Program Overview

Completed by tklarsenfamily@gmail.com on 1/5/2022 11:34 AM

Case Id: 31103
Name: Larsen, Donald Janice Trust - 2021
Address: 1106 35th Ave

Program Overview

Please review the below information.

2022 APPLICATION FOR
URBAN REVITALIZATION
INCENTIVES

APPLICATION DEADLINE

This application, along with all required attachments, must be submitted to the City of Council Bluffs-Community Development Department by **February 1, 2022**.

Applications received after this date may not be processed and/or approved.

Urban Revitalization – Project Approval Process

Owners of property who have made improvements within a designation urban revitalization area must apply to receive tax exemption benefits. If an improvement project extends over several years, an application is required for each calendar year that improvements were completed. The following provides a general outline of the City's application and review procedures

1. Application

Applications for tax abatement must be made to the City by February 1st following completion of the improvements. Failure to submit by the February 1st deadline may result in an automatic denial of benefits. Upon approval, the City is required to submit this approval to the County Assessor by March 1st. *In addition, applications must be submitted in each calendar year that improvements are made.* All applications shall be made on forms prepared by the Community Development Department.

2. Fees

A processing fee shall be submitted with each annual project review application. The fee shall be equal to a base fee of $500.00 plus $15.00 per $100,000 in added valuation. However, the processing fee shall not exceed $1,500.00.

This fee must be submitted by check to Community Development by February 1st. Checks should be made out to Council Bluffs City Clerk.

3.Review Procedure

The following procedure will be utilized in reviewing applications:

- The applicant requests a preliminary conference with the Community Development Department to review and explain the application process. Applications along with all required data are due by February 1st to the Community Development Department.
- Complete the application fully; if any questions are left unanswered or required attachments are not submitted, an explanation must be included.
- Additionally, inaccurate information of a significant nature may disqualify the application from consideration.
- As part of the Community Development Department acceptance procedure additional information or data may be required.

4. The Community Development Department shall review the forms and data for completeness. If there is a deficiency, the Department will notify the applicant within seven (7) days. The application will not be processed until completed.

5. The Department shall review the application according to the following criteria: 1) conformance with the Urban Revitalization Plan; 2) a finding that the site is within a designated area; 3) a finding that the work has been completed within the time required to qualify for abatement in the assessment year; 4) a finding that the application is consistent with Chapter 404 of the Iowa Code; and 5) a finding that the application is consistent with all applicable city codes and ordinances.

6. Upon review of the application, the Community Development Department will prepare a recommendation and schedule the application for City Council consideration.

7. The City Council will by resolution accept or reject the application and improvements as conforming to all City codes and State law.

8. The City Council will then direct the Community Development Department to transmit a copy of the case file to the Pottawattamie County Assessor's Office by March 1st as required by Chapter 404 of the Iowa Code.

A. Applicant Information

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Case Id: 31103
Name: Larsen, Donald Janice Trust - 2021
Address: 1106 35th Ave

A. Applicant Information

Please provide the following information.

APPLICANT INFORMATION

A.1. Name of Business
Larsen, Donald P-Janice R Trust

A.2. Mailing Address of Business
1106 35th Ave Council Bluffs, IA 51503

A.3. Phone Number
(402) 981-7403

A.4. Status
P.O. (Property Owner)

CONTACT INFORMATION

A.5. First Name
Tom

A.6. Last Name
Larsen

A.7. Title and Company name of Contact Person
Larsen Supply Company

A.8. Phone Number
(402) 981-7403

A.9. Email Address
tklarsenfamily@gmail.com

PROPERTY INFORMATION

A.10. Name of company who will be occupying the building
Larsen Supply

A.11. Address/Location of property
4102 South 21st Street Council Bluffs, IA 51501

A.12. Legal description
ROGERS AUTO SUB LT 2

A.13. Parcel Number (can be found at PottCo.org)
744411353002

A.14. Present zoning district (call 712-890-5350 if unsure)
002 - CO BLUFFS CITY/LC SCHOOL

B. Project Information

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Case Id: 31103
Name: Larsen, Donald Janice Trust - 2021
Address: 1106 35th Ave

B. Project Information

Please provide the following information.

B.1. Present assessed valuation of property: (can be found at PottCo.org)

Total
$248,300.00

Land
$214,200.00

Dwelling
$34,100.00

Other Building
$0.00

B.2. Project narrative
New 15K square foot building for Larsen Supply Company who is outgrowing current building at 1106 35th Ave

B.3. Total project investment (cumulative)
2,400,000.00

B.4. Total project investment (previous calendar year only)
982,082.40 - for land and construction

B.5. Construction start date
10/01/2021

B.6. Construction completion date
04/15/2022

B.7. Exemption schedule
100% exemption for three years

B.8. Will any persons, including families, business concerns or others be displaced as a result of the improvements made for this project?
No

C. Cost Report

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Case Id: 31103
Name: Larsen, Donald Janice Trust - 2021
Address: 1106 35th Ave

C. Cost Report

Please provide the following information.

C.1. Type of building or improvement and use
Flex building used for offices and warehouse for inventory

C.2. Basic building or improvement construction
New Steel building with brick and mortar on front

C.3. Estimate the percentage of completion as of January 1, 2022
15.00 %

C.4. Builder's Cost Breakdown

ACTIVITIES	AMOUNT
EXCAVATING AND GRADING	$235,467.00
CONCRETE (foundation/walks/ drive)	$481,483.00
FRAMING MATERIAL	$324,165.00
FRAMING LABOR	$156,594.00
ROOFING	$0.00
GLASS	$0.00
HEATING AND AIR CONDITIONING	$77,245.00
PLUMBING	$85,712.00
ELECTRICAL	$173,928.00
INSULATION	$51,681.00
DRY WALL	$72,706.00
CARPENTER (labor/lumber/hardware)	$53,295.00
PAINTING AND DECORATING	$6,761.00
FLOORING	$24,514.00
LANDSCAPING	$64,874.00
ARCHITECT	$29,960.00
SURVEY	$10,700.00
BUILDING PERMITS	$26,750.00
INSURANCE	$3,000.00
CONSTRUCTION LOAN FEE AND INTEREST	$0.00
OVERHEAD AND PROFIT	$0.00
MISCELLANEOUS	$287,639.00
FIXTURES AND EQUIPMENT	$178,865.00
TOTAL BUILDING COST	$2,345,339.00

C.5. Please re-enter the Total Building Cost from above to verify cost

Neighborly Software

$2,345,339.00

C.6. Does the above building cost represent cost to date or total project cost when completed?
Complete project cost - Cost to date what has been paid to Anderson Construction is 760,067.74

C.7. Purchase price of land (if applicable)
$222,014.66

C.8. Total (Land + Building Cost)
$2,567,353.66

C.9. Total Application Fee:
$845.00

☑ **I, the undersigned, representing ownership on the above property, herewith certify that the above statement of amounts and actual value of said property is true and correct, and represents total cost and investment by all parties involved.**

Signature
Kim Larsen
Electronically signed by tklarsenfamily@gmail.com on 1/21/2022 1:47 PM

Official Use Only

$23.45

$23.00

D. Required Documents

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Case Id: 31103
Name: Larsen, Donald Janice Trust - 2021
Address: 1106 35th Ave

Please upload the required documentation.

Please provide the following information.

Documentation

☑ **Blueprints *Required**
Complete Set Plans.pdf

☑ **Plot Plan *Required**
Rogers Auto Subdivision final plat Attachment A.pdf

☑ **Copy of building permit *Required**
building permit - LS.pdf

☐ **Copy of Certificate of Occupancy (Only Required upon completion of project)**
***No files uploaded*

☐ **Detailed List of Fixtures and Equipment**
***No files uploaded*

Submit

Completed by tklarsenfamily@gmail.com on 1/21/2022 2:37 PM

Case Id: 31103
Name: Larsen, Donald Janice Trust - 2021
Address: 1106 35th Ave

Submit the Application

Please review and attest to the following:

Total Application Fee:
$845.00

Please submit your application fee to:

City of Council Bluffs, Community Development
209 Pearl St
Council Bluffs, Iowa 51503.
Checks should be made out to Council Bluffs City Clerk.

This application, along with all required attachments and fees, must be submitted by February 1. Applications received after this date may not be processed and/or approved.

WAIVER TO ENTER PROPERTY

☑ **The applicant hereby authorizes the Community Development Department, the Assessor's Office and/or their representatives to enter the property described above for the purpose of verifying all claims and data related to the application. (Note: Failure to sign the authorization may prevent the processing of the application.)**

CERTIFICATIONS

☑ **I certify that all information, representations, or statements provided to the City of Council Bluffs, in connection with this application, are true and correct in all material respects.**

Title
Kim Larsen

Date
01/21/2022

Authorized Signature
Kim Larsen
Electronically signed by tklarsenfamily@gmail.com on 1/21/2022 2:37 PM

Neighborly Software

City of Council Bluffs, IA

Permits and Inspection Division
209 Pearl Street
Council Bluffs, IA 51503
(712)890-5276

Application #: 2100889

Permit Type	Project Address
OTHER NONRESIDENTIAL STRUCTURE	99999 UNKNOWN

Contractor Information

ANDERSEN, MARK
3125 S 11TH ST
COUNCIL BLUFFS, IA 51501

Phone: 712-366-4129

Legal Description

Owner Information	Tenant Information
ROGERS, TERRY W 2301 VETERANS MEMORIAL HWY COUNCIL BLUFFS, IA 51503	

Architect Information	Engineer Information

Work Description

Building Statistics

Occupancy Group:	S-2	Construction Type:	VB
Finished Sq Ft:		Unfinished Sq Ft:	
Accessory Sq Ft:		Total Sq Ft:	
Parking:		Occupant Load:	
Zoning Code:	I-2	Building Valuation:	$1,132,336.00
Fire Sprinkler:			

Permit Information

Applied Date:	05/03/2021	Permit Number:	2101823
Issue Date:	06/17/2021	Report Code:	328
		Total Fees:	$7,617.75

All work shall conform with the City of Council Bluffs construction codes as adopted and amended. Separate permits are required for building, electrical, mechanical, plumbing, right-of-way, sign and utility. A final inspection must be made by the City prior to the occupancy of any new structure. Please call at least 24 hours in advance for your inspections.

This permit becomes null & void if work or construction authorized is not commenced with 180 days, or if construction or work is suspended or abandoned for a period of 180 days at any time after work is commenced. All provisions of law and ordinances governing this type of work will be complied with whether specified herein or not. The granting of permit does not presume to give authoritory to violate or cancel the provisions of any other state or local law regulating construction or the performance of construction.

City of Council Bluffs, IA

Permits and Inspection Division
209 Pearl Street
Council Bluffs, IA 51503
(712)890-5276

Application #: 2100889

Permit Type	Project Address
EXCAVATION & FILL	99999 UNKNOWN

Contractor Information

ANDERSEN, MARK
3125 S 11TH ST
COUNCIL BLUFFS, IA 51501

Phone: 712-366-4129

Legal Description

Owner Information	Tenant Information
ROGERS, TERRY W 2301 VETERANS MEMORIAL HWY COUNCIL BLUFFS, IA 51503	

Architect Information	Engineer Information

Work Description

Building Statistics

Occupancy Group:	S-2	Construction Type:	VB
Finished Sq Ft:		Unfinished Sq Ft:	
Accessory Sq Ft:		Total Sq Ft:	
Parking:		Occupant Load:	
Zoning Code:	I-2	Building Valuation:	$1,132,336.00
Fire Sprinkler:			

Permit Information

Applied Date:	05/03/2021	Permit Number:	2101824
Issue Date:	06/17/2021	Report Code:	800
		Total Fees:	$1,640.00

All work shall conform with the City of Council Bluffs construction codes as adopted and amended. Separate permits are required for building, electrical, mechanical, plumbing, right-of-way, sign and utility. A final inspection must be made by the City prior to the occupancy of any new structure. Please call at least 24 hours in advance for your inspections.

This permit becomes null & void if work or construction authorized is not commenced with 180 days, or if construction or work is suspended or abandoned for a period of 180 days at any time after work is commenced. All provisions of law and ordinances governing this type of work will be complied with whether specified herein or not. The granting of permit does not presume to give authoritory to violate or cancel the provisions of any other state or local law regulating construction or the performance of construction.

City of Council Bluffs, IA

Permits and Inspection Division
209 Pearl Street
Council Bluffs, IA 51503
(712)890-5276

Application #: 2100889

Permit Type	Project Address
PARKING LOT	99999 UNKNOWN

Contractor Information

ANDERSEN, MARK
3125 S 11TH ST
COUNCIL BLUFFS, IA 51501

Phone: 712-366-4129

Legal Description

Owner Information	Tenant Information
ROGERS, TERRY W 2301 VETERANS MEMORIAL HWY COUNCIL BLUFFS, IA 51503	

Architect Information	Engineer Information

Work Description

Building Statistics

Occupancy Group:	S-2	Construction Type:	VB
Finished Sq Ft:		Unfinished Sq Ft:	
Accessory Sq Ft:		Total Sq Ft:	
Parking:		Occupant Load:	
Zoning Code:	I-2	Building Valuation:	$1,132,336.00
Fire Sprinkler:			

Permit Information

Applied Date:	05/03/2021	Permit Number:	2101825
Issue Date:	06/17/2021	Report Code:	834
		Total Fees:	$23.00

All work shall conform with the City of Council Bluffs construction codes as adopted and amended. Separate permits are required for building, electrical, mechanical, plumbing, right-of-way, sign and utility. A final inspection must be made by the City prior to the occupancy of any new structure. Please call at least 24 hours in advance for your inspections.

This permit becomes null & void if work or construction authorized is not commenced with 180 days, or if construction or work is suspended or abandoned for a period of 180 days at any time after work is commenced. All provisions of law and ordinances governing this type of work will be complied with whether specified herein or not. The granting of permit does not presume to give authoritory to violate or cancel the provisions of any other state or local law regulating construction or the performance of construction.

City of Council Bluffs, IA

Permits and Inspection Division
209 Pearl Street
Council Bluffs, IA 51503
(712)890-5276

Application #: 2100889

Permit Type	Project Address
RIGHT OF WAY PERMIT	99999 UNKNOWN

Contractor Information

ANDERSEN, MARK
3125 S 11TH ST
COUNCIL BLUFFS, IA 51501

Phone: 712-366-4129

Legal Description

Owner Information	Tenant Information
ROGERS, TERRY W 2301 VETERANS MEMORIAL HWY COUNCIL BLUFFS, IA 51503	

Architect Information	Engineer Information

Work Description

ADDRESS, DRIVEWAY APPROACH, SIDEWALK, EXCAVATION BACK OF CURB, SEWER CONNECTION

Building Statistics

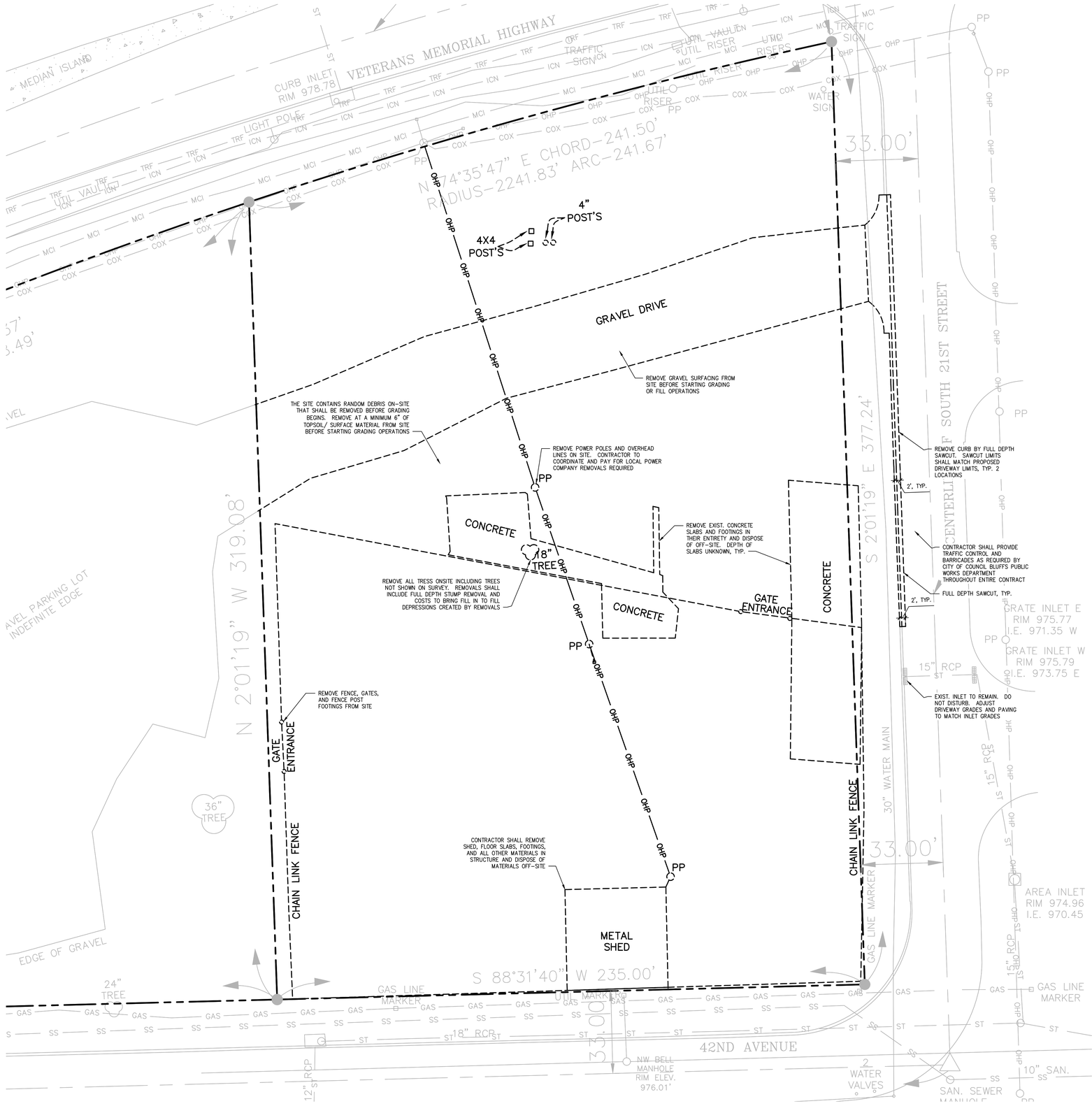
Occupancy Group:	S-2	Construction Type:	VB
Finished Sq Ft:		Unfinished Sq Ft:	
Accessory Sq Ft:		Total Sq Ft:	
Parking:		Occupant Load:	
Zoning Code:	I-2	Building Valuation:	$1,132,336.00
Fire Sprinkler:			

Permit Information

Applied Date:	05/03/2021	Permit Number:	2101826
Issue Date:	06/17/2021	Report Code:	860
		Total Fees:	$3,784.12

All work shall conform with the City of Council Bluffs construction codes as adopted and amended. Separate permits are required for building, electrical, mechanical, plumbing, right-of-way, sign and utility. A final inspection must be made by the City prior to the occupancy of any new structure. Please call at least 24 hours in advance for your inspections.

This permit becomes null & void if work or construction authorized is not commenced with 180 days, or if construction or work is suspended or abandoned for a period of 180 days at any time after work is commenced. All provisions of law and ordinances governing this type of work will be complied with whether specified herein or not. The granting of permit does not presume to give authoritory to violate or cancel the provisions of any other state or local law regulating construction or the performance of construction.



SITE DEMOLITION PLAN

SCALE: 1" = 20'-0"

LEGEND

DEMO

GENERAL DEMOLITION NOTES

1. THE CONTRACTOR SHALL LIMIT REMOVAL AND DEMOLITION WORK TO THAT SPECIFICALLY CALLED FOR IN THE DOCUMENTS AND/OR REQUIRED FOR THE INSTALLATION OF NEW WORK. ANY STRUCTURES TO REMAIN WHICH ARE DAMAGED DURING DEMOLITION OPERATIONS SHALL BE REPAIRED BACK TO THEIR ORIGINAL DESIGN AT NO ADDITIONAL COST TO THE OWNER.
2. ANY AND ALL EXISTING FOOTINGS AND FOUNDATIONS FROM THE PREVIOUS AND EXISTING STRUCTURES ARE TO BE REMOVED IN THEIR ENTIRETY.
3. ALL FENCE REMOVED FOR CONSTRUCTION SHALL BE REPLACED WITH NEW MATERIALS AND MATCH EXISTING FENCE STRUCTURE, INCLUDING GATES, FOOTINGS, LOCKING MECHANISMS, AND FENCE FABRIC WHERE INDICATED.
4. ISOLATE ALL MECHANICAL PIPING AND/OR SYSTEMS SERVING THE VARIOUS AREAS TO BE DEMOLISHED FROM THE EXISTING FACILITIES SITE. COORDINATE SHUTOFF LOCATIONS AND SHUT-DOWNS WITH THE OWNER'S REPRESENTATIVE. SEE ELECTRICAL AND MECHANICAL DRAWINGS FOR THOSE REMOVALS AND REQUIRED ITEMS.
5. ISOLATE ALL ELECTRICAL ITEMS, EQUIPMENT AND SYSTEMS SERVING THE VARIOUS AREAS TO BE DEMOLISHED FROM THE EXISTING FACILITIES SITE. SEE ELECTRICAL PLANS FOR REQUIREMENTS.
6. ALL MECHANICAL AND ELECTRICAL ITEMS, RUNS OR SYSTEMS, DISCOVERED WITHIN THE FACILITIES SITE AND NOT INDICATED ON THE CONTRACT DOCUMENTS ARE TO BE IDENTIFIED IN NATURE AND EXTENT BY THE CONTRACTOR, AND THE REROUTING AND/OR CAPPING, ETC., CLARIFIED BY THE OWNER'S REPRESENTATIVE. SEE ELECTRICAL AND MECHANICAL DRAWINGS.
7. ALL DEBRIS RESULTING FROM DEMOLITION SHALL BE REMOVED FROM THE SITE AND BECOME THE PROPERTY OF THE CONTRACTOR. UNLESS SHOWN OTHERWISE ON DWGS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROPERLY TERMINATE ALL UTILITIES INTO THE EXIST. BUILDINGS AND COORDINATE WITH THE UTILITY COMPANIES IN THEIR REMOVAL.
9. THE CONTRACTOR SHALL EMPLOY DUST CONTROL MEASURES AS NECESSARY DEPENDENT ON WEATHER CONDITIONS. THE CONTRACTOR SHALL IMPLEMENT EFFECTIVE MEASURES TO PREVENT MIGRATION OF SOIL BEYOND THE PROPERTY LINES SUCH AS BERMS, SWALES, SILT FENCES, ETC. WHETHER SHOWN ON PLANS OR NOT.
10. THE LOCATIONS OF ALL EXISTING UTILITIES ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR WHETHER SHOWN ON PLANS OR NOT. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO EXISTING PROPERTY, UTILITIES, AND STRUCTURES AS A RESULT OF HIS OPERATIONS AND SHALL REPAIR SAME AT HIS/HER OWN EXPENSE.
11. REMOVE EXISTING TREES, BUSHES, STUMPS AND ROOTS IN THEIR ENTIRETY.
12. REMOVE EXISTING CONCRETE AND A.C.C. PAVEMENT IN ITS ENTIRETY. PROVIDE STRAIGHT CLEAN CUTS WHERE PAVEMENT REMOVAL ENDS BY SAWCUTTING PAVEMENT. CONTRACTOR SHALL VERIFY THICKNESS OF ALL PAVEMENT BEFORE SUBMITTING A PROPOSAL FOR THIS WORK. REMOVAL SHALL INCLUDE INTEGRAL CURB, COMBINATION CURB AND GUTTER, RETAINING WALL AND ANY FOOTINGS IN THIS AREA. WHERE REMOVAL ABUTS EXISTING FEATURES SHALL BE MADE BY SAWCUTTING.
13. ALL EXISTING MANHOLES, METERS, VALVES, HYDRANTS PIPING, AND OTHER WATER UNDERGROUND STRUCTURES SHALL BE REMOVED FROM THE PROPOSED BUILDING AREA AND THE IMMEDIATE AREA SURROUNDING AND INDICATED AND AS NECESSARY FOR CONSTRUCTION OF THE PROJECT.
14. ALL PIPING AND ELECTRICAL WIRING SERVING STRUCTURES INCLUDING SERVICE NOT SHOWN ON DRAWINGS SHALL BE PROPERLY TERMINATED AND/OR CAPPED OUTSIDE THE PROPERTY LINES SHOWN.
15. COORDINATE EXTENTS AND TIMING OF DEMOLITION WITH OWNER.
16. ALL TREES AND BUSHES SHOWN AS TO BE REMOVED OR REQUIRED TO BE REMOVED FOR PROJECT IMPROVEMENTS SHALL INCLUDE THE FULL REMOVAL OF THE TREE, STUMP AND ROOT BALL. CONTRACTOR SHALL NOTE THAT ALL TREES ON SITE ARE NOT SHOWN ON THE SURVEY AND THAT ADDITIONAL TREE REMOVALS MAY BE REQUIRED TO COMPLETE THE PROJECT AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL VISIT THE SITE AND VERIFY THE FULL NATURE OF THE TREE REMOVALS REQUIRED BEFORE SUBMITTING A PROPOSAL TO THE OWNER FOR THIS CONTRACT. CONTRACTOR SHALL PROVIDE AND INSTALL SUITABLE FILL MATERIAL TO FILL IN DEPRESSIONS MADE FOR ALL TREE REMOVALS.

LICENSED PROFESSIONAL ENGINEER
Bradley K. Blakeman
#P19806
IOWA

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

DATE 2/11/2021

BRADLEY K. BLAKEMAN

LICENSE NUMBER P19806

MY LICENSE RENEWAL DATE IS DEC. 31, 2021.

PAGES OR SHEET COVERED BY THIS SEAL: C1.1, C2.1, C3.1, C4.1, C5.1, C5.2, C5.3, C5.4, C6.1, C7.1, SWP1.1, SWP1.2 AND SWP1.3

BLAKEMAN ENGINEERING

LARSEN SUPPLY/ COMPANY OFFICE/ WAREHOUSE BUILDING

2301 VETERANS MEMORIAL HIGHWAY
COUNCIL BLUFFS, IOWA

BLAKEMAN ENGINEERING © 2021

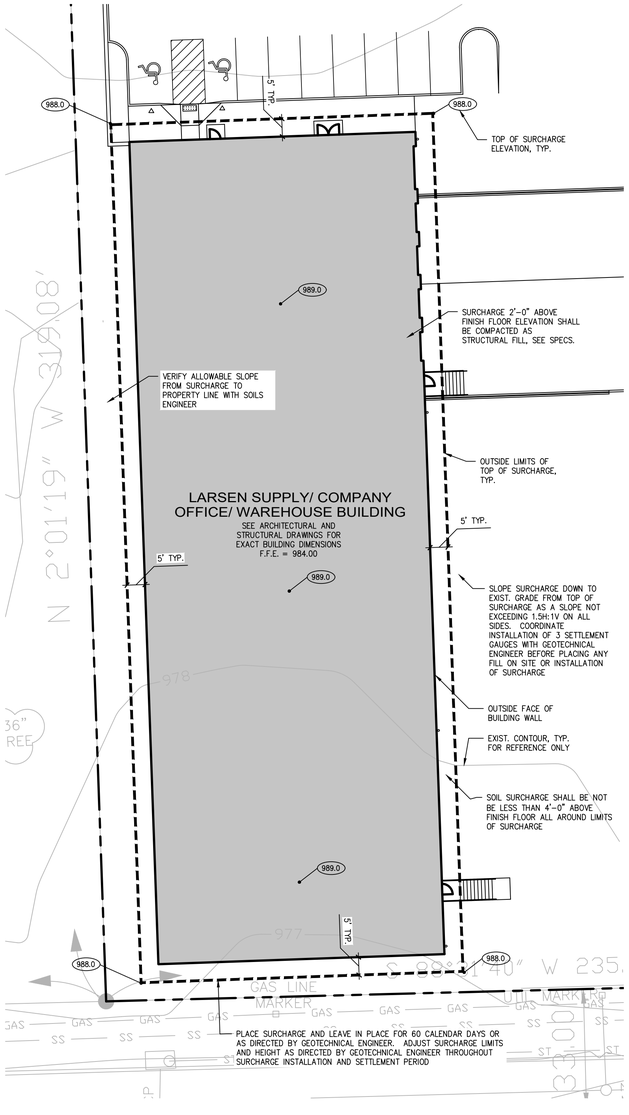
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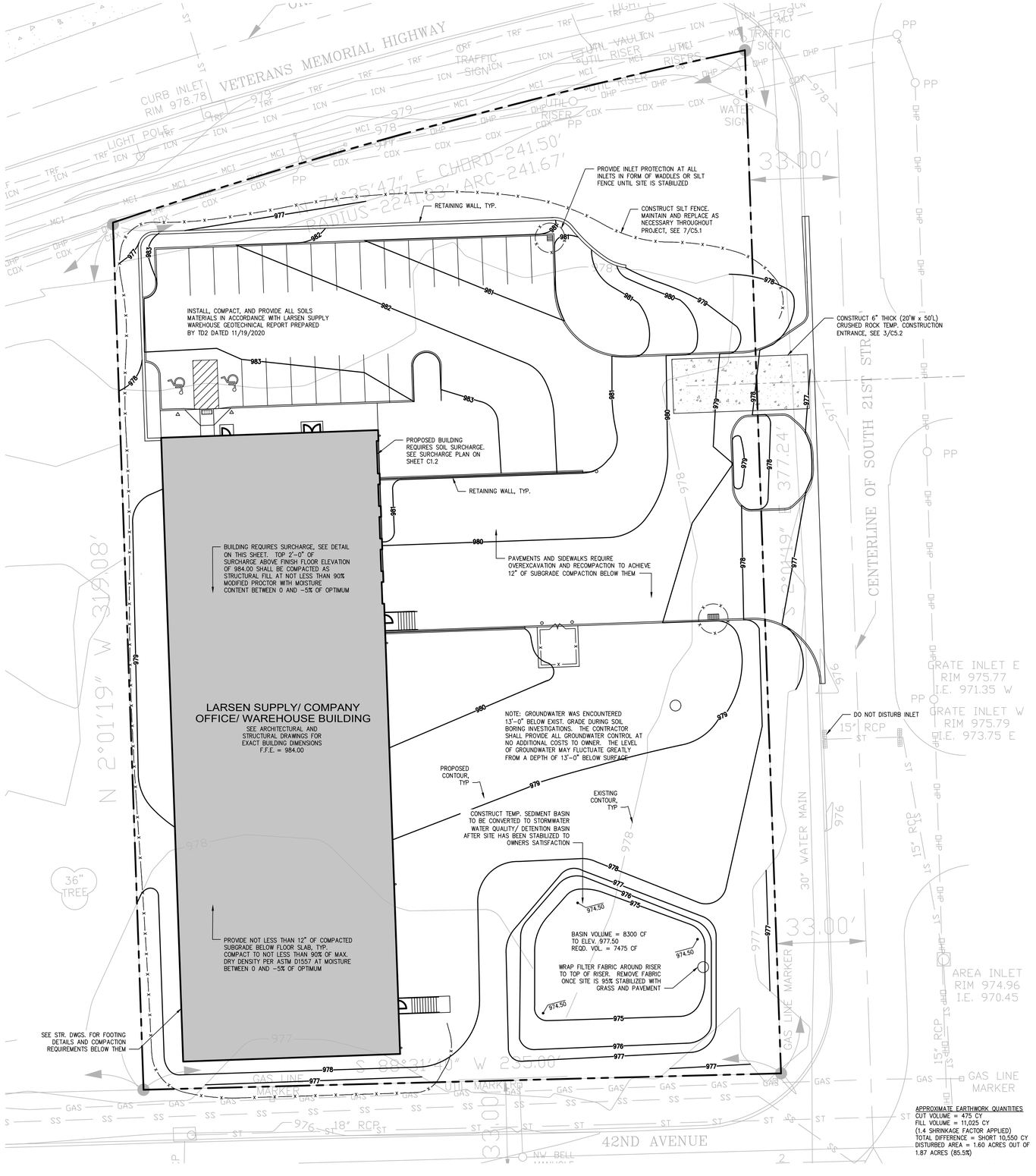
DRAWN BY:	JSP
CHECKED BY:	BKB
ISSUED:	PERMITS
DATE:	4-9-2021

SHEET NO:

C1.1



SITE SURCHARGE PLAN
SCALE: 1" = 20'-0"



SITE GRADING PLAN
SCALE: 1" = 20'-0"

LEGEND
- —1276— EXISTING CONTOUR
- **1276** PROPOSED CONTOUR
- —X— SILT FENCE

APPROXIMATE EARTHWORK QUANTITIES
CUT VOLUME = 475 CY
FILL VOLUME = 11,025 CY
(1.4 SHRINKAGE FACTOR APPLIED)
TOTAL DIFFERENCE = SHORT 10,550 CY
DISTURBED AREA = 1.60 ACRES OUT OF 1.87 ACRES (85.5%)

BLAKEMAN ENGINEERING

LARSEN SUPPLY/ COMPANY OFFICE/ WAREHOUSE BUILDING

2301 VETERANS MEMORIAL HIGHWAY
COUNCIL BLUFFS, IOWA

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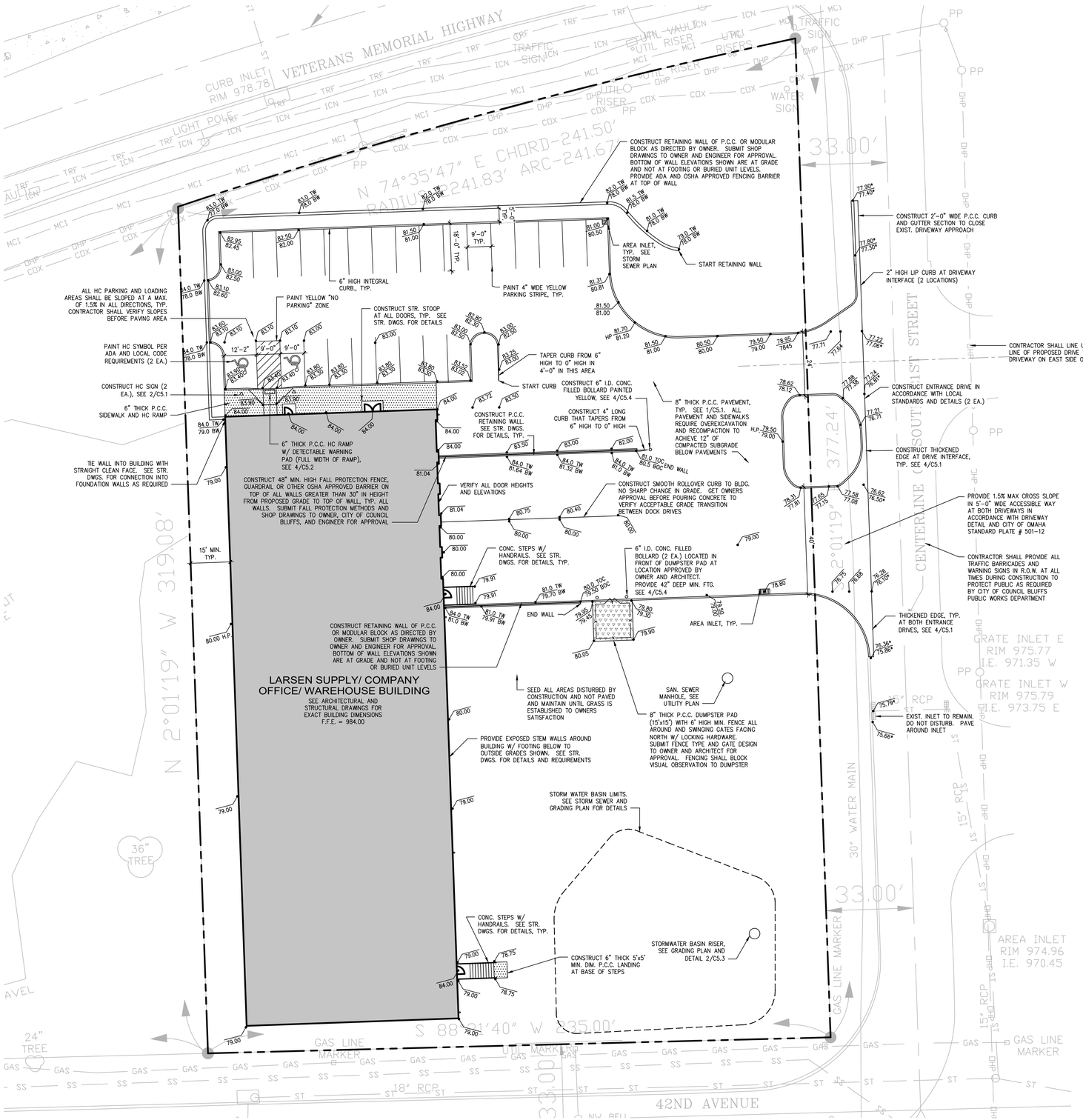
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REVISIONS:

DRAWN BY:	JSP
CHECKED BY:	BKB
ISSUED:	PERMITS
DATE:	4-9-2021

SHEET NO:

C2.1



SITE PAVING PLAN

SCALE: 1" = 20'-0"

LEGEND

- 75.50 / 75.00 — SPOT ELEVATION (TOP OF CURB / GUTTER ELEVATION)
- 75 TW / 72 BW — WALL SPOT ELEVATION (TOP OF WALL / BOTTOM OF WALL AT GRADE)
- 8" P.C.C. PAVEMENT
- 4" P.C.C. PAVEMENT
- 8" P.C.C. PAVEMENT (DUMPSTER AREA ONLY)
- 6" P.C.C. PAVEMENT

BLAKEMAN ENGINEERING

LARSEN SUPPLY/ COMPANY OFFICE/ WAREHOUSE BUILDING

2301 VETERANS MEMORIAL HIGHWAY
COUNCIL BLUFFS, IOWA

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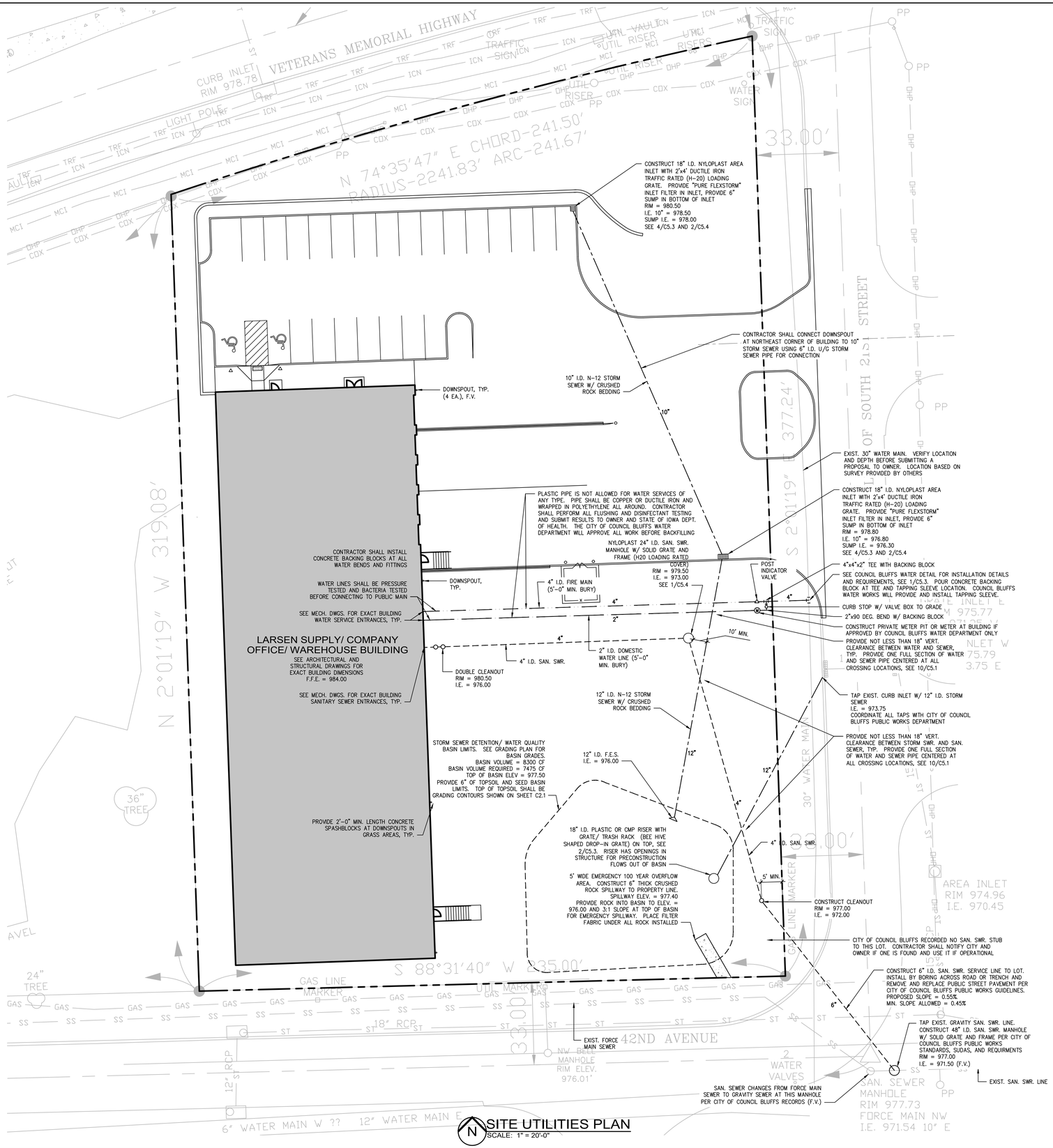
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REVISIONS:

DRAWN BY:	JSP
CHECKED BY:	BKB
ISSUED:	PERMITS
DATE:	4-9-2021

SHEET NO:

C3.1



SITE UTILITIES PLAN

SCALE: 1" = 20'-0"

BLAKEMAN ENGINEERING

LARSEN SUPPLY/ COMPANY OFFICE/ WAREHOUSE BUILDING

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COUNCIL BLUFFS, IOWA

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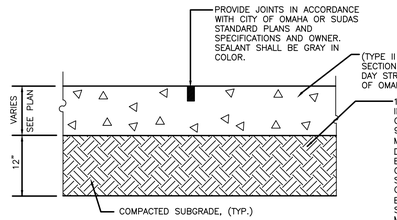
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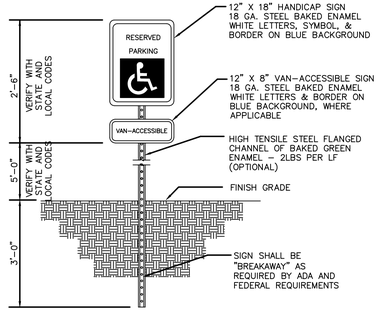
SHEET NO:

C4.1



1 C5.1 4", 6", 7", 8" OR 9" P.C.C. PAVEMENT

NO SCALE

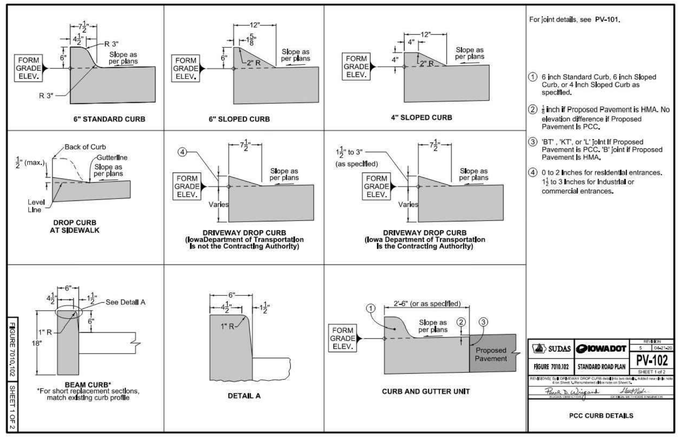


NOTE:

1. SIGNS SHALL BE 12 x 18 INCH REFLECTIVE SHEETING ON .080 ALUMINUM.
2. POSTS, IF USED, SHALL BE 8' LONG (MINIMUM) HOT-ROLLED HIGH TENSILE RAIL STEEL, PERFORATED WITH 3/8" HOLES AT 1" CENTERS, FINISHED WITH GREEN BAKED ENAMEL.
3. SIGNS MAY BE INSTALLED ONTO BUILDING AT OWNER'S DISCRETION VERIFY W/ ARCHITECT PRIOR TO CONSTRUCTION.

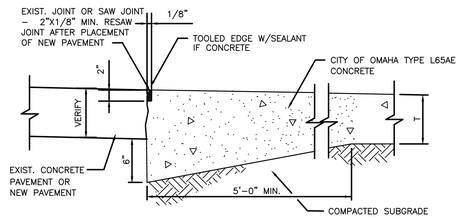
2 C5.1 HANDICAP SIGN

NO SCALE



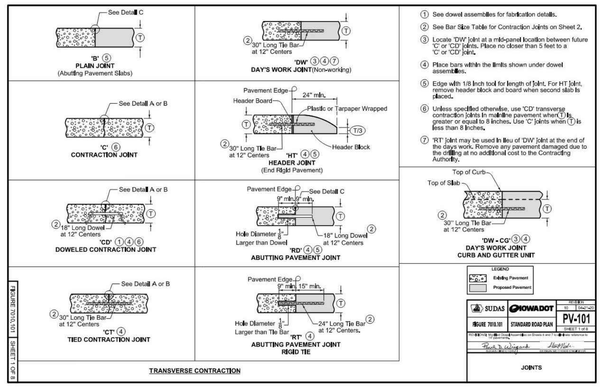
3 C5.1 INTEGRAL CURB DETAIL

NO SCALE



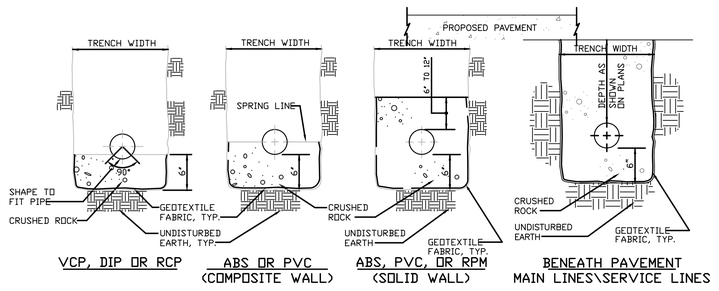
4 C5.1 THICKENED EDGE

NO SCALE



5 C5.1 CONCRETE SIDEWALK JOINT DETAILS

NO SCALE



6 C5.1 PIPE ENVELOPE - SANITARY SEWER OR STORM SEWER

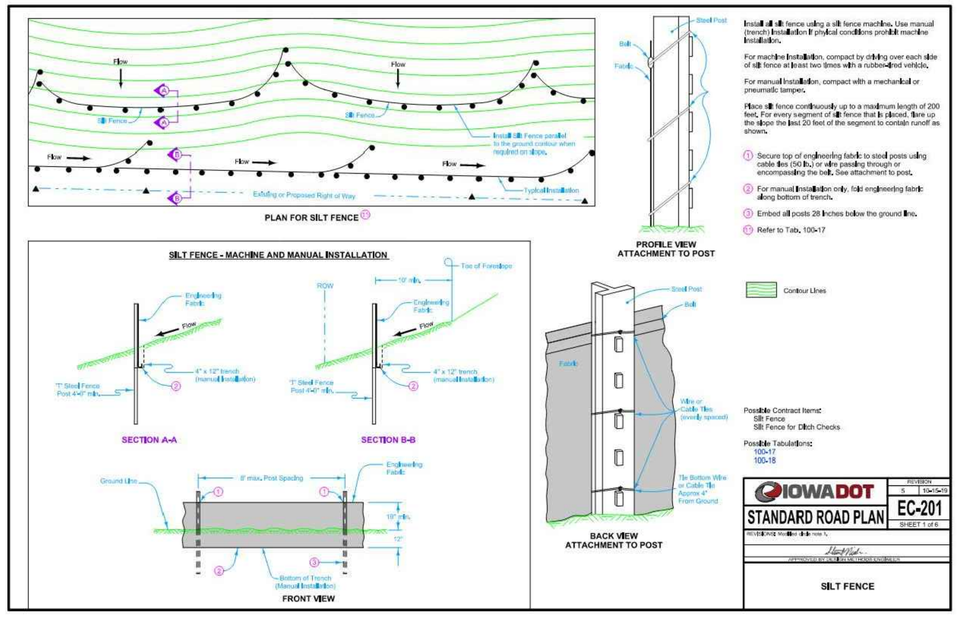
NO SCALE

NOTES:

1. TRENCH WIDTH: MINIMUM = PIPE O.D. PLUS 1'-4"
   MAXIMUM = PIPE O.D. PLUS 2'-0"
2. CRUSHED ROCK FOR PIPE BEDDING FOR PIPES 15 INCHES IN DIAMETER AND SMALLER SHALL CONFORM TO GRADATIONS AS FOLLOWS:

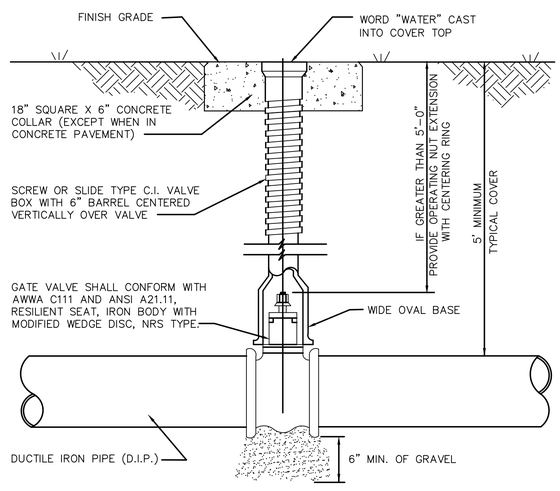
SIEVE SIZE	PERCENTAGE PASSING
3/4 INCH	100
3/8 INCH	60 ± 15
NO. 4	30 ± 15
NO. 10	15 ± 10
NO. 200	5 ± 5

3. CRUSHED ROCK FOR PIPE BEDDING SHALL BE SUBSIDIARY TO THE COST OF THE PIPE. IF UNSTABLE TRENCH BOTTOM SUBGRADE CONDITIONS ARE ENCOUNTERED, ADDITIONAL CRUSHED ROCK FOR BEDDING AND EXTENT SHALL BE AS DIRECTED BY THE ENGINEER.
4. TRENCH SHALL BE BRACED, SHEETED OR SLOPED AS NECESSARY FOR THE SAFETY OF WORKMEN AND PROTECTION OF OTHER UTILITIES IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
5. GEOTEXTILE FABRIC SHALL BE TREVIRA 1115, MIRAFI 140 N OR 140 S, TYPAR 3401, SUPAC 4 OR APPROVED EQUAL.
6. USE MANUFACTURES RECOMMENDATIONS IF MORE STRINGENT THAN WHAT IS SHOWN IN DETAILS HERE



7 C5.1 SILT FENCE DETAIL

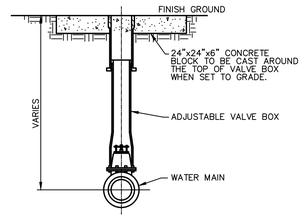
NO SCALE



NOTES:
1. FITTING SHALL BE WRAPPED WITH 8 MIL MINIMUM THICKNESS POLYETHYLENE.
2. REDUCERS SHALL BE REQUIRED FOR CASES WHERE VALVE IS DOWN SIZED FROM PIPING.

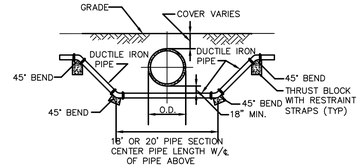
8 C5.1 WATER VALVE BOX

NO SCALE



9 C5.1 VALVE BOX SETTING

NO SCALE



NOTES:
1. CATHODIC PROTECTION SHALL BE REQUIRED
2. THIS DETAIL IS FOR WATER LINES FROM 4" TO 12" DIAMETER
3. CONTRACTOR TO PROVIDE APPROPRIATE MECHANICAL JOINT RESTRAINT AND PVC PIPE THRUST RESTRAINT.

TYPICAL WATER MAIN DEPRESSION DETAIL

10 C5.1

NO SCALE

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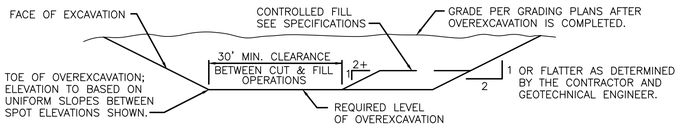
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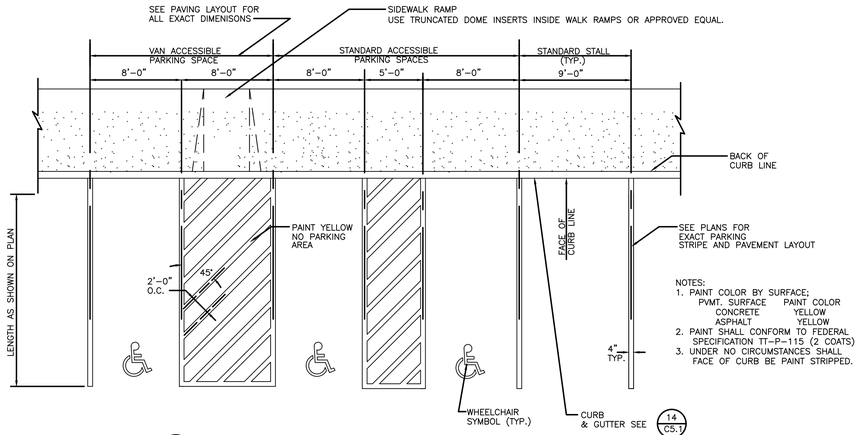
C5.1



CONTRACTOR SHALL PROVIDE CONTROLLED FILL COMPACTED AT 90% OF MAX. DRY DENSITY BY ASTM D1557, (MODIFIED PROCTOR, MOISTURE CONTENT BETWEEN +0% and −5%. CONTRACTOR SHALL PROVIDE PROTECTION AND SHORING OF ALL UTILITIES, BUILDINGS, FOOTINGS, AND STRUCTURES DURING OVEREXCAVATION AND FILLING OPERATIONS.

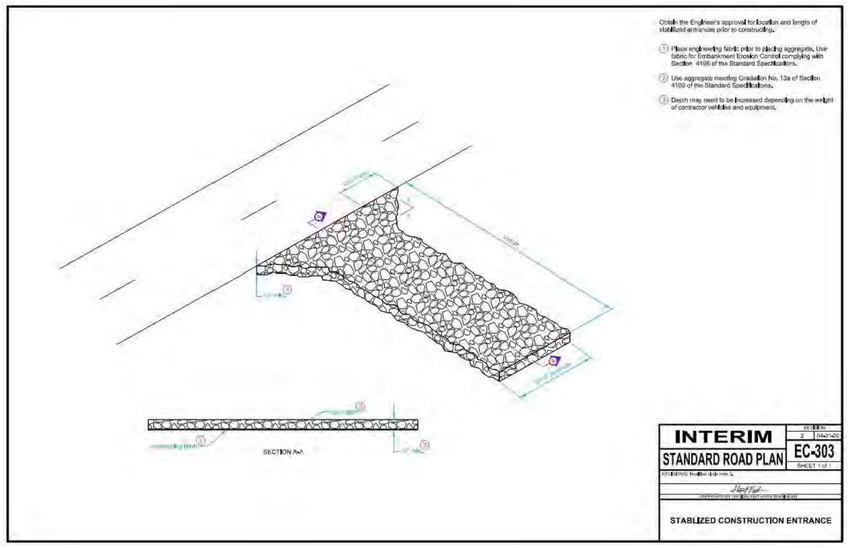
1 / C5.2 TYPICAL OVEREXCAVATION DETAIL

NO SCALE



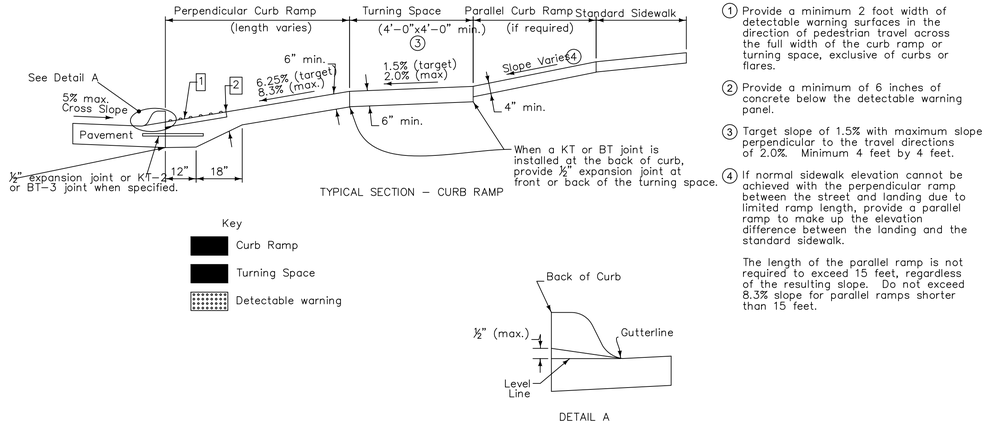
2 / C5.2 TYPICAL 90° PARKING STALL PAINT STRIPING

NO SCALE



3 / C5.2 CONSTRUCTION ENTRANCE DETAIL

NO SCALE

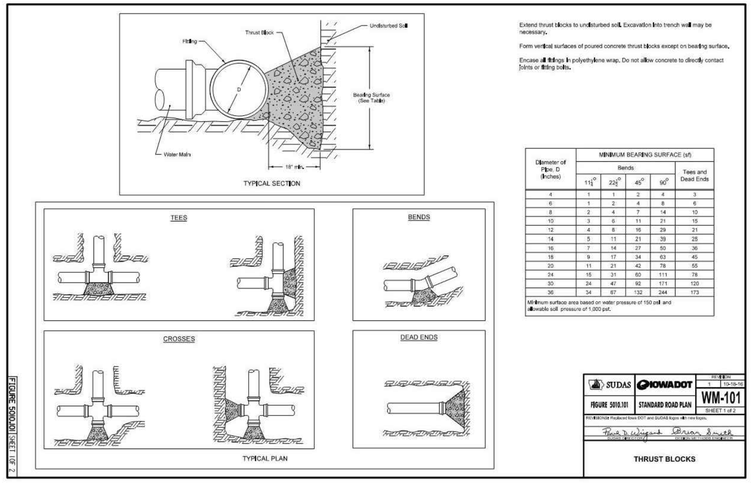


1. Provide a minimum 2 foot width of detectable warning surfaces in the direction of pedestrian travel across the full width of the curb ramp or turning space, exclusive of curbs or flares.
2. Provide a minimum of 6 inches of concrete below the detectable warning panel.
3. Target slope of 1.5% with maximum slope perpendicular to the travel directions of 2.0%. Minimum 4 feet by 4 feet.
4. If normal sidewalk elevation cannot be achieved with the perpendicular ramp between the street and landing due to limited ramp length, provide a parallel ramp to make up the elevation difference between the landing and the standard sidewalk.

   The length of the parallel ramp is not required to exceed 15 feet, regardless of the resulting slope. Do not exceed 8.3% slope for parallel ramps shorter than 15 feet.

4 / C5.2 HANDICAP RAMP DETAIL

NO SCALE



Extend thrust blocks to undisturbed soil. Excavation into trench wall may be necessary.

Form vertical surfaces of poured concrete thrust blocks except on bearing surface.

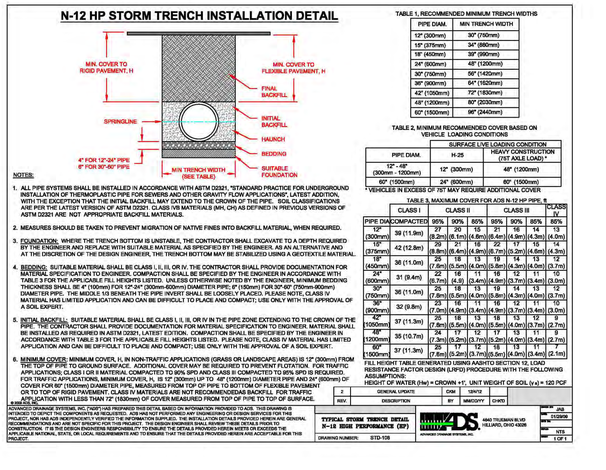
Encase all fittings in polyethylene wrap. Do not allow concrete to directly contact joints or fitting bolts.

Diameter of Pipe, D (inches)	MINIMUM BEARING SURFACE (sf)				
	Bends				Tees and Dead Ends
	11½°	22½°	45°	90°	
4	1	1	2	4	3
6	1	2	4	8	6
8	2	4	7	14	10
10	3	6	11	21	15
12	4	8	16	29	21
14	5	11	21	39	28
16	7	14	27	50	36
18	9	17	34	63	45
20	11	21	42	78	55
24	15	31	60	111	78
30	24	47	92	171	120
36	34	67	132	244	173

Minimum surface area based on water pressure of 150 psi and allowable soil pressure of 1,000 psf.

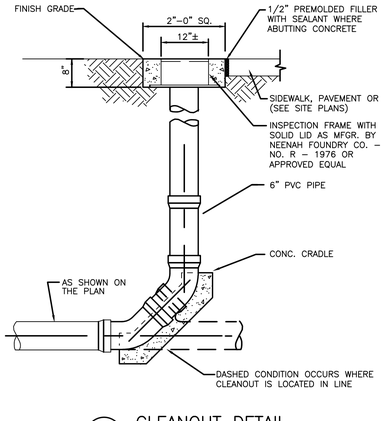
5 / C5.2 TYPICAL THRUST BLOCKING

NO SCALE



6 / C5.2 N−12 PIPE ENVELOPE DETAIL

NO SCALE



7 / C5.2 CLEANOUT DETAIL

NO SCALE

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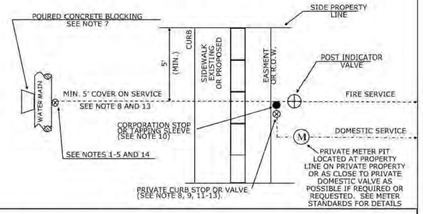
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FIRE SERVICE WITH DOMESTIC WATER SERVICE

NO PLASTIC SERVICE LINES ALLOWED, SERVICE LINES SHALL BE DUCTILE IRON OR K COPPER

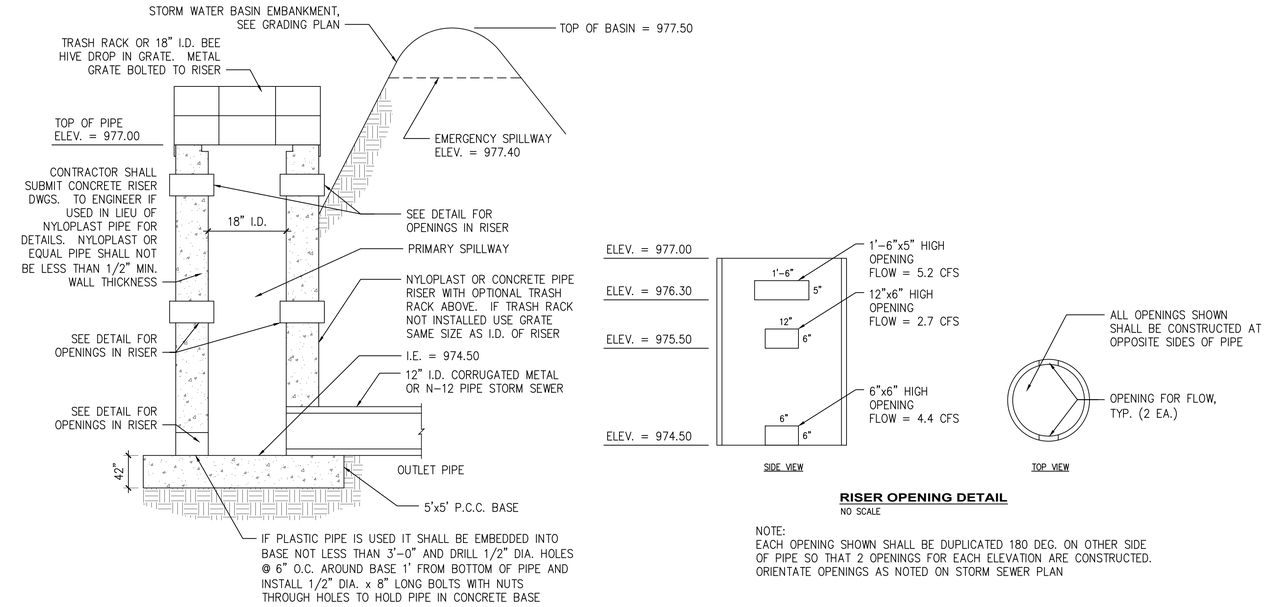


NOTES:
1. TAP SHALL NOT BE LOCATED WITHIN 36" FROM A BELL OR FLANGE CONNECTION.
2. TAP SHALL NOT BE LOCATED WITHIN 36" FROM ANOTHER TAP UNLESS APPROVED BY THE COUNCIL BLUFFS WATER WORKS.
3. PERMIT APPLICANT TO REPAIR ANY DAMAGE TO POLYETHYLENE ENCASEMENT INCURRED WHILE EXPOSING MAIN FOR TAP.
4. COUNCIL BLUFFS WATER WORKS MAY REQUIRE A TEE BE PLACED INSTEAD OF A TAPPING SLEEVE.
5. COUNCIL BLUFFS WATER WORKS TO PROVIDE AND INSTALL TAPPING SLEEVE AND VALVE. COUNCIL BLUFFS WATER WORKS TO PROVIDE VALVE BOX AND PERMIT APPLICANT TO INSTALL VALVE BOX
6. ALL COPPER SERVICES SHALL HAVE A MINIMUM OF 3' OF POLYETHYLENE ENCASEMENT ON SERVICE EXTENDING FROM FIRE SERVICE.
7. PERMIT APPLICANT REQUIRED TO SUPPORT VALVE, PROVIDE AND INSTALL OVERLAPPING POLYETHELENE ENCASEMENT AROUND VALVE/SERVICE AND POUR BLOCKING BEHIND TAPPING SLEEVE. THIS PART OF THE SERVICE SHALL BE INSPECETED BY THE COUNCIL BLUFFS WATER WORKS BEFORE IT IS COVERED UP.
8. SERVICE LINES SHALL BE TYPE K COPPER OR CLASS 52 OR HEAVIER CEMENT MORTAR LINED DUCTILE IRON PIPE. POLYETHYLENE ENCASEMENT SHALL BE INSTALLED ON ALL UNDERGROUND INSTALLATIONS OF DUCTILE IRON PIPE. NO PLASTIC ALLOWED.
9. ALL TYPE K COPPER SERVICE LINES 1" SHALL HAVE MINIMUM 100' BETWEEN JOINTS, LARGER THAN 1" SHALL HAVE MINIMUM 40' BETWEEN JOINTS. NO COUPLINGS ALLOWED UNDER PAVED AREAS.
10. PRIVATE DOMESTIC TAP SHALL BE MADE BEFORE POST INDICATOR VALVE.
11. PRIVATE CURB STOP OR VALVE TO BE PLACED AS CLOSE TO FIRE SERVICE AS POSSIBLE.
12. PRIVATE CURB STOP OR VALVE SHALL BE ACCESIBLE TO COUNCIL BLUFFS WATER WORKS EMPLOYEES AT ALL TIMES.
13. OWNERSHIP. THE COUNCIL BLUFFS WATER WORKS WILL NOT BE RESPONSIBLE IN ANY WAY FOR THE WATER SERVICE LINE BEGINNING AT THE CONNECTION TO THE MASTER VALVE ON THE CUSTOMERS SIDE OF THE SERVICE.
14. PRIOR TO TAP BEING MADE PERMIT APPLICANT WILL BE RESPONSIBLE FOR PROVIDING THE WATER WORKS A COMPLETED AND SIGNED TAP CHECK LIST. IN ADDITION TO APPLICATION AND PAYMENT TAP CHECK LIST INCLUDES SIGNITURES BY COUNCIL BLUFFS FIRE DEPARTMENT AND/OR BUILDING DIVISON FOR SUCCEFULLY PASSING REQUIRED PRESSURE TEST AND PROVIDING ABSENT FOR TOTAL COLIFORM TEST.
15. CONTACT THE COUNCIL BLUFFS BUILDING DIVISION, FOR ADDITIONAL PLUMBING CODE REQUIREMENTS AND COUNCIL BLUFFS FIRE DEPARTMENT FOR ADDITIONAL FIRE SERVICE CODE REQUIREMENTS AND POST INDICATOR VALVE PLACEMENT.

STANDARD FIRE SERVICE LINE WITH 1" OR LARGER DOMESTIC SERVICE

COUNCIL BLUFFS WATER WORKS | SCALE: NONE | DATE: 11/1/2017 | 4ANDLARGER FIRE PROTECTION SERVICESADOMESTIC 2017

1 / C5.3 FIRE SERVICE LINE DETAIL
NO SCALE



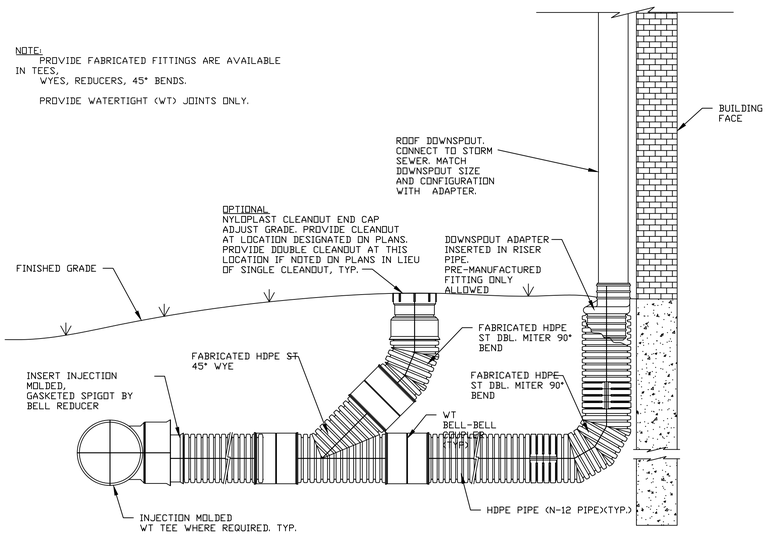
2 / C5.3 WATER QUALITY BASIN PIPING DETAILS
NO SCALE

RISER OPENING DETAIL
NO SCALE

NOTE:
EACH OPENING SHOWN SHALL BE DUPLICATED 180 DEG. ON OTHER SIDE OF PIPE SO THAT 2 OPENINGS FOR EACH ELEVATION ARE CONSTRUCTED. ORIENTATE OPENINGS AS NOTED ON STORM SEWER PLAN

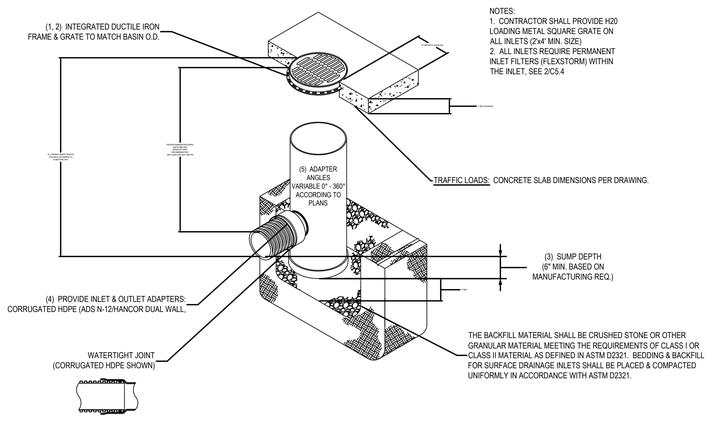
NOTE:
PROVIDE FABRICATED FITTINGS ARE AVAILABLE IN TEES, WYES, REDUCERS, 45° BENDS.

PROVIDE WATERTIGHT (WT) JOINTS ONLY.



3 / C5.3 ROOF DRAIN DETAIL
NO SCALE

NYLOPLAST 18" AND 24" DRAIN BASIN



NOTES:
1. CONTRACTOR SHALL PROVIDE H20 LOADING METAL SQUARE GRATE ON ALL INLETS (2'x4' MIN. SIZE)
2. ALL INLETS REQUIRE PERMANENT INLET FILTERS (FLEXSTORM) WITHIN THE INLET, SEE 2/C5.4

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP & PVC SEWER.
5 - PROVIDE ADAPTERS TO MEET ANY ANGLE 0° TO 360°.

4 / C5.3 NYLOPLAST INLET DETAIL
NO SCALE

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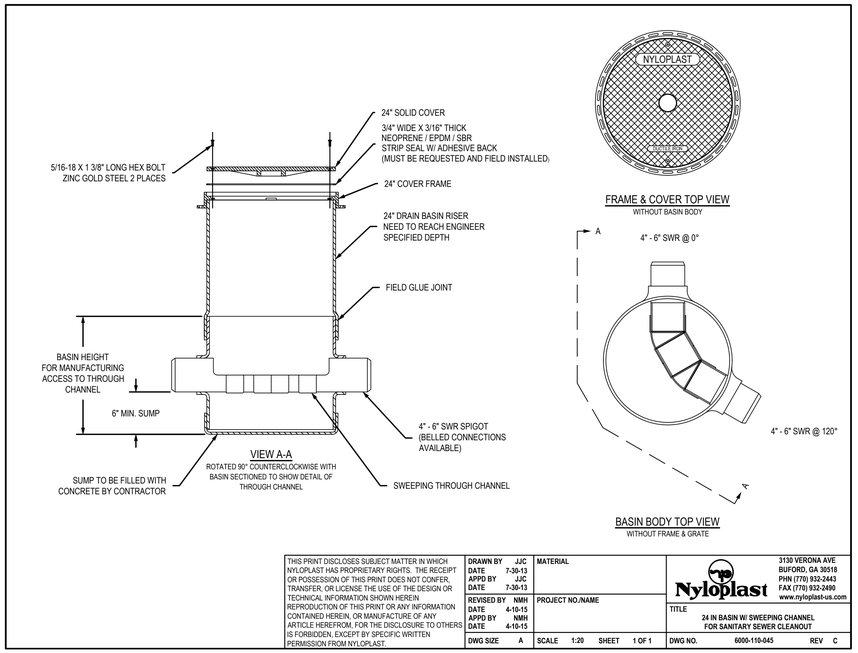
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C5.3



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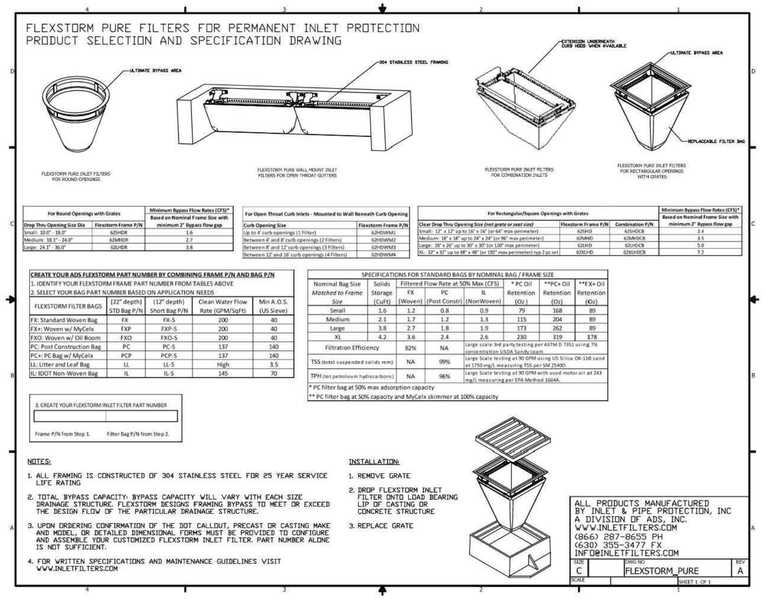
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APPD BY	JJC		
DATE	7-30-13		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	4-10-15		
APPD BY	NMH		
DATE	4-10-15		
DWG SIZE	A	SCALE 1:20 SHEET 1 OF 1	

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TITLE: 24 IN BASIN W/ SWEEPING CHANNEL FOR SANITARY SEWER CLEANOUT

DWG NO. 6000-110-045 REV C

1 / C5.4 24" I.D. SANITARY SEWER MANHOLE
NO SCALE



For Round Openings with Grates		Minimum Bypass Flow Rates (CFS)* Based on Nominal Frame Size with
Drop Thru Opening Size Dia	Flexstorm Frame P/N	minimum 2" Bypass flow gap
Small: 10.0" - 16.0"	62HSDR	1.6
Medium: 18.1" - 24.0"	62MSDR	2.7
Large: 24.1" - 36.0"	62LSDR	3.8

For Open Throat Curb Inlets - Mounted to Wall Beneath Curb Opening	
Curb Opening Size	Flexstorm Frame P/N
Up to 4' curb openings (1 Filter)	62HDVM1
Between 4' and 8' curb openings (2 Filters)	62HDVM2
Between 8' and 12' curb openings (3 Filters)	62HDVM3
Between 12' and 16' curb openings (4 Filters)	62HDVM4

For Rectangular/Square Openings with Grates			Minimum Bypass Flow Rates (CFS)*
Clear Drop Thru Opening Size (net grate or cast size)	Flexstorm Frame P/N	Combination P/N	Based on Nominal Frame Size with minimum 2" Bypass flow gap
Small: 12" x 12" up to 18" x 18" (or 66" max perimeter)	6QSMD	62SMDCB	2.4
Medium: 18" x 18" up to 24" x 24" (or 96" max perimeter)	62MMD	62MMDCB	3.5
Large: 24" x 24" up to 30" x 30" (or 128" max perimeter)	62LMD	62LMDCB	5.0
DS - 32" x 32" up to 48" x 48" (or 192" max perimeter) (up 2 pc set)	62XLHD	62XLHDCB	7.3

CREATE YOUR ADS FLEXSTORM PART NUMBER BY COMBINING FRAME P/N AND BAG P/N

1. IDENTIFY YOUR FLEXSTORM FRAME PART NUMBER FROM TABLES ABOVE
2. SELECT YOUR BAG PART NUMBER BASED ON APPLICATION NEEDS

FLEXSTORM FILTER BAGS	(22" depth) STD Bag P/N	(12" depth) Short Bag P/N	Clean Water Flow Rate (GPM/SqFt)	Min A.O.S. (US Sieve)
FX: Standard Woven Bag	FX	FX-S	200	40
FX+: Woven w/ MyCelx	FXP	FXP-S	200	40
FXO: Woven w/ Oil Boom	FXO	FXO-S	200	40
PC: Post Construction Bag	PC	PC-S	137	140
PC+: PC Bag w/ MyCelx	PCP	PCP-S	137	140
LL: Litter and Leaf Bag	LL	LL-S	High	3.5
IL: IDOT Non-Woven Bag	IL	IL-S	145	70

3. CREATE YOUR FLEXSTORM INLET FILTER PART NUMBER

Frame P/N from Step 1. | Filter Bag P/N from Step 2.

SPECIFICATIONS FOR STANDARD BAGS BY NOMINAL BAG / FRAME SIZE

Nominal Bag Size / Matched to Frame Size	Solids Storage (Cu/Ft)	Filtered Flow Rate at 50% Max (CFS) FX (Woven)	PC (Post Constr)	IL (NonWoven)	* PC Oil Retention (Qt.)	**PC+ Oil Retention (Qt.)	**FX+ Oil Retention (Qt.)
Small	1.6	1.2	0.8	0.9	79	168	89
Medium	2.1	1.7	1.2	1.3	115	204	89
Large	3.8	2.7	1.8	1.9	173	262	89
XL	4.2	3.6	2.4	2.6	230	319	178
Filtration Efficiency		82%	NA	Large scale 3rd party testing per ASTM D 7351 using 76 concentration USDA Sandy Loam.			
TSS (total suspended solids rem)		NA	99%	Large Scale testing at 90 GPM using US Silica OK-110 sand at 1750 mg/L measuring TSS per SM 2540D.			
TPH (Hot petroleum hydrocarbons)		NA	96%	Large Scale testing at 90 GPM with used motor oil at 243 mg/L measuring per EPA Method 1664A.			

* PC filter bag at 50% max adsorption capacity
** PC filter bag at 50% capacity and MyCelx skimmer at 100% capacity

NOTES:

1. ALL FRAMING IS CONSTRUCTED OF 304 STAINLESS STEEL FOR 25 YEAR SERVICE LIFE RATING
2. TOTAL BYPASS CAPACITY: BYPASS CAPACITY WILL VARY WITH EACH SIZE DRAINAGE STRUCTURE. FLEXSTORM DESIGNS FRAMING BYPASS TO MEET OR EXCEED THE DESIGN FLOW OF THE PARTICULAR DRAINAGE STRUCTURE.
3. UPON ORDERING CONFIRMATION OF THE DOT CALLOUT, PRECAST OR CASTING MAKE AND MODEL; OR DETAILED DIMENSIONAL FORMS MUST BE PROVIDED TO CONFIGURE AND ASSEMBLE YOUR CUSTOMIZED FLEXSTORM INLET FILTER. PART NUMBER ALONE IS NOT SUFFICIENT.
4. FOR WRITTEN SPECIFICATIONS AND MAINTENANCE GUIDELINES VISIT WWW.INLETFILTERS.COM

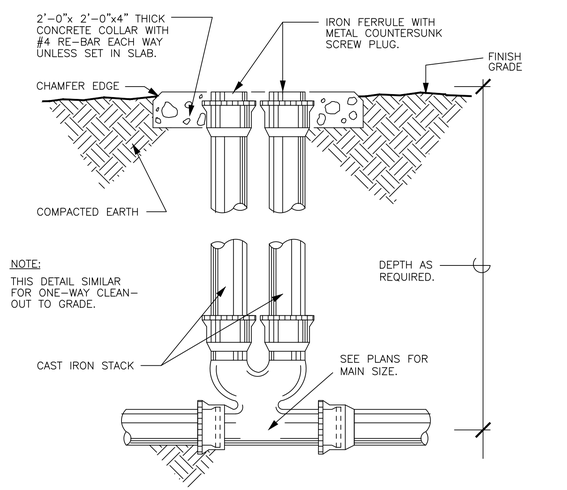
INSTALLATION:

1. REMOVE GRATE
2. DROP FLEXSTORM INLET FILTER ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE
3. REPLACE GRATE

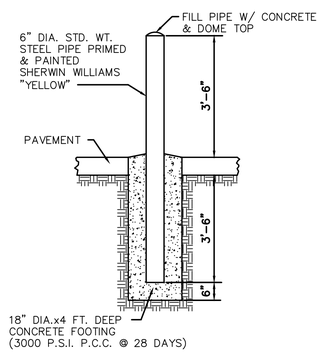
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(630) 355-3477 FX
INFO@INLETFILTERS.COM

SIZE C | DWG NO. FLEXSTORM_PURE | REV A | SCALE | SHEET 1 OF 1

2 / C5.4 FLEXSTORM INLET FILTER DETAIL
NO SCALE



3 / C5.4 DOUBLE CLEANOUT DETAIL
NO SCALE



4 / C5.4 PIPE BOLLARD DETAIL
NO SCALE

BLAKEMAN ENGINEERING

LARSEN SUPPLY/ COMPANY OFFICE/ WAREHOUSE BUILDING

2301 VETERANS MEMORIAL HIGHWAY
COUNCIL BLUFFS, IOWA

BLAKEMAN ENGINEERING © 2021

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REVISIONS:

DRAWN BY:	JSP
CHECKED BY:	BKB
ISSUED:	PERMITS
DATE:	4-9-2021

SHEET NO:

C5.4

BENCHMARK

(PROVIDED BY NORTHSTAR LAND SURVEYING, CONTRACTOR SHALL CONTACT NORTHSTAR LAND SURVEYING AT 712-323-5626 FOR EXACT ELEVATIONS AND LOCATIONS.

BENCHMARK #1: SEE SURVEY

GRADING NOTES

1. THE PROPOSED CONTOURS SHOWN ON THE GRADING PLAN REPRESENT TOP OF PAVEMENT IN PAVED AREAS AND FINISH GRADE IN LANDSCAPED AREAS. GRADE SHALL GRADUALLY TAPER OVER SPOT ELEVATIONS IN A GENTLE SWEEPING CURVE (NO SHARP BREAK IN PLAN OF PAVING ALLOWED.)

2. ALL PROJECT PROCEDURE, MATERIALS, BONDS AND RESERVES SHALL CONFORM TO THE CITY OF COUNCIL BLUFFS REQUIREMENTS, EXCEPT AS AMENDED BY THE CONTRACT DOCUMENTS AND SPECIFICATIONS FOR THIS PROJECT.

3. THE CONTRACTOR SHALL NOTIFY THE CITY OF COUNCIL BLUFFS PUBLIC WORKS DEPARTMENT 48 HOURS PRIOR TO START OF CONSTRUCTION.

4. ELEVATIONS SHOWN ARE REFERENCED TO DATUM SHOWN. EXISTING CONTOURS MAY VARY DUE TO DEMOLITIONS AND FOOTING REMOVALS. CONTRACTOR SHALL PROVIDE SUFFICIENT FILL AND HAUL OFF EXCESS FILL TO ACHIEVE GRADES SHOWN AT NO ADDITIONAL COST TO OWNER.

5. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO EXISTING PROPERTY, UTILITIES, AND STRUCTURES, AND WILL REPAIR AT HIS/HER OWN EXPENSE. THE CONTRACTOR SHALL HAVE ALL EXISTING UTILITIES FIELD LOCATED IN THE FIELD PRIOR TO CONSTRUCTION.

6. ALL DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS SHALL BE HAULED OFF THE SITE AND PROPERLY DISPOSED OF.

7. ADJUST ALL MANHOLES AND UTILITY STRUCTURES TO GRADE AS REQUIRED. DIRECT DRAINAGE INTO DRAINAGE STRUCTURES.

8. CONTACT ARCHITECT AND STRUCTURAL ENGINEER FOR BUILDING DIMENSIONS.

9. THE OWNER SHALL OBTAIN AND PAY FOR STATE OF IOWA GRADING PERMIT, ALL OTHER EROSION CONTROL AND GRADING PERMITS REQUIRED BY THE CITY OF COUNCIL BLUFFS SHALL BE PAID BY THE CONTRACTOR. CONTRACTOR SHALL ALSO PAY FOR ALL COSTS ASSOCIATED WITH COMPLYING WITH PERMITS THROUGHOUT THE DURATION OF THE CONTRACT. THE OWNER WILL PAY FOR NPDES EROSION INSPECTIONS AND COSTS ARE NOT TO BE INCLUDED IN THE CONTRACTOR'S PROPOSAL.

10. NOT USED

11. ALL CURBS SHALL BE CONSTRUCTED AS DETAILED ON THE PLANS.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL BARRICADES, FLAGMEN, AND TRAFFIC CONTROL DURING CONSTRUCTION OPERATIONS. NO SEPARATE PAYMENT WILL BE MADE FOR TRAFFIC CONTROL. THE CITY OF COUNCIL BLUFFS AND THE IOWA DEPARTMENT OF ROADS REQUIREMENTS FOR TRAFFIC CONTROL SHALL GOVERN STREET WORK REQUIRED.

13. EXISTING CONTOURS ARE SHOWN AT 1 FOOT INTERVALS AND PROPOSED CONTOURS ARE AT 1 FOOT INTERVALS. ALL SPOT ELEVATIONS ON GRADING PLAN HAVE BEEN ABBREVIATED BY ELIMINATING THE FIRST TWO DIGITS (I.E. 39.61 vs. 1239.61).

14. COMPLY WITH ALL CITY OF COUNCIL BLUFFS AND IDOT REGULATIONS AND OBTAIN AND PAY FOR ALL PERMITS FOR WORK IN PUBLIC RIGHT-OF-WAY.

15. PROVIDE WIND AND WATER EROSION CONTROL AS REQUIRED BY OWNER. REMOVE MUD AND SILT FROM ADJACENT PUBLIC AND PRIVATE PROPERTY IMMEDIATELY AFTER ANY SPILLAGE. PROVIDE CONSTRUCTION SECURITY FENCE AS REQUIRED TO MAINTAIN SAFE SITE. PROVIDE SILT FENCES AND EROSION MEASURES AS REQUIRED BY IDOT AND THE CITY OF COUNCIL BLUFFS WHETHER SHOWN ON THE PLANS OR NOT AT NO ADDITIONAL COST TO THE OWNER.

16. DUST AND EROSION CONTROL
THE CONTRACTOR SHALL CONTROL DUST AND WATER INDUCED EROSION CAUSED BY HIS OPERATIONS
THE CONTRACTOR SHALL MOISTEN ALL SURFACES AS REQUIRED TO PREVENT DUST FROM BEING A NUISANCE TO THE PUBLIC, NEIGHBORS, AND CONCURRENT PERFORMANCE OF OTHER WORK ON THE SITE.
THE CONTRACTOR SHALL FURNISH ALL WATER, FEES, PERMITS, EQUIPMENT, AND LABOR NECESSARY TO CONTROL DUST AT NO ADDITIONAL COST TO THE OWNER.
THE CONTRACTOR SHALL CONTROL WATER INDUCED EROSION RELATED TO HIS OPERATIONS UNTIL SUCH TIME AS EROSION CONTROL MEASURES HAVE BEEN INSTALLED.

17. ALL GROUNDWATER ENCOUNTERED SHALL BE DEWATERED BY MEANS OF PUMPING OR OTHER APPROVED METHODS TO PROVIDE STABLE WORKING ENVIROMENT AT NO ADDITIONAL COST TO THE OWNER.

18. ALL FILLS SHALL BE PLACED AND COMPACTED AS STRUCTURAL FILL AND COMPACTED TO A MINIMUM OF 90% OF THE MAXIMUM DRY DENSITY (ASTM D1557) MODIFIED PROCTOR. MOISTURE CONTENT SHALL BE BETWEEN 0% AND -5%. FILLS SHALL BE PLACED IN LOOSE LIFTS OF NO GREATER THAN 8 INCHES. SEE SPECIFICATIONS FOR ADDITIONAL SUBGRADE REQUIREMENTS UNDER PAVEMENTS AND BUILDINGS.

19. AUTOCAD DRAWINGS IF REQUIRED AND REQUESTED BY CONTRACTOR FROM THE ENGINEER FOR HIS USE WILL BE PROVIDED AT A COST OF $150.00/ SHEET.

GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS.

2. THE TIME LIMIT TO COMPLETE THE WORK IS AS STATED IN THE SPECIFICATIONS.

3. ALL PROJECT PROCEDURE, MATERIAL, BONDS AND RESERVES SHALL CONFORM TO THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL PAY ALL PERMIT FEES AND OTHER ASSOCIATED FEES REQUIRED TO SUCCESSFULLY COMPLETE THE PROJECT.

4. INSPECTION, UNLESS OTHERWISE SHOWN, DURING CONSTRUCTION SHALL BE PAID FOR BY THE OWNER. THE CITY CONSTRUCTION ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR 48 HOURS BEFORE THE START OF CONSTRUCTION.

5. THE LOCATIONS OF ALL AERIAL AND UNDERGROUND UTILITY FACILITIES ARE APPROXIMATE OR MAY NOT BE INDICATED IN THESE PLANS. UNDERGROUND FACILITIES, WHETHER INDICATED OR NOT, WILL BE LOCATED AND FLAGGED BY THE UTILITIES AT THE REQUEST OF THE CONTRACTOR. NO EXCAVATION WILL BE PERMITTED IN THE AREA UNTIL ALL SUCH UNDERGROUND UTILITY FACILITIES HAVE BEEN LOCATED AND IDENTIFIED TO THE SATISFACTION OF ALL PARTIES AND THEN ONLY WITH EXTREME CARE TO AVOID ANY POSSIBILITY OF DAMAGE TO THE UTILITY FACILITY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL EXISTING UTILITIES, PAVEMENT AND OTHER IMPROVEMENTS. ANY DAMAGE TO EXISTING UTILITIES AND/OR PAVED STREETS CAUSED BY CONSTRUCTION OPERATIONS SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.

6. THE CONTRACTOR SHALL CALL FOR THE EXISTING UTILITY LOCATION STAKES (1-800-331-5666) 48 HOURS PRIOR TO DIGGING.

7. THE CONTRACTOR SHALL ADJUST TO GRADE ALL WATER AND GAS VALVE BOXES AND MANHOLES THAT FALL WITHIN THE LIMITS OF THIS CONTRACT. THE CONTRACTOR SHALL KEEP ALL SAID WATER, GAS AND EXISTING SEWERS AND THEIR APPURTENANCES FREE OF DEBRIS AND OPERABLE AT ALL TIMES DURING CONSTRUCTION.

8. ELEVATIONS ARE REFERENCED TO USGS DATUM.

9. ALL DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS SHALL BE HAULED OFF-SITE AND PROPERLY DISPOSED OF AT NO ADDITIONAL COST TO THE OWNER.

10. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES, WARNING SIGNS, LIGHTS AND FLAGMAN AS PER THE CITY OF COUNCIL BLUFFS REQUIREMENTS AND AS DIRECTED BY THE ENGINEER. COST SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

11. PROTECT, BY WHATEVER MEANS REQUIRED, ALL MAILBOXES, FENCES, SIGNS, STRUCTURES, DRIVES, SIDEWALKS, STREETS, POLES, BUSHES, TREES, ETC. WHICH ARE NOT DESIGNATED FOR REMOVAL OR ARE OUTSIDE THE CONSTRUCTION LIMITS. THE CONTRACTOR SHALL KEEP ALL VEHICLES, EQUIPMENT, MATERIALS AND CONSTRUCTION ACTIVITIES OUTSIDE THE LIMITS OF THE CANOPIES OF ALL TREES.

12. ALL DIMENSIONS AND ELEVATIONS MARKED WITH AN ASTERISK (*) SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. NOTIFY THE ENGINEER OF ANY CONFLICTS WITH THE DRAWINGS PRIOR TO CONSTRUCTION.

13. PROVIDE POSITIVE DRAINAGE AT ALL TIMES WITHIN THE CONSTRUCTION AREAS. NO PONDING OF WATER SHALL BE ALLOWED. MAINTAIN ALL EXISTING DRAINAGE PATTERNS.

14. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY EROSION CONTROL DEVICES, AS REQUIRED, IN CONFORMANCE WITH THE CITY OF COUNCIL BLUFFS REQUIREMENTS. UPON COMPLETION, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES UNLESS DIRECTED OTHERWISE BY THE ENGINEER. AFTER SUFFICIENT GROUND COVER HAS BEEN ESTABLISHED AS DETERMINED BY THE ENGINEER, THE CONTRACTOR SHALL REMOVE THE TEMPORARY EROSION CONTROL DEVICES INCLUDING SILT FENCING TERRACES AND SEDIMENT CONTROL BASINS AND ESTABLISH GROUND COVER IN DISTURBED AREAS.

15. CONTRACTOR SHALL OBTAIN ALL PERMITS AND PAY ALL PERMIT AND OTHER ASSOCIATED FEES REQUIRED TO SUCCESSFULLY COMPLETE THE PROJECT. COST SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

16. CONTRACTOR SHALL PROVIDE AN 8' STEEL FENCE POST, DRIVEN 3' INTO THE GROUND, TO MARK THE COVER LOCATION FOR THE EXISTING SANITARY SEWER MANHOLES AND ANY OTHER VALVES AND BOXES THAT WILL REQUIRE FUTURE ELEVATION AND ADJUSTMENT.

17. THE CONTRACTOR SHALL REINFORCE ALL PIPE ENTRANCES OF CAST-IN-PLACE STRUCTURES WITH 4 EACH NO.4 REBARS 3" FROM EDGE DIAGONALLY AROUND THE PIPE.

18. EXISTING SEWERS SHALL BE KEPT IN SERVICE AT ALL TIME DURING CONSTRUCTION OF THIS PROJECT.

19. THE CONTRACTOR SHALL BACKFILL COMPLETED AND ACCEPTED PORTIONS OF CONSTRUCTED SEWER AT THE END OF EACH DAY. EXCAVATED TRENCH REMAINING OPEN SHALL NOT EXCEED 25 FEET. THE CONTRACTOR SHALL PLACE SNOW FENCE AROUND EXCAVATION AND STRUCTURES REMAINING OPEN.

20. PAVING DIMENSIONS ARE AS SHOWN ON THE PLANS. ALL DIMENSIONS ARE BACK-OF-CURB TO BACK-OF-CURB UNLESS SHOWN OTHERWISE ON DIMENSION PLAN. VERIFY PAVING DIMENSIONS WITH ARCHITECT BEFORE PAVING

21. ALL MANHOLE / INLET STATIONING SHOWN IS TO THE CENTER OF THE MANHOLE / INLET UNLESS SHOWN DIFFERENTLY ON DIMENSION PLAN.

22. DROP CURB FOR FUTURE WHEELCHAIR RAMPS AT ALL INTERSECTIONS IN ACCORDANCE WITH CITY OF COUNCIL BLUFFS STANDARD PLAN I-82R1. PROVIDE DOMES ON ALL RAMPS WITH INSERTS.

23. THE CONTRACTOR SHALL CONSTRUCT ALL PAVEMENTS TO CONFORM WITH THE CORRECT CROSS SECTIONS, LINES, AND FINISH GRADES AS INDICATED ON THE PLANS. NO PONDING OF WATER SHALL BE ALLOWED.

24. THE CONTRACTOR SHALL SUBMIT TO THE OWNER, PRIOR TO CONSTRUCTION, A CONCRETE PAVEMENT JOINTING PLAN FOR REVIEW AND APPROVAL. MAXIMUM SPACING ON A TRANSVERSE JOINT SHALL BE 14 FEET.

25. OWNER SHALL APPROVE ALL CONCRETE MIXES. PAVEMENT TESTING, CURING AND SEALING SHALL BE DONE IN ACCORDANCE WITH SUDAS STANDARD SPECIFICATIONS OR CONTRACT SPECIFICATIONS WHICHEVER IS MORE STRINGENT.

26. CURB BACKFILLING SHALL BE COMPLETED WITHIN 4 TO 7 DAYS AFTER CURB PLACEMENT.

27. WATER-REDUCING ADMIXTURE MAY BE ADDED TO ALL HAND-PLACED AND FINISHED CONCRETE SUBJECT TO THE APPROVAL OF THE ARCHITECT.

28. A DIAMOND EDGE SAW BLADE SHALL BE USED FOR CUTTING ALL REQUIRED CONTRACTION AND LONGITUDINAL PAVEMENT JOINTS AND CONCRETE REMOVAL. ALL REMOVAL SHALL BE FULL DEPTH SAW CUT.

29. ALL ANCHORING COUPLINGS TO BE 18 INCHES IN LENGTH UNLESS OTHERWISE NOTED.

30. STANDARD PLATES

IDOT STANDARD PLATES SHALL GOVERN

EROSION CONTROL NOTES

1. THE OWNER WILL OBTAIN A IOWA NPDES PERMIT IF REQUIRED. THE NPDES PERMIT WILL BE ISSUED AND WILL REMAIN IN EFFECT FOR THE ENTIRE DURATION OF THIS PROJECT. EROSION CONTROL FOR THE ENTIRE PROJECT SITE SHALL BE INSTALLED AND CONSTRUCTED IN CONJUNCTION WITH THE GRADING PLAN. THE GENERAL CONTRACTOR FOR THE PAVING AND SEWER IMPROVEMENTS ("THIS CONTRACTOR AND/OR CONTRACTOR") SHALL BE RESPONSIBLE TO MAINTAIN AND REPAIR EROSION CONTROL FOR THE ENTIRE PROJECT SITE. THE CONTRACTOR SHALL COMPLY WITH THE EROSION CONTROL PROCEDURES SET FORTH ON THESE PLANS AND IN THE SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL OF ALL EROSION AND STORM WATER RUNOFF. THE REQUIREMENTS SET FORTH IN THESE CONTRACT DOCUMENTS SHALL BE CONSIDERED A MINIMUM GUIDELINE AND CONTRACTOR SHALL PROVIDE ADDITIONAL MEASURES AS NECESSARY TO ELIMINATE DAMAGE FROM EROSION AND STORM WATER RUNOFF AT NO COST TO THE OWNER. ALL EROSION CONTROL EFFORTS SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. REMOVAL OF ACCUMULATED SEDIMENT AND REPLACEMENT OF STRUCTURAL CONTROLS AS RECOMMENDED BY THE OWNER SHALL ALSO BE CONSIDERED INCIDENTAL TO THE PROJECT.
2. THIS CONTRACTOR ASSUMES RESPONSIBILITY FOR MAINTENANCE AND REPLACEMENT OF ALL EROSION CONTROL ITEMS AS NECESSARY.

3. STORM SEWER, SANITARY SEWER AND OTHER UTILITY TRENCHES WILL COMPROMISE SILT BERMS IN AREAS WITHIN STREET RIGHT-OF-WAY. CONTRACTOR SHALL REPAIR AND RECONSTRUCT ALL COMPROMISED SILT BERMS IMMEDIATELY AFTER TRENCH HAS BEEN BACKFILLED.

4. ALL SILT FENCE THAT IS REMOVED FOR CONSTRUCTION, BEFORE SITE STABILIZATION HAS OCCURRED, SHALL BE REPLACED WITH SAME TYPE AND AMOUNT, AS DESIGNATED BY THE OWNER.

5. STABILIZED CONSTRUCTION ENTRANCES MUST BE MAINTAINED AT ALL TIMES TO ENSURE SEDIMENT IS NOT TRACKED ONTO PUBLIC STREET AREAS. CONTRACTOR MAY BE REQUIRED TO PLACE MORE ROCK TO AREA OR CLEAN SEDIMENT FROM EXISTING ROCK. IF ANY SEDIMENT IS TRACKED ON PUBLIC STREET AREAS, THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SEDIMENT IMMEDIATELY. THIS ITEM WILL BE STRICTLY ENFORCED. STABILIZED CONSTRUCTION ENTRANCES SHALL BE REMOVED ONLY WHEN NECESSARY TO ALLOW PAVING OPERATIONS TO COMMENCE, WITH THE APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 24 HOURS BEFORE WORK IS SCHEDULED TO BEGIN ON REMOVAL OF THESE ITEMS.

6. AS PAVING OPERATIONS PROCEED; ELECTRIC, GAS, TELEPHONE AND CABLE UTILITY TRENCHES WILL COMPROMISE SILT BERMS. CONTRACTOR SHALL REPAIR SILT BERMS AFTER ALL UTILITIES HAVE BEEN PLACED.

7. ALL SEDIMENT TRAPS SHALL BE CLEANED OUT AND RESTORED TO ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. SILT FENCES SHALL BE CLEANED OUT WHEN FENCE BEGINS TO "BULGE". SILT FENCE WILL REQUIRE COMPLETE REPLACEMENT WHEN TEARS OR RIPS FORM IN THE FENCE, OR WHEN FENCE HAS BECOME COMPLETELY UNDERMINED. WHEN EROSION CONTROL DEVICES ARE CLEANED OUT, SEDIMENT MUST BE EITHER REMOVED FROM THE SITE OR PLACED UPSTREAM OF THE STRUCTURE. SEDIMENT MUST NEVER BE PLACED DOWNSTREAM OF STRUCTURE.

8. CONTRACTOR SHALL PROVIDE AND/OR MAINTAIN ALL EROSION CONTROL DEVICES, AS SHOWN ON THE DRAWINGS. CONTRACTOR SHALL MAINTAIN ALL DEVICES UNTIL 75% OF VEGETATIVE COVER HAS BEEN ESTABLISHED (AS DETERMINED BY THE OWNER). AFTER SUFFICIENT GROUND COVER HAS BEEN ESTABLISHED, AS DETERMINED BY THE ENGINEER, THE CONTRACTOR SHALL REMOVE ALL EROSION CONTROL DEVICES, REMOVE SILT AND FILL ALL SEDIMENT TRAPS WITH APPROVED MATERIAL, AND ESTABLISH GROUND COVER IN THE AREAS AFFECTED BY THE EROSION CONTROL DEVICES. REMOVALS SHALL INCLUDE, BUT ARE NOT LIMITED TO, REMOVAL OF SILT FENCE, RISER PIPE AND TEMPORARY DRAINAGE PIPE, SILT BERMS, AND STABILIZED CONSTRUCTION ENTRANCES. ALL REMOVALS SHALL BE CONSIDERED PART OF EROSION CONTROL AND INCIDENTAL TO THE PROJECT.

9. PERFORM PERMANENT SEEDING AND SODDING OPERATIONS ON ALL DISTURBED AREAS. SODDING SHALL INCLUDE ALL AREAS BETWEEN THE BACK OF CURB AND THE FRONT EDGE OF SIDEWALK. IF TIME FRAME DOES NOT ALLOW PERMANENT SEEDING, ALL DISTURBED AREAS SHALL BE MULCHED IN ACCORDANCE WITH THE IDOT STANDARD SPECIFICATIONS UNTIL PERMANENT SEEDING OPERATIONS CAN BE PERFORMED. SEE LANDSCAPING PLANS FOR SEED AND SOD AREAS.

10. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND RECONSTRUCTION OF ALL EROSION CONTROL MEASURES. ANY ISSUES REGARDING EROSION CONTROL METHODS WILL BE DIRECTED TO THE CONTRACTOR. THE CONTRACTOR WILL HAVE 24 HOURS AFTER NOTIFICATION TO REMEDY ANY ITEMS THAT ARE ADDRESSED. IF THE CONTRACTOR DOES NOT RESPOND TO THE ENGINEERS REQUEST WITHIN 24 HOURS, THE ENGINEER WILL HAVE THE AUTHORITY TO UTILIZE OUTSIDE SOURCES TO MAKE SAID REPAIRS AND BACK CHARGE ANY COSTS INCURRED TO THE CONTRACTOR.

11. THE CONTRACTOR SHALL MAINTAIN FIRE ACCESS TO THE BUILDINGS AT ALL TIMES. THE FIRE ACCESS SHALL BE CLEARLY VISIBLE AND MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL NOTIFY THE CITY OF COUNCIL BLUFFS FIRE DEPARTMENT OF THE INITIAL FIRE ACCESS LOCATION AND ANY SUBSEQUENT LOCATIONS.

12. NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL EROSION CONTROL MEASURE HAVE BEEN INSTALLED.

13. ALL EXPOSED AREAS SHALL BE SEEDED AS SPECIFIED WITHIN 30 DAYS OF FINAL GRADING.

14. MAINTAIN EROSION CONTROL MEASURE AFTER EACH RAIN AND AT LEAST ONCE A WEEK.

15. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE AS THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT FROM LEAVING THE SITE.

16. CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.

17. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES.

18. IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC. PROVIDE SILT FENCE AT ALL INLET STRUCTURES UNTIL PAVEMENT PLACEMENT BEGINS.

19. CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.

20. THE CONTRACTOR SHALL COMPLY WITH THE CITY OF COUNCIL BLUFFS DRAINAGE CRITERIA AND EROSION CONTROL MANUAL AND EROSION CONTROL PROCEDURES SET FORTH ON THESE PLANS. ALL EROSION CONTROL EFFORTS SHALL BE CONSIDERED SUBSIDIARY TO THE ITEMS FOR WHICH PAYMENT IS BEING MADE. THIS INCLUDES REMOVAL OF ACCUMULATED SEDIMENT FROM SEDIMENT BASINS AND SILT FENCES.

21. TEMPORARY SEEDING PER CITY OF COUNCIL BLUFFS SEDIMENT CONTROL TABLE MUST BE PERFORMED WHEN GRADED OR CLEARED AREAS ARE SUBJECT TO EROSION FOR A PERIOD OF 14 DAYS OR MORE. MULCH MUST BE USED FOR SEEDING BETWEEN OCT. 15 – MARCH 15. TEMPORARY SEEDING IS TO BE PROVIDED BY THE CONTRACTOR.

22. EROSION CONTROL DEVICES MAY NOT BE REMOVED UNTIL 75% OF THE DRAINAGE AREA HAS BEEN FULLY DEVELOPED. FULL DEVELOPMENT SHALL MEAN INSTALLATION OF PAVEMENTS, BUILDINGS, STORM SEWERS, LANDSCAPING AND SEEDING.

23. NPDES PERMIT. THIS PROJECT MAY BE SUBJECT TO THE REQUIREMENTS AND RESTRICTIONS IMPOSED BY NPDES (NATURAL POLLUTANT DISCHARGE ELIMINATION SYSTEM ACT) AND REQUIRED PERMIT WILL BE OBTAINED BY THE OWNER. THE CONTRACTOR SHALL BE PROVIDED A COPY OF THE PERMIT. THE SEDIMENT AND EROSION CONTROL PLAN HAS BEEN PREPARED FOR THIS PROJECT IN ACCORDANCE WITH THIS PERMIT AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE DEVELOPMENT'S CONSTRUCTION. THE CONTRACTOR IS REQUIRED AT ALL TIMES TO EXECUTE HIS OPERATIONS TO CONFORM TO SAID PERMIT.

24. ALL FINES OR THE COST OF SANCTIONS IMPOSED BY THE NPDES, EPA, STATE OF IOWA, AND THE CITY OF COUNCIL BLUFFS FOR FAILURE TO COMPLY WITH THE REFERENCED PERMITS WILL BE PAID BY THE CONTRACTOR IF THE FINES OR SANCTIONS ARE A RESULT OF THE CONTRACTOR'S OPERATIONS.

25. THE CONTRACTOR MUST COMPLY WITH ALL NOISE ORDINANCES OF THE CITY OF COUNCIL BLUFFS.

STAKING NOTES

1. ALL DIMENSIONS ARE TO FACE OF BUILDING, OR CENTERLINE OF ROAD. CONTACT ARCHITECT TO VERIFY ALL DIMENSIONS BEFORE LAYOUT OF SITE BEGINS.
2. ALL CURB RADII ARE 5.0' UNLESS OTHERWISE SHOWN.
3. DIMENSIONS AND COORDINATES SHOWN TO PROPOSED BUILDING ARE TO FACE OF WALLS, CONTRACTOR SHALL VERIFY DIMENSIONS WITH OWNER AND ARCHITECT BEFORE BEGINNING CONSTRUCTION. CONTACT ARCHITECT FOR DIMENSIONS TO SPECIFIC WALL TYPE.

PAVING NOTES

1. SEE GRADING PLAN FOR COMPACTION REQUIREMENTS.

2. UTILITIES SHOWN ARE KNOWN TO EXIST. PROTECT ALL UTILITIES FROM DAMAGE AND REPAIR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES, STRUCTURES, PAVEMENTS, SHRUBS, ETC. NOT SHOWN FOR REMOVAL AND SHALL REPAIR SAME AT HIS/HER OWN EXPENSE.

3. SEE SPECIFICATIONS FOR COMPACTION AND FILL REQUIREMENTS UNDER PAVING AND WALK AREAS. CONTRACTOR SHALL PROVIDE ALL FILL AND COMPACTION REQUIRED TO MEET SPOT ELEVATIONS SHOWN.

4. SEE ARCHITECTURAL SPECIFICATIONS AND DRAWINGS FOR LANDSCAPING REQUIREMENTS.

5. REFER TO SPECIFICATIONS FOR SUBGRADE AND PAVEMENT REQUIREMENTS.

6. ALL CONCRETE FOR P.C.C. PAVEMENT SHALL BE TYPE "L65AE" AS DEFINED IN CITY OF OMAHA STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION OR IOWA SUDAS SPECIFICATIONS (SECTION 7010) WITH A 28 DAY COMPRESSIVE STRENGTH OF NOT LESS THAN 4000 PSI. NO FLY ASH WILL BE ALLOWED.

7. DIMENSIONS AND COORDINATES SHOWN TO PROPOSED BUILDING ARE TO FACE OF WALLS, CONTRACTOR SHALL VERIFY DIMENSIONS WITH OWNER AND ARCHITECT BEFORE BEGINNING CONSTRUCTION.

8. NOT USED

9. CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SILT LADEN RUNOFF FROM ENTERING STORM SEWER. EROSION CONTROL SHALL BE MAINTAINED THROUGHT CONSTRUCTION AND SUBJECT TO APPROVAL OF THE OWNER.

10. ALL CONCRETE SIDEWALK SHALL RECEIVE CONSTRUCTION JOINTS AT 25'-0" O.C. UNLESS OTHERWISE NOTED. ALL H.C. RAMPS SHALL HAVE DETECTABLE WARNING TEXTURES INCORPORATED INTO THEM.

11. ADJUST ALL EXISTING AND NEW MANHOLES TO GRADE BEFORE PAVING.

12. WATER REDUCING ADMIXTURES SHALL NOT BE USED UNLESS SPECIFICALLY APPROVED BY THE OWNER. ALL JOINTING REQUIRED FOR PAVEMENT SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER. SUBMIT PLAN TO OWNER FOR APPROVAL.

13. CONCRETE PAVEMENT SHALL BE CURED USING A WHITE PIGMENTED LIQUID MEMBRANE FORMING CURING COMPOUND THAT HAS BEEN APPROVED BY THE IOWA DEPT. OF ROADS. MINIMUM RATE OF APPLICATION SHALL BE 200 SQ. FEET PER GALLON IF A MECHANICAL-POWER SPRAYER IS USED.

14. ALL 6" HIGH CURBS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF OMAHA STANDARD PLATE AND AS NOTED ON PLANS.

15. REMOVE SILT FENCES AROUND INLETS BEFORE PAVING BUT REMOVAL SHALL NOT OCCUR AT A POINT GREATER THAN 24 HOURS BEFORE PAVING.

16. AS PART OF THIS CONTRACT, ALL STORM SEWER, TELEPHONE AND SANITARY MANHOLES SHALL BE ADJUSTED TO GRADE BY THE CONTRACTOR. DIRECT DRAINAGE INTO DRAINAGE STRUCTURES.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL BARRICADES, FLAGMEN, AND TRAFFIC CONTROL DURING CONSTRUCTION OPERATIONS.

18. VERIFY ELEVATION AT ALL OUTSIDE DOOR LOCATIONS WITH ARCHITECT TO PREVENT FROST HEAVE DAMAGE.

19. NOT USED

20. ALL SIDEWALK AND 6" THICK WHEELCHAIR RAMPS SHALL BE CONSTRUCTED USING CITY OF OMAHA L6AE OR SG65 CONCRETE MIX.

21. ALL FILL LESS THAN 1 FOOT BELOW BOTTOM OF PAVEMENT SHALL BE COMPACTED LOW PLASTICITY COHESIVE SOIL. SEE SPECIFICATIONS FOR COMPACTION REQUIREMENTS.

22. PROVIDE 2% SLOPE FROM FACE OF BUILDING TO A DISTANCE NOT LESS THAN 10' FROM BUILDING.

WATER NOTES

1. ALL WATER MAIN INSTALLATIONS SHALL CONFORM TO THE "TEN STATE STANDARDS" AND RECOMMENDED STANDARDS FOR WATERWORKS, 1987 EDITION.

2. WATER MAINS INSTALLED SHALL BE CLASS 52, D.I.P. VALVES SHALL BE RATED TO NOT LESS THAN WORKING PRESSURE OF 200 P.S.I. AND MEET AWWA AND COUNCIL BLUFFS WATER DEPARTMENT STANDARDS. INSTALL ALL MAINS IN ACCORDANCE WITH COUNCIL BLUFFS WATER DEPARTMENT STANDARD SPECIFICATIONS AND DRAWINGS.

3. ALL WATER MAINS SHALL TESTED FOR LEAKAGE AND DISINFECTED BEFORE BEING PLACED IN SERVICE. ALL COSTS FOR TESTING AND DISINFECTION OF WATER MAINS SHALL BE INCLUDED IN THE CONTRACTOR PROPOSAL AND AT NO ADDITIONAL COST TO THE OWNER. INSTALL ALL MAINS IN ACCORDANCE WITH COUNCIL BLUFFS WATER DEPARTMENT STANDARD SPECIFICATIONS.

4. FITTINGS 4" AND LARGER SHALL BE CAST IRON (PUSH ON TYPE OR MECHANICAL JOINT) CONFORMING TO ANSI AND AWWA STANDARD SPECIFICATIONS.

5. PIPE AND FITTINGS 3" AND SMALLER TO BE EITHER P.V.C. SHC. 40 WITH SOLVENT WELD JOINTS OR SOFT K-COPPER.

6. ALL WATER MAINS SHALL HAVE A MINIMUM COVER OF 6'-0" ABOVE TOP OF PIPE. PROVIDE 24" OF SEPARATION AT ALL CROSSINGS FOR SEWERS.

7. THE MINIMUM HORIZONTAL SEPARATION BETWEEN THE CLOSEST TWO POINTS OF THE WATER AND SEWER LINE IS TEN (10) FEET. THE MINIMUM VERTICAL SEPARATION BETWEEN THE CLOSEST TWO POINTS OF THE WATER AND SEWER LINE IS EIGHTEEN (18) INCHES.

8. THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, AND FIRE HYDRANTS.

9. ALL FIRE HYDRANTS SHALL BE PROVIDED WITH AN APPROVED GATE VALVE A MAXIMUM OF 5'-0" FROM HYDRANT.

10. ALL GATE VALVES SHALL BE PROVIDED WITH A ROADWAY SCREW TYPE CAST IRON VALVE BOX. BOXES FOR VALVES 3" AND SMALLER SHALL HAVE ARCH BASE.

11. VALVES 3/4" THROUGH 3" SHALL BE BRONZE WEDGE TYPE GATE VALVE. VALVES SHALL HAVE NON-RINSING STEM WITH SOLID TEE HEAD OPERATING NUT.

12. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.

13. SEE SITE SPECIFICATIONS FOR BACKFILLING AND COMPACTION REQUIREMENTS.

14. UTILITY CONTRACTOR SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THIS SYSTEM PRIOR TO INSTALLATION.

15. ALL WATER MAIN TAPS SHALL BE PERFORMED BY MUD AT CONTRACTORS EXPENSE.

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PAVED STREETS AND EXISTING UTILITIES CAUSED BY CONSTRUCTION AND SHALL BE REPAIR SAME AT HIS OWN EXPENSE.

17. WRAP METAL WATER MAINS IN POLYWRAP. ALL WATER AND FIRE SERVICES ARE NOT ALLOWED TO BE PLASTIC MATERIALS

GENERAL UTILITY NOTES

1. PROVIDE DOMESTIC AND FIRE MAIN SERVICES INTO BUILDING. SEE MECH. DRAWINGS FOR CONNECTION LOCATIONS. PROVIDE ALL ELBOWS, CONCRETE, TEES, REDUCERS, AND MATERIALS TO PROVIDE A FUNCTIONAL WATER AND FIRE SERVICES INTO BUILDING WHETHER SHOWN ON PLANS OR NOT.

2. SEE MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF ROOF DRAINS AND SERVICES INTO BUILDING. COORDINATE GAS SERVICE WITH MUD AND PROVIDE MATERIALS AND LABOR AS REQUIRED TO INSTALL GAS MAIN AT NO ADDITIONAL COST TO OWNER.

3. PROVIDE WYES, FITTINGS, CLEANOUTS AND LABOR TO CONNECT ROOF DRAINS TO STORM SEWER SYSTEM.

4. UTILITIES SHOWN ARE BASED ON INFORMATION SUPPLIED BY EGA ENGINEERING. CONTRACTOR SHALL ADJUST PIPE LOCATIONS, DEPTHS, AND FLOWS TO MATCH EXISTING UTILITIES ON AND OFF SITE.

5. COORDINATE TELEPHONE CONDUITS INSTALLATION. INSTALL TELEPHONE AND POWER CONDUITS AS REQUIRED BY LOCAL UTILITY COMPANIES.

STORM AND SANITARY NOTES

1. ALL SEWER SHALL BE INSTALLED IN ACCORDANCE WITH LATEST EDITION OF IOWA S.U.D.A.S. AND CITY OF COUNCIL BLUFFS SUPPLEMENTAL SPECIFICATIONS FOR IOWA S.U.D.A.S.

BLAKEMAN ENGINEERING

LARSEN SUPPLY / COMPANY OFFICE / WAREHOUSE BUILDING
2301 VETERANS MEMORIAL HIGHWAY
COUNCIL BLUFFS, IOWA

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REVISIONS:

DRAWN BY:	JSP
CHECKED BY:	BKB
ISSUED:	PERMITS
DATE:	4-9-2021
SHEET NO:	C6.1

SECTION 311000 - SITE CLEARING & DEMOLITION

PART 1 - GENERAL

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section. Perform all site clearing in accordance with the Iowa Department of Roads Standard Specifications and IOWA SUDAS Standard Specifications, latest editions.

1.1 SUMMARY

A. Section Includes:
1. Protecting existing vegetation to remain.
2. Removing existing vegetation, pavement, sidewalks, signs, and misc.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Remove roots and stumps encountered or left behind from tree removals by others.
6. Removing above- and below-grade site improvements.
7. Disconnecting, capping or sealing, and removing site utilities, abandoning site utilities in place.
8. Temporary erosion- and sedimentation-control measures.

1.2 DEFINITIONS

A. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

B. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.

C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil and is the zone where plant roots grow.

D. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction, and indicated on Drawings.

E. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and defined by a circle concentric with each tree with a radius 1.5 times the diameter of the drip line unless otherwise indicated or determined to be larger by excavation of site survey.

F. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.3 MATERIAL OWNERSHIP

A. Cleared materials shall become Contractor's property and shall be removed from Project site. This includes stripped topsoil, unsuitable soils materials, trees, sidewalks, stumps, landscaping materials, curbs, and pavement.

1.4 QUALITY ASSURANCE

A. Preinstallation Conference: Conduct conference at Project site after award but before grading.

1.5 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction. Provide fire access at all times to site and building.

B. Improvements on Adjoining Property: Authority for performing site clearing indicated on property adjoining Owner's property will be obtained by Owner before award of Contract. Do not proceed with work on adjoining property until directed by Architect.

C. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where directed.

D. Utility Locator Service: Notify utility locator service and Call Before You Dig where Project is located before site clearing.

E. Do not commence site clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.

F. The following practices are prohibited within protection zones: Storage of construction materials, debris, or excavated material. Parking vehicles or equipment. Foot traffic. Erection of sheds or structures. Impoundment of water. Excavation or other digging unless otherwise indicated. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

G. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.

H. Soil Stripping, Handling, and Stockpiling: Perform only when the topsoil is dry or slightly moist.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section "Earth Moving."
1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site. Provide additional soil materials as required to achieve proposed grades and fill in depressions caused by demolition operations.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

B. Locate and clearly identify trees, shrubs, and other vegetation to remain or to be relocated. Flag each tree trunk to remain at 54 inches above the ground.

C. Protect existing site improvements to remain from damage during construction. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 TREE AND PLANT PROTECTION

A. General: Protect trees and plants remaining on-site according to requirements in Division 01 Section "Temporary Tree and Plant Protection" and the NDOR Standard Specifications. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Architect.

3.4 EXISTING UTILITIES

A. Contractor shall arrange for disconnecting and sealing indicated utilities that serve existing structures before site clearing, when requested by Owner. Verify that utilities have been disconnected and capped before proceeding with site clearing.

B. Locate, identify, disconnect, and seal or cap utilities indicated to be removed. Arrange with utility companies to shut off and relocate indicated utilities. Owner will arrange to shut off indicated utilities when requested by Contractor.

C. Locate, identify, and disconnect utilities indicated to be abandoned in place.

D. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
1. Notify Architect not less than 2 days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Architect's written permission.

E. Excavate for and remove underground utilities indicated to be removed.

F. Provide Fire Truck access and ingress and egress out of building for fire situations at all times.

3.5 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, buildings, footings, stumps, root balls, and other vegetation to permit installation of new construction. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated. Trees shown on the Contract Drawings to be removed shall be removed by the Contractor. Any tree stumps or root balls that remain on-site after the tree removal operations are completed shall be removed by the Contractor. Any tress encountered on site not shown for removal and necessary for construction of improvements shall be removed by the Contractor.
1. Grind down stumps and remove roots, obstructions, and debris to a depth of 48 inches below exposed subgrade, below bottom of footings, and below bottom of pavement structures, whichever is greater in depth. Use only hand methods for grubbing within protection zones. Chip removed tree branches and stumps and dispose of off-site.

B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated. Place fill material in horizontal layers not exceeding a loose depth of 8 inches and compact each layer to a density equal to adjacent original ground.

3.6 TOPSOIL STRIPPING

A. Remove sod and grass before stripping topsoil. Strip topsoil to depth of 6 inches or just below the topsoil strata, whichever is greater, in a manner to prevent intermingling with underlying subsoil or other waste materials.
1. Remove subsoil and nonsoil materials from topsoil, including clay lumps, gravel, and other objects more than 2 inches in diameter; trash, debris, weeds, roots, and other waste materials.

B. Stockpile topsoil away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.
1. Limit height of topsoil stockpiles to 72 inches. Do not stockpile topsoil within protection zones.
2. Dispose of surplus topsoil. Surplus topsoil is that which exceeds quantity indicated to be stockpiled or reused. Do not use topsoil as structural fill material. Redistribute stockpiled topsoil in landscaped areas to a depth not less than 5 inches.

3.7 SITE IMPROVEMENTS

A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.

B. Remove slabs, pavements, buildings, gravel surfacing, bricks and debris below pavements and sidewalks, footings, paving, curbs, gutters, trees, bushes, slabs and footings, posts, sidewalks, fencing and fence post footings, signs, concrete steps and footings, handrails, underground piping, and bollards as indicated.
1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically and at full depth. Paint cut ends of steel reinforcement in concrete to remain with two coats of antirust coating, following coating manufacturer's written instructions. Keep paint off surfaces that will remain exposed.

3.8 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities. Do not interfere with other Project work.

3.9 PAVEMENT DEMOLITION

A. The Contractor shall remove the existing pavements as indicated on the Contract Drawings including all debris below pavements. The Contractor shall not damage adjacent pavement to remain during removal and shall repair any damage that he may cause to pavements during removal. The Contractor shall provide all additional fill materials to meet the proposed grades shown at no additional costs to Owner. The existing pavement thicknesses are unknown and it will be up to the Contractor to verify the thicknesses before bidding on the project to assure himself of the full scope of the work. Verify all removal limits with the Owner and Architect before beginning new construction.

3.10 DEMOLITION WORK ADJACENT TO EXISTING BUILDINGS (if required)

A. The Contractor shall strictly follow the procedures set forth below and as directed by the Engineer to prevent overexcavation depths and grading to impact existing building footings and cause collapse or failure of existing building. The Contractor shall provide all temporary concrete, pipe, trenching, and labor as necessary to maintain existing storm sewers flows off the existing building and between buildings and direct them off-site during construction. Maintain temporary drainage structures until permanent storm sewers are in operation or until the new pipe is installed and approved by the Architect. The Geotechnical Engineer and Structural Engineer shall then verify that all excavation and overexcavation work for the new buildings have been performed in a satisfactory manner. The Contractor shall place all backfill as structural fill as detailed in the Earth Moving Section of these specifications. Any existing backfill found not to be compacted sufficiently the Contractor shall remove this material and replace it with structural fill at no additional cost to the Owner.

END OF SECTION 311000

SPECIFICATIONS SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including SUDAS Standard Specifications and Standard Plates apply to this Section.

B. This section covers all site stripping and cutting, filling, overexcavation and recompaction, compacting, proofrolling, excavating, backfilling, rough grading, and appurtenant staking, testing, and observations.

C. The Contractor shall provide fill, place fill, excavate, overexcavate, compact and perform all earthwork in accordance with the Geotechnical Report dated November 19, 2020 prepared for this project by TD2. The Geotechnical Report is hereby incorporated into this Contract and the Contractor is responsible for obtaining a copy of the report from the Owner before submitting a proposal on this project and he shall keep report at site at all times for reference. The Geotechnical report and geotechnical engineer's recommendations shall override all these specifications requirements.

1.2 SUMMARY

A. Section Includes:
1. Preparing subgrades for slabs-on-grade, walks, pavements, turf and grasses and plants. Excavating and backfilling for buildings and structures. Placing surcharge. Drainage course for concrete slabs-on-grade. Subbase course for concrete walks and pavements. Subsurface drainage backfill for walls and trenches. Excavating and backfilling trenches for utilities and pits for buried utility structures.

1.3 DEFINITIONS

A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Bedding Material: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

C. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

D. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.

E. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
1. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.

F. Fill: Soil materials used to raise existing grades.

G. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of the following products required:
1. Geotextiles and off-site fill material.

1.5 INFORMATIONAL SECTION

A. Material Test Reports: For each on-site and borrow soil material proposed for fill and backfill as follows:
1. Classification according to ASTM D 2487.
2. Laboratory compaction curve according to ASTM D 1557.

B. **Existing Conditions. At the request of the Owner, subsurface soil investigations have been made at the project site, and the Contractor shall employ TD2 or approved equal company and a registered Geotechnical Engineer, to perform all compaction testing and material testing to insure that proper compaction is achieved, that satisfactory materials are installed on the project, insure surcharge is place correctly and to correct height and width, and bearing pressures for footings and pavements are meet to provide acceptable settlement and building/pavement stability. If the Geotechnical Engineer requires additional compaction work as a result of on-site conditions the Geotechnical Engineer's recommendations will override these specifications. All footing excavations and pavement subgrades shall be inspected and tested for compaction by the Geotechnical Engineer before placing footings and pavements.**

C. **Known underground, surface and aerial utility lines, elevation contours, and buried objects are indicated on the drawings. The Contractor shall verify all utilities and elevations in the field before submitting a proposal for the work. Any discrepancies shall be reported to the Owner before beginning construction. The Contractor shall adjust elevations of all improvements as required to provide positive flow in all drainage structures at no additional cost to the Owner.**

D. **As part of the BASE BID for the contract the Contractor shall remove any structures on the site as shown on demolition plan and as directed by the Owner. The Contractor shall remove all structures from site including basements, footings, and pavements and provide suitable off-site materials to fill in depressions caused by demo operations. No soil materials in the upper 6 inches of existing grade shall be used as fill material or have fill placed on them. The contractor shall remove the top 0.5 feet of soil across the entire site where any building or pavement will be placed and dispose of this material in a location satisfactory to the Owner. Soil below the 6-inch topsoil layer should be satisfactory for reuse as structural fill below pavements and building but will require moisture content adjustment and compaction efforts by the Contractor. As part of BASE BID the Contractor shall provide all overexcavation, surcharge material, moisture content adjustment, recompaction, and compaction operations to achieve structural fill, as required by specifications, below pavements, buildings, and structural elements at no additional cost to Owner. The BASE BID shall also include all costs for soil materials required to be hauled in from off-site sources and the compaction and moisture content adjustment for these materials to achieve the grades shown on the Contract Drawings. The Contractor shall include a suitable shrinkage allowance in his BASE BID for these hauled in materials and recompacted materials onsite. No additional payment will be made for hauled in materials based on these requirements. All overexcavation and recompaction of materials below pavement and building shall be included in the BASE BID.**

E. **ACAD Drawings for layout purposes: If the Contractor requires any Civil Engineer ACAD drawings from the set of drawings (Drawings preceded by a "C" or "SW" in the Contract Drawing set) for layout use, dimensioning, grading, elevations, or any other purposes he will be charged $150.00 per sheet for each requested drawing and he must sign a limits of liability waiver before the drawing(s) are issued to him. The Contractor shall contact the Civil Engineer directly not less than 3 days before they are required to obtain the drawings. Only the dimensions, elevations, and layout shown on the Contract Drawings will be provided to the Contractor for this project at no additional cost. No RFI's or project informational requests for dimensions, elevations, or layout requests from Contractor will be responded to by Owner or Engineer. If the Contractor feels that the project needs additional dimensions, layout guidelines, or elevations for grading to construct the project he shall include suitable costs in his proposal to obtain the information from the Engineer or other sources.**

1.6 QUALITY ASSURANCE

A. Geotechnical Testing Agency shall be approved by the Owner and engaged and paid for by the Contractor or Owner as agreed to in the Contract. The testing agency shall be TD2 located in Omaha, Nebraska or other lab approved by Owner. The testing agency shall conduct all compaction testing and soils testing required on the project. For the purposes of clarity, the Geotechnical Engineer will be also be referred to as Soils Engineer for this specification section. The Soils Engineer will conduct all compaction testing and soils testing required on the project

B. The compacted dry density and moisture content will be determined in accordance with ASTM standard test methods. These tests shall be conducted by an independent testing laboratory approved by the Owner. This testing laboratory shall hereafter be referred to as the Geotechnical Engineer or Soils Engineer. Payments will be made directly to the Geotechnical Engineer by the Contractor for all testing.

Soil Density Tests. Inspection and frequent testing by an independent testing laboratory shall be provided during compaction of fill and preparation of subgrade to measure proper moisture content and degree of compaction. The following minimum number of compaction and moisture tests, in accordance with appropriate ASTM procedures, will be made.

DESIGNATED AREA	NUMBER OF TESTS
Controlled Fill In All Areas of the Building Site and Upper Twelve Inches of Subgrade to Receive Fill.	One per 2,500 S.F. per lift
Utility Trench Backfill	One per 100 L.F. per lift
Controlled fill below proposed Slabs on Grade, Drives, Roads, and Walks	One per 2,500 S.F. per lift
Compacted gravel or rock in floor slab areas	One per 2,000 S.F.
Foundation Wall Backfill	Make at least one test for each 150 cubic yards or fraction thereof but not less than one test for each compacted layer.

TEST FAILURE. When fill or backfill does not meet the required compaction, remove, recompact and retest at no expense to the Owner.

All earthwork shall be tested and inspected by the Geotechnical Engineer. In general, the services of the Geotechnical Engineer shall include whatever may be necessary to determine that all earthwork meets the requirements of the Contract Documents, and to provide written reports covering tests made, inspection work completed, and conclusions concerning the acceptability of the work.

Testing and inspection services provided by the Geotechnical Engineer shall include but is not necessarily limited to:

1. Evaluation and approval of all fill materials including any proposed off-site materials and blends of materials. Approval of borrow site for importation of fill materials.
2. Determine that all undesirable materials are removed.
3. Measure and approve density of compacted subgrades and fill, including backfill.
4. Inspect exposed subgrade at areas to support slabs on grade, footings, pavements or to receive fill. Conduct compaction tests as necessary.
5. Provide moisture density relationships for all fill materials. Provide evaluation and approval of completed work. Provide recommendations for corrections of unacceptable work.
6. Providing copies of all evaluations and approvals of materials, methods, and completed work together with recommendations and daily inspection reports to the Architect for the Architect's file.
7. Verify all overexcavation limits and depths, stripping depths, and suitability of fill replacement. Verify compaction efforts are met for exposed overexcavated surfaces. Verify surcharge height, depth, limits, compaction efforts withing surcharge, and measure and approve settlement has been achieved for building construction. Install settlement plates and provide settlement information increments to owner with licensed survey company on weekly basis.
8. Verify pavement and building overexcavation and compaction efforts are met and exposed subgrade and crushed rock subgrade is satisfactory compacted for placement of new fill. Observe proofrolling operations. Verify all trench and footing compaction values are met. Verify suitably of all materials placed below building and improvements shown will support said structures and meet requirements to for acceptable settlement before structures are constructed on materials.
9. Verify proper dewatering is in place for testing and compaction operations to occur.
10. Inspect and verify stability and nature of crushed rock below floor slabs and pavements.
11. Provide daily measurements and volume calculations of any unsuitable materials removed and replaced as part of work to Owner. Provide guidance and approve all shoring and bracing plans submitted by Contractor to prevent building collapse or failure due to construction or grading. Inspect and test pavement and building floor subgrade to ensure subgrade meets requirements of specifications and provide recommendations for corrections if required.

Samples of proposed backfill and fill to be placed beneath buildings, future buildings, footings, pavements, slabs, and sidewalks shall be submitted by the Contractor to the Geotechnical Engineer at least three days prior to the placement of fill for evaluation of their suitability and determination of their optimum moisture contents and maximum dry densities.

The Contractor shall notify the Geotechnical Engineer before any earthwork is started and shall provide sufficient notice so that the Geotechnical Engineer will be present all times when earthwork is underway. All retests shall be paid for by the Contractor at no additional expense to the Owner.

1.7 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth moving operations.
1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.

B. Utility Locator Service: Notify utility locator service and "Call Before You Dig for area where Project is located before beginning earth moving operations.

C. Do not commence earth moving operations until temporary erosion- and sedimentation-control measures are in place.

D. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones. Protect trees, buildings, shrubs, lawns, and other features remaining as part of final landscaping. Protect bench marks and existing structures, fences, roads and sidewalks against damage from equipment and vehicular traffic. Protect aerial, surface, or underground utility lines or appurtenances which are to remain or until relocated. Protect excavations by shoring, bracing, sheet piling, or other methods, as required to prevent cave-ins or loose dirt from falling into excavations. Notify Owner of unexpected subsurface conditions and/or buried foundations, debris, etc. Protect bottom of excavations and soils around and beneath foundations from frost and groundwater. Provide well points and dewatering equipment as required to maintain dry excavation for footings and basement construction. Grade around excavation to prevent surface water runoff into excavated area. Repair damage. Shore existing structures to remain to protect from damage. Hand excavate around existing structures to remain where required. Repair damage to existing structures to remain damaged during grading and trenching operations.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: Clean inorganic lean clay or clayey silt; free of rock or gravel larger than 1.5 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter approved by the Geotechnical Engineer. Only CL, ML, SM, and SC classified materials as defined in Geotechnical Engineering Soils Report and approved by Geotechnical Engineer.

C. Unsatisfactory Soils: Any material not falling within the category of "Satisfactory Soils" above or deemed unsuitable by the Geotechnical Engineer.

D. Engineered Fill: Compacted "Satisfactory Soils" as described above.

E. Bedding Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand. Must meet City of Omaha requirements for bedding materials.

F. All fill and trench backfill materials shall be suitable soil, free of refuse, stones or clods larger than 1.5 inches maximum dimension, vegetation and other perishable matter, and shall be subject to approval by the Geotechnical Engineer. The on-site excavated soils may contain material suitable for reuse as structural fill. The Contractor shall also include costs in his proposal to bring suitable materials, as approved by the Geotechnical Engineer, from off-site sources to meet the grades required on the Contract Drawings. Hauled in suitable materials shall be placed as structural fill and used to fill overexcavated areas and areas requiring fill to meet the proposed grades shown on the Contract Drawings. Protect all existing structures on the site during grading operations. All on-site soils excavated and deemed unsatisfactory for use by the Geotechnical Engineer shall be hauled off the site and disposed lawfully by the Contractor at no additional cost to the Owner. The Contractor shall include allowances for shrinkage of the material in a compacted state on the site. Fill materials may be obtained from off-site sources. All materials used as fill may require drying and/or wetting to achieve suitable compaction results. Off-site material may be used for structural fill provided it meets moisture requirements. Suitable cohesive material shall have a low plasticity (liquid limit less than 43 percent and Plasticity Index less than 23) and shall be free of organic material, debris, and rubble and have a plasticity index between 10 and 23 percent. All fat clay and frozen material shall not be included in the soil used for fill. No footings, pavements, or slabs shall rest on fat clay materials. The Geotechnical Engineer shall approve all materials.

G. This project will require soil materials from off-site sources. Off-site fill material used shall be subject to the approval of the Geotechnical Engineer and be free of refuse, stones or clods larger than 1.5 inches maximum dimension, vegetation and consist of clean inorganic lean clay or clayey silt with a liquid limit less than 43 and a plasticity index less than 23 percent. Imported material shall be tested for suitability by the Geotechnical Engineer. All borrow pits and borrow pit materials shall be subject to the approval of the Geotechnical Engineer. The Contractor shall notify the Geotechnical Engineer at least 3 days prior to hauling of borrow site material to the site for suitability testing of borrow site materials.

H. Topsoil shall be friable loam free from subsoil, roots, grass, excessive amount of weeds, stones and foreign matter. The Contractor shall supply topsoil from off-site sources as required to provide at least 6 inches of topsoil material in all planting areas should stripping operations not provide suitable quantities to achieve this depth.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.

B. Protect and maintain erosion and sedimentation controls during earth moving operations.

C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

D. The Contractor shall stake out the project work and shall erect and maintain reference points, and shall establish two exterior bench marks prior to construction operations. The Contractor will be supplied with architectural plans detailing the foundation dimensions upon which these plans were based at the time of construction for use in staking the work.

E. Carefully preserve bench marks and reference points; in case of their destruction, replace them and be responsible for any mistake that may be caused by their loss or disturbance.

F. The Contractor shall employ a certified, licensed surveyor subject to the approval of the Owner to provide initial layout and verify any overexcavation elevation levels.

3.2 UTILITY LINES

A. Utility lines installed under this Contract or by other Contractors shall be protected during excavating and backfilling operations; if damaged, they shall be repaired at the Contractor's expense. When encountered in the work or as indicated, protect existing active sewer, water, gas, electric, or other utility services. Where required for the proper execution of the work, relocate them as directed. Cap all existing utilities to buildings on site in accordance with appropriate governing utility company.

Any existing active utility lines, the location of which are not known to the Contractor in sufficient time to avoid damage, if inadvertently damaged, shall be repaired by the Contractor and extra payment may be allowed. The Contractor shall advise the Owner of the location of unknown active utility lines. The Owner may issue instructions regarding relocation of such lines. Remove abandoned utility service lines, whether shown on the plans or not, from areas of excavation. Cap, plug, or seal lines and identify at grade. The locations of the utilities shown on the plans are based on Improvement Plans provided by related utility companies and engineering firms. The Contractor shall immediately notify the Owner of any discrepancies encountered in construction.

3.3 STRIPPING

A. At the beginning of operations, strip the entire portion of the site upon which new structures of any kind are to be placed and in areas to be cut or filled. Stripping shall be to a depth of 6 inches or to just below topsoil strata, whichever is greater and shall extend outward a minimum of 10 feet from the limits of any proposed building structure and 2 feet beyond any pavement or retaining wall structures. Edge of pavement limits shall be used where pavement is sawcut. Do not use this material as fill materials.

B. Do not strip topsoil when wet nor let topsoil become mixed with subsoil. Topsoil shall be deposited in storage piles in designated locations, separate from other excavated material, free from roots, stones, and other deleterious material. Do not drive heavy equipment over stockpiled topsoil.

C. Store topsoil in a location designated by the Owner's representative. Redistribute topsoil at end of project in all areas except for drives, roadways, parking lots and building areas. Provide additional topsoil from off-site sources as required to achieve 6 inches of topsoil in landscaped areas and erosion mat areas. Dispose of excess topsoil.

3.4 OVEREXCAVATION

A. Overexcavation is required and the Contractor shall follow the following requirements. The Contractor shall have the overexcavation limits verified as required in this Section. After overexcavation verification, place fill in accordance with Paragraph 3.5 – FILL PLACEMENT below with soil materials listed in paragraphs above. Overexcavated surfaces shall be proofrolled with, at a minimum, a fully loaded, tandem-axle dump truck with a minimum gross weight of 25 tons or similar piece of heavy rubber tired vehicle. Unsuitable areas observed to rut or deflect excessively (greater than 1-inch) at this time shall be improved by compaction or by undercutting and placing suitable fill in these areas. Do not proofroll very wet soils as directed by Soils Engineer as noted in Soils report. Following proofrolling, the exposed soils shall be scarified to a depth of nine (9) inches and shall be compacted to not less than 90% of the maximum dry density as determined by ASTM D1557 (Modified Proctor) while at between 0% and +5% of the optimum moisture content. Transition slopes between differing excavation levels and surrounding ground shall not be steeper than two horizontal to one vertical unless directed otherwise by the Owner. Overexcavation shall extend laterally 12 inches in all directions for each foot of overexcavated depth. The Contractor is responsible for the stability of excavation cut slopes. Any materials excavated that are deemed useable for structural fill material by the Geotechnical Engineer may be used as such material. If not deemed suitable the materials shall be disposed of off-site at no additional cost to the Owner.

B. The Contractor may begin fill placement in completed excavation areas while continuing excavation elsewhere subject to maintaining a clear separation between the fill and the excavation areas of not less than 30 feet, subject to the verification described in Paragraph "A" above. Place fill in accordance with Paragraph 3.5 - Fill Placement after excavation limits are verified.

C. All floor slab and footing overexcavation levels and limits shall be verified by the Contractor to the Owner's satisfaction. If an independent licensed surveyor is required to perform this operation it shall be at the Contractor's expense. Off-site fill material may be brought in to provide new structural fill below these structures. After verification, proofroll, scarify and recompact the upper six inches of overexcavated surfaces. Transition slopes between differing overexcavation levels and surrounding ground shall not be steeper than two horizontal to one vertical unless directed otherwise by the Owner.

D. Extend overexcavation outward from pavement edges to not less than 12 inches for each foot of overexcavated depth. Building and footing overexcavation is required and shall extend out not less than 5 feet from face of building and footings.

E. Pavement, building, and footing overexcavation is required on this project. All pavements shall be placed on not less than 12 inches of compacted cohesive clayey soils. No fat clay soils shall be present or placed below footings, floor slabs or pavements. The Geotechnical Engineer will approve the exposed subgrade after excavation and approve overexcavation depths and limits before the Contractor begins fill operations. Cohesive soils placed within 12 inches under the bottom of pavements and sidewalks shall be compacted to not less than 90% of the materials Modified Proctor maximum dry density with a moisture content at between 0% and +5% of the optimum moisture content. Material placed greater than 12 inches below the bottom of pavement slabs shall be cohesive soil with a Liquid Limit less than 43 and a Plasticity Index less than 23 percent and shall be compacted to not less than 90% of the materials Modified Proctor maximum dry density with a moisture content between 0% and +5% of the optimum moisture content. The Contractor shall overexcavate all pavement and finish floor areas to provide not less than 12 inches of compacted engineered fill below all pavement and finish floor areas.

Building and footing overexcavation is required on this project. The Contractor shall remove all soils to a depth of not less than 6 inches below existing grade at the beginning of the project and to the limits and depths shown on the Contract Drawings and dispose of it off-site. All material removed will be very wet in nature. All fill below the building and pavements shall be reworked and reconditioned to conform to the moisture requirements and compaction requirements in the Geotechnical Report. All fill placed below the building shall be approved by the Geotechnical Engineer and shall compacted cohesive clayey soils. No fat clay soils shall be present or placed below footings, floor slabs or pavements. The Geotechnical Engineer will approve the exposed subgrade after excavation and approve overexcavation depths and limits before the Contractor begins fill operations. All fill placed below building and footings shall be cohesive soils compacted to not less than 90% of the materials Modified Proctor maximum dry density with a moisture content between 0% and +5% of the optimum moisture content. Soils shall have a liquid limit less than 43 and a Plasticity Index less than 23 percent. No additional payments will be made for additional soils required to bring the site up to proposed elevations shown on the Contract Drawings. All footings shall be seated in controlled fill as described above.

F. Compaction of all structural fill below all footings and floor slabs shall be not less than 90% of the materials Modified Proctor maximum dry density with a moisture content between 0% and +5% of the optimum moisture content.

3.5 FILL PLACEMENT

A. Following stripping and overexcavation, all areas to receive fill shall be proofrolled in the presence of the Geotechnical Engineer. Proofrolling shall be performed with, at a minimum, a fully loaded, tandem-axle dump truck with a minimum gross weight of 25 tons or similar piece of heavy rubber tired vehicle. Unsuitable areas observed to rut or deflect excessively (greater than 1-inch) at this time shall be improved by compaction or by undercutting and placing suitable fill in these areas. All areas to receive fill shall be broken up and recompacted to allow new fill to bond to the existing soil. Following proofrolling, all exposed soils within the building footprint, under pavements, and areas requiring structural fill shall be scarified to a depth of twelve (12) inches and shall be compacted to not less than 90% of the maximum dry density as determined by ASTM D1557 (Modified Proctor) between 0% and +5% of the optimum moisture content before the placement of new fill. Controlled fill shall then be placed to an elevation not lower than the minimum levels shown on the plans. The controlled fill shall be bladed smooth shaped to drain. Compaction for controlled fill shall be as set forth in Paragraph 3.6 MOISTURE AND DENSITY CONTROL. No fat clays shall be placed below structural elements. All fill shall be approved by Geotechnical Engineer.

B. Excavate, provide, and place suitable fill material to bring the site to the designated grades shown on the plans. Fill is not to be placed on frozen or muddy subgrades. The subgrade, prior to placement of fill, shall be tested for density. The fill material shall be wetted, or dried by aeration, if required, and an initial lift of 6" compacted thickness shall be installed. This initial lift shall be tested for compacted density and moisture content. After satisfactory test results have been obtained, the remaining fill shall be constructed in lifts of 6-inch maximum compacted thickness to required grade. In the event of a rainstorm damaging the surface of a lift, all damaged material shall be removed and recompacted or left to dry to required moisture content specified and recompacted if necessary. All lifts will be tested for compacted density and moisture content.

C. The Contractor shall employ appropriate self-propelled compaction equipment capable of compacting the fill in the corners of the excavation and relatively small working areas. All slopes steeper than 5 H:1V shall be benched before placing fill. Use of light, track-mounted or remote (such as a backhoe) equipment is required to complete excavations in areas where very moist soils are encountered. Contractor shall provide all equipment as necessary to complete excavation and filling operations.

D. Any compacted fill, backfill, or subgrade that does not meet the requirements of this specification shall be reworked or removed and properly replaced at the expense of the Contractor. The Contractor is cautioned to exercise care during compaction so as not to damage adjacent construction.

3.6 MOISTURE AND DENSITY CONTROL

A. When the moisture content of soil or granular materials proposed for use as compacted fill material is more than the limit specified, it shall not be used unless and until the moisture content has been reduced to the acceptable amount. When the moisture content is below the limit specified, appropriate amounts of water shall be added and blended uniformly throughout the material. Soils or granular materials having moisture contents above or below the specified limits shall not be incorporated into the work. Off-site material hauled into the site and all other fill materials shall be compacted between 0% and +5% of the optimum moisture content. Moisture control of fill material shall be the responsibility of the Contractor and included in his proposal to perform the work.

B. Surveying services shall be provided and paid for by the Contractor.

Concrete Pavements, floor slabs, and sidewalks: Controlled engineered fill shall be placed within the upper 12 inches below the bottom elevation of all proposed pavements and sidewalks and shall be compacted to not less than 90% of the maximum dry density as determined by ASTM D1557 (Modified Proctor) between 0% and +5% of the optimum moisture content. Only approved cohesive materials shall be placed within 12 inches of the bottom of all pavements. Extend structural fill out to not less than 2 feet from edge of all pavements. Overexcavate all pavements as required in PARAGRAPH 3.4 of this SECTION to achieve this depth of subgrade compaction. Cohesive fill placed below the 12-inch depth above shall be placed and compacted to not less than 90% of the maximum dry density as determined by ASTM D1557 (Modified Proctor) while between 0% and +5% of the optimum moisture content. No fat clays shall be placed below pavements. After overexcavation the surfaces of the overexcavation shall be proofrolled in the presence of the Geotechnical Engineer for approval and scarified and recompacted to a depth of not less than 9 inches.

Building, floor slabs and footings: Building, floor slabs and footings shall be supported on a minimum of 1 foot of structural fill consisting of cohesive soils, unless another depth is required by Geotechnical Engineer, and the materials shall be placed and compacted as structural fill. The 1-foot-thick structural fill zone and all fill below these structures shall be constructed of a non-expansive structural fill with a low-plasticity approved by the Geotechnical Engineer. Fill materials shall be in accordance with this SECTION. Fill shall be clean inorganic lean clay or clayey silt with a liquid limit less than 43 and a plasticity index less than 23 percent. Controlled fill shall be placed within the upper 1 foot minimum below the bottom elevation of all proposed floor slabs and footings. Overexcavate all slabs and footings as required in PARAGRAPH 3.4 of this SECTION to achieve the depth of compacted controlled fill below floor slab and footings required. All cohesive fill placed below the foundation bearing elevation in and around the building area shall be compacted to not less than 90% of the maximum dry density as determined by ASTM D1557 (Modified Proctor) while between 0% and +5% of the optimum moisture content. The Contractor shall verify allowable soil moisture contents with Geotechnical Engineer before beginning floor slab subgrade compaction efforts. The upper 12 inches of subgrade shall be tested by the Geotechnical Engineer at 10 locations minimum under each floor slab to assure compliance with this requirement. No fat clays shall be placed below floor slabs or footings. After overexcavation the surfaces of the overexcavation shall be proofrolled in the presence of the Geotechnical Engineer for approval. Do not place footings until excavation bottom is tested and approved by Geotechnical Engineer.

C. Trenching. Initial trench backfill shall be extended up the sides and carefully placed around and over pipe in six inch (6") maximum layers. Each layer shall be thoroughly and carefully compacted with hand operated equipment until one foot (1') of cover exists over pipe. The remainder of the trench shall be backfilled with suitable granular fill materials to the subgrade elevations specified on the plans. Backfill shall be placed in six (6) inch maximum loose lifts. The backfill material shall be compacted to at least 90 percent of the maximum dry density as determined by ASTM D1557, modified proctor, including the upper twenty-four (24) inches below subgrade elevations. All existing utility trench backfill located within the proposed building footprint shall be removed and abandoned utility lines shall be completely removed from the area.

D. Nonsupporting fill shall be compacted to an in-place dry unit weight of at least 92 percent of the maximum dry unit weight at the time of compaction at a minimum of 2 percent below the optimum water content as determined by ASTM D1557, Modified Proctor.

3.7 EXCAVATING

A. All excavating shall be unclassified and the Contractor shall remove whatever materials encountered in excavating to the lines and grades as indicated on the drawings. Overexcavated materials not approved as satisfactory fill materials shall be hauled off-site and properly disposed of. Excavated materials which are suitable and required for filling and backfilling shall be stockpiled at a convenient location. All material which is not suitable or which is not required shall be removed from the site and satisfactorily disposed of. Excavation shall extend a sufficient distance to allow additional space as required for construction operations, for the removal of forms, installation of utilities, inspections, etc. Excavation shall be left open until the utility work has been inspected and approved, and the work of other trades concerned completed. Excavation shall not interfere with normal 45 degree bearing splay of any existing foundation which is to remain.

B. Hand trim utility trenches to provide a shaped earth pipe bedding.

Maintain excavation in good order, provide necessary bracing and shoring, provide necessary dewatering equipment and facilities to maintain a dry excavation, protect excavations against frost and freezing or excessive drying until backfill may be placed. All excavations shall be sloped back, shored, or shielded for protection of workers and structures. Trenching and excavation activities shall conform to federal and local regulations as a minimum. The general classification of the soils on this site are Type C soil according to OSHA's Construction Standards for Excavations, 29 CFR, Part 1926, Subpart P. In general, the maximum allowable slope for shallow excavations in a Type C soil is 1.5H:1V, although other provisions and restrictions may apply. If different type soils are encountered, the maximum allowable slope may be different. Contractor shall test trench slopes to ensure safety of workers in excavation.

The Contractor shall be responsible to control the accumulation of water in the excavations and shall take appropriate measures to protect the stability of the cut slopes and floor of the excavations, and to expedite the work. In the event that excavation is made below the levels shown on the plans for purposes of runoff control or to correct water damage, such excavation and related backfill shall be at the Contractor's expense. No claim for extra work will be allowed. Contractor shall include all costs for additional crushed rock and other materials to create working surfaces should groundwater be encountered in excavations. The Contractor shall include costs in his proposal for groundwater control based on the Soils Report information. No requests for additional costs for ground water control will be allowed on this project.

3.8 BACKFILLING OF UTILITY TRENCHES

A. Before placing backfill, remove all debris, trash, material subject to termite attack, rot or corrosion, and other objectionable matter. Ensure that ground surfaces are not in a frozen condition. Recompact sides and bottoms of excavations to condition required for backfill. Do not backfill over existing subgrade surfaces which are porous, wet or spongy. Backfilling shall commence as soon as possible after permanent installations are approved. Exercise care to avoid damage to adjacent construction, walls, and other work in place. Maintain optimum moisture content of backfill materials to attain required compaction density specified in Article 3.6 above. Heavy, self propelled or towed power-operated mechanical equipment used for spreading and compacting backfill shall not be operated closer to foundation or retaining walls than a distance equal to the height of the backfill above the top of the footing. Areas where other equipment cannot be operated shall be compacted by power-driven hand operated equipment.

3.9 ROUGH AND FINAL GRADING

A. Unless otherwise shown, the subgrade shall be evenly sloped to provide drainage at a grade of not less than 2 percent. A minimum slope of not less than 2% first 10 feet shall be maintained from the face of the building. No final grade slopes shall exceed 1 foot in 3 feet. Remove debris, roots, stones, etc., in excess of 3 inches in size. Remove subsoil which has been contaminated with petroleum products.

3.10 SURPLUS MATERIAL

A. Provide perimeter and silt fence as necessary for protection. Contractor's proposal shall include adequate costs for the periodic maintenance of fence, and berms that become damaged during the length of the contract. Direct storm water into drainage structures with diversion berms. Provide silt fences around inlets and rain gardens until pavement is completed.

3.11 EROSION CONTROL

A. Contractor shall construct and maintain all erosion control measures whether shown on the contract drawings or not. All erosion control structures and measures shall be in accordance with the local jurisdiction body. The Contractor shall be responsible for maintenance of all erosion control structures including but not limited to: sediment traps, diversion dikes, temporary construction entrance, and silt fence. The Contractor shall include costs in his proposal for periodic cleanout of sediment from sediment traps and silt fences if required by the Owner. The Contractor shall also include costs in his proposal for periodic maintenance of silt fences and permit costs should it be required. The Contractor shall provide silt fence on and around site until such time that the site is developed to the satisfaction of the Owner.

3.12 DEWATERING

Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
2. Provide dewatering operations as required for groundwater or storm water control in all excavations.

3.13 EXCAVATION FOR FOOTINGS

A. Contractor shall provide all shoring and bracing for all existing footings and walls where new construction abuts or connects to existing building to prevent failure or collapse of existing structure. Exercise extreme care to avoid undermining existing footings and grade supported slabs that are to remain. Excavations adjacent to existing building shall not extend inside a 1H to 1V slope extending downward from the top of the existing footings unless the footings are underpinned or properly shored to prevent collapse. Do not excavate below existing footings where new footings are to be connected to existing footings.

B. Excavate footings with a backhoe equipped with a smooth bucket, especially in areas where very moist soils are encountered. In these very moist areas the bearing surface shall be protected from disturbance and stabilized by placing a thin layer of lean cast-in-place concrete (mud mat) over the bearing surface or placement and compaction of 8 inches of 3-inch minus crushed limestone as directed by the Geotechnical Engineer. Any granular terrace deposits that are loosened or disturbed during excavation shall be compacted with a vibratory plate prior to footing construction.

C. Excavations for Footings and Foundations: Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.

3.14 EXCAVATION FOR UTILITY TRENCHES

A. Excavate trenches to indicated gradients, lines, depths, and elevations. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade. Perform all trenching in accordance with City of Council Bluffs and Iowa SUDAS Standard Specifications.

3.15 BACKFILL

A. Trenches under Roadways and pavement structures: Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing. Upper 24 inches of trench backfill shall be placed at 90% Modified Proctor with a moisture content between 0% and +5% of the optimum moisture content.

3.16 FIELD QUALITY CONTROL

A. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.

B. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.17 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

B. Transport surplus satisfactory soil to designated storage areas on Owner's property. Stockpile or spread soil as directed by Architect.

3.18 SUBGRADE STABILIZATION

See Geotechnical report for four methods approved for this project. The Contractor shall in include allowances in his bid for subgrade stabilization on project as it will be required to complete project. The Contractor shall include suitable costs in his proposal to provide subgrade stabilization with the approval of the Geotechnical Engineer. Also, the Contractor shall include suitable costs for groundwater control in his proposal as groundwater levels were found to be 13 feet below existing grade at the time of soil borings that were conducted by Soils Engineer. No additional payments will be made by the Owner for this work.

3.19 SURCHARGE

Provide and place acceptable soil materials as surcharge materials not less than 4 feet above proposed finish floor. Extend top of surcharge out not less than 5 feet beyond the outside face of building. Place surcharge material above and within 2 feet of the finish floor as compacted structural fill and compact to not less than 90% of the maximum dry density as determined by ASTM D1557 (Modified Proctor) while between 0% and +5% of the optimum moisture content. Material 2 feet and greater above the finish floor shall be compacted enough to prevent water infiltration through material and as directed by the soils engineer. The contractor shall coordinate and pay for the installation of 4 settlement plates in the surcharge by the Soils Engineer and for any measurements throughout the lifetime of the settlement process as directed by the Owner. At the end of the surcharge period as approved by the Soils Engineer for a period of approximately 60 days, the Contractor shall remove and dispose of the surcharge material off-site unless it is incorporated into the work as fill material.

END OF SECTION 312000

GRADING PLAN GENERAL NOTES

GENERAL NOTES - PART 1

1. All project procedures and materials shall conform to SUDAS publication and any additions thereto:
2. The CONTRACTOR must comply with all noise and dust control ordinances of the City of Council Bluffs.
3. The CONTRACTOR shall notify of utility companies 48 hours before work is started to verify utility locations (One Call 344–3565).
4. The CONTRACTOR shall cooperate with the APPLICANT and INSPECTOR in regard to the construction activities so as to minimize the potential for erosion.
5. The CONTRACTOR shall monitor perimeter silt fencing and install additional silt fencing if necessary (note: see Erosion Control Feature Maintenance Schedule) or as directed by the INSPECTOR.
6. The CONTRACTOR shall periodically remove accumulated sediment from sediment traps, sediment basins, behind silt fences, and all other erosion control measures that store sediment if necessary (note: see Erosion Control Feature Maintenance Schedule) or as directed by the INSPECTOR.
7. The CONTRACTOR shall build stabilized construction entrances. The CONTRACTOR shall monitor all stabilized construction entrances and maintain the entrance as needed (note: see Erosion Control Feature Maintenance Schedule) or as directed by the INSPECTOR. The CONTRACTOR shall not use any other access to the site or allow others to use alternate access points.
8. All erosion control features shall be kept in working order. The CONTRACTOR shall repair all damages caused by soil erosion and construction equipment at or before the end of each working day or as directed by the INSPECTOR.
9. Erosion control features may not be removed until 75% of the area has been fully developed. Full development shall mean installation of pavements, buildings, storm sewers, landscaping, and seeding.
10. The CONTRACTOR shall be responsible for providing containment dikes or other protective measures around all on–site fueling and chemical storage areas.
11. In the event of a release of oil or hazardous substance, the CONTRACTOR shall comply with the requirements of the Iowa Department of Environmental Quality for notification, containment, investigation, remedial action and disposal.
12. For dust control the CONTRACTOR shall use any of the following measures or a combination if necessary:
a. Tank truck or other such equipment to spread water on striped areas.
b. Tank truck or other such equipment to spread water on haul roads.
c. Decrease vehicular speed on haul roads.
d. As directed by the INSPECTOR
13. Diversion berms and level terraces shall be constructed as shown on the plans and as necessary to properly control sediment erosion and protect adjacent properties. Diversions and Level terraces shall be in place at the end of each working day, at any time that rain is forecast, and as directed by the INSPECTOR.
14. After 14 days of work stoppage in an area at least 1 acre in size, either cover crop seeding, temporary seeding or permanent seeding shall be completed. Seeding shall be in accordance with the requirements of SUDAS.

EROSION CONTROL FEATURES MAINTENANCE SCHEDULE

The following Erosion Control Features Maintenance Schedule has been provided. The INSPECTOR shall perform the inspections. The CONTRACTOR shall also perform all needed maintenance. Furthermore, all erosion control feature requiring maintenance may not be listed below. The CONTRACTOR and INSPECTOR must perform their respective duties on all erosion control features that are not listed below as well.

1. Silt Fence – Silt fence should be inspected weekly and after major rain events to ensure that the device is functioning properly. Remove sediment from behind fence when the depth of sediment has built up to 1/3 the height of the fence above grade. Inspect the base of the fence to ensure that no gaps have developed and re–trench as necessary. Inspect fence posts to ensure that they are properly supporting the fence. Straighten, reset and add posts if necessary. If filter fabric is ripped, damaged or deteriorated, replace it in accordance with the original specifications and details.
2. Stabilized Construction Entrance – Inspections must be made weekly and after rainstorm events to ensure that the device is functioning properly. When sediment or mud has clogged the void spaces between the stones or mud is being tracked onto the public roadway the aggregate pad must be washed down or replaced. Runoff from the wash down operation shall not be allowed to drain directly off site without first flowing through another erosion control features to control off–site sedimentation. Periodic regrading or the addition of new stone may be required to maintain the efficiency of the installation.
3. Sediment Basin – Inspections must be made weekly and after rainstorm events to ensure that the sedimentation basins are functioning properly. Clean out sediment and dispose of properly when the sediment storage volume is 4/5 full. Clean or replace filter stone when stone becomes clogged with sediment or facility will no longer drain properly. Check outlet of spillway barrel and downstream toe of dam to ensure that water is not flowing under the dam or along the outside edge of the spillway pipe. Check downstream channel, overflow channel for erosion and gullies, and repair as needed.
4. Temporary Diversions – Inspect diversions weekly or immediately after rainfall events. Particular attention must be paid to areas where sediment builds up in the channel, areas where vehicles have crossed or caused damage, areas where the ridge begins to erode, and any areas where flow overtops the ridge. Sediment in the channel shall be promptly removed and damaged areas of the ridge shall be stabilized by appropriate methods. Methods of stabilization may include the following or any combination of the following; netting, mulching, temporary seeding, or the flattening of the side slopes. Diversions to be left in place for more than 30 days should be stabilized by establishing temporary ground cover.
5. Inlet Protection – Inlet Protection should be inspected weekly and after major rain events to ensure that the device is functioning properly. Remove sediment from the storage area when the depth of sediment has built up to one–half of the storage depth. If de–watering of the storage volume is not occurring, clean or replace the filter stone. Clean the filter stone surface the first few times by raking. Repeated sediment build–up will require filter stone replacement.
6. Erosion Control Matting – Inspect the erosion control matting installations weekly and after all rainfall events to ensure that the facilities are functioning properly and have not been displaced by runoff. Particular attention must be paid to the upstream ends of channel linings and slope protection, as well as the joints between adjacent mats. Repair any damaged areas promptly and replace any displaced matting. Additional staking may be required on steeper slopes and in channel bottoms.
7. Channels and Ditches – Inspect channels and ditches weekly and after every rain event. Check for erosion and sediment buildup and repair as needed. Particular attention must be given to side slopes, embankments at pipe inlets and outlets, and condition of the vegetative stabilization.

STANDARD FEATURE DETAILS

Council Bluffs PUBLIC WORKS DEPARTMENT'S "Council Bluffs'S SEDIMENTATION AND EROSION CONTROL MANUAL" SHALL GOVERN THE FOLLOWING:

FIGURE	NAME
2–1	Hay Bale Silt Check
2–2	Fabric Silt Fence
2–3	Gravel Curb Inlet Sediment Filter
2–4	Stabilized Construction Entrance
2–7	Standard Sediment Basin 1
2–8	Standard Sediment Basin 2
2–9	Excavated Earth Outlet Sediment Trap
2–10	Pipe Outlet Sediment Trap
2–11	Stone Outlet Sediment Trap
2–15	Riser Base Detail Sediment Basin
2–19	Typical Cross Section For Broad base and Backslope Terraces
2–20	Typical Cross Section For Narrow base and Flat Channel Terraces
3–1	Cross Section Details Diversion

CONCRETE PAVING AND UTILITIES NOTES

CONCRETE MATERIALS: Cementitious Material: Use the following cementitious materials, of same type, brand, and source throughout Project: Portland Cement: IOWA SUDAS Type II cement with 4000 psi 28 day strength or NDOR 47B with air entrainment between 5 and 7 percent. 28–day compressive strength not less than 4,000 psi and a modulas of rupture of not less than 575 psi. ASTM C 150, portland cement. Fly Ash not allowed in mix. Ground Granulated Blast–Furnace Slag not allowed in mix. Max Slump 4 in.

Normal–Weight Aggregates: ASTM C 33, uniformly graded. Provide aggregates from a single source with documented service–record data of at least 10 years' satisfactory service in similar paving applications and service conditions using similar aggregates and cementitious materials. Aggregates shall meet all City of Council Bluffs or NDOR requirements.

Handicap Ramp Color and ramp characteristics: As selected by Owner from manufacturer's full range. Handicapped Ramps shall be "BRICK RED" in color and constructed according to City of Council Bluffs Standard Plates.

CURING MATERIALS: All concrete shall be cured in accordance with the City of Council Bluffs or IDOT Standard Specifications.

DETECTABLE WARNING MATERIALS: Install detectable warning pattern in concrete meeting City of Council Bluffs requirements and pattern meeting ADA requirements.

PAVEMENT MARKINGS: Pavement–Marking Paint: Alkyd–resin type, lead and chromate free, ready mixed, complying with AASHTO M 248, colors complying with FS TT–P–1952.

CONCRETE MIXTURES: Prepare design mixtures, proportioned according to ACI 301 and Standard Specifications for each type and strength of normal–weight concrete, and as determined by either laboratory trial mixtures or field experience.C

CONCRETE MIXING: Ready–Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94. Furnish batch certificates for each batch discharged and used in the Work.

OVEREXCAVATION: Pavement overexcavation is required on this project. All pavements shall be placed on not less than 12 inches of compacted cohesive clayey soils. No fat clay soils shall be present or placed below pavements. The Geotechnical Engineer will approve the exposed subgrade after excavation and approve overexcavation depths and limits before the Contractor begins fill operations. Pavement slab areas shall be scarified and compacted after overexcavation operations are complete to provide not less than 12 inches or compacted subgrade below the overexcavated zones.

SEWER AND WATER SERVICES: Install all sewers and water services in accordance with SUDAS Standard specifications for Public works Construction and Ten State Standards.

EXECUTION

JOINTS: General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated. Install all joints in accordance with the NDOR Standard Specifications. Fill all joints with Grey colored sealant. No tar or black colored sealer allowed.

CONCRETE PLACEMENT: Before placing concrete, inspect and complete formwork installation and items to be embedded or cast–in. All concrete placement shall be performed in accordance with the IDOT requirements. Do not place pavement until site has been graded and allowed to sit for 20 calendar days for settlement. Soils Engineer shall approve start date for paving operations to begin.

CONCRETE PROTECTION AND CURING: Comply with ACI 306.1 and IDOT Standard Specifications.

PAVING TOLERANCES: Comply with tolerances in ACI 117 and the IDOT Standard Specifications.

PAVEMENT MARKING:. Do not apply pavement–marking paint until layout, colors, and placement have been verified with Owner. Apply paint with mechanical equipment to produce markings of dimensions indicated with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of at least 15 mils. Apply graphic symbols and lettering with paint–resistant, die–cut stencils, firmly secured to concrete surface.

FIELD QUALITY CONTROL: Testing Agency: Contractor will engage a qualified testing agency to perform tests and inspections. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172 and the IDOT/ SUDAS Standard Specifications. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. or fraction thereof of each concrete mixture placed each day.

Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.

Air Content: ASTM C 231, pressure method; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.

Compression Test Specimens: ASTM C 31/C 31M; cast and laboratory cure one set of three standard cylinder specimens for each composite sample. Test one specimen at seven days and two specimens at 28 days.

Test results shall be reported in writing to Owner, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive–strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7– and 28–day tests.

Sealant – Grey colored sealant

CONSTRUCTION SCHEDULE & PHASING NOTES

ACTIVITY	SCHEDULE
Install all erosion control features needed and shown on the plans such as Stabilized Construction Entrances, Silt Basins, Riser Pipes, Outlet Pipes, Silt Traps, Silt Fence, Diversions, Terraces, Jersey Barricades, Protective Sheeting, Etc.	Prior to any stripping of existing vegetation or grading
Proceed with stripping of existing vegetation and grading in accordance with the grading plan but disturbing no more at one time than is necessary.	After Installing all erosion control features needed and shown on the plans. Furthermore, INSPECTOR approval must be attainted before the start of any stripping of existing vegetation or grading.
Temporary seeding or mulching	After placement of topsoil or when work is scheduled to cease for more than 14 days
Permanent seeding	After completion of paving and utilities in affected area
Removal of erosion control features	Erosion control features may not be removed until 75% of the upstream area has been fully developed. Full development shall mean installation of pavements, buildings, utilities, landscaping, and fully established permanent seeding. Furthermore, INSPECTOR approval must be attainted before the removal of any erosion control features.

STORM AND SANITARY SEWERS

Install all sewers in accordance with the Iowa SUDAS and the city of Council Bluffs supplemental specifications to the 2020 edition of Iowa SUDAS

BLAKEMAN ENGINEERING

LARSEN SUPPLY / COMPANY OFFICE / WAREHOUSE BUILDING

2301 VETERANS MEMORIAL HIGHWAY

COUNCIL BLUFFS, IOWA

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CHECKED BY:	BKB
ISSUED:	PERMITS
DATE:	4-9-2021

SHEET NO:

C7.1



0' 20' 40' 100'

SCALE: 1" = 20'-0"

SWPPP PLAN
SCALE: 1" = 20'-0"

LEGEND

- 1275 EXISTING CONTOUR
- 1276 PROPOSED CONTOUR
- X SILT FENCE
- (A) SUBBASIN
- DIVERSION BERM
- SUB-BASIN LIMITS
- LIMITS OF CLEARING AND GRADING AND CONSTRUCTION LIMITS
- FILL ZONE
- CUT ZONE

LOCATION:

LAT 41°13'6.51"

LONG –95°52'34"

LOT 2 ROGERS AUTO SUBDIVISION, POTTAWATTAMIE COUNTY, IA

2301 VETERANS MEMORIAL HWY, COUNCIL BULFFS, IA

NE CORNER OF S. 21ST STREET AND 42ND AVE.

SEC 11, SW 1/4 OF SW 1/4, T74N, R44W

TOTAL SITE ACRES:	1.87
SUB BASIN AREAS	**AREA**
A –	0.34 ac
B –	0.27 ac
C –	0.51 ac
D –	0.21 ac

GRADING DISTURBED AREA = 1.60 ac

GRADING UNDISTURBED AREA = 0.27 ac

EXISTING PERVIOUS COVERAGE = 1.67 ac

FUTURE PERVIOUS COVERAGE = 0.90 ac

LOSS OF PERVIOUS COVERAGE = 0.77 ac

TIME OF CONCENTRATION TO BASIN = 5 MIN.

CUT VOLUME = 475 c.y.

FILL VOLUME = 11,025 c.y. (1.4 SHRINKAGE FACTOR APPLIED)

LOT 2 ONLY RUNOFF 10 YEAR EVENT:

EXISTING LOT = 1.87 ac

PRE DEVELOPED C = .48

POST DEVELOPED C = .69

PRE DEVELOPED RUNOFF = 7.3 cfs

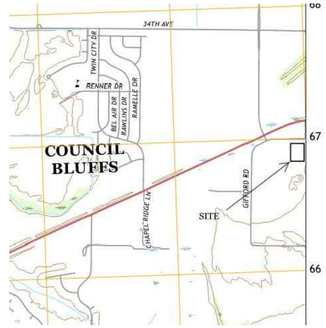
POST DEVELOPED RUNOFF = 10.4 cfs

SITE DATA

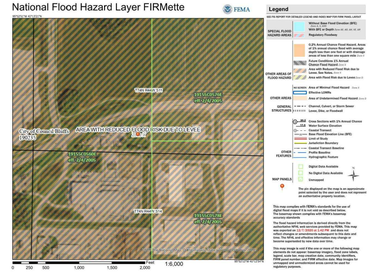
RECEIVING WATERS:

INDIAN CREEK

(1837' TO EAST)



N USGS MAP
NO SCALE



N FLOOD PLAIN MAP
NO SCALE

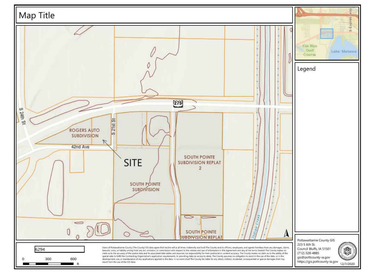
PROJECT NAME
PERMIT NUMBER
OWNER/APP

This area operates under NPDES Permit and a Storm Water Pollution Prevention Plan (SWPPP). To view the SWPPP and Permit information contact:

Blakeman Engineering
402-933-5777

All contractors / operators must adhere to the SWPPP. Permit information and SWPPP can also be viewed at: http://www.iowadnr.gov

NOTIFICATION SIGN
NO SCALE



N LOCATION MAP
NO SCALE

APPLICANT SWPPP CERTIFICATION

Business Name: Larsen Supply Company
Representative's Email Address: Tom@larsensupplyco.com
Phone Number: 712-322-0238
Representative's Name: Tom Larsen
Address: 1106 35th Ave
City: Council Bluffs
State: IA
Zip Code: 51501
Project # Assigned By Applicant

I hereby agree to act as APPLICANT in association with this SWPPP. Furthermore, I certify under penalty of law the following: (1) that, this document and all supporting information has been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted; (2) that, I understand and agree to abide by the terms and conditions contained within this Storm Water Pollution Prevention Plan - Site Map (SWPPP-SM), the associated Storm Water Pollution Prevention Plan - Narrative (SWPPP-N), and the Grading Permit Terms; (3) that, to the best of my knowledge and belief information contained in this SWPPP is true, complete, and accurate; (4) that, the SWPPP has been represented and warranted to conform to all applicable Standards, Criteria, Ordinances, Laws, Rules, and Regulations enacted by the -- [a] Pottawattamie County, [c] City of Council Bluffs, [d] State of Iowa, and [e] United States Federal Government; (5) that, sound and established practices were used for the creation of this SWPPP; (6) that, I am obligated to ensure inspection, reporting, and maintenance requirements occur under the terms of this SWPPP; (7) that, this SWPPP will be implemented as the first element of construction; (8) that, I shall indemnify and save harmless the City Of Council Bluffs, its Members, Officers, Agents and Employees from all claims and demands of every nature and description growing out of the implementation of this SWPPP, including personal injuries received and all property damage sustained; (9) that, I will retain the services of the designated DESIGNER and INSPECTOR, to perform all design and inspection duties associated with this SWPPP, through a contractual agreement; and (10) that, corrections of defects and deficiencies in design, construction, inspection, implementation, and testing shall be without expense to the City of Council Bluffs and its Members, Officers, Agents and Employees and shall be my obligations while acting as APPLICANT.

I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations."

Applicant Signature Date

LICENSED PROFESSIONAL ENGINEER
Bradley K. Blakeman
#P19806
IOWA

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

DATE 2/11/2021

BRADLEY K. BLAKEMAN

LICENSE NUMBER P19806

MY LICENSE RENEWAL DATE IS DEC. 31, 2021.

PAGES OR SHEET COVERED BY THIS SEAL: SWP1.1, SWP1.2 AND SWP1.3

BLAKEMAN ENGINEERING

LARSEN SUPPLY/ COMPANY OFFICE/ WAREHOUSE BUILDING

2301 VETERANS MEMORIAL HIGHWAY
COUNCIL BLUFFS, IOWA

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DATE:	4-9-2021

SHEET NO:

SWP1.1

POST CONSTRUCTION STORM WATER MANAGEMENT PLAN DESIGN CRITERIA

BMP I.D.	TYPE OF BMP	LONGITUDE / LATITUDE	DRAINAGE AREA	TREATABLE FACTOR	WATER QUALITY CONTROL VOLUME (WQCV)	WQCV PROVIDED
TSB–1	BASIN	–95.523112, 41.130690	22,215 SF	42 CF/1000 SF	933 CF	933 CF
AI–1	INLET W/FILTER	–95.523166, 41.130950	14,810 SF	42 CF/1000 SF	622 CF	622 CF
AI–2	INLET W/FILTER	–95.523105, 41.130720	11,761 SF	42 CF/1000 SF	494 CF	494 CF
SF–1	SILT FENCE	–95.523395, 41.130651	NA	NA	NA	NA
CE–1	CONST. ENTRANCE	–95.523070, 41.130655	NA	NA	NA	NA

BMP SIZE DATA TABLE

TOTAL DISTURBED AREA	1.605 AC
TOTAL SITE AREA	1.87 AC
IMPERVIOUS AREA BEFORE CONSTRUCTION	0.20 AC
IMPERVIOUS AREA AFTER CONSTRUCTION	0.97 AC
NET INCREASE	0.77 AC

POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

1. THE FOLLOWING STRUCTURAL BEST MANAGEMENT PRACTICES (BMP's) ARE TO BE IMPLEMENTED UPON COMPLETION OF CONSTRUCTION:

1.1 BMP 1 – DETENTION BASIN

1.2 BMP 2 – INLET FILTERS

DRAINAGE FROM PARKING LOT AREA IS DIRECTED TOWARDS INLETS WHERE RUN OFF WILL BE FILTERED.

1.3 GRASS SWALES.

1.4 PARKING LOT AND STREET SWEEPING

STREET CLEANING AND MAINTENANCE INCLUDES THE USE OF FRONT–END LOADERS, SHOVELS, AND SWEEPERS TO REMOVE TRACKED SEDIMENT AND GRAVEL FROM STREETS AND PAVED SURFACES. STREET CLEANING PREVENTS SEDIMENT AND GRAVEL FROM ENTERING STORM DRAINS AND STREAMS.

2. STRUCTURE INSPECTIONS & CLEANING:

2.1. GRASS AREAS SHALL BE MOWED PERIODICALLY. FERTILIZER SHALL NOT BE USED EXCEPT FOR THE INITIAL ESTABLISHMENT OF TURF AREAS. TRASH SHALL BE REMOVED FROM ALL GRASS AREAS ON A DAILY BASIS.

ALL SEDIMENT AND/OR TRASH SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL LAWS.

2.2. SWALES AND INLET FILTERS SHALL BE PERIODICALLY INSPECTED AND CLEANED TO REMOVE ACCUMULATED SEDIMENT, DEBRIS, TRASH OR OTHER OBJECTIONABLE MATERIALS THAT HAVE ACCUMULATED IN IT. EXTENSIVE "POLLUTION" IS NOT ANTICIPATED FROM RUNOFF FROM THE PARKING LOT INTO THE STORM SEWER, THEREFORE IT IS ANTICIPATED THAT PERIODIC CLEANING EVERY 3 MONTHS SHOULD BE ADEQUATE. IT IS SUGGESTED THAT THE INLETS BE INSPECTED EACH MONTH TO ENSURE THE INLETS ARE FUNCTIONING PROPERLY AND HAVE NOT BECOME CLOGGED.

ANY DEBRIS SHALL BE REMOVED FROM THE BASIN.. ALL SEDIMENT AND/OR TRASH SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL LAWS.

PRIOR TO FINAL ACCEPTANCE AND PAYMENT THE CONTRACTOR SHALL THOROUGHLY INSPECT AND CLEAN OUT ALL BASINS & BIOSWALES AND INSURE POSITIVE DRAINAGE AWAY FROM BUILDING STRUCTURES CONSTRUCTED AS PART OF THIS CONTRACT. WASHING THE DEBRISAND/OR SEDIMENT DOWNSTREAM WILL NOT BE ACCEPTABLE.

2.3. THE PARKING LOTS AND PAVED AREAS SHALL BE PERIODICALLY INSPECTED AND CLEANED TO REMOVE ACCUMULATED SEDIMENT, DEBRIS, TRASH, GRAVEL, OR OTHER OBJECTIONABLE MATERIALS THAT HAVE ACCUMULATED ON THE PAVEMENT. EXTENSIVE "POLLUTION" IS NOT ANTICIPATED FROM RUNOFF ONTO THE PAVED SURFACES, THEREFORE IT IS ANTICIPATED THAT PERIODIC CLEANING EVERY 3 MONTHS SHOULD BE ADEQUATE. IT IS SUGGESTED THAT THE PARKING LOT SHOULD BE INSPECTED DAILY FOR TRASH AND BE INSPECTED AFTER EACH RAINFALL FOR ACCUMULATION OF GRAVEL AND DEBRIS.

TRASH SHALL BE REMOVED FROM PAVED AREAS USING A VACUUM OR OTHER ACCEPTABLE METHOD. TRASH SHALL BE PLACED IN RECEPTACLES TO BE PICKED UP EACH WEEK BY A QUALIFIED TRASH REMOVAL SERVICE. GRAVEL ACCUMULATION ON PAVED SURFACES SHALL NOT BE WASHED DOWN SEWER LINES OR LOCAL STREET. ALL SEDIMENT, GRAVEL AND/OR TRASH SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL LAWS.

PRIOR TO FINAL ACCEPTANCE AND PAYMENT THE CONTRACTOR SHALL THOROUGHLY INSPECT AND CLEAN ALL PAVED SURFACES OF DUST, DEBRIS AND TRASH CONSTRUCTED AS PART OF THIS CONTRACT. WASHING THE DEBRIS, GRAVEL, AND/OR SEDIMENT DOWNSTREAM WILL NOT BE ACCEPTABLE. THE CONTRACTOR SHALL USE A VAC–TRUCK OR OTHER APPROVED METHOD FOR CLEANING PAVED SURFACES.

2.4. TRASH WILL BE REMOVED FROM GRASS AREAS PERIODICALLY. GRASS AREAS SHALL BE PERIODICALLY MOWED AND MAINTAINED.

3. THE OWNER LISTED BELOW SHALL BE RESPONSIBLE FOR THE SHORT TERM POST CONSTRUCTION STORMWATER MANAGEMENT PLAN AND BEST MANAGEMENT PRACTICES MAINTENANCE. THEY ARE RESPONSIBLE FOR INSPECTING, MAINTAINING AND/OR CLEANING THE PROPOSED BMP's AND EROSION/SEDIMENT CONTROL FEATURES OUTLINED IN THESE NOTES AS WELL AS WHAT IS DESCRIBED IN THE PROJECT DOCUMENTS. THEIR RESPONSIBILITY SHALL CONTINUE UNTIL ALL CONSTRUCTION WORK HAS BEEN COMPLETED, ALL DISTURBED AREAS HAVE BEEN STABILIZED, AND THE OWNER PROVIDES FINAL APPROVAL AND PAYMENT.

3.1. CONTRACTOR AWARDED CONTRACT IS SHOWN BELOW.

4. THE OWNER LISTED BELOW SHALL BE RESPONSIBLE FOR THE LONG TERM POST CONSTRUCTION STORMWATER MANAGEMENT PLAN AND BEST MANAGEMENT PRACTICES MAINTENANCE. THEY SHALL BE RESPONSIBLE FOR ON–GOING INSPECTION, MAINTAINING AND/OR CLEANING THE PROPOSED BMP's AND EROSION/SEDIMENT CONTROL FEATURES OUTLINED IN THESE NOTES. THEIR RESPONSIBILITY SHALL CONTINUE UNTIL SUCH TIME THAT THEY ARE NO LONGER OWNERS OR TENANTS OF SAID PROPERTY.

4.1 OWNER:
LARSEN SUPPLY COMPANY
1106 35TH AVE.
COUNCIL BLUFFS, IA 51501
TOM LARSON
P: 712–322–0283
tom@larsensupply.com

4.2 CONTRACTOR
ANDERSEN CONSTRUCTION COMPANY
3125 SOUTH 11TH ST.
COUNCIL BLUFFS, IA 51501
MARK ANDERSON – OWNER
P: 712–366–2255
mark@andersenconst.com

4.3 ENGINEER
BLAKEMAN ENGINEERING
10423 HANSEN AVE.
OMAHA, NE 68124
BRAD BLAKEMAN
blakemanengineering@cox.net

STREET CLEANING / SWEEPING SM–4

DESCRIPTION AND PURPOSE
STREET CLEANING AND MAINTENANCE INCLUDES THE USE OF FRONT–END LOADERS, SHOVELS, AND SWEEPERS TO REMOVE TRACKED SEDIMENT FROM THE STREETS AND PAVED SURFACES. STREET CLEANING PREVENTS SEDIMENT FROM ENTERING STORM DRAINS AND LOADING SEDIMENT BASINS AND/OR RECEIVING STREAMS.

SUITABLE APPLICATIONS
STREET CLEANING WILL BE DONE ANYWHERE SEDIMENT IS TRACKED FROM A SITE ONTO A PUBLIC OR PRIVATE PAVED STREET OR SURFACE, TYPICALLY AT POINTS OF ENTRY. FLUSHING SEDIMENT OFF OF THE SURFACE INTO THE STORM SYSTEM WILL NEVER BE AN ACCEPTABLE PRACTICE.

IMPLEMENTATION
THE FOLLOWING STEPS WILL BE TAKEN TO KEEP THE STREETS CLEAN.
– ACCESS POINTS WILL BE LIMITED AND CONTROLLED; THIS ALLOWS CLEANING EFFORTS TO BE FOCUSED AND EFFECTIVE.
– ENTRANCE POINTS WILL BE EVALUATED DAILY FOR TRACK–OUT.
– VISIBLE SEDIMENT TRACKING WILL BE CLEANED OR SWEPT DAILY.
– KICK BROOMS OR DRY SWEEPING WILL NOT BE USED; THESE SPREAD THE DIRT, AND GENERATE DUST.
– IF SEDIMENT IS NOT MIXED WITH DEBRIS OR TRASH, IT WILL BE INCORPORATED BACK INTO THE PROJECT SITE.

EDUCATION
– EMPLOYEES, SUBCONTRACTORS, AND SUPPLIERS WILL BE EDUCATED ON TRACK–OUT AND STREET CLEANING PROCEDURES, AND THEIR RESPONSIBILITIES.
– A CONTINUING EDUCATION PROGRAM WILL INDOCTRINATE NEW EMPLOYEES.

INSPECTION AND MAINTENANCE
THE FOLLOWING STEPS WILL BE TAKEN.
– EVALUATE ACCESS POINTS DAILY FOR SEDIMENT TRACKING.
– WHEN TRACKED OR SPILLED SEDIMENT IS FOUND ON PAVED SURFACES, IT WILL BE REMOVED DAILY. DURING TIMES OF HEAVY TRACK–OUT, SUCH AS DURING RAINS, CLEANING MAY BE DONE SEVERAL TIMES THROUGHOUT THE DAY.
– UNKNOWN SPILLS OR OBJECTS WILL NOT BE MIXED WITH THE SEDIMENT.
– IF SEDIMENT IS MIXED WITH OTHER POLLUTANTS, IT WILL BE DISPOSED OF PROPERLY AT AN AUTHORIZED LANDFILL.

VEHICLE AND EQUIPMENT FUELING SM–5

DESCRIPTION AND PURPOSE
VEHICLE EQUIPMENT FUELING PROCEDURES AND PRACTICES ARE DESIGNED TO PREVENT FUEL SPILLS AND LEAKS, AND REDUCE OR ELIMINATE CONTAMINATION OF STORM WATER. THIS WILL BE ACCOMPLISHED BY FUELING AS OUTLINED BELOW, IMPLEMENTING SPILL CONTROLS, AND TRAINING EMPLOYEES AND REQUIRING SUBCONTRACTORS TO HAVE PERSONNEL TRAINED IN PROPER FUELING PROCEDURES.

SUITABLE APPLICATIONS
FUELING MANAGEMENT PRACTICES ARE SUITABLE FOR USE AT ALL CONSTRUCTION SITES THAT USE FUELING TANKS OR FUELING TRUCK SYSTEMS.

LIMITATIONS
– WITH THE EXCEPTION OF TRACKED EQUIPMENT SUCH AS BULLDOZERS AND LARGE EXCAVATORS; MOBILE CONSTRUCTION EQUIPMENT WILL BE TRANSPORTED TO DESIGNATED FUELING AREAS.

IMPLEMENTATION
– OFFSITE FUELING STATIONS WILL BE USED AS MUCH AS POSSIBLE.
– "TOPPING–OFF" OF FUEL TANKS WILL BE DISCOURAGED.
– ABSORBENT SPILL CLEANUP MATERIALS AND SPILL KITS WILL BE AVAILABLE IN FUELING AREAS OR ON FUELING TRUCKS, AND WILL BE DISPOSED OF PROPERLY AFTER USE.
– DRIP PANS OR ABSORBENT PADS WILL BE USED DURING FUELING, UNLESS THE FUELING IS PERFORMED OVER AN IMPERMEABLE SURFACE IN A DEDICATED FUELING AREA.
– ABSORBENT MATERIALS WILL BE USED ON SMALL SPILLS. SPILLS WILL NOT BE HOSED DOWN OR BURIED. USED ABSORBENT MATERIALS WILL BE REMOVED PROMPTLY AND DISPOSED OF PROPERLY.
– FUELING WILL TAKE PLACE IN AREAS PROTECTED FROM STORM WATER RUN–ON AND RUNOFF, AND WILL BE LOCATED AT LEAST 50 FT AWAY FROM DOWNSTREAM DRAINAGE FACILITIES AND WATERCOURSES. DESIGNATED FUELING AREAS WILL BE IDENTIFIED IN THE SWAPP.
– PROTECTED FUELING AREAS WITH BERMS OR DIKES TO PREVENT RUN–ON, RUNOFF, AND TO CONTAIN SPILLS.
– NOZZLES USED IN FUELING WILL BE EQUIPPED WITH AN AUTOMATIC SHUTOFF TO CONTROL DRIPS. FUELING OPERATIONS WILL NOT BE LEFT UNATTENDED.
– ALL REQUIREMENTS WILL BE OBSERVED FOR ANY STATIONARY ABOVE GROUND STORAGE TANKS.

EDUCATION
– EMPLOYEES, SUBCONTRACTORS, AND SUPPLIERS WILL BE EDUCATED ON VEHICLE EQUIPMENT FUELING, SPILL CLEAN UP, DISPOSAL PROCEDURES, AND THE POTENTIAL DANGERS TO THE ENVIRONMENT.
– A CONTINUING EDUCATION PROGRAM WILL INDOCTRINATE NEW EMPLOYEES.
–

INSPECTION AND MAINTENANCE
– VEHICLES AND EQUIPMENT WILL BE ROUTINELY INSPECTED FOR LEAKS. LEAKS WILL BE REPAIRED IMMEDIATELY OR PROBLEM VEHICLES OR EQUIPMENT WILL BE REMOVED FROM THE PROJECT SITE.
– AN AMPLE SUPPLY OF SPILL CLEANUP MATERIALS WILL BE AVAILABLE.
– SPILLS WILL BE IMMEDIATELY CLEANED UP, AND CONTAMINATED SOIL AND CLEANUP MATERIALS WILL BE PROPERLY DISPOSED OF. IF MOBILE FUELING OPERATIONS USED, SUPPLIER WILL HAVE SPILL EQUIPMENT AND PROCEDURES ON THE TRUCK. IF STATIONARY FUEL STORAGE IS USED, SITE MANAGER WILL HAVE THE EQUIPMENT AND PROCEDURES ON SITE.

REMOVAL OF TEMPORARY CONCRETE WASHOUT FACILITIES

- WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.
- HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

COSTS
ALL OF THE ABOVE ARE LOW COST MEASURES.

INSPECTION AND MAINTENANCE

- INSPECT AND VERIFY THAT ACTIVITY-BASED BMPS ARE IN PLACE PRIOR TO THE COMMENCEMENT OF ASSOCIATED ACTIVITIES. WHILE ACTIVITIES ASSOCIATED WITH THE BMP ARE UNDER WAY, INSPECT WEEKLY DURING THE RAINY SEASON AND OF TWO-WEEK INTERVALS IN THE NON-RAINY SEASON TO VERIFY CONTINUED BMP IMPLEMENTATION.
- TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE MAINTAINED TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM FREEBOARD OF 4 IN. FOR ABOVE GRADE FACILITIES AND 12 IN. FOR BELOW GRADE FACILITIES. MAINTAINING TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD INCLUDE REMOVING AND DISPOSING OF HARDENED CONCRETE AND RETURNING THE FACILITIES TO A FUNCTIONAL CONDITION. HARDENED CONCRETE MATERIALS SHOULD BE REMOVED AND DISPOSED OF.
- WASHOUT FACILITIES MUST BE CLEANED, OR NEW FACILITIES MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75% FULL.

TABLE 9.5.21-1A

GRASSES OR LEGUMES	LBS. TO FURNISH 60 PLS/sq. ft. PER ACRE	LOAMS, CLAYLOAMS, AND CLAYS A	B	C	D	E	F	SANDY & LOAMY SAND A	D	E	F	REMARKS
Native Grasses:												
Big bluestem	15.9	X	0	–	–	X	–	0	–	–	–	
Buffalograss (burs)	46.2	0	–	–	X	0	X	–	–	–	0	
Blue grama	3.3	X	0	–	X	X	X	X	X	X	X	
Little hluestem	9.9	X	–	–	0	X	0	X	0	X	0	
Prairie sandreed	9.6	–	–	–	–	–	–	X	–	X	–	PLANT WITH MIXTURES
Reed caniuygrass	4.8	X	X	X	–	X	–	X	–	X	–	
Sand hluestem	23.1	–	–	–	–	–	–	X	0	X	–	WET AREAS
Sideoats grama	13.5	X	–	–	X	X	X	0	0	0	0	
Western wheatgrass	24.0	X	X	0	0	X	0	X	0	X	0	
Sand lovegrass	2.1	–	–	–	–	–	–	X	X	X	X	
Switchgrass	6.6	X	X	X	0	X	–	X	0	X	–	
Indiangrass	15.0	X	0	–	–	X	–	0	–	0	–	
Introduced Grass:												
Fairway wheatgrass	16.0	–	–	–	X	–	0	–	0	0	0	BUNCHY
Intermediate wheatgrass	30.0	X	0	–	0	X	0	X	0	X	0	NOT LONGLIVED
Smooth hrome	19.4	X	0	–	0	X	0	X	0	X	–	
Kentucky bluegrass	1.2	–	–	–	X	–	X	–	X	–	X	HIGHT MAINTENANCE
Perennial ryegrass	11.6	X	X	–	X	0	X	X	X	0	X	MAY BE SHORTLIVED
Tall fescue	11.6	0	0	0	X	X	X	X	X	X	X	BUNCHY
Creeping foxtail	3.4	X	X	X	–	–	–	–	–	–	–	
Legumes:												
Alfalfa	19.5	–	–	–	0	0	X	–	0	0	X	LOW EROSION CONTROL
Birdsfoot trefoil	10.5	–	–	–	X	0	X	0	0	X	X	
Red clover	14.4	–	–	–	X	0	X	0	0	X	X	
Cromvetch	36.0	X	–	–	–	X	0	X	–	X	–	IN SOLIDS STANDS
Purple prairieclover	9.6	X	X	–	X	X	X	X	X	X	X	
Cicer milkvetch	29.1	X	–	–	–	X	0	X	–	X	–	IN SOLIDS STANDS
Hairy vetch	120.0	–	–	–	–	–	0	0	0	X	0	
Forbs:												
Roundhead lespedeza	17.1	X	–	–	–	X	–	X	–	X	–	
Thickspike gayfeather	24.0	X	–	–	–	X	–	X	–	X	–	
Dotted gayfeather	18.9	X	–	–	X	X	X	X	X	X	X	
Shellleaf permstemon	9.6	X	–	–	0	X	0	X	0	X	X	
Maximilian sunflower	17.4	X	–	–	–	X	–	X	–	X	–	

KEY: X Best, 0 Fair, – Poor; A Dam, Diversion, Dike; B Channels; C Shoreline &Low Areas; D Heavy Traffic & Recreation; E Roadside; F Residential &Development Sites

Source: LPSNRD Manual, 1994

Omaha Regional Stormwater Design Manual

TABLE 9.5.21-1B

	GRASSES OR LEGUMES	LBS. TO FURNISH 60 PLS/sq. ft. PER ACRE	LOAMS, CLAYLOAMS, AND CLAYS A	B	C	D	E	F	SANDY & LOAMY SAND A	D	E	F	REMARKS
	Warm Season Dominant:												
OCTOBER 1 – JUNE 15	Big bluestem	4.0	X	0	–	–	X	–	X	–	X	–	FOR SANDS AND LOAMY SANDS
	Sideoats grama	2.9	X	0	–	–	X	–	X	–	X	–	SUBSTITUTE SAND BLUESTEM
	Switchgrass	0.7	X	0	–	–	X	–	X	–	X	–	FOR BIG BLUESTEM, 1.8 LBS OF
	Indiangrass	3.6	X	0	–	–	X	–	X	–	X	–	PRAIRIE SANDREED FOR
	Tall fescue	2.1	X	0	–	–	X	–	X	–	X	–	SIDEOATS GRAMA AND 0.2 LBS PLS SAND LOVEGRASS FOR TALL FESCUE
	Buffalograss (burs)	38.0	–	–	–	X	X	X	–	X	–	X	
	Blue grama	0.6	–	–	–	X	X	X	–	X	–	X	
	Buffalograss (burs)	32.3	0	–	–	X	X	X	–	X	–	X	
	Blue grama	0.3	0	–	–	X	X	X	–	X	–	X	
	Sideoats grama	2.7	0	–	–	X	X	X	–	X	–	X	
	Switchgrass	3.8	–	X	X	–	–	–	X	–	X	–	WET AREAS
	Reed canarygrass	2.0	–	X	X	–	–	–	X	–	X	–	
	Cool–Season Dominant:												ADD 10 LBS OF WESTERN WHEATGRASS TO REPLACE 7.2
AUGUST 15 – APRIL 30	Smooth brome	14.4	X	0	–	–	X	–	X	–	0	–	LBS OF BROME OR 3.6 LBS OF
	Switchgrass	1.7	X	0	–	–	X	–	X	–	0	–	TALL FESCUE
	Tall fescue	7.3	X	X	0	–	X	–	0	–	0	–	
	Swtchgrass	2.4	X	X	0	–	X	–	0	–	0	–	
	Perennial ryegrass	5.2	–	–	–	X	–	X	–	X	–	X	LESS THAN 5 YEARS
	Alfalfa	10.8	–	–	–	X	–	X	–	X	–	X	
	Red clover	3.9	–	–	–	X	–	X	–	X	–	X	SUBSTITUTE 0.6 LBS PLS
	Birdsfoot trefoil	1.9	–	–	–	X	–	X	–	X	–	X	SAND LOVEGRASS TO REPLACE
	Tall fescue		–	–	–	X	–	X	–	X	–	X	TALL FESCUE FOR SANDS AND LOAMY SANDS

KEY: X Best, 0 Fair, – Poor; A Dam, Diversion, Dike; B Channels; C Shoreline &Low Areas; D Heavy Traffic & Recreation; E Roadside; F Residential &Development Sites

Source: LPSNRD Manual, 1994

Omaha Regional Stormwater Design Manual

BEST MANAGEMENT PRACTICES RESPONSIBILITY TABLE

MAJOR ACTIVITY	CONTROL MEASURES	TIMING	RESPONSIBLE PARTY
Grading	Rock Access Road	Prior to Stripping	Grading Contractor
	Silt Basins	Prior to Stripping	Grading Contractor
	Silt Fence	Prior to Stripping	Grading Contractor
	Trash Containers	Prior to Stripping	Grading Contractor
	Restroom Facilities	Prior to Stripping	Grading Contractor
	Fuel Containment Area	Prior to Stripping	Grading Contractor
	Cleanup of Any	Daily	Grading Contractor
	Tracked Mud/Dirt From Adjacent Streets Use of Water Truck to Control Windblown Dirt	As often as needed to prevent and as recommended by the Engineer.	Grading Contractor
Sewers	Continue to Utilize And Maintain Items Listed Under Grading Control Measures	As often as needed to prevent and as recommended by the Engineer.	Contractor For Public Improvements
Paving	Continue to Utilize And Maintain Items Listed Under Grading Control Measures	As often as needed to prevent and as recommended by the Engineer.	Contractor For Public Improvements
	Install Pipe Diversions From Public Sewer System To Existing Silt Basins	As Time of Curb Inlet Construction	Contractor For Public Improvements
	Clean Onsite Pavement To Remove Mud & Dirt	As Often As Needed To Prevent Migration of Sediment	Contractor For Public Improvements
Water, Power, Gas, Utilities	Continue To Utilize And Maintain Items Listed Under Grading, Sewers & Paving	As often as needed to prevent and as recommended by the Engineer.	Utility Contractor and SID
Building Construction	Use of Individual Lot Measures Including Silt Fence, Rock Road & Inlet Filters	As often as needed to prevent and as recommended by the Engineer.	Building Contractor
	Clean OnSite Pavement To Remove Mud & Dirt From Adjacent Streets	Prior to Disturbance of Lot	
	Periodic Street Sweeping To Manage Sedimentation	As often as needed to prevent Migration of Sediment	

GRADING PLAN GENERAL NOTES

GENERAL NOTES - PART 1
1. All project procedures and materials shall conform to the following City of Omaha publication and any additions thereto:
a. City of Omaha Regional Stormwater Design Manual
b. City of Omaha Best Management Practices for Construction Sites: Cunningham, Standing Bear, and Zorinsky Lake Watersheds
2. The CONTRACTOR must comply with all noise and dust control ordinances of the City of Omaha.
3. The CONTRACTOR shall notify of utility companies 48 hours before work is started to verify utility locations (One Call 344–3565).
4. Barricades shall conform to Omaha Public Works "Barricading Standards, Specifications, Methods & Materials", and/or the "Manual on Uniform Traffic Control Devices".
5. The CONTRACTOR shall be responsible to comply with all OSHA regulations.
6. The APPLICANT will apply for a City of Omaha Grading Permit. The CONTRACTOR shall check with the INSPECTOR for City approval of the City of Omaha Grading Permit before starting work. The INSPECTOR and the City of Omaha Public Works Department (Matthew Grosse mgrosse@ci.omaha.ne.us) shall be notified by the CONTRACTOR 48 hours before start of construction. No work may begin until the permit has been received and the CONTRACTOR must comply with the terms of the permit. Contractor shall submit a grading start form 48 hours prior to construction on omahapermix.org
7. The APPLICANT and INSPECTOR shall cooperate with the City of Omaha in regard to the construction activities so as to minimize the potential for erosion.
8. The CONTRACTOR shall cooperate with the APPLICANT and INSPECTOR in regard to the construction activities so as to minimize the potential for erosion.
9. The CONTRACTOR shall monitor perimeter silt fencing and install additional silt fencing if necessary (note: see Erosion Control Feature Maintenance Schedule) or as directed by the INSPECTOR.
10. The CONTRACTOR shall periodically remove accumulated sediment from sediment traps, sediment basins, behind silt fences, and all other erosion control measures that store sediment if necessary (note: see Erosion Control Feature Maintenance Schedule) or as directed by the INSPECTOR.
11. The CONTRACTOR shall build stabilized construction entrances. The CONTRACTOR shall monitor all stabilized construction entrances and maintain the entrance as needed (note: see Erosion Control Feature Maintenance Schedule) or as directed by the INSPECTOR. The CONTRACTOR shall not use any other access to the site or allow others to use alternate access points.
12. All erosion control features shall be kept in working order. The CONTRACTOR shall repair all damages caused by soil erosion and construction equipment at or before the end of each working day or as directed by the INSPECTOR.
13. Erosion control features may not be removed until 70% as defined in grading permit terms. Full development shall mean installation of pavements, buildings, storm sewers, landscaping, and seeding.
14. The CONTRACTOR shall be responsible for providing containment dikes or other protective measures around all on–site fueling and chemical storage areas.
15. In the event of a release of oil or hazardous substance, the CONTRACTOR shall comply with the requirements of the Nebraska Department of Environmental Quality for notification, containment, investigation, remedial action and disposal.
16. For dust control the CONTRACTOR shall use any of the following measures or a combination if necessary:
a. Tank truck or other such equipment to spread water on striped areas.
b. Tank truck or other such equipment to spread water on haul roads.
c. Decrease vehicular speed on haul roads.
d. As directed by the INSPECTOR
17. Diversion berms and level terraces shall be constructed as shown on the plans and as necessary to properly control sediment erosion and protect adjacent properties. Diversions and Level terraces shall be in place at the end of each working day, at any time that rain is forecast, and as directed by the INSPECTOR.
18. After 14 days of work stoppage in an area at least 1 acre in size, either cover crop seeding, temporary seeding or permanent seeding shall be completed. Seeding shall be in accordance with the requirements of grading permit and city of Omaha Regional Stormwater Design Manual.

GENERAL NOTES

1. All OPERATORS/CONTRACTORS must confirm with the APPLICANT that any and all applicable governmental approvals have been received prior to the start of work.
2. BMP's may not be removed without INSPECTOR and applicable governmental approval.
3. The APPLICANT, INSPECTOR, and CONTRACTORS/OPERATORS must adhere to all Good Housekeeping BMP's presented within the Omaha Regional Stormwater Design Manual Chapter 9 Section 9.6. Good Housekeeping BMP's focus on keeping the work site clean and orderly while handling materials and waste in a manner that eliminates the potential for pollutant runoff. Good Housekeeping BMP's such as Sanitary Waste Management (9.6.2), Solid Waste Management (9.6.3), Material Delivery & Storage (9.6.4), Street Cleaning / Sweeping (9.6.5), and Vehicle & Equipment Fueling (9.6.6) must be addressed when applicable. The aforementioned publication can be found at http://www.omahastormwater.org.
4. The SWPPP documents (e.g., NDEQ–NPDES, SWPPP-SM, SWPPP-N, etc.) are essential and a requirement in one part is as binding as though occurring in all. The SWPPP documents are complementary. The documents describe and provide the complete SWPPP. The APPLICANT, INSPECTOR, and/or CONTRACTORS/OPERATORS may not take advantage of any apparent SWPPP errors or omissions. The INSPECTOR shall notify the APPLICANT, DESIGNER, and CONTRACTORS/OPERATORS promptly of any omissions or errors. The APPLICANT shall instruct the DESIGNER to make any corrections necessary to fulfill the overall intent of the SWPPP Documents (e.g., Grading Permit Modification Form). In the case of a discrepancy between parts of the SWPPP documents, the most stringent requirement shall rule.

CONSTRUCTION ACTIVITIES & SCHEDULING

ACTIVITY	SCHEDULE
Install all BMP's needed and associated with the Grading Phase such as stabilized construction entrances, silt basins, riser pipes, outlet pipes, silt traps, silt fence, diversions, terraces, and etcetera.	Prior to any stripping of existing vegetation or grading.
Proceed with stripping of existing vegetation and grading in accordance with the grading plan, while disturbing no more than necessary.	After Installing all BMP's needed and associated with the Grading Phase. Furthermore, INSPECTOR approval must be obtained before the start of any stripping of existing vegetation or grading.
Proceed with infrastructure installation.	Infrastructure installation must occur prior to any lot development.
Implement the installation of Temporary Seeding, Permanent Seeding, and/or Mulching.	Stabilization measures must be initiated as soon as possible in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.
Implement the installation all BMP's needed and associated with the Building Phase.	Building Phase BMP's must be installed concurrently with lot development.
Proceed with removal of BMP's.	BMP's may not be removed until each impacted drainage basin has been fully developed. Full development shall mean installation of pavement, buildings, and utilities, landscaping, and fully established permanent seeding. Furthermore, INSPECTOR approval must be obtained before the removal of any BMP's.

MAINTENANCE SCHEDULE

The following Maintenance Schedule has been provided. The INSPECTOR must perform the inspections. The OPERATOR/CONTRACTOR must perform all needed maintenance. Furthermore, all erosion control feature requiring maintenance may not be listed below. The OPERATOR/CONTRACTOR and INSPECTOR must perform their respective duties on all BMP's that are not listed below as well.

1. Construction Entrance – The entrance shall be maintained in a condition which will prevent tracking or flow of sediment onto public rights-of-way. This may require periodic top dressing with additional stone or the washing and reworking of existing stone as conditions demand and repair and/or cleanout of any structures used to trap sediment. All materials spilled, dropped, washed, or tracked from vehicles onto roadways or into storm drains must be removed immediately. The use of water trucks to remove materials dropped, washed, or tracked onto roadways will not be permitted under any circumstances.
2. Silt Fence - The maintenance measures are as follows: (2.1) silt fences shall be inspected immediately after each rainfall and at least daily during prolonged rainfall, any required repairs shall be made immediately; (2.2) close attention shall be paid to the repair of damaged silt fence resulting from end runs and undercutting; (2.3) should the fabric on a silt fence decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly; (2.4) sediment deposits must be removed when the level of deposition reaches approximately one-half the height of the barrier; and (2.5) any sediment deposits remaining in place after the silt fence is no longer required shall be dressed to conform to the existing grade, prepared and seeded.
3. Storm Drain Inlet Protection - The maintenance measures are as follows: (3.1) structures shall be inspected after each rain and repairs made as necessary and (3.2) structures shall be removed and the area stabilized when the remaining drainage area has been properly stabilized.
4. Temporary Diversion Dike - The measure shall be inspected after every storm and repairs made to the dike, flow channel, outlet or sediment trapping facility, as necessary. Once every two weeks, whether a storm event has occurred or not, the measure shall be inspected and repairs made if needed. Damages caused by construction traffic or other activity must be repaired before the end of each working day.
5. Temporary Fill Diversion - Since the practice is temporary and under most situations will be covered the next working day. The maintenance required should be low. If the practice is to remain in use for more than one day, an inspection shall be made at the end of each work day and repairs made to the measure if needed. The OPERATOR/CONTRACTOR should avoid the placement of any material over the structure while it is in use. Construction traffic should not be permitted to cross the diversion.
6. Temporary Sediment Trap - The maintenance measures are as follows: (6.1) sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to one half the design volume of the wet storage, sediment removal from the basin shall be deposited in a suitable area and in such a manner that it will not erode and cause sedimentation problems; (6.2) filter stone shall be regularly checked to ensure that filtration performance is maintained, stone choked with sediment shall be removed and cleaned or replaced; and (6.3) the structure should be checked regularly to ensure that it is structurally sound and has not been damaged by erosion or construction equipment, the height of the stone outlet should be checked to ensure that its center is at least 1 foot below the top of the embankment.
7. Temporary Sediment Basin – The basin embankment should be checked regularly to ensure that it is structurally sound and has not been damaged by erosion or construction equipment. The emergency spillway should be checked regularly to ensure that its lining is well established and erosion-resistant. The basin should be checked after each runoff producing rainfall for sediment cleanout and trash removal. When the sediment reaches the cleanout level, it shall be removed and properly disposed of.
8. Temporary Seeding - Areas which fail to establish vegetative cover adequate to prevent rill erosion will be re-seeded as soon as such areas are identified. Control weeds by mowing.
9. Permanent Seeding - The maintenance measures are as follows: (9.1) in general, a stand of vegetation cannot be determined to be fully established until it has been maintained for one full year after planning; (9.2) new seedlings shall be supplied with adequate moisture, supply water as needed, especially late in the season, in abnormally hot or dry conditions, or on adverse sites, water applications shall be controlled to prevent excessive runoff; (9.3) inspect all seeded areas for failures and make necessary repairs, replacements, and reseedings within the planting season, if possible; [9.3.a] if stand is inadequate for erosion control, over seed and fertilize using half of the rates originally specified; [9.3.b] if stand is 60% damaged, re-establish following seedbed and seeding recommendations; [9.3.c] if stand has less than 40% cover, re-evaluate choice of plant materials and quantities of lime and fertilizer, the soil must be tested to determine if acidity or nutrient imbalances are responsible, re-establish the stand following seedbed and seeding recommendations.
10. Mulching - All mulches and soil coverings should be inspected periodically (particularly after rainstorms) to check for erosion. Where erosion is observed in mulched areas, additional mulch should be applied. Nets and mats should be inspected after rainstorms for dislocation or failure. If washouts or breakage occur, reinstall netting or matting as necessary after repairing damage to the slope or ditch. Inspections should take place until grasses are firmly established. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface; repair as needed.
11. Soil Stabilization Blankets & Matting - All soil stabilization blankets and matting should be inspected periodically following installation, particularly after rainstorms to check for erosion and undermining. Any dislocation or failure should be repaired immediately. If washouts or breakage occurs, reinstall the material after repairing damage to the slope or ditch. Continue to monitor these areas until which time they become permanently stabilized; at that time an annual inspections should be adequate.
12. Street Cleaning / Sweeping - The maintenance measures are as follows: (12.1) evaluate access points daily for sediment tracking; (12.2) when tracked or spilled sediment is found on paved surfaces, it will be removed daily, during times of heavy track-out, such as during rains, cleaning may be done several times throughout the day; (12.3) unknown spills or objects will not be mixed with the sediment; and (12.4) if sediment is mixed with other pollutants, it will be disposed of properly at an authorized landfill.

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REVISIONS:

DRAWN BY:	JSP
CHECKED BY:	BKB
ISSUED:	PERMITS
DATE:	4-9-2021

SHEET NO:

BMP GENERAL NOTES

1. All project procedures and materials shall conform to the following publication and any additions thereto: Omaha Regional Stormwater Design Manual and the City of Omaha SWPPP Map Preparation Guide. The aforementioned publications can be found at http://www.omahastormwater.org.
2. All OPERATORS/CONTRACTORS must comply with all noise and dust control ordinances.
3. All OPERATORS/CONTRACTORS must locate all existing utility prior to the start of work (One Call 344-3565).
4. Barricades shall conform to Omaha Public Works "Barricading Standards, Specifications, Methods & Materials", and/or the "Manual on Uniform Traffic Control Devices".
5. All OPERATORS/CONTRACTORS shall be responsible to comply with OSHA regulations.
6. All OPERATORS/CONTRACTORS must confirm with the APPLICANT that any and all applicable governmental approvals have been received prior to the start of work.
7. The APPLICANT, INSPECTOR must comply with all government regulators in regards to the construction activities so as to minimize the potential for erosion.
8. All OPERATORS/CONTRACTORS must comply with the APPLICANT, INSPECTOR, and all government regulators in regards to the construction activities so as to minimize the potential for erosion and pollution.
9. Each OPERATOR/CONTRACTOR must monitor Silt Fencing, within their areas of responsibility, and install additional silt fencing if necessary and as directed by the INSPECTOR.
10. Each OPERATOR/CONTRACTOR shall periodically remove accumulated sediment from Temporary Sediment Traps, Temporary Sediment Basins, behind Silt Fences, and all other erosion control measures that store sediment, within their areas of responsibility, if necessary and as directed by the INSPECTOR.
11. Each OPERATOR/CONTRACTOR must build stabilized Construction Entrances, within their areas of responsibility and as defined within the SWPPP. Each OPERATOR/CONTRACTOR must monitor all stabilized Construction Entrances, within their areas of responsibility, while maintain the entrances as needed and directed by the INSPECTOR. OPERATORS/CONTRACTORS shall not use any other access to the site or allow others to use alternate access points.
12. Each OPERATOR/CONTRACTOR must performed preventative maintenance on each Best Management Practice (BMP), within their areas of responsibility, to ensure proper function. The INSPECTOR must ensure preventative maintenance is being performed.
13. All BMP's must be kept in working order. Each OPERATOR/CONTRACTOR must repair all damages caused by pollutant discharge and construction activities, within their areas of responsibility, at or before the end of each working day and as directed by the INSPECTOR.
14. BMP's may not be removed without INSPECTOR and applicable governmental approval.
15. Each OPERATOR/CONTRACTOR shall be responsible for adhering to all BMP's, within their areas of responsibility.
16. In the event of a release of oil or hazardous substance, all OPERATORS/CONTRACTORS shall comply with the requirements of the Nebraska Department of Environmental Quality for notification, containment, investigation, remedial action and disposal.
17. The APPLICANT, INSPECTOR, and CONTRACTORS/OPERATORS must ensure Temporary Diversion Dike and Temporary Fill Diversion are constructed as shown within the SWPPP and as necessary to properly control pollutant discharge. Temporary Diversion Dike and Temporary Fill Diversion shall be installed at the end of each working day, prior to all rain events, and as directed by the INSPECTOR.
18. The APPLICANT, INSPECTOR, and/or OPERATORS/CONTRACTORS shall allow all government regulators access to the site for inspections at any time, at the implementing agency's discretion.
19. The APPLICANT, INSPECTOR, and CONTRACTORS/OPERATORS must initiate stabilization measures, such as Temporary Seeding, Permanent Seeding, and/or Mulching, as soon as possible in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site have temporarily or permanently ceased. The Temporary Seeding (9.5.20), Permanent Seeding (9.5.21), and Mulching (9.5.23) BMP's presented within the Omaha Regional Stormwater Design Manual must be adhered to at all times. The aforementioned publications can be found at http://www.omahastormwater.org.
20. For Dust Control, the APPLICANT, INSPECTOR, and CONTRACTORS/OPERATORS must use any of the following measures or a combination if necessary: establishing Temporary Seeding, Permanent Seeding, and/or Mulch in areas subject to little or no construction traffic; irrigating stripped areas and/or haul roads; reducing vehicular speed on haul roads; and as directed by the INSPECTOR. Furthermore, the Dust Control (9.5.17) BMP presented within the Omaha Regional Stormwater Design Manual must be adhered to at all times. The aforementioned publications can be found at http://www.omahastormwater.org.
21. The APPLICANT, INSPECTOR, and CONTRACTORS/OPERATORS must ensure sediment that has been accidentally transported onto public streets is removed as needed, at the end of each working day, and prior to all rain events. Sediment shall be shoveled and/or swept from the street and disposed of in a manner that prevents stormwater contamination. Furthermore, the Street Cleaning / Sweeping (SM-4) BMP presented within the presented within the Supplemental BMP Guide must be adhered to at all times. The aforementioned publications can be found at http://www.omahastormwater.org.
22. The APPLICANT, INSPECTOR, and CONTRACTORS/OPERATORS must adhere to all Good Housekeeping BMP's presented within the Supplemental BMP Guide. Good Housekeeping BMP's focus on keeping the work site clean and orderly while handling materials and waste in a manner that eliminates the potential for pollutant runoff. Good Housekeeping BMP's such as Sanitary Waste Management (SM-1), Solid Waste Management (SM-2), Material Delivery & Storage (SM-3), Street Cleaning / Sweeping (SM-4), and Vehicle & Equipment Fueling (SM-5) must be addressed when applicable. The aforementioned publications can be found at http://www.omahastormwater.org.
23. To better inform all concerned parties about the existence of the SWPPP, The APPLICANT, INSPECTOR, and CONTRACTORS/OPERATORS must ensure an easily visible and legible sign be prominently posted at conspicuous locations near all site entry points. All signs must be in conformance with the SWPPP Notification Sign (SM-6) presented within the Supplemental BMP Guide. The aforementioned publications can be found at http://www.omahastormwater.org.
24. The SWPPP documents (e.g., NDEQ-NPDES, SWPPP-SM, SWPPP-N, etc.) are essential and a requirement in one part is as binding as though occurring in all. The SWPPP documents are complementary. The documents describe and provide the complete SWPPP. The APPLICANT, INSPECTOR, and/or CONTRACTORS/OPERATORS may not take advantage of any apparent SWPPP errors or omissions. The INSPECTOR shall notify the APPLICANT, DESIGNER, and CONTRACTORS/OPERATORS promptly of any omissions or errors. The APPLICANT shall instruct the DESIGNER to make any corrections necessary to fulfill the overall intent of the SWPPP Documents (e.g., Grading Permit Modification Form). In the case of a discrepancy between parts of the SWPPP documents, the most stringent requirement shall rule.

STANDARD DETAILS

NUMBER	NAME	LOCATION
9.5.2	Construction Entrance	Omaha Regional Stormwater Design Manual
9.5.4	Silt Fence	Omaha Regional Stormwater Design Manual
9.5.5	Storm Drain Inlet Protection	Omaha Regional Stormwater Design Manual
9.5.7	Temporary Diversion Dike	Omaha Regional Stormwater Design Manual
9.5.8	Temporary Fill Diversion	Omaha Regional Stormwater Design Manual
9.5.14	Temporary Sediment Trap	Omaha Regional Stormwater Design Manual
9.5.15	Temporary Sediment Basin	Omaha Regional Stormwater Design Manual
9.5.16	Dust Control	Omaha Regional Stormwater Design Manual
9.5.19	Temporary Seeding	Omaha Regional Stormwater Design Manual
9.5.20	Permanent Seeding	Omaha Regional Stormwater Design Manual
9.5.22	Mulching	Omaha Regional Stormwater Design Manual
9.5.23	Soil Stabilization Blankets & Matting	Omaha Regional Stormwater Design Manual
9.6.2	Sanitary Waste Management	Omaha Regional Stormwater Design Manual
9.6.3	Solid Waste Management	Omaha Regional Stormwater Design Manual
9.6.4	Material Delivery And Storage	Omaha Regional Stormwater Design Manual
9.6.5	Street Cleaning / Sweeping	Omaha Regional Stormwater Design Manual
9.6.6	Vehicle And Equipment Fueling	Omaha Regional Stormwater Design Manual
9.6.7	SWPPP Notification Sign	Omaha Regional Stormwater Design Manual

The Omaha Regional Stormwater Design Manual can be found at http://www.omahastormwater.org.

ONSITE TEMPORARY CONCRETE WASHOUT FACILITY, TRANSIT TRUCK WASHOUT PROCEDURES

- TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE LOCATED A MINIMUM OF 50 FT FROM STORM DRAIN INLETS, OPEN DRAINAGE FACILITIES, AND WATERCOURSES. EACH FACILITY SHOULD BE LOCATED AWAY FROM CONSTRUCTION TRAFFIC OR ACCESS AREAS TO PREVENT DISTURBANCE OR TRACKING.
- A SIGN SHOULD BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.
- TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE CONSTRUCTED ABOVE GRADE OR BELOW GRADE AT THE OPTION OF THE CONTRACTOR. TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.
- TEMPORARY WASHOUT FACILITIES SHOULD HAVE A TEMPORARY PIT OR BERMED AREAS OF SUFFICIENT VOLUME TO COMPLETELY CONTAIN ALL LIQUID AND WASTE CONCRETE MATERIALS GENERATED DURING WASHOUT PROCEDURES.
- WASHOUT OF CONCRETE TRUCKS SHOULD BE PERFORMED IN DESIGNATED AREAS ONLY.
- ONLY CONCRETE FROM MIXER TRUCK CHUTES SHOULD BE WASHED INTO CONCRETE WASH OUT. CONCRETE WASHOUT FROM CONCRETE PUMPER BINS CAN BE WASHED INTO CONCRETE PUMPER TRUCKS AND DISCHARGED INTO DESIGNATED WASHOUT AREA OR PROPERLY DISPOSED OF OFFSITE.
- ONCE CONCRETE WASTES ARE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN, THE CONCRETE SHOULD BE BROKEN UP, REMOVED, AND DISPOSED OF PER WM-5, SOLID WASTE MANAGEMENT. DISPOSE OF HARDENED CONCRETE ON A REGULAR BASIS.
- TEMPORARY CONCRETE WASHOUT FACILITY (TYPE ABOVE GRADE)
  - TEMPORARY CONCRETE WASHOUT FACILITY (TYPE ABOVE GRADE) SHOULD BE CONSTRUCTED AS SHOWN ON THE DETAILS AT THE END OF THIS BMP, WITH A RECOMMENDED MINIMUM LENGTH AND MINIMUM WIDTH OF 10 FT, BUT WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.
  - STRAW BALES, WOOD STAKES, AND SANDBAG MATERIALS SHOULD CONFORM TO THE PROVISIONS IN SEQ. STRAW BALE BARRIER.
  - PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
- TEMPORARY CONCRETE WASHOUT FACILITY (TYPE BELOW GRADE)
  - TEMPORARY CONCRETE WASHOUT FACILITIES (TYPE BELOW GRADE) SHOULD BE CONSTRUCTED AS SHOWN ON THE DETAILS AT THE END OF THIS BMP, WITH A RECOMMENDED MINIMUM LENGTH AND MINIMUM WIDTH OF 10 FT. THE QUANTITY AND VOLUME SHOULD BE SUFFICIENT TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.
  - LATH AND FLAGGING SHOULD BE COMMERCIAL TYPE.
  - PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

CONSTRUCTION SEQUENCE

THE FOLLOWING ITEMS ARE LISTED IN CHRONOLOGICAL ORDER THAT THE WORK IS EXPECTED TO OCCUR AND ANY SUBSTANTIAL DEVIATIONS SHALL BE APPROVED BY THE ENGINEER.

1. CONSTRUCT STABILIZED CONSTRUCTION ACCESSES.
2. INSTALL BMP'S PER EROSION CONTROL PREVENTION PLAN
3. GRADE FOR SEDIMENT BASIN IF APPLICABLE TO GRADING PLAN.
4. PERFORM CLEARING AND GRUBBING OPERATIONS.
5. STRIP AND STOCKPILE TOPSOIL.
6. PERFORM EXCAVATION AND FILL
7. RESPREAD TOPSOIL.
8. CLEAN AND/OR PERFORM MAINTENANCE ON BMP'S
9. PERFORM PERMANENT SEEDING.

TEMPORARY SEEDING SPECIFICATIONS

Construction Specifications:

1. Prior to seeding, install all necessary erosion control practices such as dikes, waterways, and basins.
2. Provide proper shaping of the area to be seeded in a manner such that seedbed preparation and seeding operations can be carried out.
3. Seedbed Preparation:
   A. If the area has been recently loosened or disturbed, no further roughening is required. When the area is compacted, crusted or hardened, the soil surface shall be loosened by discing, raking, harrowing, or other acceptable means. Seedbed preparation should not be undertaken when excessively wet conditions exist. Seedbed shall be prepared to a depth of approximately 3 inches.
   B. If the soil being seeded is fertile topsoil (see Std.& Spec.9.5.19, Topsoiling), fertilizer is not required. However, if subsoil is to be seeded, it will most likely be deficient in nutrients required for seed germination and growth. 450lbs./acre of 10-20-20 fertilizer should be used, and it is essential that this fertilizer be incorporated into the top 2-4 inches of soil during seedbed preparation. Soils which are highly acidic should be limited.
4. Seeding:
   A. Certified seed shall be used on all temporary plants appropriate to the season and site conditions from those listed in the accompanying table.

Time of Year	Species Seeding Rate
March 15 – May 15	Spring Oats 2 bu./AC. Barley 2 bu./AC. Perennial Ryegrass 30–40lbs./AC. Orchard Grass 20–25lbs./AC.
May 16 – July 15	Grain Sorghum (drilled) 10–20 lbs./AC. Forage Sorghum (drilled) 10–20 lbs./AC. Hybrid Sundangrass 20–30 lbs./AC.
July 16 – October 15	Spring Oats 2 bu./AC. Barley 2 bu./AC.
August 16 – October 15	Winter Wheat 1.5 bu./AC. Winter Rye 1.5 bu./AC.
October 15 – March 15	No Planting, use mulches 1.5 bu./AC.

   B. Other seedings may be used as recommended by qualified agronomists or soil conservationists. Seed should be evenly applied with a cyclone spreader, drill, cultipacker seeder, or hydroseeder. Small grains shall be planted no more than 1–1/2 inches deep and grasses no more than 1/2 inch deep.
5. When seedings are made on critical sites or adverse soil conditions, mulch material will be applied immediately after seeding. Seedings made during optimum seeding dates and with favorable soils on very flat areas may not need to be mulched. Mulching shall be done in accordance with Std. & Spec. 9.5.23, Mulching.

Maintenance:

1. Areas which fail to establish vegetative cover adequate to prevent rill erosion will be re-seeded as soon as such areas are identified. Control weeds by mowing.

SANITARY WASTE MANAGEMENT (GOOD HOUSEKEEPING)

DESCRIPTION AND PURPOSE
PROPER SANITARY WASTE MANAGEMENT PREVENT THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM SANITARY WASTE BY PROVIDING CONVENIENT, WELL-MAINTAINED FACILITIES, AND ARRANGING FOR REGULAR SERVICE AND DISPOSAL.

SUITABLE APPLICATIONS
SANITARY WASTE MANAGEMENT PRACTICES ARE SUITABLE FOR USE AT ALL CONSTRUCTION SITES THAT USE TEMPORARY OR PORTABLE SANITARY WASTE SYSTEMS.

LIMITATIONS
NONE IDENTIFIED.

IMPLEMENTATION
ONLY CONTRACT WITH A SUPPLIER OF TEMPORARY SANITARY WASTE FACILITIES THAT DISPOSES OF OR TREATS THE WASTE IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS.
– TEMPORARY SANITARY FACILITIES WILL BE LOCATED AWAY FROM DRAINAGE FACILITIES, WATERCOURSES, AND FROM TRAFFIC CIRCULATION, AND IN A CONVENIENT LOCATION.
– WHEN SUBJECTED TO HIGH WINDS OR RISK OF HIGH WINDS, TEMPORARY SANITARY FACILITIES WILL BE SECURED TO PREVENT OVERTURNING.
– WASTEWATER WILL NOT BE DISCHARGED OR BURIED WITHIN THE PROJECT SITE.
– SANITARY FACILITIES WILL BE MAINTAINED IN GOOD WORKING ORDER BY A LICENSED SERVICE.
– REGULAR WASTE COLLECTION BY A LICENSED HAULER WILL BE ARRANGED BEFORE FACILITIES OVERFLOW.

EDUCATION
– EMPLOYEES, SUBCONTRACTORS, AND SUPPLIERS WILL BE EDUCATED ON SANITARY WASTE STORAGE, DISPOSAL PROCEDURES AND THE POTENTIAL DANGERS TO HUMANS AND THE ENVIRONMENT FROM SANITARY WASTES.
– A CONTINUING EDUCATION PROGRAM WILL INDOCTRINATE NEW EMPLOYEES.

INSPECTION AND MAINTENANCE
– INSPECT AND VERIFY THAT TEMPORARY SANITARY FACILITIES ARE IN PLACE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES. WHILE CONSTRUCTION ACTIVITIES ARE UNDER WAY, INSPECT WEEKLY.
– ARRANGE FOR REGULAR WASTE COLLECTION.
– IF HIGH WINDS ARE EXPECTED, PORTABLE SANITARY FACILITIES WILL BE SECURED WITH SPIKES OR WEIGHED DOWN TO PREVENT OVER TURNING.

SOLID WASTE MANAGEMENT (GOOD HOUSEKEEPING)

DESCRIPTION AND PURPOSE
SOLID WASTE MANAGEMENT PROCEDURES AND PRACTICES HAVE BEEN DESIGNED TO PREVENT OR REDUCE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM SOLID OR CONSTRUCTION WASTE BY PROVIDING DESIGNATED WASTE COLLECTION CONTAINERS, ARRANGING FOR REGULAR DISPOSAL, AND TRAINING EMPLOYEES AND SUBCONTRACTORS.

SUITABLE APPLICATIONS
– SOLID WASTE GENERATED FROM TREES AND SHRUBS REMOVED DURING LAND CLEARING, DEMOLITION OF EXISTING STRUCTURES (RUBBLE), AND BUILDING CONSTRUCTION.
– SCRAP OR SURPLUS CONSTRUCTION WASTES AND BUILDING MATERIALS INCLUDING SCRAP METALS, RUBBER, PLASTIC, GLASS PIECES, PACKAGING MATERIALS, AND MASONRY PRODUCTS.
– DOMESTIC WASTES INCLUDING FOOD CONTAINERS SUCH AS BEVERAGE CANS, COFFEE CUPS, PAPER BAGS, PLASTIC WRAPPERS, AND CIGARETTES.

LIMITATIONS
– TEMPORARY STOCKPILING OF CERTAIN CONSTRUCTION WASTES MAY NOT NECESSITATE STRINGENT DRAINAGE RELATED CONTROLS DURING THE NON-RAINY SEASON.

IMPLEMENTATION
THE FOLLOWING STEPS WILL BE DONE TO KEEP A CLEAN SITE AND REDUCE STORM WATER POLLUTION:
– USE ONLY WATERTIGHT DUMPSTERS ONSITE.
– PROVIDE AN ADEQUATE NUMBER OF CONTAINERS WITH LIDS OR COVERS TO KEEP RAIN OUT AND TO PREVENT LOSS OF WASTES WHEN IT IS WINDY.
– LOCATE CONTAINERS IN A COVERED AREA OR IN A SECONDARY CONTAINMENT.
– COLLECT SITE LITTER REGULARLY, ESPECIALLY DURING RAINY AND WINDY CONDITIONS.
– ARRANGE FOR REGULAR WASTE COLLECTION BEFORE CONTAINERS OVERFLOW.
– CLEAN UP IMMEDIATELY IF A CONTAINER DOES SPILL.

EDUCATION
– PROHIBIT LITTERING BY EMPLOYEES, SUBCONTRACTORS, AND VISITORS.
– DUMPSTERS WILL BE LOCATED AT LEAST 50 FT FROM DRAINAGE FACILITIES AND WATERCOURSES AND WILL NOT BE LOCATED IN AREAS PRONE TO FLOODING OR PONDING.
– THE CONTRACTOR'S SUPERINTENDENT WILL OVERSEE AND ENFORCE PROPER SOLID WASTE MANAGEMENT PROCEDURES AND PRACTICES.
– THE CONTRACTOR'S SUPERINTENDENT WILL INSTRUCT EMPLOYEES AND SUBCONTRACTORS ON IDENTIFICATION OF SOLID WASTE AND HAZARDOUS WASTE.
– THE CONTRACTOR'S SUPERINTENDENT WILL REQUIRE THAT EMPLOYEES AND SUBCONTRACTORS FOLLOW SOLID WASTE HANDLING AND STORAGE PROCEDURES.
– THE CONTRACTOR'S SUPERINTENDENT WILL MAKE SURE THAT TOXIC LIQUID WASTES (USED OILS, SOLVENTS, AND POINTS) AND CHEMICALS (ACID, PESTICIDES, ADDITIVES, CURING COMPOUNDS) ARE NOT DISPOSED OF IN DUMPSTERS DESIGNATED FOR CONSTRUCTION DEBRIS.

INSPECTION AND MAINTENANCE
– THE CONTRACTOR'S SUPERINTENDENT WILL VERIFY THAT DUMPSTER IS IN BEFORE THE COMMENCEMENT OF ASSOCIATED ACTIVITIES. WHILE ACTIVITIES ASSOCIATED WITH THE BMP ARE UNDER WAY, INSPECT WEEKLY TO VERIFY CONTINUED BMP IMPLEMENTATION.
– THE CONTRACTOR'S SUPERINTENDENT WILL INSPECT CONSTRUCTION DUMPSTER'S AREA REGULARLY.
– THE CONTRACTOR'S SUPERINTENDENT WILL ARRANGE FOR REGULAR WASTE COLLECTION.

MATERIAL DELIVERY AND STORAGE (GOOD HOUSEKEEPING)

DESCRIPTION AND PURPOSE
PREVENT, REDUCE, OR ELIMINATE THE DISCHARGE OF POLLUTANTS FROM MATERIAL DELIVERY AND STORAGE IN THE STORM WATER SYSTEM, STREAMS, OR LAKES BY STORING MATERIALS IN DESIGNATED AREAS, INSTALLING SECONDARY CONTAINMENT, CONDUCTING REGULAR INSPECTIONS, MINIMIZING THE STORAGE OF HAZARDOUS MATERIALS ONSITE, AND TRAINING EMPLOYEES AND SUBCONTRACTORS.

SUITABLE APPLICATIONS
THESE PROCEDURES WILL BE USED AT ALL CONSTRUCTION SITES WITH DELIVERY AND STORAGE OF ERODIBLE, HAZARDOUS, OIL BASED, OR OTHER POLLUTING MATERIALS.

IMPLEMENTATION
THE FOLLOWING STEPS WILL BE TAKEN TO MINIMIZE RISK.
DELIVERIES
– DELIVERIES WILL BE LOCATED AWAY FROM TRAFFIC.
– MATERIAL DELIVERED AND STORED WILL BE LOCATED NEAR THE SITE ENTRANCES (LOT LEVEL NEAR PROPOSED DRIVE WAY) AND AWAY FROM AREA OR CURB INLETS, STEAMS, OR WATERWAYS.
– IF POSSIBLE, DELIVERY AREAS WILL BE IN LOCATIONS THAT ARE TO BE PAVED
STORAGE
– TEMPORARY STORAGE WILL BE LOCATED AWAY FROM TRAFFIC.
– AN UP-TO-DATE INVENTORY OF ALL STORED MATERIAL WILL BE KEPT.
– CHEMICALS, DRUMS, OR BAGGED MATERIAL WILL BE ON A PALLET, INSIDE A SECONDARY CONTAINMENT (EARTHEN DIKE, HORSE TROUGH, OR WADING POOL FOR NON-REACTIVE MATERIALS).
– CHEMICALS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS.

PRACTICES
– AN AMPLE SUPPLY OF APPROPRIATE SPILL CLEAN UP MATERIAL WILL BE KEPT NEAR STORAGE AREAS.
– DRUMMED, BARRELED, OR BAGGED MATERIALS WILL BE INDOORS WITHIN EXISTING STRUCTURES WHEN AVAILABLE.

– A TEMPORARY CONTAINMENT FACILITY WILL:
– BE DESIGNATED TO PROVIDE FOR A SPILL OF 10% OF THE TOTAL STORED, OR 100% OF THE CAPACITY OF THE LARGEST CONTAINER, WHICHEVER IS GREATER.
– BE DESIGNATED SO THAT MATERIAL USED TO CONTAIN A SPILL SHOULD BE IMPERVIOUS TO THE STORED MATERIAL FOR A MINIMUM CONTACT TIME OF 72 HOURS.
– BE MAINTAINED FREE OF SPILLS OR ACCUMULATED RAINFALL.
– HAVE SPACE BETWEEN THE STORED MATERIAL, AND ACCESS FOR EMERGENCY RESPONSE.
– NOT STORE INCOMPATIBLE MATERIALS (I.E. AMMONIA & CHLORINE) IN THE SAME CONTAINMENT.
– DRUMS, BARRELS, OR BAGS, STORED OUTDOORS, WILL BE TARPED DURING NON-WORKING HOURS.

– STOCK PILES WILL BE LOCATED A MINIMUM OF 50FT FROM CONCENTRATED FLOWS IN STORM WATER, DRAINAGE COURSES, AND UNPROTECTED INLETS (AREA OR CURB).
– ACTIVE STOCKPILES WILL BE PROTECTED IN ACCORDANCE WITH THE FOLLOWING PRACTICES:
– RUNOFF WILL BE CONTROLLED USING BERMS, DIKES, FIBER ROLES, SILT FENCE, OR OTHER APPROPRIATE CONTROLS.
– INACTIVE STOCKPILES WILL BE PROTECTED IN ACCORDANCE WITH THE FOLLOWING PRACTICES:
– STOCKPILES WILL BE VEGETATIVELY COVERED OR TARPED.
– RUNOFF WILL BE CONTROLLED USING BERMS, DIKES, FIBER ROLES, SILT FENCE, OR OTHER APPROPRIATE CONTROLS.

EDUCATION
EMPLOYEES, SUBCONTRACTORS, AND SUPPLIERS WILL BE EDUCATED ON DELIVERY AND STORAGE PROCEDURES AND THEIR RESPONSIBILITIES.

INSPECTION AND MAINTENANCE
– INSPECTIONS WILL BE CONDUCTED TO VERIFY THAT ALL MEASURES ARE IN PLACE AND FUNCTIONING.
– REPAIRS &/OR REPLACEMENT OF CONTROLS AND COVERS AS NEEDED.

PERMANENT SEEDING SPECIFICATIONS

Construction Specifications:

1. Prior to seeding, install all necessary erosion control practices such as dikes, waterways, and basins.
2. Provide proper shaping of the area to be seeded in a manner such that seedbed preparation and seeding operations can be carried out.
3. Soil conditions needed for the establishment and maintenance of permanent seeding shall be as follows:
   a. Enough fine-grained material to maintain adequate moisture and nutrient supply.
   b. Sufficient pore space to permit root penetration. A bulk density of 1.2to 1.5 indicates that sufficient pore space is present. A fine granular to crumb-like structure is also favorable.
   c. Sufficient depth of soil to provide an adequate root zone. The depth to rock or impermeable layers such as hardpans shall be 12inches or more, on slopes steeper than 2:1 where the addition of soil is not feasible.
   d. A favorable pH range for plant growth. If the soil is so acidic that a pH range of 6.0–7.0 cannot be attained by addition of pH–modifying materials, then the soil is considered an unsuitable environment for plant roots and further soil modification would be required.
   e. Freedom from toxic amounts of materials harmful to plant growth.
   f. Freedom from excessive quantities of roots, branches, large stones, large clods of earth, trash of any kind. Clods and stones may be left on slopes steeper than 3:1 if they do not significantly impede good seed soil contact.
4. Seedbed Preparation:
   a. Flat areas and slopes up to 3:1 grade shall be loose and friable to a depth of at least 3 inches. The top layer of soil shall be loosened by raking, discing or other acceptable means before seeding.
   b. Slopes steeper than 3:1 shall have the top 1–3 inches of soil loose and friable before seeding.
   c. When the area is compacted, crusted or hardened, the soil surface shall be loosened by discing, raking, harrowing, or other acceptable means. Seedbed preparation should not be undertaken when excessively wet conditions exists.
   d. Soil amendments shall be applied according to the recommendations of a soil test. When soil testing is not available, apply agricultural grade limestone at the rate of 2 tons/AC; apply 1020–10 or equivalent nutrients at the rate of 1000 lbs./AC. Lime and fertilizer shall be incorporated into the top 4–6 inches of the soil by discing or other means whenever possible.
5. Seeding:
   a. Design a seed mix by using the accompanying Table 9.5.21A, or select a mixture from Table 9.5.21B. Mixtures for permanent plantings will contain a mixture of two or more species. A single species may be used on some residential or recreational areas.
   b. Certified seed will be used on all permanent seedings. Permanent seedings shall have a minimum of 60 PLS/s.f.
   c. Seed should be evenly applied with a cyclone spreader, drill, cultipacker seeder, or hydroseeder on a firm, moist seedbed. Maximum seeding depth shall be 1/4" on clayey soils and 1/2" on sandy soils, when using other than hydroseeder method of application.
   d. If hydroseeding is used and the seed and fertilizer is mixed, they will be mixed on–site and the seeding shall be immediate without interruption. A maximum application rate of 150 lbs. of solids/100 gallons of water is to be used if legume seed is in the mixture.
   e. Cool–season dominant mixtures shall be applied August 15 – April 30.
   f. Warm–season dominant mixtures shall be applied October 1 – June 15.
   g. A protective cover crop of annual plants may be seeded for erosion protection until establishment of the permanent vegetation. Cover crop planting may be done in conjunction with permanent seeding or immediately after permanent seeding has taken place. Select cover crop plants appropriate to the season and site conditions from those listed in the accompanying table:

Time of Year	Species Seeding Rate
March 15 – May 15	Spring Oats 2 bu./AC.
May 16 – July 15	Grain Sorghum (drilled) 10–20 lbs./AC. Forage Sorghum (drilled) 10–20 lbs./AC. Hybrid Sundangrass 20–30 lbs./AC.
July 16 – October 15	Spring Oats 2 bu./AC. Winter Wheat 1.5 bu./AC. Rye 1.5 bu./AC.
October 15 – March 15	No Planting, use mulches

6. All permanent seedings shall be mulched immediately upon completion of seed application. Mulching shall be done in accordance with Std. & Spec. 9.5.23, Mulching.

Maintenance:

1. In general, a stand of vegetation cannot be determined to be fully established until it has been maintained for one full year after planning.
2. New seedings shall be supplied with adequate moisture. Supply water as needed, especially late in the season, in abnormally hot or dry conditions, or on adverse sites. Water applications shall be controlled to prevent excessive runoff.
3. Inspect all seeded areas for failures and make necessary repairs, replacements, and reseedings within the planting season, if possible.
   a. If stand is inadequate for erosion control, overseed and fertilize using half of the rates originally specified.
   b. If stand is 60% damaged, re–establish following seedbed and seeding recommendations.
   c. If stand has less than 40% cover, re–evaluate choice of plant materials and quantities of lime and fertilizer. The soil must be tested to determine if acidity or nutrient imbalances are responsible. Re–establish the stand following seedbed and seeding recommendations.

If any of the above criteria cannot be met, then topsoil shall be applied in accordance with Std.& Spec. 9.5.19,Topsoiling.

BLAKEMAN ENGINEERING

LARSEN SUPPLY/ COMPANY OFFICE/ WAREHOUSE BUILDING

2301 VETERANS MEMORIAL HIGHWAY
COUNCIL BLUFFS, IOWA

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REVISIONS:

DRAWN BY:	JSP
CHECKED BY:	BKB
ISSUED:	PERMITS
DATE:	4-9-2021

SHEET NO:

SWP1.3

LARSEN'S SUPPLY

New Warehouse and Office Building

Council Bluffs, Iowa

PROJECT DESCRIPTION

DESIGN CODE: 2015 INTERNATIONAL BUILDING CODE, LIFE SAFETY 2009
OCCUPANCY CLASSIFICATION: GROUP S1/B, SUPPLIES and OFFICES
TYPE OF CONSTRUCTION: TYPE "V-B"
SPRINKLER: YES
FIRE ALARM SYSTEM: YES
NUMBER OF FLOORS: 1
TOTAL SIZE OF BUILDING: 18,400 sf

SPECIFICATIONS

EXTERIOR MATERIALS:

EXTERIOR WINDOWS: FIXED THERMALLY BROKEN ALUMINUM WITH LOW-E INSULATING GLASS. KAWNEER 451T or SIMILAR PRODUCT WITH EQUILIVENT THERMAL VALUES.

EXTERIOR STEEL DOORS: 18 GA. FACE STEEL, GALVANIZED, INSULATED (R-5) - PAINT.

EXT. HM FRAMES: GALVANIZED, 18 GA. FULLY WELDED IN CONFIGURATIONS SHOWN.

OVERHEAD DOORS: INSULATED DOOR, R-8 (MIN.) 2" THICK, 24 GA.

SIDING: BY BUILDING MFG.

ROOFING: BY BUILDING MFG.

STONE VENEER: TO BE SELECTED BY OWNER.

CANOPY: MAPES LUMISHADE, ANODIZED ALUMINUM WITH DRAINAGE SYSTEM, 8" FASCIA. PROVIDE WITH OVERHEAD HANGER RODS IN CONFIGURATION SHOWN.

EXTERIOR STAIRS and RAILINGS: GALVANIZED STEEL.

FLASHING: RUBBERIZED ADHERED EPDM.

FLOOR SEALANT (3 COATS): V-AQUA-POXY, EPOXY SEALER.

EXTERIOR CAULKING AT BUILDING: NON-SAG POLYEURATHANE ELASTOMERIC CAULK, PAINTABLE AT SIDING. USE BACKER ROD AS DETAILED AND APPROPRIATE.

EXTERIOR CAULKING AT EXTERIOR CONCRETE: CAULK ALL CONTROL AND EXPANSION JOINTS.

FOUNDATION INSULATION: 2" RIGID INSULATION, EXTRUDED POLYSTYRENE.

INTERIOR MATERIALS:

INTERIOR FRAMES: HM FRAMES, 18 GA. FULLY WELDED OR KNOCK DOWN, SEE SCHEDULE FOR FIRE RATINGS.

INTERIOR WOOD DOORS: SOLID CORE, PARTICLE BOARD, WOOD VENEER.

ACOUSTICAL CEILING GRID: GRID TO BE USG 15/16" DX/DXL WHITE, STANDARD MOLDING AT ALL EDGES - CUT PERIMETER TILES TO MATCH TEGULR EDGE TYPICAL.

ACOUSTICAL CEILING (ACT-1): USG, ECLIPSE CLIMAPLUS, 76775, 24"x24"x3/4" TEGULAR. PROVIDE 20 EXTRA CEILING PANELS.

GYP. BD. CEILINGS: RESIDENTIAL SWIRL - VERIFY FINISH WITH OWNER.

GYP. BD. WALLS: SMOOTH LEVEL 4 FINISH.

EXPANSION JOINTS: 2" VINYL, BEIGE. SEE PLAN FOR LOCATIONS.

PORCELAIN TILE: SELECTED BY OWNER. PROVIDE ALLOWANCE.

TILE GROUT: MAPEI FLEXCOLOR CQ, COLOR TO BE SELECTED.

VINYL BASE (VB-1): 4" RECESSED VINYL BASE WALL BY JOHNSONITE. COLOR TO BE SELECTED BY OWNER. PROVIDE PREFORMED INSIDE AND OUTSIDE CORNERS.

CARPET: SELECTED BY OWNER, PROVIDE ALLOWANCE.

CASEWORK: FLUSH, PARTICLE BOARD WITH PLASTIC LAMINATE FINISH.

PLASTIC LAMINATE: WILSONART, COLOR TO BE SELECTED.

COUNTERTOPS: PLASTIC LAMINATE ON PARTICLE BOARDS.

WINDOWSILLS: PLASTIC LAMINATE ON PARTICLE BOARD.

SPECIALTIES:

FIRE EXTINGUISHERS: PROVIDE MP10, MULTI-PURPOSE DRY CHEMICAL EXTINGUISHER, 10LBS, UL RATED - 4A-606B:C

CABINET: ARCHITECTURAL SERIES, SOLID, SEMI-RECESSED, ALUMINUM.

(SPECIFIED AS DIAMOND VOGEL, SUBMIT OTHERS FOR APPROVAL)

PAINT

METAL - SPRAY or ROLLER APPLICATION
PRIMER: VERS-ACRYL 200 ACRYLIC MAINTENANCE PRIMER - MDF 2.0 mils
EACH FINISH COAT: 2 COATS, PERMACRYL EXTERIOR ACRYLIC LATEX SEMI-GLOSS, MDF 1.8 mils

LAP SIDING and TRIM: SPRAY, BRUSH or ROLLER APPLICATION
PRIMER: 1 COAT, WEATHER PLATE ACRYLIC LATEX PRIMER, MDF 2.0 mils
EACH FINISH COAT: 2 COATS, WEATHER-PLATE EXT. LATEX, SATIN, MDF 1.8 mils

GYPSUM BOARD - SATIN FINISH
PRIMER: 1 COAT, POSI PRIME INT. PRIMER, MDF 2.0 mils
EACH FINISH COAT: 2 COATS, PREMACRYLIC INT. LATEX ENAMEL, SATIN, MDF 1.8 mils

RESTROOM ACCESSORIES:

GRAB BAR: L-SHAPED, ST. STEEL, 1 1/4"Dx54"x42" (3 TOTAL)

GRAB BAR: 1 1/4"x18" ST. STEEL (3 TOTAL)

TOILET PAPER DISPENSER: ASI 0705-Z (3 TOTAL)

PAPER TOWEL DISPENSER: GP PUSH PADDLE DISPENSER 54338 (3 TOTAL)

MIRROR: FRAMELESS 2'-0"x3'-0" (3 TOTAL)

UNDER LAV GUARD: ANTI-BACTERIAL, MOLDED WHITE PLASTIC (3 TOTAL)

SOAP DISPENSER: GEORGIA PACIFIC 53087 (3 TOTAL)

URINAL SCREEN: HDPE 18" x36"

TRASH RECPETACLE: BY OWNER.

RICK L. EMSWILER
STATE OF IOWA
REGISTRATION NO.
03826
PROFESSIONAL ARCHITECT

ARCHITECT
COORDINATING PROFESSIONAL

I hereby certify that this document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Architect under the laws of the State of Iowa.

4-9-21
RICK L. EMSWILER

My license renewal date is June 30, 2022

Pages or sheets covered by this seal:

COVER, A SHEETS,

LICENSED PROFESSIONAL ENGINEER
KA P. SQUIRE III
17254
IOWA
04/09/2021

I hereby certify that this engineering document was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Ka P. Squire III

Ka P. Squire III, P.E.

My license renewal date is December 31, 2021.
Pages or sheets covered by this seal:
S0, S1, and S2

Specification Sections: N/A

LICENSED PROFESSIONAL ENGINEER
Bradley K. Blakeman
#P19806
IOWA

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA

DATE 2/11/2021

BRADLEY K. BLAKEMAN
LICENSE NUMBER P19806
MY LICENSE RENEWAL DATE IS DEC. 31, 2021.
PAGES OR SHEET COVERED BY THIS SEAL: C1.1, C2.1, C3.1, C4.1, C5.1, C5.2, C5.3, C5.4, C6.1, C7.1, SWP1.1, SWP1.2 AND SWP1.3

DRAWING INDEX

COVER	SPECS, DRAWING INDEX
C1.1	SITE DEMOLITION PLAN
C2.1	SITE GRADING PLAN
C3.1	SITE PAVING PLAN
C4.1	SITE UTILITIES PLAN
C5.1	SITE DETAILS
C5.2	SITE DETAILS
C5.3	SITE DETAILS
C5.4	SITE DETAILS
C6.1	CIVIL NOTES
C7.1	CIVIL SPECIFICATIONS
SWP1.1	STORMWWATER MANAGEMENT
SWP1.2	STORMWWATER MANAGEMENT
SWP1.3	STORMWWATER MANAGEMENT
A1	FLOOR PLAN, DOOR SCHEDULE
A2	EXTERIOR ELEVATIONS
A3	WALL SECTIONS
A4	DOORS, FINISH and CEILING PLANS
S0	STRUCTURAL NOTES
S1	FOUNDATION PLAN
S2	STRUCTURAL DETAILS
M1	MECHANICAL PLANS
E0	SITE ELECTRICAL PLAN
E1	LIGHTING PLAN
E2	POWER PLAN

CONSTRUCTION DOCUMENT PACKAGE

PROFESSIONAL SEAL

2729 Kraft Lane Heritage Hills
Missouri Valley, Iowa 51555
Phone and Fax 712-642-4657
ADDRESS

EMSWILER ARCHITECTURE
COMPANY LOGO

Larsen's Supply
CLIENT

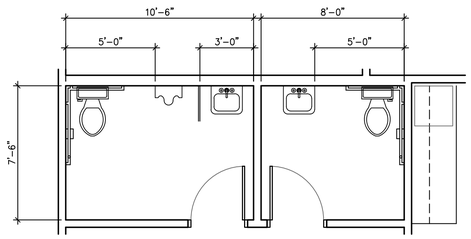
Warehouse and Offices
PROJECT

Council Bluffs, Iowa
DATE LOCATION

April 9, 2021

DRAWING INDEX COVER SHEET
CONTENTS

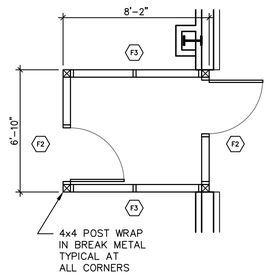
COV
SHEET



NORTH 3 A1

ENLARGED RR PLANS

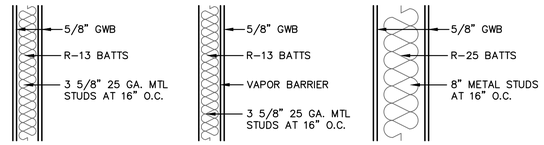
SCALE: 1/4"=1'-0"



NORTH 4 A1

ENLARGED ENTRY PLAN

SCALE: 1/4"=1'-0"

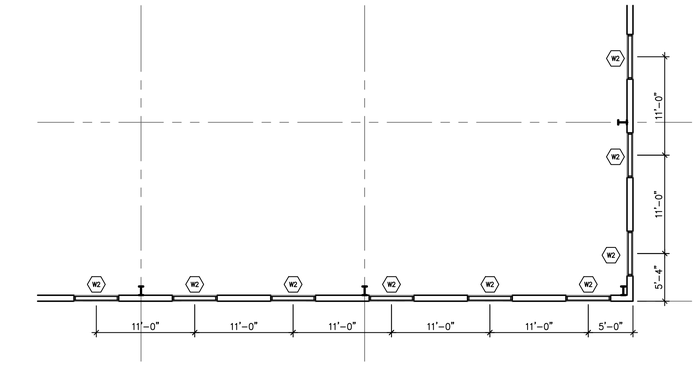


5 A1

INTERIOR WALL TYPES

SCALE: 1"=1'-0"

NOTE: ALL WALLS ARE TYPE A UNLESS NOTED OTHERWISE ON PLAN.



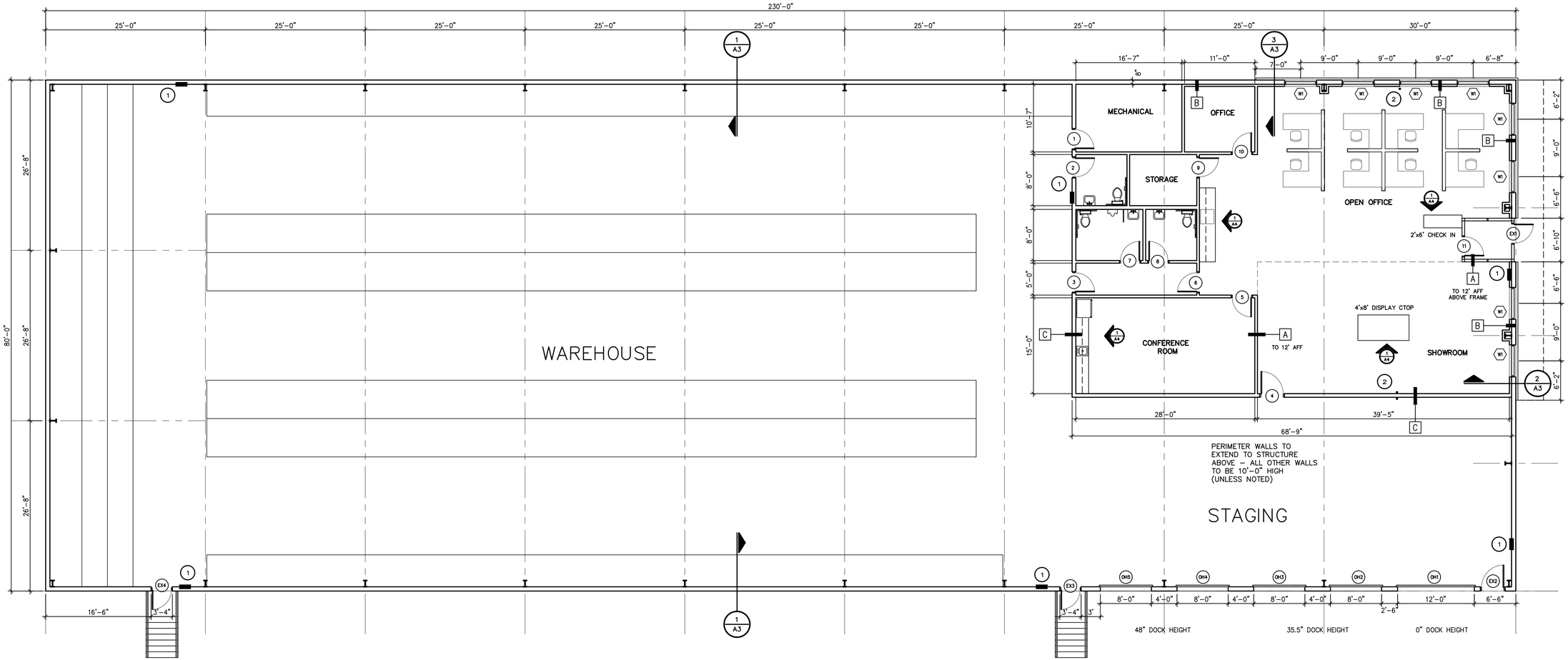
NORTH 2 A1

UPPER WINDOW PLAN

SCALE: 1/8"=1'-0"

REFERENCED NOTES: (X)

1. FIRE EXTINGUISHER AND CABINET.
2. DRYWALL EXPANSION JOINT.



NORTH 1 A1

FLOOR PLAN

SCALE: 1/8"=1'-0"

CONSTRUCTION DOCUMENT PACKAGE

PROFESSIONAL SEAL

2729 Kraft Lane Heritage Hills
Missouri Valley, Iowa 51555
Phone and Fax 712-642-4657

ADDRESS

EMSWILER ARCHITECTURE

COMPANY LOGO

CLIENT: Larsen's Supply

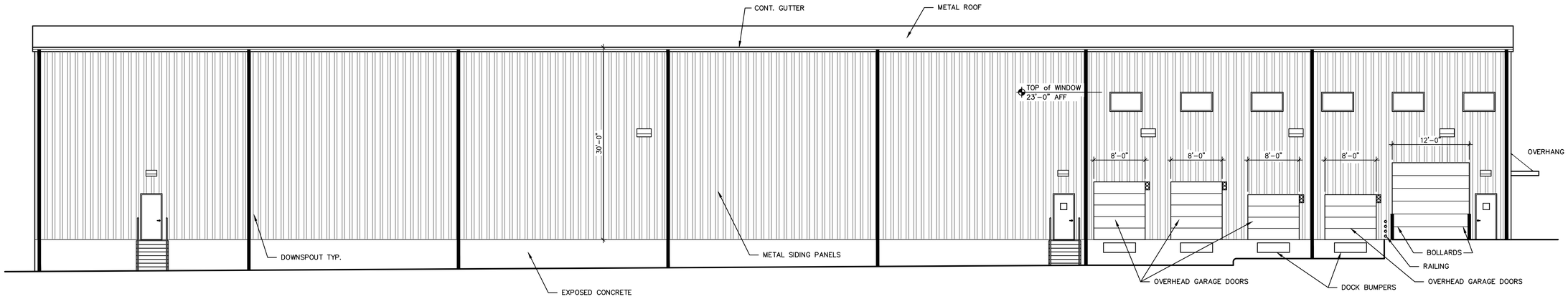
PROJECT: **Warehouse and Offices**

LOCATION: Council Bluffs, Iowa

DATE: April 9, 2021

CONTENTS: FLOOR PLAN

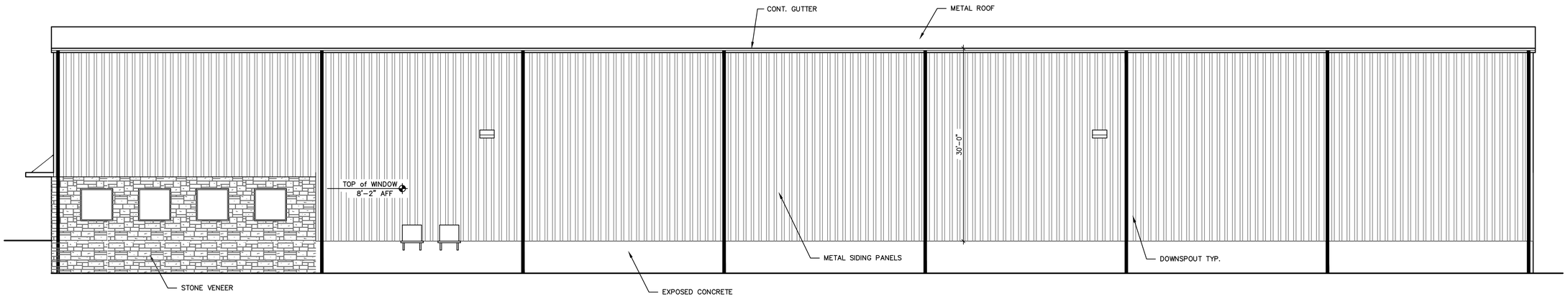
SHEET: **A1**



1
A2

EAST ELEVATION

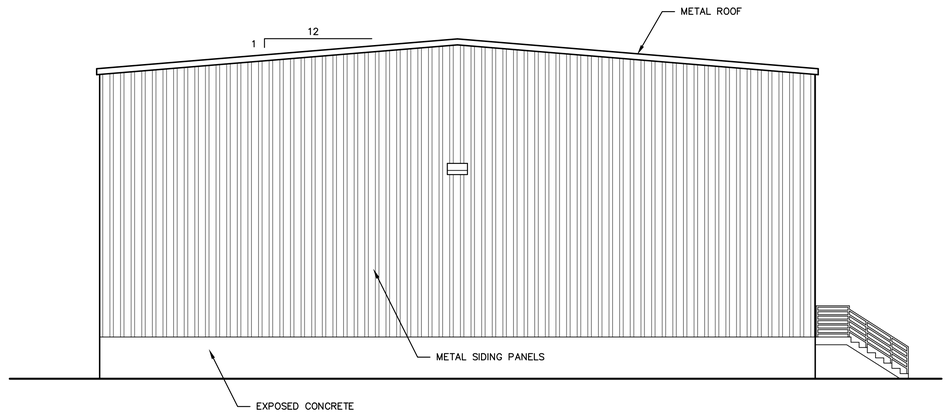
SCALE: 1/8"=1'-0"



2
A2

WEST ELEVATION

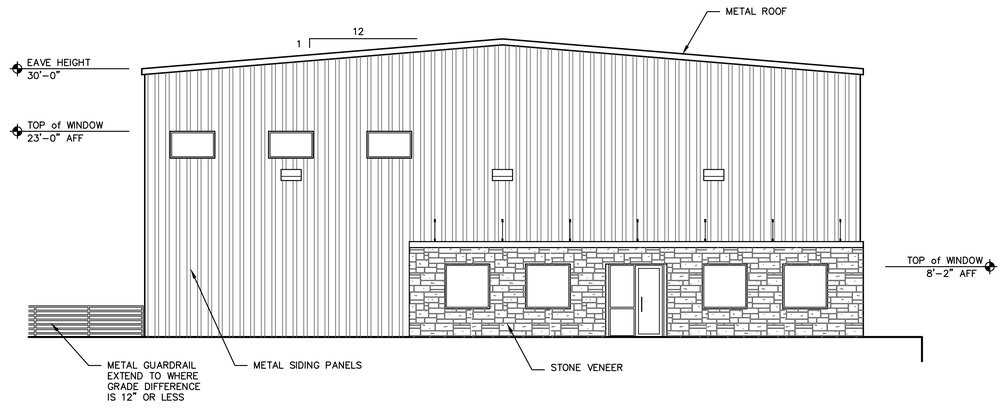
SCALE: 1/8"=1'-0"



3
A2

SOUTH ELEVATION

SCALE: 1/8"=1'-0"



4
A2

NORTH ELEVATION

SCALE: 1/8"=1'-0"

CONSTRUCTION DOCUMENT PACKAGE

PROFESSIONAL SEAL

2729 Kroft Lane Heritage Hills
Missouri Valley, Iowa 51555
Phone and Fax 712-642-4657

ADDRESS

EMSWILER ARCHITECTURE

COMPANY LOGO

Larsen's Supply — CLIENT

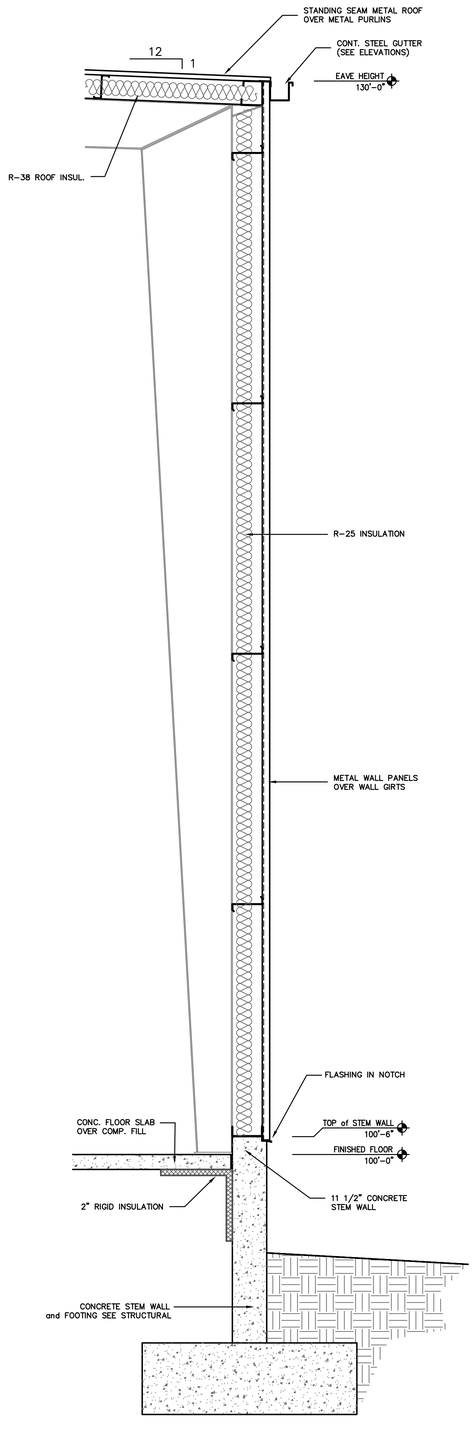
Warehouse and Offices — PROJECT

Council Bluffs, Iowa — LOCATION

April 9, 2021 — DATE

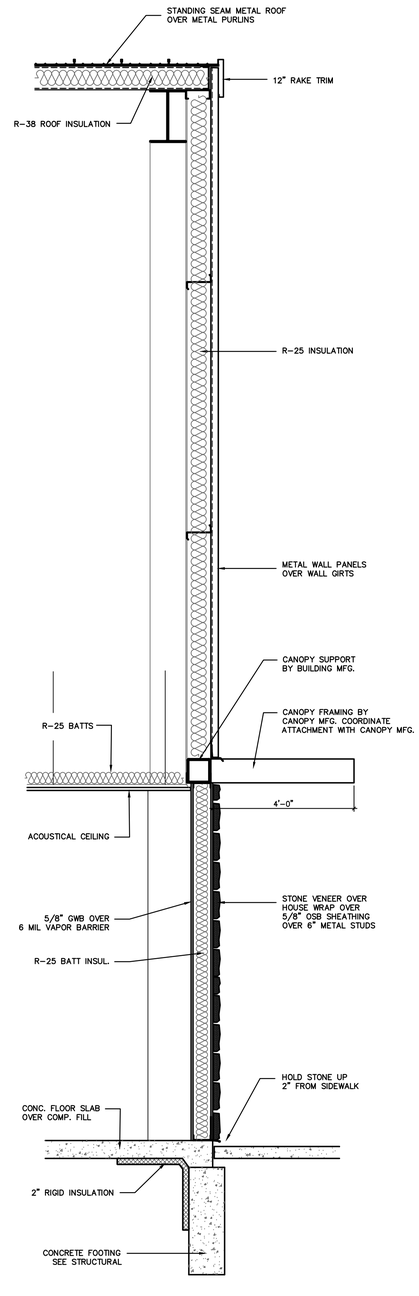
EXTERIOR ELEVATIONS — CONTENTS

A2 — SHEET



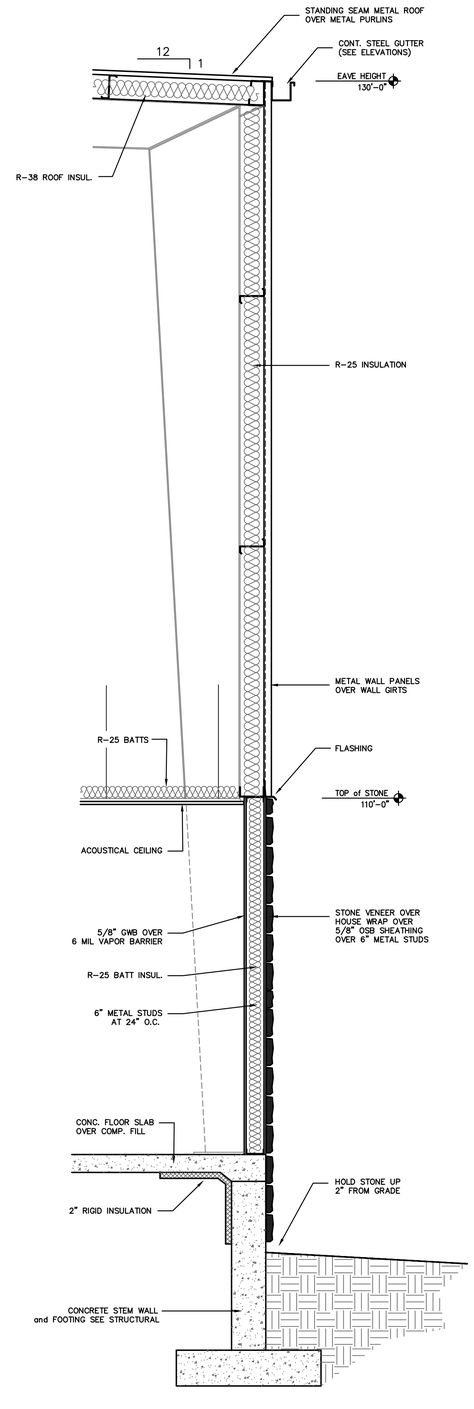
1 A3 TYPICAL WALL SECTION

SCALE: 1/2"=1'-0"



2 A3 TYPICAL WALL SECTION AT OVERHANG

SCALE: 1/2"=1'-0"



3 A3 TYPICAL WALL SECTION AT STONE VENEER

SCALE: 1/2"=1'-0"

CONSTRUCTION DOCUMENT PACKAGE

PROFESSIONAL SEAL

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Missouri Valley, Iowa 51555
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ADDRESS

EMSWILER ARCHITECTURE

COMPANY LOGO

CLIENT: Larsen's Supply

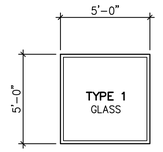
PROJECT: **Warehouse and Offices**

LOCATION: Council Bluffs, Iowa

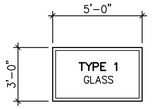
DATE: April 9, 2021

CONTENTS: WALL SECTIONS

SHEET: **A3**



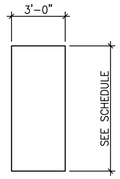
TYPE 1



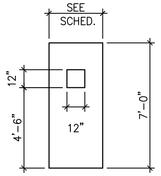
TYPE 2

WINDOW TYPES

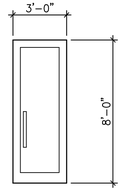
SCALE: 1/4"=1'-0"



F



FV



AL

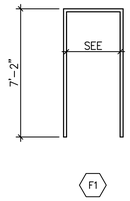
DOOR TYPES

SCALE: 1/4"=1'-0"

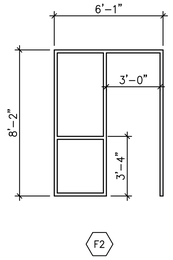
TYPE 1
1" INSULATING CLEAR GLASS

TYPE 2
1/4" TEMPERED CLEAR GLASS

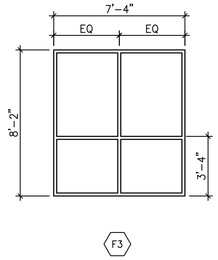
GLASS TYPES



F1



F2



F3

FRAME TYPES

SCALE: 1/4"=1'-0"

DOOR & FRAME SCHEDULE – STANDARD

NO	DOOR Size: 3'-0" x 8'-0" x 1 3/4"	3'-6" x 7'-0" x 1 3/4"	3'-0" x 7'-0" x 1 3/4"	PR3'-0" x 8'-0" x 1 3/4"	OVERHEAD GARAGE 12'W x12'H	OVERHEAD GARAGE 8'W x9'H	OVERHEAD GARAGE 8'W x7'H	DOOR Material: galvanized HM 18 ga. Insulated	aluminum	hollow metal – 18 ga.	solid core – wood veneer	DOOR Core: hollow	solid	DOOR Type	FRAME Type	FRAME Material: hollow metal – 18 GA. – GALV.	aluminum	hollow metal – 18 GA.	FRAME Depth: 4 1/2"	5 3/4"	7 3/4"	HARDWARE SET	FIRE RATING: 20 MINUTE	60 MINUTE	90 MINUTE	GLASS TYPE	NOTES
EX1	●								●			●		AL	2		●		●			1				1	
EX2			●					●				●		FV	1	●					●	2				1	1
EX3			●					●				●		FV	1	●					●	2				1	1
EX4			●					●				●		F	1	●					●	2					1
1			●							●		●		F	1			●			●	3					1
2			●							●		●		F	1			●			●	4					1
3			●							●		●		FV	1			●			●	5				2	1
4		●								●		●		FV	1			●			●	5				2	1
5			●								●		●	FV	1			●		●		6				2	
6			●								●		●	FV	1			●		●		6				2	
7			●								●		●	F	1			●		●		4					
8			●								●		●	F	1			●		●		4					
9			●								●		●	F	1			●		●		6					
10			●								●		●	FV	1			●		●		6				2	
11			●						●			●		AL	2		●		●			7				2	
OH1					●							●		F				●		●							
OH2						●						●		F				●		●							
OH3						●						●		F				●		●							
OH4							●					●		F				●		●							
OH5							●					●		F				●		●							

HARDWARE SETS

SET #1
3 HINGES
PANIC DEVICE
LOCK CYLINDER
CLOSER
THRESHOLD
DOOR SWEEP

SET #2
3 HINGES
ENTRY LOCKSET
CLOSER
THRESHOLD
DOOR SWEEP

SET #3
3 HINGES
MECHANICAL LOCKSET
WALL STOP

SET #4
3 HINGES
PRIVACY LOCKSET
WALL STOP

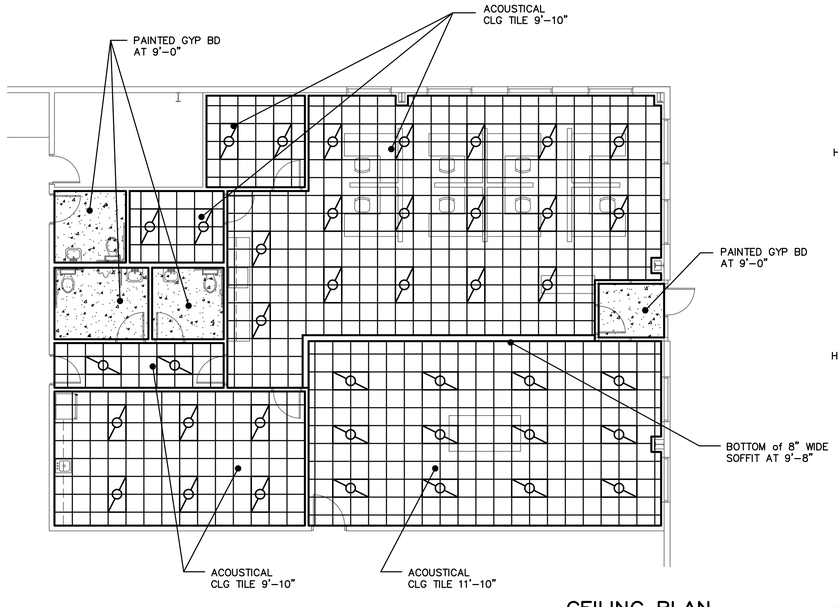
SET #5
3 HINGES
CLASSROOM LOCKSET
WALL STOP

SET #6
3 HINGES
PASSAGE SET
WALL STOP

SET #7
3 HINGES
PUSH PULL
CLOSER

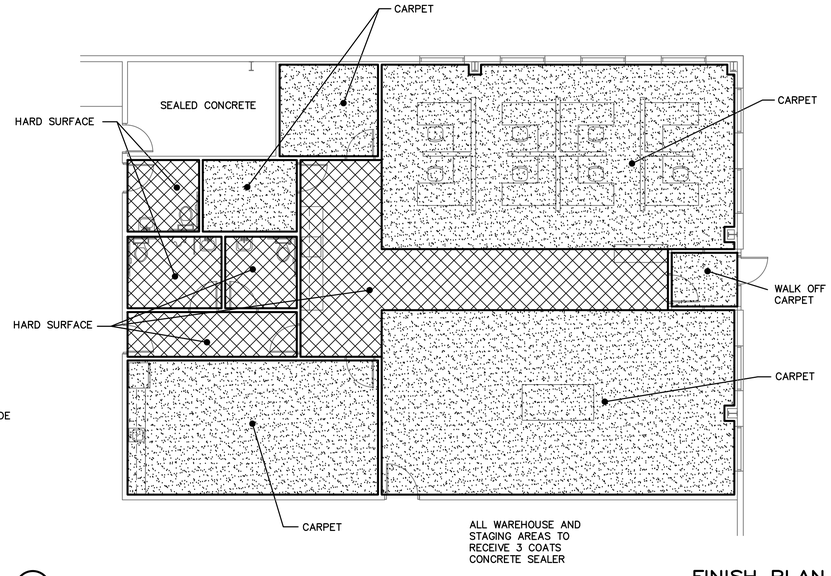
HINGES
STANLEY
STAINLESS STEEL
FBB191– 4.5 x 4.5 NRP

NOTES: 1. INSULATED DOOR



CEILING PLAN

SCALE: 1/8"=1'-0"



FINISH PLAN

SCALE: 1/8"=1'-0"

CONSTRUCTION DOCUMENT PACKAGE

PROFESSIONAL SEAL

2729 Kraft Lane Heritage Hills
Missouri Valley, Iowa 51555
Phone and Fax 712-642-4657

ADDRESS

EMSWILER ARCHITECTURE

COMPANY LOGO

Larsen's Supply — CLIENT

Warehouse and Offices — PROJECT

Council Bluffs, Iowa — LOCATION

April 9, 2021 — DATE

DOORS, FRAMES, WINDOWS, HDWRE, CEILINGS, FLOORS — CONTENTS

A4 — SHEET

EQUIPMENT SCHEDULE

MARK	CARRIER	BTU'S	VOLTAGE	PHASE	MCA AMPS	MOCP	ACCESSORIES
F-1	59SC2D100E21-20	100,000	120 VAC	SINGLE	13	15	PROGRAMMABLE THERMOSAT-LV
CC-1	CNPVP6024ALA	60,000					LOW AMBIENT COTROLS
CU-1	24ABB360A005	60,000	208/230	SINGLE	29	50	PVC CONCENTRIC

MARK	EXHAUST FAN	VOLTAGE	PHASE	HP	FLA	CFM	
EF-1	GREENHECK	208 VAC	THREE	1.50	6.6	11,500	DAMPER 208 VOLT WEATHER HOOD & WALL COLLAR SWITCH NEMA-1
EF-2	GREENHECK	115 VAC	SINGLE	1/8		974	DAMPER 115 VOLT WEATHER HOOD & WALL COLLAR SWITCH NEMA-1
BF-1	GREENHECK	115 VAC	SINGLE		0.19	77	CONTROL WITH LIGHT SWITCH

	UNIT HEATER						
UH-1	REZNOR UDZ-150	150,000	120 VAC	SINGLE	3.8	15	CONCENTRIC VENT KIT CC-6
UH-2	REZNOR UDZ-100	100,000	120 VAC	SINGLE	4.3	15	CONCENTRIC VENT KIT CC-2 THERMOSTAT

	LOUVERS AND DAMPERS	SIZE					
L-1	GREENHECK	60"X60"	120 VAC	SINGLE			MILL FINISH BIRD SCREEN
L-2	GREENHECK	20"X20"	120 VAC	SINGLE			MILL FINISH BIRD SCREEN

	REGISTERS AND GRILLES					
	PRICE MODEL	SIZE	FACE SIZE	QTY	BORDER	FINISH
D-1	SCD	6"	24X24	3	31	B12
D-2	SCD	10"	24X24	10	31	B12
G-1	PDDR	22X22	24X24	3	3	B12
G-1	PDDR	22X10	24X12	3	3	B12
R-1	520D	12X6		3	F	B12
LD-1	SDS100	24X2		9	14	B12
LD-1 BOOT	SDB1100	24X2	6"			

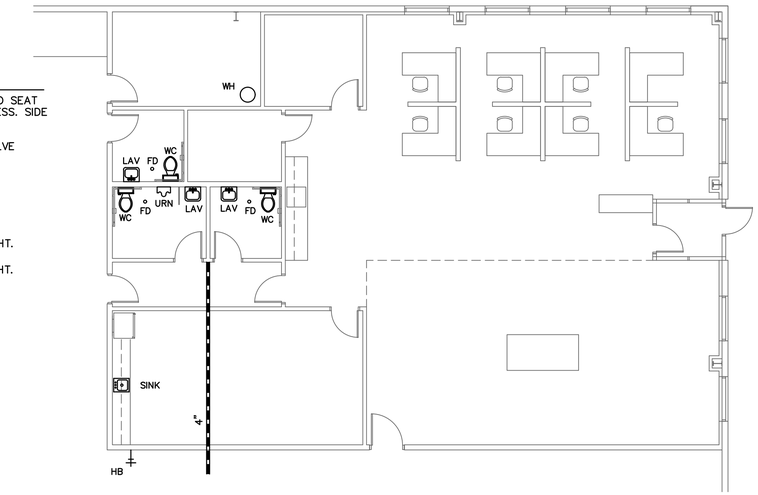
PLUMBING FIXTURE CONNECTION SCHEDULE

MODEL	MARK	COLD	HOT	WASTE	VENT	FAUCETS/CONTROLS/ETC.
ACCESSIBLE TOILET KOHLER K-3493, HIGHLINE	WC	1/2"	–	4"	2"	PROVIDE WITH ELONGATED SEAT PROVIDE FLUSH ON ACCESS. SIDE
URINAL SLOAN 1.0 GPF, REGAL 186-1.0	URN	3/4"	–	2"	1 1/2"	PROVIDE WITH FLUSH VALVE MOUNT AT 17" TO RIM
CORIAN BOLD 965P – WHITE	LAV	1/2"	1/2"	1 1/4"	1 1/4"	DELTA 559LF-PP
ELKAY DSER127221	SINK	1/2"	1/2"	1 1/4"	1 1/4"	DELTA B4310LF
FLOOR DRAIN, ZURN EZ1	FD	–	–	3"	1 1/2"	3" WASTE, ADJUSTABLE HT.
FLOOR DRAIN, ZURN ZN415-3NH-5B	FD2	–	–	3"	1 1/2"	3" WASTE, ADJUSTABLE HT.
HOSE BIB	HB	–	–	–	–	KEYLESS HOSE BIB
DRINKING FOUNTAIN BOTTLE FILLER ELKAY LZS8WSLK	DF	1/2"	–	1 1/4"	1 1/4"	MOUNT AT 32" TO RIM
25 GAL. ELECTRIC WATER HEATER	WH	1/2"	–	–	–	
SEDIMENT/OIL INTERCEPTOR	INT	–	–	–	–	VERIFY SIZE WITH CITY

CONTRACTOR SHALL VERIFY ALL SUPPLY, WASTE AND VENT SIZES WITH THE ACTUAL FIXTURE.

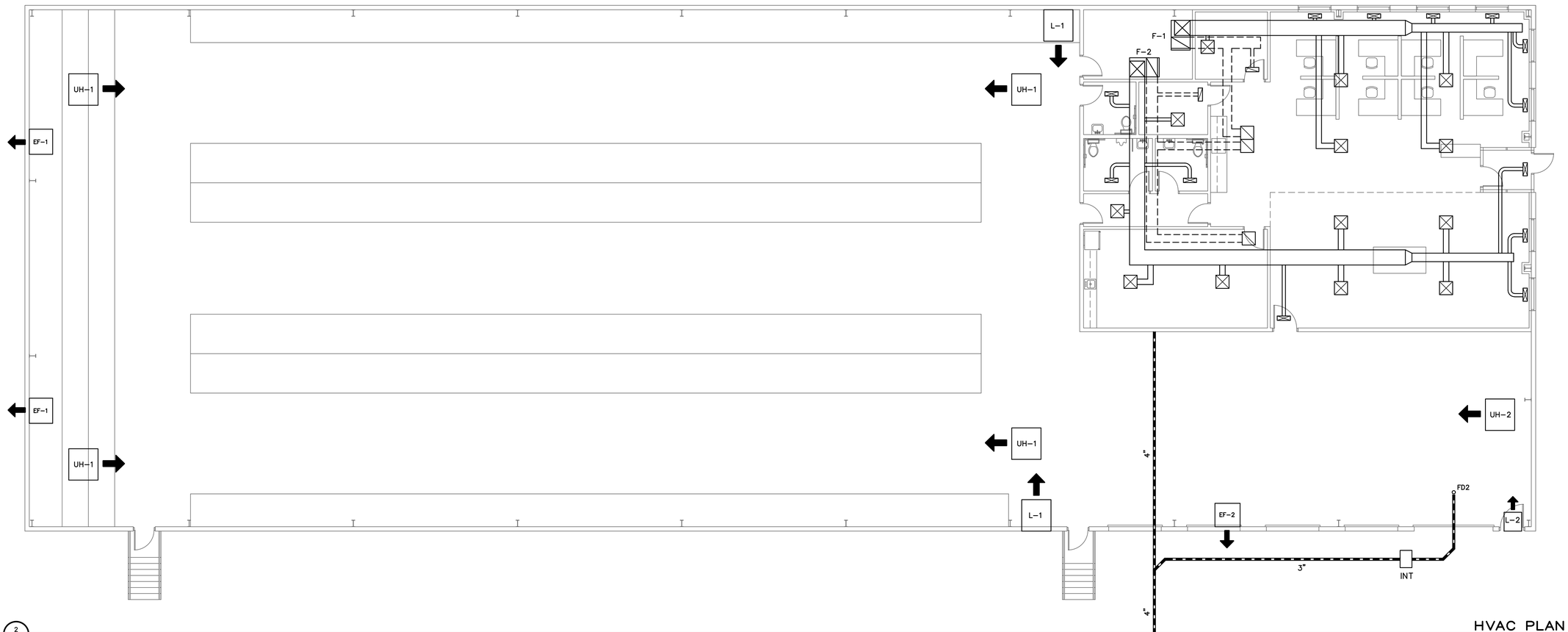
INSULATE ALL SUPPLY PIPING

FLOOR DRAIN 2 TO BE LOCATED 5' TO THE WEST CENTER OF NORTH MOST OH DOOR.



NORTH 1 M1

PLUMBING PLAN
SCALE: 1/8"=1'-0"



NORTH 2 M1

HVAC PLAN
SCALE: 1/8"=1'-0"

CONSTRUCTION DOCUMENT PACKAGE

HVAC DESIGN BY:
KEVIN TOXWORD
Master HVAC/R #3434

PROFESSIONAL SEAL

2729 Kraft Lane Heritage Hills
Missouri Valley, Iowa 51555
Phone and Fax 712-642-4657

ADDRESS

EMSWILER ARCHITECTURE

COMPANY LOGO

Larsen's Supply — CLIENT

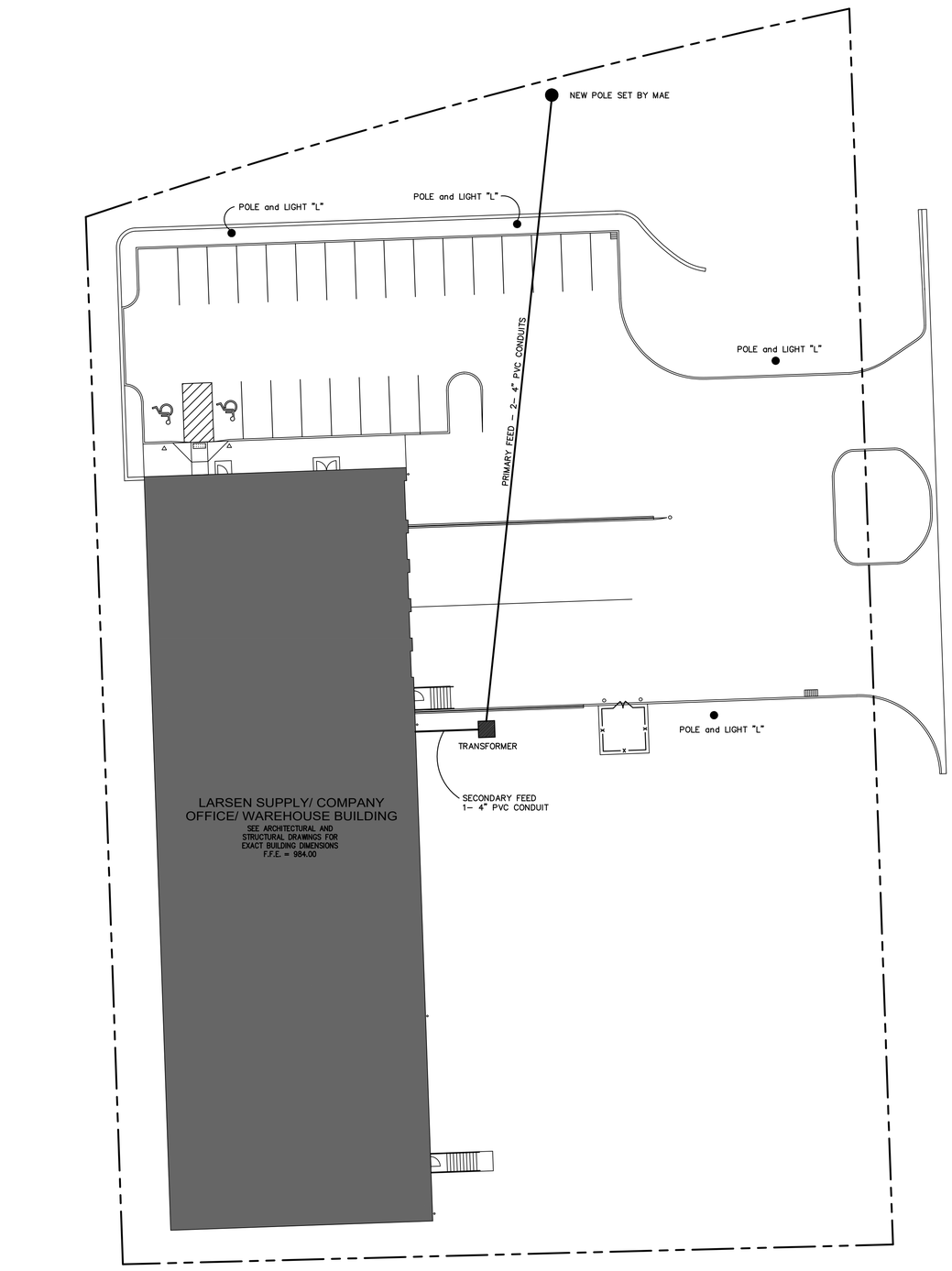
Warehouse and Offices — PROJECT

Council Bluffs, Iowa — LOCATION

April 9, 2021 — DATE

PLUMBING PLAN
HVAC PLAN — CONTENTS

M1 — SHEET



NORTH

1
E0

SITE ELECTRICAL PLAN

SCALE: 1"=20'-0"

CONSTRUCTION DOCUMENT PACKAGE

ELECTRICAL DESIGN BY:
HEARTY ELECTRIC
EL002503–MA/EC

PROFESSIONAL SEAL

2729 Kroft Lane Heritage Hills
Missouri Valley, Iowa 51555
Phone and Fax 712–642–4657

ADDRESS

EMSWILER ARCHITECTURE

COMPANY LOGO

Larsen's Supply

CLIENT

Warehouse and Offices

PROJECT

Council Bluffs, Iowa

LOCATION

April 9, 2021

DATE

SITE ELECTRICAL

CONTENTS

E0

SHEET

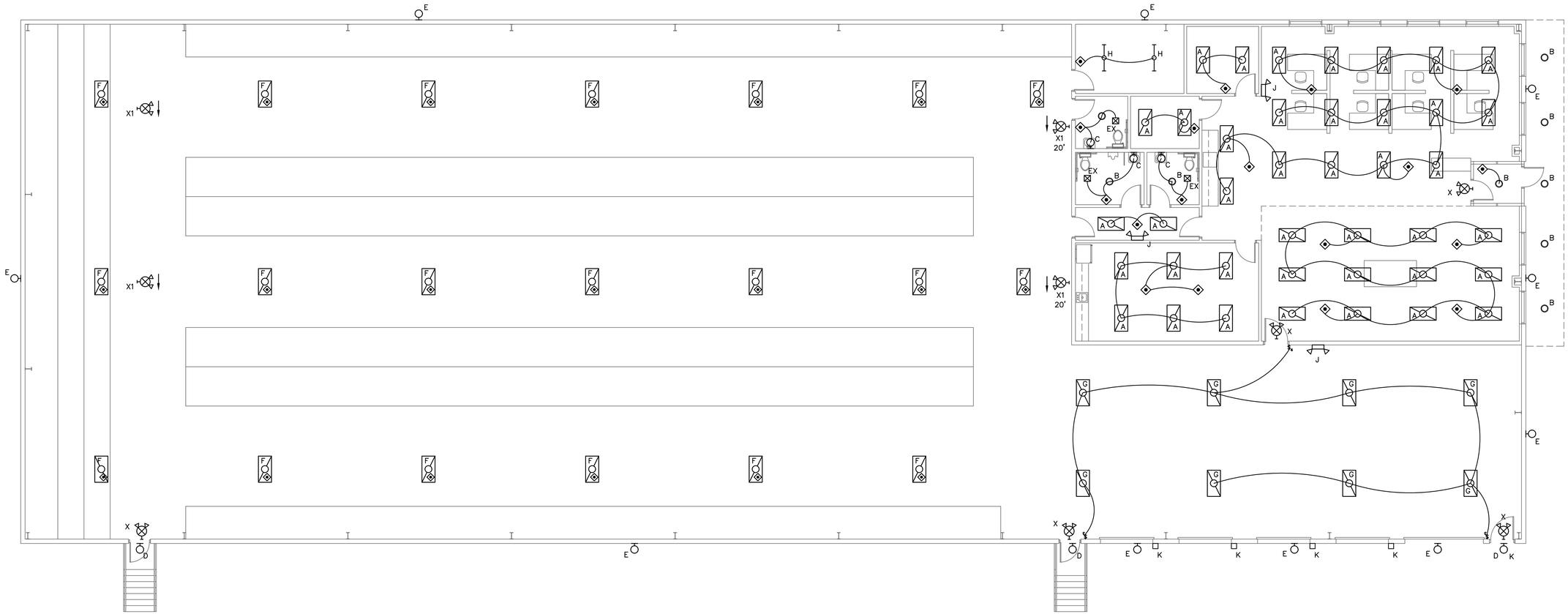
LIGHTING FIXTURE SCHEDULE

FIXTURE DESIGNATION	MODEL NO. – DESCRIPTION
A	LITHONIA CPX 2x4 AL08
	LED ACOUSTICAL CEILING MOUNT FIXTURE
*B	LITHONIA WF6–LED
	LED RECESSED WAFER
C	LITHONIA FMVCSL–36 INCH–30K–BN
	LED VANITY LIGHT
*D	LITHONIA TWX2–LED–ALO–40–DDB
	DOOR WALL PACK
*E	LITHONIA TWX3–LED–ALO–40–DDB
	EXTERIOR WALL PACK
F	LITHONIA CPHB–30LM–ND–L5XR6–40K
	HIGH BAY WITH INTERGRAL MOTION SENSOR
G	LITHONIA CPHB–24LM–MD–40K
	HIGH BAY
H	LITHONIA FMLWL–48–840–40K
	UTILITY LIGHT
J	LITHONIA ELM2L
	EMERGENCY LIGHT
K	TRI–LITE SG10–115RG–LED
	SIGNAL DOCK LIGHT
*L	LITHONIA ESX1–LED–P4–R3–40K–SSS25
	POLE LIGHT – 4 TOTAL
X	LITHONIA LHQM–LED–R–HO
	EXIT LIGHT WITH EMERGENCY LIGHTS
X1	LITHONIA LHQM–LED–R
	EXIT LIGHT WITH DIRECTIONAL ARROW
EX	EXHAUST FAN – 75 CFM VENTED THRU ROOF
* ALL EXTERIOR LIGHTS ARE TO BE ON A PHOTO CELL	

ELECTRICAL NOTES:

1. ALL OUTLETS ARE TO BE 18" AFF (UNO).
2. ELECTRICAL CONTRACTOR TO CIRCUIT ALL FIXTURES AND DEVICES TO ASSURE COMPATIBLE LOADS PER CIRCUIT.
3. ALL NEW WIRING SHALL BE INSTALLED IN METAL RACEWAYS.
4. ALL METALLIC CONDUIT, CABINETS AND EQUIPMENT SHALL BE GROUNDED.
5. ALL CONDUCTORS SHALL BE COPPER. NO WIRE SHALL BE SMALLER THAN NO. 12 AWG, EXCEPT THAT WIRING FOR SIGNAL AND PILOT CONTROL CIRCUITS MAY BE NO. 14 AWG.
6. PROVIDE QUANTITY AND BREAKER SIZE AS INDICATED. IF UNLABELED PROVIDE A 20 AMP CIRCUIT.
7. ALL CIRCUITS IN THE WAREHOUSE, STAGING AREA GO TO MDP. ALL CIRCUITS IN THE OFFICE AREA GO TO SP–1.

◈ MOTION SENSOR



NORTH

1
E1

LIGHTING PLAN
SCALE: 1/8"=1'–0"

CONSTRUCTION DOCUMENT PACKAGE

ELECTRICAL DESIGN BY:
HEARTY ELECTRIC
EL002503–MA/EC

2729 Kraft Lane Heritage Hills
Missouri Valley, Iowa 51555
Phone and Fax 712–642–4657

EMSWILER ARCHITECTURE

PROFESSIONAL SEAL
ADDRESS
COMPANY LOGO

Larsen's Supply — CLIENT

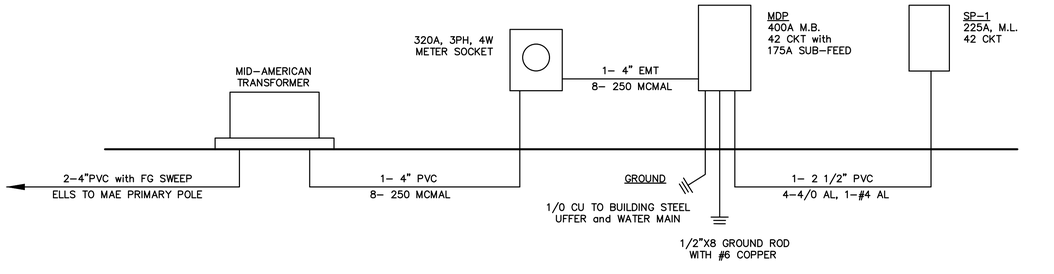
Warehouse and Offices — PROJECT

Council Bluffs, Iowa — DATE LOCATION

April 9, 2021

LIGHTING PLAN — CONTENTS

E1 — SHEET



2 / E2 ONE LINE SERVICE DIAGRAM

NOT TO SCALE

POWER DEMAND BREAKDOWN

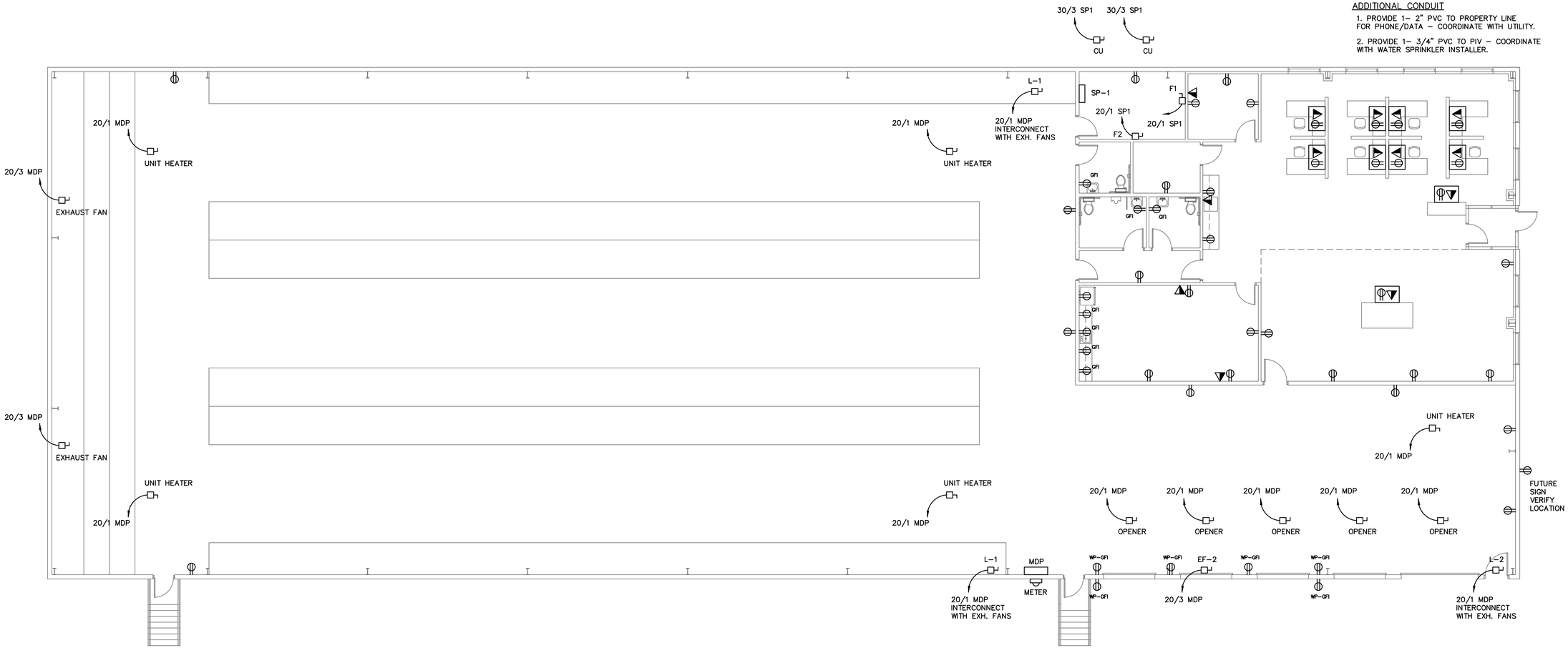
KW DEMAND ITEM	120/208V AMOUNT	3PH 4W KW EACH	KW DEMAND TOTAL KW
OFFICE LIGHTS	80	.05	4
OFFICE OUTLETS	50	.25	12.5
WHSE OUTLETS	10	.50	5
WHSE 24K LIGHTS	36	.25	9
WHSE 33K LIGHTS	8	.20	.80
EXT. WALL PACKS 2K	3	.025	.10
EXT. WALL PACKS 5K	8	.05	.30
POLE LIGHTS 21K	4	.15	.60
BUILDING UNDER EAVE	5	.025	.20
BUILDING SIGN	1	.5	.50
DWH	1	1.5	1.5
OH DOORS	5	.5	2.5
OFFICE A/C	2	6.5	13
OFFICES FURNACES	2	1.0	2
WHSE HEATERS	5	1.0	5
WHSE EX. FANS	3	2.5	7.5
WHSE LOUVERS	3	.05	.15
HEATER OUTLETS	2	1.5	3
FUTURE/MISC.	–	–	12
MAX/ KW at 100%		208V 3PH	70 KW
MAX. AMPS at 100%		–	195 AMPS

ELECTRICAL NOTES:

1. ALL OUTLETS ARE TO BE 18" AFF (UNO).
2. ELECTRICAL CONTRACTOR TO CIRCUIT ALL FIXTURES AND DEVICES TO ASSURE COMPATIBLE LOADS PER CIRCUIT.
3. ALL NEW WIRING SHALL BE INSTALLED IN METAL RACEWAYS.
4. ALL METALLIC CONDUIT, CABINETS AND EQUIPMENT SHALL BE GROUNDED.
5. ALL CONDUCTORS SHALL BE COPPER. NO WIRE SHALL BE SMALLER THAN NO. 12 AWG, EXCEPT THAT WIRING FOR SIGNAL AND PILOT CONTROL CIRCUITS MAY BE NO. 14 AWG.
6. PROVIDE QUANTITY AND BREAKER SIZE AS INDICATED. IF UNLABELED PROVIDE A 20 AMP CIRCUIT.
7. ALL CIRCUITS IN THE WAREHOUSE, STAGING AREA GOT TO MDP. ALL CIRCUITS IN THE OFFICE AREA GO TO SP-1.

ADDITIONAL CONDUIT

1. PROVIDE 1- 2" PVC TO PROPERTY LINE FOR PHONE/DATA – COORDINATE WITH UTILITY.
2. PROVIDE 1- 3/4" PVC TO PIV – COORDINATE WITH WATER SPRINKLER INSTALLER.



NORTH

1 / E2 POWER PLAN

SCALE: 1/8"=1'-0"

CONSTRUCTION DOCUMENT PACKAGE

ELECTRICAL DESIGN BY:
HEARTY ELECTRIC
EL002503-MA/EC

PROFESSIONAL SEAL

2729 Kraft Lane Heritage Hills
Missouri Valley, Iowa 51555
Phone and Fax 712-642-4657

ADDRESS

EMSWILER ARCHITECTURE

COMPANY LOGO

Larsen's Supply — CLIENT

Warehouse and Offices — PROJECT

Council Bluffs, Iowa — LOCATION

April 9, 2021 — DATE

POWER PLAN — CONTENTS

E2 — SHEET

STRUCTURAL NOTES, GENERAL

1. CODE: References to the "code" in each section shall be as follows:

Building Code:	IBC 2015 with local amendments
Risk Category:	II
Other Applicable Codes as Referenced in the Building Code:	
Concrete Code:	ACI 318, ACI 301
Steel Code:	AISC 360, Specification for steel buildings, AISC 341 Seismic Provisions
Minimum Design Loads for Building:	ASCE 7
Cold Formed Steel:	AISI S100/S2

2. STRUCTURAL DESIGN LOADS:

ROOF LIVE LOADS:

Flat and Sloped Roofs:	20 PSF

SNOW:

Ground Snow Load:	30 PSF
Flat-Roof Snow Load (Pf):	21 PSF
Snow Exposure Factor:	C_E = 1.0
Thermal Factor:	C_T = 1.0
Importance Factor:	I = 1.0

WIND:

Wind Speed (Ultimate):	115 MPH
Exposure Category:	B
Internal Pressure Coefficient:	± 0.18

SEISMIC:

Spectral Response Accelerations:	S_S = 0.094; S_1 = 0.045
Site Class:	E
Seismic Design Category:	B

3. FOUNDATION DESIGN CRITERIA:

Foundation design based on the following Geotechnical Engineering Report completed by TD2, Omaha, NE. dated November 19,2020.

- Continuous Wall Footings:	2,000 PSF
- Isolated Column Footings:	2,000 PSF

Entire building pad shall be surcharged with 4'-0" minimum height above finished floor. Surcharge is anticipated to be in place for 45 to 60 days. Settlement shall be monitored with (3) settlement gauges that are monitored by the Geotechnical Engineer. See Civil Drawings and Geotechnical Engineering Report for information about surcharge requirements.

Note: All Footing Excavations shall be inspected and approved by the Geotechnical Engineer prior to placing concrete.

4. EXCAVATION AND BACKFILL:

A. All earthwork operations shall be completed in accordance with the Geotechnical Exploration Report.

B. Protect all excavations from damage due to water or freezing temperatures.

C. All Footing excavations shall be inspected and approved by the Geotechnical Engineer prior to placing concrete.

D. See Civil Drawings and Geotechnical Exploration Report for additional requirements.

5. GENERAL NOTES:

A. All work shall comply with requirements of the Building Code, with recommendations of manufacturers, and with recognized workmanship and material standards.

B. Comply with all applicable codes, ordinances, and regulations including those promulgated and enforced by OSHA. The structural design represented by the drawings and specifications is based on interaction of the various components, materials, and systems shown or required by the drawings and specifications. The contractor shall determine the need for and provide all required bracing, shoring, or other means to ensure stability and safety until all work required by the contract documents is complete. When and where necessary to comply with these requirements, the contractor shall provide appropriate additional temporary or permanent connections, shoring, and/or bracing or, in the alternative, shall make appropriate modifications of specified connections and/or members. Where additions to or modifications of specified requirements are proposed, they shall be submitted to the Architect for review and approval. Such review and approval will be only for compliance with the structural and architectural design intent for the work. The adequacy for construction phase stability and safety is the responsibility of the contractor.

C. Adapt requirements of details, sections, plans, and notes at all locations of which conditions are similar.

D. The structural drawings are to be read in view of all other drawings and all specifications. Coordinate all work shown with all other work.

E. Shop drawings for any part of the work shall show the interface with and provisions for related other work including such adaptations of requirements given as may be necessary.

F. Contractor shall cross check dimensions and elevations between architectural, mechanical, and structural plans and notify Architect of any variance before contractor begins work.

G. Lateral shoring of existing utilities and tunnels is the responsibility of the Contractor. See Site and AR plans for locations of existing utilities and tunnels and minimum locations of shoring. Notify Architect immediately if existing conditions conflict with drawings.

6. MECHANICAL, ELECTRICAL, AND PIPING SYSTEMS WORK:

A. For limitations on excavations, see 'Cast-In-Place Concrete Notes' regarding Footing Work.

7. SPECIAL INSPECTION:

A. Special Inspection in accordance with the Building Code will be performed per the special inspection schedules on sheet S0.

B. Special Inspections shall be hired and paid for by the owner. Retest expenses for failed inspections will be charged to the contractor.

C. The Contractor shall provide the Special Inspector sufficient notification to allow the required inspections to be made without delaying the construction schedule. The Contractor shall confirm that all inspections have been completed and approved by the Special Inspector prior to proceeding with Work.

8. ABBREVIATIONS:

ARCH.	Architect	E.O.R.	Structural Engineer of Record	REINF.	Reinforcing
B.O.	Bottom Of	EA.	Each	REQ'D	Required
B.O.S.	Bottom of Steel	EXIST.	Existing	S.O.G.	Slab on Grade
BOTT.	Bottom	EXP.	Expansion	SIM.	Similar
BRG.	Bearing	F.V.	Field Verify	STD.	Standard
BTWN.	Between	FTG.	Footing	T.O.	Top Of
CLR.	Clear	H.D.G.	Hot-Dipped Galvanized	T.O.F.	Top of Footing
COL.	Column	H.S.	Headed Studs	T.O.S.	Top fo Steel
CONC.	Concrete	HORIZ.	Horizontal	T.O.W.	Top of Wall
CONT.	Continuous	JST.	Joist	TYP.	Typical
COORD.	Coordinate	JT.	Joint	U.N.O.	Unless Noted Otherwise
D.B.A.	Deformed Bar Anchor	o.c.	On Center	V.W.A.	Verify with Architect
DBL.	Double	PL	Plate	VERT.	Vertical
DET.	Detail			w/	With

CAST-IN-PLACE CONCRETE WORK

1. MATERIALS:

Concrete:

Location:	28-Day Strength	Slump (*)	Max. Aggregate	Air Entrainment	Design Density
Footings, Walls, and all other concrete not noted below.	4000 PSI	4"-6"	1"	5%-7%	145 PCF
Interior slab-on-grade	4000 PSI	4"-6"	1"	N.A.	145 PCF
Exterior slabs-on-grade	3500 PSI	4"-6"	1"	5%-7%	145 PCF

(*) Slump may be increased as needed to make installation easier provided the increased slump is due to the use of proper admixture selection. All submitted concrete mixes shall indicate the use of such admixtures. Water may not be added in the field.

Other Materials:

Reinforcing Bars:	ASTM A615 Grade 60, deformed.
Deformed Bar Anchors:	ASTM A496, with a minimum tensile strength of 80 ksi.
Welded Wire Fabric:	ASTM A1064, flat sheet type.
Anchor Bolts:	ASTM F1554 [GR. 36], Headed Type, U.N.O.
Weldable Reinforcing Bars:	ASTM A706 Grade 60, deformed.

2. CONTINUITY:

All reinforcing shall be continuous unless noted otherwise. Continuity at corners and intersections shall be achieved using corner bars and contact lap splices; see typical detail. Continuity at other locations may be achieved using contact lap splices shown on approved shop drawings. Location of lap splices shall be shown on the shop drawings. Unless noted otherwise, the following lap splices shall be used: (All lap splices are class B splices)

Location:	#3	#4	#5	#6	#7	#8	#9	#10	#11
3000 & 3500 PSI Concrete:									
- Top Bars (*):	21"	28"	35"	46"	71"	93"	118"	149"	184"
- Other Bars:	16"	22"(**)	27"	35"	55"	71"	91"	115"	142"
4000 & 4500 PSI Concrete:									
- Top Bars (*):	16"	19"	25"	36"	61"	80"	102"	129"	159"
- Other Bars:	16"	16"(**)	19"	28"	47"	62"	78"	99"	123"

(*) Top bars are horizontal reinforcing where more than 12" of concrete is cast in the member below the reinforcing.

(**) For #4 epoxy coated rebar, use 27" splice length at 3000 and 3500 PSI conc. and 19" at 4000 and 4500 PSI.

Mechanical connections may be used in lieu of lap splices provided approval is obtained from the Architect/Engineer. Connections shall develop in tension 125 percent of the specified yield strength of the bar. All mechanical connections shall be shown on the shop drawings and be installed in accordance with the manufacturer's written instructions and the product's ICC-ES report. Submit the product's ICC-ES report for mechanical splice products with shop drawings.

3. GENERAL:

A. Coordinate work with all other work.

B. All reinforcing shall be continous; see notes above. All reinforcing, anchor bolts, and other embedded items shall be secured in place prior to placing concrete.

C. Construction joints shall be keyed joints, unless noted otherwise, with reinforcing continuous through the joint. Construction joints shall be located in a manner not to affect the strength of the concrete. Concrete on one side of construction joints shall not be placed less than 24 hours after placement of concrete on the opposite side of the construction joint.

D. Straight dowels may be 'wet set' in plastic concrete and vibrated if continous special inspection is provided. Dowels with hooks must be secured before pouring concrete.

E. Minimum clear cover from reinforcing to surfaces of concrete shall be as follows:

1. Concrete cast against and permanently exposed to earth: 3"
2. Concrete exposed to earth or weather: 1 1/2" (#5 and smaller)
   2" (#6 and larger)
3. Concrete not exposed to weather or in contact with earth: 3/4"

Clear distance between parallel bars in a layer shall be as shown on the plans with minimum of 2 1/2".

4. FOOTING WORK:

A. Pipes and other work which require trenching adjacent to pad footings and parallel to continuous footings shall not be located below lines extending downward from the bottom edges of the footing at a 45-degree angle from the horizontal. Pipes and other work perpendicular to continuous footings may be located beneath the footing. Footing elevations may be lowered if approved on the footing shop drawings.

5. SLAB-ON-GRADE WORK:

A. Coordinate slab-on-grade work with all other work. Provide thickened slabs, depressed slabs, equipment pads, blockouts, etc. as needed. See Arch. plans for elevations and locations.

B. Saw cut control joints in slab to a depth equal to 1/3 the slab thickness.

C. Slabs-on-grade Requirements U.N.O. on the plans:

1. Thickness: 6" Minimum
2. Reinforcing: 6x6-W2.9xW2.9 w.w.f. Minimum.
3. Control Joints: 12'-6"o.c. maximum each way, unless noted otherwise.

D. Seperate S.O.G. w/ 3/8" expansion joint material from all columns and walls. Differential movement could occur between foundations and slab-on-grade.

E. All slabs-on-grade shall have a 15 mil Class A Vapor Retarder directly beneath the slab.

F. Provide 4" minimum granular fill below the vapor retarder to provide a capillary break and a durable working surface. Granular fill shall be clean, crushed, well draining material with less than 25% passing the No. 100 sieve and free of clay or organic material.

G. Fill and subgrade shall be compacted to the following minimums:
Cohesive Soils: 90% of the maximum dry density at a moisture content between -1% and +5%, per ASTM D1557, Modified Proctor
Cohesionless Soils: Compact cohesionless soil under floor slabs with vibratory equipment. 7" maximum depth.

6. CONCRETE WALLS:

A. Coordinate with architectural and mechanical drawings & specifications for wall locations & locations of openings through walls for doors, windows, louvers, etc. See Architectural plans for the location & type of finish required on any exposed concrete walls.

B. Walls shall have dowels into the footing at each vertical bar matching the size and spacing of the vertical bars, unless noted otherwise. Dowels shall have 90° hook 3" clear the bottom of the footing, unless noted otherwise.

C. Where walls are shown integral with pilasters, the pilasters and walls shall be poured concurrently with the concrete type specified for the wall. All horizontal reinforcing through intersecting pilasters or walls shall be continuous.

PRE-ENGINEERED METAL BUILDING (P.E.M.B.):

1. GENERAL:

A. The metal building shall be desinged per the 2015 International Building Code and Pottawatamie County amendments.

B. Provide complete steel-framed building system including main steel frames, secondary frames, girts, purlins, bracing, bridging, connections, metal panels, other prefabricated components, and any other materials or members which may be required for all buildings or portions of buildings, unless noted otherwise.

C. Building dimensional requirements are shown on hte Architectural and Structural Drawings. The arrangement, position, shape, and detail of the framing shall accommodate all other work as shown on the Drawings. X-Bracing and frames shall avoid conflicting with openings or other Architectural work shown on the Drawings.

D. Design, fabricate, and install all parts of the system to conform to applicable building codes, applicable regulations, the requirements of the plans, and requirements of the specifications.

E. Building columns shall be located to match the foundation location and size restrictions shown on the Drawings. Any proposed deviation from the locations shown shall be approved by the Architect / Engineer.

F. Shop drawings shall be submitted for review by the P.E.M.B. manufacturer. Shop drawings and Design Calculations submitted shall be signed and sealed by a professional engineer registered in the State of Iowa. Submittals shall include metal building column reactions for the foundation design, geometry and column locations of the metal building, and column baseplate designs. The Contractor shall allow two weeks for possible revisions to the foundations.

G. Contractor shall verify and coordinate all dimensions with final shop drawings. Contractor shall cross check dimensions and elevations shown with the Architectural drawings and notify the Architect of any discrepancies.

H. Foundation design is based on the P.E.M.B. preliminary drawings dated 09/25/2020. If final reactions differ from Preliminary Design Reactions by more than 5%, allow Structural Engineer (2)-weeks for re-evaluation and possible re-design.

2. P.E.M.B. DESIGN CRITERIA:

The P.E.M.B. manufacturer is responsible for the design of the complete P.E.M.B. system and attachment to the foundations.

A. GRAVITY LOADS:

1. Self-Weight of the P.E.M.B. members.
2. Superimposed Collateral Dead Load.
   a. 10 PSF for roof purlin design.
   b. 5 PSF minimum may be used for girder and column design.
   c. Design members for both Zero and Full Collateral Load in load combinations including wind loads.
3. Roof Live Loads: See 'Structural Notes, General' Note 2.
4. Snow Loads: See 'Structural Notes, General' Note 2.
5. Mechanical Loads: Building shall be designed for mechanical units weighing more than 150 pounds. Seethe Mechanical and Architectural drawings for unit weights and locations.

B. LATERAL LOADS:

1. Wind Loads: See 'Structural Notes, General' Note 2.
2. Seismic Loads: See 'Structural Notes, General' Note 2.
3. Include lateral loads from doors and windows supported by P.E.M.B. system.

C. FABRICATION AND ERECTION FORCES

D. TEMPERATURE AND SHRINKAGE FORCES

1. Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants failure of connections, and other dtrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nightime-sky heat loss.
   a. Temperature Change: 120 deg F, ambient, 180 dg F, material surfaces

3. DEFLECTION:

A. Unless noted otherwise, deflection requirements shall be in accordance with the applicable provisions of the AISC Steel Design Guide Series 3 - Serviceability Design Cnsiderations for Steel Buildings and the 2015 International Building Code.

B. Deflection and drift limits shall be no greater than the following:

1. Purlins and Rafters: Vertical Deflection of 1/240 of the span.
2. Girts: Horizontal deflection of 1/180 of the span for girts not supporting windows and doors; 1/240 of the span for girts supporting windows and doors.
3. Metal Roof Panels: Vertical deflection of 1/240 of the span.
4. Metal Wall Panels: Horizontal deflection of 1/180 of the span.
5. Design secondary-framing system to accommodate deflectionof primary framing and construction tolerances, and to maintain clearances at openings.
6. Lateral Drift: Maximum of 1/200 of the building height.

4. ATTACHMENTS:

A. Set the columns directly on the slab.

B. P.E.M.B. columns shall be designed as "pinned" at the bottom of the baseplate.

C. Anchor bolts and baseplates shall be designed to transfer all uplift and horizontal reactions thru the anchor bolts only.
1. The building slab-on-grade shall not be assumed to provide any resistance to the building uplift and horizontal reactions.

5. MECHANICAL / ELECTRICAL / PLUMBING / FIRE-PROTECTION WORK:

A. Work shall not be hung from the P.E.M.B. metal panel, unless specifically Approved in Writing by the P.E.M.B. manufacturer.

B. Secondary distribution framing shall be provided by the Contractor for the Work to be supported as needed to distribute the applied loads evenly to the number of purlins to not exceed the 10 PSF uniform design 'Collateral Roof Load' used for the P.E.M.B. purlins.

2015 IBC TABLE 1705.3 REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

	TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD	IBC REFERENCE
1.	Inspect reinforcement, including prestressing tendons, and verify placement.	--	X	ACI 318 Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2.	Reinforcing bar welding: a. Verify weldability of reinforcing bars other than ASTM A706; b. Inspect single-pass fillet welds, maximum 5/16"; and c. Inspect all other welds.	-- X	 X X 	 AWS D1.4 ACI 318: 26.6.4 	 --
3.	Inspect anchors cast in concrete.	--	X	ACI 318: 17.8.2	--
4.	Inspect anchors post-installed in hardened concrete members. (b) a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads. b. Mechanical anchors and adhesive anchors not defined in 4.a.	X	X	 ACI 318: 17.8.2.4 ACI 318: 17.8.2	 --
5.	Verify use of required design mix.	--	X	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6.	Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	--	ASTM C172 ASTM C31 ACI 318: 26.4, 26.12	1908.10
7.	Inspect concrete and shotcrete placement for proper application techniques.	X	-	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8.	Verify maintenance of specified curing temperature and techniques.	--	X	ACI 318: 26.5.3-26.5.5	1908.9
9.	Inspect prestressed concrete for: a. Application of prestressing forces; and b. Grouting of bonded prestressing tendons.	X X	-- --	ACI 318: 26.10	--
10.	Inspect erection of precast concrete members.	--	X	ACI 318: Ch. 26.8	--
11.	Verify in-situ concrete strength, prior to stress-ing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	--	X	ACI 318: 26.11.2	--
12.	Inspect formwork for shape, location and dimensions of the concrete member being formed.	--	X	ACI 318: 26.11.1.2(b)	--

2015 IBC TABLE 1705.6 REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS

	TYPE	CONTINUOUS	PERIODIC
1.	Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	-	X
2.	Verify excavations are extended to proper depth and have reached proper material.	-	X
3.	Perform classification and testing of compacted fill materials.	-	X
4.	Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	X	-
5.	Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	-	X

2010 AISC 360 TABLE N5.6-1 Inspection Tasks Prior to Bolting

Inspection Tasks Prior to Bolting	QC	QA
Manufacturer's certifications available for fastener materials.	O	P
Fasteners marked in accordance with ASTM requirements.	O	O
Proper fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane)	O	O
Proper bolting procedure selected for joint detail.	O	O
Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements.	O	O
Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used.	P	O
Proper storage provided for bolts, nuts, washers and other fastener components.	O	O

2010 AISC 360 TABLE N5.6-2 Inspection Tasks During Bolting

Inspection Tasks During Bolting	QC	QA
Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required	O	O
Joint brought to the snug-tight condition prior to the pretensioning operation	O	O
Fastener component not turned by the wrench prevented from rotating	O	O
Fasteners are pretensioned in accordance with the RCSC Specification progressing systematically from the most rigid point toward the free edges	O	O

2010 AISC 360 TABLE N5.6-3 Inspection Tasks After Bolting

Inspection Tasks After Bolting	QC	QA
Document acceptance or rejection of bolted connections	P	P

AISC SPECIAL INSPECTION NOTES:
O - Observe these items on a random basis. Operations need not be delayed pending these inspections.
P - Perform these tasks for each steel element.
QC - Quality Control performed by the Steel Fabricator and Erector.
QA - Quaility Assurance performed by the Special Inspector.

thompson, dreessen & dorner, inc.
10836 Old Mill Rd Omaha, NE 68154
402.330.8860 www.td2co.com
TD2 PROJECT # 1349-187

CONSTRUCTION DOCUMENT PACKAGE

EMSWILER ARCHITECTURE
2729 Kroft Lane Heritage Hills
Missouri Valley, Iowa 51555
Phone and Fax 712-642-4657

Larsens's Supply

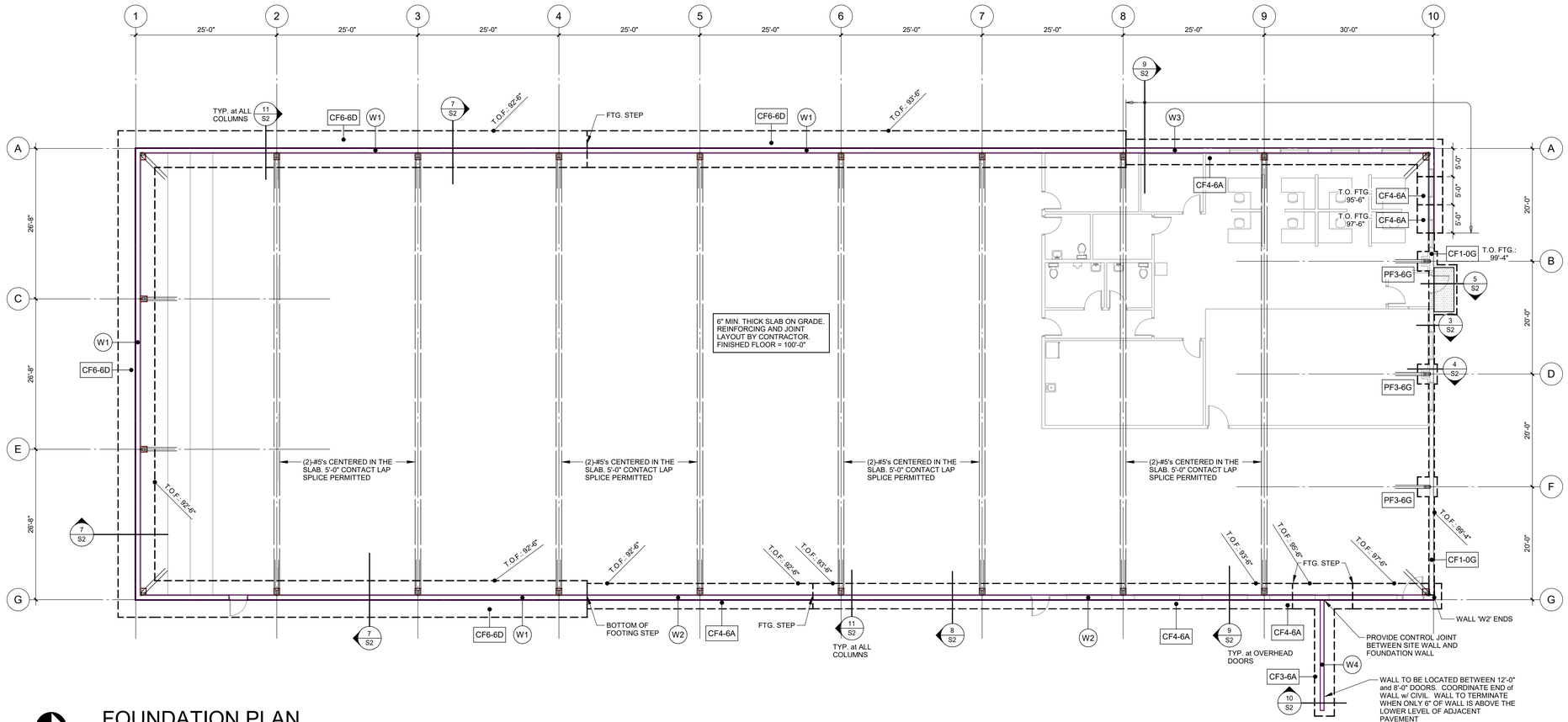
Warehouse and Offices

Council Bluffs, Iowa

04/09/2021

STRUCTURAL NOTES

S0



FOUNDATION PLAN

3/32" = 1'-0"

FOUNDATION PLAN NOTES:

1. SEE STRUCTURAL NOTES ON SHEET S0.
2. COORDINATE AND VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND EXIST. CONDITIONS.
3. TOP OF FOOTING ELEVATION = 99'-4" UNLESS NOTED OTHERWISE THUS: T.O.F. = xx'-x"
4. -F---- : FOOTING MARK, SEE SCHEDULE ON THIS SHEET.
5. W-- : WALL MARK, SEE SCHEDULE ON THIS SHEET.
6. C.J. —— : INDICATES CONTROL JOINT PER 6/S2. PROVIDE CONTROL JOINTS IN ALL WALLS at 16'-0"o.c., U.N.O.

FOOTING SCHEDULE

MARK	SIZE W	SIZE L	SIZE D	REINFORCING	REMARKS
CF1-0G	1'-0"	CONT.	3'-0"	(1)-#6 TOP & BOTT. w/ #4 VERT. AT 32"o.c.	
CF3-6A	3'-6"	CONT.	1'-0"	SEE 10/S2	
CF4-6A	4'-6"	CONT.	1'-0"	SEE 8/S2 and 9/S2	
CF6-6D	2'-0"	CONT.	6'-6"	SEE 7/S2	
PF3-6G	3'-6"	3'-6"	3'-0"	(4)-#4s E.W. BOTT.	

WALL SCHEDULE

MARK	TYPE	THICKNESS/ SIZE	REINFORCING VERTICAL	REINFORCING HORIZONTAL	REMARKS
W1	CONCRETE	11 1/2"	#4's AT 12"o.c. EA. FACE	#4's AT 12"o.c. EA. FACE	-SEE 7/S2
W2	CONCRETE	11.5"	#4's AT 12"o.c. EA. FACE	#4's AT 12"o.c. EA. FACE	-SEE 8/S2
W3	CONCRETE	11.5"	#4's AT 12"o.c. EA. FACE	#4's AT 12"o.c. EA. FACE	-SEE 9/S2
W4	CONCRETE	8"	#4's at 12"o.c.	#4's at 12"o.c.	

CONSTRUCTION DOCUMENT PACKAGE

EMSWILER ARCHITECTURE
2729 Kroft Lane Heritage Hills
Missouri Valley, Iowa 51555
Phone and Fax 712-642-4657

Larsens's Supply

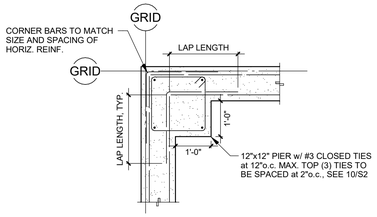
Warehouse and Offices

Council Bluffs, Iowa

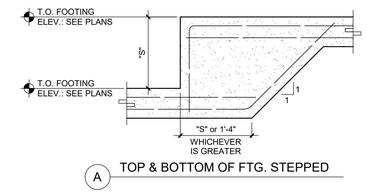
04/09/2021

FOUNDATION PLAN

S1

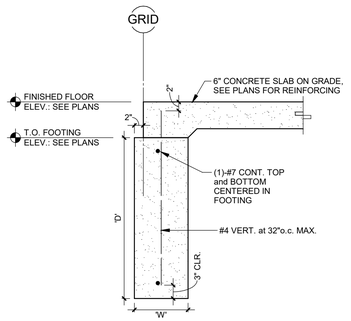


1 CORNER REINFORCING DETAILS
1/2" = 1'-0"

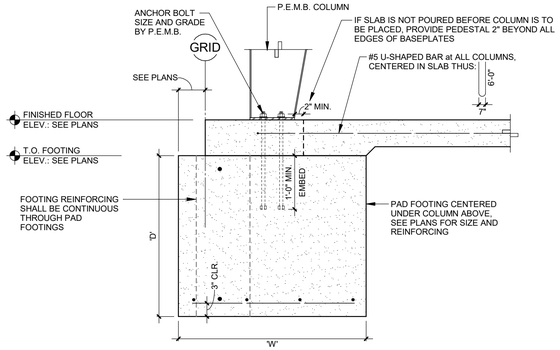


A TOP & BOTTOM OF FTG. STEPPED

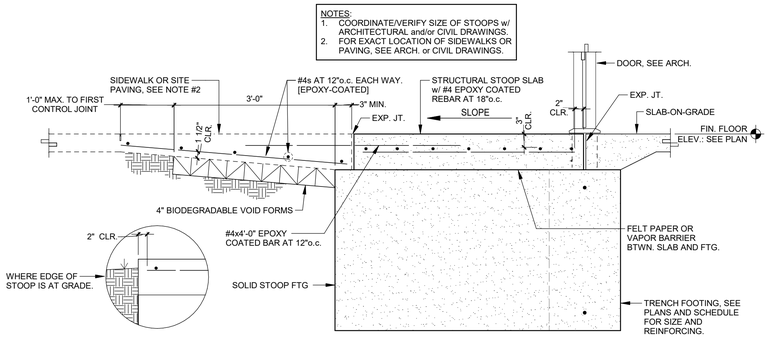
2 FOOTING STEP DETAILS
1/2" = 1'-0"



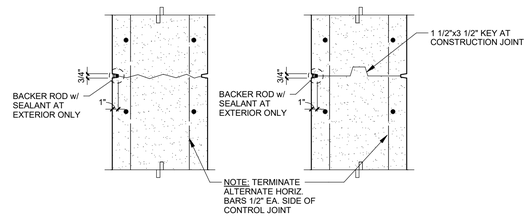
3 TYP. FOOTING and WALL
3/4" = 1'-0"



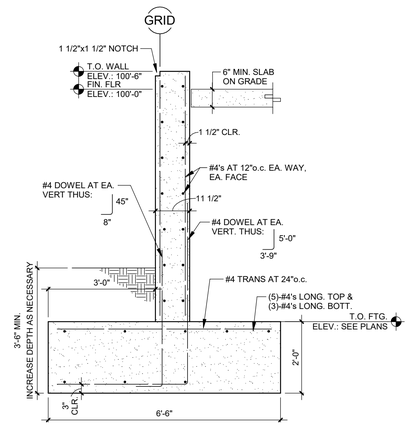
4 SECTION
3/4" = 1'-0"



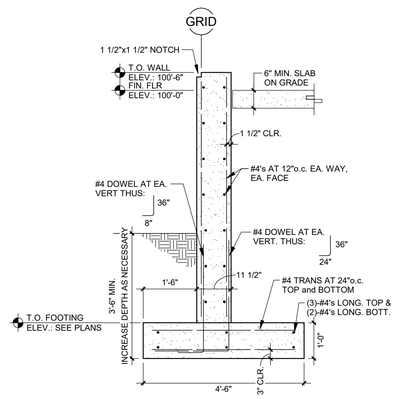
5 STRUCTURAL STOOP
3/4" = 1'-0"



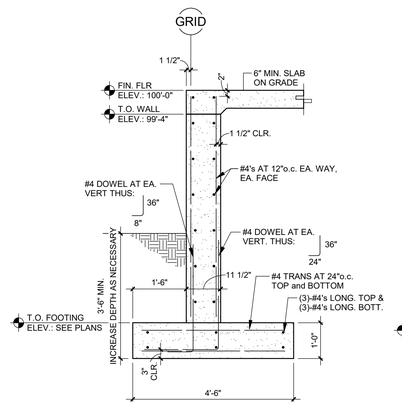
6 CONTROL JOINT/CONSTR. JOINT
1" = 1'-0"



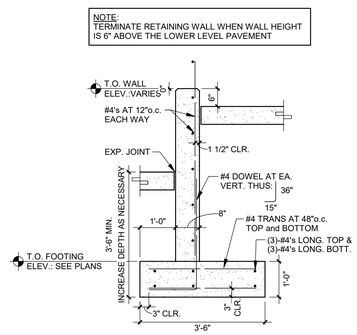
7 'W1' SECTION
1/2" = 1'-0"



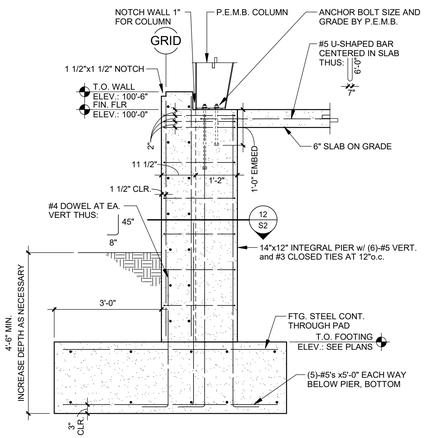
8 'W2' SECTION
1/2" = 1'-0"



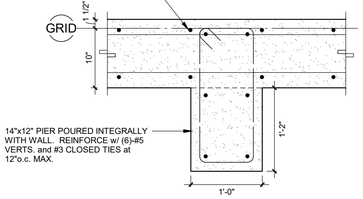
9 SECTION w/ NO CURB
1/2" = 1'-0"



10 SECTION
1/2" = 1'-0"



11 SECTION at PIER
1/2" = 1'-0"



12 SECTION at PIER
1" = 1'-0"

CONSTRUCTION DOCUMENT PACKAGE

2729 Kroft Lane Heritage Hills
Missouri Valley, Iowa 51555
Phone and Fax 712-642-4657

EMSWILER ARCHITECTURE

Larsens's Supply

Warehouse and Offices

Council Bluffs, Iowa

04/09/2021

DETAILS

S2

FINAL PLAT OF
ROGERS AUTO SUBDIVISION

BEING A PARCEL OF LAND LOCATED IN PART OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 11. TOWNSHIP 74 NORTH, RANGE 44 WEST OF THE FIFTH PRINCIPAL MERIDIAN, POTTAWATTAMIE COUNTY, COUNCIL BLUFFS, IOWA.

OWNER: TERRY W. ROGERS, BY DEVIN ROGERS HER AGENT

NOTES:

1. **A 10.00 FOOT WIDE PERMANENT EASEMENT ALONG ALL FRONT LOT LINES AND A 10.00 FOOT WIDE PERMANENT EASEMENT ALONG ALL REAR LOT LINES AND A 10.00 FOOT WIDE PERMANENT EASEMENT ALONG ALL SIDE LOT LINES ARE RESERVED FOR THE INSTALLATION AND MAINTENANCE OF UTILITIES:**

A) **ERECTION OF STRUCTURES PROHIBITED: GRANTOR SHALL NOT ERECT ANY STRUCTURE OVER OR WITHIN THE EASEMENT AREA WITHOUT OBTAINING THE PRIOR WRITTEN CONSENT OF THE CITY ENGINEER WHICH SHALL NOT BE UNREASONABLY WITHHELD, PROVIDED HOWEVER GRANTOR SHALL HAVE THE RIGHT TO PLACE AND MAINTAIN A SURFACED ROADWAY OVER AND WITHIN THE EASEMENT AREA.**

B) **CHANGE OF GRADE PROHIBITED: GRANTOR SHALL NOT CHANGE THE GRADE, ELEVATION OR CONTOUR OF ANY PART OF THE EASEMENT AREA WITHOUT OBTAINING THE PRIOR WRITTEN CONSENT OF THE CITY ENGINEER WHICH SHALL NOT BE UNREASONABLY WITHHELD.**

C) **RIGHT OF ACCESS: CITY SHALL HAVE THE RIGHT OF ACCESS TO THE EASEMENT AREA AND HAVE ALL RIGHT OF INGRESS AND EGRESS REASONABLY NECESSARY FOR THE USE AND ENJOYMENT OF THE EASEMENT AREA AS HEREIN DESCRIBED.**

D) **REMOVAL AND REPLACEMENT: WITH THE EXCEPTION OF EXISTING STRUCTURES, THE COST OF REMOVAL AND REPLACEMENT OF ANY UNAUTHORIZED IMPROVEMENT OR STRUCTURES WITHIN THE EASEMENT AREA, NECESSITATED BY THE EXERCISE OF THE RIGHTS UNDER THIS EASEMENT, SHALL BE BORNE BY THE GRANTOR OR THEIR SUCCESSORS OR ASSIGNS.**

E) **SURFACE RESTORATION: CITY'S LIABILITY TO RESTORE THE SURFACE WITHIN THE EASEMENT AREA SHALL BE LIMITED ONLY TO GRADING AND SEEDING.**

F) **DUTY TO REPAIR: CITY AGREES THAT ANY DRAIN TILE, DRIVE OR ACCESS WAY, FENCE, OR YARD OR OTHER IMPROVEMENTS OUTSIDE OF THE EASEMENT AREA WHICH MAY BE DAMAGED AS A RESULT OF ANY ENTRY MADE THROUGH AN EXERCISE OF THE CITY'S RIGHT OF ACCESS SHALL BE REPAIRED AT NO EXPENSE TO GRANTOR AND TO GRANTOR'S SATISFACTION.**

G) **EASEMENT RUNS WITH LAND: THIS EASEMENT SHALL BE DEEMED TO RUN WITH THE LAND AND SHALL BE BINDING ON GRANTOR AND ON GRANTOR'S SUCCESSORS OR ASSIGNS.**

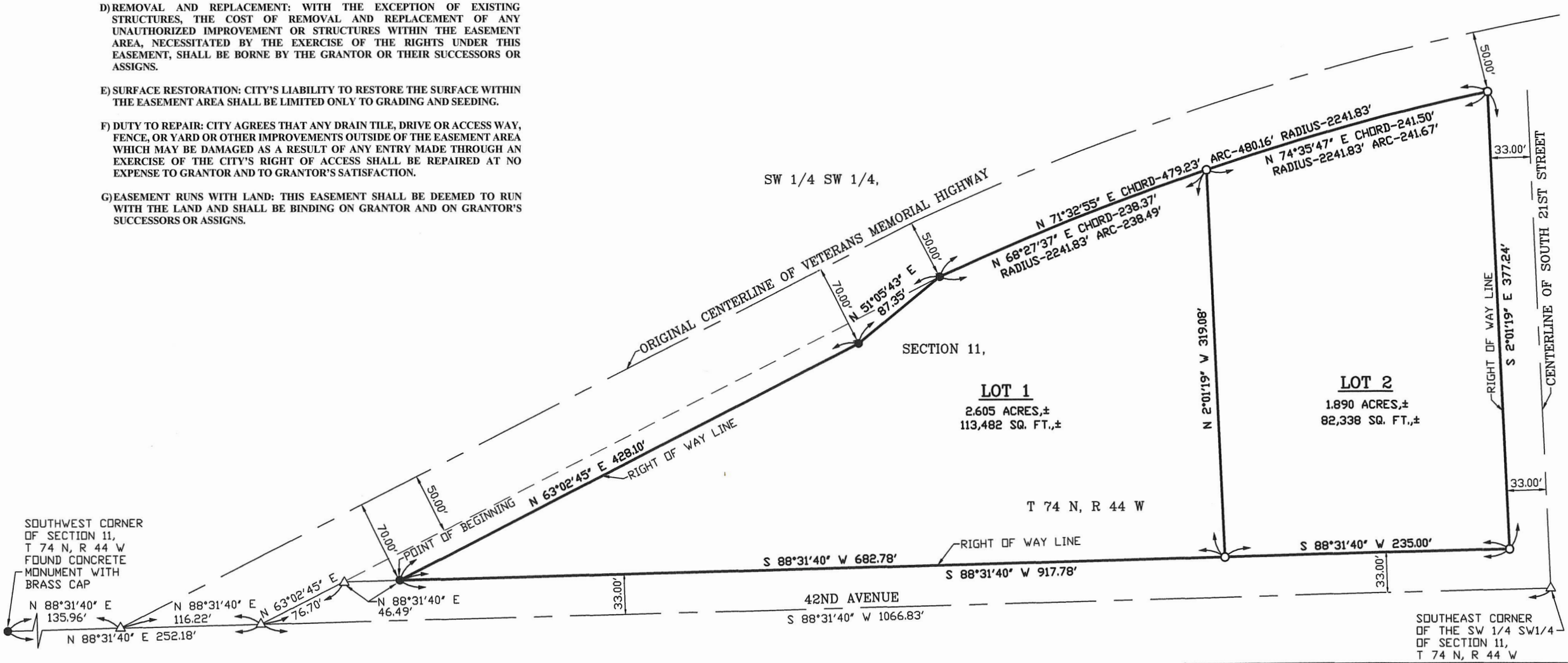
LEGEND:
- ○ – SET 5/8" REBAR WITH ALUMINUM CAP MARKED L.L.S. #7717
- ● – FOUND 5/8" REBAR WITH ALUMINUM CAP MARKED #7717, UNLESS OTHERWISE DESCRIBED ON DRAWING
- △ – CALCULATED POINT

N

SCALE: 1" = 60'

60' 30' 0 60' 120'

NOTE: THIS DOCUMENT HAS BEEN REDUCED.



NOTE:
THE PLAT OF SURVEY RECORDED IN BOOK 97, PAGE 8798 IN OFFICE OF THE POTTAWATTAMIE COUNTY RECORDER WAS USED TO DETERMINE THE CALCULATED LOCATION OF THE SOUTHEAST CORNER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 11, TOWNSHIP 74 NORTH, RANGE 44 WEST.

ATTACHMENT A

ROGERS SURVEYING 1688 ROLLING HILLS LOOP COUNCIL BLUFFS, IOWA		
SCALE: 1" = 60'	PHONE:	DRAWN BY: J.A.T.
DATE: 6-16-2020	(402) 689-1549	REVISED
TITLE: FINAL PLAT OF ROGERS AUTO SUBDIVISION		
CLIENT: TERRY W. ROGERS BY DEVIN ROGERS HER AGENT 3242 OAKSHIRE DRIVE, LOS ANGELES, CALIFORINA 90068		SHEET 2 OF 2

INDEX LEGEND
COUNTY: POTTAWATTAMIE
SECTION 11, TOWNSHIP 74 NORTH, RANGE 44 WEST
ALIQUOT PART: SW 1/4 SW 1/4
PARCEL DESIGNATIONS: 20038
PROPRIETOR: TERRY W. ROGERS, BY DEVIN ROGERS HER AGENT
REQUESTED BY: TERRY W. ROGERS, BY DEVIN ROGERS HER AGENT
SITE ADDRESS: 2105 VETERANS MEMORIAL HIGHWAY, COUNCIL BLUFFS, IOWA, 51501
TAX ADDRESS: 3242 OAKSHIRE DRIVE, LOS ANGELES, CA 90068
LAND SURVEYOR: CARL H. ROGERS, JR.
LAND SURVEYING COMPANY: ROGERS SURVEYING

PREPARED BY: CARL H. ROGERS, JR. PHONE: (402) 689-1549
1688 ROLLING HILLS LOOP, COUNCIL BLUFFS, IOWA 51503

FINAL PLAT OF
ROGERS AUTO SUBDIVISION

BEING A PARCEL OF LAND LOCATED IN PART OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 11. TOWNSHIP 74 NORTH, RANGE 44 WEST OF THE FIFTH PRINCIPAL MERIDIAN, POTTAWATTAMIE COUNTY, COUNCIL BLUFFS, IOWA.

OWNER: TERRY W. ROGERS, BY DEVIN ROGERS HER AGENT

LEGAL DESCRIPTION:

A PARCEL OF LAND LOCATED IN PART OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 11, TOWNSHIP 74 NORTH, RANGE 44 WEST OF THE 5TH PRINCIPAL MERIDIAN, POTTAWATTAMIE COUNTY, COUNCIL BLUFFS, IOWA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 11; THENCE NORTH 88°31'40" EAST, ALONG THE SOUTH LINE OF SAID SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER, A DISTANCE OF 252.18 FEET TO A POINT ON THE SOUTHEASTERLY RIGHT OF WAY LINE OF VETERANS MEMORIAL HIGHWAY; THENCE NORTH 63°02'45" EAST, ALONG SAID SOUTHEASTERLY RIGHT OF WAY LINE, A DISTANCE OF 76.70 FEET TO A POINT ON THE NORTH RIGHT OF WAY LINE OF 42ND AVENUE, SAID POINT BEING 33.00 FEET NORMALLY DISTANT NORTHERLY FROM THE CENTERLINE OF SAID 42ND AVENUE; THENCE NORTH 88°31'40" EAST, ALONG SAID NORTH RIGHT OF WAY LINE AND PARALLEL WITH SAID CENTERLINE OF 42ND AVENUE, A DISTANCE OF 46.49 FEET TO A POINT ON THE SOUTHEASTERLY RIGHT OF WAY LINE OF SAID VETERANS MEMORIAL HIGHWAY, SAID POINT BEING 70.00 FEET NORMALLY DISTANT SOUTHEASTERLY FROM THE CENTERLINE OF SAID VETERANS MEMORIAL HIGHWAY AND POINT OF BEGINNING; THENCE NORTH 63°02'45" EAST, ALONG SAID SOUTHEASTERLY RIGHT OF WAY LINE AND PARALLEL WITH SAID CENTERLINE OF VETERANS MEMORIAL HIGHWAY, A DISTANCE OF 428.10 FEET; THENCE NORTH 51°05'43" EAST, ALONG SAID SOUTHEASTERLY RIGHT OF WAY LINE, A DISTANCE OF 87.35 FEET TO A POINT BEING 50.00 FEET NORMALLY DISTANT SOUTHEASTERLY FROM SAID CENTERLINE OF U.S. HIGHWAY NO. 275 AT STATION 169+00.00, SAID POINT BEING ON A NON-TANGENT CURVE CONCAVE SOUTHEASTERLY AND HAVING A RADIUS OF 2241.83 FEET, A RADIAL LINE OF SAID CURVE THROUGH SAID POINT BEARING NORTH 24°35 14" WEST; THENCE NORTHEASTERLY ALONG SAID SOUTHEASTERLY RIGHT OF WAY LINE, AND PARALLEL WITH SAID CENTERLINE OF VETERANS MEMORIAL HIGHWAY AND ALONG SAID CURVE AN ARC LENGTH OF 480.16 FEET AND HAVING A CHORD BEARING AND DISTANCE OF NORTH 71°32'55" EAST, 479.23 FEET TO A POINT ON THE WEST RIGHT OF WAY LINE OF SOUTH 21ST STREET; SAID POINT BEING 50.00 FEET NORMALLY DISTANT SOUTHEASTERLY FROM SAID CENTERLINE OF VETERANS MEMORIAL HIGHWAY; THENCE SOUTH 2°01'19" EAST, ALONG THE WEST RIGHT OF WAY LINE OF SAID SOUTH 21ST STREET, A DISTANCE OF 377.24 FEET TO A POINT ON THE NORTH RIGHT OF WAY LINE OF 42ND AVENUE; THENCE SOUTH 88 31'40" WEST, ALONG THE NORTH RIGHT OF WAY LINE OF SAID 42ND AVENUE, A DISTANCE OF 917.78 FEET TO THE POINT OF BEGINNING. SAID PARCEL CONTAINS 4.495 ACRES, MORE OR LESS.

NOTE: THE SOUTH LINE OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 11 IS ASSUMED TO BEAR SOUTH 88°31'40" WEST FOR THIS DESCRIPTION.

PROPRIETOR'S DEDICATION AND STATEMENT

I HEREBY CERTIFY THAT I WILL MEET ALL EQUAL OPPORTUNITY AND FAIR MARKETING OBJECTIVES CONSISTENT WITH FEDERAL, STATE AND LOCAL GUIDELINES. I HEREBY CERTIFY THAT THE FOLLOWING DOCUMENTS WILL BE RECORDED WITH THE OFFICE OF THE POTTAWATTAMIE COUNTY RECORDER CONTEMPORANEOUSLY WITH THE FILING OF THE FINAL PLAT:

A. THERE WILL BE NO PRIVATE RESTRICTIONS AND/OR COVENANTS FOR THIS SUBDIVISION.

B. CERTIFIED STATEMENT RESOLUTION OF EACH GOVERNING BODY APPROVING THE SUBDIVISION OR WAVING THE RIGHT TO REVIEW.

C. STATEMENT OF MORTGAGE HOLDER, IF ANY, THAT THE PLAT IS PREPARED WITH THE FREE CONSENT AND IN ACCORDANCE WITH THE DESIRE OF THE MORTGAGE HOLDER, AND ISSUED A RELEASE FOR ALL AREAS CONVEYED TO THE GOVERNING BODY OR DEDICATED TO THE PUBLIC.

KNOW ALL PERSONS BY THESE PRESENTS THAT TERRY W. ROGERS, BY DEVIN ROGERS HER AGENT BEING THE SOLE OWNER OF THE PROPERTY DESCRIBED IN THE LEGAL DESCRIPTION AND EMBRACED WITHIN THIS PLAT, HAVE CAUSED THE SAME TO BE SUBDIVIDED INTO LOT 1 AND LOT 2 AND TO BE KNOWN AS ROGERS AUTO SUBDIVISION.

IN WITNESS THEREOF, I DO HEREBY RATIFY AND APPROVE OF THE DISPOSITION OF ROGERS AUTO SUBDIVISION AS CONTAINED HEREIN ON THIS _____ DAY OF _____, 2020.

_____
OWNER: TERRY W. ROGERS, BY DEVIN ROGERS HER AGENT

STATE OF IOWA)
) SS
COUNTY OF POTTAWATTAMIE)

ON THIS _____ DAY OF _____, 2020, BEFORE ME, A NOTARY PUBLIC IN AND FOR THE STATE OF IOWA, PERSONALLY APPEARED DEVIN ROGERS AGENT OF TERRY W. ROGERS TO ME PERSONALLY KNOWN, WHOM BEING BY ME DULY SWORN, DID ACKNOWLEDGED THE EXECUTION OF THIS INSTRUMENT TO BE HIS VOLUNTARY ACT AND DEED.

_____
NOTARY PUBLIC IN AND FOR SAID STATE

CITY COUNCIL

_____
APPROVED BY MAYOR: THE HONORABLE MATTHEW J. WALSH DATE

ATTESTED TO BY

_____
CITY CLERK: JODI QUAKENBUSH DATE

_____
COMMUNITY DEVELOPMENT DIRECTOR: BRANDON GARRETT DATE

CERTIFICATE OF TREASURER OF POTTAWATTAMIE COUNTY, IOWA.

I, LEA A. VOSS, TREASURER OF POTTAWATTAMIE COUNTY, IOWA, DO HEREBY CERTIFY THAT THE PROPERTY INCLUDED IN THE LEGAL DESCRIPTION AND EMBRACED WITHIN THIS PLAT IS FREE FROM CERTIFIED TAXES AND CERTIFIED SPECIAL ASSESSMENTS.

_____
TREASURER OF POTTAWATTAMIE COUNTY, IOWA: LEA A. VOSS DATE

CARL H. ROGERS, JR. LICENSED #7717 IOWA LAND SURVEYOR

I HEREBY CERTIFY THAT THIS LAND SURVEYING DOCUMENT WAS PREPARED AND THE RELATED SURVEY WORK WAS PERFORMED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF IOWA.

Carl H. Rogers Jr. JUNE 16 2020
CARL H. ROGERS, JR. DATE

LICENSE NUMBER: 7717

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2020.

NUMBER OF SHEETS COVERED BY THIS SEAL: SHEET 1 OF 2 & SHEET 2 OF 2

ROGERS SURVEYING 1688 ROLLING HILLS LOOP COUNCIL BLUFFS, IOWA		
	PHONE:	DRAWN BY: J.A.T.
DATE: 6-16-2020	(402) 689-1549	REVISED
TITLE: FINAL PLAT OF ROGERS AUTO SUBDIVISION		
CLIENT: TERRY W. ROGERS BY DEVIN ROGERS HER AGENT 3242 OAKSHIRE DRIVE, LOS ANGELES, CALIFORINA 90068		SHEET 1 OF 2