CITY OF SEWARD
City Council
Committee Meeting
Agenda

Monday, November 10, 2025	**7:30 PM**	**Council Chambers at the Municipal Building**

NOTICE IS HEREBY GIVEN that a meeting of the City Council of the City of Seward, Nebraska will be held at 7:30 PM on Monday, November 10, 2025, in the Council Chambers, 142 N 7th Street, Seward, Nebraska in which the meeting will be open to the public. The Mayor and City Council reserve the right to adjourn into Closed Session as per Section 84-1410 of the Nebraska Revised Statutes. An Agenda for such meeting, kept continually current, is available at the Office of the City Clerk, 537 Main Street, Seward, Nebraska, during normal business hours. Individuals requiring physical or sensory accommodations, who desire to attend or participate, please contact the City Clerk's Office at 402.643.2928 no later than 3:30 PM on the Friday preceding the Council Meeting. City financial claims and related invoices will be available for Council member review, audit, and voluntary signatures at the meeting location beginning 30 minutes prior to the scheduled meeting time.

CALL TO ORDER

DISCLOSURE OF OPEN MEETINGS ACT & OTHER NOTIFICATIONS

This is an Open Meeting of the Seward Planning Commission. The Seward Planning Commission abides by the Nebraska Open Meetings Act in conducting business. A copy of the Nebraska Open Meetings Act is displayed on the north wall of this meeting room facility as required. Disclosure of meeting recording processes is posted in the Meeting Room. A participant sign-in sheet is available for use by any Citizen addressing the Commission. Presenters shall approach the podium, state their name & address for the record and are asked to limit remarks to five minutes. All remarks shall be directed to the Chair who shall determine by whom any appropriate response shall be made. The Seward Planning commission reserves the right to adjust the order of items on this Agenda if necessary and may elect to take action on any of the items listed.

ROLL CALL

CONSENT AGENDA

MINUTES

1. Consideration of Approval of Draft Minutes of September 8, 2025

City of Seward Planning Commission

Minute Record September 8, 2025

The City of Seward Planning Commission met in regular session at 7:30p.m. September 8, 2025, in the Council Chambers at the Municipal Building at 142 North 7th Street, Seward, Nebraska. Upon roll call the following Commission Members were present: Ron Wallman, Sue Bowen, Ron Niemoth, Scott Seevers, and Traci Menke, Other Officials present: Building and Zoning Director, Tim Dworak, City Administrator, and Administrative Assistant, Sara Van Cura.

Absent members were: Clarence Kotera, Dan Ellis, Jake Miller, Ron Jackson, and Lacey Koch.

All proceedings hereafter shown were taken while the convened meeting was open to the public. The meeting with the Planning Commission was called to order by Chairperson Wallman at 7:30 p.m. He requested that all individuals speaking during the public hearing limit their comments to five minutes.

Minutes

Consideration of Approval of Draft Minutes of August 11, 2025.

Moved by Commission Member Seevers; Seconded by Commission Member Niemoth to approve the minutes.

Aye: Wallman, Bowen, Niemoth, Seevers, Menke.
Nay: None.
Absent: Kotera, Ellis, Miller, Jackson, Koch. Motion carried.

1. Public Hearing 7:30pm: review a text amendment to the City of Seward Unified Land Development Ordinance; Article 3 Use Types, 410-3.7 Commercial Uses; 410 Attachment 1 Use Matrix, and Article 31 Supplemental Use Regulations.

Chairperson Wallman opened the public hearing.

Dworak stated the City was approached for a new potential business out near the airport for a helicopter repair and maintenance service. We did research and came up with a definition for aviation maintenance and repair. Then we went farther, and realizing it's a C2 district. We looked if it was an appropriate use. We have another C2 which is Waverly Road and the Wellness Center. Realizing that we decided we should put together some supplemental stipulations that go along with aviation repair. With that we changed that use matrix and added aviation maintenance repair as a moderate impact. We put it in C2 as a conditional use permit. In industrial, just about anything goes in those uses, and made it a permitted use.

Steve Helmandollar, Owner of Kill Devil Aviation, is a veteran owned company, all served with Nebraska National Guard working on the Blackhawks. There's a huge hanger shortage in Nebraska. He found the Montage building. It does meet certain criteria. The door is large enough to get a Blackhawk. There's no major visual impact to the community. Proposed operations, to get the aircraft to the facility, there is two ways. You can truck it in. The other is you fly an aircraft at the Seward Airport. The road is only .22 miles so very minimum impact on traffic. No environmental impacts,

no noise impacts. He would like to do one Blackhawk a month. One day they'd like to have a hanger on the airport property.

Chairperson Wallman asked what are you tugging the aircraft with and any issues with the State of Nebraska.

Helmandollar stated he talked with the State Highway Patrol, they consider it a towed vehicle as long as it's not overweight or oversized. You tug it with a tug, or a tractor works really great.

Chairperson Wallman stated it's not really any different from the other traffic going in and out of the implement dealer.

Dworak stated he reached out to NDOT, saying they have no concerns. The access is already there. They're concern would to do use it during high traffic times.

Commission Member Niemoth asked how many mechanics do you have.

Helmandollar stated his core group is five mechanics. He is a maintenance test pilot.

Commission Member Niemoth asked how do you do the test.

Helmandollar stated after they're done with the inspection, they would take it back to the airport, put on the blades, and do all the run-ups there.

Commission Member Seevers asked at maturity what would you hope to do per month.

Helmandollar stated two a month, but in the civilian world works, they make all their money in the fire season and summer. Typically in October and the winter months is when you'll get the maintenance done.

Collin Hain, Seward County Chamber and Development Partnership, stated the Chamber supports this project and we see it as a viable and positive business for Seward and Seward County. It's an appropriate business to the proximity to the airport.

Chairperson Wallman suspends the public hearing.

Commission Member Menke moved to amend the City of Seward Unified Land Development Ordinance; Article 3 Use Types, 410-3.7 Commercial Uses; 410 Attachment 1 Use Matrix, and Article 31 Supplemental Use Regulations; seconded by Commission Member Bowen.

Chairperson Wallman stated in summary, add that as a use, define the use, and make it possible in C2 but make it in proximity to the airport where it belongs.

Chairperson Wallman stated to let the record show the Planning Commission believes its an appropriate use, and an appropriate location

Aye: Wallman, Bowen, Niemoth, Seevers, Menke.
Nay: None.
Absent: Kotera, Ellis, Miller, Jackson, Koch. Motion carried.

2. Public Hearing 7:30pm: review a special use permit at 1253 280th Rd, for Kill Devil Aviation, to allow aviation maintenance and repair in the C-2 District.

   Chairperson Wallman opened the public hearing.

   Dworak stated we have the conditions listed down below, the four conditions from the code and one site specific agreement. He stated this gets assigned to Steve and not the address.

   Chairperson Wallman closed the public hearing.

   Commission Member Niemoth moved to approve the special use permit at 1253 280th Rd, for Kill Devil Aviation, to allow aviation maintenance and repair in the C-2 District; seconded by Commission Member Menke.

   Chairperson Wallman stated to let the record show the Planning Commission feels this an appropriate use and meets all special use permit conditions.

   Aye: Wallman, Bowen, Niemoth, Seevers, Menke.
   Nay: None.
   Absent: Kotera, Ellis, Miller, Jackson, Koch. Motion carried.

3. Administrative Item

4. Reports

5. Agenda Items

6. Upcoming Events

Meeting adjourned 7:58 p.m.

Sara Van Cura
Administrative Assistant

PUBLIC HEARINGS

1. Public Hearing 7:30pm: review a minor plat of Bader Avenue Subdivision C.

City of Seward Planning Commission

142 N 7th St. Seward, NE 68434

Staff Report

Tim Dworak, Building/Zoning & Code Enforcement Director

402-643-4000

APPLICATION TYPE

Bader Avenue Subdivision C Minor Plat

FINAL ACTION?

DEVELOPER/OWNER

Cynthia Nuejahr

PC HEARING DATE

November 10, 2025

RELATED APPLICATIONS

PROPERTY ADDRESS, ZONING DISTRICT/USE

725 Bader Ave, R-1, Residential

ADJACENT ZONING DISTRICTS/USE:

North, R-1, Residential – Gregory & Pamela Walz, Dennis & Debra Bender

East, R-1, Residential – Mark & Eberta Bohnenstingl

South, R-1, Residential – Eastridge Homeowners Association Inc.

West, R-1, Residential – Dwayne & Linda Brettmann

BRIEF SUMMARY OF REQUEST:

A proposed Minor Plat application to join 2 lots into 1.

APPLICATION CONTACT

Cynthia Neujahr, [redacted]

725 Bader Ave, Seward, NE 68434

COMPATIBILTY WITH THE COMPREHENSIVE PLAN

The plat complies with ULDO 410-38.3 requirements for a Minor plat and the Comprehensive Plan.

ANALYSIS

The subject property is located in a Residential R-1 District and is currently served by city utilities and does not require the extension of utilities or streets. The plat will create 1 lot from 2 existing lots, 1 conforming platted lot and 1 unplatted, land locked and non-conforming. The need for dedicated right of way for the extension of Bek Avenue in the distant future creates the need for a minor plat as opposed to an administrative plat. An accessory building currently exists in what will be dedicated right of way, the applicant was made aware that should the street ever come to fruition the structure would need to be moved. Additionally, platted lots do not allow accessory structures without a principal structure.

Combining these lots cleans up the non-conforming lot and makes it conforming.

The notice of this Public Hearing was published in the Seward County Independent, letters were mailed to owners within 300 feet, and the subject land was posted.

APPROXIMATE LAND AREA:

0.473 acres or 20,588.05 square feet +/-

LEGAL DESCRIPTION:

ALL OF LOT 2, BLOCK 5 BADER-JIROVSKY 4TH ADDITION, AND THAT PART BEING A SOUTHERLY EXTENSION OF LOT 2, BLOCK 5 , ALL LOCATED IN THE SOUTHEAST ¼ OF SECTION 16 T11N R3E OF THE 6TH P.M., CITY OF SEWARD, SEWARD COUNTY, NEBRASKA.

Prepared by

Tim Dworak

City of Seward Building - Zoning – Code Enforcement Director

City of Seward Planning Commission
Minor Subdivision Application

Applications shall be submitted a minimum of 30 days prior to the City Planning Commission Meeting.
City Planning Commission meets the 2nd Monday of each month.

Date: _____ Application Fee: $ 100 + Notification Fee: $ 100 + Filing Fee: 22 = Amount Due: ~~$200~~ 222

Owner/Developer: CYNTHIA & ERICH NEUJAHR Name of Subdivision: Bader-Jirasky 4th

Phone Number: [redacted] Number of Lots: 2

Email Address: [redacted] Present Zoning: R1 Requested Zoning: NA
COM

Legal Description: Lot 2, Block 5, Bader-Jirasky 4th & 16-11-3 N 1/2 SE 1/4

Within City Limits:	Yes ✓	No
Adjacent to City Limits:	Yes	No ✓
Within 2 Mile Area:	Yes	No ✓
Annexation Requested:	Yes	No ✓
Restrictive Covenants: (Copy Attached)	Yes	No ✓

Project Engineer: Allen Surveying Signature of Owner/Developer: [signature]

Office Use Only
Plat Review

Staff Review		Agency Review	
Electric Dept		Cable TV	
Street Dept		Gas Co	
Water/Waste		Phone Co	
Police Dept		School Board	
Park/Rec Dept		County P.C	
County Roads			

Date of Action

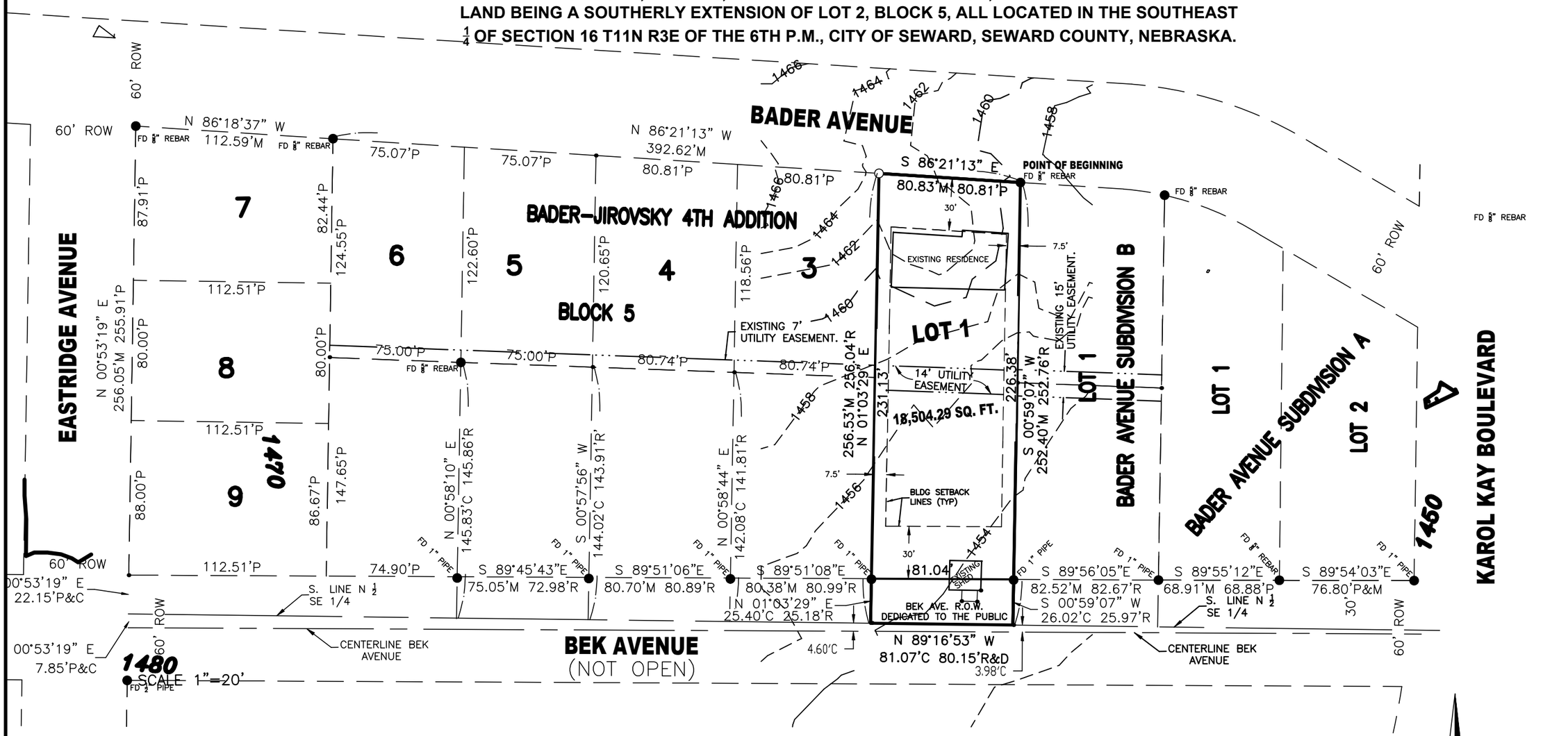
City Planning Commission: _____

Zoning Administrator: _____

PO BOX 38 · 142 N 7th St. Seward, NE 68434
402-643-2928 Opt. 3, Opt. 1
tim.dworak@cityofsewardne.gov

"BADER AVENUE SUBDIVISION C"

A REPLAT OF LOT 2, BLOCK 5, BADER-JIROVSKI 4TH ADDITON, ALONG WITH A PARCEL OF LAND BEING A SOUTHERLY EXTENSION OF LOT 2, BLOCK 5, ALL LOCATED IN THE SOUTHEAST ¼ OF SECTION 16 T11N R3E OF THE 6TH P.M., CITY OF SEWARD, SEWARD COUNTY, NEBRASKA.



Legend

M = Measured
D = Deeded
P = Platted
R = Recorded
● = Fd. 5/8" Rebar
O = Set 5/8" Rebar & Cap
△ = Set Temporary Point
⊕ = Section Corner

ZONING INFORMATION

PRESENT AND PROPOSED ZONING = R-1

SETBACKS
FRONT YARD = 30'
SIDE YARD = 7.5'
sTREET SIDE YARD = 30'
REAR YARD = 20% OF DEPTH

SURVEYOR'S CERTIFICATE

ALL OF LOT 2, BLOCK 5 BADER-JIROVSKY 4TH ADDITION, AND THAT PART BEING A SOUTHERLY EXTENSION OF LOT 2, BLOCK 5 , ALL LOCATED IN THE SOUTHEAST ¼ OF SECTION 16 T11N R3E OF THE 6TH P.M., CITY OF SEWARD, SEWARD COUNTY, NEBRASKA. SAID TRACT OF LAND SHALL BE DESCRIBED BY METES AND BOUNDS AS FOLLOWS.

COMMENCING AT THE NORTHWEST CORNER OF LOT 1, BADER AVENUE SUBDIVISION B, AND THE POINT OF BEGINNING; THENCE SOUTH 00°59'07" WEST, (A SEWARD COUNTY LDP BEARING AND THE BASIS FOR BEARING OF THIS SUBDIVISION) ON THE WEST LINE OF LOT 1 BADER AVENUE SUBDIVISION B, A DISTANCE OF 252.04 FEET, TO A POINT ON THE SOUTH LINE OF THE NORTH ONE HALF OF THE SOUTHEAST ¼; THENCE NORTH 89°16'53" WEST, ON SAID SOUTH LINE OF THE NORTH ONE HALF OF THE SOUTHEAST ¼, A DISTANCE OF 81.07 FEET; THENCE NORTH 01°03'29" EAST ON THE EXTENSION OF THE EAST LINE OF LOT 3, BLOCK 5, BADER-JIROVSKY 4TH ADDITION, A DISTANCE OF 256.53 FEET, TO THE NORTHEAST CORNER OF SAID LOT 3, BLOCK 5; THENCE SOUTH 86°21'13" EAST, ON THE SOUTH RIGHT OF WAY LINE OF BADER AVENUE, A DISTANCE OF 80.83 FEET, TO THE POINT OF BEGINNING, AND CONTAINING A CALCULATED AREA OF 20,588.05 SQUARE FEET OR 0.473 ACRES.

I, THE UNDERSIGNED, A DULY REGISTERED LAND SURVEYOR, UNDER THE LAWS OF THE STATE OF NEBRASKA, IN AND FOR THE STATE OF NEBRASKA, DO HEREBY CERTIFY THAT I CAUSED A SURVEY TO BE MADE OF THE FOREGOING DESCRIBED PROPERTY, AND THAT THE RESULTS OF SAID SURVEY ARE ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEFS.

SIGNED THIS 6TH DAY OF NOVEMBER, 2025.

DEREK A. BEENBLOSSOM RLS-570

NEBRASKA PROFESSIONAL PLS-570 LAND SURVEYOR DEREK A. BEENBLOSSOM

ALLEN SURVEYING SERVICES LLC.
2450 W. MARTELL RD.
MARTELL NE. 68404
402-466-4366
1128 MAIN AVE.
CRETE, NE. 68333
402-826-4620

APPROVAL OF CITY OF SEWARD PLANNING COMMISSION

THIS PLAT OF "BADER AVENUE SUBDIVISION C", LOCATED IN THE SOUTHEAST 1/4 OF SECTION 16 T11N R3E OF THE 6TH P.M. CITY OF SEWARD, SEWARD COUNTY, NEBRASKA, WAS APPROVED BY THE CITY PLANNING COMMISSION OF THE CITY OF SEWARD, SEWARD COUNTY, NEBRASKA.

DATED THIS_____DAY OF_____, 2025.

BY _____ PLANNING AND ZONING CHAIRPERSON

ATTEST _____ SECRETARY OF PLANNING COMMISSION

APPROVAL OF CITY OF SEWARD, NEBRASKA ZONING ADMINISTRATOR

THIS PLAT OF "BADER AVENUE SUBDIVISION C", LOCATED IN THE SOUTHEAST 1/4 OF SECTION 16 T11N R3E OF THE 6TH P.M. CITY OF SEWARD, SEWARD COUNTY, NEBRASKA, WAS APPROVED BY THE ZONING ADMINISTRATOR OF THE CITY OF SEWARD, SEWARD COUNTY, NEBRASKA.

DATED THIS_____DAY OF_____, 2025. _____ CITY OF SEWARD ZONING ADMINISTRATOR

DEDICATION

WE, THE UNDERSIGNED ERICH O. NEUJAHR, AND CYNTHIA NEUJAHR, HUSBAND AND WIFE. OWNERS OF SAID REAL ESTATE SHOWN AND PLATTED HEREIN, DO HEREBY CERTIFY THAT WE HAVE LAID OUT, PLATTED, AND SUBDIVIDED, AND DO HEREBY LAY OUT, PLAT AND SUBDIVIDE SAID REAL ESTATE IN ACCORDANCE WITH THIS PLAT.

THE SUBDIVISION SHALL BE KNOW AND DESIGNATED AS "BADER AVENUE SUBDIVISION C", TO THE CITY OF SEWARD, SEWARD COUNTY, NEBRASKA. ALL STREETS AND ALLEYS SHOWN AND NOT DEDICATED ARE HEREBY DEDICATED TO THE PUBLIC UNLESS SPECIFICALLY NOTED HEREON, OTHER PUBLIC LANDS SHOWN AND NOTE HERETOFORE DEDICATED ARE HEREBY RESERVED FOR PUBLIC USE.

CLEAR TITLE TO THE LAND CONTAINED IN THIS PLAT IS GUARANTEED. ANY ENCUMBRANCES OR SPECIAL ASSESSMENTS ARE EXPLAINED AS FOLLOWS_____.

THERE ARE STRIPS OF GROUND SHOWN ON THIS PLAT AND MARKED EASEMENT, RESERVED FOR THE USE OF PUBLIC UTILITIES AND SUBJECT TO THE PARAMOUNT RIGHT OF UTILITY OR CITY TO INSTALL, REPAIR, REPLACE AND MAINTAIN ITS INSTALLATION. NO PERMANENT BUILDINGS OR STRUCTURES SHALL BE PLACED IN SAID EASEMENT WAYS, BUT THE SAME MAY BE USED FOR LANDSCAPING, AND OTHER PURPOSES THAT DO NOT NOW OR LATER INTERFERE WITH THE AFORESAID USES OR RIGHT GRANTED HEREIN.

WITNESS MY HAND THIS_____DAY OF_____, 20_____.

_____ HUSBAND _____ WIFE
ERICH O. NEUJAHR CYNTHIA NEUJAHR

ACKNOWLEDGEMENT OF NOTARY

STATE OF NEBRASKA)
)SS
COUNTY OF SEWARD)

BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC, IN AND FOR THE COUNTY AND STATE, PERSONALLY APPEARED ERICH O. NEUJAHR, AND CYNTHIA NEUJAHR, HUSBAND AND WIFE, ACKNOWLEDGE THE EXECUTION OF THE FOREGOING INSTRUMENT AS HIS VOLUNTARY ACT AND DEED, FOR THE PURPOSES THEREIN EXPRESSED.

WITNESS MY HAND THIS_____DAY OF_____, 20_____.

_____
NOTARY PUBLIC

MY COMMISSION EXPIRES THE_____DAY OF_____, 20____.

REGISTER OF DEEDS CERTIFICATION

STATE OF NEBRASKA)
)SS
COUNTY OF SEWARD)

THIS IS TO CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD IN THE REGISTER OF DEEDS OFFICE.

DATE: _____ TIME:_____ DRAWER NUMBER:_____

INSTRUMENT NUMBER:_____ FEE:_____

_____
REGISTER OF DEEDS

BADER AVE

0

KAROL-KAY-BLVD

266 RD

800076532

800076524

800076516

800076508

800108175

800108167

800103653

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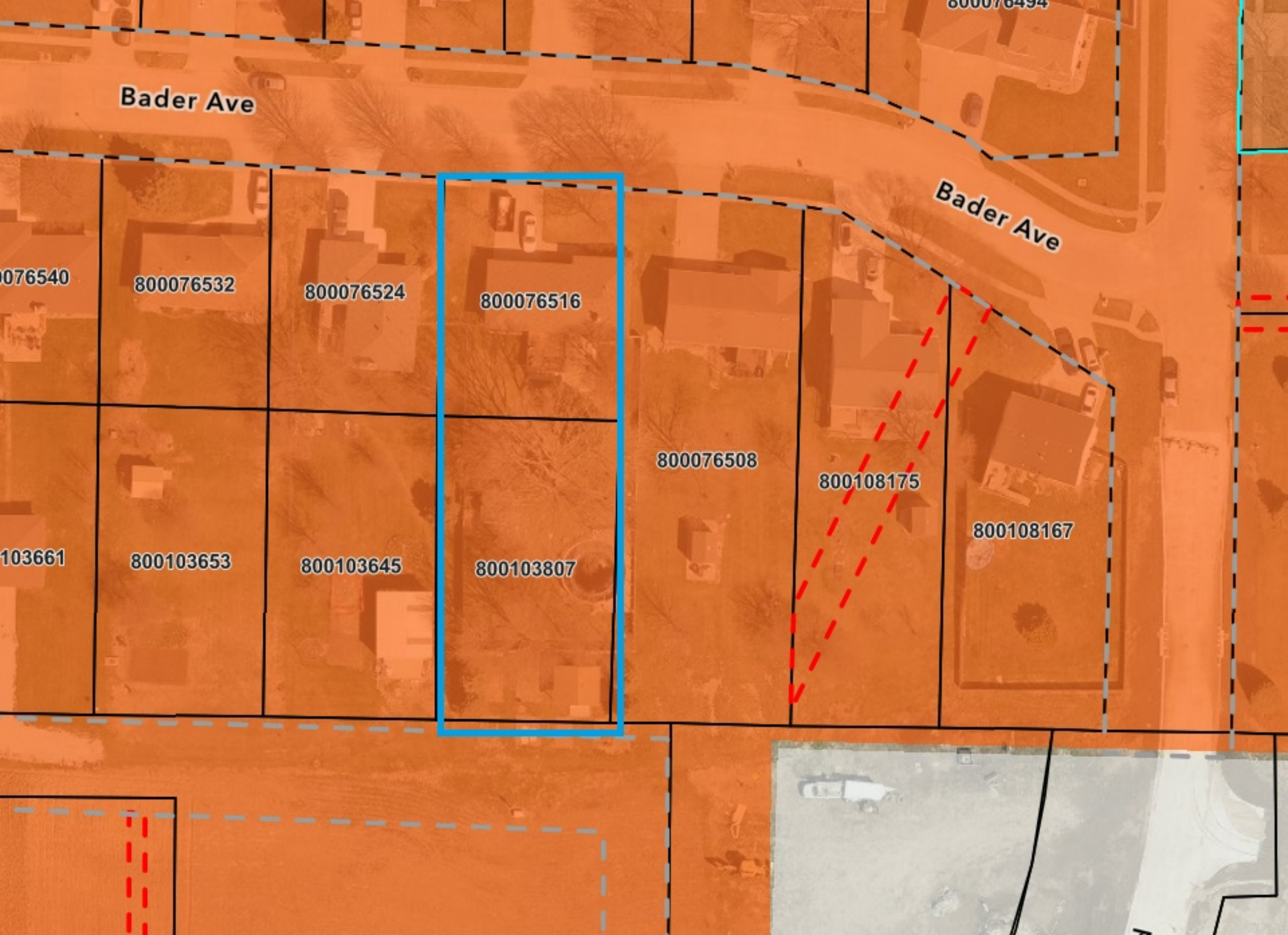
16-11-3E

800038509

800230795


Bader Ave
Bader Ave
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800076524
800076516
800076508
800108175
800108167
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800103645
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2. Public Hearing 7:30pm: review a final plat of Prairie View 1st Addition.
    a. Final Subdivision Agreement

City of Seward Planning Commission

142 N 7th St, Seward, NE 68434

Staff Report

Tim Dworak, Building/Zoning & Code Enforcement Director

402-643-2928 opt 3 opt 1

APPLICATION TYPE

Major Subdivision Application
Final Plat

FINAL ACTION?

DEVELOPER/OWNER

1640 LLC, Bob Benes

PC HEARING DATE

November 10, 2025

RELATED APPLICATIONS

PROPERTY ADDRESS, ZONING DISTRICT/USE

R-3 / Residential

ADJACENT ZONING DISTRICTS/USE:

North, R-3, Urban Residential Mixed-Density – Dale & Connie Rood, Bruce & Kendra Scheiber, Doug & Gail Brand, Samuel & Rachel Sommerer, Kenton & Christina Schegg, Nicholas & Jennifer Hiser, James & Ellen Varney, Brett & Noel Baker, April Hoffbauer, Thomas & Vickie Jorgensen, Kenneth & Nancy Lieb, Ridge Run Addition

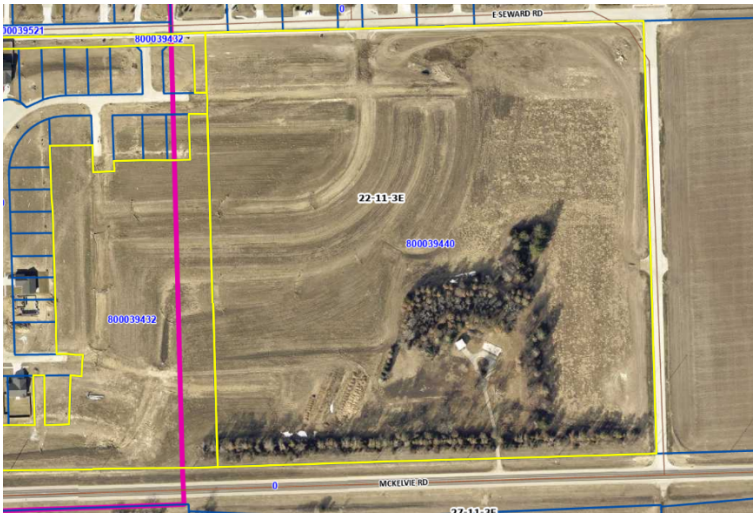
East, AG, Agriculture – Jones Farms Inc

South, R-4, Urban Residential Multifamily – Jones Farm Inc

West, R-3, Urban Residential Mixed-Density – Prairie View Addition phase 1

BRIEF SUMMARY OF REQUEST:

A Major Subdivision final plat review of Prairie View 1st Addition.



APPLICATION CONTACT

Bob Benes, Office: [redacted]
1640 Normandy Ct A, Lincoln, NE 68512

COMPATIBILTY WITH THE COMPREHENSIVE PLAN

Use type matches the comprehensive plan.

ANALYSIS

This is a Major Subdivision Final Plat application to develop Prairie View 1st Addition east of Prairie View Addition, South of Ridge Run Addition, and North of Highway 34.

The applicant is 1640, LLC, Bob Benes, and the professional design firm is Olsson, Inc. This will be the second phase, a continuation of the Prairie View Development.

This 2nd subdivision involves 17 single family residential lots and 1 outlot for future development. The subject property is located inside City limits. The property is zoned R-3 Urban Residential District (Mixed Density) with all lot sizes conforming to the R-3 minimum lot width and square footage requirements. The development continues to be completed in phases with the grading for the first three phases having been completed in the 1st phase. Time frames for the stages continue to be subject to demand and economic conditions.

The subdivision will involve extending City utilities and new public streets connecting to Willow Ave along the south, and East Seward Street to the north.

City staff have reviewed the drainage and infrastructure plans, as well as, the subdivision agreement to assure compliance with city standards.

A public hearing notice was published, mailed to neighboring property owners, and the property was posted.

APPROXIMATE LAND AREA:

46.02 acres or 2,004,562.98 square feet +/-

LEGAL DESCRIPTION:

A TRACT OF LAND COMPOSED OF OUTLOT 'B', PRAIRIE VIEW ADDITION, LOCATED IN THE SOUTHWEST QUARTER OF SECTION 22, TOWNSHIP 11 NORTH, RANGE 3 EAST OF THE 6TH P.M., CITY OF SEWARD, SEWARD COUNTY, NEBRASKA, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A NORTHWEST CORNER OF SAID OUTLOT 'B', SAID POINT BEING A NORTHEAST CORNER OF LOT 1, BLOCK 5, OF SAID PRAIRIE VIEW ADDITION THENCE, EASTERLY, ON THE NORTH LINE OF SAID OUTLOT 'B', ON AN ASSUMED BEARING OF S89°36'57"E, A DISTANCE OF 1,274.93' TO A POINT; THENCE S44°35'25"E, ON A NORTHEAST LINE OF SAID OUTLOT 'B', A DISTANCE OF 21.20' TO A POINT; THENCE S00°26'06"W, ON AN EAST LINE OF SAID OUTLOT 'B', A DISTANCE OF 1,208.24' TO A POINT; THENCE N89°53'36"W, ON A SOUTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 1,291.47' TO A POINT; THENCE N88°59'50"W, ON A SOUTH LINE OF SAID OUTLOT 'B', A

DISTANCE OF 337.49' TO A POINT; THENCE N89°49'00"W, ON A SOUTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 386.78' TO A POINT; THENCE N00°08'31"W, ON A WEST LINE OF SAID OUTLOT 'B', A DISTANCE OF 298.32' TO A POINT; THENCE S89°36'08"E, ON A NORTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 30.00' TO A POINT; THENCE S00°08'29"E, ON AN EAST LINE OF SAID OUTLOT 'B', A DISTANCE OF 140.01' TO A POINT; THENCE S89°36'08"E, ON A NORTH LINE OF SAID OUTLOT 'A', A DISTANCE OF 220.90' TO A POINT; THENCE N00°23'52"E, ON A WEST LINE OF SAID OUTLOT 'B', A DISTANCE OF 140.00' TO A POINT; THENCE S89°36'08"E, ON A NORTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 30.00' TO A POINT; THENCE S00°23'52"W, ON AN EAST LINE OF SAID OUTLOT 'B', A DISTANCE OF 140.00' TO A POINT; THENCE S89°36'08"E, ON A NORTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 68.67' TO A POINT OF CURVATURE FOR A CURVE IN A CLOCKWISE DIRECTION, HAVING A CENTRAL ANGLE OF 01°02'35", A RADIUS OF 330.00', AN ARC LENGTH OF 6.01' ON A NORTH LINE OF SAID OUTLOT 'B', A CHORD LENGTH OF 6.01', A TANGENT LENGTH OF 3.00', AND A CHORD BEARING OF S89°04'51"E, TO A POINT; THENCE N01°26'27"E, ON A WEST LINE OF SAID OUTLOT 'B', A DISTANCE OF 140.00' TO A POINT OF CURVATURE FOR A NON-TANGENT CURVE IN A CLOCKWISE DIRECTION, HAVING A CENTRAL ANGLE OF 03°52'40", A RADIUS OF 470.00', AN ARC LENGTH OF 31.81' ON A NORTH LINE OF SAID OUTLOT 'B', A CHORD LENGTH OF 31.81', A TANGENT LENGTH OF 15.91', AND A CHORD BEARING OF S86°37'13"E TO A POINT; THENCE N01°26'41"E, ON A WEST LINE OF SAID OUTLOT 'B', A DISTANCE OF 60.12' TO A POINT OF CURVATURE FOR A NON-TANGENT CURVE IN A COUNTER CLOCKWISE DIRECTION, HAVING A CENTRAL ANGLE OF 04°28'54", A RADIUS OF 530.00', AN ARC LENGTH OF 41.46' ON A SOUTH LINE OF SAID OUTLOT 'B', A CHORD LENGTH OF 41.45', A TANGENT LENGTH OF 20.74', AND A CHORD BEARING OF N87°21'41"W TO A POINT; THENCE N89°36'08"W, ON A SOUTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 31.44' TO A POINT; THENCE N00°08'30"W, ON A WEST LINE OF SAID OUTLOT 'B', A DISTANCE OF 587.03' TO A POINT; THENCE N89°51'30"E, ON A NORTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 120.00' TO A POINT; THENCE S00°08'30"E, ON AN EAST LINE OF SAID OUTLOT 'B', A DISTANCE OF 76.18' TO A POINT; THENCE N89°51'30"E, ON A NORTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 60.00' TO A POINT; THENCE N00°08'30"W, ON AN EAST LINE OF SAID OUTLOT 'B', A DISTANCE OF 30.00' TO A POINT; THENCE S89°36'56"E, ON A NORTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 216.81' TO A POINT; THENCE N00°23'04"E, ON A WEST LINE OF SAID OUTLOT 'B', A DISTANCE OF 130.00' TO A POINT; THENCE S89°36'56"E, ON A NORTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 53.30' TO A POINT; THENCE N00°23'04"E, ON A WEST LINE OF SAID OUTLOT 'B', A DISTANCE OF 60.00' TO A POINT; THENCE N89°36'56"W, ON A SOUTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 35.00' TO A POINT; THENCE N00°23'04"E, ON A WEST LINE OF SAID OUTLOT 'B', A DISTANCE OF 136.49' TO THE POINT OF BEGINNING, SAID TRACT CONTAINS A CALCULATED AREA OF 2,004,562.98 SQUARE FEET OR 46.02 ACRES, MORE OR LESS.

Prepared by

Tim Dworak

City of Seward Building - Zoning - Code Enforcement Director

City of Seward
142 North 7th St.
Seward, NE 68434
402-643-4000

CASH RECEIPT Date 10-2

Received From 1640 LLC

Address 1640 Normandy

For Prairie View 1ST Fi

ACCOUNT			HOW PAID	
AMT. OF ACCOUNT			CASH	
AMT. PAID			CHECK	17
BALANCE DUE			MONEY ORDER ☐ CREDIT CARD ☐	

PAID 10-21 CK

4TH OF JULY CITY
SEWARD
NEBRASKA
BUILDING CODE / PLANNING ZONING / ENGINEERING

City of Seward Planning Commission
Major Subdivision Application

ed a minimum of 30 days prior to he City Planning Commission
Meeting. City Planning Commission meets the 2nd Monday of each Month.

Date: 10/6/2025 Preliminary Plat Fee: ~~$400~~ +$40 per Lot: _____ +Notification Fee: $100 = Amount Due: $100

Owner/Developer: 1640 LLC, Bob Benes — Address: 1640 Normandy Court, Lincoln

Email: [redacted] — Phone: [redacted]

Legal Description: SW 1/4 SW 1/4 S22 T11 R3E — Subdivision: Prairie View 1st Addition

Project Engineer: Olsson — Number of Lots: 17

Present Zoning: R-3 — Requested Zoning: R-3

Within City Limits	Yes ___	No ___	NA ___
Adjacent to City Limits	Yes ___	No ___	NA ___
Within 2 Mile Area	Yes ___	No ___	NA ___
Annexation Requested	Yes ___	No ___	NA ___
Subdivision Agreement Submitted	Yes ___	No ___	NA ___
Performance Bond Required	Yes ___	No ___	NA ___

Signed by Developer: _____

Final Plat Review

Staff Review		Agency Reviw	
Electric Dept	___	Cable TV	___
Street Dept	___	Gas Co	___
Police Dept	___	Phone Co	___
Park/Rec Dept	___	School Board	___
		County P.C.	___

Final Plat Fee: $100 + $10 per Lot: $170 + Filing Fee: _____ = Amount Due: $270

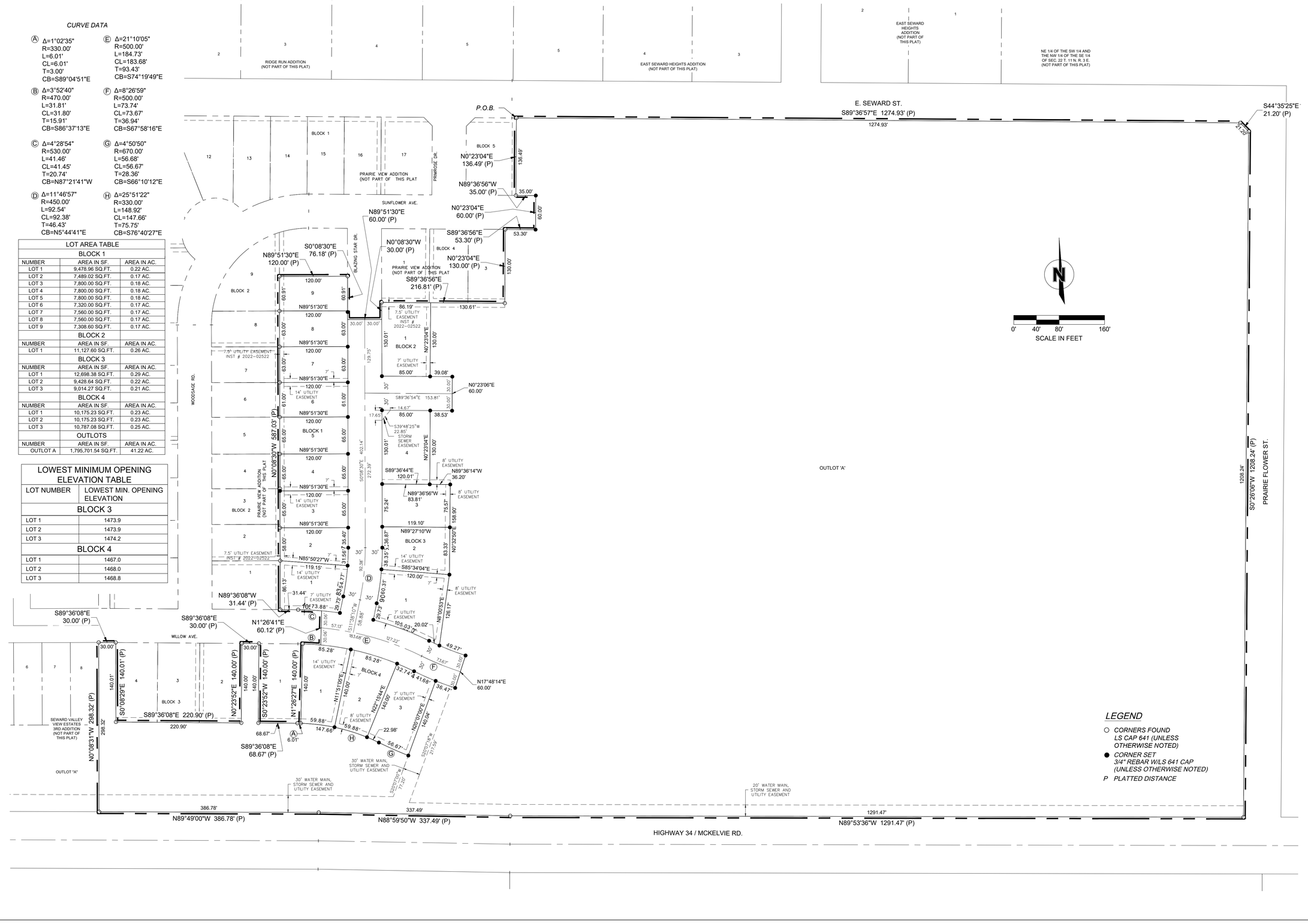
Aid to Construction for Electric Department per Resolution No. 2025-30

Developer Fee set by Electrical Superintendent and payable before development begins.

Neighborhood Park Dedication/Fees In Lieu Of (City of Seward Unified Land Development Ord. 410-41.5) See ULDO Article 41, Public Improvements & Infrastructure, 410-41.5 Section B, Parks and Reservations, to determine land or cash donation: _____ Total Amount Due: $370.00

Date Action Taken: Planning Commission _____ City Council _____

PRAIRIE VIEW 1ST ADDITION, A REPLAT OF OUTLOT 'B', PRAIRIE VIEW ADDITION, CITY OF SEWARD, SEWARD COUNTY NEBRASKA



CURVE DATA

Ⓐ Δ=1°02'35"
R=330.00'
L=6.01'
CL=6.01'
T=3.00'
CB=S89°04'51"E

Ⓑ Δ=3°52'40"
R=470.00'
L=31.81'
CL=31.80'
T=15.91'
CB=S86°37'13"E

Ⓒ Δ=4°28'54"
R=530.00'
L=41.46'
CL=41.45'
T=20.74'
CB=N87°21'41"W

Ⓓ Δ=11°46'57"
R=450.00'
L=92.54'
CL=92.38'
T=46.43'
CB=N5°44'41"E

Ⓔ Δ=21°10'05"
R=500.00'
L=184.73'
CL=183.68'
T=93.43'
CB=S74°19'49"E

Ⓕ Δ=8°26'59"
R=500.00'
L=73.74'
CL=73.67'
T=36.94'
CB=S67°58'16"E

Ⓖ Δ=4°50'50"
R=670.00'
L=56.68'
CL=56.67'
T=28.36'
CB=S66°10'12"E

Ⓗ Δ=25°51'22"
R=330.00'
L=148.92'
CL=147.66'
T=75.75'
CB=S76°40'27"E

LOT AREA TABLE		
BLOCK 1		
NUMBER	AREA IN SF.	AREA IN AC.
LOT 1	9,478.96 SQ.FT.	0.22 AC.
LOT 2	7,489.02 SQ.FT.	0.17 AC.
LOT 3	7,800.00 SQ.FT.	0.18 AC.
LOT 4	7,800.00 SQ.FT.	0.18 AC.
LOT 5	7,800.00 SQ.FT.	0.18 AC.
LOT 6	7,320.00 SQ.FT.	0.17 AC.
LOT 7	7,560.00 SQ.FT.	0.17 AC.
LOT 8	7,560.00 SQ.FT.	0.17 AC.
LOT 9	7,308.60 SQ.FT.	0.17 AC.
BLOCK 2		
NUMBER	AREA IN SF.	AREA IN AC.
LOT 1	11,127.60 SQ.FT.	0.26 AC.
BLOCK 3		
NUMBER	AREA IN SF.	AREA IN AC.
LOT 1	12,698.38 SQ.FT.	0.29 AC.
LOT 2	9,428.64 SQ.FT.	0.22 AC.
LOT 3	9,014.27 SQ.FT.	0.21 AC.
BLOCK 4		
NUMBER	AREA IN SF.	AREA IN AC.
LOT 1	10,175.23 SQ.FT.	0.23 AC.
LOT 2	10,175.23 SQ.FT.	0.23 AC.
LOT 3	10,787.08 SQ.FT.	0.25 AC.
OUTLOTS		
NUMBER	AREA IN SF.	AREA IN AC.
OUTLOT A	1,795,701.54 SQ.FT.	41.22 AC.

LOWEST MINIMUM OPENING ELEVATION TABLE	
LOT NUMBER	LOWEST MIN. OPENING ELEVATION
BLOCK 3	
LOT 1	1473.9
LOT 2	1473.9
LOT 3	1474.2
BLOCK 4	
LOT 1	1467.0
LOT 2	1468.0
LOT 3	1468.8

LEGEND

- ○ *CORNERS FOUND LS CAP 641 (UNLESS OTHERWISE NOTED)*
- ● *CORNER SET 3/4" REBAR W/LS 641 CAP (UNLESS OTHERWISE NOTED)*
- *P PLATTED DISTANCE*

olsson

601 P Street, Suite 200
P.O. Box 84608
Lincoln, NE 68508

olsson.com
TEL 402.474.6311
FAX 402.474.5063

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PRAIRIE VIEW 1ST ADDITION

SEWARD NEBRASKA

2025

drawn by:
designed by:
project no.: 025-03411
date: 10-6-2025

SHEET
1 of 2

F:\2025\03001-035000\25-03411\40-Design\Survey\SRVY\Sheets\V_PPLAT_02503411.dwg
DATE: Nov 05, 2025 4:57pm USER: abroeker

OWNERS CERTIFICATE

I, THE UNDERSIGNED, MICHELLE AND ROBERT BENES, TRUSTEES OF 1640 LLC, BEING THE OWNER OF THE REAL ESTATE SHOWN AND DESCRIBED HEREIN, DO HEREBY CERTIFY THAT WE HAVE LAID OUT, PLATTED, AND SUBDIVIDED, OF SAID REAL ESTATE IN ACCORDANCE WITH THIS PLAT. THIS SUBDIVISION SHALL BE KNOWN AS PRAIRIE VIEW 1ST ADDITION, AN ADDITION TO THE CITY OF SEWARD, NEBRASKA. ALL STREETS AND EASEMENTS SHOWN AND NOT HERETOFORE DEDICATED ARE HEREBY DEDICATED TO THE PUBLIC UNLESS SPECIFICALLY NOTED HEREIN. OTHER PUBLIC LANDS SHOWN AND NOT HERETOFORE DEDICATED ARE HEREBY DEDICATED ARE HEREBY RESERVED FOR PUBLIC USE. CLEAR TITLE TO THE LAND CONTAINED IN THE PLAT IS GUARANTEED. ANY ENCUMBRANCES OR SPECIAL ASSESSMENTS ARE EXPLAINED AS FOLLOWS: THERE ARE STRIPS OF GROUND SHOWN ON THIS PLAT AND MARKED EASEMENT, RESERVED FOR THE USE OF PUBLIC UTILITIES AND SUBJECT TO THE PARAMOUNT RIGHT OF UTILITY OR CITY TO INSTALL, REPAIR, REPLACE AND MAINTAIN ITS INSTALLATIONS.

1640 LLC, A NEBRASKA LIMITED LIABILITY COMPANY

BY: _____
NAME: MICHELLE S. BENES
TITLE: TRUSTEE

BY: _____
NAME: ROBERT L. BENES
TITLE: TRUSTEE

ACKNOWLEDGMENT OF NOTARY

STATE OF _____)
)SS.
COUNTY OF _____)

ON THIS ____ DAY OF _____, 2025, BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC, PERSONALLY CAME MICHELLE S. BENES, TRUSTEE, TO ME PERSONALLY KNOWN TO BE THE IDENTICAL PERSON WHOSE NAME IS AFFIXED TO THE FOREGOING INSTRUMENT AS TRUSTEE OF 1640 LLC, A NEBRASKA LIMITED LIABILITY COMPANY, AND SHE ACKNOWLEDGED THE SAME TO BE HER VOLUNTARY ACT AND DEED AND THE VOLUNTARY ACT AND DEED OF SAID MUNICIPAL CORPORATION.

_____
NOTARY PUBLIC

ACKNOWLEDGMENT OF NOTARY

STATE OF _____)
)SS.
COUNTY OF _____)

ON THIS ____ DAY OF _____, 2025, BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC, PERSONALLY CAME ROBERT L. BENES, TRUSTEE, TO ME PERSONALLY KNOWN TO BE THE IDENTICAL PERSON WHOSE NAME IS AFFIXED TO THE FOREGOING INSTRUMENT AS TRUSTEE OF 1640 LLC, A NEBRASKA LIMITED LIABILITY COMPANY, AND HE ACKNOWLEDGED THE SAME TO BE HIS VOLUNTARY ACT AND DEED AND THE VOLUNTARY ACT AND DEED OF SAID MUNICIPAL CORPORATION.

_____
NOTARY PUBLIC

APPROVAL OF THE CITY PLANNING COMMISSION

THIS FINAL PLAT OF PRAIRIE VIEW 1ST ADDITION, LOCATED IN OUTLOT 'B', PRAIRIE VIEW ADDITION, LOCATED IN THE SOUTHWEST QUARTER OF SECTION 22, TOWNSHIP 11 NORTH, RANGE 3 EAST OF THE 6TH P.M., CITY OF SEWARD, SEWARD COUNTY, NEBRASKA, WAS APPROVED BY THE CITY PLANNING COMMISSION OF THE CITY OF SEWARD, SEWARD COUNTY, NEBRASKA THIS _____ DAY OF _____, 2025.

BY: _____
CHAIR PERSON

ATTEST: _____
SECRETARY

APPROVAL OF THE CITY COUNCIL

THIS FINAL PLAT OF PRAIRIE VIEW 1ST ADDITION, LOCATED IN OUTLOT 'B', PRAIRIE VIEW ADDITION, LOCATED IN THE SOUTHWEST QUARTER OF SECTION 22, TOWNSHIP 11 NORTH, RANGE 3 EAST OF THE 6TH P.M., CITY OF SEWARD, SEWARD COUNTY, NEBRASKA, WAS APPROVED BY THE CITY COUNCIL OF THE CITY OF SEWARD, SEWARD COUNTY, NEBRASKA THIS _____ DAY OF _____, 2025.

BY; _____
MAYOR

ATTEST: _____
CITY CLERK

LEGAL DESCRIPTION

A TRACT OF LAND COMPOSED OF OUTLOT 'B', PRAIRIE VIEW ADDITION, LOCATED IN THE SOUTHWEST QUARTER OF SECTION 22, TOWNSHIP 11 NORTH, RANGE 3 EAST OF THE 6TH P.M., CITY OF SEWARD, SEWARD COUNTY, NEBRASKA, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A NORTHWEST CORNER OF SAID OUTLOT 'B', SAID POINT BEING A NORTHEAST CORNER OF LOT 1, BLOCK 5, OF SAID PRAIRIE VIEW ADDITION THENCE, EASTERLY, ON THE NORTH LINE OF SAID OUTLOT 'B', ON AN ASSUMED BEARING OF S89°36'57"E, A DISTANCE OF 1,274.93' TO A POINT; THENCE S44°35'25"E, ON A NORTHEAST LINE OF SAID OUTLOT 'B', A DISTANCE OF 21.20' TO A POINT; THENCE S00°26'06"W, ON AN EAST LINE OF SAID OUTLOT 'B', A DISTANCE OF 1,208.24' TO A POINT; THENCE N89°53'36"W, ON A SOUTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 1,291.47' TO A POINT; THENCE N88°59'50"W, ON A SOUTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 337.49' TO A POINT; THENCE N89°49'00"W, ON A SOUTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 386.78' TO A POINT; THENCE N00°08'31"W, ON A WEST LINE OF SAID OUTLOT 'B', A DISTANCE OF 298.32' TO A POINT; THENCE S89°36'08"E, ON A NORTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 30.00' TO A POINT; THENCE S00°08'29"E, ON AN EAST LINE OF SAID OUTLOT 'B', A DISTANCE OF 140.01' TO A POINT; THENCE S89°36'08"E, ON A NORTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 220.90' TO A POINT; THENCE N00°23'52"E, ON A WEST LINE OF SAID OUTLOT 'B', A DISTANCE OF 140.00' TO A POINT; THENCE S89°36'08"E, ON A NORTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 30.00' TO A POINT; THENCE S00°23'52"W, ON AN EAST LINE OF SAID OUTLOT 'B', A DISTANCE OF 140.00' TO A POINT; THENCE S89°36'08"E, ON A NORTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 68.67' TO A POINT OF CURVATURE FOR A CURVE IN A CLOCKWISE DIRECTION, HAVING A CENTRAL ANGLE OF 01°02'35", A RADIUS OF 330.00', AN ARC LENGTH OF 6.01' ON A NORTH LINE OF SAID OUTLOT 'B', A CHORD LENGTH OF 6.01', A TANGENT LENGTH OF 3.00', AND A CHORD BEARING OF S89°04'51"E, TO A POINT; THENCE N01°26'27"E, ON A WEST LINE OF SAID OUTLOT 'B', A DISTANCE OF 140.00' TO A POINT OF CURVATURE FOR A NON-TANGENT CURVE IN A CLOCKWISE DIRECTION, HAVING A CENTRAL ANGLE OF 03°52'40", A RADIUS OF 470.00', AN ARC LENGTH OF 31.81' ON A NORTH LINE OF SAID OUTLOT 'B', A CHORD LENGTH OF 31.81', A TANGENT LENGTH OF 15.91', AND A CHORD BEARING OF S86°37'13"E TO A POINT; THENCE N01°26'41"E, ON A WEST LINE OF SAID OUTLOT 'B', A DISTANCE OF 60.12' TO A POINT OF CURVATURE FOR A NON-TANGENT CURVE IN A COUNTER CLOCKWISE DIRECTION, HAVING A CENTRAL ANGLE OF 04°28'54", A RADIUS OF 530.00', AN ARC LENGTH OF 41.46' ON A SOUTH LINE OF SAID OUTLOT 'B', A CHORD LENGTH OF 41.45', A TANGENT LENGTH OF 20.74', AND A CHORD BEARING OF N87°21'41"W TO A POINT; THENCE N89°36'08"W, ON A SOUTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 31.44' TO A POINT; THENCE N00°08'30"W, ON A WEST LINE OF SAID OUTLOT 'B', A DISTANCE OF 587.03' TO A POINT; THENCE N89°51'30"E, ON A NORTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 120.00' TO A POINT; THENCE S00°08'30"E, ON AN EAST LINE OF SAID OUTLOT 'B', A DISTANCE OF 76.18' TO A POINT; THENCE N89°51'30"E, ON A NORTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 60.00' TO A POINT; THENCE N00°08'30"W, ON AN EAST LINE OF SAID OUTLOT 'B', A DISTANCE OF 30.00' TO A POINT; THENCE S89°36'56"E, ON A NORTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 216.81' TO A POINT; THENCE N00°23'04"E, ON A WEST LINE OF SAID OUTLOT 'B', A DISTANCE OF 130.00' TO A POINT; THENCE S89°36'56"E, ON A NORTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 53.30' TO A POINT; THENCE N00°23'04"E, ON A WEST LINE OF SAID OUTLOT 'B', A DISTANCE OF 60.00' TO A POINT; THENCE N89°36'56"W, ON A SOUTH LINE OF SAID OUTLOT 'B', A DISTANCE OF 35.00' TO A POINT; THENCE N00°23'04"E, ON A WEST LINE OF SAID OUTLOT 'B', A DISTANCE OF 136.49' TO THE POINT OF BEGINNING, SAID TRACT CONTAINS A CALCULATED AREA OF 2,004,562.98 SQUARE FEET OR 46.02 ACRES, MORE OR LESS.

SURVEYOR'S CERTIFICATE

I, ANDREW L. BROEKER, A PROFESSIONAL LAND SURVEYOR OF THE STATE OF NEBRASKA, HEREBY CERTIFY THAT I HAVE ACCURATELY SURVEYED UNDER MY SUPERVISION, PRAIRIE VIEW 1ST ADDITION, LOCATED IN OUTLOT 'B', PRAIRIE VIEW ADDITION, LOCATED IN THE SOUTHWEST QUARTER OF SECTION 22, TOWNSHIP 11 NORTH, RANGE 3 EAST OF THE 6TH P.M., CITY OF SEWARD, SEWARD COUNTY, NEBRASKA, CITY OF SEWARD, SEWARD COUNTY, NEBRASKA, AND THAT THE ABOVE AND FOREGOING IS TRUE AND CORRECT SURVEY THEREOF.

DATED THIS ____ DAY OF _____, 2025

_____
ANDREW L. BROEKER, PLS NO. 641

NEBRASKA PROFESSIONAL LAND SURVEYOR ANDREW L BROEKER PLS-641

REGISTER OF DEEDS CERTIFICATE

STATE OF NEBRASKA)
)SS.
COUNTY OF SEWARD)

THIS IS TO CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD IN THE REGISTER OF DEEDS OFFICE.

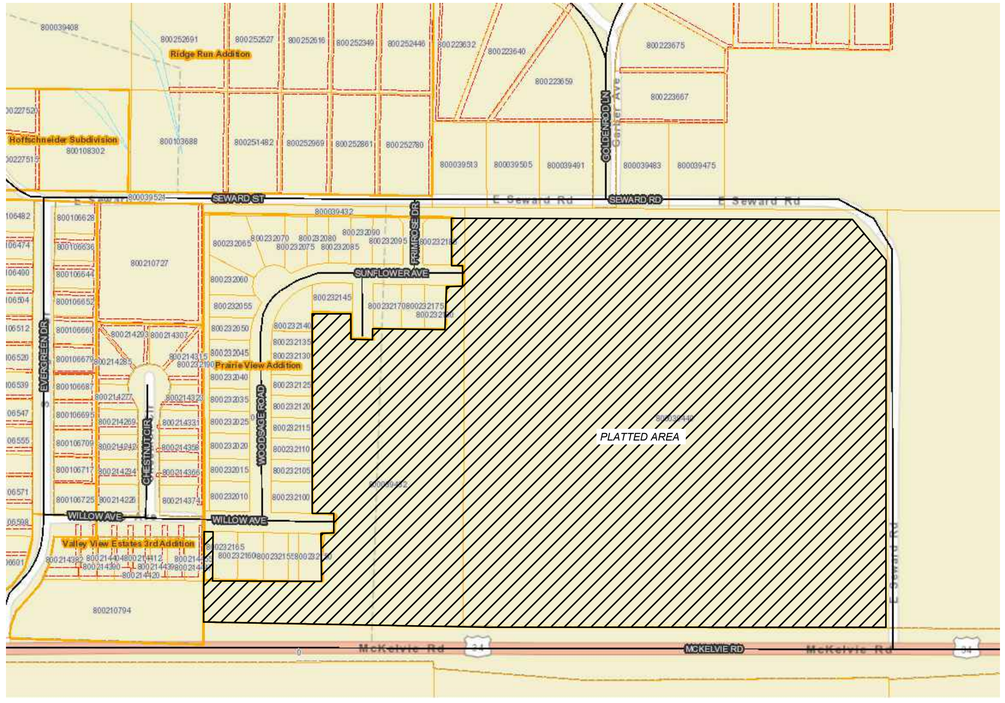
DATE: _____, 2025, TIME: _____, IN DRAWER NO. _____,

AS INSTRUMENT NO. _____.

_____
REGISTER OF DEEDS FEE _____

NOTES:

ZONING TABLE	
ZONE	TYPE
R3	SINGLE FAMILY
MINIMUM LOT AREA	5000 SQ. FT
MINIMUM LOT WIDTH	55 FT.
BUILDING MAX. HEIGTH	35 FT.
SET BACK TABLE	
FRONT YARD	25 FT.
SIDE YARD	5 FT.
REAR YARD	20% OF LOT DEPTH
STREET SIDE YARD	25'



olsson
601 P Street, Suite 200
P.O. Box 84608
Lincoln, NE 68508
olsson.com
TEL 402.474.6311
FAX 402.474.5063

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PRAIRIE VIEW 1ST ADDITION
SEWARD NEBRASKA
2025

drawn by: _____
designed by: _____
project no.: 025-03411
date: 10-6-2025

SHEET
2 of 2

F:\2025\03001-03500\025-03411\40-Design\Survey\SRVY\Sheets\V_PPLAT_025034111.dwg
DATE: Nov 05, 2025 4:57pm USER: abroeker

After recording please return to:

SUBDIVISION AGREEMENT

THIS AGREEMENT is made and entered into by and between 1640 LLC, a Nebraska limited liability company (referred to hereafter as the "Subdivider"), and the City of Seward, Nebraska, a municipal corporation (the "City").

WHEREAS, Subdivider has made application to City for permission to subdivide and for approval of the final plat of Prairie View 1st Addition, which was filed on _____, 20___ as Instrument Number _____ in drawer number _____ (the "Final Plat" or "Subdivision"); and

WHEREAS, the Final Plat contains certain provisions requiring an agreement between Subdivider and City relating to the Final Plat and the development thereof.

NOW, THEREFORE, IN CONSIDERATION of the City granting permission to plat and approval of the Final Plat of Prairie View 1st Addition, it is agreed by and between Subdivider and City as follows:

1. **Sanitary Sewer.** The Subdivider agrees to design and install sanitary sewer lines within or adjacent to said Subdivision per City approved plans and specifications. All costs for said sanitary sewer facilities shall be paid by the Subdivider; provided, however, any additional costs for oversized lines that are not a direct benefit to said Subdivision or other property owned by said Subdivider, shall not be assessed against said Subdivision, but shall be paid by the City.

2. **Water**. The Subdivider agrees to design and install 6" and 8" matching water distribution lines, including Mueller fire hydrants (red), within or adjacent to said Subdivision per City approved plans and specifications. All costs for said water facilities shall be paid by the Subdivider; provided, however, any additional costs for oversized lines that are not a direct benefit to said Subdivision or other property owned by said Subdivider, shall not be assessed against said Subdivision, but shall be paid by the City.

3. **Storm Water Management.** The Subdivider agrees to design and install storm sewer facilities within and adjacent to said Subdivision per City approved plans and specifications. All costs for said storm sewer facilities shall be paid by the Subdivider; provided, however, any additional costs for oversized lines that are not a direct benefit to said Subdivision or other property owned by said Subdivider, shall not be assessed against said Subdivision, but shall be paid by the City.

4. **Streets/Paving.** The Subdivider agrees to design and install public Streets/Paving within said Subdivision per City approved plans and specifications. The Subdivider agrees to construct future connections to adjacent properties at the time of development of adjoining lands at the Subdivider's cost.

5. **Sidewalks.** The Subdivider agrees that the construction of sidewalks within said Subdivision shall be provided on both sides of the street, by the Subdivider and/or all succeeding property owners, and shall be constructed per City approved plans and specifications, and installed on each sold lot by the lot purchaser within two (2) years of the purchase of the lot, and on each vacant unsold lot by Subdivider within two (2) years from the filing of the Final Plat.

6. **Electrical Infrastructure**. The City agrees to install all electrical infrastructure needed to serve the Subdivision, provided that the Subdivider pays the City Aid to Construction fees outlined on the Major Subdivision application, and provides adequate utility easements on the Final Plat, as determined by the City Electric Superintendent. In addition, electrical infrastructure will not be installed until final grade is established with no obstructions.

7. **Street Signs.** The City agrees to install all Street signs at all intersections as per City Standards and the Manual of Uniform Traffic Control Devices as it deems necessary and to assume all costs for same.

8. **Erosion Control.** The Subdivider shall provide at Subdivider's expense all erosion control which shall be required by the Storm Water Pollution Prevention Plan.

9. **Park and Open Spaces.** Land for park and open space shall be provided by the Subdivider as public open space and/or park improvement for said Subdivision. Land shall be dedicated for public use in accordance with ULDO 410-41.5, Parks and Public Facilities, specifically in the amount of acres as required by sub-section B Park Reservations, (1) Neighborhood Park Dedication, of 0.006 acres per total single-family detached dwelling units and 0.004 acre per unit of other types of housing in the proposed Subdivision. Land shall either be adjacent to the public circulation system or connected to it by means of at least two pedestrian corridors. The park or open space shall be provided with a continuous concrete sidewalk five (5) feet in width that connects to the public sidewalk at a minimum of two locations. Alternatively, fees will be accepted in lieu of land and these fees will be equivalent to the cost of 0.006 acre per single-family detached dwelling unit and 0.004 acre

per unit of other types of housing. For phased development, parks and open space shall be fully developed within the phase that includes the dedicated land. Park and open space shall be maintained by the Subdivider or a property owner's association on a permanent and continuous basis.

10. **Engineering.** It shall be the Subdivider's responsibility at Subdivider's cost, which is not reimbursable, to have all plans and specifications for the construction of Sanitary Sewer, Water, Paving & Storm Sewer drawn to the City of Seward specifications together with all necessary documentation for bid letting. Said plans and specifications shall be approved by the City of Seward and any other appropriate State agencies prior to bid letting.

11. **Sale of Lots and Special Assessments.** Any levied and unpaid special assessments which are liens upon a lot within said Subdivision shall be paid in full on or before the closing of the sale of any lot within the Subdivision.

12. **Replatting and Special Assessments.** Any levied and unpaid special assessments which are liens upon a lot within said Subdivision shall be paid in full prior to the approval by the City of any replatting of said Subdivision.

13. **Relocation of Utilities upon replatting.** The cost of any relocation of public utilities or apparatus necessitated by the replatting of any lots or the Subdivision shall be borne by the Subdivider.

14. **Binding Agreement.** This Agreement shall run with the land and shall be binding upon and inure to the benefit of the parties hereto, their successor, assigns, devisees and legatees. Where the term "Subdivider" is used in this Agreement, the subsequent owners of any lots in the Subdivision shall be responsible to perform any of the conditions of this Agreement in relation to their owned lots if the Subdivider has not performed such condition.

15. **Construction/Development Lots.** Development of structures on any lots within said Subdivision shall not occur until all improvements have been installed and accepted by the City of Seward or other appropriate authority.

16. **As-built Construction Plans.** A full set of construction drawings which incorporate all changes made during the construction process shall be submitted to the City upon completion of construction of the Subdivision. Said drawings shall be provided in both paper and digital spatial formats, specifically the following formats; three (3) sets, full size (Architect D size) paper copies, and in digital GIS format, meaning at least one of the following file types; shapefile (.shp or .shx or .dbf extensions), personal geodatabase (.mdb), or file geodatabase (.gdb).

17. **Markers.** The Subdivider agrees to complete the installation of permanent parcel markers prior to construction on or conveyance of any lot within the Final Plat.

18. The Subdivider agrees to comply with the provisions of ULDO, Article 39, Subdivision Design Criteria and General Standards Construction, including 410-39.2 Site Design and Constraints, grading and erosion control plans, NPDES permits, etc. Final grading plans must be submitted with the Final Plat.

19. This Agreement shall be recorded with the Seward County Register of Deeds upon the recording of the Final Plat.

20. This Agreement and all obligations of the Subdivider shall apply to the Subdivision including all of the lots legally described in Exhibit 'A' to this Agreement.

21. Subdivider guarantees the completion of all improvements as required by City of Seward ULDO Article 42, Improvement Financing and Guarantees, including 410-42.3. The Subdivider agrees to comply with 410-42.4 Performance Guarantees, and will provide an Agreement for Escrow of Security Fund attached hereto as Exhibit 'B'.

22. An Ownership Certificate for the property included within the Final Plat is attached hereto as Exhibit 'C' to this Agreement.

Dated this ___day of _____, 2025.

SUBDIVIDER:

1640, LLC, a Nebraska limited liability company

By: Michelle S. Benes Revocable Trust dated May 21, 2003, Managing Member

By:_____
Michelle S. Benes, Trustee

By: Robert L. Benes Revocable Trust dated May 21, 2003, Managing Member

By: _____
Robert L. Benes, Trustee

STATE OF NEBRASKA)
) ss.
COUNTY OF LANCASTER)

The foregoing was acknowledged before me this ____ day of _____, 2025, by Michelle S. Benes, Trustee of the Michelle S. Benes Revocable Trust dated May 21, 2003, Managing Member of **1640 LLC**, a Nebraska limited liability company, on behalf of the limited liability company.

_____
Notary Public

STATE OF NEBRASKA)
) ss.
COUNTY OF LANCASTER)

The foregoing was acknowledged before me this ____ day of _____, 2025, by Robert L. Benes, Trustee of the Robert L. Benes Revocable Trust dated May 21, 2003, Managing Member of **1640 LLC**, a Nebraska limited liability company, on behalf of the limited liability company.

_____
Notary Public

CITY:

Attest: **City of Seward, Nebraska**

_____ _____
By: Derek Bargmann, City Clerk By: Josh Eickmeier, Mayor

STATE OF NEBRASKA)
) ss
COUNTY OF SEWARD)

The foregoing instrument was acknowledged before me this ____ day of _____, 2025 by Josh Eickmeier, Mayor, and Derek Bargmann, City Clerk, of the City of Seward, on behalf of the City.

_____
Notary Public

EXHIBIT 'A'

LEGAL DESCRIPTION OF LOTS IN SUBDIVISION

EXHIBIT 'B'

PRAIRIE VIEW 1st ADDITION

AGREEMENT FOR ESCROW OF SECURITY FUND

WHEREAS, before any final plat may be approved, the required improvements must have been installed or a performance bond, escrow or security agreement must be furnished to the City of Seward, Nebraska to guarantee the installation of the required improvements; and

WHEREAS, 1640 LLC, a Nebraska limited liability company, hereinafter called "Permittee", has made application to the City for permission to construct improvements consisting of:

Improvement	**Amount**
Sanitary Sewer	$_____
Water Distribution	$_____
Storm Water Management	$_____
Streets/Paving	$_____

within the final plat of Prairie View 1st Addition, an addition to the City of Seward, Seward County, Nebraska and guarantee the same by placing funds in an escrow account as security for performance of said construction.

NOW, THEREFORE, IT IS AGREED by and between Permittee and the City of Seward, Nebraska, a municipal corporation, hereinafter called the "City", as follows:

1. That prior to approval of the aforesaid final plat, Permittee shall either deposit the sum of _____ Dollars ($_____) with _____ Bank ("Bank") as escrow agent for the City, or obtain a loan of immediately payable funds from Bank in said amount and irrevocably pledge and assign said funds to Bank as escrow agent for the City, the same to be held in escrow as security to guarantee the construction of the aforesaid improvements within said final plat.

2. The said escrow fund shall be allocated to the above-specified improvements in said final plat as follows:

Improvement	**Amount**
Sanitary Sewer	$_____
Water Distribution	$_____
Storm Water Management	$_____
Streets/Paving	$_____

3. The funds designated for any one improvement less the retainage, if any, may be released from escrow when that improvement is completed to the satisfaction of the City and the

City has certified to Bank in writing that construction has been completed for that improvement; provided, that all other funds in the escrow account designated as security for remaining uncompleted improvements shall remain in escrow until the improvements for which said funds have been designated has been completed. In the event any or all of the aforesaid improvements are not completed to the satisfaction of the City by the completion dates listed in the conditions of approval for said final plat or replat to do said construction, whichever is earlier, then and in that event Bank upon written request from the City, shall pay to the City the total amount of funds designated for each of the aforesaid improvements which shall not have been completed on said date or the amount of funds necessary to complete construction thereof, whichever is the lesser.

4. The conditions of release of the escrow funds upon completion of the improvements set forth in paragraph 1, supra, shall include payment in full of any and all costs due to the City by Permittee in connection with the development and construction of such improvements including, but not limited to, engineering costs, inspection costs, and survey costs.

5. This Agreement shall be contingent upon its execution by the parties hereto, the pledge and assignment of the required security funds with Bank as escrow agent for the City of Seward, and the acceptance of this Agreement by said escrow agent.

6. Permittee agrees to pay any and all fees charged by Bank as escrow agent for the City of Seward under the terms of this Agreement.

7. Bank shall be liable as a depository only.

8. Upon deposit of the security fund as provided in this Agreement, the City agrees to waive the requirement that Permittee post performance bonds for completion of the aforesaid improvements.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed this _____ day of _____, 2025.

PERMITEE:

1640, LLC, a Nebraska limited liability company

By: Michelle S. Benes Revocable Trust dated May 21, 2003, Managing Member

By:_____
Michelle S. Benes, Trustee

By: Robert L. Benes Revocable Trust dated May 21, 2003, Managing Member

By: _____
Robert L. Benes, Trustee

CITY:

Attest: **City of Seward, Nebraska**

_____ _____

By: Derek Bargmann, City Clerk By: Josh Eickmeier, Mayor

ACCEPTANCE OF ESCROW AGREEMENT

Frontier Bank ("Bank") hereby agrees to the terms and instruction listed above and acknowledges that it has accepted a deposit of _____ Dollars ($_____) or an irrevocable pledge and assignment of immediately payable funds in said amount from 1640 LLC ("Permittee") to be held in escrow (Note No. _____) by Bank as escrow agent for the City of Seward, Nebraska, a municipal corporation ("City"), to ensure construction of the improvements listed in the above and foregoing Agreement and further agrees not to release any of said monies or irrevocable pledges held by Bank to secure construction of said improvements until it has received written authorization from the City in accordance with the foregoing Agreement.

Dated this _____ day of _____, 2025.

Attest: _____ **BANK** (Bank)

_____ (Address)

By: _____ By: _____

Name: _____ Name: _____

Title: _____ Title: _____

EXHIBIT 'C'

OWNERSHIP CERTIFICATE

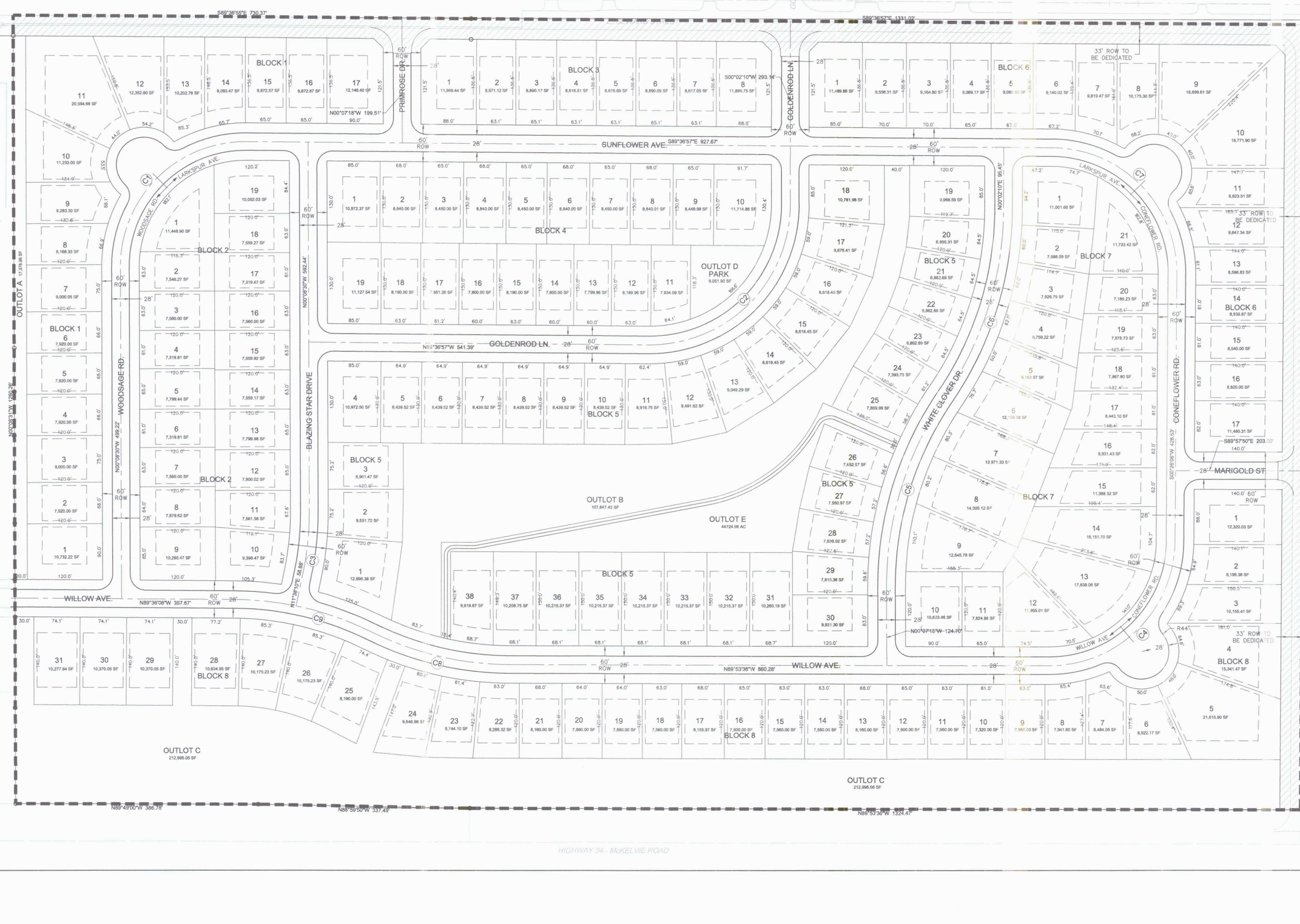
PRAIRIE VIEW
PRELIMINARY PLAT
SITE PLAN

CURVE TABLE					
CURVE ID	RADIUS	DELTA	LENGTH	CHORD LENGTH	TANGENT LENGTH
C1	200.00'	90°31'35"	316.00'	284.14'	201.85'
C2	225.00'	90°20'53"	354.80'	319.16'	226.37'
C3	450.00'	11°46'40"	92.50'	92.34'	46.41'
C4	200.00'	89°40'18"	313.01'	282.03'	198.86'
C5	540.00'	34°21'21"	323.80'	318.97'	166.93'
C6	540.00'	34°11'54"	322.31'	317.55'	166.12'
C7	200.00'	90°03'04"	314.34'	282.97'	200.18'
C8	500.00'	26°08'51"	228.18'	226.20'	116.11'
C9	500.00'	25°51'22"	225.64'	223.73'	114.77'

N

1" = 60'
0' 30' 60' 120'
SCALE IN FEET

LEGEND
- PROPERTY LINE
- BOUNDARY LINE
- CENTERLINE
- SETBACK



olsson
601 P Street, Suite 200
P.O. Box 84608
Lincoln, NE 68508
TEL 402.474.6311 www.olsson.com

REV. NO.	DATE	REVISIONS DESCRIPTION

SITE PLAN
PRAIRIE VIEW
PRELIMINARY PLAT

drawn by:
checked by:
approved by:
QA/QC by:
project no.: 021-04
drawing no.:
date: 2/21/2022

SHEET
2 of 13

DWG: F:\2021\04501-05000\021-04805\40-Design\AutoCAD\Preliminary Plans\Sheets\GNCV\C_SIT_02104805.dwg USER: epotter
DATE: Feb 21, 2022 12:02pm XREFS: C_XBASE_02104805 C_PBASE_02104805 C_PBASE_Seward ST_02104805

Technical Specifications

Prairie View 1st Addition
Seward, Nebraska - 2025

Olsson Project No. 025-03411

October 2025

601 P Street, Suite 200 ● Lincoln, NE 68508 ● 402.474.6311 ● Fax 402.474.5160

TABLE OF CONTENTS

PRAIRIE VIEW 1st ADDITION
PUBLIC IMPROVEMENTS

SEWARD, NEBRASKA

2025

Mayor

Joshua Eickmeier

City Council

Megan Kahler
Jessica Kolterman
Matt Stryson
Tatum Tonniges
John Singleton
Rich Wergin
Zane Francescato
Karl Miller

Building/Zoning and Code Enforcement Director

Tim Dworak

Public Properties Director

Bob Core

City Attorney

Kelly Hoffschneider

City Administrator

Greg Butcher

SECTION 01005

ADMINISTRATIVE PROVISIONS

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

A. Work Covered by Contract Documents.

B. Contract Method.

C. Work Sequence.

D. Contractor Use of Premises.

E. Easements and Rights-of-Way.

F. Permits.

G. Schedule of Values.

H. Applications for Payment.

I. Coordination.

J. Lines and Grades.

K. Preconstruction Conference.

L. Progress Meetings.

M. Reference Standards.

N. Correction Period.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. This project consists of the construction of sanitary sewer, water main, storm sewer, and street paving, connecting Willow Avenue to Woodsage Road through Blazing Star Drive, and Goldenrod Lane in Seward, Nebraska. The project consists of the construction documents and plans described as Prairie View 1st Addition, Private and Public Improvements.

1.3 CONTRACT METHOD

A. Construct the work on a unit price basis.

B. Minor items necessary to provide complete, serviceable facilities shall be included in the

bid and furnished even if not specifically called for in the plans and specifications.

1.4 WORK SEQUENCE

A. Coordinate construction schedule and operations with Engineer, Owner, and other construction contracts.

B. Provide Engineer with work sequence and schedule of construction before beginning to construct for review and comment.

C. Provide the City of Seward a construction schedule.

1.5 CONTRACTOR USE OF PREMISES

A. Limit use of premises for Work and for construction operations to area designated for construction purposes.

B. Coordinate use of premises under direction of Owner.

C. Save the Owner, its Agents, and the City of Seward harmless for all damages results from disruption of private or public property outside the designated lands for work.

1.6 EASEMENTS AND RIGHTS-OF-WAY

A. Any easements and rights-of-way for the Work will be provided by Owner. Contractor shall confine his construction operations within the limits indicated on the drawings, and shall use due care in placing construction tools, equipment, excavated materials, and pipeline materials and supplies, so as to cause the least possible damage to property and interference with traffic.

1. On Private Property

a. Easements across private property are indicated on the drawings. Contractor shall set stakes to mark the boundaries of construction easement across private property. The stakes shall be protected and maintained until completion of construction and cleanup.

b. Contractor shall not enter for pipe delivery or occupy for any other purpose with men, tools, equipment, construction materials, or with materials excavated from the pipe trench, any private property outside the designated construction easement boundaries without written permission from the Owner and Tenant of the property.

c. Whenever the easement is occupied by crops which will be damaged by construction operations, Contractor shall notify the Owner and Tenant sufficiently in advance so that the crops may be removed before excavation or trenching is started. Contractor shall be responsible for all damage to crops

outside of the easement, and shall make satisfactory settlement for the damage directly with the property Owner and Tenant involved.

d. Backfill and cleanup operations shall immediately follow the trenching and pipe laying operation to the extent possible.

e. Where wooded or grassed areas are disturbed by construction, Contractor shall relevel the area, reestablish drainage courses, and seed the areas with grass. Access roads shall be restored to their existing condition.

2. Work within the City of Seward:

a. Permits shall be obtained by Contractor. All work performed and all operations of Contractor, his employees, or subcontractors, within the City of Seward, shall be in conformity with the requirements of the City of Seward.

b. All roadways and driveways which are crossed using open trench pipeline construction shall be restored to their original condition in accordance with the requirements of the City of Seward. Aggregate surfacing shall be used as specified in these contract documents.

c. Any interruption in water, sewer, electricity, or telephone service shall be limited. The Contractor shall make all the necessary arrangements for the restoring of service in the shortest practical time.

d. Contractor shall conduct his work in conformance with provisions of the Maintenance of Traffic subsection of the Construction Facilities and Temporary Controls section.

1.7 PERMITS

A. Contractor shall provide all necessary permits.

1.8 SCHEDULE OF VALUES

A. Submit typed schedule on Contractor's standard form or electronic media printout.

B. Submit schedule of values in duplicate within 15 days after date of Owner-Contractor Agreement.

C. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the major specification section. Identify site mobilization, bonds and insurance. The format, level of detail, and breakdowns of the schedule of values shall be acceptable to the Engineer.

D. Include in each line item, the amount of allowances specified in this section as appropriate.

E. Include within each line item, a directly proportional amount of Contractor's overhead and profit.

F. An unbalanced schedule of values providing for overpayment of Contractor on items of work performed first will not be accepted.

G. A schedule of values submitted that in the opinion of the Engineer is in an unacceptable format, contains an insufficient level of detail, or inappropriate breakdown of items for payment shall not be accepted.

H. Contractor shall revise and resubmit unacceptable schedule of values as required until the schedule of values is acceptable to the Engineer.

I. No progress payments shall be made to the Contractor until an acceptable schedule of values has been received and accepted by the Engineer.

J. Revise schedule to list approved change orders with each application for payment.

1.9 APPLICATIONS FOR PAYMENT

A. Submit four copies of each application on AIA Form G702 -Application and Certificate for Payment or Engineer approved format.

B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.

C. Payment Period: Monthly.

D. Include four (4) copies of an updated construction progress schedule.

1.10 COORDINATION

A. Coordinate work of the various Sections of Specifications and other construction contracts to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items installed later.

B. Verify characteristics of elements of interrelated operating equipment are compatible; coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

C. Execute cutting and patching to integrate elements of Work, uncover ill-timed, defective, and non-conforming work, and provide samples for testing.

1.11 LINES AND GRADES

A. All Work shall be done to the lines, grades, and elevations shown on the drawings.

B. Basic horizontal and vertical control points have been established and are indicated on the drawings. These points shall be used as datum for the Work. All additional survey, layout, and measurement Work shall be performed by Contractor as a part of the Work.

C. Contractor shall provide an experienced instrument man, competent assistants, and such instruments, tools, stakes, and other materials required to complete the survey, layout, and measurement Work. In addition, Contractor shall furnish, without charge, competent men from his force and such tools, stakes, and other materials as Engineer may require in establishing or designating control points, or in checking survey, layout, and measurement of Work performed by Contractor.

D. Contractor shall keep Engineer and the Representative of the City of Seward informed, a reasonable time in advance, of the times and places at which he wishes to do Work, so that horizontal and vertical control points may be established and any checking deemed necessary by Engineer may be done with minimum inconvenience to Engineer and minimum delay to Contractor.

E. Contractor shall remove and reconstruct Work which is improperly located.

1.12 PRECONSTRUCTION CONFERENCE

A. Prior to the commencement of Work at the site, a preconstruction conference will be held at a mutually agreed time and place. The conference shall be attended by:
- Contractor and his superintendent
- Principal subcontractors.
- Representatives of principal suppliers and manufacturers as appropriate.
- Engineer and his Resident Project Representative.
- Representatives of Owner.
- Representative or Agent of the City of Seward.
- Governmental representatives as appropriate.
- Others as requested by Contractor, Owner, or Engineer.

Unless previously submitted to Engineer, Contractor shall bring to the conference a tentative schedule for each of the following:
- Progress.
- Procurement.
- Values for progress payment purposes.
- Shop drawings and other submittals.

The purpose of the conference is to designate responsible personnel and establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established.

The agenda will include:

- Contractor's tentative schedules.
- Transmittal, review, and distribution of Contractor's submittals.
- Processing applications for payment.
- Maintaining record documents.
- Critical Work sequencing.
- Field decisions and Change Orders.
- Use of premises, office and storage areas, security, housekeeping, and Owner's needs.
- Major equipment deliveries and priorities.
- Contractor's assignments for safety and first aid.

Engineer will preside at the conference and will arrange for keeping the minutes and distributing the minutes to all persons in attendance.

1.13 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at monthly intervals.

B. Engineer or representative will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.

C. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, Engineer or Representative, and Representative of the City of Seward, as appropriate to agenda topics for each meeting.

D. Agenda:

1. Review of Work progress.
2. Field observations, problems, and decisions.
3. Identification of problems which impede planned progress.
4. Review of submittals schedule and status of submittals.
5. Review of off-site fabrication and delivery schedules.
6. Planned progress during succeeding work period.
7. Coordination of projected progress.
8. Maintenance of quality and work standards.
9. Effect of proposed changes on progress schedule and coordination.
10. Other business relating to Work.

E. Contractor will record minutes and distribute copies to participants.

1.14 REFERENCE STANDARDS

A. For products specified by association or trade standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. The date of the standard is that in effect as of the Bid date, or date of Owner-Contractor Agreement when there are no bids, except when a specific date is specified.

C. Obtain copies of standards when required by Contract Documents. Maintain copy at jobsite during progress of the specific work.

1.15 CORRECTION PERIOD

A. Correct all defective work for one year after final acceptance of the project.

B. Promptly repair or replace at no cost to the Owner all defects in material or workmanship which may appear during the correction period.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Submittal procedures.

B. Construction progress schedules.

C. Product Data.

D. Shop Drawings.

E. Samples.

F. Design data.

G. Test reports.

H. Certificates.

I. Manufacturers' instructions.

J. Manufacturers' field reports.

1.2 RELATED SECTIONS

A. Section 01400 - Quality Control: Manufacturers' Field Services Reports.

B. Section 01700 - Contract Closeout: Contract warranties, bonds, manufacturers' certificates, and closeout submittals.

1.3 REFERENCES

A. AGC (Associated General Contractors of America) publication "The Use of CPM in Construction - A Manual for General Contractors and the Construction Industry".

1.4 SUBMITTAL PROCEDURES

A. Transmit each submittal with Engineer accepted form.

B. Sequentially number the transmittal form. Revise submittals with original number and a

sequential alphabetic suffix.

C. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate.

D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.

E. Schedule submittals to expedite the Project, and deliver to Engineer at business address of 601 P Street, Suite 200, Lincoln, Nebraska 68508. Coordinate submission of related items. For each section of the specifications, the initial submittal shall be complete for all items and components contained within that section of the specifications.

F. For each submittal for review, allow 21 days excluding delivery time to and from the contractor.

G. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.

H. Provide space for Contractor and Engineer review stamps.

I. When revised for resubmission, identify all changes made since previous submission.

J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

K. Submittals not requested will not be recognized or processed.

L. Contractor shall reimburse Owner for charges of Engineer for review of substitutes, review of more than one “or-equal” per specification section, and additional review effort due to incompleteness of submittals or failure of Contractor to coordinate and complete submittals.

M. If more than one resubmission is required because of lack of previously requested data or additional information, Contractor shall reimburse Owner for the charges of Engineer for review of resubmissions. This would not include submittal data for slump tests, field’s tests, and other submittal requirements for placing equipment into service.

1.5 CONSTRUCTION PROGRESS SCHEDULES

A. Submit initial schedule in duplicate within 20 days after date Agreement established Notice to Proceed.

B. Revise and resubmit as required.

C. Submit revised schedules with each Application for Payment, identifying changes since

previous version.

D. Submit a horizontal bar chart with separate line for each section of Work, identifying first work day of each week.

E. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.

F. Indicate estimated percentage of completion for each item of Work at each submission.

G. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates, including those furnished by Owner and required by Allowances.

1.6 PRODUCT DATA

A. Product Data For Review:

1. Submitted to Engineer and the Representative of the City of Seward for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

2. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.

B. Product Data For Information:

1. Submitted for the Engineer's and City of Seward’s knowledge as contract administrator or for the Owner.

C. Product Data For Project Close-out:

1. Submitted for the Owner's and City of Seward’s benefit during and after project completion.

D. Submit the number of copies which the Contractor requires, plus two copies which will be retained by the Engineer.

E. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

F. Indicate Product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

G. After review distribute in accordance with the Submittal Procedures article above and

provide copies for record documents described in Section 01700 - CONTRACT CLOSEOUT.

1.7 SHOP DRAWINGS

A. Shop Drawings For Review:

1. Submitted to Engineer and the Representative of the City of Seward for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

2. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.

B. Shop Drawings For Information:

1. Submitted for the Engineer's and City of Seward's knowledge as contract administrator or for the Owner.

C. Shop Drawings For Project Close-Out:

1. Submitted for the Owner's and City of Seward's benefit during and after project completion.

D. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

E. Submit the number of opaque reproductions which Contractor requires, plus two copies which will be retained by Engineer.

1.8 SAMPLES

A. Samples For Review:

1. Submitted to Engineer and the Representative of the City of Seward for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

2. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.

B. Samples For Information:

1. Submitted for the Engineer's and City of Seward's knowledge as contract administrator or for the Owner.

C. Samples For Selection:

1. Submitted to Owner for aesthetic, color, or finish selection.

2. Submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for Owner selection.

3. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.

D. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

E. Include identification on each sample, with full Project information.

F. Submit the number of samples specified in individual specification sections; one of which will be retained by Engineer.

G. Reviewed samples which may be used in the Work are indicated in individual specification sections.

H. Samples will not be used for testing purposes unless specifically stated in the specification section.

1.9 DESIGN DATA

A. Submit for the Engineer's knowledge as contract administrator or for the Owner.

B. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.10 TEST REPORTS

A. Submit for the Engineer's knowledge as contract administrator or for the Owner. Copies shall also be submitted to the City of Seward for the benefit during and after project completion.

B. Submit test reports for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.11 CERTIFICATES

A. When requested by Engineer, submit certification by the manufacturer, installation/application subcontractor, or the Contractor to Engineer, in quantities specified for Product Data.

B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Engineer.

1.12 MANUFACTURERS' INSTRUCTIONS

A. When requested by Engineer, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Engineer for delivery to owner in quantities specified for Product Data.

B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

C. Refer to Section 01400 - Quality Control, Manufacturers' Field Services article.

1.13 MANUFACTURERS' FIELD REPORTS

A Submit reports for the Engineer's benefit as contract administrator or for the Owner.

B Submit report within 30 days of observation to Engineer for information.

C Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01400

QUALITY CONTROL

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

A. General Quality Control.

B. Workmanship.

C. References and Standards.

D. Manufacturers' Instructions.

E. Manufacturers' Certificates.

F. Manufacturers' Field Services.

G. Testing Services.

H. Inspection Services.

1.2 RELATED REQUIREMENTS

A. General Conditions: Inspection and testing required by governing authorities.

B. Section 01005 - Administrative Provisions: Applicability of specified reference standards.

C. Section 01300 - Submittals: Shop Drawings, Product Data, and Samples: Submittal of Manufacturers' Instructions.

1.3 GENERAL QUALITY CONTROL

A. Maintain quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

1.4 WORKMANSHIP

A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.

1. Perform work by persons qualified to produce workmanship of specified quality.

2. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and cracking.

1.5 REFERENCES AND STANDARDS

A. For Products or workmanship specified by association, trade, or other consensus standards, complies with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

A. Conform to reference standard by date of issue current on date of Contract Documents, except where a specific date is established by code.

B. Obtain copies of standards where required by product specification sections.

C. Neither the contractual relationships, duties, nor responsibilities of the parties in Contract nor those of the Engineer shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.6 MANUFACTURERS' INSTRUCTIONS

A. Comply with instructions in full detail, including each step in sequence. Should instructions conflict with Contract Documents; request clarification from Engineer before proceeding.

1.7 MANUFACTURERS' CERTIFICATES

A. When requested by Engineer, submit manufacturer's certificate, in duplicate, that products meet or exceed specified requirements.

1.8 MANUFACTURERS' FIELD SERVICES

A. When specified in respective Specification Sections, require material or product suppliers or manufacturers to provide qualified personnel to observe field conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, testing, adjustments and balancing of equipment as applicable, and to make appropriate recommendations.

B. Representative shall submit written report within 30 days of site visit to Engineer listing observations and recommendations.

1.9 TESTING SERVICES

A. The City of Seward will appoint and the Owner shall pay services of an independent firm to perform inspections and tests where services are not required by various specification sections to be required by the Contractor.

B. Testing and source quality control may occur on or off the project site. Perform off-site

testing as required by the Engineer, the City of Seward, or the Owner.

C. Reports will be submitted to the Engineer, City of Seward, and Contractor, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.

D. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.

1. Notify Engineer, City of Seward, and independent firm 24 hours prior to expected time for operations requiring services.

2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.

E. Testing does not relieve Contractor to perform Work to contract requirements.

F. Re-testing required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Engineer. Payment for re-testing will be charged to the Contractor by deducting testing charges from the Contract Price.

1.10 INSPECTION SERVICES

A. City of Seward will appoint a Representative to perform inspection.

B. The City of Seward Representative will perform inspections and other services specified in individual specification sections.

C. Inspecting may occur on or off the project site.

D. Reports will be submitted indicating inspection observations and indicating compliance or non-compliance with Contract Documents to the Engineer and City of Seward.

E. Cooperate with Representative of the City of Seward; furnish safe access and assistance by incidental labor as requested.

1. Notify Representative of the City of Seward prior to expected time for operations requiring services

F. Inspecting does not relieve Contractor to perform Work to contract requirements.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

A. Electricity, Lighting.

B. Heat, Ventilation.

C. Water.

D. Sanitary Facilities.

E. Enclosures.

F. Protection of Installed Work.

G. Maintenance of Traffic.

H. Connections to Existing Facilities.

I. Barricades and Light.

J. Security.

K. Water Control.

L. Land for Construction Purposes.

M. Erosion Control.

N. Cleaning During Construction.

O. Removal.

P. Fences.

Q. Protection of Public and Private Property.

R. Tree and Plant Protection.

S. Dust Control.

T. Pollution Control.

1.2 RELATED REQUIREMENTS

A. Section 01005 - Administrative Provisions: Contractor use of premises.

B. Section 01700 - Contract Closeout: Final cleaning.

1.3 ELECTRICITY, LIGHTING

A. Contractor shall provide service and electricity required for construction operations, with branch wiring and distribution boxes located to allow service and lighting by means of construction-type power cords.

B. Contractor shall provide separate metering for billing purposes.

C. Contractor shall provide lighting for construction operations.

1.4 HEAT, VENTILATION

A. Contractor shall provide as required to maintain specified conditions for construction operations, to protect materials and finishes from damage due to temperature or humidity.

1.5 WATER

A. Contractor shall provide water as required for the work.

1.6 SANITARY FACILITIES

A. Contractor shall furnish temporary sanitary facilities at the site for the needs of all construction workers and others performing work or furnishing services on the project. Maintain facilities in a sanitary condition.

1.7 ENCLOSURES

A. Contractor shall provide temporary weather-tight closures of openings in exterior surfaces to provide acceptable working conditions and protection for materials, to allow for temporary heating, and to prevent entry of unauthorized persons.

1.8 PROTECTION OF INSTALLED WORK

A. Contractor shall provide temporary protection for installed products. Control traffic in immediate area to minimize damage.

1.9 MAINTENANCE OF TRAFFIC

A. Contractor shall conduct work to interfere as little as possible with public travel, whether vehicular or pedestrian.

B. When necessary to cross, obstruct, or close roads, driveways, and walks; Contractor shall provide suitable bridges, detours, or other temporary expedients for the accommodation of public and private travel, and shall give reasonable notice to owners of private drives before interfering with them.

C. In making open street crossings, Contractor shall not block more than one-half of the street at a time. Whenever possible, Contractor shall widen shoulder on opposite side to facilitate traffic flow.

1.10 CONNECTIONS TO EXISTING FACILITIES

A. Contractor shall make all necessary connections to existing facilities including structures and utilities such as water, sewer, and electric. Contractor shall protect facilities against deleterious substances and damage.

B. Contractor shall provide temporary facilities and make temporary modifications as required to keep existing facilities in operation during construction. Contractor shall be responsible for any diversion of flows and/or pumping required to keep existing utilities in service during construction.

C. No utility shall be shut down without written permission from the Owner or the owning utility. The City of Seward shall be provided copies of all written correspondence from the Contractor.

1.11 BARRICADES AND LIGHTS

A. Contractor shall provide barricades as shown on the plans and/or required to prevent public entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.

B. All streets and other public thoroughfares which are closed to traffic shall be protected by effective barricades on which shall be placed acceptable warning signs. Barricades shall be located at the nearest intersecting public street on each side of the blocked section.

C. All open trenches and other excavations shall have suitable barricades, signs, and lights to provide adequate protection to the public. Obstructions such as material piles and equipment shall be provided with similar warning signs and lights.

D. All barricades and obstructions shall be illuminated with warning lights from sunset to sunrise. Material storage and conduct of the Work on or alongside public streets shall cause the minimum obstruction and inconvenience to the traveling public.

E. All barricades, signs, lights, and other protective devices shall be installed and maintained in conformity with applicable statutory requirements, as required by the authority having jurisdiction there over.

1.12 SECURITY

A. Contractor shall be responsible for protection of the site, and all Work, materials, equipment, and existing facilities thereon, against vandals and other unauthorized persons.

1.13 WATER CONTROL

A. Contractor shall grade site to drain. Maintain excavations free of water. Provide and operate pumping equipment as may be required.

1.14 LAND FOR CONSTRUCTION PURPOSES

A. The Contractor will be permitted to use available land belonging to the Owner, on or near the site of the work, for construction purposes and for the storage of materials and equipment. The location and extent of the areas so used shall be designated by the Owner.

B. The Contractor shall be solely responsible for obtaining and shall pay all costs in connection with any additional work area, storage site, access to the site, or temporary right-of-way which may be required for proper completion of the work.

C. It shall be understood that the responsibility for protection and safekeeping of equipment and materials on or near the site will be entirely that of the Contractor and that no claims shall be made against the Owner by reason of any act of an employee or trespasser. It shall be further understood that should any occasion arise necessitating access to the sites occupied by these stored materials and equipment, the Contractor owning or responsible for the stored materials or equipment shall immediately move same. No materials or equipment may be placed upon the property of the Owner until the Owner has agreed to the location contemplated by the Contractor to be used for storage.

1.15 EROSION CONTROL

A. Contractor shall prevent erosion of soil on the site and adjacent property resulting from their construction activities. Effective measures shall be initiated prior to the commencement of clearing, grading, excavation, or other operation that will disturb the natural protection.

B. Work shall be scheduled to expose areas subject to erosion for the shortest possible time, and natural vegetation preserved to the greatest extent practicable. Temporary storage and construction buildings shall be located, and construction traffic routed, to minimize erosion. Temporary fast growing vegetation or other suitable ground cover shall be provided as necessary to control runoff.

1.16 CLEANING DURING CONSTRUCTION

A. Control accumulation of waste materials and rubbish; weekly dispose of off-site.

1.17 REMOVAL

A. Remove temporary materials, equipment, utilities, and facilities prior to Substantial Completion inspection.

B. Clean and repair damage caused by installation or use of temporary facilities. Grade site and restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

1.18 FENCES

A. All existing fences affected by the Work shall be maintained by the Contractor until completion of the Work. Fences which interfere with construction operations shall not be relocated or dismantled until permission is obtained from the Owner of the fence, and the period the fence may be left relocated or dismantled has been agreed upon. Where fences must be maintained across the construction easement, adequate gates shall be installed. Gates shall be kept closed and locked at all times when not in use.

B. On completion of the Work across any tract of land, Contractor shall restore all fences to their original or to a better condition, and to their original location.

1.19 PROTECTION OF PUBLIC AND PRIVATE PROPERTY

A. Contractor shall protect, shore, brace, support and maintain all underground pipes, conduits, drains, and other underground construction uncovered or otherwise affected by their construction operations. All pavement, surfacing, driveways, curbs, walks, buildings, utility poles, guy wires, fences, and other surface structures affected by construction operations, together with all sod and shrubs in yards and parkings, shall be restored to their original condition, whether within or outside the easement. All replacements shall be made with new materials.

B. No trees shall be removed outside of the permanent easement, except where authorized by Engineer. Whenever practicable, Contractor shall tunnel beneath trees in yards and parks when on or near the line of trench. Hand excavation shall be employed as necessary to prevent injury to trees. Trees left standing shall be adequately protected against damage by construction operations.

C. Contractor shall be responsible for all damage to streets, roads, highways, shoulders, ditches, embankments, culverts, bridges, and other public or private property, regardless of location or character, which may be caused by transporting equipment, materials, or men to or from the Work or any part or site thereof, whether by them or their Subcontractors. Contractor shall make satisfactory and acceptable arrangements with the owner of, or the agency or authority having jurisdiction over, the damaged property concerning its repair or replacement or payment of costs incurred in connection with the damage.

D. All fire hydrants and water control valves shall be kept free from obstruction and available for use at all times.

1.20 TREE AND PLANT PROTECTION

A. All trees and other vegetation which must be removed to perform the Work shall be removed and disposed of by Contractor; however, no trees or cultured plants shall be unnecessarily removed unless their removal is indicated on the drawings.

B. All trees and plants not removed shall be protected against injury from construction operations.

C. Contractor shall take extra measures to protect trees designated by the Engineer or Owner to be preserved, such as erecting barricades, trimming to prevent damage from hand excavation or tunneling methods. Such trees shall not be endangered by stockpiling excavated material or storing equipment against the trunk.

D. When the injury or removal of trees designated to be preserved cannot be avoided, or when removal and replacement is indicated on the drawings, each tree injured beyond repair or removed shall be replaced with a similar tree of the nearest size possible.

E. All trimming, repair, and replacement of trees and plants shall be performed by qualified nurserymen or horticulturists.

1.21 DUST CONTROL

A. Contractor shall take reasonable measures to prevent unnecessary dust.

B. Earth surfaces subject to dusting shall be kept moist with water or by application of a chemical dust suppressant.

C. Dusty materials in piles or in transit shall be covered when practicable to prevent blowing.

1.22 POLLUTION CONTROL

A. Contractor shall prevent the pollution of drains and watercourses by sanitary wastes, sediment, debris, and other substances resulting from construction activities.

B. No sanitary wastes will be permitted to enter any drain or watercourse other than sanitary sewers.

C. No sediment, debris, or other substance will be permitted to enter sanitary sewers and reasonable measures will be taken to prevent such materials from entering any drain or watercourse.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01600

MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

A. Products.

B. Transportation and Handling.

C. Storage and Protection.

D. Product Options.

E. Substitutions.

1.2 RELATED REQUIREMENTS

A. Section 01005 - Administrative Provisions: Reference Standards.

B. Section 01300 - Submittals: Product Data and Samples.

C. Section 01400 - Quality Control: Submittal of manufacturers' certificates.

D. Section 01700 - Contract Closeout: Operation and Maintenance Data.

E. Section 01700 - Contract Closeout: Warranties and Bonds.

1.3 PRODUCTS

A. Products include materials, equipment, and systems.

B. Comply with Specifications and referenced standards as minimum requirements.

C. Components required to be supplied in quantity within a Specification section shall be the same, and shall be interchangeable.

D. Do not use materials and equipment removed from existing structures, except as specifically required, or allowed, by Contract Documents.

1.4 TRANSPORTATION AND HANDLING

A. Transport products using methods to avoid product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, dry.

B. Provide equipment and personnel to handle products by methods that prevent soiling or damage.

C. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

D. Products shall be transported, handled and installed in accordance with manufacturer's instructions. Contractor shall familiarize themself with manufacturer's recommendations prior to arrival of materials at job site to prevent mishandling.

1.5 STORAGE AND PROTECTION

A. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions.

B. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.

C. Store loose granular materials on solid surfaces in a well-drained area; prevent mixing with foreign matter.

D. Arrange storage to provide access for inspection. Periodically inspect to assure products are undamaged, and are maintained under required conditions.

1.6 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not specifically named.

C. Products Specified by Naming Several Manufacturers: Products of named manufacturers meeting specifications, no options, no substitutions allowed.

D. Products Specified by Naming Only One Manufacturer: No options, no substitutions allowed.

E. Requests for review of equivalency will not be accepted from anyone except the Contractor. Such requests will not be considered until after the contract has been awarded.

1.7 SUBSTITUTIONS

A. Only within 30 days after date of Owner-Contractor agreement established in Notice to Proceed will Engineer and/or the Representative of the City of Seward consider requests from Contractor for substitutions. Subsequently, substitutions will be considered only when a product becomes unavailable due to no fault of Contractor.

B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

C. Request constitutes a representation that Contractor:

1. Has investigated proposed product and determined that it meets or exceeds, in all respects, specified product.

2. Will provide the same warranty for substitution as for specified product.

3. Will coordinate installation and make other changes which may be required for Work to be complete in all respects.

4. Waives claims for additional costs or time extension which may subsequently become apparent.

5. Will reimburse Owner for review or redesign services associated with re-approval by authorities.

D. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals without separate written request, or when acceptance will require substantial revision of Contract Documents.

E. Engineer and the Representative of the City of Seward will determine acceptability of proposed substitution, and will notify Contractor of acceptance or rejection in writing within a reasonable time.

F. Only one request for substitution will be considered for each product. When substitution is not accepted, provide specified product.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

A. Closeout Procedures.

B. Final Cleaning.

C. Project Record Documents.

D. Warranties and Bonds.

1.2 RELATED REQUIREMENTS

A. Section 01500 - Construction Facilities and Temporary Controls: Cleaning during construction.

1.3 CLOSEOUT PROCEDURES

A. Comply with procedures stated in General Conditions of the Contract for issuance of Certificate of Substantial Completion.

B. Owner will occupy designated portion of Project for the purpose of installation of equipment, conduct of business, under provision stated in Certificate of Substantial Completion.

C. When Contractor considers Work to be complete, submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's and Representative of the City of Seward’s inspection.

D. Upon final acceptance of the City of Seward, the Engineer or representative will issue a final Change Order reflecting approved adjustments to Contract Sum not previously made by Change Order.

E. Final payment on the contract will not be authorized until all required submittals are made and approved.

1.4 FINAL CLEANING

A. Execute prior to final inspection.

B. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances; polish transparent and glossy surfaces.

C. Clean site; sweep paved areas; rake clean other surfaces.

D. Remove waste and surplus materials, rubbish, and construction facilities from the Project and from the site.

1.5 PROJECT RECORD DOCUMENTS

A. Maintain on site, one set of the following record documents; record actual revisions to the Work.

1. Contract Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other Modifications to the Contract.
5. Reviewed Shop Drawings, Product Data and Samples.
6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Store documents separate from those used for construction.

C. Keep documents current; do not permanently conceal any work until required information has been recorded.

D. At Contract closeout, submit documents to the Owner/Engineer and the City of Seward with transmittal letter containing date, Project title, Contractor's name and address, list of documents, and signature of Contractor.

1.6 WARRANTIES AND BONDS

A. Provide duplicate, notarized copies. Execute Contractor's submittals and assemble documents executed by subcontractors, supplies, and manufacturers. Provide table of contents and assemble in binder with durable plastic cover.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01800

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Measurement and payment criteria applicable to portions of the Work performed where unit price adjustments are provided.

B. Defect assessment and non-payment for rejected work.

1.2 AUTHORITY

A. The Engineer or representative will take all measurements and compute quantities accordingly.

B. Contractor shall assist Engineer by providing necessary equipment, workers, and survey personnel as required.

1.3 ADJUSTMENT UNIT QUANTITIES SPECIFIED

A. All estimated quantities stipulated in the Bid Form or other Contract Documents are approximate and are to be used only as a basis for estimating the probable cost of the Work and for the purpose of comparing the bids submitted for the Work. The actual amounts of the work done and materials furnished under unit price items may differ from the estimated quantities.

B. The basis of payment for work and materials will be the actual amount of work done and materials furnished. Contractor agrees that it will make no claim for damages, anticipated profits, or otherwise on account of any difference between the amounts of work actually performed and materials actually furnished and the estimated amounts therefore.

C. Quantities and measurements supplied or placed in the Work and verified by the Engineer shall determine final payment.

D. If the actual Work requires more or fewer quantities than those quantities indicated, provide the required quantities at the unit prices contracted.

E. If the actual Work requires a 25 percent or greater change in quantity than those quantities indicated, the Owner or Contractor may claim for a Contract Price adjustment.

1.4 MEASUREMENT OF QUANTITIES

A. Measurement Devices:

1. Weigh Scales: Inspected, tested and certified by the State of Nebraska Weights and Measures department within the past year.

2. Platform Scales: Of sufficient size and capacity to accommodate the conveying vehicle.

3. Metering Devices: Inspected, tested and certified by the applicable State department within the past year.

B. Measurement by Weight: Measured by actual scale ticket weight for specific items identified.

C. Measurement by Volume: Measured by actual area and depth of in place material.

D. Measurement by Area: Measured by square dimension using mean length and width or radius.

E. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.

F. Stipulated Sum/Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as a completed item or unit of the Work.

1.5 PAYMENT

A. The Total Contract Price shall cover all Work required by the Contract Documents. All costs in connection with the proper and successful completion of the Work, including furnishing all materials, equipment, supplies, and appurtenances; providing all construction plant, equipment, and tools; and performing all necessary labor and supervision to fully complete the Work, shall be included in the unit and lump sum prices bid.

B. All Work not specifically set forth as a pay item in the Bid Form shall be considered a subsidiary obligation of the Contractor and all costs in connection therewith shall be included in the prices bid.

C. Payment Includes: Full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; acceptance testing; clean-up and restoration; overhead and profit.

D. Final payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities accepted by the Engineer multiplied by the unit sum/price for Work which is incorporated in or made necessary by the Work.

1.6 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of the Engineer, their representative, Owner, or the City of Seward, it is not practical to remove and replace the Work, the Engineer will direct one of the following remedies:

1. The defective Work may remain, but the unit sum/price will be adjusted to a new sum/price at the discretion of the Owner.

2. The defective Work will be partially repaired to the instructions of the Engineer, and the unit sum/price will be adjusted to a new sum/price at the discretion of the Owner.

C. The individual specification sections may modify these options or may identify a specific formula or percentage sum/price reduction.

D. The authority of the Owner to assess the defect and identify payment adjustment, is final.

1.7 NON-PAYMENT FOR REJECTED PRODUCTS

A. Payment will not be made for any of the following:

1. Products wasted or disposed of in a manner that is not acceptable.

2. Products determined as unacceptable before or after placement.

3. Products not completely unloaded from the transporting vehicle.

4. Products placed beyond the lines and levels of the required Work.

5. Products remaining on hand after completion of the Work.

6. Loading, hauling, and disposing of rejected Products.

1.8 SCHEDULE UNIT PRICES

The unit prices shall encompass all work required to complete the Work in accordance with the drawings and specifications and the limits on quantities of certain items of work as follows:

A. "EARTHWORK MEASURED IN EMBANKMENT (E.Q.)" shall be the quantity shown in the plans unless authorized changes are made to the grade line or length of the embankment. Payment shall be in accordance with the Nebraska DOT Standard Specifications for Highway Construction, 2017 Edition.

B. "STRIP, STOCKPILE, AND REDISTRIBUTE (6")" or "Salvaging and Placing Topsoil" shall be the quantity shown in the plans unless authorized changes are made to the grade line or length of the embankment. Payment shall be in accordance with the Nebraska DOT Standard Specifications for Highway Construction, 2017 Edition.

C. "SEEDING" shall include all labor, materials and equipment in placing seed, fertilizer, and mulch and maintaining seeded areas in all areas disturbed by construction, and in accordance with these specifications.

D. Installation of the inlet protection shall be paid for at the contract unit price per each for "INLET PROTECTION". This price shall be full compensation for furnishing, preparing, transporting, delivering, excavating and placing all materials, and for all labor, tools, equipment and incidentals necessary to complete the installation work. Removal shall be considered subsidiary to the construction of the inlet protection. Removal of the inlet protection shall be completed following the completion of the storm sewer work.

E. Installation of the construction entrance shall be paid for at the contract lump sum for CONSTRUCTION ENTRANCE". This price shall be full compensation for furnishing, preparing, transporting, delivering, excavating, and placing the materials, and for installation, maintenance, and removal work. The filter fabric shall be subsidiary to the construction of the entrance.

F. Installation shall be paid for at the contract unit price per linear foot for "DIVERSION DIKE". This price shall be full compensation for furnishing, preparing, transporting, delivering, excavating, and placing the materials, and for all labor, tools, equipment and incidentals necessary to complete the installation work.

G. Installation of the SWPPP sign shall be paid for at the contract lump sum for "SWPPP SIGN". This price shall be full compensation for furnishing, preparing, transporting, delivering, excavating and placing all materials, and for all labor, tools, equipment and incidentals necessary to complete the installation work.

H. Installation of the concrete washout area shall be paid for at the contract lump sum for "CONCRETE WASHOUT AREA". This price shall be full compensation for furnishing, preparing, transporting, delivering, excavating and placing all materials, and for all labor, tools, equipment and incidentals necessary to complete the installation work. Removal shall be considered subsidiary to the construction of the concrete washout area. Removal of the concrete washout area shall be completed following the completion of the concrete pavement work.

I. Plain (non-reinforced) concrete pavement of the various thicknesses called for in the proposal, constructed in conformance with these Specifications and accepted by the Engineer and Representative of the City of Seward, shall be measured and paid for at the contract unit price bid per square yard for "__ INCH PORTLAND CEMENT CONCRETE PAVEMENT WITH INTEGRAL CURB". Such payment shall be full compensation for all subgrade preparation, form work, placing concrete, vibrating, finishing, jointing, sealing, curing, protection, headers, integral curbs if required, materials, equipment, tools, labor and incidentals necessary to complete the work. No direct measurement or payment shall be made for integral curb. The cost of integral curb shall be considered subsidiary to the items for which direct payment is made.

J. Payment shall be made at the contract unit price per square yard for the "TYPE 'C' FLY ASH SUBGRADE INCORPORATION" - treated subgrade of the thickness specified. The price shall be full compensation for furnishing all material, except the fly ash, and for all preparation, delivering, placing, mixing these materials, shaping and maintaining, for all curing including water, and all labor, equipment, tools and incidentals necessary to complete this item.

K. "___ INCH CONCRETE SIDEWALK" that has been completed in conformance with the Plans and Specifications and accepted by the Engineer and Representative of the City of Seward shall be measured and paid for at the contract unit price bid per square foot.

L. Water valve and stop boxes adjusted to grade in accordance with these Specifications and accepted by the Engineer and Representative of the City of Seward shall be counted and paid for at the contract unit price bid per each for "ADJUST WATER VALVE BOX TO FINAL GRADE, COMPLETE". Such payment shall be full compensation for all equipment, tools, labor, and incidentals necessary to complete the work. Stop boxes and valve boxes broken by the Contractor's operations shall be replaced at the Contractor's expense. Boxes broken by other than the Contractor's operations or obsolete boxes shall be replaced and paid for as an extra work item.

M. Manholes adjusted to grade in conformance with these Specifications and accepted by the Engineer and Representative of the City of Seward, shall be counted and paid for at the contract unit price bid per each for "ADJUST MANHOLE TO FINAL GRADE, COMPLETE". Such payment shall be full compensation for all materials, equipment, tools, labor, and incidentals necessary to complete the work.

N. Inlets adjusted to grade in conformance with these Specifications and accepted by the Engineer and Representative of the City of Seward, shall be counted and paid for at the contract unit price bid per each for "ADJUST INLET TO FINAL GRADE, COMPLETE". Such payment shall be full compensation for all materials, equipment, tools, labor, and incidentals necessary to complete the work.

O. "CONCRETE HEADER" completed in conformance with the plans and Specifications and accepted by the Engineer and Representative of the City of Seward. Payment shall be made at the contract unit price bid per linear. Such payment shall be full compensation for all preparation of subgrade, forms or slip forming, materials, labor, tools, equipment, jointing, finishing, curing, sawing, sealing, backfilling, clean up and incidentals necessary to complete the work.

P. "REMOVE CONCRETE HEADER" completed in conformance with the plans and Specifications and accepted by the Engineer and Representative of the City of Seward. Payment shall be made at the contract unit price bid per linear. Such payment shall be full compensation for all sawing, removal, materials, labor, tools, equipment, backfilling, protection of existing pavement, clean up and incidentals necessary to complete the work.

Q. Dead end barricades removed in conformance with these Specifications and accepted by the Engineer and Representative of the City of Seward shall be counted and paid for at the contract unit price per each for "REMOVE DEAD END SIGNING", regardless of width. Such payment shall be full compensation of all materials, equipment, tools, labor and incidentals necessary to complete the work.

R. Monument boxes placed in accordance with these Specifications and accepted by the Engineer and Representative of the City of Seward shall be counted and paid for at the contract unit price bid per each for "SURVEY MONUMENT BOX". Such payment shall be full compensation for all materials, equipment, tools, labor, and incidentals necessary to complete the work.

S. Dead end signing installed to the full width of the adjoining pavement in conformance with these Specifications and accepted by the Engineer and Representative of the City of Seward shall be counted and paid for at the contract unit price bid per each "REMOVE AND RELOCATE DEAD END SIGNING, IN PLACE", regardless of width. Such payment shall be full compensation for all materials, equipment, tools, labor and incidentals necessary to complete the work.

T. Installation of the riprap apron shall be paid for at the contract unit price per ton for "ROCK RIPRAP APRON". This price shall be full compensation for furnishing, preparing, transporting, delivering, excavating and placing all materials, and for all labor, tools, equipment and incidentals necessary to complete the installation work. The filter fabric shall be subsidiary to the construction of the apron.

U. "REMOVE TEMPORARY TURNAROUND, COMPLETE" completed in conformance with the plans and Specifications and accepted by the Engineer and Representative of the City of Seward. Payment shall be made at the contract unit price bid per each. Such payment shall be full compensation for all removal of rock, concrete and other unacceptable materials, materials, labor, tools, equipment, backfilling with acceptable materials, protection of existing pavement, clean up and incidentals necessary to complete the work.

V. POLY VINYL CHLORIDE (PVC) WATER MAIN of the various types and sizes called for on the plans shall be measured and paid for at the contract unit price bid per linear foot for each different diameter required. Pipe shall be measured through fittings and valves. Such payment shall be full compensation for all excavation, backfill, pipe, bedding material, other materials, testing, equipment, tools, labor, and incidentals necessary to complete the work in accordance with these Specifications and as accepted by the Engineer and Representative of the City of Seward.

W. ALL CAST IRON AND DUCTILE WATER MAIN FITTINGS, including ductile iron compact fittings, shall be measured separately and shall be paid for at the contract unit price bid per each for the various fittings called for in the proposal.

Glands, bolts, nuts and gaskets necessary to complete a non-restrained mechanical joint connection for water main fittings are considered accessory items to the connection. No direct payment shall be made for these items, but are considered subsidiary to CAST IRON AND DUCTILE IRON WATER MAIN FITTINGS for which payment is made.

X. All "VALVES" of the various types and sizes indicated on the plans and actually installed shall be counted and paid for at the contract unit price bid per each. Such price shall include the valve, valve box, support blocks, other materials and labor necessary to install the valves, all equipment, tools, and incidentals necessary to complete the work in accordance with these Specifications and as accepted by the Engineer and Representative of the City of Seward.

Y. All HYDRANTS installed, as shown on the plans or as directed, except temporary hydrants used for flushing or disinfection of the mains, shall be counted and paid for at the contract unit price bid per each for "HYDRANT, COMPLETE, L=5.5 feet or L=6.5 feet". Such price shall be full compensation for all loading, hauling, installation, thrust blocking, hydrant drain material, hydrant extensions, backfilling, labor, tools, materials, equipment and incidentals necessary to complete the work in accordance with these Specifications and as accepted by the Engineer and Representative of the City of Seward. Temporary hydrants used for flushing and disinfection of mains shall not be paid for separately but shall be considered subsidiary to the installation of the mains.

Z. All "HYDRANT EXTENSIONS" necessary to adjust the hydrants to grade shall be counted and paid for at the contract unit price bid per each for HYDRANT EXTENSION, COMPLETE. Such price shall be full compensation for all installation costs charged by the City of Seward (if required), hydrant extension kits, labor, tools, materials, equipment and incidentals necessary to complete the work in accordance with these Specifications and as accepted by the Engineer and Representative of the City of Seward. The unit price for HYDRANT EXTENSION, COMPLETE shall be an established unit price per each in the bid proposal.

AA. Water main valves, hydrants and plugs removed and relayed, removed and salvaged, or removed in accordance with these Specifications and accepted by the Engineer and Representative of the City of Seward shall be measured and paid for at the contract unit price bid per each for "REMOVE AND SALVAGE _____", "REMOVE AND RESET _____", OR "REMOVE AND RELOCATE _____" (Insert: Valve, Hydrant, or Plug). Such payment shall be full compensation for all excavation, removal of appurtenances and thrust blocking, bedding or foundation rock if required, resetting, loading of salvaged items, resetting valve box, backfill, materials, equipment, tools, labor and incidentals necessary to perform the work.

BB. "CONCRETE FOR THRUST BLOCKS AND ANCHORAGES (IN PLACE)" shall not be measured for payment. Payment will be based on the concrete volumes shown on the Detail Plans for thrust blocks and anchorages actually installed and will be made at the contract unit price bid per cubic yard for blocks constructed in conformance with the drawings, these Specifications, and accepted by the Engineer and Representative of the City of Seward.

CC. "RETAINER GLANDS" of the various sizes called for to complete a restrained mechanical joint connection for water main fittings shall be counted and paid for at the contract unit price bid per each. All work shall be in conformance with these Specifications and accepted by the Engineer and Representative of the City of Seward.

DD. All "SANITARY SEWER PIPE" of the various types shall be measured and paid for at the contract unit price bid for each size per linear foot. All pipe shall be measured (center to center) through manholes. Said payment shall be full compensation for all excavations, backfill, testing, materials, equipment, tools, labor and incidentals necessary to install the pipe in a workmanlike manner acceptable to the Engineer and Representative of the City of Seward. Special measurement and payment for all fittings and pipe materials necessary to achieve desired radius, including beveled or radius pipe, will not be considered. The extra costs, if any, shall be merged with and considered subsidiary to the cost of the various sizes of pipe called for in the plans and in the proposal.

EE. Foundation material when placed in conformance with these Specifications as directed by the Engineer and Representative of the City of Seward shall not be measured, but shall be paid for at the contract unit price bid for "FOUNDATION MATERIAL, IN PLACE." Weight tickets for material installed shall be submitted prior to any payment for this Extra Work item. This Extra Work payment shall be full compensation for furnishing all materials, installation, labor, equipment, tools and incidentals necessary to create a stable foundation.

No measurement or direct payment shall be made for bedding material, except that all weight tickets for bedding material shall be submitted prior to any payment for pipe being installed. The cost of bedding materials, in the appropriate classes for the type of pipe material utilized, as shown on the drawings or for the structures constructed, shall be considered subsidiary to the other items of Work for which direct payment is made.

FF. “STANDARD MANHOLES” shall be measured and paid for at the contract unit price bid per each for each type of manhole. This price shall be full compensation for the cast iron ring and cover, the brick adjustment or precast grade rings when required, the manhole floor, and all labor, tools, equipment and incidentals necessary to install these items. “STANDARD MANHOLES” shall also be measured from the flow line to the top of rim and paid for at the contract unit price bid per vertical foot for each type of manhole. This payment shall be full compensation for all steps, eccentric manhole sections, manhole barrel sections, drop pipes, fittings, joints, labor, materials, tools, equipment and incidentals necessary to complete each type of manhole in a manner acceptable to the Project Manager.

GG. Measurement and payment will be made at the contract unit price bid per each for “REMOVE PLUG”. Such payment shall be full compensation for furnishing and removing all materials, all labor, excavation, backfill, equipment, tools, collars or connecting materials, and incidentals necessary to remove the plug as accepted by the Engineer and Representative of the City of Seward.

HH. Measurement and payment will be made at the contract unit price bid per each for “PVC PLUG”. Such payment shall be full compensation for furnishing and installing all materials, all labor, excavation, backfill, equipment, tools, collars or connecting materials, and incidentals necessary to install the plug as accepted by the Engineer and Representative of the City of Seward.

II. Measurement and payment will be made at the contract unit price bid per each for “CONSTRUCT __” SEWER SERVICE”. Such payment shall be full compensation for all labor, tapping permits, plumbing permit, fittings, and materials, except as otherwise provided, excavation for taps and abandonments, backfill for taps and abandonments, sod, equipment, tools and incidentals necessary to complete the reconstruction in a workmanlike manner, all as accepted by the Engineer and Representative of the City of Seward.

JJ. “__" x__" SERVICE ‘Y’ FITTING”, shall be measured and paid for at the contract unit price bid per each for each size. This price shall be full compensation for all excavations, backfill, testing, labor, materials, tools, equipment and incidentals necessary to complete the Work in a manner acceptable to the Engineer and Representative of the City of Seward.

KK. Measurement and payment will be made at the contract unit price bid per linear foot for “SEWER SERVICE PIPE” for each size required. Such payment shall be full compensation for furnishing and installing all pipe materials, all labor, excavation, backfill, equipment, tools, collars or connecting devices, and incidentals necessary to place the pipe in service as accepted by the Engineer and Representative of the City of Seward.

LL. Reinforced Concrete Pipe (RCP) storm sewer pipe constructed in conformance with these Specifications and accepted by the Engineer and Representative of the City of Seward, shall be measured from center of structure to center of structure or to the end of the pipe.

Payment for pipes shall be made at the contract unit price bid per linear foot for "___ INCH RCP STORM SEWER PIPE, CLASS III" for the various sizes shown on the plan. Such payment shall be full compensation for all excavation, bedding, jointing, backfill, materials, equipment, tools, labor, and incidentals necessary to complete the items of Work called for as per plan.

Grading required as a part of storm sewer construction shall not be measured or paid for separately. The costs of such grading shall be considered as subsidiary to the costs of the items for which direct payment is made.

MM. Reinforced concrete storm sewer pipe removed in accordance with these Specifications and accepted by the Engineer and Representative of the City of Seward, shall be measured and paid for at the contract unit price bid per linear foot for "REMOVE STORM SEWER PIPE." Such payment shall be full compensation for all excavation, removal, bedding if required, relaying, loading salvaged pipe, backfill disposal, materials, equipment, tools, labor, and incidentals necessary to perform the Work called for as per plan.

NN. Storm sewer inlets constructed in conformance with these Specifications and accepted by the City's Project Manager shall be counted and paid for at the contract unit price bid per each for "STORM SEWER INLET, COMPLETE" for the various sizes and types required. Such payment shall be full compensation for all excavation, brick, mortar, concrete, inlet top, castings, curb as called for on the Standard Plans, backfill, materials, equipment, tools, labor, and incidentals necessary to complete each inlet.

OO. Storm sewer manholes constructed in conformance with these Specifications and accepted by the Engineer and Representative of the City of Seward shall be counted and paid for at the contract unit price bid per each for "STORM SEWER MANHOLE". Such payment shall be full compensation for all excavation, brick, mortar, castings, precast sections, reinforcement, concrete, backfill, materials, equipment, tools, labor, and incidentals necessary to complete each manhole.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 02060

DEMOLITION AND SALVAGE

PART 1 GENERAL

1.1. SECTION INCLUDES

A. Demolition, removal, and disposal of existing structures, piping, equipment, and other miscellaneous items as indicated on the drawings, specified herein, or as required for construction of the work.

B. Removal, inspection, and cleaning of existing materials and equipment as indicated on the drawings or specified herein to be reused in the Work.

C. Removal, cleaning, salvaging, and delivery to Owner of existing materials and equipment as indicated on the drawings or specified herein.

1.2. RELATED SECTIONS

A. All sections.

1.3. MEASUREMENT AND PAYMENT

A. Section 01800 - Measurement and Payment.

1.4. REGULATORY REQUIREMENTS

A. Conform to applicable code(s) for demolition operations, safety of adjacent structures or facilities, dust control, runoff control and disposal.

B. Obtain required permits from authorities.

C. Notify affected utility companies before starting work and comply with their requirements.

D. Do not close or obstruct roadways, sidewalks, hydrants, without required permits or authorizations.

1.5. SCHEDULING

A. Schedule work under the provisions of Section 01300.

B. Schedule work to precede new construction.

C. Describe demolition removal procedures and schedule.

PART 2 PRODUCTS

2.1 MATERIALS

A. Waste Material: To be disposed of per this section.

B. Material Indicated for Reuse: To be cleaned, inspected, and reused.

C. Salvage Material: To be cleaned and delivered to the Owner.

PART 3 EXECUTION

3.1 PREPARATION

A. Provide, erect, and maintain adequate temporary barriers and security devices.

B. Protect existing landscaping materials, appurtenances, structures and facilities which are not being demolished.

C. Prevent movement or settlement of adjacent structures.

D. Identify and mark location of utilities.

3.2 DEMOLITION REQUIREMENTS

A. Conduct demolition to minimize interference with adjacent structures.

B. Cease operations immediately if adjacent structures appear to be in danger. Notify authority having jurisdiction and Engineer. Do not resume operations until directed.

C. Conduct operations with minimum interference to public or private accesses. Maintain protected egress and access at all times.

D. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon or limit access to their property.

E. All removed materials not specifically designated for reuse or salvage shall be removed and disposed of by Contractor.

3.3 DEMOLITION

A. Saw cut concrete or bituminous items neatly and full depth at indicated limits of removal.

B. Remove bituminous surfacing, concrete slabs on grade or other concrete items carefully to confine removal within indicated limits.

C. Perform required excavation and remove designated portions of existing facilities or structures.

D. Fill or seal open portions of remaining facilities which are to be abandoned in place.

E. Backfill areas excavated as a result of demolition, in accordance with Section 02200.

F. Rough grade and compact areas affected by demolition to maintain site grades and contours.

G. Remove from project site and properly dispose of all demolished materials which are not designated for reuse or salvage.

H. Do not burn or bury materials on-site. Leave site in clean condition.

I. Materials not intended for reuse or salvage shall be removed from the site and disposed of by the Contractor.

3.4 REUSED MATERIALS

A. Contractor shall furnish and install new materials as required for the work, except at locations where the reuse of existing materials is allowed. Contractor may, at his own expense, provide new materials in lieu of reusing existing materials. At locations where the Contractor elects to provide and install new materials in lieu of reuse of the existing materials, the removed materials shall become the property of the Contractor.

B. Contractor shall carefully remove, in a manner sufficient to prevent damage, all materials and equipment intended for reuse. Any items damaged in removal, storage, or handling through carelessness or improper handling by the Contractor shall be replaced with new items at the Contractor's expense.

C. Contractor shall clean, store, and protect items intended for reuse in a manner to prevent damage and in accordance with requirements of Section 01600.

D. Contractor shall inspect the material to be reused and immediately notify the Engineer if, in the Contractor's opinion, any material designated for reuse, is not in satisfactory condition for reinstallation and reuse.

3.5 SALVAGE

A. Contractor shall carefully remove, in a manner sufficient to prevent damage, all materials and equipment indicated or specified to be salvaged and to remain the property of the Owner.

B. Contractor shall clean and deliver to the Owner all materials designated to be salvaged from the execution of the Project. The materials shall be delivered and stored at the location designated by the Owner.

END OF SECTION

SECTION 02200

EARTHWORK

PART 1 GENERAL

1.1 WORK INCLUDED

A. Site clearing; including clearing site of plant life, grass, root systems, and removal of debris.

B. Rough grading; including removal and stockpiling of topsoil and rough grading and contouring of site.

C. Excavations; including excavations for structures, manholes, and trenches for piping.

D. Dewatering of excavations.

E. Backfilling and compaction around the outside of structures, manholes, trenches, and at other locations.

F. Landscape grading; including requirements for placing, compacting, leveling, and finishing subsoils and topsoils.

G. Other appurtenant work.

1.2 RELATED WORK

A. All Sections.

1.3 PROJECT RECORD DOCUMENTS

A. Accurately record location of utilities remaining, rerouted utilities, and new utilities by horizontal dimensions, elevations or inverts, and slope gradients.

B. Report of Geotechnical Exploration, Prepared by Olsson and all subsequent addendums. The geotechnical recommendations shall govern over these specifications in any discrepancies between the two.

1.4 FIELD MEASUREMENTS

A. Verify that survey benchmark and intended elevations for the Work are as indicated.

1.5 PROTECTION

A. Protect bench marks.

B. Locate and protect above and below grade utilities which are to remain. Expose existing underground utilities as required prior to beginning work.

C. Protect existing structures, streets, roads, and other facilities as required. Provide adequate shoring and bracing to prevent settlement or damage to adjacent structures. Underpin adjacent structures which may be damaged by excavation work, including service utilities and pipe chases.

D. Protect excavations by shoring, bracing, sheet piling, underpinning, or other methods required to prevent cave-in or loose soil from falling into excavation. Grade excavation top perimeter to prevent surface water run-off into excavation.

E. Protect bottom of excavations and soil adjacent to and beneath foundations from frost.

F. Protect trees, shrubs, lawns, and other features remaining as portion of final landscaping.

G. Notify Engineer of unexpected subsurface conditions and discontinue work in affected area until notification to resume work.

H. Repair damage resulting from Contractor's operations.

1.6 REFERENCES

A. ANSI/ASTM C136 - Sieve Analysis of Fine and Coarse Aggregates.

B. ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb (2.49 Kg) Rammer and 12 inch (304.8 mm) Drop.

C. ASTM D1556 - Test Method for Density of Soil in Place by the Sand-Cone Method.

D. ASTM D2167 - Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.

E. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

F. ASTM D3017 - Test Methods for Moisture Content of Soil and Soil-Aggregate Mixtures.

G. ASTM D4253 - Test Methods for Maximum Index Density of Soils using a Vibratory Table.

H. ASTM D4254 - Test Methods for Minimum Index Density of Soils and Calculation of Relative Density.

PART 2 PRODUCTS

2.1 MATERIALS

A. Topsoil: Reused site material when possible. Overlying excavated site material, graded free of roots, rocks and stones, subsoil, debris, and weeds.

B. Topsoil: Imported, friable loam; free of subsoil, roots, grass, weeds, rocks and stones, and foreign matter; acidity range (pH) of 5.5 to 7.5; containing a minimum of 4 percent and a maximum of 25 percent organic matter.

C. Subsoil: Material excavated from site below topsoil down to subgrade elevations, graded free of organic matter, lumps larger than 6 inches, rocks larger than 3 inches, and debris.

D. Granular Embedment Material: Type “A” or Type “B” Aggregate as specified in Section 02207.

E. Select Subsoil: Free of organic material, gravel larger than one inch size, and debris.

F. Common Fill Materials: Subsoil, free of gravel or rock larger than 3 inch size, and debris.

PART 3 EXECUTION

3.1 SITE CLEARING

A. Protection

1. Protect trees, plant growth and features remaining as final landscaping.

2. Protect bench marks and existing work from damage or displacement.

3. Maintain designated site access for vehicle and pedestrian traffic.

4. Locate and protect utilities that remain from damage.

B. Preservation of Trees

1. No trees shall be removed outside of excavated or filled areas, unless their removal is authorized by the Engineer.

2. Trees left standing shall be adequately protected from permanent damage by construction operations.

3. Trimming of standing trees where required shall be as directed by the Engineer.

C. Clearing

1. Clear areas required for access to site and execution of Work. All sites to be occupied by permanent construction or embankments shall be cleared of all logs, trees, roots, brush, tree trimmings, and other objectionable materials and debris.

2. Remove trees and shrubs within marked areas. Grub out stumps, roots, and surface rock.

3. Clear undergrowth and deadwood, without disturbing subsoil. Subgrades for fills and embankments shall be cleaned and stripped of all surface vegetation, sod, and organic topsoil.

D. Removal

1. Remove debris from site. Dispose of debris in accordance with all applicable regulations and requirements.

2. Contractor shall be responsible for removing and disposing of all excess excavated materials.

3.2 ROUGH GRADING

A. Preparation

1. Identify required lines, levels, contours, and datum. Coordinate with Section 01005.
2. Identify and locate by prospecting, known below grade utilities. Stake and flag locations.

3. Identify, locate, and flag above grade utilities.

4. Maintain and protect existing utilities remaining which pass through work area.

5. Upon discovery of unknown utility or concealed conditions, discontinue affected work; notify Engineer.

B. Topsoil Excavation

1. Excavate topsoil from areas to be further excavated, re-landscaped, re-graded, or disturbed without mixing with foreign materials. Relay after completion of excavation or regrading.

2. Do not excavate wet topsoil.

3. Stockpile topsoil in area on site to depth not exceeding ten (10) feet and protect from erosion. Topsoil shall be redistributed after final grading. Contractor shall

not remove topsoil from the site without permission from the Owner.

C. Subsoil Excavation

1. Excavate subsoil from areas to be further excavated or regraded and use for fill area. Excess subsoil above requirements for fill to be temporarily stockpiled in Contractor use area or area designated by Owner.

2. Do not excavate wet subsoil.

D. Tolerances

1. Top Surface of Subgrade: Plus or minus one inch.

3.3 STRUCTURE EXCAVATION

A. General

1. Excavation work shall be performed in a safe and proper manner with suitable precautions being taken against all hazards.

2. Excavations shall provide adequate working space and clearances for the work to be performed therein and for installation and removal of concrete forms.

3. Subgrade surfaces shall be clean and free of loose material of any kind when concrete is placed thereon.

4. Backfilling and construction of fills and embankments during freezing weather shall not be done except by permission of the Engineer. No backfill, fill, or embankment materials shall be installed on frozen surfaces, nor shall frozen materials, snow, or ice be placed in any backfill, fill, or embankment.

B. Preparation

1. Identify required lines, levels, contours, and datum.

2. Identify known underground, above ground, and aerial utilities. Stake and flag locations.

3. Notify utility companies to remove and relocate utilities in the way of excavation.

4. Maintain, re-route or extend as required existing utility lines to remain which pass through work area. Pay costs for this work, except those covered by utility companies.

5. Remove abandoned utility service lines from areas of excavation, plug or seal such lines with concrete.

6. Protect above and below grade utilities which are to remain.

7. Protect plant life, lawns rock outcropping and other features remaining as a portion of final landscaping.

8. Protect bench marks, existing structures, fences, sidewalks, paving, and curbs from excavation equipment and vehicular traffic.

9. Upon discovery of unknown utility or concealed conditions, discontinue affected work; notify Engineer.

C. Site Preparation

1. Prepare site as required for the work.

D. Topsoil Excavation

1. Excavate topsoil as required for the work.

E. Subsoil Excavation

1. Excavate subsoil required to accommodate site improvements.

2. Machine slope banks to angle of repose or less, until shored.

3. Grade top perimeter of excavation to prevent surface water from draining into excavation.

4. Remove lumped subsoil, boulders, and rock.

5. Notify Engineer of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.

6. Correct unauthorized excavation at no extra cost to Owner.

7. Fill areas over-excavated under structure bearing surfaces with complete crusher run rock 2" nominal size, or other material acceptable to Engineer.

8. Subgrades for concrete structures shall be firm, dense, and thoroughly compacted and consolidated; shall be free from mud and muck; and shall be sufficiently stable to remain firm and intact under the feet of the workmen.

9. Subgrades for concrete structures which are otherwise solid, but which become mucky on top due to construction operations, shall be reinforced with crushed rock or gravel. The finished elevation of stabilized subgrades shall not be above subgrade elevations shown on the drawings.

10. Stockpile excavated material in area designated on site.

11. When complete, verify soil bearing capacities, depths, and dimensions.

12. Accurately locate and record abandoned and active utility lines rerouted or extended, on project record documents.

F. Final Grading

1. After other outside work has been finished, and backfilling and embankments completed and settled, all areas on the site of the work which are to be graded shall be brought to grade at the indicated elevations, slopes, and contours. Use of graders or other power equipment may be permitted for final grading and dressing of slopes, provided the result is uniform and equivalent to hand work. All surfaces shall be graded to secure effective drainage.

G. Disposal of Excess Excavated Materials

1. Excess material, broken concrete and other debris resulting from pavement, drive, or sidewalk removal, junk, and debris encountered in excavation work and other similar waste materials shall be disposed of away from the site of the work at a location acceptable to the Engineer.

H. Field Quality Control

1. Provide for visual inspection of bearing surfaces as required.

I. Protection

1. Protect excavations by methods required to prevent cave-in or loose soil from falling into excavation as required.

2. Protect bottom of excavations and soil adjacent to and beneath foundations from freezing.

3.4 TRENCHING

A. Inspection

1. Verify stockpiled fill to be reused is approved.

2. Verify areas to be backfilled are free of debris, snow, ice, or water, and surfaces are not frozen.

B. Preparation

1. Identify required lines, levels, contours, and datum.

2. Compact subgrade surfaces to density requirements for backfill material and according to requirements at end of this section.

3. Maintain and protect above and below grade utilities which are to remain.

C. Excavation

1. Excavate subsoil as required for construction of sanitary sewers, force mains, manholes, and other work including connecting to existing utilities.

2. Cut trenches sufficiently wide to enable installation of utilities and allow inspection. Remove water or materials that interfere with work.

3. Hand trim excavation and leave free of loose matter. Hand trim for bell and spigot pipe joints.

4. Remove lumped subsoil, boulders, and rocks.

5. Excavation shall not interfere with normal 45 degree bearing splay of foundations.

6. Correct unauthorized excavation at no cost to Owner.

7. Fill over-excavated areas under pipe bearing surfaces with approved granular material as directed by the Engineer.

8. Trenches shall be excavated to a width which will provide adequate working space and sidewall clearances for proper pipe installation, jointing and embedment.

   a. Minimum Sidewall Clearance: Minimum permissible sidewall clearance from the bottom of the trench to an elevation 6 inches above the top of installed pipe, and the minimum permissible sidewall clearances between the installed pipe and each trench wall, shall be as follows:

Pipe Size	Minimum Sidewall Clearance
18"	12"
15"	9"
12"	9"
10"	6"
8"	5"
6"	4"
4" and smaller	4"

   b. Maximum Trench Widths: Maximum trench widths below an elevation 6 inches above the top of installed pipe, shall be pipe diameter plus 24 inches.

   c. Specified minimum sidewall clearances are not minimum average clearances, but are minimum clear distances which will be required to the trench excavation or the trench protective system.

   d. For flexible conduits, moveable supports shall not be used below the top of the pipe zone unless it can be demonstrated that the integrity of the embedment material can be maintained.

   e. For flexible conduits where it is found necessary to use moveable supports below the top of the pipe zone, the minimum trench width shall be increased to produce a minimum sidewall clearance of 2.5 times the pipe outside diameter.

D. Tolerances

   1. Top Surface of Backfilling: Plus or minus one inch.

E. Field Quality Control

   1. Compaction testing will be performed in accordance with ANSI/ASTM D698 or ASTM D4253 and D4254 as required.

3.5 DEWATERING

A. Contractor shall provide and maintain adequate dewatering equipment to remove and dispose of all surface and ground water entering excavations, trenches, or other parts of the work.

B. Excavations shall be kept dry during subgrade preparation and continually thereafter until the pipe, manhole, structure, or work to be installed therein is completed to the extent that no damage from hydrostatic pressure, flotation, or other cause will result.

C. All excavations which extend down to or below static ground water shall be dewatered by lowering and keeping the ground water level beneath such excavations 6 inches or more below the bottom of the subgrade.

D. The Contractor will be held responsible for the condition of any pipe or conduit which he may use for drainage purposes, and all such pipes or conduits shall be left clean and free of sediment.

3.6 BACKFILLING & COMPACTION

A. Inspection

1. Verify stockpiled fill to be reused is approved.

2. Verify dampproofing or waterproofing installation has been inspected.

3. Verify foundations or basement walls are braced to support surcharge forces imposed by backfilling operations.

4. Verify areas to be backfilled are free of debris, snow, ice, or water, and ground surfaces are not frozen.

B. Preparation

1. When necessary, compact subgrade surfaces to density requirements for backfill material.

2. Cut out soft areas of subgrade not readily capable of in-situ compaction. Backfill with subsoil and compact to density equal to requirements for subsequent backfill material.

C. Backfilling

1. Support pipe and conduit during placement and compaction of bedding fill. Hand place and compact fill around pipe to 6 inches above top of pipe.

2. Backfill excavations to contours and elevations. Do not backfill over porous, wet, or spongy subgrade surfaces. Use unfrozen materials.

3. Backfill systematically, as early as possible, to allow maximum time for natural settlement. Do not backfill over porous, wet, or spongy subgrade surfaces.

4. Granular Fill Type A and B: Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth.

5. Place and compact common fill material in continuous layers not exceeding 8 inches loose depth.

6. Maintain optimum moisture content of backfill materials to attain required compaction density.

7. Slope grade away from building minimum 2 inches in 10 ft., unless noted otherwise.

8. Make gradual grade changes. Blend slope into level areas.

9. Dispose surplus backfill materials off site.

10. Leave stockpile areas completely free of excess fill materials.

D. Tolerances

1. Top Surface of Backfilling: Plus or minus one inch.

E. Compaction Testing

1. Compaction testing will be performed in accordance with ANSI/ATSM D698 or ASTM D4253 and D4254 as required.

2. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.

F. Schedule of Locations

1. The paragraphs below identify location, fill material to be used (identified from lower to upper fill type), compacted thickness of each fill, and compaction expressed as a percentage of maximum density and optimum moisture in comparison with ANSI/ASTM D698 or ASTM D4253 and D4254 as appropriate.

2. Structure Backfill:

a. See Geotechnical Report and Plans.

G. Settlement

1. The Contractor shall be responsible for all settlement of backfill, fills, and embankments which may occur within the one year correction period following final acceptance of the work.

2. Contractor shall make, or cause to be made, all repairs or replacements made necessary by settlement within 30 days after notice from the Engineer or Owner.

3.7 LANDSCAPE GRADING

A. Inspection

1. Verify site conditions and note irregularities affecting work of this Section.

2. Beginning work of this Section means acceptance of existing conditions.

B. Subsoil Preparation

1. Eliminate uneven areas and low spots. Remove debris, roots, branches, stones, in excess of 1/2 inch in size.

2. Scarify subgrade to depth of 3 inches where topsoil is scheduled. Scarify in areas where equipment used for hauling and spreading topsoil has compacted subsoil.

C. Placing Topsoil

1. Place topsoil in areas where seeding is required, agriculture land, and other areas disturbed by Contractor.

2. Use topsoil in relatively dry state. Place during dry weather.

3. Fine grade topsoil eliminating rough or low areas. Maintain levels, profiles, and contours of subgrade.

4. Remove stone, roots, grass, weeds, debris, and foreign material while spreading.

5. Manually spread topsoil around trees, plants, and building to prevent damage.

6. Roll placed topsoil. Rake topsoil in landscaped areas, lawns, and planting areas.

7. Remove surplus subsoil and topsoil from site.

8. Leave stockpile area and site clean and raked, ready to receive landscaping.

D. Tolerances

1. Top of Topsoil: Plus or minus 1/2 inch.

E. Schedule of Locations

1. The following paragraph identifies compacted topsoil thicknesses for various locations.

2. Seeded Grass and Ground Covered Areas: Restore to original depth, but not less than 4 inches.

3. Field Areas: Restore to original depth, but not less than twelve (12) inches.

END OF SECTION

SECTION 02620

POTABLE WATER DISTRIBUTION SYSTEM

PART 1 GENERAL

1.1 WORK INCLUDED

A. Installation of new water mains.

B. Thrust restraints.

C. Fire hydrants.

D. Testing of all water pipe.

1.2 RELATED WORK

A. Section 01300: Submittal Procedure.

B. Section 01600: Product Requirements.

C. Section 01700: Contract Closeout, Procedures.

D. Section 02200: Earthwork.

E. Section 02936: Seeding-Mulching

1.3 REFERENCES

A. AWWA C104 Cement-Mortar Lining for Ductile-Iron and Gray-Iron Pipe and Fittings for Water.

B. AWWA C110 Gray-Iron and Ductile-Iron Fittings, 3 inches through 48 inches for Water and Other Liquids.

C. AWWA C111 Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings

D. AWWA C502 Dry Barrel Fire Hydrants.

E. AWWA C605 Underground Installation of Polyvinyl Chloride (PVC) pressure pipe and fittings for water.

F. AWWA C800 Thread for Underground Service Line Fittings with Appendix on Collected Standards for Service Line Materials.

G. AWWA C900 Polyvinyl Chloride (PVC) Pressure Pipe, 4 inches through 12 inches for water.

H. Recommended Standards for Water Works §8.4.2 Valves and nozzles.

1.4 SHOP DRAWINGS AND PRODUCT DATA

A. Submit shop drawings and product data for all proposed materials.

B. Submit manufacturer's installation instructions.

1.5 REGULATIONS

A. Comply with all applicable Health Department and Plumbing Code requirements.

PART 2 PRODUCTS

2.1 PIPE MATERIALS

A. All pipe materials shall be approved by the City of Seward Water/Wastewater Department.

B. PVC Water Main: All pipe 12 inches in diameter or smaller shall be PVC 1120 DR 14, with O.D. conforming to that of cast iron pipe. PVC pipe larger than 12 inches, shall be PVC 1120 DR 18 conforming to that of cast iron pipe unless otherwise specified. Pipe shall conform with AWWA Specification C-900 (latest edition), rubber compression ring joints conforming to ASTM 03139 and F477. Pipe shall be J-M “Blue Brute,” or approved equal. Provide tracer wire as shown on project drawings.

C. Granular Bedding Materials: Bedding material and foundation material shall conform to the requirements of ASTM "Standard Specifications for Concrete Aggregates", Designation C-33. The gradation for foundation material shall be size Number 357 (2” to #4). Bedding material shall be a well graded "crusher run" crushed rock or crushed concrete with a percent passing gradation range of 1"-100, 3/4"-90 to 100, #4- 40 to 60, and #200 - 0 to 10 unless otherwise designated on the plans or directed by the Engineer.

D. Tracer Wire: THHN, 12 ga. Copper wire, manufactured for underground service. Wire shall be continuous without breaks. Splices shall be made with petroleum-filled wire nut caps. Bring tracer wire to surface as shown on the plans. Use with PVC water main.

E. Retainer glands shall use wedge action principle to impart restraint of pipe, shall be constructed of ASTM65-45-12 ductile iron and shall be suitable for restraining PVC pipe and mechanical joints. Provide EBBA Iron Sales "Megalug" or approved equal. Megalugs and thrust blocks are both required for restraining fittings where changes of alignment occurs. Retainer glands shall be supplied clearly tagged or otherwise marked for use with either PVC pipe. Retainer Glands shall use the following minimum number of wedges for each pipe size:

- 6" pipe, 6 wedges per gland
- 8" pipe, 6 wedges per gland
- 10" pipe, 8 wedges per gland
- 12" pipe, 8 wedges per gland

F. Provide polyethylene encasement for fittings. Polyethylene Encasement: Class C, black pigmented, eight (8) mil thick, conforming to the requirements of ANSI A21.5. The encasement may be supplied in flat sheets or tubes at the Contractor's option. The tubes, measured when laid flat, and the flat sheets shall conform to the following dimensions:

Nominal Fitting Diameter (inches)	Tube and Sheet Sizes Polyethylene Encasement Width (inches)	
	Tube	Sheet
4	16	32
6	20	40
8	24	48
10	27	54
12	30	60

2.2 FITTINGS

A. All fittings for water main shall be approved by the City of Seward Water/Wastewater Department.

B. Fittings for Water Main: Ductile or cast iron standard or compact fittings conforming to AWWA C110/A21.10 or C153/A21.53. Polyethylene encasement shall conform to AWWA C104/A21.4.

C. Mechanical Joints: ANSI/AWWA C111/A21.11, except gaskets shall be neoprene or other synthetic rubber. Natural rubber will not be acceptable.

D. Provide transition gaskets and adapters as needed for connecting plastic pipe to pipe fittings of different material.

2.3 VALVES

A. All gate valves shall be approved by the City of Seward Water/Wastewater Department.

B. Mueller Model A-2360-20 Non-rising-Stem, Resilient-Seated Gate Valves, 3-Inch NPS (DN80) and larger (or approved equal): AWWA C509., gray- or ductile-iron body and bonnet; with bronze or gray- or ductile-iron gate, resilient seats, bronze stem, and stem nut. Include 200-psig (1380-kPa) minimum working-pressure design, interior coating according to AWWA CSSO, and push-on- or mechanical-joint ends and direction of opening left.

1. All Gate Valves shall be wrapped with a polyethylene wrap and taped in accordance with Method C of AWWA C105 after installation. The wrap shall completely cover the valve, and operator, taped around the ends to form a good seal.

C. Valve Boxes: Cast-iron box with top section and cover with lettering "WATER," bottom section with base of size to fit over valve and barrel approximately 5 inches (125mm) in diameter, and adjustable cast-iron extension of length required for depth of bury of valve.

1. Provide steel tee-handle operating wrench with each valve box, or as required by the Water/Wastewater Department. Include tee handle with one pointed end, stem of length to operate valve, and socket fitting valve-operating nut.

D. Curb Stops: Not used.

E. Service Boxes for Curb Stops: Not Used.

F. Tapping Sleeve and Tapping Valve: Complete assembly, including tapping sleeve, tapping valve, and bolts and nuts. Use sleeve and valve compatible with tapping machine.

1. Tapping Sleeve: Cast- or ductile-iron, 2-piece bolted sleeve with flanged outlet for new branch connection. Sleeve may have mechanical-joint ends with rubber gaskets or sealing rings in sleeve body. Include sleeve matching size and type of pipe materials being tapped and of outlet flange required for branch connection.

G. Service Clamps and Corporation Stops: Not Used.

2.4 THRUST BLOCKS

A. Construct poured in place concrete thrust blocks for all fittings where changes of alignment occurs and in accordance with the plans and these specifications.

2.5 MECHANICAL JOINTS WITH TIE RODS

A. <u>All mechanical joints shall be approved by the City of Seward Water/Wastewater Department.</u>

B. Ties Rods: ASTM A307.

C. Steel Pipe: ASTM A53, standard weight.

D. Washers: ANSI B18.22.1, plain steel.

2.6 MECHANICAL COUPLINGS

A. All mechanical couplings shall be approved by the City of Seward Water/Wastewater Department.

B. Couplings: Dresser Style 38, Smith Blair 441 or 411 Flexible Coupling, or equal; without pipe stop.

C. Gaskets: Oil resistant synthetic rubber.

2.7 FIRE HYDRANTS

A. All fire hydrants shall be approved by the City of Seward Water/Wastewater Department.

B. Fire hydrants shall be Kennedy Guardian K81D (or approved equal), either 5'-6" bury or 6'-6" bury as specified on the plans.

1. Outlet threads shall be NFPA 1963 with external hose thread used by local fire department and cast iron caps with steal chains.
2. Operating and cap nuts shall be pentagon 1-1/2" point to flat with a direction opening to the left.
3. Exterior shall be red alkyd-gloss enamel paint.

PART 3 EXECUTION

3.1 PREPARATION

A. Review layout requirements with other affected work. Coordinate locations of fittings to accommodate system.

B. Protect landscaping and other features remaining as final work.

C. Coordinate and schedule work with City at least 24 hours before commencing work.

3.2 TRENCHING

A. Trench for water system piping per Section 02200 - Earthwork.

B. Keep trenches free of debris, material, or obstructions that may damage pipe.

C. Backfill per Section 02200 - Earthwork.

3.3 INSTALLATION

A. Install pipe and fittings in accordance with manufacturer's instructions and AWWA C600 and AWWA C900.

B. Valve boxes and fire hydrants shall be set plumb.

C. Install tracer wire with all water mains and provide junction boxes at fire hydrants and termination points. Tracer wire to terminate at tracer wire valve boxes next to fire-hydrants as per plans. Tracer wire shall be secured to the top of the water main by tape a minimum of three times in each section of pipe. A continuous loop shall be installed to the top of all valved boxes. All wire shall be joined by use of a wire clamp. These connections shall be sealed and tamped to create a watertight connection.

3.4 VALVE APPLICATIONS

A. Drawings indicate valve types to be used.

3.5 HANDLING

A. Pipe, fittings, and accessories shall be handled in a manner that will insure installation in sound, undamaged condition. Equipment, tools, and methods used in handling pipe and fittings in which cement lining has been damaged shall be replaced. Small and readily accessible damaged areas may be repaired.

3.6 INSPECTION

A. Pipe and fittings shall be carefully examined for cracks and other defects immediately before installation; spigot ends shall be examined with particular care. All defective pipe and fittings shall be removed from the site of the work.

3.7 LAYING WATER MAIN

A. Pipelines or runs intended to be straight shall be laid straight. Deflections from a straight line or grade shall not exceed 1/2 of the manufactures maximum joint deflection, unless specially designed bells and spigots are provided.

B. Either shorter pipe sections or fittings shall be installed where the alignment or grade requires them.

C. All water mains shall be placed at a depth sufficient to provide 5 feet of cover over the top of the pipe, unless specifically stated otherwise in the drawings.

D. Pipe shall be protected from lateral displacement by placing the specified pipe embedment material. Under no circumstances shall pipe be laid in water and no pipe shall be laid under unsuitable weather or trench conditions.

E. Pipe shall be laid with the bell ends facing the direction of laying except when reverse laying is specifically authorized by the Engineer.

F. Water mains shall be laid at least 10 feet horizontally from any existing or proposed sewer. Water mains crossing sewers shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer, either above or below the sewer. At crossings, one full length of water pipe shall be located such that both joints will be as far from the sewer as possible.

G. Either shorter pipe sections or fittings shall be installed where the alignment or grade requires them.

3.8 CUTTING PIPE

A. Cuttings shall be done in a neat manner, without damage to the pipe. Cuts shall be smooth, straight, and at right angles to the pipe axis. After cutting the end of the pipe, it shall be dressed with a file to remove all roughness and sharp corners.

3.9 CLEANING

A. The interior of all pipe and fittings shall be thoroughly cleaned of foreign material before being installed and shall be kept clean until the work has been accepted. Before jointing, all joint contact surfaces shall be wiped clean and kept clean until jointing is completed.

B. Precautions shall be taken to prevent foreign material from entering the pipe during installation. Debris, tools, clothing, or other materials shall not be placed in or allowed to enter the pipe.

C. Whenever pipe laying is stopped, the open end of the pipe shall be sealed with a watertight plug which will prevent trench water from entering the pipe.

D. If the pipe is flooded and/or filled with mud, the Contractor shall remove all foreign water and debris, flush main with potable water, then chlorinate the main for a 24-hour period. This procedure shall be in accordance with Section 02675 - Disinfection of Water System.

3.10 VALVE INSTALLATION

A. General Application: Use mechanical-joint-end valves for 3-inch NPS (DN80) and larger underground installation. Use threaded- and flanged-end valves for installation in pits.

B. AWWA-Type Gate Valves: comply with AWWA C600. Install underground valves with stern pointing up and with cast-iron valve box.

C. Bronze Corporation Stops and Curb Stops: Not used.

3.11 FIELD JOINTS

A. Joints in buried locations shall be push-on type unless otherwise indicated on the drawings.

3.12 PUSH-ON-JOINTS

A. All instructions and recommendations of the pipe manufacturer, relative to gasket installation and other jointing operations, shall be followed by the Contractor. All joints surfaces shall be lubricated with heavy vegetable soap suitable for use in potable water, shall be stored in closed containers, and shall be kept clean. Each spigot end shall be suitably beveled to facilitate assembly.

3.13 REACTION ANCHORAGE AND BLOCKING

A. All unplugged bell and spigot or all-bell tees, hydrant-branches, bends deflecting 11 ¼ degrees or more, valves, and plugs which are installed in buried piping shall be provided with suitable reaction blocking, anchors, joint harness, or other acceptable means for preventing movement of the pipe caused by internal pressure.

B. Concrete blocking shall extend from the fitting to solid undisturbed earth and shall be installed so that all joints are accessible for repair. The bearing area of concrete reaction blocking shall be shown on the drawings or as directed by the Engineer. If adequate support against undisturbed ground cannot be obtained, metal harness anchorages consisting of steel rods across the joint and securely anchored to pipe and fitting or other adequate anchorage facilities shall be installed to provide the necessary support. Should the lack of a solid vertical excavation face be due to improper trench excavation, the entire cost of furnishing and installing metal harness anchorages in excess of the contract value of the concrete blocking replaced by such anchorages will be borne by the Contractor.

3.14 LEAKAGE

A. All joints shall be watertight and free from leaks. Allowable leakage shall be the amount of leakage less than that specified in AWWA C605-13, Section 10.3.6 Test Allowance. All visible leaks shall be repaired regardless of the amount of leakage.

Each leak which is discovered within one (1) year after final acceptance of the work by the Owner shall be repaired by and at the expense of the Contractor.

3.15 TESTING

A. Fill line and flush as needed to remove all trapped air.

B. Hydrostatically test all portions of the new water line for leakage in accordance with AWWA C605-13, Section 10.3 Hydrostatic Testing.

C. Pressure test all portions of the line at 200 psig measured at the lowest point for 2 hours minimum.

D. Repair any leaks and retest.

E. Contractor shall be responsible for performing all required tests.

3.16 FIRE HYDRANT INSTALLATION

A. General: Install each fire hydrant with separate gate valve in supply pipe, anchor with restrained joints or thrust blocks, and support in upright position.

B. AWWA-Type Fire Hydrants: Comply with AWWA M17.

C. UUFM- Type Fire Hydrants: Comply with NFPA 24.

3.17 SEWER LINE CONFLICT

A. Water mains crossing sewers shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer. At crossings, one full length of water pipe shall be located so both joints will be as far from the sewer as possible. Special structural support for the water and sewer pipes may be required.

B. Further, the sewer shall be encased in a concrete envelope 10'-0" either side of the centerline of the water main. The concrete envelope shall provide a minimum of 8" of cover around the sewer. In lieu of the concrete envelope, the sewer line may be reconstructed of ductile iron pipe such that a 20 foot length of ductile iron sewer is centered over the water main.

C. Where a 10 foot separation between a sewer manhole and the water main cannot be maintained, the water main shall be cut as required so that a 20 foot length of pipe may be centered at the nearest point to the manhole.

3.18 WATER FOR TESTING AND DISINFECTION

A. The Owner will furnish water for purposes of testing and disinfection provided the Contractor minimizes waste. If waste is noted the City maintains the right to charge for water used.

B. The Contractor shall disinfect the water distribution system in accordance with Section 02675.

3.19 ADJUSTMENT

A. Check and adjust accessories for smooth operation.

END OF SECTION

SECTION 02623

SANITARY SEWER PIPE

PART 1 GENERAL

1.1 WORK INCLUDED

A. Gravity Sewer Pipe.

B. Fittings and jointing materials.

1.2 RELATED WORK

A. Section 02200 - Earthwork.

1.3 REFERENCES

A. ASTM D1784 - Specification for Rigid Poly (Vinyl Chloride) PVC Compounds.

B. ASTM D2412 - Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel - Plate Loading.

C. ASTM D3034 - Standard Specification for Type PSM PVC Sewer Pipe and Fittings.

D. ASTM D3212 - Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.

E. ASTM F679 - Standard Specification for PVC Large Diameter Plastic Gravity Sewer Pipe and Fittings.

1.4 SUBMITTALS

A. Submit product data under provisions of Section 01300.

B. Include data on pipe materials, pipe fittings, gasket material, and accessories.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site under provisions of Section 01600.

B. Store and protect products under provisions of Section 01600.

PART 2 PRODUCTS

2.1 POLYVINYL CHLORIDE PIPE (PVC)

A. Pipe.

1. ASTM D3034, Type PSM SDR 26 minimum.

2. Pipe shall be made of PVC plastic having a minimum cell classification of 12454B or 12454C as defined in ASTM D1784.

3. The pipe shall be uniform in color, opacity, density and other physical properties. Pipe and fittings shall be marked in accordance with the relevant ASTM standard, i.e, D3034 or F679, including a date or date code.

B. Joints.

1. ASTM D3212, stab type with elastomeric gaskets. Gaskets shall be in compliance with ASTM F477 and shall be suitable for sewage service. Solvent weld joints and couplings will not be permitted. Natural rubber gaskets will not be acceptable.

C. Fittings.

1. PVC plastic fittings, cell classification 12454B or 12454C as defined in ASTM D1784 and conforming to ASTM D2665.

2.2 CONNECTIONS TO MANHOLES

A. Precast manhole bottoms with cast-in-place resilient manhole/pipe connectors	A-Lock "Manhole Pipe Seal" or or Dura-Tech "Dura-Seal"
B. Precast manholes with boxouts for grouted/concrete, manhole/pipe connections, and reconstructed manhole inverts	Rubber ring water stop with stainless steel compression band.

PART 3 EXECUTION

3.1 HANDLING AND STORAGE

A. Pipe, fittings, and accessories shall be handled in a manner that will insure installation in sound, undamaged condition. Equipment, tools, and methods used in handling and installing pipe and fittings shall not damage the pipe and fittings.

B. Hooks inserted in ends of pipe shall have broad, well padded contact surfaces.

C. Pipe stored on the job site shall be covered with canvas or other opaque material to protect it from the sun's rays. Air circulation shall be provided under the covering.

D. Ultraviolet radiation degradation evidenced by a light yellow (or brown) discoloration of the pipe shall be cause for rejection and removal of the pipe. Pipe which is not installed within 120 days of the latest factory compliance test shall not be used without the written approval of the Engineer. Pipe older than two years from date of manufacture shall not be used.

3.2 CUTTING PIPE

A. Cutting shall be done in a neat manner, without damage to the pipe.

B. Cuts shall be smooth, straight, and at right angles to the pipe axis. After cutting, the end of the pipe shall be dressed with a file to remove all roughness and sharp corners.

3.3 CLEANING

A. The interior of all pipe and fittings shall be thoroughly cleaned of foreign matter before being installed and shall be kept clean until the work has been accepted.

B. Before jointing, all joint contact surfaces shall be wire brushed if necessary, wiped clean, and kept clean until jointing is completed.

C. Precautions shall be taken to prevent foreign material from entering the pipe during installation. Debris, tools, clothing, or other materials shall not be placed in or allowed to enter the pipe.

D. Whenever pipe laying is stopped, including stoppage at the end of each work day, the open end of the pipe shall be sealed with a watertight plug which will prevent trench water from entering the pipe.

3.4 INSPECTION

A. Pipe and fittings shall be carefully examined for cracks and other defects immediately before installation; spigot ends shall be examined with particular care.

B. All defective pipe and fittings shall be removed from site of the work.

3.5 ALIGNMENT

A. Pipelines or runs intended to be straight shall be laid straight and at uniform grade between changes in grade.

B. Straight section of piping between manholes shall be lamped by the Engineer or representative with assistance from the Contractor.

3.6 LAYING PIPE

A. Pipe shall be protected from lateral displacement by placing the specified pipe embedment material. See Specification Section 02200 - Earthwork.

B. Under no circumstances shall pipe be laid in water and no pipe shall be laid under unsuitable weather or trench conditions.

C. Pipe shall be laid with the bell ends facing the direction of laying except when reverse laying is specifically authorized by the Engineer or representative.

D. The Contractor shall erect substantial batter boards at intervals of not more than 50 feet. Batter boards shall be used to determine and check pipe subgrades. Not less than three (3) batter boards shall be maintained in proper position at all times when trench grading is in progress.

E. Other methods of maintaining alignment and grade, such as use of laser beam equipment or surveying instruments, will be considered, provided complete information describing the proposed method is submitted to the Engineer or representative for review before pipe laying is started.

F. All instructions and recommendations of the joint manufacturer shall be followed. Immediately before joints are pushed together, all joint surfaces shall be lubricated with the lubricant furnished by the joint manufacturer.

G. When material is encountered which will not, in the Engineer's opinion, provide a suitable bed for construction of the sewer; granular foundations and bedding shall be installed at the Engineer's direction.

H. Granular bedding and foundation, which is necessary due to improper trench preparation and maintenance or neglect in handling ground water, shall be installed at the Contractor's expense.

I. Piping cast into a concrete manhole base shall be provided with manufacturer's recommended water stop collar or other suitable means of providing a watertight, structurally sound connection as recommended by the pipe manufacturer and approved by the Engineer.

3.7 WATER MAIN CONFLICT

A. Sewer lines crossing water mains with vertical separation less than 18", shall be laid to the grades indicated on the drawings. At crossings, one full length of sewer pipe shall be located so both joints will be as far from the water main as possible. Special structural support for the water and sewer pipes may be required.

B. Further, the sanitary sewer shall be encased in a concrete envelope a minimum of 10'-0" either side of the centerline of the water main. The concrete envelope shall provide a minimum of 8" of concrete cover around the sewer. In lieu of the concrete envelope, the sewer line may be reconstructed of ductile iron pipe such that a 20-foot length of ductile iron sewer is centered over the water main.

C. Where a 10-foot separation between a sewer manhole and the water main cannot be maintained, the water main shall be cut as required so that a 20-foot length of pipe may be centered at the nearest point to the manhole.

END OF SECTION

SECTION 02631

SANITARY SEWER MANHOLES

PART 1 GENERAL

1.1 WORK INCLUDED

A. Construction of new manholes.

1.2 RELATED WORK

A. Section 01300 - Submittals.

B. Section 02200 - Earthwork.

C. Section 02623 - Sanitary Sewer Pipe.

D. Section 07160 - Bituminous Dampproofing.

1.3 SUBMITTALS

A. Submit as required.

B. Shop Drawings: Indicate manhole locations, elevations, and pipe sizes and elevations of penetrations.

C. Product Data: Provide manhole covers, component construction, features, configuration, and dimensions.

PART 2 PRODUCTS

2.1 MATERIALS

A. Concrete: Materials, handling, forms, finishing, curing, and other work as specified in concrete section.

B. Precast Sections: Circular precast concrete base and riser sections with eccentric cone top sections; ASTM C478

1. Minimum Thickness: As indicated on the drawings.

2. Reinforcement: ASTM C478.
3. Openings: Circular openings for use with cast-in-place resilient manhole/pipe connectors. Circular or horseshoe shaped boxouts for use with grout/concrete

manhole/pipe connections using rubber ring water stop with stainless steel compression band. Surfaces of circular or horseshoe shaped boxouts for use with grout/concrete manhole/pipe connections shall have the surfaces grooved or roughened to improve mortar bond.

C. Portland Cement: ASTM C150.

D. Hydrated Lime: ASTM C207, Type S.

E. Mortar: One part Portland Cement, 1/2 part hydrated lime, 3 parts sand.

F. Gaskets:

1. Mastic: Federal Specifications SS-S-210; K.T. Snyder "Ram-Nek".

2. Rubber: Neoprene or other synthetic, 40 plus or minus 5 hardness when measured by ASTM D2240, Type A durometer.

G. Coat Tar Paint: Koppers "Bitumastic Super-Service Black," Tnemec "450 Heavy Tnemecol," Porter "Tarmastic 103," or Sonneborn, "Hydrocide 700."

H. Castings: Manhole covers and frames shall be iron castings which shall meet all the requirements of "Specifications for Gray Iron Castings," ASTM A-48, Class 35B. All frames and covers shall be machined and fitted so as to prevent any rocking in the frame when installed. No casting will be accepting that is warped, cracked, that has swells, or that has been plugged or filled.

1. Heavy Duty Manhole Rings and Covers: Deeter Foundry "1270 Manhole Ring and Solid Cover" with self-seal gasket.

I. Manhole Steps: Manhole steps shall be drill-in type, copolymer polypropylene plastic with 1/2" grade 60 steel reinforcement and shall meet the requirements of ASTM C-478, AASHTO M-199 and OHSA Instruction STD I-1.9. Polyproplyene Plastic shall conform to ASTM D-4101.

J. Sand: Concrete sand (fine aggregate) sieved through 8 mesh screen.

K. Shrinkage-Correcting Aggregate: Master Builders "Embeco," Sike "Kemox," or Sonneborn "Ferrolith G-DS."

L. Nonshrinking Mortar: Premixed or job mixed; job mixed shall be one part shrinkage-correcting aggregate, one part Portland Cement, one part sand.

M. Connections of pipes to manholes

1. Precast manhole bottoms with resilient manhole/pipe connectors steel compression bands	A-Lock "Manhole Pipe Seal," Dura-Tech "Dura-Seal," or Press-Seal Gasket Corp "PSX: Positive Seal" with double stainless
2. Precast manholes with boxouts for grouted/concrete, manhole/pipe connections	Rubber ring water stop with stainless steel compression bands

N. Bituminous Dampproof: As specified in Section 07160.

2.2 MANUFACTURE

A. The first riser section for use with cast-in-place bases shall be provided with openings for connecting piping to be grouted in, with circular openings with continuous, circular, resilient connectors cast into the riser wall, or with smooth circular openings for installation of the resilient sealing boots. Boxouts for grouting shall have surfaces grooved or roughened to improve grout bond.

B. Where horseshoe shaped boxouts are used for the manhole/pipe connection, a rubber ring water stop shall be installed on the sewer pipe in the center of the concrete/grout to prevent water passage along the outside of the sewer pipe through the concrete/grout connection. Rubber ring water stops shall have stainless steel compression bands.

2.3 DELIVERY AND HANDLING

A. Precast concrete sections shall not be delivered to the job until representative concrete control cylinders have attained a strength of at least 80 percent of the specified minimum.

B. Precast concrete sections shall be handled carefully and shall not be bumped or dropped. Hooks shall not be permitted to come into contact with joint surfaces.

2.4 INSPECTION

A. Precast concrete sections and concrete blocks shall be inspected when delivered and all cracks or otherwise visibly defective units rejected.

PART 3 EXECUTION

3.1 CONSTRUCTION

A. Manholes shall be furnished and constructed as shown on the drawings.

B. All mortar shall be used within 40 minutes after mixing. Mortar which has begun to take on initial set shall be discarded and shall not be mixed with additional cement or new mortar.

C. In no case shall an invert section through a manhole be greater than that of the outgoing pipe. The shape of the invert shall conform exactly to the lower half of the pipe it connects. Side branches shall be connected with as large a radius of curvature as practicable. All inverts shall be troweled to a smooth clean surface.

D. Circular precast sections shall be provided with a rubber or mastic gasket to seal joints between sections. The space between joints of precast connecting wall sections shall be neatly “pointed up” with non-shrinking mortar after manhole installation. All mortar between manhole section joints shall be troweled to a smooth clean surface.

E. Precast sections may be provided with lifting notches on the inside faces of walls to facilitate handling. Lifting notches shall be not more than three (3) inches in depth. Lifting notches extending through the manhole wall shall not be acceptable. Lifting notches shall be filled and neatly "point up" with non-shrinking mortar after manhole installation. The interior wall surfaces of the manhole shall be smooth when completed.

F. Manholes shall be water tight. All visible leakage shall be eliminated.

G. All manholes shall be adjusted to final grade as directed by the Engineer.

H. All outside surfaces below grade that will not be in contact with the cast-in-place concrete manhole base, shall be coated with bituminous dampproofing as specified in Section 07160. Manholes shall not be backfilled until dampproofing is dry and hard.

I. Prior to installation, one coat of coal tar epoxy shall be applied to all castings. Before painting, castings shall be thoroughly cleaned and properly supported. All loose rust shall be removed by wire brushing. Castings shall not be handled until the coating is dry and hard.

J. Stub-outs for future connections shall be provided in manholes at the locations indicated on the drawings. Stub-outs shall be not less than 3'-0" nor more than 4'-0" long and shall terminate in a bell with a removable plug.

3.2 MANHOLE ACCEPTANCE TESTS

A. Each manhole shall meet the requirements of the following acceptance tests. The acceptance testing requirements described herein represent the minimum testing required. In instances where local codes or standards exceed the specified requirements, those codes or standards shall govern over these requirements. All defects shall be repaired to the satisfaction of the Engineer.

B. The Contractor shall provide, at his own expense, all labor, equipment, and materials required for the tests including all pipe, fittings, and valves needed for testing as well as

between the reach to be tested and the source of water supply, water, temporary plugs or bulkheads, all necessary test equipment, temporary restraining or bracing as required, and other required work. The schedule of testing shall be submitted to the Engineer or representative prior to starting the tests. The methods used and the time of conducting tests shall be acceptable to the Engineer or representative.

C. The Contractor shall test each manhole for leakage by either an exfiltration or vacuum test. Each manhole shall be subjected to at least one exfiltration or vacuum test as specified herein. Manholes that fail the initial testing shall be repaired or replaced and then retested until they successfully pass the testing requirements and to the satisfaction of the Engineer.

D. Exfiltration. Exfiltration tests shall be conducted by blocking off all manhole openings, filling the manhole with water, and measuring the water level drop during the test. At the beginning of the exfiltration test, the water depth shall be to the top of the manhole frame. The depth of the water shall be at least 5 feet above the groundwater elevation. If these conditions cannot be met then exfiltration testing shall not be allowed and the manhole shall be vacuum tested. After the manhole concrete has been saturated, the water level in the manhole shall be observed for a period of four (4) hours and as much longer as necessary, in the opinion of the Engineer. If after this period of time the difference in water elevation is not greater than ½-inch, the manhole shall be considered as passing the exfiltration test. Manhole exfiltration testing shall not be conducted as part of the exfiltration testing for adjacent sections of sewer. Each manhole exfiltration test shall test only the manhole structure and any associated drop pipe assembly. Each manhole shall be tested individually for exfiltration.

E. Vacuum Testing of Manholes. Vacuum testing of manholes for acceptance shall be performed after manhole and connecting sewer lines have been backfilled. Vacuum testing of manholes shall be conducted in accordance with ASTM C1244.

F. Infiltration. Each manhole shall be free of visible leaks. All visible leaks shall be repaired. Repaired manholes shall be retested for leakage.

3.3 CLEANING

A. The interior of all manholes and fittings shall be thoroughly cleaned before installation and shall be kept clean until the work has been accepted.

END OF SECTION

SECTION 02675

DISINFECTION OF WATER SYSTEM

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Disinfection of potable water mains.

B. Testing and reporting results.

1.2 RELATED SECTIONS

A. Section 02620 – Potable Water Distribution System

1.3 REFERENCES

A. AWWA B300 - Standard for Hypochlorites.

B. AWWA B301 - Standard for Liquid Chlorine.

C. AWWA B302 - Standard for Ammonium Sulfate.

D. AWWA B303 - Standard for Sodium Chlorite.

E. AWWA C651 - Standards for Disinfecting Water Mains.

1.4 SUBMITTALS FOR INFORMATION

A. Section 01300 - Submittals: Procedures for submittals.

B. Test Reports: Indicate results comparative to specified requirements.

C. Submit detailed disinfection plan for transmission main to the Engineer a minimum of 15 days before flushing or disinfection operations begin.

D. Certificate: Certify that cleanliness of water distribution system meets or exceeds specified requirements.

1.5 PROJECT RECORD DOCUMENTS

A. Submit under provisions of Section 01700.

B. Disinfection report:

1. Type and form of disinfectant used.

2. Date and time of disinfectant injection start and time of completion.

3. Test locations.

4. Initial and 24 hour disinfectant residuals quantity in treated water in ppm for each outlet tested.

5. Date and time of flushing start and completion.

6. Disinfectant residual after flushing in ppm for each outlet tested.

C. Bacteriological report:

1. Date issued, project name, and testing laboratory name, address, and telephone number.

2. Time and date of water sample collection.

3. Name of person collecting samples.

D. Test locations.

1. Initial and 24 hour disinfectant residuals in ppm for each outlet tested.

2. Coliform bacteria test results for outlet tested.

3. Certification that water conforms, or fails to conform, to bacterial standards of Nebraska Department of Health and Human Services (NDHHS).

4. Testing shall occur in each newly installed section of water main at maximum intervals of 1,200 feet and at each dead end as per AWWA C651-14 sec 5.1.

5. Minimum 2 samples collected 24 hours apart demonstrating zero coliform present.

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with AWWA C651, latest editions.

1.7 REGULATORY REQUIREMENTS

A. Conform to NDHHS code or regulation for performing the work of this Section.

B. Provide certificate of compliance from NDHHS indicating approval of water system.

PART 2 PRODUCTS

2.1 DISINFECTION CHEMICALS

A. Disinfection Chemicals: Sodium Hypochlorite: ANSI/AWWA B300, with approximately 5 to 15 percent available chlorine, liquid form.

B. Calcium Hypochlorite: ANSI/AWWA B300, 65 percent available chlorine by weight, granular or tablet form (swimming pool tablets are not acceptable).

C. Liquid Chlorine: ANSI/AWWA B301, 100 percent available chlorine, for use with gas. Flow chlorinators, by an individual familiar with use and emergency situations, and in accordance with appropriate safety precautions.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that piping system has been cleaned, inspected, and pressure tested on new piping only.

B. Perform scheduling and disinfecting activity with start-up, testing, adjusting and balancing, demonstration procedures, including coordination with related systems.

3.2 EXECUTION

A. Flush new water main at a rate of to develop a minimum velocity of 3.0 fps until required cleanliness is achieved. All water main flushing shall be coordinated with the City of Seward Water Department.

B. Disinfect new water main in accordance with AWWA C651 from new to existing main by the continuous feed method or slug method after the main has been flushed and pressure tested (new main).

D. Provide and attach required equipment to perform the work of this Section.

E. Inject treatment disinfectant into piping system.

F. Maintain disinfectant in system for 24 hours.

G. Neutralize all chlorinated water discharged to drainage courses. The rate and manner of disposal and chlorine residual shall be acceptable to Owner and State agencies.

H. Flush, circulate, and clean until required cleanliness is achieved and until chlorine

concentrations in the flushing water are acceptable for municipal use; use municipal domestic water after disinfection.

I. Replace permanent system devices removed for disinfection.

J. For new pipe, fittings, or valves installed after completion of initial disinfection procedure, the Contractor may spray-chlorinate or swab disinfect the new components prior to connection with the existing system. The spray/swab disinfection concentration shall have a minimum concentration of 1 to 5 percent chlorine solution, prior to installation. This option shall apply if the total length of components is less than 18 feet, per connection, and for connections to the existing distribution system.

3.3 FIELD QUALITY CONTROL

A. Section 01400 - Quality Assurance: Field inspection and testing.

B Test samples in accordance with AWWA C651.

END OF SECTION

SECTION 02702

SEWER PIPE INSTALLATION AND TESTING

PART 1 GENERAL

1.1 WORK INCLUDED

A. Installation of sewer pipe by open cut trenching.

B. Testing of all sewer pipe.

1.2 RELATED WORK

A. Section 02200 - Earthwork.

B. Section 02631 - Sanitary sewer manholes.

1.3 REFERENCES

A. Uni-Bell B-6 - Recommended Practice for Low-Pressure Air Testing of Installed Sewer Pipe.

1.4 SUBMITTALS

A. Submit product data as required.

B. Include data on pipe materials, pipe fittings, gasket material, and accessories.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site as required.

B. Store and protect products as required.

PART 2 PRODUCTS

2.1 PIPE MATERIALS

A. Sewer pipe materials are specified in other sections.

2.2 TEST EQUIPMENT

A. All necessary equipment, connections, materials, labor, and other items incidental to the testing shall be furnished by and at the expense of the Contractor.

B. All quality and certification tests shall be at the Contractor's expense and shall be included in the price bid per foot of pipe installed.

PART 3 EXECUTION

3.1 HANDLING AND STORAGE

A. Pipe, fittings, and accessories shall be handled in a manner that will insure installation in sound, undamaged condition. Equipment, tools, and methods used in handling and installing pipe and fittings shall not damage the pipe and fittings.

B. Hooks inserted in ends of pipe shall have broad, well-padded contact surfaces.

C. PVC pipe stored on the job site shall be covered with canvas or other opaque material to protect it from the sun's rays. Air circulation shall be provided under the covering. Ultraviolet radiation degradation evidenced by a light yellow (or brown) discoloration of the pipe shall be cause for rejection and removal of the pipe. Pipe which is not installed within 120 days of the latest factory compliance test shall not be used without the written approval of the Engineer. Pipe older than two years from date of manufacture shall not be used.

D. Damaged pipe and fittings shall be removed from the site.

3.2 CUTTING PIPE

A. Cutting shall be done in a neat manner, without damage to the pipe.

B. Cuts shall be smooth, straight, and at right angles to the pipe axis. After cutting, the end of the pipe shall be dressed with a file to remove all roughness and sharp corners.

3.3 CLEANING

A. The interior of all pipe and fittings shall be thoroughly cleaned of foreign matter before being installed and shall be kept clean until the work has been accepted.

B. Before jointing, all joint contact surfaces shall be wire brushed if necessary, wiped clean, and kept clean until jointing is completed.

C. Precautions shall be taken to prevent foreign material from entering the pipe during installation. Debris, tools, clothing, or other materials shall not be placed in or allowed to enter the pipe.

D. Whenever pipe laying is stopped, the open end of the pipe shall be sealed with a watertight plug which will prevent trench water from entering the pipe.

3.4 INSPECTION

A. Pipe and fittings shall be carefully examined for cracks and other defects immediately before installation; spigot ends shall be examined with particular care.

B. All defective pipe and fittings shall be removed from site of the work.

3.5 ALIGNMENT

A. Pipelines or runs intended to be straight shall be laid straight and at uniform grade between changes in grade.

B. Straight section of piping between manholes shall be lamped by the Engineer with assistance from the Contractor.

3.6 LAYING PIPE

A. Pipe shall be protected from lateral displacement by placing the specified pipe embedment material.

B. Under no circumstances shall pipe be laid in water and no pipe shall be laid under unsuitable weather or trench conditions.

C. Pipe shall be laid with the bell ends facing the direction of laying except when reverse laying is specifically authorized by the Engineer.

D. The Contractor shall erect substantial batter boards at intervals of not more than 50 feet. Batter boards shall be used to determine and check pipe subgrades. Not less than three (3) batter boards shall be maintained in proper position at all times when trench grading is in progress.

E. Other methods of maintaining alignment and grade, such as use of laser beam equipment or surveying instruments, will be considered, provided complete information describing the proposed method is submitted to the Engineer for review before pipe laying is started. Laser beam equipment, if allowed for use, shall project the laser beam through the previously installed portions of the sewer and onto a removable alignment target placed inside of the joint of pipe being installed. Laser beam equipment relying upon a laser broadcast station and pole-mounted prisms or targets shall not be allowed.

F. All instructions and recommendations of the joint manufacturer shall be followed. Immediately before joints are pushed together, all joint surfaces shall be lubricated with the lubricant furnished by the joint manufacturer.

G. When material is encountered which will not, in the Engineer's opinion, provide a suitable bed for construction of the sewer; granular foundations and bedding shall be installed at the Engineer's direction.

H. Granular bedding and foundation, which is necessary due to improper trench preparation and maintenance or neglect in handling ground water, shall be installed at the Contractor's expense.

3.7 CONNECTING WITH EXISTING PIPING

A. Connections between new and existing piping shall be made with fittings suitable for the conditions encountered.

3.8 WATER MAIN CONFLICT

A. Sewer lines crossing water mains shall be laid to the grades indicated on the drawings. At crossings, one full length of sewer pipe shall be located so both joints will be as far from the water main as possible. Special structural support for the water and sewer pipes may be required.

B. Further, the sanitary sewer shall be encased in a concrete envelope a minimum of 10'-0" either side of the centerline of the water main. The concrete envelope shall provide a minimum of 8" of concrete cover around the sewer. In lieu of the concrete envelope, the sewer line may be reconstructed of ductile iron pipe such that a 20-foot length of ductile iron sewer is centered over the water main.

C. Where a 10-foot separation between a sewer manhole and the water main cannot be maintained, the water main shall be cut as required so that a 20-foot length of pipe may be centered at the nearest point to the manhole.

3.9 SEWER ACCEPTANCE TESTS

A. Each reach of sewer shall meet the applicable requirements of the following acceptance tests. The acceptance testing requirements described herein represent the minimum testing required. In instances where local codes or standards exceed the specified requirements, those codes or standards shall govern over these requirements. All defects shall be repaired to the satisfaction of the Engineer. The Contractor shall provide, at his own expense, all labor, equipment, and materials required for the tests including all pipe, fittings, and valves needed for testing as well as between the reach to be tested and the source of water supply, water, temporary plugs or bulkheads, all necessary test equipment, temporary restraining or bracing as required, and other required work. The schedule of testing shall be submitted to the Engineer prior to starting the tests. The methods used and the time of conducting tests shall be acceptable to the Engineer.

1. Lamping. Unless otherwise indicated on the drawings, each section of sewer line between manholes shall be straight and uniformly graded. Each section will be lamped by the Engineer or representative. The Contractor shall furnish suitable assistants to assist the Engineer or representative.
2. Video Inspection. Video inspection of all new and rehabilitated gravity sanitary sewers shall be conducted after all backfill and compaction operations are completed. The inspection shall be conducted in the presence of the Engineer or

their designated representative. Prior to video inspection, the sewer will be cleaned to remove all debris and sediment. Sufficient water shall be run through the pipe so as to saturate any potential low spots so that they may be detected during inspection. Procedures for video inspection shall be submitted to the Engineer for review before inspection starts.

3. Infiltration. If, at any time prior to expiration of the correction period stipulated in the General Conditions, infiltration exceeds 100 gallons per inch of nominal diameter per mile of sewer per day, the Contractor shall locate the leaks and make repairs as necessary to control the infiltration. The sewer shall be free of visible leaks regardless of their infiltration rate. All visible leaks shall be repaired. Repaired pipe shall be retested.
4. Deflection. Prior to acceptance of the work but no earlier than 30 days after completing the backfilling of the sewer, each reach of PVC and other flexible types of sewer pipe shall be checked for excessive deflection by pulling a mandrel through the pipe, or by other methods acceptable to the Engineer. Pipe with diametrical deflection exceeding 5 percent of the inside diameter shall be uncovered, and the bedding and backfill replaced to prevent excessive deflection. Damaged pipe shall be repaired or replaced to the satisfaction of the Engineer and so to allow the pipe to pass the deflection test. Repaired or replaced sections of the pipe shall be retested.
5. Pressure Test. The Contractor shall provide all necessary test equipment and temporary restraining and shall conduct a low-pressure air testing for determining the soundness and tightness characteristics of the PVC & HDPE sewer piping. The test shall be conducted for all piping installed, except manhole drop pipes. The test shall be conducted in the presence of the Engineer or his designated representative. Procedures for air testing and manhole testing shall be submitted to the Engineer for review before testing is started. The testing equipment provided shall be capable of isolating small sections of a sewer containing a break or leak.

   Low pressure air tests shall be conducted in accordance with the procedures as described in ASTM C828 - latest revision. Leakage shall not exceed 0.003 cfm per square foot of internal pipe wall at an average pressure of 3 psi. The time elapsed for a one psi drop in air pressure shall not be less than:

   $t = 0.472d$; where: t = time in minutes, d = pipe diameter in inches

   Leaks shall be located by air testing short sections of pipe. Leaks shall be repaired and the reach of sewer retested.

3.10 CLEANING

A. The interior of all pipes and fittings shall be thoroughly cleaned before installation and shall be kept clean until the work has been accepted. After completion of the pipe testing program, the line shall be cleaned to the satisfaction of the Engineer by use of sewer cleaning equipment, flushing, or other acceptable methods.

END OF SECTION

SECTION 02936

SEEDING - MULCHING

PART 1 GENERAL

1.1 WORK INCLUDED

A. Preparation of subgrade to receive topsoil.

B. Spreading topsoil.

C. Fertilizing.

D. Seeding.

E. Mulching.

F. Seeding Locations.

G. Acceptance.

1.2 RELATED WORK

A. Section 01005: Administrative Provisions.

B. Section 02200: Earthwork.

1.3 DELIVERY, STORAGE AND HANDLING

A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging and location of packaging. Damaged packages are not acceptable.

B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.4 EXISTING CONDITIONS

A. Beginning work of this Section means acceptance of existing conditions.

1.5 SEEDING LOCATIONS

A. Three seed mixtures are specified for various areas disturbed during construction. Verify with the Engineer which mixture shall be used prior to beginning work of this Section. The drawings do not specify where each seed mixture will be used on the project.

1.6 SUBMITTALS

A. Submit shop drawing and product data for seed mixture and fertilizer in accordance with Section 01300.

B. Submit seeding schedule listing proposed mix for each area to be reseeded for approval prior to starting work.

PART 2 PRODUCTS

2.1 GROWING MEDIA

A. Existing Topsoil: Natural, fertile agricultural soil capable of sustaining vigorous plant growth, not in frozen or muddy condition, containing not less than 6% organic matter, and corrected to pH value of 5.9 to 7.0. Free from subsoil, slag, clay, stones, lumps, live plants, roots, sticks, crabgrass, noxious weeds, and foreign matter.

B. Starter Fertilizer: 18-46-0, commercial type with 50% of the elements derived from organic sources.

2.2 SEED

A. Seed Mixture for Residential Areas: Seed mixture for residential areas: 65% Kentucky Bluegrass: Alene (25%), Shamrock (20%), and Washington (20%); 10% Perennial Ryegrass: Elf; and 25% Red Fescue: Pennlawn. Seeding rate: 5 - 6 pounds per 1,000 square feet.

B. Seed mixture along county roads and State Highways.

Seed Mix in Right-of-Way:

	Minimum Purity (%)	Pounds of Pure Live Seed/Acre*
Little Bluestem - Blaze, Camper	35	5
Western Wheatgrass - Flintlock	85	3
Hairy Vetch - 2X Inoculation	90	3
Blue Flax	85	1
Ox-Eye Daisy	85	0.4
Partridge Pea-Platte	90	1

Seed Mix for the Shoulder:

	Minimum Purity (%)	Pure Live Seed/Acre*
Perennial Ryegrass - Linn.	85	10
Western Wheatgrass - Flintlock	85	8
Buffalo grass-Sharps, Texoka, Bison	80	6
Blue Grama - NE, KS, CO	35	2
Oats	85	10

* Rates for seeding with a native grass drill or brillion seeder.

D. Seed mix for rural areas: 25% Smooth Brome, 25% Tall Fescue, and 50% Oats; free of noxious weeds and crabgrass; 96.00% purity. Seeding Rate: 50 pounds per acre.

E. Contractor shall verify acceptability of seed mixture with property owners.

2.3 COVER CROP

A. Include one (1) bushel of oats per acre seeded along County Roads and State Highways.

2.4 ACCESSORIES

A. Mulching Material: Prairie hay, oat or wheat straw, reasonably free from weeds, foreign matter detrimental to plant life, and in dry condition. Alfalfa, brome hay and chopped cornstalks are not acceptable.

PART 3 EXECUTION

3.1 PREPARATION

A. Protect existing underground improvements from damage.

B. Remove foreign materials, plants, roots, stones, and debris, from site. Do not bury foreign material.

C. Cultivate to depth of 3 inches, area to receive topsoil. Repeat cultivation to areas where equipment has compacted subgrade.

3.2 SPREADING TOPSOIL

A. Spread topsoil to depth of 6 inches over area to be seeded. Place during dry weather, and on dry unfrozen subgrade.

B. Cultivate topsoil to depth of 4 inches with mechanical tiller. Cultivate inaccessible areas by hand. Rake until surface is smooth.

C. Remove from site, foreign materials collected during cultivation.

D. Grade to eliminate rough spots and low areas where ponding may occur. Maintain smooth, uniform grade.

E. Assure positive drainage away from buildings.

F. Finish ground level firm and sufficient to prevent linkage pockets when irrigation is applied.

3.3 FERTILIZING

A. Apply fertilizer at a rate of 200 lbs. per acre.

B. Do not apply grass seed and fertilizer at same time, in same machine.

C. Lightly water to aid breakdown of fertilizer and to provide moist soil for seed.

3.4 SEEDING

A. Apply seed at the rates specified for each mix.

B. The Contractor shall notify the Engineer at least 48 hours in advance of the time he intends to begin work and shall not proceed with such work until permission to do so has been granted by the Engineer.

C. Seeding operations shall be performed only during the periods between April 1 and June 1 and between August 1 and September 15 except by express permission of the Engineer. No work shall be performed during excessively windy weather or when the ground is frozen, wet or otherwise untillable.

D. For seeding, approved mechanical power drawn drills, broadcast type seeder or hydraulic seeders may be used, except along county roads and state highways. Seed shall be drilled using a native grass drill or brillion seeder along county roads and state highways.

E. Apply oats at one (1) bushel per acre along county roads and state highways when seeding grass mixture.

3.5 MULCHING

A. Mulch shall be either dry cured native hay or threshed grain straw. Hay or straw shall be free from seeds of noxious weeds and relatively free from seeds of all other weeds.

B. The Contractor shall apply protective mulch within 48 hours after sowing the seed, unless otherwise directed by the Engineer. The mulch shall be applied with a mulch blowing machine or other approved methods at the rate of two tons per acre.

C. Immediately following the spreading of the mulch, the material shall be anchored to the soil by a V-type wheel land packer, a soil erosion mulch tiller, or other suitable equipment which will secure the mulch firmly to form a soil-bind mulch.

3.6 WATERING AND MAINTENANCE

Contractor shall provide for watering, mowing, and maintenance of seeded areas until accepted by Owner.

Contractor shall provide sufficient water to ensure satisfactory germination and growth of all areas seeded in connection with the Work. Contractor shall provide for the installation, operation, and removal of temporary irrigation equipment if so required. Other measures as required, such as the temporary hauling and sprinkling of water shall be provide in order to provide for satisfactory regrowth of areas.

Contractor shall provide for the mowing and maintenance of seeded areas until accepted by Owner, including but not limited to; mowing, trimming, weeding, and re-establishment of soil and vegetation eroded, washed out, or otherwise damaged due to a lack of satisfactory regrowth of the seeded areas.

3.7 SEEDING LOCATIONS

A. All areas that are disturbed by construction, except roadways.

3.8 ACCEPTANCE

A. Seeded areas will be accepted when seeded areas are properly established and otherwise acceptable.

END OF SECTION

SECTION 07160

BITUMINOUS DAMPPROOFING

PART 1 GENERAL

1.1 WORK INCLUDED

A. Cold applied asphalt bitumen dampproofing.

B. Locations scheduled at end of this Section.

1.2 RELATED WORK

A. Section 02631 - Sanitary Sewer Manholes.

1.3 SUBMITTALS

A. Submit product data under provisions of Section 01300.

B. Indicate properties of primer, bitumen, and mastic.

C. Submit manufacturer's installation instructions under provisions of Section 01300.

1.4 ENVIRONMENTAL REQUIREMENTS

A. Maintain ambient and surface temperatures above 40 degrees F for 24 hours before application, and continuously until dampproofing has cured.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Sonneborn "Hydrocide 700B Semi-Mastic".

B. Substitutions: Under provisions of Section 01600.

PART 3 EXECUTION

3.1 INSPECTION

A. Verify surfaces are solid, free of frozen matter, loose particles, cracks, pits, rough projections, and foreign matter detrimental to adhesion and application of dampproofing.

B. Do not apply dampproofing to damp, frozen, dirty, dusty, or deck surfaces unacceptable to applicator.

C. Verify items which penetrate surfaces to receive dampproofing are securely installed.

D. Beginning of installation means acceptance of substrate.

3.2 PREPARATION

A. Clean and prepare surfaces to receive dampproofing in accordance with manufacturer's instructions.

B. Apply mastic to seal penetrations, small cracks, and honeycomb in substrate.

3.3 APPLICATION

A. Apply cold bitumen with roller or spray.

B. Apply two coats, continuous and uniform at a rate of one gal/30 sq ft per coat.

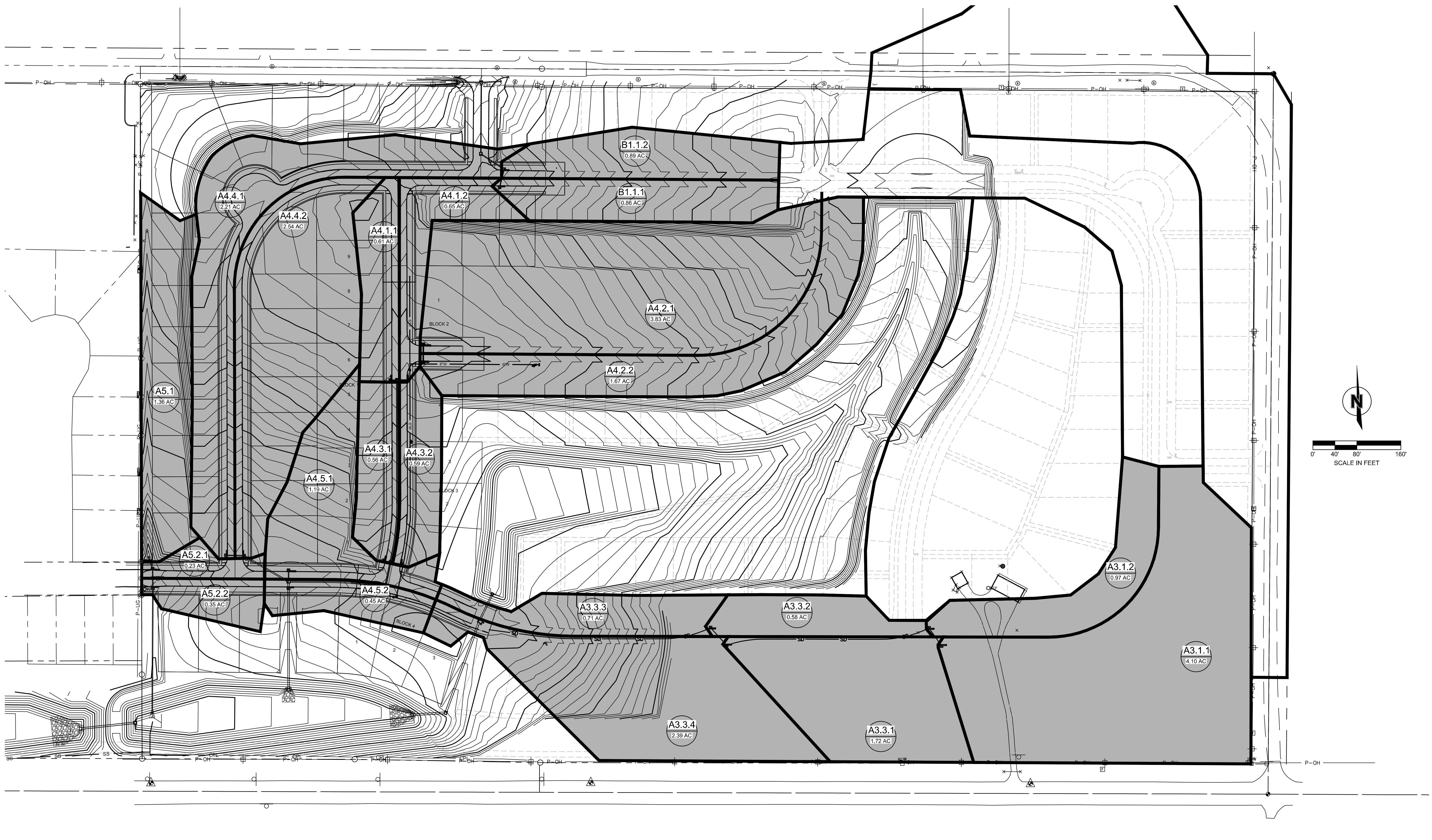
C. Apply from 2 inches below finish grade elevation to top of footings.

D. Seal watertight items projecting through dampproofing surface with mastic.

3.4 SCHEDULE

A. Exterior surfaces of manholes below grade, except surfaces that will be in contact with cast-in-place concrete manhole bases.

END OF SECTION



PROJECT NO: 025-03411

DRAWN BY: GKE

DATE: 10/09/2025

PRAIRIE VIEW 1ST ADDITION
DRAINAGE AREAS

olsson

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Lincoln, NE 68508

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Olsson - Engineering
Nebraska COA #CA-0638

EXHIBIT

1

Final Pipe Sizing Calculations

Minor Storm System Conveyance Analysis

Minor Storm Average Return Frequency, Years 5
10

PROJECT: Prairie View 1st Addition
LOCATION: Seward, NE
OA JOB #: 025-03411
BY: GKE
DATE: 10/9/2025

Location	Area A acres	Coefficient C	A*C	Sum A*C	Time of Concentration Tc minutes	Intensity I in/hour	Runoff Qf cfs	Pipe Slope Sp ft/ft	Pipe Length L ft	Pipe Diameter D in	Pipe Capacity Qp cfs	Pipe Velocity Vp ft/sec	Time in Section Tp minutes	Comments
A4.2.1 (CI#6)	3.83	0.40	1.53	1.53	8.00	5.03	**7.70**	0.01420	33	18	**12.52**	7.08	0.08	CI6 --> CI5
A4.2.2 (CI#5)	1.67	0.40	0.67	2.20	8.08	5.02	**11.03**	0.03440	42	18	**19.48**	11.02	0.06	CI5 --> CI4
A4.1.1 (CI#3)	0.61	0.40	0.24	0.24	8.00	5.03	**1.23**	0.10440	12	15	**20.87**	17.01	0.01	CI3 --> MH3
A4.1.2 (CI#4)	0.65	0.40	0.26	2.46	8.14	5.01	**12.30**	0.01600	21	18	**13.29**	7.52	0.05	CI4 --> MH3
MH#3	0.00	0.40	0.00	2.70	8.19	5.00	**13.50**	0.02810	332	24	**37.92**	12.07	0.46	MH3--> MH2
A4.3.1 (CI#1)	0.56	0.40	0.22	0.22	8.00	5.03	**1.13**	0.03080	12	15	**11.34**	9.24	0.02	CI1--> MH2
A4.3.2 (CI#2)	0.59	0.40	0.24	0.24	8.00	5.03	**1.19**	0.01740	21	15	**8.52**	6.94	0.05	CI2--> MH2
MH#2	0.00	0.40	0.00	3.16	8.65	4.92	**15.55**	0.03490	46	24	**42.26**	13.45	0.06	MH2--> MH1
MH#1	0.00	0.40	0.00	3.16	8.70	4.91	**15.52**	0.02680	177	24	**37.03**	11.79	0.25	MH1-->EX MH1
A4.4.1	2.21	0.40	0.88	0.88	8.00	5.03	**4.45**	0.00500	33	18	**7.43**	4.20	0.13	EXISTING
A4.4.2	2.54	0.40	1.02	1.90	8.13	5.01	**9.51**	0.00500	94	24	**16.00**	5.09	0.31	EXISTING
A4.5.1	1.21	0.40	0.48	0.48	8.00	5.76	**2.79**	0.01000	21	15	**6.46**	5.26	0.07	EXISTING
EX. MH #1	0.00	0.40	0.00	5.55	8.95	5.57	**30.87**	0.00500	12	36	**47.16**	6.67	0.03	EXISTING

STORM SEWER INLET DESIGN

PROJECT: Prairie View 1st Addition PROJECT #: 025-03411 STORM FREQUECY 5 YEAR 10 YEAR

LOCATION: Seward, NE DATE: 10/9/2025

Q=CIA

LOCATION																					
Inlet	Drainage Sub-Area	AREA (acres)	C	T.O.C. (min)	I (in/hr)	Q (cfs)	Q BYPASS (cfs)	+Q C.O. (cfs)	*Cross-over Inlet*	Q TOTAL (cfs)	Inlet Condition	LONGITUDINAL SLOPE, S (ft/ft)	CROSS SLOPE, Sx (%)	d, DEPTH OF GUTTER FLOW (in)	T, SPREAD ON PAVEMENT (ft)	Qi TO INLET (cfs)	-Q C.O. (cfs)	INLET LENGTH & TYPE	Q PICKED UP (cfs)	Q BY-PASSED (cfs)	*Bypass Inlet*	*Comments*
1	**A4.1.1**	**0.61**	**0.40**	**8.00**	5.03	1.23	0.00	0.00		1.23	On-Grade	**0.0262**	**2.98%**	1.81	5.05	1.23	**0**	**10' Straight**	1.23	0.00	***5***	
2	**A4.1.2**	**0.65**	**0.40**	**8.14**	5.01	1.30	2.14	0.00		3.44	On-Grade	**0.0262**	**2.98%**	2.66	7.43	2.83	**0**	**10' Straight**	2.83	0.61	***6***	
3	**A4.2.1**	**3.83**	**0.40**	**8.00**	5.03	7.71	0.00	0.00		7.71	On-Grade	**0.0136**	**2.98%**	4.07	11.37	5.96	**0**	**14' Straight**	5.96	1.75	***2***	
4	**A4.2.2**	**1.67**	**0.40**	**8.08**	5.02	3.35	0.00	0.00		3.35	On-Grade	**0.0136**	**2.98%**	2.97	8.32	2.99	**0**	**10' Straight**	2.99	0.37	***2***	
5	**A4.3.1**	**0.56**	**0.40**	**8.00**	5.03	1.13	0.00	0.00		1.13	On-Grade	**0.0256**	**2.98%**	1.76	4.91	1.13	**0**	**10' Straight**	1.13	0.00	***9***	
6	**A4.3.2**	**0.59**	**0.40**	**8.00**	5.03	1.19	0.61	0.00		1.80	On-Grade	**0.0256**	**2.98%**	2.09	5.85	1.79	**0**	**10' Straight**	1.79	0.01	***9***	
7	**A4.4.1**	**2.21**	**0.40**	**8.00**	5.03	4.45	0.00	0.00		4.45	On-Grade	**0.0200**	**2.98%**	3.08	8.61	3.38	**0**	**10' Straight**	3.38	1.07	***11***	
8	**A4.4.2**	**2.54**	**0.40**	**8.13**	5.01	5.09	0.00	0.00		5.09	On-Grade	**0.0200**	**2.98%**	3.24	9.05	3.63	**0**	**10' Straight**	3.63	1.46	***11***	
9	**A4.5.1**	**1.21**	**0.40**	**8.00**	5.76	2.79	0.01	0.00		2.80	Sump	**0.0038**	**2.98%**	3.53	9.87	23.26	**0**	**14' Straight**	2.80	0.00	**-**	***SUMP: 10-YR***
10	**A4.5.2**	**0.50**	**0.40**	**9.31**	5.50	1.10	0.00	0.00		1.10	Sump	**0.0038**	**2.98%**	2.49	6.96	16.81	**0**	**10' Straight**	1.10	0.00	**-**	***SUMP: 10-YR***
11	**A5.2.1**	**0.23**	**0.40**	**8.02**	5.03	0.46	2.52	0.00		2.99	On-Grade	**0.0280**	**2.98%**	2.49	6.96	2.97	**0**	**14' Straight**	2.97	0.02	**-**	
12	**A5.2.2**	**0.35**	**0.40**	**8.12**	5.01	0.70	0.00	0.00		0.70	On-Grade	**0.0280**	**2.98%**	1.45	4.04	0.70	**0**	**10' Straight**	0.70	0.00	**-**	
13	**B1.1.1**	**0.86**	**0.40**	**8.00**	5.03	1.73	0.00	0.00		1.73	On-Grade	**0.0360**	**2.98%**	1.93	5.41	1.70	**0**	**10' Straight**	1.70	0.03	***2***	
14	**B1.1.2**	**0.89**	**0.40**	**8.10**	5.01	1.78	0.00	0.00		1.78	On-Grade	**0.0360**	**2.98%**	1.96	5.47	1.75	**0**	**10' Straight**	1.75	0.04	**-**	

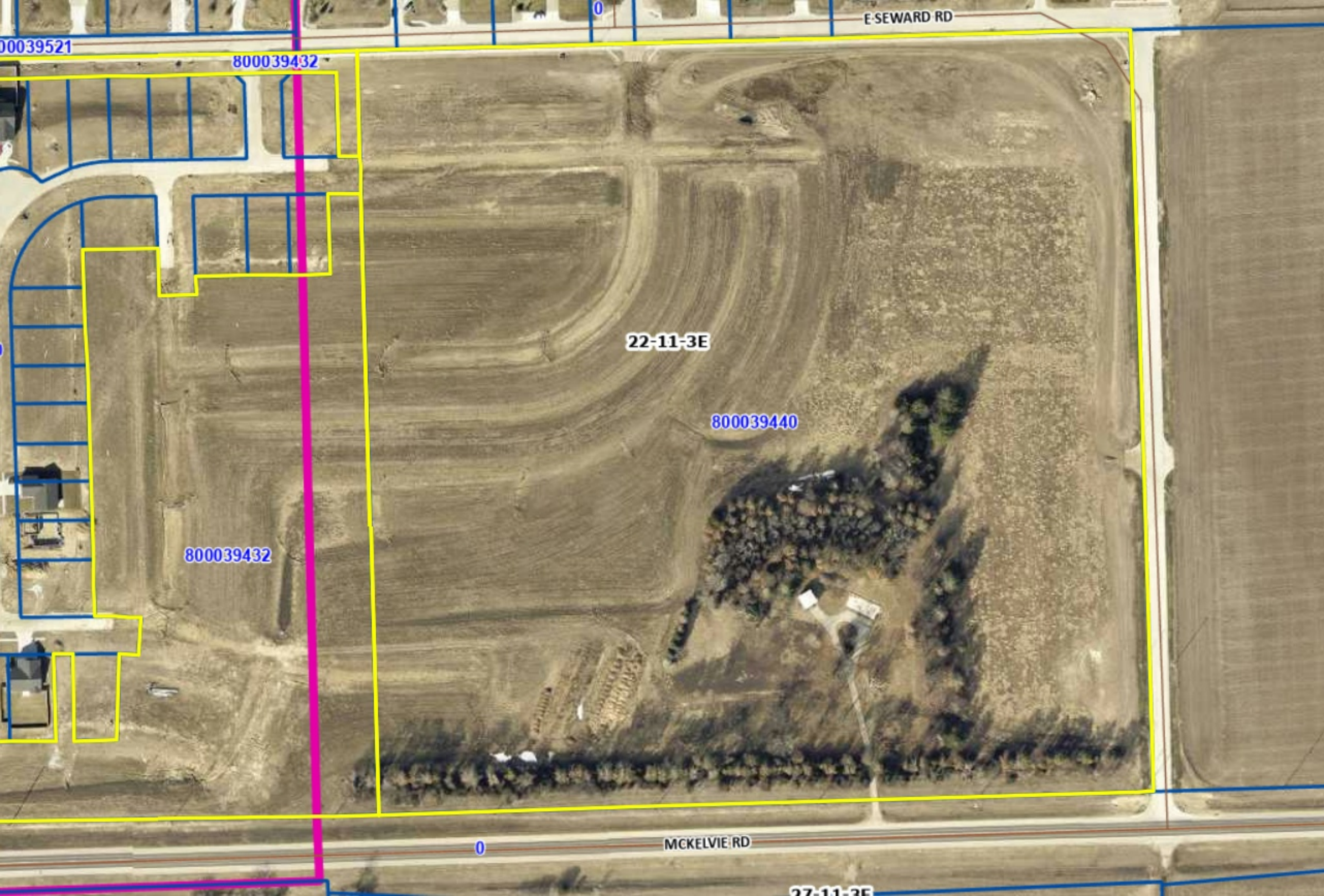
Hydraulic Grade Line Calculation Sheet

Project Name: Prairie View 1st Addition

File Name: Date: 10/9/2025

Major Storm Ave. Return Frequency = 10 yr

Pipe Segment	(1) Q (cfs)	(2) Length (ft)	(3) Pipe Size (in)	(4) Kp	(5) Outlet Elevation (ft)	(6) Inlet Elevation (ft)	(7) Barrel Area (ft^2)	(8) Barrel Velocity (fps)	(9) Barrel Velocity Head (ft)	(hide) d_c (ft)	(10) Tail Water Elevation (ft)	(11) Friction Loss (ft)	(12) Entrance HGL Elevation (ft)	(13) Entrance Head Loss (ft)	(14) Exit Head Loss (ft)	(15) Outlet Control Elevation (ft)	(hide) HW/d (ft)	(16) Inlet Control Elevation (ft)	(17) Approach Velocity Head (ft)	(hide) C_Bend	(18) Bend Head Loss (ft)	(hide) C_Junc.	(19) Junc. Head Loss (ft)	(20) HW Elevation (ft)	(21) Top of Manhole (ft)	(22) Elevation Difference (ft)
A4.1.1 (CI#3)	1.23	12	15	69.98	1478.33	1479.55	1.23	1.00	0.02	0.50	1479.21	0.00	1479.21	0.01	0.02	1479.23	0.50	1480.18	0.00	0.00	0.00	0.00	0.00	1480.18	1482.75	2.58
A4.1.2 (CI#4)	12.29	21	18	113.80	1478.08	1478.41	1.77	6.95	0.75	1.35	1479.51	0.24	1479.75	0.38	0.75	1480.88	2.00	1481.41	0.02	0.50	0.01	0.40	0.01	1481.41	1482.75	1.34
A4.2.1 (CI#6)	7.70	33	18	113.80	1479.86	1480.32	1.77	4.36	0.29	1.10	1481.16	0.15	1481.31	0.15	0.29	1481.75	1.15	1482.05	0.75	0.00	0.00	0.00	0.00	1481.29	1483.82	2.53
A4.2.2 (CI#5)	11.03	42	18	113.80	1478.41	1479.86	1.77	6.24	0.60	1.50	1479.91	0.39	1480.30	0.30	0.60	1481.21	1.65	1482.34	0.29	0.47	0.14	0.40	0.12	1482.30	1483.82	1.52
MH#3	13.49	332	24	245.08	1468.24	1477.58	3.14	4.29	0.29	1.35	1469.92	1.01	1470.92	0.14	0.29	1471.35	1.05	1479.68	0.60	0.70	0.42	0.80	0.48	1479.98	1482.53	2.55
A4.3.1 (CI#1)	1.13	12	15	69.98	1468.99	1469.35	1.23	0.92	0.01	0.50	1469.87	0.00	1469.87	0.01	0.01	1469.89	0.50	1469.98	0.00	0.00	0.00	0.00	0.00	1469.98	1472.81	2.84
A4.3.2 (CI#2)	1.19	21	15	69.98	1468.99	1469.35	1.23	0.97	0.01	0.50	1469.87	0.01	1469.87	0.01	0.01	1469.89	0.50	1469.98	0.00	0.00	0.00	0.00	0.00	1469.98	1472.81	2.84
MH#2	15.54	46	24	245.08	1466.63	1468.24	3.14	4.95	0.38	1.40	1468.33	0.18	1468.51	0.19	0.38	1469.08	1.15	1470.54	0.29	0.00	0.00	1.00	0.29	1470.54	1472.59	2.05
MH#1	15.51	177	24	245.08	1461.90	1466.63	3.14	4.94	0.38	1.40	1463.60	0.71	1464.31	0.19	0.38	1464.88	1.15	1468.93	0.38	0.70	0.27	0.60	0.23	1469.04	1472.26	3.22
EX MH#1	30.86	12	36	722.57	1460.84	1460.90	7.07	4.37	0.30	1.80	1463.24	0.02	1463.26	0.15	0.30	1463.71	0.95	1463.75	0.38	0.70	0.26	1.00	0.38	1464.01	1467.42	3.41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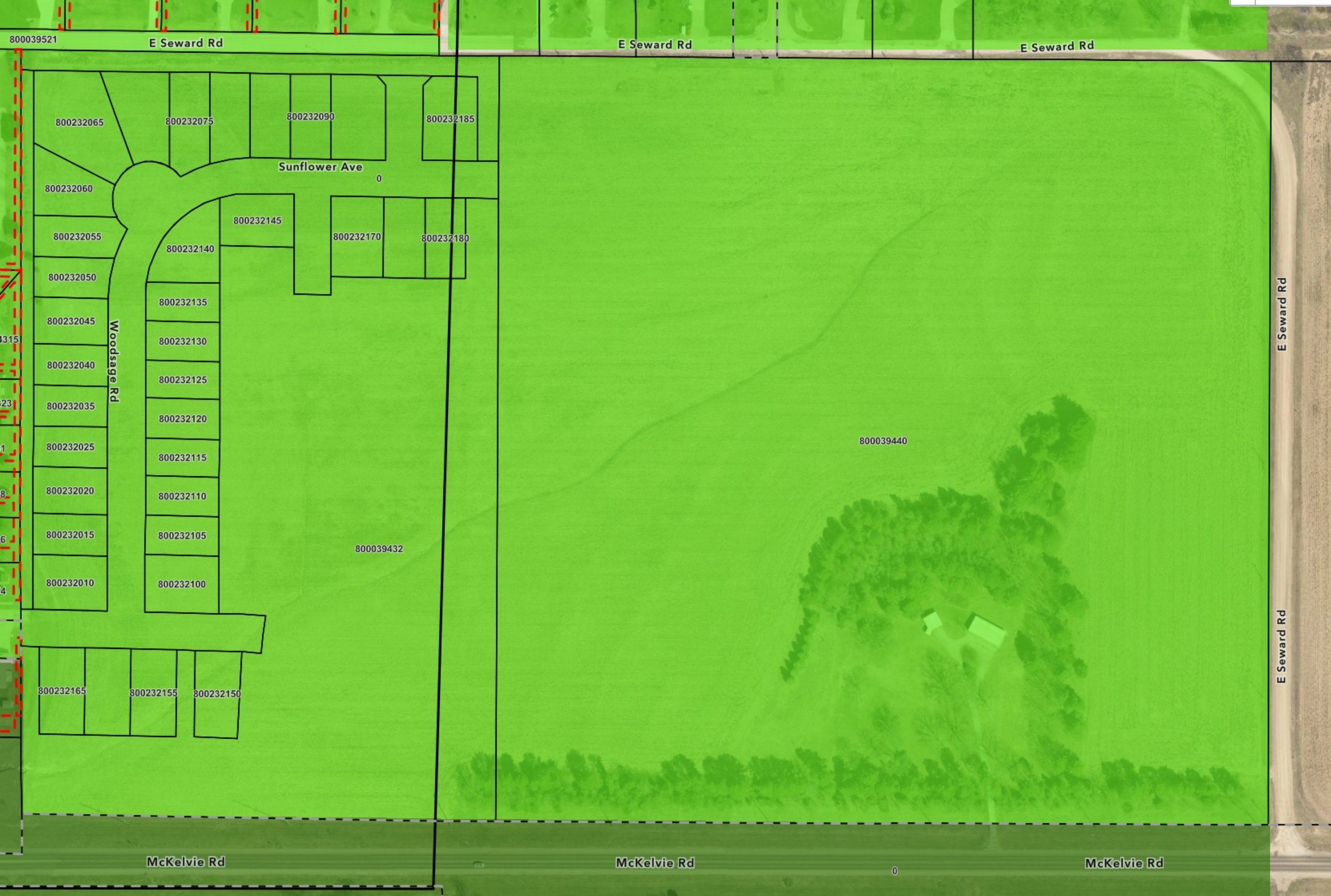
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800232150
McKelvie Rd
McKelvie Rd
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McKelvie Rd

ADMINISTRATIVE ITEMS
REPORTS
1. Report on Meetings Attended
FUTURE REQUESTS FOR COMMISSION AGENDA ITEMS OR ADMINISTRATIVE ACTION
ANNOUNCEMENT OF UPCOMING EVENTS
MOTION TO ADJOURN

I, Derek Bargmann, the duly appointed qualified and acting City Clerk of the City of Seward, Nebraska, hereby certify that the foregoing Notice of Meeting and Agenda for such meeting has been posted in the following places: Seward City Hall, Seward Memorial Library, and CityofSewardNE.gov

IN WITNESS WHEREOF, I have hereunto set my hand officially and affixed the seal of the City.

_____ _____
Derek Bargmann, City Clerk Date