification, or as approved by the engineer.

Trench shields, shoring and bracing, or other suitable methods necessary to safeguard the contractor's employees and the works of improvement and to prevent damage to the existing improvements shall be furnished, placed, and subsequently removed by the contractor.

5. Preparing the tubing bed and blinding the tubing

When a granular filter or envelope is specified, the filter or envelope material shall be placed in the bottom of the trench just before the tubing is laid. The tubing shall then be laid and the filter and envelope material placed to a depth over the top of the tubing of not less than that shown on the drawings or as specified in section 9 of this specification.

When a granular filter or envelope is not specified, the bottom of the trench shall be shaped to form a semicircular or trapezoidal groove in its center. This groove shall provide support for not less than a fourth of the outside circumference of the tubing. After the tubing is placed in the excavated groove, it shall be capped with friable material

from the sides of the trench. The friable material shall be placed around the tubing, completely filling the trench to a depth of at least 3 inches over the top of the tubing. For material to be suitable, it must not contain hard clods, rocks, frozen soil, or fine material that will cause a silting hazard to the drain. Tubing placed during any day shall be blinded (place required soil material around and over pipe) and temporarily capped before construction activities are completed for that day.

6. Placement and joint connections

All tubing shall be installed to grade as shown on the drawings. After the tubing is placed in the trench and blinded, allow sufficient time for the tubing to adapt to the soil temperature before backfilling.

Maximum allowable stretch of the tubing is 5 percent. Special precautions must be implemented on hot, bright days to ensure that the stretch limit is not exceeded and excessive deflection does not occur as a result of installation procedures, including backfill operations.

Unless otherwise specified in section 9 of this specification or shown on the drawings, connections are made with manufactured junctions comparable in strength with the specified tubing. All split fittings shall be securely fastened with nylon cord or plastic zip ties before any backfill is placed. All buried ends shall be supplied with end caps unless otherwise approved by the engineer.

7. Backfilling

Unless otherwise specified in section 9 of this specification, the backfilling of the trench shall be as shown on the drawings and completed as rapidly as is consistent with the soil conditions. Automatic backfilling machines may be used only when approved by the engineer. Backfill shall extend above the ground surface and be well rounded and centered over the trench.

8. Measurement and payment

***Method 1*—**For items of work for which specific unit prices are established in the contract, the quantity of each kind and size of tubing is determined to the nearest foot of length measured along the centerline of the installed tubing. Payment for each kind and size of tubing is made at the contract unit price for that kind and size of tubing. Such payment constitutes full compensation for all labor, equipment, tools, and all other items necessary and incidental to furnishing, transporting, and installing the tubing, including excavation, shoring, geotextile or granular filter (when specified), backfill and all fittings, appurtenances, and other items required to complete the work. Payment for appurtenances listed separately in the bid schedule is made at the contract unit price(s) for the size and type of appurtenance listed.

***Method 2*—**For items of work for which specific unit prices are established in the contract, the quantity of each kind, size, and class of tubing is determined to the nearest foot by measurement of the laid length along the crown centerline of the tubing. Payment for each kind, size, and class of tubing is made at the contract unit price for the kind, size, and class. Such payment constitutes full compensation for furnishing, transporting, and installing the tubing, including shoring, all fittings, thrust blocks, appurtenances, and other items necessary and incidental to the completion of the work. Payment for appurtenances listed separately in the bid schedule are made at the contract prices for those items.

Compensation for any item of work described in the contract, but not listed in the bid schedule, is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 9 of this specification.

9. ITEMS OF WORK AND CONDITIONS WHICH APPLY TO THIS PROJECT ARE:

B. BID ITEM 7, CORRUGATED PE TUBING - 6" PIPE

This item shall consist of the work and materials necessary to install the 6" pipes, necessary fittings and appurtenances.

1. The pipe (s) shall:
   a. be 6" diameter, corrugated, polyethylene pipe and shall conform to Material Specification 548.

   b. be installed at the locations and to the lines, grades and lengths shown on drawings.

   c. outlet into pump sump as described on drawings.

   d. be backfilled with suitable material from excavations and bedded with gravel as described in drawings.

   e. be fitted with a geo-sock.

2. *When working in or near township/county/state road right-of way the contractor shall be responsible for traffic control pursuant to the Federal Highway Administration Manual of Uniform Traffic Control Devices and/or local government approved means. The contractor shall obtain any necessary permits from the township, county or state before working within the right-of-way.*

3. **Initial backfill** compaction shall be accomplished by hand and or power tamping. Enough effort shall be applied to provide a firm, dense fill. **Final backfill** compaction is required where pipe trenches cross roads or other areas designated on drawings. Final backfill compaction shall be accomplished with power tamping equipment for fine textured soils and vibratory plate compactors for course textured materials. Final backfill of trench excavation in non-designated areas shall extend 6" above finished ground surface and shall be well rounded over the trench.

3. Items subsidiary to this Bid item are:
   Pollution Control, Construction Specification 5; Water for Construction, Construction Specification 10
   Mobilization & Demobilization, Construction Specification 8
   Removal of Water, Construction Specification 11
   Construction Surveys, Construction Specification 7

4. In section 8, Measurement and payment, Method 2 shall apply.

Construction Specification 45—Plastic Pipe

1. Scope
The work consists of furnishing and installing plastic pipe (except corrugated polyethylene tubing) and the necessary fittings and appurtenances as shown on the drawings or as specified herein.

2. Material
Pipe, fittings, and gaskets shall conform to the requirements of Material Specification 547, Plastic Pipe, and as specified in section 14 of this specification or as shown on the drawings.

Perforated pipe shall conform to the requirements of Material Specification 547, Plastic Pipe, and as specified in section 14 of this specification or as shown on the drawings.

Unless otherwise specified, concrete shall conform to the requirements of Construction Specification 32, Structure Concrete, and section 8 of this specification.

Unless otherwise specified, earth backfill shall conform to the requirements of Construction Specification 23, Earthfill.

Unless otherwise specified, drainfill shall conform to the requirements of Construction Specification 24, Drainfill.

3. Handling and storage
Pipe shall be delivered to the job site and handled by means that provide adequate support to the pipe and do not subject it to undue stresses or damage. When handling and placing plastic pipe, care shall be taken to prevent impact blows, abrasion damage, and gouging or cutting (by metal edges and/or surface or rocks). The manufacturer's special handling requirements shall be strictly observed. Special care shall be taken to avoid impact when the pipe must be handled at a temperature of 40 degrees Fahrenheit or less.

Pipe shall be stored on a relatively flat surface so that the barrels are evenly supported. Unless the pipe is specifically manufactured to withstand exposure to ultraviolet radiation, it shall be covered with an opaque material when stored outdoors for 15 days or longer.

4. Excavation
Excavation shall be in accordance with Construction Specification 21, Excavation, and section 14 of this specification or as shown on the drawings.

The pipe foundation shall be excavated a minimum of 4 inches lower than the pipe grade shown on the drawings or staked in the field whenever bedrock, boulders, cobbles, or other material that may cause pipe damage is encountered at planned pipe grade.

5. Laying the pipe
Plastic pipe conduits complete with fittings and other related appurtenances shall be installed to the lines and grades shown on the drawings or specified in section 14 of this specification. The pipe shall be installed so that there is no reversal of grade between joints unless otherwise shown on the drawings. The pipe shall not be dropped or dumped on the bedding or into the pipe trench. The ground surface near the pipe trench shall be free of loose rocks and stones greater than 1 inch in diameter. This ensures that rock will not be displaced and impact the pipe.

Just before placement, each pipe section shall be inspected to ensure that all foreign material is removed from inside the pipe. The pipe ends and the couplings shall be free of foreign material when assembled. At the completion of a work shift, all open ends of the pipeline shall be temporarily closed off using a suitable cover or plug.

Care shall be taken to prevent distortion and damage during hot or cold weather. During unusually hot weather (daytime high temperature of more than 90 °F), the pipe assembled in the trench shall be lightly backfilled or shaded to keep it as near to ground temperature as possible until final backfill is placed. Backfill operations should be performed during daily construction periods when the ground temperature and the temperature of the pipe do not vary more than 40 degrees Fahrenheit.

Perforated pipe shall be installed with the perforations down and oriented symmetrically about the vertical centerline. Perforations shall be clear of any obstructions on the inside and outside of the pipe when the pipe is approved by the engineer for backfill.

During installation, the pipe shall be firmly and uniformly bedded throughout its entire length, to the depth and in the manner specified in section 14 of this specification or as shown on the drawings. Bell-holes shall be placed in bedding material under bells, couplings, and other fittings to assure the pipe is uniformly supported throughout its entire length. Blocking or mounding beneath the pipe to bring the pipe to final grade is not permitted.

6. Pipe embedment

Earth bedding—The pipe shall be firmly and uniformly placed on compacted earthfill bedding or an inplace earth material bedding of ample bearing strength to support the pipe without noticeable settlement. The earth material on which the pipe is placed shall be of uniform density to prevent differential settlement.

Unless otherwise specified, a groove that closely conforms to the outside surface of the pipe shall be formed in the bedding. The depth of the groove shall be equal to or greater than 0.3 of the pipe diameter.

Earth bedding shall be compacted to a density not less than adjacent undisturbed inplace earth material or be compacted earth backfill. Earthfill material used for compacted earth bedding shall be free of rocks or stones greater than 1 inch in diameter and earth clods greater than 2 inches in diameter. The pipe shall be loaded sufficiently during the compaction of bedding under the haunches and around the sides of the pipe to prevent displacement from its final approved placement.

Sand, gravel, or crushed rock bedding—When sand, gravel, or crushed rock bedding is specified, the pipe shall be firmly and uniformly placed on the bedding material. Material for bedding shall not exceed 1 inch in diameter. Unless otherwise specified in section 14 of this specification or shown on the drawings, the coarse-grained bedding material shall be carefully placed and compacted to a depth equal to or greater than 0.3 of the diameter of the pipe above the bottom of the pipe. The pipe shall be loaded sufficiently during backfilling and compaction around the sides to prevent displacement of the pipe from its final approved placement.

Pipe encased in drainfill—The pipe shall be firmly and uniformly placed on bedding of specified drainfill. Drainfill shall be placed and compacted as specified in section 14 of this specification or as shown on the drawings to form a continuous uniform support around the entire circumference of the pipe. The pipe shall be loaded sufficiently during backfilling around the sides and during compaction to prevent

displacement of the pipe.

7. Backfill

Initial backfill—Unless otherwise specified, initial backfill to 6 inches above the top of the conduit is required. Earth haunching and initial backfill material shall consist of soil material that is free of rocks, stones, or hard clods more than 1 inch in diameter. Coarse backfill material shall be the specified sand, gravel, crushed rock, or drainfill material.

Initial backfill shall be placed in two stages. In the first stage (haunching), backfill is placed to the pipe spring line (center of pipe). In the second stage, it is placed to 6 inches above the top of the pipe.

The first stage material shall be worked carefully under the haunches of the pipe to provide continuous support throughout the entire pipe length. The haunching backfill material shall be placed in layers that have a maximum thickness of about 6 inches and are compacted as specified in section 14 of this specification or as shown on the drawings. During compaction operations, care shall be taken to ensure that the tamping or vibratory equipment does not come in contact with the pipe and the pipe is not deformed or displaced.

When pressure testing is not specified, the pipe shall be covered with a minimum of 6 inches of backfill material as soon as possible following assembling of the pipe in the trench, but not later than within the same day that placement has occurred. When pressure testing is specified, sufficient backfill material shall be placed over the pipe to anchor the conduit against movement during pressure testing activities.

Final backfill—Final backfill shall consist of placing the remaining material required to complete the backfill from the top of the initial backfill to the ground surface, including mounding at the top of the trench. Final backfill material within 2 feet of the top of the pipe shall be free of debris or rocks larger than 3 inches nominal diameter. Coarse backfill material shall be the specified sand, gravel, crushed rock, or drainfill. Final backfill shall be placed in approximately uniform, compacted layers. Final backfill compaction requirements shall be as specified in section 14 of this specification or as shown on the drawings.

Vehicles or construction equipment shall not be allowed to cross the pipe until the minimum earth cover and required density as specified in section 14 of this specification has been obtained.

8. Pipe encasement in concrete

Concrete encasement shall be carefully placed to form a continuous uniform support around the entire circumference of the pipe as specified in section 14 of this specification or as shown on the drawings. Pipes encased in concrete shall be securely anchored to prevent movement of the pipe during concrete placement. A clear distance of 1.5 inch shall be maintained between the pipe and the reinforcing steel.

The concrete for the encasement shall conform to the requirements of Construction Specification 32, Structure Concrete, for Class 3000M concrete unless otherwise specified.

9. Joints

Unless otherwise specified in section 14 of this specification or shown on the drawings, joints shall be either bell and spigot type with elastomeric gaskets, coupling type, solvent cement bell and spigot, or jointed by butt heat fusion. When a lubricant is required to facilitate joint assembly, it shall be a type having no deleterious affect on the gasket or pipe material.

Pipe joints shall be watertight at the pressures specified except where unsealed joints are indicated.

Pipe shall be installed and joined in accordance with the manufacturer's recommendations. Laying deflections and joint fitting or stab depths shall be within the manufacturer's recommended tolerances.

When solvent cement joints are specified for PVC or ABS pipe and fittings, they shall be made in accordance with the following ASTMs and the related appendix of each ASTM; D 2855 for PVC pipe and fittings and D 2235 for ABS pipe and fittings.

Flanged, banded, heat-fusion, or elastomeric-sealed mechanical joints shall be used when joining polyethylene (PE) and high density polyethylene (HDPE) pipe and fittings unless otherwise specified in section 14 of this specification or as shown on the drawings.

Pipe ends shall be cut square and be deburred to provide a uniform, smooth surface for the jointing process. Reference marks shall be placed on the spigot ends to assist in determining when proper seating depth has been achieved within the joint.

10. Fittings

Unless otherwise specified, steel fittings, valves, and bolted connections shall be painted or coated as recommended by the manufacturer.

Fittings for nonpressure pipe shall be of the same or similar material as the pipe and shall provide the same durability, watertightness, and strength as the pipe unless otherwise specified.

11. Thrust blocks and anchors

When specified, concrete thrust blocks and anchors shall be installed as shown on the drawings or specified in section 14 of this specification.

The concrete for the thrust blocks and anchors shall conform to the requirements of Construction Specification 32, Structure Concrete, for Class 3000M concrete unless otherwise specified in section 14 of this specification.

The thrust block cavity shall be hand dug into undisturbed soil or previously placed compacted backfill. The cavity shall be formed with soil or wood to hold the freshly placed concrete without displacement until an initial set has occurred.

When excavation beyond the designated trench widths and depths as shown on the drawings or specified in section 14 of this specification occurs at locations where installation of concrete thrust blocks is required, the contractor shall install an alternative thrust block provision. The concrete thrust block shall have a thickness of one pipe diameter and a contact face area that shall be formed against the pipe as shown on the drawings or specified in section 14 of this specification. Backfill shall be placed on all sides of the thrust block and to the sides of the excavation. It shall be compacted as specified for initial backfill.

12. Pressure testing

Method 1—Pressure testing of the completed conduit is not required.

Method 2—The conduit shall be tested for leaks in the following manner:

a. Before pressure testing:

(1) Joints of the assembled pipeline shall be allowed to cure as recommended by the manufacturer.

(2) Pipeline shall be flushed and cleaned.

(3) All concrete anchors and thrust blocks shall be in place and allowed to cure for a minimum of 3 days.

(4) Earth backfill shall be sufficient to anchor the conduit against movement during the pressure testing and shall be compacted as specified in Section 14 of this specification or as shown on the drawings.

(5) The conduit shall be braced, anchored, or both, at each end to restrict all potential pipe movement.

(6) The ends of the conduit shall be plugged. The upstream plug shall have a standpipe installed vertically having a minimum diameter of 2 inches and shall be equipped with a shutoff valve. All high points in the line shall be vented to evacuate air pockets. The conduit and the standpipe shall be slowly filled with water such that no air is entrapped during the filling operation. After filling is complete, all vents shall be closed.

b. During pressure testing, the water level in the standpipe shall be continuously maintained at a minimum of 10 feet above the highest invert elevation of the conduit for no less than 2 hours unless otherwise specified in section 14 of this specification or as shown on the drawings.

The volume of water leakage in the 2-hour test period shall be recorded. The maximum allowable leakage (L) in gallons per hour shall not exceed 0.02 times the nominal pipe diameter (D) in inches for each 1,000 feet of pipe line, which is about 50 pipe joints (L = 0.02 x D).

c. When observed leakage exceeds the allowable, leaks shall be sealed by replacement of pipe and fittings as necessary. The conduit shall be retested as described above. This procedure shall be repeated until the conduit leakage does not exceed the allowable specified above.

The contractor shall be fully responsible for any and all work required to correct leakage exceeding the amount specified.

***Method 3*—**The conduit shall be tested for leaks in the following manner:

a. Before pressure testing:

(1) Joints of the assembled pipeline shall be allowed to cure as recommended by the manufacturer.

(2) Pipeline shall be flushed and cleaned.

(3) All concrete anchor and thrust blocks shall be in place and allowed to cure for at least 3 days.

(4) Earth backfill shall be sufficient to anchor the conduit against movement during the pressure testing and compacted as specified in section 14 of this specification or as shown on the drawings.

(5) The conduit shall be braced and/or anchored at each end to prevent all potential pipe movement.

(6) The ends of the conduit shall be plugged, and a pressure gauge shall be attached to the upstream and downstream ends. All high points along the pipeline shall be vented to permit the complete removal of all air within the pipeline. The conduit shall be slowly filled with water such that no air is entrapped during the filling operations.

b. The testing pressure specified in section 14 of this specification shall be continuously maintained at the upstream gauge for a minimum of 2 hours. The pressure at the downstream gauge shall not exceed the pressure rating of the pipe.

c. The volume of water leakage for the 2-hour test period shall be recorded. Maximum allowable leakage shall be in accordance with the following:

Allowable leakage for plastic pipe
(gal/hr/1,000 feet, or 50 pipe joints) 1/

Nominal pipe size (in)	Test pressure in the pipeline (lb/in²) 50	100	150	200
	- - - - - - - - Allowable leakage - - - - - - -			
4	.19	.27	.33	.38
6	.29	.41	.50	.57
8	.38	.54	.66	.76
10	.48	.68	.83	.96
12	.57	.81	.99	1.15
14	.67	.95	1.16	1.34
15	.72	1.02	1.25	1.44
16	.76	1.07	1.32	1.52
18	.86	1.22	1.49	1.72

1/ Computation basis

$$L = \frac{ND\sqrt{P}}{7{,}400}$$ where:

L = allowable leakage in gallons per hour
N = number of joints (pipe and fittings)
D = nominal diameter of pipe in inches
P = test pressure in pounds per square inch

d. When observed leakage exceeds the allowable, leaks shall be sealed by replacement of pipe and fittings as necessary. The conduit shall be retested as described in this section. The procedure shall be repeated until the conduit leakage does not exceed the allowable specified above.

The contractor shall be fully responsible for any and all work required to correct leakage exceeding the amount specified.

13. Measurement and payment

***Method 1*—**For items of work for which specific unit prices are established in the contract, the quantity of each kind, size, and class of pipe is determined to the nearest foot by measurement of the laid length along the crown centerline of the conduit. Payment for each kind, size, and class of pipe is made at the contract unit price for that kind, size, and class. Such payment constitutes full compensation for furnishing, transporting, and installing the pipe including excavation, shoring, backfill, bedding, thrust blocks, and all fittings, appurtenances, and other items necessary and incidental to the completion of the work. Payment for appurtenances listed separately in the bid schedule is made at the contract prices for those items.

***Method 2*—**For items of work for which specific unit prices are established in the contract, the quantity of each kind, size, and class of pipe is determined as the sum of the nominal laying lengths of the sections used. Payment for each kind, size, and class of pipe is made at the contract unit price for the kind, size, and class. Such payment constitutes full compensation for furnishing, transporting, and installing the pipe including excavation, shoring, backfill, bedding, thrust blocks, and all fittings, appurtenances, and other items necessary and incidental to the completion of the work. Payment for appurtenances listed separately

in the bid schedule is made at the contract prices for those items.

***Method 3*—**For items of work for which specific unit prices are established in the contract, the quantity of each kind, size, and class of pipe is determined to the nearest foot by measurement of the laid length along the crown centerline of the conduit. Payment for each kind, size, and class of pipe is made at the contract unit price for the kind, size, and class. Such payment constitutes full compensation for furnishing, transporting, and installing the pipe including shoring, all fittings, thrust blocks, appurtenances, and other items necessary and incidental to the completion of the work. Payment for appurtenances listed separately in the bid schedule is made at the contract prices for those items.

***Method 4*—**For items of work for which specific unit prices are established in the contract, the quantity of each kind, size, and class of pipe is determined as the sum of the nominal laying lengths of the pipe sections used. Payment for each kind, size, and class of pipe is made at the contract unit price for that kind, size, and class. Such payment constitutes full compensation for furnishing, transporting, and installing the pipe including shoring, all fittings, thrust blocks, appurtenances, and other items necessary and incidental to the completion of the work. Payment for appurtenances listed separately in the bid schedule is made at the contract prices for those items.

***Methods 3 and 4*—**Excavation, backfill, and bedding is paid separately under their respective bid items.

***All measurement and payment methods*—**Compensation for any items of work described in the contract, but not listed in the bid schedule, is included in the payment for the item of work to which it is made subsidiary. Such items and items to which they are made subsidiary are identified in section 14 of this specification.

14. ITEMS OF WORK AND CONDITIONS WHICH APPLY TO THIS PROJECT ARE:

A. BID ITEM 3, PLASTIC PIPE - PUMP SYSTEM FOR PERIMETER DRAIN

This item shall consist of performing the work and providing the materials necessary to install the sump, cover, pump, and associated motors, elbows, wyes, tees, fittings, plumbing, valving and necessary appurtenances. These items shall be placed to the locations, lines and grades shown on drawings. Refer to drawing for additional requirements.

1. Pump shall be capable of transferring water to the locations and elevations shown on drawings. Pump manufacturer shall design pump units accordingly.

2. In section 13, Measurement and payment, Method 1 shall apply.

B. BID ITEM 4, PLASTIC PIPE -2" DISCHARGE LINE FOR PERIMETER DRAIN

This item shall consist of performing the work and providing the materials necessary to install the pipe, fittings, clean-outs, elbows, wyes, tees, fittings and necessary appurtenances in accordance with this specification, manufacturer's recommendations, and at the location(s) and to the elevations, lines and grades shown on drawings.

1. 2" pipe shall be schedule 40 poly(vinyl) PVC and shall conform to ASTM D-1785. Fittings shall be PVC and conform to ASTM D-2665. Connections shall be cemented with PVC solvent conforming to ASTM D-2564.

2. Refer to drawings for pipe lengths, required flows and elevations.

3. In section 6, Pipe embedment, **Earth bedding** shall apply.

4. In section 7, Backfill, **Initial backfill** compaction shall be accomplished by hand and or power tamping. Enough effort shall be applied to provide a firm, dense fill. **Final backfill** compaction is required where pipeline trenches cross roads or other areas designated on drawings. Final backfill compaction shall be accomplished with power tamping equipment for fine textured soils and vibratory plate compactors for course textured materials. Final backfill of trench excavation in non-designated areas shall extend 6" above finished ground surface and shall be well rounded over the trench.

5. Items subsidiary to this Bid item are: Removal of Water, Construction Specification 11
Pollution Control, Construction Specification 5; Construction Surveys, Construction Specification 7
Mobilization & Demobilization, Construction Specification 8; Water for Construction, Construction Specification 10

6. In section 13, Measurement and payment, Method 1 shall apply.

D. BID ITEM 5, PLASTIC PIPE -MANURE PUMP SYSTEM

This item shall consist of performing the work and providing the materials necessary to install the piston pump, agitation unit (if req'd), and associated motors, elbows, wyes, tees, fittings, plumbing, valving, and necessary appurtenances. These items shall be placed to the locations, lines and grades shown on drawings.

1. Pump shall be capable of transferring manure to the locations and elevations shown on drawing. Pump manufacturer shall design pump units accordingly.
2. In section 13, Measurement and payment, Method 1 shall apply.

Electrical line connections from pumps, shall be wired into control boxes as designed, and shall meet all local and state electric codes. Wiring shall be in accordance with manufacturers specifications. Pumps, controls, and necessary plumbing shall be installed by an individual or company licensed to do so. Equipment and parts shall have a minimum 1 year warranty. Electrical work shall be done or inspected and certified by a licensed electrician.

Construction Specification 92—Field Fence

1. Scope
The work shall consist of furnishing and installing field fence, including gates and fittings.

2. Material
Material for field fence shall conform to the requirements of Material Specification 591. All wooden posts shall be of the same species, when available.

3. Setting posts
Concrete or wood posts shall be set in holes and backfilled with earth except where otherwise specified. Wood posts may be driven when approved by the engineer. Steel posts shall be driven unless otherwise specified.

Holes for installing fence posts shall be at least 6 inches larger than the diameter or side dimension of the posts.

Earth backfill around posts shall be thoroughly tamped in layers not thicker than 4 inches and shall completely fill the posthole up to the ground surface. Concrete backfill around posts shall be rodded into place in layers not thicker than 12 inches and shall completely fill the posthole to the surface of the ground. Backfill, either earth or concrete, shall be crowned-up around posts at the ground surface.

No stress shall be applied to posts set in concrete for a period of not less than 24 hours following the development of a firm set of the concrete.

4. Corner assembly
Unless otherwise specified in section 11, corner assemblies shall be installed at all points where the fence alignment changes 15 degrees or more.

5. End panels
End panels shall be built at gates and fence ends.

6. Pull post assembly
Pull post assembly (bracing within a section of straight fence) shall be installed at the following locations:

a. In straight fence sections, at intervals not to exceed 660 feet.
b. At any point where the vertical angle described by two adjacent reaches of wire is upward and exceeds 10 degrees (except as provided in section 11 of this specification).
c. At the beginning and end of each curved fence section.

7. Attaching fencing to posts
The fencing shall be stretched and attached to posts as follows:

a. The fencing wire or netting shall be placed on the side of the post opposite the area being protected except for installation along curved sections.
b. The fencing wire or netting shall be placed on the outside for installation along curved sections.
c. The fencing wire or netting shall be fastened to each end post, corner post, and pull post by wrapping each horizontal strand around the post and tying it back on itself with not less than three

tightly wound wraps.

d. The fencing wire or netting shall be fastened to wooden line posts by means of steel staples. Woven-wire fencing shall be attached at alternate horizontal strands. Each strand of barbed wire shall be attached to each post. Steel staples shall be driven diagonally with the grain of wood and at a slight downward angle and shall not be driven so tightly as to bind the wire against the post.

e. The fencing wire or netting shall be fastened to steel or concrete line posts with either two turns of 14 gauge galvanized steel or iron wire or in accordance with recommendations provided by the post's manufacturer.

f. Wire shall be spliced by means of a Western Union splice or by suitable splice sleeves applied with a tool designed for that purpose. The Western Union splice shall have no less than eight wraps of each end about the other. All wraps shall be tightly wound and closely spaced. Splices made with splice sleeves shall have a tensile strength no less than 80 percent of the strength of the wire being spliced.

8. Stays

Stays shall be attached to the fencing at the spacing outlined in section 11 or as shown on the drawings to ensure maintenance of the proper spacing of the fence wire strands.

9. Crossings at depressions and watercourses

Where fencing is installed parallel to the ground surface, the line posts subject to upward pull shall be anchored.

a. If the fence wire or netting is installed parallel to the ground surface, the line posts subject to uplift shall be anchored by means of extra embedment or by special anchors as detailed on the drawings.

b. If the fence wire is installed with the top wire straight and parallel to the ground surface on either side of the depression, extra length posts shall be used to allow normal post embedment. Unless otherwise specified, excess space between the bottom of the fence and the ground shall be closed with extra strands of barbed wire or with netting.

10. Measurement and payment

***Method 1*—**The length of each type and kind of fence is measured to the nearest foot along the profile of the fence, including gate openings. Payment for each type and kind of fence is made at the contract unit price for that type and kind of fence. Such payment constitutes full compensation for completion of the work, including fabricating and installing gates.

***Method 2*—**The length of each type and kind of fence is measured to the nearest foot along the profile of the fence, excluding gate openings. Payment is made at the contract unit price for the specified height of fence. The number of each size and type of gate installed is determined. Payment is made at the contract unit price for that type and size of gate. Such payment constitutes full compensation for all labor, material, equipment, and all other items necessary and incidental to the completion of the work.

***All methods*—**The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed in the bid schedule, is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 11 of this specification.

11. ITEMS OF WORK AND CONDITIONS WHICH APPLY TO THIS PROJECT ARE:

A. BID ITEM 18 & 19, FENCE, WARNING SIGNS & POND MARKERS

This item shall consist of the work and materials necessary to install the fence shown on drawings. The fence shall be constructed within the guidelines of this specification. Alternate fence designs shall have prior approval of the engineer. Also included under this specification are 3" steel pipe posts and signs for ponds.

1. The outdoor fence ***may*** consist of 4 strands of barbed wire. Spacing between wire strands shall be 11". The bottom strand shall be 12" from ground level. Feedlot fence shall be as described in drawings. Interior barn fence will be specified by owner.

2. Pond/Safety fence ***shall*** be woven wire, wire panels, or chain link (48" high) and shall have 1 strand of barbed on top (8" above top of woven wire). Stop Fence as described in drawings.

3. Line posts shall be spaced a maximum of 16' apart.

4. Gates shall be standard bar gates (5 bar minimum). Gates shall be hung according to manufacturer's specifications. Gates shall be attached to single brace assemblies or a large secure post approved by engineer or his/her designated representative prior to post and gate placement. Gate locations will be marked in the field.

5. Signs shall be attached to fence around ponds. These signs shall be placed on all sides of containment area (1 per side). The signs shall have the words "contaminated water - keep out" printed on them. The signs shall be professionally made and printed to resist outdoor conditions.

6. Staff gauge materials and installation shall be included under this bid item.

7. A pump down marker/staff gauge will be installed in runoff pond as shown on drawings

8. 3" steel pipe post shall be supplied and paid for under this specification. Installation of 3" steel pipe post will be paid for under **Bid Item 15, Structure Concrete**.

9. Items subsidiary to this Bid item are:

   Construction Surveys, Construction Specification 7
   Mobilization & Demobilization, Construction Specification 8

10. In section 10, Measurement and payment, Method 1 shall apply.

Minnesota Construction Specification 98—Geosynthetic Clay Liner

1. Scope

The work shall consist of furnishing and installing a geosynthetic clay liner (GCL) with the necessary appurtenances as shown on the drawings or as specified.

2. Material

The liner material shall comply with the requirements of Material Specification 595, the applicable provisions in this specification, and those shown on the drawings.

Cover soil shall conform to this specification and those requirements shown on the drawings.

3. Shipping and storage

The liner material shall be transported to the job site in a manner that does not damage the rolls. The rolls shall be handled at the site with equipment capable of safely doing the job with no damage to the material. An appropriately sized core bar in combination with a spreader bar and lifting chains is one alternative. Another alternative is a forklift with a stinger attachment.

At the job site, the rolls shall be stored on a flat dry surface. They shall be kept dry at all times. A covering is recommended to prevent unnecessary stress on the packaging.

4. Subgrade preparation

When the GCL is placed, the subgrade shall be a dry, smooth surface that is free of debris, roots, ruts, and stones or any projection of more than 0.5 inch. All projections shall be removed, crushed, or pushed into the surface with a smooth-drum roller. The smooth-drum roller shall be used to remove all irregularities and any abrupt grade changes.

5. GCL installation

The contractor shall confine the work to an area that can be completely installed and covered to prevent hydration by the end of the normal working day. Daily completion shall be defined as the full installation of the liner, covering around appurtenances, and placement of the specified cover soils.

The liner rolls may need to be placed with a spreader bar to prevent damage to the ends of the roll. The rolls shall be carefully rolled down the slope and not allowed to unroll freely and out of control. Liner panels may be pulled up from the bottom of the slope, but care must be taken to minimize dragging across the subgrade and damaging the GCL surface. A temporary geosynthetic subgrade covering known as a rub sheet may be used to reduce friction and protect the GCL during placement.

The rolls are placed with the nonwoven geotextile side up and the woven geotextile side against the subgrade. The GCL panels are placed so that the seams are parallel to the direction of the slope. This is also true in the corners. All seams parallel to the slope direction shall be overlapped a minimum of 6 inches. End-of-roll seams shall be located at least 3 feet from the toe or crest of the slope. Seams at the base of the slope shall be a minimum of 6 feet from the toe.

When a roll end seam or joint occurs on a slope, construction adhesive shall be used in the lap area, with the overlap increased to 2 feet and shingled in the direction of the slope. All seam

areas or runs shall be augmented with granular bentonite, of the same quality of that encapsulated in the liner, to ensure seam integrity. Granular bentonite shall be dispersed evenly from the panel edge to the lap line at a minimum rate of 1 pound per 4 linear feet continuously along all seams or overlap area. Construction adhesives may be used on seams to keep panels in contact during backfill operations if necessary.

For any penetrations through the liner follow the details on the drawings or in Section 9.

For structures the liner will contact, a small notch shall be cut or dug against the edge of the area. The liner shall be brought up to the appurtenance and trimmed to fit into the notch. The contractor shall then apply granular bentonite or compact a mixture of 1 part bentonite to 4 parts soil (by volume), blended dry, into the bottom half of the notch. The liner shall then be inserted into the notch, with the remaining area in the notch filled with the granular bentonite or the 1 to 4 mixture, and compacted.

The GCL shall be anchored at the top of the slope with a proper anchor trench as shown on the drawings or in Section 8. The GCL is placed in the anchor trench in such a manner that it covers the entire trench bottom, but does not extend up the rear trench wall.

Horizontal joints on the slopes shall be avoided if possible. The GCL shall not be placed in the rain, at times of impending precipitation, or in ponded water. Replace any GCL that has begun to hydrate before cover soil can be placed.

6. Repairs during installation

All damaged or flawed material shall be repaired by completely exposing the affected area, removing all soil or other foreign objects, and placing a patch over the damage with a minimum overlap of 24 inches on all edges. Accessory bentonite shall be placed between the patch and the damaged area at the rate of 1 pound per 4 linear feet of edge, and spread to a 6-inch width. When the above procedures are to be implemented on a sloping surface, the edges of the patch shall be fastened to the repaired liner with construction adhesive in addition to the bentonite-enhanced seam.

7. Protective soil cover

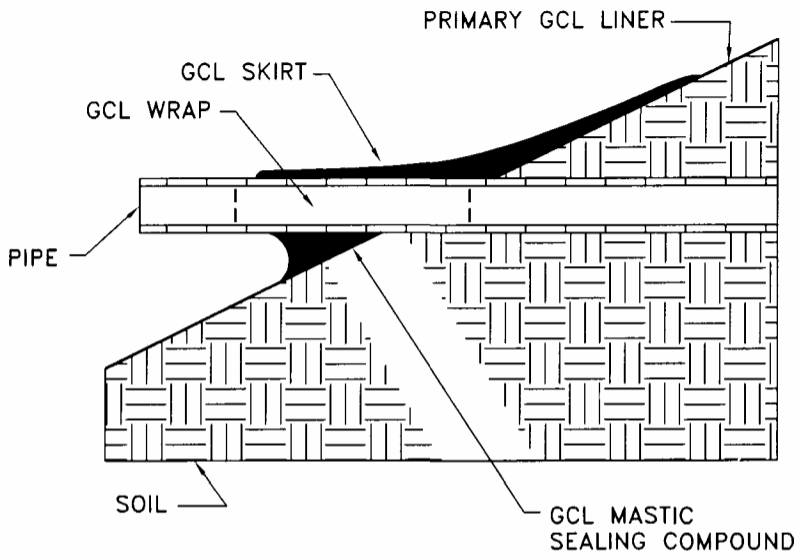
A soil cover is placed for both protection of the liner and to provide a loading to develop the designed permeability characteristics of the liner system. The cover shall be placed to the final depths and moisture content as specified in section 10 of this specification or as shown on the plans.

At all times during the soil cover operation, a minimum of 12 inches of soil material shall be kept between the liner and any equipment being used to spread soil cover. In frequently trafficked areas or roadways, a minimum cover thickness of 2 feet is required. The soil cover on all slopes shall be pushed up the slopes not down the slopes to prevent any downhill stress on the liner material. Avoid any sharp turns and quick starts or stops that could pinch or shift the liner.

8. Measurment & Payment

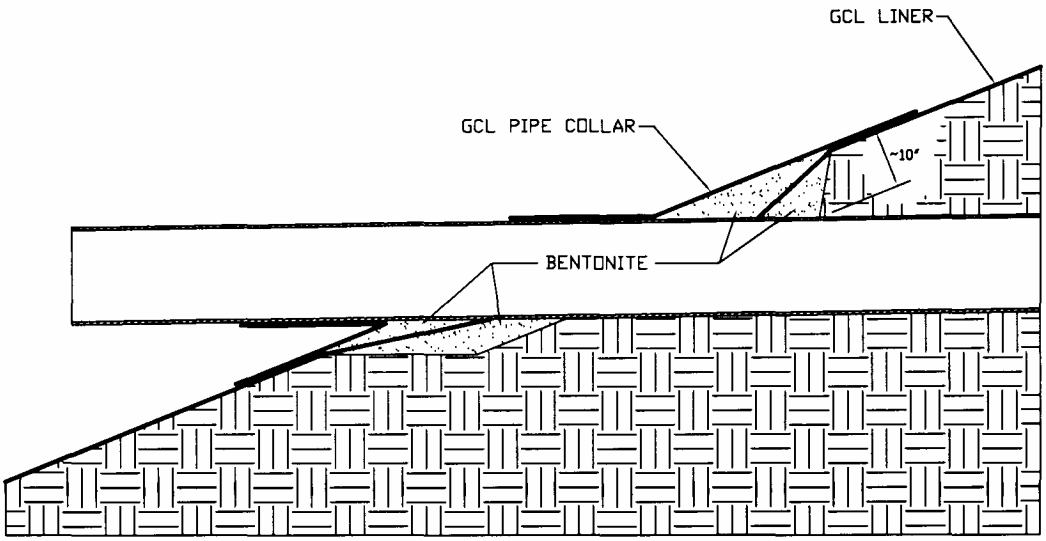
The quantity of liner will not be measured for payment. Payment for the liner will be made at the contract lump sum price. Such payment will constitute full compensation for all labor, materials, equipment, tools, and other items necessary and incidental to the performance of the work.

9. Construction details



PIPE PENETRATION SEALING DETAIL

1. PENETRATIONS SHALL NOT BELOCATED AT SEAMS.
2. WRAP PIPE WITH LAYER OF GCL.
3. FINISH BACK FILLING AROUND PIPE.
4. CUT PRIMARY GCL LINER TO FIT SNUGLY AROUND PIPE WITH GCL WRAP.
5. PLACE GCL MASTIC SEALING COMPOUND BETWEEN GCL LAYERS.
6. WRAP A GCL SKIRT AROUND PIPE.
7. THE SKIRT MAY BE SECURED WITH STAINLESS STEEL CLAMPS.



PIPE PENETRATION SEALING DETAIL

1. BEFORE INSTALLING THE GCL LINER EXCAVATE AN AREA APPROXIMATELY 10" DEEP AROUND THE PIPE.
2. PACK THIS AREA WITH UP TO HALF ITS TOTAL DEPTH WITH BENTONITE POWDER OR PASTE AND INSTALL THE GCL LINER, WITH AN OPENING FOR THE PIPE OVER THE PIPE.
3. FILL THE REST OF THE EXCAVATED AREA WITH BENONITE POWDER OR PASTE AND PLACE THE GCL COLLAR WITH 'PIE' CONFIGURATION SLIT OPENING OVER THE PIPE. GCL COLLAR SHALL BE SIZED TO OVERLAP THE GCL LINER PIPE OPENING BY AT LEAST 24".
4. SECURE THE GCL COLLAR FIRMLY IN PLACE AROUND THE PIPE UNTILL COVER SOIL HAS BEEN INSTALLED.

10. ITEMS OF WORK AND CONDITIONS WHICH APPLY TO THIS PROJECT ARE:

A. BID ITEM 16, GCL

This item shall consist of the work and materials necessary to provide and install the GCL in the pond(s) to the lines, grades, elevations, and locations shown on drawings and as described in this specification.

1. Liner material shall comply Material Specification 595.

2. Soil cover will be paid for under **Bid Item 12**.

3. Payment will be as described in section 8.

4. Items subsidiary to this Bid item are:
   Pollution Control, Construction Specification 5
   Construction Surveys, Construction Specification 7
   Mobilization & Demobilization, Construction Specification 8
   Water for Construction, Construction Specification 10
   Removal of Water, Construction Specification 11

MATERIAL SPECIFICATIONS

522. AGGREGATES FOR PORTLAND CEMENT CONCRETE

531. PORTLAND CEMENT

532. MINERAL ADMIXTURES FOR CONCRETE

533. CHEMICAL ADMIXTURES FOR CONCRETE

534. CONCRETE CURING COMPOUND

536. SEALING COMPOUND FOR JOINTS IN CONCRETE

539. STEEL REINFORCEMENT (for concrete)

547. PLASTIC PIPE

548. CORRUGATED PE TUBING

591. FIELD FENCE MATERIALS

595. GEO-SYNTHETIC CLAY LINER (GCL)

Material Specification 522—Aggregates for Portland Cement Concrete

1. Scope

This specification covers the quality of fine aggregate and coarse aggregate for use in the manufacture of portland cement concrete.

2. Quality

Aggregate shall conform to the requirements of ASTM Specification C 33 for the specified sizes. Aggregates that fail to meet any requirement may be accepted only when either:

a. The specified alternate conditions of acceptance can be proven before the aggregates are used on the job and within a period such that no work under the contract will be delayed by the requirements of such proof,

   or

b. The specification for concrete expressly contains a provision of special mix requirements to compensate for the effects of the deficiencies.

3. Reactivity with alkalies

The potential reactivity of aggregates with the alkalies in cement shall be evaluated by petrographic examination and, where applicable, the chemical method of test, ASTM Designation C 289, or by the results of previous tests or service records of concrete made from similar aggregates from the same source. The standards for evaluating potential reactivity shall be as described in ASTM Specification C 33, appendix A1.

Aggregates indicated by any of the above to be potentially reactive shall not be used except under one of the following conditions:

a. Applicable test results of mortar bar tests made according to ASTM Method C 227 are available which indicate an expansion of less than 0.10 percent at 6 months in mortar bars made with cement containing not less than 0.8 percent alkalies expressed as sodium oxide; or

b. Concrete made from similar aggregates from the same source has been demonstrated to be sound after 3 years or more of service under conditions of exposure to moisture and weather similar to those anticipated for the concrete under these specifications.

Aggregates indicated to be potentially reactive, but within acceptable limits as determined by mortar bar test results or service records, shall be used only with low alkali cement, containing less than 0.60 percent alkalies expressed as sodium oxide.

4. Storing and handling

Aggregates of each class and size shall be stored and handled by methods that prevent segregation of particles sizes or contamination by intermixing with other material.

Material Specification 531—Portland Cement

1. Scope

This specification covers the quality of portland cement.

2. Quality

Portland cement shall conform to the requirements of ASTM Specification C 150 for the specific types of cement. When Type I portland cement is specified, Type IS portland blast-furnace slag cement or Type IP portland-pozzolan cement conforming to the requirements of ASTM Specification C 595 may be used unless prohibited by the specifications.

When air-entraining cement is required, the contractor shall furnish the manufacturer's written statement providing the source, amount, and brand name of the air-entraining component.

3. Storage at the construction site

Cement shall be stored and protected at all times from weather, dampness, or other destructive elements. Cement that is partly hydrated or otherwise damaged will not be accepted.

Material Specification 532—Mineral Admixtures for Concrete

1. Scope

This specification covers the quality of mineral admixtures for concrete.

2. Quality

Fly ash used as a partial substitution of portland cement shall conform to the requirements of ASTM C 618, Class C or F except the loss on ignition shall not exceed 3 percent, unless otherwise specified. Lot-to-lot variation in the loss on ignition shall not exceed 1 percent.

Blast-furnace slag used as a partial substitution of portland cement shall conform to ASTM Standard C 989 for ground granulated blast-furnace slag.

Material Specification 533—Chemical Admixtures for Concrete

1. Scope

This specification covers the quality of chemical admixtures for manufacturer of portland cement concrete.

2. Quality

Air-entraining admixtures shall conform to the requirements of ASTM Specification C 260.

Water-reducing and/or retarding admixtures shall conform to the requirements of ASTM Specification C 494, Types A, B, D, F, or G.

Plasticizing or plasticizing and retarding admixtures shall conform to ASTM Specification C 1017.

Accelerating or water-reducing and accelerating admixtures shall be noncorrosive and conform to the requirements of ASTM Specification C 494, Types C and E. The manufacturer shall provide long-term test data results from an independent laboratory verifying that the product is noncorrosive when used in concrete exposed to continuously moist conditions.

Material Specification 534—Concrete Curing Compound

1. Scope

This specification covers the quality of liquid membrane-forming compounds suitable for spraying on concrete surfaces to retard the loss of water during the concrete curing process.

2. Quality

The curing compound shall meet the requirements of ASTM Specification C 309. Unless otherwise specified, the compound shall be type 2.

3. Delivery and storage

All curing compounds shall be delivered to the site of the work in the original container bearing the name of the manufacturer and the brand name. The compound shall be stored in a manner that prevents damage to the container and protects water-emulsion types from freezing.

Material Specification 536—Sealing Compound for Joints in Concrete and Concrete Pipe

1. Scope

This specification covers the quality of sealing compound for filling joints in concrete pipe and concrete structures.

2. Type

The compound shall be a cold-application material unless otherwise specified and shall be a single component or multiple component type.

3. Quality

The sealing compound shall conform to the requirements of one of the following specifications:

- ASTM Specification C 990—Joints for concrete pipe, manholes, and precast box sections using preformed flexible joint sealants.
- ASTM Specification C 877—External sealing bands for noncircular concrete sewer, storm drain, and culvert pipe.
- ASTM Specification D 1190—Concrete joint sealer, hot poured elastic type.
- ASTM Specification C 920—Elastomeric joint sealants for cold applied sealing and caulking of joints on mortar and concrete structures not subject to fuel spills. Use type S or M, grade NS for vertical joints; type S or M, grade P or NS for horizontal joints. For class 25, use M, quality materials shall be used for both vertical and horizontal joints unless otherwise specified.

The sealing compound if used with other joint material, such as fillers or gaskets, shall be compatible.

Material Specification 539—Steel Reinforcement (for concrete)

1. Scope
This specification covers the quality of steel reinforcement for reinforced concrete.

2. Quality
All reinforcement shall be free from loose or flaky rust, soil, oil, grease, paint, or other deleterious matter.

Steel bars for concrete reinforcement shall be grade 40, 50, or 60 deformed bars conforming to one of the following specifications:

- Deformed and plain billet-steel bars for concrete reinforcement—ASTM A 615
- Rail-steel deformed and plain bars for concrete reinforcement—ASTM A 616 with the S1 supplemental requirements
- Axle-steel deformed and plain bars for concrete reinforcement—ASTM A 617.

Dowels shall be plain round bars conforming to the same specifications listed above for steel bars.

Fabricated deformed steel bar mats for concrete reinforcement shall conform to the requirements of ASTM A 184.

Plain steel welded wire fabric for concrete reinforcement shall conform to the requirements of ASTM A 185.

Deformed steel welded wire fabric for concrete reinforcement shall conform to the requirements of ASTM A 497.

Epoxy-coated steel bars for concrete reinforcement shall conform to the requirements of ASTM A 775.

3. Dimensions of welded wire fabric
Gauges, diameters, spacing, and arrangement of wires for welded steel wire fabric shall be as defined for the specified style designations.

4. Storage
Steel reinforcement inventories at the site of the work shall be stored above the ground surface on platforms, skids, or other supports and shall be kept clean and protected from mechanical injury and corrosion.

Material Specification 547—Plastic Pipe

1. Scope

This specification covers the quality of Poly Vinyl Chloride (PVC), Polyethylene (PE), High Density Polyethylene (HDPE), and Acrylonitrile-Butadiene-Styrene (ABS) plastic pipe, fittings, and joint materials.

2. Material

Pipe—The pipe shall be as uniform as commercially practicable in color, opaqueness, density, and other specified physical properties. It shall be free from visible cracks, holes, foreign inclusions, or other defects. The dimensions of the pipe shall be measured as prescribed in ASTM D 2122.

Unless otherwise specified, the pipe shall conform to the requirements listed in this specification and the applicable reference specifications in table 547–2, the requirements specified in Construction Specification 45, Plastic Pipe, and the requirements shown on the drawings.

***Fittings and joints*—**Fittings and joints shall be of a schedule, SDR or DR, pressure class, external load carrying capacity, or pipe stiffness that equals or exceeds that of the plastic pipe. The dimensions of fittings and joints shall be compatible with the pipe and measured in accordance with ASTM D 2122. Joint and fitting material shall be compatible with the pipe material. The joints and fittings shall be as uniform as commercially practicable in color, opaqueness, density, and other specified physical properties. It shall be free from visible cracks, holes, foreign inclusions, or other defects.

Fittings and joints shall conform to the requirements listed in this specification, the requirements of the applicable specification referenced in the ASTM or AWWA specification for the pipe, the requirements specified in Construction Specification 45, and the requirements shown on the drawings.

***Solvents*—**Solvents for solvent welded pipe joints shall be compatible with the plastic pipe used and shall conform to the requirements of the applicable specification referenced in the ASTM or AWWA specification for the pipe, fitting, or joint.

***Gaskets*—**Rubber gaskets for pipe joints shall conform to the requirements of ASTM F 477, Elastomeric Seals (Gaskets) for Jointing Plastic Pipe.

3. Perforations

When perforated pipe is specified, perforations shall conform to the following requirements unless otherwise specified in Construction Specification 45 or shown on the drawings:

a. Perforations shall be either circular or slots.

b. Circular perforations shall be 1/4 ± 1/16-inch diameter holes arranged in rows parallel to the axis of the pipe. Perforations shall be evenly spaced along each row such that the center-to-center distance between perforations is not less than eight times the perforation diameter. Perforations may appear at the ends of short and random lengths. The minimum perforation opening per foot of pipe shall be as shown in table 547–1.

Table 547–1 Perforations

Nominal pipe size (inches)	Minimum number of rows		Minimum opening/foot (square inches)
	circular	slot	
4	2	2	0.22
6	4	2	0.44
8	4	2	0.44
10	4	2	0.44
12	6	2	0.66

Rows shall be arranged in two equal groups at equal distance from the bottom on each side of the vertical centerline of the pipe. The lowermost rows of perforations shall be separated by an arc of not less than 60 degrees or more than 125 degrees. The uppermost rows of perforations shall be separated by an arc not to exceed 166 degrees. The spacing of rows between these limits shall be uniform. The minimum number of rows shall be as shown in table 547–1.

c. Slot perforations shall be symmetrically located in two rows, one on each side of the pipe centerline. Slot perforations shall be located within the lower quadrants of the pipe with slots no wider than 1/8 inch and spaced not to exceed 11 times the perforation width. Minimum perforation opening per lineal foot of pipe shall be as shown in table 547–1.

d. On both the inside and outside of the pipe, perforations shall be free of cuttings or frayed edges and of any material that would reduce the effective opening.

Table 547–2 Pipe specification

Pipe	Specification
Poly vinyl chloride (PVC) pipe	
Plastic pipe - Schedules 40, 80, 120	ASTM D 1785
	ASTM D 2466
Pressure rated pipe - SDR Series	AWWA C 900
	ASTM D 2241
Plastic drain, waste, and vent pipe and fittings	ASTM D 2665
Joints for IPS PVC pipe using solvent weld cement	ASTM D 2672
Composite sewer pipe	ASTM D 2680
Type PSM PVC sewer pipe and fittings	ASTM F 3034
Large-diameter gravity sewer pipe and fittings	ASTM F 679
Smooth-Wall Underdrain Systems for Highway, Airport, and Similar Drainage	ASTM F 758
Type PS-46 gravity flow sewer pipe and fittings	ASTM F 789
Profile gravity sewer pipe and fittings based on controlled inside diameter	ASTM F 794
Corrugated sewer pipe with a smooth interior and fittings	ASTM F 949
Pressure pipe, 4-inch through 12-inch for water distribution	AWWA C 900
Water transmission pipe, nominal diameters 14-inch through 36-inch	AWWA C 905
Polyethylene (PE) plastic pipe	
Schedule 40	ASTM D 2104
SIDR-PR based on controlled inside diameter	ASTM D 2239
Schedules 40 and 80 Based on outside diameter	ASTM D 2447
SDR-PR based on controlled outside diameter	ASTM D 3035
High density polyethylene (HDPE) plastic pipe	
Plastic pipe and fittings	ASTM D 3350
SDR-PR based on controlled outside diameter	ASTM F 714
Plastic moldings and extrusion compounds	ASTM D 1248
Heat joining polyolefin pipe and fittings	ASTM D 2657
Acrylonitrile-butadiene-styrene (ABS) pipe	
Plastic pipe, schedules 40 and 80	ASTM D 1527
Plastic pipe, SDR-PR	ASTM D 2282
Schedule 40 plastic drain, waste, and vent pipe	ASTM D 2661
Composite sewer pipe	ASTM D 2680
Sewer pipe and fittings	ASTM D 2751

Material Specification 548—Corrugated Polyethylene Tubing

1. Scope

The specification covers the quality of corrugated polyethylene tubing and fittings.

2. Tubing

Corrugated polyethylene tubing shall conform to the requirements of ASTM F 405, ASTM F 667, ASTM F 894, AASHTO M 252, or AASHTO M 294 for the appropriate tubing sizes and fittings.

3. Fittings

ASTM F 405	3-6 inch diameter pipe and fittings
ASTM F 667	8-, 10-, 12-, 15-, 18-, and 24-inch diameter pipe and fittings
ASTM F 894	18- to 120-inch diameter pipe and fittings
AASHTO M 252	3- to 10-inch diameter N12 pipe and fittings
AASHTO M 294	12- to 36-inch diameter N12 pipe and fittings

Material Specification 591—Field Fencing Material

1. Scope
This specification provides the minimum quality requirements for the material used in the construction of field fences.

2. Wire gauge
When the size of steel wire is designated by gage number, the diameter shall be as defined for U.S. Steel Wire Gauge.

3. Fencing
Fencing material shall conform to the requirements of ASTM A 121 for barbed wire, ASTM A 116 for woven wire, ASTM A 390 for poultry fence or netting, and ASTM A 854 for high-tensile wire. Barbed wire and woven wire shall be class 3 zinc coated unless otherwise specified. High-tensile wire shall have type I zinc coating unless otherwise specified.

4. Stays, fasteners, and tension wire
Stays and fasteners shall conform to the requirements of the appropriate ASTM for the fencing material specified unless otherwise specified. Tension wires shall have a tensile strength not less than 58,000 pounds per square inch. Stays, fasteners and tension wire shall have class 3 zinc coating as specified in ASTM A 641.

5. Wood fence posts and braces
Unless otherwise specified, wood posts shall be of black locust, red cedar, osage orange (Bois d'Arc), redwood, pressure treated pine, or other wood of equal life and strength. At least half the diameter or diagonal dimension of red cedar or redwood posts shall be in heartwood. Pressure treatment shall conform to Material Specification 585, Wood Preservatives and Treatment. The posts shall be sound, new, free from decay, with all limbs trimmed substantially flush with the body. All posts shall be substantially straight throughout their full length.

Wood braces shall be of wood material equal to or better than construction grade Douglas fir. Wood braces shall be pressure treated in conformance with Material Specification 585.

6. Steel fence posts and braces
Steel fence posts and braces shall conform to the requirements of ASTM A 702 for steel fence posts and ASTM A 53 for bracing pipes. Posts with punched tabs for fastening the wires shall not be installed.

7. Concrete fence posts
Concrete fence posts shall be manufactured to the specified requirements of size, shape, and strength.

8. Panel gates
Panel gates shall be the specified types, sizes, and quality and shall include the necessary fittings required for installation. The fittings shall consist of not less than two hinges and one latch or galvanized chain for fastening. Latches shall be of such design that a padlock may be used for locking. All fittings shall not be of lesser quality than the gate manufacturer's standard.

9. Wire gates
Wire gates shall be the type shown on the drawings, constructed in accordance with specifications, at the locations, and to the dimensions shown on the drawings. The material shall conform to the kinds, grades, and sizes specified for new fence, and shall include the necessary fittings and stays.

10. Staples
Staples required to secure the fence wire to wood posts shall be 9-gauge galvanized wire with a minimum length of 1.5 inches for soft woods and a minimum length of 1 inch for close-grain hardwoods.

11. Galvanizing
All iron and steel fencing material, except as otherwise specified, shall be zinc coated by the hot dip process meeting the requirements of Material Specification 582. Clips, bolts, and other small hardware may be protected by electro-deposited zinc or cadmium coating.

Material Specification 595—Geosynthetic Clay Liner

1. Scope

This specification covers the quality of geosynthetic clay liner (GCL) material and workmanship.

2. General requirements

The GCL is composed of a layer of high shrink-swell sodium bentonite sandwiched between two geosynthetics. The GCL material shall be manufactured by one of the following processes:

- Needle punched process by which the bentonite is encapsulated between the geotextile layers by a mechanical bonding process without the use of any chemical binders or adhesive, or
- Lock stitched to provide internal shear strength and the integrity and consistency to the thickness and unit weight of the material.

The bentonite shall have the following base properties:

- A minimum of 0.75 pound per square foot of high shrink/swell sodium bentonite at 12 percent moisture. If the liner material is manufactured at higher moisture content, it shall still meet the above requirements when adjusted to the 12 percent moisture level.
- Swell index—minimum 24 ml per 2 grams.
- Fluid loss—maximum 18 ml

The GCL shall have an index flux value no larger than 1×10^{-8} m/s or 1×10^{-9} m/s at 2 pounds per square inch (4.6 feet of head) as specified.

3. Packaging and labeling

All material shall be packaged in individual rolls of a minimum of 3.65 meters wide and with at least 22.5 meters in length on the roll. All rolls shall be labeled and in a wrapping that is resistant to UV light deterioration. The labels on each roll shall identify the length and width of the roll, the manufacturer, the product, lot number, and the roll number.

4. Testing and quality control

The following tests shall be performed and the results certified by the manufacturer:

Swell index	ASTM D 5890
Fluid loss	ASTM D 5891
Bentonite mass/unit area	ASTM D 5993
Index flux	ASTM D 5887
Hydraulic conductivity	ASTM D 5887

5. Inspection and acceptance

No liner material shall be accepted for placement in the permanent works that has not been certified by the manufacturer as meeting all specified requirements. No liner material shall be accepted that exhibits any visible defects. The liner material shall be subject to quality assurance testing at any time before and during installation.

II. OPERATION & MAINTENANCE PLAN & REQUIREMENTS

OPERATION AND MAINTENANCE PLAN
WASTE STORAGE FACILITY
CODE 313

Landowner/Operator: Kyle & Stephanie Goeller Date: 07/30/2021

Address: 30424 410th Street

Job Location – County: Ottertail Section: 4 Township: 136 Range: 36

Prepared By: Shane Kjellberg -TSP Farm/Tract No.: _____

Operation and Maintenance Items

Operation and maintenance (O&M) is necessary for all conservation practices and is required for all practices installed with the Natural Resources Conservation Service assistance. This waste storage structure was designed and installed for temporary storage of animal waste. The land user is responsible for proper O&M for as long as the practice is used but no less than the life of the practice, 15 years, and as may be required by federal, state, or local laws or regulations.

Operation refers to operation of the practice in compliance with all laws, regulations, ordinances, and easements; and in such a manner that will result in the least adverse impact on the environment and will permit the practice to serve the purpose for which it was installed. Maintenance includes work to prevent deterioration of the practice, repairing damage, or replacing components which fail.

Necessary operation and maintenance items include:

1. Inspect after significant storm events and at least annually to identify repair and maintenance needs.

2. Follow your comprehensive nutrient management plan (CNMP). Begin emptying or drawdown according to the schedule in the CNMP or sooner if the contents of the storage facility reach the maximum operating level. Minimize application to saturated or frozen ground and immediately after a rainfall or within 12 hours of a forecasted rain. Do not apply at rates that exceed soil intake rates and incorporate manure immediately, if possible.

3. For basins and ponds waste shall be removed at the earliest environmentally safe period after storm events to ensure that sufficient capacity is available to accommodate subsequent storms.

4. Poison gases are often heavier than air and may be trapped in closed waste storage structures. Do not allow human entry without safety equipment, including ladders and breathing apparatus. Maintain all lids, grates, and shields on openings to underground or enclosed structures.

5. Load into the waste storage facility only those waste products identified in the operational plan. Do not dispose of animal mortality, syringes, or other large or non-biodegradable wastes in the digester.

6. Maintain all pumps, agitators, piping, valves, and all other electrical and mechanical equipment in good operating condition following electrical codes and manufacturers' recommendations. Inspect and repair grounding rods, switches, and wiring. Perform motor and engine maintenance according to a fixed schedule based on hours of operation, in addition to “as needed” maintenance based on visual observation or audio sensing.

7. Maintain all safety shields on pumps, motors, and electrical or mechanical equipment.

8. Inspect metal surfaces for rust and other damage. Especially inspect sections in contact with earthfill and/or other materials. Repair or replace damaged sections and apply a protective covering.

9. Prevent excessive solid waste and bedding from entering waste conveyance facilities. Properly cleaned and maintained screens help minimize required maintenance. Also periodically clean trash racks and sumps to maintain design capacity and efficiency.

10. Inspect the outlet of foundation, sub-drain, or any other artificial drainage system that may be installed to control water table levels and/or provide drainage. It is recommended that the inspections should occur at least twice a year: (a) once during the high water table season to ensure that water is draining from the system as designed and (b) once

during a drier time to ensure that there is no direct leakage from the storage facility into the drainage system. Examine any flows for quantities of flow, turbidity, discoloration, odors, or any other unusual characteristics. Immediately investigate any indication of blockage or leakage and consult a qualified individual for any corrective action(s) needed.

11. Periodically check backfill areas around concrete structures for unusual settlement. Determine if settlement is caused by backfill consolidation or failure of the concrete structures or piping. Repair structures or backfill as necessary.

12. All exposed appurtenances – pipes, pumps, valves, gates, etc., should be inspected periodically (minimum twice a year) to make sure they are functional, structurally sound, and are not cracked, broken, and/or a safety hazard to the operator or livestock. Repair leaks immediately.

13. Flush pipelines and other components with clean water to remove/reduce accumulated solids buildup. Drain all system components in areas subjected to freezing.

14. Inspect concrete, wooden, and metal structures (sumps, pits, walls, ramps, slats, floors, roofs, etc) for accelerated weathering, spalling, settlement, displacement, misalignment, or cracks. Repair defects. For earthen structures, conduct a complete inspection of clay or geosynthetic liners and repair as necessary.

15. Repair any rodent, burrowing animal, vandalism, vehicle, or livestock damage. Remove debris and protect components from further damage by farm equipment, livestock, etc.

16. Maintain vegetative cover on any earthen structures. Reestablish vegetation in any areas where cover is damaged. Mow at least twice a year to stimulate plant growth and to maintain a well-kept appearance.

17. Maintain windbreaks and/or operate and maintain other visual and/or odor dispersive or control methods.

18. Apply insect and vector controls as per manufacturers' recommendations and precautions, as needed.

19. For liquid/slurry storages, maintain the depth gauge that visually shows the following elevations: (1) Maximum operating level, (2) Top of emergency volume, and (3) Top of freeboard volume.

20. Inspect safety equipment and systems to ensure they are functioning in accordance with the operational plan. Fences, railings, gates, and warning signs must be maintained to provide warning and prevent unauthorized entry. Safety stations should be inspected at least twice a year. Safety items such as ropes, ladders, and swim rings should be replaced as necessary.

21. Inspect and maintain haul roads and approaches to and from waste storage facility on a frequent basis.

22. Do not operate loaded feed wagon, trucks, manure spreaders, or other heavy equipment within 20 feet of the waste storage facility walls, unless system is designed to handle such loads.

Other Recommendations and Notes:

Since it is difficult to design or plan for certain weather trends (e.g. ice flows, flash floods, human and animal activities) and management styles it is necessary to have a plan in place to address these issues.

Site and layout was selected by landowner(s). Backfilling of pads and walls, cleaning out pipe inlets & outlets, repairing eroded areas, and managing water in feedlot and feed storage areas, are some items that will require, at minimum, annual maintenance.

Access roads/lanes/traffic areas are designed for low speed (0-5 mph) farm vehicle traffic and are to be maintained to prevent accidents (e.g. sand, salt, or plow to remove ice/snow, maintain traffic areas as designed to prevent water ponding and muddy conditions).

Access ramp into pit can become ice covered and slippery. Care shall be taken when using.
Plastic type liners are slippery and near impossible to crawl /walk up when wet and/or covered with manure and/or wastewater. Installing escape ropes to fence corners is recommended.

1. *Manure application fields & wastewater shall be nutrient tested annually and records shall be kept on file as per MPCA/County requirements for medium CAFO's. Manure shall be applied pre-plant and/or post-harvest and in accordance with Nutrient Management Plan.*

2. *Accumulated solids shall be removed from feed storage area(s), manure pack areas, as needed to maintain design volume and minimize transport of solids. It is recommended that these areas are cleaned annually to minimize transport of solids into areas where they will cause issues.*

3. *Inspect pipes, tanks, and manure ponds/pits after major storm events and weekly as a minimum for damage and debris. Repair any damage immediately and remove debris. In no event should pipes, tanks, or ponds/pits be entered by the producer(s)or his/her work persons. A professional that is cognizant of safety guidelines for entering wastewater tanks/pipes should be hired to enter or inspect the pit.*
Pipes may experience freezing during temperature fluctuations below and above freezing. Precautions should be taken to keep pipes free-flowing, such as: 1) keeping inlets and outlets free and clean of snow, weeds, grass, manure, and other debris, 2) considering the addition of salt or other environmentally friendly melting agents to inlet and outlet areas. Any damaged or deteriorated components shall be repaired to original condition immediately.

4. *Manure Pit is designed to store approximately 12 months worth of manure from ~185 head of dairy cattle. The Manure Pit will have to be pumped as needed to maintain storage volume, this will depend on storm events. The Manure Pit shall be prevented from overflowing and pumped when it is within 3 feet from top of dike. Pond depth shall be visually inspected weekly and after storm events as a minimum. Markers on concrete ramps shall be used to record and determine pond levels.*

5. *Inspect day pits and pit liner (after emptying) for holes and damage. Repair to original design requirements.*
Tank leaks shall be repaired immediately. In no event should manure pits/tanks be entered by the producer(s) or his/her work persons. A professional that is cognizant of safety guidelines for entering wastewater tanks/pipes should be hired to enter or inspect the pit.
   A. *Repair cracks using Epoxy Injection as detailed in ACI RAP Bulletin 1, Structural Crack Repair by Epoxy Injection –attached.*

   B. *Repair eroded concrete by 1) cleaning surface using an approved blasting method to remove manure, oils, dirt, curing compounds, laitance, weak surface mortar, and other detrimental materials that may interfere with bonding and/or curing of patch. 2) Area shall then be patched with a rapid hardening hydraulic cement (HCC) (i.e. >2000 psi in 6 hours) as per manufacturer's instructions.*

6. *Pump life will vary depending on use and proper maintenance. Pumps, pump tank, sump, and appurtenances shall be checked monthly as a minimum for signs of damage, leaks, and proper operation. Any pumps or parts which become damaged or fail shall be repaired to original condition or better. Tank leaks shall be repaired immediately. In no event should pump tank be entered by the producer(s) or his/her work persons. A professional that is cognizant of safety guidelines for entering wastewater tanks/pipes should be hired to enter or inspect if needed.*

7. *Earthwork (dikes, berms, ditches, etc.) shall be inspected annually for signs of seepage, rodent damage, settlement, misalignment, or erosion. Repair any damaged areas to original design grades and specifications.*

8. *Vegetation around manure pits and building side-slope areas shall be clipped annually as a minimum and only when area is dry and firm. Regrade, seed and mulch any areas which become damaged immediately. Plant species for reseeding shall be as specified in original design or other approved shallow rooted plant species. Planting of row crops will not be permitted within these areas.*

9. *Removal of accumulated sediment/sand within manure pit will be necessary over time to maintain design volume, care shall be taken to prevent damage to the liner. Repair to original condition or better if damaged.*

10. *Repair any damage to fences, gates, marker posts, and safety signs immediately.*

11. *The landowner/producer is responsible for back-up power and water if existing system goes down due to power outage or pump fails, etc.*

12. *Inspect concrete work annually for major damage, repair as needed to maintain original design requirements.*

13. *In no event should manure pits/ponds be entered by the producer(s) or his/her work persons. A professional that is cognizant of safety guidelines for entering wastewater tanks/pipes should be hired to enter or inspect if needed.*

14. *Any pasture areas used for occasional feeding should be maintained so that existing vegetation is not greatly disturbed, but if these areas are later found to be contributing nutrients and/or pollutants in excess to local, state or federal tolerances, to the local tributaries or waters of the state, these areas may need to be considered for some type of containment or alternative treatment.*

15. *Minimize the amount of bedding pushed into manure pits & tanks -do not push un-chopped bedding (i.e. long stem straw) into manure pits or tanks. Do not allow hoof trimmings, docked tails, or items other than manure into pits.*

16. *All ventilation, heating, plumbing and electrical equipment shall be inspected monthly as a minimum, after storm events, and as recommended by the manufacturers and installers.*

17. *Barn floors, concrete areas, and cattle lanes can become slippery for cattle traffic and machine traffic. These areas shall be managed to prevent icing and it is recommended that care is taken when routing cattle through these areas (e.g. do not crowd or push cattle through area). It is also recommended that the area is inspected prior to cattle/machine access and cleaned of manure (or other residues that may be slippery) and have non-slip agents applied to improve traction. Maintaining & regular cleaning of concrete grooves will also be necessary.*

18. *Ohio State Livestock Management Guide, Bulletin 604-06 is attached additional manure handling and safety information.*

19. *Follow manufacturers operation and maintenance guidelines for all manure, feed, animal, and water handling/processing equipment. Equipment such as, but not limited to, pumps, augers, conveyors, fans, compressors, pipelines, electrical, storage tanks, and coolers to name a few.*

Emergency Action Plan (EAP) can be found in the CNMP

CONTACT YOUR LOCAL NATURAL RESOURCES CONSERVATION SERVICE (NRCS) OFFICE FOR ANY ADDITIONAL TECHNICAL ASSISTANCE YOU MIGHT NEED FOR IMPLEMENTATION OF THIS OPERATION AND MAINTENANCE PLAN.

Signatures:

Landowner/Operator: Kyle P. Goeller Reviewer: Shane Kjellberg Date: 8-11-21

Kyle Goeller

Safety and Manure Handling

Liquid-manure-handling systems can reduce labor requirements in confinement facilities but can introduce hazards due to the toxic effects of manure gases, manure runoff into streams, and offensive odors. Outdoor and open-top manure storage can also be a potential drowning hazard. Under certain conditions, manure gases may be fatal to both humans and livestock. Poor ventilation or ventilation failure in a tightly constructed building can threaten the health and life of animals. To protect humans, manure storage areas should first be ventilated or, where necessary, self-contained breathing equipment should be used when entering manure storage areas. Increased gas levels above manure pits in buildings can also slow the daily gain of animals.

Dangerous Situations

Dangerous situations resulting from **manure gases** are associated with four main gases that are produced as manure decomposes. These are listed in Table 19 along with some of their characteristics. All of the gases listed in Table 19 are **colorless**.

Ammonia (NH_3) is released from fresh manure/urine and during decomposition. Ammonia levels tend to be high in buildings with litter, solid floors, or scrapers because manure spread over the floor increases ammonia release. Heated floors also increase ammonia release. Ammonia is very soluble in water, so liquid-manure systems release less ammonia. High pH levels cause more ammonia to be released into the air.

Concentrations in ventilated hog buildings have been measured as high as 35 ppm (slightly irritating to eyes and nose) and in unventilated buildings at 176 ppm, which produces extreme discomfort. At 100 to 200 ppm, ammonia causes sneezing, salivation, and loss of appetite for hogs. Prolonged exposure may lead to respiratory diseases in people and animals.

Carbon dioxide (CO_2) is released through livestock respiration and manure decomposition, and by unvented heaters. Most of the gas in bubbles coming from stored manure or lagoons is CO_2. Death of animals in closed confinement buildings following a ventilation-equipment failure (such as that caused by a power failure) is due in part to excessive CO_2. Vigorous agitation of stored manure can release a “slug” of CO_2.

Hydrogen sulfide (H_2S) is the most toxic gas from liquid manure storage. Dangerous concentrations can be released by agitation of stored liquid manure. Concentrations reaching 200 to 300 ppm have been reported in a building a few minutes after starting to pump out a storage pit and have been as high as 800 ppm during vigorous agitation. Exposure to 200 ppm for 60 minutes will cause headaches and dizziness; 500 ppm for 30 minutes will cause severe headache, nausea, excitement, or insomnia. High concentrations of 800 to 1,000 ppm cause immediate unconsciousness and death through respiratory paralysis unless the victim is moved to fresh air, and artificial respiration is immediately applied. Even the characteristic rotten-egg smell of H_2S does not give adequate warning because the sense of smell is rapidly fatigued by H_2S, and high concentrations do not give proportionately higher odor intensity.

Methane (CH_4) is generated in the decomposition of manure under strict anaerobic (no air) conditions. It is insoluble in water and lighter than air and will accumulate in stagnant air corners in the top of enclosed pits or rooms. CH_4 is not toxic, but high concentrations can produce an asphyxiating atmosphere. Concentration in confinement housing is normally well below the lower end of the 5% to 15% explosive range (Table 19). Explosions attributed to methane have occurred around manure storage pits.

Table 19. Characteristics and Effects of Gases Produced in Decomposing Manure.

Gas	Odor	Density	Exposure Limits	Effects
Ammonia (NH_3)	Pungent	Lighter than air	10 ppm	Irritation to eyes and nose. Asphyxiating at high levels.
Carbon Dioxide (CO_2)	None	Heavier than air	5,000 ppm	Drowsiness, headache. Can be asphyxiating.
Hydrogen Sulfide (H2S)	Rotten-egg smell	Heavier than air	10 ppm	Toxic: Causes headache, dizziness, nausea, unconsciousness, death.
Methane (CH_4)	None	Lighter than air	1,000 ppm	Headache, asphyxiant, explosive in 5-15% mix with air.

Source: Ohio State University Extension Bulletin 604, 1992 Edition.

Fatalities

Fatalities may occur when people enter manure-storage structures, including covered manure pits, and are probably due to CO_2 and H_2S because these gases are heavier than air. Caution should also be taken when agitating manure as the asphyxiating effect of NH_3, CO_2, and CH_4 combined with the toxic effect of H_2S could be fatal.

Another potential risk, especially for children, is drowning in a pit, storage tank, and earthen storage basin or lagoon. Failure and breakage of slats or covers on pits and lack of protective barriers or railings around pit openings during agitation can lead to accidents. Push-off platforms or ramps (piers) can be a site for the tractor scraper and driver to tumble into an open storage structure or lagoon. Crusts on earthen storage basins can be a problem, especially for children, as they may appear capable of supporting one's weight, but they are not.

Precautions

When designing manure structures and systems, think safety. When operating or managing manure equipment, think safety. Consider the following major safety points when designing and operating manure equipment, structures, or systems:

1. Do not enter a manure pit unless absolutely necessary and then only if:

   *The pit is ventilated beforehand

   *You have supplied air to a mask or a self-contained breathing apparatus.

   *You are wearing a safety harness and attached rope with at least two people standing by who are capable of pulling you out.

2. When agitating a manure storage, always have at least one additional person available who can go for help if you are overcome by gases.

3. Properly designed and operated ventilation systems can reduce the concentration of gases within the animal zone, improving animal performance. Poorly designed or improperly adjusted ventilation air inlets may actually increase gas concentrations at the animal level.

4. When possible, construct lids for manure pits or tanks and keep access covers in place. If an open ground-level pit or tank is necessary, build a fence around it and post with "Keep Out" and "Danger — Manure Storage" signs.

5. Get help before attempting to rescue livestock or people that have fallen into a manure-storage structure.

6. Build railings alongside all walkways or piers of open manure storage structures.

7. Permanent ladders on the outside of above-ground tanks should have entry guards locked in place, or the ladder should be terminated above the reach of individuals.

8. Never leave a ladder standing against an above-ground tank.

9. Construct permanent ladders on the **inside** wall of all pits and tanks, even if covered. Use of noncorrosive material is important.

10. Fence in earthen storage basins and lagoons and erect signs: “Caution – Manure Storage (or Lagoon).” The fence is also needed to keep livestock away from these structures. Additional precautions include a minimum of one lifesaving station equipped with a reaching pole and a ring buoy on a line.

11. All push-off platforms or piers need a barrier strong enough to stop a slow-moving tractor. It should be low enough so that livestock cannot slide underneath.

12. If possible, move animals before agitating manure stored in a pit underneath a building. Otherwise, if the building is mechanically ventilated, turn fans on full capacity when beginning to agitate, even in the winter, or if the building is naturally ventilated, do not agitate unless there is a brisk breeze. Watch animals closely during agitation, and turn off the pump at the first sign of trouble. The critical area of the building is where the pumped manure breaks the liquid surface in the pit.

13. If manure storage is outside the livestock building, provide a water trap or other anti-back flow device to prevent storage gases from entering, especially during agitation.

14. If an animal drops over, do not try to rescue it. You might become a victim of toxic gases. Turn off the pump, and do not enter the building until gases have had a chance to escape.

15. Due to the possibility of explosion and fire, don’t smoke, weld, or use an open flame in confined, poorly ventilated areas where methane can accumulate. Electric motors, fixtures, and wiring near manure-storage structures should be kept in good condition.

16. Keep all guards and safety shields in place on pumps, around pump hoppers, on manure spreaders, tank wagons, power units, etc.

Take time now to review your total manure management system from a safety viewpoint. Think through each step of the collection system, storage or treatment units, and the land application phase. Are there dangerous areas in construction or operation? If so, make them safe. It could save your life or the life of a loved one or employee.

Emergency Action Plan

Every livestock farm should have an Emergency Action Plan in place. What is an Emergency Action Plan and why have one? It is a well-thought-out, simple, basic, common-sense plan that will help those involved with an emergency to make the right decisions. A plan is needed:

* To meet the requirements of many states for a plan.

* To keep humans and livestock safe.

* To rectify an emergency situation.

* To protect the environment.

* To teach family members and employees.

* To record for future situations (prevention, law suits, etc.).

* To ensure notification of proper authorities.

Safety Equipment

Locate first-aid or rescue equipment near the manure-storage area. Clearly mark a wall closet or box and store the equipment inside it. Make occasional checks to ensure the equipment is in good order and has not been removed. Post the phone number of the local fire department/rescue squad on the wall beside the box and also near the telephone.

Personal protective equipment that includes air packs and face masks, nylon lines with snap buckles, and a parachute-type body harness with "D" rings for attaching lines can be obtained from supply sources of industrial safety and hygiene equipment. Look in the yellow pages under safety, safety equipment, industrial safety and hygiene, or safety supplies. These supply sources can also provide information on monitoring or measuring devices used to test hazardous atmospheres. Be sure to specify the gases you are dealing with when asking for or purchasing equipment.

Familiarize yourself, your workers, and your family with the proper operation of all safety equipment. Local medical (rescue) teams can assist in this education.

Immediate First-Aid Procedures

Victims of Manure-Gas Asphyxiation

1. Do not attempt to rescue a victim from a hazardous gas situation unless you are protected with a supplied air-breathing apparatus.

2. Have someone telephone for an emergency medical (rescue) squad, informing them there is a "victim of toxic (manure) gas asphyxiation."

3. If the victim is free from the immediate area of danger and there is no personal threat to your life, take the following steps:

    * With the victim on his or her back, check for breathing, then give four quick mouth-to-mouth breaths and check for a pulse.

    * If there is a pulse, continue mouth-to-mouth breathing every five seconds (12 per minute).

    *** If there is no pulse**, start CPR (cardiopulmonary resuscitation) immediately. When the emergency squad arrives, the victim should receive a high concentration of oxygen at the scene and in transport.

If members of your family have not taken CPR and first-aid training, enroll them in a course at your earliest opportunity. Periodic refresher courses in CPR are recommended.

Victims of Drowning

1. Rescue the person from the drowning situation using standard water-rescue technique.
2. If the victim is unconscious or not breathing, use standard CPR procedures. (See No. 3 under Victims of Manure-Gas Asphyxiation.)
3. Have someone telephone for an emergency medical (rescue) squad, informing them there is a victim of drowning.

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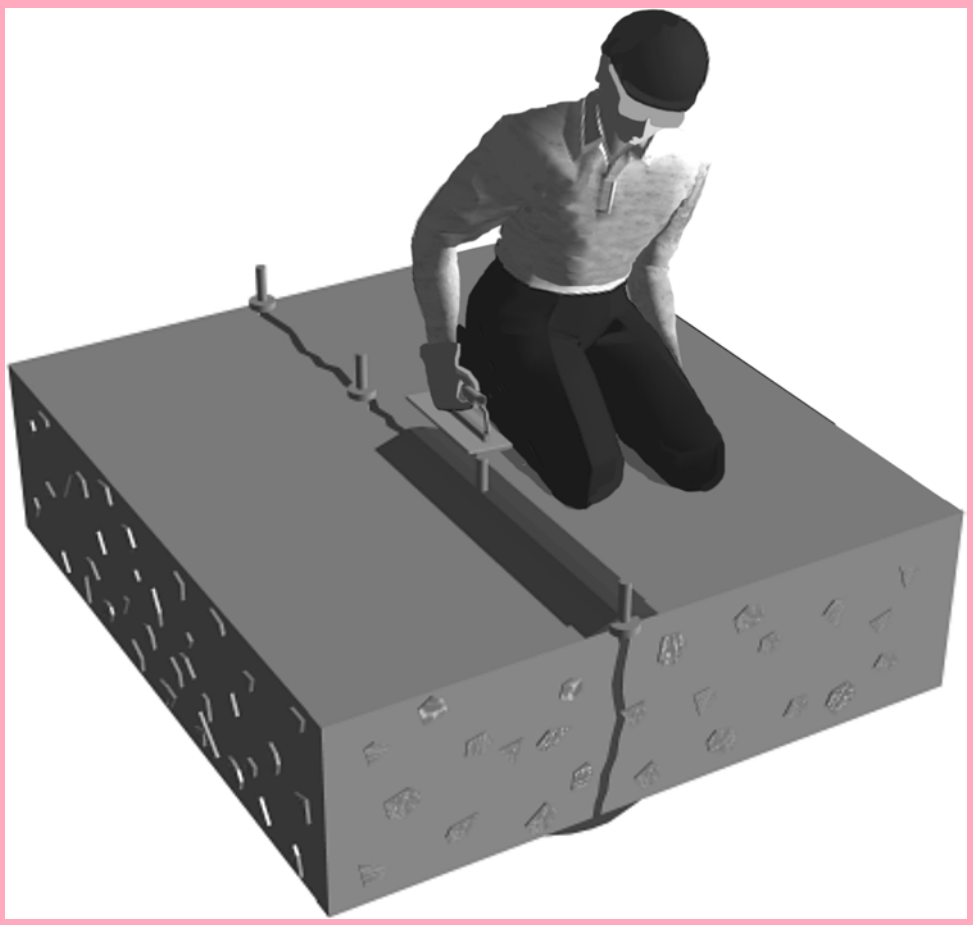
ACI RAP Bulletin 1

FIELD GUIDE TO
CONCRETE REPAIR
APPLICATION PROCEDURES

Structural Crack Repair by Epoxy Injection



Field Guide to Concrete Repair Application Procedures

Structural Crack Repair by Epoxy Injection

Reported by ACI Committee E706

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ACI Repair Application Procedure 1.

Introduction

Certain things in life are inevitable. Some are said to include death, taxes, and concrete cracks! The latter is subject to volumes of literature on causes and cures. Some of the more typical causes for concrete cracking include:

- Drying shrinkage;
- Thermal contraction or expansion;
- Settlement;
- Lack of appropriate control joints;
- Overload conditions that produce flexural, tensile, or shear cracks in concrete; and
- Restraint of movement

One of the potentially effective repair procedures is to inject epoxy under pressure into the cracks. The injection procedure will vary, subject to the application and location of the crack(s), with horizontal, vertical, and overhead cracks requiring somewhat different approaches. The approach used must also consider accessibility to the cracked surface and the size of the crack.

Cracks can be injected from one or both sides of a concrete member. If access is limited to only one side, installation procedures may include variations in epoxy viscosities, injection equipment, injection pressure, and port spacing to ensure full penetration of epoxy into the crack.

Depending on the specific requirements of the job, crack repair by epoxy injection can restore structural integrity and reduce moisture penetration through concrete cracks 0.002 in. (0.05 mm) in width and greater. However, before any concrete repair is carried out, the cause of the damage must be assessed and corrected and the objective of the repair understood. If the crack is subject to subsequent movement, an epoxy repair may not be applicable.

Note: Horizontal cracks of sufficient width can be filled by gravity-fed epoxies where suitable for the repair (See Crack Repair by Gravity Feed with Resin, RAP-2).

What is the purpose of this repair?

The primary objective for this type of repair is to restore the structural integrity and the resistance to moisture penetration of the concrete element.

When do I use this method?

Injection is typically used on horizontal, vertical, and overhead cracks where conventional repair methods cannot penetrate and deliver the specific repair product into the crack.

Prior to proceeding with a crack repair by epoxy injection, the cause of the crack and the need for a structural repair must be determined. If the crack does not compromise the structural integrity of the structure, injection with polyurethane grouts or other nonstructural materials may be a more suitable choice to fill the crack. When a structural repair is required, conditions that cause the crack must be corrected prior to proceeding with the epoxy injection. If the crack is damp and cannot be dried out, an epoxy tolerant to moisture should be considered. Cracks caused by corroding reinforcing steel should not be repaired by epoxy injection because continuing corrosion will cause new cracks to appear.

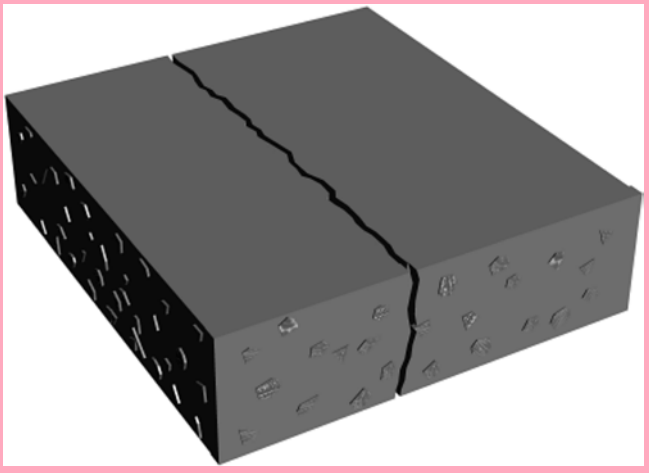


Fig. 1—Cracks must be clean and free of debris.

How do I prepare the surface? (see Fig. 1)

Clean the surface area about 1/2 in. (13 mm) wide on each side of the crack. This is done to ensure that materials used to seal the top of the crack (the cap seal) will bond properly to the concrete. Wire brushing is recommended because mechanical grinders may fill the cracks with unwanted dust. Contaminants can also be removed by high-pressure water, “oil-free” compressed air, or power vacuums. When using water to clean out the crack, blow out the crack with oil-free, compressed or heated air to accelerate drying. Otherwise, allow enough time for natural drying to occur before injecting moisture-sensitive epoxies.

Where concrete surfaces adjacent to the crack are deteriorated, “V”-groove the crack until sound concrete is reached. “V” grooves can also be used when high injection pressures require a stronger cap seal.

How do I select the right material?

The appropriate viscosity of the epoxy will depend on the crack size, thickness of the concrete section, and injection access. For crack widths 0.010 in. (0.3 mm) or smaller, use a low-viscosity epoxy (500 cps or less). For wider cracks, or where injection access is limited to one side, a medium to gel viscosity material may be more suitable.

ASTM C 881, “Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete,” identifies the basic criteria for selecting the grade and class of epoxies (see Table 1).

For concrete sections greater than 12 in. (305 mm), the working time may need to be increased, and the viscosity decreased, as the crack gets smaller.

In addition to the criteria used in Table 1 for epoxy selection, the following product characteristics may also have to be considered:

- Modulus of elasticity (rigidity);
- Working life;
- Moisture tolerance;
- Color; and
- Compressive, flexural, and tensile strengths.

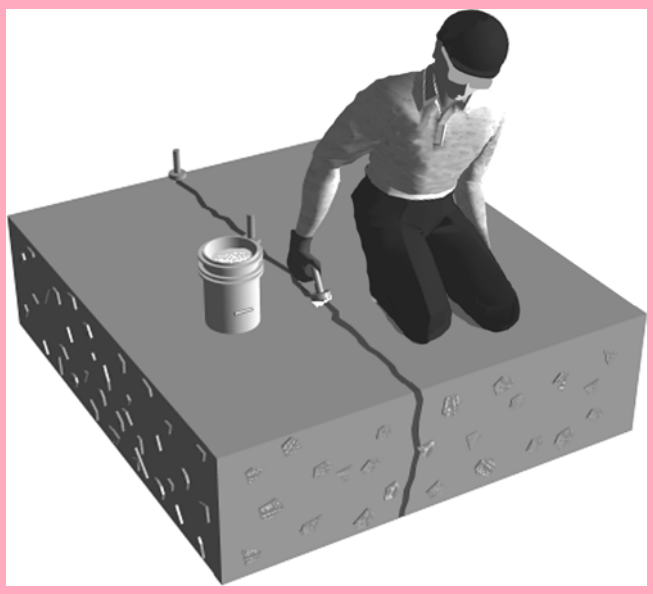


Fig. 2—Installation of entry ports.

What equipment do I need?

Equipment for epoxy injection by high-pressure or low-pressure systems includes:

- Air guns;
- Hand-actuated delivery systems;
- Spring-actuated capsules; and
- Balloon-actuated capsules.

Determine the delivery method that will best suit the repair requirements by considering the size and complexity of the injection repair and the economic limitations of the project.

What are the safety considerations?

Epoxy resins are hazardous materials and must be treated as such. Job-site safety practices should include, but not necessarily be limited to, the following:

- Having Material Safety Data Sheets (MSDS) available on site;
- Wearing protective clothing and protective eyewear where required;
- Wearing rubber gloves or barrier creams for hand protection;
- Having eye wash facilities available;
- Wearing respirators where needed;
- Providing ventilation of closed spaces;
- Secured storage of hazardous materials;
- Having necessary cleaning materials on hand; and
- Notifying occupants of pending repair procedures.

It is the responsibility of the user of this document to establish health and safety practices appropriate to the specific circumstances involved with its use. ACI does not make any representations with regard to health and safety issues and the use of this document. The user must determine the applicability of all regulatory limitations before applying the document and must comply with all applicable laws and regulations, including but not limited to, United States Occupational Safety and Health Administration (OSHA) health and safety standards.

Table 1—ASTM C 881 requirements for epoxy resins that are used to bond hardened concrete to hardened concrete

	Type I*	Type IV†
Viscosity, centipoise		
Grade 1 (low-viscosity), maximum	2000	2000
Grade 2 (medium-viscosity), minimum	2000	2000
Maximum	10,000	10,000
Consistency, in.		
Grade 3 (non-sagging), maximum	1/4	1/4
Gel time, min.	30	30
Bond strength, minimum, psi		
2 days, moist cure‡	1000	1000
14 days, moist cure	1500	1500
Absorption, 24 h maximum, %	1	1
Heat deflection temperature		
7 days minimum, °F	—	120
Linear coefficient of shrinkage		
On cure, maximum	0.005	0.005
Compressive yield strength		
7 days minimum, psi	8000	10,000
Compression modulus, minimum, psi	150,000	200,000
Tensile strength, 7 days minimum, psi	5000	7000
Elongation at break, minimum, %	1	1

*Type I: for use in non-load-bearing applications.

†Type IV: for use in load-bearing applications.

Source: ASTM C 881, Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete.

‡Moist-cured systems should be tested by assembling the sections to be bonded before immersing in water.

Preconstruction meeting

Prior to proceeding with the repair, a preconstruction meeting is recommended. The meeting should include representatives from all participating parties (owner, engineer, contractor, materials manufacturer, etc.) and specifically address the parameters, means, methods, final appearance, and materials necessary to achieve the repair objectives.

Repair procedure

1. Port installation (see Fig. 2).

Install the entry ports only after proper surface preparation. Two types of entry ports are available for the injection process:

- Surface-mounted; or
- Socket-mounted.

Entry ports (also called port adapters) can be any tubelike device that provides for the successful transfer of the epoxy resin under pressure into the crack. Proprietary injection guns with special gasketed nozzles are also available for use without port adaptors. Port spacing is typically 8 in. (40 mm) on center, with increased spacing at wider cracks. Port spacing may also be a function of the thickness of the concrete element. Surface-mounted entry ports are normally adequate for most cracks, but socket-mounted ports are used when cracks are blocked, such as when calcified concrete is encountered. Entry ports can also be connected by a manifold system when simultaneous injection of multiple port locations is advantageous.

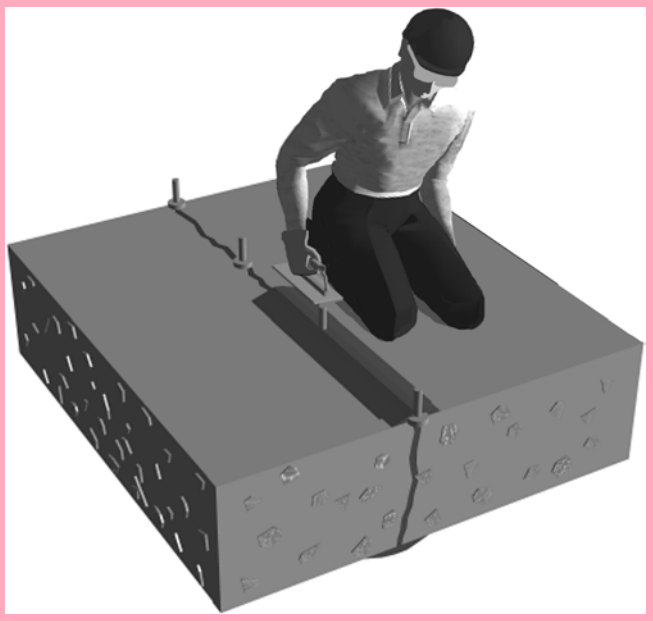


Fig. 3—Installation of seal cap.

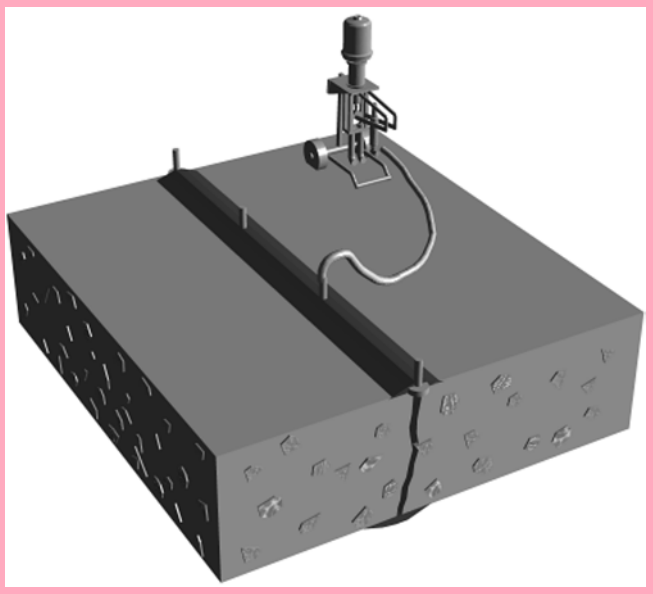


Fig. 4—Start injection at widest segment of the crack.

2. Install the cap seal (see Fig. 3).

Properly installed, the cap seal contains the epoxy as it is injected under pressure into the crack. When cracks penetrate completely through a section, cap seals perform best when installed on both sides of the cracked element, ensuring containment of the epoxy. Cap seals have been successfully installed using epoxies, polyesters, paraffin wax, and silicone caulk. The selection of the cap seal material should consider the following criteria, subject to the type of crack to be repaired:

- Non-sag consistency (for vertical or overhead);
- Moisture-tolerance;
- Working life; and
- Rigidity (modulus of elasticity).

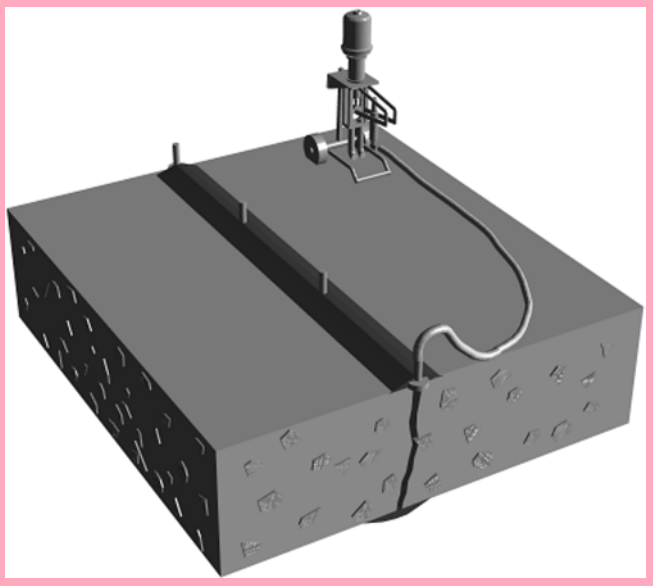


Fig. 5—Continue injection until refusal.

Concrete temperature changes after installation of the cap seal but prior to injection may cause the cap seal to crack. If this occurs, the cap seal must be repaired prior to resin injection.

Prior to proceeding with installation of the cap seal, mark the location of the widest portion of the crack and pay close attention to the following:

- Use only materials that haven't exceeded their shelf life;
- Accurate batching of components;
- Small batches to keep material fresh, and dissipate heat;
- Port spacing; and
- Consistent application of the material (1 in. wide x 3/16 in. thick [25 x 5 mm]) over the length of the crack.

3. Inject the epoxy (see Fig. 4 and 5).

For a successful epoxy injection, start with the proper batching and mixing of the epoxy components in strict accordance with the manufacturer's requirements. Prior to starting the actual injection, be sure that the cap seal and port adapter adhesive have properly cured so they can sustain the injection pressures.

Start the injection at the widest section of a horizontal crack. (Be sure to locate and mark these areas before installing the cap seal.) Vertical cracks are typically injected from the bottom up.

Continue the injection until refusal. If an adjacent port starts bleeding, cap the port being injected and continue injection at the furthest bleeding port. Hairline cracks are sometimes not well suited to "pumping to refusal." In those cases, try injecting the epoxy at increased pressure (approximately 200 psi [1.3 MPa]) for 5 min. Closer port spacing can also be considered. When injection into a port is complete, cap it immediately. Higher pressure can be used for injecting very narrow cracks or increasing the rate of injection. However, the use of higher pressure should be managed with care to prevent a blowout of the cap seal or ports.

4. Remove ports and cap seal (see Fig. 6).

Upon completion of the injection process, remove the ports and cap seal by heat, chipping, or grinding. If the appearance is not objectionable to the client, the cap seal can

Fig. 6—Remove seal cap.

be left in place. If complete removal is required for a subsequent application of a cosmetic coating, prepare the concrete surface by grinding.

How do I check the repair?

To ensure that the injection has been successful, quality assurance measures may include test cores or nondestructive evaluation (NDE).

1. Test cores:

- Core locations should be chosen to avoid cutting reinforcing steel, drilling cores in areas of high stress, or creating core holes below the waterline. The engineer should determine core locations when these types of conditions exist;
- Be sure the epoxy has set before extracting a core;
- Take cores (normally 2 in. [50 mm] diameter) to check that the penetration of the epoxy is adequate;
- Inspect the core visually to determine the penetration of the epoxy into the crack;
- Cores can be further tested for compressive and split tensile strength per ASTM C 42; and
- Subsequently, patch the removed-core area (after proper surface preparation) with an expansive cementitious or epoxy grout compatible with the existing substrate concrete and the surrounding environment.

2. Methods for nondestructive evaluation:

- Impact echo (IE);
- Ultrasonic pulse velocity (UPV); and
- Spectral analysis of surface waves (SASW).

Sources for additional information

ACI Committee 224, 1993, "Causes, Evaluation, and Repairs of Cracks in Concrete Structures (224.1R-93)," American Concrete Institute, Farmington Hills, Mich., 22 pp.

ACI Committee 364, 1994, "Guide for Evaluation of Concrete Structures Prior to Rehabilitation (364.1R-94)," American Concrete Institute, Farmington Hills, Mich., 22 pp.

ACI Committee 503, 1998, "Use of Epoxy Compounds with Concrete (ACI 503R-93 (Reapproved 1998))," American Concrete Institute, Farmington Hills, Mich., 28 pp.

ACI Committee 546, 1988, "Guide for Repair of Concrete Bridge Structures (546.1R-80 (Reapproved 1988))," American Concrete Institute, Farmington Hills, Mich., 20 pp.

ACI Committee 546, 1996, "Concrete Repair Guide (546R-96)," American Concrete Institute, Farmington Hills, Mich., 41 pp.

ASTM C 881-90, 1990, "Standard Specification for Epoxy-Resin Based Bonding Systems for Concrete," ASTM International, West Conshohocken, Pa., 5 pp.

Emmons, P. H., 1994, *Concrete Repair and Maintenance Illustrated*, R. S. Means Co., Inc., Kingston, Mass., 300 pp.

"Guide for Verifying Performance of Epoxy Injection of Concrete Cracks," 1998, *ICRI Technical Guideline* No. 03734.

Murray, M. A., 1987, "Epoxy Injection Welds Cracks Back Together," *Concrete Repair*, V. 3.

Promboon; Y.; Olsen, L. D.; and Lund, J., 2002, "Nondestructive Evaluation (NDE) Methods for Quality Assurance," *ICRI Bulletin*, V. 15, No. 1, Jan.-Feb., pp. 12-16.

"State-of-the-Art Adhesives for Concrete Construction," 1998, *Construction Canada Magazine*, May-June.

Trout, J. F., 1998, *Epoxy Injection in Construction*, The Aberdeen Group, 80 pp.

Public Mtg Goeller
9-1
RM

NOTICE OF PUBLIC MEETING

A public meeting will be held to on Tuesday, September, 14, 2021 at 10:00 a.m. in the County Board room at the Otter Tail County Government Services Center, 500 Fir Ave., Fergus Falls, MN to inform the public that Kyle Goeller, 45370 County Highway 19, Sebeka, MN, 56477 has applied to Otter Tail County and the Minnesota Pollution Control Agency (MPCA) to construct a manure waste management system. This lagoon will be located in the SW 1/4 of Section 4 in Blowers Township, Otter Tail County.

All interested persons are invited to participate in person, however, you have the opportunity to participate virtually by contacting the County Board Secretary at (218) 998-8051.

Date: August 13, 2021
By: Kyle Goeller
45370 County Highway 19
Sebeka, MN 56477

Review Messenger
9-1c

8-13-2021

Kyle Goeller
45370 County Highway 19
Sebeka MN, 56477

Dear

This letter is to inform you that I, Kyle Goeller, at 45370 County Highway 19 Sebeka MN, 56477 has applied to Otter Tail County and the Minnesota Pollution Control Agency (MPCA) to construct a manure waste management system.

This lagoon will be located in the SW ¼ of Section 4 in Blowers Township, Otter Tail County.

The applicant is proposing to construct a waste management system. The reason for the Public Meeting is to inform you of the construction of the lagoon.

You are receiving this notice because you own property within 5,000 feet of the proposed site. A public meeting will be held on Tuesday, September 14, 2021 at 10:00 a.m. in the County Board room at the Otter Tail County Government Services Center, 500 W. Fir Ave, Fergus Falls, MN. All interested persons are invited to participate in person, however, have the opportunity to participate virtually by contacting the County Board Secretary at (218) 998-8051.

Sincerely,

Kyle Goeller
218-539-0001

Otter Tail County
Hiring Request Form for New Positions

Hiring Request Information	
Department: Public Health	Date of Request: 7/14/2021
Title of Position Requested: PHN	FTE of Position Requested: 1
Number of Incumbents in Job Class: 16	Number of Vacancies in Job Class: 0
Number of Employees in Department: 36	Number of Vacancies in Department: 0

Hiring Criteria & Guidelines

Indicate whether or not position is mandated by statute, explain.
This position is not mandated by statute. Rather, OTCPH and HS have contracts with MCO's to provide local care coordination for enrolled members in public programs age 65+.

Estimate costs associated with this position, e.g. salary, benefits, advertising.

2021 C42 step 3 salary $61,610 + $9588 Benefits + $4620 PERA + $4682 FICA=~$80,500 total
+ advertising $400

Indicate revenue sources that fund this position, e.g. county, state, federal, private, grant.
UCare PMPM contracted rates would apply. Caseload shift from HS staff covering UCARE members would cover approximately $34,560 annually ($180 PMPM (x16 members) x 12 months). Additional growth in caseloads are reimbursed via this method, or unit based billing with BCBS, and would help to fund this care coordination position. Additional funds to support the position until caseload grows would be via PH cash reserves.

How is this workload currently being managed, e.g. temporary employees, redistribution, job share?
2 current PHN staff, 1.8 FTE's, staff are over recommended case load counts and overwhelmed. Recommended caseloads per 1.0 FTE are 70-100. Current membership in this program is 211. With in person visits resuming and considering drive time, 160 across 1.8 FTE's is more ideal. In addition, OTCHS staff are covering about 26 members. This FTE would have a caseload of 70 essentially right away. OTC aging population continues to increase, and caseload growth continues. Partial caseload was shifted to HS LTC unit lead to help, but other needs for this HS position have arisen.

What alternatives have you explored to filling this position?
P4H CHB staffing support was reviewed with Wilkin Co. Unfortunately, due to the amount of change in their county they are not able to take on some of the OTC MCO membership. Shifting some of the caseload to HS staff is also not possible currently. Outreach to BCBS to cap enrollment was also unsuccessful.

What are the consequences of not filling the position?
Staff burnout. Change in MCO contract to have care coordination provided for members outside of the public health staff.

Approval	
Department Head Signature: *Jody Lien*	Date: 7/14/2021
Division Director Signature: Nicole Hansen	Date: 08/11/2021
Budget Committee Recommendation (if applicable):	Date:
Internal Services Committee Recommendation:	Date:
County Board Action:	Date:

OTTER TAIL COUNTY HUMAN SERVICES
Program Area
Annual Report to Board for CY 2020

September 2021

Children's Mental Health Case Management

What We Do

Children's Mental Health (CMH) Case Management is a voluntary service provided to children & adolescents experiencing Severe Emotional Disturbance (SED), along with their family. The overall objective of services is to improve the child's functioning within home, school, & community settings, and to support families in managing symptoms & behaviors in the most inclusive & least restrictive environment possible. Case Managers meet with the child and/or parents on at least a monthly basis, provide services according to a plan that is developed through a cycle of needs assessment, referral & linkage to services, monitoring provision of services and evaluation of services.

Services provided by the Children's Mental Health Unit include:

- Establish working relationship that is person-centered & recovery oriented
- Assessment- Review Diagnostic Assessment, screenings, and complete Functional Assessment
- Planning- Work with family to develop Individual & Family Community Support Plan (IFCSP)
- Referral & linkage- Implement IFCSP, acquire resources, services, and natural supports
- Monitoring & Coordination- Review of goal progress & effectiveness of services, resources & supports.

What is Going Well

- Experienced Lead Worker in place that supports CMH Case Managers both at OTCHS & LMHC
- Well-established School-Based Mental Health services in place throughout the county
- Effective communication & coordination with Lakeland Mental Health Center who provides contracted Rule 79 Children's Mental Health Case Management services
- Expansion of Medical Assistance benefit set to include specialized autism services
- Reduced number of out-of-home placements due to mental health concerns

Opportunities for Growth

- Continued coordination of and access to Collaborative Intensive Bridging Services (CIBS) funded through the System of Care Grant
- Collaborate with and support MN-DHS in development of residential treatment options for children with high behavioral needs, including sexualized behavior
- Incorporate Family First Prevention Services Act (FFPSA) requirements including development of Juvenile Treatment Screening Team and Qualified Individual processes
- Need for continued coordination of services & supports between Child Protection & Probation services to best meet the needs of children & their families within the current system

Number of People served in 2020

- Approximately 110 individuals & their families were served through Children' Mental Health Case Management between OTCHS staff and Lakeland Mental Health Center contracted services.

Other information

- Current staff: Kim Kambel-Seufert/ Behavioral Health Unit Lead Social Worker, Amy Nettestad/ CMH Case Manager, Randi Resler/ CMH Case Manager.
- What are Severe Emotional Disturbances (SED)? For the purposes of determining eligibility for case management and community support services, a child with a severe emotional disturbance (mental illness) must meet at least one of the following criteria: Hospitalized within the past three years or at risk of being admitted to residential treatment; Currently receiving inpatient or residential treatment for an emotional disturbance; A mental health professional determines the child: Suffers from psychosis or clinical depression; Is at risk of harming themselves or others because of an emotional disturbance; Symptoms resulting from

abuse or trauma; significantly impaired functioning at home, in school or in the community as a result of an emotional disturbance; or a mental health professional determines that the disorder could last at least one year.

OTTER TAIL COUNTY HUMAN SERVICES
Program Area
Annual Report to Board for CY 2020

September 2021

Adult Mental Health Case Management

What We Do

Adult Mental Health (AMH) programs support the overall objective of helping people with mental health issues live as independently as possible, contribute to their community, and experience fullest quality of life. The goal is to provide access to the right level of treatment, at the right time and reduce the need for or duration of psychiatric hospitalization. Services are provided ongoing to help people access support services to manage their mental health symptoms over time.

Services provided by the Adult Mental Health Unit include:

- Rule 79 Targeted Case Management (funded by Minnesota Medical Assistance)
- Pre-petition Screening for Civil Commitment
- Develop & coordinate Civil Commitment petitions
- Locate & secure services/placement options
- Monitor provision of services & file required reports to court

What is Going Well

- Experienced & knowledgeable staff providing these services & work well as a team
- Good working relationships with community providers and other systems
- Interest & willingness to participate in system-improvement efforts through workgroups & teams

Opportunities for Growth

- Continue education & training on system changes & variables; maintain knowledge base of available services, providers, eligibility criteria, funding streams and referral processes.
- Develop imbedded Social Work position within the OTC Detention Facility (currently in progress)
- Continue work with OTC Attorneys Office toward diverting Rule 20 competency orders as appropriate through use of available community services
- Work with community partners toward development of Community Capacity Restoration services

Number of People served in 2020

- AMH Case Management was provided to 186 individuals through OTC Human Services and Lakeland Mental Health Center contracted services.
- OTC AMH Case Management staff completed Pre-petition Screenings on 42 individuals, with 26 petitions for civil commitment completed.
- Case Management services were provided to 5 individuals civilly committed as Mentally Ill & Dangerous (MI&D)
- Case Management services were provided to 22 individuals civilly committed as Sexually Psychopathic Personality/Sexually Dangerous Person. (SPP/SDP)

Other information

- Current staff: Kim Kambel-Seufert/ Behavioral Health Unit Lead Social Worker, Kelsey Shirkey/ AMH Case Manager, Michelle Foreman/ AMH Case Manager.

Otter Tail County Adult Mental Health Local Advisory Council

Report to the Otter Tail County Board of Commissioners, September 2021

Local
Advisory
Council on Mental Health

Serving Adults in Otter Tail County

Mental Health Advisory Council
Mission Statement

Otter Tail County Mental Health

Local Advisory Council

"It shall be our mission to advocate for a full array of accessible services including education, prevention, intervention, coordination and treatment to all Otter Tail County residents with mental illness and mental health needs. We shall review and evaluate existing services within the county; advise County Commissioners about policies, programs and unmet needs; and promote family and community involvement in the delivery of services."

Reporting Period: 2021

(Otter Tail County Adult Mental Health LAC met from 11:30am-1pm the 4th Wednesday of every odd number month mostly by zoom and hybrid options started in July 2021)

Speakers on a wide variety of topics offered educational presentations at LAC meeting:
*Due to COVID no speakers have been represented at the LAC meetings in 2021

Reviewed Subjects that the Otter Tail County Adult Mental Health LAC note as issues and actions from OTC LAC:

1. Mental Health Public Education – 2021 Action: Our LAC started 2021 by distributing our LAC designed masks that says mental health matters with identifying cards with crisis number from our local crisis line attached. These baskets were distributed throughout the county. The baskets also contained other mental health support materials. These baskets were delivered as of January 1st as we were unable to do so in didn't do it in October 2020 due to navigating COVID. Our masks were a big hit so we did a second campaign May 1st for May Day and May is Mental Health Month.

2. Housing – 2021 Issue: obtaining stable housing continues to be an issue. Poor credit, rental and criminal history continue to be barriers for housing. This leads to increased homelessness and the ability for a person to obtain stability. Due to COVID and limited face to face meetings with housing support service it has been more challenging to get the assistance in a timely manner, if at all. Action: Otter Tail County in collaboration with the Fergus Falls HRA has been awarded MN Housing Finance Agency bonding funds to build a Permanent Supportive Housing facility which will assist in addressing this issue in the coming years. Productive Alternatives currently operates Perham 180 housing program and has a housing support staff person.

3. Jail – 2021 Issue: There continue to be concerns about inmates obtaining prescribed medications and services for mental health needs while in our Otter Tail County Jail. Action: Otter Tail County Human Services is working with the Otter Tail County Sheriff's Department and the jail to have a social worker/case manager who will be located primarily at the jail. This person will work with people while they are in the jail and upon release to determine service needs and assistance to access needed assessments and services.

4. LAC family and consumer membership increase – Action: We have a strong family and consumer membership census in 2021. Due to COVID we are meeting every other month by zoom. In July we held a hybrid meeting. Due to the increase in COVID cases in August we will return to zoom meetings for September and possibly the rest of the year.

5. Access to Mental Health services/Mental Health Urgent Care or Emergency Department – 2021 Issue: Due to COVID we have seen a continued increase of creative opportunities to deliver services such as the increase in telehealth. This is a wonderful option though does not fit all. We do note that due to the lack of face-to-face visits some of our most vulnerable populations continue to keep falling through the cracks. Action: There have been several meetings with Sanford, LRH, Tri-County, NAMI MN, Dr. Janet Andrews, OTCHS, LMHC, CSU and other interested parties on a mental health urgent care or ER. We broke down to a smaller work group and are now having "coffee" meetings starting with Fergus Falls Mayor Ben Schierer, Kile Bergren, Kent Mattson, Steve Skauge, Mobile MH Crisis Team and CSU to best find the "pain points" and interest to pursue this endeavor.

6. Community Paramedics: Issue: loss of the Community Paramedics. This has reduced the ability to assess persons with mental health needs in the community and attend to the co-morbid issues they may have such as diabetes, medication coordination, communication between providers and person served. Action: none at this time

7. Transportation – 2021 Issue: People struggling with Mental Health struggle with organization and financial issues. 2020 offered great relief for free rides with Otter Tail Express. This decreased the financial burden to individuals. Calling in advance to get a ride and remembering that this ride is scheduled is still a struggle for many. Action: 2020 free rides was greatly utilized and relief for many.

8. Protected Transport – 2021 Issue: protected transport by law enforcement has changed due to the change in MN State Statute 609. This has caused some concern on how providers can safely serve our community when it goes beyond the walls of our facilities. Action: meetings with providers and law enforcement are starting. Recommend support from Commissioners for assistance in building a protected transport system to address safe transport needs in our county.

9. Pet Board and Care: 2021 Issue: Newly identified: Care needed for pets of people who may need treatment. People may not seek residential treatment due to not having a place or funds for placement for their pets. Action: OTC LAC is working with Otter Tail County Humane Society via a small workgroup to address care planning tools for case managers to use with their clients. This small workgroup is also working on possible foster options and legal support and funding to support this option.

10. LGBTQ Supports: 2021 Issue: Newly identified: Need for community supports for those who identify as LGBTQ. Action: OTC LAC is working on identifying culture specific mental health supports. We have identified the Peaceful Mind provider that is working on support groups for those who identify as LGBTQ. We support the recent Pride efforts in Fergus Falls.

Recommendations to the Otter Tail County Commissioners

The Otter Tail County Adult Mental Health Local Advisory Committee recommends the following:

1. 2021: Medication/Therapeutic Coordination in our Jail: We recommend that there is continued medication and therapeutic coordination with the community providers such as mental health centers and primary care. We support the work that has been done to implement a jail social worker/case manager.

2. 2021 Housing: We support efforts for transitional housing in Otter Tail County to assist the homelessness issue in our county.
   Update: Otter Tail County Human Services and Fergus Falls HRA were awarded bonding funding for permanent supportive housing.

3. Mental Health Emergency Department: We continue to support efforts in investigating need for a dedicated mental health emergency department in our county emergency rooms which is dedicated to the safety, staff training, medication protocol and resources to best serve this population. We support the efforts of writing a plan to be ready to apply for funding as RFP's become available.
   Update: Please note: In 2019 we submitted to the commissioners an idea for Behavioral Health Urgent Care in a handout. The county brought this forward to LRH after our 2019 submission to the county. 2020-2021 conversations with the county, mental health providers and other stakeholders took place. We have transitioned to small group conversations to include Fergus Falls Mayor, CEO of LRH and FFPD to start. A meeting with Ohio's mental health emergency department was held September 2nd in order to learn about their model.

4. Psychiatry: We recommend continued active recruitment and to retain psychiatric providers for our whole county.
   Update: New providers have started at LRH. Even with these new providers we support the continued effort in obtaining psychiatric providers for our area.

5. We recommend community development of mental health staff including rehabilitation workers, mental health practitioners, mental health professionals, and psychiatry.

Uniting with our educational systems to create and promote educational tracks to develop these areas of need. Including mental health provider assistance and input. **Update: No known movement in this area**

6. We recommend continued review of transportation options for our county so that people with mental health challenges may attend our social club (A Place to Belong) and obtain the resources they need to maintain wellness.

7. We also recommend continued work between Otter Tail County, MH providers and law enforcement to meet the needs of those who need protected transport to the hospital or other facilities in an emergency.
8. 2021 We recommend bringing back the Community Paramedics Program to support those with mental health needs and physical needs.

Respectfully,
Otter Tail County Adult Local Advisory Council
September 14, 2021

HoustonEngineering Inc.

Client Memorandum

To: Kevin Fellbaum, PE
Parks and Trails Director

From: Jeff Langan, PE
Project Manager
Houston Engineering, Inc.

Subject: Construction Engineering Services - Amendment to Middle Segment

Date: September 6th, 2021

Project: County Project No. 4002-401 - Silent Lakes Segment

AMENDMENT TO THE CURRENT ENGINEERING SERVICES

GENERAL SUMMARY OF WORK

Amendment No. 4 Scope and Fee Request is generally an independent scope and fee from the design engineering phase. However, considering it is related to the project we will relate it as an amendment to the existing agreement. The fee will be presented as a standalone fee and will include the following general tasks:

1) Bidding, award, bid tabs/abstract, and contract agreement process assistance and execution
2) Construction observation
3) Construction Staking
    a. Field construction staking
    b. Construction limits staking (RW limits)
    c. Preparation of surfaces for Contractor equipment control
    d. As constructed surfaces for embankment pay quantities and excavation verification
    e. As constructed survey and record drawings of culverts, changes in design geometrics, rest stop area features.
4) Construction Administration
    a. Contractor Meetings
    b. Partial pay estimate quantities
        i. County to input into OneOffice and issue payments to Contractor
    c. Shop drawing review
    d. Utility relocation coordination
    e. Schedule of materials control administration and manage data
    f. County staff update meetings

g. Property owner interaction and communications
h. Final project meetings, punch list items, and coordination of final engineer certification

5) Materials Testing – management and coordination of work
6) 2021 Fee Schedule is attached. Considering the proposed work will primarily be completed in 2022, the budget will be understood to be adjusted based on the 2022 Fee Schedule. This fee schedule is not currently available.

SCOPE AND FEE SUMMARY

The attached scope and fee (Attachment A) provides a task level summary of work, labor category, hours and rate breakdown by labor category, and total cost associated by task and overall project. Due to the unpredictable nature of time and materials related to a construction project, the proposed work is provided on a time and materials basis with an estimated total fee for budgeting purposes. We are committed to using the project funds and our HEI staff time wisely and efficiently, and in the best interest of the Project and the County.

The total cost for construction engineering is based on the following assumptions:

1) Full time field observation and associated tasks
    a. Assume full time equivalent 10 weeks
2) The following schedule will be basis for observation hours
    a. Several of these tasks will be concurrent
    b. Grading for trail and staging areas, turf establishment, and lighting to be completed 8 weeks
    c. Base to be completed in 1 week
    d. Bituminous to be completed in 1 week
    e. Signing, striping, pavement markings 1 week
    f. Final project cleanup and maintenance 2 weeks

We greatly appreciate your time and consideration in your review of this scope and fee request. I am happy to discuss this proposed scope and fee anytime. Thanks for your continued confidence in us to work with you in completing this great project.

Jeffery J. Langan, Senior Project Manager\

Date: 09/06/2021

Accepted by:

Kevin Fellbaum, P.E.
Parks and Trails Director

Date

Attachment A

ESTIMATED BUDGET

County Project Number 4002-401, Silent Lake Segment ProjectTasks

HOUSTON engineering, inc

Date Prepared: 9/6/2021
Date Revised:
Prepared by: jjl
Checked by: jjl

Total Estimated Labor	**$161,486**
Total Estimated Expenses	**$24,617**
Total Estimated Budget	**$186,103**

TASK DESCRIPTION	Subconsulting - Materials	Senior Project Manager	Project Engineer	Sr. Technician	Technician II	2-person Field Crew	Project Mgr - Environmental	Designer I	Admin Assist	Total Hours	Total Dollars
Total Labor Hours ===>	16,000	84	82	64	582	140	16	48	24	17,040	
Total Labor Dollars ===>	$16,000	$18,060	$14,678	$8,256	$67,512	$26,740	$3,040	$5,472	$1,728	$161,486	
Silent Lakes Segment 4002-401 - Perham to Pelican Rapids Regional Trail	$16,000	84	82	64	582	140	16	48	24	1,080	$161,486
Objective 5 - Construction Engineering	$16,000	84	82	64	582	140	16	48	24	1040	$161,486
Bidding	0	18	8	0	6	0	0	0	8	40	$6,574
Advertisement for Bids		6									
Bidder Questions / Addendums		4	6								
Bid review, tabulation, abstract, notice of award, and agreement execution		8	2		6				8		
Construction Administration	$16,000	54	36	34	182	0	0	18	16	340	$62,756
Contract Documentation (change orders, diaries, material info)					50						
Shop drawing review		4	16		2			10			
Utility relocation coordination and communications			10		20			10			
Pre-construction preparation and meeting		16	4		24			4	10		
Quantity calculations for monthly partial pay requests (5 requests)			10		50						
Coordination and managing materials testing		6			40						
Subconsultant materials testing	$16,000	4									
Weekly construction meetings (RPR and Contractor)		4			12						
Coordination with property owners during construction		12	12	20	4						
Final project processing		12		14	32			4	6		
Staking & Observation	0	12	38	30	394	140	16	30	0	660	$92,156
Field observation and documentation		8		20	250		16				
Construction staking				10	10	140					
Preparation of "equipment grade control" surfaces, and staking files			12		4			30			
As-constructed Survey			10		60						
Record Drawings		4	16		70						

Total Estimated Labor	**$161,486**
Total Estimated Expenses	**$24,617**
Total Estimated Cost	**$186,103**

HOUSTON engineering, inc.

2021 FEE SCHEDULE

The following is a schedule of hourly rates and charges for engineering and surveying services offered by Houston Engineering, Inc. These rates are subject to a modest increase on January 1st of each year (typically no more than 5%).

Category	2021 Rates
Engineer I	$129
Engineer II	142
Engineer III	161
Project Engineer	179
Project Manager	196
Sr Project Manager	215
Scientist I	$129
Scientist II	142
Scientist III	162
Project Mgr – Environmental	190
Sr Project Mgr – Environmental	215
Hydrogeologist I	$129
Hydrogeologist II	143
Hydrogeologist III	162
Sr Hydrogeologist	202
Construction Engineer	$148
Sr Construction Engineer	175
Land Surveyor I	$129
Land Surveyor II	148
Land Surveyor III	163
Project Mgr – Land Surveying	175
Sr Project Manager – Land Surveying	196
Survey Crews:	
1-Person Crew (+ equipment)	$157
2-Person Crew (+ equipment)	191
3-Person Crew (+ equipment)	237
4-Person Crew (+ equipment)	265
Landscape Architect	$137
CAD Technician I	$88
CAD Technician II	101
CAD Supervisor	116
Designer I	$135
Designer II	145
Sr Designer	156
Engineering Specialist	165
Technician Intern (all areas)	$88
Technician I	$101
Technician II	116
Sr Technician	129

Category	2021 Rates
Right-of-Way Technician	$118
Right-of-Way Specialist	196
GIS Analyst I	$96
GIS Analyst II	112
GIS Analyst III	129
Sr GIS Analyst	148
Project Manager – GIS	163
Sr Project Manager – GIS	190
Software Engineer I	$112
Software Engineer II	129
Software Engineer III	148
Sr Software Engineer	162
Computer Technician	$156
Communications Specialist	$88
Sr Communications Specialist	98
Administrative Assistant	$83
Sr Administrative Assistant	88
Planner	$142
Senior Planner	196
Legislative/Grant Specialist	$182
Expert Witness	236
Drone Pilot	$137
Drone Visual Observer	54

Chargeable Expenses	Rate
Subsistence	Actual Cost
Mileage-Vehicles:	
2-Wheel Drive	IRS Standard Rate
4-Wheel Drive	IRS Standard Rate + $0.20/Mile
GPS Equipment	$25/hour/unit
Robotic Total Station	$40/hour
ATV/Snowmobile/Boat	$15/hour
ATV with Tracks	$30/hour
Hydrone RCV	$50/hour
Small UAS/Large UAS	$25/hour / $50/hour
Delivery, Postage, Printing	Actual Cost
Surveying Materials, Special Equipment, and other Materials required	Actual Cost
Subconsultants	Actual Cost + 10%

BRAUN INTERTEC
The Science You Build On.

Braun Intertec Corporation
526 10th Street NE, Suite 300
P.O. Box 485
West Fargo, ND 58078

Phone: 701.232.8701
Fax: 701.232.7817
Web: braunintertec.com

August 30, 2021 Proposal QTB144836

Matt Yavarow, PE
Otter Tail County Highway Department
505 South Court Street, Suite 1
Fergus Falls, Minnesota 56537

Re: Proposal for Geotechnical Evaluation
Bridge 92516 Replacement, SAP 056-667-043
North of Leaf River Road
Northwest of Deer Creek, Minnesota

Dear Mr. Yavarow:

Braun Intertec Corporation respectfully submits this proposal to complete a geotechnical evaluation for the proposed Bridge 92516 Replacement (SAP 056-667-043) project located on County State Aid Highway (CSAH) 67, northwest of Deer Creek, Minnesota.

Project Information

Per the email provided by Ross Eberle, PE with Interstate Engineering, dated August 17, 2021, we understand the proposed project will include replacing the existing corrugated metal pipe structure. The existing structure will be replaced with either a reinforced concrete box culvert (RCBC) or other suitable structure. The new box culvert will be placed along the same alignment as the existing one and there are no grade raises planned for the project. It is our understanding the Minnesota Department of Natural Resources is pushing agencies to countersink new drainage structures that have bottoms such as box culverts or pipe. We anticipate the box culvert will be installed using this method with an invert elevation approximately 1 foot below the bottom of river channel in order to silt in and match the existing river bottom.

At the time of this proposal, pavement recommendations for CSAH 67 are not being requested and our geotechnical evaluation will be completed for the new culvert only.

Purpose

The purpose of our geotechnical evaluation will be to characterize subsurface geologic conditions at selected exploration locations, evaluate their impact on the project, and provide geotechnical recommendations for the design and construction of the proposed culvert.

Scope of Services

We propose the following tasks to help achieve the stated purpose. If we encounter unfavorable or unforeseen conditions during the completion of our tasks that lead us to recommend an expanded scope of services, we will contact you to discuss the conditions before resuming our services.

Site Access

Based on aerial photographs, it appears that the site is accessible to a truck-mounted drill rig. We assume there will be no cause for delays in accessing the exploration locations. We are not including tree clearing, debris or obstruction removal, or grading of navigable paths within our scope of services.

Our drilling activities may also impact the vegetation and may rut the surface to access boring locations. Restoration of vegetation and turf is not part of our scope of services.

Staking

We will stake the soil borings on either side of the existing culvert, one in the northwest and one in the southeast corner. Depending on access requirements, ground conditions or potential utility conflicts, our field crew may alter the exploration locations from those proposed to facilitate accessibility.

Upon completion of the borings, we will leave the boring locations staked with a wooden lath for Interstate Engineering to survey at a later date.

Utility Clearance

Prior to drilling or excavating, we will contact Gopher State One Call and arrange for notification of the appropriate utility vendors to mark and clear the exploration locations of public underground utilities. You, or your authorized representative, are responsible to notify us before we begin our work of the presence and location of any underground objects or private utilities that are not the responsibility of public agencies.

Traffic Control

Based on conversation with Interstate Engineering, this portion of CSAH 67 has hilly terrain therefore we have assumed it will be necessary to provide flagging personnel to safely complete the work. We have budgeted for flaggers and advanced warning signs.

Penetration Test Borings

Based on conversation with Interstate Engineering, we propose to perform two (2) standard penetration test (SPT) borings for the project. The two culvert borings will be extended to a depth of 40 feet. We will perform standard penetration tests at 2 1/2-foot vertical intervals to a depth of about 16 feet, and at 5-foot intervals at greater depths. The total planned drilling footage for the project is 80 feet.

We have also made provisions to obtain two (2) thin-walled tube samples of the soils encountered for laboratory testing.

If the intended boring depths do not extend through unsuitable material, we will extend the borings at least 5 feet into suitable material at greater depths. The additional information will help evaluate such

issues as excavation depth, consolidation settlement, and foundation alternatives, among others. If we identify a need for deeper (or additional) borings, we will contact you prior to increasing our total estimated drilled footage and submit a Change Order summarizing the anticipated additional effort and the associated cost, for your review and authorization.

Groundwater Measurements

If the borings encounter groundwater during or immediately after drilling of each boring, we will record the observed depth on the boring logs. We will leave the first borehole open until we complete our fieldwork and perform groundwater level rechecks prior to leaving the site.

MDH Notification

We are planning for the borings to be 25 feet or deeper. Therefore, the Minnesota Statutes requires us to both (1) submit to the Minnesota Department of Health (MDH) by mail a "Sealing Notification Form", and (2) submit a Sealing Record after our completion of the borings. The Sealing Notification Form requires a signature of the current property owner, or their agent, and we need to submit this to the MDH prior to our mobilization to the site. We are attaching a copy of the Sealing Notification Form at the end of this proposal for your signature. Our proposal includes the fees for the MDH Sealing Notification and the Sealing Record.

Borehole Abandonment

We will backfill our exploration locations immediately after completing the drilling at each location with the exception of the first boring. Minnesota Statutes require sealing temporary borings that are 15 feet deep or deeper. Based on our proposed subsurface characterization depths, we will seal 80 linear feet of borehole with grout.

The attached Project Proposal shows the fees associated with the sealing.

Upon backfilling or sealing exploration locations, we will fill holes in pavements with a temporary patch.

Sealing boreholes with grout will prevent us from disposing of auger boring cuttings in the completed boreholes. Unless you direct us otherwise, we intend to thin-spread the cuttings around the boreholes.

Over time, subsidence of borehole backfill may occur, requiring releveling surface grades or replacing bituminous patches. We are not assuming responsibility for re-leveling or re-patching after we complete our fieldwork.

Sample Review and Laboratory Testing

We will return recovered samples to our laboratory, where a geotechnical engineer will visually classify and log them. To help classify the materials encountered and estimate the engineering properties necessary to our analyses, we have budgeted to perform the following laboratory tests.

Table 1. Laboratory Tests

Test Name	Number of Tests	ASTM Test Method	Purpose
Moisture content	20	D2216	Soil classification, moisture condition, and engineering properties
Moisture content and unit weight	2		Wet and dry unit weight for use in settlement and bearing capacity analyses
Atterberg limits	2	D4318	Soil plasticity, shrink/swell potential, engineering parameters, suitability of soils for reuse
Sieve-hydrometer analysis	2	D422	Soil classification using sieves for gravel- and sand-sized fractions and hydrometer for silt- and clay-sized fractions
Unconfined compression	2	D2166	Evaluate undrained shear strength for bearing capacity, settlement, and lateral pressure evaluations

We will determine the actual laboratory testing for the project depending on the encountered subsurface conditions. If we identify a laboratory testing program that exceeds the budget included in this proposal but provides additional value to the project, we will request authorization for the additional fees through a Change Order.

Engineering Analyses

We will use data obtained from the subsurface exploration and laboratory tests to evaluate the subsurface profile and groundwater conditions, and to perform engineering analyses related to structure performance.

Report

We will prepare a report including:

- A CAD sketch showing the exploration locations
- Logs of the boreholes describing the materials encountered and presenting the results of our groundwater measurements and laboratory tests
- A summary of the subsurface profile and groundwater conditions.
- Discussion identifying the subsurface conditions that will impact design and construction
- Discussion regarding the reuse of on-site materials during construction
- Recommendations for preparing structure subgrades, and the selection, placement and compaction of fill
- Recommendations for the design and construction of the RCBC or pipe-arch

We will only submit an electronic copy of our report to you unless you request otherwise. At your request, we can also send the report to additional project team members.

Schedule

We anticipate performing our work according to the following schedule.

- Drill rig mobilization – within about 3 to 4 weeks following receipt of written authorization
- Field exploration – 1 day on site to complete the work
- Classification and laboratory testing – within 1 to 2 weeks after completion of field exploration
- Preliminary results – within 3 to 5 days after completion of field exploration
- Final report submittal – within 2 weeks of completion of field exploration

If we cannot complete our proposed scope of services according to this schedule due to circumstances beyond our control, we may need to revise this proposal prior to completing the remaining tasks.

Fees

We will furnish the services described in this proposal on a time and materials basis for an estimated fee of $8,998, which includes up to 1 hour of post deliverable consulting time. Additional requests for meetings, consulting or modifications to the report will be billed at a rate of $180 per hour. We are attaching a tabulation showing hourly and/or unit rates associated with our proposed scope of services. Please note that our drilling/field services were budgeted to occur within our normal work hours of 7:00 a.m. to 4:00 p.m., Monday through Friday. If conditions occur that require us to work outside of these hours, we will request additional fees to cover our additional overtime costs.

Our work may extend over several invoicing periods. As such, we will submit partial progress invoices for work we perform during each invoicing period.

Additional Services

Our fees do not include potential costs due to the need for towing, stand-by time or work that is not included in the above Scope of Services. We will charge costs for towing (if necessary) at a rate of 1.15 times the actual cost. For stand-by time (defined as time spent by our field crew due to circumstances that are beyond the control of our field crew or its equipment, or beyond the scope of services indicated above), we will charge a rate of $294 per hour.

General Remarks

We will be happy to meet with you to discuss our proposed scope of services further and clarify the various scope components.

We appreciate the opportunity to present this proposal to you. Please sign and return a copy to us in its entirety.

We based the proposed fee on the scope of services described and the assumptions that you will authorize our services within 30 days and that others will not delay us beyond our proposed schedule.

We include the Braun Intertec General Conditions, which provide additional terms and are a part of our agreement.

To have questions answered or schedule a time to meet and discuss our approach to this project further, please contact Jennifer McKinnon at 701.205.6246.

Sincerely,

BRAUN INTERTEC CORPORATION

Jennifer McKinnon, PE
Project Engineer

Ezra Ballinger, PE
Business Unit Leader, Senior Engineer

Attachments:
Project Proposal
MDH Notification Form
General Conditions (1/1/18)

c: Chuck Grotte, PE – Otter Tail County Highway Department
Ross Eberle, PE – Interstate Engineering

The proposal is accepted, and you are authorized to proceed.

Otter Tail County Highway Department
Authorizer's Firm

Authorizer's Signature

Charles H. Grotte, P.E.
Authorizer's Name (please print or type)

County Engineer
Authorizer's Title

September 14, 2021
Date

BRAUN INTERTEC
The Science You Build On.

Project Proposal

QTB144836

Bridge 92516 Replacement, SAP 056-667-043

Client:	Work Site Address:	Service Description:
Otter Tail County Highway Dept. Charles Grotte 505 S Court St, Suite 1 Fergus Falls, MN 56537 (218) 998-8470	CSAH 67 North of Leaf River Road NW of Deer Creek MN	Geotechnical Evaluation

	Description	Quantity	Units	Unit Price	Extension
Phase 1	**Geotechnical Evaluation**				
Activity 1.1	**Drilling Services**				**$5,553.00**
9000	Truck Mounted Drilling Services, per hour	10.00	Each	294.00	$2,940.00
205	Site layout and utility clearance	1.00	Hour	107.00	$107.00
371	CADD/Graphics Operator	1.00	Hour	108.00	$108.00
9730	Grout with bentonite, materials per foot	80.00	Each	2.00	$160.00
1052	Warning signs	1.00	Each	361.00	$361.00
1022	Thin-walled sample tubes (ASTM D 15 87), each	2.00	Each	29.00	$58.00
306	Flaggers (2 person crew)	10.00	Hour	140.00	$1,400.00
1073	Sealing Records, each	1.00	Each	139.00	$139.00
1861	CMT Trip Charge	2.00	Each	140.00	$280.00
Activity 1.2	**Geotechnical Soil Tests**				**$1,264.00**
1152	Moisture content, per sample	20.00	Each	21.00	$420.00
1154	Density of Soil Specimens, per sample	2.00	Each	35.00	$70.00
1156	Atterberg Limits LL and PL, Single-Point, per sample	2.00	Each	111.00	$222.00
1186	Unconfined Compression, per sample	2.00	Each	96.00	$192.00
1172	Hydrometer - Sieve Analysis, per sample	2.00	Each	180.00	$360.00
Activity 1.3	**Evaluation/Analysis/Reports**				**$2,181.00**
138	Project Assistant	2.00	Hour	88.00	$176.00
126	Project Engineer	10.00	Hour	149.00	$1,490.00
128	Senior Engineer	2.00	Hour	180.00	$360.00
125	Project Control Specialist	1.00	Hour	155.00	$155.00
				Phase 1 Total:	**$8,998.00**

Proposal Total:	**$8,998.00**

BRAUN INTERTEC
The Science You Build On.

Braun Intertec Corporation
526 10th Street NE, Suite 300
P.O. Box 485
West Fargo, ND 58078

Phone: 701.232.8701
Fax: 701.232.7817
Web: braunintertec.com

August 30, 2021

Proposal QTB144836

Matt Yavarow, PE
Otter Tail County Highway Department
505 South Court Street, Suite 1
Fergus Falls, MN 56537

Re: Minnesota Department of Health Well Sealing Notification Form
Bridge 92516 Replacement, SAP 056-667-043
North of Leaf River Road
Northwest of Deer Creek, Minnesota

Dear Mr. Yavarow:

Please have the property owner, representative or agent complete the "Well Owner" section only of the Minnesota Department of Health (MDH) Well Sealing Notification form below and return it to Braun Intertec along with the signed proposal. We will complete the remainder of the form and submit it to the MDH.

NOTE: *This form must be completed and returned to Braun Intertec prior to us scheduling the mobilization of our equipment and crews to the project site.*

WELL SEALING NOTIFICATION-WELL SEALING NOTIFICATION IS VALID FOR 18 MONTHS
Send notification form and payment (check, money order, or credit card information) to:
Minnesota Department of Health, Well Management Section, P.O. Box 64502, St. Paul, Minnesota 55164-0502.
ATTN: CASHIER
Well Management Section Fax Number: (651) 201-4599.

Minnesota Unique Well No. or W-series No. (Leave blank if not known) | **Minnesota Well and Boring Sealing No.** H

Card Type: [ ] Visa [ ] Mastercard [ ] Discover Exp. Date
Print Cardholder Name
Card Number 3-Digit Security Code (Printed on back side of card.)
Authorized Signature

[ ] Well Sealing Notification (269)
Check Well Type: [ ] Water-Supply Well [ ] Monitoring Well [ ] Other
Check Box If: [ ] Well is Multiple Cased [ ] Larger than 8-inch Inside Diameter

WELL LOCATION	County	Township Name	Township No.	Range No.	Section No.	Fraction (sm. → lg.) ¼ ¼ ¼		
	Well Location Address	City	State	Zip Code	Est. Depth	Casing Diameter		
WELL OWNER	Well Owner Name (Print)					Daytime Telephone Number ( )		
	Well Owner Street Address	City	State	Zip Code				
	Well Owner Signature				Date			
WELL CONTRACTOR	Well Contractor Company Name (Print)	Certified Rep. Signature	Date	Company License No.				

Failure to provide proper identification and fee prior to the beginning of well sealing is a violation of Minnesota Statutes, Chapter 1031, and may result in the assessment of an administrative penalty. Notification is not required to seal a boring.

General Conditions

BRAUN INTERTEC

Section 1: Agreement

1.1 Our agreement with you consists of these General Conditions and the accompanying written proposal or authorization ("Agreement"). This Agreement is the entire agreement between you and us. It supersedes prior agreements. It may be modified only in a writing signed by us, making specific reference to the provision modified.

1.2 The words "you," "we," "us," and "our" include officers, employees, and subcontractors.

1.3 In the event you use a purchase order or other documentation to authorize our scope of work ("Services"), any conflicting or additional terms are not part of this Agreement. Directing us to start work prior to execution of this Agreement constitutes your acceptance. If, however, mutually acceptable terms cannot be established, we have the right to terminate this Agreement without liability to you or others, and you will compensate us for fees earned and expenses incurred up to the time of termination.

Section 2: Our Responsibilities

2.1 We will provide Services specifically described in this Agreement. You agree that we are not responsible for services that are not expressly included in this Agreement. Unless otherwise agreed in writing, our findings, opinions, and recommendations will be provided to you in writing. You agree not to rely on oral findings, opinions, or recommendations without our written approval.

2.2 In performing our professional services, we will use that degree of care and skill ordinarily exercised under similar circumstances by reputable members of our profession practicing in the same locality. If you direct us to deviate from our recommended procedures, you agree to hold us harmless from claims, damages, and expenses arising out of your direction. If during the one year period following completion of Services it is determined that the above standards have not been met and you have promptly notified us in writing of such failure, we will perform, at our cost, such corrective services as may be necessary, within the original scope in this Agreement, to remedy such deficiency. Remedies set forth in this section constitute your sole and exclusive recourse with respect to the performance or quality of Services.

2.3 We will reference our field observations and sampling to available reference points, but we will not survey, set, or check the accuracy of those points unless we accept that duty in writing. Locations of field observations or sampling described in our report or shown on our sketches are based on information provided by others or estimates made by our personnel. You agree that such dimensions, depths, or elevations are approximations unless specifically stated otherwise in the report. You accept the inherent risk that samples or observations may not be representative of things not sampled or seen and further that site conditions may vary over distance or change over time.

2.4 Our duties do not include supervising or directing your representatives or contractors or commenting on, overseeing, or providing the means and methods of their services unless expressly set forth in this Agreement. We will not be responsible for the failure of your contractors, and the providing of Services will not relieve others of their responsibilities to you or to others.

2.5 We will provide a health and safety program for our employees, but we will not be responsible for contractor, owner, project, or site health or safety.

2.6 You will provide, at no cost to us, appropriate site safety measures as to work areas to be observed or inspected by us. Our employees are authorized by you to refuse to work under conditions that may be unsafe.

2.7 Unless a fixed fee is indicated, our price is an estimate of our project costs and expenses based on information available to us and our experience and knowledge. Such estimates are an exercise of our professional judgment and are not guaranteed or warranted. Actual costs may vary. You should allow a contingency in addition to estimated costs.

Section 3: Your Responsibilities

3.1 You will provide us with prior environmental, geotechnical and other reports, specifications, plans, and information to which you have access about the site. You agree to provide us with all plans, changes in plans, and new information as to site conditions until we have completed Services.

3.2 You will provide access to the site. In the performance of Services some site damage is normal even when due care is exercised. We will use reasonable care to minimize damage to the site. We have not included the cost of restoration of damage in the estimated charges.

3.3 You agree to provide us, in a timely manner, with information that you have regarding buried objects at the site. We will not be responsible for locating buried objects at the site. *You agree to hold us harmless, defend, and indemnify us from claims, damages, losses, penalties and expenses (including attorney fees) involving buried objects that were not properly marked or identified or of which you had knowledge but did not timely call to our attention or correctly show on the plans you or others furnished to us.*

3.4 You will notify us of any knowledge or suspicion of the presence of hazardous or dangerous materials present on any work site or in a sample provided to us. You agree to provide us with information in your possession or control relating to such materials or samples. If we observe or suspect the presence of contaminants not anticipated in this Agreement, we may terminate Services without liability to you or to others, and you will compensate us for fees earned and expenses incurred up to the time of termination.

3.5 Neither this Agreement nor the providing of Services will operate to make us an owner, operator, generator, transporter, treater, storer, or a disposal facility within the meaning of the Resource Conservation Recovery Act, as amended, or within the meaning of any other law governing the handling, treatment, storage, or disposal of hazardous substances. *You agree to hold us harmless, defend, and indemnify us from any damages, claims, damages, penalties or losses resulting from the storage, removal, hauling or disposal of such substances.*

3.6 Monitoring wells are your property, and you are responsible for their permitting, maintenance, and abandonment unless expressly set forth otherwise in this Agreement.

3.7 You agree to make all disclosures required by law. In the event you do not own the project site, you acknowledge that it is your duty to inform the owner of the discovery or release of contaminants at the site. *You agree to hold us harmless, defend, and indemnify us from claims, damages, penalties, or losses and expenses, including attorney fees, related to failures to make disclosures, disclosures made by us that are required by law, and from claims related to the informing or failure to inform the site owner of the discovery of contaminants.*

Section 4: Reports and Records

4.1 Unless you request otherwise, we will provide our report in an electronic format.

4.2 Our reports, notes, calculations, and other documents and our computer software and data are instruments of our service to you, and they remain our property. We hereby grant you a license to use the reports and related information we provide only for the related project and for the purposes disclosed to us. You may not transfer our reports to others or use them for a purpose for which they were not prepared without our written approval. *You agree to indemnify, defend, and hold us harmless from claims, damages, losses, and expenses, including attorney fees, arising out of such a transfer or use.*

4.3 If you do not pay for Services in full as agreed, we may retain work not yet delivered to you and you agree to return to us all of our work that is in your possession or under your control.

4.4 Samples and field data remaining after tests are conducted and field and laboratory equipment that cannot be adequately cleansed of contaminants are and continue to be your property. They may be discarded or returned to you, at our discretion, unless within 15 days of the report date you give us written direction to store or transfer the materials at your expense.

4.5 Electronic data, reports, photographs, samples, and other materials provided by you or others may be discarded or returned to you, at our discretion, unless within 15 days of the report date you give us written direction to store or transfer the materials at your expense.

Section 5: Compensation

5.1 You will pay for Services as stated in this Agreement. If such payment references our Schedule of Charges, the invoicing will be based upon the most current schedule. An estimated amount is not a firm figure. You agree to pay all sales taxes and other taxes based on your payment of our compensation. Our performance is subject to credit approval and payment of any specified retainer.

5.2 You will notify us of billing disputes within 15 days. You will pay undisputed portions of invoices upon receipt. You agree to pay interest on unpaid balances beginning 30 days after invoice dates at the rate of 1.5% per month, or at the maximum rate allowed by law.

5.3 If you direct us to invoice a third party, we may do so, but you agree to be responsible for our compensation unless the third party is creditworthy (in our sole opinion) and provides written acceptance of all terms of this Agreement.

5.4 Your obligation to pay for Services under this Agreement is not contingent on your ability to obtain financing, governmental or regulatory agency approval, permits, final adjudication of any lawsuit, your successful completion of any project, receipt of payment from a third party, or any other event. No retainage will be withheld.

5.5 If you do not pay us in accordance with this Agreement, you agree to reimburse all costs and expenses for collection of the moneys invoiced, including but not limited to attorney fees and staff time.

5.6 You agree to compensate us in accordance with our Schedule of Charges if we are asked or required to respond to legal process arising out of a proceeding related to the project and as to which we are not a party.

5.7 If we are delayed by factors beyond our control, or if project conditions or the scope or amount of work changes, or if changed labor conditions result in increased costs, decreased efficiency, or delays, or if the standards or methods change, we will give you timely notice, the schedule will be extended for each day of delay, and we will be compensated for costs and expenses incurred in accordance with our Schedule of Charges.

5.8 If you fail to pay us in accordance with this Agreement, we may consider the default a total breach of this Agreement and, at our option, terminate our duties without liability to you or to others, and you will compensate us for fees earned and expenses incurred up to the time of termination.

5.9 In consideration of our providing insurance to cover claims made by you, you hereby waive any right to offset fees otherwise due us.

Section 6: Disputes, Damage, and Risk Allocation

6.1 Each of us will exercise good faith efforts to resolve disputes without litigation. Such efforts will include, but not be limited to, a meeting(s) attended by each party's representative(s) empowered to resolve the dispute. Before either of us commences an action against the other, disputes (except collections) will be submitted to mediation.

6.2 ***Notwithstanding anything to the contrary in this Agreement, neither party hereto shall be responsible or held liable to the other for punitive, indirect, incidental, or consequential damages, or liability for loss of use, loss of business opportunity, loss of profit or revenue, loss of product or output, or business interruption.***

6.3 You and we agree that any action in relation to an alleged breach of our standard of care or this Agreement shall be commenced within one year of the date of the breach or of the date of substantial completion of Services, whichever is earlier, without regard to the date the breach is discovered. Any action not brought within that one year time period shall be barred, without regard to any other limitations period set forth by law or statute. We will not be liable unless you have notified us within 30 days of the date of such breach and unless you have given us an opportunity to investigate and to recommend ways of mitigating damages. You agree not to make a claim against us unless you have provided us at least 30 days prior to the institution of any legal proceeding against us with a written certificate executed by an appropriately licensed professional specifying and certifying each and every act or omission that you contend constitutes a violation of the standard of care governing our professional services. Should you fail to meet the conditions above, you agree to fully release us from any liability for such allegation.

6.4 ***For you to obtain the benefit of a fee which includes a reasonable allowance for risks, you agree that our aggregate liability for all claims will not exceed the fee paid for Services or $50,000, whichever is greater. If you are unwilling to accept this allocation of risk, we will increase our aggregate liability to $100,000 provided that, within 10 days of the date of this Agreement, you provide payment in an amount that will increase our fees by 10%, but not less than $500, to compensate us for the greater risk undertaken.*** This increased fee is not the purchase of insurance.

6.5 ***You agree to indemnify us from all liability to others in excess of the risk allocation stated herein and to insure this obligation. In addition, all indemnities and limitations of liability set forth in this Agreement apply however the same may arise, whether in contract, tort, statute, equity or other theory of law, including, but not limited to, the breach of any legal duty or the fault, negligence, or strict liability of either party.***

6.6 This Agreement shall be governed, construed, and enforced in accordance with the laws of the state in which our servicing office is located, without regard to its conflict of laws rules. The laws of the state of our servicing office will govern all disputes, and all claims shall be heard in the state or federal courts for that state. Each of us waives trial by jury.

6.7 No officer or employee acting within the scope of employment shall have individual liability for his or her acts or omissions, and you agree not to make a claim against individual officers or employees.

Section 7: General Indemnification

7.1 *We will indemnify and hold you harmless from and against demands, damages, and expenses of others to the comparative extent they are caused by our negligent acts or omissions or those negligent acts or omissions of persons for whom we are legally responsible. You will indemnify and hold us harmless from and against demands, damages, and expenses of others to the comparative extent they are caused by your negligent acts or omissions or those negligent acts or omissions of persons for whom you are legally responsible.*

7.2 To the extent it may be necessary to indemnify either of us under Section 7.1, you and we expressly waive, in favor of the other only, any immunity or exemption from liability that exists under any worker compensation law.

7.3 You agree to indemnify us against losses and costs arising out of claims of patent or copyright infringement as to any process or system that is specified or selected by you or by others on your behalf.

Section 8: Miscellaneous Provisions

8.1 We will provide a certificate of insurance to you upon request. Any claim as an Additional Insured shall be limited to losses caused by our negligence.

8.2 You and we, for ourselves and our insurers, waive all claims and rights of subrogation for losses arising out of causes of loss covered by our respective insurance policies.

8.3 Neither of us will assign or transfer any interest, any claim, any cause of action, or any right against the other. Neither of us will assign or otherwise transfer or encumber any proceeds or expected proceeds or compensation from the project or project claims to any third person, whether directly or as collateral or otherwise.

8.4 This Agreement may be terminated early only in writing. You will compensate us for fees earned for performance completed and expenses incurred up to the time of termination.

8.5 If any provision of this Agreement is held invalid or unenforceable, then such provision will be modified to reflect the parties' intention. All remaining provisions of this Agreement shall remain in full force and effect.

8.6 No waiver of any right or privilege of either party will occur upon such party's failure to insist on performance of any term, condition, or instruction, or failure to exercise any right or privilege or its waiver of any breach.

BRAUN INTERTEC
The Science You Build On.

Braun Intertec Corporation
1826 Buerkle Road
Saint Paul, MN 55110

Phone: 651.487.3245
Fax: 651.487.1812
Web: braunintertec.com

September 9, 2021 Proposal QTB145595

Mr. Matthew Yavarow
Otter Tail County Highway Department
505 South Court Street, Suite 1
Fergus Falls, MN 56537-2757

Re: Proposal for a Geotechnical Evaluation
CSAH 35 Reconstruction Project Additional Borings (SAP 056-635-0YY)
CSAH 18 to CSAH 1
Otter Tail County, Minnesota

Dear Mr. Yavarow:

Braun Intertec Corporation respectfully submits this proposal to complete additional soil borings for the County State Aid Highway (CSAH) 35 project located in Otter Tail County, Minnesota.

Project Information

Per your email, we understand that additional soil borings are desired along CSAH 35 between CSAH 18 and Pleasant Lake Road, which is located south of CSAH 1. The additional soil borings are intended to determine whether poor soils exist along the alignment and if muck excavation is required. Additional borings are also being requested to better define an area of buried bituminous pavement.

From the map provided, nine additional borings are being requested to depths between about 5 and 10 feet.

Purpose

The purpose of our geotechnical evaluation will be to characterize subsurface geologic conditions at selected boring locations, evaluate their impact on the project, and provide geotechnical recommendations for the design and construction of project.

Scope of Services

We propose the following tasks to help achieve the stated purpose. If we encounter unfavorable or unforeseen conditions during the completion of our tasks that lead us to recommend an expanded scope of services, we will contact you to discuss the conditions before resuming our services.

Site Review and Site Access

Prior to drilling, an engineer from our firm will drive the project alignment to review the additional soil boring locations that were provided by the County. Per the additional soil boring location map, it appears the boring locations are adjacent to marshy areas and lakes, with the exception of those near the area of buried bituminous pavement. When the alignment is driven, in addition to the marshy/lake areas which may

have poor subgrade soils, we will also look for areas of pavement settlement or areas of extensive pavement distress. These areas may also be indicative of subgrade issues. After our site review, we will revise locations as needed, or will suggest additional locations, and will discuss those locations with the County prior to staking.

Based on aerial photographs, it appears that the site is accessible to a truck drill rig. We assume there will be no cause for delays in accessing the boring locations. We are not including tree clearing, debris or obstruction removal, grading of navigable paths, or snow plowing.

Depending on access requirements, ground conditions or potential utility conflicts, our field crew may alter the boring locations from those discussed with the County to facilitate accessibility.

Our drilling activities may also impact the vegetation and may rut the surface to access boring locations. Restoration of vegetation and turf is not part of our scope of services.

Staking

We will stake prospective boring locations, as discussed and reviewed with the County, and obtain surface elevations at those locations using GPS (Global Positioning System) technology. For purposes of linking the GPS data to an appropriate reference, we request that you provide CAD files indicating location/elevation references appropriate for this project, or give us contact information for the consultant that might have such information.

Utility Clearance

Prior to drilling or excavating, we will contact Gopher State One Call and arrange for notification of the appropriate utility vendors to mark and clear the boring locations of public underground utilities. You, or your authorized representative, are responsible to notify us before we begin our work of the presence and location of any underground objects or private utilities that are not the responsibility of public agencies.

Penetration Test Borings

For estimating purposes, we propose to drill a total of nine standard penetration test borings. Five of the borings will be extended to a depth of 10 feet and four of the borings will be extended to a depth of 5 feet. We will perform standard penetration tests at 2 1/2-foot vertical intervals to the depth of termination.

If the borings encounter groundwater during or immediately after drilling of each boring, we will record the observed depth on the boring logs.

If the intended boring depths do not extend through unsuitable material, we will extend the borings at least 5 feet into suitable material at greater depths. The additional information will help evaluate such issues as excavation depth, consolidation settlement, and foundation alternatives, among others. If we identify a need for deeper (or additional) borings, we will contact you prior to increasing our total estimated drilled footage and submit a Change Order summarizing the anticipated additional effort and the associated cost, for your review and authorization.

MDH Notification and Sealing Record (If Boring is <15 feet)

Since our planned boring will be less than 15 feet in depth, the Minnesota Statutes will not require that we complete any notifications or sealing records. If we extend any of the borings to a depth of 15 feet or greater, the Statutes requires that we seal the boreholes and complete a Sealing Record. If 25 feet or greater, the Statutes also require us to complete a Sealing Notification Form. If the Record or Form are required, we will contact you to discuss the additional fees and sealing requirements.

Borehole Abandonment

We will backfill our boring locations immediately after completing the drilling at each location. Minnesota Statutes require sealing temporary borings that are 15 feet deep or deeper. Based on our proposed subsurface characterization depths, we currently do not anticipate having to seal any of the boreholes.

Upon backfilling boring locations, we will fill holes in pavements with a temporary patch. Over time, subsidence of borehole (core) backfill may occur, requiring releveling of surface grades or replacing bituminous patches. We are not assuming responsibility for re-leveling or re-patching after we complete our fieldwork.

Sample Review and Laboratory Testing

We will return recovered samples to our laboratory, where a geotechnical engineer will visually classify and log them. To help classify the materials encountered and estimate the engineering properties necessary to our analyses, we anticipate performing 10 moisture content tests, 5 mechanical analyses (through a #200 sieve only), and 5 organic content tests. We will adjust the actual number and type of tests based on the results of our borings.

Traffic Control

Our work will extend into the drive lanes of CSAH 35. Based on historical traffic volumes, protection of our drilling crews requires warning signs and flaggers that will alert motorists to our work within the roadway. The cost for traffic control is included in our cost estimate, which assumes one day of drilling. It should be noted that if additional drilling is performed, the cost estimate for traffic control will need to be adjusted.

Engineering Analyses

We will use data obtained from the additional boring and laboratory tests to evaluate the subsurface profile and groundwater conditions, and to perform engineering analyses related to structure and pavement design and performance.

Report

We will prepare a revised report including:

- A CAD sketch showing the boring locations, both the previously performed borings and the additional soil borings.
- Logs of the Borings describing the materials encountered and presenting the results of our groundwater measurements and laboratory tests.

- A summary of the subsurface profile and groundwater conditions.
- Discussion identifying the subsurface conditions that will impact design and construction.
- Discussion regarding the reuse of on-site materials during construction.
- Recommendations for preparing structure and pavement subgrades, and the selection, placement and compaction of fill
- Recommendations for muck excavation and subgrade correction, if warranted.
- Recommendations for the design and construction of the project.

We will only submit an electronic copy of our report to you unless you request otherwise. At your request, we can also send the report to additional project team members.

Schedule

We anticipate performing our work according to the following schedule.

- Drill rig mobilization – within about 2 weeks following receipt of written authorization
- Field exploration – about 1 day on site to complete the work
- Classification and laboratory testing – within 1 to 2 weeks after completion of field exploration
- Final revised report submittal – within about 2 weeks of completing the classification and laboratory testing.

If we cannot complete our proposed scope of services according to this schedule due to circumstances beyond our control, we may need to revise this proposal prior to completing the remaining tasks.

Fees

We will furnish the services described in this proposal for an estimated fee of $9,461. We are attaching a tabulation showing hourly and/or unit rates associated with our proposed scope of services.

Our work may extend over several invoicing periods. As such, we will submit partial progress invoices for work we perform during each invoicing period.

Additional Services

Our fees do not include potential costs due to the need for snow plowing, towing, stand-by time or work that is not included in the above Scope of Services. We will charge costs for snow plowing or towing (if necessary) at a rate of 1.15 times the actual cost. For stand-by time (defined as time spent by our field crew due to circumstances that are beyond the control of our field crew or its equipment, or beyond the scope of services indicated above), we will charge a rate of $285 per hour.

Depending on the soils encountered, if pavements are being widened, to further define any soft materials in planned widened areas, hand auger borings may be warranted. Hand auger borings would be performed at the toe of the embankment and would be performed at an added cost of $90 per hour plus trip charges.

General Remarks

We will be happy to meet with you to discuss our proposed scope of services further and clarify the various scope components.

We appreciate the opportunity to present this proposal to you. Please sign and return a copy to us in its entirety.

We based the proposed fee on the scope of services described and the assumptions that you will authorize our services within 30 days and that others will not delay us beyond our proposed schedule.

We include the Braun Intertec General Conditions, which provide additional terms and are a part of our agreement.

To have questions answered or schedule a time to meet and discuss our approach to this project further, please contact Amy Grothaus at 651.261.7122 or via email (agrothaus@braunintertec.com).

Sincerely,

BRAUN INTERTEC CORPORATION

Amy J. Grothaus, PE
Account Manager, Senior Engineer

Charles M. Cadenhead Jr, PE
Vice President, Principal Engineer

Attachments:
Tabular Cost Estimate
General Conditions (1/1/18)

The proposal is accepted, and you are authorized to proceed.

Otter Tail County Highway Department
Authorizer's Firm

Authorizer's Signature

Charles H. Grotte, P.E.
Authorizer's Name (please print or type)

County Engineer
Authorizer's Title

September 14, 2021
Date

BRAUN INTERTEC
The Science You Build On.

Project Proposal

QTB145595

Otter Tail County CSAH 35 Additional Soil Borings

Client:	Work Site Address:	Service Description:
Otter Tail County Highway Dept. Matthew Yavarow 505 S Court St, Suite 1 Fergus Falls, MN 56537 (218) 998-8470	CSAH 35 between CSAH 18 and CSAH 1 Fergus Falls, MN	Geotechnical Evaluation

	Description	Quantity	Units	Unit Price	Extension
Phase 1	**Geotechnical Evaluation**				
Activity 1.1	**Site Layout - Staking - Utility Clearance - CADD**				**$1,327.00**
126	Project Engineer (Site Review)	4.00	Hour	160.00	$640.00
205	Site layout and utility clearance	4.00	Hour	90.00	$360.00
371	CADD/Graphics Operator	1.00	Hour	125.00	$125.00
1862	UTIL Trip Charge	2.00	Each	60.00	$120.00
138	Project Assistant	1.00	Hour	82.00	$82.00
Activity 1.2	**Drilling Services**				**$4,440.00**
9000	Truck Mounted Drilling Services, per hour	10.00	Each	285.00	$2,850.00
SUB	Traffic Control (assumes one day)	1.00	Each	1,500.00	$1,500.00
9738	Bituminous patch, per hole	9.00	Each	10.00	$90.00
Activity 1.3	**Geotechnical Soil Tests**				**$960.00**
1152	Moisture content, per sample	10.00	Each	14.00	$140.00
1174	Organic Content, per sample	5.00	Each	82.00	$410.00
1166	Loss by Washing Through #200 Sieve, per sample	5.00	Each	82.00	$410.00
Activity 1.4	**Evaluation/Analysis/Reports**				**$2,734.00**
138	Project Assistant	2.00	Hour	82.00	$164.00
371	CADD/Graphics Operator	1.00	Hour	125.00	$125.00
126	Project Engineer	12.00	Hour	160.00	$1,920.00
125	Project Manager	1.00	Hour	125.00	$125.00
130	Principal Engineer	2.00	Hour	200.00	$400.00
				Phase 1 Total:	**$9,461.00**

Proposal Total:	**$9,461.00**

General Conditions

BRAUN INTERTEC

Section 1: Agreement

1.1 Our agreement with you consists of these General Conditions and the accompanying written proposal or authorization ("Agreement"). This Agreement is the entire agreement between you and us. It supersedes prior agreements. It may be modified only in a writing signed by us, making specific reference to the provision modified.

1.2 The words "you," "we," "us," and "our" include officers, employees, and subcontractors.

1.3 In the event you use a purchase order or other documentation to authorize our scope of work ("Services"), any conflicting or additional terms are not part of this Agreement. Directing us to start work prior to execution of this Agreement constitutes your acceptance. If, however, mutually acceptable terms cannot be established, we have the right to terminate this Agreement without liability to you or others, and you will compensate us for fees earned and expenses incurred up to the time of termination.

Section 2: Our Responsibilities

2.1 We will provide Services specifically described in this Agreement. You agree that we are not responsible for services that are not expressly included in this Agreement. Unless otherwise agreed in writing, our findings, opinions, and recommendations will be provided to you in writing. You agree not to rely on oral findings, opinions, or recommendations without our written approval.

2.2 In performing our professional services, we will use that degree of care and skill ordinarily exercised under similar circumstances by reputable members of our profession practicing in the same locality. If you direct us to deviate from our recommended procedures, you agree to hold us harmless from claims, damages, and expenses arising out of your direction. If during the one year period following completion of Services it is determined that the above standards have not been met and you have promptly notified us in writing of such failure, we will perform, at our cost, such corrective services as may be necessary, within the original scope in this Agreement, to remedy such deficiency. Remedies set forth in this section constitute your sole and exclusive recourse with respect to the performance or quality of Services.

2.3 We will reference our field observations and sampling to available reference points, but we will not survey, set, or check the accuracy of those points unless we accept that duty in writing. Locations of field observations or sampling described in our report or shown on our sketches are based on information provided by others or estimates made by our personnel. You agree that such dimensions, depths, or elevations are approximations unless specifically stated otherwise in the report. You accept the inherent risk that samples or observations may not be representative of things not sampled or seen and further that site conditions may vary over distance or change over time.

2.4 Our duties do not include supervising or directing your representatives or contractors or commenting on, overseeing, or providing the means and methods of their services unless expressly set forth in this Agreement. We will not be responsible for the failure of your contractors, and the providing of Services will not relieve others of their responsibilities to you or to others.

2.5 We will provide a health and safety program for our employees, but we will not be responsible for contractor, owner, project, or site health or safety.

2.6 You will provide, at no cost to us, appropriate site safety measures as to work areas to be observed or inspected by us. Our employees are authorized by you to refuse to work under conditions that may be unsafe.

2.7 Unless a fixed fee is indicated, our price is an estimate of our project costs and expenses based on information available to us and our experience and knowledge. Such estimates are an exercise of our professional judgment and are not guaranteed or warranted. Actual costs may vary. You should allow a contingency in addition to estimated costs.

Section 3: Your Responsibilities

3.1 You will provide us with prior environmental, geotechnical and other reports, specifications, plans, and information to which you have access about the site. You agree to provide us with all plans, changes in plans, and new information as to site conditions until we have completed Services.

3.2 You will provide access to the site. In the performance of Services some site damage is normal even when due care is exercised. We will use reasonable care to minimize damage to the site. We have not included the cost of restoration of damage in the estimated charges.

3.3 You agree to provide us, in a timely manner, with information that you have regarding buried objects at the site. We will not be responsible for locating buried objects at the site. *You agree to hold us harmless, defend, and indemnify us from claims, damages, losses, penalties and expenses (including attorney fees) involving buried objects that were not properly marked or identified or of which you had knowledge but did not timely call to our attention or correctly show on the plans you or others furnished to us.*

3.4 You will notify us of any knowledge or suspicion of the presence of hazardous or dangerous materials present on any work site or in a sample provided to us. You agree to provide us with information in your possession or control relating to such materials or samples. If we observe or suspect the presence of contaminants not anticipated in this Agreement, we may terminate Services without liability to you or to others, and you will compensate us for fees earned and expenses incurred up to the time of termination.

3.5 Neither this Agreement nor the providing of Services will operate to make us an owner, operator, generator, transporter, treater, storer, or a disposal facility within the meaning of the Resource Conservation Recovery Act, as amended, or within the meaning of any other law governing the handling, treatment, storage, or disposal of hazardous substances. *You agree to hold us harmless, defend, and indemnify us from any damages, claims, damages, penalties or losses resulting from the storage, removal, hauling or disposal of such substances.*

3.6 Monitoring wells are your property, and you are responsible for their permitting, maintenance, and abandonment unless expressly set forth otherwise in this Agreement.

3.7 You agree to make all disclosures required by law. In the event you do not own the project site, you acknowledge that it is your duty to inform the owner of the discovery or release of contaminants at the site. *You agree to hold us harmless, defend, and indemnify us from claims, damages, penalties, or losses and expenses, including attorney fees, related to failures to make disclosures, disclosures made by us that are required by law, and from claims related to the informing or failure to inform the site owner of the discovery of contaminants.*

Section 4: Reports and Records

4.1 Unless you request otherwise, we will provide our report in an electronic format.

4.2 Our reports, notes, calculations, and other documents and our computer software and data are instruments of our service to you, and they remain our property. We hereby grant you a license to use the reports and related information we provide only for the related project and for the purposes disclosed to us. You may not transfer our reports to others or use them for a purpose for which they were not prepared without our written approval. *You agree to indemnify, defend, and hold us harmless from claims, damages, losses, and expenses, including attorney fees, arising out of such a transfer or use.*

4.3 If you do not pay for Services in full as agreed, we may retain work not yet delivered to you and you agree to return to us all of our work that is in your possession or under your control.

4.4 Samples and field data remaining after tests are conducted and field and laboratory equipment that cannot be adequately cleansed of contaminants are and continue to be your property. They may be discarded or returned to you, at our discretion, unless within 15 days of the report date you give us written direction to store or transfer the materials at your expense.

4.5 Electronic data, reports, photographs, samples, and other materials provided by you or others may be discarded or returned to you, at our discretion, unless within 15 days of the report date you give us written direction to store or transfer the materials at your expense.

Section 5: Compensation

5.1 You will pay for Services as stated in this Agreement. If such payment references our Schedule of Charges, the invoicing will be based upon the most current schedule. An estimated amount is not a firm figure. You agree to pay all sales taxes and other taxes based on your payment of our compensation. Our performance is subject to credit approval and payment of any specified retainer.

5.2 You will notify us of billing disputes within 15 days. You will pay undisputed portions of invoices upon receipt. You agree to pay interest on unpaid balances beginning 30 days after invoice dates at the rate of 1.5% per month, or at the maximum rate allowed by law.

5.3 If you direct us to invoice a third party, we may do so, but you agree to be responsible for our compensation unless the third party is creditworthy (in our sole opinion) and provides written acceptance of all terms of this Agreement.

5.4 Your obligation to pay for Services under this Agreement is not contingent on your ability to obtain financing, governmental or regulatory agency approval, permits, final adjudication of any lawsuit, your successful completion of any project, receipt of payment from a third party, or any other event. No retainage will be withheld.

5.5 If you do not pay us in accordance with this Agreement, you agree to reimburse all costs and expenses for collection of the moneys invoiced, including but not limited to attorney fees and staff time.

5.6 You agree to compensate us in accordance with our Schedule of Charges if we are asked or required to respond to legal process arising out of a proceeding related to the project and as to which we are not a party.

5.7 If we are delayed by factors beyond our control, or if project conditions or the scope or amount of work changes, or if changed labor conditions result in increased costs, decreased efficiency, or delays, or if the standards or methods change, we will give you timely notice, the schedule will be extended for each day of delay, and we will be compensated for costs and expenses incurred in accordance with our Schedule of Charges.

5.8 If you fail to pay us in accordance with this Agreement, we may consider the default a total breach of this Agreement and, at our option, terminate our duties without liability to you or to others, and you will compensate us for fees earned and expenses incurred up to the time of termination.

5.9 In consideration of our providing insurance to cover claims made by you, you hereby waive any right to offset fees otherwise due us.

Section 6: Disputes, Damage, and Risk Allocation

6.1 Each of us will exercise good faith efforts to resolve disputes without litigation. Such efforts will include, but not be limited to, a meeting(s) attended by each party's representative(s) empowered to resolve the dispute. Before either of us commences an action against the other, disputes (except collections) will be submitted to mediation.

6.2 ***Notwithstanding anything to the contrary in this Agreement, neither party hereto shall be responsible or held liable to the other for punitive, indirect, incidental, or consequential damages, or liability for loss of use, loss of business opportunity, loss of profit or revenue, loss of product or output, or business interruption.***

6.3 You and we agree that any action in relation to an alleged breach of our standard of care or this Agreement shall be commenced within one year of the date of the breach or of the date of substantial completion of Services, whichever is earlier, without regard to the date the breach is discovered. Any action not brought within that one year time period shall be barred, without regard to any other limitations period set forth by law or statute. We will not be liable unless you have notified us within 30 days of the date of such breach and unless you have given us an opportunity to investigate and to recommend ways of mitigating damages. You agree not to make a claim against us unless you have provided us at least 30 days prior to the institution of any legal proceeding against us with a written certificate executed by an appropriately licensed professional specifying and certifying each and every act or omission that you contend constitutes a violation of the standard of care governing our professional services. Should you fail to meet the conditions above, you agree to fully release us from any liability for such allegation.

6.4 ***For you to obtain the benefit of a fee which includes a reasonable allowance for risks, you agree that our aggregate liability for all claims will not exceed the fee paid for Services or $50,000, whichever is greater. If you are unwilling to accept this allocation of risk, we will increase our aggregate liability to $100,000 provided that, within 10 days of the date of this Agreement, you provide payment in an amount that will increase our fees by 10%, but not less than $500, to compensate us for the greater risk undertaken.*** This increased fee is not the purchase of insurance.

6.5 ***You agree to indemnify us from all liability to others in excess of the risk allocation stated herein and to insure this obligation. In addition, all indemnities and limitations of liability set forth in this Agreement apply however the same may arise, whether in contract, tort, statute, equity or other theory of law, including, but not limited to, the breach of any legal duty or the fault, negligence, or strict liability of either party.***

6.6 This Agreement shall be governed, construed, and enforced in accordance with the laws of the state in which our servicing office is located, without regard to its conflict of laws rules. The laws of the state of our servicing office will govern all disputes, and all claims shall be heard in the state or federal courts for that state. Each of us waives trial by jury.

6.7 No officer or employee acting within the scope of employment shall have individual liability for his or her acts or omissions, and you agree not to make a claim against individual officers or employees.

Section 7: General Indemnification

7.1 *We will indemnify and hold you harmless from and against demands, damages, and expenses of others to the comparative extent they are caused by our negligent acts or omissions or those negligent acts or omissions of persons for whom we are legally responsible. You will indemnify and hold us harmless from and against demands, damages, and expenses of others to the comparative extent they are caused by your negligent acts or omissions or those negligent acts or omissions of persons for whom you are legally responsible.*

7.2 To the extent it may be necessary to indemnify either of us under Section 7.1, you and we expressly waive, in favor of the other only, any immunity or exemption from liability that exists under any worker compensation law.

7.3 You agree to indemnify us against losses and costs arising out of claims of patent or copyright infringement as to any process or system that is specified or selected by you or by others on your behalf.

Section 8: Miscellaneous Provisions

8.1 We will provide a certificate of insurance to you upon request. Any claim as an Additional Insured shall be limited to losses caused by our negligence.

8.2 You and we, for ourselves and our insurers, waive all claims and rights of subrogation for losses arising out of causes of loss covered by our respective insurance policies.

8.3 Neither of us will assign or transfer any interest, any claim, any cause of action, or any right against the other. Neither of us will assign or otherwise transfer or encumber any proceeds or expected proceeds or compensation from the project or project claims to any third person, whether directly or as collateral or otherwise.

8.4 This Agreement may be terminated early only in writing. You will compensate us for fees earned for performance completed and expenses incurred up to the time of termination.

8.5 If any provision of this Agreement is held invalid or unenforceable, then such provision will be modified to reflect the parties' intention. All remaining provisions of this Agreement shall remain in full force and effect.

8.6 No waiver of any right or privilege of either party will occur upon such party's failure to insist on performance of any term, condition, or instruction, or failure to exercise any right or privilege or its waiver of any breach.

CSAH No. 14 **Job No.** S.A.P. 056-614-014 4012-014
County State Aid Highway - County Road

STATE OF MINNESOTA

COUNTY OF OTTER TAIL

CONTRACT
HIGHWAY CONSTRUCTION

This agreement, made this 24th day of August, 20 21, between the County of Otter Tail in the State of Minnesota, party of the first part, hereinafter called the County, and Central Specialties, Inc. of 6325 Co Rd 87 SW, Alexandria, MN, party of the second part, hereinafter called the Contractor. Witnesseth, that the Contractor, for and in consideration of the payment or payments herein specified and by the County to be made, hereby covenants and agrees to furnish all materials, (except such as is specified to be furnished by the County), all necessary tools and equipment and to do and perform all the work and labor in the construction of CSAH 14, Job No. S.A.P. 056-614-014 located as shown on approved plans on CSAH 14 From Trunk Highway 78 to CSAH 67 for the price and compensation set forth and specified in the proposal signed by the Contractor and hereto attached and hereby made a part of this agreement, said work to be done and performed in accordance with the Plans, Specifications, and Special Provisions therefore on file in the office of the County Auditor of said County, which Plans, Specifications, and Special Provisions are hereby made a part of this agreement.

The Contractor further covenants and agree that he will commence work on or before _____, 20____ and will have same completed in every respect to the satisfaction and approval of the County, July 1, 2022.

IN WITNESS WHEREOF, The said County has caused these presents to be executed and the Contractor ___ha____hereunto subscribed _____name_____.

Dated at Fergus Falls, MN, this _____ day of _____, 20 21.

COUNTY OF OTTER TAIL

by _____
County Board Chair

_____
County Board Clerk

_____

_____

CENTRAL SPECIALTIES, INC.
Contractor

Approved as to form and execution this _____ day of _____, 20____.

_____
County Attorney

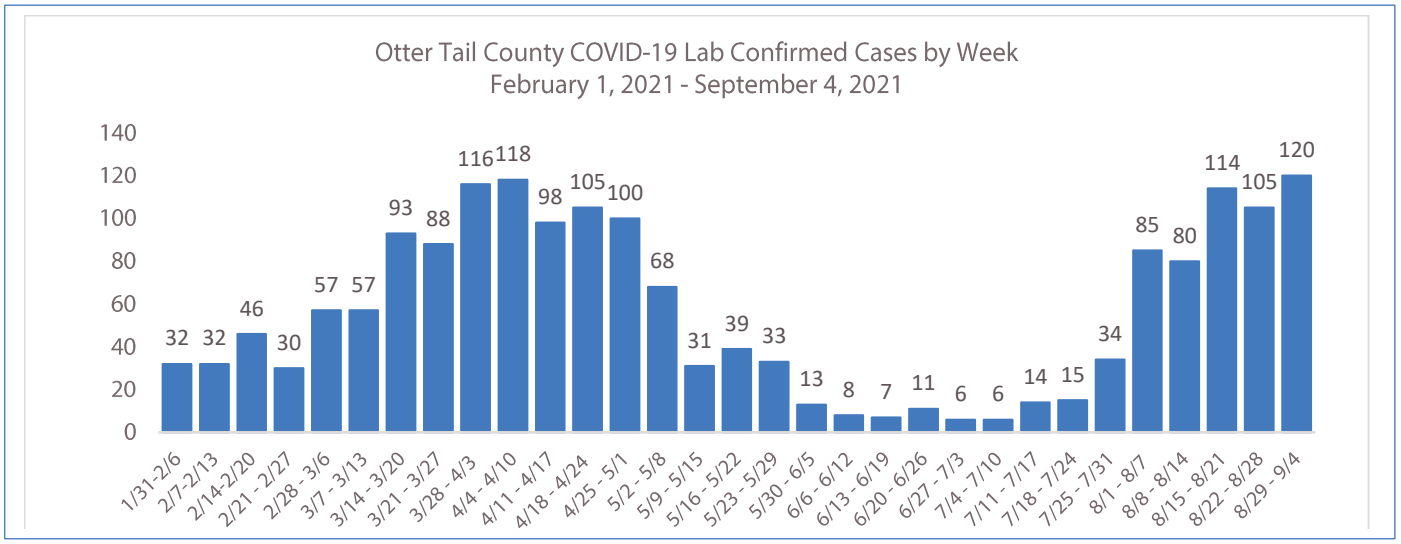
OTTER TAIL COUNTY HEALTH INFORMATION

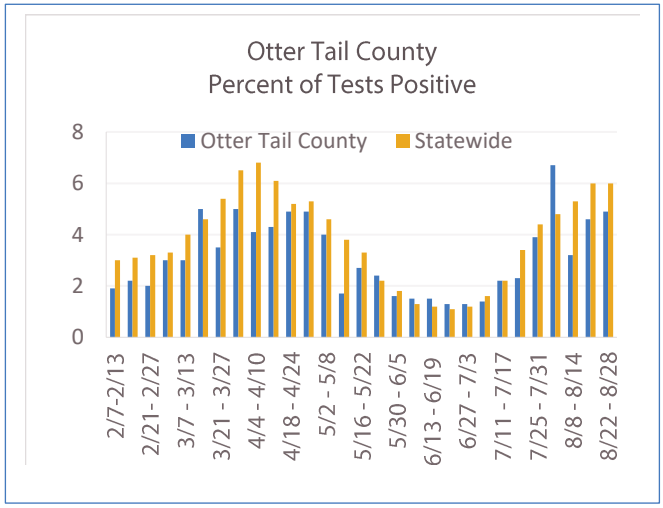
Updated September 9, 2021

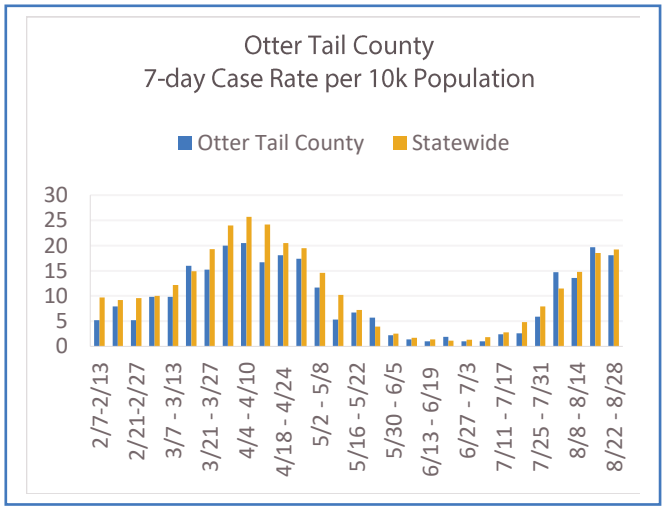
HEALTH INFORMATION

	Lab confirmed cases	Percent of tests positive		Case rate per 10,000 people		Case rate per 100,000 people		Hospitalizations		Deaths
		OTC	MN	OTC	MN	OTC	MN	Hosp	ICU	Cumulative
08/29 – 09/04*	120	n/a	n/a	20.7	n/a	206.9	n/a	327	78	89
08/22 – 08/28	105	4.9%	6.0%	18.1	19.2	181.0	192.0	321	75	89
08/15 – 08/21	114	4.6%	6.0%	19.7	18.5	197.0	185.0	315	71	88
08/08 – 08/14	80	3.2%	5.3%	13.6	14.8	136.0	148.0	311	69	87
08/01 – 08/07	85	6.7%	4.8%	14.7	11.5	147.0	115.0	310	67	87
07/25 – 07/31	34	3.9%	4.4%	5.9	7.9	59.0	79.0	303	66	87

*Percent positive and statewide case rate data for 08/29 – 09/04 available September 16, 2021.







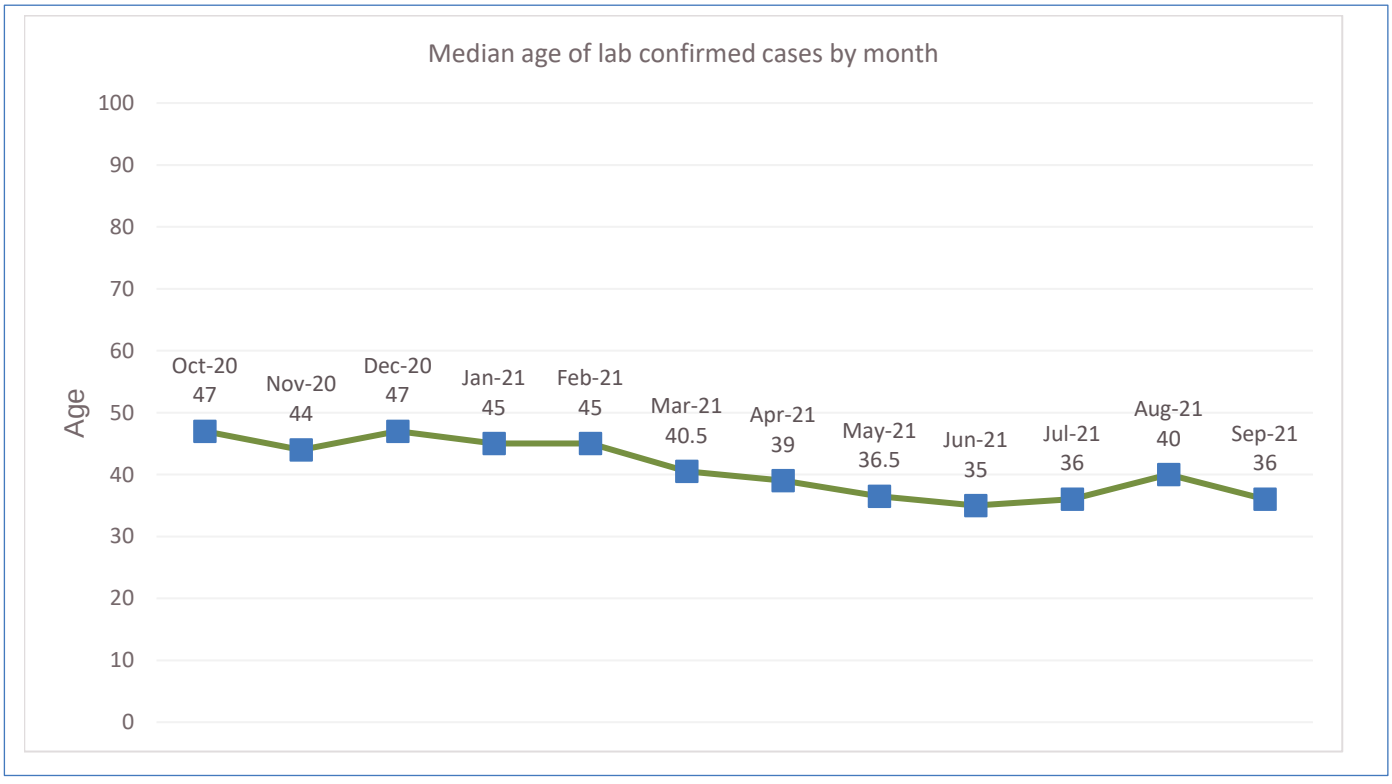
AGE RANGE OF LAB CONFIRMED CASES

Total lab confirmed cases reported through September 8, 2021.

Age Group	n	Change from previous week	Percent of total cases
0 – 4	95	+≤5	1%
5 – 9	234	+≤5	4%
10 – 14	327	+≤5	5%
15 – 19	458	+6	7%
20 – 29	902	+15	14%
30 – 39	922	+20	14%
40 – 49	864	+13	13%
50 – 59	992	+13	15%
60 – 69	867	+11	13%
70 – 79	461	+7	7%
80 – 89	249	+≤5	4%
90 – 99	111	+0	2%
100+	≤5	+0	0%
Total	**6485**		

EXPANDED AGE RANGE OF LAB CONFIRMED CASES

Median age of lab confirmed cases October 2020 – September* 2021.



*September age data available for lab confirmed cases from September 1 – September 8

OTTER TAIL COUNTY PUBLIC HEALTH VACCINE DATA

County-wide and Otter Tail County Public Health Department vaccine data

OTTER TAIL COUNTY VACCINATION SUMMARY

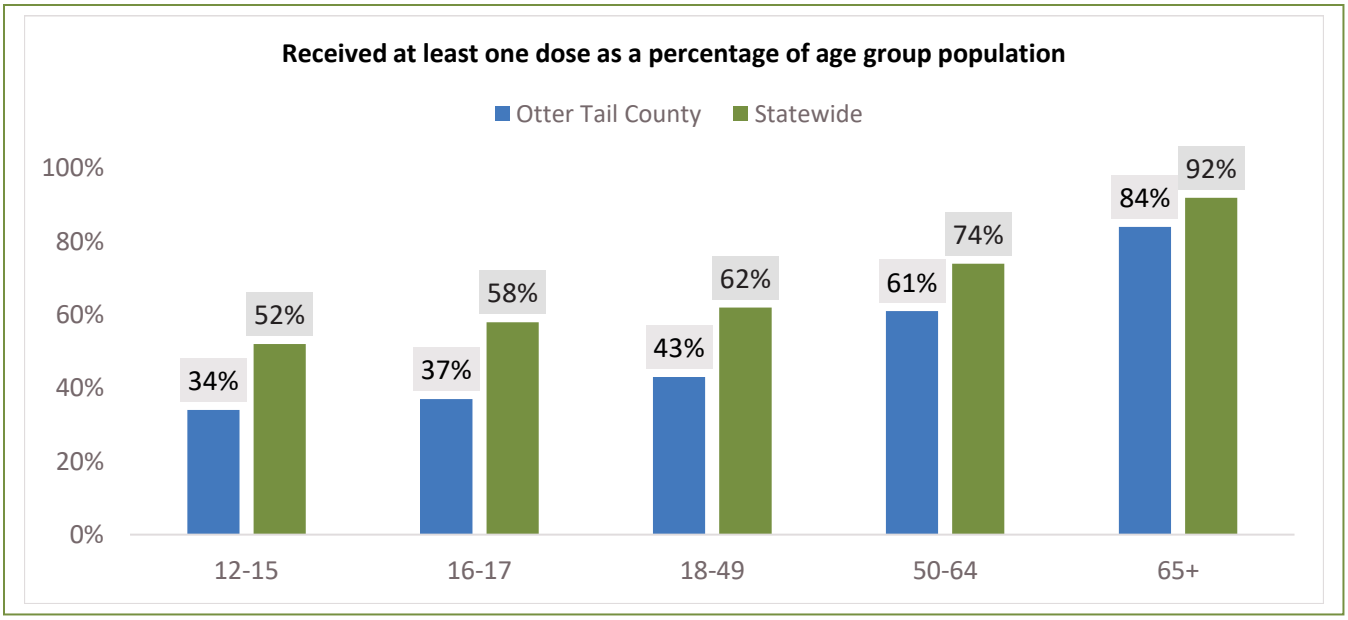
Count and percent of total population *12+* receiving vaccination. Data reported as of September 7, 2021.

People with at least one vaccine dose		People with complete vaccine series	
Otter Tail County	Statewide	Otter Tail County	Statewide
28,927 58.2%	71.1%	27,374 55.0%	67.1%

WHO'S GETTING VACCINATED

Age group from Minnesota Department of Health vaccine data. Data reported as of September 7, 2021.

Age Group	People with at least one vaccine dose
12-15	936
16-17	533
18-49	8,146
50-64	7,941
65+	11,371
Total	**28,927**



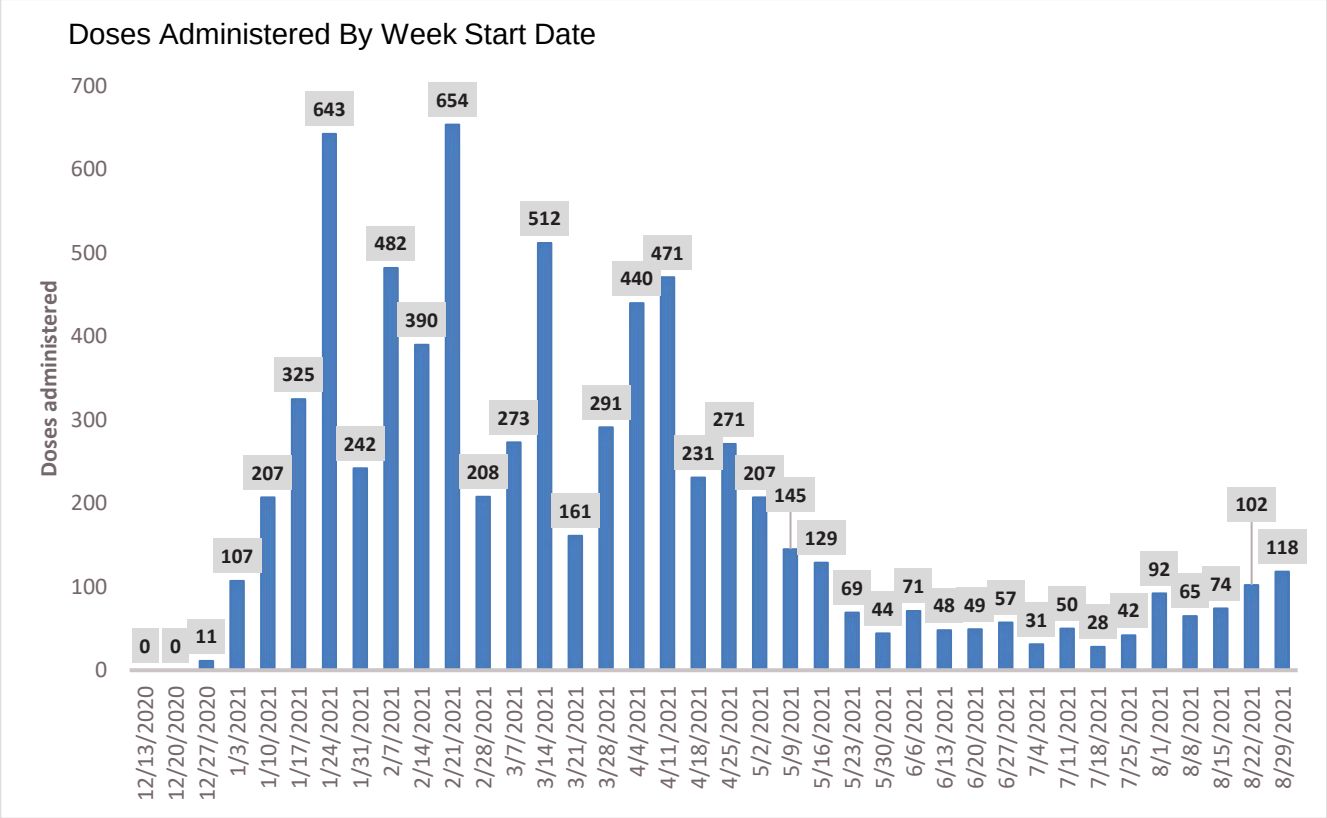
Edited September 9, 2021

DOSES ADMINISTERED BY OTTER TAIL COUNTY PUBLIC HEALTH DEPARTMENT

Report period: December 27, 2020 – September 4, 2021

Total doses administered by OTC Public Health Department: **7,340**
People who have received at least one vaccine dose at OTC Public Health: **4,046**
People who have completed the vaccine series at OTC Public Health: **3,644**

Weekly number of first and second doses administered by Otter Tail County Public Health Department from December 27, 2020 to September 4, 2021.



ADDITIONAL INFORMATION

- Otter Tail County resident data may have discrepancies with published Minnesota Department of Health data due to testing and reporting timelines.
- All data is preliminary and may change as cases and contact investigations continue.
- Total doses administered by Otter Tail County Public Health Department represents COVID-19 vaccines administered by the Otter Tail County Public Health Department only. It does not represent COVID-19 vaccine numbers administered by other vaccine providers.

OTTER TAIL COUNTY WEBSITE LINKS

COVID-19 Dashboard **COVID-19 Situation Update**

Edited September 9, 2021

MINNESOTA DEPARTMENT OF HEALTH and CDC WEBPAGES

- The Minnesota Department of Health provides weekly COVID-19 case updates by county of residence, age group, and zip code. This information is updated on Thursdays at 11am and can be viewed at the website below.
    - Link to Minnesota Department of Health Weekly COVID-19 Report: https://www.health.state.mn.us/diseases/coronavirus/stats/index.html#exp
- The Minnesota Department of Health provides statewide COVID-19 vaccine breakthrough data at the website below. This data is updated weekly on Mondays at 11:00am.
    - Link to Minnesota Department of Health Vaccine Breakthrough Weekly Update: https://www.health.state.mn.us/diseases/coronavirus/stats/vbt.html
- The Otter Tail County vaccine data displayed is gathered from the Minnesota Department of Health's Vaccine Data webpage. This data and additional vaccination data can be viewed on the MDH webpage.
    - Link to Minnesota Department of Health Vaccine Data: https://mn.gov/covid19/vaccine/data/index.jsp
- The Center for Disease Control and Prevention provides a county view of key data for monitoring cases. Data is updated daily by 7:00pm.
    - Link to CDC County Community Transmission data: https://covid.cdc.gov/covid-data-tracker/#county-view

DEFINITIONS

Weekly percent of tests positive
Percent of positive tests for Otter Tail County by week of specimen collection. Only tests reported by laboratories reporting both positive and negative results are included in positivity calculations.

Percent positive
The percent of positive tests from the total number of tests by county of residence. Numbers include both PCR and antigen tests.

Case rate
The number of cases per 10,000 people or 100,000 people. Numbers include confirmed and probable cases.

People receiving at least one vaccine dose
The total number of unique individuals who have received a first or second dose by Otter Tail County Public Health

People with completed vaccine series
The total number of unique individuals who have completed the manufacturers scheduled vaccine series.