



Anoka County
MINNESOTA

Respectful, Innovative, Fiscally Responsible

ANOKA COUNTY TRANSPORTATION DIVISION

1440 BUNKER LAKE BLVD NW

ANDOVER, MN 55304

763-324-3176

highwaypermits@co.anoka.mn.us

PERMIT NUMBER

23-285

RIGHT OF WAY

COMMERCIAL ACCESS

CR 52

APPLICATION FOR PERMIT FOR INSTALLATION OF UTILITIES OR PLACING OBSTRUCTIONS ON THE COUNTY HIGHWAY SYSTEM
ALL APPLICANTS MUST BE REGISTERED PRIOR TO PERMIT APPROVAL

APPLICANT NAME [Douglas-Kerr Underground, LLC](#)

CONTACT PERSON [Darren Douglas](#)

ADDRESS [2142 330th Ave.](#)

CITY [Mora](#)

PHONE NUMBER [320.679.8937](#)

EMAIL darrend@douglas-kerr.com

COMPANY OR INDIVIDUAL PERFORMING WORK [Douglas-Kerr Underground, LLC](#)

CONTACT PERSON [Darren Douglas](#)

EMAIL darrend@douglas-kerr.com

PERMIT WORK TO START [06/08/2023](#)

PERMIT WORK TO BE COMPLETED [08/31/2023](#)

DURATION OF JOB [2 Months](#)

ARE YOU BEING ASKED TO RELOCATE DUE TO A COUNTY PROJECT? [No](#)

ANOKA COUNTY PROJECT NUMBER

WORK SITE ADDRESS [146th Ave NE](#)

CITY [Ham Lake](#)

METHOD OF INSTALLATION/CONSTRUCTION [Street Construction / Storm Sewer Installation](#)

NATURE OF WORK [Reconstruct road work of 146th Ave NE](#)

PER APPROVED PLAN

SURFACE TO BE DISTURBED

SITE PLAN

If the roadway is encroached, you must attach a traffic control plan and/or reference the most current version of the Minnesota Temporary Traffic Control Field Manual.

DITCH/BLVD

GRAVEL

BITUMINOUS

CONCRETE

NONE



[Shall use a flagging operation \(Layout 16\), 9am-3pm if any portion of the roadway is encroached.](#)

DEPTH FROM SURFACE [n/a](#)

(60" minimum under county roads)

SIZE AND KIND OF PIPE/CABLE [n/a](#)

NUMBER OF EXCAVATIONS [0](#)

SIZE OF EXCAVATIONS [n/a](#)

(Length, width, and depth)

LOCATION OF EXCAVATIONS

(Specific written descriptions of excavations)

[no pipe installation. Reconstruction of 146th Ave NE and tying it into Radisson Rd.](#)

PER APPROVED PLAN

THIS PERMIT COVERS THE RIGHT OF WAY IN ANOKA COUNTY ONLY

ACTD reserves the right to make changes to these special conditions.

ANOKA COUNTY TRANSPORTATION DIVISION

1440 BUNKER LAKE BLVD NW

ANDOVER, MN 55304

PERMIT PHONE: 763-324-3176

highwaypermits@co.anoka.mn.us

Anoka County
MINNESOTA

Respectful. Innovative. Fiscally Responsible

GENERAL INFORMATION

One permit must be approved for each county road on which work will be performed prior to any work within the right of way by any utility/contractor. Emergency conditions which threaten the safety of the public and require immediate repair are exceptions to this rule. Under those circumstances, the utility/contractor is permitted to begin and/or complete the necessary repairs. The Anoka County Transportation Division (ACTD) shall be notified of emergency repairs as soon as feasible and a written permit is to be completed within two business days of occurrence.

A license-permit bond is generally required of the contractor as part of the registration process, the amount of which will be determined by the nature of the utility work.

A sketch or drawing shall accompany each permit application which will show the location of the proposed work/utility with reference to the county highway center line and right of way line. A complete set of plans is required for all sewer/water projects.

It shall be the responsibility of the applicant to determine which of the special conditions apply to each permit.

ACTD reserves the right to revoke any utility permit and halt work, if, upon inspection of any job site, the special conditions are not met, and/or a hazard exists for the applicant or public safety is threatened. **The failure to comply with the terms and conditions of any applicable Federal, State, Regional, and local laws, rules and regulations, including any provision of Anoka County's Right-of-Way Ordinance shall be cause for immediate revocation of a permit.**

The applicant shall notify ACTD immediately upon completion of project so that the ACTD can inspect the site to determine if restoration has been satisfactorily completed.

The undersigned hereby accepts the terms and conditions of this permit and the regulations of Anoka County, and agrees to fully comply therewith to the satisfaction of the ACTD. The county of Anoka, its officials, employees, and agents, shall be held harmless, by the applicant/permittee, from any demands, claims, lawsuits, or damages relating to the work described in this permit.

APPLICANT'S SIGNATURE

DocuSigned by:

Darren Douglas

6FC3C2F40E214B0...

DATE 6/8/2023

AUTHORIZATION OF PERMIT

In consideration of the applicant's agreement to comply in all respects with the regulations of the ACTD covering such operations, permission is hereby granted for the work to be done as described in the above application. Said work to be done in accordance with the general conditions listed above and the special conditions required as hereby stated. It is expressly understood that this permit is conditioned upon replacement or restoration of the county highway and its right of way to their original or to a satisfactory condition. It is further understood that this permit is issued subject to the approval of local city or township authorities having joint supervision over said street or highway.

APPROVED BY:

DocuSigned by:

Susan Burgmeier

C5E91FE15CD44EE...

TITLE: Traffic Technician

DATE

6/8/2023

NOT VALID UNLESS SIGNED BY ANOKA COUNTY

THIS PERMIT COVERS THE RIGHT OF WAY IN ANOKA COUNTY ONLY
ACTD reserves the right to make changes to these special conditions.



ANOKA COUNTY TRANSPORTATION DIVISION

1440 BUNKER LAKE BLVD NW

ANDOVER, MN 55304

PERMIT PHONE: 763-324-3176

highwaypermits@co.anoka.mn.us

SPECIAL CONDITIONS

TRAFFIC CONTROL

1. Detours
 - a. Detailed detour layouts shall be submitted to the traffic engineer for approval.
 - b. No detours shall be permitted without prior approval of the Anoka county traffic engineer.
 - c. A ten day notice must be given prior to the installation of any detour.
 - d. It shall be the responsibility of the applicant to notify Anoka county central communications, local government bodies, and any affected bus companies ten days prior to any road closures/detours.
 - e. Immediately upon completion of work and/or detours, all posts, barricades, and signs shall be removed from the right of way.
2. Traffic control devices
 - a. All traffic control devices, barricades, flashers, etc., shall be furnished by the applicant and shall be in accordance with the most recent edition of the Minnesota manual on uniform traffic control devices and temporary traffic control zone layouts – field manual of the same manual.

CONSTRUCTION REQUIREMENTS

- 1) Open cutting of bituminous or concrete surfaced roads will be allowed only at the discretion of the county engineer.
- 2) Neither supplies nor excavation materials shall be placed on the bituminous or concrete surface at any time.
- 3) No trenches will be allowed to remain open overnight.
- 4) Materials removed from the trench shall be used as backfill insofar as they are suitable. All backfill material shall conform to MNDOT specifications for compaction. The use of heavy equipment on top of trench, slapping with backhoe bucket and/or back casting to achieve compaction is prohibited. Any additional material required to back fill to the original grade shall be furnished by the applicant at no expense to the ACTD. All the base and surface courses damaged during construction operations shall be restored to a condition equal to or better than before operations began. The applicant shall be responsible for and restore any settlement.
- 5) All culverts, ditches, shoulders, and backslopes shall be restored to their original condition unless otherwise directed by the ACTD. Shoulders which have been previously constructed or reconstructed with special materials shall be replaced in kind. Restoration of signs, guardrails, guard posts, etc., are the sole responsibility of the applicant and shall be restored to their original condition.
- 6) All roadway maintenance required within the limits of the utility project that is related to the applicant's activities shall be the sole responsibility of the applicant for one year after completion of the project. Upon completion of the restoration work, the applicant shall request a final inspection by the ACTD. The ACTD's approved completion date shall be the starting date of the applicant's one-year responsibility.

HORIZONTAL BORING AND JACKING

- 1) All hard surface roadways shall be jacked or bored.
- 2) All crossings of Anoka County maintained roadbeds, shall be made by boring inside a casing or carrier pipe, or by jacking unless otherwise directed by the Anoka County Engineer. The auger shall lead the casing or carrier pipe by at least six inches whenever possible and never lead the carrier pipe by more than one inch.
- 3) The use of pneumatic devices to facilitate the roadbed crossings will be allowed in most cases with prior approval. In the event approval is not granted and applicant uses a pneumatic device to cross a roadbed and encounters an obstruction and/or unstable subbase material which makes forward or reverse motion of pneumatic device impossible, said pneumatic device then becomes part of the roadway subbase and permission to excavate to retrieve device will not be granted.
- 4) If a pneumatic device is used for the work permitted herein, the installation must be kept to a minimum of four feet below the surface of the roadway if the pneumatic device is less than two inches in diameter, and a minimum of five feet below the surface of the roadway if the pneumatic device is two inches in diameter or larger.

BITUMINOUS RESTORATION

- 1) The locations and dimensions of all openings to be made in the bituminous surface shall be approved by the ACTD prior to any cutting or any surface opening operations.
- 2) All openings in bituminous surfaces shall be cut in a straight line with the sides smooth and vertical. No ragged edges will be permitted. Cutting shall be done with a concrete saw.
- 3) All necessary dust control operations shall be carried out by the applicant at no expense to Anoka County.
- 4) The minimum requirement for subgrade replacement shall be the upper twelve inches of material and shall meet MNDOT specifications for class five placed in six inch layers compacted to one hundred percent of optimum density.
- 5) All manhole casings, gate valves, and other utility structures shall be set one quarter inch below the top of the finished surface.
- 6) Bituminous tack coat materials and application thereof shall conform to MNDOT specification 2357.
- 7) All bituminous surfacing shall be replaced as soon as practicable after the base construction. All bituminous surfacing shall be machine laid. Any exceptions must be approved by the ACTD. Bituminous surfacing shall be replaced to original pavement depth or to a minimum of six inches of bituminous mixture (2360), whichever is greater. Bituminous mixtures must be placed in lifts not exceeding three inches in thickness for base and binder courses and not exceeding two inches for the wear course.
- 8) All surface restoration regardless of size shall conform to existing grades.
- 9) Any unnecessary or negligent damage to bituminous surface in conjunction with the installation and/or repair of a utility shall be cut out and replaced in kind as directed by the ACTD.

THIS PERMIT COVERS THE RIGHT OF WAY IN ANOKA COUNTY ONLY
ACTD reserves the right to make changes to these special conditions.



ANOKA COUNTY TRANSPORTATION DIVISION

1440 BUNKER LAKE BLVD NW

ANDOVER, MN 55304

PERMIT PHONE: 763-324-3176

highwaypermits@co.anoka.mn.us

CONCRETE RESTORATION

- 1) Curb and gutter, sidewalks, and driveways shall be restored in accordance with MNDOT specifications 2531 and 2521.

UTILITY LINES

- 1) There shall be only a single pole line on the county right of way on either side of the center line thereof.
- 2) Exact locations of longitudinal installations on county highways shall be located as directed by the ACTD.

SECTION CORNER MONUMENTS

- 1) Utility locations shall not interfere with the location of any section, quarter, witness, or right of way monuments. For assistance in locations, contact the Anoka County Surveyor's Office.
- 2) The applicant shall be responsible for replacement of any existing property irons disturbed during construction.
- 3) The applicant shall notify the Anoka County Surveyor's Office three working days in advance of any anticipated disturbance of any section, quarter, witness, or right of way monuments.
- 4) Any monument disturbed during the course of construction, shall be reset by the Anoka County Surveyor's Office at the expense of the applicant.

ATTACHING TO BRIDGES/STRUCTURES

- 1) No utility is permitted to be hung from, or otherwise attached to, any bridge or structure without having detailed plans approved by the Anoka County Engineer. These plans are to show approaches to the structure, method of installation, type, and dimension of housing for the utility.

ADDITIONAL PROVISIONS

- 1) All subcontractors, installers, and crew shall possess a copy of all documents in relation to the approved permit prior to the commencement of work and be kept on site. This includes, but it not limited to the following:
 - a) Approved permit
 - b) Any/all traffic control plans and/or layouts
- 2) Shall notify Andrea Schmid at 763-324-3128 or andrea.schmid@co.anoka.mn.us
 - a) At least 36 hours prior to the commencement of work
 - b) When there is any change to traffic control set up (ex: stage 1 to stage 2)
 - c) When work is complete - including restorations
- 3) No work during inclement weather or when plows are out in any capacity
- 4) All traffic control shall be in accordance with the most current version of the MnDOT Temporary Traffic Control Field Manual

INITIAL
^{DS}



Anoka County

TRANSPORTATION DIVISION

Respectful, Innovative, Fiscally Responsible

Highway

Transit

Surveyor

GIS

Fleet

Joe MacPherson, P.E.
Chief Officer, Transportation, County Engineer

Jerry Auge, P.E.
Department Director, Assistant County Engineer

EXCAVATOR AND OPERATOR NOTICE

This notice is for all excavators and operators applying for permits involving excavations your obligations to comply with Minnesota State Statutes 216D that is attached to this notice.

This notice is a requirement of State Statute 216D.02; Notice to Excavators and Operators.

Our Passion Is Your Safe Way Home

1440 Bunker Lake Boulevard N.W. ▲ Andover, MN 55304-4005
Office: 763-324-3100 ▲ Fax: 763-324-3020 ▲ www.anokacounty.us/highway

Affirmative Action / Equal Opportunity Employer

216D.03 NOTIFICATION CENTER.

Subdivision 1. **Participation.** An operator shall participate in and share in the costs of one statewide notification center operated by a vendor selected under subdivision 2.

Subd. 2. **Establishment of notification center; rules.** (a) The notification center services must be provided by a nonprofit corporation approved in writing by the commissioner. The nonprofit corporation must be governed by a board of directors of up to 20 members, one of whom is the director of the Office of Pipeline Safety. The other board members must represent and be elected by operators, excavators, and other persons eligible to participate in the center. In deciding to approve a nonprofit corporation, the commissioner shall consider whether it meets the requirements of this paragraph and whether it demonstrates that it has the ability to contract for and implement the notification center service.

(b) The commissioner shall adopt rules:

(1) establishing a notification process and competitive bidding procedure for selecting a vendor to provide the notification service;

(2) governing the operating procedures and technology needed for a statewide notification center; and

(3) setting forth the method for assessing the cost of the service among operators.

(c) The commissioner shall select a vendor to provide the notification center service. The commissioner may advertise for bids as provided in section 16C.06, subdivisions 1 and 2, and base the selection of a vendor on best value as provided in section 16C.06, subdivision 6. The commissioner shall select and contract with the vendor to provide the notification center service, but all costs of the center must be paid by the operators. The commissioner may at any time appoint a task force to advise on the renewal of the contract or any other matter involving the center's operations.

(d) An operator may submit a bid and be selected to contract to provide the notification center service under paragraph (a) or (c). The commissioner shall annually review the services provided by the nonprofit corporation approved under paragraph (a) or the vendor selected under paragraph (c).

Subd. 3. **Cooperation with local government.** In establishing operating procedures and technology for the statewide notification center, the board of directors or the commissioner must work in cooperation with the League of Minnesota Cities, the Association of Minnesota Counties, and the Township Officers' Association. The purpose of this cooperation is to maximize the participation of local governmental units that issue permits for activities involving excavation to assure that excavators receive notice of and comply with the requirements of sections 216D.01 to 216D.07.

Subd. 4. **Notice to local government.** The notification center shall provide local governmental units with a master list, by county, of the operators in the county who are participants in the notification center, and the telephone number and mailing address of the notification center.

History: 1987 c 353 s 9; 1997 c 187 art 1 s 15; 1998 c 386 art 2 s 69

216D.04 EXCAVATION; LAND SURVEY.

Subdivision 1. **Notice required; contents.** (a) Except in an emergency, an excavator shall and a land surveyor may contact the notification center and provide notice at least 48 hours, excluding Saturdays, Sundays, and holidays and not more than 14 calendar days before beginning any excavation or boundary survey. An excavation or boundary survey begins, for purposes of this requirement, the first time excavation or a boundary survey occurs in an area that was not previously identified by the excavator or land surveyor in the notice.

(b) The notice may be oral or written, and must contain the following information:

- (1) the name of the individual providing the notice;
- (2) the precise location of the proposed area of excavation or survey;
- (3) the name, address, and telephone number of the individual or individual's company;
- (4) the field telephone number, if one is available;
- (5) the type and extent of the activity;
- (6) whether or not the discharge of explosives is anticipated;
- (7) the date and time when the excavation or survey is to commence; and
- (8) the estimated duration of the activity.

Subd. 1a. **Plans for excavation.** (a) Any person, prior to soliciting bids or entering into a contract for excavation, shall provide a proposed notice to the notification center to obtain from the affected operators of underground facilities the type, size, and general location of underground facilities. Affected operators shall provide the information within 15 working days. An operator who provides information to a person who is not a unit of government may indicate any portions of the information which are proprietary and may require the person to provide appropriate confidentiality protection. The information obtained from affected operators must be submitted on the final drawing used for the bid or contract and must depict the utility quality level of that information. This information must be updated not more than 90 days before completion of the final drawing used for the bid or contract.

(b) This subdivision does not apply to bids and contracts for:

- (1) routine maintenance of underground facilities or installation, maintenance, or repair of service lines;
- (2) excavation for operators of underground facilities performed on a unit of work or similar basis; or
- (3) excavation for home construction and projects by home owners.

(c) A person required by this section to show existing underground facilities on its drawings shall conduct one or more preliminary design meetings during the design phase to communicate the project design and coordinate utility relocation. Affected facility operators shall attend these meetings or make other arrangements to provide information.

(d) A person required by this section to show existing underground facilities on its drawings shall conduct one or more preconstruction meetings to communicate the project design and coordinate utility relocation. Affected facility operators and contractors shall attend these meetings or make other arrangements to provide information.

(e) This subdivision does not affect the obligation to provide a notice of excavation as required under subdivision 1.

Subd. 2. Duties of notification center; regarding notice. The notification center shall assign an inquiry identification number to each notice and retain a record of all notices received for at least six years. The center shall immediately transmit the information contained in a notice to every operator that has an underground facility in the area of the proposed excavation or boundary survey.

Subd. 3. Locating underground facility; operator. (a) Prior to the excavation start time on the notice, an operator shall locate and mark or otherwise provide the approximate horizontal location of the underground facilities of the operator and provide readily available information regarding the operator's abandoned and out-of-service underground facilities as shown on maps, drawings, diagrams, or other records used in the operator's normal course of business, without cost to the excavator. The excavator shall determine the precise location of the underground facility, without damage, before excavating within two feet of the marked location of the underground facility.

(b) Within 96 hours or the time specified in the notice, whichever is later, after receiving a notice for boundary survey from the notification center, excluding Saturdays, Sundays, and holidays, unless otherwise agreed to between the land surveyor and operator, an operator shall locate and mark or otherwise provide the approximate horizontal location of the underground facilities of the operator, without cost to the land surveyor.

(c) For the purpose of this section, the approximate horizontal location of the underground facilities is a strip of land two feet on either side of the underground facilities.

(d) Markers used to designate the approximate location of underground facilities must follow the current color code standard used by the American Public Works Association.

(e) If the operator cannot complete marking of the excavation or boundary survey area before the excavation or boundary survey start time stated in the notice, the operator shall promptly contact the excavator or land surveyor.

(f) After December 31, 1998, operators shall maintain maps, drawings, diagrams, or other records of any underground facility abandoned or out-of-service after December 31, 1998.

(g) An operator or other person providing information pursuant to this subdivision is not responsible to any person, for any costs, claims, or damages for information provided in good faith regarding abandoned, out-of-service, or private or customer-owned underground facilities.

Subd. 4. Locating underground facility; excavator or land surveyor. (a) The excavator or land surveyor shall determine the precise location of the underground facility, without damage, before excavating within two feet on either side of the marked location of the underground facility.

(b) If the excavator or land surveyor cancels the excavation or boundary survey, the excavator or land surveyor shall cancel the notice through the notification center.

(c) The notice is valid for 14 calendar days from the start time stated on the notice. If the activity will continue after the expiration time, then the person responsible for the activity shall serve an additional notice at least 48 hours, excluding Saturdays, Sundays, and holidays, before the expiration time of the original notice, unless the excavator makes arrangements with the operators affected to periodically verify or refresh the marks, in which case the notice is valid for six months from the start time stated on the notice.

(d) The excavator is responsible for reasonably protecting and preserving the marks until no longer required for proper and safe excavation near the underground facility. If the excavator has reason to believe the marks are obliterated, obscured, missing, or incorrect, the excavator shall notify the facility operator or notification center in order to have an operator verify or refresh the marks.

History: *1987 c 353 s 10; 1992 c 493 s 5; 1993 c 341 art 1 s 21; 1997 c 196 s 1; 1998 c 348 s 1-3; 2004 c 163 s 2-6*

216D.05 PRECAUTIONS TO AVOID DAMAGE.

An excavator shall:

- (1) plan the excavation to avoid damage to and minimize interference with underground facilities in and near the construction area;
- (2) use white markings for proposed excavations except where it can be shown that it is not practical;
- (3) maintain a clearance between an underground facility and the cutting edge or point of any mechanized equipment, considering the known limit of control of the cutting edge or point to avoid damage to the facility;
- (4) provide support for underground facilities in and near the construction area, including during backfill operations, to protect the facilities; and
- (5) conduct the excavation in a careful and prudent manner.

History: *1987 c 353 s 11; 1998 c 348 s 4; 2004 c 163 s 7*

216D.06 DAMAGE TO FACILITY.

Subdivision 1. **Notice; repair.** (a) If any damage occurs to an underground facility or its protective covering, the excavator shall notify the operator promptly. When the operator receives a damage notice, the operator shall promptly dispatch personnel to the damage area to investigate. If the damage results in the escape of any flammable, toxic, or corrosive gas or liquid or endangers life, health, or property, the excavator responsible shall immediately notify the operator and the 911 public safety answering point, as defined in section 403.02, subdivision 19, and take immediate action to protect the public and property. The excavator shall also attempt to minimize the hazard until arrival of the operator's personnel or until emergency responders have arrived and completed their assessment. The 911 public safety answering point shall maintain a response plan for notifications generated by this section.

(b) An excavator shall delay backfilling in the immediate area of the damaged underground facilities until the damage has been investigated by the operator, unless the operator authorizes otherwise. The repair of damage must be performed by the operator or by qualified personnel authorized by the operator.

(c) An excavator who knowingly damages an underground facility, and who does not notify the operator as soon as reasonably possible or who backfills in violation of paragraph (b), is guilty of a misdemeanor.

Subd. 2. **Cost reimbursement.** (a) If an excavator damages an underground facility, the excavator shall reimburse the operator for the cost of necessary repairs, and for a pipeline the cost of the product that was being carried in the pipeline and was lost as a direct result of the damage.

(b) Reimbursement is not required if the damage to the underground facility was caused by the sole negligence of the operator or the operator failed to comply with section 216D.04, subdivision 3.

Subd. 3. **Prima facie evidence of negligence.** It is prima facie evidence of the excavator's negligence in a civil court action if damage to the underground facilities of an operator resulted from excavation, and the excavator failed to give an excavation notice under section 216D.04 or provide support as required by section 216D.05.

History: 1987 c 353 s 12; 1999 c 43 s 1

216D.07 EFFECT ON LOCAL ORDINANCES.

(a) Sections 216D.01 to 216D.07 do not affect or impair local ordinances, charters, or other provisions of law requiring permits to be obtained before excavating.

(b) A person with a permit for excavation from the state or a public agency is subject to sections 216D.01 to 216D.07. The state or public agency that issued a permit for excavation is not liable for the actions of an excavator who fails to comply with sections 216D.01 to 216D.07.

History: *1987 c 353 s 13*

CHAPTER 7560
OFFICE OF PIPELINE SAFETY
EXCAVATION NOTICE SYSTEM

- 7560.0100 DEFINITIONS.
- 7560.0125 ABANDONED AND OUT-OF-SERVICE FACILITIES.
- 7560.0150 PUBLIC RIGHT-OF-WAY MAPPING AND INSTALLATION.
- 7560.0225 EXCAVATOR RESPONSIBILITIES REGARDING A LOCATE.
- 7560.0250 LOCATE STANDARDS.
- 7560.0300 OPERATOR PARTICIPATES AND SHARES COSTS.
- 7560.0325 EMERGENCY EXCAVATION NOTICES.
- 7560.0350 EXCAVATION NOTICE REQUESTING MEET.
- 7560.0375 LOCATING A SERVICE LATERAL.
- 7560.0400 CITATIONS.
- 7560.0500 RESPONSE OPTIONS.
- 7560.0600 DIRECTOR REVIEW.
- 7560.0700 CONSENT ORDER.
- 7560.0800 CIVIL PENALTIES.

7560.0100 DEFINITIONS.

Subpart 1. **Scope.** The terms used in this chapter have the meanings given them. Terms not defined in this part have the meanings given them in Minnesota Statutes, section 216D.01.

Subp. 1a. **Abandoned facility.** "Abandoned facility" means an underground facility that is no longer in service and is physically disconnected from a portion of the operating facility that is in use or still carries service. An abandoned facility has been deemed abandoned by the operator.

Subp. 2. **Director.** "Director" means the director of the Office of Pipeline Safety of the Minnesota Department of Public Safety.

Subp. 3. **Good cause to believe.** "Good cause to believe" means grounds put forth in good faith that are not arbitrary, irrational, unreasonable, or irrelevant and that are based on at least one of the following sources:

- A. information from a person;
- B. facts supplied by the notification center defined in Minnesota Statutes, section 216D.01, subdivision 8;
- C. facts of which the director or an agent of the director has personal knowledge; and
- D. information provided by excavators or operators.

Subp. 4. **Locate.** "Locate" means an operator's markings of an underground facility.

Subp. 5. [Renumbered as subp 8]

Subp. 5a. [Renumbered as subp 9]

Subp. 6. [Renumbered as subp 11]

7560.0125 EXCAVATION NOTICE SYSTEM

2

Subp. 7. **Meet.** When used as a noun in this chapter, "meet" refers to a meeting at the site of proposed excavation requested at the time of notice by the excavator with all affected underground facility operators to further clarify the precise geographic location of excavation, schedule locating, propose future contacts, and share other information concerning the excavation and facilities.

Subp. 8. **Office.** "Office" means the Office of Pipeline Safety of the Minnesota Department of Public Safety.

Subp. 9. **Out-of-service facility.** "Out-of-service facility" means an underground facility that is no longer maintained and is not intended for future use, but has not been deemed abandoned. An out-of-service facility may still be connected to a portion of the operating facility that is in use or still carries service.

Subp. 10. **Public right-of-way.** "Public right-of-way" means the area on, below, or above a public roadway, highway, street, cartway, bicycle lane, and sidewalk in which a government unit has an interest, including other rights-of-way dedicated for travel purposes and utility easements of government units.

Subp. 11. **Remuneration.** "Remuneration" means direct or indirect compensation or consideration paid to the person or the person's agent, employer, employee, subcontractor, or contractor. A person who excavates as part of the person's duties as an employee, employer, agent, subcontractor, or contractor is considered to be acting for remuneration.

Subp. 12. **Service lateral.** "Service lateral" means an underground facility that is used to transmit, distribute, or furnish gas, electricity, communications, or water from a common source to an end-use customer. A service lateral is also an underground facility that is used in the removal of wastewater from a customer's premises.

Statutory Authority: *MS s 14.06; 216D.08; 299F.56; 299F.60; 299F.641; 299J.04*

History: *16 SR 135; 24 SR 448; 29 SR 1503*

Published Electronically: *July 20, 2005*

7560.0125 ABANDONED AND OUT-OF-SERVICE FACILITIES.

Subpart 1. **Duty of operators to provide readily available information.** Operators shall provide readily available information, as shown on maps, drawings, diagrams, or other records used in the normal course of business, on the approximate location of abandoned and out-of-service facilities to an excavator by the excavation date and time noted on the excavation or location notice unless otherwise agreed between the excavator and the operator. An operator fulfills an obligation to provide information on these facilities by doing one or more of the following:

- A. locating and marking the approximate location of the facility according to the current color code standard used by the American Public Works Association, as required in Minnesota Statutes, section 216D.04, subdivision 3, with an abandoned or out-of-service facility identified by an uppercase A surrounded by a circle;
- B. providing informational flags at the area of proposed excavation;
- C. communicating information verbally; or
- D. providing copies of maps, diagrams, or records.

Subp. 2. **Duty to notify operator.** An excavator shall notify the operator:

A. before moving, removing, or otherwise altering a facility that is thought to be abandoned or out of service; or

B. if damage to the facility occurs, pursuant to Minnesota Statutes, section 216D.01, subdivision 2.

Subp. 3. **Verification of abandoned or out-of-service facility.** Upon receipt of notification by an excavator pursuant to subpart 2, an operator shall verify that an underground facility is abandoned or out of service, by either reference to installation records, testing, or other comparable standard of verification, before an excavator is allowed to move, remove, or otherwise alter an underground facility.

Subp. 4. **Liability.** An operator providing information pursuant to Minnesota Statutes, section 216D.04, subdivision 3, is not responsible to any person for any costs, claims, or damages for information provided in good faith regarding abandoned and out-of-service underground facilities.

Statutory Authority: *MS s 14.06; 216D.08; 299J.04; 299F.60*

History: *24 SR 448*

Published Electronically: *July 20, 2005*

7560.0150 PUBLIC RIGHT-OF-WAY MAPPING AND INSTALLATION.

Subpart 1. **Duty of operator to map.** After December 31, 2005, an operator shall maintain a map, a diagram, a drawing, or geospatial information regarding the location of its underground facility within a public right-of-way installed after that date.

Subp. 2. **Duty to install locating wire.** After December 31, 2005, an operator shall install a locating wire or have an equally effective means of marking the location of each nonconductive underground facility within a public right-of-way installed after that date. This requirement does not apply when making minor repairs to an existing nonconductive facility. As applied to this chapter, "minor repairs" means repairs to or partial replacement of portions of existing service laterals located within a public right-of-way for purposes of routine maintenance and upkeep.

Statutory Authority: *MS s 299J.04*

History: *29 SR 1503*

Published Electronically: *July 20, 2005*

7560.0200 [Repealed, 24 SR 448]

Published Electronically: *July 20, 2005*

7560.0225 EXCAVATOR RESPONSIBILITIES REGARDING A LOCATE.

Subpart 1. [Repealed, 29 SR 1503]

Subp. 2. **Responsibility to protect and preserve.** The excavator is responsible for reasonably protecting and preserving a locate until no longer required for proper and safe excavation near the underground facility. If the excavator has reason to believe a locate is obliterated, obscured, missing, or incorrect, the excavator shall notify the facility operator or notification center in order to have an operator verify, refresh, or re-mark the locate.

7560.0250 EXCAVATION NOTICE SYSTEM

4

Subp. 3. **Use of locate.** A locate is valid for 14 days from the excavation commencement time stated on the excavation or location notice, unless the excavator has made previous arrangements with the operators affected to periodically verify, refresh, or re-mark the locate.

Statutory Authority: *MS s 14.06; 216D.08; 299J.04; 299F.60*

History: *24 SR 448; 29 SR 1503*

Published Electronically: *July 20, 2005*

7560.0250 LOCATE STANDARDS.

Subpart 1. **Facility locate.** Unless otherwise agreed to between the excavator and operator, an operator shall locate an underground facility using stakes, flags, paint, or other suitable materials in varying combinations dependent upon the surface. The locate must be in sufficient detail to clearly identify the approximate route of the underground facility. The locate must also include:

- A. name, abbreviation, or logo of the operator when more than one operator listed on the notice uses the same color markings;
- B. width of the underground facility if it is greater than eight inches; and
- C. number of underground facilities if greater than one.

Subp. 2. **Operator duties in no conflict situation.** After December 31, 2005, an operator who receives notice and determines that an underground facility is not in conflict with the proposed excavation shall complete one or more of the following:

- A. mark the area "NO" followed by the operator's name, abbreviation, or logo in the color code of the underground facility not in conflict;
- B. place a clear plastic flag at the area that:
 - (1) states "N/C" or "NO CONFLICT" in lettering matching the color code of the underground facility that is not in conflict; and
 - (2) includes the operator's name, abbreviation, or logo, the date, a contact telephone number, and the ticket number; or
- C. contact the notification center through procedures required by the notification center and indicate that there are no underground facilities in conflict with the proposed excavation and that no markings or flags were left at the proposed excavation site.

Subp. 3. **Placement of flags or markings.** If using N/C (no conflict) flags or markings pursuant to subpart 2, an operator shall place the flags or markings in a location that can be readily observed by an excavator. When an area of proposed excavation is delineated by the use of white markings, an operator shall place the N/C flags or markings within, or as near as practicable to, the delineated area.

Subp. 4. **Duties of notification center.** After December 31, 2005, the notification center shall make the information received under subpart 2 available to the excavator before the start date and time on the notice. The notification center may fulfill this requirement by making the information accessible through one or more Internet addresses, by transmitting the information to a continuously working facsimile machine maintained by the excavator, or by other methodology developed by the notification center. The notification center shall make available the information received by operators pursuant to this section through

an electronic means. The notification center is not required by this subpart to contact an excavator verbally via telephone.

Statutory Authority: *MS s 299J.04*

History: *29 SR 1503*

Published Electronically: *July 20, 2005*

7560.0300 OPERATOR PARTICIPATES AND SHARES COSTS.

An operator shall participate in and share the costs of the one call excavation notice system by:

- A. submitting the information required by the notification center to allow the center to notify the operator of excavation activity;
- B. updating the information provided to the notification center on a timely basis;
- C. installing and paying for equipment reasonably requested by the notification center to facilitate receipt of notice of excavation from the center;
- D. paying the costs charged by the notification center on a timely basis; and
- E. receiving and responding to excavation notices, including emergency notices, as required by Minnesota Statutes, chapter 216D.

Statutory Authority: *MS s 14.06; 216D.08; 299F.56; 299F.641*

History: *16 SR 135*

Published Electronically: *July 20, 2005*

7560.0325 EMERGENCY EXCAVATION NOTICES.

Subpart 1. **Duty of excavator to provide notice.** An excavator shall provide notice to the notification center before commencing an emergency excavation, unless subpart 2 applies. All emergency notices, regardless whether made prior to excavation, must be verbal or in a manner accepted by the notification center. In addition to the information required by the notification center, the notice must also contain:

- A. a description of the situation requiring the emergency excavation;
- B. the precise location of the proposed area of the emergency excavation;
- C. at least one continuously staffed telephone number where the excavator can be contacted by the operator throughout the emergency; and
- D. the excavation start date and time if the need for excavation is not immediate.

Subp. 2. **Excavating before notice.** If an emergency is such that providing notice or waiting for an operator would result in an undue risk to life, health, or significant loss of property, the excavator may excavate without providing prior notice or waiting for an operator to mark an underground facility. In this situation, the excavator shall provide notice as soon as practicable and take all reasonable precautions to avoid or minimize damage. Excavation prior to notice under this subpart does not relieve an excavator from any responsibility for damage to an underground facility pursuant to Minnesota Statutes, section 216D.06.

Subp. 3. **Emergency notice requesting immediate response.** Upon receiving an emergency excavation notice requesting an immediate response, an operator shall:

7560.0350 EXCAVATION NOTICE SYSTEM

6

A. attempt to contact the excavator within one hour at the telephone number provided in subpart 1, item C, to provide any information concerning facilities at or near the area of excavation including an anticipated response time; and

B. locate and mark the underground facility within three hours of notice unless:

- (1) otherwise agreed between the parties;
- (2) the operator notifies the excavator that not locating does not present an immediate danger to life or health, or a significant loss of property; or
- (3) there is an event or situation that cannot be reasonably anticipated or controlled by the operator.

Subp. 4. **Emergency notice requesting scheduled response.** Upon receiving an emergency excavation notice that does not require an immediate response, and before the scheduled excavation start date and time, an operator shall:

A. locate and mark the underground facility, unless otherwise agreed between the parties; or

B. notify the excavator at the telephone number provided in subpart 1, item C, that there is not an underground facility within the area of proposed excavation.

For purposes of this subpart, a requested start time of three hours or less from the time notice is provided to the center is considered an emergency notice requesting immediate response under subpart 3.

Statutory Authority: *MS s 299J.04*

History: *29 SR 1503*

Published Electronically: *July 20, 2005*

7560.0350 EXCAVATION NOTICE REQUESTING MEET.

Subpart 1. **Excavator duties.** When requesting a meet through the notification center, an excavator must provide at least one contact name and telephone number to assist in facilitating the meet. An excavator shall contact the notification center to cancel or reschedule the meet and the notification center shall relay this information to the affected operators. When a meet is requested, an excavator's notice must include the entire geographic area of the proposed excavation and the specific location of the meet. This part does not relieve an excavator from the duty to provide a precise geographic location of the proposed area of excavation, or to use white markings except where it can be shown that to do so is not practical.

Subp. 2. **Operator duties.** When a meet is requested, an affected operator shall make a reasonable effort to attend the meet at the proposed date and time, or contact the excavator before the meet and reschedule for a mutually agreed date and time.

Subp. 3. **Excavation start date and time.** When a meet is requested, the meet date and time must be at least 48 hours after notice is provided, excluding Saturdays, Sundays, and holidays, and the excavation start date and time must be at least 24 hours after the proposed meet date and time specified on the notice, excluding Saturdays, Sundays, and holidays. This subpart does not apply if these matters are provided for in a written agreement with all affected operators.

Subp. 4. **Meet request documentation.** An excavator shall maintain written documentation of each meet with an underground facility operator or representative. This documentation must be kept for the duration of the excavation conducted under the notice. The documentation must include:

- A. the date and time of each meet;
- B. the names, company affiliations, and contact information of the attendees of each meet;
- C. a diagram, sketch, or description of the precise excavation locations, dates, and times; and
- D. the agreed schedule of any future meets or communications.

Statutory Authority: *MS s 299J.04*

History: *29 SR 1503*

Published Electronically: *July 20, 2005*

7560.0375 LOCATING A SERVICE LATERAL.

Subpart 1. **Operator duties.** Unless otherwise agreed, an underground facility operator shall locate a service lateral before the start date and time on the notice and in accordance with items A through C:

A. An operator of a natural gas, propane, or electric facility shall locate a service lateral up to the meter or the connection to a customer's underground facility, whichever is closer to the end-use customer. If the meter or connection to the customer's underground facility is within a public right-of-way, at a minimum the operator shall locate that portion of the service lateral within the public right-of-way up to the point where the service lateral first leaves the public right-of-way.

B. An operator of a communication facility shall locate a service lateral up to the entry of the first building. If the service lateral does not enter a building, the operator shall locate up to the utilization equipment, fence, or wall that surrounds the equipment.

C. After December 31, 2005, an operator of a sewage or water facility, at a minimum, shall locate that portion of the service lateral within a public right-of-way installed after that date up to the point where the service lateral first leaves the public right-of-way. The operator shall either locate or provide information as shown on maps, drawings, diagrams, or other records, on the location of a sewer or water service lateral installed before January 1, 2006. If no information is available on a sewer or water service lateral installed before January 1, 2006, then notifying the excavator that no information exists fulfills the requirements of this section.

Subp. 2. **Exception.** An operator is not required to locate a service lateral of a customer who currently participates in the statewide notification system, provided the customer and operator mutually agree that the customer will assume locate responsibilities. The agreement must be in writing.

Statutory Authority: *MS s 299J.04*

History: *29 SR 1503*

Published Electronically: *July 20, 2005*

7560.0400 CITATIONS.

Subpart 1. **Notice of violation.** The office shall issue a notice of probable violation when the office has good cause to believe a violation of Minnesota Statutes, sections 216D.01 to 216D.09 or this chapter has occurred.

Subp. 2. **Contents of notice of violation.** A notice of violation must include:

7560.0500 EXCAVATION NOTICE SYSTEM

8

- A. a statement of the statute or rule allegedly violated by the person and a description of the evidence on which the allegation is based;
- B. notice of response options available to the person cited;
- C. notice that the person has 30 days in which to respond;
- D. notice that failure to respond within 30 days precludes administrative review under this chapter; and
- E. if a civil penalty is proposed, the amount of the proposed civil penalty and the maximum civil penalty applicable under law.

Subp. 3. **Receipt of notice.** The notice of violation is deemed received three days after mailing to the person's last known address.

Statutory Authority: *MS s 14.06; 216D.08; 299F.56; 299F.60; 299F.641; 299J.04*

History: *16 SR 135; 24 SR 448*

Published Electronically: *July 20, 2005*

7560.0500 RESPONSE OPTIONS.

The person shall respond to the notice of violation in the following way:

- A. When the notice contains a proposed compliance order, the person shall:
 - (1) agree to the proposed compliance order;
 - (2) request the execution of a consent order;
 - (3) object to the proposed compliance order and submit written explanations, information, or other materials in answer to the allegations in the notice; or
 - (4) request the office to initiate a hearing under Minnesota Statutes, sections 14.50 to 14.69.
- B. When the notice contains a proposed civil penalty, the person shall:
 - (1) pay the penalty and close the case;
 - (2) submit an offer in compromise of the proposed civil penalty;
 - (3) submit a written explanation, information, or other material in answer to the allegations or in mitigation of the proposed civil penalty; or
 - (4) request the office to initiate a hearing under Minnesota Statutes, sections 14.50 to 14.69.
- C. Failure to respond in writing within 30 days precludes administrative review under this chapter. A final order will be issued and penalties will be forwarded for collection.

Statutory Authority: *MS s 14.06; 216D.08; 299F.56; 299F.60; 299F.641; 299J.04*

History: *16 SR 135; 24 SR 448*

Published Electronically: *July 20, 2005*

7560.0600 DIRECTOR REVIEW.

If the person objects to the proposed civil penalty or compliance order and submits written explanations, information, or other materials in response to a notice of violation, within the time specified in part 7560.0500, the director shall review the submissions and determine whether to negotiate further, to change or withdraw the notice of violation, or to initiate a hearing under Minnesota Statutes, sections 14.50 to 14.69.

Statutory Authority: *MS s 14.06; 216D.08; 299F.56; 299F.60; 299F.641; 299J.04*

History: *16 SR 135; 24 SR 448*

Published Electronically: *July 20, 2005*

7560.0700 CONSENT ORDER.

An executed consent order must contain:

- A. an admission by the person of the jurisdictional facts;
- B. a waiver of further procedural steps and the right to seek judicial or administrative review or otherwise challenge or contest the validity of the consent order; and
- C. an agreement that the notice of violation may be used to construe the terms of the consent order.

Statutory Authority: *MS s 14.06; 216D.08; 299F.56; 299F.641*

History: *16 SR 135*

Published Electronically: *July 20, 2005*

7560.0800 CIVIL PENALTIES.

Subpart 1. **Proceedings against excavators.** When the office has good cause to believe that an excavator is engaging or has engaged in conduct that violates Minnesota Statutes, section 216D.04, subdivision 1, 2, or 3; 216D.05, clause (1), (2), (3), or (4); or 216D.06, subdivision 1, or a rule adopted under Minnesota Statutes, section 216D.08, subdivision 4, the office, if appropriate, shall negotiate a civil penalty under Minnesota Statutes, section 216D.08, subdivision 2. A penalty imposed under Minnesota Statutes, section 216D.08, is subject to the contested case and judicial review provisions of Minnesota Statutes, chapter 14. An operator who engages or has engaged in excavation that violates Minnesota Statutes, chapter 216D, is subject to the proceedings specified in subpart 2 and is subject to the penalties specified in subpart 4, item B or C.

Subp. 2. **Proceedings against underground facility operators.** The office may negotiate a civil penalty under item A or B.

A. When the office has good cause to believe that an underground facility operator, other than an operator set forth in item B, is engaging or has engaged in conduct that violates Minnesota Statutes, sections 216D.01 to 216D.07, or a rule adopted under Minnesota Statutes, section 216D.08, subdivision 4, the office, if appropriate, shall negotiate a civil penalty under Minnesota Statutes, section 216D.08, subdivision 2. A penalty imposed under Minnesota Statutes, section 216D.08, is subject to the contested case and judicial review provisions of Minnesota Statutes, chapter 14.

7560.0800 EXCAVATION NOTICE SYSTEM

10

B. When the office has good cause to believe that an operator who engages in the transportation of gas or hazardous liquids or who owns or operates a gas or hazardous liquid pipeline facility is engaging or has engaged in conduct that violates Minnesota Statutes, sections 299F.56 to 299F.641, or a rule adopted under Minnesota Statutes, section 299F.60, subdivision 5, the office, if appropriate, shall negotiate a civil penalty under Minnesota Statutes, section 299F.60, subdivision 2. A penalty imposed under Minnesota Statutes, section 299F.60, is subject to the contested case and judicial review provisions of Minnesota Statutes, chapter 14.

Subp. 3. **Assessment considerations.** In assessing a civil penalty under this part, the office shall consider the following factors:

- A. the nature, circumstances, and gravity of the violation;
- B. the degree of the person's culpability;
- C. the person's history of previous offenses;
- D. the person's ability to pay;
- E. good faith on the part of the person in attempting to remedy the cause of the violation;
- F. the effect of the penalty on the person's ability to continue in business; and
- G. past reports of damage to an underground facility by a person.

Subp. 4. **Maximum penalties.** For the purposes of this part, penalties imposed under this part must not exceed the limits in items A to C.

A. Penalties imposed against excavators must not exceed \$1,000 for each violation per day of violation.

B. Penalties imposed against underground facility operators, other than an operator set forth in item C, must not exceed \$1,000 for each violation per day of violation.

C. Penalties imposed against an operator who engages in the transportation of gas or hazardous liquids or who owns or operates a gas or hazardous liquid pipeline facility must not exceed \$10,000 for each violation for each day that the violation persists, except that the maximum civil penalty must not exceed \$500,000 for a related series of violations.

Subp. 5. **Payment procedure.** The person shall pay a civil penalty that has been proposed, assessed, or compromised by submitting to the office a check or money order in the correct amount, payable to the commissioner of public safety.

Statutory Authority: *MS s 14.06; 216D.08; 299F.56; 299F.60; 299F.641; 299J.04*

History: *16 SR 135; 24 SR 448*

Published Electronically: *July 20, 2005*

PLAN SYMBOLS

- EXISTING CENTERLINE
- PROPOSED CENTERLINE
- EXISTING RIGHT-OF-WAY LINE
- PROPOSED RIGHT-OF-WAY LINE
- EASEMENT LINE
- CONSTRUCTION PERMANENT
- LOT SECTION
- CONSTRUCTION LIMITS CLEAR ZONE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- DITCH LINE
- FENCE LINE - ANY TYPE
- SILT FENCE
- WETLAND BOUNDARY
- EXISTING TREES (TO REMAIN)
- BENCH MARK / IRON MONUMENT
- LIGHT POLE / BOLLARD
- SOIL BORING
- BUILDING
- RIPRAP
- MAILBOX
- SIGN

UTILITY SYMBOLS

- GAS LINE
- PETROLEUM LINE
- ELECTRIC
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND CABLE TV LINE
- UNDERGROUND FIBER OPTIC LINE
- TELEPHONE STRUCTURES
- ELECTRIC JUNC. BOX
- CABLE TV JUNC. BOX
- FIBER OPTIC STRUCTURES
- POWER POLE AND GUY WIRE
- STORM DRAIN LINE
- FLARED END SECTION
- CATCH BASIN
- MANHOLE
- WELL

HATCH LEGEND

- BITUMINOUS
- CONCRETE
- EROSION CONTROL
- GRAVEL
- HYDROMULCH
- REMOVAL
- CONCRETE
- BITUMINOUS

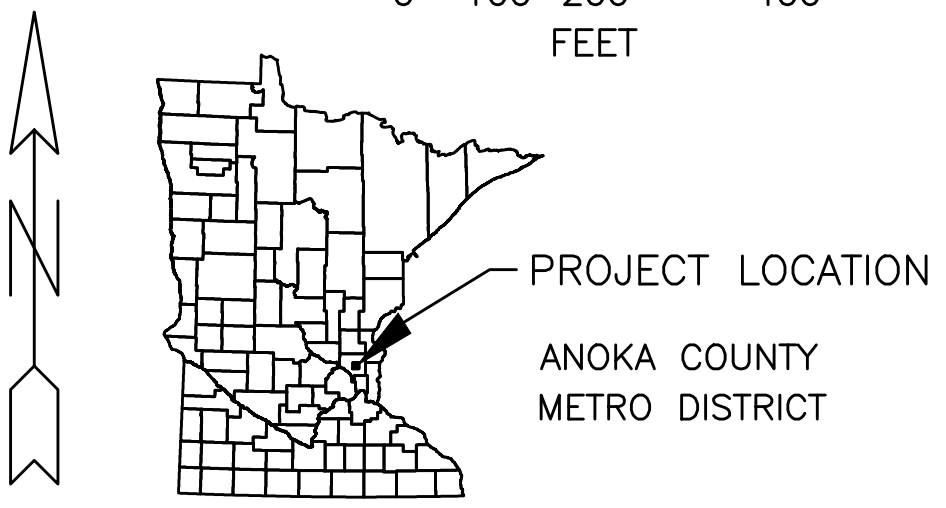
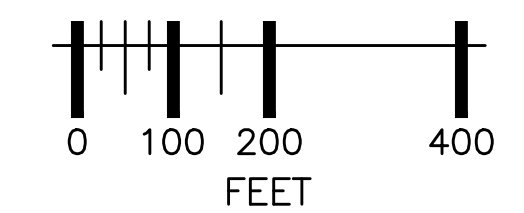
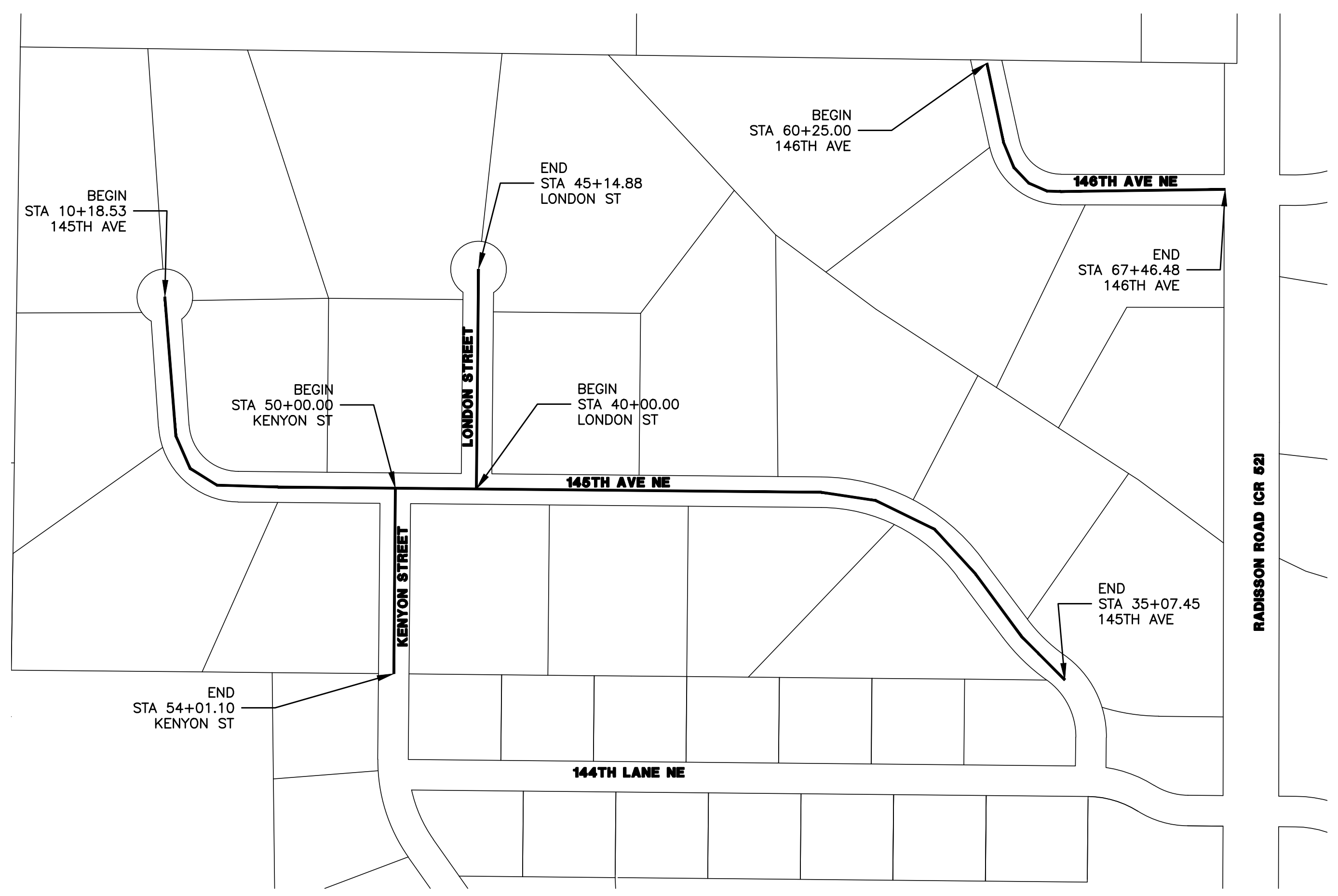
MINNESOTA DEPARTMENT OF TRANSPORTATION

City of Ham Lake, Minnesota

CONSTRUCTION PLAN FOR GRADING, AGGREGATE BASE, PLANT MIXED BITUMINOUS SURFACE, STORM DRAINS AND CONCRETE CURB

LOCATED ON 145TH AVENUE FROM 230 FT NORTH OF 144TH LANE TO CDS, LONDON STREET FROM 145TH AVENUE TO CDS, KENYON STREET FROM 216 FT NORTH OF 144TH LANE TO 145TH AVENUE, AND 146TH AVENUE FROM RADISSON ROAD TO CDS.

HAM LAKE PROJECT NO. 2105



PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY
10/10/22	28	DAK

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MN MUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

THE UTILITIES SHOWN ARE BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATIONS WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

GOVERNING SPECIFICATIONS
 THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND THE 2020 EDITION OF THE "MATERIAL LAB SUPPLEMENTAL SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MMUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3-4	EARTHWORK SUMMARY AND TABULATIONS
5-7	DETAILS
8-14	TEMPORARY SEDIMENT CONTROL
15	INTERSECTION DETAILS
16	CDS DETAILS
17	INFILTRATION BASIN DETAILS
18-22	SWPPP
23-25	REMOVAL PLAN
26-29	STORM DETAILS
30-35	PLAN AND PROFILE
36-37	SIGNING PLAN
38-51	CROSS SECTIONS

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

THIS PLAN CONTAINS 51 SHEETS

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

SIGNED: *David Krueger*
 DATE: 6/29/2022 REG. NO. 48768

APPROVED: *Thomas P. Collins* DATE: 6/29/2022
 CITY ENGINEER - HAM LAKE

RFC ENGINEERING, INC. Consulting Engineers

13635 Johnson Street NE Telephone 763-862-8000
 Ham Lake, MN 55304 Fax 763-862-8042

JOB NO. 2105 SHEET NO. 1 OF 51 SHEETS
 FILE: 34-2-113

STATEMENT OF ESTIMATED QUANTITIES

TAB	SHEET	NOTES	ITEM NO.	ITEM	UNIT	ENTIRE PROJECT	
						ESTIMATED QUANTITIES	
			2021.501	MOBILIZATION	LUMP SUM	1	
AF	3		2101.505	CLEARING	ACRE	0.1	
AF	3		2101.505	GRUBBING	ACRE	0.1	
AI	3		2104.502	REMOVE DRAINAGE STRUCTURE	EACH	6	
AJ	3	6	2104.502	REMOVE SIGN	EACH	9	
AJ	3		2104.502	SALVAGE POST	EACH	4	
AA	3	6	2104.502	SALVAGE SIGN	EACH	1	
AD	3	12	2104.502	SALVAGE MAILBOX AND SUPPORT	EACH	21	
BA	4		2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH) DRIVEWAY	LIN FT	116	
BA	4		2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH) DRIVEWAY	LIN FT	300	
AE	3		2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	145	
AB	3		2104.503	REMOVE CONCRETE CULVERT	LIN FT	82	
AB	3		2104.503	REMOVE METAL CULVERT	LIN FT	575	
AG	3		2104.503	SALVAGE WOODEN FENCE	LIN FT	38	
BA	4		2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	299	
BA	4		2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	590	
AH	3		2104.618	SALVAGE TIMBER RETAINING WALL	SQ FT	8	
AJ	3	4, 5	2105.607	COMMON EXCAVATION	CU YD	2,807	
AJ	3		2105.607	GRANULAR BORROW (CV)	CU YD	1,013	
AJ	4	10	2211.509	AGGREGATE BASE (CV) CLASS 5, 4.0" THICK - BIT DRIVEWAY	SQ YD	543	
AC	3	7, 8	2215.504	BITUMINOUS PAVEMENT RECLAMATION	SQ YD	12,507	
BA	4	10	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (2;C) 2.0" THICK--DRIVEWAY	SQ YD	543	
BB	4	11	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (2;C)	TON	795	
BC	4		2360.509	TYPE SP 12.5 NON WEARING COURSE MIXTURE (2;C)	TON	1,590	
			26-29	2501.502	15" GS PIPE APRON	EACH	2
			26-29	2501.502	24" GS PIPE APRON	EACH	2
			26-29	2501.602	TRASH GUARD FOR 15" PIPE APRON	EACH	2
			26-29	2501.602	TRASH GUARD FOR 24" PIPE APRON	EACH	2
		1, 5	26-29	2503.503	15" CP PIPE SEWER (SMOOTH)	LIN FT	369
		1, 5	26-29	2503.503	24" CP PIPE SEWER (SMOOTH)	LIN FT	285
		1, 5	26-29	2503.503	12" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	306
		1, 5	26-29	2503.503	15" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	1,341
		1, 5	26-29	2503.503	18" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	782
		1, 5	26-29	2503.503	24" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	243
		2, 5	26-29	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL	EACH	16
		2, 5	26-29	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 1	EACH	16
		2, 5	26-29	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 2	EACH	4
		2, 5	26-29	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 3	EACH	1
			26-29	2506.502	RAIN GUARDIAN	EACH	6
BL	4		2511.504	GEOTEXTILE FILTER TYPE 4	SQ YD	163	
BK	4		2511.507	RANDOM RIPRAP CLASS III	CU YD	44	
BD	4		2531.503	CONCRETE CURB AND GUTTER DESIGN D312 (MODIFIED)	LIN FT	8,218	
BA	4	10	2531.504	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	296	
BE	3-4	12	2540.602	INSTALL MAILBOX WITH SUPPORT	EACH	21	
			2563.601	TRAFFIC CONTROL	LUMP SUM	1	
BG	4	6	2564.518	SIGN PANELS TYPE C	SQ FT	31.8	
	18-22	9	2573.501	STABILIZED CONSTRUCTION EXIT	EACH	3	
BG	4	9	2573.502	STORM DRAIN INLET PROTECTION	EACH	35	
BJ	4	9	2573.502	CULVERT END CONTROLS	EACH	4	
BH	4	9	2573.503	SILT FENCE; TYPE MS	LIN FT	3,815	
BH	4	9	2573.503	FLOTATION SILT CURTAIN TYPE MOVING WATER	LIN FT	62	
		9	2573.503	FILTER BERM TYPE 4	LIN FT	174	
BF	4	9	2575.504	ROLLED EROSION PREVENTION CATEGORY 15	SQ YD	1,223	
BF	4	9	2575.504	ROLLED EROSION PREVENTION CATEGORY 25	SQ YD	983	
	18-22	3	2575.605	TURF ESTABLISHMENT (25-151 SEEDING MIX)	ACRE	2.2	
	18-22	3	2575.605	TURF ESTABLISHMENT (33-261 SEEDING MIX)	ACRE	0.5	

NOTES:

1. SELECT GRANULAR BORROW, STRUCTURAL EXCAVATION, AND GRANULAR BACKFILL FOR STORM PIPES ARE INCIDENTAL.
2. FILTER FABRIC AND FABRIC WRAP FOR CATCH BASINS AND MANHOLES ARE INCIDENTAL.
3. ALL DISTURBED AREAS DETERMINED NOT TO BE PAVED, AGGREGATE SURFACE, CONCRETE SURFACE OR RIPRAPPED SHALL HAVE 4 INCHES OF TOPSOIL. FERTILIZER TYPE 2, MULCH MATERIAL, AND SEED MIXTURE NO. 33-261, MULCH TYPE 3 (WEED FREE MULCH) WITH NO FERTILIZER AND SEED MIXTURE NO. 25-151 PER MNDOT STANDARD SPECIFICATION 3876, APPLY TYPE 6 MULCH AT THE RATE OF 2 (TWO) TONS PER ACRE (TO ACHIEVE A 90% UNIFORM GROUND COVERAGE). SEED MIXTURE, WATER, TYPE 2 FERTILIZER, AND MULCH ARE INCIDENTAL. SOIL TESTING TO DETERMINE FERTILIZER MIXTURE RATIO AND RATE OF APPLICATION IS INCIDENTAL. MATERIAL FOUND IN THE SUBCUTS THAT IS UNSUITABLE FOR FILL IN THE ROADBED SHALL BE REMOVED OFF-SITE.
4. THE CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE THE CONSTRUCTION LIMITS.
5. SIGNS INCLUDE POSTS.
6. AVERAGE DEPTH OF EXISTING BITUMINOUS PAVEMENT IS 3" TO 4".
7. AVERAGE DEPTH OF EXISTING BASE MATERIAL IS 4".
8. INSTALLATION AND MAINTENANCE ARE INCIDENTAL.
9. QUANTITY SHOWN USED FOR DRIVEWAY CONSTRUCTION. SEE DETAIL RFC-363A3.
10. BITUMINOUS MATERIAL FOR TACK COAT SHALL BE INCIDENTAL.
11. REMOVE SUPPORTS AND SALVAGE MAIL BOXES. SALVAGE MAIL BOXES ARE INCIDENTAL.
- 12.

SEED MIX 25-151: RESIDENTIAL TURF
 MULCH TYPE 6
 PLANT APRIL 1ST - JUNE 1ST FOR SPRING PLANTING OR JULY
 20TH - SEPTEMBER 20TH FOR FALL PLANTING

SEED MIX 33-261: PONDS & WET AREAS IN CENTRAL, SOUTHERN AND WESTERN MN
 MULCH TYPE 3
 PLANT APRIL 15TH - JULY 20TH FOR SPRING PLANTING OR SEPTEMBER 20TH -
 OCTOBER 20TH FOR FALL PLANTING

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY
 ADMINISTRATION, SHALL APPLY

PLATE NO.	STANDARD PLATES - RFC ENGINEERING (IN THE PLANS)
RFC-355A	D312M CONCRETE CURB AND GUTTER
RFC-366E1	TYPICAL STREET SECTION
RFC-363A3	PRIVATE DRIVEWAY/FIELD ENTRANCE
RFC-367A	RESIDENTIAL CUL-DE-SAC
RFC-380A	CURB END
RFC-459B	RECTANGULAR CATCH BASIN
RFC-463	FABRIC AROUND CATCH BASIN
RFC-465A1	RECTANGULAR INLET FOR ROUND MANHOLE
RFC-465A3	RECTANGULAR INLET FOR ROUND MANHOLE - VARIABLE SUMP
RFC-465C	ROUND MANHOLE
RFC-466C	CPP TRASH GUARD
RFC-654	STORM DRAIN BEDDING FOR RIGID AND FLEXIBLE PIPE *MNDOT DETAIL
RFC-582A1	EMERGENCY OVERFLOW WEIR
RFC-858B	TYPICAL INFILTRATION/RETENTION POND
RFC-857	SILT FENCE AT FES

PLATE NO.	MnDOT STANDARD PLATES - IN MnDOT STANDARD PLATES MANUAL
3000L	REINFORCED CONCRETE PIPE (5 SHEETS)
3006G	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3129A	METAL APRON FOR CORRUGATED POLYETHYLENE PIPE
3134D	RIPRAP AT CSP OUTLETS
7100H	CONCRETE CURB & GUTTER
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)
9350B	MAILBOX SUPPORT (SWING-AWAY TYPE)

BASIS FOR ESTIMATED QUANTITIES

AGGREGATE BASE 105 LBS/S.Y./INCH
 BITUMINOUS MIXTURE 110 LBS/S.Y./INCH
 TACK COAT 0.05 GAL/S.Y.
 TYPE I MULCH 2 TONS/ACRE



UTILITIES: CENTURYLINK (763) 712-5017
 CENTERPOINT ENERGY (763) 323-2760
 COMCAST (952) 607-4078
 CONNEXUS ENERGY (763) 323-4268
 XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

I HEREBY CERTIFY THAT THIS PLAN WAS
 PREPARED BY ME OR UNDER MY
 DIRECT SUPERVISION AND THAT I AM A
 DULY REGISTERED PROFESSIONAL
 ENGINEER UNDER THE LAWS OF THE
 STATE OF MINNESOTA.
Dave Krueger
 DATE 6/29/2022 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 STATEMENT OF ESTIMATED QUANTITIES

DWG:	2105 QTY
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	2 OF 51
FILE:	34-2-114

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

REMOVE SIGN PANELS TYPE C						AA
STATION	LOCATION	TYPE	SIGN NO.	POST	CODE NO.	PANEL LEGEND
25+23	145TH AVE. - RT	REMOVE	C-26	SINGLE	W1-2R	CURVE RIGHT
31+75	145TH AVE. - LT	REMOVE	C-27	SINGLE	W1-2L	CURVE LEFT
34+79	145TH AVE. - LT	REMOVE	C-28	SINGLE	W1-8L	CURVE
40+30	LONDON ST. - RT	REMOVE	C-23	SINGLE	D3-1	STREET
50+29	KENYON ST. - RT	REMOVE	C-23	SINGLE	D3-1	STREET
60+02	146TH AVE. - RT	SALVAGE	C-29	SINGLE		CUL-DE-SAC EXTENSION
66+92	146TH AVE. - LT	REMOVE	C-22	SINGLE	W14-1	DEAD END
67+33	146TH AVE. - RT	REMOVE	C-21	SINGLE	R1-1	STOP
67+33	146TH AVE. - LT	REMOVE	C-23	SINGLE	D3-1	STREET
			TOTAL	9		

SALVAGE MAILBOX SUPPORT			AD
STATION	LOCATION		TYPE
11+18	145TH AVE. - LT		DOUBLE
12+31	145TH AVE. - RT		SINGLE
12+67	145TH AVE. - LT		SINGLE
15+08	145TH AVE. - RT		SINGLE
16+62	145TH AVE. - RT		SINGLE
19+05	145TH AVE. - LT		SINGLE
21+25	145TH AVE. - LT		SINGLE
22+96	145TH AVE. - LT		SINGLE
25+23	145TH AVE. - LT		SINGLE
27+22	145TH AVE. - LT		SINGLE
27+86	145TH AVE. - LT		SINGLE
32+49	145TH AVE. - LT		DOUBLE
42+90	LONDON ST. - RT		SINGLE
44+08	LONDON ST. - RT		SINGLE
44+08	LONDON ST. - LT		SINGLE
60+66	146TH AVE. - RT		SINGLE
61+63	146TH AVE. - LT		SINGLE
62+06	146TH AVE. - RT		SINGLE
64+86	146TH AVE. - RT		SINGLE
	TOTAL		21

SALVAGE WOODEN FENCE			AG
STATION	LOCATION		LIN FT
27+16	145TH AVE. - LT		38
	TOTAL		38

SALVAGE RETAINING WALL			AH
STATION	LOCATION		SQ FT
43+10	LONDON ST. - RT		8
	TOTAL		8

REMOVE STRUCTURE			AI
STATION	LOCATION		QUANTITY
10+94	145TH AVE. - ACROSS		2
27+16	145TH AVE. - ACROSS		2
45+15	LONDON ST. RT		1
64+11	146TH AVE. - RT		1
	TOTAL		6

NOTES

- TOP OF GRADING SUBGRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE.
- BITUMINOUS AND CONCRETE DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH MnDOT SPEC. 2104.3C3.
- COMPACTION OF ALL GRADING AND BASE ITEMS SHALL BE BY THE "QUALITY COMPACTION METHOD".
- USE TACK COAT BETWEEN ALL BITUMINOUS LAYERS AND BETWEEN BITUMINOUS AND CONCRETE CURB AND GUTTER.
- STRIP ALL TOPSOIL AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE TOPSOIL OR USE AS FILL OUTSIDE OF ROAD CORE.
- WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT SHALL MEAN THIS WORK SHALL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
- STATIONING FOR LOCATION OF EXISTING AND NEW SIGNS IS APPROXIMATE.
- EXCESS MATERIAL TO BE HAULED AWAY TO CITY OF HAM LAKE PUBLIC WORKS.

REMOVE CULVERTS				AB
STATION	LOCATION	TYPE	LENGTH (LIN FT)	
10+94	145TH AVE. - ACROSS	RCP	55	
10+94	145TH AVE. - RT	CMP	102	
27+16	145TH AVE. - ACROSS	RCP	27	
27+16	145TH AVE. - LT	CMP	140	
27+16	COON CREEK	CMP	31	
45+15	LONDON ST. RT	CMP	171	
64+11	146TH AVE. - RT	CMP	131	
	TOTAL		657	

SAWCUT BITUMINOUS PAVEMENT			AE
STATION	LOCATION		LIN FT
35+07.45	145TH AVE. - ROADWAY		30
54+01.10	KENYON ST. - ROADWAY		31
67+46.45	146TH AVE. - ROADWAY		84
	TOTAL		145

SALVAGE POST				AJ
STATION	LOCATION	TYPE	POST	
27+16	145TH AVE. - LT	WOOD	SINGLE	
27+16	145TH AVE. - LT	WOOD	SINGLE	
27+16	145TH AVE. - LT	WOOD	SINGLE	
45+35	LONDON ST. - RT	METAL	SINGLE	
	TOTAL		4	

RECLAIM BITUMINOUS PAVEMENT			AC
STATION	LOCATION		SQ YD
10+21.95 TO 35+07.45	145TH AVE. - ROADWAY		7,159
40+10.95 TO 45+14.38	LONDON ST. - ROADWAY		1,758
50+11.93 TO 54+01.10	KENYON ST. - ROADWAY		1,160
60+11.01 TO 67+46.48	146TH AVE. - ROADWAY		2,430
	TOTAL		12,507

TREE REMOVAL				AF
STATION	LOCATION	CLEARING (ACRE)	GRUBBING (ACRE)	
27+16	145TH AVE. - LT	0.1	0.1	
	TOTAL	0.1	0.1	

EARTHWORK SUMMARY				AJ
<u>EXCAVATION (CU YD)</u>		<u>EMBANKMENT (CU YD)</u>		
TOPSOIL	1,513 CU YD (EV)	} 3,147 CU YD (EV) ①	TOPSOIL	1,513 CU YD (EV)/1.1 = 1,375 CU YD (CV)
COMMON	1,294 CU YD (EV)		COMMON EX	1,294 CU YD (EV)/1.3 = 995 CU YD (CV)
BIT RECLAIM	340 CU YD (EV)		GRANULAR FILL	1,013 CY YD (CV)
			} 3,693 CU YD (CV) ②	1,452 CU YD (CV) TOPSOIL
				2,241 CU YD (CV) COMMON
<p>NOTES: ① TOTAL EXCAVATION (EV) REQUIRED FOR PROJECT. ② TOTAL EMBANKMENT (CV) REQUIRED FOR PROJECT.</p>				



UTILITIES: CENTURYLINK (763) 712-5017
 CENTERPOINT ENERGY (763) 323-2760
 COMCAST (952) 607-4078
 CONNEXUS ENERGY (763) 323-4268
 XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
 DATE 6/29/2022 REG. NO. 48768

RFC ENGINEERING, INC.
 Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 EARTHWORK SUMMARY AND TABULATIONS

DWG:	2105 TAB 1
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	3 OF 51
FILE:	34-2-115

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

RESIDENTIAL DRIVEWAYS								BA
STATION	LOCATION	REMOVE (S.Y.)		SAWCUT (L.F.)		PLACE (S.Y.)		
		CONC	BIT	CONC	BIT	CONC	BIT	CL5
10+30	LT.		38.6		25.5		38.0	38.0
10+44	RT.	66.4	5.7	33		76.9		
12+50	RT.		37.6		23.0		35.0	35.0
13+00	LT.		29.0		19.4		26.9	26.9
15+19	RT.		62.2		23		61.3	61.3
16+86	RT.		25.6		22.5		23.5	23.5
18+77	LT.		61.6		28.7		54.3	54.3
20+65	RT.	26		15.3		21.5		
21+31	RT.	35.7		11.9		30.6		
23+36	RT.		14.6		15.9		12.8	12.8
25+37	LT.		29.6		15.9		25.5	25.5
26+61	RT.		53.6		21.4		47.3	47.3
28+00	LT.		26.1		15.5		22.8	22.8
32+32	LT.		26.0		16.0		22.3	22.3
32+59	RT.		22.8		15.2		20.3	20.3
43+10	RT.		17.4		10.0		13.3	13.3
44+61	RT.		15.8		12.4		17.6	17.6
45+15	LT.	27.7		10.6		29.1		
52+10	LT.	46.8		12.0		42.8		
60+50	RT.	27		11.9		28.9		
61+83	LT.	69.4		21.3		66.2		
62+32	RT.		81.2		20.4		82.3	82.3
64+57	RT.		42.6		15.2		39.8	39.8
TOTAL		299	590	116	300	296	543	543

TYPE SP 12.5 BITUMINOUS WEARING COURSE MIXTURE (SPWEB240C)			BC
STATION TO STATION	LOCATION	SQ. YD. (2 IN)	TON
10+20.00 TO 35+07.45	145TH AVENUE -- ROADWAY	67,881.65	913
40+13.00 TO 45+15.00	LONDON STREET -- ROADWAY	16,691.07	224
50+13.00 TO 54+01.10	KENYON STREET -- ROADWAY	10,549.23	142
60+11.67 TO 67+46.45	146TH AVENUE -- ROADWAY	23,149.35	311
TOTAL			1,590

MAILBOX SUPPORT (SWING-AWAY TYPE)			BE
STATION	LOCATION	TYPE	
11+18	145TH AVE. -- LT	DOUBLE	
12+31	145TH AVE. -- RT	SINGLE	
12+67	145TH AVE. -- LT	SINGLE	
15+08	145TH AVE. -- RT	SINGLE	
16+62	145TH AVE. -- RT	SINGLE	
19+05	145TH AVE. -- LT	SINGLE	
21+25	145TH AVE. -- LT	SINGLE	
22+96	145TH AVE. -- LT	SINGLE	
25+23	145TH AVE. -- LT	SINGLE	
27+22	145TH AVE. -- LT	SINGLE	
27+86	145TH AVE. -- LT	SINGLE	
32+49	145TH AVE. -- LT	DOUBLE	
42+90	LONDON ST. -- RT	SINGLE	
44+08	LONDON ST. -- RT	SINGLE	
44+08	LONDON ST. -- LT	SINGLE	
60+66	146TH AVE. -- RT	SINGLE	
61+63	146TH AVE. -- LT	SINGLE	
62+06	146TH AVE. -- RT	SINGLE	
64+86	146TH AVE. -- RT	SINGLE	
TOTAL		21	

CONCRETE CURB & GUTTER DESIGN D312 MODIFIED			BD
STATION TO STATION	LOCATION	LIN FT	
10+19.00 TO 18+44.83	145TH AVE. -- R	877	
10+19.00 TO 20+19.83	145TH AVE. -- L	1,011	
19+34.83 TO 35+07.45	146th AVE. -- R	1,562	
21+09.83 TO 35+07.45	147th AVE. -- L	1,409	
40+14.00 TO 45+16.00	LONDON ST. -- R	550	
40+14.00 TO 45+16.00	LONDON ST. -- L	550	
50+14.00 TO 54+01.10	KENYON ST. -- R	406	
50+14.00 TO 54+01.10	KENYON ST. -- L	405	
60+10.67 TO 67+04.89	146th AVE. -- R	746	
60+10.67 TO 67+04.89	146th AVE. -- L	702	
TOTAL		8,218	

EROSION CONTROL BLANKET				BF
STATION	LOCATION	CATEGORY	SQ. YD.	
10+89	145TH AVE. -- RT	15	386	
27+15	145TH AVE. -- LT	15	269	
27+15	145TH AVE. -- LT	25	983	
45+50	LONDON ST. -- RT	15	318	
64+07	146TH AVE. -- RT	15	250	
TOTAL			2,206	

SILT FENCE			BH
STATION TO STATION	LOCATION	LIN. FT.	
10+00.36 TO 10+11.63	145TH AVE. -- LT	37	
10+00.36 TO 10+14.70	145TH AVE. -- RT	47	
10+41.37 TO 12+28.14	145TH AVE. -- RT	220	
12+52.91 TO 15+07.20	145TH AVE. -- RT	300	
14+37.59 TO 15+62.06	145TH AVE. -- LT	224	
21+68.29 TO 23+12.54	145TH AVE. -- RT	318	
23+04.44 TO 25+28.96	145TH AVE. -- LT	225	
25+44.91 TO 27+90.15	145TH AVE. -- LT	248	
28+46.75 TO 29+44.62	145TH AVE. -- LT	107	
32+38.29 TO 35+09.68	145TH AVE. -- LT	277	
32+64.78 TO 35.09.68	145TH AVE. -- RT	253	
41+10.71 TO 42+68.52	LONDON ST. -- RT	148	
50+42.31 TO 51+54.37	KENYON ST. -- RT	244	
52+94.69 TO 54+01.10	KENYON ST. -- RT	119	
53+72.08 TO 54+01.10	KENYON ST. -- LT	46	
60+04.90 TO 60+06.40	146TH AVE. -- LT	37	
60+04.90 TO 60+41.11	146TH AVE. -- RT	83	
61+29.31 TO 62+27.05	146TH AVE. -- RT	109	
62+31.58 TO 65+14.74	146TH AVE. -- LT	440	
62+44.62 TO 64+48.57	146TH AVE. -- RT	232	
67+01.00 TO 67+43.45	146TH AVE. -- RT	53	
67+20.00 TO 67+43.45	146TH AVE. -- LT	48	
TOTAL		3,815	

FLOATING SILT FENCE		
STATION	LOCATION	LIN FT
27+20 TO 27+82	COON CREEK	62
TOTAL		62

STORM DRAIN INLET PROTECTION			BI
STATION	LOCATION	QUANTITY	
11+00	145TH AVE. -- BOTH	2	
12+73	145TH AVE. -- BOTH	2	
13+36	145TH AVE. -- LT	1	
14+37	145TH AVE. -- BOTH	2	
15+47	145TH AVE. -- RT	1	
17+76	145TH AVE. -- BOTH	2	
19+13	145TH AVE. -- RT	1	
23+00	145TH AVE. -- RT	1	
23+74	145TH AVE. -- LT	1	
25+00	145TH AVE. -- BOTH	2	
26+30	145TH AVE. -- BOTH	2	
27+16	145TH AVE. -- BOTH	2	
28+87	145TH AVE. -- BOTH	2	
30+42	145TH AVE. -- BOTH	2	
31+81	145TH AVE. -- RT	1	
32+52	145TH AVE. -- LT	1	
42+00	LONDON ST. -- BOTH	2	
43+91	LONDON ST. -- BOTH	2	
45+15	LONDON ST. -- RT	1	
51+00	KENYON ST. -- BOTH	2	
52+40	KENYON ST. -- LT	1	
63+41	146TH AVE. -- BOTH	2	
TOTAL		35	

TYPE SP 9.5 BITUMINOUS WEARING COURSE MIXTURE (SPWEA240C)				BB
STATION TO STATION	LOCATION	SQ. YD. (1 IN)	TON	
10+20.00 TO 35+07.45	145TH AVENUE -- ROADWAY	67,881.7	456	
40+13.00 TO 45+15.00	LONDON STREET -- ROADWAY	16,681.1	112	
50+13.00 TO 54+01.10	KENYON STREET -- ROADWAY	10,555.2	71	
60+11.67 TO 67+46.45	146TH AVENUE -- ROADWAY	23,141.4	156	
TOTAL			795	

SIGN PANELS TYPE C							BG	
SIGN NO.	TOTAL QTY.	NOTES	POST	PANEL			CODE NO.	PANEL LEGEND
				SIZE (IN)	AREA (SQ. FT.)	TOTAL AREA (SQ. FT.)		
C-1	1		SINGLE	30 X 30	6.25	6.25	R1-1	STOP
C-2	3		SINGLE	30 X 30	6.25	18.8	W14-1	DEAD END
C-3	6	8	SINGLE	VARIES X 8			D3-1	STREET SIGN
C-4	1		SINGLE	30 X 24	5	5.0		CUL-DE-SAC EXTENTION
C-5	3		SINGLE	18X18	2.25	6.8	OM4-2	END OF ROAD MARKER
TOTAL	14					31.8		

CULVERT END CONTROL			BJ
STATION	LOCATION	QUANTITY	
10+82	145TH AVE. -- RT	1	
27+16	145TH AVE. -- LT	1	
46+86	LONDON ST. RT	1	
63+51	146TH AVE. -- RT	1	
TOTAL		4	

RIPRAP CLASS 3			BK
STATION	LOCATION	CU. YD.	
10+82	145TH AVE. -- RT	9.6	
27+16	145TH AVE. -- LT	9.6	
27+16	COON CREEK	15.0	
46+86	LONDON ST. RT	4.9	
63+51	146TH AVE. -- RT	4.9	
TOTAL		44	

GEOTEXTILE FABRIC TYPE IV			BL
STATION	LOCATION	SQ. YD.	
10+82	145TH AVE. -- RT	34.2	
27+16	145TH AVE. -- LT	34.2	
27+16	COON CREEK	53.2	
46+86	LONDON ST. RT	20.7	
63+51	146TH AVE. -- RT	20.7	
TOTAL		163	

- NOTES:
- TOP OF GRADING SUBGRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE.
 - BITUMINOUS AND CONCRETE DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH MnDOT SPEC. 2104.3C3.
 - COMPACTION OF ALL GRADING AND BASE ITEMS SHALL BE BY THE "QUALITY COMPACTION METHOD".
 - USE TACK COAT BETWEEN ALL BITUMINOUS LAYERS AND BETWEEN BITUMINOUS AND CONCRETE CURB AND GUTTER.
 - STRIP ALL TOPSOIL AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE TOPSOIL OR USE AS FILL OUTSIDE OF ROAD CORE.
 - WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT SHALL MEAN THIS WORK SHALL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
 - STATIONING FOR LOCATION OF EXISTING AND NEW SIGNS IS APPROXIMATE.
 - SIGN AND POST INSTALLED BY OTHERS



UTILITIES: CENTURYLINK (763) 712-5017
 CENTERPOINT ENERGY (763) 323-2760
 COMCAST (952) 607-4078
 CONNEXUS ENERGY (763) 323-4268
 XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Rugh
 DATE 6/29/2022 REG. NO. 48768

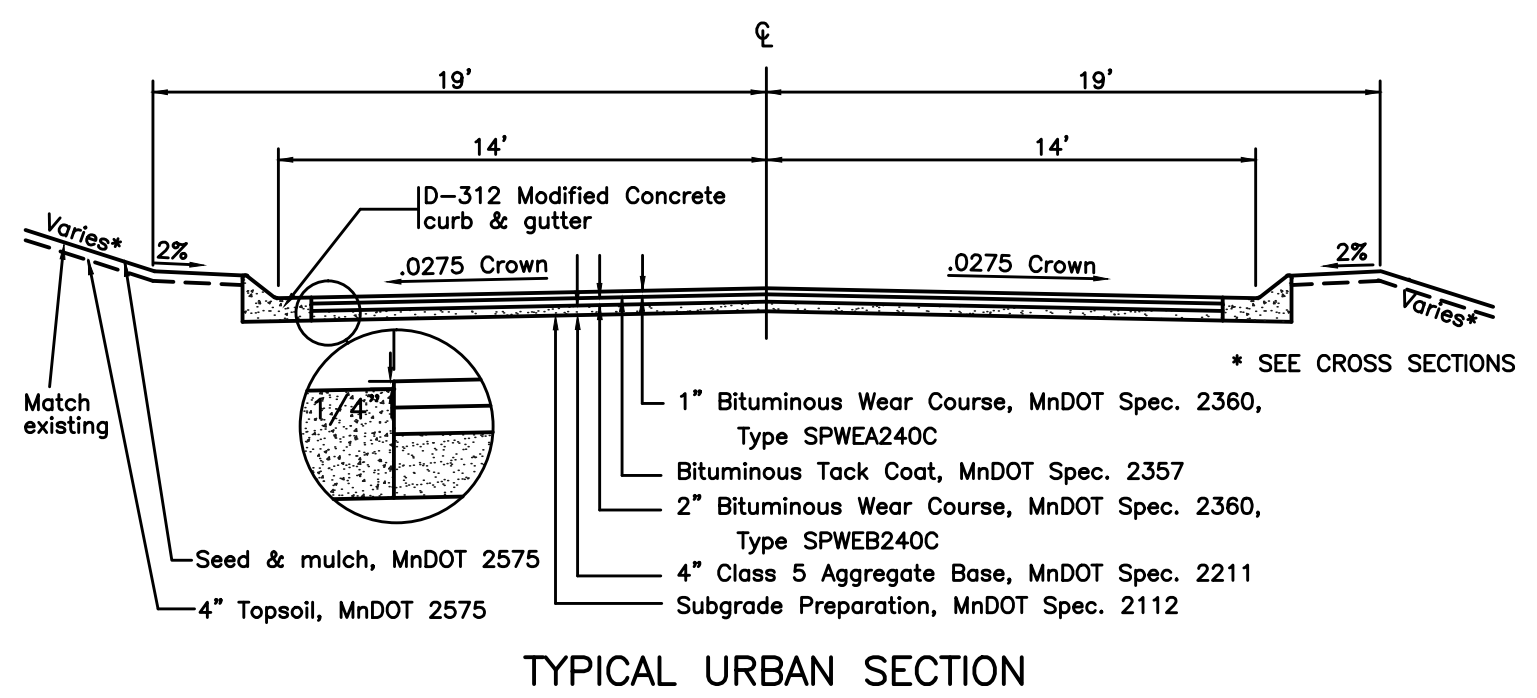
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

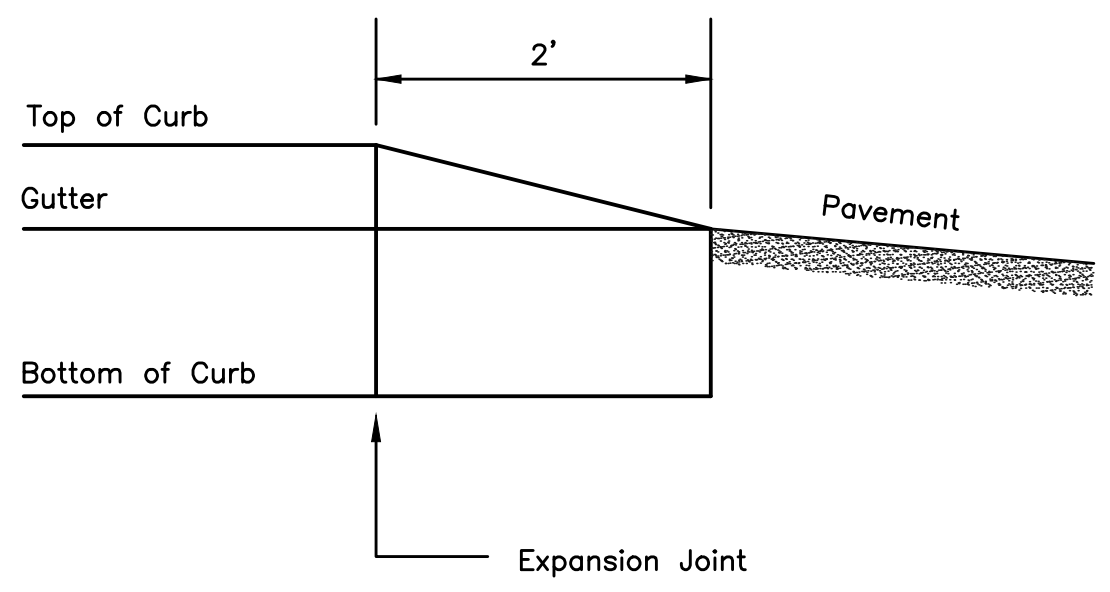
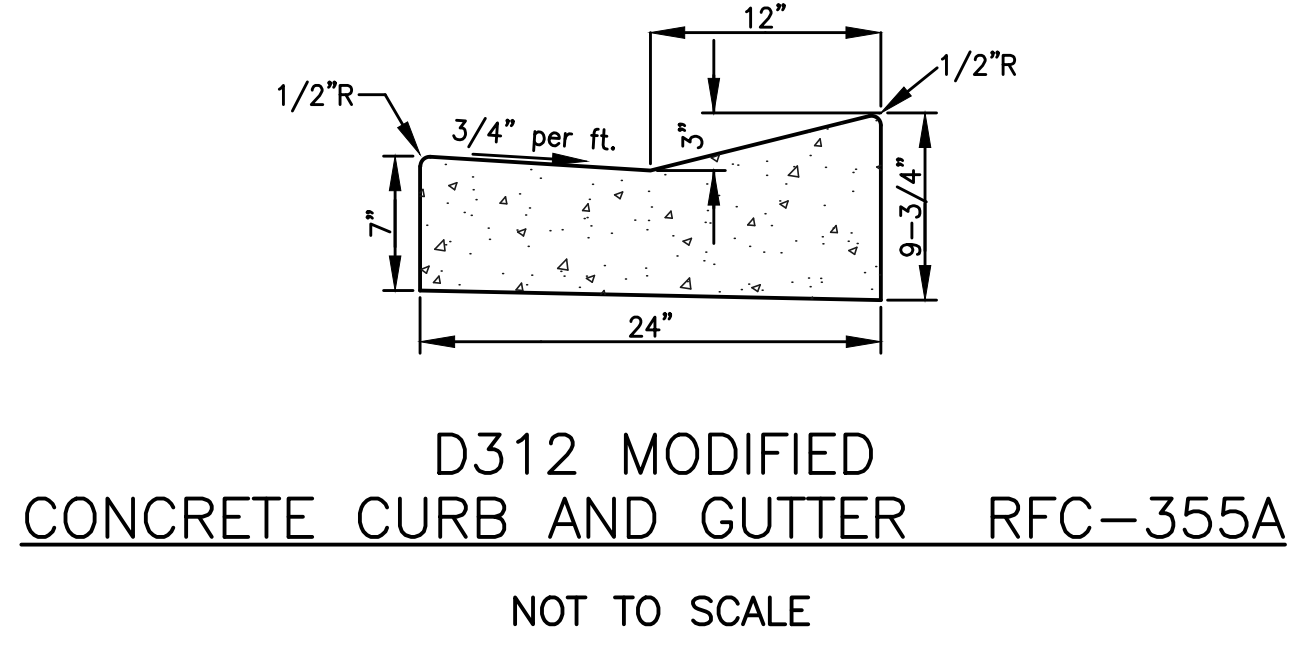
HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 EARTHWORK SUMMARY AND TABULATIONS

DWG:	2105 TAB 2
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	4 OF 51
FILE:	34-2-116

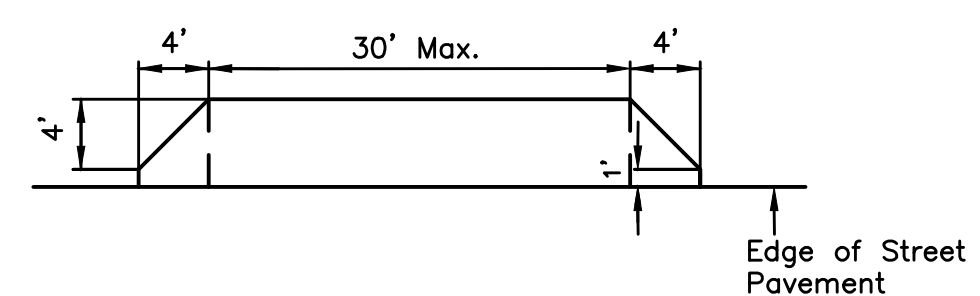
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



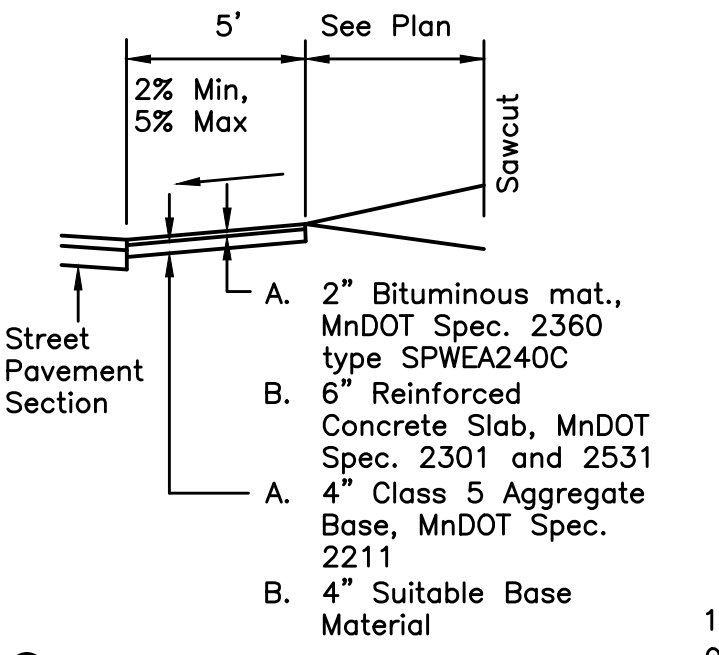
TYPICAL STREET SECTIONS RFC-366E1
NOT TO SCALE



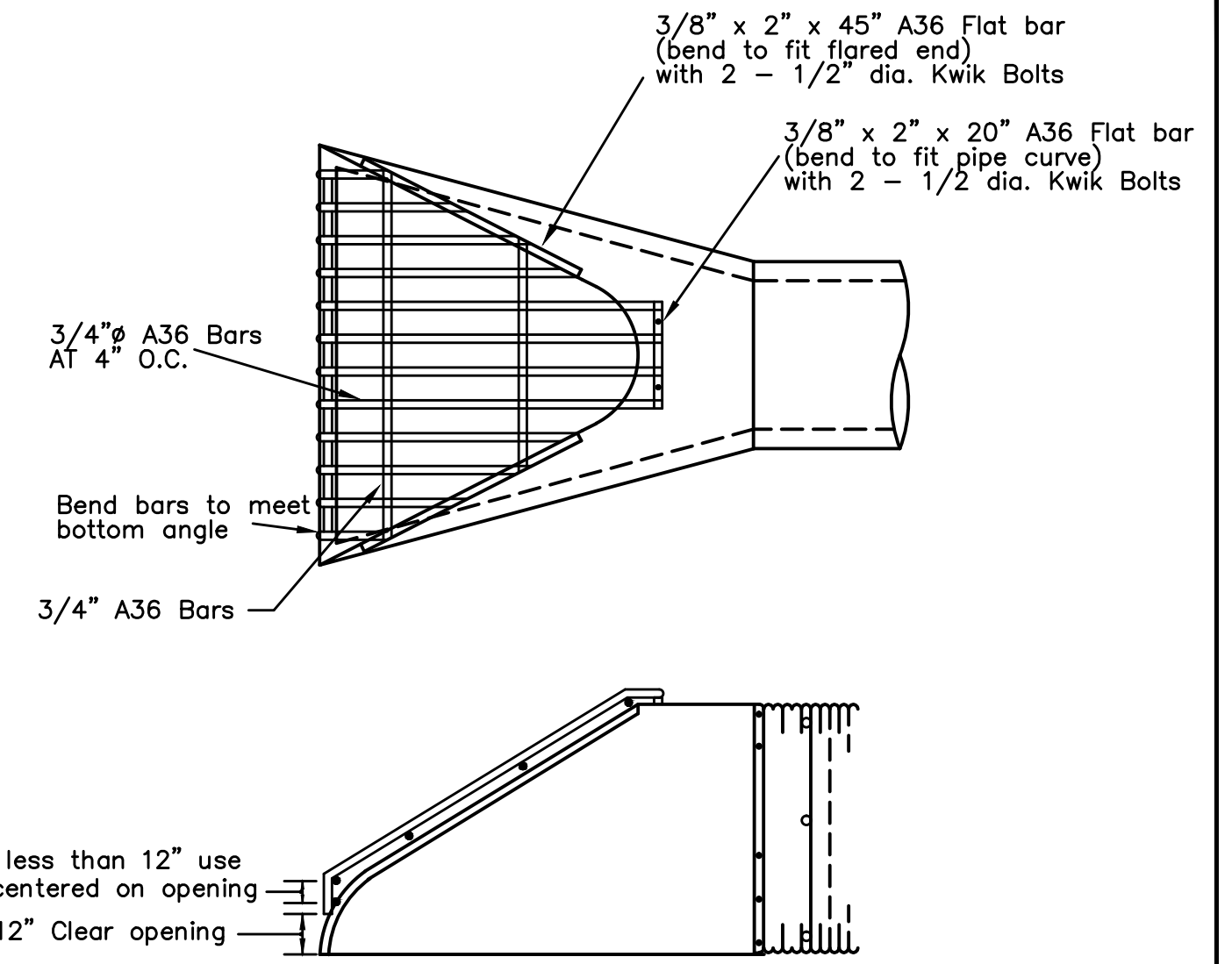
CURB END DETAIL RFC-380A
NOT TO SCALE



- Note:
- Match existing driveway width and elevation at matchline unless otherwise directed by engineer (See Plans).
 - If existing driveway is concrete, apron and driveway shall be constructed of 6" concrete with 6" x 6" - 6/6 welded wire fabric per MnDOT Spec. 3303 in flat sheets, not rolls. Epoxy coated dowel bars conforming to MnDOT Spec. 3302 shall be placed in the existing driveway pavement along the sawcut line. Dowel bars shall be properly coated with a MnDOT approved lubricant. Dowel bars shall be size #4 and placed at 24" OC. All work shall conform to MnDOT Spec. 2301 and 2531. Concrete shall be ready-mix 3,900 PSI at 28 days, with air content of 5% to 7%, coarse aggregate shall be 1" max, class A and per MnDOT Spec. 3137. Joint sealer shall be hot-poured, low modulus, mastic type per MnDOT Spec. 3725. Membrane curing compound shall be per MnDOT Specs. 3754 and 2301.3M.
 - If existing driveway is gravel, apron and driveway within R/W shall be constructed per existing bituminous driveways. Gravel driveways matching beyond R/W shall be 6" Class 5.

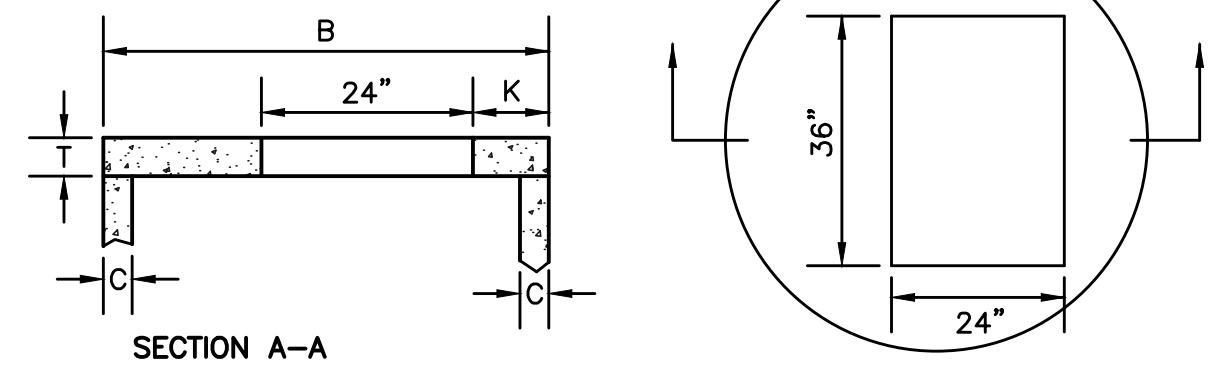


PRIVATE DRIVEWAY/FIELD ENTRANCE RFC-363A3
NOT TO SCALE



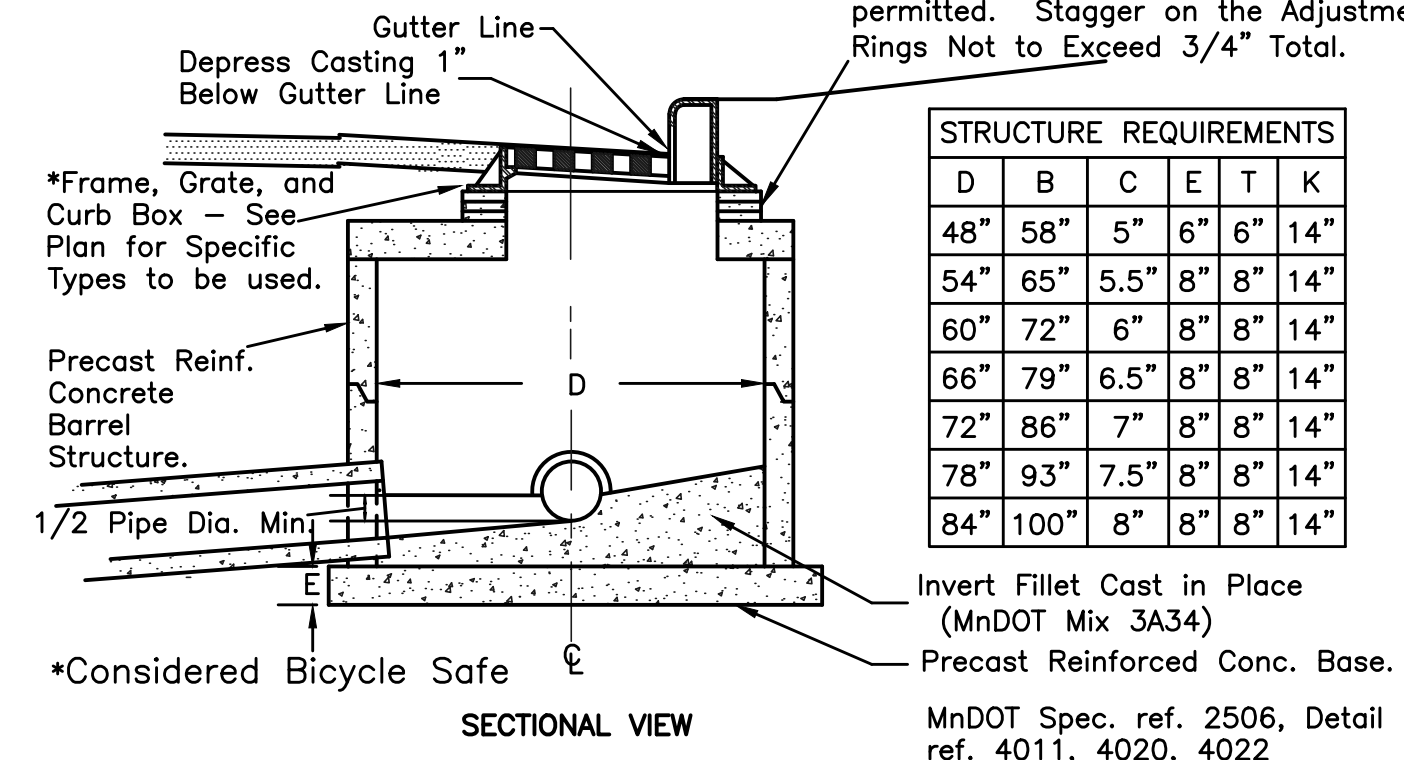
CPP TRASH GUARD RFC-466C
NOT TO SCALE

NOTE:
HS20 Roadway Loading Catch Basin Cover Slab of Precast Reinforced Concrete with Rectangular Opening.



- Note:
- Steps needed for structure height greater than 4'.
 - Cover Slab to Rest on Bed of Mortar on Full Thickness of Structure Walls, not to Rest on Pipe Tongue or Groove.
 - Location of Structure as Shown in Plans.
 - See Plan for Box and Grate Type.

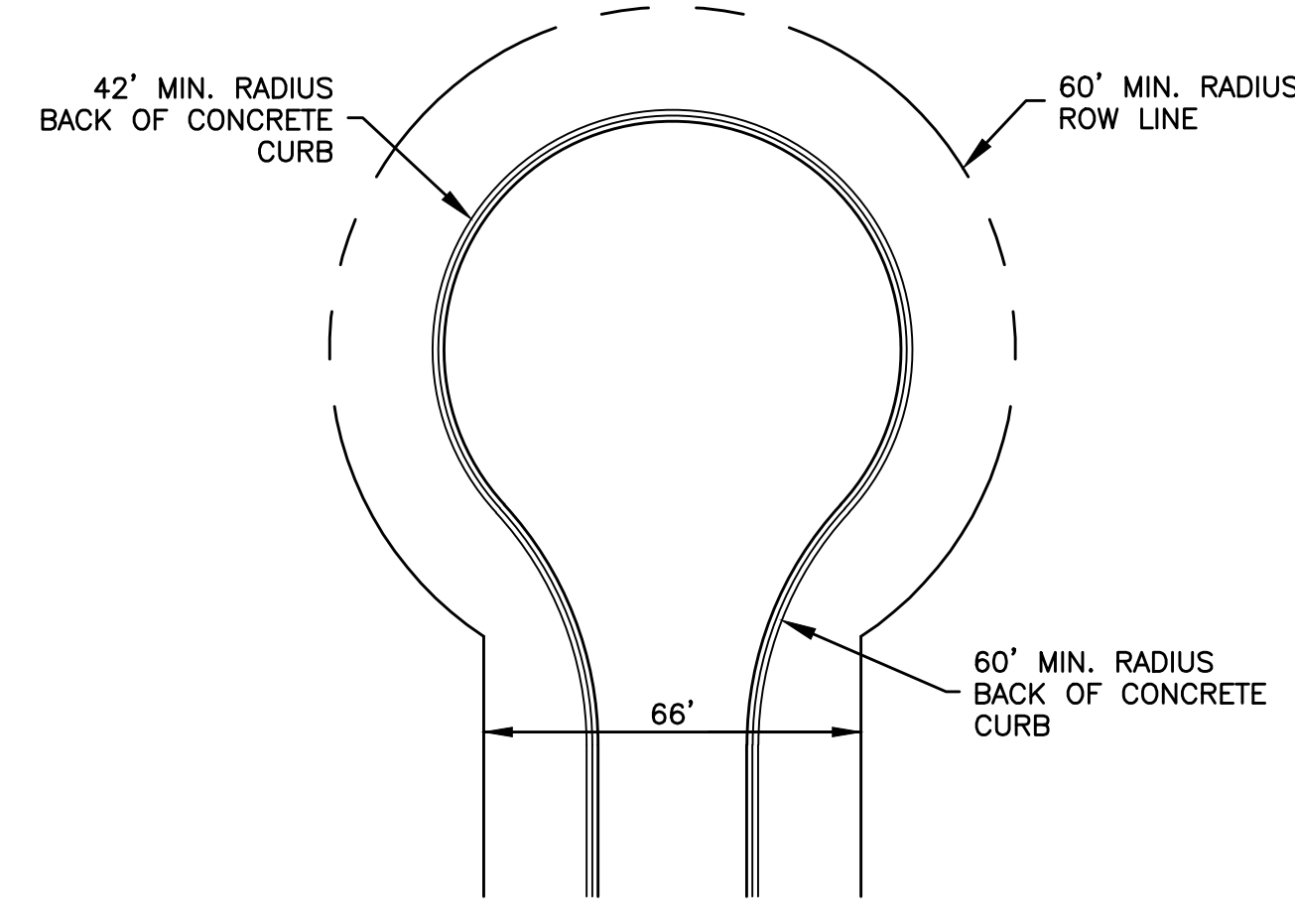
Adjusting Rings, 2 Min., 3 Max., Full 3/8" Bed of Mortar Between Rings. Plaster Exterior Only with 2" Min. Thick Coat. Strike Off Interior. No shims permitted. Stagger on the Adjustment Rings Not to Exceed 3/4" Total.



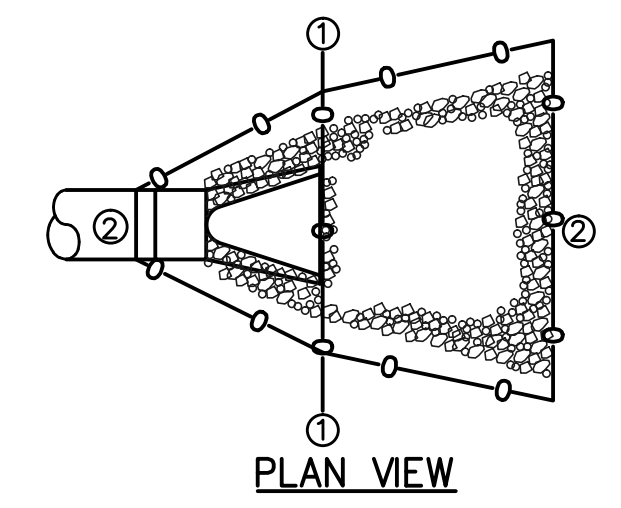
STRUCTURE REQUIREMENTS					
D	B	C	E	T	K
48"	58"	5"	6"	6"	14"
54"	65"	5.5"	8"	8"	14"
60"	72"	6"	8"	8"	14"
66"	79"	6.5"	8"	8"	14"
72"	86"	7"	8"	8"	14"
78"	93"	7.5"	8"	8"	14"
84"	100"	8"	8"	8"	14"

RECTANGULAR INLET FOR ROUND MANHOLE RFC-465A1
NOT TO SCALE

SPECIAL 1 = 48" ϕ
SPECIAL 3 = 60" ϕ

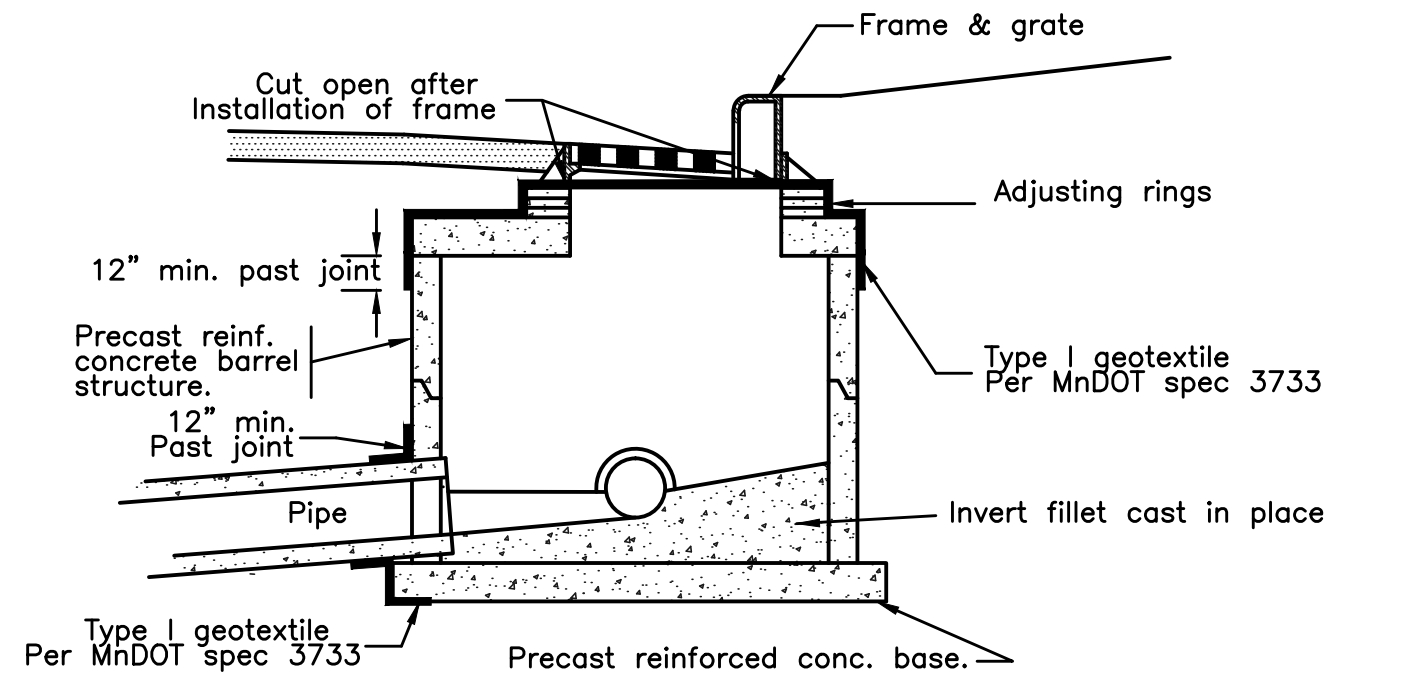


TYPICAL RESIDENTIAL CUL-DE-SAC RFC-367A
NOT TO SCALE



- SEQUENCING:
- Place silt fence along construction limits, the portion of silt fence in front of the pipe shall be removed during flared end section placement.
 - Once the flared end section is placed, silt fence shall be furnished and installed around the top of the flared end section and surrounding the riprap.
 - Any additional outlet protection shall be added as required.
 - Contractor may substitute silt fence for bio-roll or rock log to act as weir for flow into culvert.

SILT FENCE AT FES RFC-857
NOT TO SCALE



SEAL FABRIC ONTO CATCH BASIN AND CATCH BASIN MANHOLE WITH DUCT TAPE. OVER LAP ALL SEAMS. 12" MIN.

FABRIC AROUND CATCH BASIN RFC-463
NOT TO SCALE



UTILITIES:	CONTACT INFO:
CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
David R. Knight
DATE 6/29/2022 REG. NO. 48768

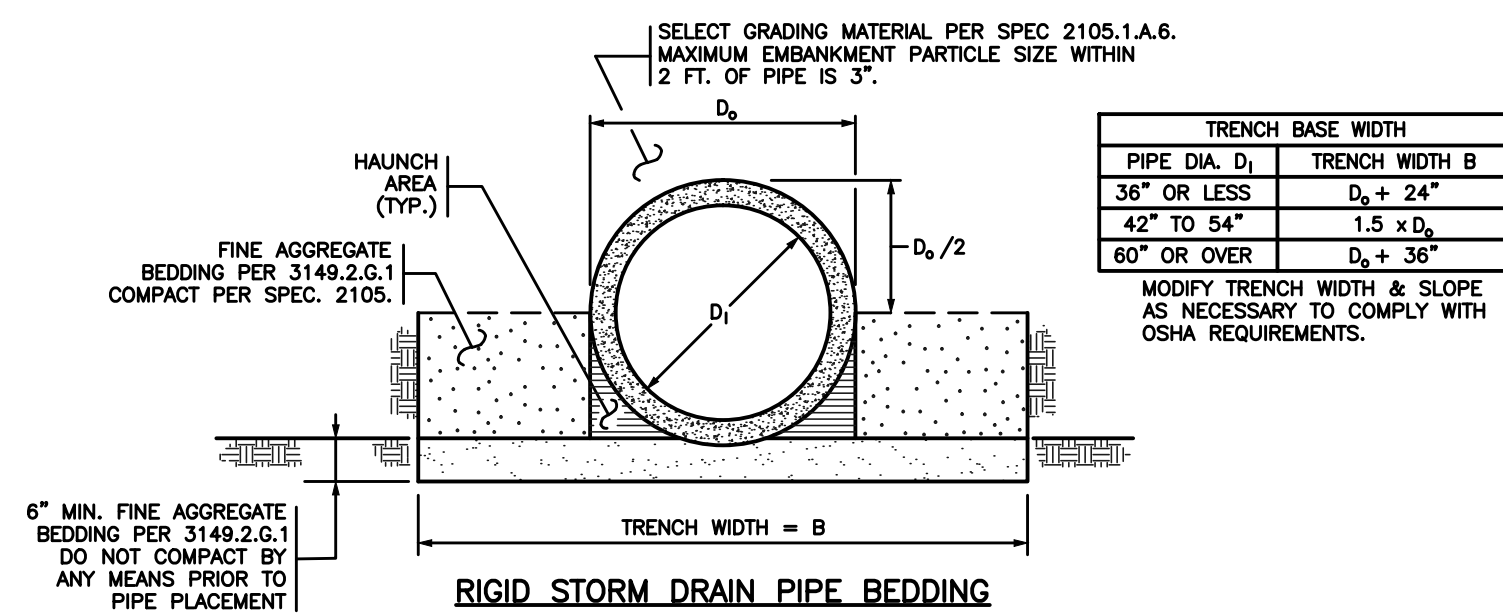
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
CREEK VALLEY STREET RECONSTRUCTION
145TH AVE NE, KENYON ST
146TH AVE NE AND LONDON ST
DETAILS

DWG:	2105 DETAIL 1
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	5 OF 51
FILE:	34-2-117

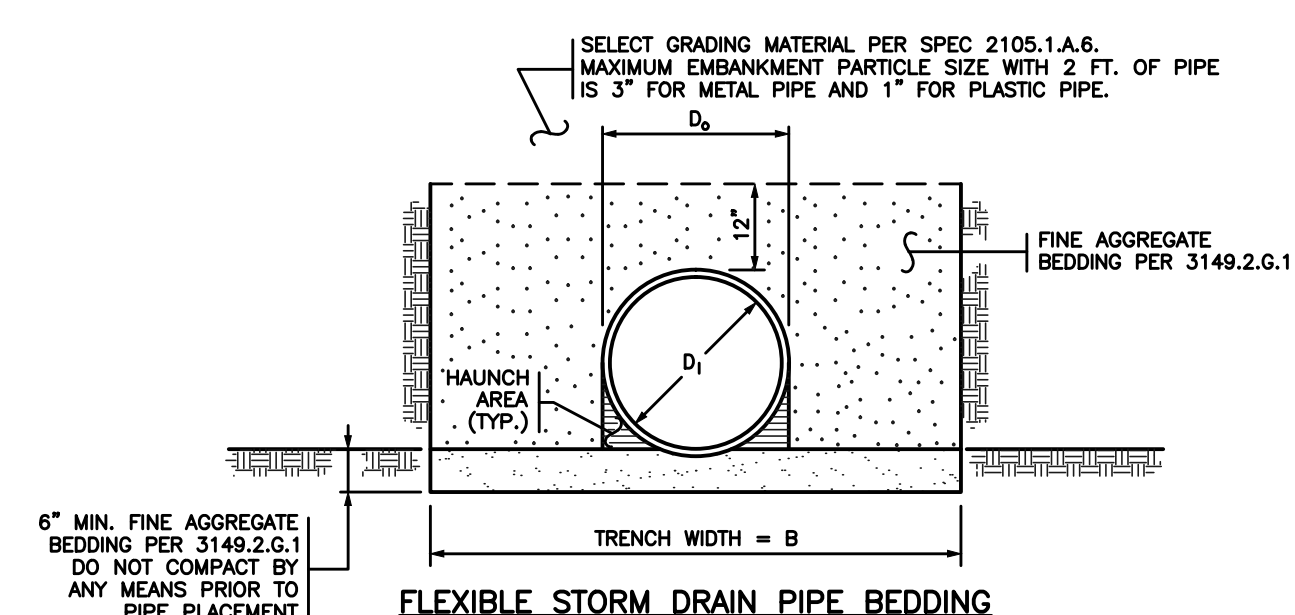
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



RIGID STORM DRAIN PIPE BEDDING

- CONSTRUCTION SEQUENCE**
1. LOOSELY PLACE 6" OF FINE AGGREGATE BEDDING MATERIAL TO GRADE. DO NOT COMPACT PRIOR TO PIPE PLACEMENT.
 2. FOR PIPES WITH BELL, REMOVE MATERIAL IN BELL AREA PRIOR TO PLACEMENT.
 3. FURNISH AND INSTALL PIPE TO GRADE.
 4. AFTER PLACEMENT OF THE PIPE, PLACE ADDITIONAL BEDDING AND COMPACT THE FULL LENGTH ON BOTH SIDES OF THE PIPE UNDERNEATH THE HAUNCH AREA BY FIRST SHOVEL SLICING (MANUALLY SHOVEL THE BLADE END OF SHOVEL AT AN ANGLE DOWN THE ENTIRE LENGTH OF THE HAUNCH UNDER THE PIPE) THEN COMPACT THE HAUNCH AT AN ANGLE USING A POWERED MECHANICAL OR PNEUMATIC DEVICE (I.E. POLE TAMPER, JUMPING JACK, OR SIMILAR) COMPACT THE REMAINING MATERIAL OUTSIDE THE HAUNCH AREA TO THE REQUIREMENTS OF THE APPLICABLE MATERIAL TYPE ENSURING THAT THE ENTIRE LENGTH OF PIPE IS SUPPORTED UNIFORMLY BY BEDDING.
 5. PLACE AND COMPACT BACKFILL EVENLY AND SIMULTANEOUSLY IN 6" LIFTS ON EACH SIDE OF THE PIPE UP TO THE MID-HEIGHT WHEN COMPACTED.
 6. COMPLETE REMAINING BACKFILL.

NOTES
 EXCAVATE & CONSTRUCT ALL TRENCHES AND SLOPES PER OSHA REQUIREMENTS.
 PIPE SIZE IS BASED ON THE NOMINAL INSIDE DIAMETER.
 PROTECT ALL PIPE DURING CONSTRUCTION PER SPEC. 2501 OR 2503.

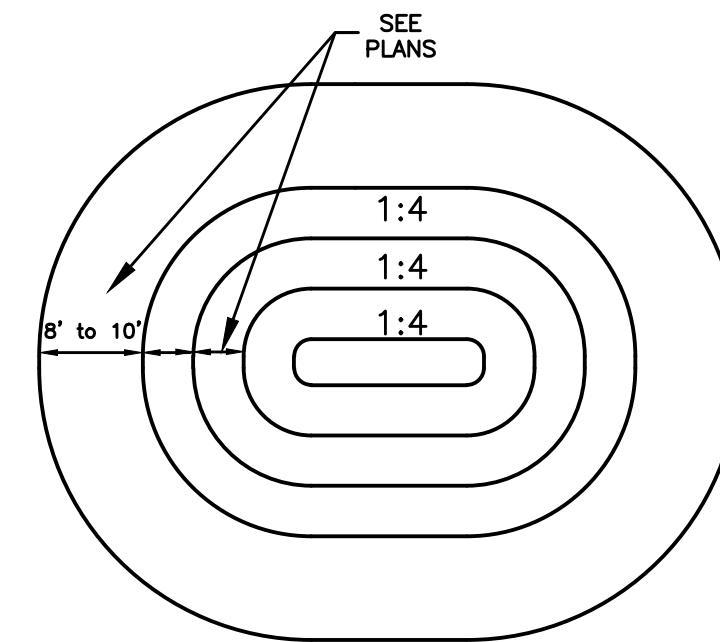
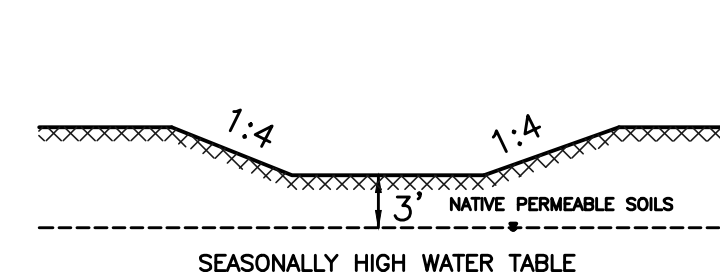


FLEXIBLE STORM DRAIN PIPE BEDDING

- CONSTRUCTION SEQUENCE**
1. LOOSELY PLACE 6" OF FINE AGGREGATE BEDDING MATERIAL TO GRADE. DO NOT COMPACT PRIOR TO PIPE PLACEMENT.
 2. FOR PIPES WITH BELL, REMOVE MATERIAL IN BELL AREA PRIOR TO PLACEMENT.
 3. FURNISH AND INSTALL PIPE TO GRADE.
 4. AFTER PLACEMENT OF THE PIPE, PLACE ADDITIONAL BEDDING AND COMPACT THE FULL LENGTH ON BOTH SIDES OF THE PIPE UNDERNEATH THE HAUNCH AREA BY FIRST SHOVEL SLICING (MANUALLY SHOVEL THE BLADE END OF SHOVEL AT AN ANGLE DOWN THE ENTIRE LENGTH OF THE HAUNCH UNDER THE PIPE) THEN COMPACT THE HAUNCH AT AN ANGLE USING A POWERED MECHANICAL OR PNEUMATIC DEVICE (I.E. POLE TAMPER, JUMPING JACK, OR SIMILAR) COMPACT THE REMAINING MATERIAL OUTSIDE THE HAUNCH AREA TO THE REQUIREMENTS OF THE APPLICABLE MATERIAL TYPE ENSURING THAT THE ENTIRE LENGTH OF PIPE IS SUPPORTED UNIFORMLY BY BEDDING.
 5. PLACE AND COMPACT BACKFILL EVENLY AND SIMULTANEOUSLY IN 6" LIFTS ON EACH SIDE OF THE PIPE UP TO THE MID-HEIGHT WHEN COMPACTED.
 6. COMPLETE REMAINING BACKFILL.

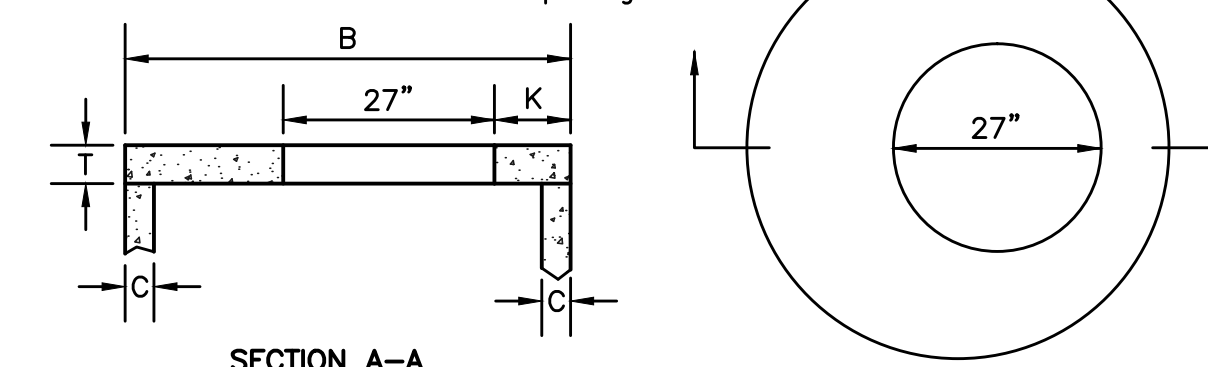
NOTES
 EXCAVATE & CONSTRUCT ALL TRENCHES AND SLOPES PER OSHA REQUIREMENTS.
 PIPE SIZE IS BASED ON THE NOMINAL INSIDE DIAMETER.
 PROTECT ALL PIPE DURING CONSTRUCTION PER SPEC. 2501 OR 2503.

STORM DRAIN BEDDING FOR RIGID AND FLEXIBLE PIPE RFC-654
 NOT TO SCALE



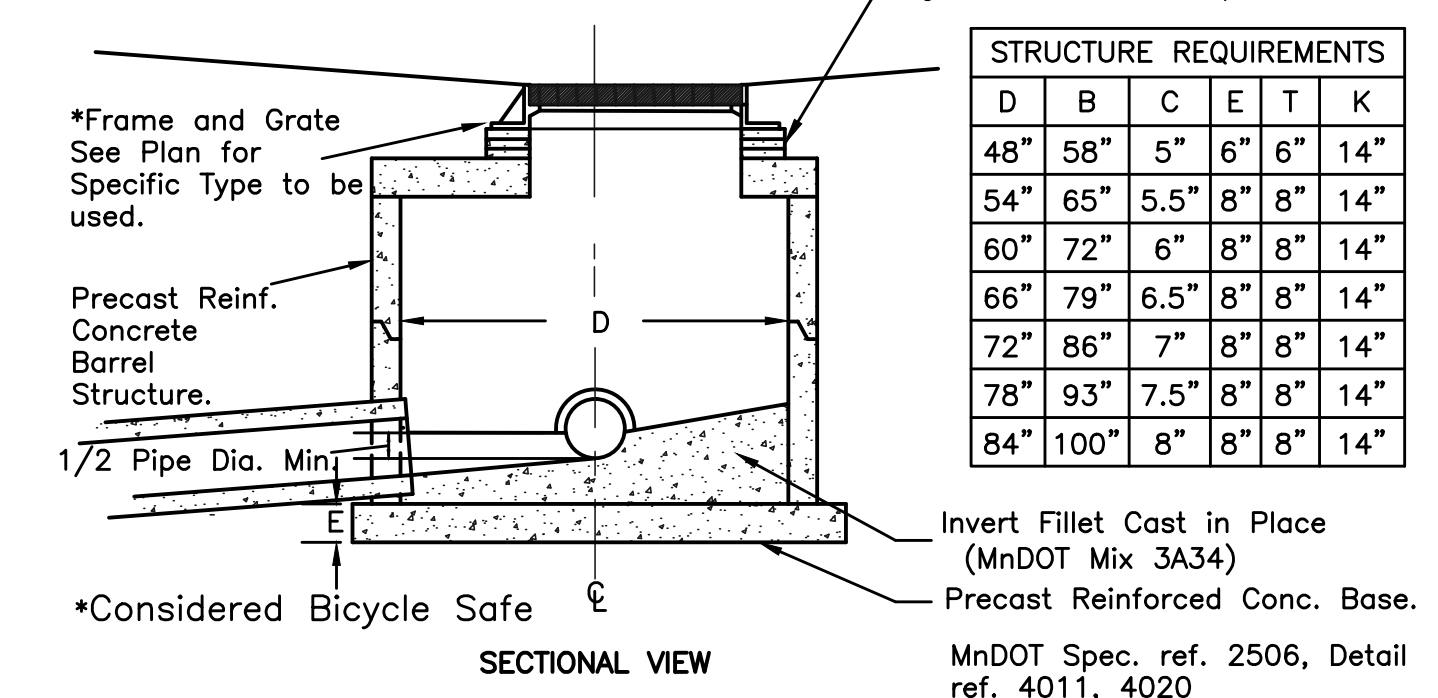
TYPICAL INFILTRATION/RETENTION POND RFC-858B
 NOT TO SCALE

NOTE:
 HS20 Roadway Loading Catch Basin Cover Slab of Precast Reinforced Concrete with Round Opening.



- Note:**
1. Steps needed for structure height greater than 4'.
 2. Cover Slab to Rest on Bed of Mortar on Full Thickness of Structure Walls, not to Rest on Pipe Tongue or Groove.
 3. Location of Structure as Shown in Plans.

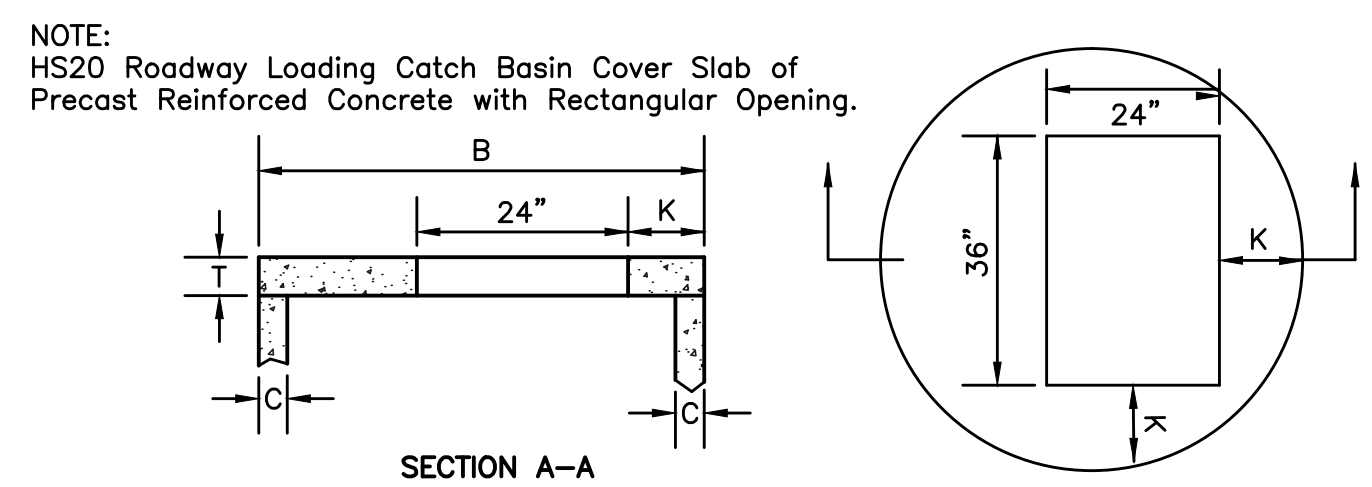
PLAN OF COVER SLAB
 Adjusting Rings, 2 Min., 3 Max., Full 3/8" Bed of Mortar Between Rings. Plaster Exterior Only with 2" Min. Thick Coat. Strike Off Interior. No shims permitted. Stagger on the Adjustment Rings Not to Exceed 3/4" Total.



STRUCTURE REQUIREMENTS					
D	B	C	E	T	K
48"	58"	5"	6"	6"	14"
54"	65"	5.5"	8"	8"	14"
60"	72"	6"	8"	8"	14"
66"	79"	6.5"	8"	8"	14"
72"	86"	7"	8"	8"	14"
78"	93"	7.5"	8"	8"	14"
84"	100"	8"	8"	8"	14"

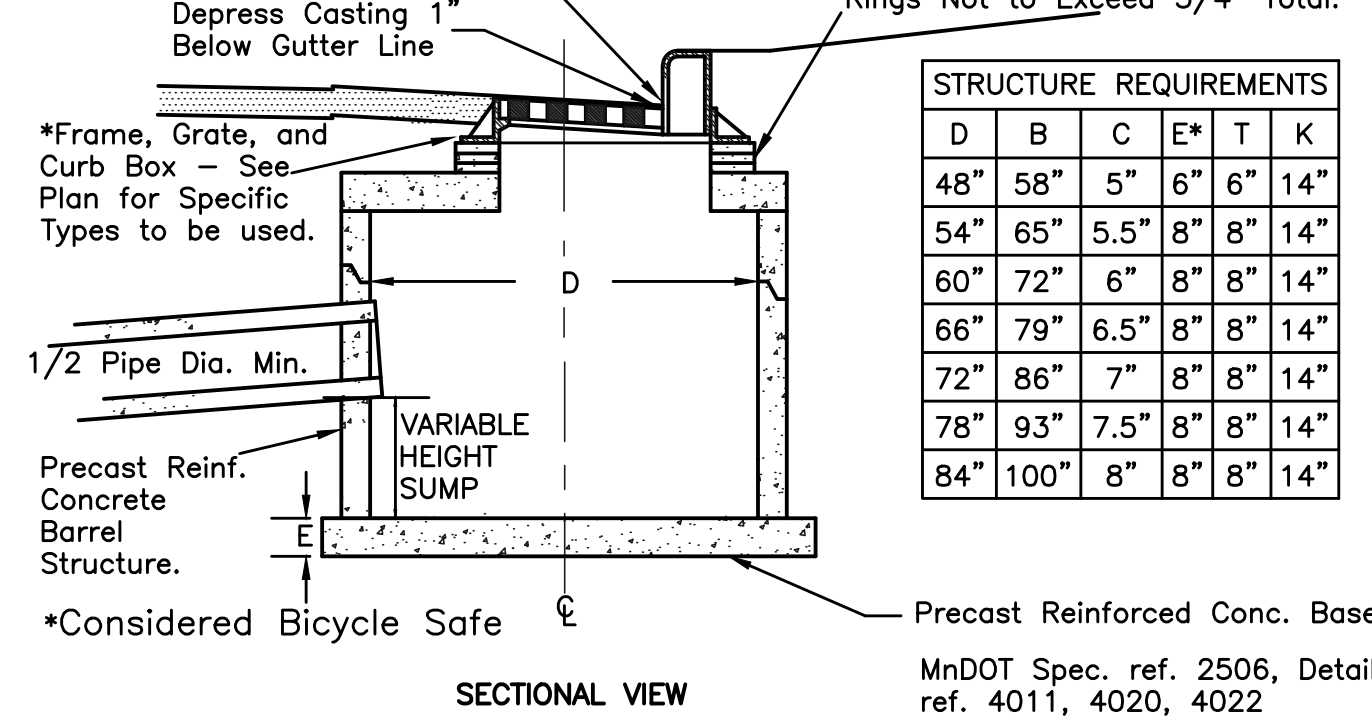
ROUND MANHOLE RFC-465C

NOT TO SCALE
 SPECIAL 1 = 48" ø



- Note:**
1. Steps needed for structure height greater than 4'.
 2. Cover Slab to Rest on Bed of Mortar on Full Thickness of Structure Walls, not to Rest on Pipe Tongue or Groove.
 3. Location of Structure as Shown in Plans.
 4. See Plan for Box and Grate Type.

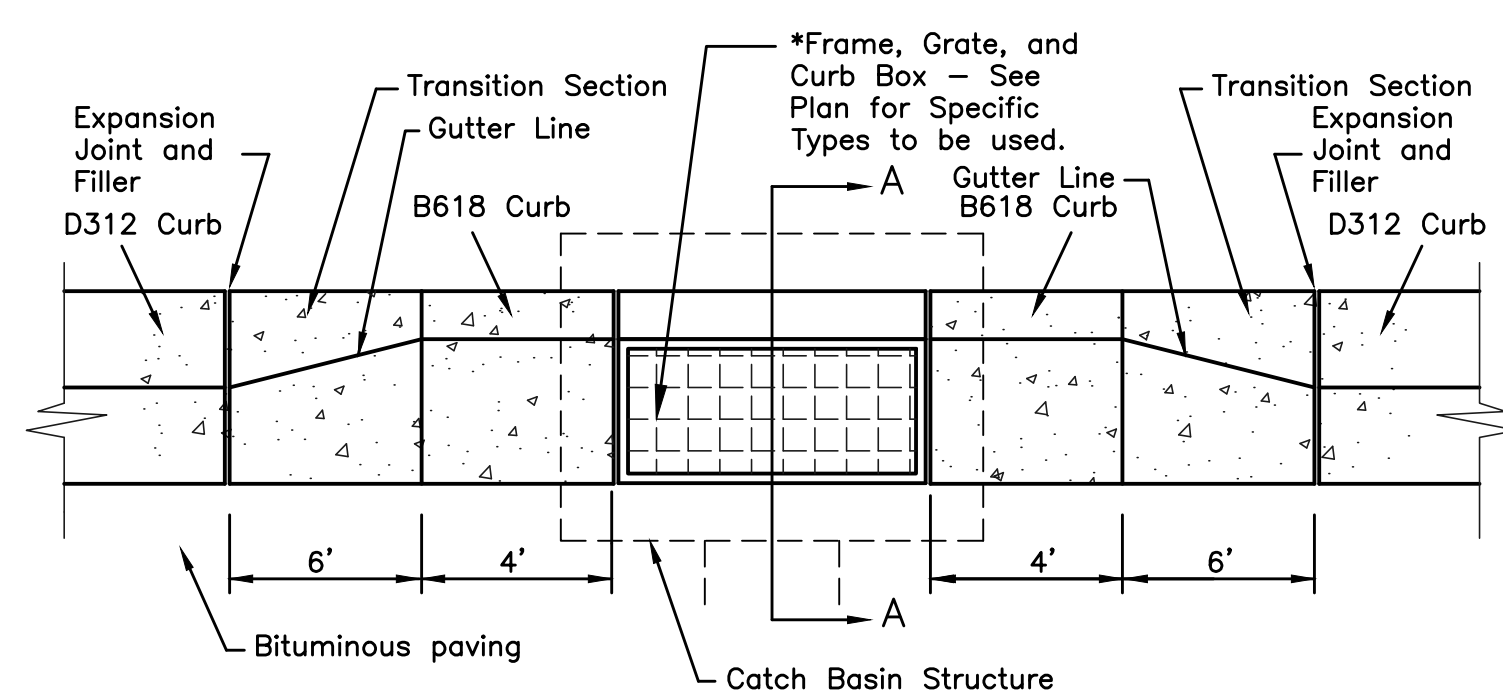
Adjusting Rings, 2 Min., 3 Max., Full 3/8" Bed of Mortar Between Rings. Plaster Exterior Only with 2" Min. Thick Coat. Strike Off Interior. No shims permitted. Stagger on the Adjustment Rings Not to Exceed 3/4" Total.



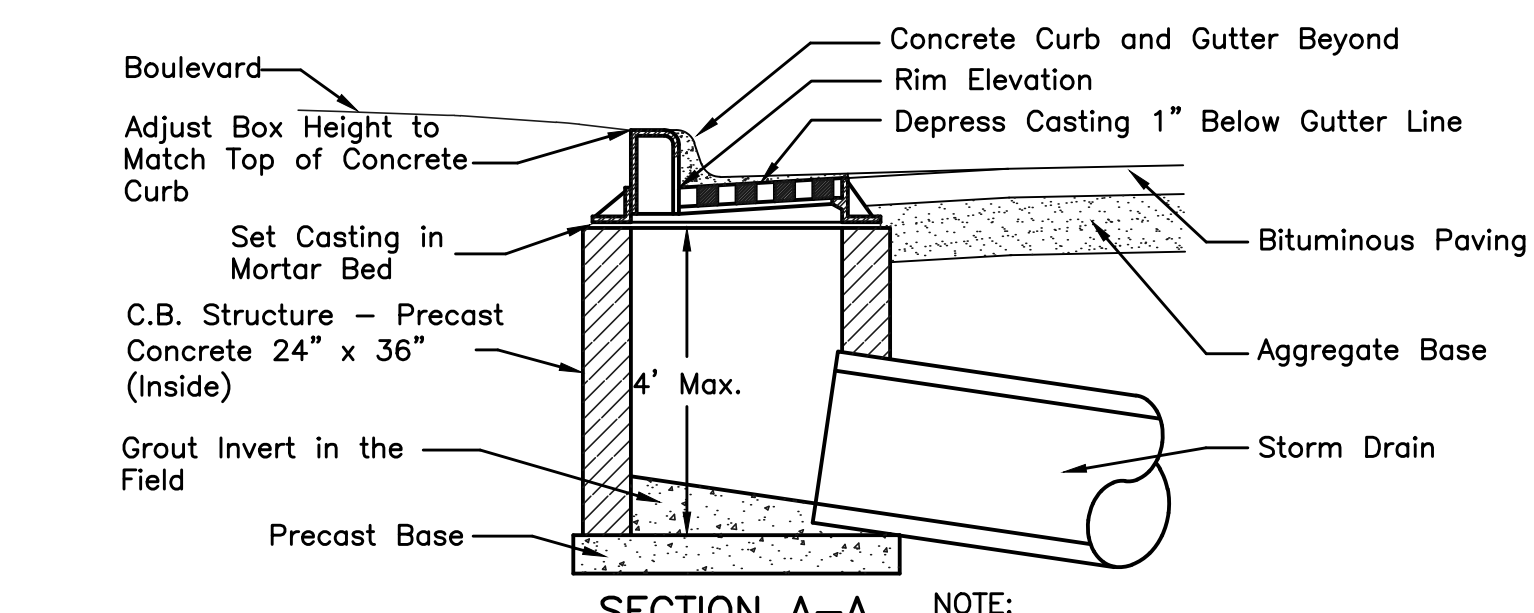
STRUCTURE REQUIREMENTS					
D	B	C	E*	T	K
48"	58"	5"	6"	6"	14"
54"	65"	5.5"	8"	8"	14"
60"	72"	6"	8"	8"	14"
66"	79"	6.5"	8"	8"	14"
72"	86"	7"	8"	8"	14"
78"	93"	7.5"	8"	8"	14"
84"	100"	8"	8"	8"	14"

RECTANGULAR INLET FOR ROUND MANHOLE RFC-465A3

NOT TO SCALE
 SPECIAL 2 = 60" ø



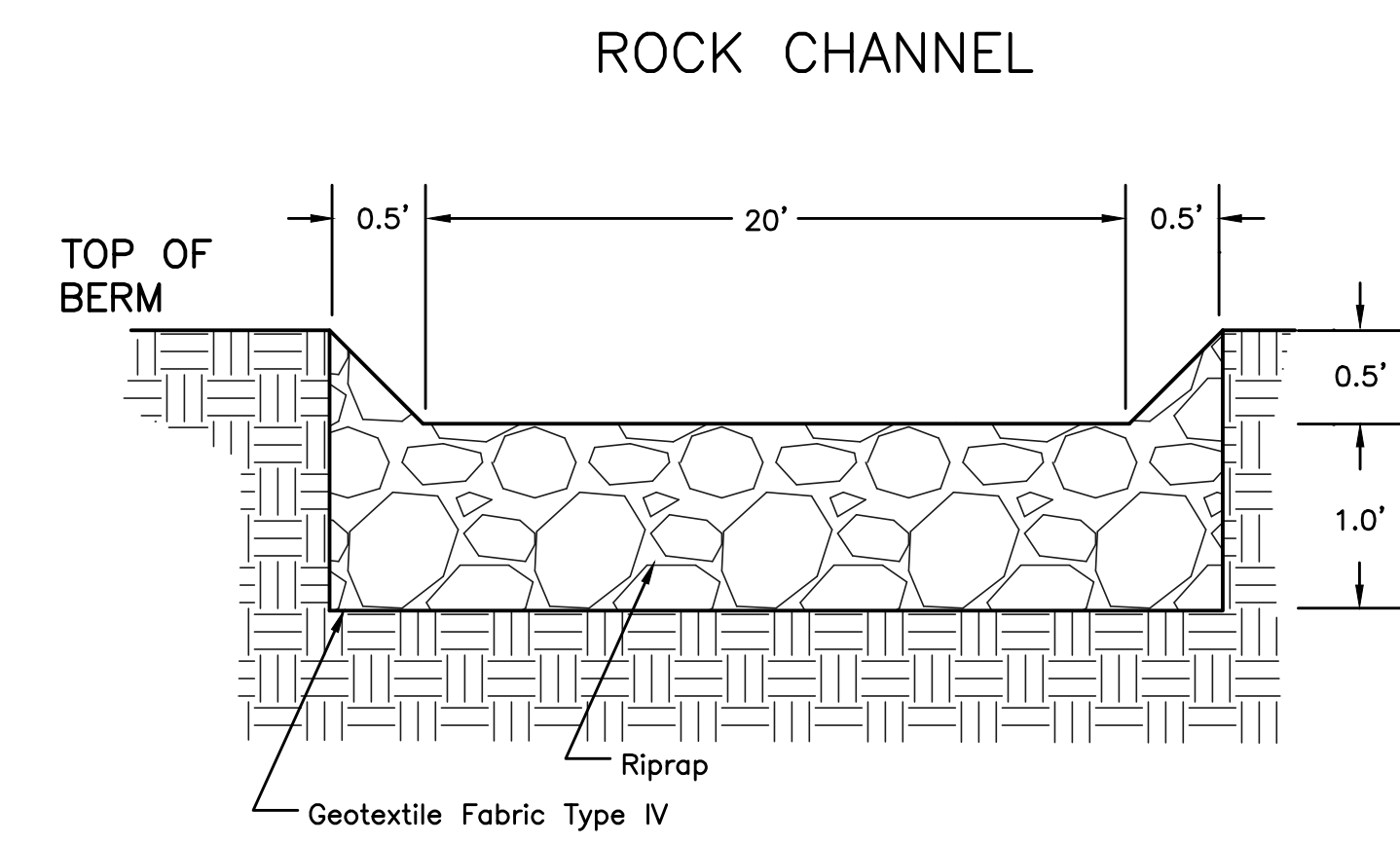
CATCH BASIN PLAN



- NOTE:**
1. 2 Min., 3 Max. Adjustment Rings
 2. Stagger on the adjustment rings not to exceed 3/4 inch total.

RECTANGULAR CATCH BASIN RFC-459B

NOT TO SCALE
 SPECIAL



ROCK CHANNEL

Note:
 Permanent erosion control fabric to extend from NWL to 5' past toe of downstream slope.

ROCK CHANNEL RFC-852A1

NOT TO SCALE



UTILITIES:	CONTACT	PHONE
CENTURYLINK	(763) 712-5017	
CENTERPOINT ENERGY	(763) 323-2760	
COMCAST	(952) 607-4078	
CONNEXUS ENERGY	(763) 323-4268	
XCEL ENERGY	(612) 526-4508	

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Rugh
 DATE 6/29/2022 REG. NO. 48768

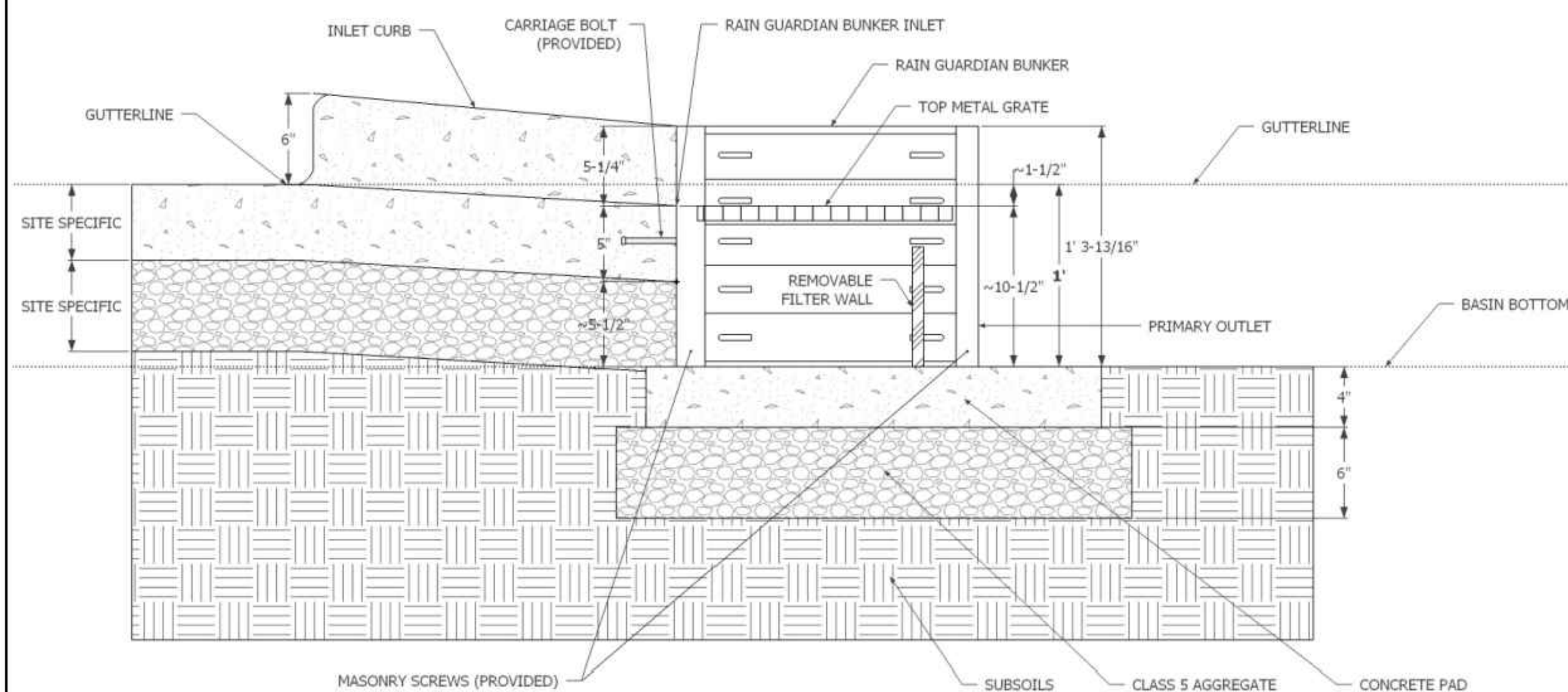
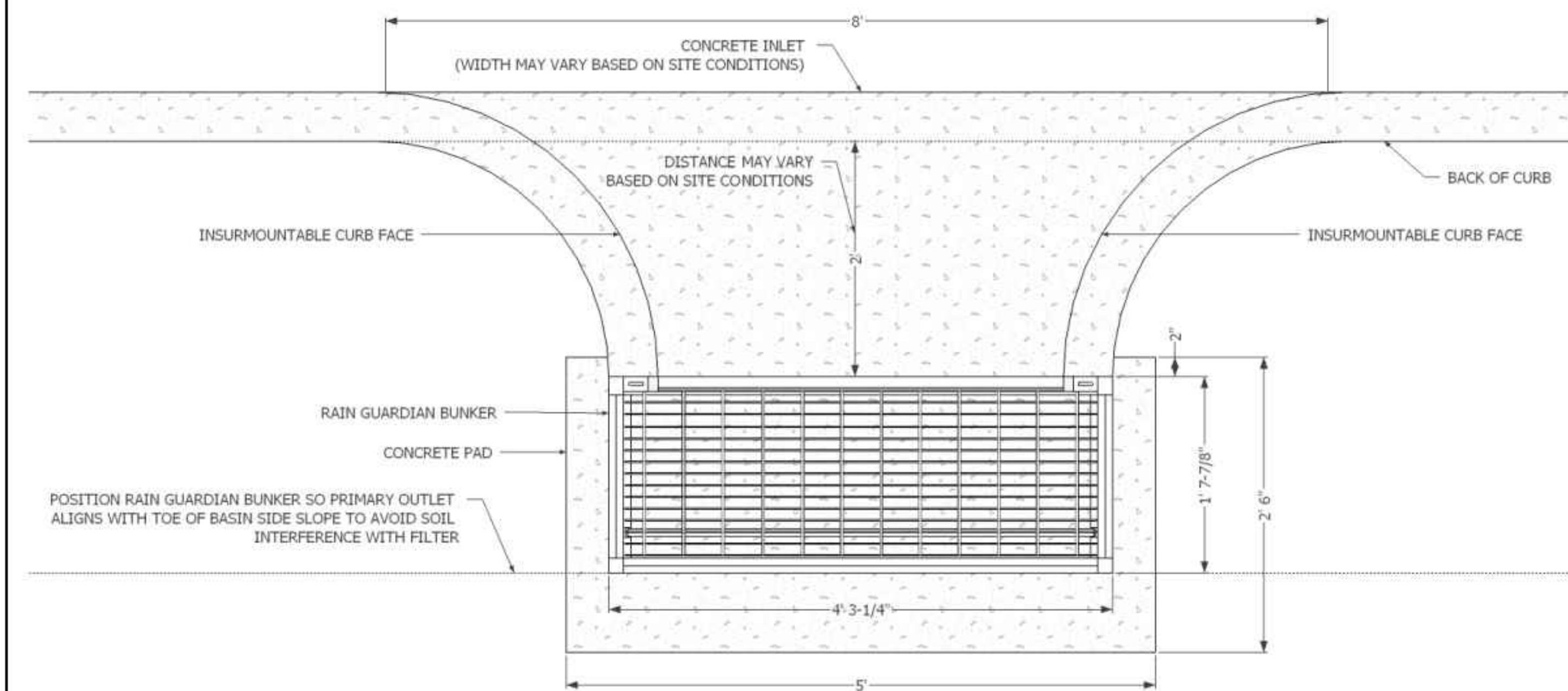
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 DETAILS

DWG:	2105 DETAIL 2
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	6 OF 51
FILE:	34-2-118

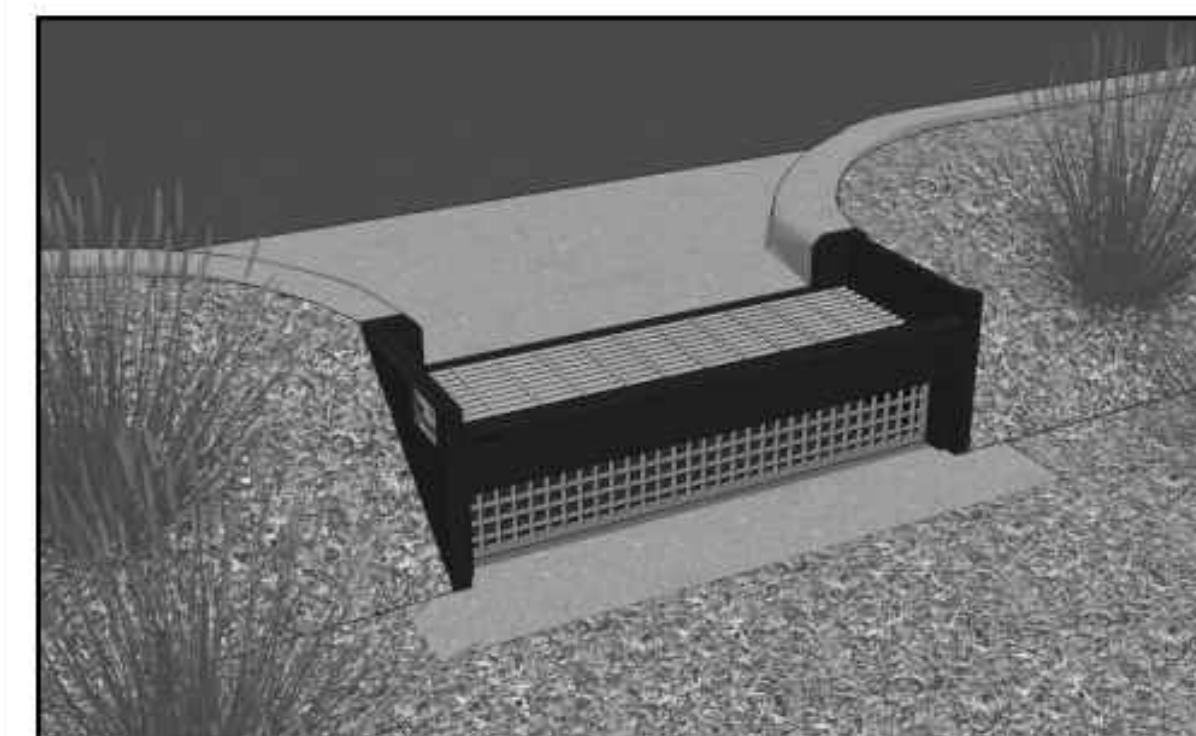
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



PLAN VIEW NOTES

1. INLET WIDTH AND DISTANCE BETWEEN BACK OF CURB AND RAIN GUARDIAN BUNKER MAY VARY WITH SITE CONDITIONS. INSTALLATION FLUSH WITH THE BACK OF THE CURB CAN ALSO BE COMPLETED WITH THE RAIN GUARDIAN BUNKER.
2. CONCRETE PAD EXTENDS BEYOND THE FILTER WALL OF THE RAIN GUARDIAN BUNKER TO SERVE AS A SPLASH DISSIPATOR.

INSTALLED VIEWS



CROSS-SECTION VIEW NOTES

1. THE TOP OF THE CLASS 5 BASE (COMPACTED TO 95% STANDARD PROCTOR) IS PRECISELY 1'4" BELOW THE GUTTERLINE ELEVATION.
2. THE TOP OF THE CONCRETE PAD IS PRECISELY 1' BELOW THE GUTTERLINE.

INSTALLATION NOTES

1. INSTALL THE CONCRETE PAD WITH A 1' 10" OFFSET FROM THE BACK OF THE CURB TO ACCOMMODATE THE CONCRETE INLET. THIS DISTANCE MAY VARY BASED ON SITE CONDITIONS, BUT CONSIDERATIONS SHOULD INCLUDE SLOPE OF THE INLET AND BASIN SIDE SLOPES ADJACENT TO THE RAIN GUARDIAN BUNKER. POSITION RAIN GUARDIAN BUNKER SO PRIMARY OUTLET ALIGNS WITH TOE OF BASIN SIDE SLOPE TO AVOID SOIL INTERFERENCE WITH REMOVABLE FILTER WALL. THE CONCRETE PAD SHOULD BE REINFORCED WITH REBAR.
2. EXCAVATE 1' 10" BELOW THE GUTTERLINE ELEVATION (I.E. THE BIORETENTION OVERFLOW ELEVATION) TO ACCOMMODATE THE 1' PONDING DEPTH, 6" CLASS 5 AGGREGATE, AND 4" CONCRETE PAD TO WHICH THE RAIN GUARDIAN BUNKER WILL BE SECURED. THEREFORE, THE TOP OF THE FINISHED CONCRETE PAD IS PRECISELY 1' BELOW THE GUTTERLINE ELEVATION. THE TOP OF THE RAIN GUARDIAN BUNKER METAL GRATE WILL BE 10-1/2" ABOVE THE TOP OF THE CONCRETE PAD AND 1-1/2" BELOW THE GUTTERLINE ELEVATION TO ACCOMMODATE A SLOPED INLET FROM THE GUTTER TO THE RAIN GUARDIAN BUNKER.
3. THE RAIN GUARDIAN BUNKER SHOULD BE POSITIONED 2" FROM THE EDGE OF THE CONCRETE PAD CLOSEST TO THE BACK OF THE CURB. THEREFORE, THE RAIN GUARDIAN BUNKER WILL BE 2" FROM THE BACK OF THE CURB.
4. USING THE PILOT HOLE IN EACH OF THE FOUR CORNER POSTS, PREDRILL 5/32" HOLES INTO THE CONCRETE PAD WITH A 4-1/2" MASONRY BIT AND HAMMER DRILL.
5. SECURE RAIN GUARDIAN BUNKER TO CONCRETE PAD WITH FOUR 3/16" X 2-3/4" MASONRY SCREWS (PROVIDED).
6. INSTALL FRAMING FOR INLET BETWEEN RAIN GUARDIAN BUNKER AND BACK OF CURB. TOP ELEVATIONS OF THE FRAMING SHOULD MATCH THE TOP OF THE CURB ON THE STREET SIDE AND THE TOP OF THE RAIN GUARDIAN BUNKER ON THE BIORETENTION SIDE.
7. WHEN POURING THE CONCRETE INLET, ENSURE THE CARRIAGE BOLTS ON THE RAIN GUARDIAN BUNKER ARE SURROUNDED BY AT LEAST 2" OF CONCRETE ON ALL SIDES.
8. SIDE CURBS OF THE POURED INLET MUST HAVE AN INSURMOUNTABLE PROFILE TO PREVENT WATER FLOW FROM OVERTOPPING THE DOWNSTREAM SIDE OF THE INLET.
9. WRAP CABLE THROUGH TOP METAL GRATE AND SECURE WITH PROVIDED CLAMP. ENSURE SUFFICIENT SLACK EXISTS IN CABLE TO ALLOW FOR GRATE REMOVAL AND PLACEMENT IN CONCRETE INLET DURING CLEANING. REMOVABLE FILTER WALL SHOULD BE INSTALLED WITH FILTER FABRIC FACING THE RAIN GUARDIAN BUNKER INLET.

**RAIN GUARDIAN BUNKER
PRETREATMENT CHAMBER
BIORETENTION PONDING DEPTH: 1'
TYPICAL DETAIL**

REVISION HISTORY			
REV	BY	DATE	DESCRIPTION
A	MDH	12/1/15	BUNKER-1'
SCALE	VARIABLE		
U.S. PATENT	8,501,016		

UTILITIES:	CENTURYLINK (763) 712-5017
	CENTERPOINT ENERGY (763) 323-2760
	COMCAST (952) 607-4078
	CONNEXUS ENERGY (763) 323-4268
	XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
DATE 6/29/2022 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

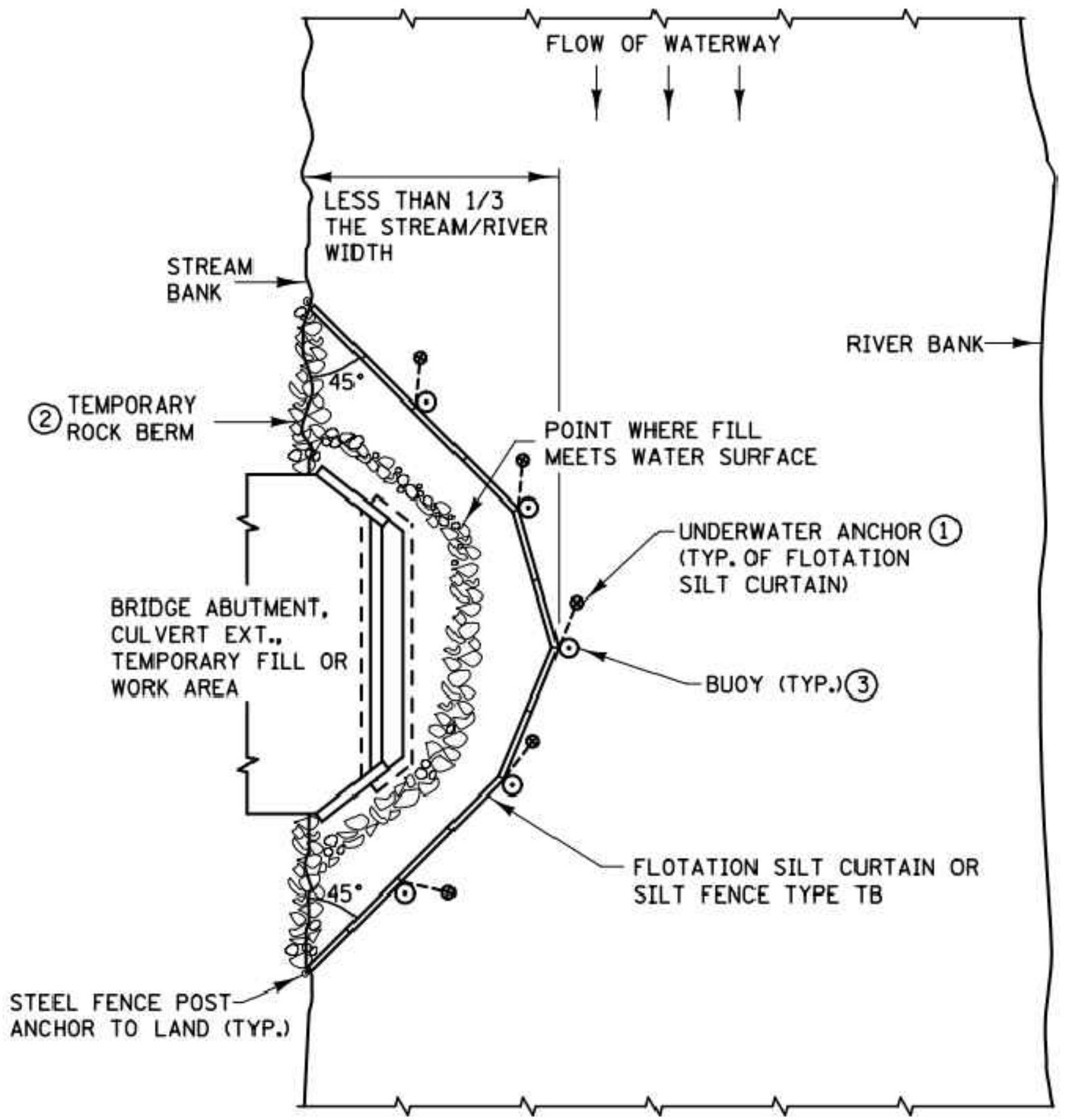
HAM LAKE IMPROVEMENT PROJECT 2105
CREEK VALLEY STREET RECONSTRUCTION
145TH AVE NE, KENYON ST
146TH AVE NE AND LONDON ST
DETAILS

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

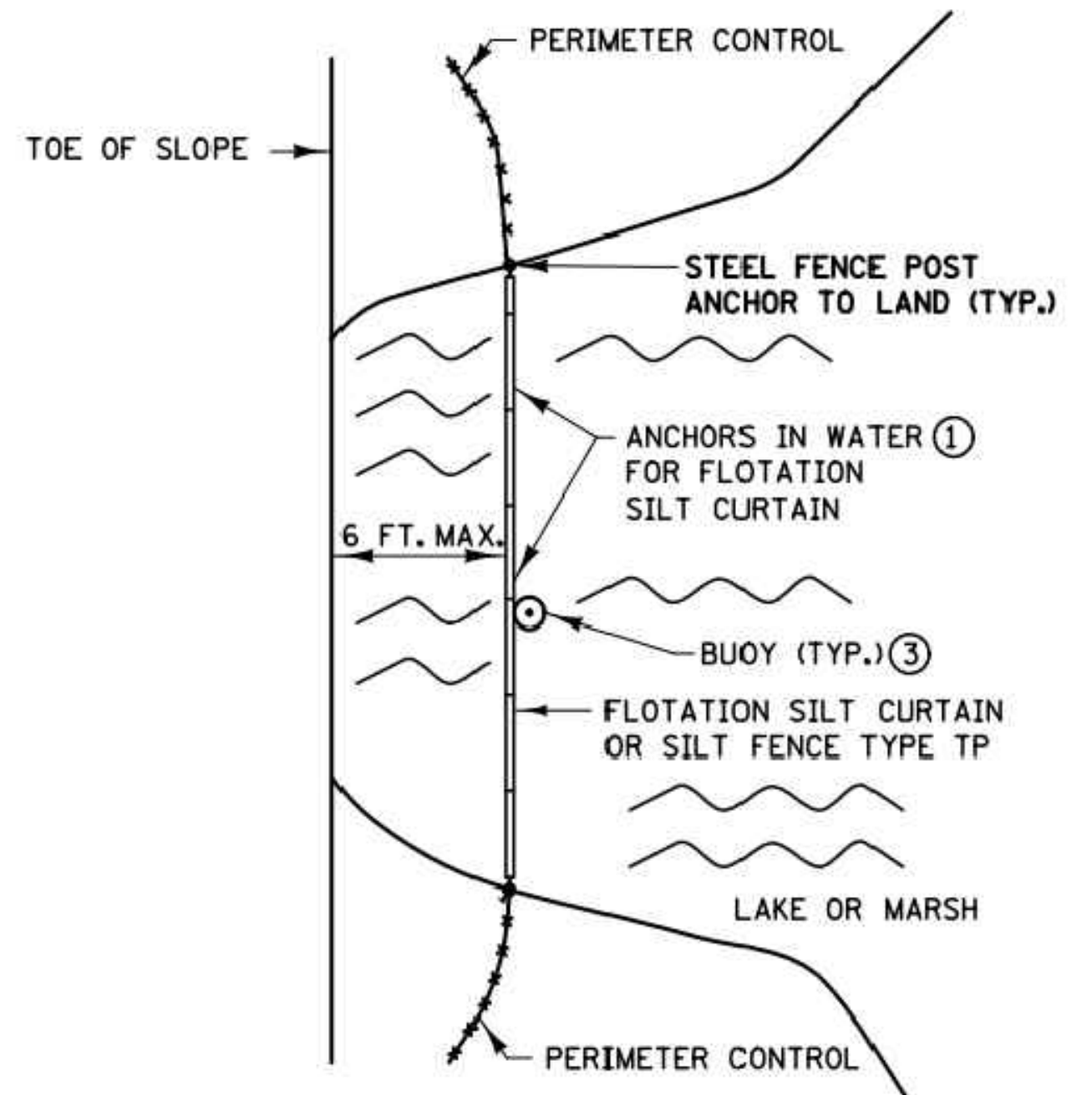
DWG:	2105 DETAIL 3
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	7 OF 51
FILE:	34-2-119

PLOTTED/REVISED: 4-APR-2018

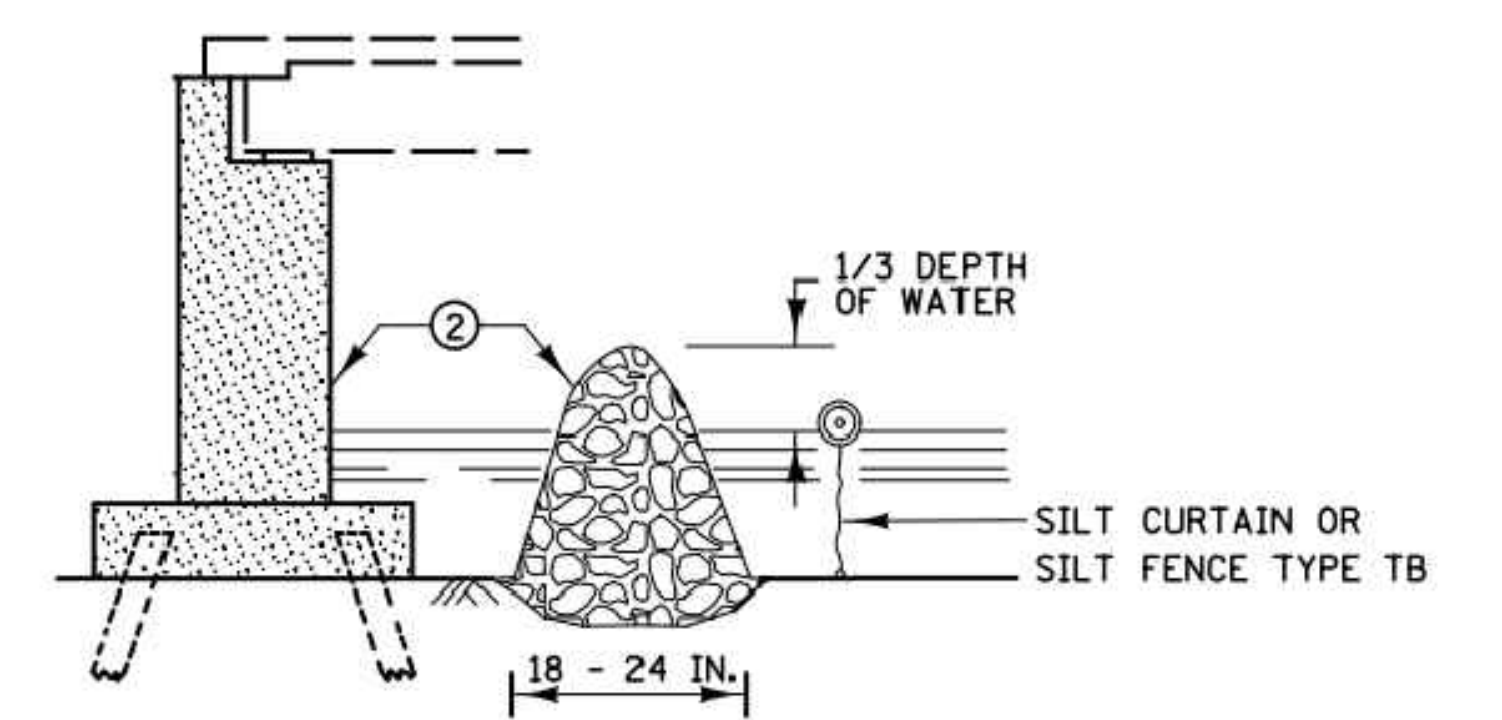
I/PLOT NAME: s405_L_spn
PATH & FILENAME: OT\S\DesignStandards\Development\New Border\400_Ser\es405_L_spn.dgn



PLAN VIEW FOR STREAM ⑤



PLAN VIEW FOR LAKE OR MARSH ⑤

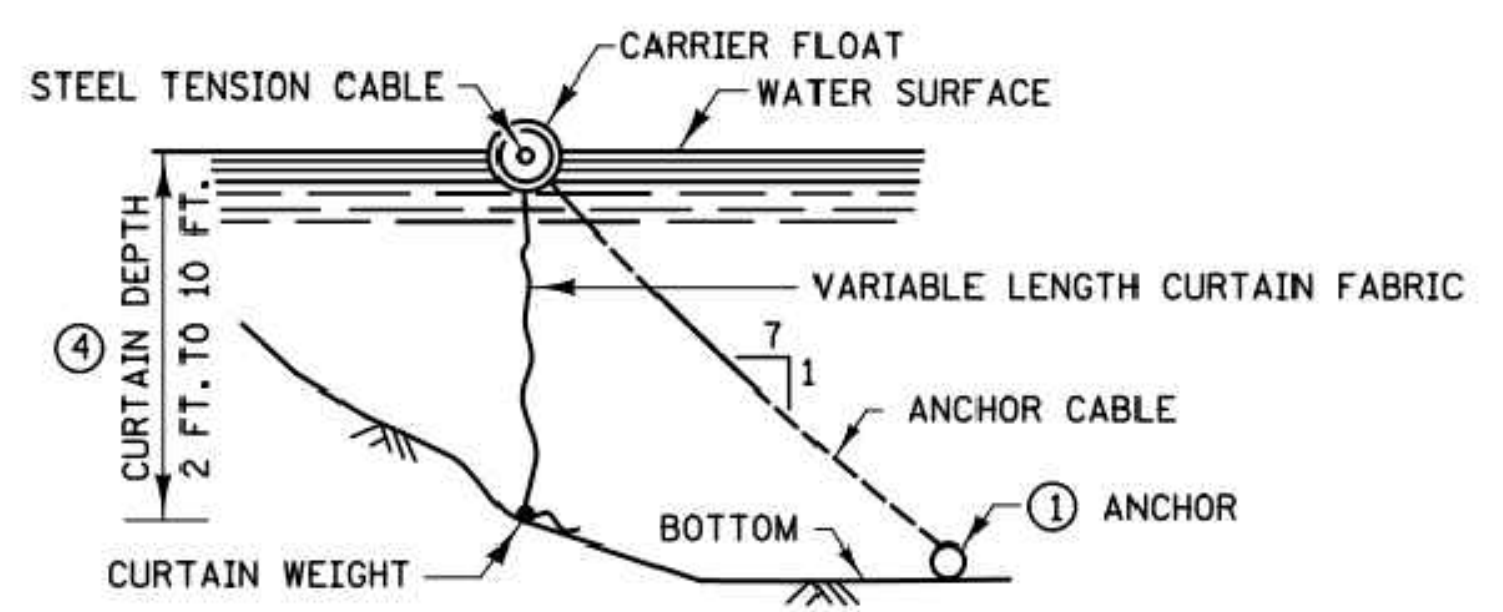


TEMPORARY ROCK BERM FOR SEDIMENT CONTROL

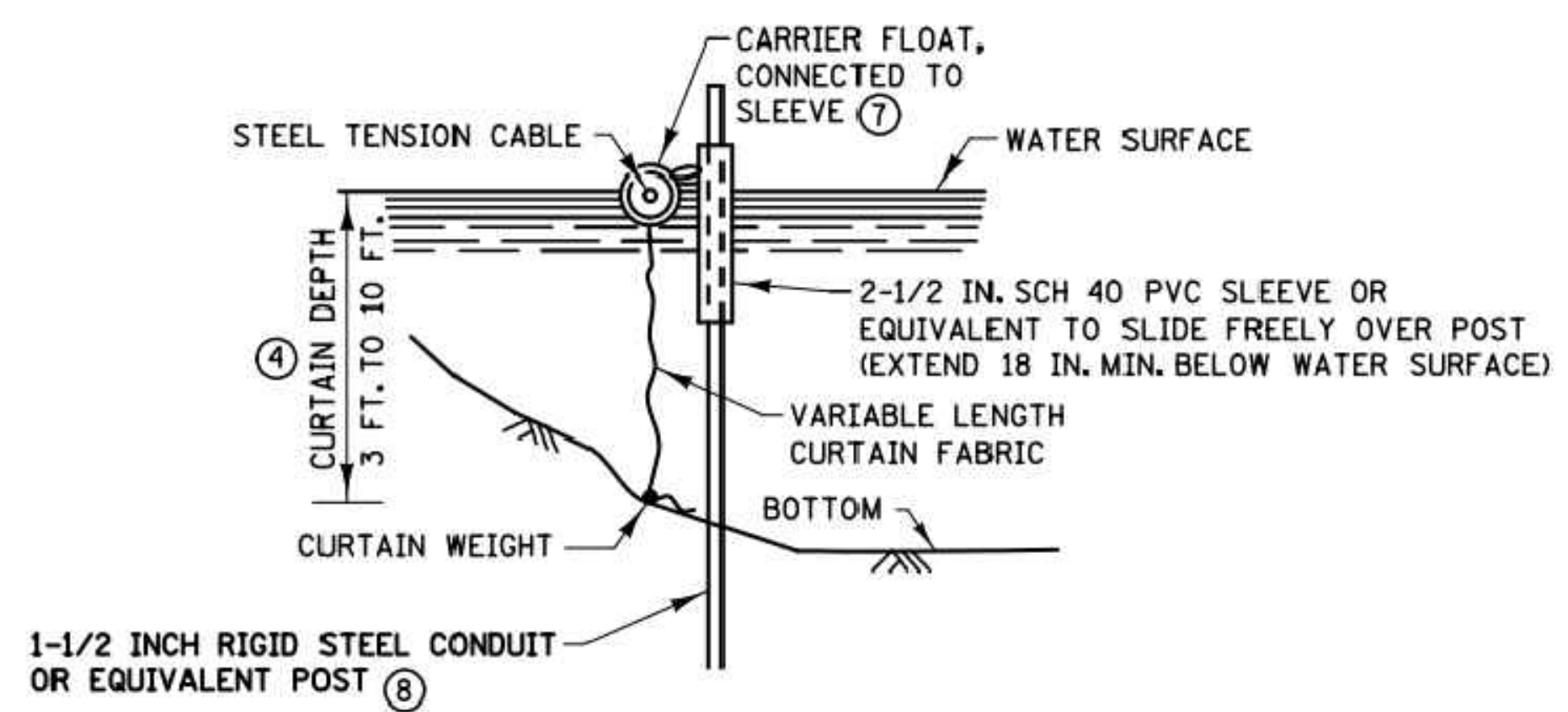
**INSTALLATION GUIDELINES
SILT FENCE TYPE TB**
MINIMUM WATER DEPTH: 1 FT.
MAXIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER VELOCITY: 5 FT./SEC.

**INSTALLATION GUIDELINES ④
FLOTATION SILT CURTAIN
TYPE: STILL WATER**
MINIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER DEPTH: 10 FT.
MAXIMUM WATER VELOCITY: 2 FT./SEC.
MAXIMUM WAVE HEIGHT: 1 FT

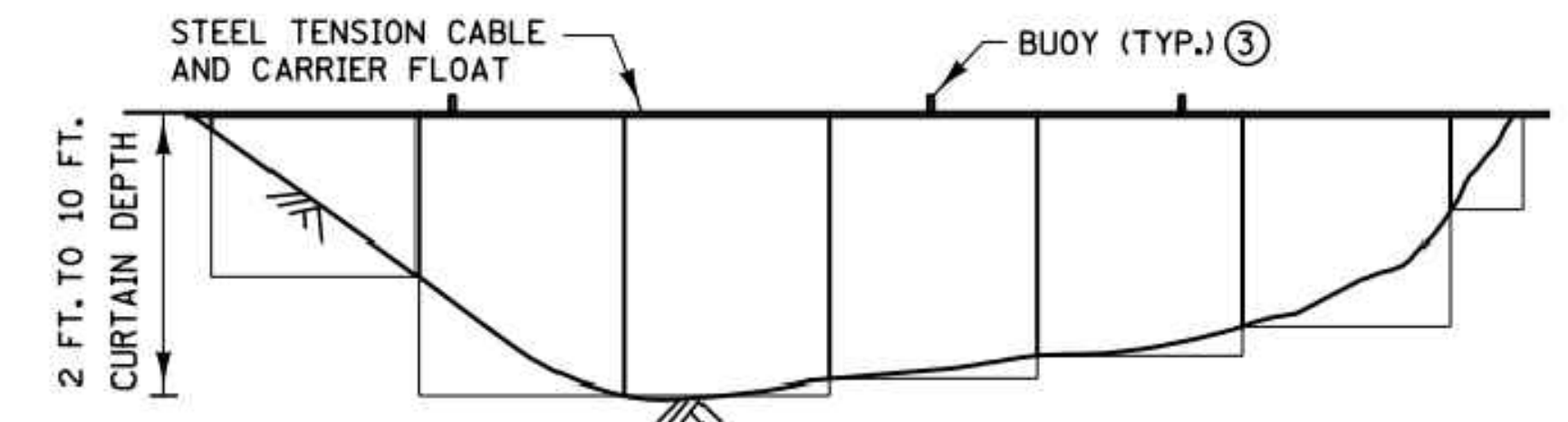
**INSTALLATION GUIDELINES ④
FLOTATION SILT CURTAIN
TYPE: MOVING WATER**
MINIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER DEPTH: 10 FT.
MAXIMUM WATER VELOCITY: 5 FT./SEC.
MAXIMUM WAVE HEIGHT: 2 FT.



FLOTATION SILT CURTAIN



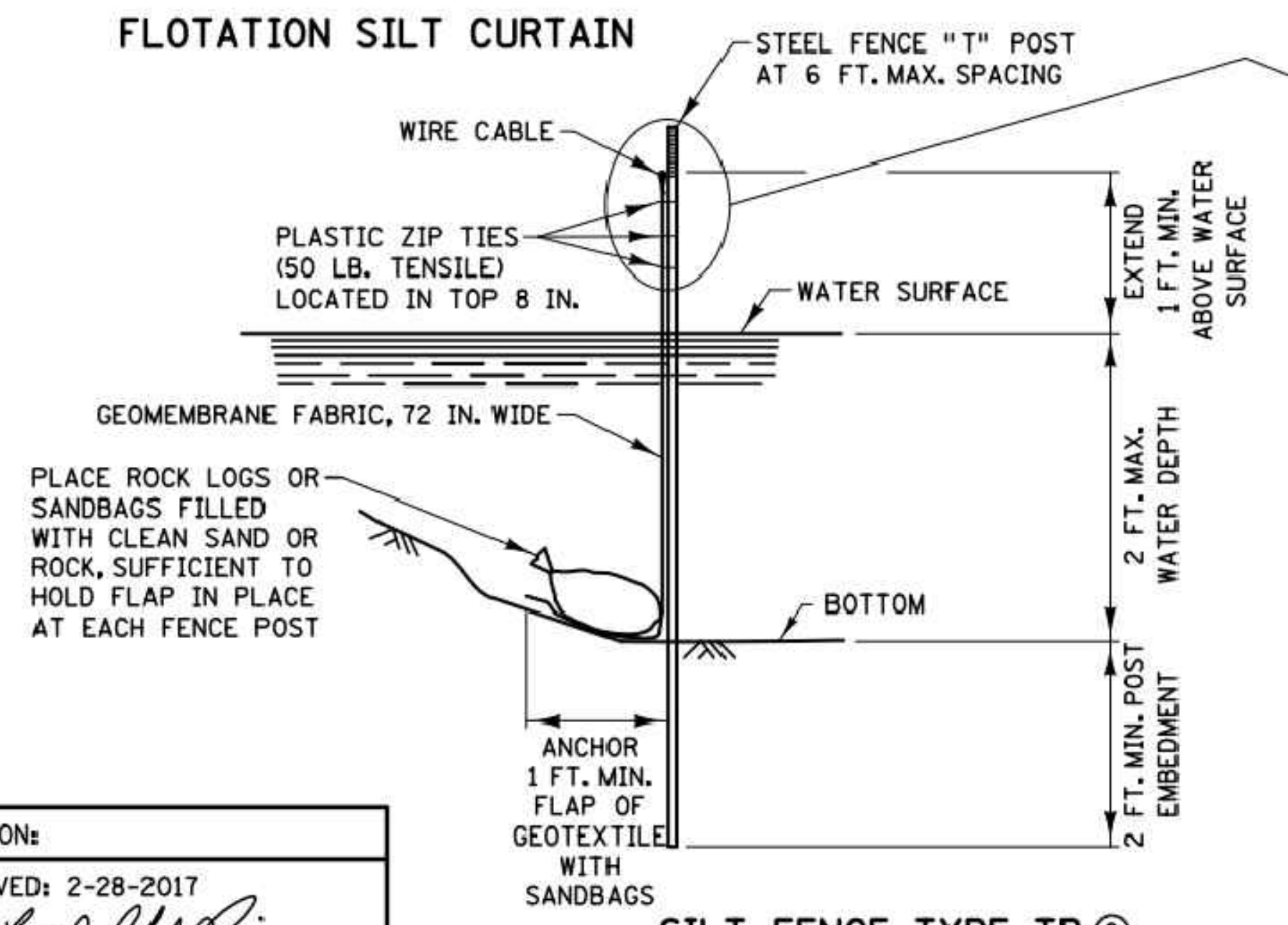
ALTERNATE FLOTATION SILT CURTAIN



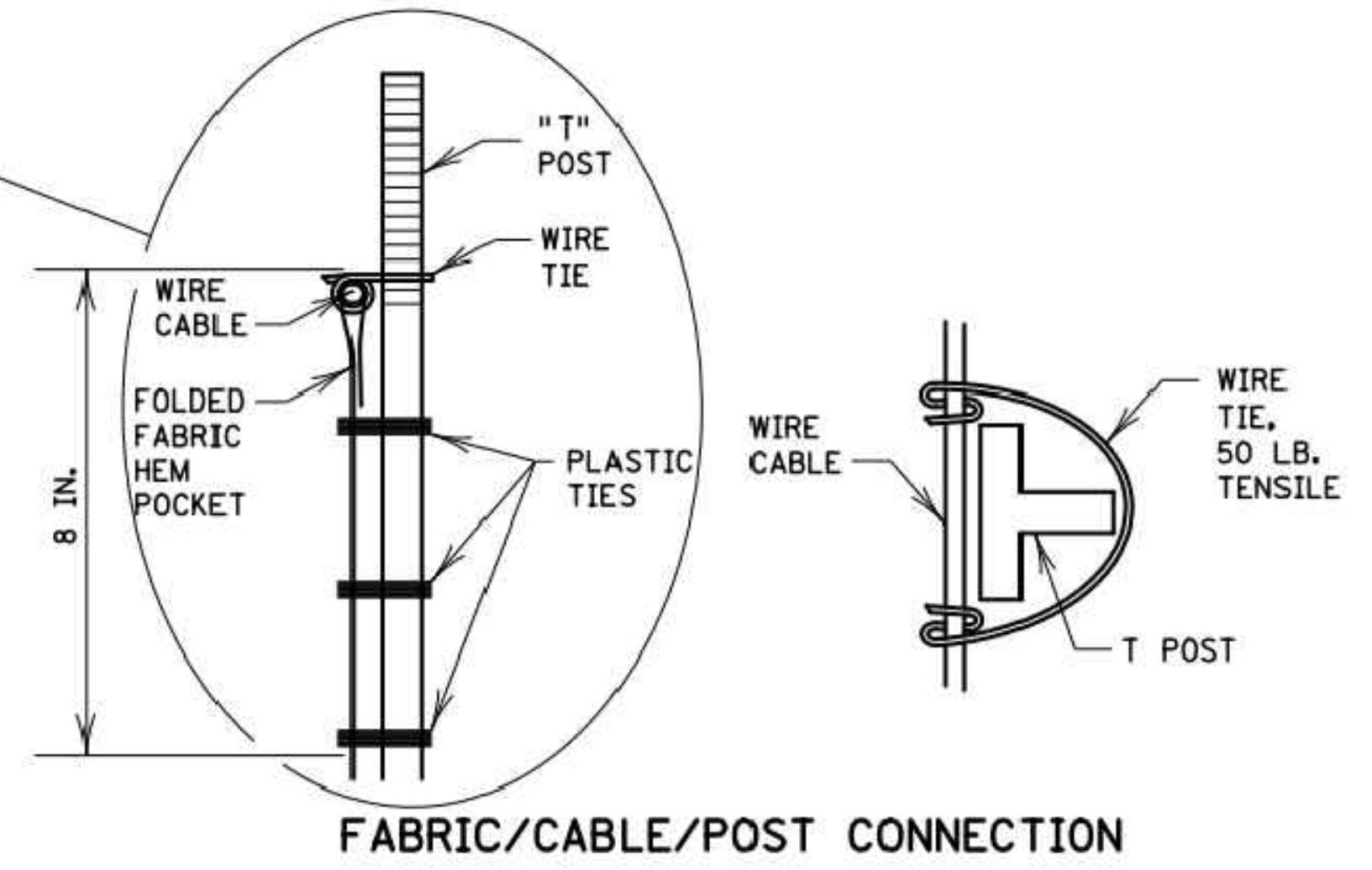
FRONT VIEW FOR FLOTATION SILT CURTAIN

NOTES:

- SEE SPECS. 2573, 3886, 3887 & 3893.
- ① FOR ANCHOR SPACING AND WEIGHT REQUIREMENTS, SEE SPEC. 2573.
- ② IN AREAS WHERE THE PLAN CALLS FOR RIPRAP AT A BRIDGE, CULVERT, OR SLOPE, A TEMPORARY ROCK BERM CONSTRUCTED FROM THE RIPRAP CAN BE USED TO PROVIDE ADDITIONAL PROTECTION. WHEN THE WORK IS COMPLETE THE RIPRAP CAN THEN BE MOVED TO THE PERMANENT LOCATION INDICATED IN THE PLANS. THE TEMPORARY ROCK BERM IS INCIDENTAL.
- ③ ON U.S. COAST GUARD OR OTHER MOTORIZED WATERWAYS, BUOYS ARE REQUIRED TO MARK THE ENDS AND SPECIAL AREAS FOR VISIBILITY. PLACE BUOYS AS REQUIRED FOR NAVIGATIONAL PURPOSES.
- ④ MINIMUM WATER DEPTH APPLIES TO THE DEEPEST POINT ALONG THE FLOTATION SILT CURTAIN OR SILT FENCE TYPE TB FOR DETERMINING APPLICABILITY OF FLOTATION SILT CURTAIN OR SILT FENCE TYPE TB.
- ⑤ SILT CURTAIN SHOULD BE REMOVED WHEN THE AREA CONTRIBUTING DIRECT RUNOFF HAS BEEN TEMPORARILY OR PERMANENTLY STABILIZED. SILT CURTAIN SHOULD ALSO BE REMOVED BEFORE WINTER IF ICE UP OR ICE FLOW IS ANTICIPATED.
- ⑥ EMBED POST INTO BOTTOM A MINIMUM OF 40% OF THE WATER DEPTH (INCLUDING WAVE HEIGHT), BUT IN NO CASE SHALL EMBEDMENT BE LESS THAN 2 FEET.
- ⑦ ANCHOR FLOAT MUST BE CONNECTED SECURELY TO SLEEVE WITH A MINIMUM TENSILE STRENGTH OF 100 LBS. CONNECTION METHOD MUST ALLOW FOR SLEEVE TO MOVE FREELY ON POST.
- ⑧ PROVIDE SUFFICIENT NUMBER OF POST ANCHORS TO MAINTAIN SILT CURTAIN POSITION.



SILT FENCE TYPE TB ⑥



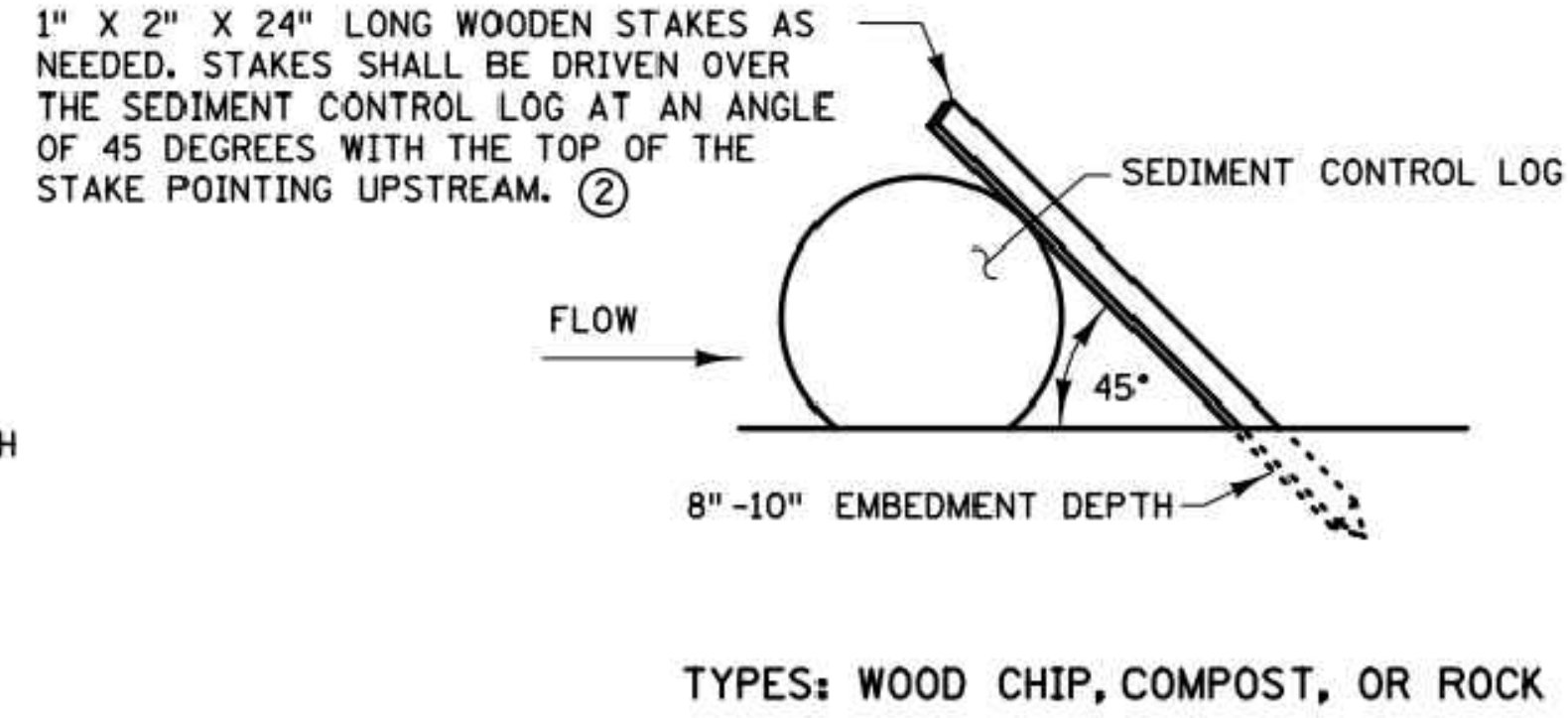
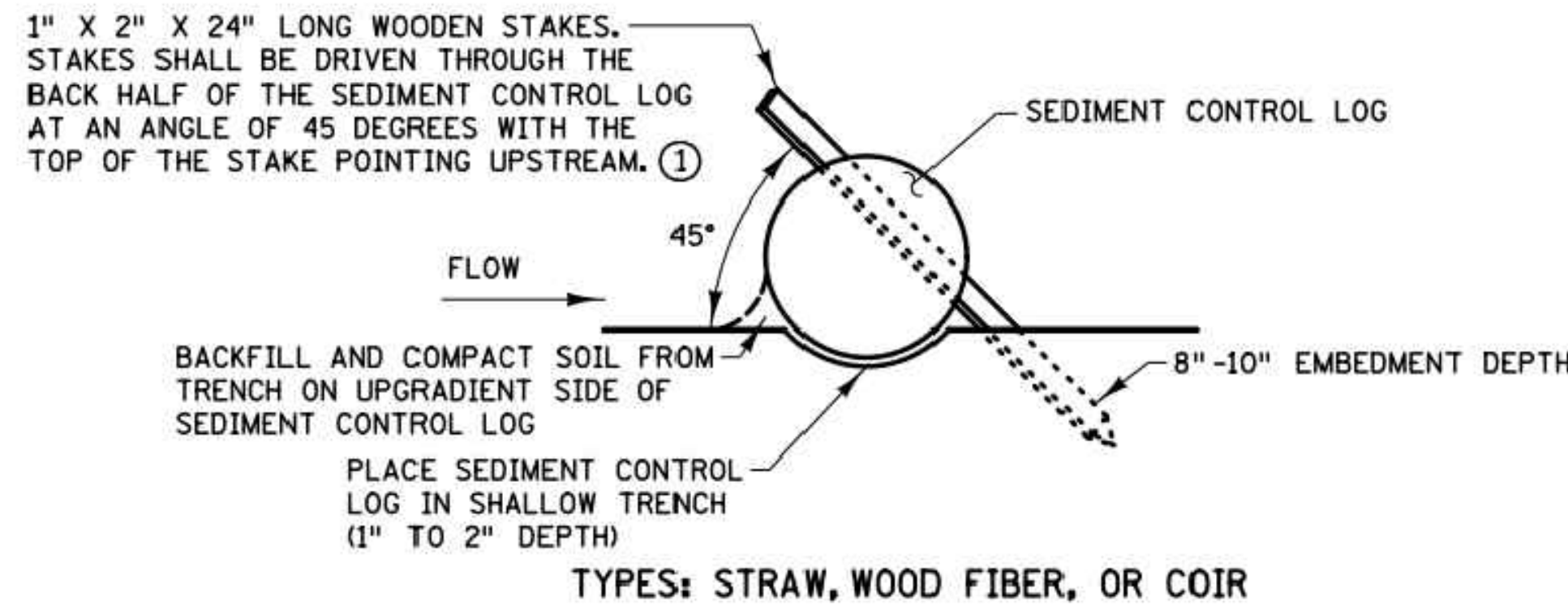
FABRIC/CABLE/POST CONNECTION

REVISIONS:
APPROVED: 2-28-2017
[Signature]
CHIEF ENVIRONMENTAL OFFICER

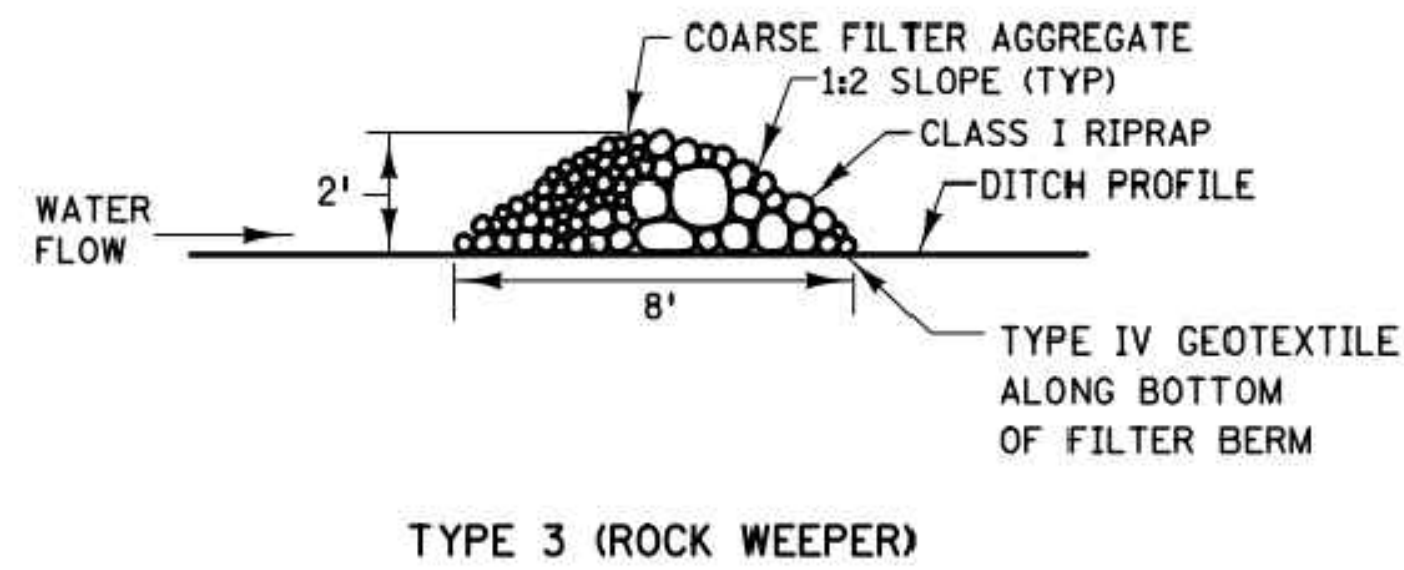
	STANDARD PLAN 5-297.405	1 OF 8	TEMPORARY SEDIMENT CONTROL SILT CURTAIN OR SILT FENCE TYPE TB (T.H.) SHEET NO. 8 OF 51 SHEETS	
		APPROVED: 2-28-2017 REVISED:		

PLOTTED/REVISED: 24-JAN-2020

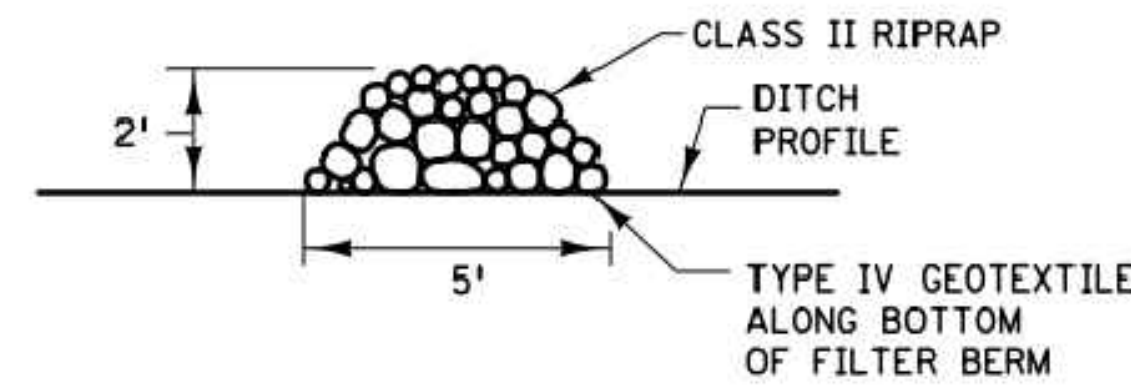
I/PLOT NAME: s405_2_spn
 PATH & FILENAME: OTS\DesignStandards\Development\StandardPlans\400_Series\405_2_spn.dgn



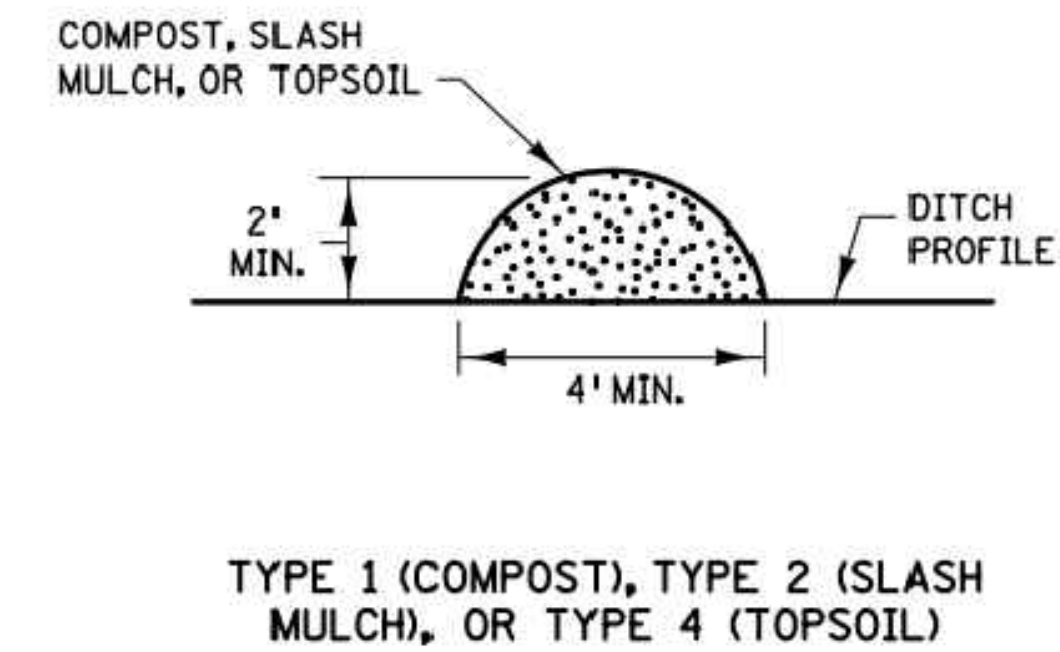
SEDIMENT CONTROL LOGS



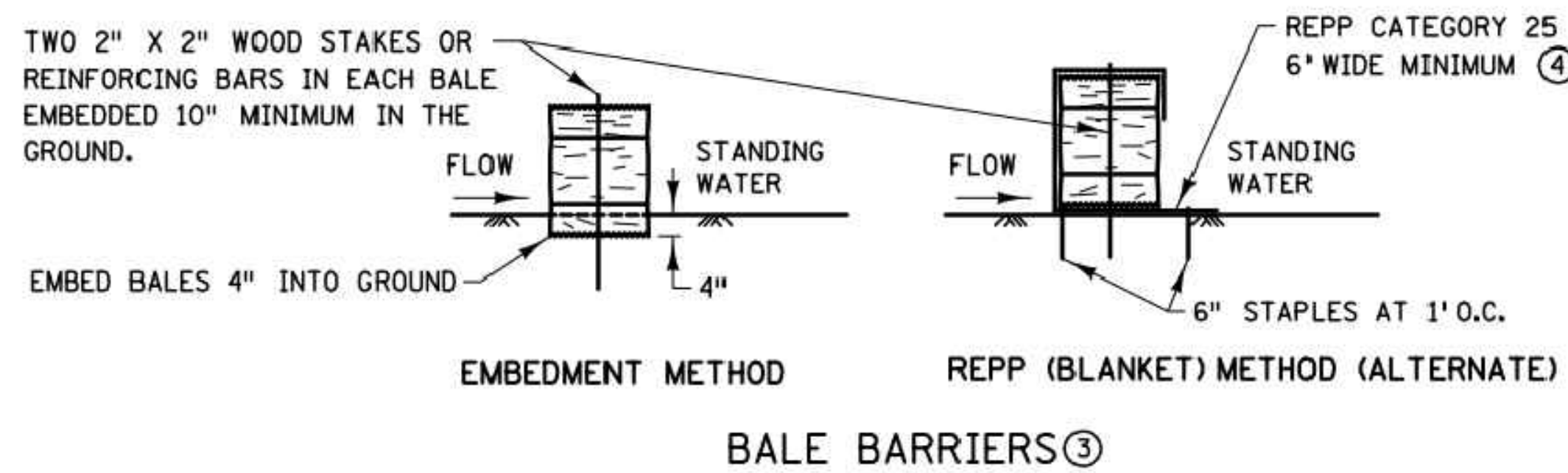
TYPE 3 (ROCK WEEPER)



TYPE 5 (ROCK)
 FILTER BERMS



TYPE 1 (COMPOST), TYPE 2 (SLASH MULCH), OR TYPE 4 (TOPSOIL)



BALE BARRIERS ③

NOTES:

- REPP = ROLLED EROSION PREVENTION PRODUCT.
- SEE SPECS. 2573, 3149, 3874, 3882, 3885, 3886, AND 3897.
- ① SPACE BETWEEN STAKES SHALL BE A MAXIMUM OF 1' FOR DITCH CHECKS OR 2' FOR OTHER APPLICATIONS.
- ② PLACE STAKES AS NEEDED TO PREVENT MOVEMENT OF SEDIMENT CONTROL LOGS PLACED ON SLOPES OR AS NEEDED DUE TO OTHER FACTORS. STAKES SHALL BE INCIDENTAL.
- ③ TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS WHERE STANDING WATER OCCURS (6" MAXIMUM DEPTH). BALES SHALL CONSIST OF TYPE 1 MULCH OF APPROXIMATELY 14" X 18" X 36" LONG. BALES SHALL BE PLACED ON EDGE AND BUTTED TIGHT TO ADJACENT BALES.
- ④ INSTEAD OF TRENCHING, PLACE BALE ON THE REPP (BLANKET) AND WRAP BLANKET AROUND THE BALE. PLACE STAKE THROUGH BALE AND BLANKET.

REVISIONS:
 APPROVED: JANUARY 8, 2020

 MARNI KARNOWSKI
 CHIEF ENVIRONMENTAL OFFICER

MINNESOTA
 DEPARTMENT OF TRANSPORTATION

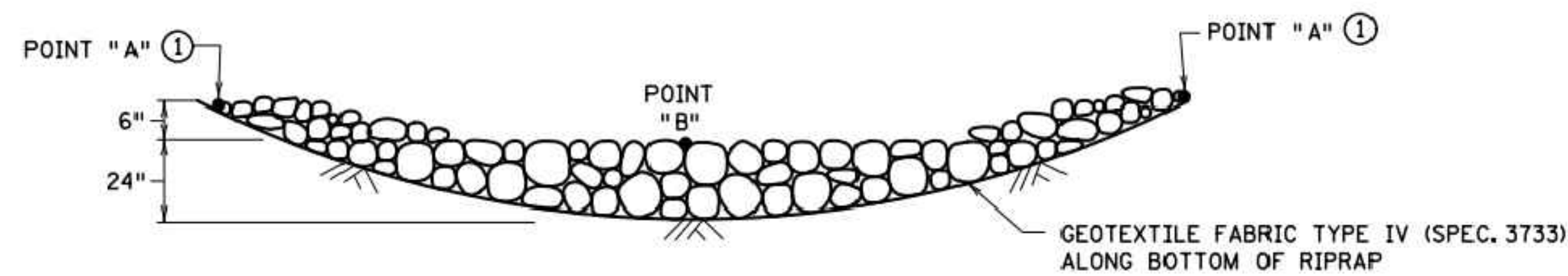
STANDARD PLAN 5-297.405 2 OF 8

 THOMAS TYRBICKI
 STATE DESIGN ENGINEER
 APPROVED: 1-8-2020
 REVISED:
 STATE PROJ. NO.

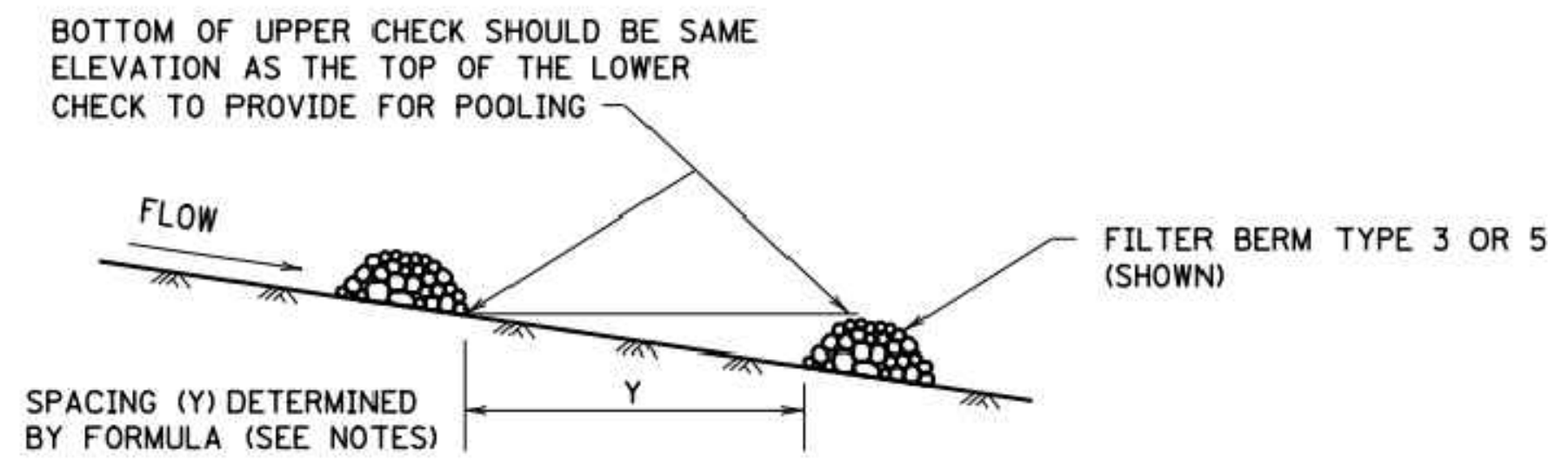
TEMPORARY SEDIMENT CONTROL
 FILTER BERMS, SEDIMENT CONTROL LOGS, AND BALE BARRIERS
 (T.H.) SHEET NO. 9 OF 51 SHEETS

PLOTTED/REVISED: 24-JAN-2020

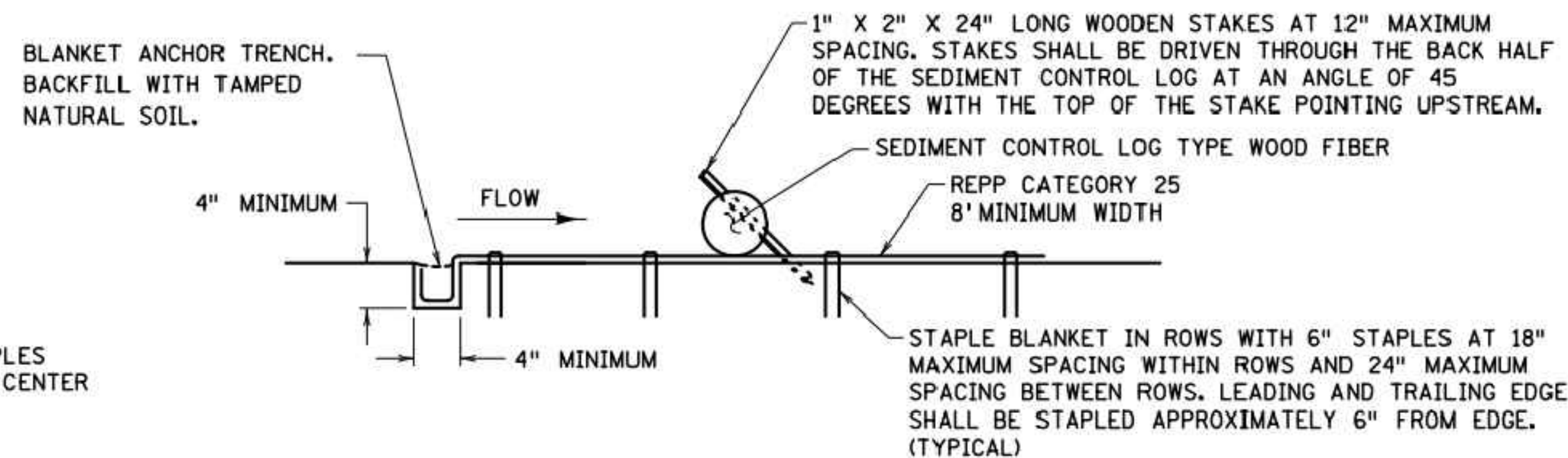
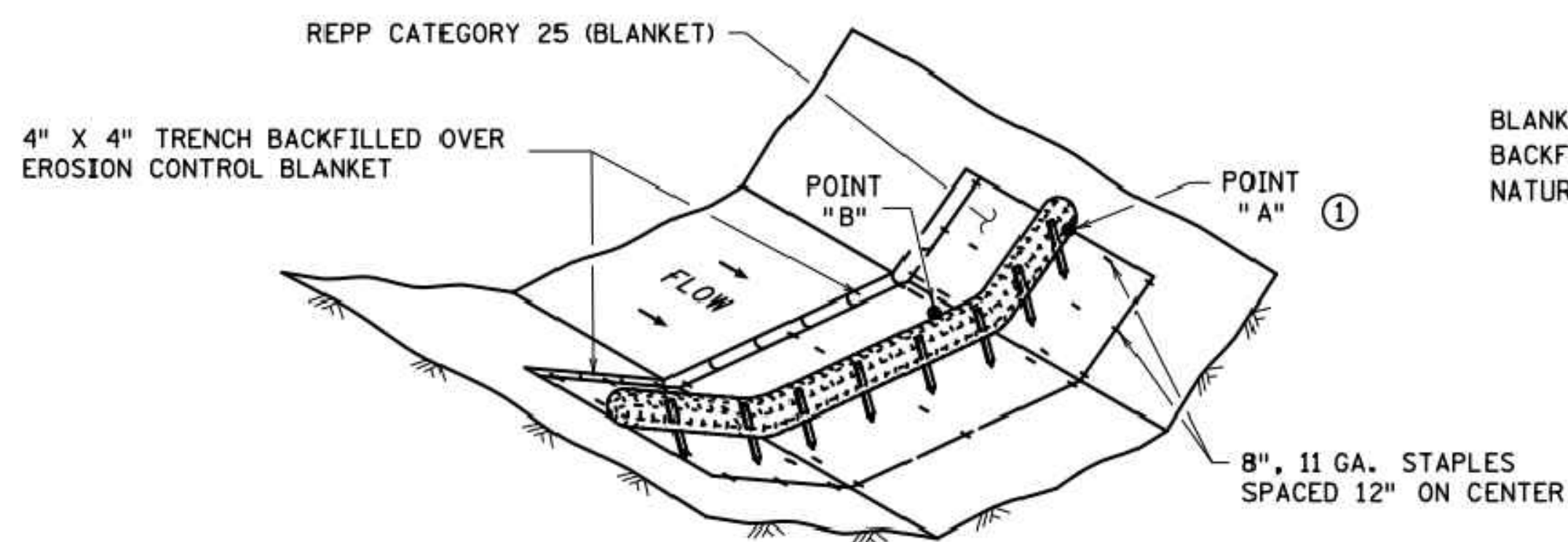
I/PLOT NAME: s405_3_spn
 PATH & FILENAME: O:\S\DesignStandards\Development\StandardPlans\DEV\400_Series\405_3_spm.dgn



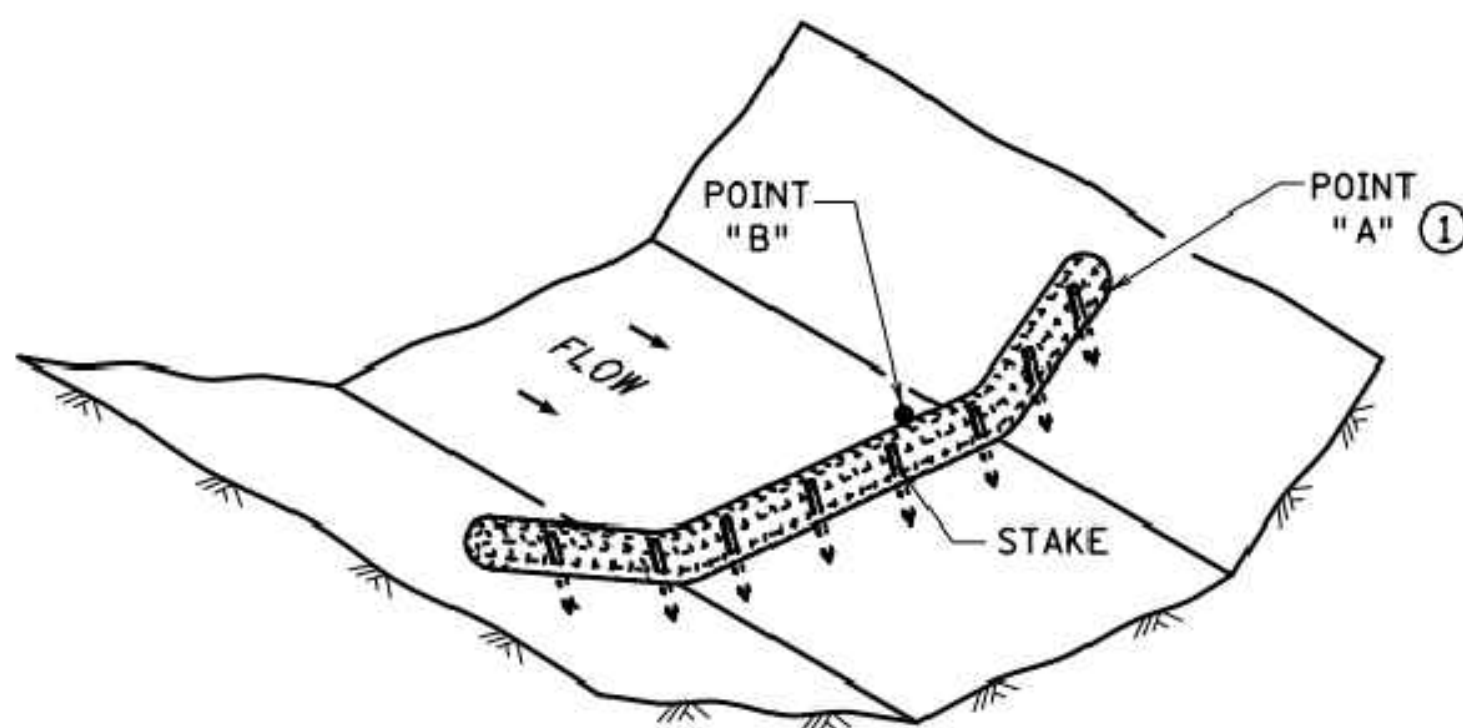
ROCK DITCH CHECKS
 FILTER BERMS TYPE 3 (ROCK WEEPER) OR FILTER TYPE 5 (ROCK) ③
 ONLY FOR USE OUTSIDE CLEAR ZONE ②



DITCH CHECK SPACING
 FOR ALL FILTER BERM TYPES



SEDIMENT CONTROL LOG TYPE REPP (BLANKET) SYSTEM ④



SEDIMENT CONTROL LOG TYPE WOOD FIBER, OR TYPE COMPOST ⑤
 FOR USE ON ROUGH GRADED AREAS

NOTES:

- REPP = ROLLED EROSION PREVENTION PRODUCT.
- SEE SPECS. 2573, 3601, 3733, 3885, 3886 & 3889.
- FOR DITCH CHECKS, PLACE SEDIMENT CONTROL LOG PERPENDICULAR TO FLOW AND IN A CRESCENT SHAPE WITH THE ENDS FACING UPSTREAM.
- APPROXIMATE SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM THE FOLLOWING SPACING FORMULA:

$$\text{APPROXIMATE SPACING OF DITCH CHECKS (FT.)} = Y = \frac{\text{DITCH CHECK HEIGHT (FT.)}}{\% \text{ CHANNEL SLOPE}} \times 100$$
- ① POINT "A" MUST BE A MINIMUM OF 6" HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
- ② ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE ARE TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.
- ③ DITCH GRADE 3% - 5%, MAX. FLOW VELOCITY 12 FT./SEC.
- ④ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 4.5 FT./SEC.
- ⑤ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 1.5 FT./SEC.

REVISION:
APPROVED: JANUARY 8, 2020
<i>Marni Karnowski</i> MARNI KARNOWSKI CHIEF ENVIRONMENTAL OFFICER



STANDARD PLAN 5-297.405	3 OF 8
APPROVED: 1-8-2020	
REVISED:	
THOMAS TYRICKI STATE DESIGN ENGINEER	STATE PROJ. NO.

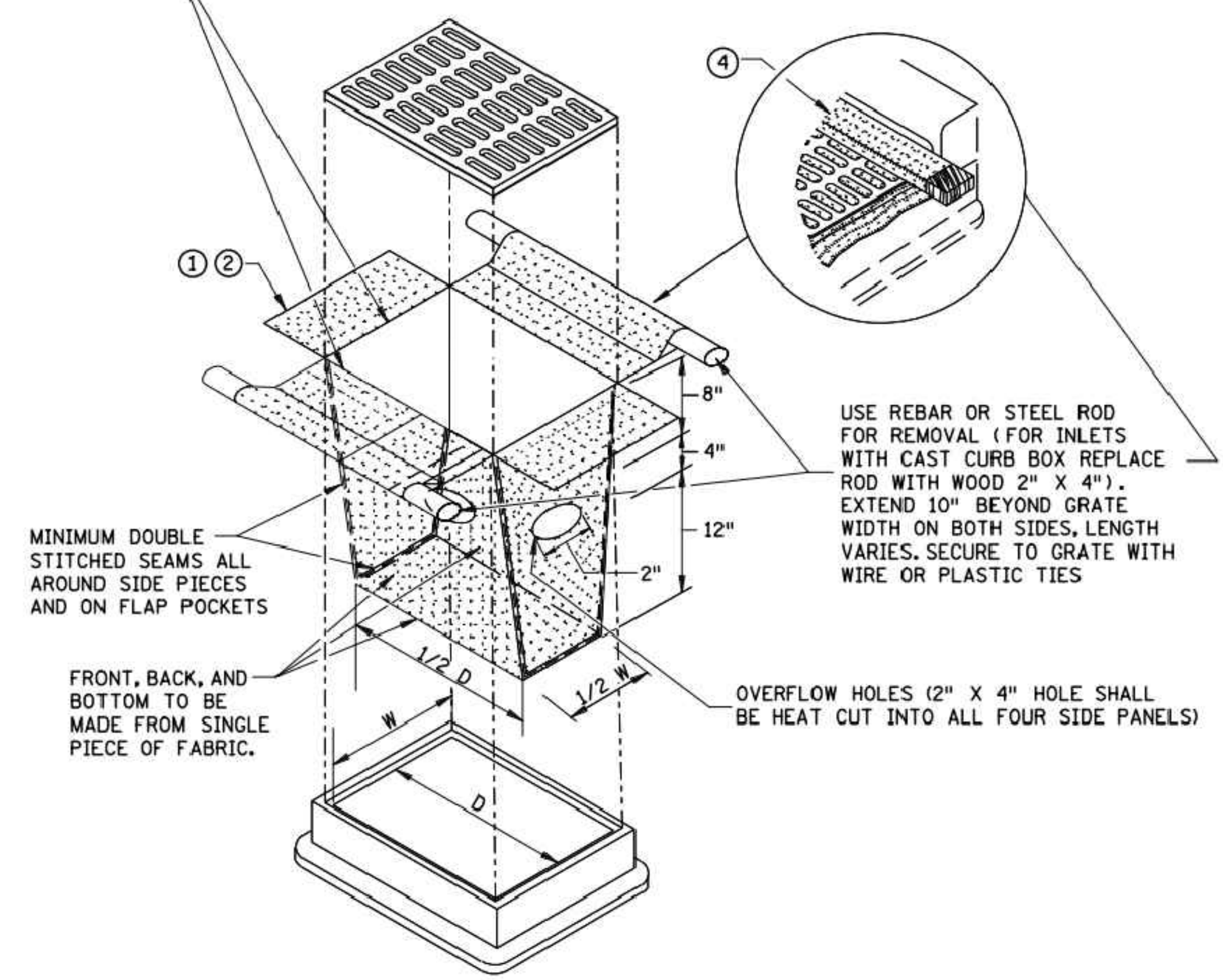
TEMPORARY SEDIMENT CONTROL
 DITCH CHECK

(T.H.) SHEET NO. 10 OF 51 SHEETS

PLOTTED/REVISED: 4-APR-2018

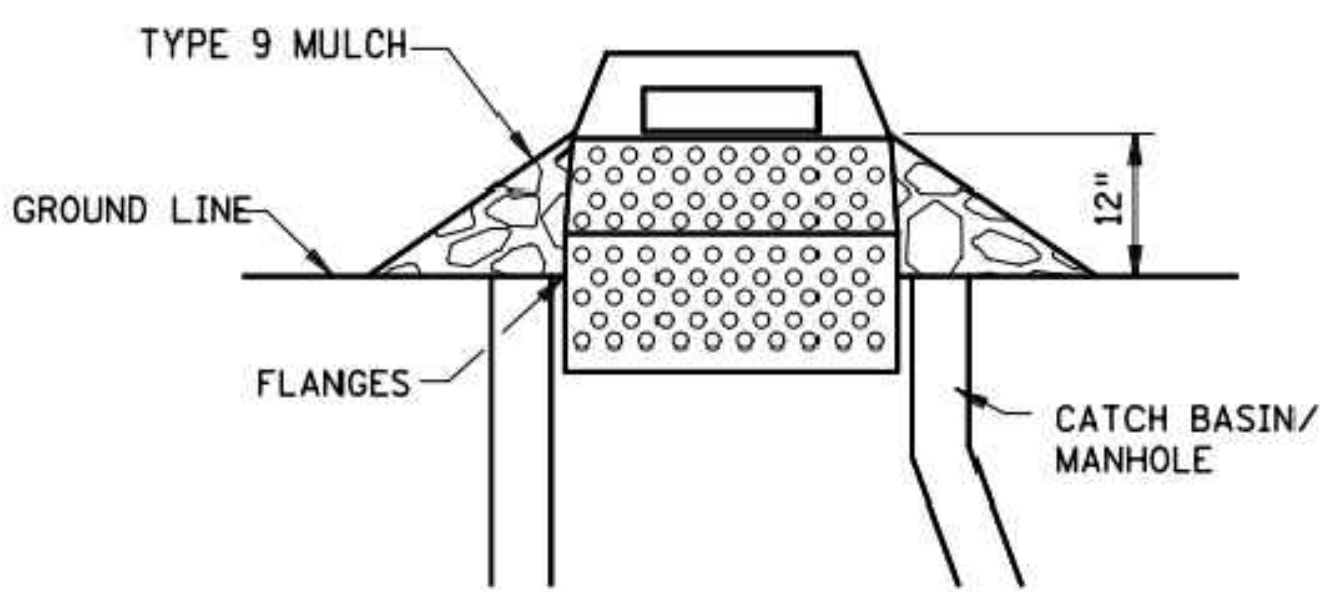
IPLOT NAME: s405_4_spn
 PATH & FILENAME: OT\S\DesignStandards\Development\New Border\400_Series\s405_4_spn.dgn

INLET SPECIFICATIONS AS PER THE PLAN
 DIMENSION LENGTH AND WIDTH TO MATCH
 FLAP POCKET



FILTER BAG INSERT ③

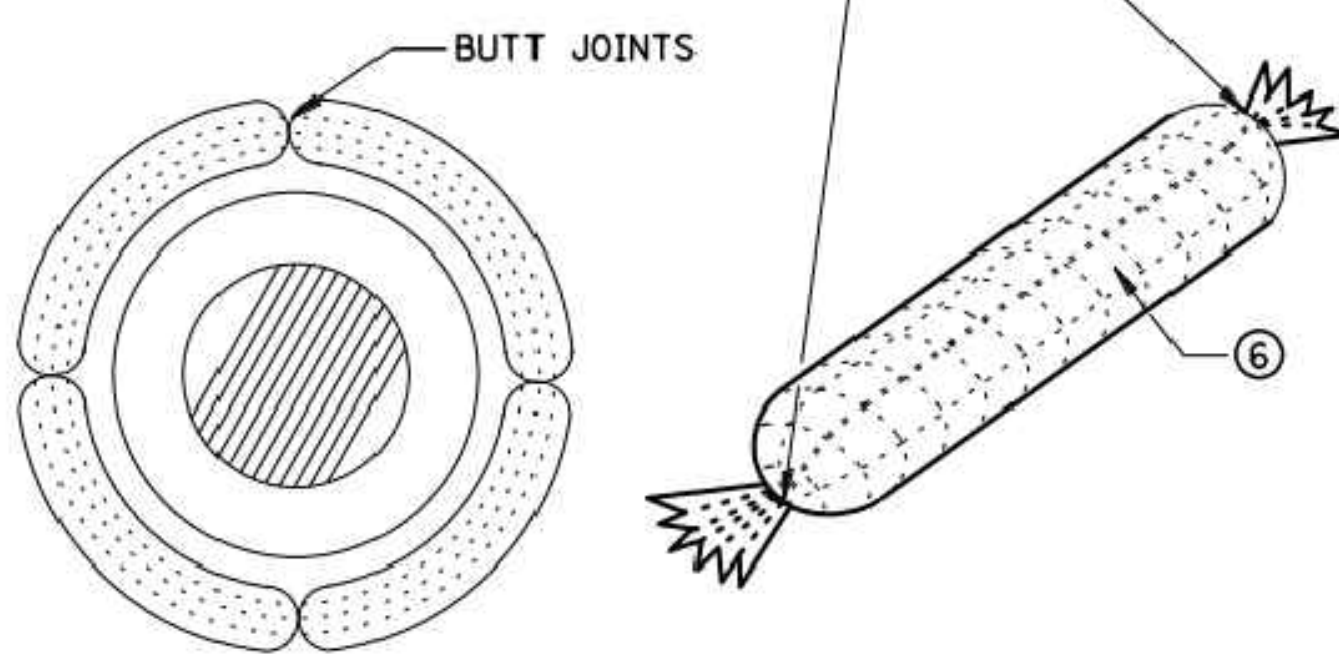
(CAN BE INSTALLED IN ANY INLET TYPE
 WITH OR WITHOUT A CURB BOX)



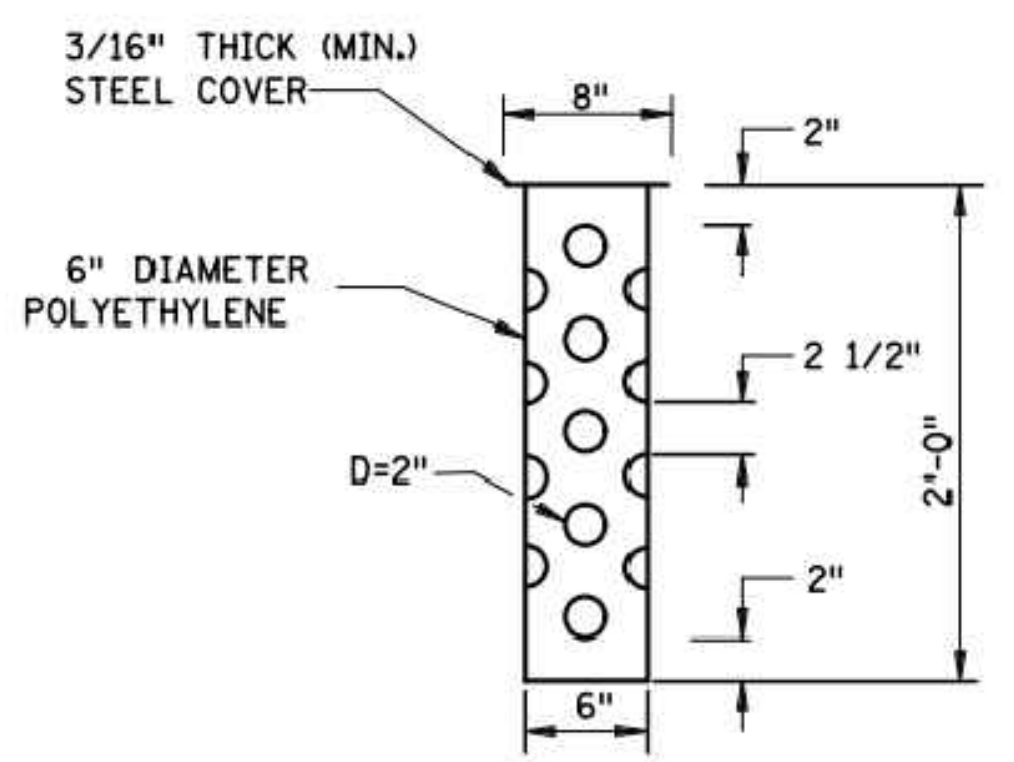
SEDIMENT CONTROL INLET HAT

NOTE:
 THE SEDIMENT CONTROL BARRIER SHALL BE A METAL
 OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE
 THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW
 FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING,
 FLANGES AND A LID/COVER.

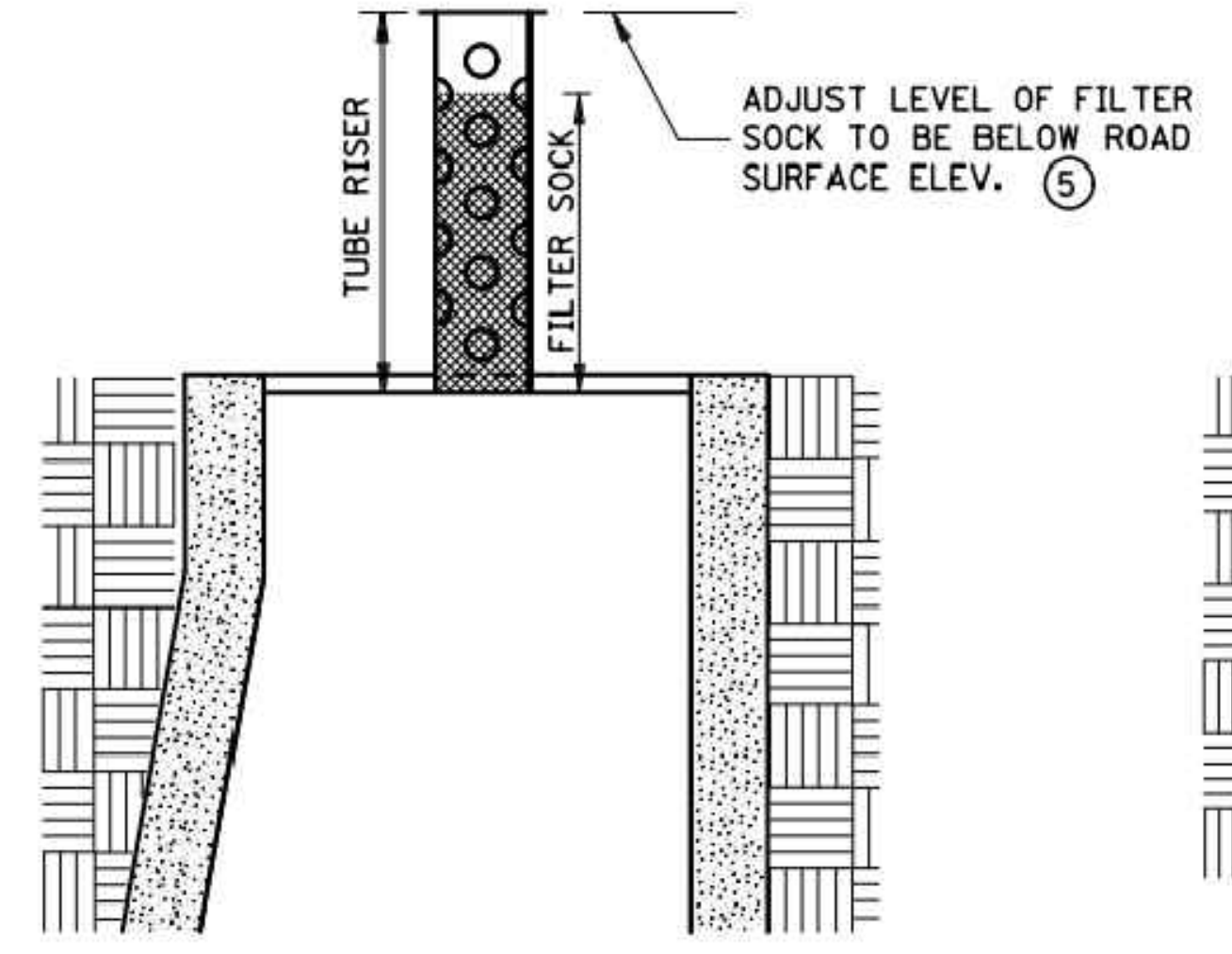
ENDS SECURELY CLOSED TO
 PREVENT LOSS OF OPEN GRADED
 AGGREGATE FILL. SECURED WITH
 50 PSI. ZIP TIE.



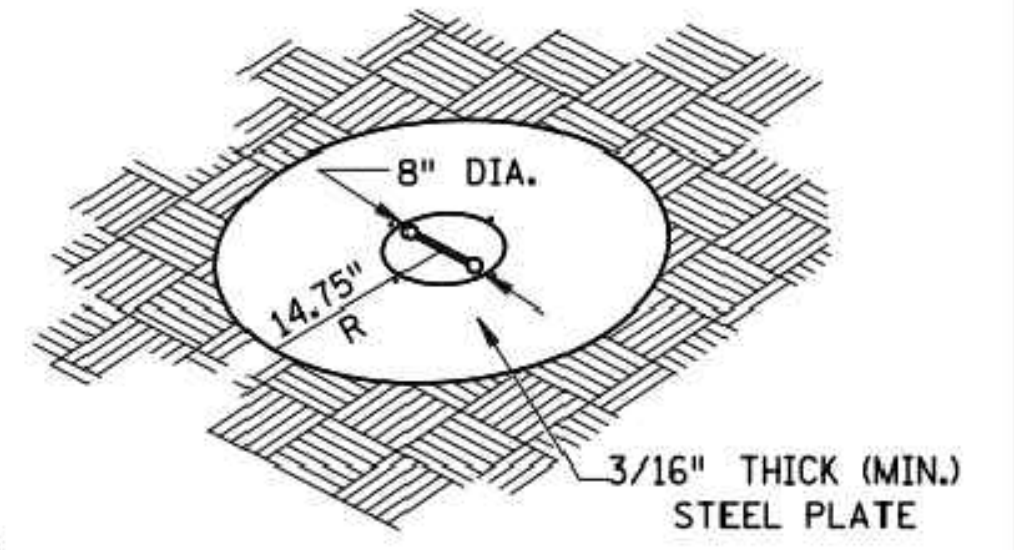
ROCK LOG/COMPOST LOG



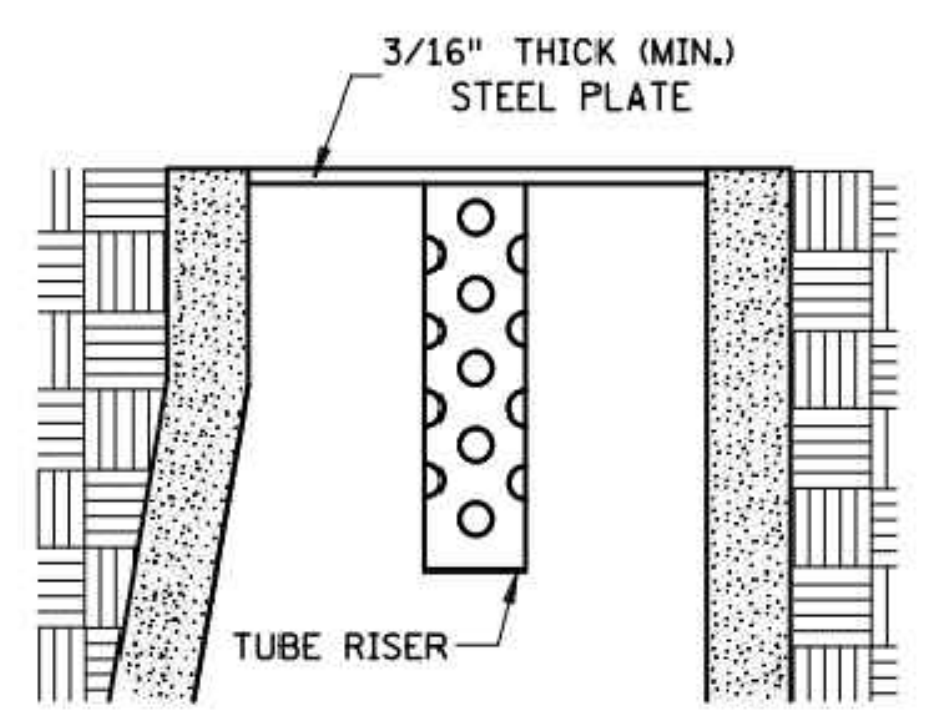
TUBE RISER



**SECTION
 (UP POSITION)**

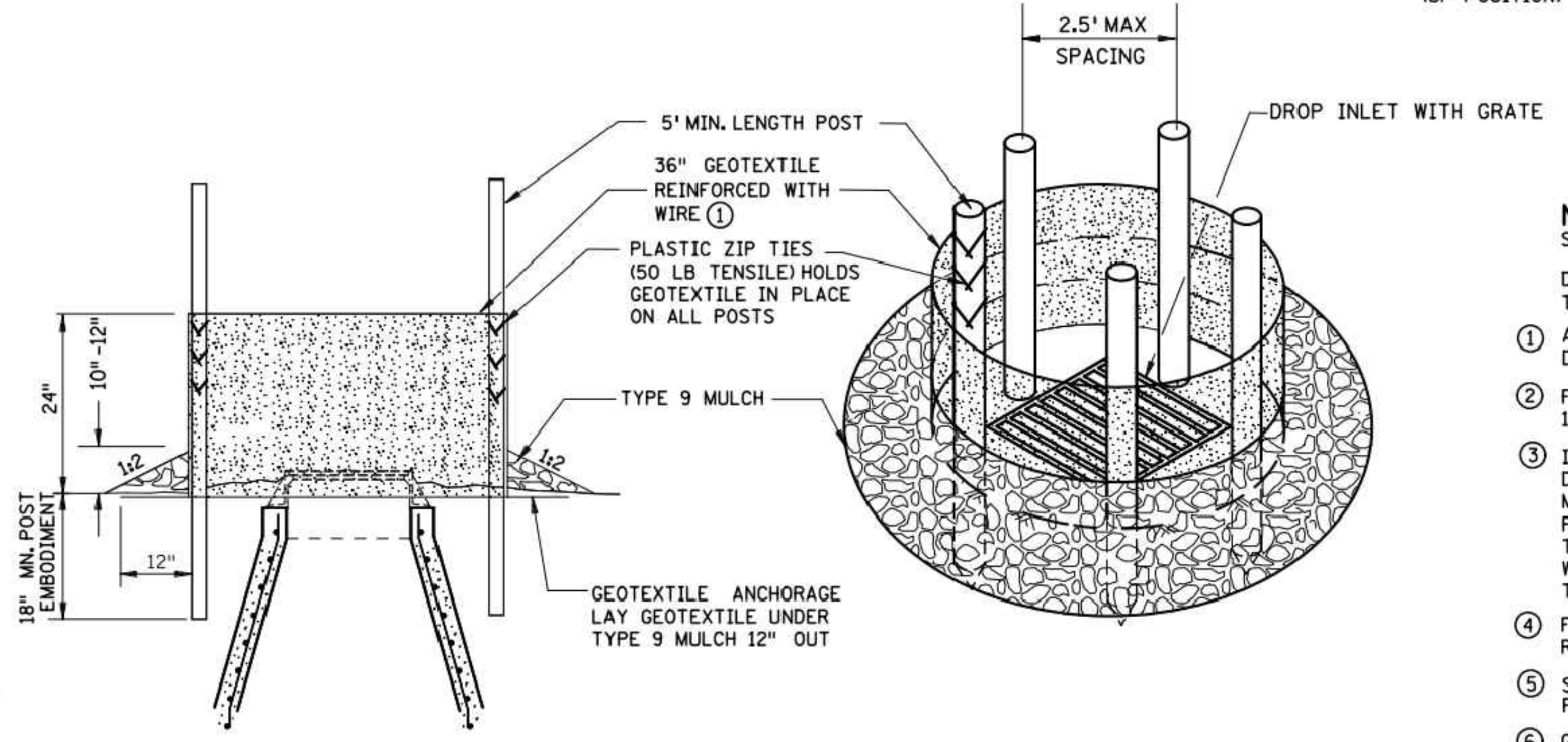


PERSPECTIVE VIEW



**SECTION
 (DOWN POSITION)**

POP-UP HEAD



SILT FENCE RING AND ROCK FILTER BERM

USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS

NOTES:

- SEE SPECS. 2573, 3137, & 3886.
- DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEDE TRAFFIC FLOW.
- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
- ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ③ INSTALLATION NOTES:
 DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
- ④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
- ⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
- ⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1/2 CA-3 GRADATION.

REVISIONS:
APPROVED: 2-28-2017
<i>[Signature]</i> CHIEF ENVIRONMENTAL OFFICER

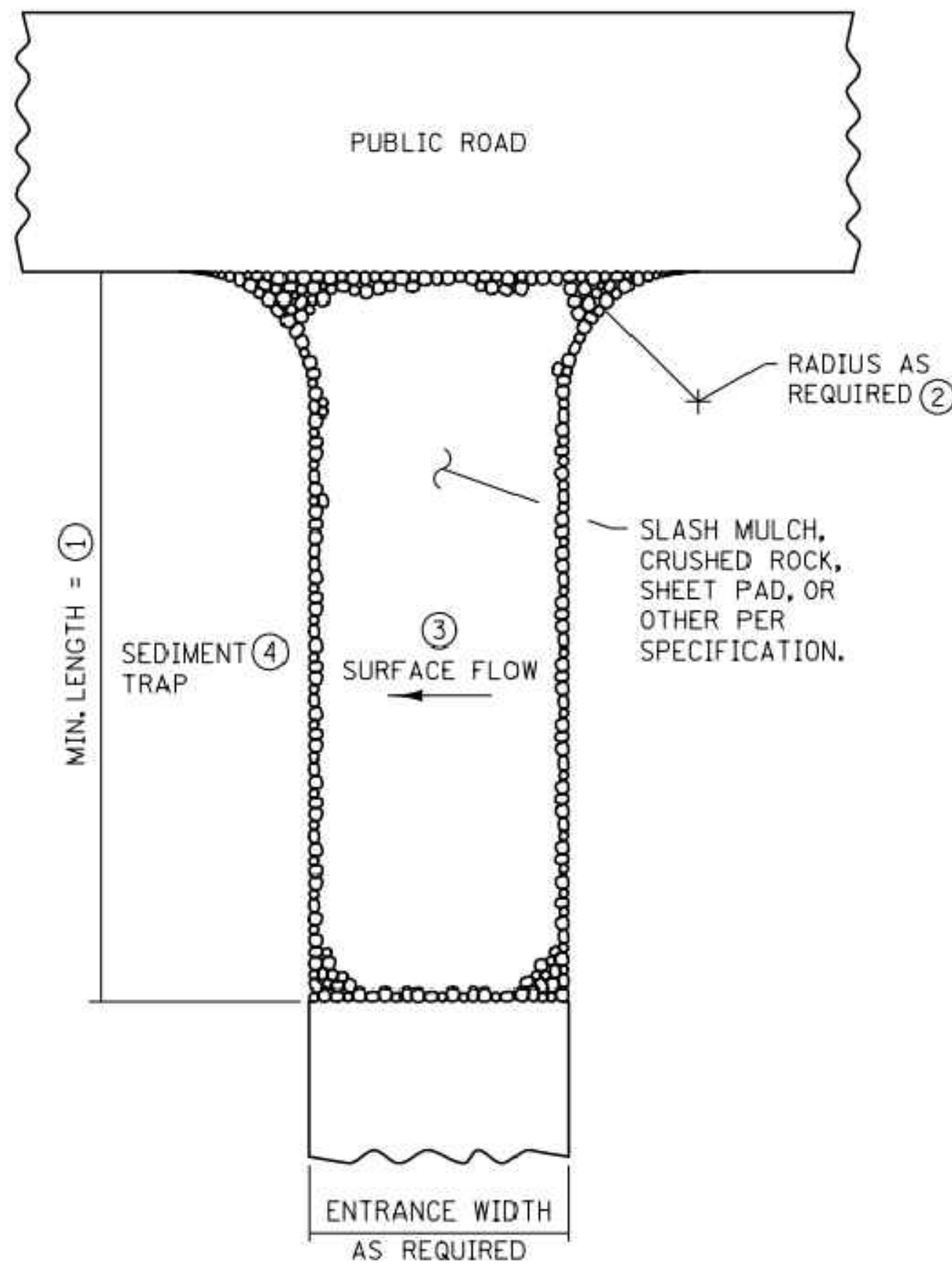


STANDARD PLAN 5-297.405 4 OF 8
 APPROVED: 2-28-2017
 REVISED:
[Signature]
 STATE DESIGN ENGINEER

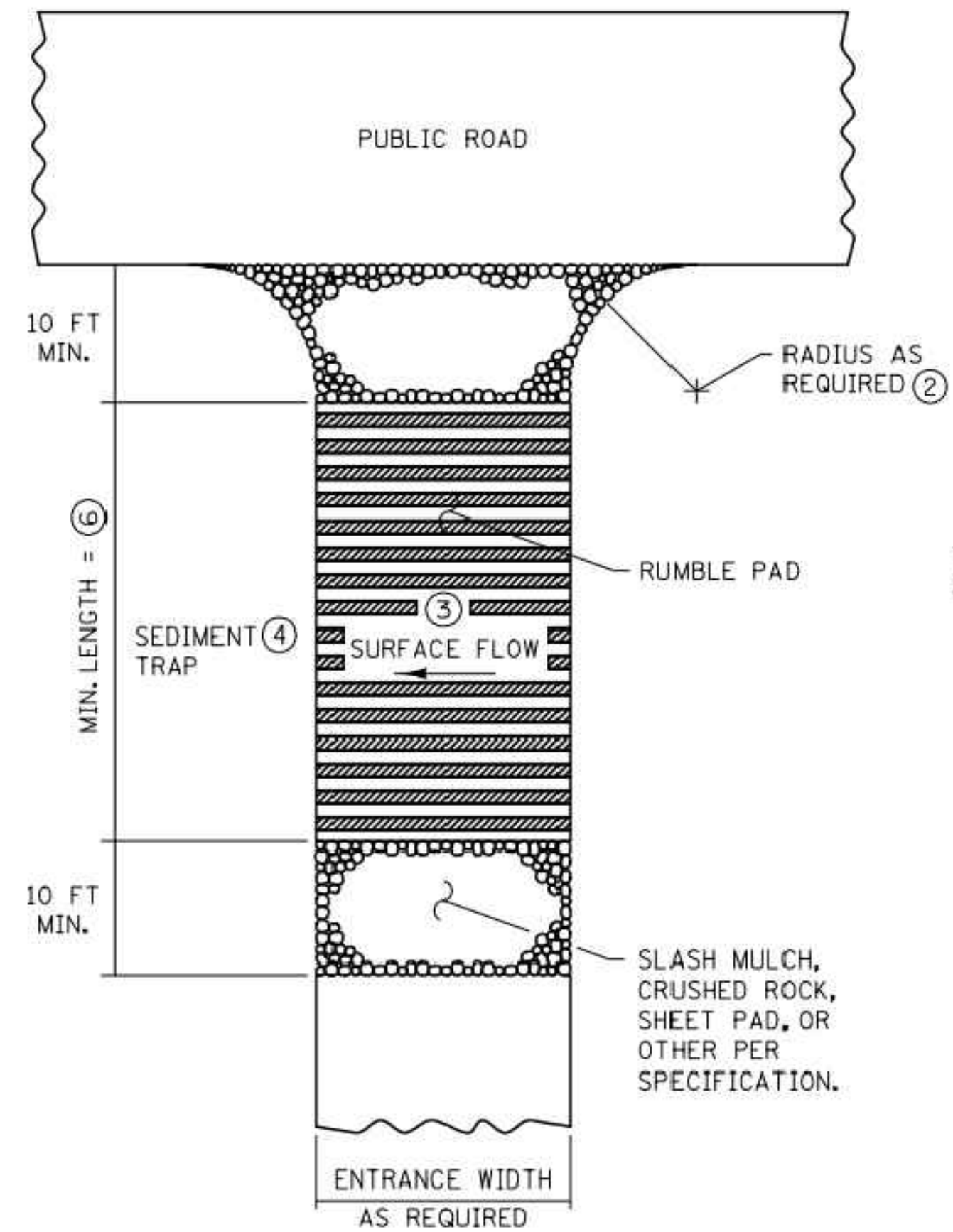
TEMPORARY SEDIMENT CONTROL
 STORM DRAIN INLET PROTECTION
 (T.H.) SHEET NO. 11 OF 51 SHEETS

PLOTTED/REVISED: 4-APR-2018

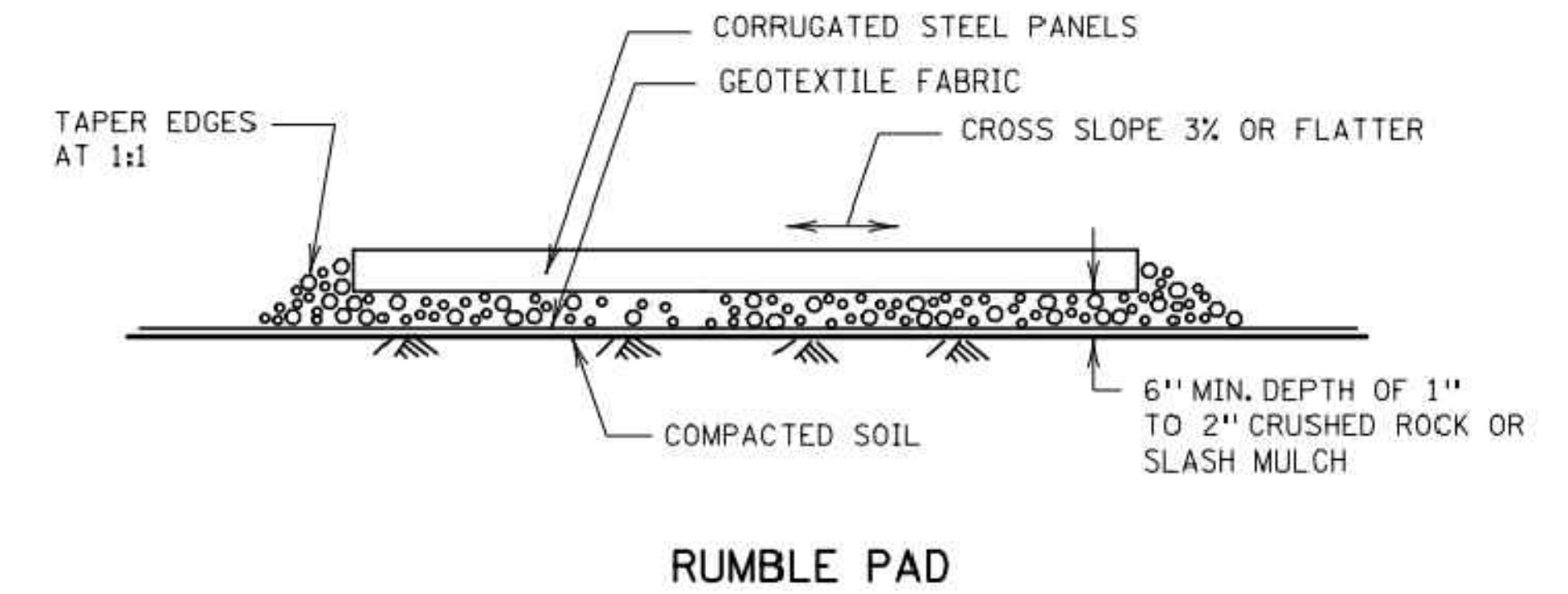
I/PLOT NAME: s405_5_spn
PATH & FILENAME: OTS\DesignStandards\Development\New_Border\400_Series\s405_5_spn.dgn



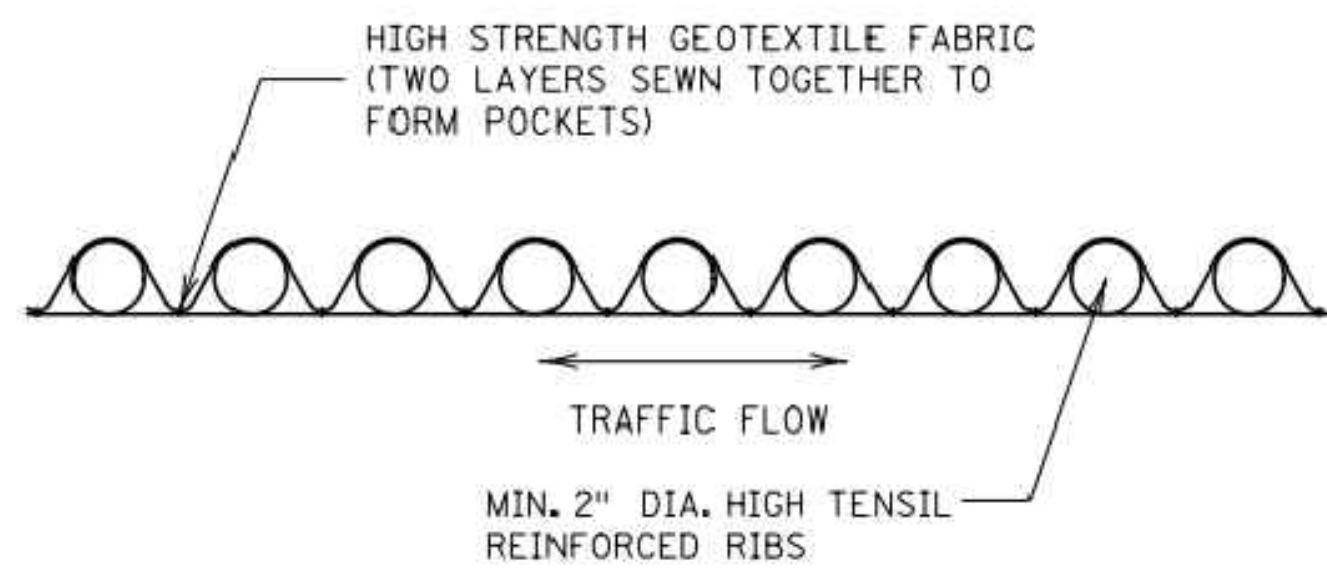
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



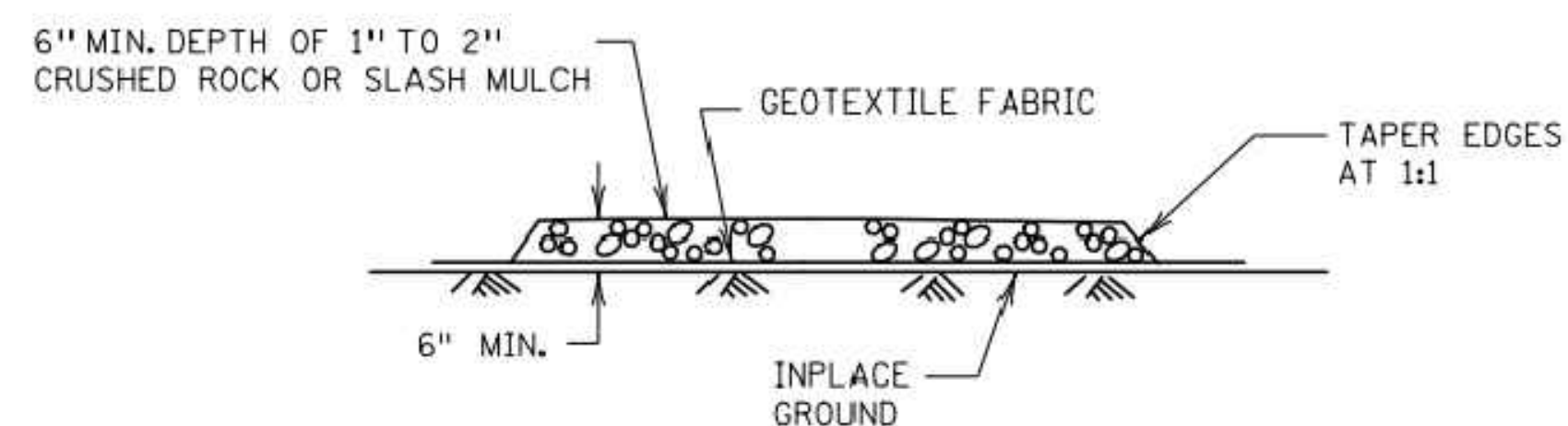
RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



RUMBLE PAD



SHEET PAD



SLASH MULCH OR CRUSHED ROCK

NOTES:

- SEE SPECS. 2573 & 3882.
- ① MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.
- ② PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.
- ③ IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.
- ④ IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.
- ⑤ IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.
- ⑥ MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.
- ⑦ MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

REVISIONS:
APPROVED: 2-28-2017
[Signature]
CHIEF ENVIRONMENTAL OFFICER



STANDARD PLAN 5-297.405 5 OF 8

[Signature]
STATE DESIGN ENGINEER

APPROVED: 2-28-2017
REVISED:

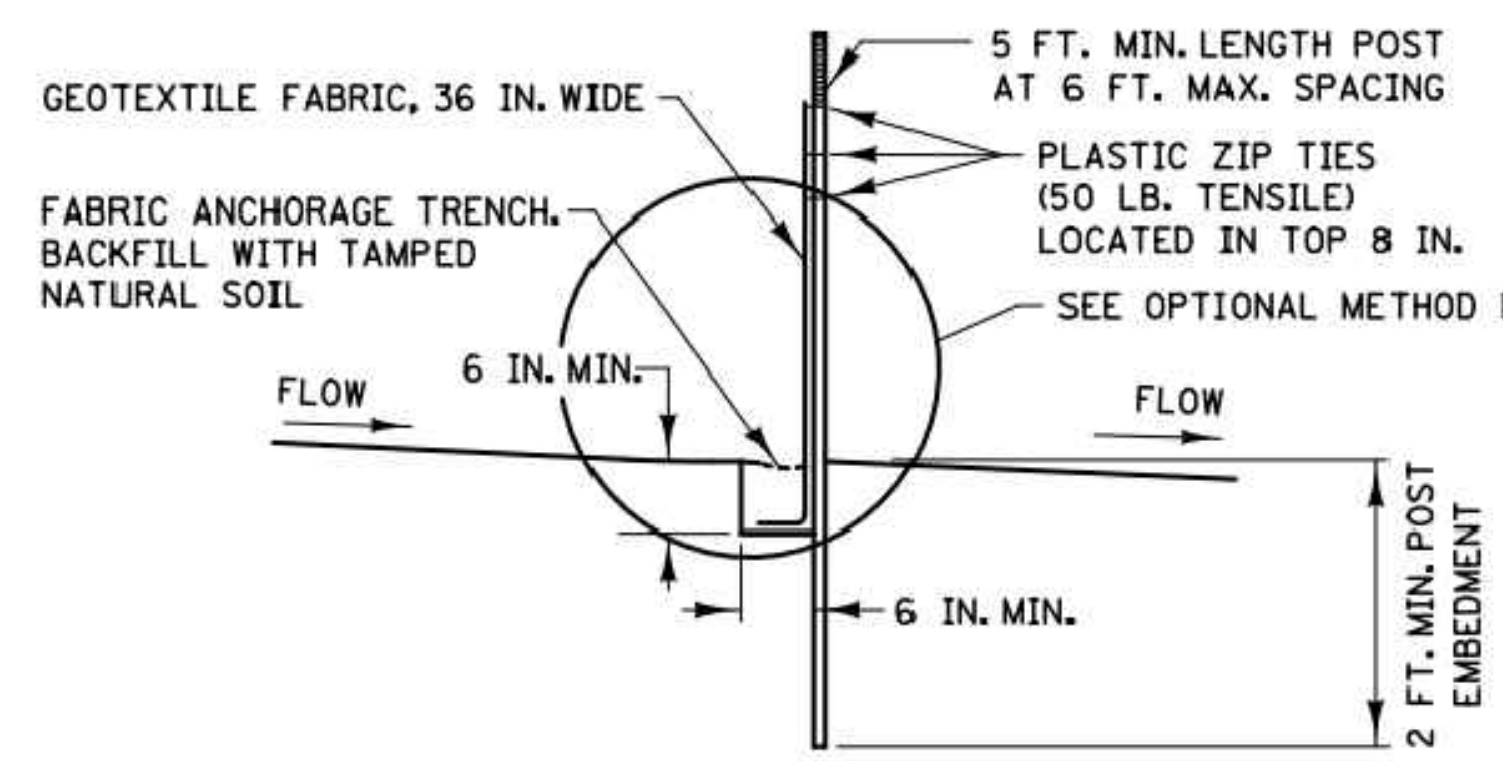
STATE PROJ. NO.

TEMPORARY SEDIMENT CONTROL
STABILIZED CONSTRUCTION EXIT

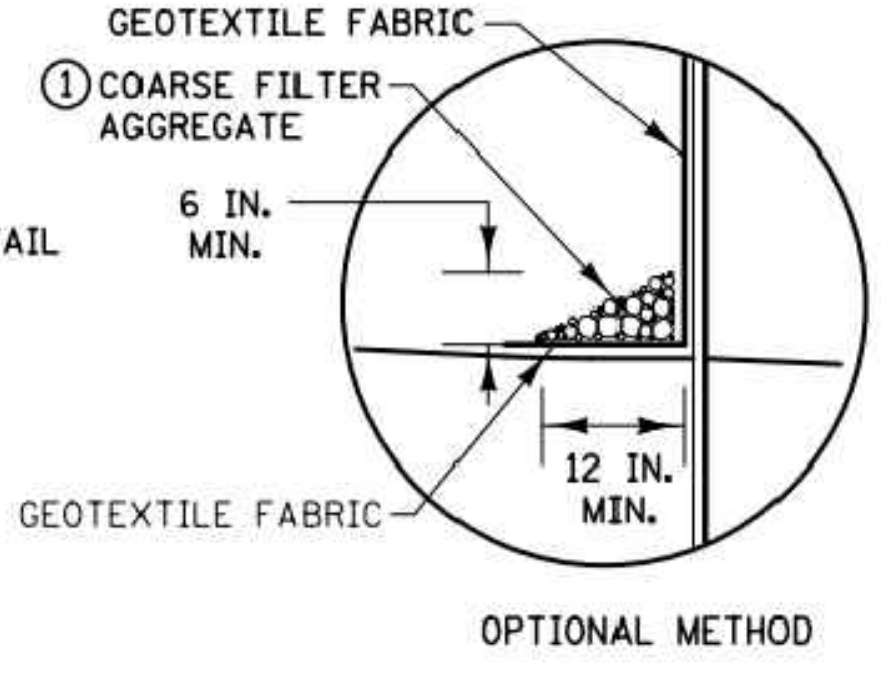
(T.H.) SHEET NO. 12 OF 51 SHEETS

PLOTTED/REVISED: 4-APR-2018

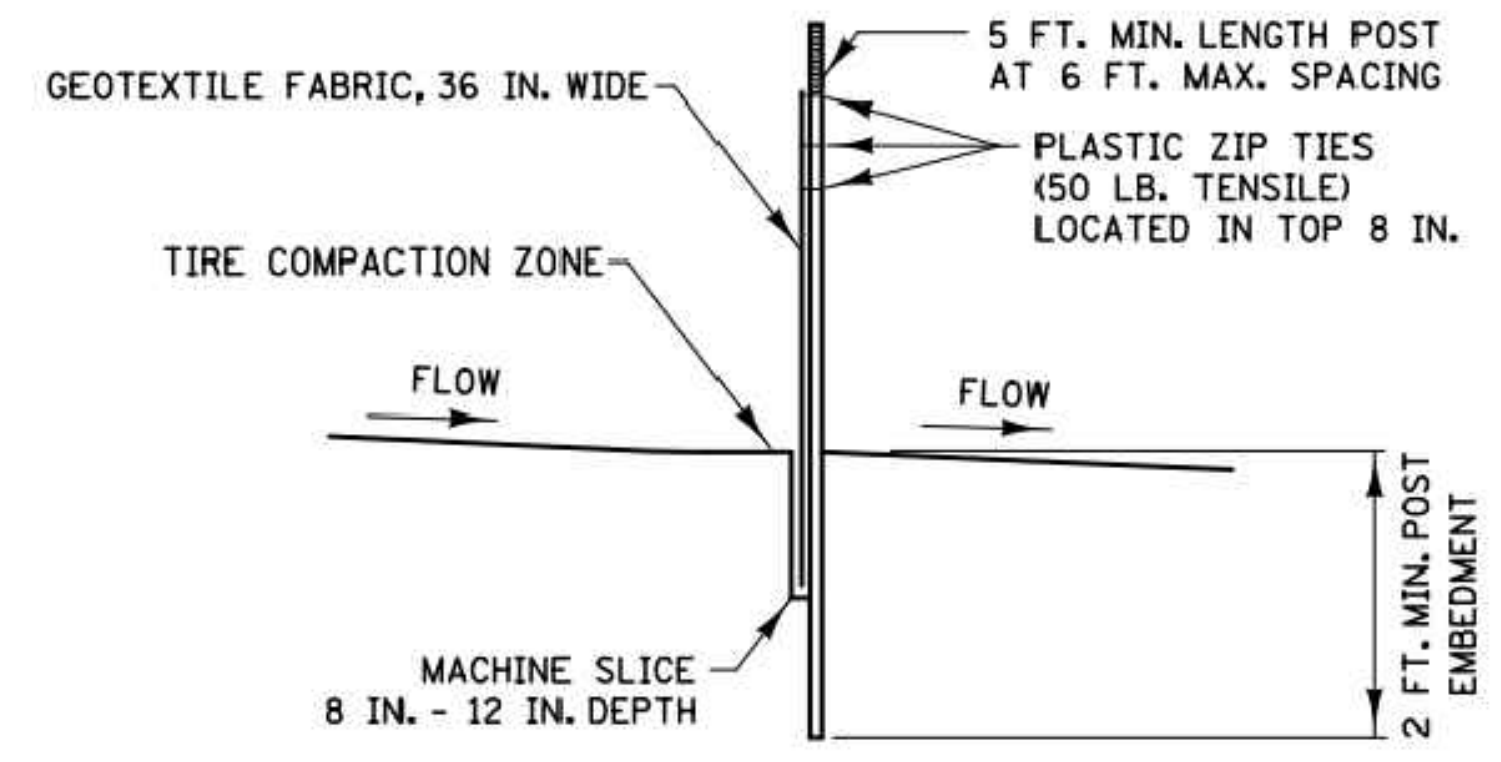
IPLOT NAME: s405_6.spl
PATH & FILENAME: OTS\DesignStandards\Development\New_Border_400_Series\s405_6.spl.dgn



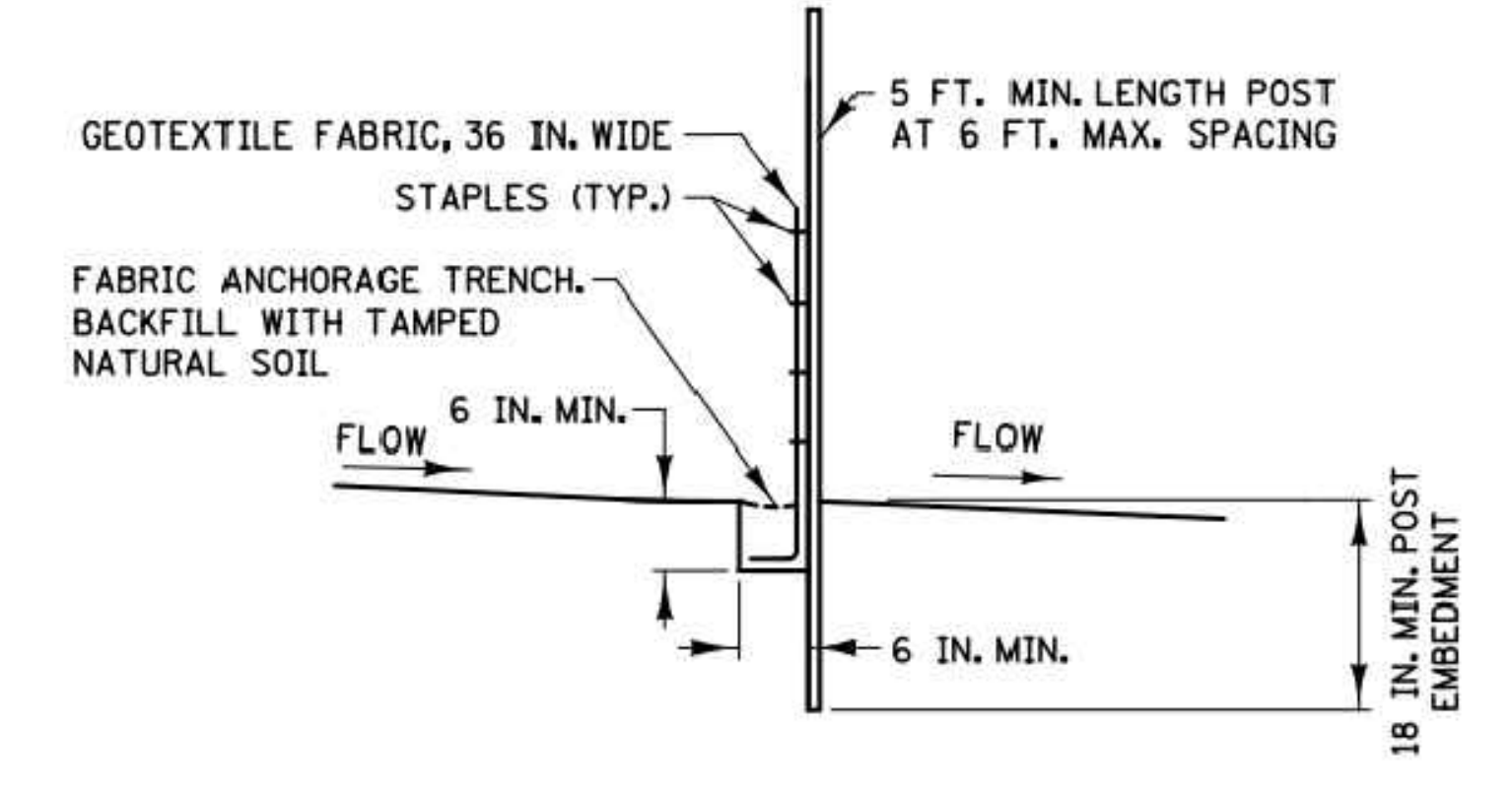
SILT FENCE TYPE HI ②
(HAND INSTALLED)



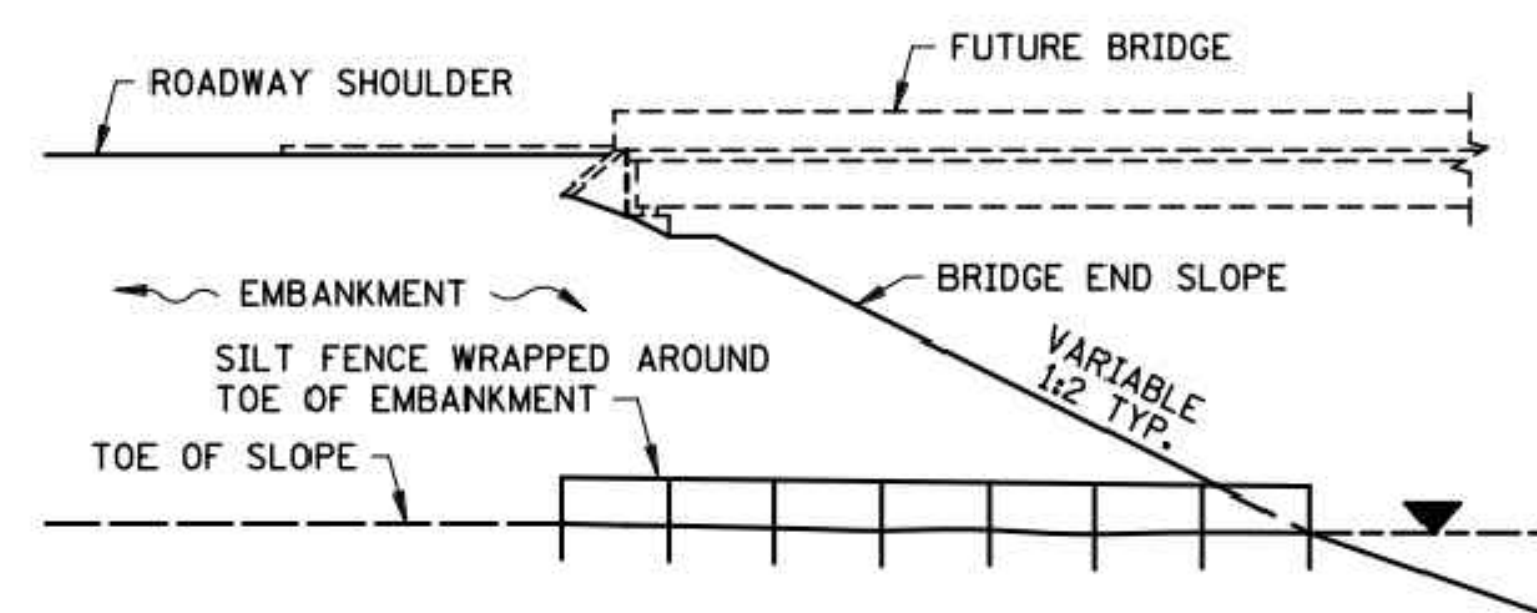
OPTIONAL METHOD



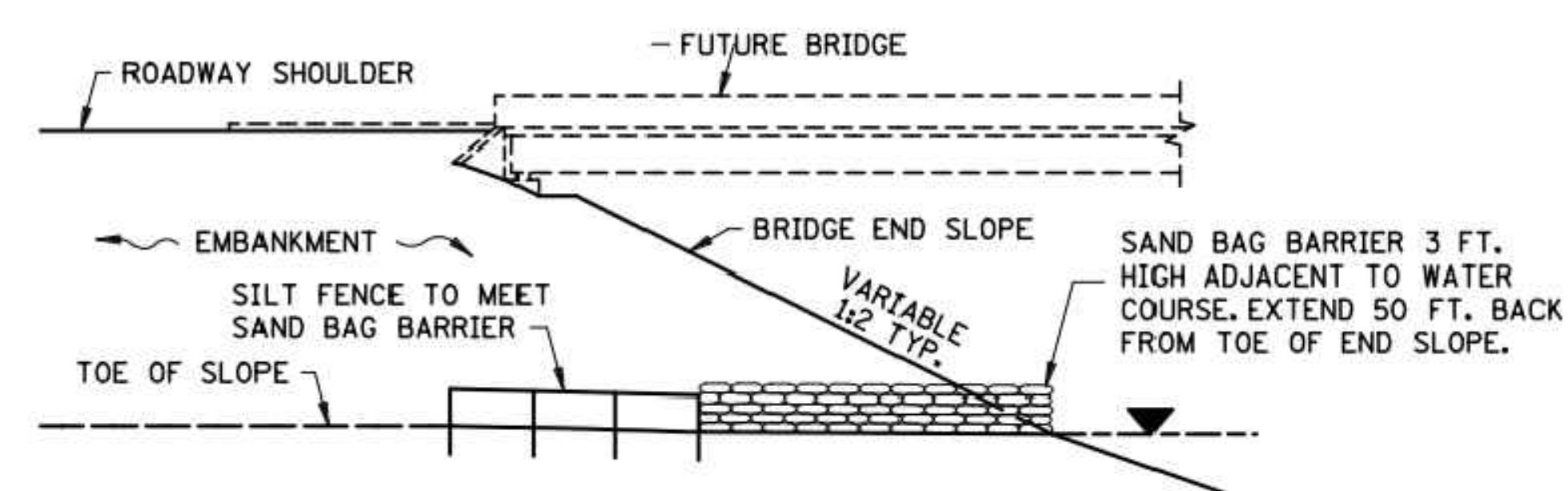
SILT FENCE TYPE MS ②
(MACHINE SLICED)



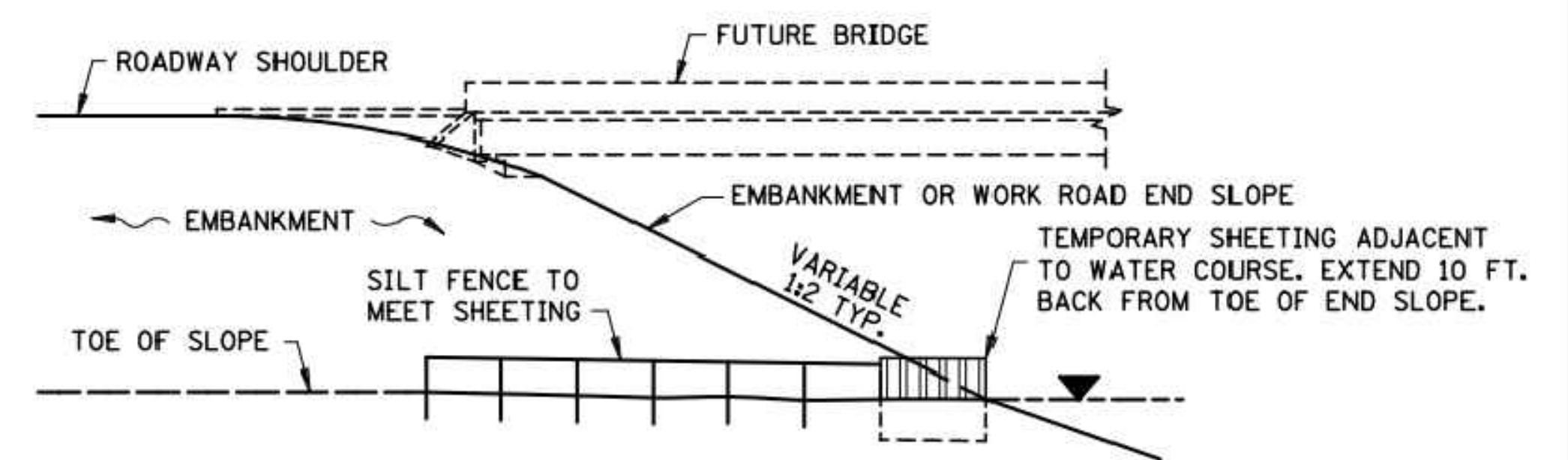
SILT FENCE TYPE PA ③
(PREASSEMBLED)



SILT FENCE ONLY ④

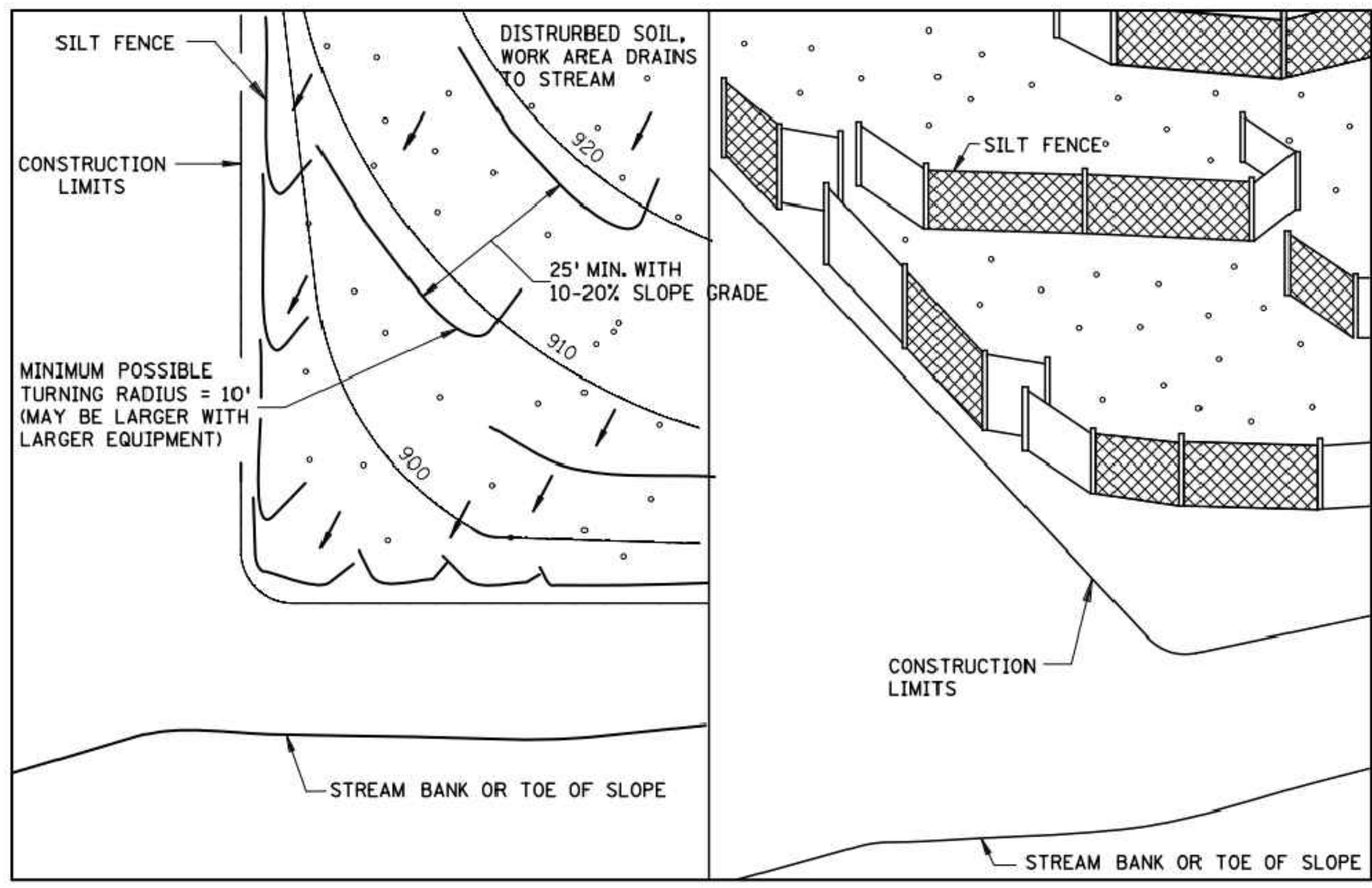


SILT FENCE WITH SAND BAGS ⑤



SILT FENCE WITH SHEETING ⑥

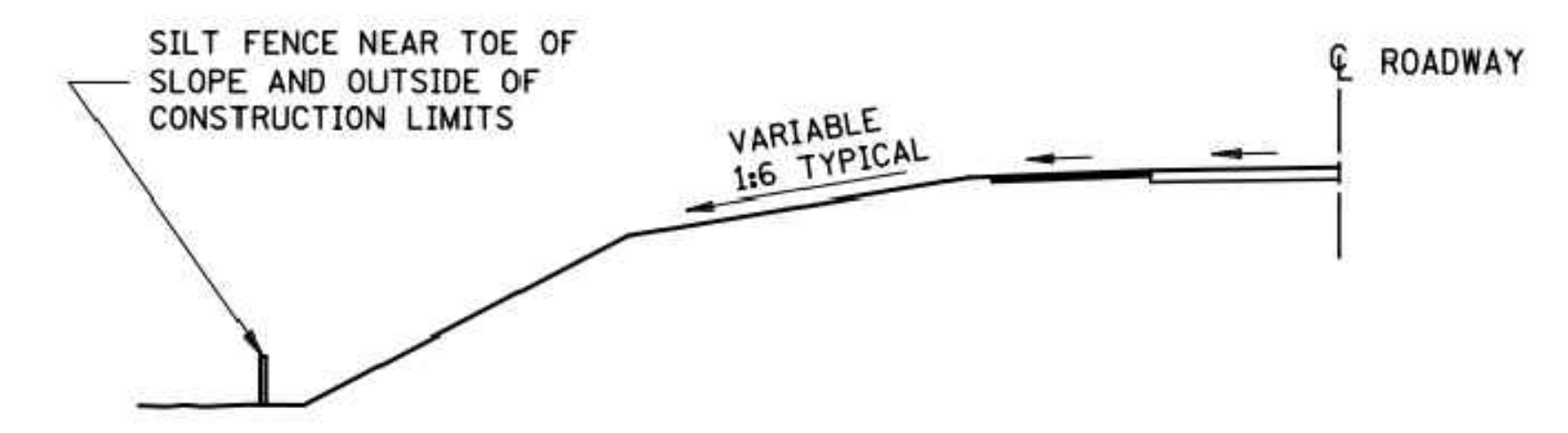
INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



PLAN VIEW

PERSPECTIVE VIEW

J-HOOK INSTALLATION



LOCATION AT TOE OF ROADWAY EMBANKMENT

NOTES:

- SEE SPECS. 2573, 3149 & 3886.
- ① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.
- ② TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 1 ACRE.
- ③ TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 0.25 ACRE.
- ④ WATER COURSE FLOW VELOCITY: STANDING. CONTRIBUTING SLOPE AREA: 1/2 ACRE.
- ⑤ WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC. CONTRIBUTING SLOPE AREA: 1 ACRE.
- ⑥ WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC. CONTRIBUTING SLOPE AREA: 3 ACRES.

REVISIONS:

APPROVED: 2-28-2017

[Signature]
CHIEF ENVIRONMENTAL OFFICER



STANDARD PLAN 5-297.405 6 OF 8

APPROVED: 2-28-2017

REVISOR:

[Signature]
STATE DESIGN ENGINEER

STATE PROJ. NO.

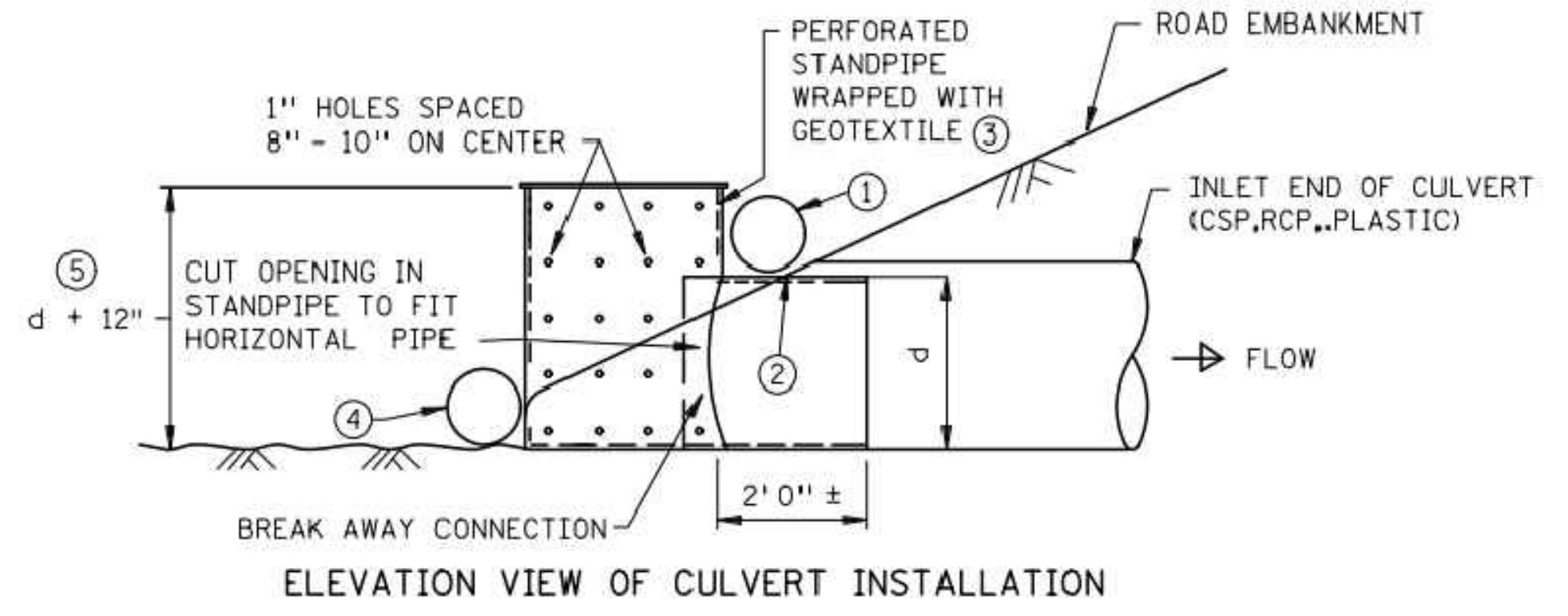
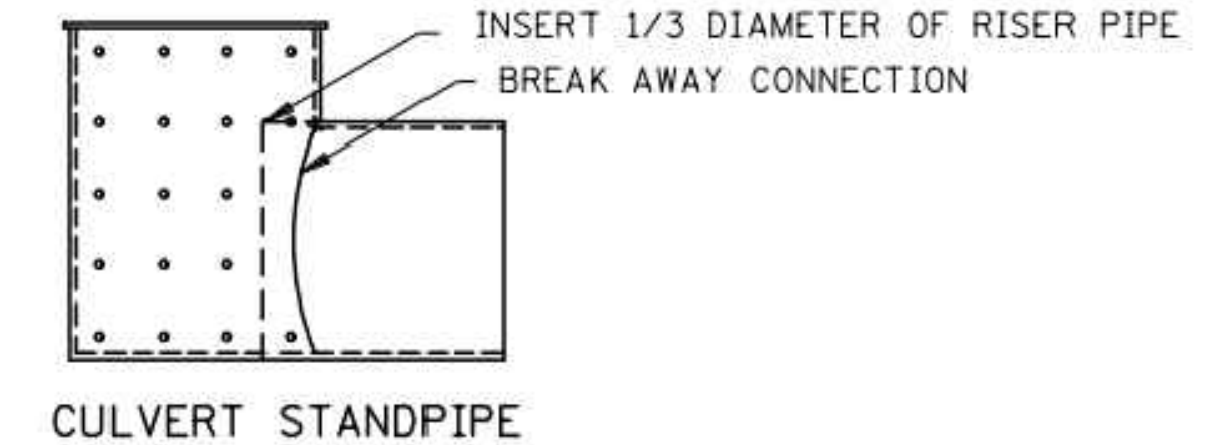
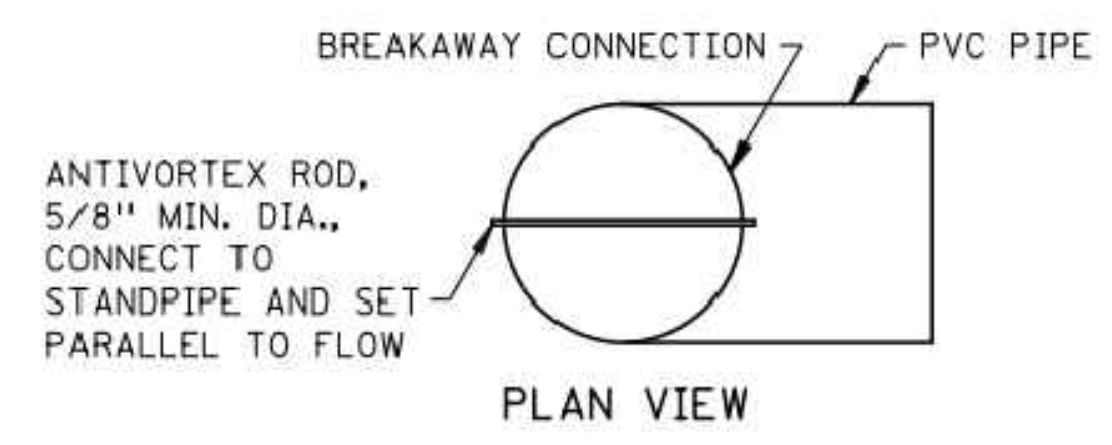
TEMPORARY SEDIMENT CONTROL

SILT FENCE

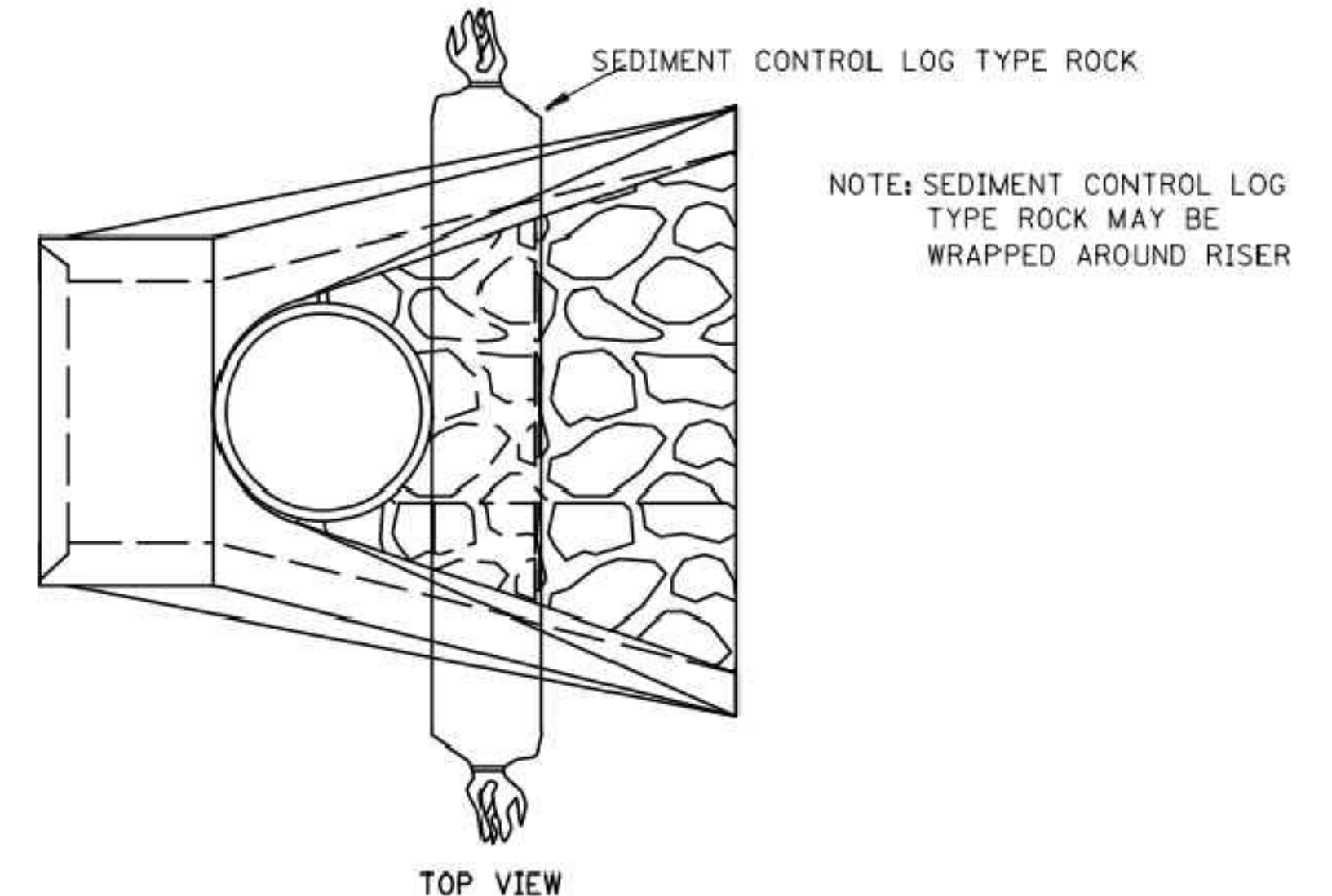
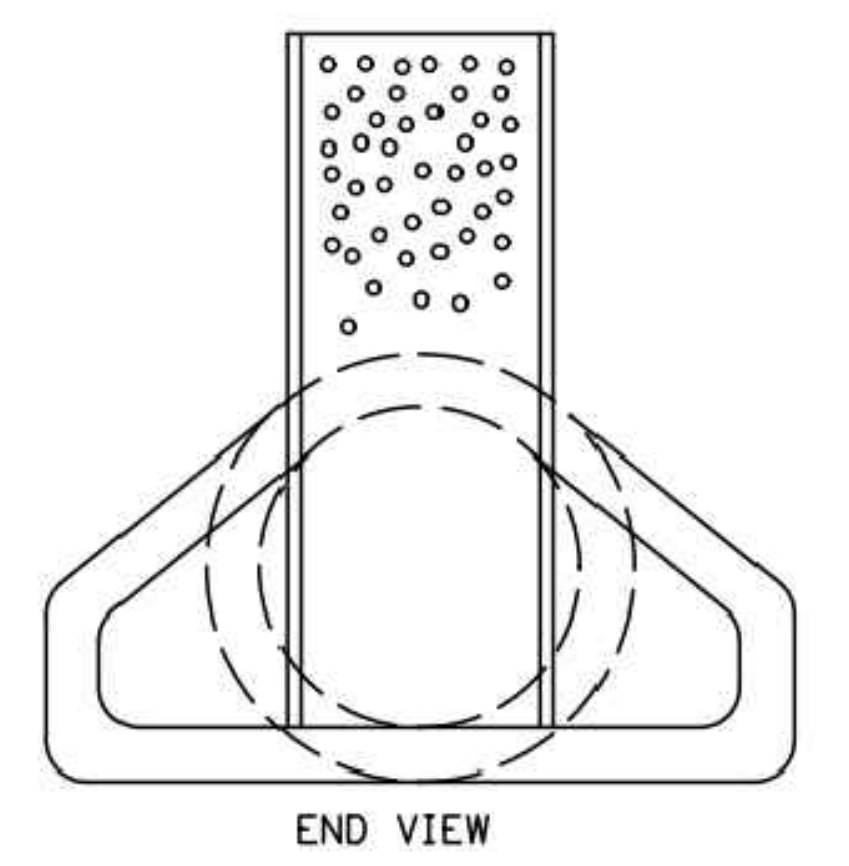
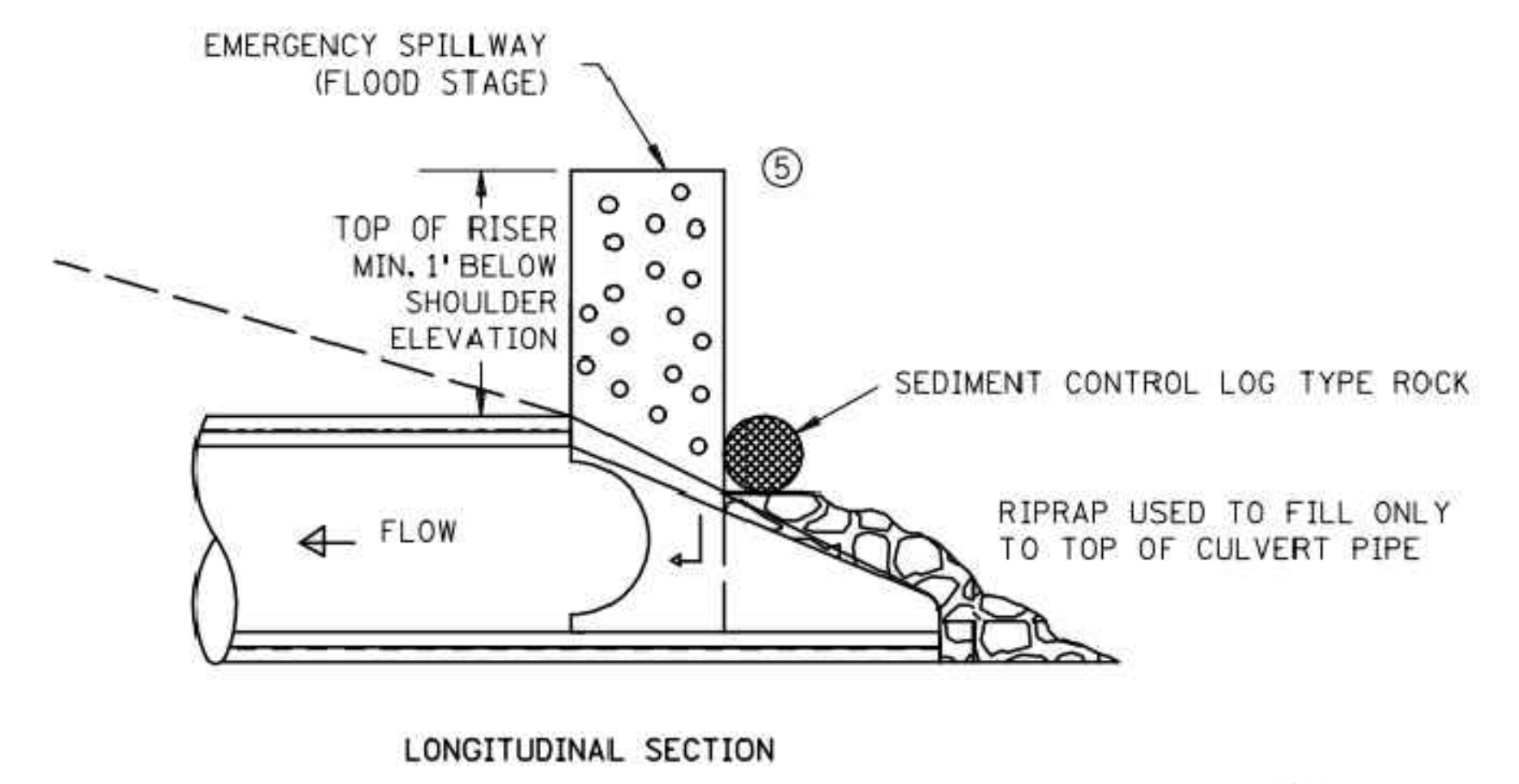
(T.H.) SHEET NO. 13 OF 51 SHEETS

PLOTTED/REVISED: 4-APR-2018

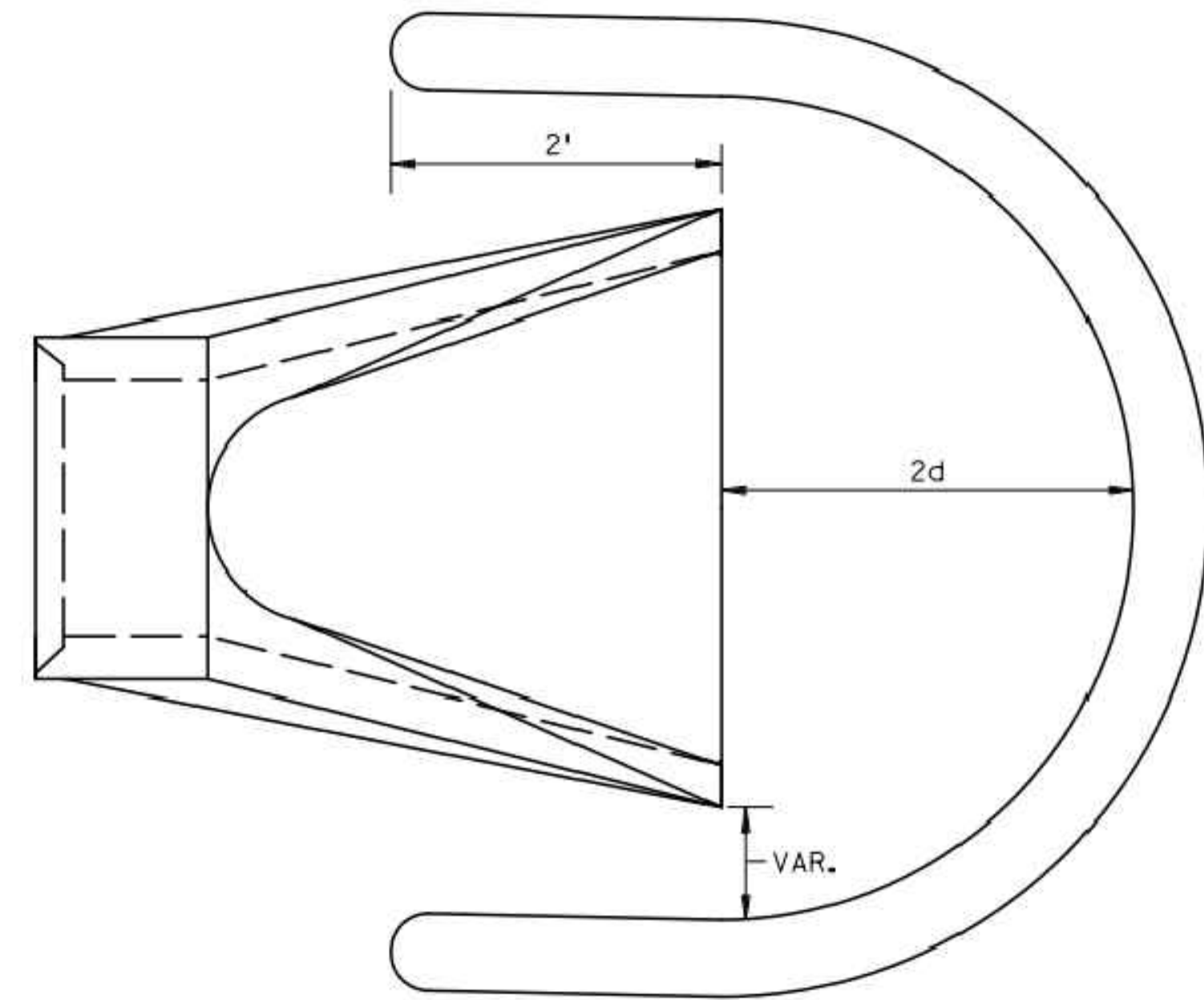
I/PLOT NAME: s405_b_spr
PATH & FILENAME: OTS\DesignStandards\Development\New Border\400_Series\s405_b_spr.dgn



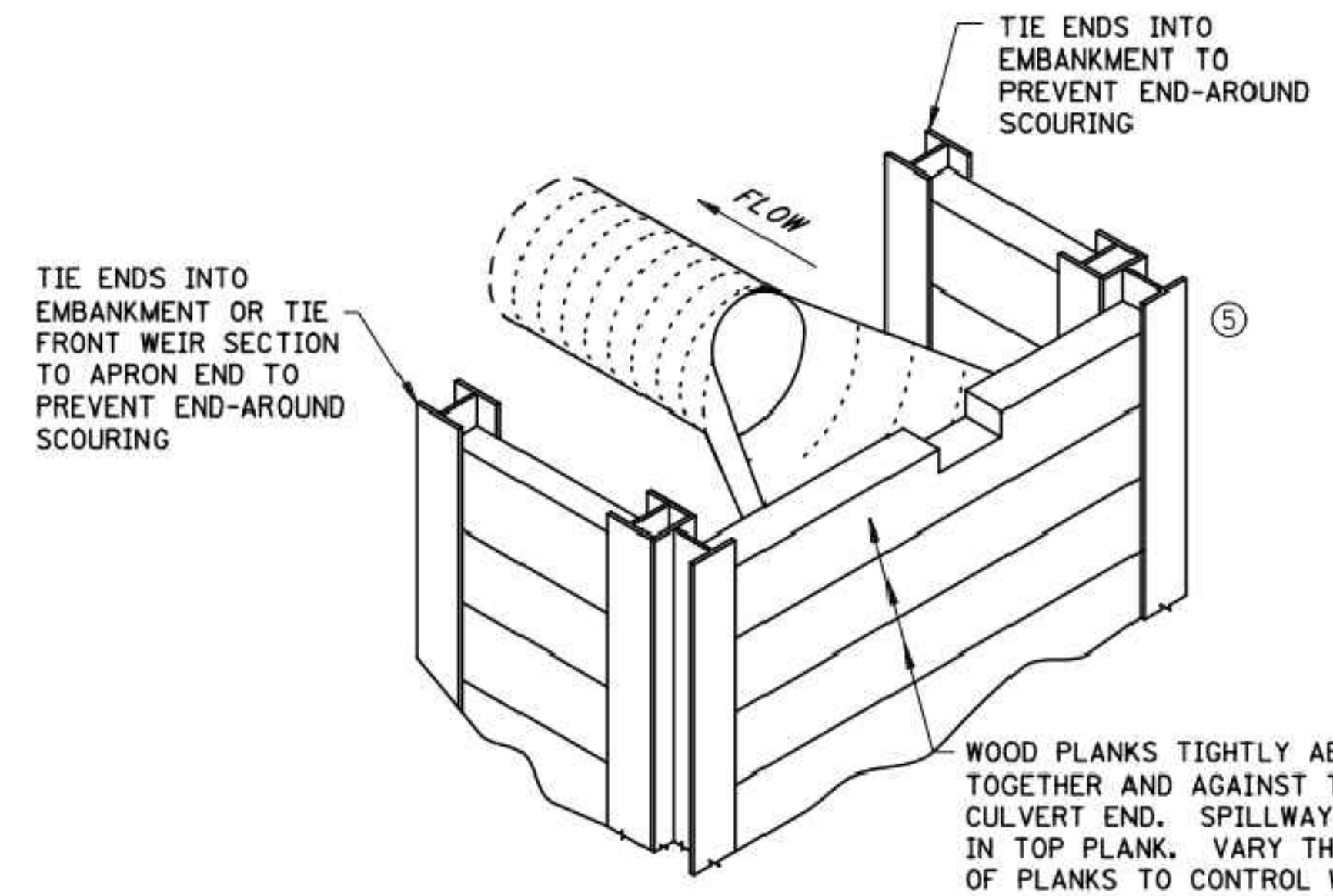
CULVERT STANDPIPE INSERT (D-RISER)
d = CULVERT SIZE: 12" - 36"



CULVERT STANDPIPE INSERT (D-RISER)



SEDIMENT CONTROL LOG WEIR
(COMPOST, WOOD CHIP, OR ROCK)
d = CULVERT SIZE: 12" - 36"

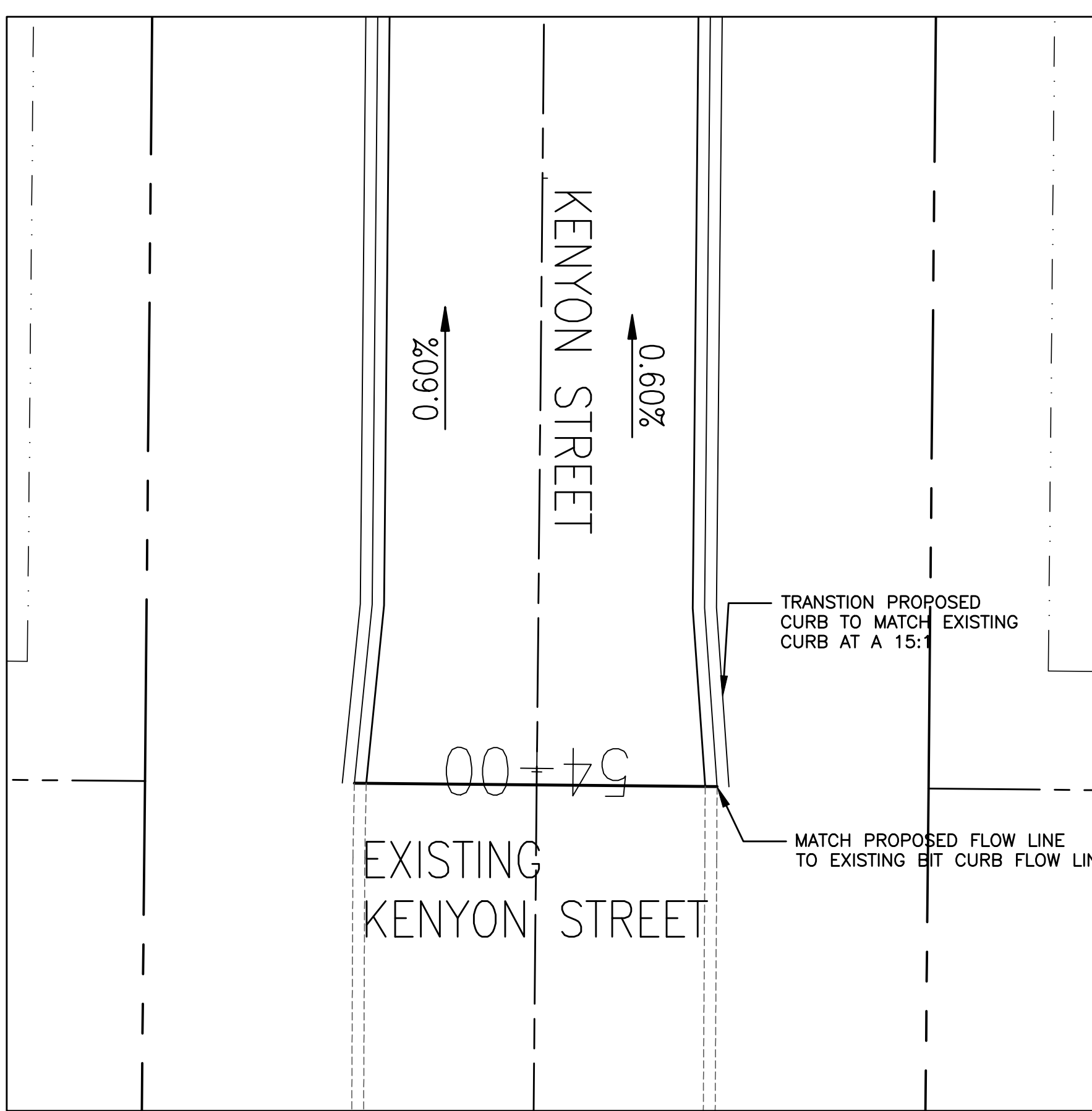


WOOD PLANK WEIR

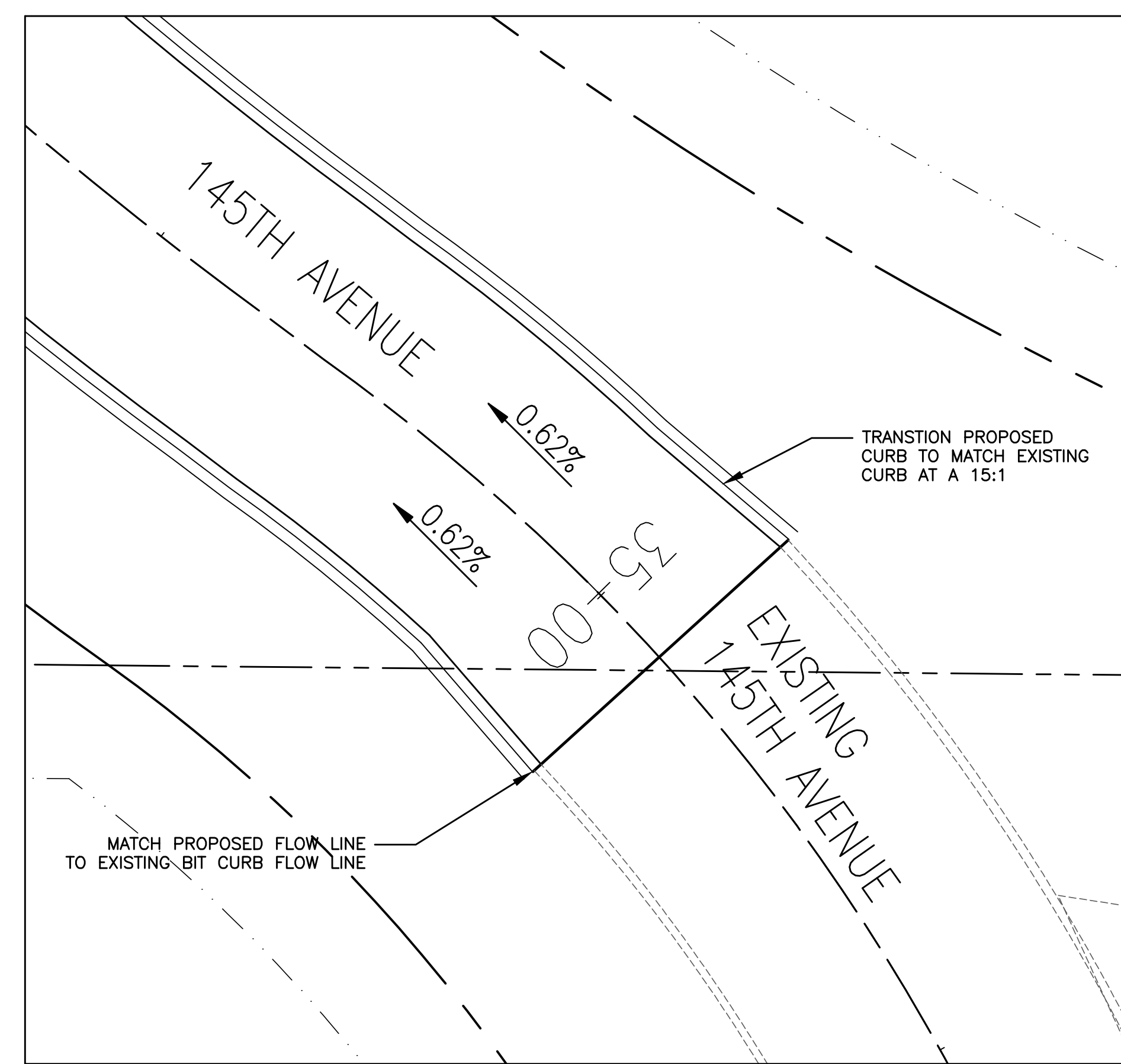
- NOTES:**
- SEE SPECS. 2573, 3891 & 3893.
 - FOR USE WHEN TEMPORARY PONDING IS NEEDED IN DITCH SECTIONS FOR SEDIMENT CONTROL.
 - MANUFACTURED ALTERNATIVES LISTED ON MnDOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED AT NO ADDITIONAL COST.
 - ① ROCK LOG OR SANDBAG TO HOLD STANDPIPE AND ACT AS A SEAL BETWEEN RISER PIPE AND CULVERT.
 - ② PLACE CULVERT APRON AND SLIDE TEMPORARY STANDPIPE INTO CSP OR RCP CULVERT.
 - ③ ALL GEOTEXTILE USED FOR CULVERT PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886 FOR MACHINE SLICED.
 - ④ ROCK LOG OR RIP RAP TO HOLD STANDPIPE AND ACT AS A FILTER BETWEEN RISER PIPE AND CULVERT.
 - ⑤ HEIGHT OVERFLOW NOT TO CAUSE FLOODING OF ROAD OR ADJACENT PROPERTIES.

REVISION:
APPROVED: 2-28-2017
<i>[Signature]</i> CHIEF ENVIRONMENTAL OFFICER

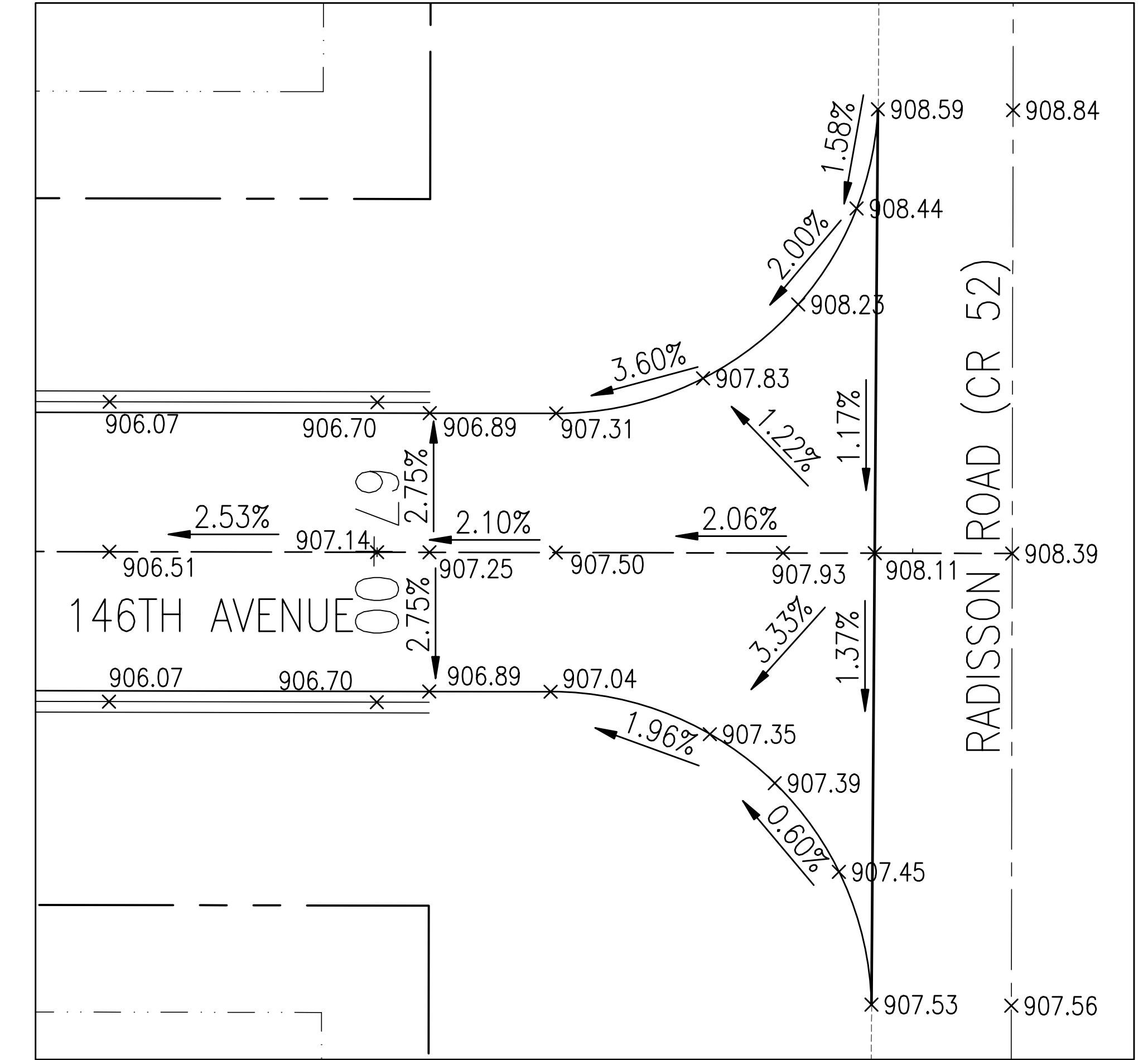
	STANDARD PLAN 5-297.405	8 OF 8	TEMPORARY SEDIMENT CONTROL CULVERT END CONTROLS
		APPROVED: 2-28-2017 REVISED:	



KENYON ST AND EXISTING KENYON ST



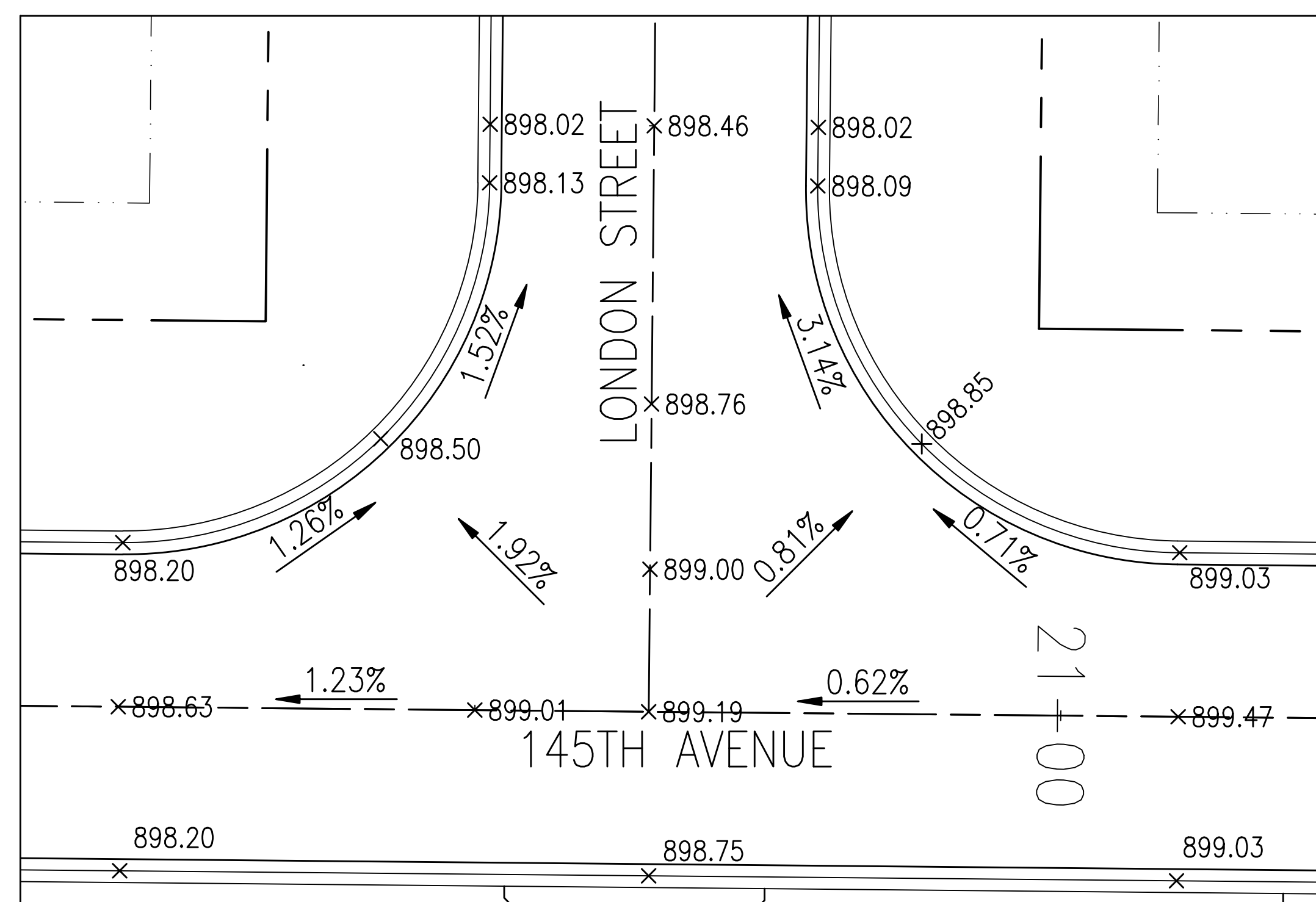
145TH AVE AND EXISTING 145TH AVE



146TH AVE AND RADISSON ROAD (CR 52)



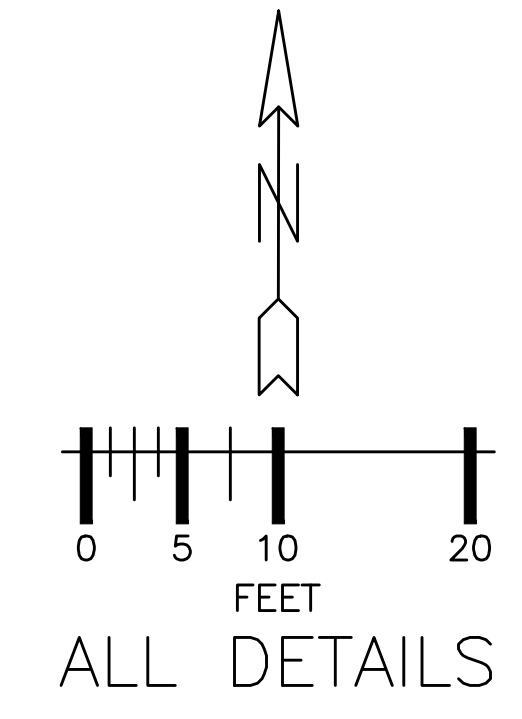
145TH AVE AND KENYON ST



145TH AVE AND LONDON ST

INTERSECTION STATIONS			
CROSS ROAD NAME	CROSS ROAD STATION	TERMINATING ROAD NAME	TERMINATING ROAD STATION
145TH AVENUE	18+89.83	KENYON STREET	50+00
145TH AVENUE	20+64.83	LONDON STREET	40+00

NOTES:
1. TRANSITION PROPOSED CURB TO MATCH EXISTING CURB AT 15:1.



UTILITIES:
CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
DATE 6/29/2022 REG. NO. 48768

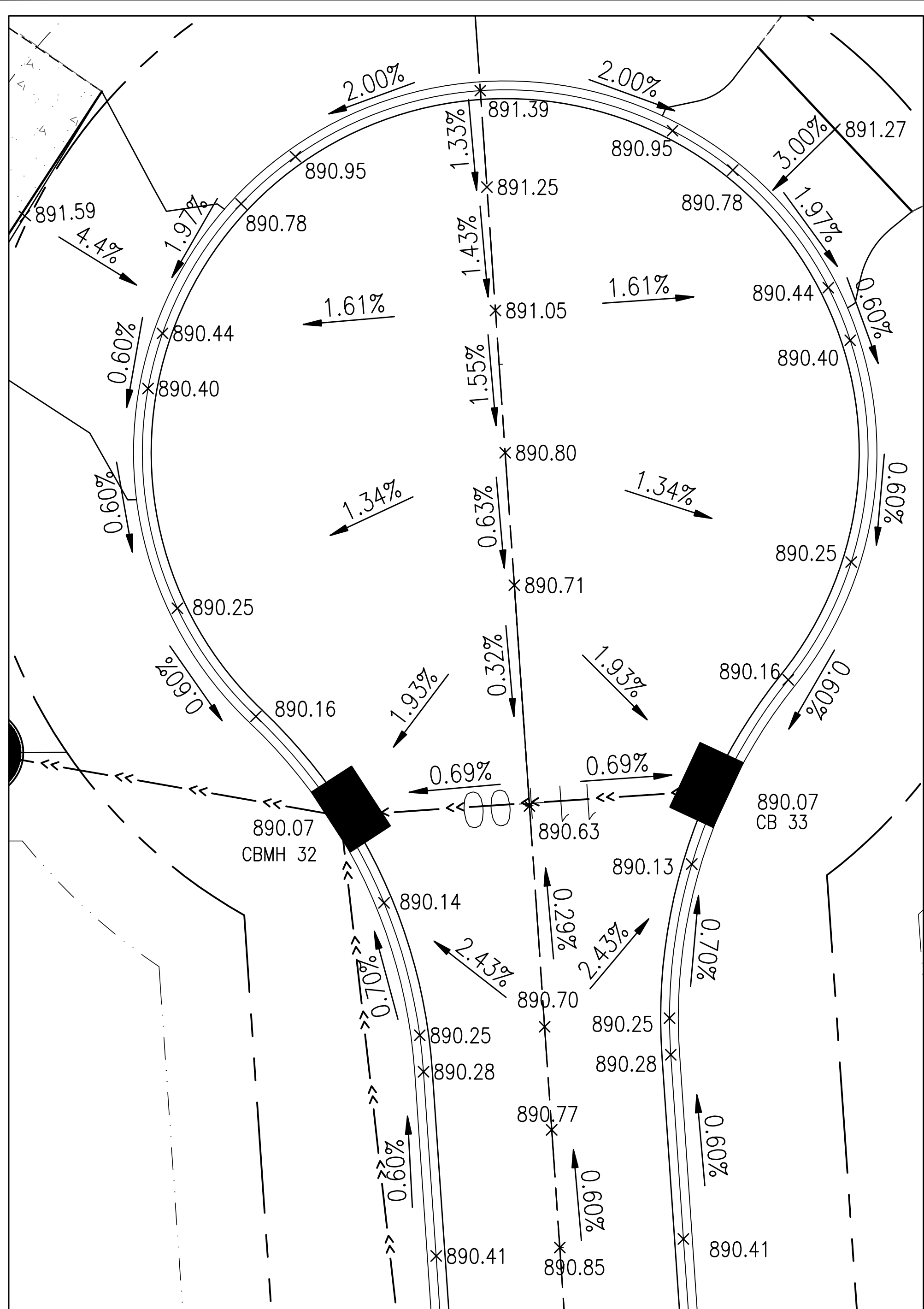
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

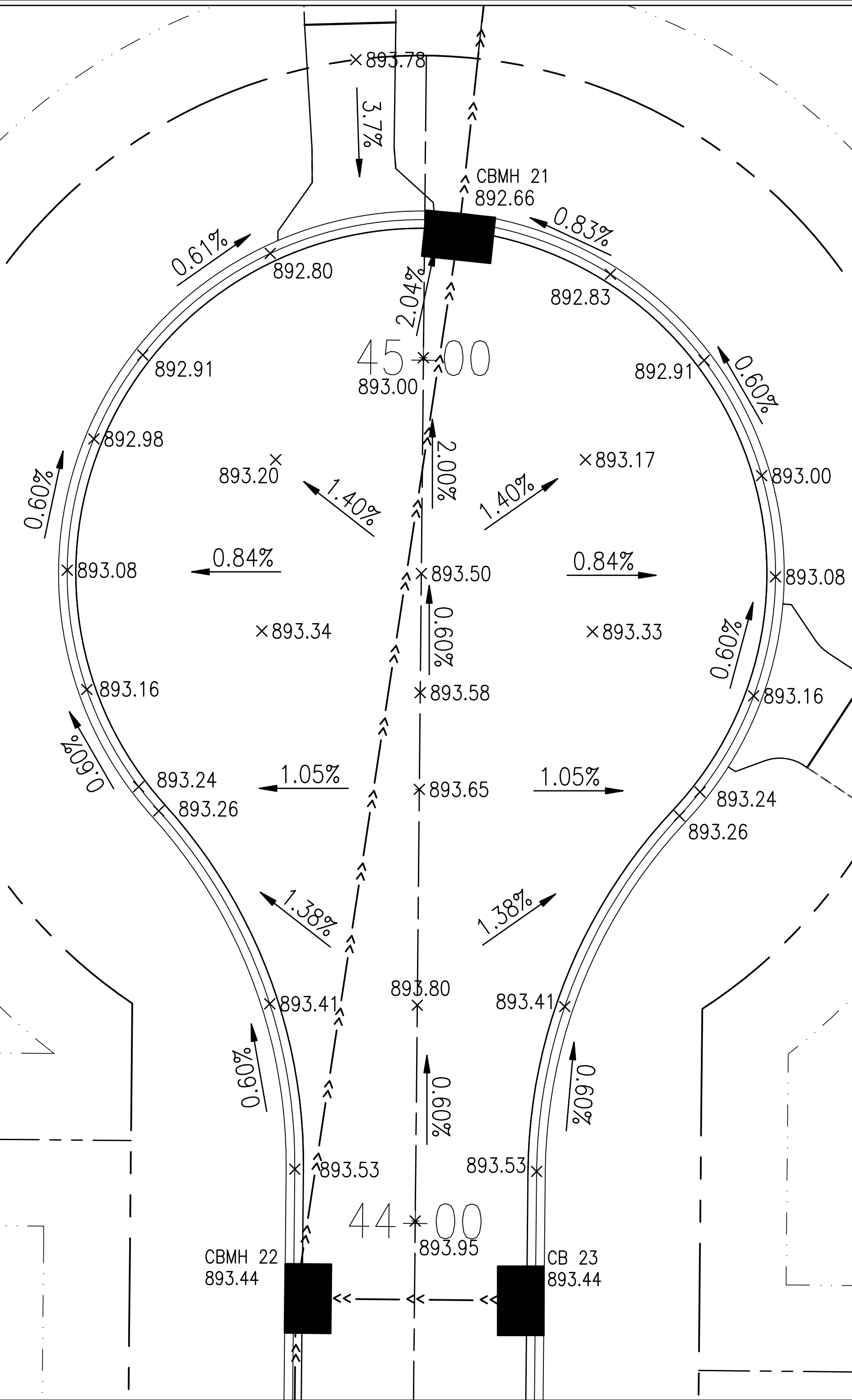
HAM LAKE IMPROVEMENT PROJECT 2105
CREEK VALLEY STREET RECONSTRUCTION
145TH AVE NE, KENYON ST
146TH AVE NE AND LONDON ST
INTERSECTION DETAILS

DWG:	2105 INT
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	15 OF 51
FILE:	34-2-127

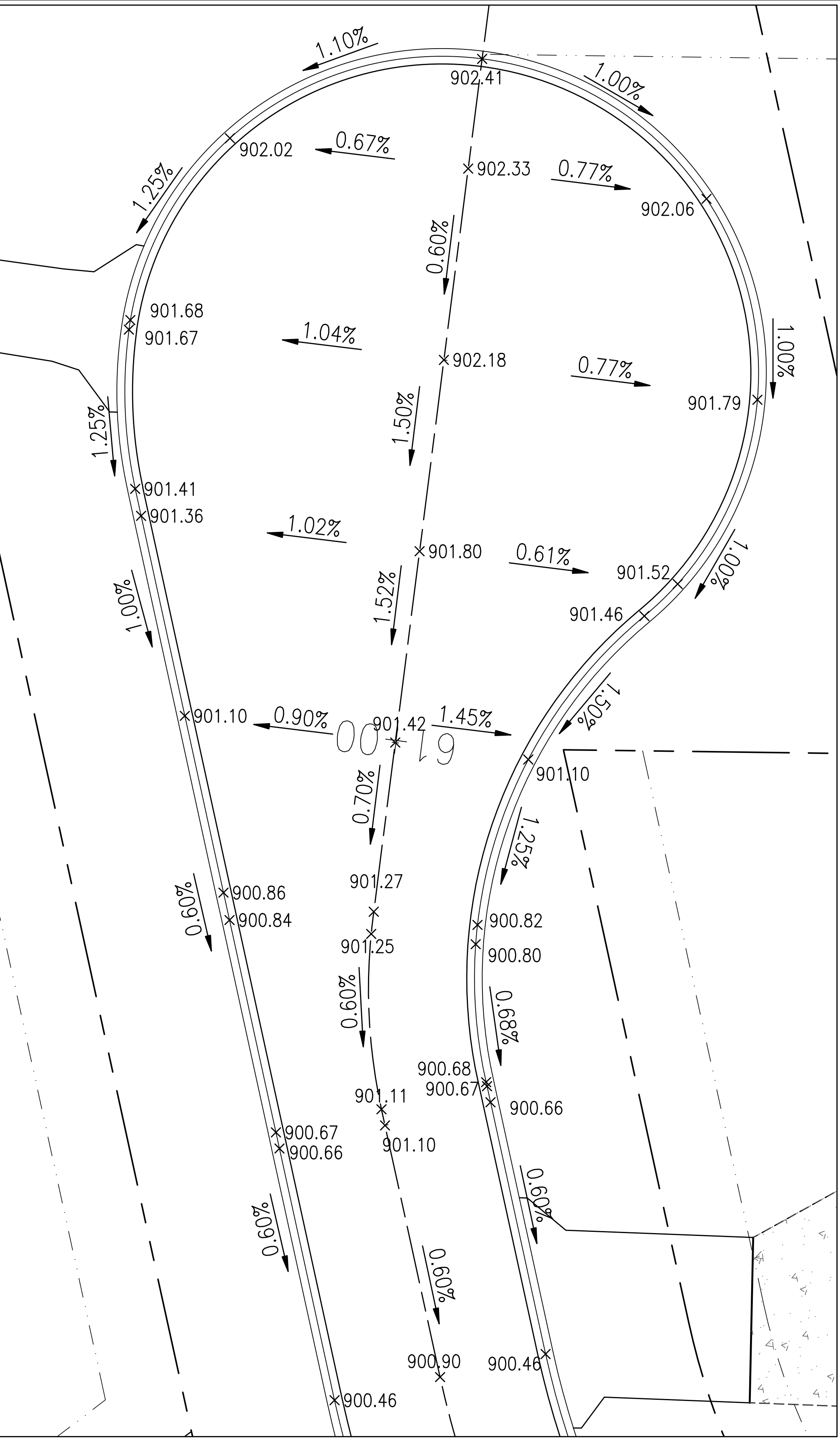
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



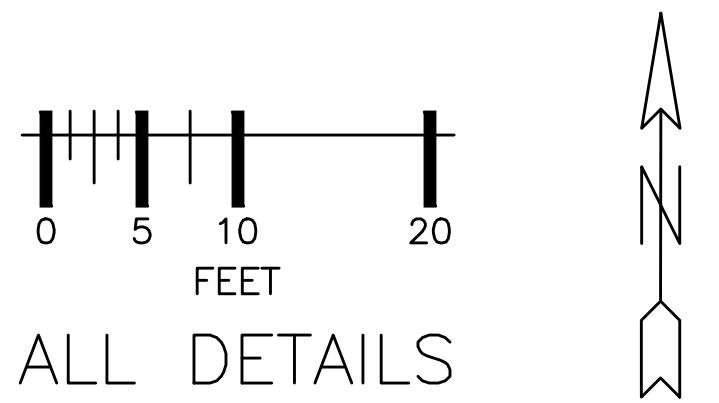
145TH AVENUE CUL-DE-SAC



LONDON STREET CUL-DE-SAC



146TH AVENUE CUL-DE-SAC



ALL DETAILS



UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

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

Dave Krueger

DATE 6/29/2022 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 CUL-DE-SAC DETAILS

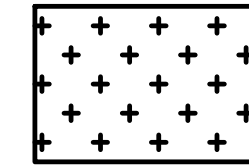
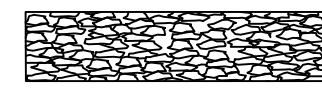
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG:	2105 INT2
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	16 OF 51
FILE:	34-2-128

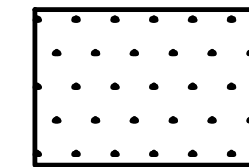
NOTES:

1. ALL GRADING OPERATIONS SHALL BE CONDUCTED IN A MANNER TO MINIMIZE THE POTENTIAL FOR SITE EROSION.
2. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE MORE THAN 7 DAYS.
3. AFTER INITIAL GRADING, COMPLETELY SURROUND THE PROPOSED INFILTRATION BASINS WITH EROSION CONTROL MEASURES TO PREVENT BASINS FROM CLOGGING.
4. SALVAGED TOPSOIL SHALL BE STOCKPILED IN PLACE TO MAINTAIN CONTINUITY OF PROPERTY OWNERS EXISTING TURF CONDITIONS. UPON APPROVAL OF ENGINEER, SOIL MAY BE STOCKPILED UPON REVIEW OF ALTERNATE PLAN PROVIDED BY CONTRACTOR.
5. USE SEED MIX 33-261 FOR INFILTRATION BASINS AND ALL NON RESIDENTIAL TURF ESTABLISHMENT.

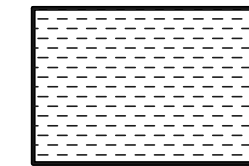
CONSTRUCTION EXIT



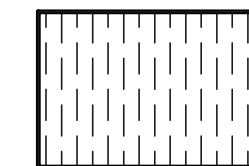
SEED MIX 25-151: RESIDENTIAL TURF
MULCH TYPE 6
PLANT APRIL 1ST - JUNE 1ST FOR SPRING PLANTING OR JULY 20TH - SEPTEMBER 20TH FOR FALL PLANTING



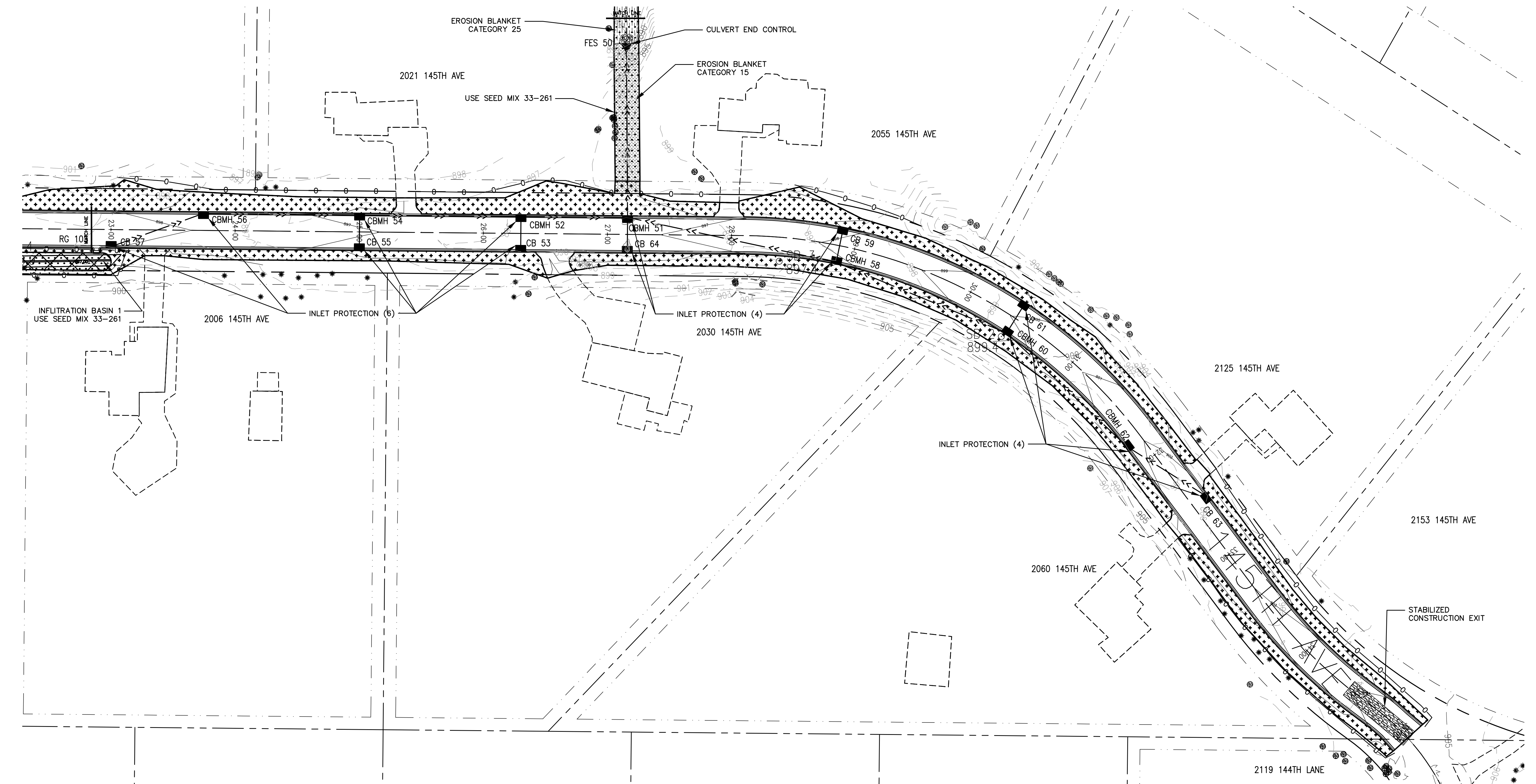
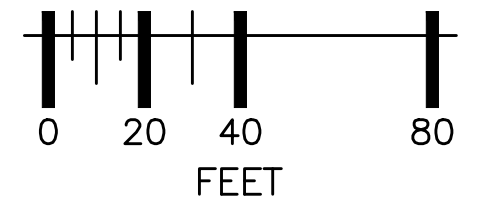
SEED MIX 33-261: PONDS & WET AREAS IN CENTRAL, SOUTHERN AND WESTERN MN
MULCH TYPE 3
PLANT APRIL 15TH - JULY 20TH FOR SPRING PLANTING OR SEPTEMBER 20TH - OCTOBER 20TH FOR FALL PLANTING



EROSION CONTROL BLANKET CATEGORY 15



EROSION CONTROL BLANKET CATEGORY 25



Gopher State One Call
800-252-1166 651-454-0002

UTILITIES:	CENTURYLINK (763) 712-5017
	CENTERPOINT ENERGY (763) 323-2760
	COMCAST (952) 607-4078
	CONNEXUS ENERGY (763) 323-4268
	XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
DATE 6/29/2022 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
CREEK VALLEY STREET RECONSTRUCTION
145TH AVE NE, KENYON ST
146TH AVE NE AND LONDON ST
STORMWATER POLLUTION PREVENTION PLAN

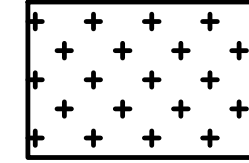
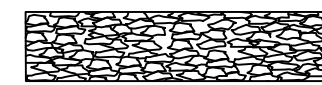
DWG:	2105 SWPPP 1
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	18 OF 51
FILE:	34-2-130

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

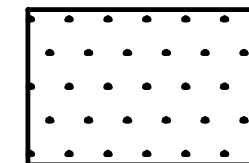
NOTES:

1. ALL GRADING OPERATIONS SHALL BE CONDUCTED IN A MANNER TO MINIMIZE THE POTENTIAL FOR SITE EROSION.
2. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE MORE THAN 7 DAYS.
3. AFTER INITIAL GRADING, COMPLETELY SURROUND THE PROPOSED INFILTRATION BASINS WITH EROSION CONTROL MEASURES TO PREVENT BASINS FROM CLOGGING.
4. SALVAGED TOPSOIL SHALL BE STOCKPILED IN PLACE TO MAINTAIN CONTINUITY OF PROPERTY OWNERS EXISTING TURF CONDITIONS. UPON APPROVAL OF ENGINEER, SOIL MAY BE STOCKPILED UPON REVIEW OF ALTERNATE PLAN PROVIDED BY CONTRACTOR.
5. USE SEED MIX 33-261 FOR INFILTRATION BASINS AND ALL NON RESIDENTIAL TURF ESTABLISHMENT.

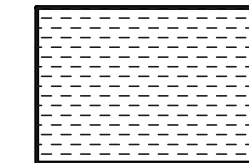
CONSTRUCTION EXIT



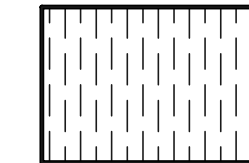
SEED MIX 25-151: RESIDENTIAL TURF
MULCH TYPE 6
PLANT APRIL 1ST - JUNE 1ST FOR SPRING PLANTING OR JULY 20TH - SEPTEMBER 20TH FOR FALL PLANTING



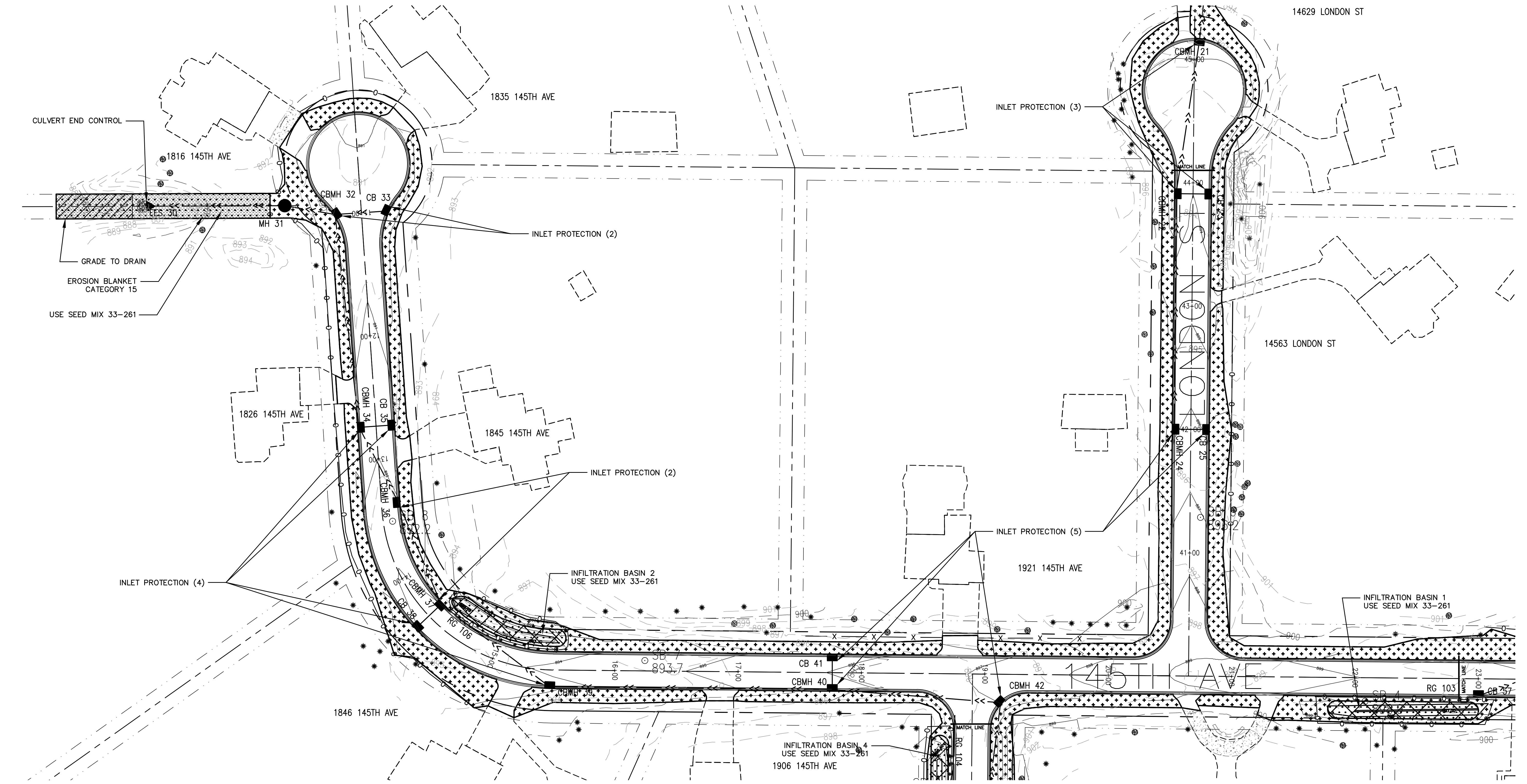
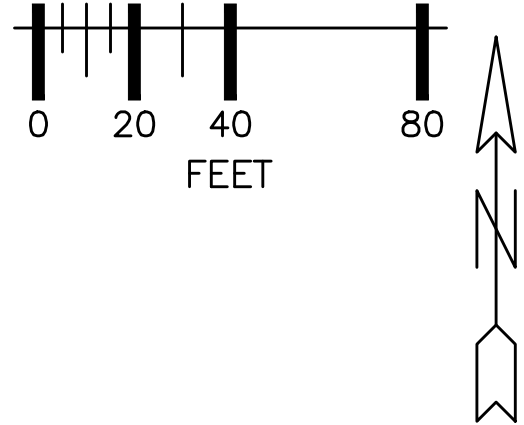
SEED MIX 33-261: PONDS & WET AREAS IN CENTRAL, SOUTHERN AND WESTERN MN
MULCH TYPE 3
PLANT APRIL 15TH - JULY 20TH FOR SPRING PLANTING OR SEPTEMBER 20TH - OCTOBER 20TH FOR FALL PLANTING



EROSION CONTROL BLANKET CATEGORY 15



EROSION CONTROL BLANKET CATEGORY 25



800-252-1166 651-454-0002

UTILITIES:	CENTURYLINK (763) 712-5017
	CENTERPOINT ENERGY (763) 323-2760
	COMCAST (952) 607-4078
	CONNEXUS ENERGY (763) 323-4268
	XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

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

Dave Krueger

DATE 6/29/2022 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
CREEK VALLEY STREET RECONSTRUCTION
145TH AVE NE, KENYON ST
146TH AVE NE AND LONDON ST
STORMWATER POLLUTION PREVENTION PLAN

DWG:	2105 SWPPP 2
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	19 OF 51
FILE:	34-2-131

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

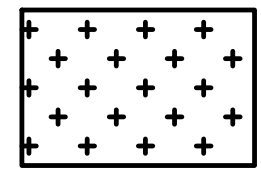
NOTES:

1. ALL GRADING OPERATIONS SHALL BE CONDUCTED IN A MANNER TO MINIMIZE THE POTENTIAL FOR SITE EROSION.
2. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE MORE THAN 7 DAYS.
3. AFTER INITIAL GRADING, COMPLETELY SURROUND THE PROPOSED INFILTRATION BASINS WITH EROSION CONTROL MEASURES TO PREVENT BASINS FROM CLOGGING.
4. SALVAGED TOPSOIL SHALL BE STOCKPILED IN PLACE TO MAINTAIN CONTINUITY OF PROPERTY OWNERS EXISTING TURF CONDITIONS. UPON APPROVAL OF ENGINEER, SOIL MAY BE STOCKPILED UPON REVIEW OF ALTERNATE PLAN PROVIDED BY CONTRACTOR.
5. USE SEED MIX 33-261 FOR INFILTRATION BASINS AND ALL NON RESIDENTIAL TURF ESTABLISHMENT.

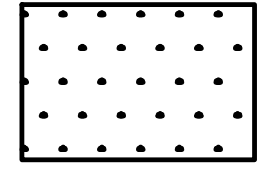
CONSTRUCTION EXIT



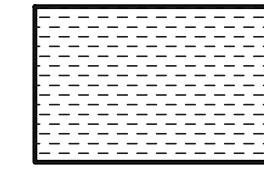
SILT FENCE



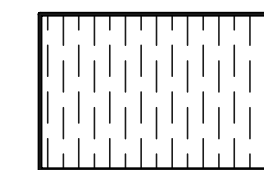
SEED MIX 25-151: RESIDENTIAL TURF
MULCH TYPE 6
PLANT APRIL 1ST - JUNE 1ST FOR SPRING PLANTING OR JULY 20TH - SEPTEMBER 20TH FOR FALL PLANTING



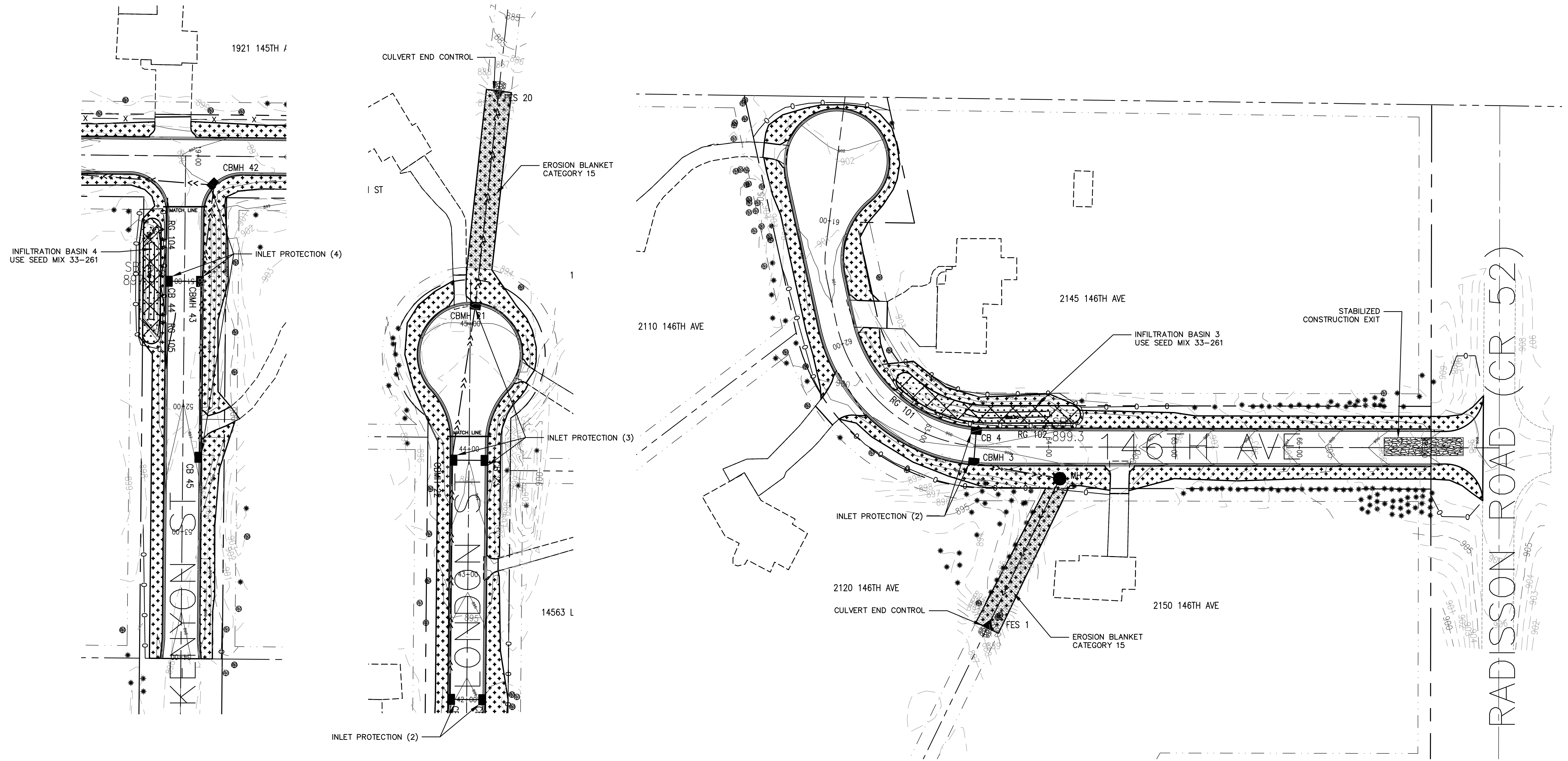
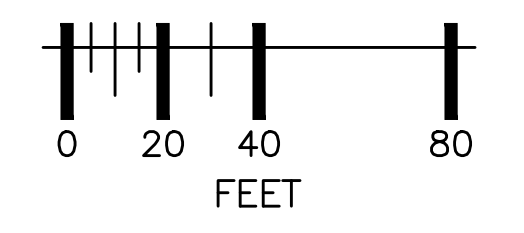
SEED MIX 33-261: PONDS & WET AREAS IN CENTRAL, SOUTHERN AND WESTERN MN
MULCH TYPE 3
PLANT APRIL 15TH - JULY 20TH FOR SPRING PLANTING OR SEPTEMBER 20TH - OCTOBER 20TH FOR FALL PLANTING



EROSION CONTROL BLANKET CATEGORY 15



EROSION CONTROL BLANKET CATEGORY 25



GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:	CENTURYLINK (763) 712-5017
	CENTERPOINT ENERGY (763) 323-2760
	COMCAST (952) 607-4078
	CONNEXUS ENERGY (763) 323-4268
	XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
DATE 6/29/2022 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
CREEK VALLEY STREET RECONSTRUCTION
145TH AVE NE, KENYON ST
146TH AVE NE AND LONDON ST
STORMWATER POLLUTION PREVENTION PLAN

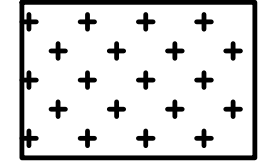
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG:	2105 SWPPP 3
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	20 OF 51
FILE:	34-2-132

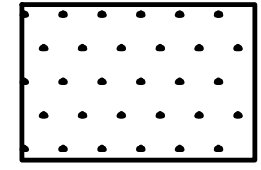
NOTES:

1. ALL GRADING OPERATIONS SHALL BE CONDUCTED IN A MANNER TO MINIMIZE THE POTENTIAL FOR SITE EROSION.
2. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE MORE THAN 7 DAYS.
3. AFTER INITIAL GRADING, COMPLETELY SURROUND THE PROPOSED INFILTRATION BASINS WITH EROSION CONTROL MEASURES TO PREVENT BASINS FROM CLOGGING.
4. SALVAGED TOPSOIL SHALL BE STOCKPILED IN PLACE TO MAINTAIN CONTINUITY OF PROPERTY OWNERS EXISTING TURF CONDITIONS. UPON APPROVAL OF ENGINEER, SOIL MAY BE STOCKPILED UPON REVIEW OF ALTERNATE PLAN PROVIDED BY CONTRACTOR.
5. USE SEED MIX 33-261 FOR INFILTRATION BASINS AND ALL NON RESIDENTIAL TURF ESTABLISHMENT.

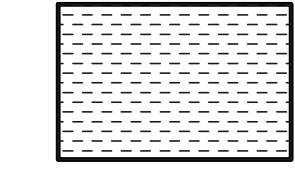
CONSTRUCTION EXIT



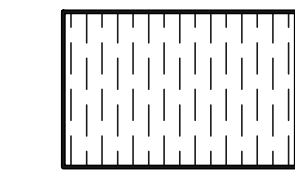
SEED MIX 25-151: RESIDENTIAL TURF
MULCH TYPE 6
PLANT APRIL 1ST - JUNE 1ST FOR SPRING PLANTING OR JULY 20TH - SEPTEMBER 20TH FOR FALL PLANTING



SEED MIX 33-261: PONDS & WET AREAS IN CENTRAL, SOUTHERN AND WESTERN MN
MULCH TYPE 3
PLANT APRIL 15TH - JULY 20TH FOR SPRING PLANTING OR SEPTEMBER 20TH - OCTOBER 20TH FOR FALL PLANTING

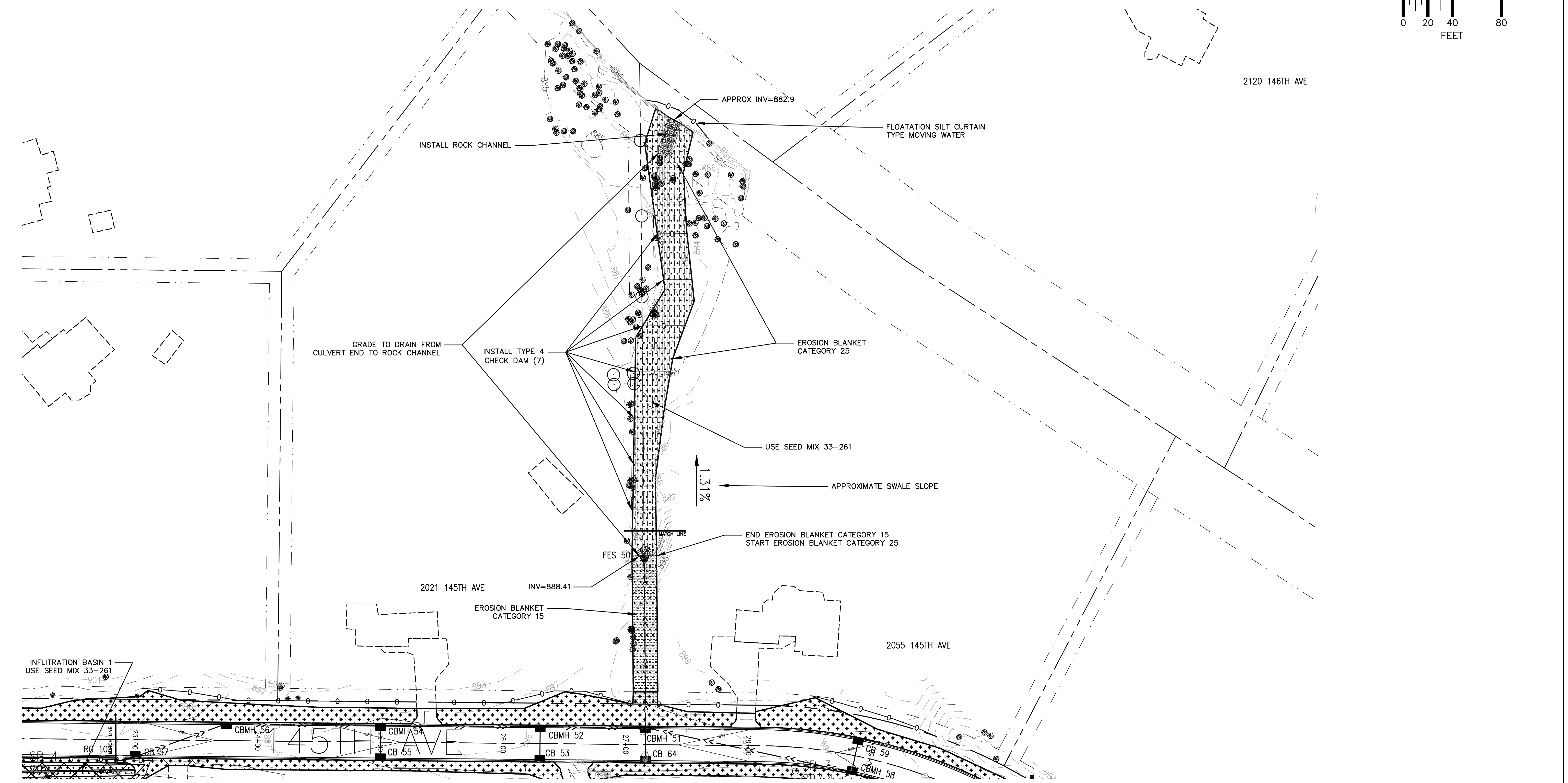
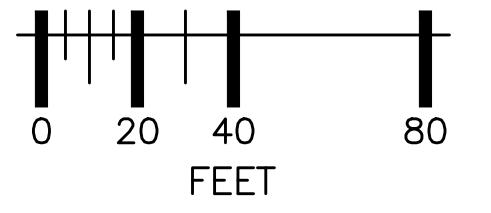


EROSION CONTROL BLANKET CATEGORY 15



EROSION CONTROL BLANKET CATEGORY 25

SILT FENCE



GOEPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:	CENTURYLINK (763) 712-5017
	CENTERPOINT ENERGY (763) 323-2760
	COMCAST (952) 607-4078
	CONNEXUS ENERGY (763) 323-4268
	XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
DATE 6/29/2022 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
CREEK VALLEY STREET RECONSTRUCTION
145TH AVE NE, KENYON ST
146TH AVE NE AND LONDON ST
STORMWATER POLLUTION PREVENTION PLAN

DWG:	2105 SWPPP 4
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	21 OF 51
FILE:	34-2-133

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

CONSTRUCTION ACTIVITY INFORMATION:

CREEK VALLEY STREET RECONSTRUCTION, HAM LAKE, ANOKA COUNTY, MINNESOTA, 55304, 45.2527° LATITUDE NORTH, 93.2355° LONGITUDE WEST (BY ONLINE TOOL).

TOTAL PROJECT DISTURBED AREA IS 5.96ACRES.

THIS IS A ROAD CONSTRUCTION PROJECT.

0.49 ACRES OF NEW IMPERVIOUS SURFACE.
0.00 ACRES OF NEW PVIOUS SURFACE.

DRAINAGE IS TO WETLANDS LOCATED WEST AND NORTH OF THE IMPROVEMENTS WITHIN CITY EASMENT. THE WETLANDS DRAIN INTO COON CREEK. THERE ARE SPECIAL WATER OR IMPAIRED WATER WITHIN ONE MILE DOWNSTREAM OF THE PROJECT. COON CREEK IS IMPIRED FOR E.COLI AND BIOTIC IMPAIRMENT.

CONTACT INFORMATION:

OWNER: CITY OF HAM LAKE, OWNER CONTACT: DENISE WEBSTER CITY ADMINISTRATOR, DWEBSTER@CI.HAM-LAKE.MN.US, 763-434-9555, 15544 CENTRAL AVENUE, HAM LAKE, MN, 55304

ALTERNATE OWNER CONTACT: TOM COLLINS, CITY ENGINEER, TCOLLINS@RFCENGINEERING.COM 763-862-8000.
RFC ENGINEERING INC, 13635 JOHNSON STREET NE, HAM LAKE, MN 55304

CONTRACTOR: _____

ALTERNATE CONTRACTOR CONTACT: _____

PARTY RESPONSIBLE FOR OPERATION AND MAINTENANCE OF PERMANENT STORMWATER MANAGEMENT SYSTEM: CITY OF HAM LAKE PUBLIC WORKS, JOHN WITKOWSKI, 763-235-1662, 15544 CENTRAL AVENUE, HAM LAKE, MN, 55304

GENERAL CONSTRUCTION PROJECT INFORMATION:

THE PROJECT CONSISTS OF STREET RECONSTRUCTION TO THE CREEK VALLEY DEVELOPMENT, CONCRETE CURB AND GUTTER, STORM SEWER, AND INFILTRATION BASIN CONSTRUCTION IS INCLUDED.

THE SOILS ON THE SITE ARE PRIMARILY HYDROLOGIC SOIL GROUP TYPE B WITH MODERATE INFILTRATION CAPACITY AND GROUP TYPE C WITH LOW INFILTRATION CAPACITY. THE GROUNDWATER IN THIS AREA HIGH.

GENERAL SITE INFORMATION:

ALL EROSION CONTROL MEASURES MUST BE PLACED PRIOR TO COMMENCEMENT OF LAND DISTURBING ACTIVITIES AND BE MAINTAINED UNTIL ALL DISTURBED AREAS ON THE SITE HAVE BEEN RESTORED.

CONSTRUCTION EXITS SHALL BE SURFACED WITH CRUSHED ROCK AND DESIGNATED PRIOR TO CONSTRUCTION (REFER TO DETAIL).

TRENCHES FOR STORM DRAIN PIPE AND STRUCTURES ARE TO BE BACKFILLED BY THE END OF THE WORK DAY.

NO STORMWATER MITIGATION MEASURES ARE REQUIRED AS THE RESULT OF AN ENVIRONMENTAL, ARCHAEOLOGICAL, OR OTHER REQUIRED LOCAL, STATE, OR FEDERAL REVIEW OF THE PROJECT.

THE PROJECT IS NOT LOCATED IN A KARST AREA.

THE PROJECT DOES NOT DISCHARGE TO A CALCAREOUS FEN LISTED IN MINN. R. 7050.0180, SUBP. 6B.

THE SITE DOES DISCHARGE TO A WATER THAT IS LISTED AS IMPAIRED FOR E.COLI AND BIOTIC IMPAIRMENT.

SELECTION OF A PERMANENT STORMWATER MANAGEMENT SYSTEM:

NEW IMPERVIOUS SURFACE CREATED BY THIS PROJECT IS 0.49 ACRES.

PER COON CREEK WATERSHED DISTRICT, ANOKA CONSERVATION DISTRICT, AND MINNESOTA BOARD OF WATER AND SOIL RESOURCES, THERE IS INFILTRATION ON SITE DEAMED FEASIBLE, WITH OTHERS NOT DUE TO THE HIGH GROUND WATER TABLE.

HYDROLOGIC REPORT (DRAINAGE CALCULATIONS) AND DRAINAGE MAPS (WITH DRAINAGE DIVIDES) PREPARED FOR THIS PROJECT ARE AVAILABLE IN THE CITY'S ENGINEERS OFFICE. STORM WATER RUNOFF FROM THE SITE INFILTRATES ON THE SITE AND THNE DRAINS INTO THE REGIONAL PONDS AND OVERFLOW TO WETLANDS WEST AND NORTH OF THE PROJECT. THE WETLANDS DRAIN INTO COON CREEK. THE RUNOFF FROM THE SITE WILL BE CONVEYED VIA NEW ON SITE STORM DRAINS. THE LAST STORM DRAIN STRUCTURE JUST PRIOR TO DISCHARGE WILL BE EQUIPPED WITH A SUMP (GRIT CHAMBERS). GRIT CHAMBERS ARE BEING USED DUE TO THE HIGH GROUND WATER TABLE. THE SUMP (GRIT CHAMBERS) ARE SIZED PER COON CREEK WATERSHED DISTRICT REQUIREMENTS.

EROSION PREVENTION PRACTICES:

THERE ARE NO CONSTRUCTION PHASING, VEGETATIVE BUFFER STRIPS, LONG HORIZONTAL SLOPE GRADING FOR THE PROJECT. THERE ARE UNDISTURBED AREAS WITHIN THE PROJECT LIMITS.

ALL DISTURBED AREAS SHALL BE RESTORED WITH SOD, SEED, WOOD FIBER BLANKET, OR PAVED SURFACE WITHIN SEVEN (7) DAYS OF ROUGH GRADING.

ALL EXPOSED SOIL AREAS MUST HAVE TEMPORARY EROSION PROTECTION OR PERMANENT COVER WITHIN SEVEN (7) DAYS AFTER THE AREA IS NOT ACTIVELY BEING WORKED.

FERTILIZER: MnDOT SPECIFICATION 3881, TYPE 2 SEEDING: MnDOT SEED MIXTURE 25-131 OR 33-261 (FOR PONDS), HYDROMULCH: MnDOT SPECIFICATION 3884 TYPE 1 OR 3 WITH APPLICATION RATE PER MnDOT SPECIFICATION 2575.3H.

PROVIDE EROSION CONTROL FABRIC FOR ALL SLOPES STEEPER THAN 1:3.

THERE ARE NO DRAINAGE DITCHES CONSTRUCTED WITH THIS PROJECT.

SEDIMENT CONTROL PRACTICES:

THERE ARE NO DRAINAGE DITCHES OR SEDIMENT BASINS FOR THIS PROJECT.

THERE ARE NO SLOPES WITH A GRADE OF 1:3 OR STEEPER WITH A SLOPE LENGTH GREATER THAN 75 FEET.

THERE ARE DRAINAGE INFILTRATION BASINS FOR THIS PROJECT.

ALL SEDIMENT CONTROL DEVICES ARE TO BE IN PLACE PRIOR TO UPSTREAM LAND DISTURBING ACTIVITIES.

WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, PIPE OUTLETS MUST CONTAIN RIPRAP, SEED AND PLACE EROSION CONTROL BLANKETS ON DISTURBED AREAS WITHIN 200 LINEAL FEET OF PIPE OUTLETS INCLUDING THE DOWN SLOPE TO THE PIPE OUTLET, SILT FENCING TO BE PLACED AROUND THE DISTURBED AREA AND SILT FENCE ROUTED ACROSS THE TOP OF THE OUTLET.

WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, SEED AND PLACE EROSION CONTROL BLANKETS ON DISTURBED AREAS WITHIN 200 FEET OF PIPE INLET INCLUDING THE DOWN SLOPE TO THE PIPE INLET, SILT FENCING TO BE PLACED AROUND THE DISTURBED AREA, PLACE A SECOND SILT FENCE ROUTED ACROSS THE TOP OF THE INLET AND PLACE INLET PROTECTION. PIPE INLET PROTECTION SHALL BE PER BMPS SUCH AS SILT FENCE OR STRAW BALES STAKED AROUND THE APRON OPENING OR OTHER APPROVED EQUIVALENT.

WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, SEED AND PLACE EROSION CONTROL BLANKETS ON DISTURBED AREAS WITHIN 200 FEET OF CATCH BASIN INLET. PLACE INLET PROTECTION IMMEDIATELY AFTER STRUCTURE IS BACKFILLED. CATCH BASIN INLET PROTECTION SHALL BE PER BMPS SUCH AS CLEAR ROCK AROUND STEEL PLATE OVER FABRIC OR OTHER APPROVED EQUIVALENT UNTIL THE CATCH BASIN CASTING IS PLACED. IMMEDIATELY AFTER THE CASTING IS PLACED, PROVIDE CATCH BASIN INLET PROTECTION PER BMPS SUCH AS FILTER BAG INSERT OR OTHER APPROVED EQUIVALENT. NO CAPTURED SEDIMENT SHOULD BE ALLOWED TO DROP INTO THE CATCH BASIN.

PROVIDE SILT FENCE DOWNSTREAM OF STOCKPILE AREAS. STOCKPILES ARE NOT TO BLOCK DRAINAGE CONVEYANCE SYSTEMS.

SEDIMENT TRACKED OFFSITE SHALL BE MINIMIZED AND SWEEPED ON A DAILY BASIS.

TEMPORARY SEDIMENTATION BASINS ARE NOT BEING USED TO REDUCE WETLAND IMPACTS, DUE TO THE HIGH GROUND WATER TABLE AND THE LACK OF RIGHT OF WAY.

DEWATERING AND BASIN DRAINING:

ALL DEWATERING IS TO DISCHARGE TO SEDIMENT SACKS, ROCK WEEPER, BIO ROLL AREA, ETC. TO PREVENT EROSION AND MINIMIZE SEDIMENT DISCHARGING FROM THE SITE. EXCESSIVE SEDIMENT-LADEN WATER WILL NOT BE PERMITTED TO DISCHARGE FROM THE SITE. DEWATERING PRACTICES ARE NOT TO CAUSE DOWNSTREAM NUISANCE CONDITIONS, EROSION, OR NON-PERMITTED WETLAND INUNDATION CAUSING ADVERSE IMPACTS. DISCHARGE FROM DEWATERING WILL BE TO WETLANDS. LARGE VOLUMES OF DEWATERING WILL REQUIRE DISCHARGE INTO SEDIMENT SACKS PRIOR TO DISCHARGING INTO THE WETLANDS.

ADDITIONAL BMPS FOR SPECIAL WATERS AND DISCHARGES TO WETLANDS:

THE PROJECT DOES DISCHARGE INTO OR WITHIN 1 MILE OF SPECIAL WATERS.

THERE ARE NO BUFFER ZONES OR UNDISTURBED AREA ZONES.

THE STORM DRAIN SYSTEM WAS SET UP TO DISTRIBUTE THE STORMWATER RUNOFF INTO THE PROJECT WETLANDS AS CLOSE TO EXISTING CONDITIONS AS POSSIBLE. THIS INCLUDED PROVIDING STORM DRAIN ON BOTH SIDES OF THE STREET IN ORDER TO ACHIEVE THIS. THE DRAINAGE WAS APPROVED BY COON CREEK WATERSHED DISTRICT.

THERE IS NO CONVERSION OF WETLANDS INTO STORMWATER PONDS.

INSPECTION AND MAINTENANCE:

THE CONTRACTOR SHALL PLACE A RAIN GAUGE ON THE PROJECT SITE AT A LOCATION APPROVED BY THE ENGINEER. RAINFALL DATA SHALL BE KEPT WITH THE SWPPP RECORDS.

THE CONTRACTOR MUST INSPECT THE CONSTRUCTION SITE ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. INSPECTIONS AND MAINTENANCE TO BE RECORDED IN WRITING. THE SWPPP INSPECTION FOR THE CONSTRUCTION IS TO BE CONDUCTED BY _____ OF _____

INSPECTIONS FORMS ARE AVAILABLE AT:

<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/stormwater/construction-stormwater/construction-stormwater.html>
THE ACTUAL FORM IS UNDER INSPECTION CHECKLIST.

THE CONTRACTOR WILL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT DEVICES, AS WELL AS ALL EROSION AND SEDIMENT CONTROL, FOR THE DURATION OF THE PROJECT.

THE CONTRACTOR WILL INVESTIGATE AND COMPLY WITH THE FOLLOWING:

SILT FENCE WILL BE REPAIRED, REPLACED, OR SUPPLEMENTED WHEN IT BECOMES NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE FENCE HEIGHT. THE CORRECTIONS MUST BE MADE WITHIN 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.

SEDIMENT WILL BE REMOVED FROM SEDIMENTATION BASIN WHEN IT REACHES A DEPTH OF TWO FEET OR ONE-HALF OF THE STORAGE VOLUME, WHICHEVER IS LESS, WITHIN 72-HOURS OF DISCOVERY.

SEDIMENT DEPOSITED IN SURFACE WATERS WILL BE REMOVED WITHIN SEVEN (7) DAYS OF DISCOVERY. RESTABILIZING THE AREAS WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED SOIL WILL BE COMPLETED WITHIN THE SAME SEVEN (7) DAY TIME FRAME.

CONSTRUCTION SITE VEHICLE EXIT LOCATIONS WILL BE INSPECTED FOR OFFSITE SEDIMENT TRACKING ONTO PAVED SURFACES. TRACKED SEDIMENT WILL BE REMOVED FROM THE PAVED SURFACE WITHIN 24 HOURS OF DISCOVERY.

OFFSITE ACCUMULATIONS OF SEDIMENT WILL BE REMOVED IN A TIMELY MANNER AND AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS.

POLLUTION PREVENTION MANAGEMENT MEASURES:

THE CONTRACTOR SHALL IMPLEMENT THE FOLLOWING POLLUTION PREVENTION MANAGEMENT MEASURES ON THE SITE:

SOLID WASTE: COLLECT SEDIMENT, ASPHALT AND CONCRETE MILLINGS, FLOATING DEBRIS, PAPER, PLASTIC, FABRIC, CONSTRUCTION AND DEMOLITION DEBRIS, AND OTHER WASTES MUST BE DISPOSED OF PROPERLY OFFSITE AND MUST COMPLY WITH MPCA DISPOSAL REQUIREMENTS.

HAZARDOUS MATERIALS: OIL, GASOLINE, PAINT AND ANY HAZARDOUS SUBSTANCES MUST BE PROPERLY STORED, INCLUDING SECONDARY CONTAINMENT, TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH MPCA REGULATIONS.

EXTERNAL WASHING OF TRUCKS, INCLUDING CONCRETE DELIVERY TRUCKS, AND OTHER CONSTRUCTION VEHICLES MUST BE LIMITED TO A DEFINED AREA OF THE SITE. RUNOFF MUST BE CONTAINED AND WASTE PROPERLY DISPOSED OF. NO ENGINE DEGREASING IS ALLOWED ON SITE. CONCRETE WASHOUT ON SITE MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER.

THE CITY IS RESPONSIBLE FOR LONG TERM MAINTENANCE OF THE STORM DRAIN INCLUDING THE SUMPS (GRIT CHAMBERS). THE GRIT CHAMBERS ARE TO BE INSPECTED YEARLY AND CLEANED OUT AS NECESSARY TO MAINTAIN FUNCTION.

THE CONTRACTOR IS RESPONSIBLE FOR MONITORING AIR POLLUTION AND ENSURING IT DOES NOT EXCEED LEVELS SET BY LOCAL, STATE, OR FEDERAL REGULATIONS. THIS INCLUDES DUST CREATED BY WORK BEING PERFORMED ON THE SITE. AIR POLLUTION AND DUST CONTROL CORRECTION ARE CONSIDERED INCIDENTAL TO THE UNIT BID PRICES FOR WHICH WORK IS BEING PERFORMED. ADDITIONAL DUST CONTROL MEASURES MAY BE REQUIRED BY THE ENGINEER.

NO SANITARY AND SEPTIC WASTE IS ON THE SITE.

FINAL STABILIZATION:

THE CONTRACTOR MUST ENSURE FINAL STABILIZATION OF THE SITE. FINAL STABILIZATION IS ACHIEVED WHEN ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND ALL SOILS ARE STABILIZED BY A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70 PERCENT OF THE PVIOUS SURFACE AREA, OR OTHER EQUIVALENT MEANS NECESSARY TO PREVENT SOIL FAILURE UNDER EROSION CONDITIONS.

ALL TEMPORARY EROSION PROTECTION, INCLUDING SILT FENCE, ARE TO BE REMOVED AFTER FINAL STABILIZATION OF THE SITE.

RECORDS RETENTION:

ALL REQUIREMENTS OF THE NPDES PERMIT AND THIS SWPPP SHALL REMAIN IN EFFECT UNTIL ALL LAND DISTURBING ACTIVITY

HAS BEEN COMPLETED, ALL FINAL RESTORATION HAS BEEN COMPLETED AND THE NOTICE OF TERMINATION FORM HAS BEEN SUBMITTED TO THE MINNESOTA POLLUTION CONTROL AGENCY (MPCA).

REFER TO OTHER SHEETS OF THIS PLAN SET FOR DETAILED CONSTRUCTION INFORMATION. EXISTING AND PROPOSED GRADES FOR THE ROADWAY ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND ON THE CROSS SECTION SHEETS.

THE CONTRACTOR SHALL MAINTAIN A COPY OF THE PLANS ONSITE AT ALL TIMES UNTIL THE PROJECT HAS BEEN ACCEPTED BY THE CITY. THE CONTRACTOR SHALL UPDATE THE SWPPP AS NECESSARY TO REFLECT CURRENT CONDITIONS ON THE SITE. CONTRACTOR IS TO PROVIDE THE ENGINEER A COPY OF THE REVISED SWPPP. THE REVISED SWPPP IS TO BE MAINTAINED WITH THE CONSTRUCTION SET OF PLANS.

THE CONSTRUCTION PLANS, INCLUDING THE SWPPP, AND THE SWPPP INSPECTION REPORTS ARE TO BE AVAILABLE TO THE ENGINEER AND TO THE MPCA AND COON CREEK WATERSHED DISTRICT INSPECTORS AT ALL TIMES.

THE CONTRACTOR IS TO PROVIDE THE ENGINEER A COPY OF THE SWPPP INSPECTION REPORTS WITHIN SEVEN (7) DAYS AFTER THE INSPECTION.

THE CONTRACTOR IS TO PROVIDE THE ENGINEER A COPY OF THE REVISED SWPPP WITHIN SEVEN (7) DAYS AFTER THE CONTRACTOR REVISES THE SWPPP.

ALL SWPPP INSPECTIONS AND ALL BMPS SHALL BE PLACED UNDER THE SUPERVISION OF A CONSTRUCTION INSTALLER CERTIFIED BY THE MPCA. THE CONSTRUCTION SITE SHALL BE MANAGED AND MAINTAINED BY A MPCA CERTIFIED CONSTRUCTION SITE MANAGEMENT.

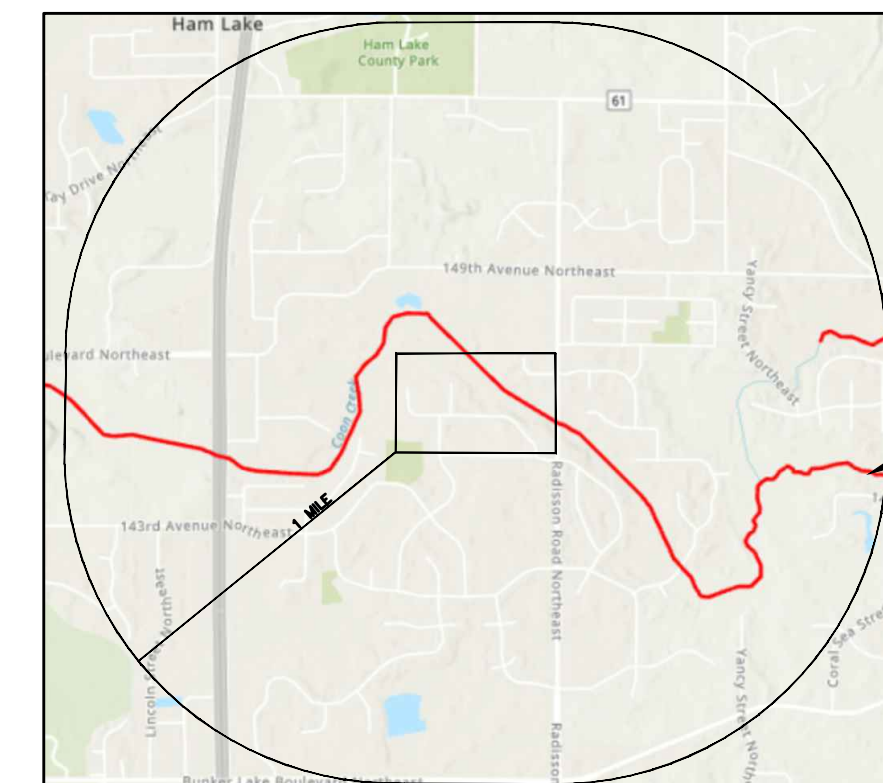
THE CONTRACTOR SHALL PROVIDE THE CITY WITH A COPY OF CONSTRUCTION INSTALLER CERTIFICATION AND CONSTRUCTION SITE MANAGEMENT CERTIFICATION. A COPY OF THE CERTIFICATIONS, INCLUDING SWPPP DESIGNER, SHALL BE KEPT WITH THE SWPPP.

THE SWPPP, THE SWPPP INSPECTIONS REPORTS AND MAINTENANCE RECORDS SHALL BE KEPT FOR 3 YEARS.

DRAINAGE CALCULATIONS AND DRAINAGE MAPS WILL BE KEPT BY THE CITY FOR AT LEAST 3 YEARS.

SEQUENCE OF EROSION CONTROL

1. OBTAIN ALL NECESSARY PERMITS, INCLUDING NPDES GENERAL STORMWATER PERMIT.
2. PLACE ALL PERIMETER SEDIMENT CONTROL DEVICES, TEMPORARY SEDIMENTATION BASINS, SILT FLOTATION CURTAINS, AND ROCK CONSTRUCTION EXITS.
3. CONTACT CITY ENGINEER FOR APPROVAL OF SEDIMENT CONTROL DEVICES.
4. ROUGH IN GRADE.
- 5a. CONTACT COON CREEK WATERSHED DISTRICT TO PROVIDE DOUBLE RING INFILTRMETER TEST REQUIRED FOR INFILTRATION BASINS OR BY FILLING THE BASIN TO A MINIMUM DEPTH OF 6 INCHES OF WATER AND MONITOR THE TIME NECESSARY TO DRAIN OR OTHER APPROVED METHOD.
5. PLACE TEMPORARY EROSION CONTROL DEVICES AS NECESSARY.
6. PLACE STORM DRAIN SYSTEM.
7. RE-ADJUST TEMPORARY EROSION CONTROL DEVICES AS NECESSARY. PLACE STORM DRAIN INLET PROTECTION AND OUTLET PROTECTION DEVICES AS NECESSARY.
8. PLACE SITE PAVEMENT.
9. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, OBTAIN APPROVAL OF CITY ENGINEER.
10. CONTRACTOR TO REMOVE ALL TEMPORARY EROSION CONTROL DEVICES AFTER ACCEPTANCE BY THE CITY.



TABULATION SUMMARY		
ITEM	UNIT	TOTAL
SILT FENCE	LF.	3815
FLOTATION SILT CURTAIN TYPE FLOATING WATER	LF.	62
EROSION CONTROL BLANKET CATEGORY 15	S.Y.	1223
EROSION CONTROL BLANKET CATEGORY 25	S.Y.	983
TYPE 4 CHECK DAM	LF	174
FES/PIPE OUTLET PROTECTION	EACH	4
CATCH BASIN INLET PROTECTION	EACH	35
CLASS III RIPRAP W/ FABRIC	C.Y.	43.8
GEOTEXTILE FILTER FABRIC	S.Y.	53.1
HYDROMULCH TYPE 6	ACRE	2.70
TURF ESTABLISHMENT: SEED MIX 25-151	ACRE	2.21
TURF ESTABLISHMENT: SEED MIX 33-261	ACRE	0.49

I HEREBY CERTIFY THAT THIS SWPPP WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY CERTIFIED SWPPP DESIGNER.

06/29/2022
DATE

David A. Krugler
David A. Krugler

800-252-1166 651-454-0002
PLOT DATE: 10/10/2022 16:29

UTILITIES: CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
David A. Krugler
DATE 6/29/2022 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

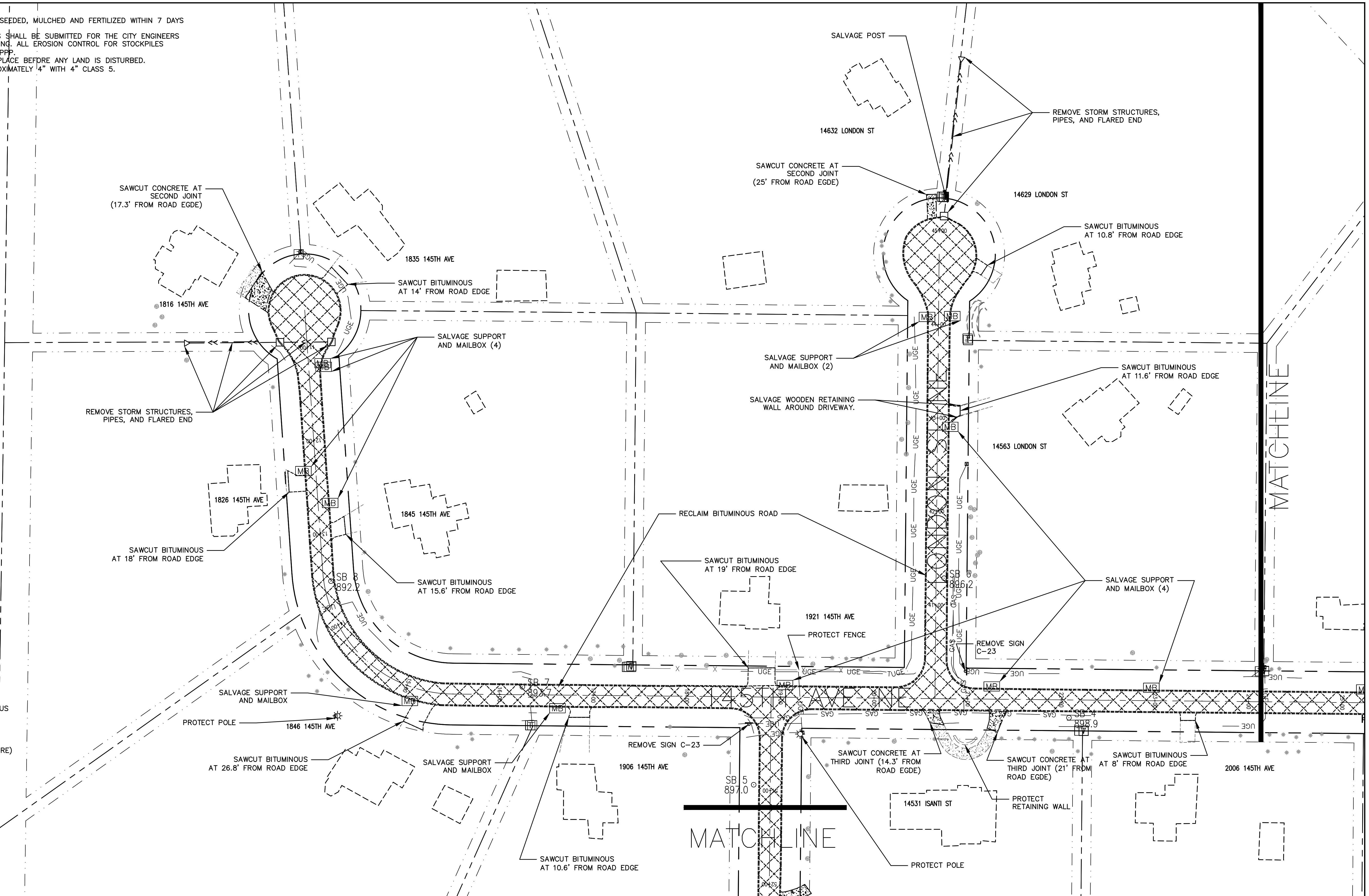
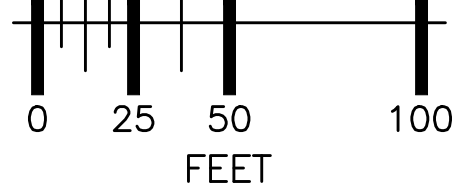
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
CREEK VALLEY STREET RECONSTRUCTION
145TH AVE NE, KENYON ST
146TH AVE NE AND LONDON ST
STORMWATER POLLUTION PREVENTION PLAN

DWG: 2105 SWPPP 5
DATE: 06/29/22
JOB NUMBER: 2105
SHEET: 22 OF 51
FILE: 34-2-134

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

- NOTES:
 1. ALL DISTURBED AREAS TO BE SEEDED, MULCHED AND FERTILIZED WITHIN 7 DAYS OF ROUGH GRADING.
 2. ALL LOCATIONS OF STOCKPILES SHALL BE SUBMITTED FOR THE CITY ENGINEERS APPROVAL PRIOR TO STOCKPILING. ALL EROSION CONTROL FOR STOCKPILES SHALL BE PER BMP'S AND SWPPP.
 3. ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.
 4. EXISTING BITUMINOUS IS APPROXIMATELY 4" WITH 4" CLASS 5.



- RECLAIM BITUMINOUS
- TREE CLEANG (AGRE)
- TREES TO REMOVE
- TREES TO REMAIN



UTILITIES:	CENTURYLINK (763) 712-5017
	CENTERPOINT ENERGY (763) 323-2760
	COMCAST (952) 607-4078
	CONNEXUS ENERGY (763) 323-4268
	XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Knight
 DATE 6/29/2022 REG. NO. 48768

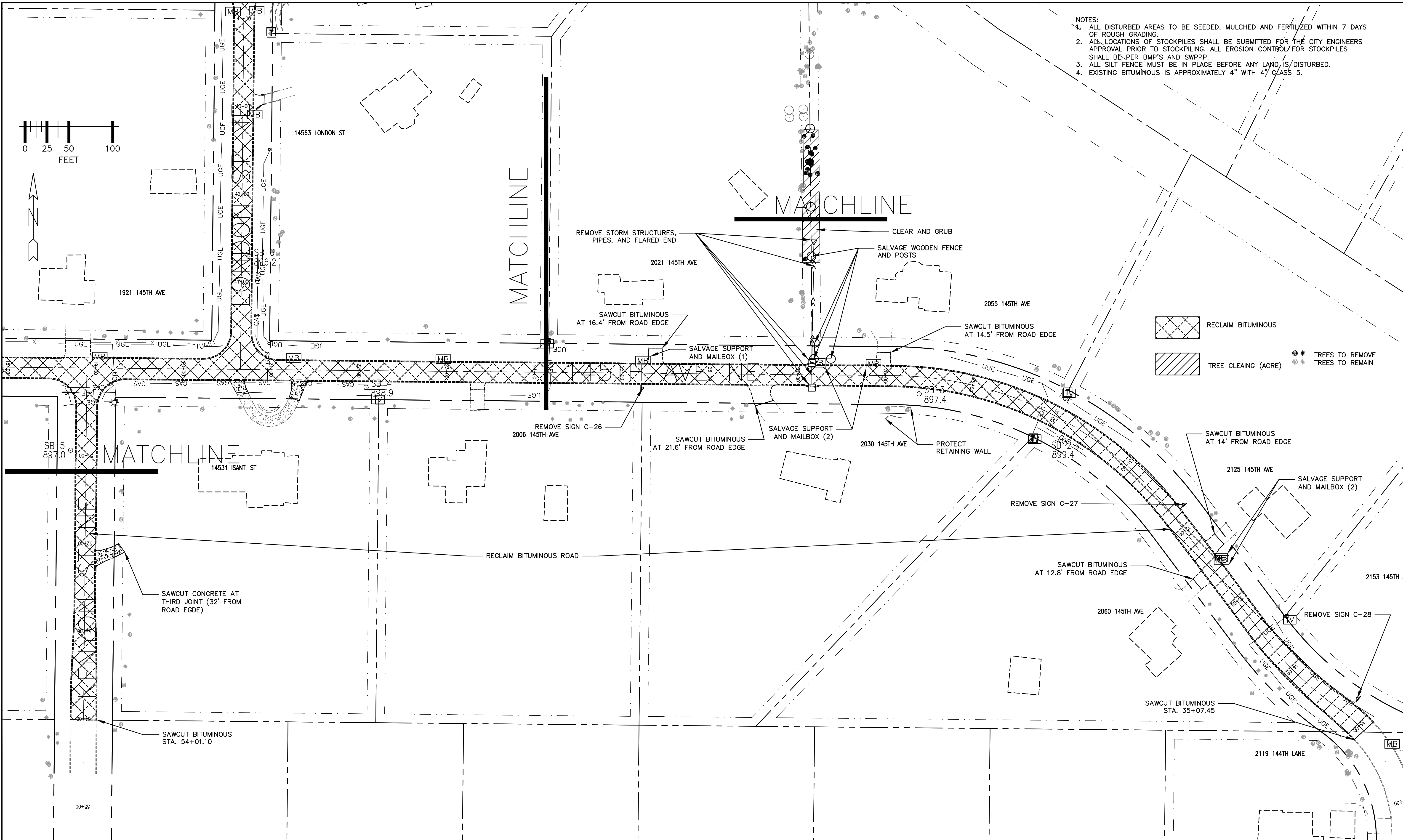
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 REMOVAL PLAN
 WEST HALF OF 145TH AVE & LONDON STREET

DWG: 2105 REMOVAL 1
DATE: 06/29/22
JOB NUMBER: 2105
SHEET: 23 OF 51
FILE: 34-2-135

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



- NOTES:
1. ALL DISTURBED AREAS TO BE SEEDED, MULCHED AND FERTILIZED WITHIN 7 DAYS OF ROUGH GRADING.
 2. ALL LOCATIONS OF STOCKPILES SHALL BE SUBMITTED FOR THE CITY ENGINEERS APPROVAL PRIOR TO STOCKPILING. ALL EROSION CONTROL FOR STOCKPILES SHALL BE PER BMP'S AND SWPPP.
 3. ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.
 4. EXISTING BITUMINOUS IS APPROXIMATELY 4" WITH 4" CLASS 5.



UTILITIES:	CENTURYLINK (763) 712-5017
	CENTERPOINT ENERGY (763) 323-2760
	COMCAST (952) 607-4078
	CONNEXUS ENERGY (763) 323-4268
	XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

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

Dave Krugler
DATE 6/29/2022 REG. NO. 48768

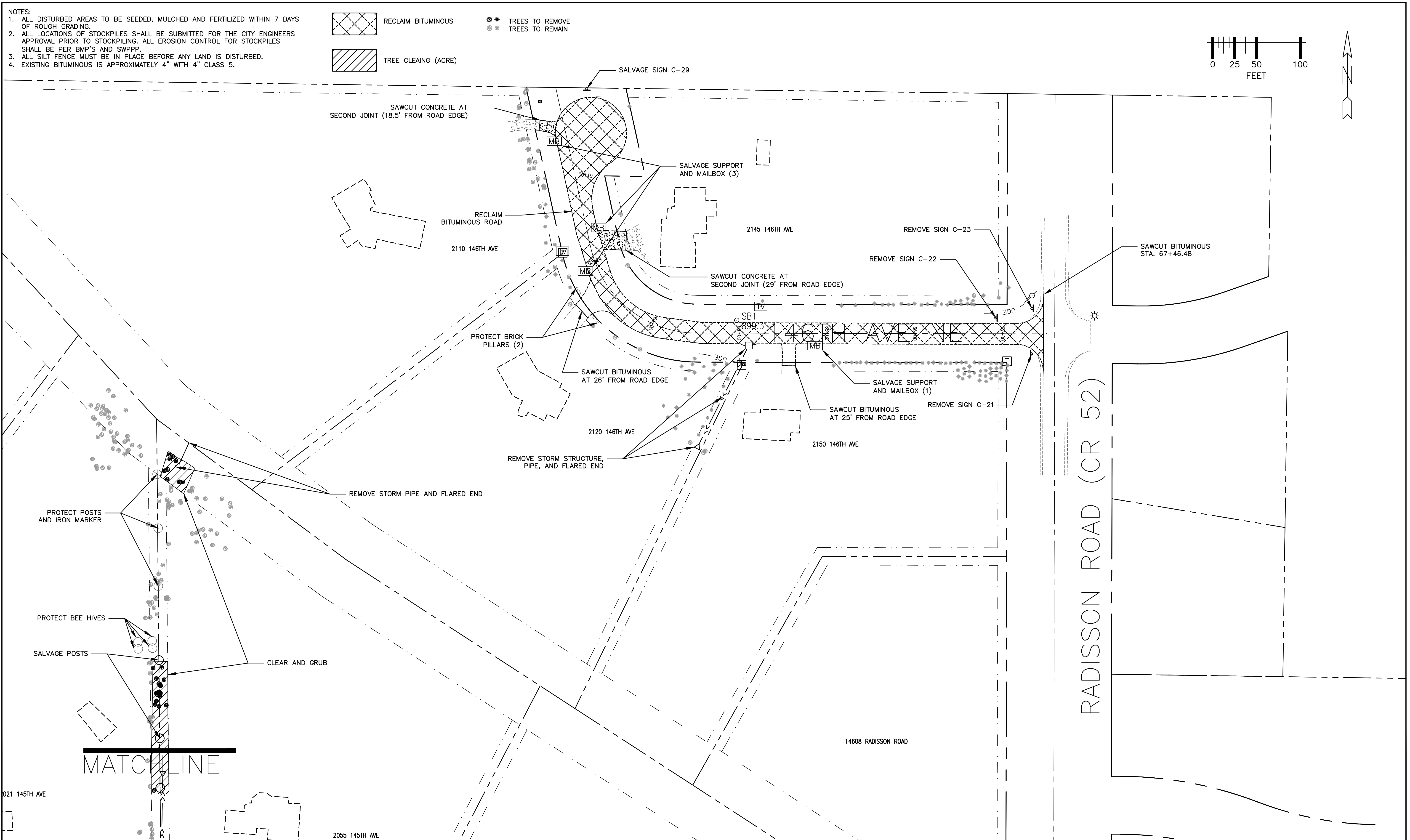
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

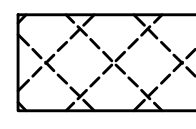

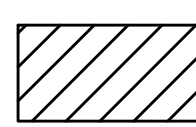

HAM LAKE IMPROVEMENT PROJECT 2105
CREEK VALLEY STREET RECONSTRUCTION
145TH AVE NE, KENYON ST
146TH AVE NE AND LONDON ST
REMOVAL PLAN
EAST HALF OF 145TH AVE & KENYON STREET

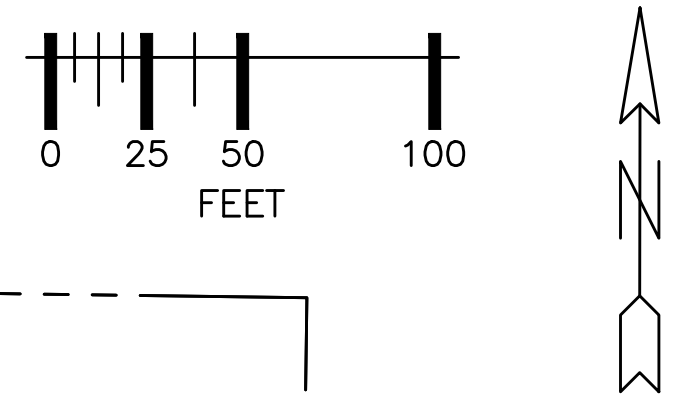
DWG: 2105 REMOVAL 2
DATE: 06/29/22
JOB NUMBER: 2105
SHEET: 24 OF 51
FILE: 34-2-136

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



- NOTES:
1. ALL DISTURBED AREAS TO BE SEEDED, MULCHED AND FERTILIZED WITHIN 7 DAYS OF ROUGH GRADING.
 2. ALL LOCATIONS OF STOCKPILES SHALL BE SUBMITTED FOR THE CITY ENGINEERS APPROVAL PRIOR TO STOCKPILING. ALL EROSION CONTROL FOR STOCKPILES SHALL BE PER BMP'S AND SWPPP.
 3. ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.
 4. EXISTING BITUMINOUS IS APPROXIMATELY 4" WITH 4" CLASS 5.

	RECLAIM BITUMINOUS		TREES TO REMOVE
	TREE CLEANING (ACRE)		TREES TO REMAIN




**GOPHER STATE
ONE CALL**
800-252-1166 651-454-0002

UTILITIES:	CONTACT	PHONE
CENTURYLINK	(763) 712-5017	
CENTERPOINT ENERGY	(763) 323-2760	
COMCAST	(952) 607-4078	
CONNEXUS ENERGY	(763) 323-4268	
XCEL ENERGY	(612) 526-4508	

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

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

Dave Krueger
DATE 6/29/2022 REG. NO. 48768

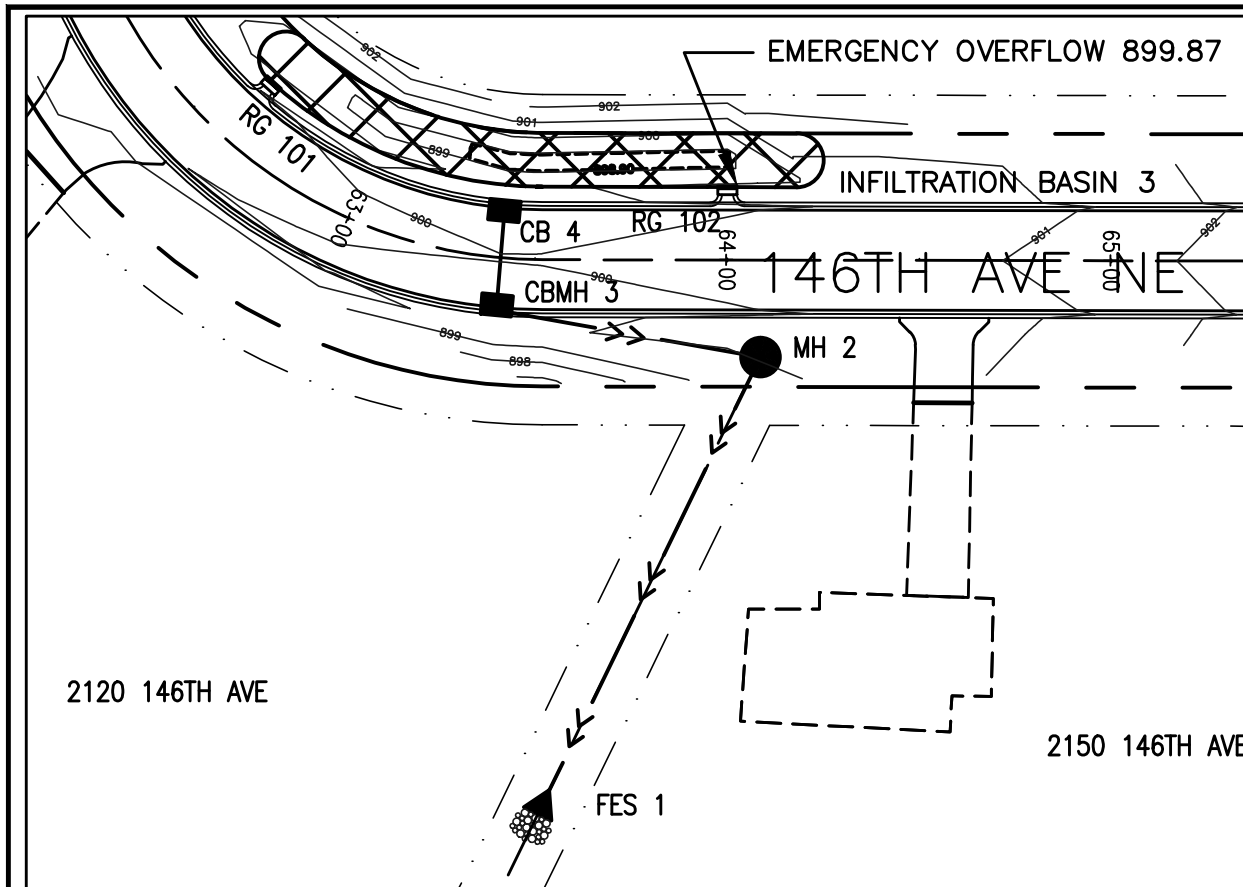
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
CREEK VALLEY STREET RECONSTRUCTION
145TH AVE NE, KENYON ST
146TH AVE NE AND LONDON ST
REMOVAL PLAN
146TH AVE

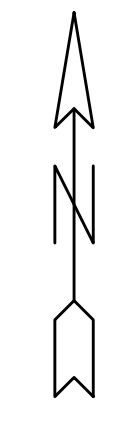
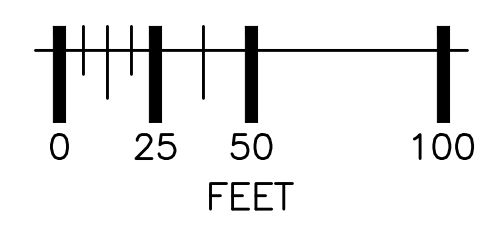
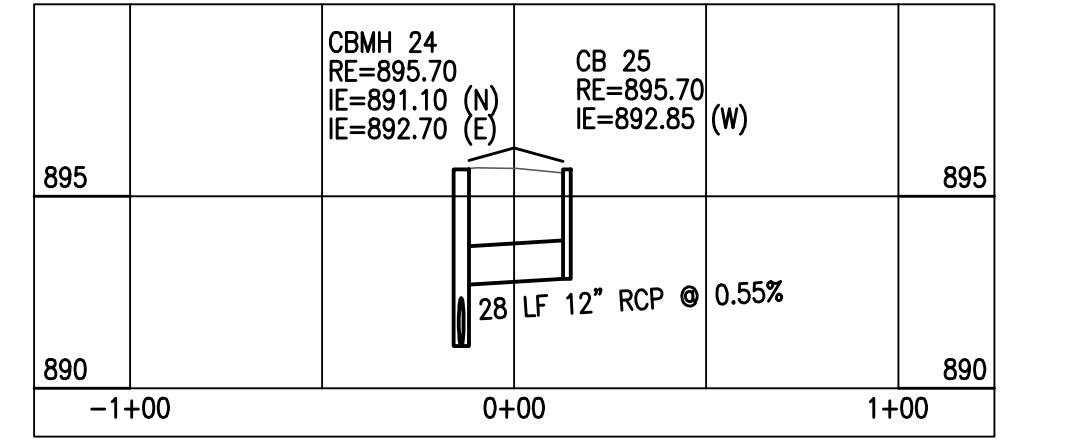
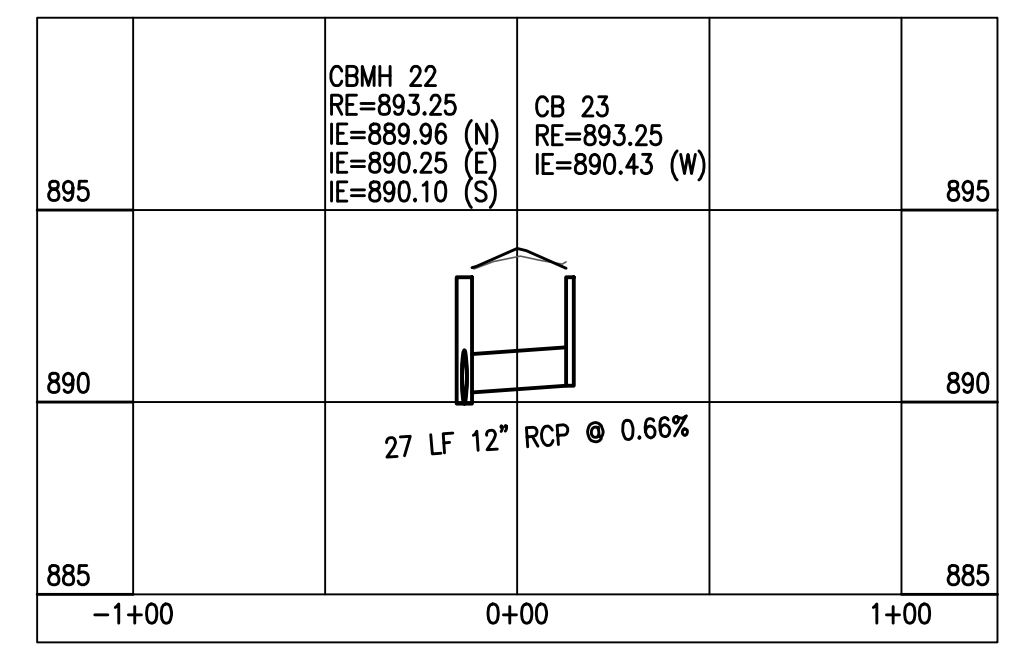
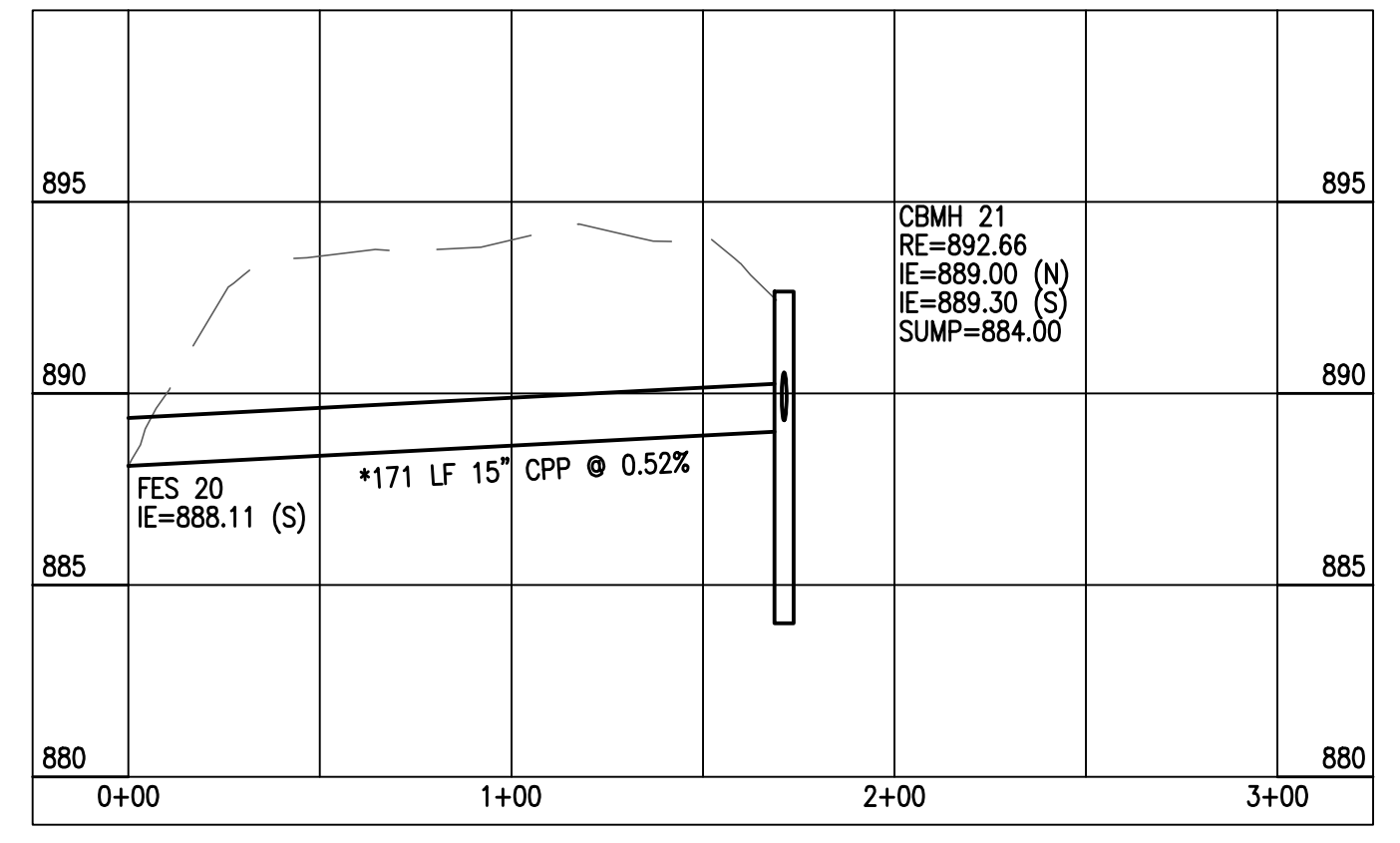
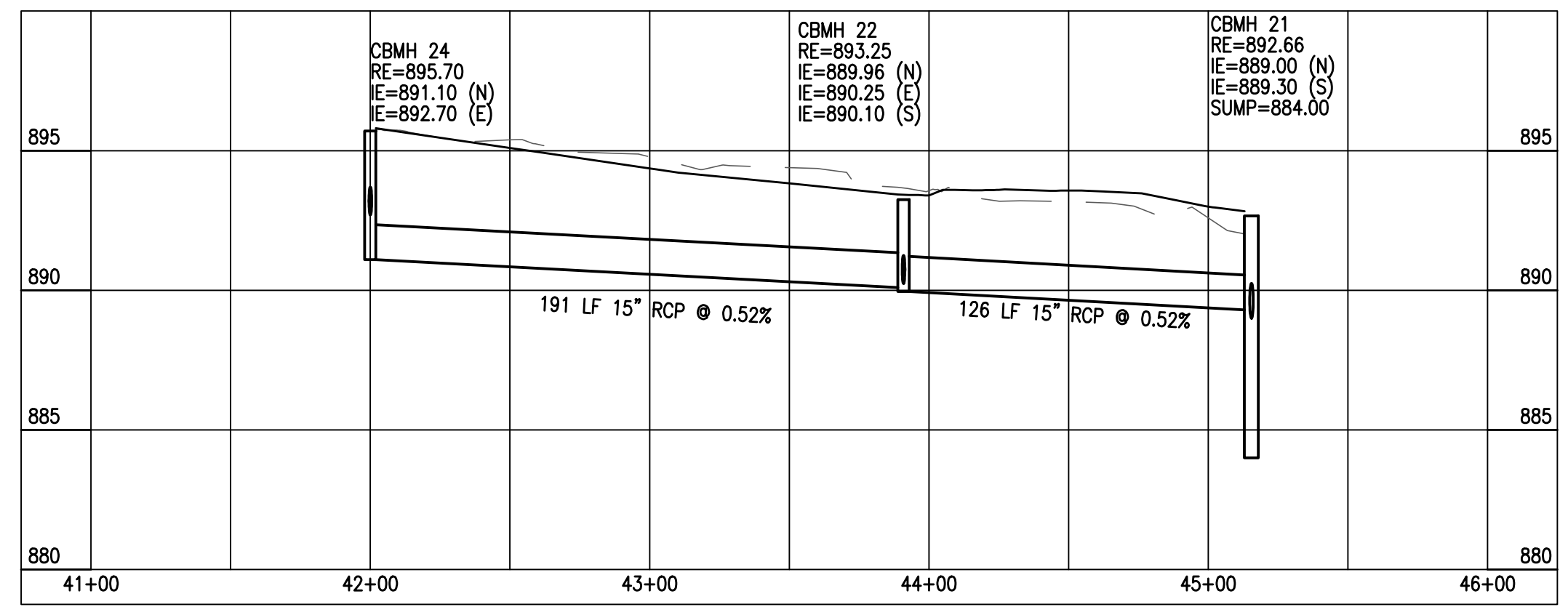
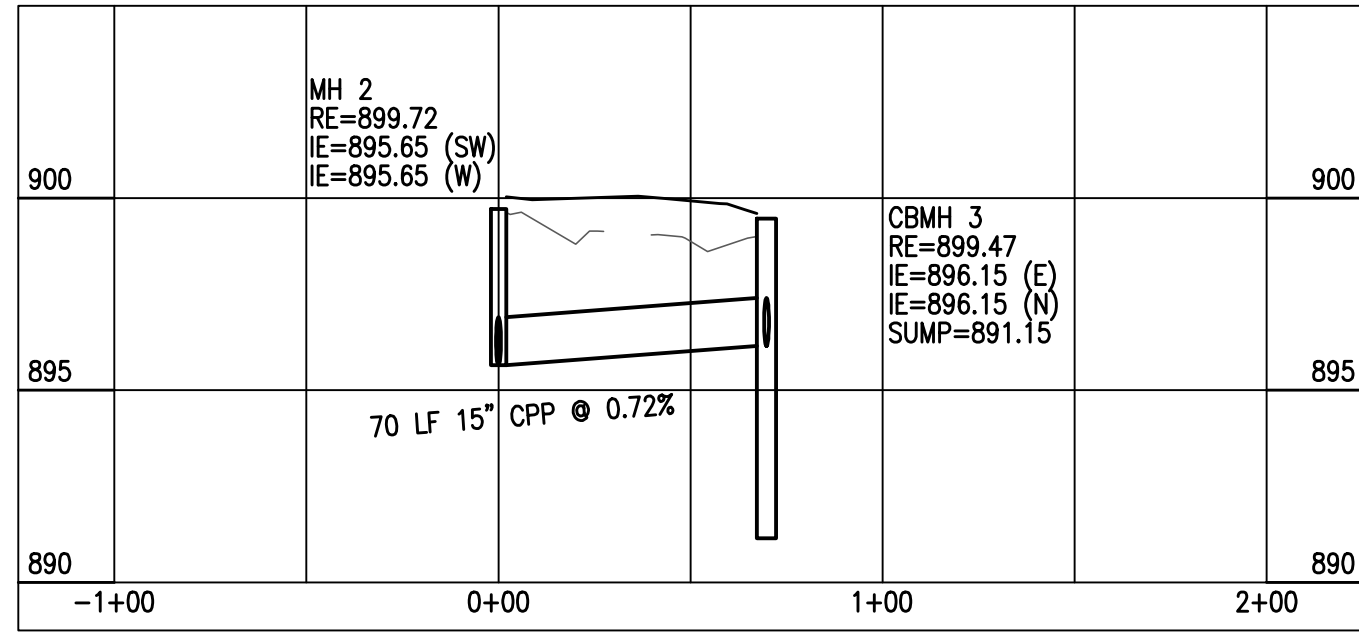
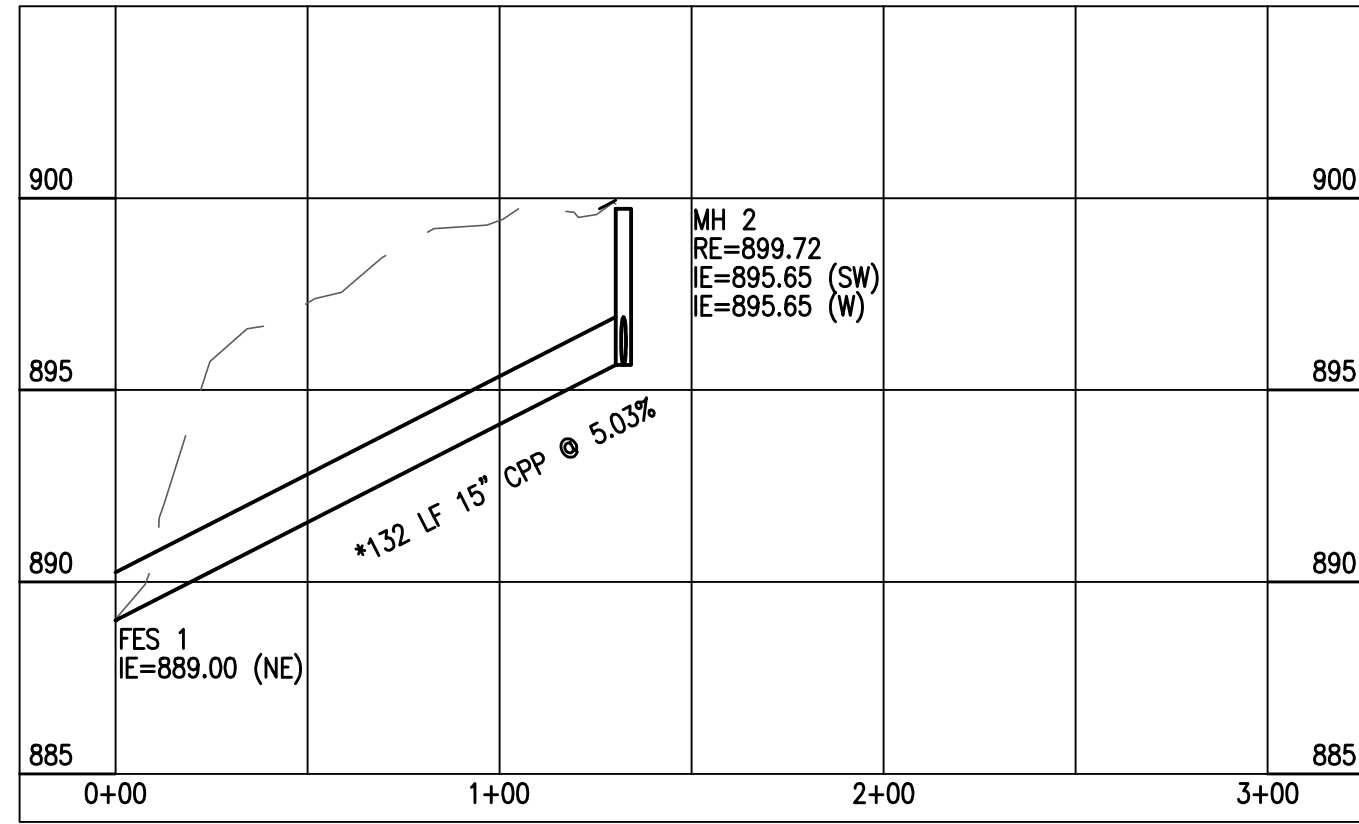
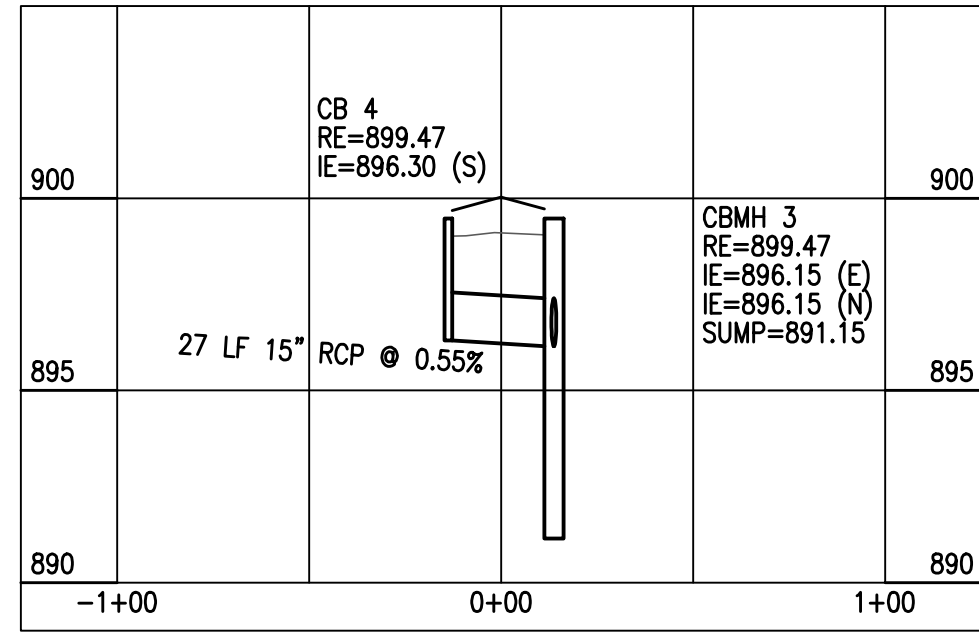
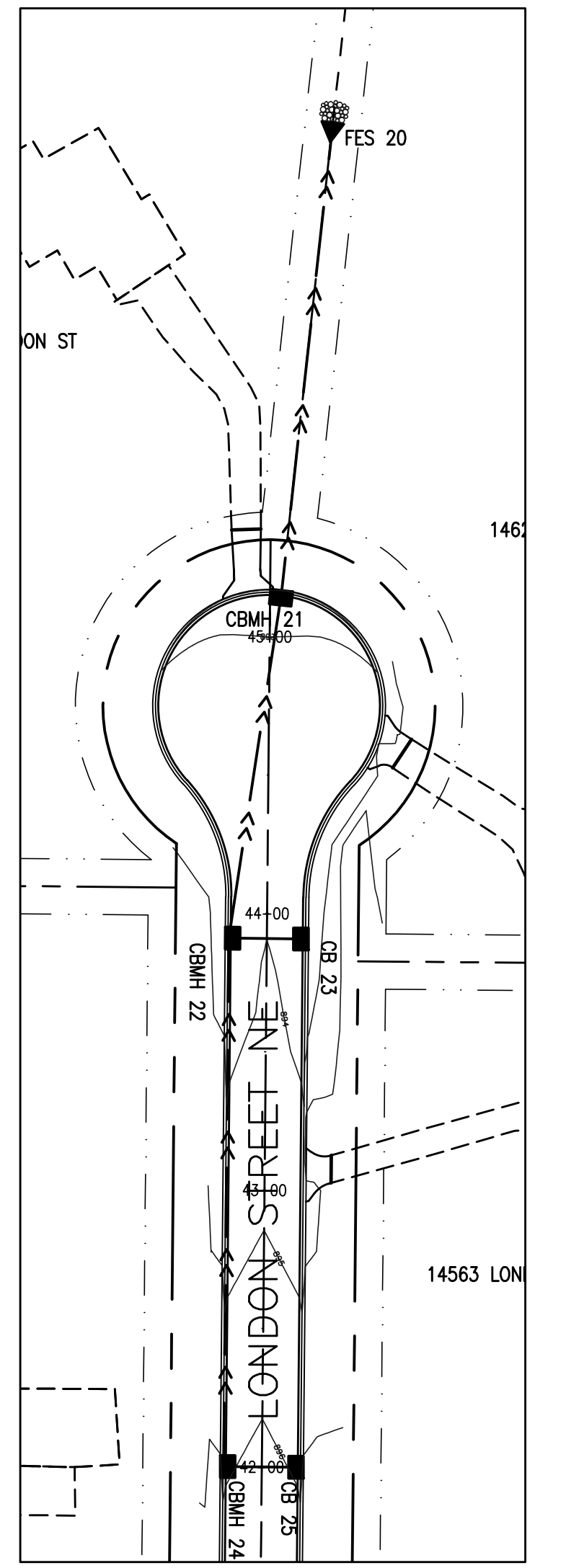
DWG: 2105 REMOVAL 3
DATE: 06/29/22
JOB NUMBER: 2105
SHEET: 25 OF 51
FILE: 34-2-137

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



STORM DRAIN

STRUCTURE	STATION	LOCATION	SIZE OF STRUCTURE	DESIGN	TOP OF CASTING OR INLET	INVERT	CASTING ASSEMBLY (NEENAH, EJ, DL)**	TYPE GRATE (NEENAH CASTINGS)	12"	15"	15"	PIPE APRON	TRASH GUARD	APRON	FLOWS TO	INLET	% GRADE
									R.C.P. LIN FT	R.C.P. LIN FT	C.P.P. LIN FT						
RG 101	62+50	LT.	5' x 2.5'	BUNKER	900.08	899.08											
RG 102	64+00	LT.	5' x 2.5'	BUNKER	899.87	898.87											
CB 4	63+40.9	LT.	2' x 3'	RFC-459B	899.47	896.3	R-3246	c							CBMH 3	896.15	0.55
CBMH 3	63+41.1	RT.	60" ø	RFC-465A3	899.47	896.15	R-3246	c							MH 2	895.65	0.72
MH 2	64+08.6	RT.	48" ø	RFC-465C	899.72	895.65	R-1733	-							FES 1	889.00	5.03
CB 25	42+00	RT.	2' x 3'	RFC-459B	895.7	892.85	R-3246	L							CBMH 24	892.70	0.55
CBMH 24	42+00	LT.	48" ø	RFC-465A1	895.7	891.1	R-3246	L							CBMH 22	890.10	0.52
CB 23	43+90.9	RT.	2' x 3'	RFC-459B	893.25	890.43	R-3246	L							CBMH 22	890.25	0.66
CBMH 22	43+90.9	LT.	48" ø	RFC-465A1	893.25	889.96	R-3246	L							CBMH 21	889.30	0.52
CBMH 21	45+15.5	RT.	60" ø	RFC-465A3	892.66	889	R-3246	c							FES 20	888.11	0.52
TOTALS									55	344	369	4.4	2	2			



- NOTES:**
- ALL DISTURBED AREAS TO BE SEEDED, MULCHED AND FERTILIZED WITHIN 7 DAYS OF ROUGH GRADING.
 - THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
 - ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.
 - ALL REMOVALS TO BE DISPOSED OF LEGALLY.
 - * PIPE LENGTH INCLUDES APRON.
 - ** NEENAH FOUNDRY R-3246; EAST JORDAN IRON WORKS V-4520; D&L FOUNDRY I-1804.



UTILITIES: CENTURYLINK (763) 712-5017
 CENTERPOINT ENERGY (763) 323-2760
 COMCAST (952) 607-4078
 CONNEXUS ENERGY (763) 323-4268
 XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
David R. Krogstad
 DATE 6/29/2022 REG. NO. 48768

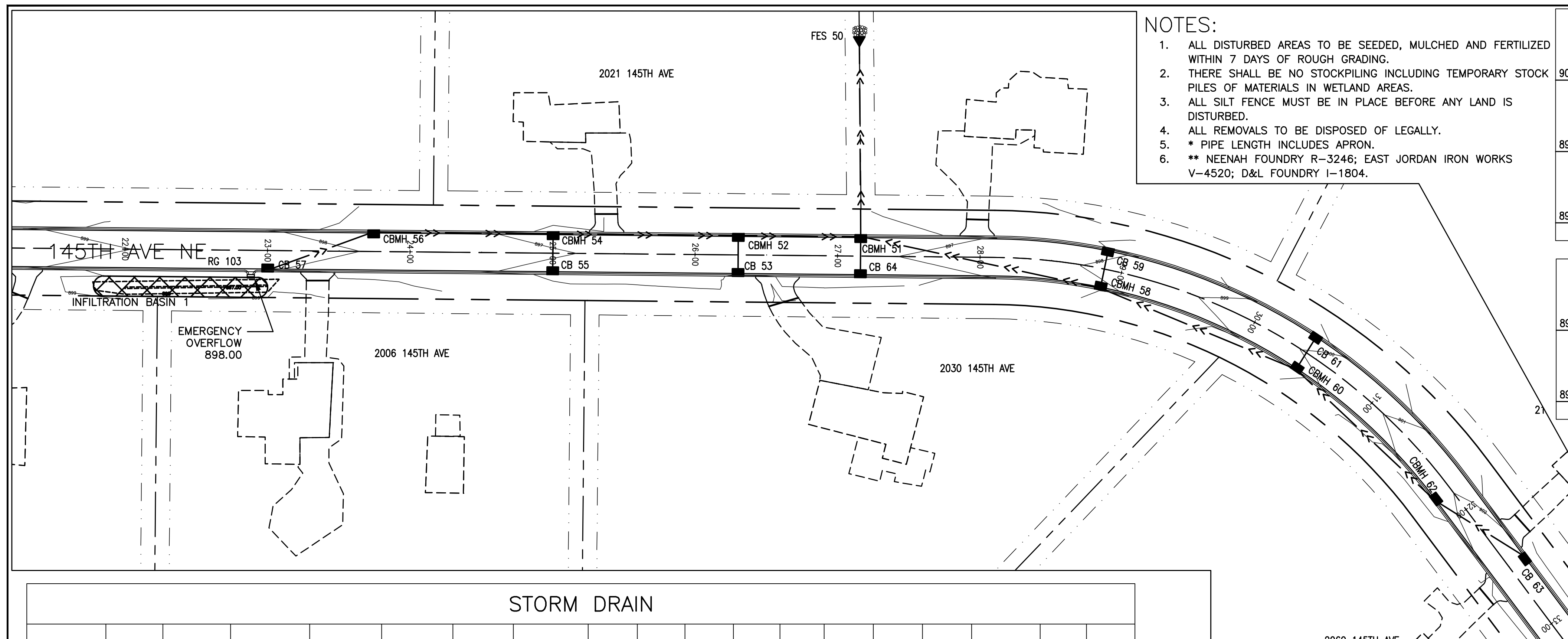
RFC ENGINEERING, INC.
 Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

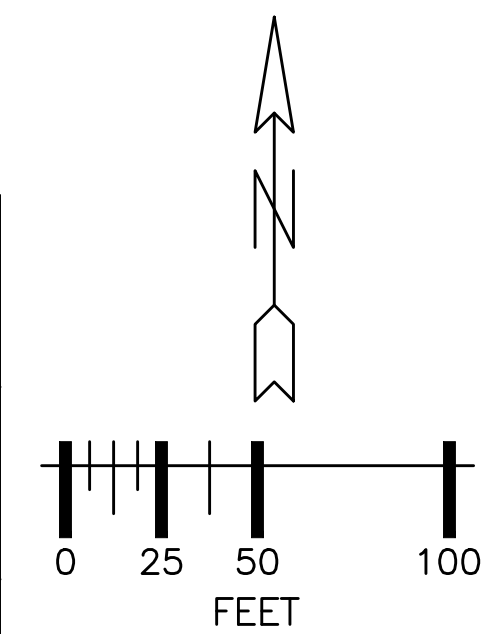
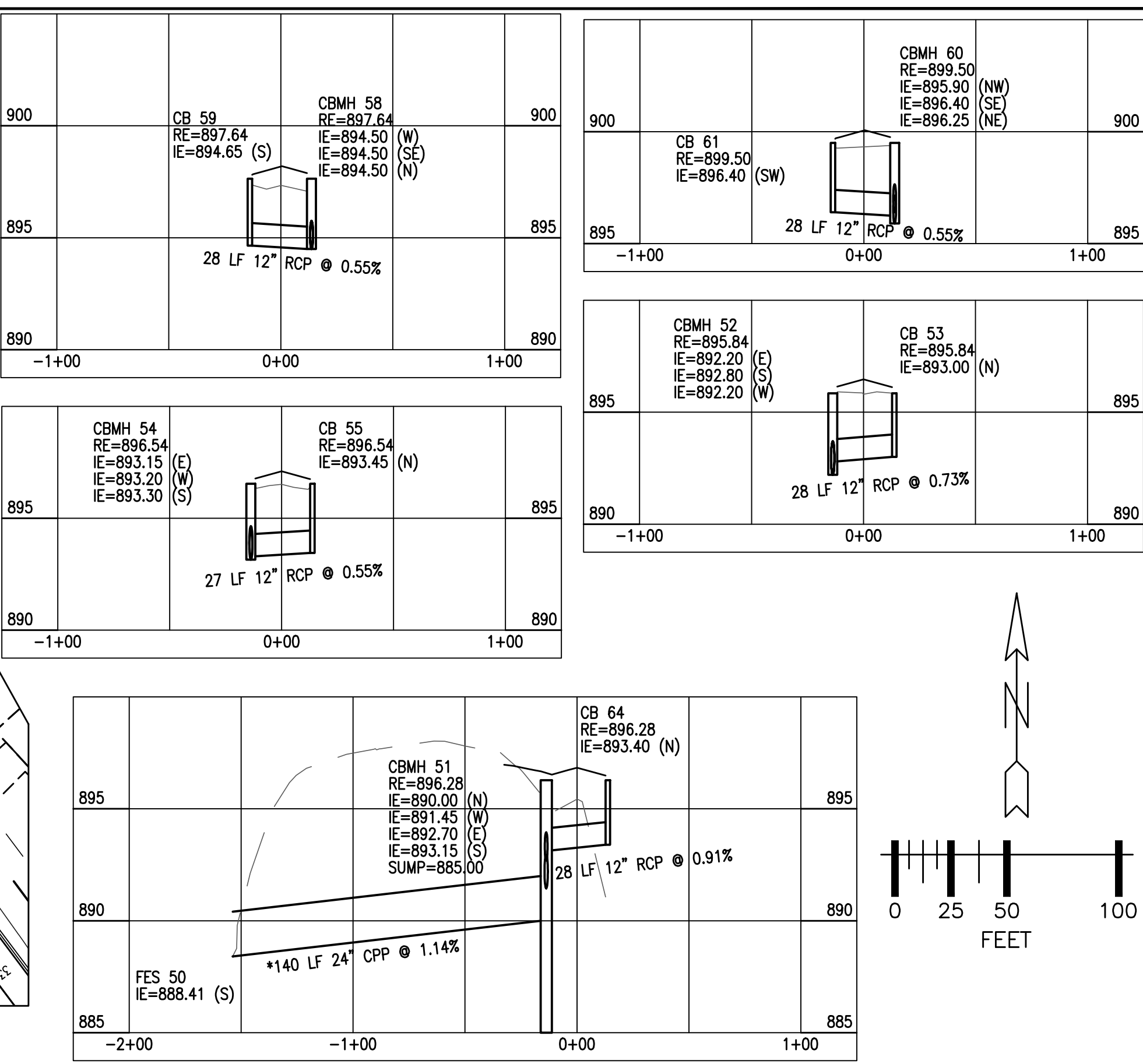
HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 STORM DETAILS
 146TH AVENUE & LONDON STREET

DWG: 2105 STORM 1
 DATE: 06/29/22
 JOB NUMBER: 2105
 SHEET: 26 OF 51
 FILE: 34-2-138

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

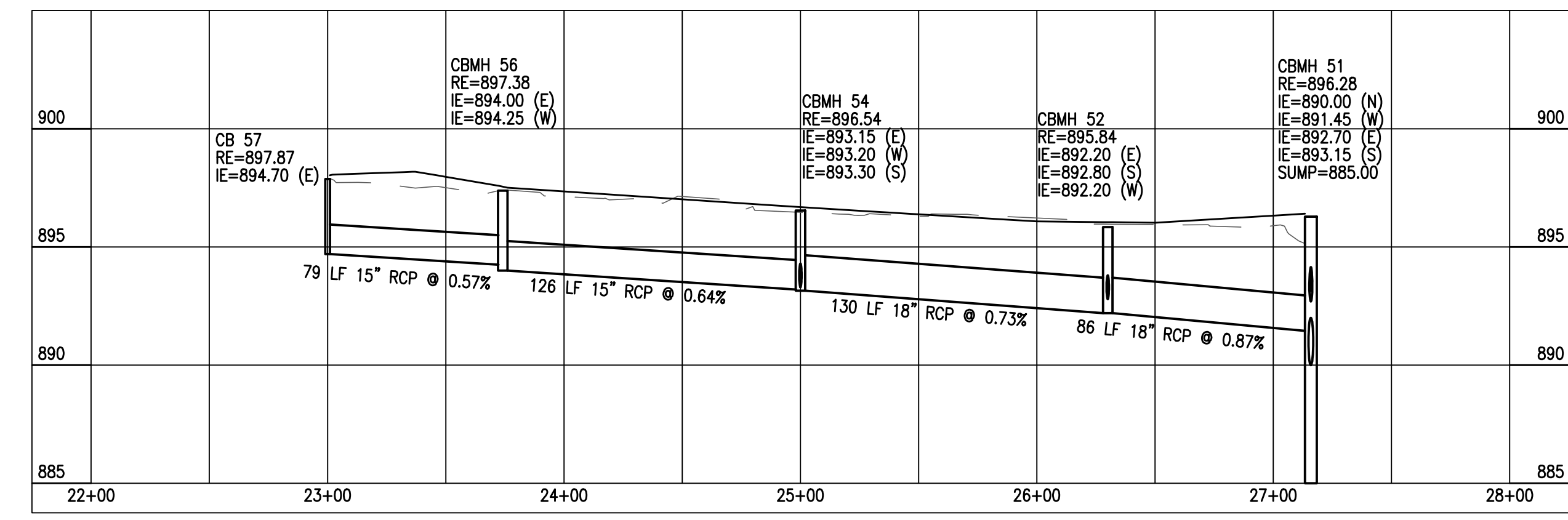
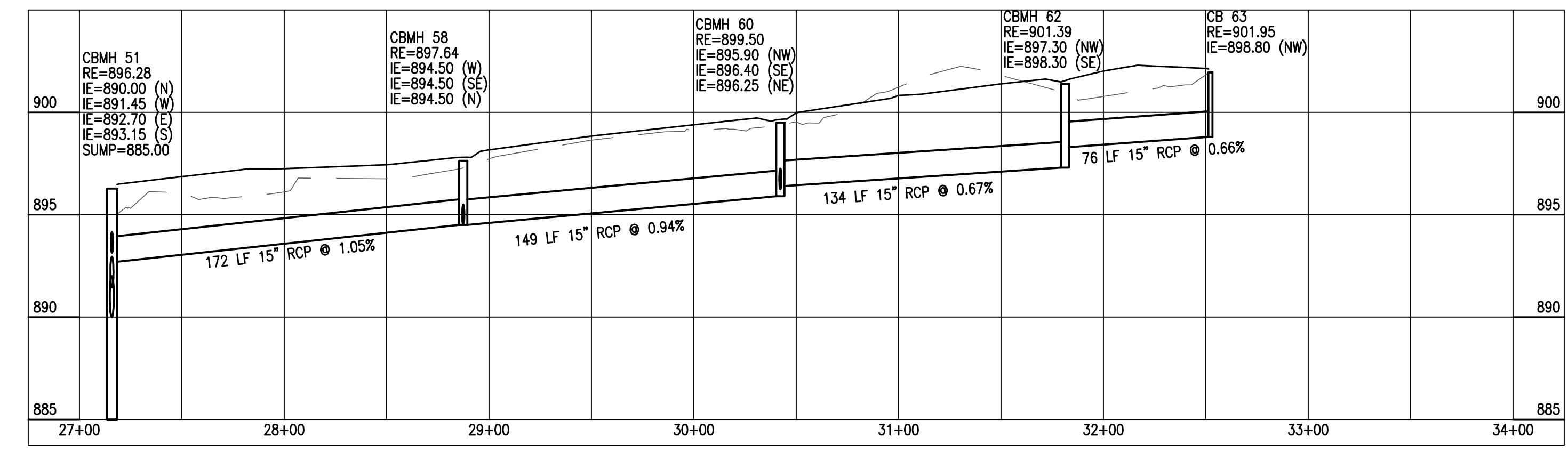


- NOTES:**
1. ALL DISTURBED AREAS TO BE SEEDED, MULCHED AND FERTILIZED WITHIN 7 DAYS OF ROUGH GRADING.
 2. THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
 3. ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.
 4. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
 5. * PIPE LENGTH INCLUDES APRON.
 6. ** NEENAH FOUNDRY R-3246; EAST JORDAN IRON WORKS V-4520; D&L FOUNDRY I-1804.



STORM DRAIN

STRUCTURE	STATION	LOCATION	SIZE OF STRUCTURE	DESIGN	TOP OF CASTING OR INLET	INVERT	CASTING ASSEMBLY (NEENAH, EJ, DL)**	TYPE GRATE (NEENAH CASTINGS)	12"	15"	18"	24"	PIPE APRON	TRASH GUARD	APRON	FLOWS TO	INLET	% GRADE	
									R.C.P. LIN FT	R.C.P. LIN FT	R.C.P. LIN FT	C.P.P. LIN FT							
CB 57	23+00	RT.	2' x 3'	RFC-459B	897.87	894.7	R-3246	L								CBMH 56	894.25	0.57	
CBMH 56	23+74.1	LT.	48" ø	RFC-465A1	897.38	894	R-3246	L		79						CBMH 54	893.20	0.64	
CB 55	25+00	RT.	2' x 3'	RFC-459B	896.54	893.45	R-3246	L		27						CBMH 54	893.30	0.55	
CBMH 54	25+00	LT.	48" ø	RFC-465A1	896.54	893.15	R-3246	L								CBMH 52	892.20	0.73	
CB 53	26+30	RT.	2' x 3'	RFC-459B	895.84	893	R-3246	C		28						CBMH 52	892.80	0.73	
CBMH 52	26+30	LT.	48" ø	RFC-465A1	895.84	892.2	R-3246	C								CBMH 51	891.45	0.87	
CB 63	32+52.2	LT.	2' x 3'	RFC-459B	901.95	898.8	R-3246	L								CBMH 62	898.30	0.66	
CBMH 62	31+81.3	RT.	48" ø	RFC-465A1	901.39	897.3	R-3246	L								CBMH 60	896.40	0.67	
CB 61	30+41.5	LT.	2' x 3'	RFC-459B	899.5	896.4	R-3246	L								CBMH 60	896.25	0.55	
CBMH 60	30+42.3	RT.	48" ø	RFC-465A1	899.5	895.9	R-3246	L		149						CBMH 58	894.50	0.94	
CB 59	28+87.5	LT.	2' x 3'	RFC-459B	897.64	894.65	R-3246	L		28						CBMH 58	894.50	0.55	
CBMH 58	28+87.4	RT.	48" ø	RFC-465A1	897.64	894.5	R-3246	L								CBMH 51	892.70	1.05	
CB 64	27+15.9	RT.	2' x 3'	RFC-459B	896.28	893.4	R-3246	L								CBMH 51	893.15	0.91	
CBMH 51	27+15.9	LT.	60" ø	RFC-465A3	896.28	890	R-3246	L											
RG 103	23+00	RT.	5'x2.5'	BUNKER	898	897							137	3.4	1	1	FES 50	888.41	1.14
TOTALS									139	736	216	137	3.4	1	1				



UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

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

Dave Rugh

DATE 6/29/2022 REG. NO. 48768

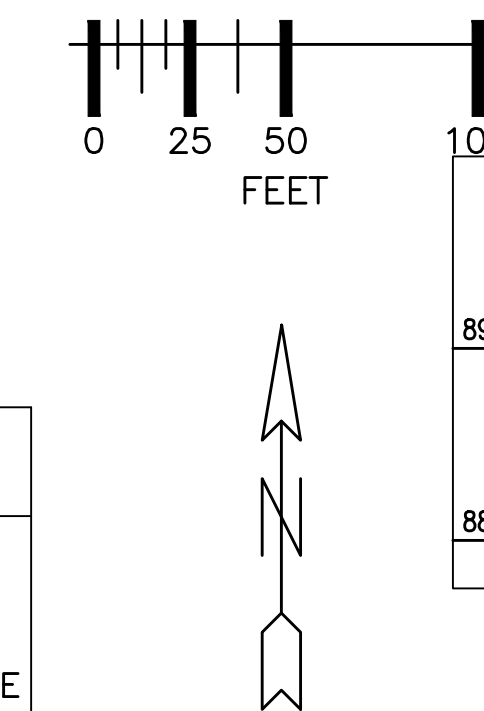
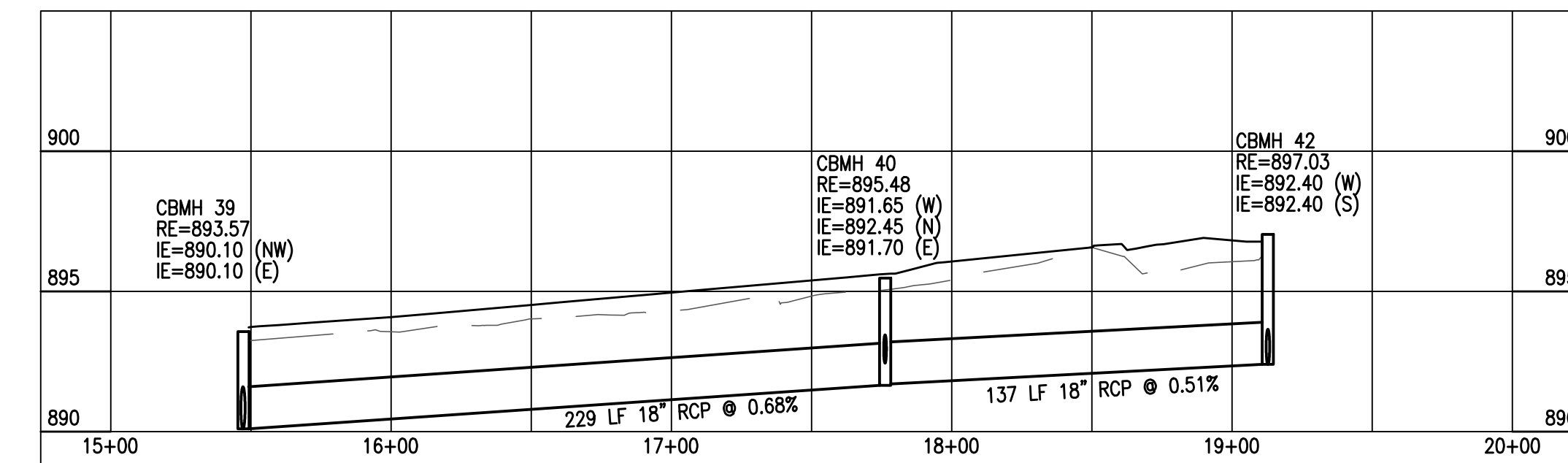
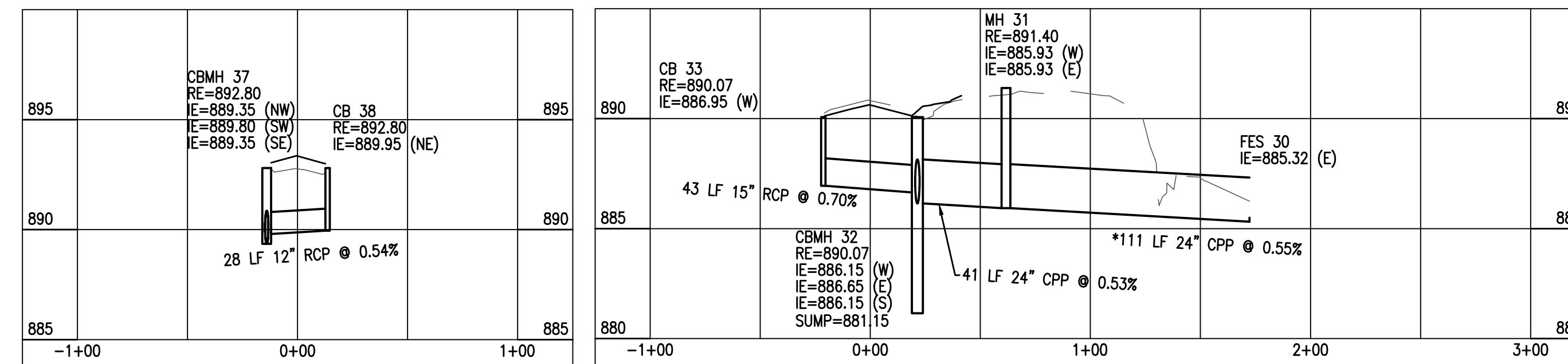
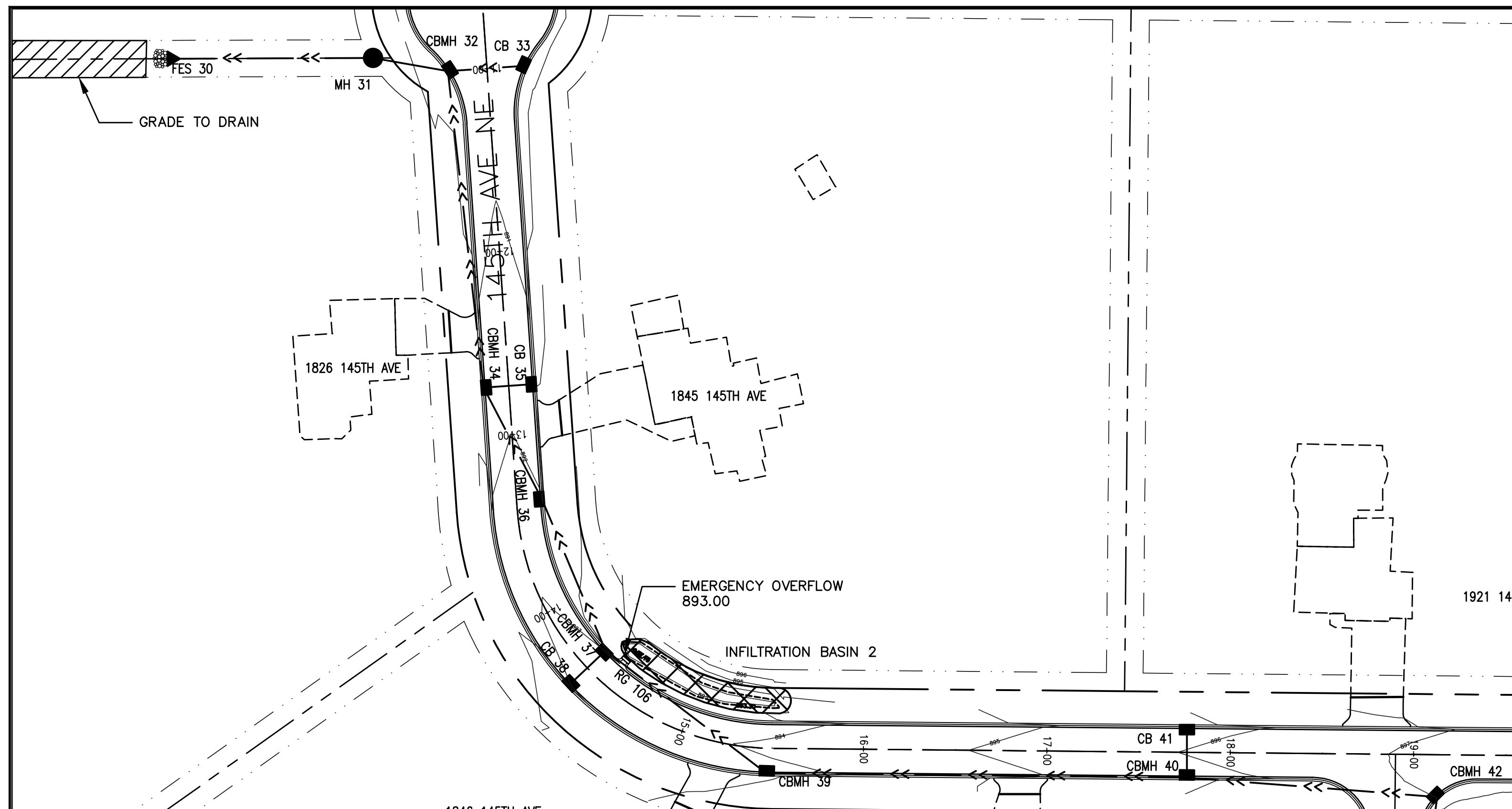
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 STORM DETAILS
 145TH AVENUE - EAST OF LONDON STREET

DWG:	2105 STORM 2
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	27 OF 51
FILE:	34-2-139

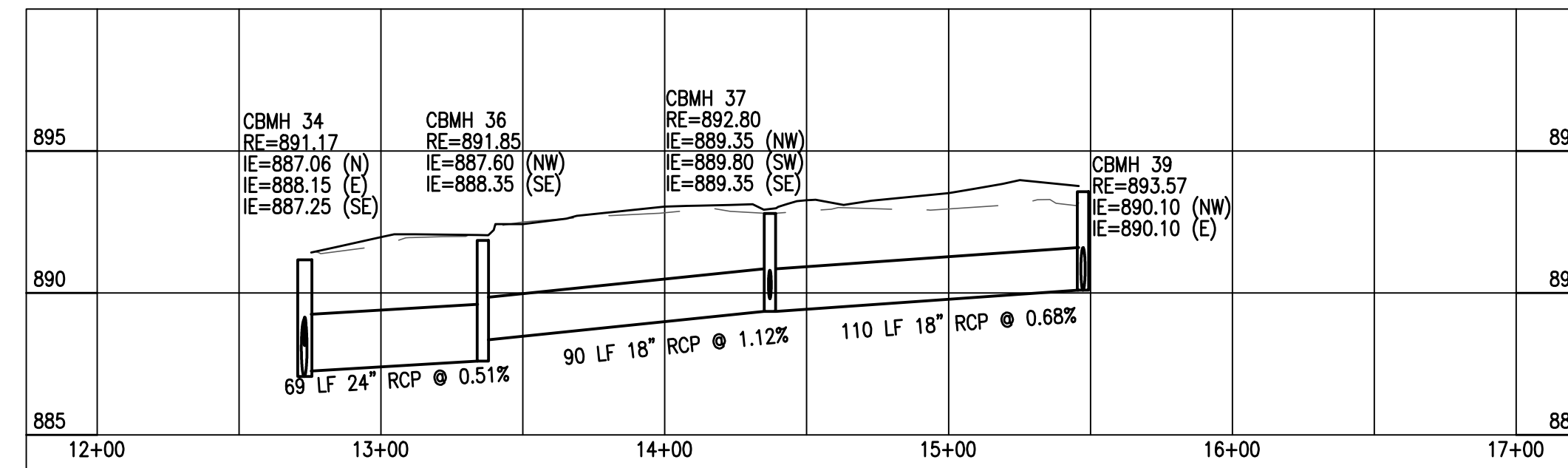
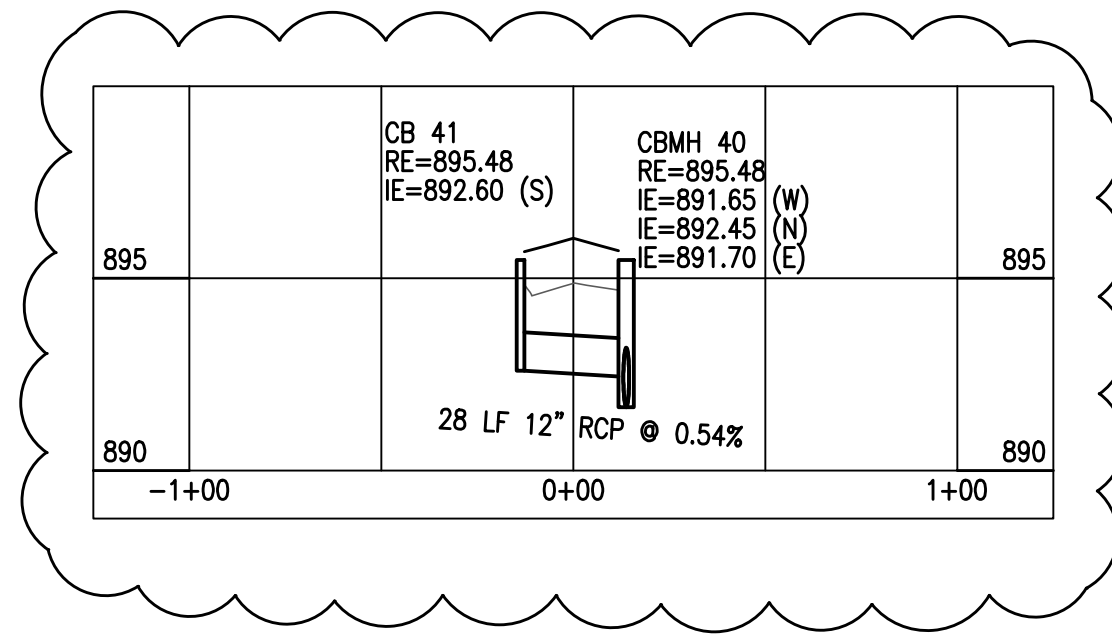
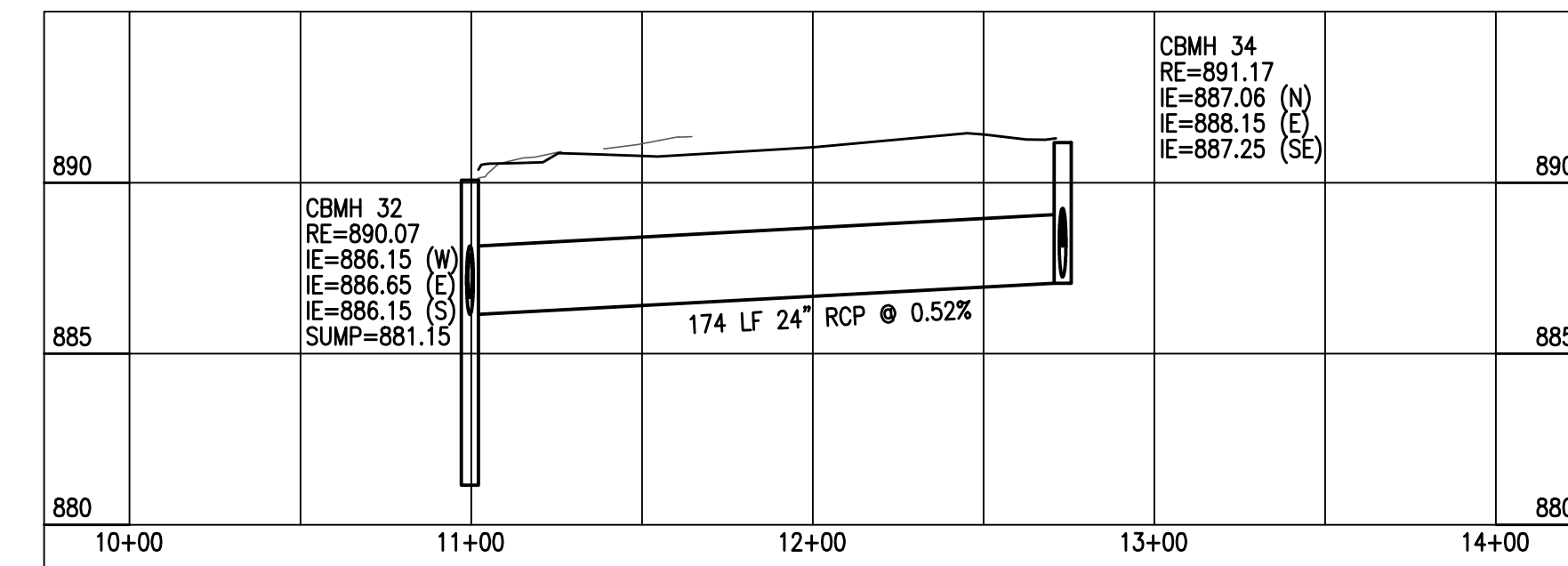
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



- NOTES:**
1. ALL DISTURBED AREAS TO BE SEEDED, MULCHED AND FERTILIZED WITHIN 7 DAYS OF ROUGH GRADING.
 2. THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
 3. ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.
 4. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
 5. * PIPE LENGTH INCLUDES APRON.
 6. ** NEENAH FOUNDRY R-3246; EAST JORDAN IRON WORKS V-4520; D&L FOUNDRY I-1804.

STORM DRAIN

STRUCTURE	STATION	LOCATION	SIZE OF STRUCTURE	DESIGN	TOP OF CASTING OR INLET	INVERT	CASTING ASSEMBLY (NEENAH, EJ, DL)**	TYPE GRATE (NEENAH CASTINGS)	12" R.C.P.	15" R.C.P.	18" R.C.P.	24" R.C.P.	24" C.P.P.	PIPE APRON	TRASH GUARD	APRON	FLOWS TO	INLET	% GRADE
									LIN FT	LIN FT	LIN FT	LIN FT	LIN FT						
CBMH 42	19+12.8	RT.	48" ø	RFC-465A1	897.03	892.4	R-3246	L									CBMH 40	891.70	0.51
CB 41	17+76	LT.	2' x 3'	RFC-459B	895.48	892.6	R-3246	L			137						CBMH 40	892.45	0.54
CBMH 40	17+76.2	RT.	48" ø	RFC-465A1	895.48	891.65	R-3246	L									CBMH 39	890.10	0.68
CBMH 39	15+47.4	RT.	48" ø	RFC-465A1	893.57	890.1	R-3246	L			229						CBMH 37	889.35	0.68
CB 38	14+37	RT.	2' x 3'	RFC-459B	892.8	889.95	R-3246	L			110						CBMH 37	889.80	0.54
CBMH 37	14+37	LT.	48" ø	RFC-465A1	892.8	889.35	R-3246	L									CBMH 36	888.35	1.12
CBMH 36	13+35.9	LT.	48" ø	RFC-465A1	891.85	887.6	R-3246	L									CBMH 34	887.25	0.51
CB 35	12+73.1	LT.	2' x 3'	RFC-459B	891.17	888.3	R-3246	L			69						CBMH 34	888.15	0.55
CBMH 34	12+73.2	RT.	60" ø	RFC-465A1	891.17	887.06	R-3246	L									CBMH 32	886.15	0.52
CB 33	10+99.7	LT.	2' x 3'	RFC-459B	890.07	886.95	R-3246	C					174				CBMH 32	886.65	0.7
CBMH 32	10+99.6	RT.	60" ø	RFC-465A3	890.07	886.15	R-3246	C									MH 31	885.93	0.53
MH 31	10+89.7	RT.	48" ø	RFC-465C	891.4	885.93	R-1733	-					41	3.4	1	1	FES 30	885.32	0.55
RG 106	14+50	LT.	5' x 2.5'	BUNKER	893	892							107	3.4	1	1			
TOTALS									84	43	566	243	148	3.4	1	1			



UTILITIES: CENTURYLINK (763) 712-5017
 CENTERPOINT ENERGY (763) 323-2760
 COMCAST (952) 607-4078
 CONNEXUS ENERGY (763) 323-4268
 XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Rugh
 DATE 6/29/2022 REG. NO. 48768

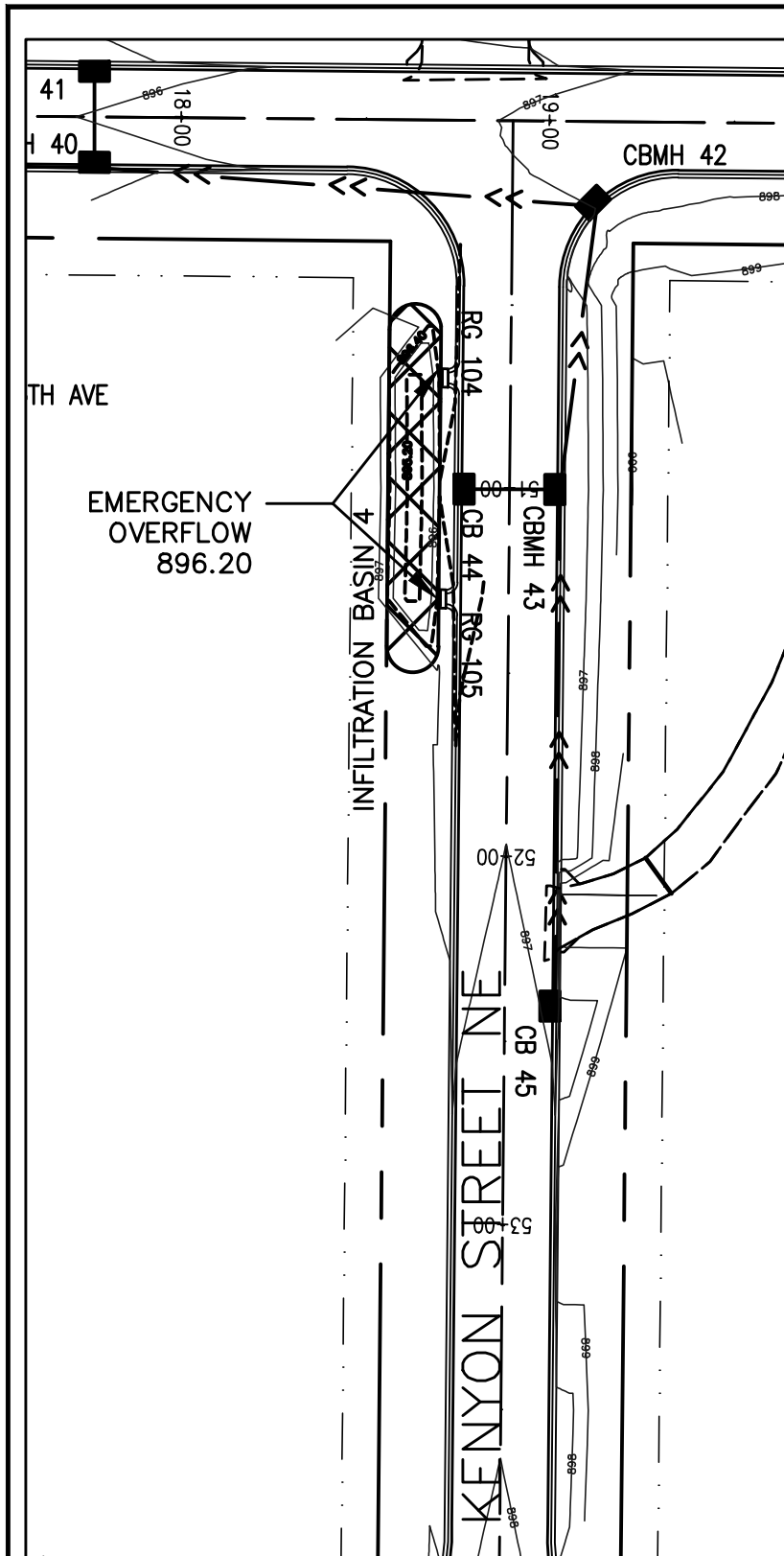
RFC ENGINEERING, INC.
 Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

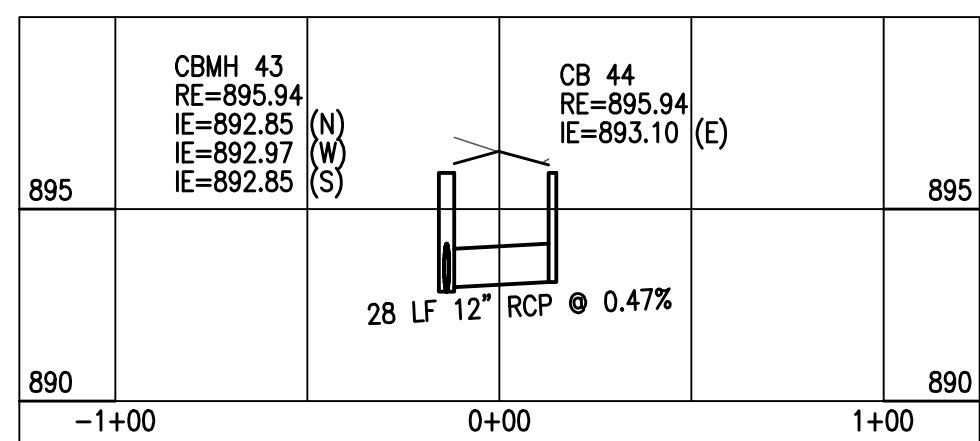
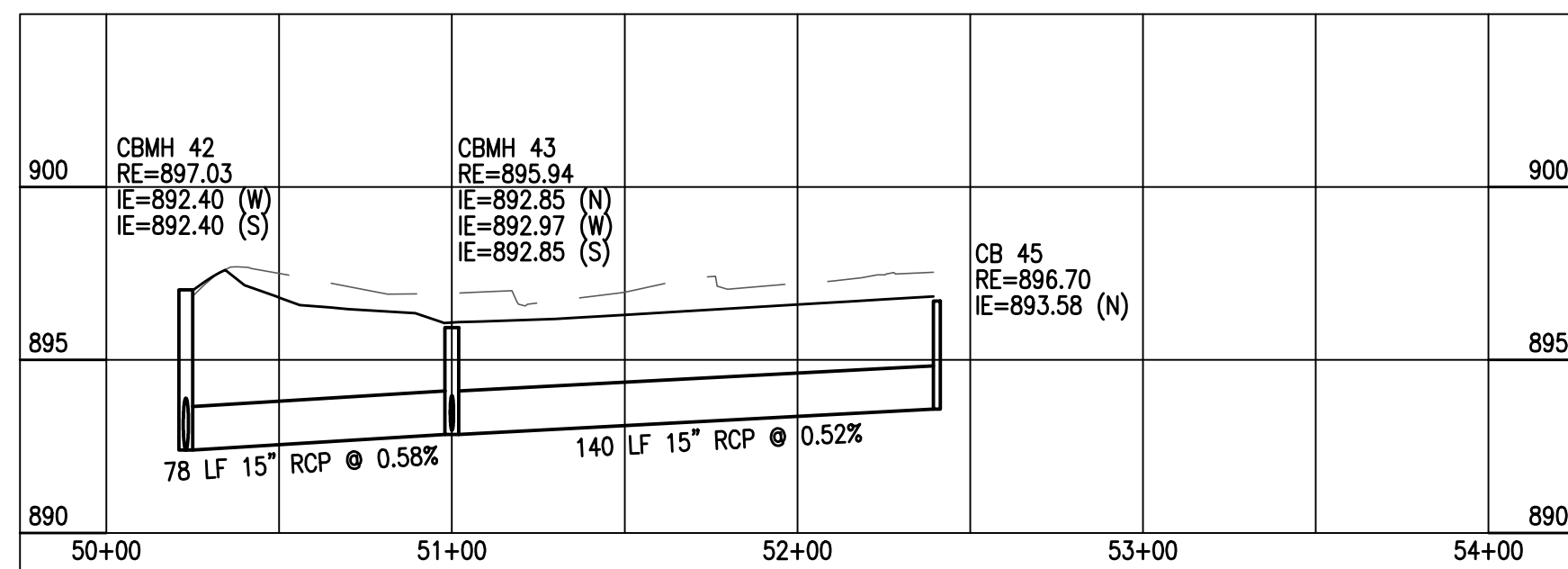
HAM LAKE IMPROVEMENT PROJECT 2105 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 STORM DETAILS
 145TH AVENUE - WEST OF LONDON STREET

DWG: 2105 STORM 3
 DATE: 06/29/22
 JOB NUMBER: 2105
 SHEET: 28 OF 51
 FILE: 34-2-140

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

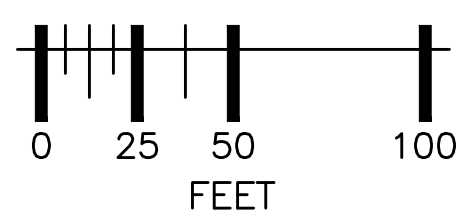


STORM DRAIN																
STRUCTURE	STATION	LOCATION	SIZE OF STRUCTURE	DESIGN	TOP OF CASTING OR INLET	INVERT	CASTING ASSEMBLY (NEENAH, EJ, DL)**	TYPE GRATE (NEENAH CASTINGS)	12" R.C.P.	15" R.C.P.	PIPE APRON	TRASH GUARD	APRON	FLOWS TO	INLET	% GRADE
									LIN FT	LIN FT						
CB 45	52+40.3	LT.	2' x 3'	RFC-459B	896.7	893.58	R-3246	L		140				CBMH 43	892.85	0.52
CB 44	51+00.1	RT.	2' x 3'	RFC-459B	895.94	893.1	R-3246	c	28					CBMH 43	892.97	0.47
CBMH 43	51+00	LT.	48" ø	RFC-465A1	895.94	892.85	R-3246	c		78				CBMH 42	892.40	0.58
RG 104	50+70	RT.	5' x 2.5'	BUNKER	896.2	895.2										
RG 105	51+30	RT.	5' x 2.5'	BUNKER	896.2	895.2										
TOTALS									28	218						



NOTES:

1. ALL DISTURBED AREAS TO BE SEEDED, MULCHED AND FERTILIZED WITHIN 7 DAYS OF ROUGH GRADING.
2. THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
3. ALL SILT FENCE MUST BE IN PLACE BEFORE ANY LAND IS DISTURBED.
4. ALL REMOVALS TO BE DISPOSED OF LEGALLY.
5. * PIPE LENGTH INCLUDES APRON.
6. ** NEENAH FOUNDRY R-3246; EAST JORDAN IRON WORKS V-4520; D&L FOUNDRY I-1804.



UTILITIES: CENTURYLINK (763) 712-5017
 CENTERPOINT ENERGY (763) 323-2760
 COMCAST (952) 607-4078
 CONNEXUS ENERGY (763) 323-4268
 XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
 DATE 6/29/2022 REG. NO. 48768

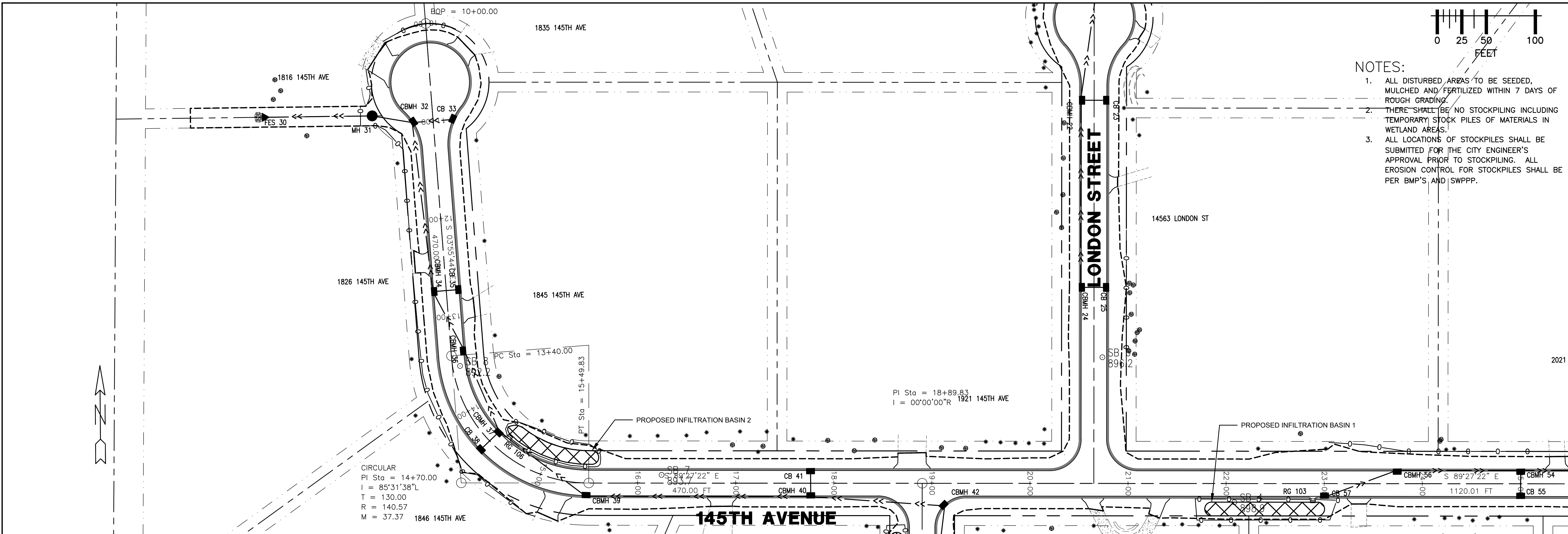
RFC ENGINEERING, INC.
 Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

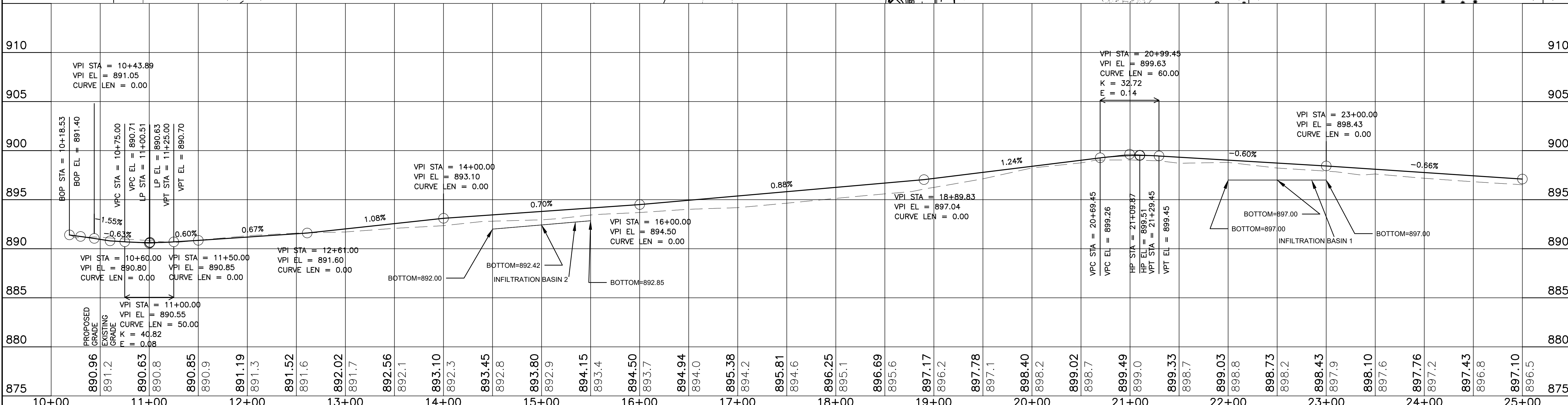
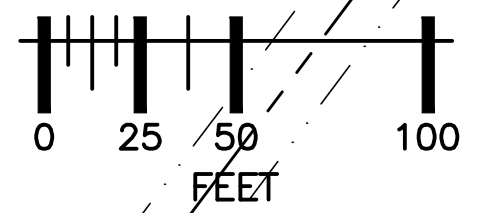
HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 STORM DETAILS
 KENYON STREET

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

DWG: 2105 STORM 4
 DATE: 06/29/22
 JOB NUMBER: 2105
 SHEET: 29 OF 51
 FILE: 34-2-141



- NOTES:**
1. ALL DISTURBED AREAS TO BE SEEDED, MULCHED AND FERTILIZED WITHIN 7 DAYS OF ROUGH GRADING.
 2. THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
 3. ALL LOCATIONS OF STOCKPILES SHALL BE SUBMITTED FOR THE CITY ENGINEER'S APPROVAL PRIOR TO STOCKPILING. ALL EROSION CONTROL FOR STOCKPILES SHALL BE PER BMP'S AND SWPPP.



Gopher State One Call
 800-252-1166 651-454-0002
 PLOT DATE: 10/10/2022 16:30

UTILITIES:
 CENTURYLINK (763) 712-5017
 CENTERPOINT ENERGY (763) 323-2760
 COMCAST (952) 607-4078
 CONNEXUS ENERGY (763) 323-4268
 XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
 DATE 6/29/2022 REG. NO. 48768

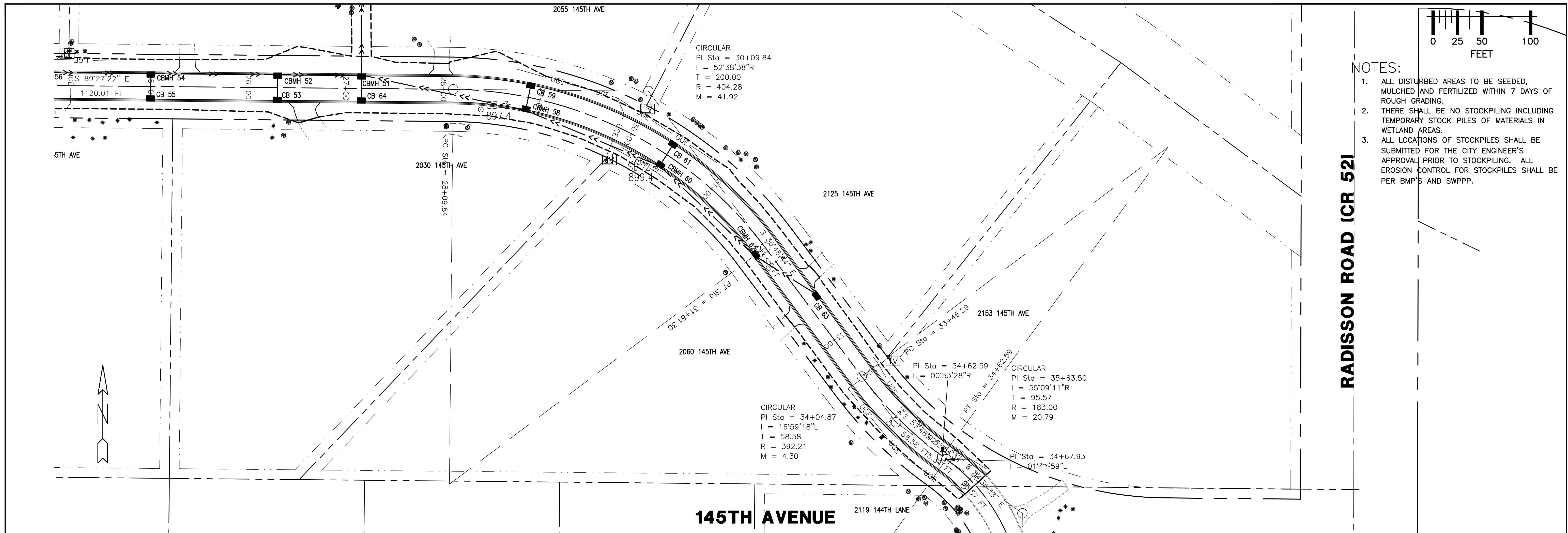
RFC ENGINEERING, INC.
 Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 145TH AVENUE
 PLAN AND PROFILE

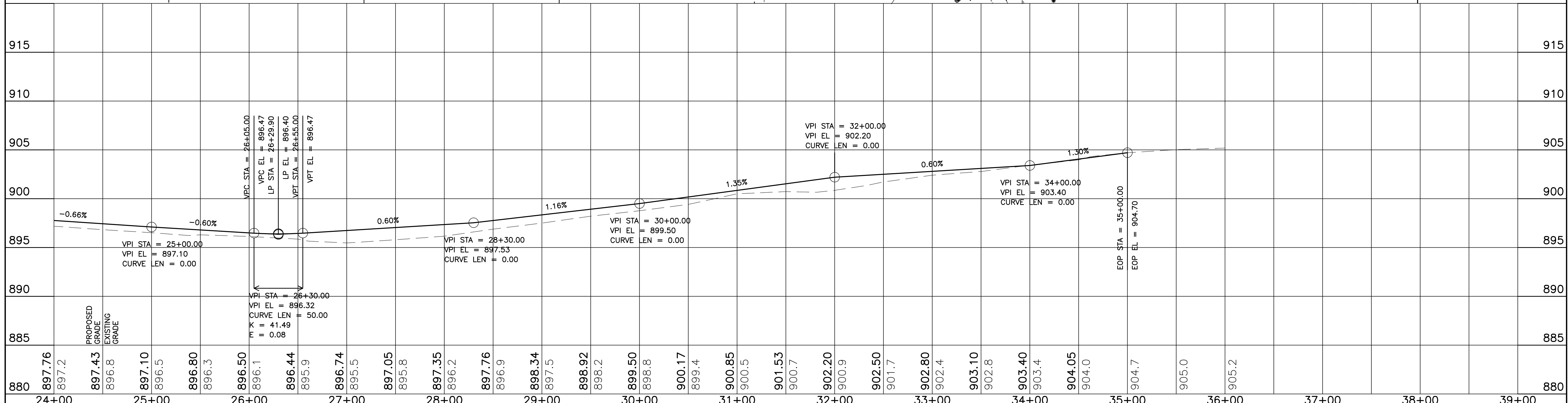
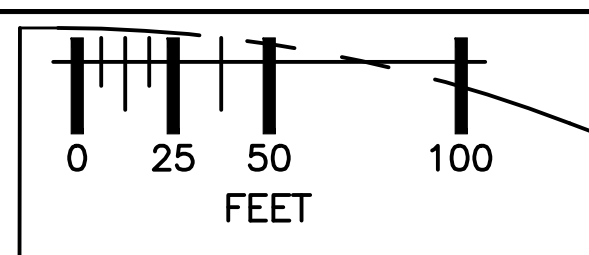
DWG:	RCP03021
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	30 OF 51
FILE:	34-2-142

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



- NOTES:**
1. ALL DISTURBED AREAS TO BE SEEDED, MULCHED AND FERTILIZED WITHIN 7 DAYS OF ROUGH GRADING.
 2. THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
 3. ALL LOCATIONS OF STOCKPILES SHALL BE SUBMITTED FOR THE CITY ENGINEER'S APPROVAL PRIOR TO STOCKPILING. ALL EROSION CONTROL FOR STOCKPILES SHALL BE PER BMP'S AND SWPPP.

RADISSON ROAD (CR 52)



GOPHER STATE ONE CALL
800-252-1166 651-454-0002
PLOT DATE: 10/10/2022 16:30

UTILITIES:
CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
DATE 6/29/2022 REG. NO. 48768

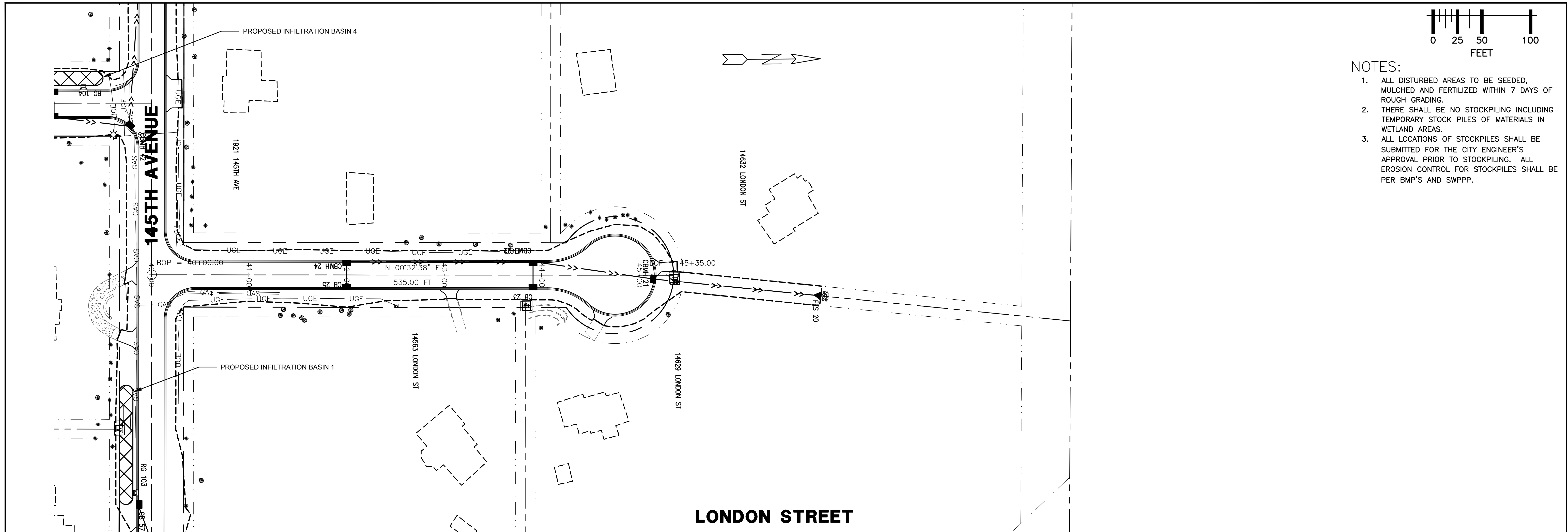
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

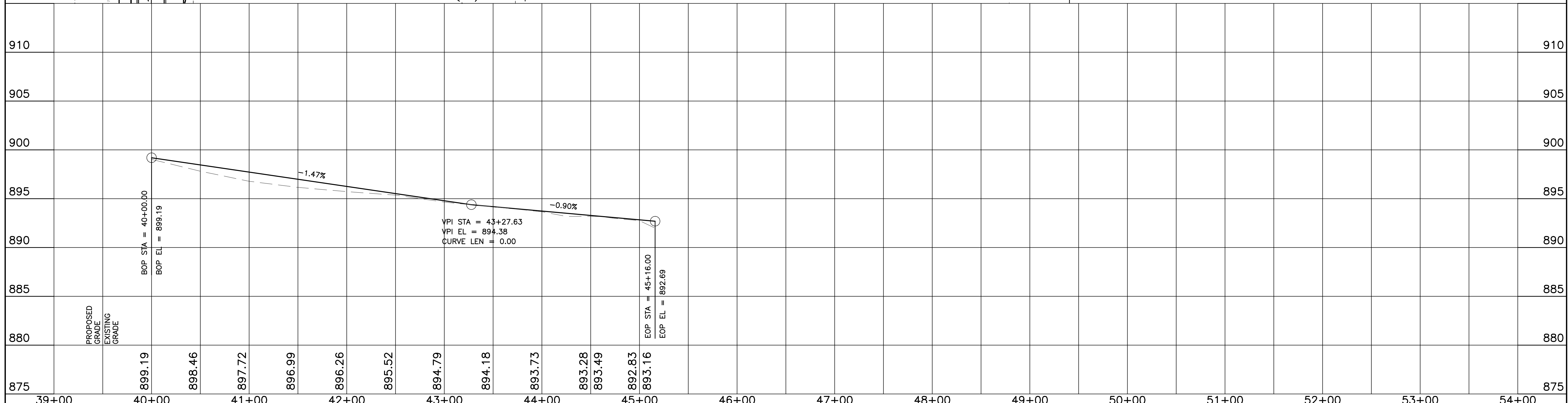
HAM LAKE IMPROVEMENT PROJECT 2105
CREEK VALLEY STREET RECONSTRUCTION
145TH AVE NE, KENYON ST
146TH AVE NE AND LONDON ST
145TH AVENUE
PLAN AND PROFILE

DWG:	RCP01021
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	31 OF 51
FILE:	34-2-143

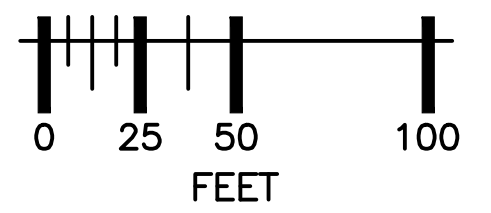
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



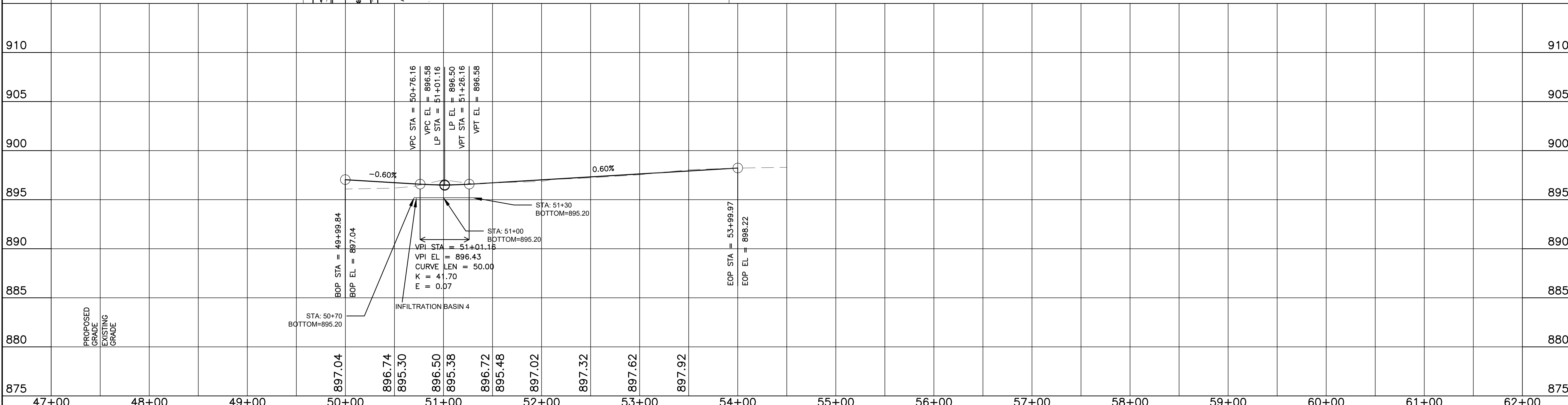
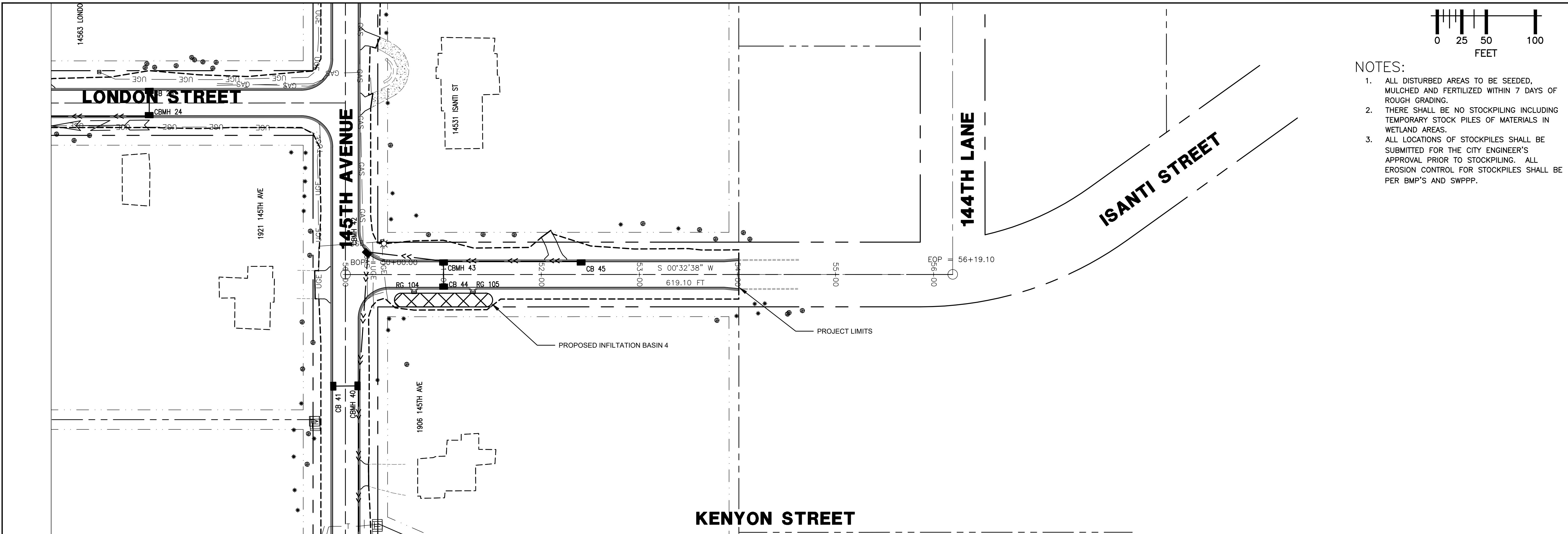
- NOTES:**
1. ALL DISTURBED AREAS TO BE SEEDED, MULCHED AND FERTILIZED WITHIN 7 DAYS OF ROUGH GRADING.
 2. THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
 3. ALL LOCATIONS OF STOCKPILES SHALL BE SUBMITTED FOR THE CITY ENGINEER'S APPROVAL PRIOR TO STOCKPILING. ALL EROSION CONTROL FOR STOCKPILES SHALL BE PER BMP'S AND SWPPP.



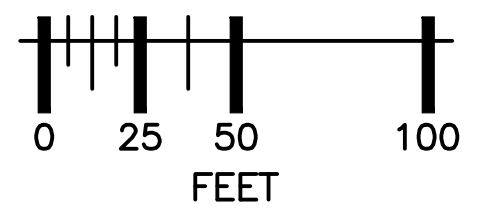
<p>800-252-1166 651-454-0002</p> <p>UTILITY: CENTURYLINK (763) 712-5017 CENTERPOINT ENERGY (763) 323-2760 COMCAST (952) 607-4078 CONNEXUS ENERGY (763) 323-4268 XCEL ENERGY (612) 526-4508</p>	DATE: 10/10/22	REVISION HISTORY: INTERNAL REVIEW	<p>HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.</p> <p><i>Dave Krueger</i></p> <p>DATE 6/29/2022 REG. NO. 48768</p>	<p>RFC ENGINEERING, INC. Consulting Engineers</p>	<p>13635 Johnson Street Ham Lake, MN 55304 Telephone 763-862-8000 Fax 763-862-8042</p>	<p>HAM LAKE IMPROVEMENT PROJECT 2105 CREEK VALLEY STREET RECONSTRUCTION 145TH AVE NE, KENYON ST 146TH AVE NE AND LONDON ST LONDON STREET PLAN AND PROFILE</p>	DWG: RCP01022
							DATE: 06/29/22
							JOB NUMBER: 2105
						SHEET: 33 OF 51	
						FILE: 34-2-145	



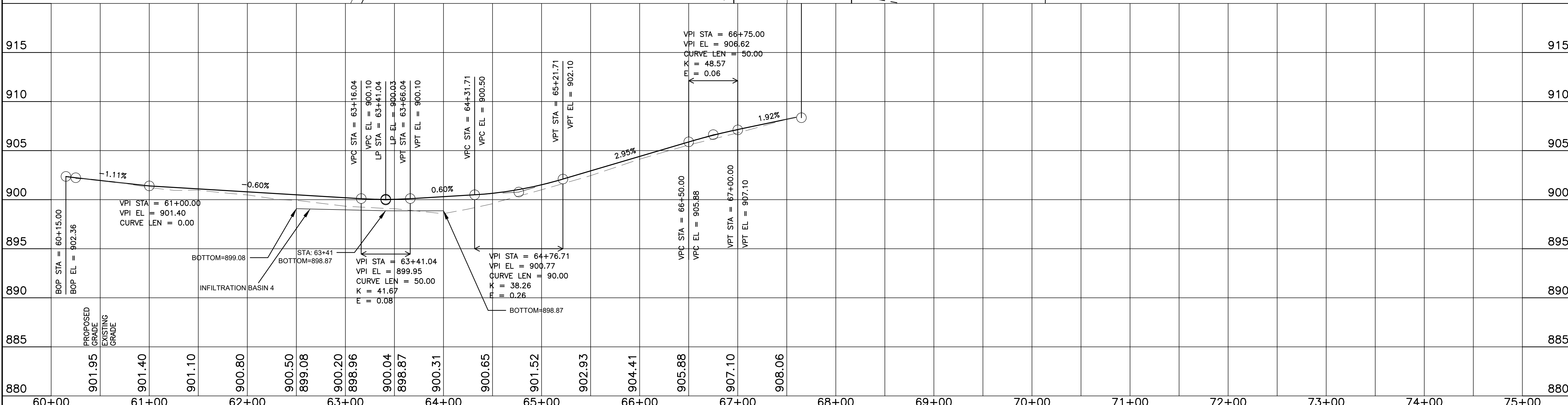
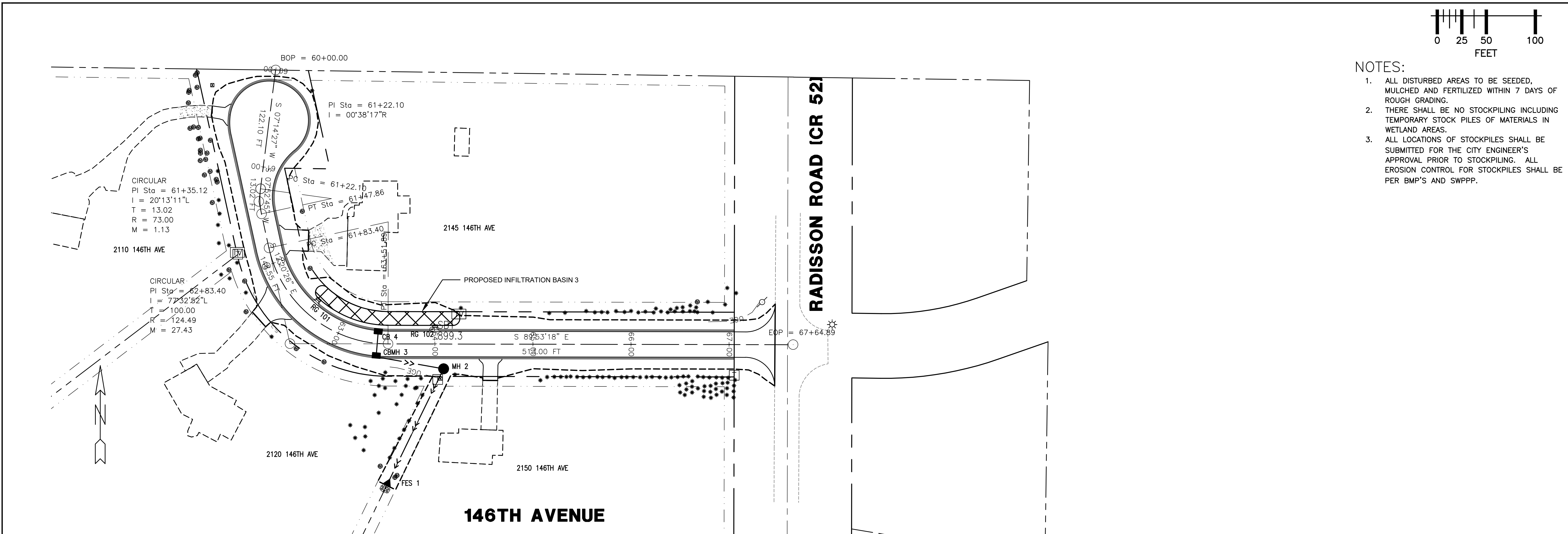
- NOTES:**
1. ALL DISTURBED AREAS TO BE SEEDED, MULCHED AND FERTILIZED WITHIN 7 DAYS OF ROUGH GRADING.
 2. THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
 3. ALL LOCATIONS OF STOCKPILES SHALL BE SUBMITTED FOR THE CITY ENGINEER'S APPROVAL PRIOR TO STOCKPILING. ALL EROSION CONTROL FOR STOCKPILES SHALL BE PER BMP'S AND SWPPP.



 800-252-1166 651-454-0002 <small>PLOT DATE: 10/10/2022 16:30</small>	UTILITIES: CENTURYLINK (763) 712-5017 CENTERPOINT ENERGY (763) 323-2760 COMCAST (952) 607-4078 CONNEXUS ENERGY (763) 323-4268 XCEL ENERGY (612) 526-4508	DATE	REVISION HISTORY	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. DATE 6/29/2022 REG. NO. 48768	RFC ENGINEERING, INC. Consulting Engineers	13635 Johnson Street Ham Lake, MN 55304 Telephone 763-862-8000 Fax 763-862-8042	HAM LAKE IMPROVEMENT PROJECT 2105 CREEK VALLEY STREET RECONSTRUCTION 145TH AVE NE, KENYON ST 146TH AVE NE AND LONDON ST KENYON STREET PLAN AND PROFILE	DWG: RCP01023
		10/10/22	INTERNAL REVIEW					DATE: 06/29/22
DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK								JOB NUMBER: 2105 SHEET: 34 OF 51 FILE: 34-2-146



- NOTES:**
1. ALL DISTURBED AREAS TO BE SEEDED, MULCHED AND FERTILIZED WITHIN 7 DAYS OF ROUGH GRADING.
 2. THERE SHALL BE NO STOCKPILING INCLUDING TEMPORARY STOCK PILES OF MATERIALS IN WETLAND AREAS.
 3. ALL LOCATIONS OF STOCKPILES SHALL BE SUBMITTED FOR THE CITY ENGINEER'S APPROVAL PRIOR TO STOCKPILING. ALL EROSION CONTROL FOR STOCKPILES SHALL BE PER BMP'S AND SWPPP.



Gopher State One Call
800-252-1166 651-454-0002
PLOT DATE: 10/10/2022 16:30

UTILITIES:
CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
DATE 6/29/2022 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

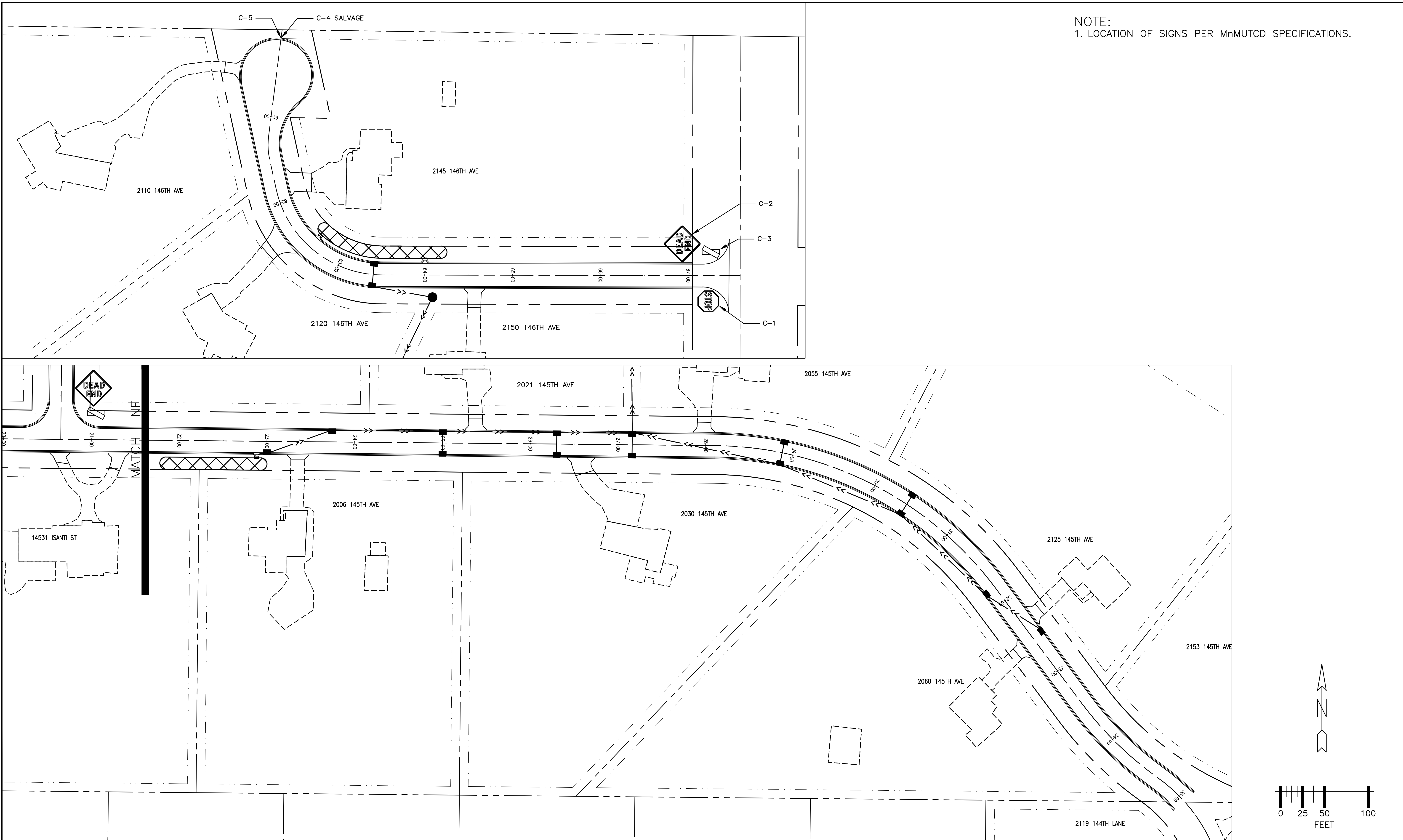
13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
CREEK VALLEY STREET RECONSTRUCTION
145TH AVE NE, KENYON ST
146TH AVE NE AND LONDON ST
146TH AVENUE
PLAN AND PROFILE

DWG:	RCP01024
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	35 OF 51
FILE:	34-2-147

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

NOTE:
1. LOCATION OF SIGNS PER MnMUTCD SPECIFICATIONS.



GOPHER STATE ONE CALL
800-252-1166 651-454-0002

UTILITIES:
CENTURYLINK (763) 712-5017
CENTERPOINT ENERGY (763) 323-2760
COMCAST (952) 607-4078
CONNEXUS ENERGY (763) 323-4268
XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

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

Dave Krueger
DATE 6/29/2022 REG. NO. 48768

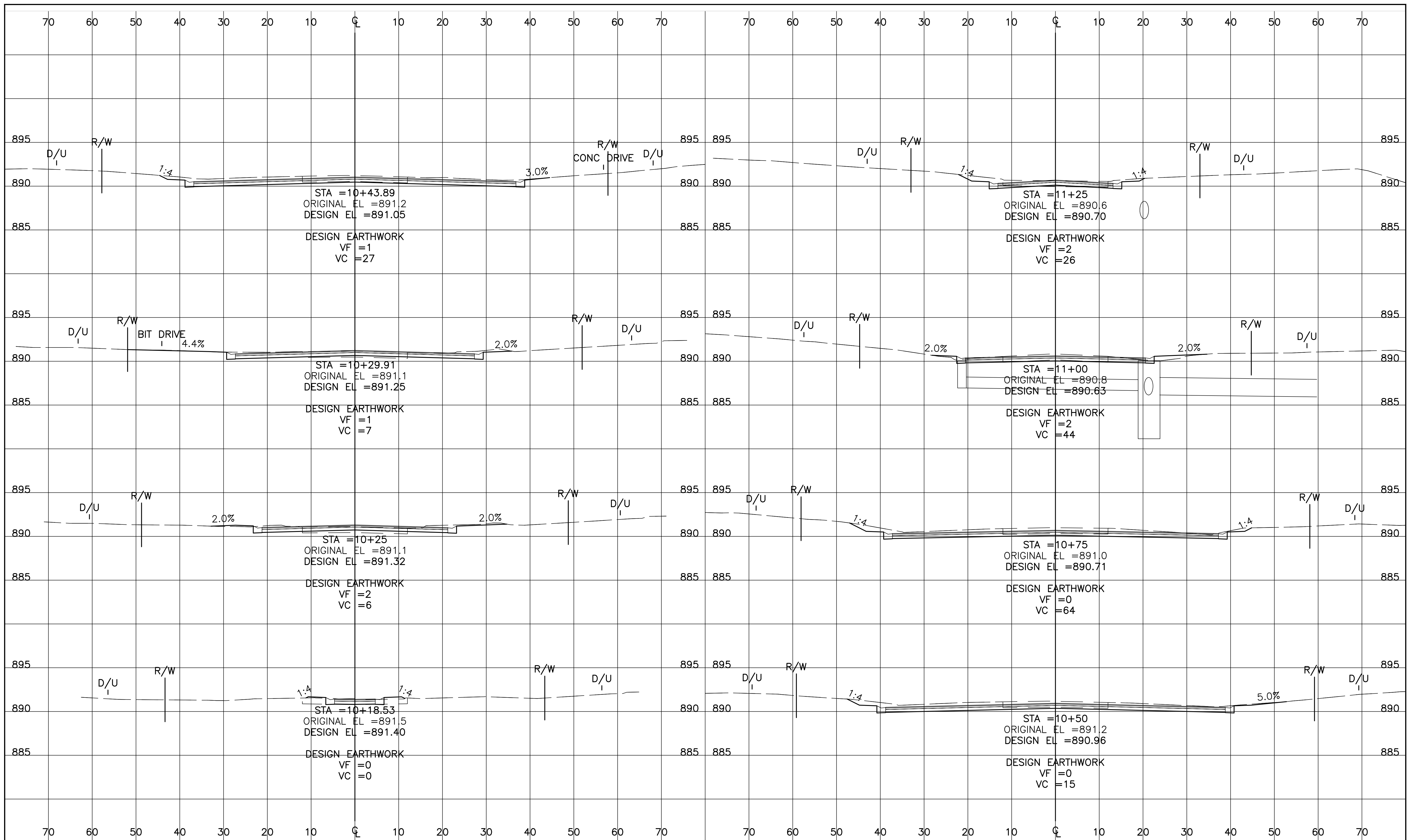
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
CREEK VALLEY STREET RECONSTRUCTION
145TH AVE NE, KENYON ST
146TH AVE NE AND LONDON ST
SIGNING PLAN

DWG:	2105 SIGN 2
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	37 OF 51
FILE:	34-2-149

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



GOPHER STATE ONE CALL
 800-252-1166 651-454-0002
 PLOT DATE: 10/10/2022 16:30

UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
 DATE 6/29/2022 REG. NO. 48768

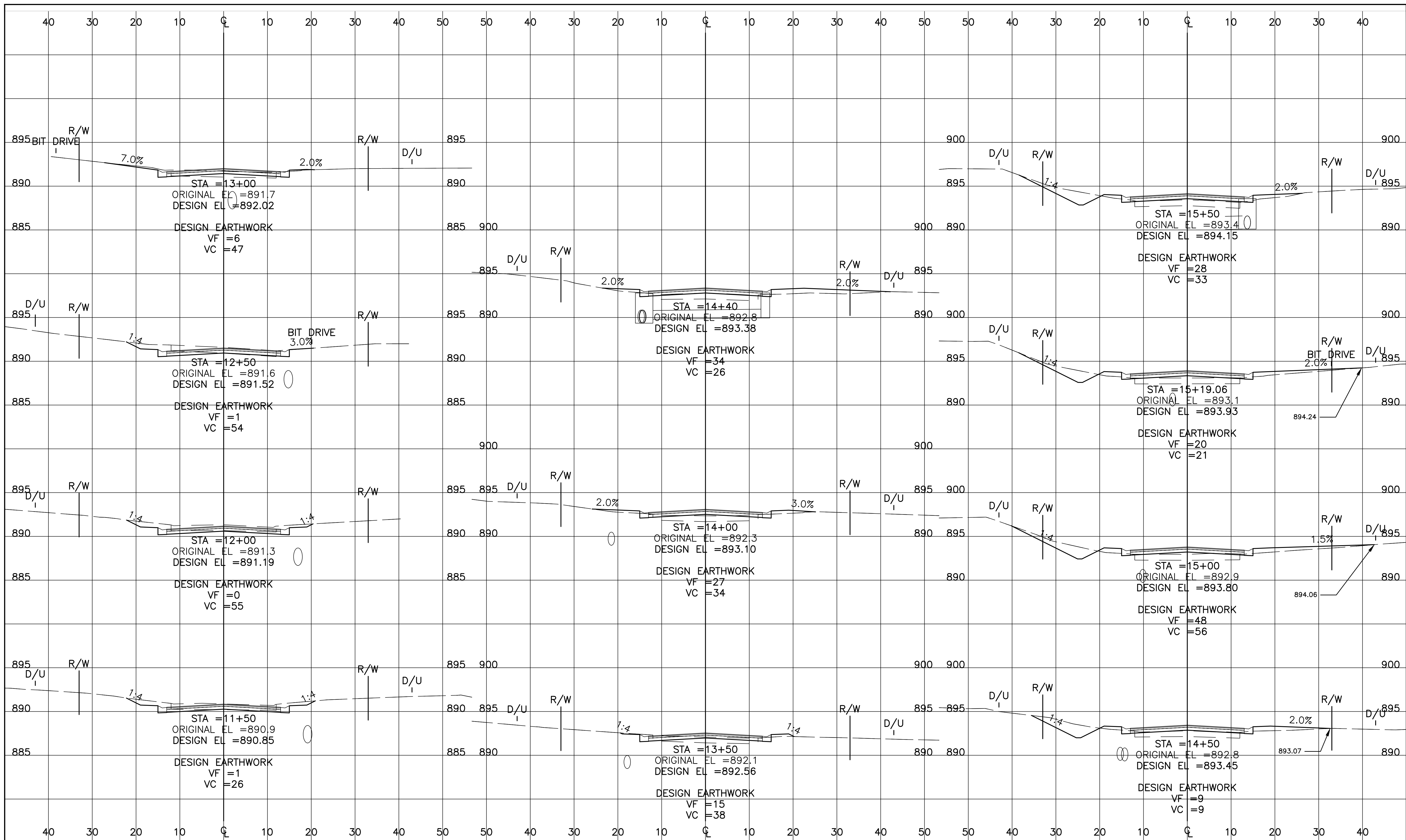
RFC ENGINEERING, INC.
 Consulting Engineers


13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 145TH AVENUE
 CROSS SECTIONS

DWG:	RC001021
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	38 OF 51
FILE:	34-2-150

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK





800-252-1166 651-454-0002
PLOT DATE: 10/10/2022 16:30

UTILITIES: CENTURYLINK (763) 712-5017
 CENTERPOINT ENERGY (763) 323-2760
 COMCAST (952) 607-4078
 CONNEXUS ENERGY (763) 323-4268
 XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

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

Dave Krueger
 DATE 6/29/2022 REG. NO. 48768

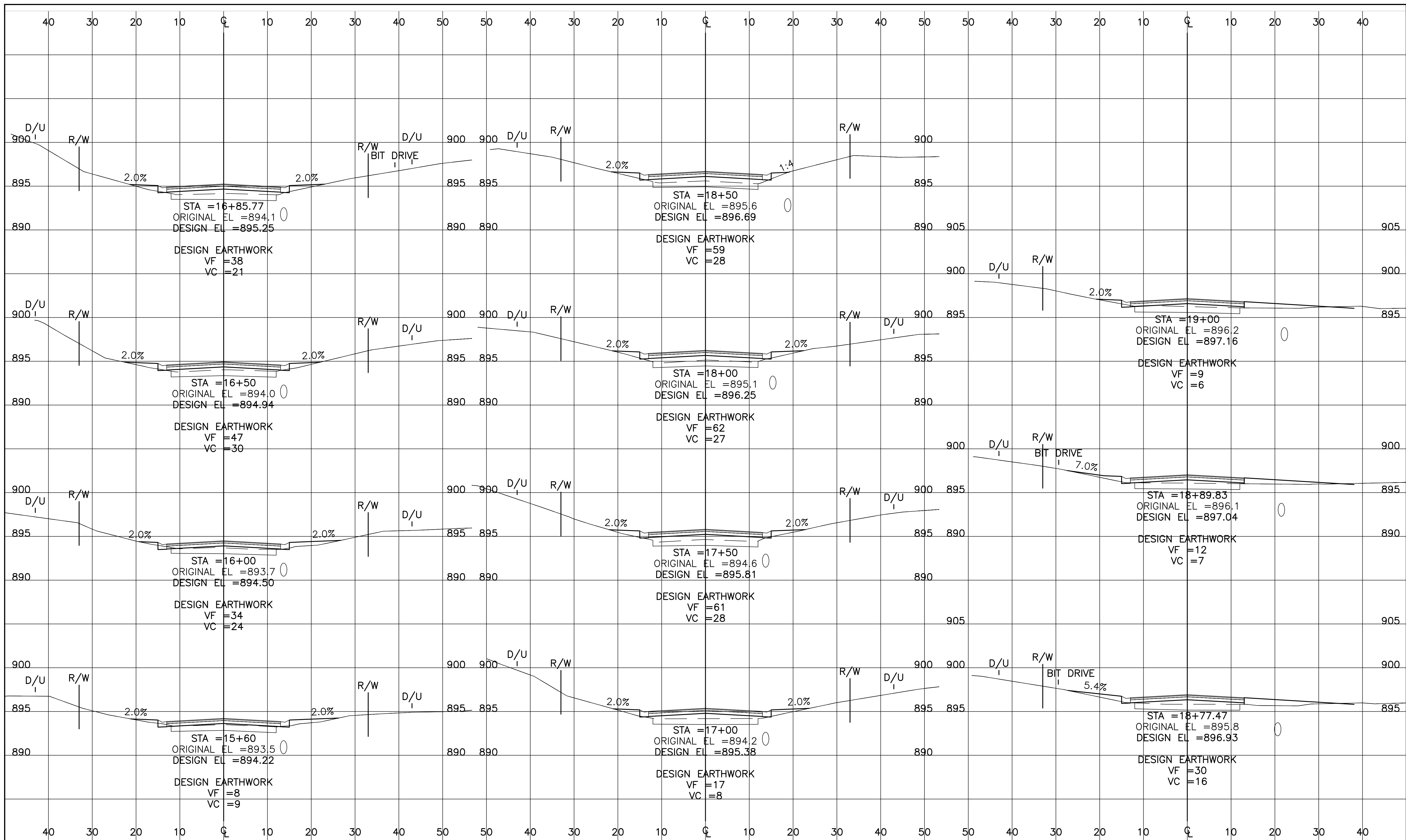
RFC ENGINEERING, INC.
Consulting Engineers


13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 145TH AVENUE
 CROSS SECTIONS

DWG:	RC002021
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	39 OF 51
FILE:	34-2-151

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK





UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

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

Dave Krueger

DATE 6/29/2022 REG. NO. 48768

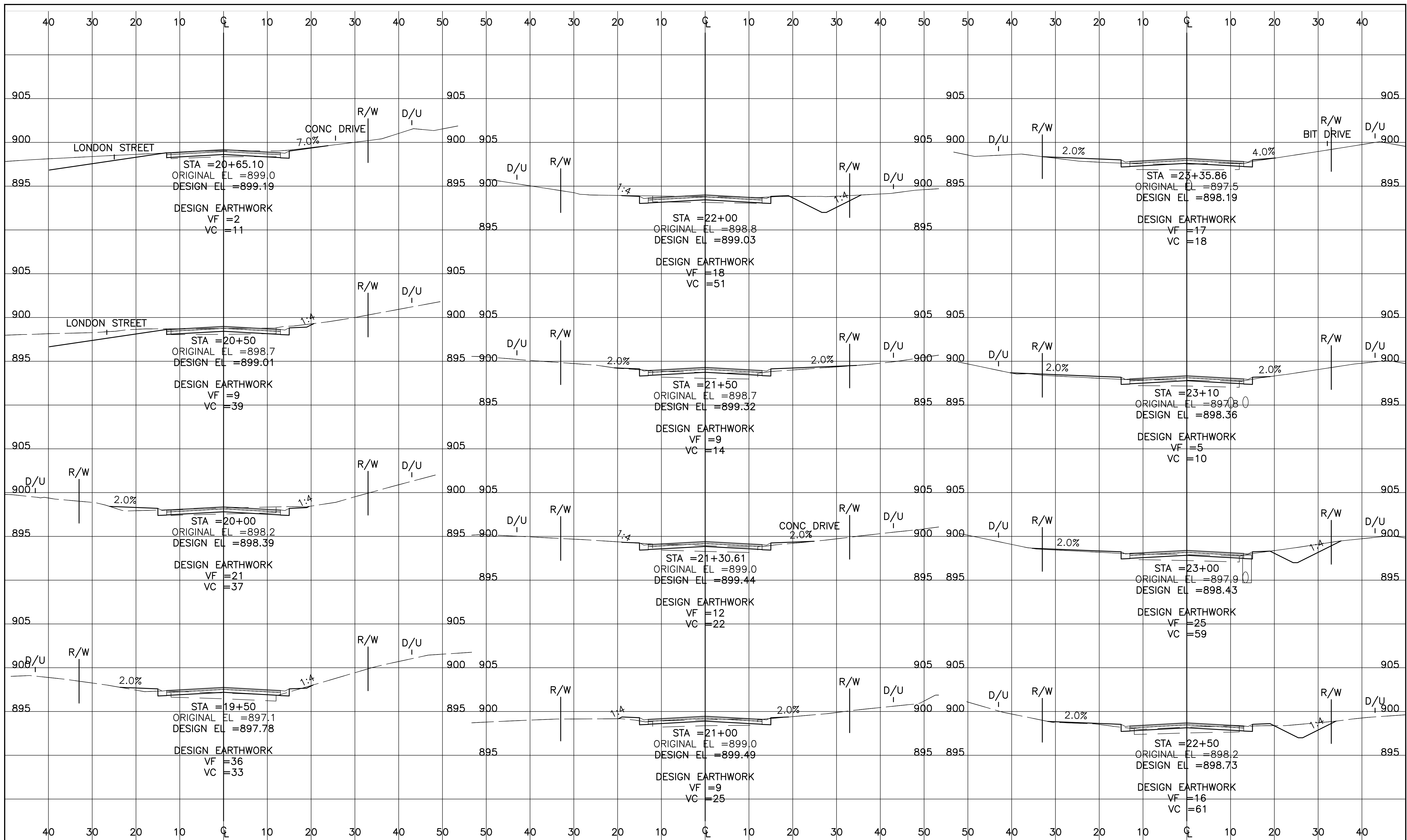
RFC ENGINEERING, INC.
Consulting Engineers


13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 145TH AVENUE
 CROSS SECTIONS

DWG:	RC003021
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	40 OF 51
FILE:	34-2-152

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK





**GOEPHER STATE
ONE CALL**

800-252-1166 651-454-0002

PLOT DATE: 10/10/2022 16:30

UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

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

David Krueger

DATE 6/29/2022 REG. NO. 48768

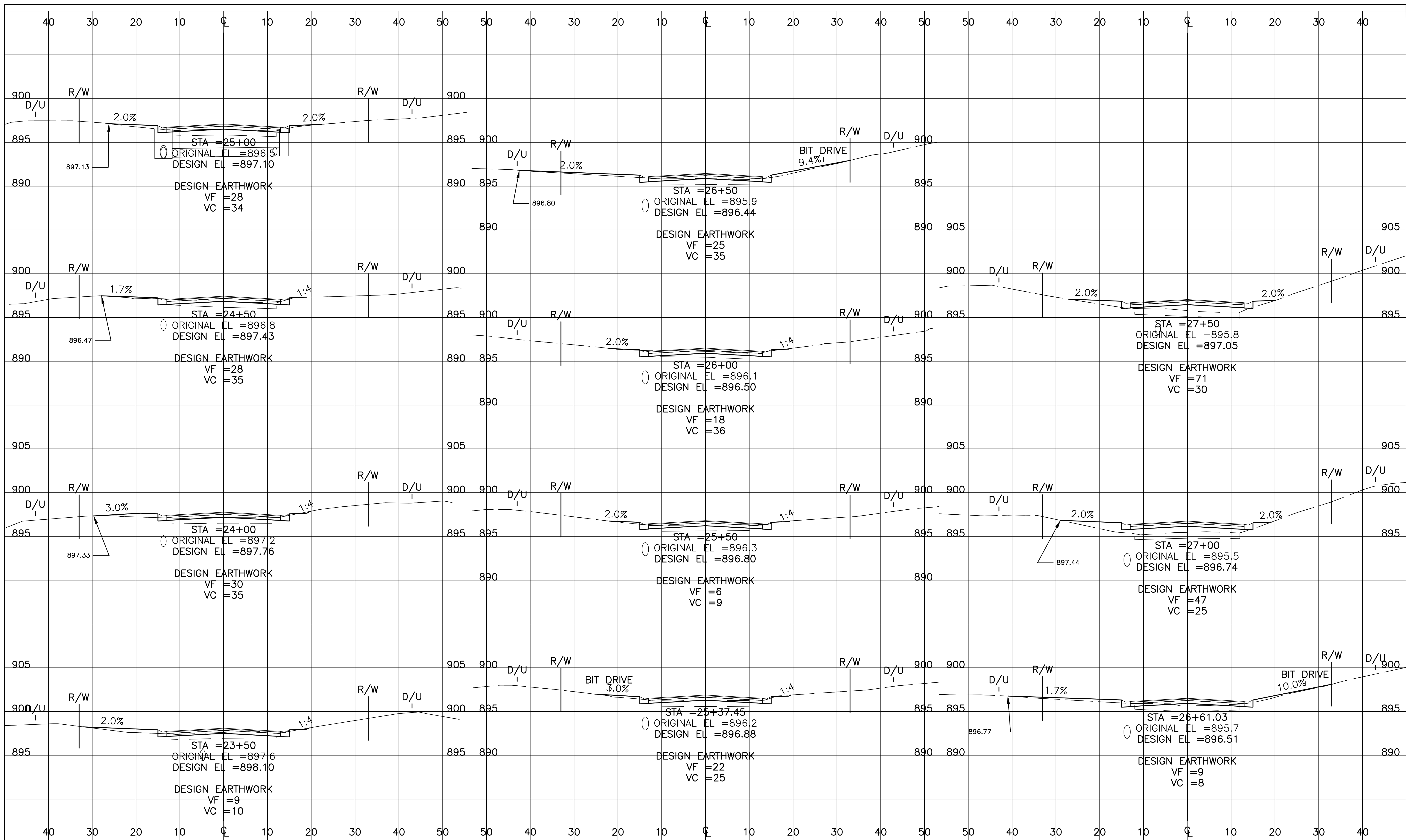
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
CREEK VALLEY STREET RECONSTRUCTION
145TH AVE NE, KENYON ST
146TH AVE NE AND LONDON ST
145TH AVENUE
CROSS SECTIONS

DWG:	RC004021
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	41 OF 51
FILE:	34-2-153

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



Gopher State One Call
 800-252-1166 651-454-0002
 PLOT DATE: 10/10/2022 16:30

UTILITIES:
 CENTURYLINK (763) 712-5017
 CENTERPOINT ENERGY (763) 323-2760
 COMCAST (952) 607-4078
 CONNEXUS ENERGY (763) 323-4268
 XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

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

Dave Krugler
 DATE 6/29/2022 REG. NO. 48768

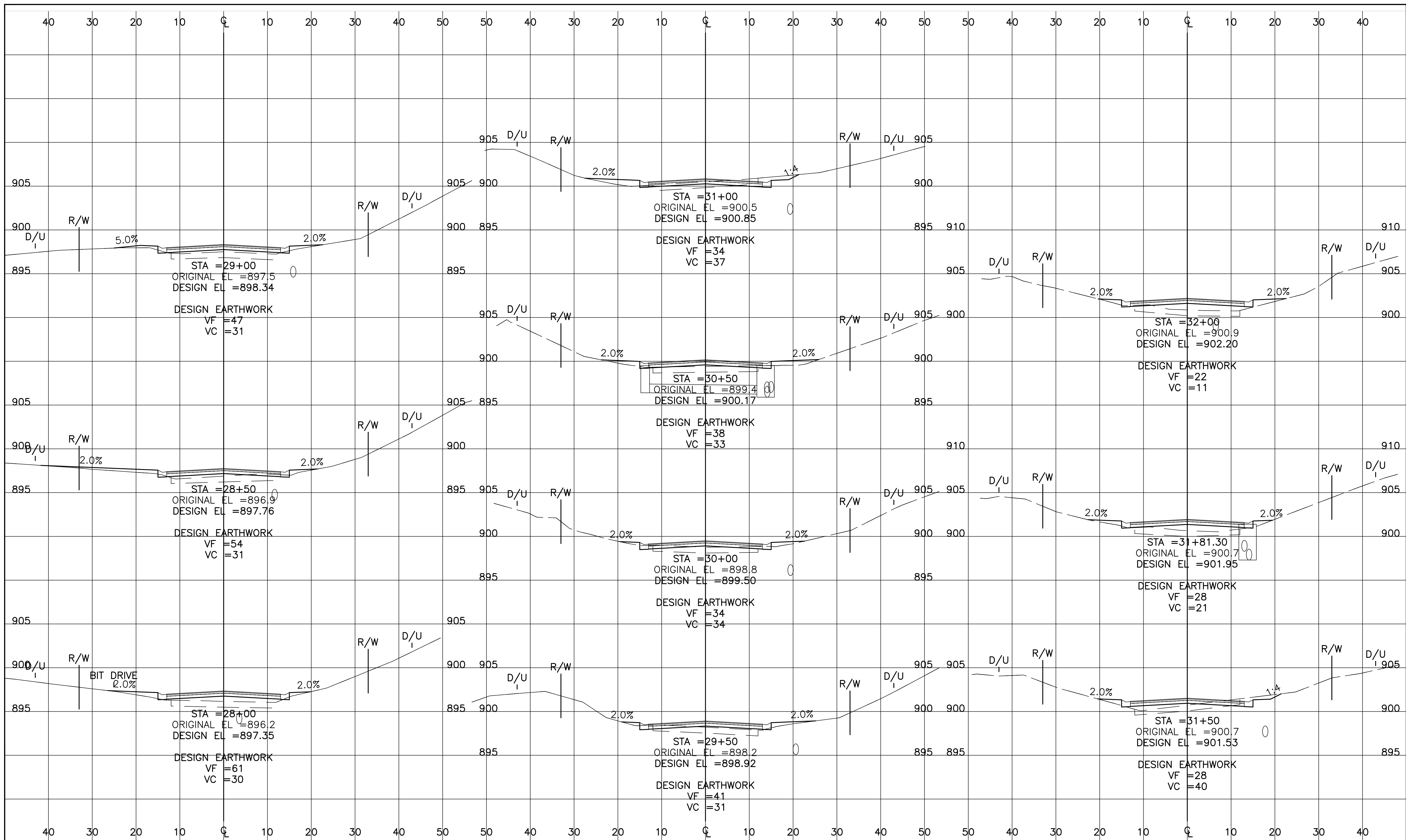
RFC ENGINEERING, INC.
 Consulting Engineers


13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 145TH AVENUE
 CROSS SECTIONS

DWG:	RC005021
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	42 OF 51
FILE:	34-2-154

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK





800-252-1166 651-454-0002
PLOT DATE: 10/10/2022 16:30

UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

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

Dave Krueger
DATE 6/29/2022 REG. NO. 48768

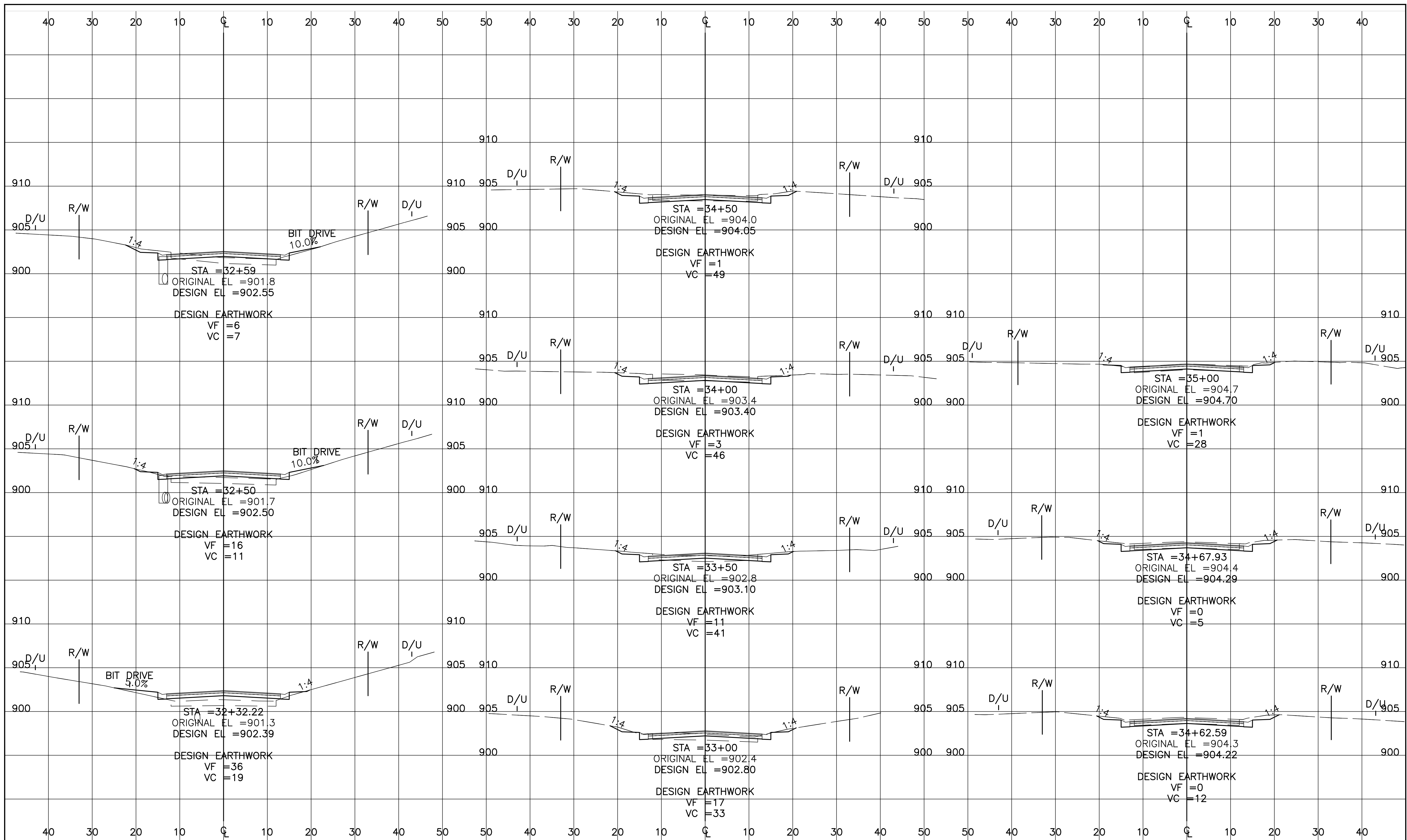
RFC ENGINEERING, INC.
Consulting Engineers


13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
CREEK VALLEY STREET RECONSTRUCTION
145TH AVE NE, KENYON ST
146TH AVE NE AND LONDON ST
145TH AVENUE
CROSS SECTIONS

DWG:	RC006021
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	43 OF 51
FILE:	34-2-155

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK





800-252-1166 651-454-0002
PLOT DATE: 10/10/2022 16:30

UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

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

Dave Krugler
DATE 6/29/2022 REG. NO. 48768

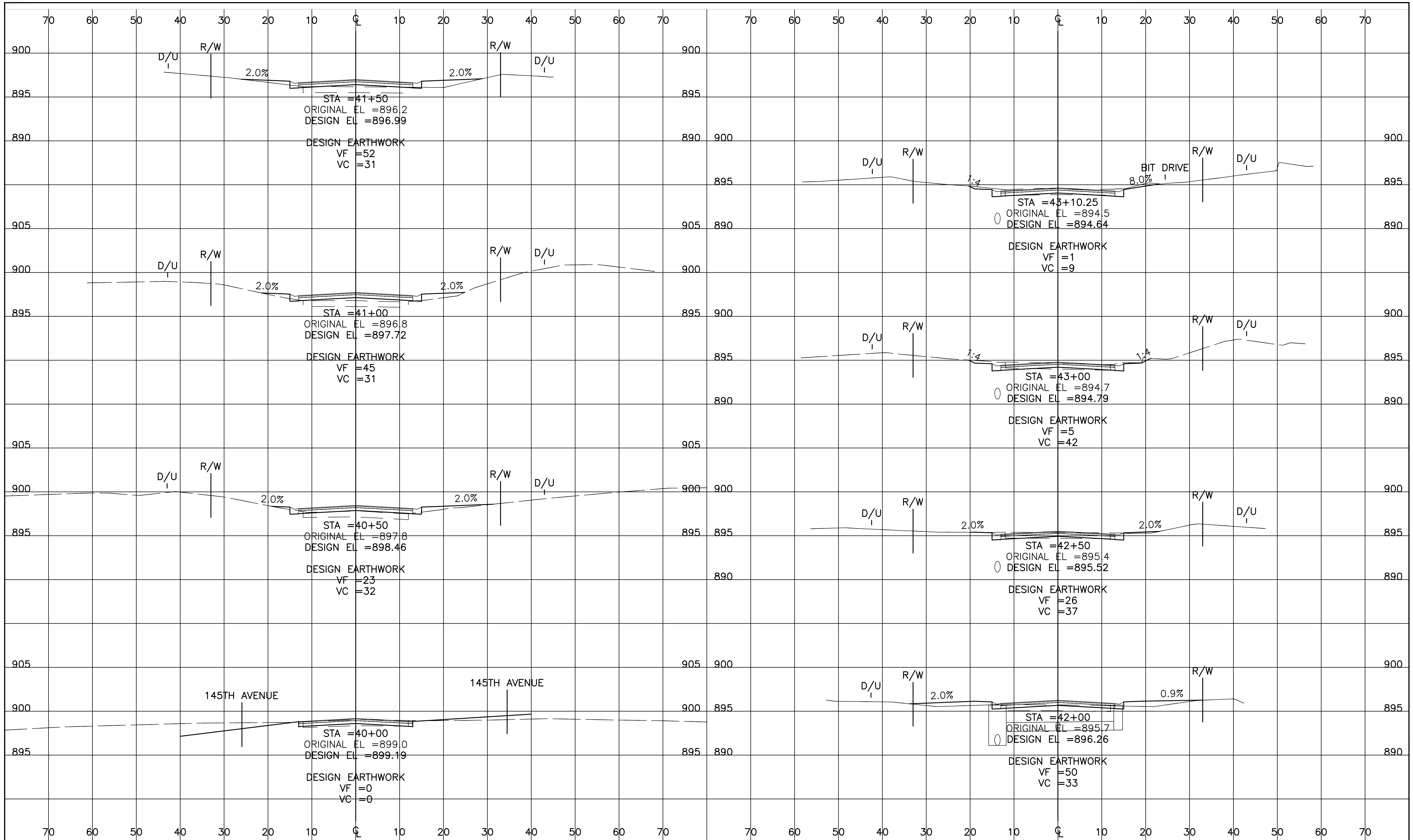
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
Ham Lake, MN 55304
Telephone 763-862-8000
Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
CREEK VALLEY STREET RECONSTRUCTION
145TH AVE NE, KENYON ST
146TH AVE NE AND LONDON ST
145TH AVENUE
CROSS SECTIONS

DWG:	RC007021
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	44 OF 51
FILE:	34-2-156

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



GOEPHER STATE ONE CALL
 800-252-1166 651-454-0002
 PLOT DATE: 10/10/2022 16:31

UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Knight
 DATE 6/29/2022 REG. NO. 48768

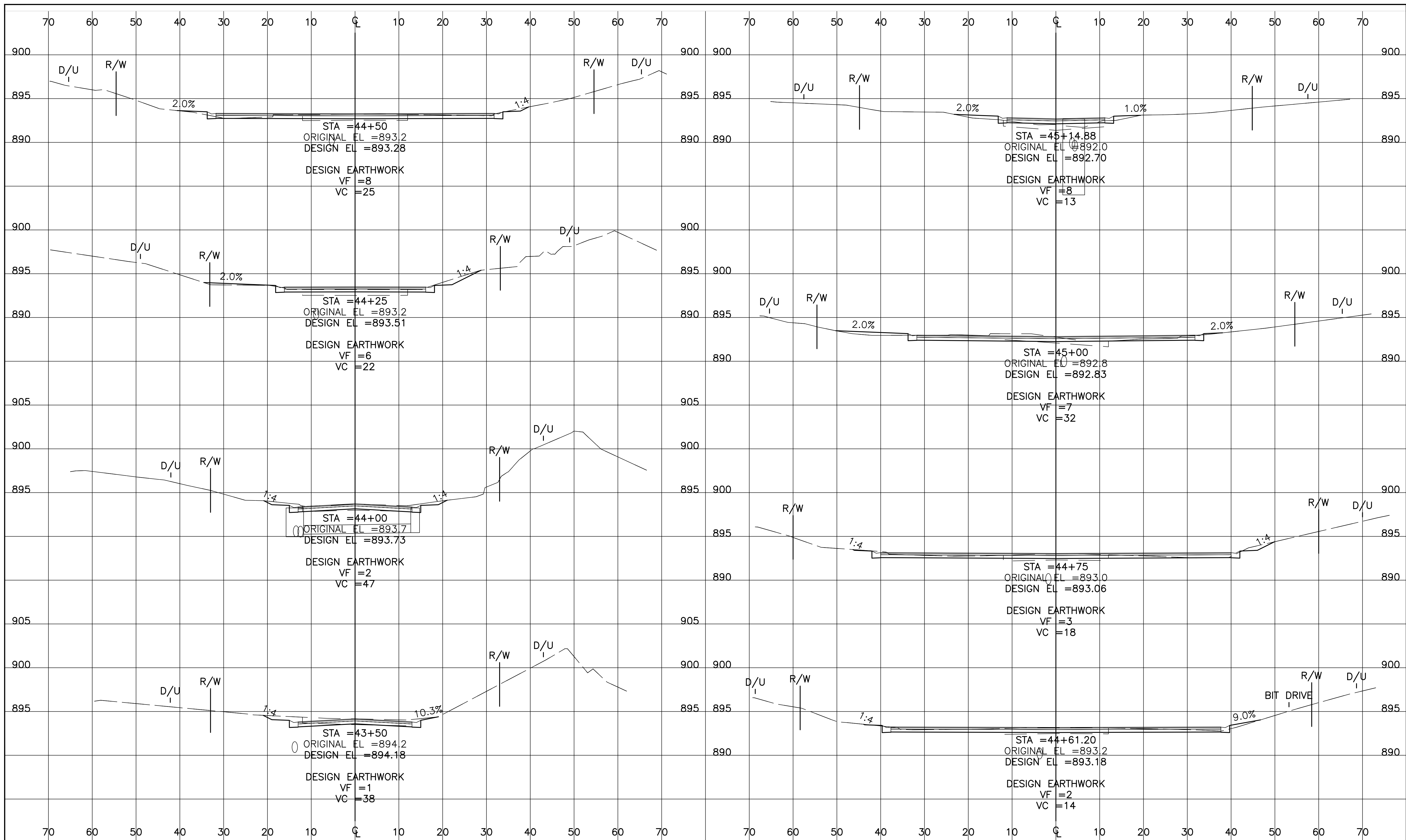
RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 LONDON STREET
 CROSS SECTIONS

DWG:	RC001022
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	45 OF 51
FILE:	34-2-157

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



GOPHER STATE ONE CALL
 800-252-1166 651-454-0002
 PLOT DATE: 10/10/2022 16:31

UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
 DATE 6/29/2022 REG. NO. 48768

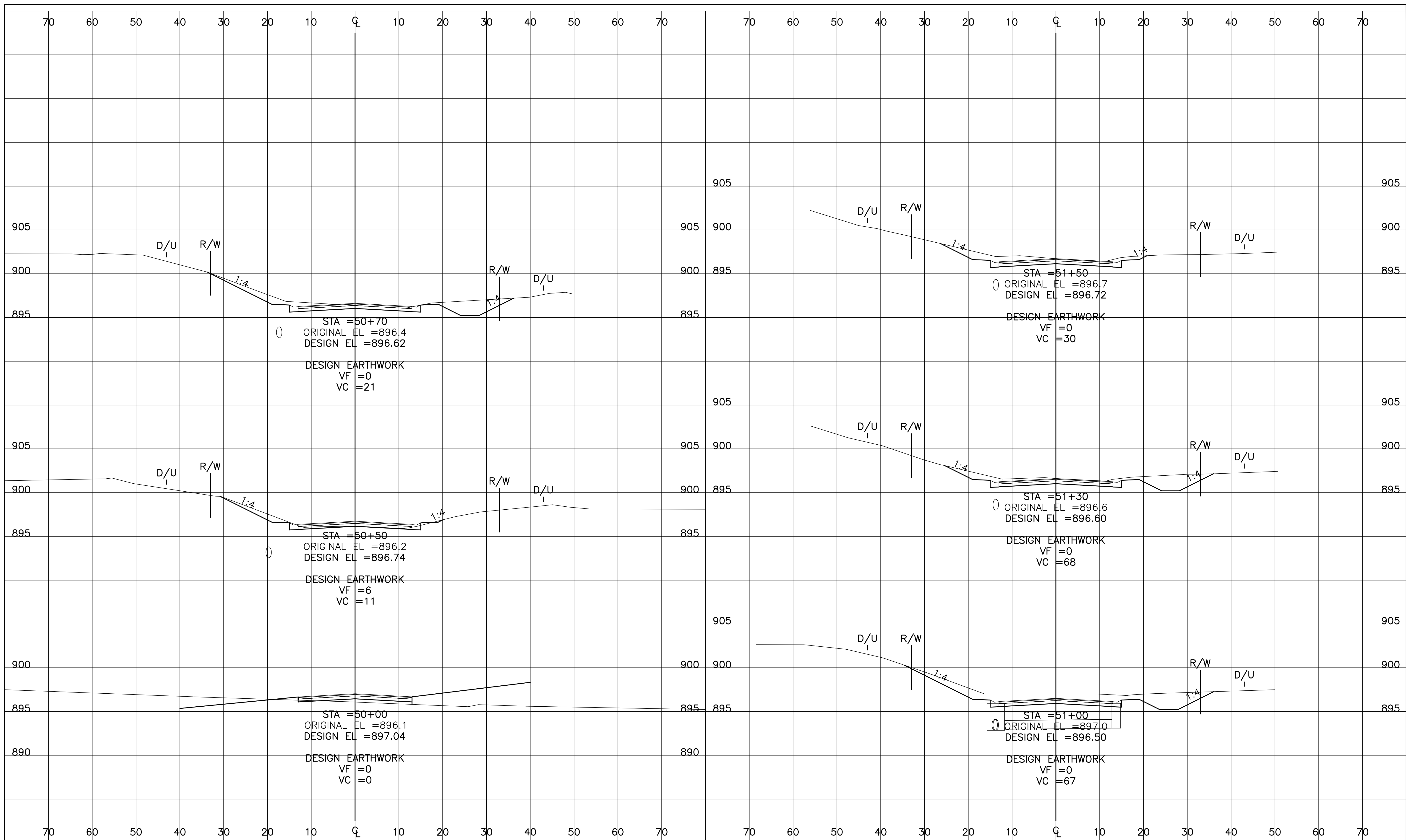
RFC ENGINEERING, INC.
 Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 LONDON STREET
 CROSS SECTIONS

DWG:	RC002022
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	46 OF 51
FILE:	34-2-158

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

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

David Krueger
 DATE 6/29/2022 REG. NO. 48768

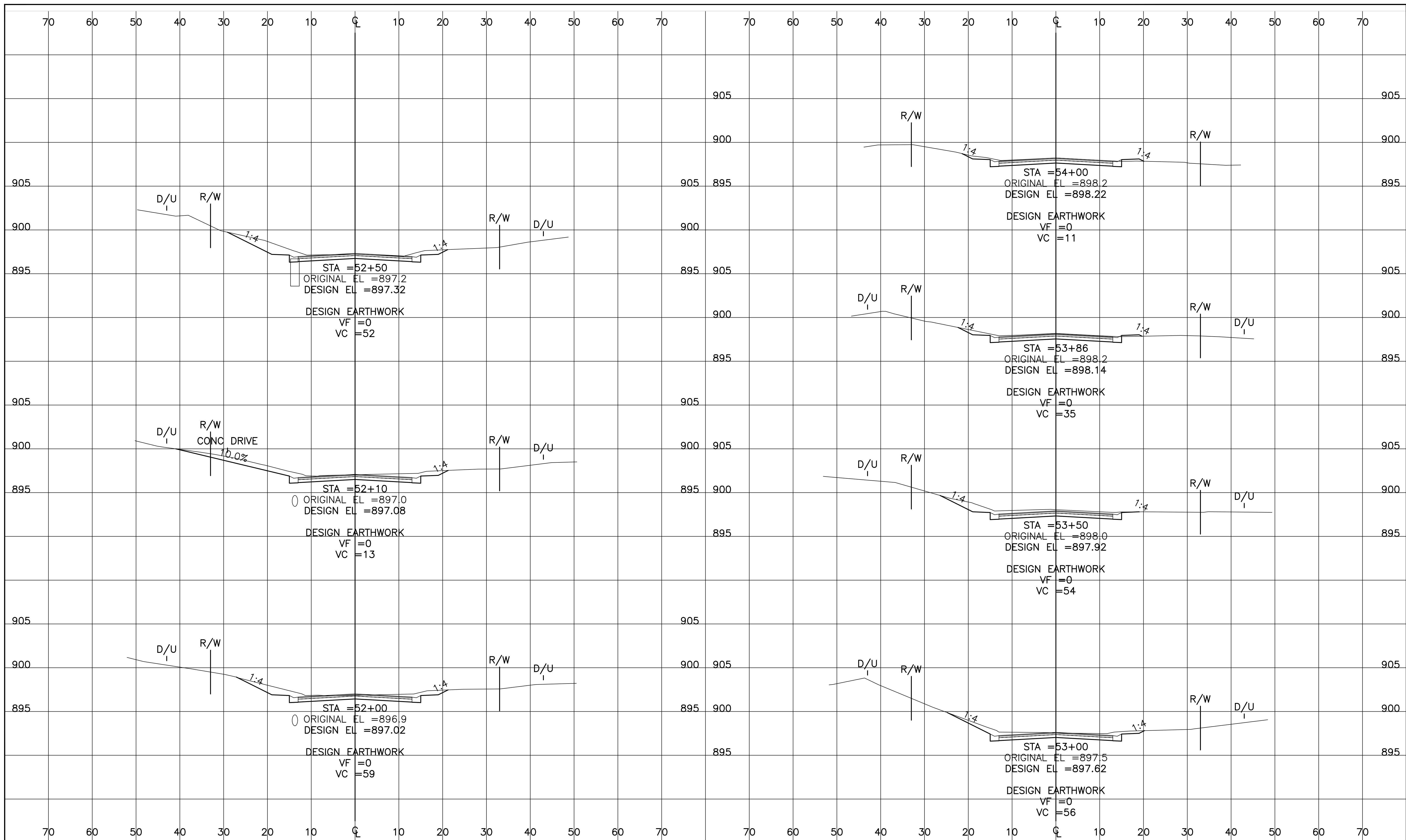
RFC ENGINEERING, INC.
 Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 KENYON STREET
 CROSS SECTIONS

DWG:	RC001023
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	47 OF 51
FILE:	34-2-159

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



GOPHER STATE ONE CALL
 800-252-1166 651-454-0002
 PLOT DATE: 10/10/2022 16:31

UTILITIES:

CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
 DATE 6/29/2022 REG. NO. 48768

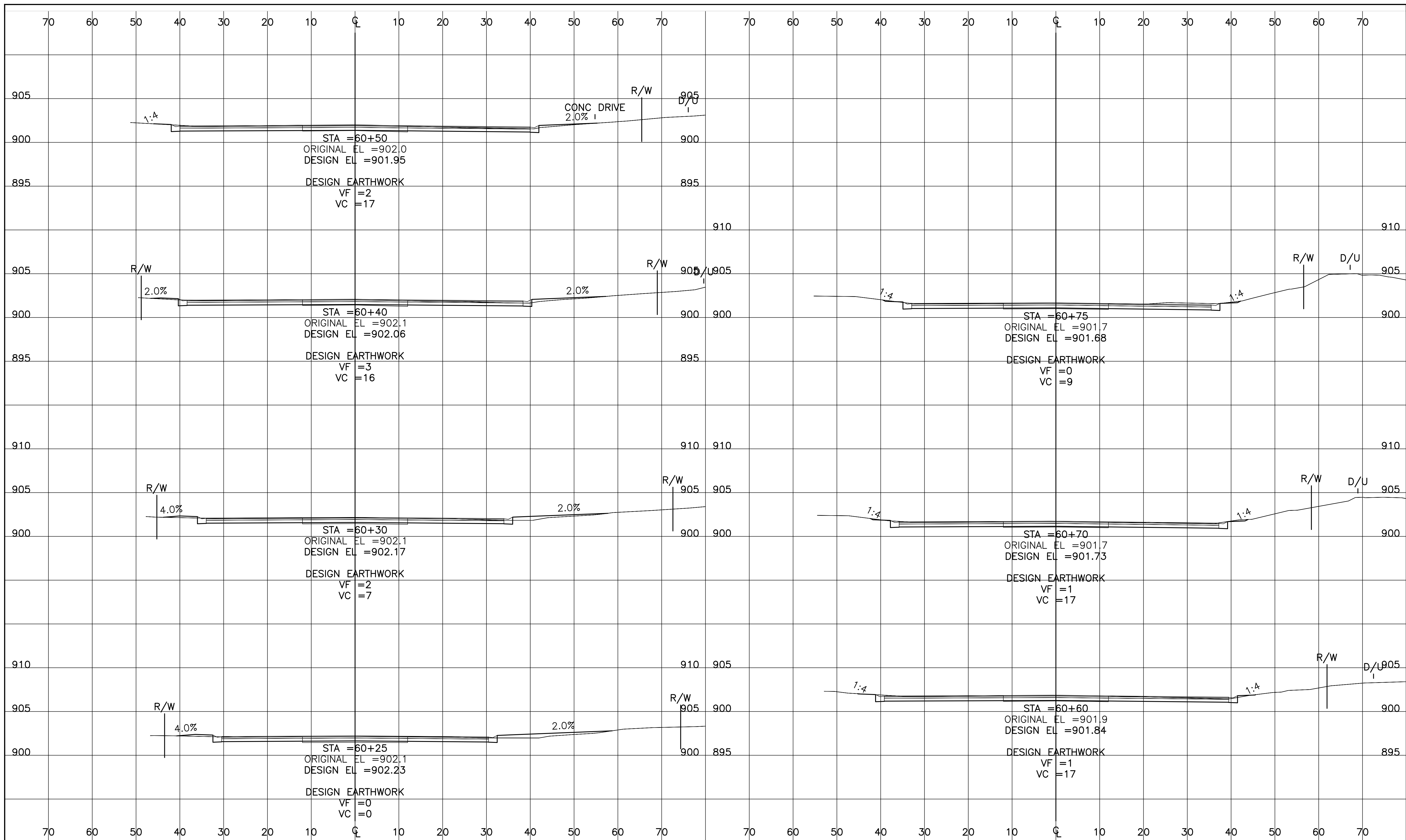
RFC ENGINEERING, INC.
 Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 KENYON STREET
 CROSS SECTIONS

DWG:	RC002023
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	48 OF 51
FILE:	34-2-160

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



GOPHER STATE ONE CALL
 800-252-1166 651-454-0002
 PLOT DATE: 10/10/2022 16:31

UTILITIES:
 CENTURYLINK (763) 712-5017
 CENTERPOINT ENERGY (763) 323-2760
 COMCAST (952) 607-4078
 CONNEXUS ENERGY (763) 323-4268
 XCEL ENERGY (612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

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

Dave Krueger
 DATE 6/29/2022 REG. NO. 48768

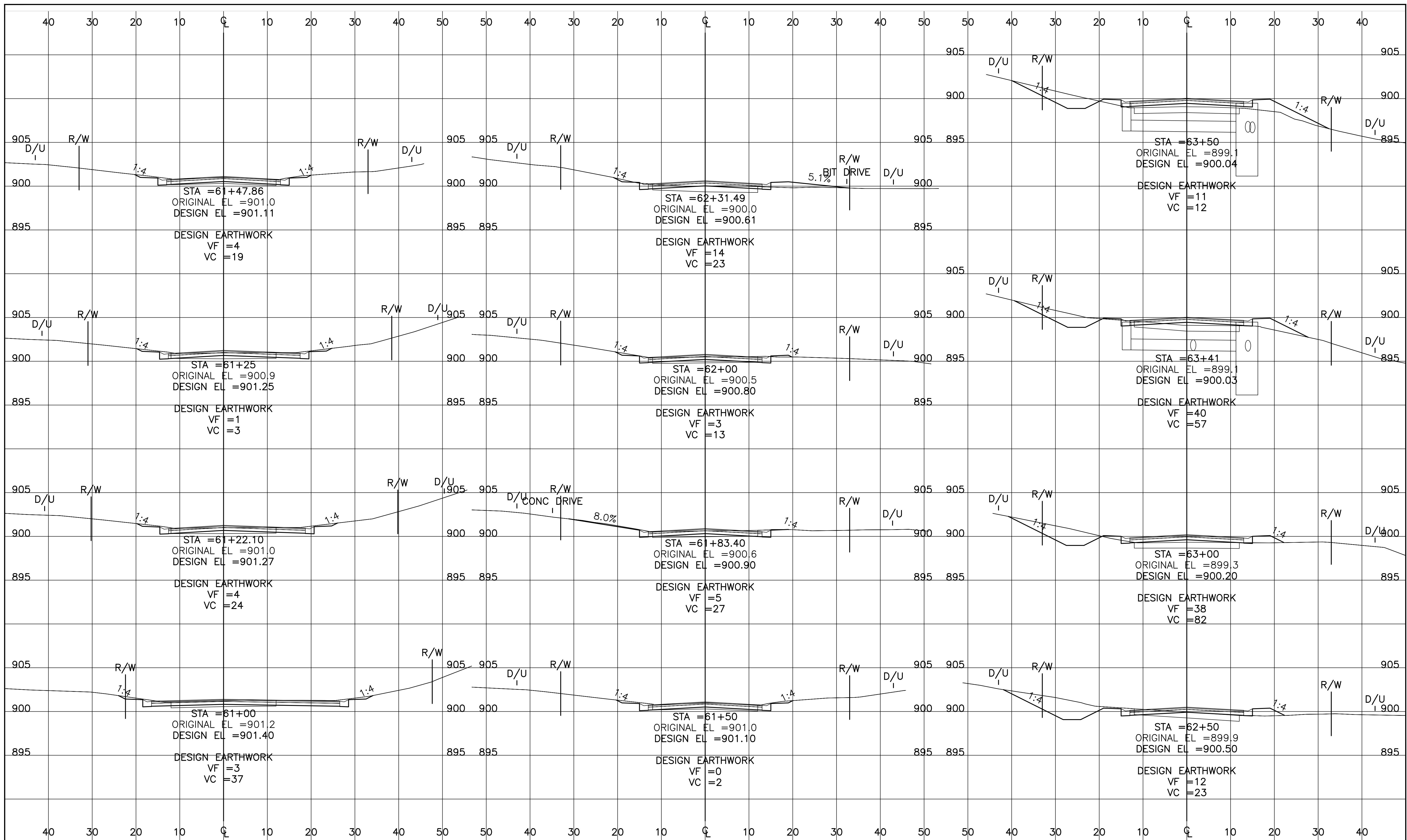
RFC ENGINEERING, INC.
 Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 146TH AVENUE
 CROSS SECTIONS

DWG:	RC001024
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	49 OF 51
FILE:	34-2-161

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



GOPIER STATE ONE CALL
 800-252-1166 651-454-0002
 PLOT DATE: 10/10/2022 16:31

UTILITIES:	CONTACT:	PHONE:
CENTURYLINK	(763) 712-5017	
CENTERPOINT ENERGY	(763) 323-2760	
COMCAST	(952) 607-4078	
CONNEXUS ENERGY	(763) 323-4268	
XCEL ENERGY	(612) 526-4508	

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
 DATE 6/29/2022 REG. NO. 48768

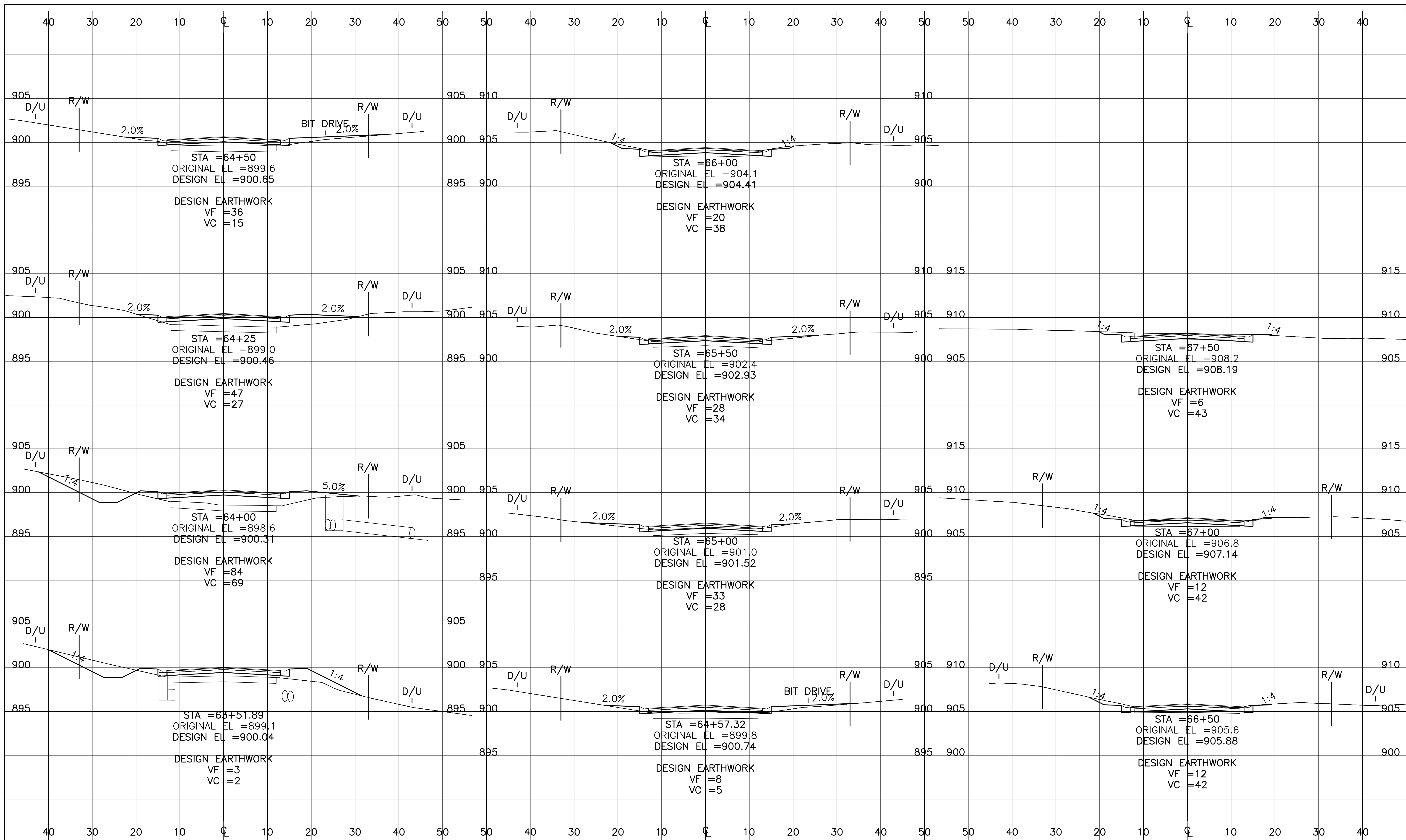
RFC ENGINEERING, INC.
 Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 146TH AVENUE
 CROSS SECTIONS

DWG:	RC002024
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	50 OF 51
FILE:	34-2-162

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK



GOPIER STATE ONE CALL
 800-252-1166 651-454-0002
 PLOT DATE: 10/10/2022 16:31

UTILITIES:	CONTACT INFO:
CENTURYLINK	(763) 712-5017
CENTERPOINT ENERGY	(763) 323-2760
COMCAST	(952) 607-4078
CONNEXUS ENERGY	(763) 323-4268
XCEL ENERGY	(612) 526-4508

DATE	REVISION HISTORY
10/10/22	INTERNAL REVIEW

HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dave Krueger
 DATE 6/29/2022 REG. NO. 48768

RFC ENGINEERING, INC.
Consulting Engineers

13635 Johnson Street
 Ham Lake, MN 55304
 Telephone 763-862-8000
 Fax 763-862-8042

HAM LAKE IMPROVEMENT PROJECT 2105
 CREEK VALLEY STREET RECONSTRUCTION
 145TH AVE NE, KENYON ST
 146TH AVE NE AND LONDON ST
 146TH AVENUE
 CROSS SECTIONS

DWG:	RC003024
DATE:	06/29/22
JOB NUMBER:	2105
SHEET:	51 OF 51
FILE:	34-2-163

DESIGN BY: LDZ DRAWN BY: LDZ CHECKED BY: DAK

Certificate Of Completion

Envelope Id: 461F84AEFB97489794EA38E20A8EDAC4

Status: Completed

Subject: Darren Douglas - ROW Permit Application

Source Envelope:

Document Pages: 73

Signatures: 2

Envelope Originator:

Certificate Pages: 4

Initials: 1

Highway Permits

AutoNav: Enabled

Anoka County Government Center

Envelopeld Stamping: Enabled

2100 3rd Avenue

Time Zone: (UTC-06:00) Central Time (US & Canada)

Anoka, MN 55303

HighwayPermits@co.anoka.mn.us

IP Address: 174.20.160.175

Record Tracking

Status: Original

Holder: Highway Permits

Location: DocuSign

6/8/2023 9:09:05 AM

HighwayPermits@co.anoka.mn.us

Security Appliance Status: Connected

Pool: StateLocal

Storage Appliance Status: Connected

Pool: Anoka County

Location: DocuSign

Signer Events

Darren Douglas

darrend@douglas-kerr.com

Security Level:

DocuSign.email

ID: 1

6/8/2023 9:09:08 AM

Signature

DocuSigned by:



6FC3C2F10E214B0...

Signature Adoption: Pre-selected Style

Using IP Address: 174.20.160.175

Timestamp

Sent: 6/8/2023 9:09:07 AM

Viewed: 6/8/2023 9:09:18 AM

Signed: 6/8/2023 9:20:10 AM

Electronic Record and Signature Disclosure:

Accepted: 6/7/2023 12:17:10 PM

ID: 82fb08f4-0567-45cc-a642-a1df56b0eb8f

Susan Burgmeier

Susan.Burgmeier@co.anoka.mn.us

Associate Traffic Technician

Anoka County

Signing Group: Highway Permits

Security Level: Email, Account Authentication
(Optional)

DocuSigned by:



C5E91FE15CD44E...

Signature Adoption: Pre-selected Style

Using IP Address: 156.98.106.245

Sent: 6/8/2023 9:20:19 AM

Viewed: 6/8/2023 10:40:11 AM

Signed: 6/8/2023 10:43:36 AM

Electronic Record and Signature Disclosure:

Not Offered via DocuSign

In Person Signer Events	Signature	Timestamp
Editor Delivery Events	Status	Timestamp
Agent Delivery Events	Status	Timestamp
Intermediary Delivery Events	Status	Timestamp
Certified Delivery Events	Status	Timestamp
Carbon Copy Events	Status	Timestamp
Witness Events	Signature	Timestamp
Notary Events	Signature	Timestamp
Envelope Summary Events	Status	Timestamps

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	6/8/2023 9:09:07 AM
Envelope Updated	Security Checked	6/8/2023 9:20:10 AM
Certified Delivered	Security Checked	6/8/2023 10:40:11 AM
Envelope Updated	Security Checked	6/8/2023 10:43:36 AM
Signing Complete	Security Checked	6/8/2023 10:43:36 AM
Completed	Security Checked	6/8/2023 10:43:36 AM

Payment Events	Status	Timestamps
-----------------------	---------------	-------------------

Electronic Record and Signature Disclosure

ELECTRONIC RECORD AND SIGNATURE DISCLOSURE

The following information constitutes Anoka County's (we, us or Company) written notices or disclosures relating to your use of DocuSign in relation to Anoka County's license. Described below are the terms and conditions for providing notices and disclosures electronically through the DocuSign system. Please read the information below carefully and thoroughly, and if you agree to this Electronic Record and Signature Disclosure (ERSD), please confirm your agreement by selecting the check-box next to 'I agree to use electronic records and signatures' before clicking 'CONTINUE' within the DocuSign system.

Getting paper copies

At any time, you may request from us a paper copy of any record provided or made available electronically to you by us. You will have the ability to download and print documents we send to you through the DocuSign system during and immediately after the signing session and, if you elect to create a DocuSign account, you may access the documents for a limited period of time (30 days) after the documents are first sent to you. At any time, if you request paper copies of any documents, you may be charged a fee. You may request paper copies from us by following the procedure described below.

Withdrawing your consent

If you decide to receive notices, disclosures and documents from us electronically, you may change your mind and tell us that going forward you want to receive documents only in paper format. Please note, processing time will be slowed down dramatically as we will be required to print and send the document through the mail and await your return of the documents. The process to change the method of receipt is described below.

All notices and disclosures will be sent to you electronically

Upon your acceptance to receive electronic notifications, all required notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you during the course of our relationship with you will be provided electronically through the DocuSign system. All of the required documents will be provided to you at the address that you have given us.

How to contact Anoka County:

You may change your preferred method of contact whether electronically, or paper copies, or change your email address. You may also request paper copies of certain information from us, or withdraw your prior consent to receive documents. Please use the contact information below for your request and in the body of your correspondence, identify your desired action. If you are

changing an email address, please include your prior email address as well as your new address. If you no longer wish to receive future documents in electronic format, please include that request in the body of your email.

Email: helpdesk@co.anoka.mn.us
Phone: (763)-324-4110
Address: Anoka County Government Center
Attn: Information Technology, #300
2100 3rd Avenue
Anoka, MN 55303

Required hardware and software

The minimum system requirements for using the DocuSign system may change over time. The current system requirements are found here: <https://support.docusign.com/guides/signer-guide-signing-system-requirements>.

ACKNOWLEDGEMENT

To confirm your access to the electronic notices and disclosures, which will be similar to other electronic notices and disclosures that we may provide to you, please acknowledge that you have read this ERSD by selecting the check-box next to ‘I agree to use electronic records and signatures’ before clicking ‘CONTINUE’ within the DocuSign system.

By selecting the check-box next to ‘I agree to use electronic records and signatures’, you confirm that:

- You can access and read this Electronic Record and Signature Disclosure; and
- You can print this Electronic Record and Signature Disclosure, or save or send this Electronic Record and Disclosure to a location where you can print it, for future reference and access; and
- Until or unless you notify Anoka County as described above, you consent to receive exclusively through electronic means all notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you by Anoka County during the course of your relationship with Anoka County.