



PLANNING AND ZONING COMMISSION MEETING

May 10, 2022

6:00 PM

City Council Chambers

Agenda

- 1. Call to Order**
- 2. Roll Call**
- 3. Agenda Approval**
 - A. Consider Approval of May 10th, 2022 Meeting Agenda
- 4. Minutes Approval**
 - A. Consider Approval of Minutes from April 12, 2022 Meeting.
- 5. Public Comment**
- 6. New Business**
 - A. 7. A. Consider recommendation on a Major Site Plan application for a restaurant and retail sales at 1010 North Jefferson Way
- 7. Comments**
 - A. Building Permit Report
 - B. Current Projects
- 8. Adjourn**



PLANNING AND ZONING COMMISSION MEETING

April 12, 2022

6:00 PM

City Council Chambers

Minutes

1. Call to Order

Meeting was called to order at 6:00 p.m.

2. Roll Call

All board members were present.

Staff present: Charlie Dissel and Miranda Chadwick

Citizens present: Curt Robertson and Dennis Ripperger

Melissa Hills with CEC representative for Jerry's homes.

3. Agenda Approval

Al Farris made a motion to approve the agenda. Bob Ormsby seconded the motion. Passed unanimously.

A. Consider Approval of April 12, 2022 Meeting Agenda

Al Farris made a motion to approve the agenda. Bob Ormsby seconds the motion. Passed unanimously.

4. Minutes Approval

Sarah Ritchie makes a motion to approve the meeting minutes. Courtney Marmon seconds it. Passed unanimously.

A. Consider Approval of Minutes from March 15, 2022

5. Public Comment

6. Old Business

7. New Business

A. Consider recommendation on request for approval of a Preliminary Plat for Ashton Park Plats 8, 9 and 10.

Mr. Dissel gives staff an overview of the Preliminary Plat of Ashton Park.

Mr. Farris confirms that the property is on the east side of the city and they own the property where the turnaround is going to be.

Mr. Dissel confirms that it is on the east side of Indianola and that they do not own the property where the turnaround is going to be.

Melissa Hills from CEC speaks that all the feed back on the storm management plan and they ok will all the remaining comments. They will be addressing those with their public improvement drawings.

Al Farris asks who will be responsible out lot c and out lot x are storm management areas?
Mellisa confirms that they are.

Al asks who is responsible for the management of those?

Melissa said it is the responsibility of the homeowner association for the development.

Charlie shares that the city has the ability to go in and fix whatever is needed and potentially put those costs back on the homeowner.

Jeromy Pribil is there a plan to have south 20th connect?

The comprehensive plan does state that it does want to limit stream crossing.

Jeromy asks where is the closet trail connection? Is it on 15th?

Charlie states that as development continues the plan long-term is to connect that area to the existing trail.

Al Farris moves to approve alternate 2 with the conditions stated. Motion passed unanimously.

- B. Consider recommendation on request for approval of a Preliminary Plat for Prairie Glynn Plat 4.

Charlie gives an overview of the request.

Lin Stecker asks if the city staff reviews the usability of lots that are created and the grade changes?

Charlie reviews the specific areas and asks the engineer for the project to provide some additional information.

Mathew Cooper Crawford, the grade changes are intentional and that those homes will have walkout basements.

Al Farris expresses his concern over the fact that there is not enough green space or park access in these new subdivisions.

Charlie states that our park plan does show a park to be east of this area. The land is currently outside of the city limits.

Josh Rabe makes a motion to approve the preliminary plat using alt 2 with the recommended items included in the packet.

Lin Stecker seconds that motion. Unanimously passed.

- C. Consider recommendation on request for approval of a Final Plat for Deer Run Plat 8.

Charlie provides an overview of the request.

Misty Soldwisch wants it to be noted that she owns a property adjacent to this land.

Kurt Robertson speaks about the easement and the row between the property and theirs. He would like to know if there are any plans for commercial lots in that area. The green space is not vast there and they would like to know what kind of potential development would go in there.

Kurt asks about ROW and easements for that property.

Charlie explains that in order for them to build on the easement they would need to rework the stormwater management plan.

Misty Soldwisch clarifies that the zoning already exists and if it were to change, it would have to go through the approval process.

Charlie confirms that it is correct.

Al Farris asks if the land surrounding that plat, already marked as PUD, would have to remain a golf course or if it would have change?

Charlie confirms that, again, it would have to go through the approval process before the zoning of that could change. Once it does, though, anything that qualifies under the new zoning could go there.

Jeromy Pribil makes a motion to approve alternative 2 with the conditions listed. Lin Stecker seconds that. Passed unanimously.

8. Comments

A. Building Permit Report

Charlie states that we are ahead of where we were last year.

B. Current Projects

Charlie shares that we currently have many projects currently going on.

C. Training

Mr. Dissel speaks about an opportunity for the board to attend planning and zoning training through Iowa State. The training that is closest to us is May 31st and it is covered by the City.

9. Adjourn

The meeting was adjourned at 6:33



Community Development

110 N. First St., Indianola, IA 50125-0299 • www.indianolaiowa.gov
515-961-9430 • comdev@indianolaiowa.gov

Staff Report

Planning and Zoning Commission

Date of Meeting: May 10, 2022

Agenda Item: 7.A. Consider recommendation on a major site plan application for a restaurant and retail sales at 1010 North Jefferson Way

Proposed Use: Restaurant and Retail Sales

Applicant: Matthew Hovda of Cooper Crawford and Associates

Property Owner: Danlee Corp (Lee Adams)

Property Address: 1010 North Jefferson Way

Zoning: C-2 Highway Commercial Zoning District

Application Summary: Approval of a major site plan at 1010 North Jefferson Way is requested to allow for the construction of new a 5,004 square foot multi-tenant commercial building that is proposed to house a retail sales and restaurant use.

AERIAL MAP



APPLICABLE CODE SECTIONS

The following sections of the Code of Ordinances of Indianola, Iowa apply to this request:

SECTION 165.06 SITE PLAN REGULATIONS AND PROCEDURES

1. SITE PLAN REQUIRED

Site plans, as provided herein this section, are required prior to approval of a building permit for the erection, relocation, expansion, or alteration of any structure or for the change in use of any structure or parcel.

2. SITE PLAN APPLICATION

The following site plans are required for all uses:

A. All Other New Uses, Buildings, and Structures. All other new uses, buildings, structures, conversions or changes of use, changes or modifications to building facades, and related additions and accessory structures that are not included in Section A herein above shall require the following:

- (1) Major Site Plan. A Major Site Plan Application is required for the development of a property, the construction of a new building or improvement, the redevelopment of an existing property (including a significant change in use), or an amendment or change to a previously approved site plan.

- a. **Major Site Plan Application** - A site plan (including required site plan details and number of copies), application form, and any additional information and details as specified and required by the Zoning Administrator as necessary to determine compliance with all applicable codes and requirements shall be submitted to the Zoning Administrator along with the Major Site Plan Application fee as established by resolution of the City Council.
- b. **Major Site Plan Review Procedure** - The Major Site Plan Application shall be reviewed by the Zoning Administrator, or their designee, for completeness. Incomplete applications shall be returned to the applicant with a list of the missing items or details. Applications deemed completed shall be distributed to other city departments and other agencies as necessary for review and comment as to its compliance with all zoning regulations and other pertinent city codes, regulations, and policies.
- c. **Major Site Plan Review by Zoning Commission** - Subsequent to review by the Zoning Administrator and other city departments and agencies, the Zoning Administrator, or their designee, shall submit to all members of the Zoning Commission a copy of the Major Site Plan Application along with a written recommendation as to the plan's conformity with the rules and regulations of the city.
- d. The Commission shall subsequently hold a meeting as prescribed by their rules of procedures and review the Major Site Plan Application for conformity with the zoning regulations and standards and may confer with the applicant on changes deemed advisable in such Site Plan.
- e. The Commission shall forward its recommendation to the City Council for approval, approval with conditions, or denial of the Major Site Plan Application within 45 days of the receipt of a Major Site Plan Applicant deemed complete by the Zoning Administrator. If the Commission does not act within the 45 days as prescribed above, the Major Site Plan Application shall be deemed to be recommended for approved by the Commission unless the applicant agrees to an extension of time.
- f. **Findings for Approval** – In order for the Commission to make a recommendation for approval of a Major Site Plan, the Commission shall make the following findings:
 - i. The proposed use, site improvements, and site plan comply with the minimum requirements of the zoning district in which it is proposed to be located;
 - ii. The property is of adequate size to accommodate the proposed use and site improvements including setbacks, open space, stormwater management, and off-street parking;
 - iii. The proposed use and site improvements will not unduly impact the health, safety, and general welfare of persons residing or working in adjoining property or surrounding area;
 - iv. The proposed use and site improvements shall not unduly increase traffic congestion;
 - v. The proposed use and site improvements will not unduly burden public utilities or increase risk to flooding;
 - vi. The proposed use and site improvements are compatible with the surrounding neighborhood and shall not diminish or impair established property values in adjoining or surrounding property; and,
 - vii. The proposed use and site improvements will not endanger, jeopardize or harm the health, safety or welfare of the properties and the community.
- g. **Major Site Plan Review by City Council** - The City Council, upon receipt of the recommendation of the Commission, shall either approve, approve with conditions, or disapprove the Major Site Plan Application. In order for the Council to approve a Major Site Plan, the Council shall confirm or make the aforementioned findings in subsection f. herein above.

ANALYSIS

Matthew Hovda of Cooper Crawford and Associates is requesting approval of a major site plan to allow for the construction of new a 5,004 square foot multi-tenant commercial building that is proposed to house a retail sales and restaurant use. The property, which is located at 1010 North Jefferson Way, is located within the C-2, Highway

Commercial Zoning District. The site plan proposes a trash enclosure, equipment screening and exterior lighting that meets Section 165.05.

This property has an established 45' wide access from North Jefferson Way. The proposed site plan reduces this access to 28' at the right-of-way line and 42' at the curb cut to meet the City's driveway standards in Section 136.14. North Jefferson Way is a 60' major arterial roadway. Major arterials are high-capacity roadways that primarily provide for the movement of through traffic and limit access to adjacent land. When the road is part of the State's road system, it serves to move regional through traffic. Major arterials typically provide four to five lanes for traffic and turn lanes, are often spaced one-mile to two-miles apart and have a higher speed limit ranging from 35 to 55 mph. Major arterials also have limited access spacing with lower capacity roads and site entrances, generally between ½- to ¾-mile spacing. Facilities for biking and walking, when deemed necessary, should have a comfortable buffer from vehicle travel lanes.

Chapter 165.07 stipulates that there must be one (1) parking spot per 150 square feet of gross floor area for the restaurant use and one (1) parking spot per 250 square feet of gross floor area for the retail sales use. The restaurant space is proposed to be 2,502 square feet, which would require 17 parking spaces, while the retail sales space is proposed to be 2,502 square feet, which would require 10 parking spaces. Altogether, 27 parking spaces are required, which the site plan does provide, including two (2) handicap spaces, one of which is van assessable.

A stormwater management plan was submitted as part of this application. The grading of this site will have elevation that moves from the southwest corner of the site to the north-northeast corner of the site. The stormwater is captured via inlets within the parking lot and piped into an existing manhole that eventually empties into the open swale north of this site.

The total area of this site is 42,465 square feet, or 0.975 acres. With the 20% required open space, the site would require 5 deciduous shade trees, 9 deciduous ornamental trees, and 9 shrubs. The proposed plan includes 5 shade trees, 5 ornamental trees and 37 shrubs. It should be noted there are currently draft plans for development of the remained of the ground on the east side, at which point staff will require the remaining 4 ornamental trees to be planted.

Regarding the building design standards, each primary façade shall contain no less than three (3) different class 1 or class 2 façade materials, together composing at least 75% of the primary façade area. Class 3 and class 4 façade materials in aggregate shall not exceed 25% of any primary façade area. Class 4 façade materials shall not exceed 5% of any primary façade area. At least one street-facing building façade and the façade containing the main building entry, if different from the street façade, shall consist of no less than 20% clear glass fenestrations (windows and full glass doors) on the first level. EIFS shall not be permitted within ten (10) feet of the finished floor elevation of the façade on which it is located. All structures shall utilize Class 1 or 2 roofing materials. No primary façade shall exceed 60 feet in length without interruption by one or more of the following architectural features:

- Projection or recess in the wall plane of at least two (2) feet in depth.
- Columns, piers, pilasters or other equivalent structural and/or decorative elements.

The primary facades are on the west and north sides. The applicant proposes to use a combination of stone veneer (class 1), stone panels (class 2), clear glass (class 1) and EFIS (class 3). The west elevation meets all aspects of the code. The North elevation does not propose to use 75% class 1 and 2 materials, instead uses EFIS, a class 3 material, which exceeds 25% of the elevation. The applicant has further proposed to have EFIS lower than 10 feet above the finished floor elevation for budgetary reasons. The applicant has proposed to have a continuous band of stone veneer at the base of the building to provide adequate protection to the areas adjacent with the sidewalk. The applicant has requested an exception on the north façade to allow for more EFIS to be used.

FINDINGS FOR APPROVAL

In order for the Commission to make a recommendation for approval of a Major Site Plan, the Commission shall make the following findings:

1. The proposed use, site improvements, and site plan comply with the minimum requirements of the zoning district in which it is proposed to be located

The applicant has provided a site plan with their application that shows the proposed use and proposed site improvements will comply with the minimum requirements of the C-2 Zoning District, sans the ornamental tree requirement and building design standards. The additional four (4) ornamental trees will be required when the east portion of this property is developed, and the applicant has requested an exception for the north facing primary facade. This site plan has been reviewed by all members of the City's development review team, which includes Community Development, Fire, Parks and Recreation, Public Works, Water Pollution Control, IMU Electric, IMU Fiber and IMU Water.

2. The property is of adequate size to accommodate the proposed use and site improvements including setbacks, open space, stormwater management, and off-street parking

The total area of this site is 42,465 square feet, or 0.975 acres. The site plan has been reviewed as to proposed setbacks, open space, and off-street parking. Additionally, Snyder and Associates has reviewed the proposed Stormwater Management Plan submitted by the applicant. After these reviews, staff has no concerns regarding the size of the property and its proposed use.

3. The proposed use and site improvements will not unduly impact the health, safety, and general welfare of persons residing or working in adjoining property or surrounding areas

Based on the proposed use and improvements, the health, safety, and welfare of citizens should not be impacted. There is concern with the existing entrance to this site off North Jefferson Way, however it is an established entrance into this site, is the only access into this site, and alterations will be done decrease the width of the entrance.

4. The proposed use and site improvements shall not unduly increase traffic congestion

Traffic congestion may increase with the proposed improvements. However, North Jefferson Way is a major arterial high-capacity roadways that primarily provide for the movement of through traffic and limit access to adjacent land and to move regional through traffic. It provides five lanes with turn lanes, with a higher speed limit ranging from 35 to 55 mph in town. As such, it is not anticipated traffic congestion would unduly increase.

5. The proposed use and site improvements will not unduly burden public utilities or increase risk to flooding

The proposed use will not unduly burden the existing public utilities available in this area. The proposed site improvements do connect sanitary sewer to the existing sanitary sewer line on this site and connects its water service to a water main along East Iowa Avenue. As previously mentioned, a storm-water management plan has been submitted and reviewed and concluded there will not be an increased risk to flooding from the proposed improvements.

6. The proposed use and site improvements are compatible with the surrounding neighborhood and shall not diminish or impair established property values in adjoining or surrounding property

As this site is surrounded by C-2 zoning, these improvements should not diminish or impair established property values in adjoining or surrounding property.

7. The issuance of the Special Use Permit will not endanger, jeopardize, or harm the health, safety or welfare of the properties and the community

As previously mentioned, the proposed use and site improvements will not endanger or harm the health safety and welfare of properties or the community.

ALTERNATIVES

The City of Indianola Planning and Zoning Commission may consider the following alternatives:

- 1) The City of Indianola Planning and Zoning Commission concludes that all findings of approval have been satisfied, and recommends the Major Site Plan be approved, as submitted.
- 2) The City of Indianola Planning and Zoning Commission concludes that all findings of approval have been satisfied, and recommends the Major Site Plan be approved, with conditions.
- 3) The City of Indianola Planning and Zoning Commission concludes that all findings of approval have not been satisfied and recommends the Major Site Plan be denied.
- 4) The City of Indianola Planning and Zoning Commission remands the Major Site Plan, back to the applicant and/or staff for further review and/or modifications and directs staff to place this item on a future Planning and Zoning agenda.

RECOMMENDATION

Staff recommends that the Indianola Planning and Zoning Commission concludes that all findings of approval have been satisfied, and recommends the Major Site Plan be approved, as submitted.

SITE DEVELOPMENT APPLICATION		Community Development 110 North 1 st Street, Indianola, Iowa 50125-0299 (515) 961-9430 • comdev@indianolaiowa.gov	
PROPERTY OWNER (Last Name) <u>Adams</u> (First Name) <u>Lee</u> (Address) <u>101 S. Jefferson Way</u> (City) <u>Indianola</u> (State) <u>IA</u> (Zip) <u>50125</u> (Phone) _____ (Email) <u>leeladams@msn.com</u>		APPLICANT (if not Property Owner) (Last Name) _____ (First Name) _____ (Address) _____ (City) _____ (State) _____ (Zip) _____	
☐ CONSTRUCTION DOCUMENTS Submittal Requirements: <i>All submittal requirements must be completed. Incomplete applications will not be considered</i> ☐ Completed Application ☐ Filing Fee: <u>\$100, plus OEC</u> ☐ Subdivision: _____ ☐ Proposed construction documents (hard copy) ☐ Proposed construction documents (electronic copy) ☐ Stormwater Management Plan ☐ Other Information as required by Director		☒ SITE PLAN Submittal Requirements: <i>All submittal requirements must be completed. Incomplete applications will not be considered</i> ☒ Completed Application ☒ Property Address: <u>1010 N. Jefferson Way</u> ☒ Filing Fee: <u>\$225, plus OEC</u> ☒ Current Zoning: <u>C-2</u> ☒ All items as required by Chapter 165.06 of the Code of Ordinances of Indianola, Iowa ☒ Proposed site plan hard copy) ☒ Proposed site plan (electronic copy) ☒ Stormwater Management Plan ☐ Other Information as required by Director	
I certify that the information and exhibits submitted are true and correct to the best of my knowledge and that in filing this application I am acting with the knowledge, consent and authority of the owner(s) of the property. Pursuant to said authority, I hereby permit City officials to enter upon the property for the purpose of inspection related to this application. Signature <u>[Signature]</u> Name (printed) <u>Lee Adams</u>		FOR OFFICE USE ONLY: Code to 45683 (Const Docs) 45680 (Site Plan) Date Received: _____ Receipt No: _____ Receipt Amount: _____ Date <u>5-6-2022</u>	



TOTAL = 5.99 ERU

1010 N. JEFFERSON WAY
INDIANOLA, IOWA

ELECTRIC	INDIANOLA MUNICIPAL UTILITIES MIKE METCALF 515-962-5305 MMETCALF@INDIANOLAIAOWA.GOV
FIBER OPTIC	INDIANOLA MUNICIPAL UTILITIES KURT RIPPERGER 515-962-5283 KRIPPERGER@INDIANOLAIAOWA.GOV
SANITARY SEWER	CITY OF INDIANOLA RICK GRAVES 515-961-9416 RGRAVES@INDIANOLAIAOWA.GOV
WATER	INDIANOLA MUNICIPAL UTILITIES LOU ELBERT 515-962-5330 LELBERT@INDIANOLAIAOWA.GOV

1. ALL PAVING SHOWN IS 6" PCC
2. ALL PAVEMENT MARKINGS AND SIGNAGE MUST BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

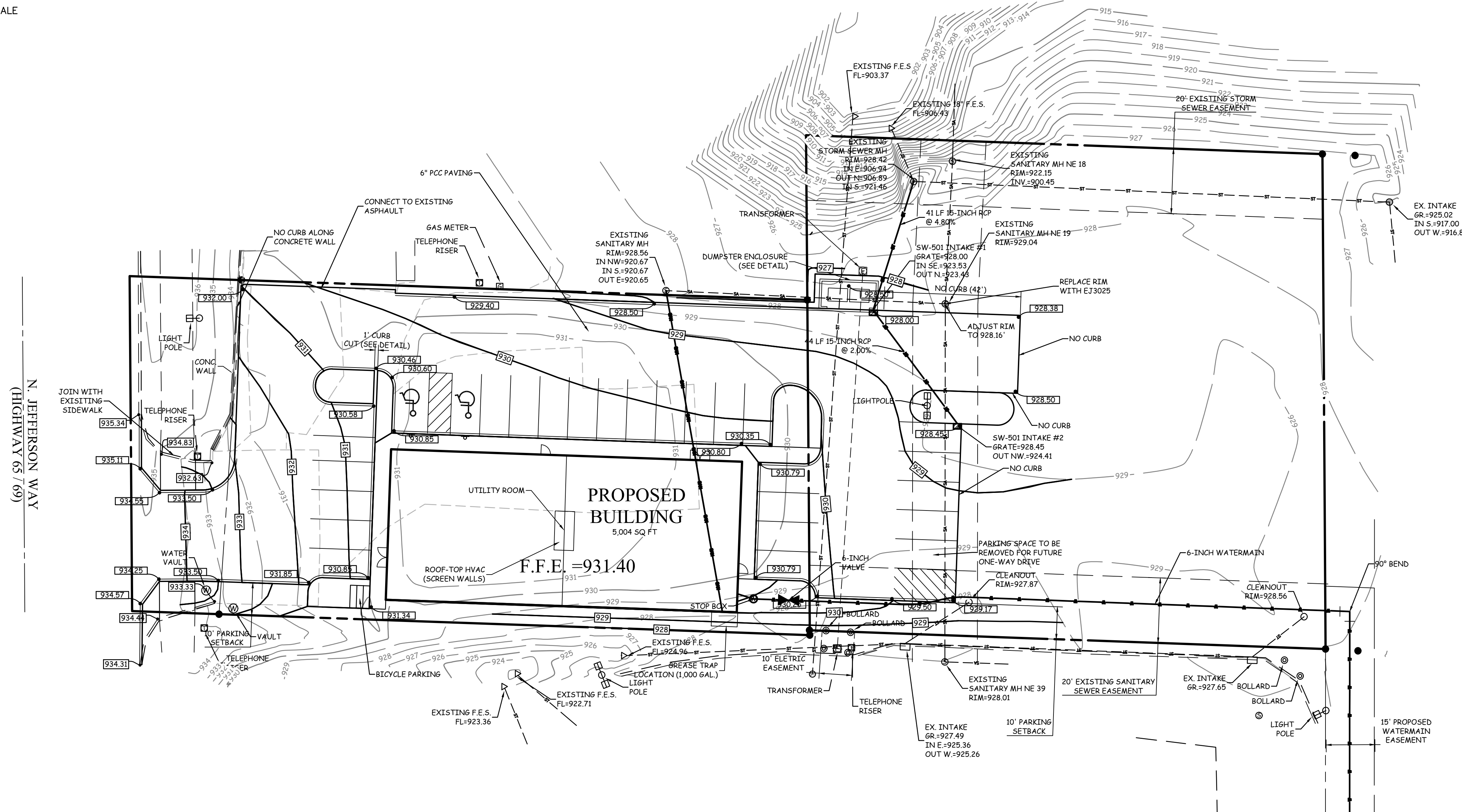
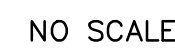
EXISTING/PROPOSED

- _____ PLAT BOUNDARY
- _____ W 8" WATER MAIN & SIZE
- _____ SAN 8" SANITARY SEWER & SIZE
- _____ ST 8" STORM SEWER & SIZE
- _____ UGE UNDERGROUND ELECTRIC CABLE
- _____ UGT UNDERGROUND TELEPHONE CABLE
- _____ CTV UNDERGROUND CABLE TV
- G 6 GAS MAIN & SIZE
- MANHOLE
- ◐ INTAKE
- ▨ HYDRANT
- PP/LP POWER POLE/LIGHT POLE
- UTILITY BOX/TELEPHONE RISER
- - - EXISTING CONTOURS
- 990 PROPOSED CONTOURS
- * * * SILT FENCE OR APPROVED FILTRATION SOCK
- ☁ TREES

	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. BRADLEY R. COOPER, IOWA LICENSE NO. 12980 MY LICENSE RENEWAL DATE IS DECEMBER 31, 2022 PAGES OR SHEETS COVERED BY THIS SEAL: Sheets 1-X
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475 S. 50th STREET, SUITE 800, WEST DES MOINES, IOWA 50265
PHONE: (515) 224-1344 FAX: (515) 224-1345

  SCALE: 1"=20'	DATE: 2-22-2022 REVISIONS:	JOB NUMBER CC 2567
APPROVED: ---	INITIALED: ---	AS-BUILT: ---
GRADING/UTILITY PLAN 1010 N. JEFFERSON WAY		
SHEET 2 OF 6		



SITE PLAN
DANLEE CORP.

1010 N. JEFFERSON WAY
INDIANOLA, IOWA

UTILITIES

ELECTRIC	INDIANOLA MUNICIPAL UTILITIES MIKE METCALF 515-962-5305 MMETCALF@INDIANOLA.IOWA.GOV
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NOTES

1. ALL PAVING SHOWN IS 6" PCC

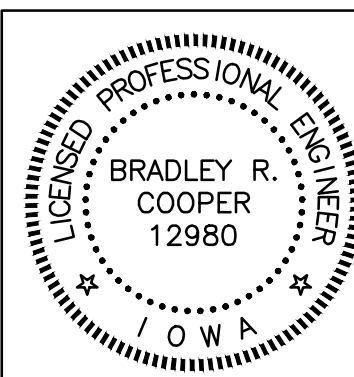
STORM SEWER NOTES

- 15-INCH STORM SEWERS SHALL BE REINFORCED CONCRETE PIPE.
- THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 3'-6" COVER ON ALL STORM SEWERS.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH SDAS STANDARD SPECIFICATIONS AND CITY OF INDIANOLA SUPPLEMENTAL SPECIFICATIONS

LEGEND

EXISTING/PROPOSED	PLAT BOUNDARY
W 8"	WATER MAIN & SIZE
SAN 8"	SANITARY SEWER & SIZE
ST 8"	STORM SEWER & SIZE
UG 6"	UNDERGROUND ELECTRIC CABLE
UG 6"	UNDERGROUND TELEPHONE CABLE
CTV 4"	UNDERGROUND CABLE TV
G 4"	GAS MAIN & SIZE
MANHOLE	MANHOLE
INTAKE	INTAKE
HYDRANT	HYDRANT
PP/LP	POWER POLE/LIGHT POLE
UTILITY BOX/TELEPHONE RISER	UTILITY BOX/TELEPHONE RISER
EXISTING CONTOURS	EXISTING CONTOURS
PROPOSED CONTOURS	PROPOSED CONTOURS
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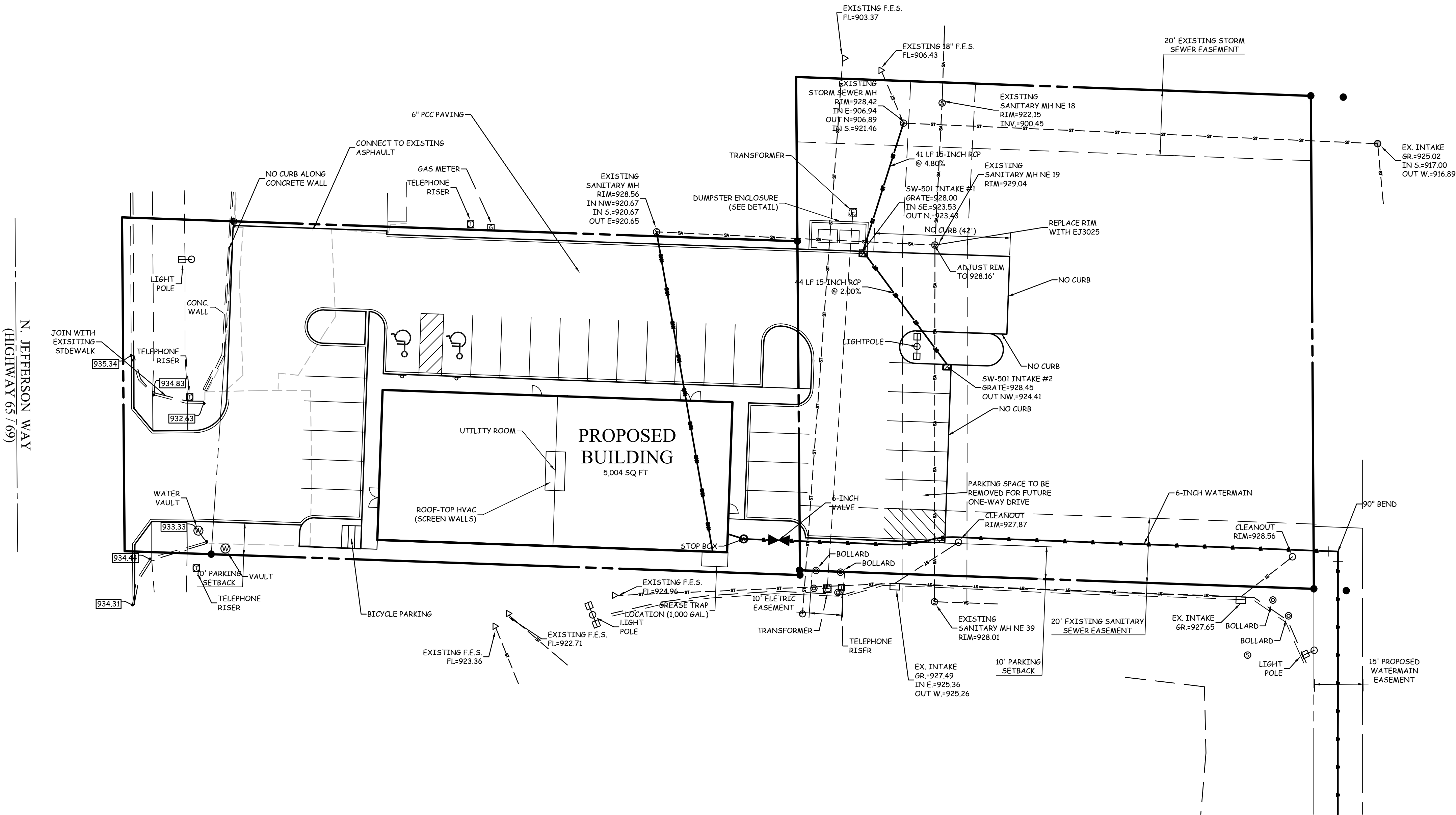
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COOPER CRAWFORD
& ASSOCIATES, L.L.C.
CIVIL ENGINEERS

475 S. 50th STREET, SUITE 800, WEST DES MOINES, IOWA 50265
PHONE: (515) 224-1344 FAX: (515) 224-1345

DATE: 2-22-2022 REVISIONS:	JOB NUMBER CC 2567
APPROVED: --- INITIALED: --- AS-BUILT: --- UTILITY PLAN 1010 N. JEFFERSON WAY	SHEET 3 OF 6



N. JEFFERSON WAY
(HIGHWAY 65 / 69)

SITE PLAN
DANLEE CORP.

1010 N. JEFFERSON WAY
INDIANOLA, IOWA

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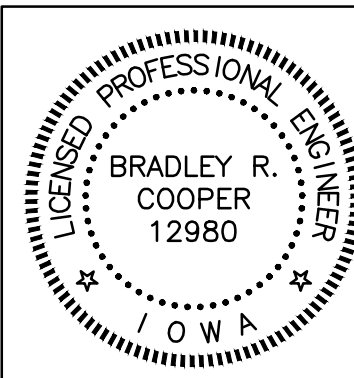
NOTES

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LEGEND

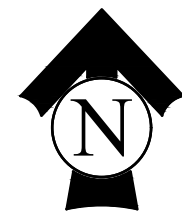
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SILT FENCE OR APPROVED FILTRATION SOCK	SILT FENCE OR APPROVED FILTRATION SOCK
TREES	TREES

CERTIFICATION

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COOPER CRAWFORD
& ASSOCIATES, L.L.C.
CIVIL ENGINEERS

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PHONE: (515) 224-1344 FAX: (515) 224-1345



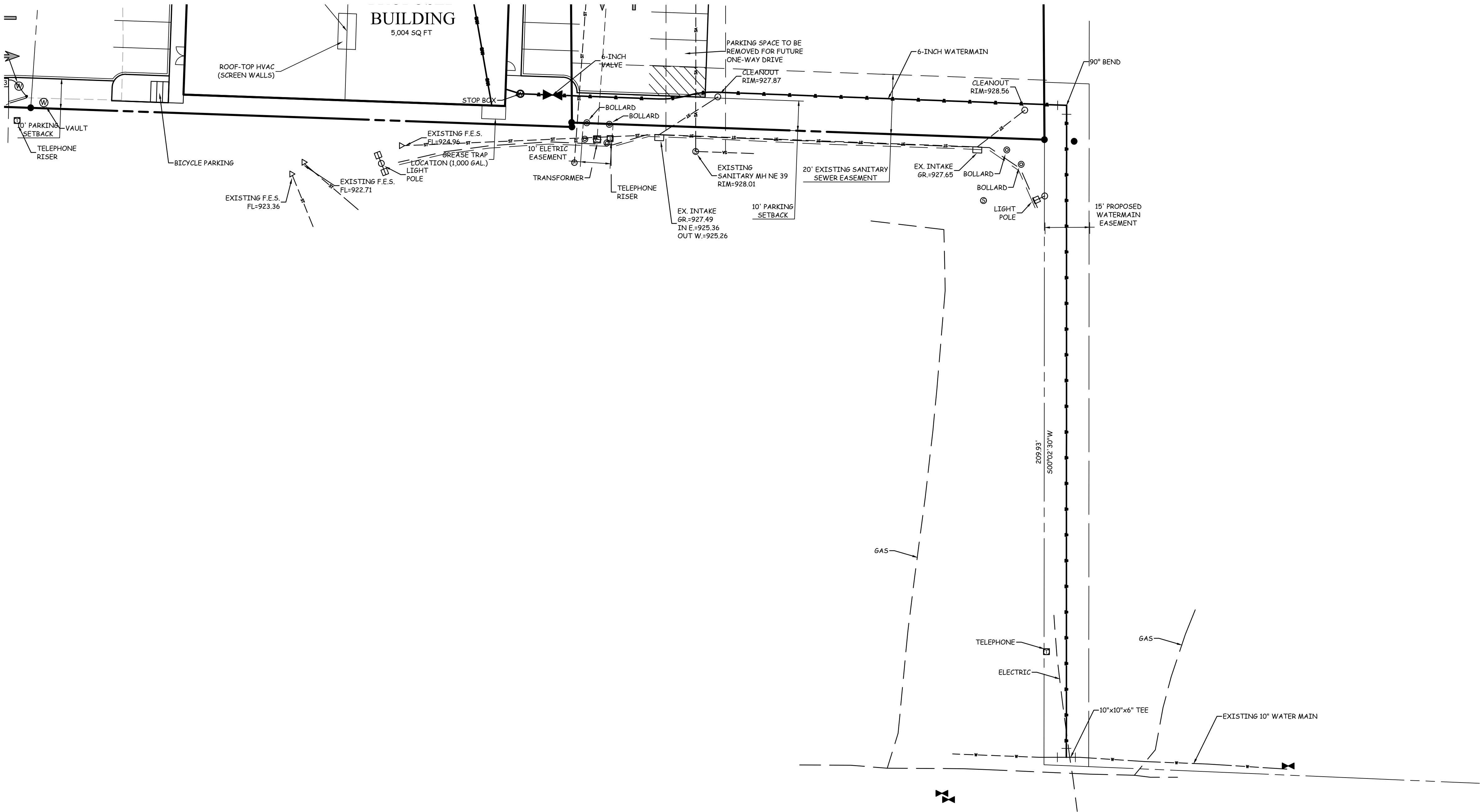
0 10 20
SCALE: 1"=20'

APPROVED: --- INITIALED: --- AS-BUILT: ---

UTILITY PLAN - WATER
1010 N. JEFFERSON WAY

JOB NUMBER
CC
2567

SHEET
4 OF 6



1010 N. JEFFERSON WAY
INDIANOLA, IOWA

1. ALL SITEWORK, SODDING AND LANDSCAPING SHALL BE IN ACCORDANCE WITH 2021 EDITION OF SUDAS.
2. THE LOCATIONS AND DIMENSIONS SHOWN ON THE PLANS FOR EXISTING FACILITIES ARE IN ACCORDANCE WITH AVAILABLE INFORMATION WITHOUT UNDOING AND MEASURING. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF THIS INFORMATION OR THAT ALL EXISTING UNDERGROUND FACILITIES ARE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL PUBLIC AND/OR PRIVATE UTILITIES SERVING THE AREA TO DETERMINE THE PRESENCE, EXTENT AND EXACT LOCATION OF THEIR PIPES AND CABLES.
3. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER OF ANY UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK. THE CONTRACTOR SHALL NOTIFY THE PROPER UTILITY IMMEDIATELY UPON BREAKING OR DAMAGE TO ANY UTILITY LINE OR APPURTENANCE, OR THE INTERRUPTION OF THEIR SERVICE. HE SHALL NOTIFY THE PROPER UTILITY INVOLVED. IF EXISTING UTILITY LINES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT MAY BE RESOLVED.
4. ALL PLANT MATERIAL SHALL AT LEAST MEET MINIMUM REQUIREMENTS SHOWN IN THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1-1990).
5. THE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF ONE YEAR FROM THE DATE OF INSTALLATION.
6. THE CONTRACTOR SHALL REMOVE THE TREE STAKES ONE YEAR AFTER INSTALLATION.
7. NO PLANT MATERIAL SHALL BE SUBSTITUTED WITHOUT AUTHORIZATION OF THE LANDSCAPE ARCHITECT.
8. ALL TREES, SHRUBS, BEDS AND GROUND COVERS SHALL BE MULCHED WITH AT LEAST 3-INCHES SHREDDED BARK MULCH.
9. ONE YEAR PRIOR TO INSTALLATION, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT.
10. THE CONTRACTOR SHALL SCALE LOCATION OF PLANTS FOR LANDSCAPE ARCHITECT'S APPROVAL BEFORE DIGGING HOLES.
11. ALL DECIDUOUS TREES SHALL BE PLANTED AT LEAST 5 FEET FROM R.O.W. AND CONIFEROUS TREES AT LEAST 10 FEET FROM R.O.W.
12. ALL LANDSCAPING SHALL BE INSTALLED WITH THIS CONTRACT.
13. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL BUFFER PARK AND OPEN SPACE LANDSCAPING.
14. ALL AREAS SHALL BE TURF OR PLANTINGS UNLESS OTHERWISE INDICATED.
15. ALL BUFFER AND OPEN SPACE LANDSCAPING SHALL BE INSTALLED PRIOR TO FINAL OCCUPANCY.

BASED ON 20% REQUIRED OPEN SPACE = 8,392 S.F. (41,958 * 20%)

REQUIRED: 5 DECIDUOUS SHADE TREES
5 DECIDUOUS ORNAMENTAL TREES
5 SHRUBS

PROPOSED: 5 DECIDUOUS SHADE TREES
5 DECIDUOUS SHADE TREES
37 SHRUBS

EXISTING/PROPOSED

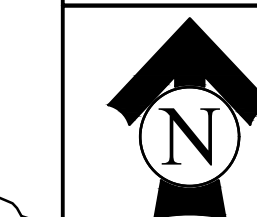
LEGEND

- PLAT BOUNDARY
- 8" — WATER MAIN & SIZE
- 8" — SANITARY SEWER & SIZE
- 8" — STORM SEWER & SIZE
- UNDERGROUND ELECTRIC CABLE
- UNDERGROUND TELEPHONE CABLE
- UNDERGROUND CABLE TV
- 4" — GAS MAIN & SIZE
- MANHOLE
- ◻ INTAKE
- ◻ HYDRANT
- PP/LP POWER POLE/LIGHT POLE
- ◻ UTILITY BOX/TELEPHONE RISER
- - - 990 EXISTING CONTOURS
- - - 990 PROPOSED CONTOURS
- * * * SILT FENCE OR APPROVED FILTRATION SOCK
- ☁ TREES

	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. BRADLEY R. COOPER, IOWA LICENSE NO. 12980 MY LICENSE RENEWAL DATE IS DECEMBER 31, 2022 PAGES OR SHEETS COVERED BY THIS SEAL: Sheets 1-X
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COOPER CRAWFORD
& ASSOCIATES, L.L.C.
CIVIL ENGINEERS

475 S. 50th STREET, SUITE 800, WEST DES MOINES, IOWA 50265
PHONE: (515) 224-1344 FAX: (515) 224-1345



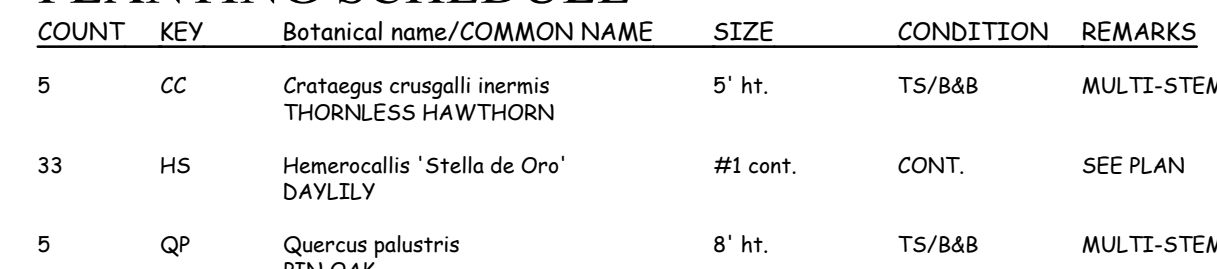
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SCALE: 1"=20'

APPROVED: --- INITIALED: --- AS-BUILT: ---

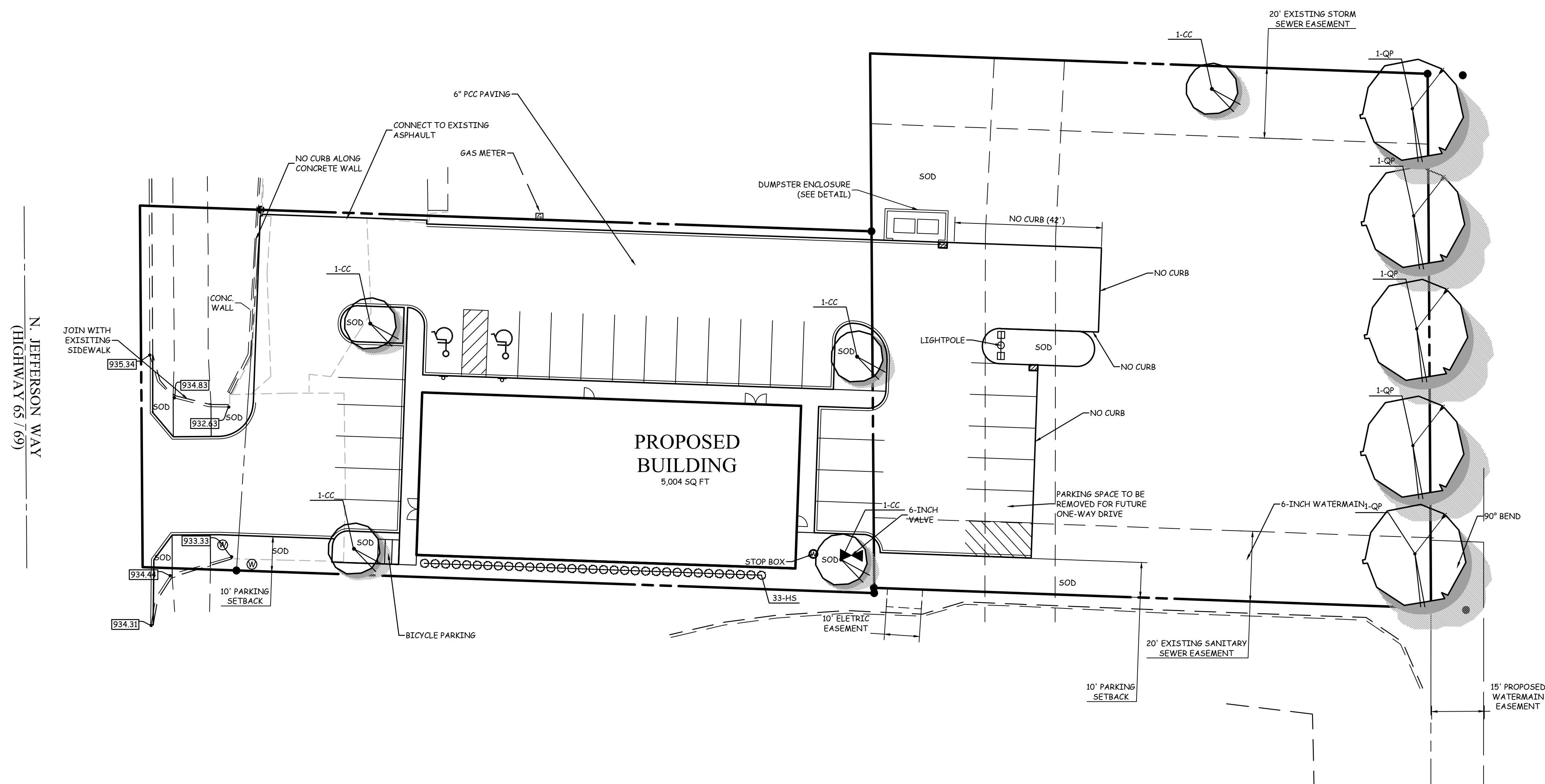
LANDSCAPE PLAN
1010 N. JEFFERSON WAY

OB NUMBER
CC
2567

SHEET
5 OF 6



NO SCALE



SITE PLAN

DANLEE CORP.

1010 N. JEFFERSON WAY
INDIANOLA, IOWA

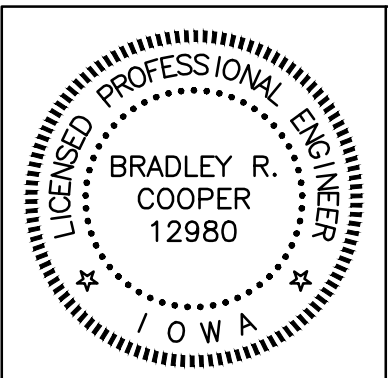
EROSION & POLLUTION CONTROL NOTES

1. THE SUBCONTRACTOR RESPONSIBLE FOR EROSION AND POLLUTION CONTROL SHALL CARRY OUT THE MEASURES DETAILED ON THIS SITE PLAN.
2. CONTROLS MUST BE IN GOOD OPERATING CONDITION UNTIL THE CONSTRUCTION ACTIVITY IS COMPLETE AND FINAL STABILIZATION HAS BEEN REACHED.
3. THE SUBCONTRACTOR SHALL INSPECT THE SITE AT MINIMUM ONCE EVERY 7 DAYS AND WITHIN 24 HOURS OF THE END OF A 1 INCH OR GREATER RAINFALL. ALL DISTURBED AREAS OF THE SITE, AREAS OF MATERIAL STORAGE, LOCATIONS WHERE VEHICLES ENTER/EXIT THE SITE. ALL OF THE EROSION AND SEDIMENT CONTROLS THAT ARE IDENTIFIED AS PART OF THIS PLAN AND ACCESSIBLE DISCHARGE LOCATIONS MUST BE INSPECTED.
4. THE SUBCONTRACTOR IS TO TAKE NECESSARY ACTIONS TO CORRECT DEFICIENCIES FOUND DURING INSPECTIONS AS SOON AS PRACTICAL BUT IN NO CASE LATER THAN 7 DAYS AFTER THE INSPECTION IN WHICH THE DEFICIENCY WAS FOUND.
5. THE SUBCONTRACTOR SHALL KEEP LOG AND PREPARE WEEKLY REPORTS DETAILING THE INSPECTIONS AND MEASURES TAKEN TO CORRECT ANY AND ALL DEFICIENCIES FOUND IN THE EROSION AND POLLUTION CONTROL MEASURES. THE REPORTS SHALL CONFORM TO THE STANDARDS SET BY THE IOWA DEPARTMENT OF NATURAL RESOURCES. COPIES OF THESE REPORTS SHALL BE FORWARDED TO THE DEVELOPER AND TO COOPER CRAWFORD & ASSOCIATES, L.L.C.
6. AFTER INITIAL GRADING PRIOR TO UTILITY CONSTRUCTION, ALL DISTURBED AREAS OUTSIDE OF THE PROPOSED R.O.W.'S ARE TO HAVE TEMPORARY SEEDING AND MULCHING (SEE SEEDING DETAIL FOR TIMETABLE). CONTRACTOR AND SUBS ARE TO TRY TO MINIMIZE DISTURBANCE TO THESE SEEDED AREAS THROUGH THE USE OF SPECIFIC ACCESS ROUTES WITHIN THE SITE.
7. DURING CONSTRUCTION, IF IT BECOMES EVIDENT THAT A DISTURBED AREA WILL NOT BE DISTURBED FOR 21 DAYS, IT SHALL BE SEEDED BY DAY 7.
8. PERMANENT SEEDING TO BE DONE IMMEDIATELY AFTER FINAL GRADING.
9. ANY FAILED AREAS OF SEEDING/MULCHING SHALL BE REAPPLIED.
10. ANY SOIL OR SPILL WASHED, TRACKED OR DROPPED ONTO ADJOINING RIGHT-OF-WAYS AND PROPERTY WILL BE CLEANED UP BY THE OWNER/CONTRACTOR WITHIN 24 HOURS.
11. FILTER SOCKS ARE TO BE INSPECTED ONCE A WEEK AND AFTER EACH RAINSTORM, LOOK FOR UNDERCUTTING AND FAILURES IN FABRIC. REPLACE/REPAIR AS NECESSARY.
12. ADDITIONAL FILTER SOCKS (TO THAT SHOWN ON THIS PLAN) MAY BE REQUIRED IN AREAS WHERE EROSION IS EVIDENT
13. FILTER SOCKS ARE TO BE CLEANED UP WHEN THEY HAVE LOST 50% OF THEIR CAPACITY.
14. ALL INTAKES SHALL HAVE FILTER SOCKS PRIOR TO PAVING AND INLET FILTERS AFTER PAVING. THESE FILTERS REMAIN IN PLACE UNTIL THE SITE HAS A PERMANENT PERENNIAL GROUND COVER.
15. ALL INTAKES SHALL BE COVERED DURING CONSTRUCTION TO PREVENT SEDIMENTATION DEPOSITS WITHIN THE STORM SEWER.
16. IN THE EVENT THAT SEEDING/MULCHING DOES NOT OCCUR PRIOR TO WINTER, ALL DISTURBED AREAS WILL BE MULCHED.
17. NO BORROW/SPILLS SITES ARE ANTICIPATED.

LEGEND

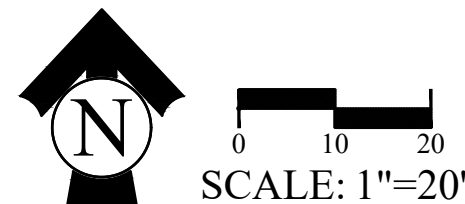
EXISTING/PROPOSED	PLAT BOUNDARY
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SAN 8"	SANITARY SEWER & SIZE
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MANHOLE	MANHOLE
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HYDRANT	HYDRANT
PP/LP	POWER POLE/LIGHT POLE
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EXISTING CONTOURS	EXISTING CONTOURS
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SILT FENCE OR APPROVED FILTRATION SOCK	SILT FENCE OR APPROVED FILTRATION SOCK
TREES	TREES

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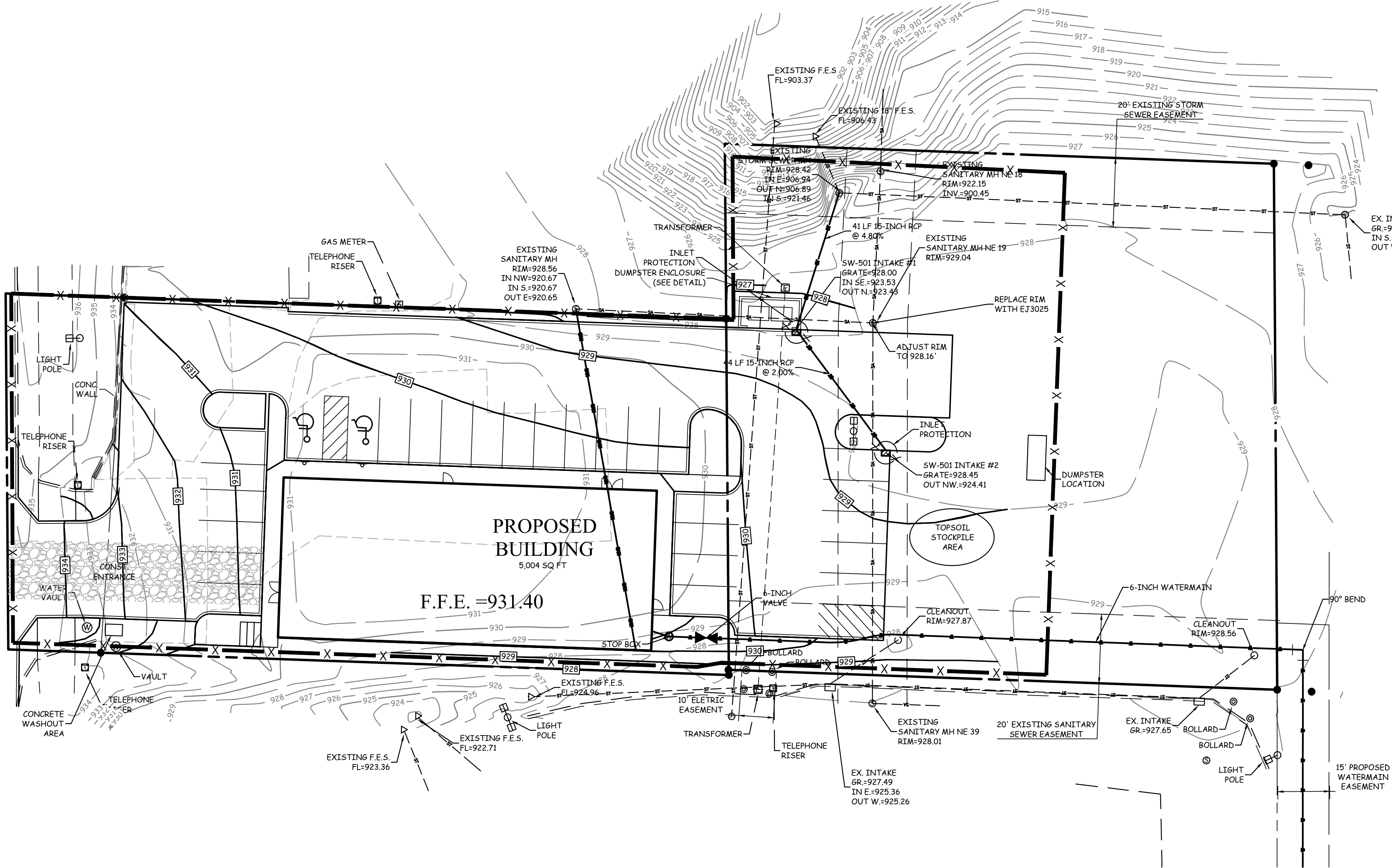
COOPER CRAWFORD
& ASSOCIATES, L.L.C.
CIVIL ENGINEERS

475 S. 50th STREET, SUITE 800, WEST DES MOINES, IOWA 50265
PHONE: (515) 224-1344 FAX: (515) 224-1345

 SCALE: 1"=20'	DATE: 2-22-2022 REVISIONS:	JOB NUMBER CC 2567
APPROVED: --- EROSION CONTROL 1010 N. JEFFERSON WAY	INITIALED: --- AS-BUILT: ---	SHEET 6 OF 6



N. JEFFERSON WAY
(HIGHWAY 65 / 69)



Danlee Corp.
Indianola, Iowa

**STORM WATER
MANAGEMENT PLAN**

February 17th, 2022
REVISED:
March 21st, 2022
April 18th, 2022

Project #: CC 2567

Prepared by:
Cooper Crawford & Associates L.L.C.
475 South 50th Street, Suite 800
West Des Moines, Iowa 50265
P: 515-224-1344
F: 515-224-1345

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

License Renewal Date: 12/31/21

Bradley R. Cooper
Iowa License #12980

Date

Danlee Corp. Table of Contents

Table of Contents	1
Project Description	2
A. Existing Site Condition	
B. Existing Site Drainage	
C. Proposed Storm Water Management	
Appendix A: Storm Sewer Calculations	
Appendix B: Drainage Maps	
Appendix C: HydroCAD Output and Soil Report	

Project Description

Danlee Corp. is a commercial development with an attached parking lot, with the building's primary uses being retail sales and a fast-food restaurant. The site is located on 1010 N. Jefferson Way in Indianola, IA. The site area is 1.048 acres.

A. Existing Site Conditions

The existing site is vacant and comprised of grassland, pavement, and some gravel. The topography ranges from elevation 931 to elevation 907.

B. Existing Site Drainage

The existing drainage area runoff flows into properties to the north and south of the site. Roughly 0.38 acres drains south to an existing flared-end section on the south side of the site. The remaining 0.67 acres flows into an existing channel north of the site. Roughly 0.24 acres of the total existing area is pavement or gravel. The site features mostly hydrolic soil group D. The SCS method was used to calculate the peak runoff values during the 5-year and 100-year storm.

C. Proposed Storm Water Management

Post-development, 0.78 acres will flow to the north channel, and the remaining 0.27 acres will flow into the existing sewer network to the south. The peak runoff values existing vs. proposed are as follows:

	Area #	Acreage	5-year (cfs)	100-year (cfs)
Existing	1 (North)	0.67	2.37	5.38
	2 (South)	0.38	1.27	2.98
Proposed	1A (North)	0.78	2.91	6.39
	2A (South)	0.27	1.06	2.25

(See HyrdoCAD)

The site will see a decrease in runoff to the south property.

Storm water runoff will be collected in the storm sewer network that directs its flow to an existing manhole on the north side of the site. The storm sewer network will be designed to carry the 100-year storm event. The proposed storm sewer network was designed using the Rational Method with assumed runoff coefficients and an assumed time of concentration of 15 minutes.

Assumptions for the storm sewer network design were as follows:

$$T_c = 15 \text{ minutes}$$

$$I_5 = 4.05 \text{ in/hr}$$

$$I_{100} = 7.64 \text{ in/hr}$$

For an impervious area with soil group D,

$$C_5 = 0.95$$

$$C_{100} = 0.98$$

Storm sewer calculations are provided in Appendix A.

APPENDIX A

Storm Sewer Calculations

CC2567

DESIGN YEAR = 5-YEAR / 100-YEAR

DESIGN YEAR = 5-YEAR / 100-YEAR

CREATED:
UPDATED:

12/28/21
3/22/22

81

#2

#3

24

82

26

87

#16

28

89

#10

81

#12

51

#13

#15

DRAINAGE AREA RUNOFF				CH-CA				STRUCTURE		GUTTER FLOW & IN-TAKE INTERCEPTION										ORIFICE				WEIR				PIPE DESIGN																		
#	A (ACRES)	Ts (min)	Cs	Csoo	Qs in(hydr. ft ² /hr.)	QS (cfs)	Qsoo (cfs)	TYPE	LOCATION	Qs (cfs)	Qs (hydr. ft ² /hr.)	S, (ft./ft.)	dS (ft.)	dS (ft.)	dsoo (ft.)	dS LOW PT. (ft.)	dsoo LOW PT. (ft.)	Tsoo (ft.)	TS LOW PT. (ft.)	Tsoo LOW PT. (ft.)	K	Rz	Qo-5 (cfs)	Qo-100 (cfs)	Qo-5 (cfs)	Qo-100 (cfs)	Qo-5 LOW PT. (cfs)	Qo-100 LOW PT. (cfs)	Qo-5+5-1 (cfs)	Qo-5+5-1 (cfs)	BYPASS TO AREA # (cfs)	FROM STRUCTURE # (cfs)	TO STRUCTURE # (cfs)	TYPE OF PIPE	DIAMETER (in)	DIAMETER (ft.)	n	SLOPE (ft./ft.)	AREA (ft ²)	HYDRAULIC RADIUS (ft.)	DESIGN Q (cfs)	ACTUAL Q100 (cfs)	Velocity (ft./sec)	% Full	REMARKS	
1	.09	15	0.95	0.98	4.05	7.64	1.12	2.17	1	SW-SO	1.12	2.17	0.0050	0.060	16.67		0.26	0.32		4.22	5.45			0.80	5.62	5.26	5.96	5.80	5.52		0.00	0.00	0.00	1	RCP	15	1.25	0.013	0.0200	1.23	0.31	9.14	0.31	0.60	7.44	
2	.08	15	0.95	0.98	4.05	7.64	0.31	0.60	2	SW-SO	0.31	0.60	0.0300	0.020	50.00		0.07	0.09		3.70	4.71		0.80	0.60	0.87	2.84	3.22	0.60		0.87	0.00	0.00	1	ex	RCP	15	1.25	0.013	0.0500	1.23	0.31	14.44	1.42	2.77	11.77	

T_c = time of concentration (min.)
 τ = rainfall intensity (in/hr.)
 A = area (acres) (for runoff calculation)
 Q = discharge (cfs)
 FES = flared end section
 $MA-A$ = type "MA-A" intake
 $MA-B$ = type "MA-B" combination intake
 $AREA$ = type "RCP" area intake
 $MA-B$ = type "MA-B" manhole
 S_L = longitudinal street slope (ft./ft.)
 S_T = transverse street slope (ft./ft.)
 $S_L = S_T$ = reciprocal of transverse slope
 d = depth of flow in gutter at face of curb (ft.)
 T = spread of water in gutter from face of curb (ft.)
 K = value used in equation $Q = Kd^{1.48}$ (from fig. 5.3 & 5.4)
 R = reduction factor
 Q_{in} = allowable flow intercepted by intake (cfs)
 RCP = reinforced concrete pipe
 n = Manning's roughness coefficient
 H = total head (ft.) = $d + a$
 a = intake depression = 0.167 for vane gates
 A = area (ft.²) (for pipe capacity calculation)
 d = diameter of pipe (in. or ft.)
 R = 3.14/59
 R = hydraulic radius (ft.)
 S_L = slope of pipe (ft./ft.)

#1:	$Q=C^*V^*A$
#2:	$Q=Q \text{ (from drainage area)} + Q_{\text{WEIR}} \text{ (from upstream area)}$
#3:	$Z=1/S_T$
#4:	$d=[Q/(.36*(V^*.S^{.5})))^{.375}$ where $n = 0.015$
#5:	SEE NOTES TO RIGHT
#6:	$T=[(n)/(.05*S^{.5}*1.677*(S/.05)^{.375})^{.375}$
#9:	$Q_{\text{WEIR}}=Q_{\text{GUT}} - Q \text{ (in gutter)}$
#10:	$D \text{ (ft.)} = D \text{ (in.)} / 12$
#11:	$A=(P/4)^{(D^2)^2}$
#12:	$R_u=D/4$
#13:	$\text{DESIGN } Q=A^{.1486(n)/[R_u^{(2/3)}]^{.5}}$ where $n=0.013$
#14:	$\text{ACTUAL } Q = Q_{\text{in}}$ all flows coming in
#15:	% FULL = ACTUAL Q / DESIGN Q
#16:	SEE NOTES TO RIGHT

LOCAL STREET

*max spread to crown of street
 $T_{max} = 13.0'$
 $d_{max} = (13.0' \times 2.00\%) = 0.26'$

COLLECTOR STREET

*max spread must be 8' from centerline of street
 $T_{max} = 15.5' - 8' = 7.5'$
 $d_{max} = 7.5' \times 2.50\% = 0.19'$

COLLECTOR STREET

*max spread must be 12' from centerline of street
 $T_{max} = 22.5' - 12' = 10.5'$
 $d_{max} = 11' \times 3.00\% + 9.5' \times 2.00\% = 0.52'$

STREET CAPACITY FOR MAJOR STORMS

LOCAL STREET

* inundated area shall not exceed ROW or 3' above street crown, whichever is less
 $d_{max} = (13.0' \times 2.00\%) + 0.25' = 0.51'$

COLLECTOR STREET

* inundated area shall not exceed ROW or 3' above street crown, whichever is less
 $d_{max} = (15.5' \times 2.50\%) + 0.25' = 0.64'$

COLLECTOR STREET

* inundated area shall not exceed ROW or 3' above street crown, whichever is less
 $d_{max} = (12' \times 3.00\% + 13.5' \times 2.00\%) + 1.00\% + 0.25' = 0.93'$

GRADE

Grate Type: 4" x 24" Type 405
Grade At: 1.95 ft/s grade type R

LOCAL STREET

** inundated area shall not exceed ROW or 3' above street crown, whichever is less
dmax = $(13.0' * 2.00\%) + 0.25 = 0.51'$

COLLECTOR STREET

** inundated area shall not exceed ROW or 3' above street crown, whichever is less
dmax = $(15.5' * 2.50\%) + 0.25 = 0.64'$

COLLECTOR STREET

** inundated area shall not exceed ROW or 3' above street crown, whichever is less
dmax = $(11' * 3.00\% + 13.5' * 2.00\% + 8' * 1.00\%) + 0.25 = 0.93'$

** inundated area shall not exceed ROW or 3' above street crown, whichever is less
 $d_{max} = (15.5' \times 2.50\%) + 0.25' = 0.64'$

** inundated area shall not exceed ROW or 3' above street crown, whichever is less
 $d_{max} = (11' \times 3.00\% + 13.5' \times 2.00\% + 8' \times 1.00\%) + 0.25' = 0.93'$

$$Q_{IN} = 0.67 \cdot A \cdot (2 \cdot g \cdot d)^{0.5}$$

where $A = 1.95$ for grate type R

$$QIN=3.0 \cdot P \cdot d^{1.5}$$

APPENDIX B

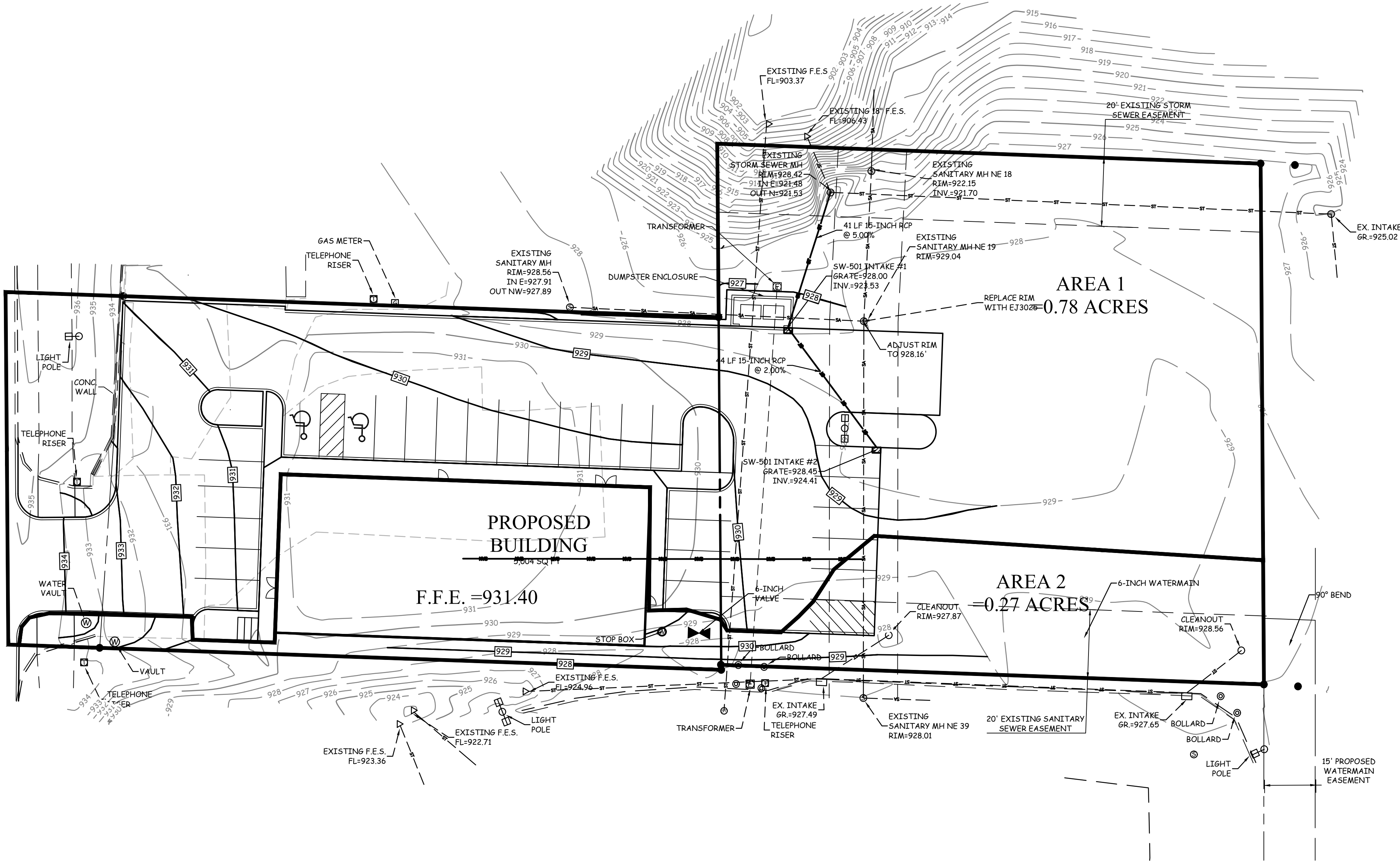
Drainage Maps



EXISTING TOPO 1010 N. JEFFERSON WAY	SHEET 1 OF 1
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SITE PLAN
DANLEE CORP.
1010 N. JEFFERSON WAY
INDIANOLA, IOWA

N. JEFFERSON WAY
(HIGHWAY 65 / 69)

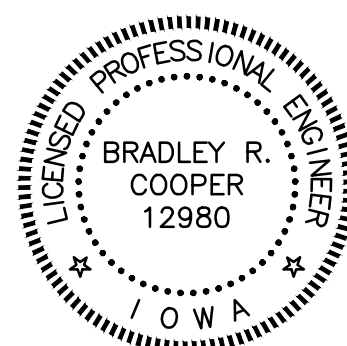


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SAN 8"	SANITARY SEWER & SIZE
ST 8"	STORM SEWER & SIZE
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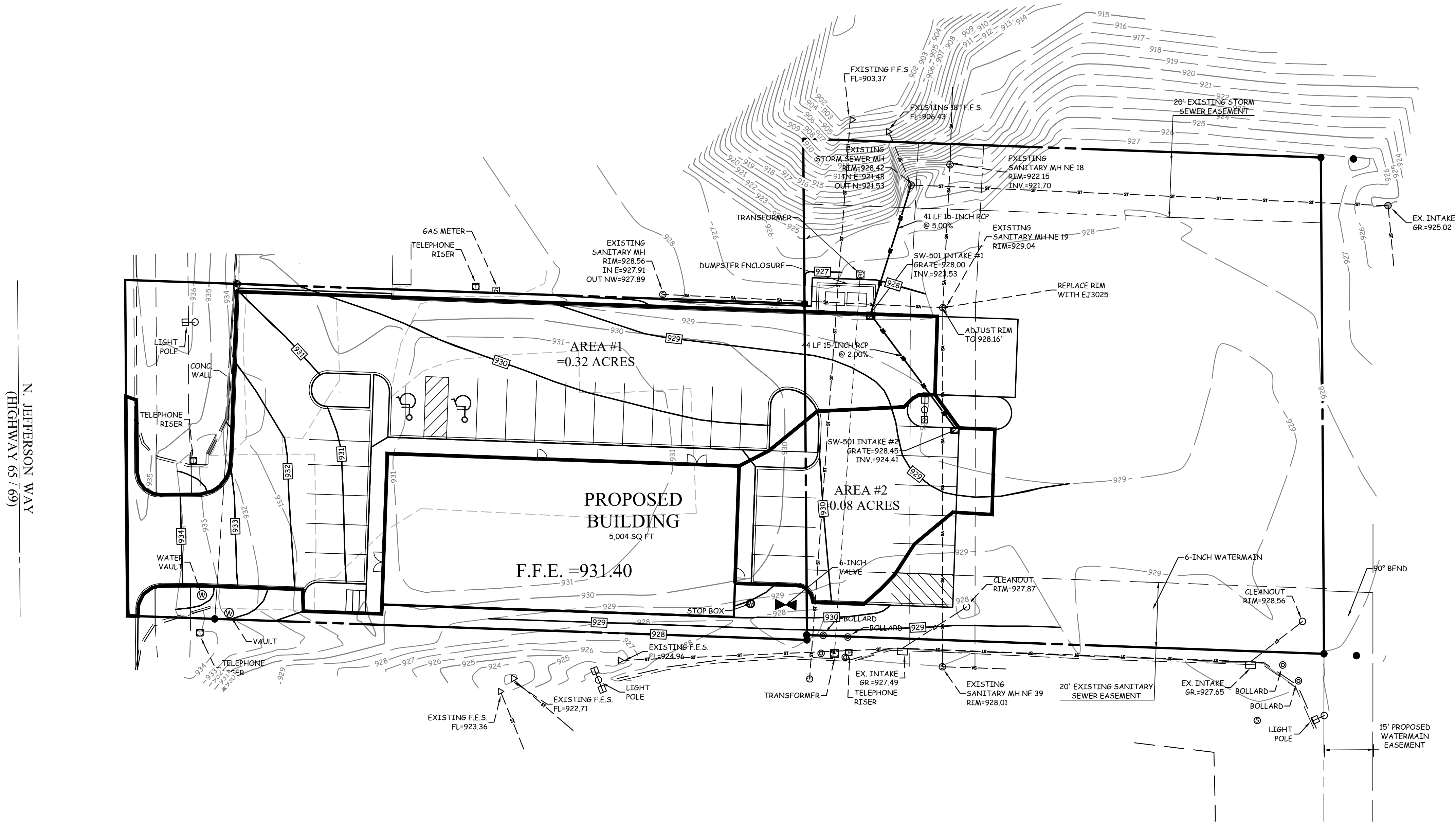
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1010 N. JEFFERSON WAY

SHEET
1 of 1



SITE PLAN
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1010 N. JEFFERSON WAY
INDIANOLA, IOWA

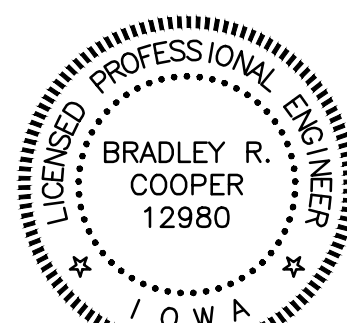


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PHONE: (515) 224-1344 FAX: (515) 224-1345

DATE: 2-22-2022
REVISIONS:

JOB NUMBER
CC 2567

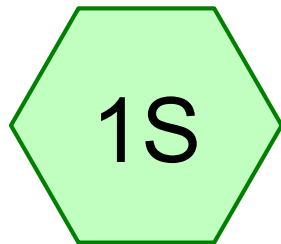
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PROPOSED DRAINAGE
1010 N. JEFFERSON WAY

SHEET
1 of 1

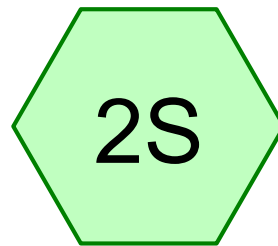


APPENDIX C

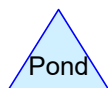
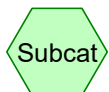
HydroCAD Output and Soil Report



area 1



area 2



Routing Diagram for CC2567 existing

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.717	84	50-75% Grass cover, Fair, HSG D (1S, 2S)
0.136	96	Gravel surface, HSG D (1S)
0.197	98	Paved parking, HSG D (1S, 2S)
1.050	88	TOTAL AREA

CC2567 existing

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Page 3

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
1.050	HSG D	1S, 2S
0.000	Other	
1.050		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.717	0.000	0.717	50-75% Grass cover, Fair	1S, 2S
0.000	0.000	0.000	0.136	0.000	0.136	Gravel surface	1S
0.000	0.000	0.000	0.197	0.000	0.197	Paved parking	1S, 2S
0.000	0.000	0.000	1.050	0.000	1.050	TOTAL AREA	

CC2567 existing*Type II 24-hr 5-year Rainfall=3.99"*

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: area 1

Runoff Area=0.670 ac 15.37% Impervious Runoff Depth>2.62"

Tc=15.0 min CN=89 Runoff=2.37 cfs 0.147 af

Subcatchment 2S: area 2

Runoff Area=0.380 ac 24.74% Impervious Runoff Depth>2.44"

Tc=15.0 min CN=87 Runoff=1.27 cfs 0.077 af

Total Runoff Area = 1.050 ac Runoff Volume = 0.224 af Average Runoff Depth = 2.56"
81.24% Pervious = 0.853 ac 18.76% Impervious = 0.197 ac

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Type II 24-hr 5-year Rainfall=3.99"

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Summary for Subcatchment 1S: area 1

Runoff = 2.37 cfs @ 12.07 hrs, Volume= 0.147 af, Depth> 2.62"

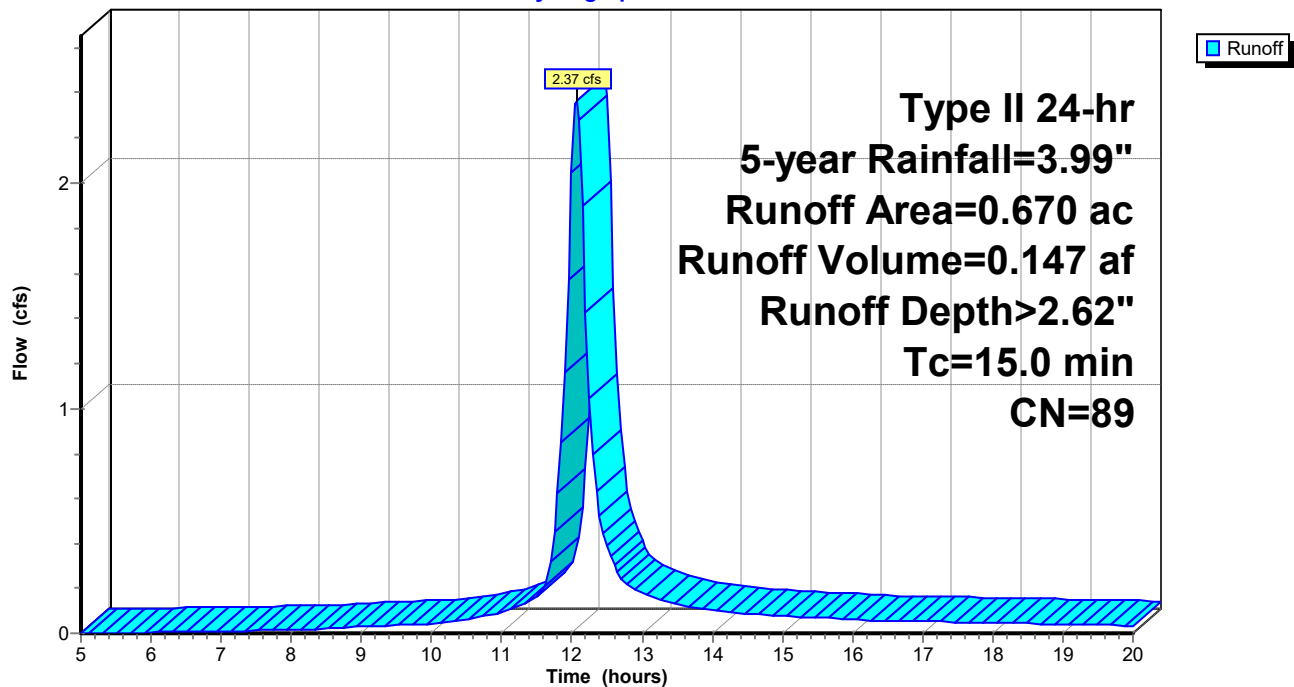
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-year Rainfall=3.99"

Area (ac)	CN	Description
0.431	84	50-75% Grass cover, Fair, HSG D
0.103	98	Paved parking, HSG D
0.136	96	Gravel surface, HSG D
0.670	89	Weighted Average
0.567		84.63% Pervious Area
0.103		15.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					Direct Entry,

Subcatchment 1S: area 1

Hydrograph



CC2567 existing

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Type II 24-hr 5-year Rainfall=3.99"

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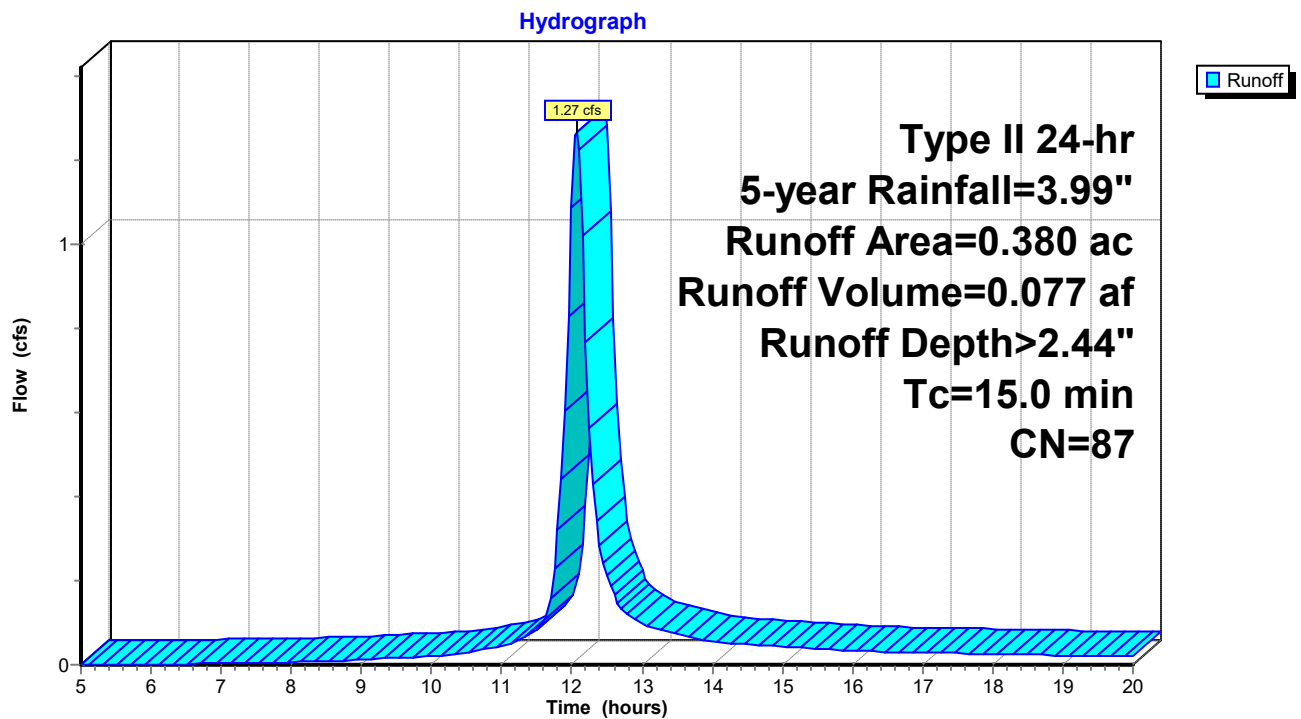
Summary for Subcatchment 2S: area 2

Runoff = 1.27 cfs @ 12.07 hrs, Volume= 0.077 af, Depth> 2.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-year Rainfall=3.99"

Area (ac)	CN	Description
0.286	84	50-75% Grass cover, Fair, HSG D
0.094	98	Paved parking, HSG D
0.380	87	Weighted Average
0.286		75.26% Pervious Area
0.094		24.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					Direct Entry,

Subcatchment 2S: area 2

CC2567 existing*Type II 24-hr 100-year Rainfall=7.98"*

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: area 1

Runoff Area=0.670 ac 15.37% Impervious Runoff Depth>6.24"
Tc=15.0 min CN=89 Runoff=5.38 cfs 0.348 af

Subcatchment 2S: area 2

Runoff Area=0.380 ac 24.74% Impervious Runoff Depth>6.02"
Tc=15.0 min CN=87 Runoff=2.98 cfs 0.191 af

Total Runoff Area = 1.050 ac Runoff Volume = 0.539 af Average Runoff Depth = 6.16"
81.24% Pervious = 0.853 ac 18.76% Impervious = 0.197 ac

CC2567 existing

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Type II 24-hr 100-year Rainfall=7.98"

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Page 9

Summary for Subcatchment 1S: area 1

Runoff = 5.38 cfs @ 12.06 hrs, Volume= 0.348 af, Depth> 6.24"

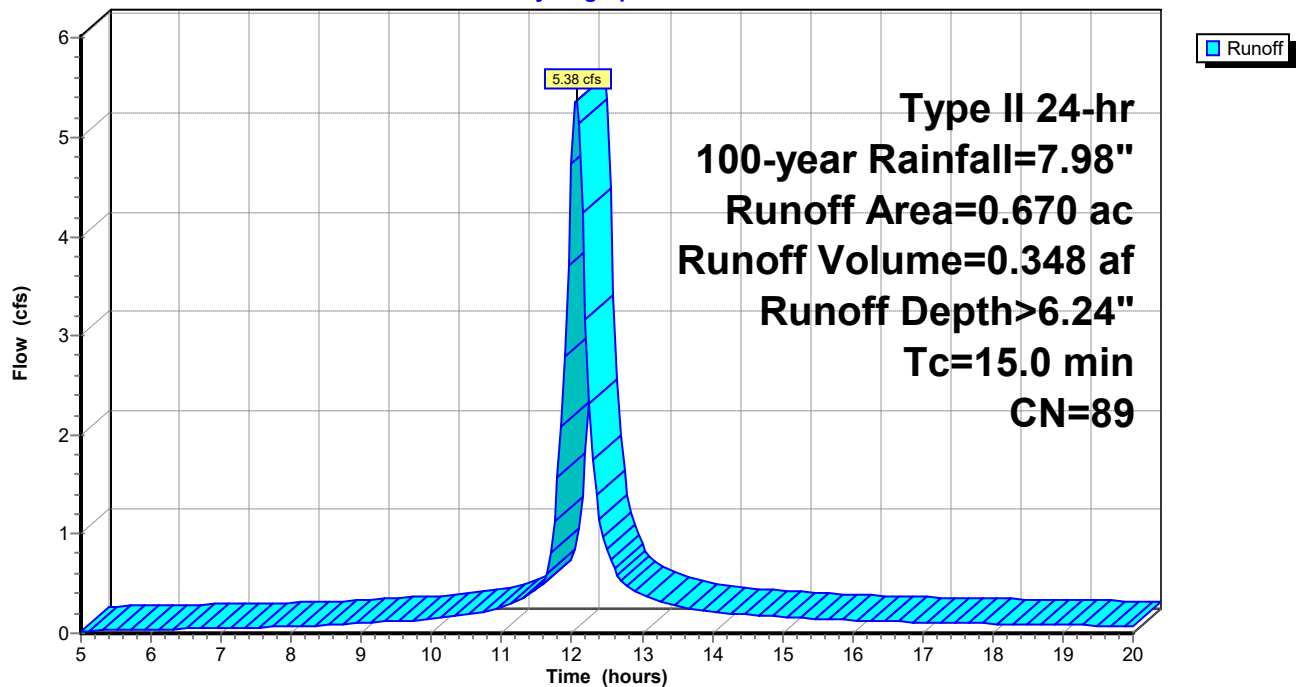
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-year Rainfall=7.98"

Area (ac)	CN	Description
0.431	84	50-75% Grass cover, Fair, HSG D
0.103	98	Paved parking, HSG D
0.136	96	Gravel surface, HSG D
0.670	89	Weighted Average
0.567		84.63% Pervious Area
0.103		15.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					Direct Entry,

Subcatchment 1S: area 1

Hydrograph



CC2567 existing

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Type II 24-hr 100-year Rainfall=7.98"

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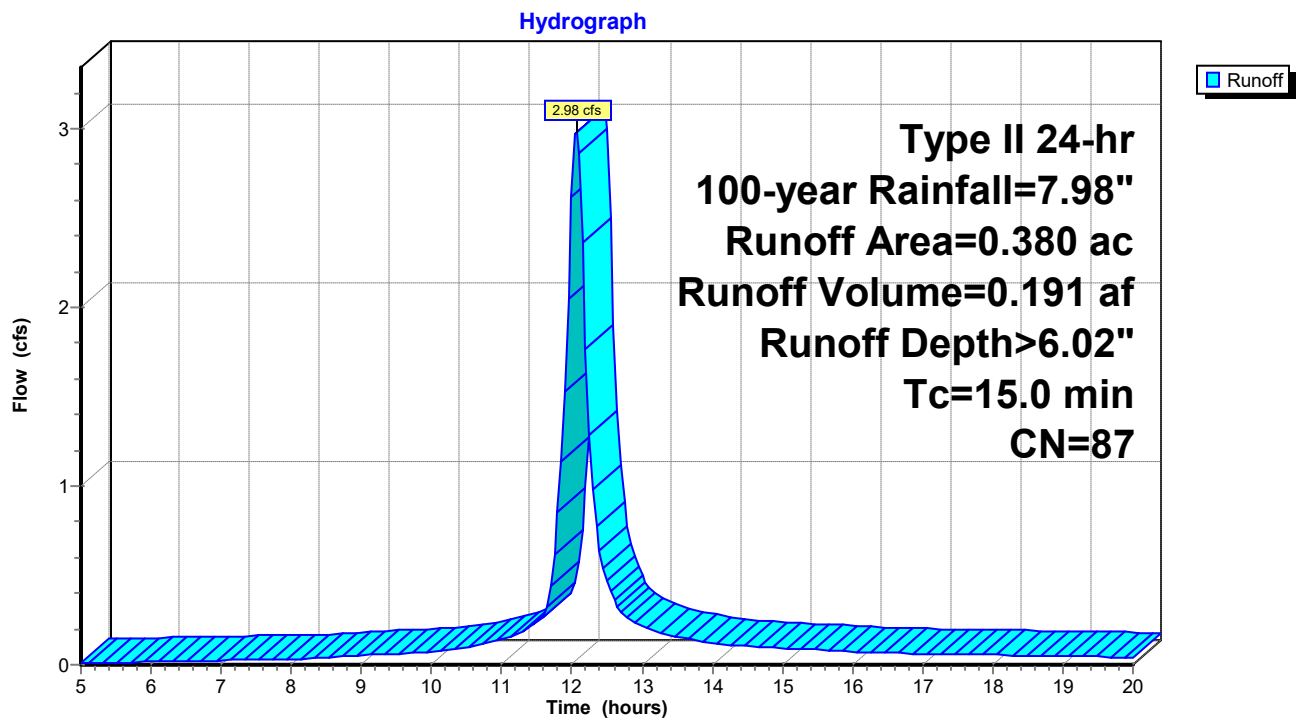
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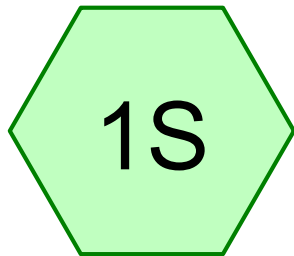
Runoff = 2.98 cfs @ 12.06 hrs, Volume= 0.191 af, Depth> 6.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-year Rainfall=7.98"

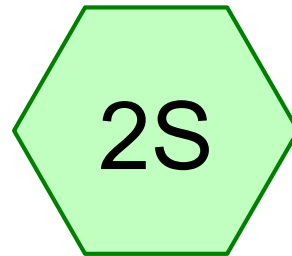
Area (ac)	CN	Description
0.286	84	50-75% Grass cover, Fair, HSG D
0.094	98	Paved parking, HSG D
0.380	87	Weighted Average
0.286		75.26% Pervious Area
0.094		24.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					Direct Entry,

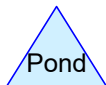
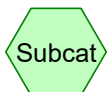
Subcatchment 2S: area 2



area 1A



area 2A



Routing Diagram for CC2567 proposed

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.370	84	50-75% Grass cover, Fair, HSG D (1S)
0.150	89	<50% Grass cover, Poor, HSG D (2S)
0.410	98	Paved parking, HSG D (1S)
0.010	98	Paved roads w/curbs & sewers, HSG D (2S)
0.110	98	Roofs, HSG D (2S)
1.050	92	TOTAL AREA

CC2567 proposed

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
1.050	HSG D	1S, 2S
0.000	Other	
1.050		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.370	0.000	0.370	50-75% Grass cover, Fair	1S
0.000	0.000	0.000	0.150	0.000	0.150	<50% Grass cover, Poor	2S
0.000	0.000	0.000	0.410	0.000	0.410	Paved parking	1S
0.000	0.000	0.000	0.010	0.000	0.010	Paved roads w/curbs & sewers	2S
0.000	0.000	0.000	0.110	0.000	0.110	Roofs	2S
0.000	0.000	0.000	1.050	0.000	1.050	TOTAL AREA	

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Type II 24-hr 5-year Rainfall=3.99"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: area 1A

Runoff Area=0.780 ac 52.56% Impervious Runoff Depth>2.81"

Tc=15.0 min CN=91 Runoff=2.91 cfs 0.183 af

Subcatchment 2S: area 2A

Runoff Area=0.270 ac 44.44% Impervious Runoff Depth>3.00"

Tc=15.0 min CN=93 Runoff=1.06 cfs 0.068 af

Total Runoff Area = 1.050 ac Runoff Volume = 0.250 af Average Runoff Depth = 2.86"
49.52% Pervious = 0.520 ac 50.48% Impervious = 0.530 ac

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Type II 24-hr 5-year Rainfall=3.99"

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Page 6

Summary for Subcatchment 1S: area 1A

Runoff = 2.91 cfs @ 12.06 hrs, Volume= 0.183 af, Depth> 2.81"

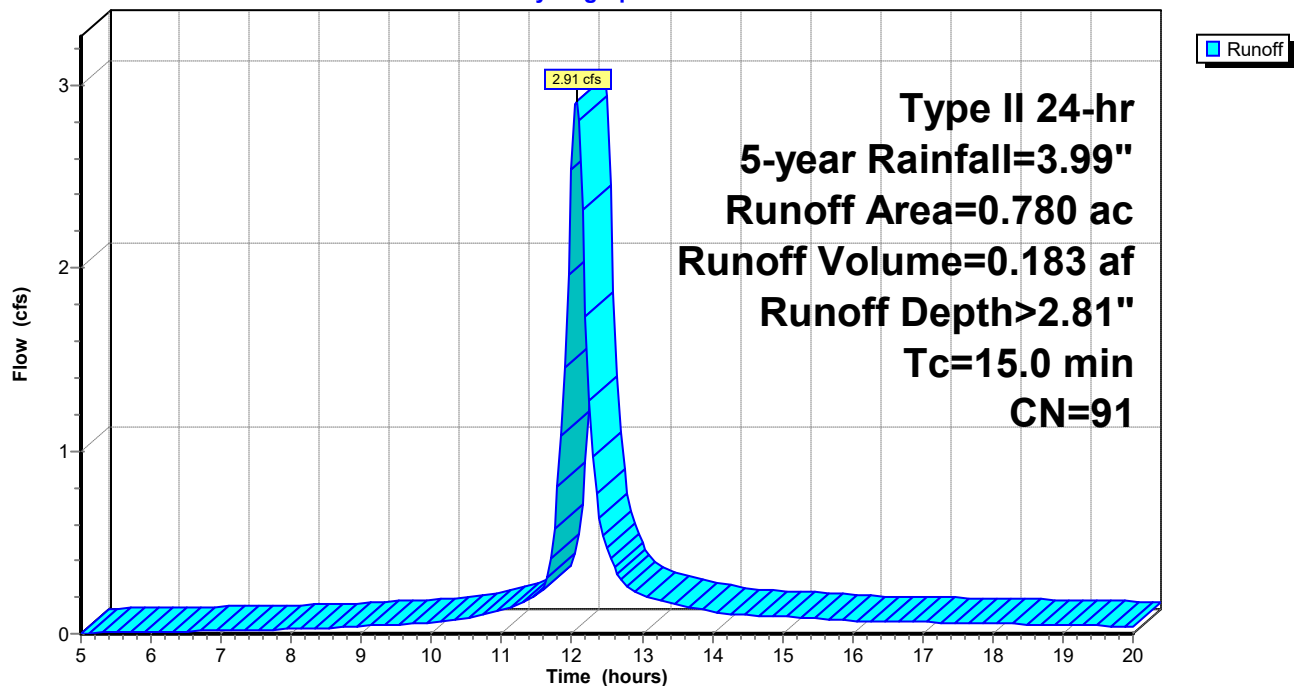
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-year Rainfall=3.99"

Area (ac)	CN	Description
0.370	84	50-75% Grass cover, Fair, HSG D
0.410	98	Paved parking, HSG D
0.780	91	Weighted Average
0.370		47.44% Pervious Area
0.410		52.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					Direct Entry,

Subcatchment 1S: area 1A

Hydrograph



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Type II 24-hr 5-year Rainfall=3.99"

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Summary for Subcatchment 2S: area 2A

Runoff = 1.06 cfs @ 12.06 hrs, Volume= 0.068 af, Depth> 3.00"

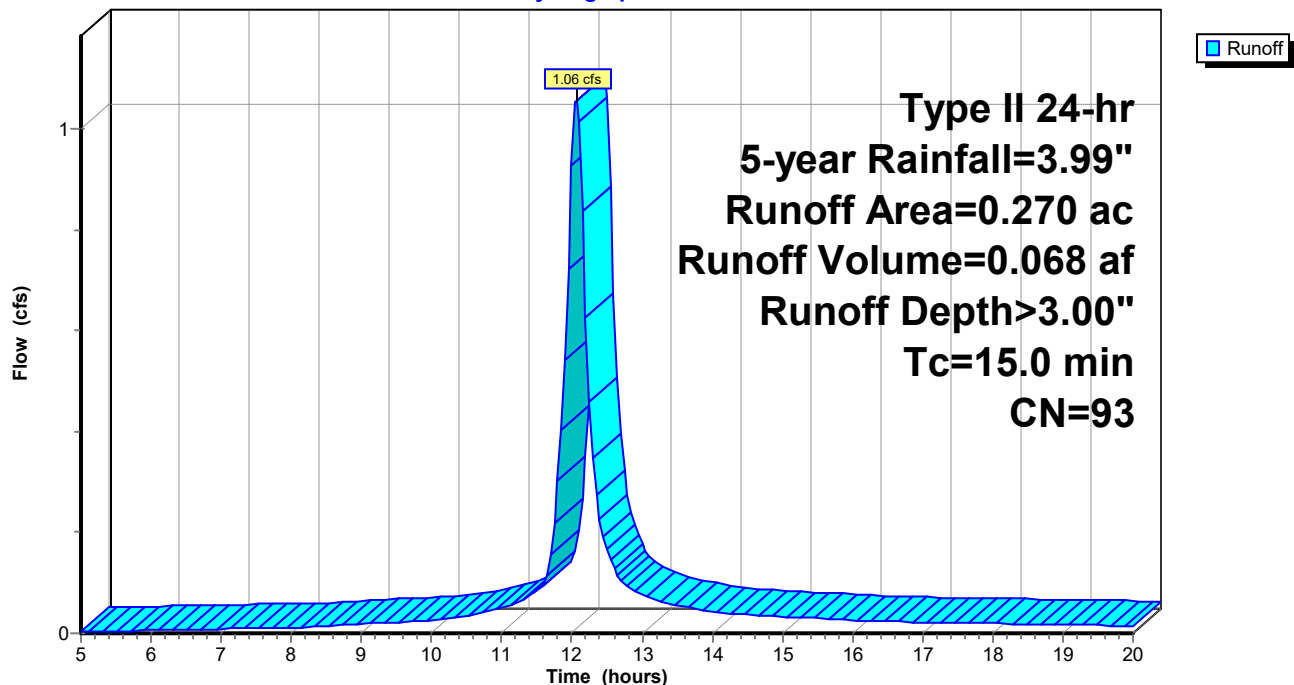
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-year Rainfall=3.99"

Area (ac)	CN	Description
0.150	89	<50% Grass cover, Poor, HSG D
0.110	98	Roofs, HSG D
0.010	98	Paved roads w/curbs & sewers, HSG D
0.270	93	Weighted Average
0.150		55.56% Pervious Area
0.120		44.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					Direct Entry,

Subcatchment 2S: area 2A

Hydrograph



CC2567 proposed*Type II 24-hr 100-year Rainfall=7.98"*

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: area 1A

Runoff Area=0.780 ac 52.56% Impervious Runoff Depth>6.45"
Tc=15.0 min CN=91 Runoff=6.39 cfs 0.419 af

Subcatchment 2S: area 2A

Runoff Area=0.270 ac 44.44% Impervious Runoff Depth>6.65"
Tc=15.0 min CN=93 Runoff=2.25 cfs 0.150 af

Total Runoff Area = 1.050 ac Runoff Volume = 0.569 af Average Runoff Depth = 6.50"
49.52% Pervious = 0.520 ac 50.48% Impervious = 0.530 ac

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Type II 24-hr 100-year Rainfall=7.98"

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Summary for Subcatchment 1S: area 1A

Runoff = 6.39 cfs @ 12.06 hrs, Volume= 0.419 af, Depth> 6.45"

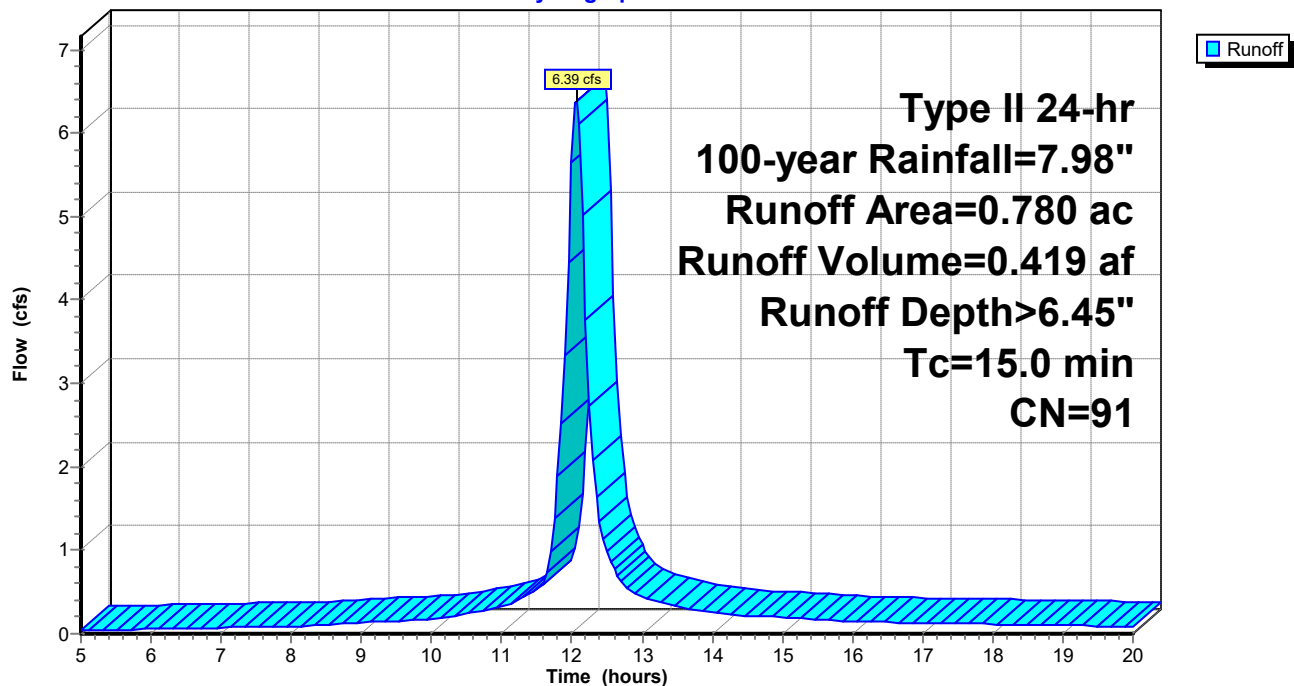
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Type II 24-hr 100-year Rainfall=7.98"

Area (ac)	CN	Description
0.370	84	50-75% Grass cover, Fair, HSG D
0.410	98	Paved parking, HSG D
0.780	91	Weighted Average
0.370		47.44% Pervious Area
0.410		52.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					Direct Entry,

Subcatchment 1S: area 1A

Hydrograph



CC2567 proposed

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Type II 24-hr 100-year Rainfall=7.98"

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Summary for Subcatchment 2S: area 2A

Runoff = 2.25 cfs @ 12.06 hrs, Volume= 0.150 af, Depth> 6.65"

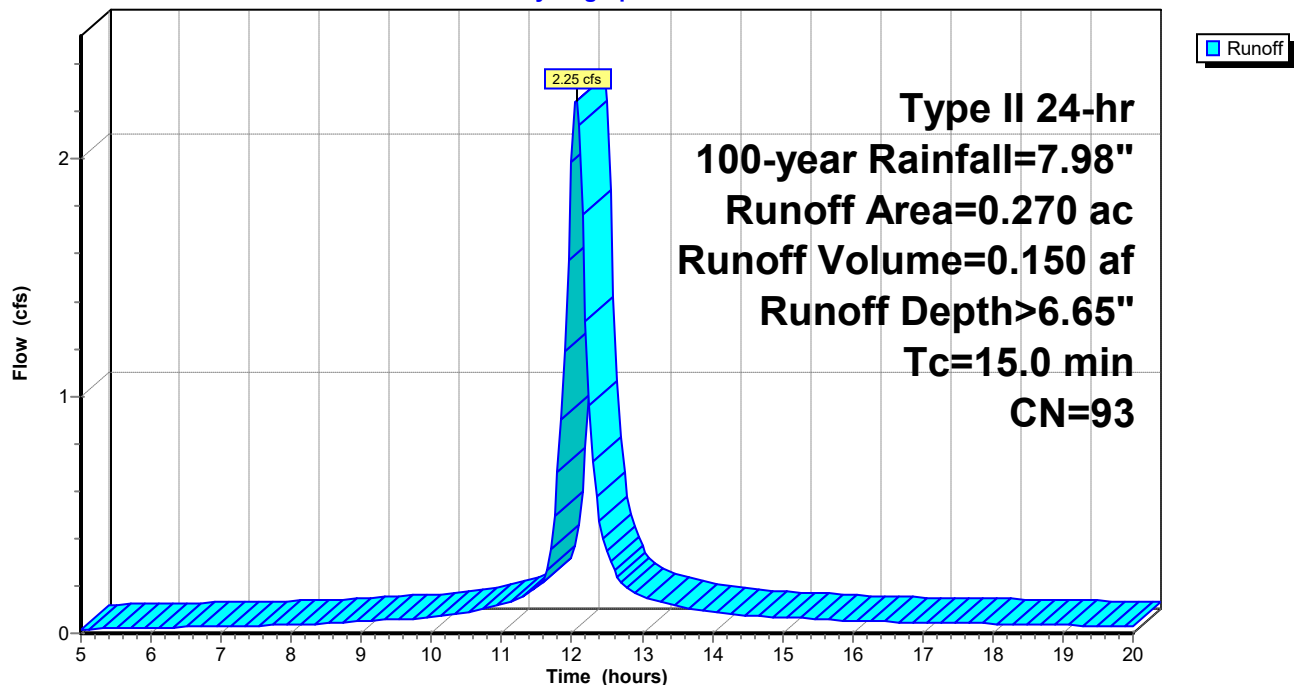
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-year Rainfall=7.98"

Area (ac)	CN	Description
0.150	89	<50% Grass cover, Poor, HSG D
0.110	98	Roofs, HSG D
0.010	98	Paved roads w/curbs & sewers, HSG D
0.270	93	Weighted Average
0.150		55.56% Pervious Area
0.120		44.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					Direct Entry,

Subcatchment 2S: area 2A

Hydrograph



Custom Soil Resource Report for Warren County, Iowa



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Warren County, Iowa
Survey Area Data: Version 26, Sep 15, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 26, 2012—Sep 28, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
822D2	Lamoni silty clay loam, 9 to 14 percent slopes, eroded	1.4	84.8%
980B	Gullied land-Ely-Colo, occasionally flooded, complex, 2 to 5 percent slopes	0.3	15.2%
Totals for Area of Interest		1.7	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Warren County, Iowa

822D2—Lamoni silty clay loam, 9 to 14 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2xbmp

Elevation: 790 to 1,500 feet

Mean annual precipitation: 34 to 37 inches

Mean annual air temperature: 49 to 51 degrees F

Frost-free period: 160 to 165 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Lamoni, eroded, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lamoni, Eroded

Setting

Landform: Hillslopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Concave

Across-slope shape: Convex

Parent material: Paleosol formed in pre-illinoian till overlain by a thin layer of loess or a mixture of loess and pedisegment

Typical profile

Ap - 0 to 6 inches: silty clay loam

2Bt - 6 to 23 inches: clay

2Btg - 23 to 55 inches: clay loam

2C - 55 to 79 inches: clay loam

Properties and qualities

Slope: 9 to 14 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.01 in/hr)

Depth to water table: About 12 to 16 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: D

Ecological site: R108DY863IA - Till Upland Prairie

Hydric soil rating: No

Minor Components

Shelby, eroded

Percent of map unit: 10 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R108DY863IA - Till Upland Prairie
Hydric soil rating: No

Lamoni, severely eroded

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Ecological site: R108DY863IA - Till Upland Prairie
Hydric soil rating: No

980B—Gullied land-Ely-Colo, occasionally flooded, complex, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2zdlN
Elevation: 760 to 1,050 feet
Mean annual precipitation: 36 to 37 inches
Mean annual air temperature: 50 to 51 degrees F
Frost-free period: 155 to 165 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Gullied land: 50 percent
Ely and similar soils: 30 percent
Colo, occasionally flooded, and similar soils: 15 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gullied Land

Setting

Landform: Drainageways
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope
Microfeatures of landform position: Gullies
Down-slope shape: Concave, convex
Across-slope shape: Linear, convex

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Parent material: Loess

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Hydric soil rating: No

Description of Ely

Setting

Landform: Alluvial fans

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Colluvium

Typical profile

Ap - 0 to 8 inches: silty clay loam

A - 8 to 32 inches: silty clay loam

Bg - 32 to 58 inches: silty clay loam

Cg - 58 to 79 inches: silty clay loam

Properties and qualities

Slope: 2 to 5 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)

Depth to water table: About 12 to 42 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C/D

Ecological site: R108DY841IA - Loamy Footslope Savanna

Hydric soil rating: No

Description of Colo, Occasionally Flooded

Setting

Landform: Drainageways

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear

Across-slope shape: Concave

Parent material: Fine-silty alluvium

Typical profile

Ap - 0 to 8 inches: silty clay loam

A - 8 to 34 inches: silty clay loam

Bg - 34 to 46 inches: silty clay loam

BCg - 46 to 52 inches: silty clay loam

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Cg - 52 to 79 inches: silty clay loam

Properties and qualities

Slope: 2 to 5 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: OccasionalNone

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 11.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D

Ecological site: R108DY824IA - Wet Upland Drainageway Prairie

Hydric soil rating: Yes

Minor Components

Munterville

Percent of map unit: 5 percent

Landform: Hillslopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: F109XY011MO - Interbedded Sedimentary Upland Woodland

Hydric soil rating: No

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March 8, 2022

Mr. Charlie E. Dissell, AICP
Director of Community & Economic Development
Interim City Manager
110 North 1st Street
Indianola, Iowa 50125

Re: New building for DANLEE CORP at 1010 North Jefferson Way, Indianola, Iowa

Dear Mr. Dissell:

On behalf of the Developer for the above noted project we wish to request an exception to the EIFS requirement that the material be at least ten (10) feet above the finished floor elevation on the façade on which it is located.

The building has portions of EIFS on all four sides. The Primary Façade meets the requirement of the EIFS with the use of the material over ten (10) feet above the finished floor elevation. The other three sides though are being proposed for budgetary purposes to have the EIFS lower than ten (10) feet above the finished floor elevation.

Steps taken to lessen the concern about damage to the material at a lower location on the other building façades are as follows:

1. South elevation = there is no sidewalk along this face of building which is facing the parking lot of Walgreen's. A continuous band of stone veneer will be installed at the base of the building and plant material will also be used along the entire length of the building, thus, very few if any pedestrians will be along that side of the building plus lawn maintenance will not be needed close to the building face nor snow removal.
2. North elevation and East elevation = these two sides also have a continuous band of stone veneer at the base of the building. On the East elevation there will be a portion of this side with a sidewalk adjacent to the façade and on the North side there also is planned a sidewalk adjacent to the stone band. We believe the stone band provides adequate protection adjacent to the areas with sidewalk.

Therefore, we request an exception to the EIFS requirement of being banned from a location that does not start until a second story level on the other three sides of this new office building. EIFS is a long-lasting product with excellent insulation value while being much more affordable than nearly all the required type of products listed in the Zoning Regulations. These other three sides do have full height stone veneer accents of significant proportions as well as large window units in some locations. And as noted above, a continuous band of a second type of stone veneer is being installed along each of these elevations to provide a strong base to the building for both aesthetic appeal and protection.

Thank you for your consideration of this request.

Respectfully submitted,


Steven E. Gray, AIA
Principal

PROJECT NAME

NEW BUILDING
FOR:**DANLEE CORP.**
1010 N. JEFFERSON WAY
INDIANOLA, IA
50125MULTI- TENANT
BUILDINGDRAWING
INFORMATION

ISSUED FOR:

REVIEW | BIDDING
CONSTRUCTION

ISSUE DATE:

03 | 03 | 2022THIS DRAWING IS THE PROPERTY
OF GRAYSCALE ARCHITECTURE, LLC.
ANY USE WITHOUT WRITTEN
PERMISSION IS PROHIBITED.

PROJECT INFORMATION

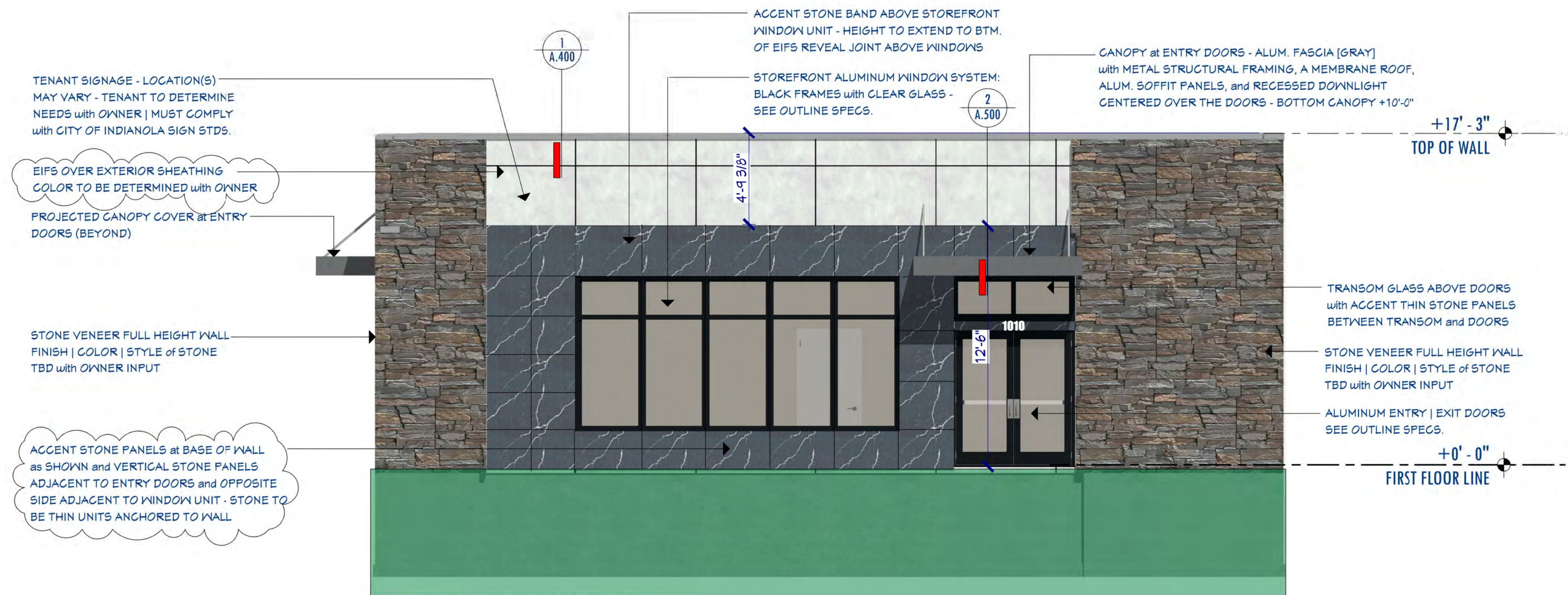
PROJECT No.:

21019

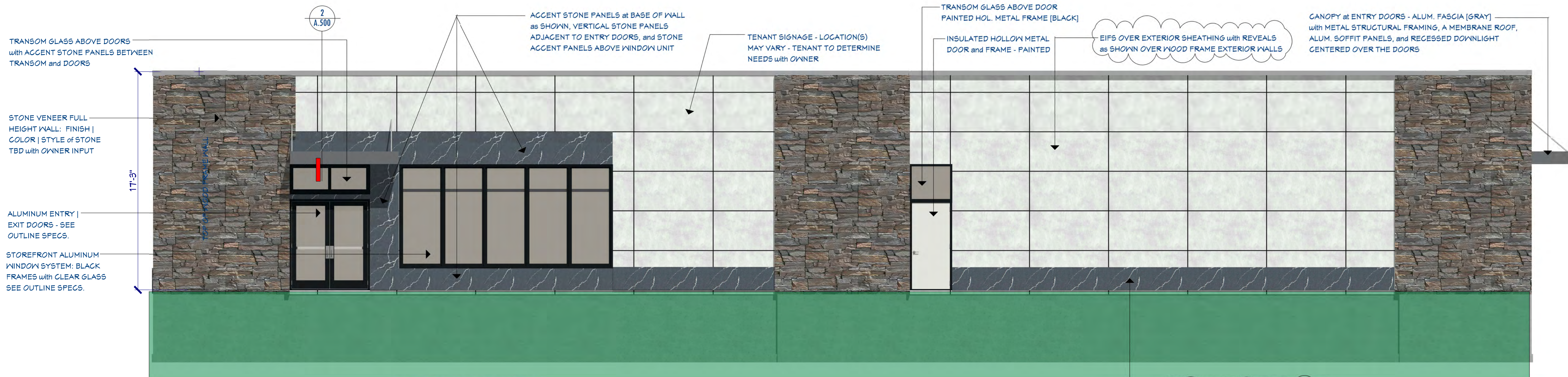
SHEET TITLE:

**WEST ELEVATION
NORTH ELEVATION**

SHEET No.:

A.200**WEST ELEVATION**

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

**NORTH ELEVATION**

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

ACCENT STONE PANELS at BASE OF WALL
as SHOWN FOR EIFS PANEL PROTECTION







Community Development

110 N. First St., Indianola, IA 50125-0299 • www.indianolaiowa.gov
515-961-9430 • comdev@indianolaiowa.gov

Apr 2022 Permit Report

<u>Code</u>	<u>Type</u>	<u>Permits Issued</u>	<u># of Units</u>	<u>Amount</u>	<u>Average</u>	<u>Non-Taxable</u>
101	Single Family Home	5	5	\$1,396,000.00	\$279,200.00	
102	Single Family Attach	0	0	\$0.00		
103	Two Family	0	0	\$0.00		
104	Three or More Families	0	0	\$0.00		
	Mobile Homes	0	0	\$0.00		
322	Service Stations	0		\$0.00		
324	Office	0		\$0.00		
328	Non-resident buildings	0		\$0.00	\$0.00	
329	Pool	1		\$80,000.00		
434	Residential Add/Alt	11		\$144,551.00	\$13,141.00	
437	Non-residential add/alt			\$0.00	#DIV/0!	
438	Res garage/carports			\$0.00		
645	Demo - sfd			\$0.00		
649	Demo - commercial	0		\$0.00		
April Total		17	5	\$1,620,551.00		
<u>Residential Value</u>		<u>Commercial Value</u>		<u>All Non-Taxable</u>		
100.0%		0.0%		0.0%		

<u>YEAR TO DATE TOTAL</u>						
<u>Code</u>	<u>Type</u>	<u>Permits Issued</u>	<u># of Units</u>	<u>Amount</u>	<u>Average</u>	<u>Non-Taxable</u>
101	Single Family Home	19	19	\$6,135,329.00	\$322,912.05	
102	Single Family Attach	0	0	\$0.00		
103	Two Family	0	0	\$0.00		
104	Three or More Families	0	0	\$0.00		
	Mobile Homes	0	0	\$0.00		
322	Service Stations	0		\$0.00		
324	Office	0		\$0.00		
328	Non-resident buildings	1		\$2,418,000.00	\$2,418,000.00	
329	Pool	2		\$95,000.00		
434	Residential add/alt	34		\$251,179.00	\$7,387.62	
437	Non-residential add/alt	3		\$1,775,500.00	\$591,833.33	
438	Res garage/carports	2		\$61,000.00		
645	Demo - sfd	2		\$0.00		
649	Demo - commercial	1		\$0.00		
YTD TOTAL		64	19	\$10,736,008.00		
<u>Residential Value</u>		<u>Commercial Value</u>		<u>All Non-Taxable</u>		
60.9%		39.1%		0.0%		



COMMUNITY DEVELOPMENT

To: Mayor and City Council
From: Charlie E. Dissell, AICP, Community and Economic Development Director
Date: May 6, 2022
Subject: Current Projects Update

The purpose of this memorandum is to provide a brief synopsis of different projects that may be of interest to the Council. Of the 23 projects listed, five (5) are in review, eight (8) have been approved and are awaiting construction to begin, and 10 are in construction. All dates are 2021, unless noted otherwise.

1. CemenTech (1700 North 14th Street)

Status: Review

- Site plan submitted on April 15, 2022
- Review comments returned on May 5, 2022

2. Missouri Valley JATC Expansion (1600 East Iowa Avenue)

Status: Approved

- Site plan and stormwater management plan submitted on March 16, 2022
- Review comments returned on April 6, 2022
- Revised site plan and stormwater management plan submitted on April 15, 2022
- Site plan and special use permit approved by the Board of Adjustment on May 4, 2022

3. New Commercial Building (1010 North Jefferson Way)

Status: Review

- Site plan and stormwater management plan submitted on February 22, 2022
- Review comments returned on March 8, 2022
- Revised site plan and stormwater management plan submitted on March 22, 2022
- Review comments returned on April 6, 2022
- Revised site plan and stormwater management plan submitted on April 21, 2022
- Planning and Zoning Commission to review major site plan on May 10, 2022

4. Indianola Community School District Auxiliary Building (403 South 15th Street)

Status: Approved

- Site plan and stormwater management plan submitted on December 20
- Site plan and special use permit approved by the Board of Adjustment on April 6, 2022

5. Executive Laser Wash (2001 North 4th Street)

Status: Construction

- Site plan for building and site improvements submitted on July 27
- Site plan approved December 29
- Site work has begun

6. Southtown Chrysler Dodge Jeep Ram (2412 North Jefferson Way)

Status: Approved

- Site plan for building and site improvements submitted on July 22
- Review comments returned on August 6

- Updated site plan submitted on September 1
- Site plan approved on September 8
- 7. Overton Funeral Home (501 West Ashland Avenue)**
Status: Construction
 - Site plan submitted on June 15
 - Site plan approved on July 14
- 8. Cavitt Creek Condominiums (1400 and 1500 blocks of North 9th Street)**
Status: Review
 - Site plan for Cavitt Creek Condominiums I, which proposes one (1) single-family unit and eight (8) two-family units, and for Cavitt Creek Condominiums II, which proposes one (1) single-family unit, 20 two-family units and 13 multi-family units (six-plexes), was submitted on May 20
 - Review comments returned on June 2
- 9. Phillips Floor (1605 North 9th Street)**
Status: Construction
 - Site plan and building permit submitted on May 3
 - Site plan approved on June 9
 - Building permit issued on June 29
- 10. Des Moines Metro Opera Warehouse (1909 North 14th Street)**
Status: Construction
 - Site plan submitted on April 8 for a building addition
 - Site plan approved on June 18
 - Building permit issued on June 18
- 11. DeYarman Ford (2406 North Jefferson Way)**
Status: Construction
 - Alternate site plan for building elevations was approved by the City Council on March 23
 - City Council approved minor subdivision plat on April 19
 - Site plan submitted on May 14
 - Site plan approved on August 23
 - Building permit issued on August 23
- 12. All Creatures Small (2400 West 2nd Avenue)**
Status: Approved
 - Addition to the existing facility
 - Site Plan/Stormwater Management Plan submitted on January 25
 - Site plan approved April 11, 2022
- 13. Williams Terrace (1600 Block of North 9th Street)**
STATUS: Construction
 - Developer hosted a neighborhood meeting on March 9, 2020
 - City Council approved the rezoning request on July 6, 2020
 - City Council approved the final plat on January 19
 - Building permit application/plans received on February 26
 - Site Plan submitted on March 26
 - Easement vacation application submitted on May 18

- City Council approved site plan at its June 21 meeting
- Building permit issued on July 14
- Easement vacation approved on July 19
- Site work has begun

14. Deer Run Plat 8

Status: Approved

- Located along West 2nd Avenue at the southeast corner of West 2nd Avenue and South Y Street
- Final plat application submitted on March 8, 2022, for three commercial lots.
- Final plat approved by the City Council on April 18, 2022

15. Prairie Glynn 4

Status: Approved

- Located north of East Euclid Avenue, along North 18th Street
- Preliminary plat application submitted on January 14, 2022
- Preliminary plat approved by the City Council on April 18, 2022

16. Deer Ridge

Status: Review

- Located west of 1909 South K Street
- Preliminary plat application submitted on January 14, 2022
- Review comments returned on February 15, 2022
- Updated preliminary plat and stormwater management plan submitted on March 24, 2022
- Review comments returned on April 5, 2022
- Updated preliminary plat and stormwater management plan submitted on April 26, 2022

17. Ashton Park Plats 8-10

Status: Approved

- Located on the east end of East Euclid Avenue
- Preliminary plat application received on November 30
- Preliminary plat approved by the City Council on April 18, 2022

18. Quail Meadows 4

Status: Construction

- Located on the north end of North 8th Street
- Construction documents received on August 27
- Review comments returned on September 8
- Revised construction documents received on September 29
- Review comments returned on October 19
- Updated construction documents received on December 15
- Review comments returned on December 28
- Updated construction documents submitted on February 1, 2022
- Review comments returned on February 7, 2022
- Updated construction documents submitted on February 15, 2022
- Final plat application submitted on March 22, 2022

19. Heritage Hills 12

Status: Review

- Located on the west end of Trail Ridge Road
- Preliminary plat received on August 10
- Review comments returned on August 25
- Revised preliminary plat submitted on September 8
- Comments on revised preliminary plat returned on September 22

20. Fox Run 2

Status: Approved

- Located north of the intersection of North 7th Court and East Lincoln Avenue
- Preliminary plat received on April 23
- Revised preliminary plat submitted on August 18
- Revised preliminary plat approved by the City Council on September 20
- Construction documents submitted on September 24
- Construction Documents approved on March 10, 2022

21. Heritage Hills 11

Status: Construction

- Located north of the intersection of North G Street and West Orchard Avenue
- Preliminary plat received on April 16
- City Council approved preliminary plat at its June 7 meeting
- Construction documents submitted on June 10
- Construction documents approved on December 1
- Site work has begun

22. Prairie Glynn Plat 3

STATUS: Construction

- Located southeast of the intersection of North 15th Street and East Iowa Avenue
- Preliminary plat received on October 20, 2020
- City Council approved preliminary plat at its meeting on May 17
- Construction documents approved on October 20
- Site work has begun

23. Summercrest

STATUS: Construction

- Located north of the intersection of North 7th Street and East Hillcrest Avenue
- The City Council approved the Rezoning/PRD plan and preliminary plat on July 6, 2020
- Construction documents approved on September 25, 2020
- Site work has begun