

**Due to the COVID-19 concerns and social distancing recommendations, a virtual meeting is being offered. Participants wishing to speak on a topic should message the meeting moderator. All participants are asked to mute their individual computers at times when they are not speaking to minimize background noise. Join: <https://us02web.zoom.us/j/85220252195>*

NOTICE OF A REGULAR MEETING BONDURANT CITY COUNCIL JUNE 3, 2024

NOTICE IS HEREBY GIVEN that a Regular Meeting of the City Council will be held at 6:00 PM on June 3, 2024, in the Bondurant City Center, 200 Second Street, Northeast, Bondurant, Polk County, Iowa. Said meeting is open and the public is encouraged to attend.

AGENDA

1. Roll Call
2. Call to Order and Declaring a Quorum
3. Abstentions declared
4. Perfecting and Approval of the Agenda
5. Guests requesting to address the City Council
6. Consent Agenda:

All items listed below are considered routine by the City Council and will be enacted by one motion. There will be no separate discussion of these items unless a Council Member or citizen so requests, in which event the item will be removed from the Consent Agenda and considered separately.

- a. Approval of May 20, 2024 City Council Meeting Minutes
- b. Claims List
- c. Applications for Council Approval
- d. Receive and file Bondurant Emergency Services Facility Bid Package #1
- Electrical Equipment in the amount of \$299,971
- e. - Resolution of endorsement to the Iowa DNR's Land & Water Conservation Fund Program for funding to assist with constructing the Chichaqua Valley Trail extension east of Highway 65 and south of the Bondurant Industrial Park
- f. - Resolution affixing a date for a public hearing to consider adoption of the City's Pavement Management Program Plan
- g. - Resolution Levying assessment for costs of delinquent water for 706 Filmore Avenue, SE, Bondurant, Polk County, Iowa
- h. - Resolution approving Civic Campus Phase I right-of-way acquisition, easement, and right-of-entry documents and authorizing payment for such land rights in an amount not to exceed a combined \$175,000
- i. - Resolution approving a Community Challenge Grant Memorandum of Understanding between the City of Bondurant and AARP for funding to assist with constructing the Garden installation at the ARTocka Trail Loop

The Bondurant City Council maintains the right to waive the first and second readings of ordinances presented and may pass the third and final reading of the same ordinance within the same council meeting.

Any person with a disability who requires a modification or accommodation in order to participate in the meeting, or any person with limited English proficiency (LEP) who requires language assistance to communicate with the City Council during the meeting, should contact the City Clerk, (515) 967-2418 or shagan@cityofbondurant.com, no fewer than two business days prior to the meeting to enable the City of Bondurant to make reasonable arrangements to assure accessibility or language assistance for the meeting.

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- j. - Resolution approving updates to a job grade and wage scale for FY25
- k. - Resolution Levying assessment for costs of delinquent water for 213 Tailfeather Drive, NW, Bondurant, Polk County, Iowa
- 7. **Public Hearing**
 - a. Public Hearing regarding the Featherstone Planned Unit Development Substantial Modification Request related to the Outlot W/Featherstone Townhomes Plat 1 area
- 8. Reports / Comments and appropriate action thereon:
 - a. Mayor
 - b. Council Members
 - c. Administrator
 - d. Directors
- 9. **Closed Session**- Pursuant to Iowa Code 21.5.1(j) to discuss property acquisition and 21.5.1(c) potential or pending litigation
- 10. Adjournment

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BONDURANT CITY COUNCIL

Minutes

May 20, 2024

Bondurant City Council

1. Roll Call

Present: Mayor Doug Elrod, Council Member Tara Cox,
Council Member Angela McKenzie, Council
Member Bob Pepper, Council Member Matt
Sillanpaa, Council Member Chad Driscoll
City Officials Present: City Administrator Marketa Oliver, City Clerk
Shelby Hagan, Finance & Employee Services
Director Jene Jess, Planning & Community
Development Director Maggie Murray, Fire
Chief Aaron Kreuder, Assistant Fire Chief Tony
Rauterberg, Communication & Events
Coordinator Katie Klus

2. Call to Order and Declaring a Quorum

Mayor Elrod called the meeting to order at 06:03 PM and declared a quorum.

3. Abstentions declared

None.

4. Perfecting and Approval of the Agenda

Motion by Pepper, seconded by Driscoll, to amend the agenda by removing item #5a. Vote on Motion 5-0. Motion carried.

Motion by Pepper, seconded by Driscoll, to approve the agenda as amended. Vote on Motion 5-0. Motion carried.

5. Guests requesting to address the City Council

- a. Heith Hockenberry Presentation regarding IAMU Safety Group Insurance Program Dividend

Moved to June 3rd City Council meeting.

- b. BRAVO, Sally Dix

Sally Dix, BRAVO, provided an update to the council and the public.

- c. Nate Hall, City Code & Permits

Nathan Hall, 431 Chayse Street, SW, presented his case to the Council regarding building permits and the City Code.

City Administrator Oliver introduced Katie Klus to the Council, who then shared a little about herself.

6. Consent Agenda:

**Due to the COVID-19 concerns and social distancing recommendations, a virtual meeting was offered.*

All items listed below are considered routine by the City Council and will be enacted by one motion. There will be no separate discussion of these items unless a Council Member or citizen so requests, in which event the item will be removed from the Consent Agenda and considered separately.

- a. Approval of May 6, 2024, City Council Meeting Mintues
- b. Claims List & Treasurer's Report
- c. Applications for Council Approval
- d. Receive & File - Bondurant Emergency Services April Report
- e. Receive & File - Library Board Meeting Minutes of April 3, 2024 & Director's Report
- f. R-240520-105- Resolution regarding approval of the 'Rural Survey' Plat of Survey, a Plat of Survey creating Parcel 2024-89 and Parcel 2024-90 located in unincorporated Polk County within two miles of Bondurant's city limits
- g. R-240520-106- Resolution regarding approval of Firework Sales Permit for Wild Willy's Fireworks
- h. R-240520-107- Resolution affixing a date for a public hearing on the request for modification of Featherstone "Outlot W" Planned Unit Development Area
- i. R-240520-108- Resolution approving the Land & Water Conservation Fund Grant Agreement between the City of Bondurant and the Iowa DNR for the BRSC to Park Side Trail Connection Project
- j. R-240520-109- Resolution approving action to order construction and set date of public hearing for plans, specifications, and recommendation of award of contract for the Parkside Trail Connection Project
- k. R-240520-110- Resolution regarding recommended approval of 1st Street, SW Acquisition Plat
- l. R-240520-111- Resolution approving agreement for Whimsical Wine Trailer

Motion by Pepper, seconded by Driscoll, to Approve the Consent Agenda.
Roll Call: Ayes: Cox, McKenzie, Pepper, Sillanpaa, Driscoll. Nays: None.
Absent: None. Motion carried 5-0.

7. **Public Hearing**

- a. Public Hearing for Budget Amendment for the FY24 Budget
Mayor Elrod opened the public hearing at 06:33 PM.

City Administrator Oliver presented to the Council the proposed amendment.

Mayor Elrod closed the public hearing at 06:3 PM.

8. **Action Items**

- a. R-240520-112- Resolution regarding approval of site plan for 2416 Robinson Avenue
Planning & Community Development Director Murray presented the site plan to the Council.

Motion by Pepper, seconded by Sillanpaa, to Approve R-240520-112. Roll Call: Ayes: Cox, McKenzie, Pepper, Sillanpaa, Driscoll. Nays: None. Absent: None. Motion carried 5-0.

- b. R-240520-113- Resolution approving the site plan extension request for 2465 Robinson Avenue, NE
Planning & Community Development Director Murray presented the extension request to the Council.

Motion by Pepper, seconded by Driscoll, to Approve R-240520-113. Roll Call: Ayes: Cox, McKenzie, Pepper, Sillanpaa, Driscoll. Nays: None. Absent: None. Motion carried 5-0.

- c. R-240520-114- Resolution regarding recommended approval of the Bondurant Emergency Services Site Plan

Motion by Driscoll, seconded by Pepper, to Approve R-240520-114. Roll Call: Ayes: Cox, McKenzie, Pepper, Sillanpaa, Driscoll. Nays: None. Absent: None. Motion carried 5-0.

- d. R-240520-115- Resolution approving Budget Amendment No. 1 for the FY24 Budget

Motion by Pepper, seconded by Driscoll, to Approve R-240520-115. Roll Call: Ayes: Cox, McKenzie, Pepper, Sillanpaa, Driscoll. Nays: None. Absent: None. Motion carried 5-0.

- e. O-240520-207 - (First Reading) Ordinance amending a portion of Chapter 28.03, Tree Board Members, to change the number of members

from five members to a minimum of five members and a maximum of seven members

Motion by Pepper, seconded by Driscoll, to waive the first and second readings, and approve the third and final reading of O-240520-207. Roll Call: Ayes: Cox, McKenzie, Pepper, Sillanpaa, Driscoll. Nays: None.

Absent: None. Motion carried 5-0.

- f. O-240520-208 - (First Reading) Ordinance amending a portion of Chapter 155.05 of the Municipal Code of the City of Bondurant, Iowa
Motion by Pepper, seconded by Sillanpaa, to waive the first and second readings, and approve the third and final reading of O-240520-208. Roll Call: Ayes: Cox, McKenzie, Pepper, Sillanpaa, Driscoll. Nays: None.
Absent: None. Motion carried 5-0.

9. Discussion Items -

- a. Naming Rights Discussion
The council discussed the Bondurant Soccer Club's fundraising efforts. Although the council is not in favor of the proposed naming rights option, they expressed interest in exploring alternative fundraising options.

10. Reports / Comments and appropriate action thereon:

- a. Mayor
DMDC comments.
- b. Council Members
Sillanpaa - Chamber update, P&Z update.
Pepper - None.
Driscoll - WRA meeting tomorrow, 10 Main Street, SE inquiry, Congrats to the 2024 Class.
Cox - DMDC Trip comments.
McKenzie - None.
- c. Administrator
Zoning Code update RFP, grant updates, City Park update.
- d. Directors
Jess - None.
Murray - Department update.
Horton - Department update.
Sanders - Department update.

- 11. **Closed Session**- Pursuant to Iowa Code 21.5.1(j) to discuss property acquisition and 21.5.1(c) potential or pending litigation
Motion by Pepper, seconded by Driscoll, to Move into Closed Session at 07:16 PM. Roll Call: Ayes: Cox, McKenzie, Pepper, Sillanpaa, Driscoll.
Nays: None. Absent: None. Motion carried 5-0.

**Due to the COVID-19 concerns and social distancing recommendations, a virtual meeting was offered.*

Council Member Sillanpaa stepped out at 08:46 PM.

Mayor Elrod closed the Closed Session at 08:47 PM.

12. Adjournment

Motion by Peffer, seconded by Cox, to adjourn at 08:48 PM. Vote on Motion 4-0. Motion carried.

Shelby Hagan, City Clerk

ATTEST:

Doug Elrod, Mayor

I, the understated Mayor of the City of Bondurant, Polk County, Iowa, hereby certify that the foregoing is a true and accurate copy of proceedings had and done by the City Council on May 20, 2024, that all the subjects included in the foregoing proceedings were contained in the agenda for the meeting kept continually current and readily available for the public inspection at the Office of the City Clerk; that such subject were contained in said agenda for at least twenty-four hours prior to said meeting and the said minutes from which the foregoing proceedings have been extracted were in written form and available for public inspection within ten business days and prior to the next convened meeting of said body.

Doug Elrod, Mayor



Check Register

Packet: APPKT00906 - 5/20/24 FOR MEETING ON 6/3/24

By Check Number

Vendor Number	Vendor Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
Bank Code: AP Bank Code-AP Bank						
2834	AANNA SUMMERS	05/21/2024	Regular	0.00	95.54	63644
0020	ALTOONA ACE HARDWARE	05/21/2024	Regular	0.00	31.98	63645
2705	AMAZON CAPITAL SERVICES	05/21/2024	Regular	0.00	2,342.79	63646
0776	BAKER ELECTRIC INC	05/21/2024	Regular	0.00	5,305.00	63647
1537	BOUND TREE MEDICAL LLC	05/21/2024	Regular	0.00	1,541.95	63648
0577	CAPITAL CITY EQUIPMENT	05/21/2024	Regular	0.00	151.83	63649
2510	CENTRAL IOWA MECHANICAL	05/21/2024	Regular	0.00	3,001.64	63650
1228	CINTAS CORPORATION #762	05/21/2024	Regular	0.00	71.72	63651
0939	OCCUPATIONAL HEALTH CTR OF SW	05/21/2024	Regular	0.00	1,384.00	63652
2525	DINGES FIRE COMPANY	05/21/2024	Regular	0.00	4,838.21	63653
0144	DES MOINES WATER WORKS	05/21/2024	Regular	0.00	75.00	63654
0772	FRANCOTYP-POSTALIA INC	05/21/2024	Regular	0.00	149.86	63655
0459	GALLS LLC	05/21/2024	Regular	0.00	694.11	63656
2689	GROUP CREATIVE SERVICES, LLC	05/21/2024	Regular	0.00	42,250.00	63657
2833	HAPPE HOMES, LLP.	05/21/2024	Regular	0.00	5,178.47	63658
1927	HARTER CONCRETE LLC	05/21/2024	Regular	0.00	8,519.63	63659
0193	HAWKEYE TRUCK EQUIPMENT	05/21/2024	Regular	0.00	1,322.96	63660
0202	HILLTOP TIRE SERVICE	05/21/2024	Regular	0.00	305.43	63661
2754	HR GREEN, INC.	05/21/2024	Regular	0.00	1,021.05	63662
2830	HY-VEE, INC.	05/21/2024	Regular	0.00	450.00	63663
1573	IOWA PUMP WORKS	05/21/2024	Regular	0.00	2,083.58	63664
1057	ICMA	05/21/2024	Regular	0.00	720.12	63665
0228	IMFOA	05/21/2024	Regular	0.00	50.00	63666
0214	INTERSTATE ALL BATTERY CENTER	05/21/2024	Regular	0.00	144.71	63667
2734	JOHNSTON STUMP GRINDING LLC	05/21/2024	Regular	0.00	13,100.00	63668
2619	KONICA MINOLTA PREMIER FINANC	05/21/2024	Regular	0.00	285.30	63669
0842	MENARDS - ALTOONA	05/21/2024	Regular	0.00	393.79	63670
	Void	05/21/2024	Regular	0.00	0.00	63671
2100	MIDWEST TAPE, LLC	05/21/2024	Regular	0.00	965.94	63672
0308	MUNICIPAL SUPPLY, INC.	05/21/2024	Regular	0.00	2,778.06	63673
2017	RDG PLANNING & DESIGN	05/21/2024	Regular	0.00	7,010.05	63674
2832	SECURITY EQUIPMENT, INC.	05/21/2024	Regular	0.00	123.75	63675
1411	STIVERS FORD LINCOLN	05/21/2024	Regular	0.00	41,248.00	63676
0564	STOREY KENWORTHY/MATT PARRO	05/21/2024	Regular	0.00	398.31	63677
	Void	05/21/2024	Regular	0.00	0.00	63678
1751	SWANK MOTION PICTURES INC	05/21/2024	Regular	0.00	1,440.00	63679
2661	THE REINALT - THOMAS CORPORATI	05/21/2024	Regular	0.00	1,102.98	63680
1813	UNITYPOINT CLINIC-OCCUPATI MED	05/21/2024	Regular	0.00	252.00	63681
2239	UPHDM OCCUPATIONAL MEDICINE	05/21/2024	Regular	0.00	218.75	63682
2231	VERIZON WIRELESS	05/21/2024	Regular	0.00	4,325.32	63683
0433	WILLIAMSONS REPAIR	05/21/2024	Regular	0.00	1,897.11	63684
2254	TCM BANK NA	05/16/2024	Bank Draft	0.00	1,997.75	DFT0003052
2433	WEX BANK	05/09/2024	Bank Draft	0.00	3,237.51	DFT0003053
2433	WEX BANK	05/09/2024	Bank Draft	0.00	-13.36	DFT0003054
0387	TREASURER - STATE OF IOWA	05/13/2024	Bank Draft	0.00	7,841.59	DFT0003055
0387	TREASURER - STATE OF IOWA	05/13/2024	Bank Draft	0.00	1,950.78	DFT0003056
0416	POSTMASTER	05/02/2024	Bank Draft	0.00	596.82	DFT0003057
0144	DES MOINES WATER WORKS	05/28/2024	Bank Draft	0.00	22.00	DFT0003058
0144	DES MOINES WATER WORKS	05/28/2024	Bank Draft	0.00	79,574.82	DFT0003059
0144	DES MOINES WATER WORKS	05/28/2024	Bank Draft	0.00	44,606.66	DFT0003060
0050	UMB BANK	05/30/2024	Bank Draft	0.00	141,971.25	DFT0003061
0050	UMB BANK	05/30/2024	Bank Draft	0.00	158,022.50	DFT0003062
0050	UMB BANK	05/30/2024	Bank Draft	0.00	69,857.50	DFT0003063
0050	UMB BANK	05/30/2024	Bank Draft	0.00	144,643.75	DFT0003064

Check Register

Packet: APPKT00906-5/20/24 FOR MEETING ON 6/3/24

Vendor Number	Vendor Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
0050	UMB BANK	05/30/2024	Bank Draft	0.00	283,395.00	DFT0003065
0050	UMB BANK	05/30/2024	Bank Draft	0.00	220,900.00	DFT0003066
0050	UMB BANK	05/30/2024	Bank Draft	0.00	611,450.00	DFT0003067
0050	UMB BANK	05/30/2024	Bank Draft	0.00	189,348.75	DFT0003068
0050	UMB BANK	05/30/2024	Bank Draft	0.00	199,287.50	DFT0003069
0050	UMB BANK	05/30/2024	Bank Draft	0.00	119,900.00	DFT0003070
0050	UMB BANK	05/30/2024	Bank Draft	0.00	250,149.16	DFT0003071
0050	UMB BANK	05/30/2024	Bank Draft	0.00	139,200.00	DFT0003072
0050	UMB BANK	05/30/2024	Bank Draft	0.00	431,600.00	DFT0003073
0050	UMB BANK	05/30/2024	Bank Draft	0.00	450,887.50	DFT0003074
0291	MIDAMERICAN ENERGY	06/05/2024	Bank Draft	0.00	9,874.13	DFT0003075
1069	FIRST NATIONAL BANK OMAHA	05/07/2024	Bank Draft	0.00	3,908.02	DFT0003077

Bank Code AP Bank Code Summary

Payment Type	Payable Count	Payment Count	Discount	Payment
Regular Checks	63	39	0.00	157,268.94
Manual Checks	0	0	0.00	0.00
Voided Checks	0	2	0.00	0.00
Bank Drafts	25	25	0.00	3,564,209.63
EFT's	0	0	0.00	0.00
	88	66	0.00	3,721,478.57

Fund Summary

Fund	Name	Period	Amount
999	POOLED CASH	5/2024	3,711,631.16
999	POOLED CASH	6/2024	9,874.13
			3,721,505.29



Check Register

Packet: APPKT00907 - 5/17/24 FOR MEETNG ON 6/3/24

By Check Number

Vendor Number	Vendor Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
Bank Code: AP Bank Code-AP Bank						
2513	ADAM JENSEN	05/21/2024	Regular	0.00	800.00	63685
2600	AIRGAS USA, LLC	05/21/2024	Regular	0.00	74.40	63686
2030	ALLEGRA	05/21/2024	Regular	0.00	74.04	63687
2687	AT&T MOBILITY	05/21/2024	Regular	0.00	474.15	63688
1537	BOUND TREE MEDICAL LLC	05/21/2024	Regular	0.00	2,479.37	63689
0577	CAPITAL CITY EQUIPMENT	05/21/2024	Regular	0.00	12.96	63690
2510	CENTRAL IOWA MECHANICAL	05/21/2024	Regular	0.00	120.00	63691
0097	CITY OF DES MOINES	05/21/2024	Regular	0.00	75,065.00	63692
0145	DIAM PEST CONTROL	05/21/2024	Regular	0.00	150.00	63693
0459	GALLS LLC	05/21/2024	Regular	0.00	355.82	63694
0783	GREATER DES MOINES PARTNERSHIP	05/21/2024	Regular	0.00	9,000.00	63695
2388	HOTSY CLEANING SYSTEMS	05/21/2024	Regular	0.00	552.00	63696
0230	IOWA ONE CALL	05/21/2024	Regular	0.00	75.50	63697
0348	LINDE GAS & EQUIPMENT INC.	05/21/2024	Regular	0.00	91.08	63698
0286	METRO WASTE AUTHORITY	05/21/2024	Regular	0.00	2,496.00	63699
0251	MICROBAC LABORATORIES, INC	05/21/2024	Regular	0.00	438.00	63700
2192	OMNI EMS	05/21/2024	Regular	0.00	1,264.91	63701
1457	O'REILLY AUTO PARTS	05/21/2024	Regular	0.00	348.99	63702
2691	POLK COUNTY SHERIFF	05/21/2024	Regular	0.00	70,272.25	63703
1628	QUICK SUPPLY CO.	05/21/2024	Regular	0.00	34.60	63704
0564	STOREY KENWORTHY/MATT PARRO	05/21/2024	Regular	0.00	2,214.72	63705
2595	VENDNOVATION, LLC	05/21/2024	Regular	0.00	50.00	63706
2757	GOOGLE LLC	05/07/2024	Bank Draft	0.00	22.90	DFT0003076

Bank Code AP Bank Code Summary

Payment Type	Payable Count	Payment Count	Discount	Payment
Regular Checks	38	22	0.00	166,443.79
Manual Checks	0	0	0.00	0.00
Voided Checks	0	0	0.00	0.00
Bank Drafts	1	1	0.00	22.90
EFT's	0	0	0.00	0.00
	39	23	0.00	166,466.69

Fund Summary

Fund	Name	Period	Amount
999	POOLED CASH	5/2024	166,466.69
			<u>166,466.69</u>



Payroll Check Register

Checks

Pay Period: 5/6/2024-5/19/2024

Packet: PYPKT00561 - 05/06-05/19/2024 PAID 05/24/2024

Payroll Set: CITY OF BONDURANT, IA - 01

Employee	Employee #	Check Type	Date	Amount	Number
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*** No Checks Created In This Packet ***



Payroll Check Register

Direct Deposits

Pay Period: 5/6/2024-5/19/2024

Packet: PYPKT00561 - 05/06-05/19/2024 PAID 05/24/2024

Payroll Set: CITY OF BONDURANT, IA - 01

Employee	Employee #	Date	Amount	Number
BAAS, JAMIE	4147	05/24/2024	273.82	104996
BAILEY, BOYCE E	7104	05/24/2024	1,456.94	104997
BERGESON, JOHN W	7121	05/24/2024	1,928.89	104998
BRIGGS, ASHTON S	1511	05/24/2024	778.10	104999
BRUCE, EMMA	3141	05/24/2024	1,084.24	105000
CARPENTER, JOHN C	5129	05/24/2024	1,541.52	105001
COLLISON, PATRICK F	5103	05/24/2024	2,528.45	105002
CORY, JOHN P	7120	05/24/2024	1,712.49	105003
CRITTENDEN, MATTHEW	1567	05/24/2024	1,275.02	105004
DE LOS SANTOS, JUAN DAVID	7128	05/24/2024	1,268.32	105005
DOMINGUEZ, MATTHEW P	1513	05/24/2024	812.71	105006
ELLIOTT, KYLE	1568	05/24/2024	1,119.57	105007
GANNAWAY, COURTNEY	1597	05/24/2024	1,164.34	105008
GILSON, DUSTY ALAN	7124	05/24/2024	1,862.41	105009
HAGAN, SHELBY L	5118	05/24/2024	2,577.47	105010
HARMISON, TROY G	1503	05/24/2024	1,759.31	105011
HIGGINS, DAVID P.	7105	05/24/2024	1,457.30	105012
HORTON, JOHN C	7112	05/24/2024	3,352.63	105013
HORTON, JOHN C	7112	05/24/2024	100.00	105013
HOWIESON, DANIEL	1572	05/24/2024	839.83	105014
HUFF, TIMOTHY J	1559	05/24/2024	1,842.24	105015
JESS, JENE' N	5123	05/24/2024	3,428.33	105016
JOHNSON, ANNASTASHA	5130	05/24/2024	1,389.65	105017
KENT, RONALD D	7115	05/24/2024	1,052.63	105018
KING, CHRISTINA M	3143	05/24/2024	157.06	105019
KLINKER, KRIS	7116	05/24/2024	848.40	105020
KLINKER-FELD, MICHELL M	3135	05/24/2024	2,436.84	105021
KLUS, KATIE	5134	05/24/2024	568.48	105022
KREUDER, AARON M	1441	05/24/2024	3,590.12	105023
KRUSE, OSCAR	1586	05/24/2024	830.79	105024
LUING, TIFFANY A	5133	05/24/2024	1,896.81	105025
LUNDQUIST, BRADLEY D	1555	05/24/2024	674.17	105026
MARSHMAN, CRAIG A	5125	05/24/2024	1,645.37	105027
MASON, KYLE	1598	05/24/2024	1,004.56	105028
MILLER, BRODY E	1582	05/24/2024	1,526.21	105029
MURRAY, MARGARET	5126	05/24/2024	2,954.59	105030
OLIVER, MARKETA S	8403	05/24/2024	3,601.97	105031
OLIVER, MARKETA S	8403	05/24/2024	300.00	105031
PEZLEY, ISAAC J	5132	05/24/2024	2,239.11	105032
RAUTERBERG, ANTHONY	1599	05/24/2024	2,652.09	105033
REYNOLDS, RAY A	1537	05/24/2024	860.95	105034
RICCIO, ANTHONY F	1583	05/24/2024	708.87	105035
SANDERS, JILL C	3128	05/24/2024	3,212.61	105036
SCHINCKE, MEGAN	3137	05/24/2024	443.17	105037
SCHINCKE, MEGAN	3137	05/24/2024	125.00	105037
SCHINCKE, MEGAN	3137	05/24/2024	1,034.06	105037
SEXTON, WILLIAM M	7125	05/24/2024	250.00	105038
SEXTON, WILLIAM M	7125	05/24/2024	1,323.54	105038
SPOERRY, DANIELLE M	1527	05/24/2024	1,332.84	105039
SUHR, CARLENE E.F.	3144	05/24/2024	1,405.90	105040
SUMMERS, AANNA N	1575	05/24/2024	1,706.32	105041

Employee	Employee #	Date	Amount	Number
SUMMERS, ALAN C	1534	05/24/2024	1,974.46	105042
WELTHA, CLAYTON	1566	05/24/2024	1,022.13	105043



Payroll Check Register

Report Summary

Pay Period: 5/6/2024-5/19/2024

Packet: PYPKT00561 - 05/06-05/19/2024 PAID 05/24/2024

Payroll Set: CITY OF BONDURANT, IA - 01

Type	Count	Amount
Regular Checks	0	0.00
Manual Checks	0	0.00
Reversals	0	0.00
Voided Checks	0	0.00
Direct Deposits	53	78,932.63
Total	53	78,932.63

Special Event Packet



Special Event Permit—Guidelines and Requirements

As an individual or organization requesting use of City of Bondurant public property or right-of-way for a special event, you have basic responsibilities to fulfill in order to conduct your event with the approval of the City of Bondurant. The public property may include the use of the streets, trail system, or parkland. Receiving approval from the City of Bondurant does not preclude responsibility for any additional permits or approvals by the City or related to state and federal regulations. The City reserves the right to impose special guidelines and restrictions based on the nature of the proposed event and its attendant circumstances.

The City of Bondurant will determine whether an event is classified as a Special Event if outside of the description stated. The following general guidelines and responsibilities apply to activities such as parades, runs/walks, athletic events, street fairs, outdoor concerts, block parties, bicycling events, and/or fundraisers.

- A. Upon issuance of the Special Events Permit, the applicant must comply with insurance provisions requiring a certificate of Insurance naming the City of Bondurant and its officials, agents, employees, and board members as a co-insured in the following amounts: General Liability and Dram Shop Insurance (if serving alcohol) coverage in an amount not less than \$1,000,000 per occurrence. Please note that insurance requirements are waived for neighborhood-based block parties.
- B. The application must include a **map of the specific area** to be used or route to travel. The map must delineate the City property to be used (Streets/Sidewalks/Trails/Parks, etc.) start and finish points and direction of flow, if applicable, as well as location(s) of outdoor toilet, trash receptacles, street barricades, and liquor dispensing area(s), if any.
- C. The applicant must comply with all federal, state, county, and city laws; ordinances and regulations including all regulations adopted and established by the city.
- D. The applicant must assume extra costs, if applicable, associated with public safety and sanitation at the level of service required by the City of Bondurant. This includes the number and type of barricades, number of portable toilets and trash receptacles, and the number and hours of police/security officers or other city staff as required.
- E. If alcoholic beverages are to be sold or an entrance or admission is charged for an event at which alcoholic beverages will be served, a [Liquor Permit](#) and [Dram Shop Insurance](#) will be required. This permit, which is not included in the application for the Special Event Permit, requires consideration and approval by the Bondurant City Council and, in most instances, requires approval by the State of Iowa.
- F. If the event is held in a secured area, allowance must be made for access for fire emergencies including a minimum of two (2) exits. Events held on public streets must include an allowance for a continuous, through traffic lane for use by public safety personnel in an emergency. Council approval and [type III barricades](#) are always required for any street closure. The barricades must be sufficient as to completely close the street or roadway but yet be easily and quickly removable solely for emergency vehicle access.
- G. The use of a tent more than 200 square feet (enclosed) or canopy style (open on three sides) of more than 400 square feet require proof of the retardancy from the manufacturer or supplier as well as the proposed location and intended use of the tent.
- H. Signage for the event must adhere to the City's Sign Ordinance. Compliance may require a sign permit, issued by the [Planning and Development Department](#).

- 
- I. City Code section 53.03 for commercially zoned areas states the music end time is 12:00 midnight Sunday-Thursday and 2:00 AM Friday and Saturday. For residentially zoned areas the music end time is 10:00 PM Sunday-Thursday and 12:00 midnight Friday and Saturday. If the event will utilize amplified sound a [noise permit](#) will be needed. As indicated above, the cost of the permit, issued by the City Clerk must be included in the application fee for the Special Event Permit.
 - J. Any valid complaint of disturbance of the peace will result in a warning and if it continues, it shall be reason to terminate the event/block party.
 - K. The following number of portable toilets is required in accordance with estimated event attendance: For events with alcohol, one portable toilet for every 150 people and for events without alcohol, or one portable toilet for every 250 people.
 - L. The applicant must utilize police/security officers if recommended by the City or Polk County Sherriff Office. When alcohol is available at the event, the applicant must comply with the recommendations. In some instances off-duty officers may be hired; contact the Polk County Sherriff's office for details.
 - M. The applicant must propose a plan to address sanitation/garbage collection for the event.
 - N. If the event requires the closure of public streets, a separate page will need to list all property owners impacted by the street closure with their printed name, signature, and address. All property owners in the immediate affected area to be blocked off shall be notified in advance of the street closure.
 - O. Depending on the estimated event attendance consider contracting emergency medical services to be prepared in case of a medical emergency.

Special Event Application

Please complete this form and submit along with applicable fees to the City Clerk's Office, 200 2nd St NE, Bondurant, IA 50035 at least 30 days prior to proposed event. If you need additional space to describe your event, please attach additional pages to this application. Advertising your event prior to receiving a signed Special Event Application is discouraged.

(Please Print)

Event Name Hillbilly Bicycle Ride **Date(s) of Event** June 15th
Location 2 Main St Se (Regional Trailhead Depot)
(Applicants must attach a map of the event layout that includes details like tent locations, portable restroom locations, sound stage, etc.)
Setup Time 8AM **Starting Time** 9AM **Ending Time** 10AM

(Please Print)

Organization Hosting Event Hillbilly Bicycle Ride
Contact Person Matt Sillanpaa **Day Phone** 515-689-2935
Email Matt@thebrickhousefitness.com
Addl. Contact Julie Sillanpaa **Day Phone** 319-541-2773
Email Julie@thebrickhousefitness.com

Type of Event:

Check all that apply.

- | | | |
|---|--|---|
| ☐ Parade | ☐ Fundraiser | ☐ Walk/Run Event |
| ☐ Fair/Festival | ☐ Outdoor Concert | ☐ Block Party |
| ☒ Bicycle Event | | |
| ☐ Other (please explain) _____ | | |

Describe the Event (please attach additional pages if necessary): Bicycle ride kickoff party. There will be live music from 9-10AM. Bicycle riders will park in the Landus gravel parking lot. The will walk over and enjoy music at the Depot. There will be a table with free-will donations for alcoholic and non-alcoholic drinks.

City Properties: [Trailhead/The Depot](#) | [Lake Petocka](#) | [City Park](#) | [BRSC](#)

Event Details:

(provide estimated counts)

Estimated Attendance	200
Trash Containers	4
Portable Toilets	0

(circle what applies)

Open to the general public?	YES / NO
Tents	YES / NO
Inflatable Houses/Toys	YES / NO
Amplified Music	YES / NO
Alcoholic Beverages	YES / NO
Banners/Signs	YES / NO

Vendors:

(provide estimated counts)

Individual food and beverage vendors must obtain a Temporary Event License from the Iowa Department of Inspections and Appeals. The Event organizer will be responsible for this information. Failure to do so may result in fines or closing of the vendor.

- Number of Vendors 1
- List of Vendors and/or Type of Vendor

The Mary Bump Memorial Foundation will be set up with free-will

donations for food and drink.

- Permits for *Mobile Food Vendors* are required for food truck vendors per City Ordinance ([Chapter 125](#)). Current [application](#) and license must be on display in the Mobile Food Unit.
- Banners/Signs may be placed along roadways to guide people to your event, but in no way may be affixed to trees, street signs, park signs or City buildings. Signs are to be removed immediately following event. Grounds markings are allowed, however spray paint is prohibited—chalk or signage would be more appropriate. Failure to do so will result in maintenance fees and/or fines according to littering ordinances.
- Trash and debris cleanup: depending on the event attendance, a dumpster may be required. Park trash cans are for daily park users. Event attendance over 75 will required additional trash cans. Metro Waste Authority offers Event Recycling Stands that should be considered.

Special Provisions: (city provided—for example: trash containers, barricades, etc.)**Is there any special assistance that you will need the City to provide?**

☒ Yes ☐ No

Will you need to [borrow barricades](#) from the City?

☒ Yes ☐ No

(This is available for not-for-profit organizations and residents. Businesses must provide their own barricades. **If yes, indicate on your event layout map the location of the barricades.** Barricades will be dropped onsite during business hours and picked up at the same location after the event. The street shall be opened for vehicular traffic no later than the concluding time of the event. The Special Event applicant is responsible and will be billed for all damages or lost barricades. The fee for damaged or lost barricades may be up to \$300.)

Will you need to [close the street](#) for your event?

☐ Yes ☒ No

(Closure of all streets require City Council approval. **If yes**, indicate on your event layout map the location of the street closures and obtain signature from all property owner impacted by the street closure.)

Will you need portable restrooms?

☐ Yes ☒ No

(See required amount enclosed in the application guidelines on pg. 2. If yes, they are at your expense.)

Provide details about the event garbage collection plans: Ideally 4 trash cans provided by city

Will you charge admission / registration fees:

☐ Yes ☒ No

If yes, is this for profit or not for profit? NON A special event application fee may apply.

Will there be product for sale on site?

☒ Yes ☐ No

(If yes, product liability insurance may be required for sales of food and drinks. Please contact the [Polk County Health Department](#) for details.)

Will alcohol be served or sold?

☒ Yes ☐ No

A [liquor permit](#) and [Dram Shop Insurance](#) are required for the sale of alcohol to the public during any event (required whether an admission fee is charged or not). City Council approval is required for the sale or service of alcohol. If alcohol is served, additional security may be required. Off-duty [Polk County Sheriff](#) deputies may be hired to provide additional security. Contact Polk County Sheriff Office at 515-286-3333.

Will you be using outdoor tents great than 200 square feet?

☐ Yes ☒ No

Will you be using an outdoor canopy greater than 400 square feet?

☐ Yes ☐ No

Will you be using inflatable rides or devices?

☐ Yes ☒ No

(If yes, location of the inflatable must be shown on the event layout map that must be submitted with this application.)

Will your event interfere with vehicle traffic?

☒ Yes ☒ No

(If yes, provide a map of the route and how traffic control will be administered. Contact [Polk County Sheriff Office](#) for traffic/crowd safety 515-286-3333)

Will your event require a first aid booth, fire/rescue units present during the event?

☐ Yes ☒ No

Will you be shooting off fireworks?

☐ Yes ☒ No

(If yes, a fireworks permit is required. Contact the City Clerk's office at 515-630-6983)

Will you be posting [temporary signage](#)?

☒ Yes ☐ No

(If yes, a temporary sign permit and fee may be required. Contact the Planning and Development Department at 515-630-6985. Also, please indicate on your event layout map the location of the signs.)

Will you need access to a water source?

☐ Yes ☒ No

(Additional charges may apply. If yes, what is the water to be used for?) _____

Will you be using amplified sound?

☒ Yes ☐ No

(If yes, a \$20 fee for a day or less or \$40 for more than a day is required at the time this application is submitted in order to obtain a noise permit)

Provide a description of the sound equipment that will be used during the event: Live music amplified over a PA system provided by event host

Will you need access to electricity?

☒ Yes ☐ No

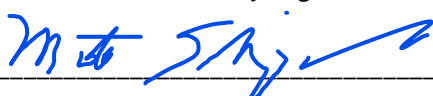
(If yes, please explain. Additional fees may apply) _____

Electricity is limited and in most cases will need to be provided by the applicant.

I hereby certify the included statements are true and correct, to the best of my knowledge, and that false statement(s) may be grounds for denial of this application. It is understood that activities at all times during the event shall comply with all applicable City ordinances. It is further understood the individual and the organization or association will be responsible for any and all damages arising as a result of this event, and, if this application is approved by the City, the applicant shall be required to execute a Special Event Permit—Hold Harmless Agreement waiving any and all claims which the applicant may have as a result of this event against the City of Bondurant, Iowa, its officials, agents, employees, or board members. It is further understood a certificate of public liability insurance will be required before conducting the proposed event.

An event for which a Permit has either not been obtained or which is in violation occurs will be subject to a municipal infraction up to \$750.

I have read the Special Event Application guidelines and requirement for issuance of the permit. I understand the conditions under which it is issued and agree to comply with these conditions for this event. I, or the organization I represent, have met or will meet all requirements established by the City. Further, I understand that if all requirements are not met, the Special Event Permit can be canceled by the City at any time including at the state of or during the event. If this event is sponsored by an organization, I hereby certify I have the legal authority to represent the applicant and/or the participants. It is further understood the City of Bondurant has the authority to grant or deny permission for this event.

Signature 

Date 5/21/24

Printed Name Matt Sillanpaa

City Official Signature _____ Date _____

The Privacy Act of 1974 requires that each individual asked or required to furnish personal information be advised of the following: Authority: 5 P.L. 93-579

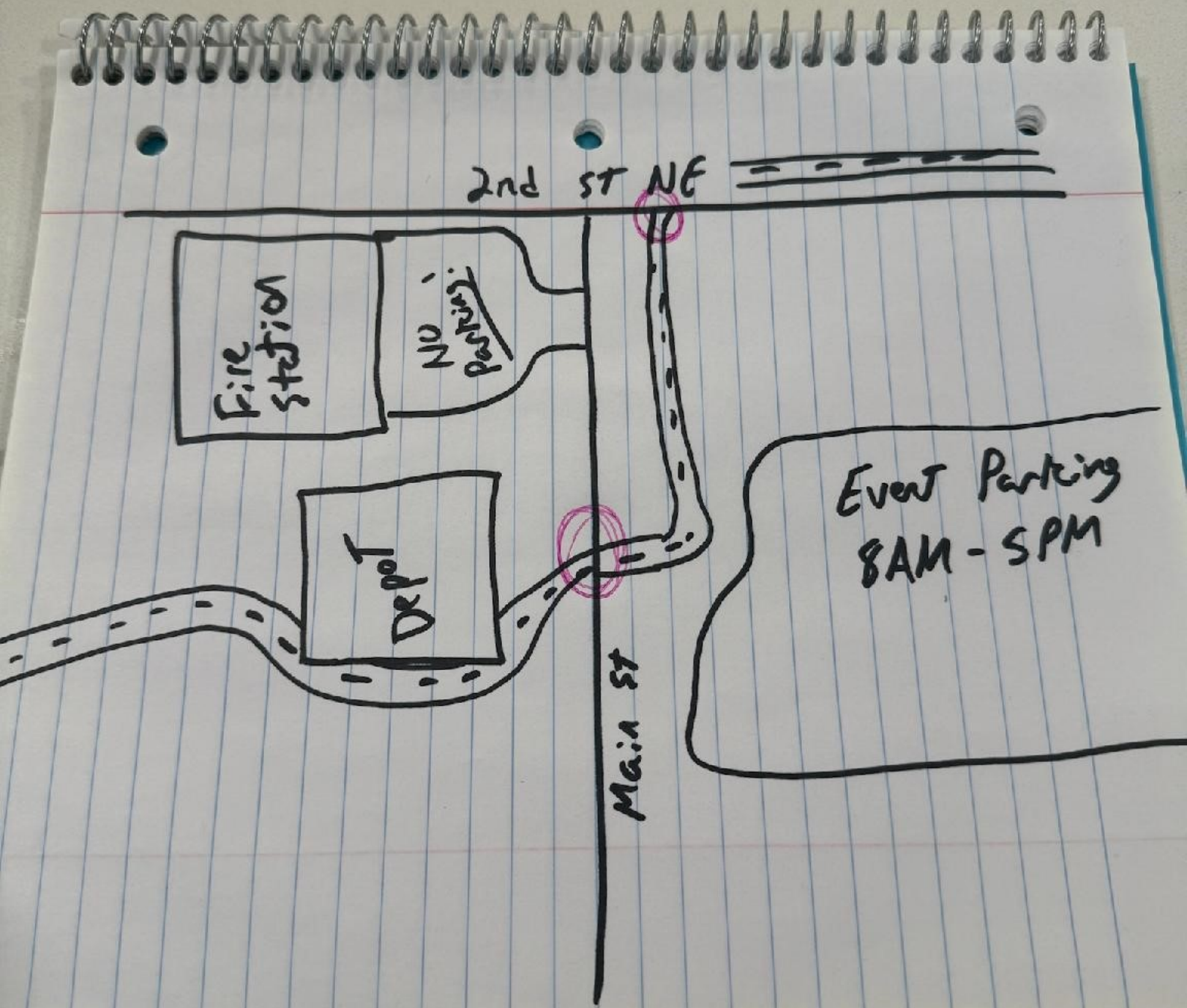
Purpose: To provide a contact in connection with permit activities.

Routine Uses: Permit is issued under the direction of the City Administrator. The names and address of those who obtain the permit are not reported, but are kept on file at the City of Bondurant to provide point of contact in case of emergency.

Check List and Fee Table to Calculate your application fee:

(no charge for not for profits, schools, and/or school organizations and city/county and/or city/county organizations)

☐ Noise Permit Fee	\$20/a day or less \$40/more than a day		Please make check payable to The City of Bondurant.
☐ Temporary Sign Permit Fee	\$10/ 30 days		
☐ Certificate of Insurance with City names as additional insured		n/c	
☐ Map of event area layout			
☐ List of signatures and addresses of the impacted households by a street closure			
TOTAL DUE WITH APPLICATION			



BONDURANT CITY OF
200 2ND ST NE
BOX 37
BONDURANT, IA 50035

23568

**Retail Permit Application
/Tobacco/Nicotine/Vapor**<https://tax.iowa.gov>**Instructions on the reverse side**

For period (MM/DD/YYYY) 07 / 01 / 2024 through June 30, 2025 I/we
apply for a retail permit to sell cigarettes, tobacco, alternative nicotine, or vapor products:

Business Information:

Trade Name/DBA DOLLAR GENERAL 23568
Physical Location Address 501 HAWTHORNE CROSSING DR SE City
BONDURANT ZIP 50035 Mailing Address 100 MISSION
RIDGE City GOODLETTSVILLE State TN ZIP 37072 Business Phone
Number 615-855-4000

Legal Ownership Information:

Type of Ownership: Sole Proprietor ☐ Partnership ☐ Corporation ☐ LLC ☒ LLP ☐
Name of sole proprietor, partnership, corporation, LLC, or LLP DOLGENCORP, LLC
Mailing Address 100 MISSION RIDGE City GOODLETTSVILLE State TN ZIP 37072
Phone Number 615-855-4000 Fax Number 877-364-4130 Email tax-beerandwinelicense@dollargeneral.com

Retail Information:

Types of Sales: Over-the-counter ☒ Vending machine ☐
Do you make delivery sales of alternative nicotine or vapor products? (See Instructions) Yes ☐ No ☒
Types of Products Sold: (Check all that apply)
Cigarettes ☒ Tobacco ☒ Alternative Nicotine Products ☐ Vapor Products ☐

Type of Establishment: (Select the option that best describes the establishment)

Alternative nicotine/vapor store ☐ Bar ☐ Convenience store/gas station ☐ Drug store ☐
Grocery store ☐ Hotel/motel ☐ Liquor store ☐ Restaurant ☐ Tobacco store ☐
Has vending machine that assembles cigarettes ☐ Other ☒ Retail – General Merchandise

If application is approved and permit granted, I/we do
the laws governing the sale of cigarettes, tobacco, alte

375777 0
202523568TOBCITY26
27316

75

Signature of Owner(s), Partner(s), or Corporate Officer

Name (please print) _____

Signature _____

Date _____

Please Return Checks To:

Tracy Givens

Name (please print) _____

Signature _____

Date _____

Send this completed application and the applicable fee to your local jurisdiction. If you have any
questions contact your city clerk (within city limits) or your county auditor (outside city limits).

FOR CITY CLERK/COUNTY AUDITOR ONLY – MUST BE COMPLETE

- Fill in the amount paid for the permit: _____
- Fill in the date the permit was approved by the council or board: _____
- Fill in the permit number issued by the city/county: _____
- Fill in the name of the city or county issuing the permit: _____
- New ☐ Renewal ☐

**ACTION BY WRITTEN CONSENT
OF THE SOLE MEMBER OF
DOLGENCORP, LLC
JANUARY 12, 2024**

Pursuant to the Kentucky Limited Liability Company Act, the undersigned, being the sole member of Dolgencorp, LLC (the "Company"), does hereby consent to and take the following action as evidenced by the signature below.

WHEREAS, effective immediately, Steven G. Sunderland resigns as Chief Executive Officer and Manager of the Company;

WHEREAS, effective immediately, Hiren Mehta was removed as Assistant Treasurer of the Company;

WHEREAS, effective immediately, the sole member desires to elect Zachary J. Brining as Chief Executive Officer and Manager of the Company and Kyle Hodes as Assistant Treasurer of the Company through the 2023 fiscal year or until their earlier resignation or removal; and

WHEREAS, the sole member desires to elect the Company's managers and officers for the 2024 fiscal year.

NOW, THEREFORE, BE IT RESOLVED that Zachary J. Brining be elected to serve as Manager of the Company, to serve through the 2023 and 2024 fiscal years with the following named persons until their earlier resignation or removal:

Zachary J. Brining

Emily C. Taylor

BE IT FURTHER RESOLVED, that Zachary J. Brining be elected to serve as Chief Executive Officer of the Company and Kyle Hodes be elected to serve as Assistant Treasurer of the Company, to serve through the 2023 fiscal year.

BE IT FURTHER RESOLVED, that each of the following named persons hereby are elected or re-elected, as applicable, to the offices listed below to serve for the 2024 fiscal year or until their successors shall be elected and qualify or until their earlier resignation or removal:

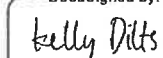
Zachary J. Brining
Kelly M. Dilts
Roderick J. West
Barbara L. Springer
Kyle Hodes

Chief Executive Officer
Chief Financial Officer and Secretary
Senior Vice President, Distribution
Vice President and Treasurer
Assistant Treasurer

The undersigned, being the sole member, hereby consents to and adopts the foregoing resolutions as of the day and year first above written.

DOLLAR GENERAL CORPORATION

Sole Member



Kelly M. Dilts

Executive Vice President & Chief Financial Officer

Manufacturer	Manufacturer-Address	Manufacturer Phone Number
American Snuff	401 NORTH MAIN STREET, WINSTON-SALEM. NC 27101	800-238-2409
Cheyenne Intl	701 SOUTH BATTLEGROUND AVENUE,GROVER, NC 28073	630-269-0142
ITG Brands	714 Green Valley Road, Greensboro, NC 27408	800-223-6816
John Middleton Cigar Co.	6601 WEST BROAD STREET, RICHMOND, VA 23230	888-932-8976
Liggett Vector Brands	3800 Paramount Parkway Ste. 250, Morrisville, NC 27560	877-415-4100
National Tobacco	5201 INTERCHANGE WAY, LOUISVILLE, KY 40229	800-331-5962
Philip Morris USA	6601 WEST BROAD STREET, RICHMOND, VA 23230	888-932-8976
Republic Tobacco	2301 Ravine way, Glenview, Illinois 60025	800-288-8888
Reynolds American Inc.	401 NORTH MAIN STREET, WINSTON-SALEM. NC 27101	800-238-2409
Santa Fe	1 Plaza La Prensa, Santa Fe, NM 87507	651-212-0711
Swisher	459 EAST 16TH STREET, JACKSONVILLE, FL 32206	800-874-9720
US Smokeless Tobacco Co.	6601 WEST BROAD STREET, RICHMOND, VA 23230	888-932-8976

Distributor	Distributor Address
Super Food Services Inc.	4772 S. 72 nd St, Omaha, NE 68127

Anna Johnson

From: noreply@incode.tylerhosting.cloud
Sent: Monday, May 20, 2024 2:53 PM
To: Anna Johnson
Subject: Receipt #R00099194

DATE : 5/20/2024 2:51 PM

OPER : AJONHSON

TKBY : AJONHSON

TERM : 6

REC# : R00099194

PSREV6 CIGARETTE PERMIT

DOLLAR GENERAL CORP CIG AND TOBACCO LICENSE 75.00

CIGARETTE PERMIT FEES 75.00

001-199-1-4105 -75.00

Paid By:DOLLAR GENERAL CORP CIG AND TOBACCO LICENSE Check 75.00 REF:7918663



State of Iowa

Alcoholic Beverages Division

Applicant

NAME OF LEGAL ENTITY	NAME OF BUSINESS(DBA)	BUSINESS		
CASEY'S MARKETING COMPANY	CASEY'S GENERAL STORE #1373	(515) 207-6143		
ADDRESS OF PREMISES	PREMISES SUITE/APT NUMBER	CITY	COUNTY	ZIP
302 2ND ST NE		Bondurant	Polk	50035
MAILING ADDRESS	CITY	STATE	ZIP	
1 SE CONVENIENCE BLVD	Ankeny	Iowa	50021	

Contact Person

NAME	PHONE	EMAIL
Licensing Team	(515) 381-4090	licensingteam@caseys.com

License Information

LICENSE NUMBER	LICENSE/PERMIT TYPE	TERM	STATUS
LE0003286	Class E Retail Alcohol License	12 Month	Submitted to Local Authority

TENTATIVE EFFECTIVE DATE	TENTATIVE EXPIRATION DATE	LAST DAY OF BUSINESS
July 1, 2024	June 30, 2025	

SUB-PERMITS

Class E Retail Alcohol License

PRIVILEGES



Status of Business

BUSINESS TYPE

Corporation

Ownership

• Individual Owners

NAME	CITY	STATE	ZIP	POSITION	% OF OWNERSHIP	U.S. CITIZEN
SCOTT FABER	Johnston	Iowa	50131	SECRETARY	0.00	Yes
ERIC LARSEN	Ankeny	Iowa	50023	TREASURER	0.00	Yes
SAMUEL JAMES	Ankeny	Iowa	50021	PRESIDENT	0.00	Yes
BRIAN JOHNSON	JOHNSTON	Iowa	50131	VICE PRESIDENT	0.00	Yes
DOUGLAS BEECH	ANKENY	Iowa	50021	ASSISTANT SECRETARY	0.00	Yes
42-0935283 CASEY'S GENERAL STORE, INC.	ANKENY	Iowa	50021	OWNER	100.00	Yes
CASEY'S GENERAL STORES	Urbandale	Iowa	50322			
Carla Heckman						



State of Iowa
Alcoholic Beverages Division

Insurance Company Information

INSURANCE COMPANY	POLICY EFFECTIVE DATE	POLICY EXPIRATION DATE
DRAM CANCEL DATE	OUTDOOR SERVICE EFFECTIVE DATE	OUTDOOR SERVICE EXPIRATION DATE
BOND EFFECTIVE DATE	TEMP TRANSFER EFFECTIVE DATE	TEMP TRANSFER EXPIRATION DATE



State of Iowa

Alcoholic Beverages Division

Applicant

NAME OF LEGAL ENTITY

GIT-N-GO CONVENIENCE
STORES, INC

NAME OF BUSINESS(DBA)

GIT-N-GO CONVENIENCE
STORE #41

BUSINESS

(515) 288-8565

ADDRESS OF PREMISES

3207 HENRY ST SW

PREMISES SUITE/APT NUMBER

CITY

Bondurant

COUNTY

Polk

ZIP

50035

MAILING ADDRESS

2716 INDIANOLA AVE

CITY

DES MOINES

STATE

Iowa

ZIP

50315

Contact Person

NAME

KAREN COMSTOCK

PHONE

(515) 288-8565

EMAIL

karengng@outlook.com

License Information

LICENSE NUMBER

LG0000601

LICENSE/PERMIT TYPE

Class B Retail Alcohol License

TERM

12 Month

STATUS

Submitted
to Local
Authority

TENTATIVE EFFECTIVE DATE

June 30, 2024

TENTATIVE EXPIRATION DATE

June 29, 2025

LAST DAY OF BUSINESS

SUB-PERMITS

Class B Retail Alcohol License

PRIVILEGES



State of Iowa

Alcoholic Beverages Division

Status of Business

BUSINESS TYPE

Corporation

Ownership

• Individual Owners

NAME	CITY	STATE	ZIP	POSITION	% OF OWNERSHIP	U.S. CITIZEN
KAREN COMSTOCK						
Dennis Flora	DES MOINES	Iowa	50315	PRESIDENT	100.00	Yes

Insurance Company Information

INSURANCE COMPANY

POLICY EFFECTIVE DATE

POLICY EXPIRATION DATE

DRAM CANCEL DATE

OUTDOOR SERVICE EFFECTIVE DATE

OUTDOOR SERVICE EXPIRATION DATE

BOND EFFECTIVE DATE

TEMP TRANSFER EFFECTIVE DATE

TEMP TRANSFER EXPIRATION DATE



State of Iowa

Alcoholic Beverages Division

Applicant

NAME OF LEGAL ENTITY	NAME OF BUSINESS(DBA)	BUSINESS		
Nicole Schneider	Nik's Tippy Trailers	(515) 291-8834		
ADDRESS OF PREMISES		PREMISES SUITE/APT NUMBER	CITY	COUNTY
113 Main Street Southeast			Bondurant	Polk
				50035
MAILING ADDRESS	CITY	STATE	ZIP	
296 T ave	Boone	Iowa	50036	

Contact Person

NAME	PHONE	EMAIL
Nicole Schneider	(515) 291-8834	thewhimsicalwinetrailer@gmail.com

License Information

LICENSE NUMBER	LICENSE/PERMIT TYPE	TERM	STATUS
	Special Class C Retail Alcohol License	5 Day	Submitted to Local Authority

TENTATIVE EFFECTIVE DATE	TENTATIVE EXPIRATION DATE	LAST DAY OF BUSINESS
June 11, 2024	June 15, 2024	

SUB-PERMITS

Special Class C Retail Alcohol License



State of Iowa

Alcoholic Beverages Division

PRIVILEGES

Outdoor Service

Status of Business

BUSINESS TYPE

Sole Proprietor

Ownership

• Individual Owners

NAME	CITY	STATE	ZIP	POSITION	% OF OWNERSHIP	U.S. CITIZEN
Nicole Schneider	Boone	Iowa	50036	Owner	100.00	Yes

Insurance Company Information

INSURANCE COMPANY

Founders Insurance Company

POLICY EFFECTIVE DATE

June 11, 2024

POLICY EXPIRATION DATE

June 16, 2024

DRAM CANCEL DATE

OUTDOOR SERVICE EFFECTIVE
DATE

OUTDOOR SERVICE EXPIRATION
DATE

BOND EFFECTIVE DATE

TEMP TRANSFER EFFECTIVE
DATE

TEMP TRANSFER EXPIRATION
DATE



State of Iowa

Alcoholic Beverages Division

Applicant

NAME OF LEGAL ENTITY

Kum & Go, L.C.

NAME OF BUSINESS(DBA)

Kum & Go #0185

BUSINESS

(515) 274-7793

ADDRESS OF PREMISES

3015 Oxbow Court SW

PREMISES SUITE/APT NUMBER

CITY

Bondurant

COUNTY

Polk

ZIP

50035

MAILING ADDRESS

1459 Grand Avenue

CITY

Des Moines

STATE

Iowa

ZIP

50309

Contact Person

NAME

Kum and Go

PHONE

(515) 457-6249

EMAIL

licenses@kumandgo.com

License Information

LICENSE NUMBER

LE0003592

LICENSE/PERMIT TYPE

Class E Retail Alcohol License

TERM

12 Month

STATUS

Submitted
to Local
Authority

TENTATIVE EFFECTIVE DATE

Nov 6, 2023

TENTATIVE EXPIRATION DATE

Nov 5, 2024

LAST DAY OF BUSINESS

SUB-PERMITS

Class E Retail Alcohol License

PRIVILEGES



State of Iowa

Alcoholic Beverages Division

Status of Business

BUSINESS TYPE

Limited Liability Company

Ownership

• Individual Owners

NAME	CITY	STATE	ZIP	POSITION	% OF OWNERSHIP	U.S. CITIZEN
Tom Schofield	Salt Lake City	Utah	84111	Secretary	0.00	Yes
Tyler Call	Salt Lake City	Utah	84111	Vice President	0.00	Yes
Crystal Maggelet	Salt Lake City	Utah	84111	President	0.00	Yes

• Companies

COMPANY NAME	FEDERAL ID	CITY	STATE	ZIP	% OF OWNERSHIP
Maverik Palace Acquisition Co. LLC		Salt Lake City	Utah	84111	100.00

Insurance Company Information

INSURANCE COMPANY

POLICY EFFECTIVE DATE

POLICY EXPIRATION DATE



State of Iowa

Alcoholic Beverages Division

DRAM CANCEL DATE

OUTDOOR SERVICE EFFECTIVE
DATE

OUTDOOR SERVICE EXPIRATION
DATE

BOND EFFECTIVE DATE

TEMP TRANSFER EFFECTIVE
DATE

TEMP TRANSFER EXPIRATION
DATE



State of Iowa

Alcoholic Beverages Division

Applicant

NAME OF LEGAL ENTITY

CLOUD WINE, LLC

NAME OF BUSINESS(DBA)

Lucky Wife Wine Slushies

BUSINESS

(515) 368-0295

ADDRESS OF PREMISES

201 Main Street Southeast

PREMISES SUITE/APT NUMBER

parking lot to the left of Little House on Main

CITY

Bondurant

COUNTY

Polk

ZIP

50035

MAILING ADDRESS

201 Main Street Southeast

CITY

Bondurant

STATE

Iowa

ZIP

50035

Contact Person

NAME

Dawn Thompson

PHONE

(515) 368-0295

EMAIL

luckywifewineslushies4@gmail.com

License Information

LICENSE NUMBER

LICENSE/PERMIT TYPE

TERM

STATUS

Special Class C Retail Alcohol License

5 Day

Submitted to Local Authority

TENTATIVE EFFECTIVE DATE

July 8, 2024

TENTATIVE EXPIRATION DATE

July 12, 2024

LAST DAY OF BUSINESS

SUB-PERMITS

Special Class C Retail Alcohol License

PRIVILEGES



State of Iowa

Alcoholic Beverages Division

Status of Business

BUSINESS TYPE

Limited Liability Company

Ownership

• Individual Owners

NAME	CITY	STATE	ZIP	POSITION	% OF OWNERSHIP	U.S. CITIZEN
Dawn Thompson	Bondurant	Iowa	50035	owner/ceo	100.00	Yes

Insurance Company Information

INSURANCE COMPANY

Founders Insurance Company

POLICY EFFECTIVE DATE

July 8, 2024

POLICY EXPIRATION DATE

July 13, 2024

DRAM CANCEL DATE

OUTDOOR SERVICE EFFECTIVE DATE

OUTDOOR SERVICE EXPIRATION DATE

BOND EFFECTIVE DATE

TEMP TRANSFER EFFECTIVE DATE

TEMP TRANSFER EXPIRATION DATE



State of Iowa

Alcoholic Beverages Division

Applicant

NAME OF LEGAL ENTITY	NAME OF BUSINESS(DBA)	BUSINESS		
CLOUD WINE, LLC	Lucky Wife Wine Slushies	(515) 368-0295		
ADDRESS OF PREMISES	PREMISES SUITE/APT NUMBER	CITY	COUNTY	ZIP
201 Main Street Southeast	parking lot to the left of Little house on Main	Bondurant	Polk	50035
MAILING ADDRESS	CITY	STATE	ZIP	
201 Main Street Southeast	Bondurant	Iowa	50035	

Contact Person

NAME	PHONE	EMAIL
Dawn Thompson	(515) 368-0295	luckywifewineslushies4@gmail.com

License Information

LICENSE NUMBER	LICENSE/PERMIT TYPE	TERM	STATUS
	Special Class C Retail Alcohol License	5 Day	Submitted to Local Authority

TENTATIVE EFFECTIVE DATE	TENTATIVE EXPIRATION DATE	LAST DAY OF BUSINESS
July 22, 2024	July 26, 2024	

SUB-PERMITS

Special Class C Retail Alcohol License

PRIVILEGES



State of Iowa

Alcoholic Beverages Division

Status of Business

BUSINESS TYPE

Limited Liability Company

Ownership

• Individual Owners

NAME	CITY	STATE	ZIP	POSITION	% OF OWNERSHIP	U.S. CITIZEN
Dawn Thompson	Bondurant	Iowa	50035	owner/ceo	100.00	Yes

Insurance Company Information

INSURANCE COMPANY

Founders Insurance Company

POLICY EFFECTIVE DATE

July 22, 2024

POLICY EXPIRATION DATE

July 27, 2024

DRAM CANCEL DATE

OUTDOOR SERVICE EFFECTIVE DATE

OUTDOOR SERVICE EXPIRATION DATE

BOND EFFECTIVE DATE

TEMP TRANSFER EFFECTIVE DATE

TEMP TRANSFER EXPIRATION DATE



**BUSINESS OF THE CITY COUNCIL
BONDURANT, IOWA
AGENDA STATEMENT**

Item No. 6.d.
For Meeting of 6/3/2024
Receive and File

TITLE: Receive and file Bondurant Emergency Services Facility Bid Package #1 - Electrical Equipment in the amount of \$299,971

CONTACT PERSON:

Marketa Oliver, ICMA-CM, SPHR, City Administrator
Aaron Kreuder, Fire Chief
John Horton, Public Works Director

BRIEF HISTORY & ANALYSIS: The City of Bondurant is working with Ryan Companies engaging the Construction Manager at Risk model for the design and construction of the new Bondurant Emergency Services Facility. Pursuant to Iowa Code section 26A.3.5 a., if the estimated total cost of trade contract work and materials packages is in excess of the adjusted competitive bid threshold established in section 314.1B, the construction manager-at-risk shall advertise for competitive bids, receive bids, prepare bid analyses, and **award contracts** to qualified firms on trade contract work and materials packages..." Ryan Companies has recently bid out the Bid Package #1 for Electrical Equipment. The estimate for this equipment was \$500,000 and bids ranging from \$299,870 to \$366,335. The intent is for them to award the Bid Package to Kline Electric. Attached is the bid sheet for the City Council to receive and file.

FUNDING SOURCE: TIF/GO Bond

STAFF RECOMMENDATION: Approve item on a roll call vote.

APPROVED FOR SUBMITTAL:

ATTACHMENTS:

1. BESF - Bondurant Emergency Services Facility Bid Package _1 - Electrical Equipment_ 1 - Electrical Procurement

6777-000: BESF - Bondurant Emergency

Prepared by Ryan Companies US Inc. - 111 E Grand Ave, Suite

Bid Package Lead: Tyler Lange (tyler.lange@ryancompanies.com)

Project Location: 500 Campus Dr SE, Bondurant, IA 50035, United States of America

1: Electrical Procurement

Generated May 29, 2024

Base Bid

Estimated Cost

\$500,000

LINE ITEMS

Electrical Procurement

Base Bid Total

Summary

Kline Electric

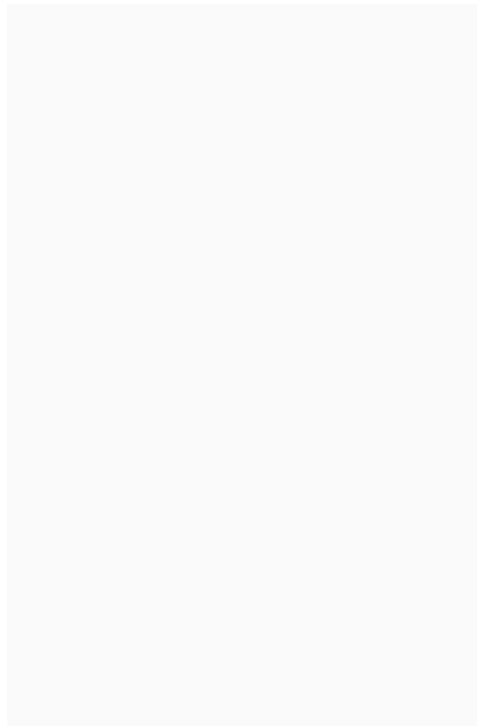
Submitted by Monty Evans

\$299,870

Original Proposal, May 10, 2024

Unit	Qty
------	-----





Emergency Services Facility Bid Package #1 - E

200, Des Moines, IA 50309, USA

24	
Unit Cost	Total Cost
	\$299,870
	\$299,870

Van Maanen Electric			
Submitted by CHAD PRICE			
\$310,410			
Original Proposal, May 10, 2024			
Unit	Qty	Unit Cost	Total Cost
			\$310,410
			\$310,410

Electrical Equipment

The Waldinger Corporation

Submitted by Andy Mcdonald

\$351,150

Original Proposal, May 10, 2024

Unit	Qty	Unit Cost	Total Cost
------	-----	-----------	------------

			\$351,150
--	--	--	-----------

			\$351,150
--	--	--	------------------

Tyler,Attached is our electrical proposal for the BESF Bid Packa

Commonwe

Submitted by D

\$366,335

Original Propos

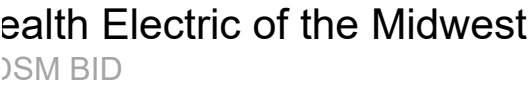
Unit

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Please see atta





Qty	Unit Cost	Total Cost
-----	-----------	------------

\$366,335

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**BUSINESS OF THE CITY COUNCIL
BONDURANT, IOWA
AGENDA STATEMENT**

Item No. 6.e.
For Meeting of 6/3/2024
Resolution

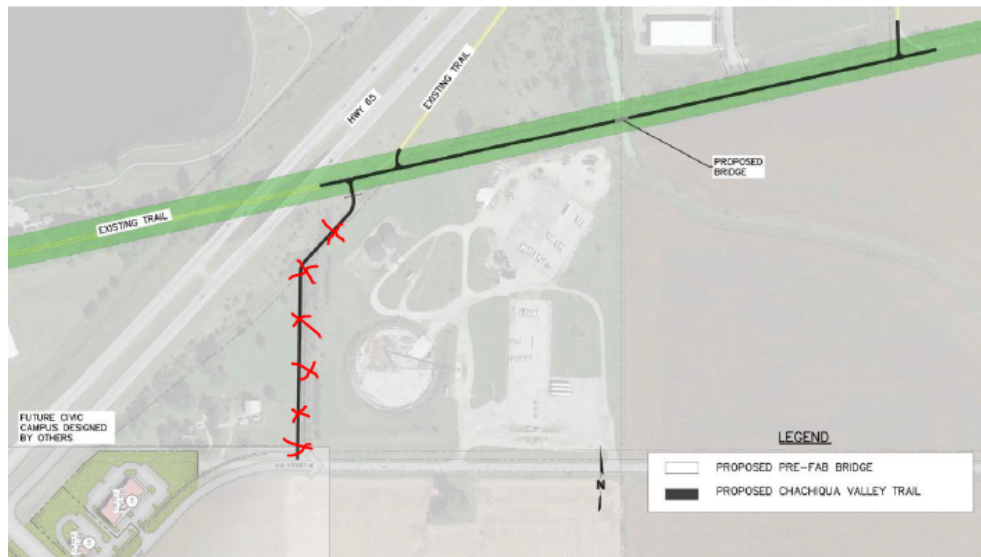
TITLE: - Resolution of endorsement to the Iowa DNR's Land & Water Conservation Fund Program for funding to assist with constructing the Chichaqua Valley Trail extension east of Highway 65 and south of the Bondurant Industrial Park

CONTACT PERSON:

Maggie Murray, Planning & Community Development Director

BRIEF HISTORY & ANALYSIS: The attached resolution endorses the City of Bondurant's grant application request to the Iowa DNR's Land & Water Conservation Fund Program for funding to assist with constructing the Chichaqua Valley Trail extension east of Highway 65 generally south of the Bondurant Industrial Park on former railroad right-of-way land currently owned by the Landus Cooperative that is in the process of being donated to the City of Bondurant. Through the City's partnership with the University of Iowa's Iowa Initiative for Sustainable Communities (IISC) Program, detailed engineering plans and a budget have been prepared for this proposed trail extension project. This trail extension project will provide a safer alternative route for users of the regional Chichaqua Valley Trail such that they will be able to continue along the former railroad right-of-way land. The City's grant application for this Chichaqua Valley Trail extension project is due to the Iowa DNR by June 15th. Local entities are eligible to receive up to \$250,000 per project. The IISC project cost estimate is currently \$876,000. A portion of this project also includes construction of a pre-fab pedestrian bridge over the Sanitago Creek corridor. If the City is successful in receiving this Land & Water Conservation Fund money, it could take up to 2 years to receive the grant agreement; after which, the City may begin construction of this trail project.

Chichaqua Valley Trail Extension Area Map (area in red will be constructed as part of the upcoming Civic Campus project):



FUNDING SOURCE: N/A to submit grant application

STAFF RECOMMENDATION: Approve resolution on a roll call vote.

APPROVED FOR SUBMITTAL:

ATTACHMENTS:

1. RESOLUTION NO. 240603-116
2. LWCF Grant Endorsement - CVT Extension

CITY OF BONDURANT
RESOLUTION NO. 240603-116

RESOLUTION OF ENDORSEMENT TO THE IOWA DNR'S LAND & WATER
CONSERVATION FUND PROGRAM FOR FUNDING TO ASSIST WITH
CONSTRUCTING THE CHICHAQUA VALLEY TRAIL EXTENSION EAST OF
HIGHWAY 65 AND SOUTH OF THE BONDURANT INDUSTRIAL PARK

WHEREAS, the City of Bondurant is interested in acquiring lands or developing outdoor recreational facilities on the following described project for the enjoyment of the citizenry of

Site Name: Bondurant and the State of Iowa.

Site Address: Parcels

Project Title: CVT East Extension

Total Estimated Cost: \$876,000.00

Brief Description of Project: Construct a paved trail extension, including construction of a pre-fab pedestrian bridge over the Santiago Creek corridor, providing users of the regional Chichaqua Valley Trail a safer route alternative continuing along the former railroad right-of-way land away from the busy Highway 65 corridor.

AND, Land and Water Conservation Fund financial assistance is being sought for the acquisition or development of said outdoor recreational facilities,

NOW THEREFORE, be it resolved by the City of Bondurant that the project described above be authorized,

AND, be it further resolved that said City of Bondurant make application to the Iowa Department of Natural Resources to seek Land and Water Conservation Fund financial assistance from the National Park Service in the amount of 28.54% of the actual cost of the project,

AND, be it further resolved that said City of Bondurant certifies to the following:

1. That will accept the terms and conditions set forth in the NPS Grants-in-Aid Manual and which will be a part of the Project Agreement for any grant awarded under the attached proposal.
2. That it is in complete accord with the attached proposal and that it will carry out the acquisition and/or development in the manner described in the proposal and any plans and specifications attached thereto unless prior approval for any change has been received from the Iowa Department of Natural Resources.
3. That it has the ability and intention to finance its share of the cost of the project and that the project will be operated and maintained at the expense of said City of Bondurant for public outdoor recreational use.

4. That no financial assistance has been given or promised under any other federal program or activity with regard to the proposed project.
5. That it will not discriminate against any person on the basis of race, color, or natural origin in the use of any property or failure acquired or developed pursuant to this proposal, and shall comply with the terms and intent of the Title VI of the Civil Rights Act of 1964, P.L. 88-352 (1964), and of the regulations promulgated pursuant to such Act by the Secretary of the Interior and contained in 43 CFR 17.
6. That it will maintain adequate financial records on the proposed project to substantiate claims for cost-sharing.

THIS IS TO CERTIFY that the foregoing is a true and correct copy of a resolution duly and legally adopted by the Bondurant City Council at a legal meeting held on this 3rd Day of June 2024.

By: _____
Angela McKenzie, Mayor Pro Tem

ATTEST: I, Shelby Hagan, City Clerk of Bondurant, hereby certify that at a meeting of the city Council held on the above date, among other proceedings the above was adopted.

IN WITNESS WHEREOF, I have hereunto set my hand the day and year above written.

Shelby Hagan, City Clerk

Name	Yay	Nay	Abstain	Absent
Cox				
Driscoll				
McKenzie				
Peffer				
Sillanpaa				

RESOLUTION ON ACQUISITION OR DEVELOPMENT FOR OUTDOOR RECREATIONCounty: Polk*WHEREAS*, the City of Bondurant (City/County) is interested in acquiring lands or developing outdoor recreational facilities on the following described project for the enjoyment of the citizenry ofSite Name: Bondurant and the State Iowa.Site Address: ParcelsProject Title: CVT East ExtensionTotal Estimated Cost: \$ 876,000.00

Brief Description of Project:

Construct a paved trail extension, including construction of a pre-fab pedestrian bridge over the Santiago Creek corridor, providing users of the regional Chichaqua Valley Trail a safer route alternative continuing along the former railroad right-of-way land away from the busy Highway 65 corridor.

AND, Land and Water Conservation Fund financial assistance is being sought for the acquisition or development of said outdoor recreational facilities,

NOW THEREFORE, be it resolved by the City of Bondurant that the project described above be authorized,

AND, be it further resolved that said City of Bondurant make application to the Iowa Department of Natural Resources to seek Land and Water Conservation Fund financial assistance from the National Park Service in the amount of 28.54 % of the actual cost of the project,

AND, be it further resolved that said City of Bondurant certifies to the following:

1. That it will accept the terms and conditions set forth in the NPS Grants-in-Aid Manual and which will be a part of the Project Agreement for any grant awarded under the attached proposal.
2. That it is in complete accord with the attached proposal and that it will carry out the acquisition and/or development in the manner described in the proposal and any plans and specifications attached thereto unless prior approval for any change has been received from the Iowa Department of Natural Resources.
3. That it has the ability and intention to finance its share of the cost of the project and that the project will be operated and maintained at the expense of said City of Bondurant for public outdoor recreational use.
4. That no financial assistance has been given or promised under any other federal program or activity with regard to the proposed project.
5. That it will not discriminate against any person on the basis of race, color, or natural origin in the use of any property or failure acquired or developed pursuant to this proposal, and shall comply with the terms and intent of the Title VI of the Civil Rights Act of 1964, P.L. 88-352 (1964), and of the regulations promulgated pursuant to such Act by the Secretary of the Interior and contained in 43 CFR 17.
6. That it will maintain adequate financial records on the proposed project to substantiate claims for cost-sharing.

THIS IS TO CERTIFY that the foregoing is a true and correct copy of a resolution duly and legally adopted by the

Bondurant City Council at a legal meeting held on this 3rd Day
of June, 20 24.

(signature)

Doug Elrod, Mayor

(title)

(signature)

Shelby Hagan, City Clerk

(title)



**BUSINESS OF THE CITY COUNCIL
BONDURANT, IOWA
AGENDA STATEMENT**

Item No. 6.f.
For Meeting of 6/3/2024
Resolution

TITLE: - Resolution affixing a date for a public hearing to consider adoption of the City's Pavement Management Program Plan

CONTACT PERSON:

Marketa Oliver, ICMA-CM, SPHR, City Administrator
John Horton, Public Works Director

BRIEF HISTORY & ANALYSIS: The attached resolution sets a date for a public hearing for June 17th for Council to consider adopting the City's Pavement Management Program Plan. The Bondurant City Council approved a professional services agreement on July 10, 2023 for HR Green to prepare this Pavement Management Program Plan.

Pavement Management is a program that carries out an important City policy. The policy objective is to improve overall street conditions in an efficient manner that maximizes public benefits. This proactive approach is important for a municipality tasked with maintaining infrastructure for approximately 10,000 residents.

The City of Bondurant has an average road condition score of 78.0, based on estimates from the Iowa Pavement Management Program. This score places the Bondurant pavement network slightly above average condition when compared to similar-sized municipalities in Iowa. This score can easily be attributed to the addition of new paved streets to the network. When looking at trends based on functional classification, the plan shows that most of the street network in Bondurant had been stable or on the decline until 2017-2019 when both arterial and local roads saw significant improvements, likely due to a large influx of new street systems in Bondurant. While Bondurant has many reasons to be proud of its 78.0 pavement condition score, this doesn't mean that there is no work to be done.

This attached plan, prepared by HR Green, includes the following topics/processes:

- Review the City's standards for street pavement design and construction/maintenance practices.
- Develop an inventory of the City's Streets system.

- Evaluate the system's current roadway conditions using data provided by the Iowa Pavement Management Program.
- Determine major rehabilitation and reconstruction alternatives and trigger thresholds for use in the data analysis and projections.
- Create a comprehensive pavement management model using the IPMP data and the Pavement Management Software dTIMS BA.
- Develop a 15-year rehabilitation/reconstruction analysis schedule with annualized costs for various budget and performance-based scenarios to make recommended annual budget and performance recommendations.
- Develop a 10-year capital improvement plan based on the agreed upon recommendations.

The findings of this Pavement Management Program Plan process include the following:

- Maintain a Hybrid CityPCI goal of 70 for Local Streets and 75 for Collectors and Arterials.
- Clearly establish a dedicated budget for Pavement Management activities.
- Steadily increase average annual spending on roadway improvements to approximately \$1.2 million per year.
- Maintain an ideal Rehabilitation budget share of about 80%, Reconstruction budget share of around 10%, and Restoration share of at least 10%.
- Implement the 10-year capital Improvement Plan included as part of the Pavement Management Program Plan.

FUNDING SOURCE: N/A to adopt plan

STAFF RECOMMENDATION: Approve resolution on a roll call vote.

APPROVED FOR SUBMITTAL:

ATTACHMENTS:

1. RESOLUTION NO. 240603-117
2. Bondurant Pavement Management Program

CITY OF BONDURANT
RESOLUTION NO. 240603-117

RESOLUTION AFFIXING A DATE FOR A PUBLIC HEARING TO CONSIDER
ADOPTION OF THE PAVEMENT MANAGEMENT PROGRAM PLAN

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BONDURANT, IOWA:

That the City Council of the City of Bondurant, Iowa, hereby proposes to adopt the Pavement Management Program Plan.

BE IT FURTHER RESOLVED THAT: A public hearing will be held on the 17th day of June 2024 at 6:00 p.m. at the Bondurant City Center at 200 2nd Street NE, Bondurant, Polk County, Iowa at which time the Council will hear public comments on the proposed adoption of the Pavement Management Program Plan.

BE IT FINALLY RESOLVED THAT: The City Clerk is hereby directed to publish notice of said hearing, as required by law.

Passed and approved by the City Council of the City of Bondurant, Iowa, this 3rd day of June 2024.

By: _____
Angela McKenzie, Mayor Pro Tem

ATTEST: I, Shelby Hagan, City Clerk of Bondurant, hereby certify that at a meeting of the city Council held on the above date, among other proceedings the above was adopted.

IN WITNESS WHEREOF, I have hereunto set my hand the day and year above written.

Shelby Hagan, City Clerk

Name	Yay	Nay	Abstain	Absent
Cox				
Driscoll				
McKenzie				
Peffer				
Sillanpaa				

NOTICE OF PUBLIC HEARING

The City Council of the City of Bondurant will hold a public hearing at 6:00 p.m. on June 17, 2024, in the Bondurant City Center at 200 2nd Street NE, Bondurant, Polk County, Iowa, to hear public comments on the proposed adoption of the Pavement Program Management Plan. All interested parties are encouraged to attend.

SHELBY HAGAN,
CITY CLERK



City of Bondurant

Pavement Management Program

FY 2026-2035



ACKNOWLEDGEMENTS



MAYOR

Doug Elrod, Mayor

CITY COUNCIL

Bob Pepper, Council Member/ Mayor Pro Tem

Chad Driscoll, Council Member

Tara Cox, Council Member

Angela McKenzie, Council Member

Matt Sillanpaa, Council Member

ADVISORY GROUP

John Horton, Public Works Director

Maggie Murray, Planning and Community Development Director

Isaac Pezley, City Planner

John Bergeson, Public Works Operations Coordinator



HR GREEN

Larry Stevens, PE, Project Manager

Caleb Jansen, EIT, Engineer

Holly Manternach, PE, Engineer



IOWA PAVEMENT MANAGEMENT PROGRAM

Inya Nlenanya, PhD; Technical Support and Data Delivery

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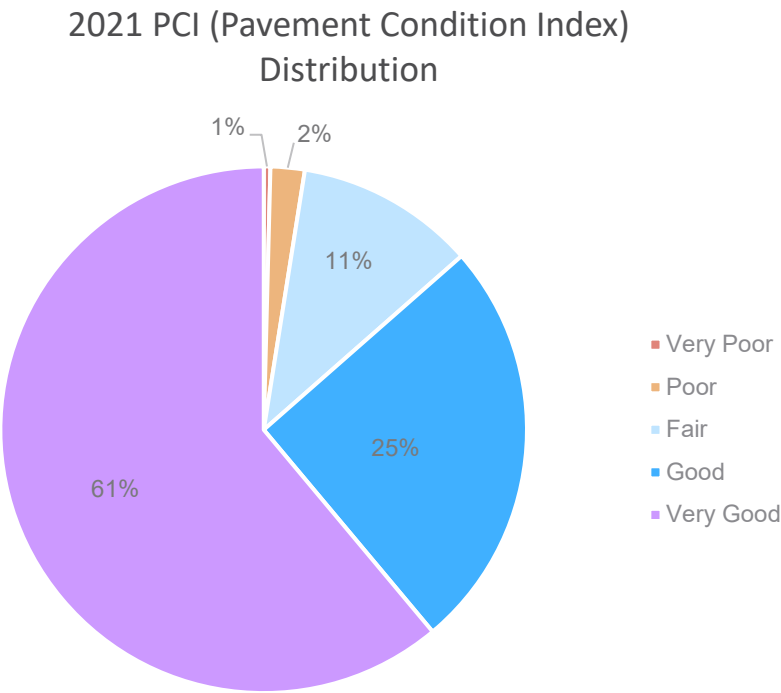


EXECUTIVE SUMMARY

The City of Bondurant is a city of approximately 8,035 residents located in Polk County, Iowa. Part of the Des Moines metropolitan area, the city currently maintains approximately 50 miles of paved roads.

The City of Bondurant has an average condition rating of **78.0**, based on estimates from the Iowa Pavement Management Program’s (IPMP) condition assessment. This score places the Bondurant pavement network slightly above average condition when compared to similar sized municipalities in Iowa. It is a desire to ensure streets are maintained efficiently and effectively that led Bondurant to contract with **HR Green, Inc.** to improve their pavement management program.

Pavement management is a *program* that carries out an important City *policy*. The policy objective is to maintain overall street conditions in an efficient manner that maximizes public benefits. This proactive approach is important for municipalities with a growing pavement network such as Bondurant.



The goals of this pavement management program are to:

- ▶ Review the City’s standards for street pavement design and construction/maintenance practices
- ▶ Develop an inventory of the City’s Street system
- ▶ Evaluate the system’s current roadway conditions using data provided by the Iowa Pavement Management Program (IPMP)
- ▶ Determine major rehabilitation and reconstruction alternatives and trigger thresholds for use in the data analysis and projections.
- ▶ Create a comprehensive pavement management model using the IPMP data and the Pavement Management Software dTIMS BA™
- ▶ Develop 15-Year rehabilitation/reconstruction analysis schedules with annualized costs for various budget and performance-based scenarios to make recommended annual budget and performance recommendations
- ▶ Develop a 10-year capital improvement plan based on the agreed upon recommendations

The City’s current pavement rehabilitation treatment alternatives and project determination process were reviewed. A set of preferred treatment alternatives and appropriate selection criteria were developed to create a toolbox of potential treatments available for the city to use.

Pavement Condition Data has been collected statewide for all public roads in Iowa since 2013. This is done through the **Iowa Pavement Management Program**, which is funded by the Iowa Department of Transportation and is operated by the Institute for Transportation at Iowa State University. The data collection consultant for the IPMP uses a specialized van outfitted with an array of sensors and drives every paved road in the state to collect information about the pavement distresses visible on the surface. Prior to 2020, this data was collected every two years, but beginning in 2020, collections were reduced to once every four years, with the option given to municipalities to opt in to every two year collections.

The most recent data collection for Bondurant was in 2021 and was very useful for assessing conditions in Bondurant and developing a comprehensive inventory in GIS. Pavement distresses were collected for each roadway segment, which was used compute a City Pavement Condition Index (CityPCI) score. This index assigns each road segment a score from 1-100 based on observed distresses.

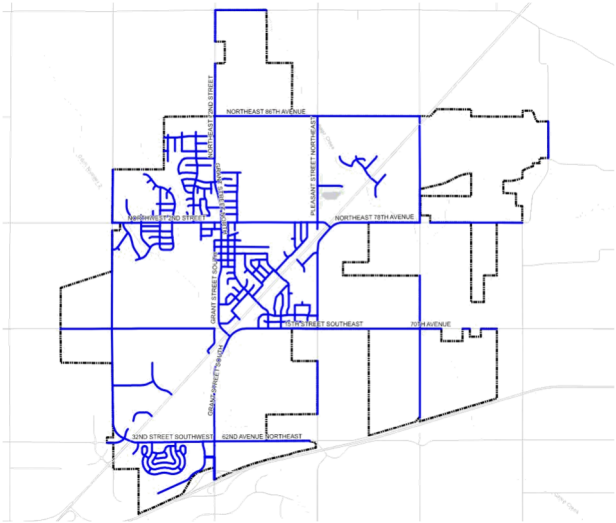
Based on the 2021 CityPCI results, Bondurant has an **average score of 78.0/100**, which places the average road at the top end of the “Good” category. For Bondurant, most of the poorer-conditioned streets appear to be concentrated to primarily local streets, as these make up the vast majority of the city’s roads.

Using the IPMP data, existing City resources, and input from City staff, a pavement management model was created using the **dTIMS Business Analytics™ software**. This model was then used to analyze various funding and performance-based scenarios for the Bondurant capital improvement program. The findings of the investigation determined the following target performance metrics:

- ▶ Maintain a Hybrid CityPCI goal of 70 for Local Streets and 75 for Collectors and Arterials.
- ▶ Clearly establish a dedicated budget for Pavement Management activities
- ▶ Steadily Increase average annual spending on roadway improvements to approximately \$1.2 million per year.
- ▶ Maintain an ideal Rehabilitation budget share of about 80%, Reconstruction budget share of around 10%, and Restoration share of at least 10%.
- ▶ Finally, the results of the scenario modeling exploration were incorporated into the pavement management model which was used to generate an objective 10-Year Capital Improvement Plan (CIP). The project list is optimized for the most effective use of available funds, based on the pavement condition data. The complete list of recommended projects and maps can be found in **the Appendix A: Capital Improvement plan on page 35**

These lists and maps will serve as a useful tool to assist City staff during the project planning process, but they do not replace engineering judgement. Project types may change from what is in the CIP, and projects will likely move between phases or leave the plan for various reasons, such as changes including field conditions not captured by the IPMP data or required utility improvements.

This document is not the end of the Pavement Management Program, however. Not only do the projects need to be constructed, but this should be considered a **“Living Document”** because it needs to shift and change with the conditions of the streets as well as the needs of its citizens. The City has the option to receive new IPMP data every 2 years, which provides a regular opportunity for renewing the pavement management model and adjusting the plan based on new information.



BACKGROUND

The City of Bondurant, located in Polk County, Iowa, maintains a roadway network consisting of just over 50 centerline miles of streets and is a part of the Des Moines metro area, the largest metropolitan area in the state.

A limited streets program budget, primarily funded through Road Use Tax funds, requires city staff and elected officials to make difficult decisions when determining annual maintenance and reconstruction expenditures. There is not a fixed annual budget for roadway improvements in Bondurant, though over the past 5 years the city has historically spent between \$200,000 and \$300,000. Other funds, in the form of grants, TIF Funds or special bonds may also be used for large construction projects on an as needed basis.

Until now, the City’s framework for determining which streets to repair has been normally governed by the professional judgement of City staff. Staff knowledge is critical to identifying projects and determining the appropriate treatments, but, at a systematic planning level, there are better techniques and powerful software tools to help optimize the process.

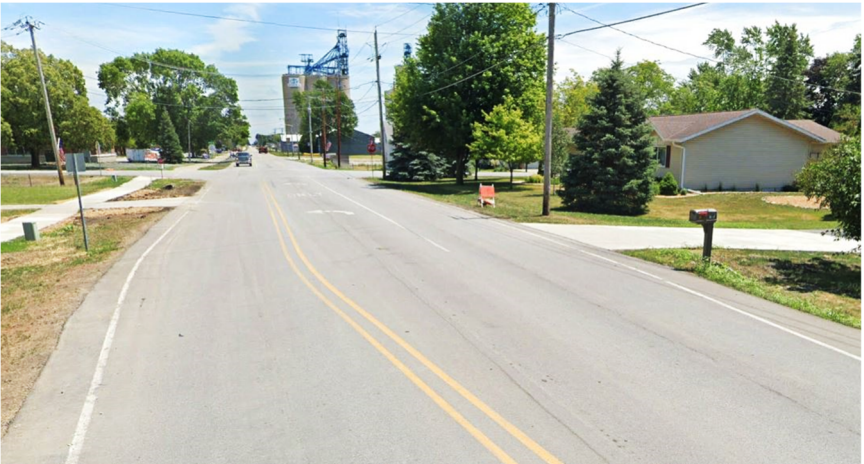


INTRODUCTION

The City contracted HR Green, Inc. (HRG) to complete a Pavement Management Plan. This project will help the City develop an objective, data driven, and sustainable approach to managing its roadway assets as well as to budget for future needs. HRG’s effort involved the following actions:

- ▶ Review the City’s standards for street pavement design and construction/maintenance practices
- ▶ Develop an inventory of the City’s street system
- ▶ Evaluate the system’s current roadway conditions using data provided by the Iowa Pavement Management Program (IPMP)
- ▶ Determine major rehabilitation and reconstruction alternatives and trigger thresholds for use in the data analysis and projections.
- ▶ Create a comprehensive pavement management model using the IPMP data and the Pavement Management Software dTIMS BA™
- ▶ Develop 15-Year rehabilitation/ reconstruction analysis schedules with annualized costs for various budget and performance-based scenarios to make recommended annual budget and performance recommendations
- ▶ Develop a 10-year capital improvement plan based on the agreed upon recommendations

Data evaluation was restricted to the previous 10 years based on the typical duration of the City’s Capital Improvement Program (CIP), as well as data availability from IPMP, which began providing statewide coverage in 2013.



WHAT IS PAVEMENT MANAGEMENT?

Pavement Management is a *program* that carries out an important City *policy*. The policy objective is to improve overall street conditions in an efficient manner that maximizes public benefits. This proactive approach is important for a municipality tasked with maintaining roadway infrastructure for approximately 8,000 residents.

Using Pavement Management methodology, HR Green developed recommendations using the right pavement treatment, at the right time, on the right road. Large amounts of pavement condition data were collected and analyzed with complex computer models (further described in **Methodology Section**) to determine the best use of funds to maintain the overall condition of the City’s road network. This report is the culmination of those efforts and includes a 10-year plan of recommended projects based on optimal annual expenditures on maintenance, rehabilitation, and reconstruction of public streets.

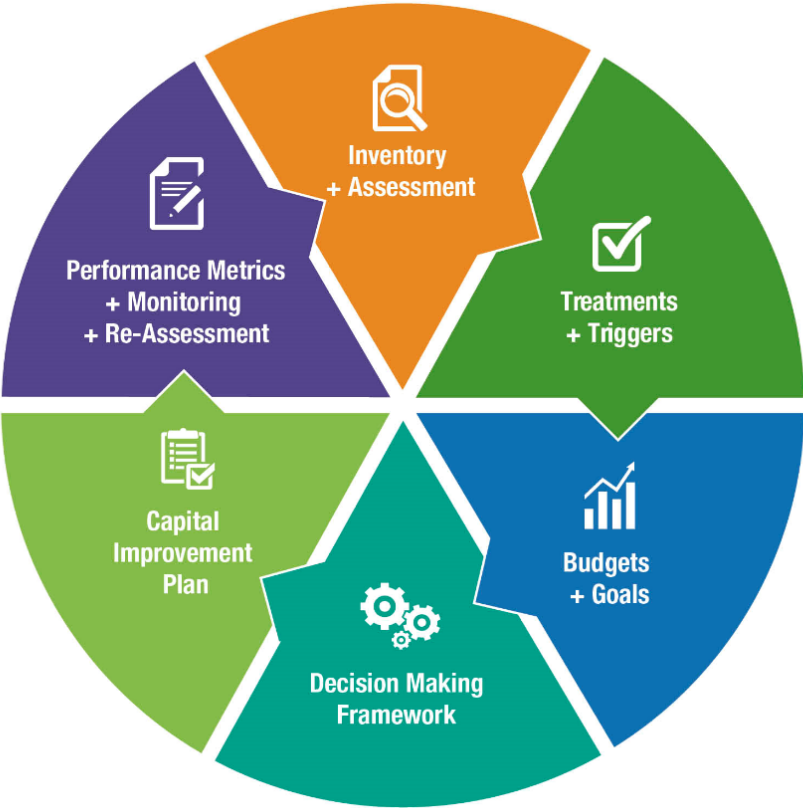


FIGURE 1: PRIMARY COMPONENTS OF PAVEMENT MANAGEMENT

The diagram above illustrates the six primary components of pavement management. Details of the components can be found in the methodology section

PAVEMENT LIFE CYCLES

Pavement management techniques are important as pavements do not decay at a constant rate over time. Time is a crucial factor in how much investment it takes to repair a road back to a serviceable condition. New pavement will not change drastically over the early years of its life; however, sharp declines can occur quickly with older pavements. Without intervention, pavements will eventually reach a failing status.

Small investments at appropriately-designated times can drastically improve and extend pavement life. Rehabilitating a pavement in “Fair” condition, for example, will usually cost less than 25% of reconstructing a failing pavement while extending pavement life significantly. As a result, it is important to invest wisely and early. This plan sets the City of Bondurant on a course towards this practice.

Before an ideally-maintained roadway network can be addressed, however, many of the worst roadways will require reconstruction or rehabilitation. Pavements within the “Poor” condition category will, in most cases, be deferred or given light maintenance with the intent of reconstructing before reaching “Very Poor” condition. This effectively saves money and squeezes the most life out of the network while still giving the opportunity to practice ideal Pavement Management elsewhere in the community.



Pavement Life-Cycle

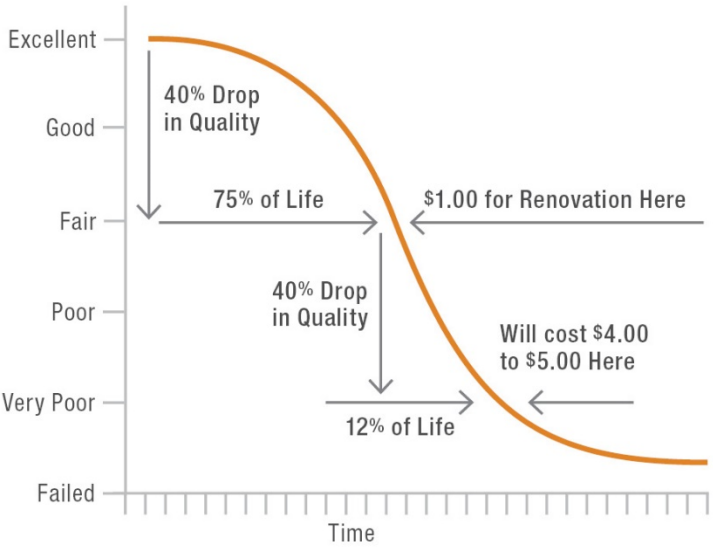


FIGURE 2:PERFORMANCE CURVE

Renovating a pavement in “Fair” condition will usually cost less than 25% of reconstructing a failing pavement.

METHODOLOGY

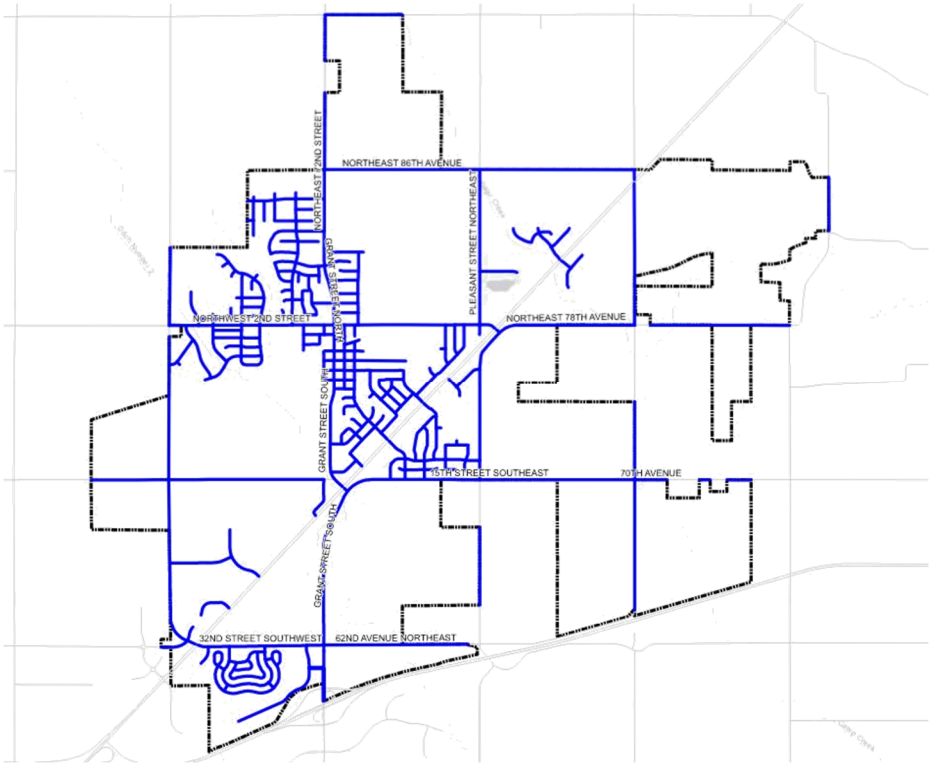
DATA COLLECTION

BASE INVENTORY

The first step in any Pavement Management Program is to develop an accurate inventory of streets. HR Green collected detailed GIS information and various historical reference material outlining its current network.

The majority of this baseline inventory data came from the Iowa DOT’s Roadway Asset Management System (RAMS). This database resource was substantially complete and offered a reasonable level of detail for creating this program.

Some spatial manipulation and data filtering was required to make better use of the base files for modelling purposes. This included eliminating or combining short segments, ensuring accurate intersection contiguity, and developing a linear reference model.



PAVEMENT DISTRESS DATA

After the inventory was established, the condition was then determined for each asset. This assists with prioritizing roadways by their current level of serviceability as well as helping estimate their respective remaining life spans.

Roadway pavement condition data were collected by an automated data collection vehicle, like the “Pathrunner” used by Pathways Services Inc., the Iowa DOT’s data vendor. This is a van outfitted with an array of sensors and cameras that automatically collect data on and around the road. The data that is collected primarily includes information on cracking, potholes, faulting, spalling, rutting, etc. Examples of specific pavement distresses can be found in the **Example Pavement Distresses Section**.

The pavement condition data was then processed and aggregated using the existing RAMS roadway segmentation for use in ESRI ArcGIS™ (a mapping and data analytics software) by the Iowa Pavement Management Program (IPMP). IPMP’s services are provided through Iowa State University’s Institute for Transportation, which is the agency currently supporting Iowa DOT’s pavement management data collection.



FIGURE 3: A “PATHRUNNER” AUTOMATED DATA COLLECTION VEHICLE (PATHWAYS)

This is one of the van’s that a previous data collection vendor used to collect pavement condition in Iowa.

The collected pavement distress data were then combined into a Pavement Condition Index (PCI) for each street. A PCI is used to help more concisely communicate a road’s pavement condition by rating it on a scale from 0 to 100, with 0 representing a failed pavement that has essentially turned completely to rubble and 100 representing an excellent pavement from a freshly paved street that is only a few days old. This plan uses the CityPCI method for calculating condition indices for urban areas in Iowa, as developed by the IPMP technical subcommittee.

Using this index as a guide, each of the roads was then placed into a condition category ranging from “Very Poor” to “Very Good.” All the data was then appended with additional information regarding traffic, functional class, number of lanes and the like, then stored within both GIS and dTIMS BA databases so that it could be analyzed in the pavement management models.

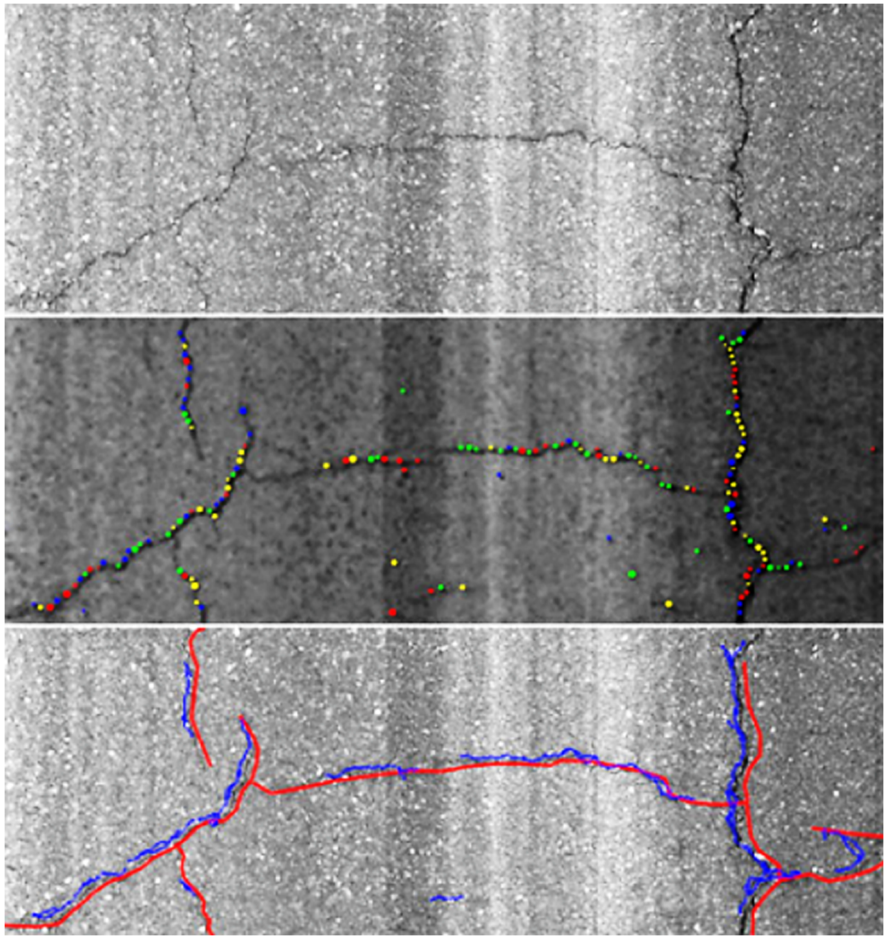


FIGURE 4: AUTOMATED CRACK ANALYSIS SOFTWARE

This picture is a screenshot of an automated crack detection software that uses elevation information and photogrammetry to identify distresses and categorize their severity

EXAMPLE PAVEMENT DISTRESSES



FIGURE 5: EXAMPLE OF ALLIGATOR CRACKING (ASTM)

This image is from the ASTM D6433 "Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys." Alligator Cracks are when pavement breaks into a "scaly" pattern typically caused by fatigue, either from repeated heavy loads, lack of sufficient subgrade support, or weakened material due to drainage issues.



FIGURE 7: EXAMPLE OF DISTORTION (ASTM)

This image is from the ASTM D6433 "Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys." Distortions are when the pavement warps its shape without much cracking. Typically caused by shifting or displaced underlying material.



FIGURE 9: EXAMPLE OF PATCHING (ASTM)

This image is from the ASTM D6433 "Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys." Patching is the result of corrective actions already taken and is indicative of underlying issues as well as a common point of failure.



FIGURE 6: EXAMPLE OF BLOCK CRACKING (ASTM)

This image is from the ASTM D6433 "Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys." Block cracks are when pavement breaks into "chunks" or "blocks" that are roughly rectangular, caused by internal stress from temperature or lack of lateral support.



FIGURE 8: EXAMPLE OF TRANSVERSE CRACK (ASTM)

This image is from the ASTM D6433 "Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys." A common distress caused by a wide variety of issues.

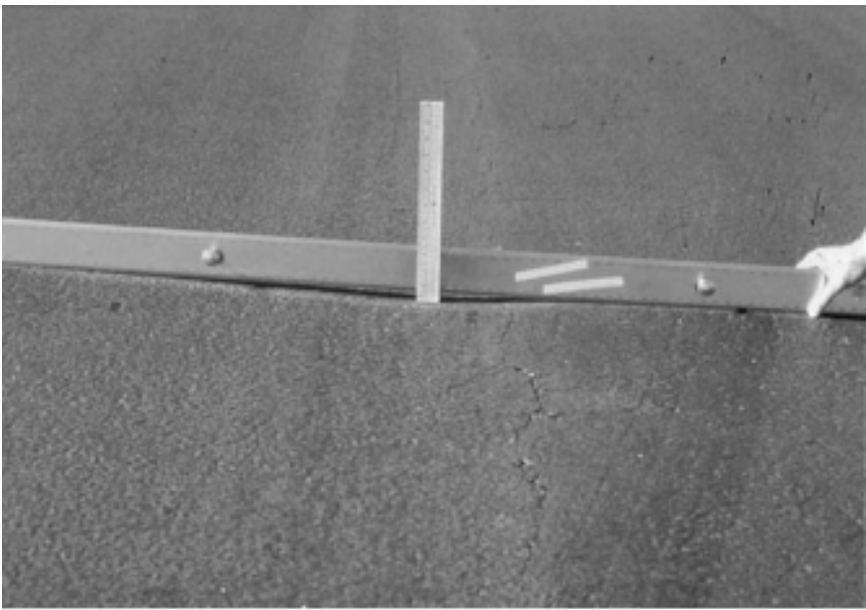


FIGURE 10: EXAMPLE OF RUTTING (ASTM)

This image is from the ASTM D6433 "Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys." Rutting is a depression along the wheel-path caused by traffic loads.

CONDITION THRESHOLDS

The Pavement Condition Index (CityPCI) used in this plan helps differentiate and prioritize between individual streets, but due to the sampling methodology used by the data collection vendor **it should not be interpreted as a 100% accurate**, infallible rating. The difference between a 52/100 rating and a 55/100 could be only a few cracks. Since the data collection vehicle typically only drives one side of the street it may occasionally miss a few distresses near the middle, or the other side could be in slightly better/worse condition. A difference of a few points one way or the other should not be interpreted as a definitive ruling on one street being better than the other. **Changes in PCI less than 10 points are, in most cases, imperceptible to the naked eye.**

Instead of using CityPCI literally, condition categories were assigned to each street based on where the value fell on the 0 to 100 scale. For example, pavements with CityPCI ratings below 20 are considered to be “Very Poor” while those above 80 would be “Very Good.” This was done to help with understanding and assessment of the ratings, as well as to allow them to be used in a practical sense

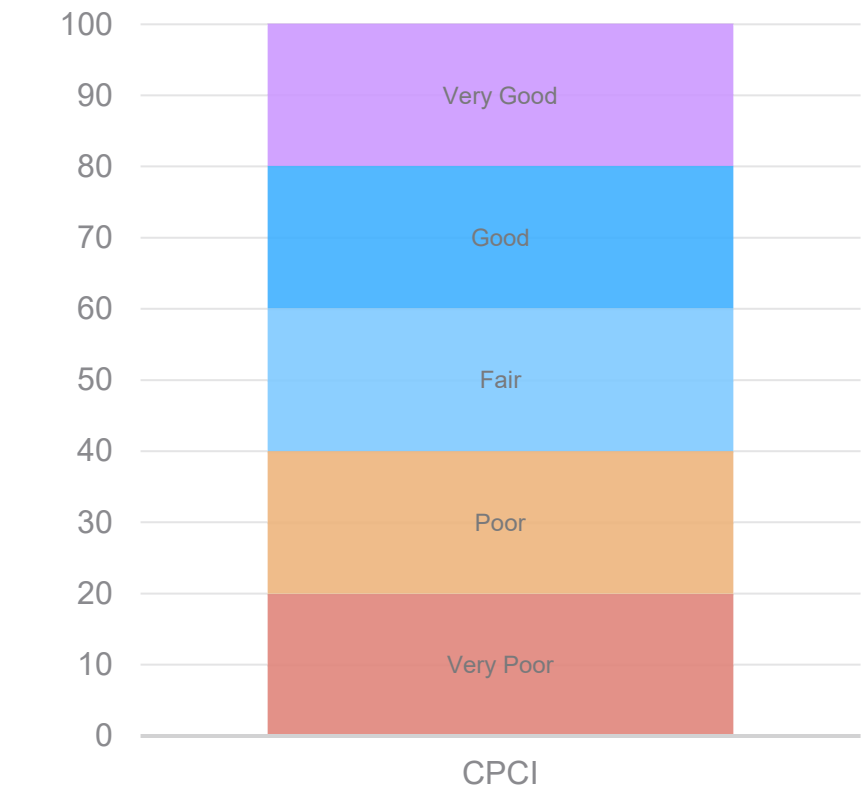


FIGURE 11: CONDITION THRESHOLDS
This chart shows the proposed relationship between CityPCI, and the condition categories used in this plan.



FIGURE 12: EXAMPLE OF “VERY GOOD” CONDITION (PCC) – ALEXANDER DR.
This picture of Alexander Drive was rated a very high PCI of 90 /100 because it demonstrates no visible pavement distresses.



FIGURE 13: EXAMPLE OF “VERY GOOD” CONDITION (PCC) – EVERGREEN DR.
This image of Evergreen Dr shows an example of a “Very Good” PCC pavement, and it was rated as a perfect 100/100.

A score of 80/100 or greater is considered “Very Good.” Roads with pavement in “Very Good” condition exhibit very few surface distresses, if any, and those that are apparent will be very low in severity. Most often, these pavements will be relatively new. The average age of “Very Good” pavements in Bondurant is likely less than 15 years, meaning they were either recently constructed or rehabilitated with an overlay in the past few years. As such, it is not feasible to expect every street in a city to be “Very Good” because it would be prohibitively expensive to resurface every street in only 15 years’ time.

Pavements with CityPCI scores between 61 and 80 are considered to be in “Good” condition. The distresses on these streets are more noticeable but do not cause much concern because they are minor and infrequent. Most drivers will not even notice the few cracks and distortions. Regular maintenance activities like crack sealing can help prevent the spread of these deficiencies and preserve these pavements for quite some time for low costs. The average Bondurant streets would be classified in this category.



FIGURE 14: EXAMPLE OF “GOOD” CONDITION (HMA) – 2ND STREET SE
This picture of 2nd St between Blaine St and Deer Ridge Dr was rated as 66/100, which would be considered Good for an HMA pavement. Small transverse cracking and rutting is noticeable on this pavement.



FIGURE 15: EXAMPLE OF “GOOD” CONDITION (PCC) – 5TH STREET SE
This image shows an example of a PCC pavement in “Good” condition. 5th St SE was rated as 73/100, because some roughness and minor cracking.

“Fair” streets (CityPCI 41-60) have quite noticeable distresses. Either many low severity distresses, or a few high severity distresses. These will still not impact drivers very much, however.



FIGURE 16: EXAMPLE OF “FAIR” CONDITION (PCC) –ALPHA STREET
This image of Alphas St is an example of PCC pavement in “Fair” condition, with a PCI of 59/100. There are very noticeable distresses but only on a handful of panels.



FIGURE 17: EXAMPLE OF “FAIR” CONDITION (ACC) – 2ND STREET
 This picture of 2nd St near Snyder St is an example of an ACC pavement that was rated as 45/100 which would be considered “Fair.” It has some transverse and alligator cracking.

At this point in a pavement’s life, it is about 75% of the way through its expected serviceability. It will begin deteriorating much more quickly and fall into “Poor” (21-40) or “Very Poor” (1-20) in only a few years, if neglected. However, because the distresses on “Fair” streets are still minor, this is often the ideal time to Rehabilitate them affordably. On the other hand, pavements that deteriorate further, into the “Poor” and “Very Poor” categories, will likely require Reconstruction, which is very costly.



FIGURE 18: EXAMPLE OF “POOR” CONDITION (PCC) – 4TH STREET NE
 This image shows a PCC street whose pavement is rated as 33/100. 4th St is considered to be in “Poor” condition due to rideability issues caused by settlement and cracking.



FIGURE 19: EXAMPLE OF “POOR” CONDITION (PCC) – 11TH STREET SE
 This image shows a PCC street whose pavement is rated 25/100 and considered “Poor” due to a large number of failures and cracking.



FIGURE 20: EXAMPLE OF “VERY POOR” CONDITION (PCC) – BRICK STREET SE
 This image is an example of a PCC pavement in “Very Poor” condition. Brick Street SE is considered one of the worst condition roads in the system due to widespread joint failure and many cracked panels.



FIGURE 21: ROADWAY IMAGERY OF A “FAIR” ACC PAVEMENT
 THIS IMAGERY IS FROM THE SECTION OF 2ND STREET SHOWN. THESE WERE CAPTURED BY THE DATA COLLECTION VEHICLE’S DOWNWARD FACING CAMERA (LEFT) AND LIDAR ARRAY (RIGHT). THESE ARE ONE OF THE KEY RESOURCES USED IN EVALUATING PAVEMENT CONDITION.



FIGURE 22: EXAMPLE OF “VERY POOR” CONDITION (PCC) – 10TH STREET SE
 This image shows a PCC street whose pavement is rated as 11/100 and considered to be in “Very Poor” condition. 10th St east of Lincoln Ct has point failures and significant cracking.

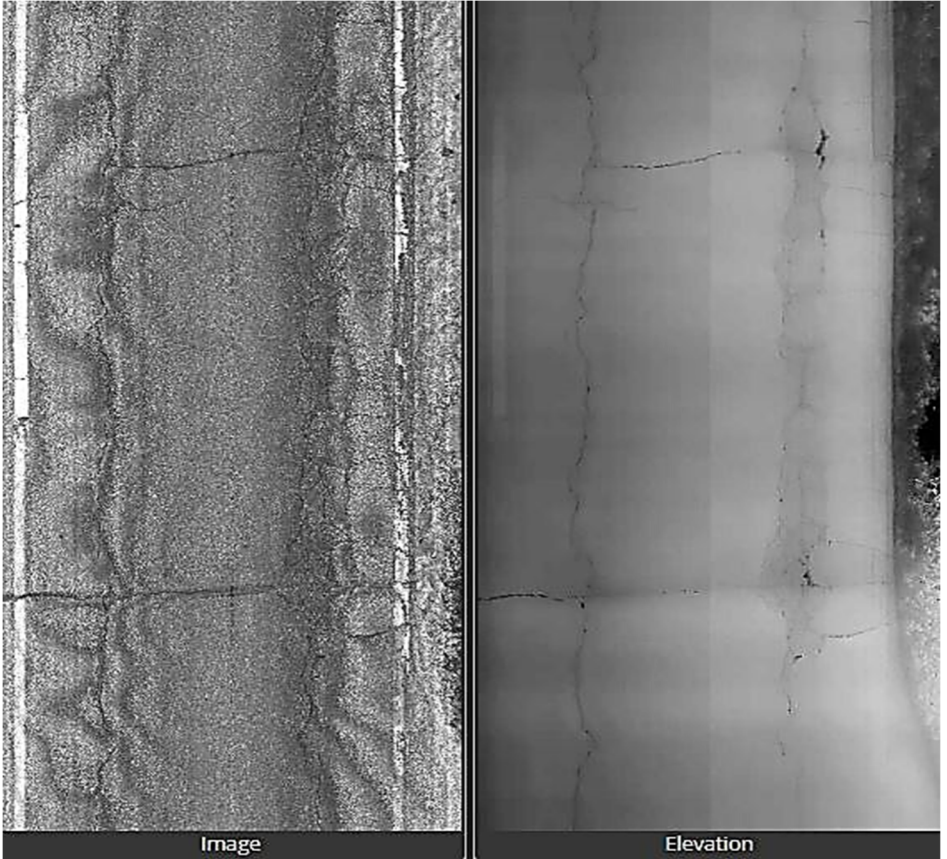


FIGURE 23: ROADWAY IMAGERY OF A “FAIR” ACC PAVEMENT
 This imagery is from the section of 2nd Street. These were captured by the data collection vehicle’s downward facing camera (left) and LIDAR array (right). These are one of the key resources used in evaluating pavement condition

DTIMS BUSINESS ANALYTICS (PMS)

A Pavement Management Software (PMS) is a decision-making tool that assists a city in making cost-effective decisions related to the maintenance and rehabilitation of roadway pavements. It provides a process or system for rating pavement condition, establishing a consistent maintenance and repair schedule, and evaluating the effectiveness of maintenance treatment strategies.

The PMS used by the City of Bondurant is called “Deighton Total Infrastructure Management System: Business Analytics” or dTIMS BA. This software was developed by Deighton Limited as an asset management software capable of storing all sorts of physical infrastructure assets and specializes in how it uses heuristic algorithms to optimize spending patterns. For the purpose of this analysis, dTIMS BA utilized the Federal classification of pavement for consistency.



Each road is separated into pavement management sections, typically broken up by city block or by other physical features like bridges and railroads. Segments are associated to the road, as a whole, using a “Linear Reference System” where each segment would appear in sequence based on its distance from the start of the road. The pavement distress data, including the CityPCI ratings, are then imported into the web-based software and were used to develop a customized pavement management model for the City of Bondurant

The dTIMS BA model is a collection of the raw distress data, equations, variables, and rules for treatment applications as well as their effects. Some of the most important equations used are the performance curves which dictate the behavior of pavements over time.

PERFORMANCE CURVES

Different types of pavements behave differently, and different classes of road have different stressors. To accommodate these factors, a pavement life cycle curve was developed for asphalt and concrete pavement types. separated further by the type of road, either Arterial, Collector, or Local/Residential.

These curves were calibrated to follow the general assumption that a pavement reaches “Fair” condition at 75% of its design life and “Very Poor” condition at the end of its design life. These curves do not

necessarily represent the traditional design life-cycle curve; instead, they address the performance of the pavement and how much longer we can realistically expect it to last without having to determine the structural characteristics and history for every street in the City.

Each pavement management section has an effective “performance age” that determines its behavior. This performance age is determined based on previous data collections. Using that data, a rate of deterioration can be determined for each street individually and then fit to the appropriate family curve. The CityPCI rating is then projected along the curve and tested to see if various treatments would be appropriate at each point along the individual performance curve.

Other curves were similarly created for specific distresses, such as Alligator Cracking, Spalling/D-Cracking, and Rutting. These distresses progress in predictable ways and occasionally preclude certain types of treatments from being applied. For example, a street with severe rutting (> 0.5”) would not be a good candidate for a slurry seal or thin overlay. Conversely, if these distresses progress past a certain allowable threshold, more expensive treatments, like reconstruction, will be selected as the only reasonable option even if the CityPCI would not necessarily indicate that on its own.

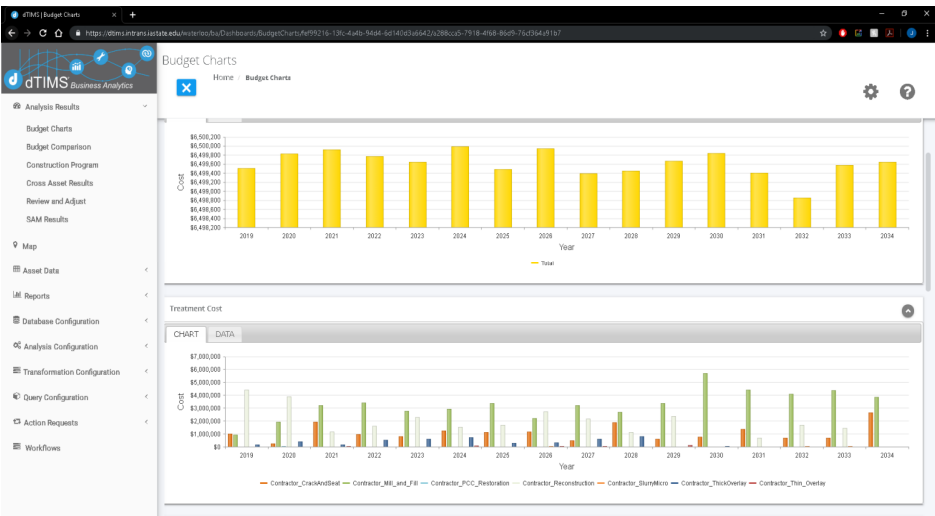


FIGURE 24: DTIMS BA INTERFACE

The dTIMS BA software is accessed through normal computer browsers and operates over cloud-based technology. Calculations are performed on remote servers, meaning any computer can use it, regardless of hardware capabilities!

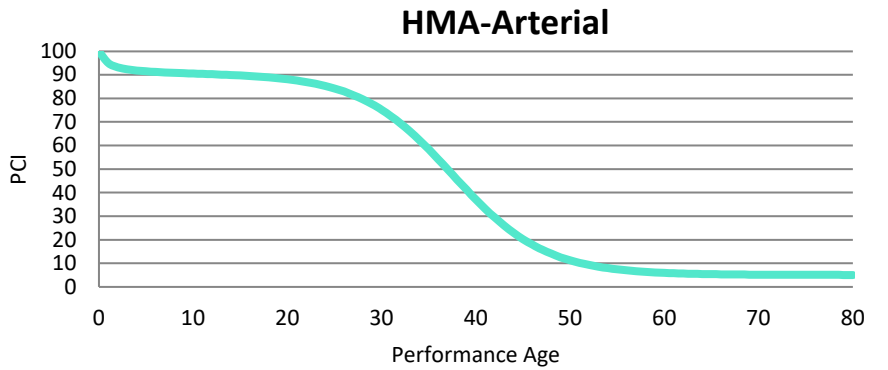
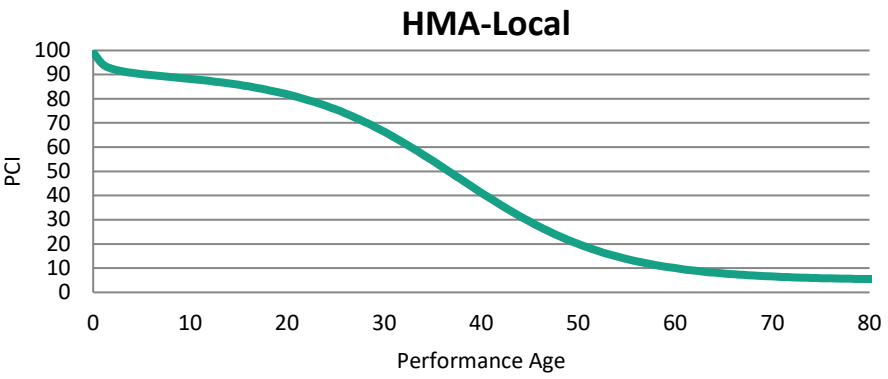
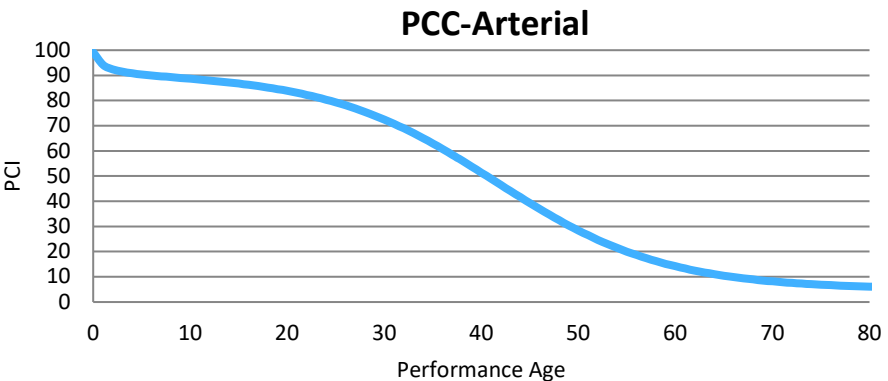
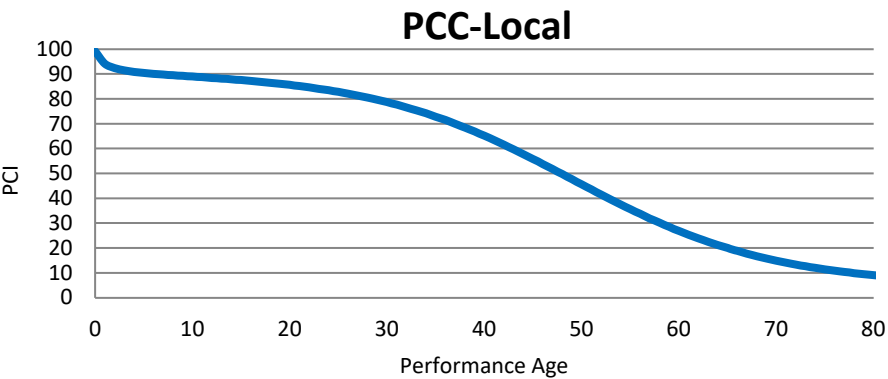


FIGURE 25: PAVEMENT PERFORMANCE CURVES
These 4 curves are the pavement performance curves utilized in the Bondurant dTIMS BA model.

TREATMENT ALTERNATIVES

“The success of a pavement-preservation program is based on selecting the right treatment for the right pavement at the right time” (FHWA).

A single pavement treatment, when properly applied, can extend the life of a roadway by as much 15 years. Before a decision on when and where a treatment can be applied, an agency must know what treatments it will consider. Dozens of potential products and techniques are available; however, not all treatment options are feasible, affordable, or effective. Climate, cost, and capability considerations must be made ahead of time.

The group of treatments available for a given municipality can be thought of as a “toolbox” filled with options appropriate for the tasks they would expect to encounter. The toolbox recommended for the City of Bondurant consists of three primary types of treatments often referred to as the 3 R’s of Pavement Management: **Reconstruction, Rehabilitation, and Restoration.**

Every pavement will eventually deteriorate to a point that it cannot effectively be repaired in an economical fashion, leaving reconstruction as the only viable option. Reconstructing a road from the base up is always an appropriate and effective treatment, but it is also typically the most expensive solution. As such, rehabilitation fills an important role in a pavement’s life-cycle.

Rehabilitation treatments usually cost significantly less than full reconstruction and can extend a pavement’s life substantially. Rehabilitation treatments in this section are split into major and minor variations. The former provides structural improvements to help a deteriorated pavement recover, whereas the latter provide relatively smaller improvements and are typically more preventative in nature.

Restoration treatments, sometimes referred to as “preservation” or “maintenance”, are those applied regularly to prevent issues from developing or to prevent existing problems from spreading.

Construction standards and specifications for the following treatment alternatives should follow the Iowa **Statewide Urban Design and Specification (SUDAS)** manual, where applicable. These research-backed approaches to construction and pavement management techniques will extend pavement life beyond traditional methods. Often costing more, the increased performance life still makes it the cost-efficient and sustainable approach, long-term.

RECONSTRUCTION

Reconstruction of pavements is often the only way to save a deteriorated roadway. Unfortunately, these needs usually outstrip available funding. This treatment type should be reserved for pavements that cannot be salvaged through rehabilitation or on high-profile corridors where safety and capacity needs are paramount.

When reconstructing a pavement, the City can use any material they wish. Most commonly for Bondurant, Full-depth PCC is used. However, full-depth HMA may be considered when design constraints warrant. To provide for this option the City may want to consider using “bid-alternates,” where contractors can bid based on the equivalent design of their choice.



FIGURE 26: RECONSTRUCTION OF I-94 (NDDOT)

This photo shows the Construction of a brand-new asphalt cement concrete pavement



FIGURE 27: RECONSTRUCTION OF DIVISION STREET

This photo shows a road during a PCC reconstruction project located in Swisher, IA.

MAJOR REHABILITATION

- Thick Overlay
- Mill and Overlay
- Overlay with Crack and Seat
- Major PCC Restoration

There are few substitutes for adding new concrete on top of old to help keep it functioning and healthy. HMA is the most commonly applied material (black-topping), but PCC (white-topping) is gaining acceptance in Iowa and is being applied in many locations as appropriate. HR Green recommends the use of HMA by default but also encourages the exploration of white-topping as a secondary option, where conditions allow and costs are comparable.

Major rehabilitations suggested herein are all variants of overlays where moderately-thick layers of HMA are placed upon existing pavements, sometimes with special preparations. **“Thick Overlays”** requiring a minimum of 3 inches of HMA is preferable for each treatment as any less will not provide significant structural benefit. However, amounts greater than 3 inches can become costly and sometimes may cause logistical difficulties. Overly thick HMA overlays can affect side street elevations, drainage patterns, driveways, and fill up curbs leaving little remaining to control storm water and delineate the edge of the roadway. A thick overlay is the most common rehab used in most agencies and, for the purposes of this report, is recommended to be placed near the end of a pavement’s life.



FIGURE 28: HMA OVERLAY PLACED ON MILLED PAVEMENT (FAMARTIN)

This is a picture of an asphalt overlay placed on I-80 after part of the original pavement was milled off.

For full-depth HMA pavement, or one overlaid previously, milling off 2-3 inches of the top can provide significant benefits. It can help smooth the underlying pavement for the final surface, remove harmful defects, help create a more stable bond between pavements, and prevent the overlay from causing the referenced logistical difficulties with side streets, drainage, driveways, and curbs. **“Mill and Overlay”** treatments are a very useful tool that can help extend the life of a pavement. This is a common treatment for streets in Bondurant and will be play an important role in pavement rehabilitation moving forward.

Another major rehab treatment to consider on fairly stable and older PCC roads is called an **“Overlay with Crack and Seat.”** This treatment uses the existing PCC roadway as a suitable base for what is effectively a new HMA pavement on top of it. The existing PCC is cracked using a drop-hammer apparatus, or other devices, to create a flexible base of concrete before placing 3 or more inches of HMA on top of it. This process may require the reconstruction of curbs if the depth of asphalt to be placed would be problematic; however, a milled edge notch may be utilized in some cases to eliminate the need for curb replacement. The new crack and seat pavement is typically a long-lived rehabilitation treatment as it is effectively a new road altogether.



FIGURE 29: PCC RESTORATION (CITY OF CEDAR RAPIDS)
This is a picture of a city maintenance crew in Cedar Rapids performing a panel replacement as part of a larger concrete restoration project.

The final major rehabilitation treatment recommended is **Major PCC Restoration**. This treatment is a holistic repair to a PCC pavement street, including any or all of the following actions: panel replacement, profiling, repairing utility cuts, full depth patching, and joint repair. PCC Restoration is more than simply pavement patching, it is strategic repair to existing deficiencies and can help save an otherwise stable road. A typical application removes and replaces around 20% of the existing pavement, to address specific localized issues. This type of repair could be performed by either city forces or outside contractors.

MINOR REHABILITATION

- Thin Overlay
- Minor PCC Restoration

Minor Rehabilitations fill a different role than Major Rehabilitations. They usually are placed to prevent moisture and seasonal weather effects like rain and heat from causing too much damage. These treatments typically provide a new “wearing surface” for vehicles to drive on instead of repairing the underlying pavement.

Thin Overlays are essentially the same treatment as a Thick Overlay; except they are 1-2 inches of HMA, instead of 3+ inches used for Thick Overlays. 1 ½ inches is the recommended thickness for Thin Overlay because, if it was thinner, it may be susceptible to cracking or rutting very quickly due to vehicle loads. Thin Overlays are also not appropriate on roadways with significant deformities (such as severe rutting) or structural distresses (such as severe alligator cracking or warping). It is also common to see the use of recycled asphalt and rubber materials in Thin Overlays which can reduce costs and possibly increase durability.

The other minor rehabilitation treatment recommended is **Minor PCC Restoration**. This treatment is essentially the same as Major PCC Restoration, which includes actions such as panel replacement, full depth patching, and joint repair. However, minor PCC Restoration only replaces around 10% of the existing pavement, which means it should only be used on PCC streets with limited distresses. This makes it a cheaper alternative to Major PCC restoration.



FIGURE 30: CRACK SEALING PERFORMED W/ ROUTING (USAF/KENNA JACKSON)
This is an example of crack sealing being performed with special preparation in the form of using a router to clean up the crack profile, as being performed by 35th Civil Engineer Squadron.

PRESERVATION

- Crack Sealing
- Diamond Grinding
- Microsurfacing
- Pavement Patching

Restoration treatments use simple techniques to seal defects from moisture infiltration and prevent them from spreading. Some of these treatments can also give streets a new wearing surface but provide no structural changes to the pavement. **Crack Sealing**, for example, is a standard maintenance practice, recommended to be performed by city forces every 3-5 years on a road. This treatment plays an important role in extending the life of pavements in good condition by preventing damage that could be caused by water over time.

Crack Sealing in a timely manner, and on a regular basis, is the most important tool in any pavement management program because will keep a pavement in good or fair condition much longer than it would without attention.

Diamond Grinding is not a commonly applicable treatment, but due to its low cost should be considered when the conditions are appropriate. Diamond Grinding is best used when a weathered pavement is beginning to show signs of aggregate polishing to add texture back to it for cars, or when settling or warping caused minor faulting. Diamond Grinding can smooth those faults and leave an otherwise stable pavement intact with its ride significantly improved. It would not, however, be appropriate for pavements with substantial cracking or signs of structural deficiencies such as severe alligator cracking, spalling, or D-cracking.



FIGURE 31: PAVEMENT AFTER DIAMOND GRINDING (JOHN ROBERTS).
This picture shows the texture of PCC pavement after diamond grinding was used on it. The image was taken on a project near Chicago, Illinois.

Microsurfacing consists of a thin application like a slurry seal but uses a polymerized binder with finer aggregate. It can smooth over minor deformities while still adding a small amount of structural durability. It also creates a seal against water and wear. It is a versatile and relatively cheap treatment that can address a wide variety of distresses. A relatively new technique, it is not very common in the state of Iowa, yet. However, a few other larger municipalities in Iowa such as the City of Des Moines has recently invested heavily into this treatment method and begun incorporating it into their regular pavement management practices.



FIGURE 32: MICROSURFACING CREW AT WORK. (ERIC PULLEY).
This picture shows a crew using a Microsurfacing machine to lay a new surface on this street.

Pavement Patching is different from some of the other preservation treatments in that it is typically done by city forces after a pavement distress has already deteriorated to the point of becoming a more substantial issue. Patching is typically done with HMA, sometimes with partial removal of the area around the defect or distress. Patching is not intended to serve as a long-term fix, but serves mostly as a way to maintain service, and act as a stopgap until a more appropriate rehabilitation treatment can be applied.



FIGURE 33: HMA PATCHING WITH LOCALIZED PAVEMENT REMOVAL (KOMU)
This is an example of an asphalt patch applied with appropriate localized removals and some base repair.

PREFERRED TREATMENT ALTERNATIVES

TABLE 1: PRIMARY CAPABILITIES & FUNCTIONS OF HMA PAVEMENT PRESERVATION TREATMENTS

Source: Adapted from Johnson, Best Practices Handbook on Asphalt Pavement Maintenance, 2000.

Treatment	Reasons for Use						
	Friction	Raveling	Rutting	Potholes	Cracking		
					Low	Med	High
Crack Treatments							
Crack Repair with Sealing							
Clean and Seal					X	X	
Saw and Seal							
Rout and Seal					X	X	
Crack Filling						X	X
Full Depth Crack Repair							X
Surface Treatments							
Fog Seal		X					
Seal Coat	X	X					
Double Chip Seal	X	X					
Slurry Seal	X	X					
Microsurfacing	X	X	X				
Thin Overlay		X	X				
Pothole and Patching Repair							
Cold Mix Asphalt				X			
Spray Injection Patching				X			
Hot Mix Asphalt				X			X
Patching with Slurring or Microsurfacing Material				X			X

TABLE 2: GENERAL EXPECTED PERFORMANCE OF MAINTENANCE TREATMENTS

Source: Adapted from Iowa Statewide Urban Design and Specification guide.

Treatment	Expected Performance (Treatment Life), Years
PCC	
Crack Sealing	4 to 8
Joint Resealing	4 to 8
Partial Depth Patches	5 to 15
Full Depth Patches	10 to 15
Diamond Grinding	5 to 15
Pavement Undersealing/Stabilization	5 to 10
HMA	
Crack Filling	2 to 4
Crack Sealing	2 to 8
Pothole Patching	1 to 3
Full/Partial Depth Patches	3 to 15
Fog Seals	1 to 3
Slurry Seals	3 to 6
Microsurfacing	4 to 7
Bituminous Seal Coats	4 to 6
Double Chip Seal	7 to 10
Thin Overlays	7 to 10

All the treatments in this section may be considered for projects in Bondurant, although some are more preferred than others. The recommended CIP will not differentiate between types of projects within the same treatment category, as the actual treatment selection should be performed on a project-by-project basis and reviewed by a Professional Engineer. **Table 1** provides some simple guidance on which types of treatments are appropriate based on the distresses that a pavement presents and **Table 2** helps compare the effectiveness of each treatment over time.

The treatments used in the dTIMS model represent those expected to be the most common given certain conditions. These “preferred treatments” will likely comprise the majority of pavement preservation work performed in Bondurant. This list, however, is merely a tool to aid in budgeting and planning and not a prescriptive result. Rather, the results from dTIMS are categorical recommendations based on severity and types of surface distresses. These recommendations will then need to be individually assessed for appropriateness against similar treatment alternatives before it is designed and constructed.

ESTIMATED TREATMENT COSTS

One of the critical components in any financial planning endeavor is accurately predicting costs that will be incurred. In this case, the primary costs of concern are the design, construction, and ancillary costs associated with executing a roadway improvement project. Bondurant has historical information about its expenditures on roadway projects throughout the years showing significant increases in project costs. Future growth was accounted for via a 2.1% inflation^{1,2} factor applied to all project costs in dTIMS BA.

Treatment types were assigned planning-level costs by analyzing local cost information and tabulations of contractor bids for past projects, which were supplied by the City and from additional sources. Assumptions were made regarding mobilization rates, design fees, traffic control, and other ancillary costs based on percentages of the overall costs. Since the costs used in this report are planning-level, it is recommended that each project be reviewed during the annual capital improvement budgeting process. The City may elect to move projects around into different years or change the treatment type.

For most practical purposes, treatments within the same category are interchangeable because they will likely be appropriate for a project of a certain condition category. Regardless, the actual treatment applied should be based on comprehensive review and engineering judgement. When selecting the specific treatment to use on a given roadway segment, it may be useful to perform Life-Cycle Cost Analysis to evaluate the various treatment alternatives within the same category against each other, or even when considering leaving it to be reconstructed at a later time.

TREATMENT SELECTION CRITERIA

With the treatment alternatives selected for the toolbox, the criteria for selecting one treatment over another needed to be determined. Cost and funding availability are regularly the deciding factors for local agencies, getting the most benefit for the least amount of investment possible. Therefore, cost estimates for each treatment were developed using bid tabulations and project histories from various cities’ pavement management programs.

The other main factors in treatment selection are condition and distresses. The overall condition of a pavement should determine when it needs work and what type of work.

The types of distresses should then be considered when evaluating equivalent treatments based on appropriateness. **Table 3** includes a full overview of the treatment toolbox with descriptions, cost estimates, triggers, and the expected effects of each individual treatment alternative. This information is what will be used in the dTIMS BA scenario modelling process, to be performed as part of the Bondurant Pavement Management Program.

TABLE 3: TREATMENT ALTERNATIVE DETAILS

Category	Treatment	Description	Cost	Trigger
Reconstruction	Reconstruction	The complete reconstruction of a roadway and all associated improvements. This assumes new HMA pavement, but full-depth PCC or COM may be considered based on relevant design criteria.	\$230/sy	PCI =Poor OR Very Poor
Major Rehabilitation	Crack and Seat Overlay	Asphalt Overlay, of at least 3 inches thick, with preparation including breaking up existing pavement and setting it up as a good structural base for the new asphalt surface. Effectively creates a new pavement.	\$60/sy	PCI =Poor, Surface = PCC, Low D Crack
	Mill and Overlay	1.5 to 3 inches of asphalt pavement is milled off and then replaced with 3 inches of asphalt. Repairs surface issues and improves structural character.	\$54/sy	PCI =Poor, Surface = HMA, IRI > 250, Moderate Alligator Cracking
	Thick Overlay with Interlayer	Asphalt Interlayer is an asphalt mix design growing in usage. This highly flexible, polymer modified asphalt can be used to add strength to traditional overlays. The usage of interlayer in thick overlays can further extend the life of a traditional thick overlay. (\$150/tn)	\$54/sy	PCI =Poor, Low D Crack, Low Spalling, Moderate Alligator Cracking, Moderate Patching
	Thick Overlay	Sometimes called a “Structural Overlay.” 3 inches of Asphalt that adds enough thickness to increase the durability of the roadway and provides a new wearing surface. Can be done with asphalt or PCC (black-topping/white topping) May require replacing curb and gutter.	\$47/sy	PCI =Poor, Low D Crack, Low Spalling, Moderate Alligator Cracking, Moderate Patching
	Major PCC Restoration	Portions of the street in bad repair are torn out and replaced (approximately 20% of a street). This may include patching, full panel replacement, and full depth repairs at joints. Slightly improves overall condition and helps extend life by addressing problem areas before they spread	\$45/sy	PCI = Fair, Surface=PCC
Minor Rehabilitation	Thin Overlay	A “non-structural overlay.” Laid on top of existing pavement; typically, 1-2 inches of asphalt. Improves smoothness and extends the life of roads in good to fair condition.	\$35/sy	PCI =Poor or Fair, Low D Crack, Low Spalling, Low Alligator Cracking, Low Patching, Low Rutting
	Minor PCC Restoration	Portions of the street in bad repair are torn out and replaced (approximately 10% of a street). This may include patching, full panel replacement, and full depth repairs at joints. Slightly improves overall condition and helps extend life by addressing problem areas before they spread	\$25/sy	PCI = Good, Surface=PCC
Restoration/ Preservation	Crack Sealing	Sealant on cracks and joints is used to prevent spreading and moisture from getting into the pavement structure. Deteriorated cracks may be routed or sawed out to provide better seal and bond.	\$12,000/ Mile/Lane	Applied every time Last Work Done counter reaches a multiple of 4 years
	Diamond Grinding	Top ¼ inch to a ½ inch of PCC pavement is ground off and textured. This is only done on rough pavements with good structure to improve ride smoothness and increase vehicle traction for safety purposes.	\$10/sy	PCI=Good, IRI>250, Low D Crack, Low Spalling, Low Alligator Cracking, Low Patching, Low Rutting
	Microsurfacing	Thin asphalt polymer that seals the pavement from weather effects and corrects for minor irregularities. Typically used as a preventative measure, rather than a corrective one.	\$10/sy	PCI = Fair or Good, Low D Crack, Low Alligator Cracking, Low Patching, Moderate Rutting
	Pavement Patching	Asphalt placed at spot locations. Used only on good pavements with minor failures, or as a stopgap on poor pavements until a better, more permanent, solution is applied.	\$5/sy	No trigger assigned

¹ Office of Management and Budget. (December 2022). Advisory Circular A-94. DISCOUNT RATES FOR COST-EFFECTIVENESS, LEASE PURCHASE, AND RELATED ANALYSES Appendix C

² Mack, J. W. Accounting for Inflation in Life Cycle Cost Analysis for Pavement Type Selection. Transportation Research Board, Vol. 12, No. 2686, 2011.

The treatment costs listed in **Table 3** are considered “all-in” numbers. These costs represent not only the materials to perform the construction of the project but all the expected costs that would be associated with the given treatment type. For example, the Reconstruction treatment includes costs related to storm sewer as that will be needed as part of the new pavement system. **Table 4** through **Table 15** provide example calculations for each of the treatment types. Note that these are **planning-level costs** only, however. While based on engineering judgement and historical bid tabulations, they are not a replacement for an engineering opinion of probable cost.

TABLE 4: RECONSTRUCTION COST CALCULATION

Reconstruction (\$/SY)	
Excavation	\$ 18.00
Subgrade	\$ 3.00
Subbase	\$ 14.00
Subdrain	\$ 6.00
Storm Sewer*	\$ 30.00
Pavement Removal	\$ 9.00
Pavement (PCC)	\$ 76.00
Driveways/Sidewalks	\$ 17.00
Seeding/Paint Markings, etc.	\$ 8.00
Mobilization, Traffic Control, Survey (15%)	\$ 29.00
Contingency (10%)	\$ 20.00
Total (Rounded Up)	\$ 230.00

TABLE 5: CRACK AND SEAT COST CALCULATION

Crack and Seat w/ Overlay (\$/SY)	
Crack and Seat	\$ 5.00
Milling	\$ 2.00
3" HMA Overlay @ \$120/Ton	\$ 20.00
Tack and Patch @ \$250/Ton	\$ 5.00
Curb and Gutter/Patching	\$ 7.00
Driveways/Sidewalks	\$ 6.00
Mobilization, Traffic Control, Survey (15%)	\$ 8.00
Contingency (10%)	\$ 7.00
Total (Rounded Up)	\$ 60.00

TABLE 6: MILL AND OVERLAY COST CALCULATION

Mill and Overlay (\$/SY)	
3" HMA Overlay @ \$120/Ton	\$ 20.00
Tack and Patch @ \$250/Ton	\$ 3.00
Milling	\$ 3.00
Curb and Gutter/Patching	\$ 7.00
Driveways/Sidewalks	\$ 6.00
Mobilization, Traffic control, survey (15%)	\$ 8.00
Contingency (10%)	\$ 7.00
Total (Rounded Up)	\$ 54.00

TABLE 7: THICK OVERLAY WITH INTERLAYER COST CALCULATION

Thick (3 In.) Overlay with Interlayer (\$/SY)	
3" HMA Overlay @ \$120/Ton	\$ 20.00
HMA Interlayer	\$ 7.00
Tack and Patch @ \$250/Ton	\$ 3.00
Curb and Gutter/PCC Patching	\$ 7.00
Driveways/Sidewalks	\$ 6.00
Mobilization, Traffic control, survey (15%)	\$ 6.00
Contingency (10%)	\$ 5.00
Total (Rounded Up)	\$ 54.00

TABLE 8: THICK OVERLAY COST CALCULATION

Thick (3 In.) Overlay (\$/SY)	
3" HMA Overlay @ \$120/Ton	\$ 20.00
Tack and Patch @ \$250/Ton	\$ 3.00
Curb and Gutter/PCC Patching	\$ 7.00
Driveways/Sidewalks	\$ 6.00
Mobilization, Traffic control, survey (15%)	\$ 6.00
Contingency (10%)	\$ 5.00
Total (Rounded Up)	\$ 47.00

TABLE 9: MAJOR PCCR COST CALCULATION

Major PCC Restoration (\$/SY)	
20% Remove and Replace	\$ 30.00
Crack Fill/Seal	\$ 3.00
Profiling	\$ 5.00
Mobilization, Traffic control, survey (15%)	\$ 3.00
Contingency (10%)	\$ 2.00
Total (Rounded Up)	\$ 45.00

TABLE 10: THIN OVERLAY COST CALCULATION

Thin (1.5 In.) Overlay (\$/SY)	
1.5" HMA Overlay @ \$120/Ton	\$ 10.00
Tack and Patch @ 250/Ton	\$ 3.00
Curb and Gutter/PCC Patching	\$ 7.00
Driveways/Sidewalks	\$ 6.00
Mobilization, Traffic control, survey (25%)	\$ 5.00
Contingency (10%)	\$ 4.00
Total (Rounded Up)	\$ 35.00

TABLE 11: MINOR PCCR COST CALCULATION

PCC Restoration (\$/SY)	
10% Remove and Replace	\$ 14.00
Crack Fill/Seal	\$ 2.00
Profiling	\$ 4.00
Mobilization, Traffic control, survey (15%)	\$ 3.00
Contingency (10%)	\$ 2.00
Total (Rounded Up)	\$ 25.00

TABLE 12: MICROSURFACING COST CALCULATION

Microsurfacing (\$/SY)	
Polymerized Surface Treatment	\$ 5.00
Tack and Patch @ 250/Ton	\$ 3.00
Mobilization, Traffic control, survey (25%)	\$ 1.00
Contingency (10%)	\$ 1.00
Total (Rounded Up)	\$ 10.00

TABLE 13: DIAMOND GRINDING COST CALCULATION

Diamond Grinding (\$/SY)	
Grinding and Mobilization	\$ 10.00
Total (Rounded Up)	\$ 10.00

TABLE 14: CRACK SEALING/FILLING COST CALCULATION

Crack Sealing/Filling (\$/Lane-Mile)	
Crack Sealing (per Mile per Lane)	\$ 12,000
Total (Rounded Up)	\$ 12,000

TABLE 15: PATCHING COST CALCULATION

Patching (\$/SY)	
Patch @ 250/Ton	\$ 5.00
Total (Rounded Up)	\$ 5.00

EXISTING CONDITION ANALYSIS

The City of Bondurant maintains approximately **50 Miles of roads** and the transportation infrastructure network, not including bridges, is valued at approximately **\$140 Million**.

Network Value = \$140 Million

As is the case for nearly all municipalities, capital assets are the most valuable thing a city owns. As a major part of these assets, it is important that streets are managed properly to ensure the value of these resources are preserved

Pavement condition information from the 2021 automated data collection vehicle run by IPMP’s sub-consultant Pathways was joined to the processed baseline information from the City of Bondurant using the ESRI ArcGIS software. That data was analyzed to create overview statistics and investigate various trends, both over time and spatially. Detailed maps were created to illustrate the pavement characteristics and the collected condition data, which can be found starting on **Page 22**.

FUNCTIONAL CLASSIFICATION

Roads in Bondurant are separated into three broad categories to help differentiate their use: **Local Streets, Collector Streets, and Arterial Streets**.

Local Streets, also referred to as “residential”, serve low levels of traffic at the beginning or ending of vehicle trips. These streets often have many points of direct access from driveways, have lower speed limits, and sometimes have on-street parking. Local Streets make up the majority of any transportation network.

Collector Streets are those that connect Local Streets and concentrate traffic to help move vehicles efficiently between adjoining neighborhoods or provide access to the primary street network, namely Arterial Streets. These Collector Streets are generally wider and have slightly higher speed limits than Locals.

Arterial Streets carry the most traffic. These trunk roads travel at higher speeds and efficiently move traffic from one end of town to the other. They are also the gateway routes into and out of the City.

The reason for this distinction is that Arterial and Collectors are designed for higher volumes of traffic and heavier vehicles such as semi-trucks. As such, they are designed differently, costing more per square yard of pavement than Local streets. They also perform differently, by comparison. The higher traffic loads cause Arterials and Collectors to wear out faster on average than Locals, and motorists are more sensitive to surface distresses due to the higher speeds. That said, because Arterials/Collectors carry most of the vehicle-miles travelled in cities, they are more valuable to maintain in good condition. As such, for the purposes of modelling and planning using dTIMS BA, Arterial and Collector streets are considered separately from Local Streets.

Overall, Bondurant’s transportation system has a fairly standard distribution of roadway Functional Classification. Most urban systems contain 60%-75% local streets with Arterial and Collectors being split roughly even in the remainder. Bondurant falls within this average, with around 70% of the network being local streets. Bondurant is responsible for just 2 main Arterial routes that cross through the city (Grant Street and 15th Street), which make up 12% of the network by length. US Highway 65 also crosses through Bondurant, but this route is maintained by the Iowa DOT.

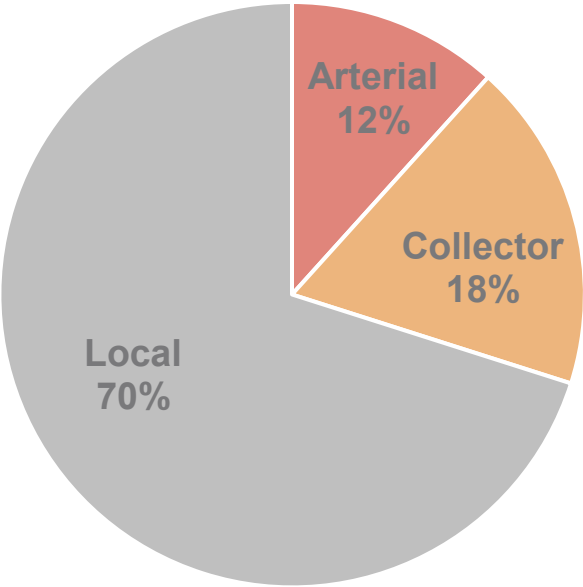


FIGURE 34: FUNCTIONAL CLASS DISTRIBUTION (BY CENTERLINE MILES)

This figure shows the breakdown of the various street classifications in Bondurant, based on the official Federal Functional Classification used by Iowa DOT.

PAVEMENT TYPE

Roads can also be separated by their surfacing type. Different pavement surfaces perform differently, have different types of treatment alternatives, and have different initial construction costs. Each type of road was considered separately in the dTIMS BA model for the City of Bondurant.

The three main categories considered by this plan are Portland Cement Concrete (**PCC**), Asphalt Cement Concrete (**ACC**), and Composite Pavements with HMA over the top of PCC (**COM**). Some agencies also refer to ACC as Hot-Mix Asphalt or HMA.

Most local streets, especially those in newly developed areas, are paved with PCC, which heavily contributes to the large proportion of PCC streets in the Bondurant network. Most occurrences of ACC are located on older collector and arterial streets.

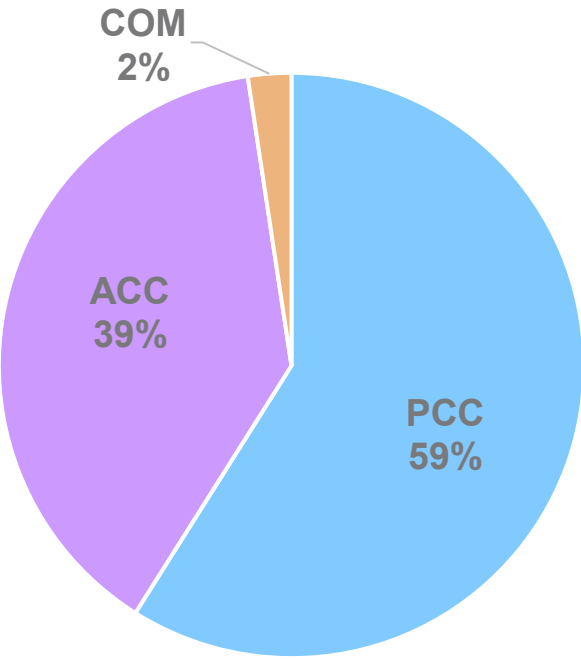


FIGURE 35: PAVEMENT TYPE DISTRIBUTION

This figure shows the distribution of pavement types in Bondurant. Of note is the high proportion PCC, and the relatively small proportion of ACC & COM surfaces.

PAVEMENT CONDITION

Bondurant’s expansion in the last couple of decades and heavily residential nature has led to a somewhat “young” pavement network. As such, pavement conditions in the City are above average for an urban area in Iowa. The majority of urban areas in Iowa have average CityPCI scores around 60 which is considered “Fair” bordering on “Good.” Bondurant, on the other hand, is a unique case where its streets are, on average, near the top end of the “Good” condition. The most recent Network-wide CityPCI evaluation for Bondurant resulted in a score of 78/100.

CityPCI = 78.0
(Good)

A notable fact about the current pavement conditions is that the average PCI scores for different pavement types are very similar. As is the case for most municipalities in Iowa, PCC makes up the majority of pavements and is generally newer pavement due to recent construction. However, the ACC pavements are performing just as well as the PCC pavements in Bondurant, with ACC only averaging 1 point less than PCC. Composite pavements are also all listed in the “Good” and “Very Good” categories. However, it is important to note that there is only approximately 1 mile of composite roads in the city, so this number may be artificially inflated.

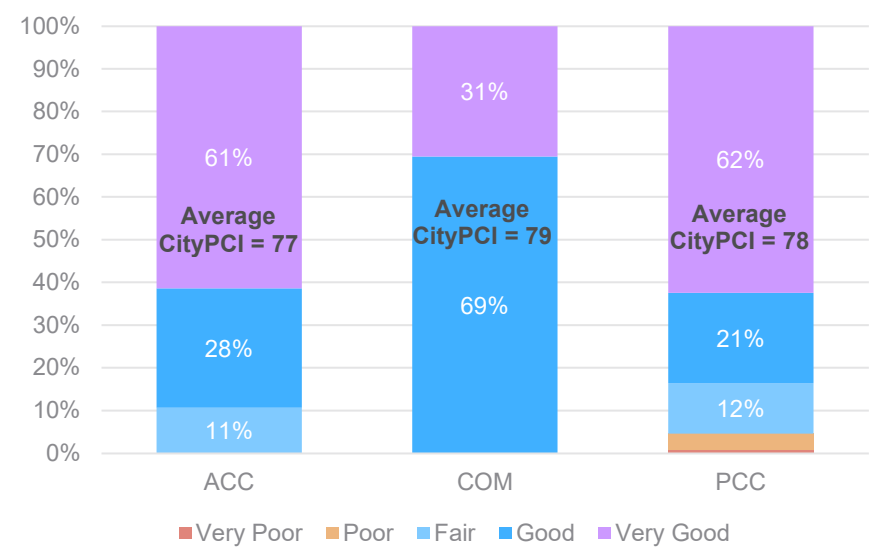


FIGURE 36: CONDITION DISTRIBUTION BY PAVEMENT TYPE

This figure shows the distribution of pavement conditions for each of the four pavement types.

When looking at functional classification, however, there is a perceptible difference between collector roads and the rest of the network. Overall, the arterial and local roads are performing noticeably better than the collector roads with high proportions of “Very Good” pavements. The mid-volume streets can often be problem areas for communities with rapid growth. Arterials tend to receive the majority of funding and new pavements with low traffic make up the bulk of the network. Conversely, collector streets still see moderate amounts of traffic but will often be left alone for long periods of time until the need is identified. Many of these collector streets in moderate condition will likely be good candidates for a lower cost rehabilitation. Treatments to roads such as these, before they deteriorate further, are a very cost-effective way to maintain the city’s above average CityPCI score.

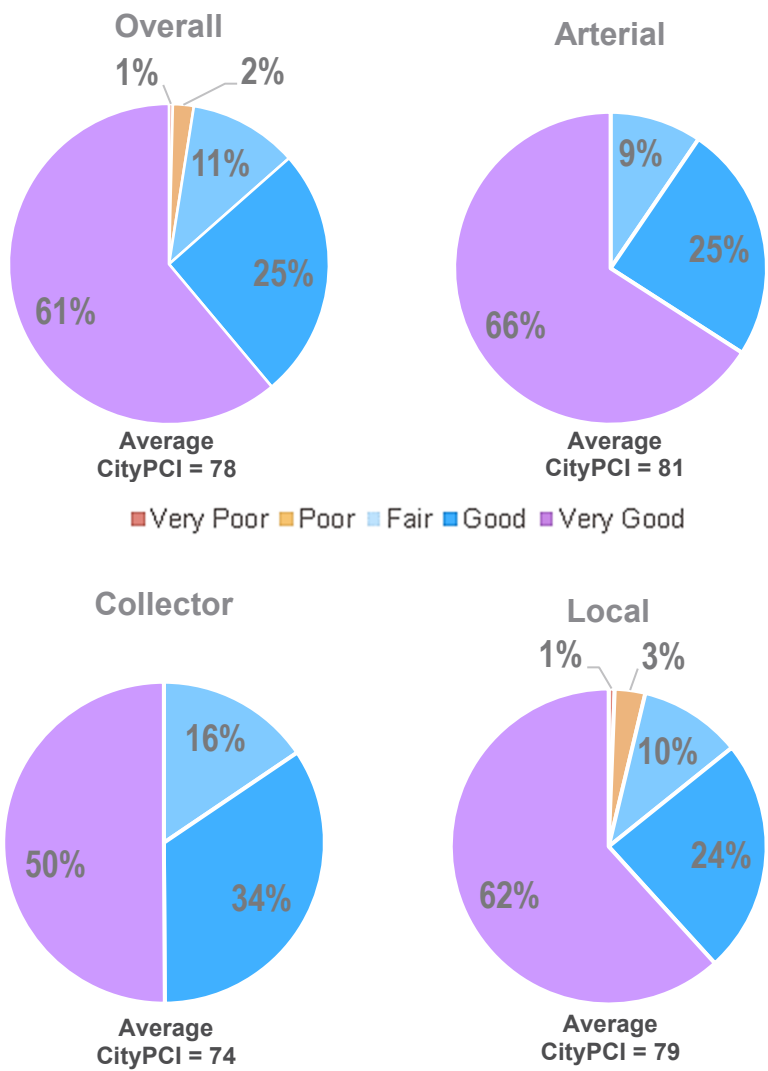


FIGURE 37: CONDITION DISTRIBUTION BY FUNCTIONAL CLASS

This figure shows the distribution of pavement conditions for each functional classification, as well as the network overall.

PAVEMENT CONDITION TRENDS

One of the biggest values of the IPMP Program and the data it provides is the fact that there are multiple years of data to work with. This allows for better trend predictions, due to having an 8-year period to work with, and it increases the statistical relevance of the data due to the higher volume of data points. This volume helps refine the precision of the modelling processes and identify specific conditions that may warrant further investigation.

Every other year IPMP receives over 4,000 raw data points from the automated collection vendor, just for the city of Bondurant. Approximately 20,000 data points go into this analysis section.

Looking at the network over time reveals a somewhat variable condition trend since 2013. Over the past 8 years of collection, average condition scores have typically been in the 70s, except for 2017. Over the past few collections, however, the scores have been on the incline. This is a positive sign for the network, but effort will need to be made to prevent future deterioration. Future decline in scores for Bondurant could have multiple potential causes such as the inflation of construction costs, aging infrastructure, or inconsistent roadway expenditures.

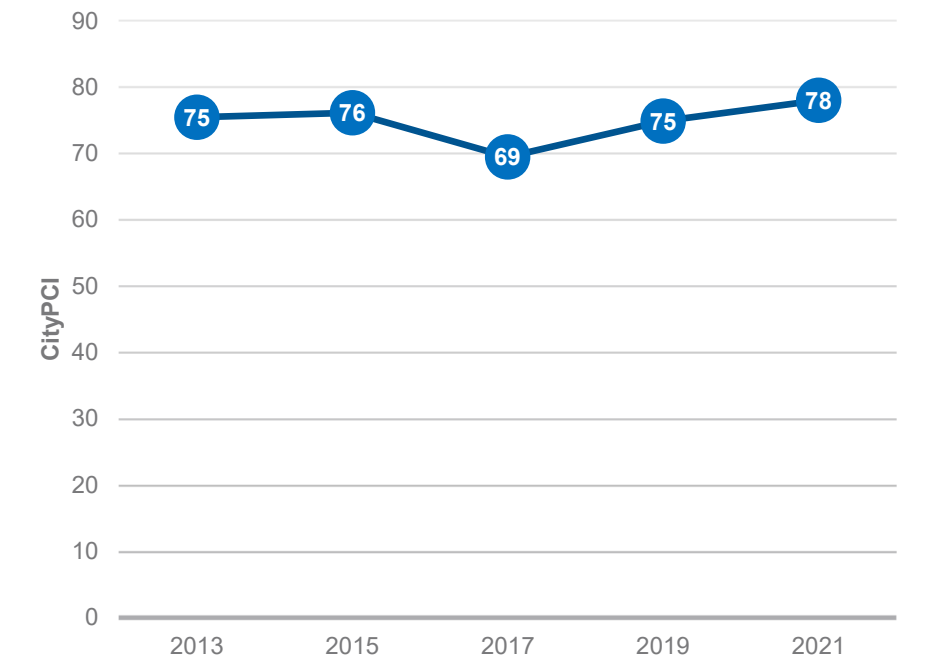


FIGURE 38: NETWORK-LEVEL PAVEMENT CONDITION TREND

This figure demonstrates the fluctuations the overall network has experienced since 2013.

The recent increase in overall PCI can most easily be attributed to the addition of new PCC pavement into the network. New development in the City’s road network over the past 2 collection cycles has caused a notable increase in miles of new pavement. Since the majority of these new roads are local PCC roadways, it has increased the average PCI for both PCC and local roadways. It should also be noted that the decrease in roadway miles in the network seen in 2017 can be attributed to some street data that was not collected in that year, as opposed to actual decrease in roadway miles.

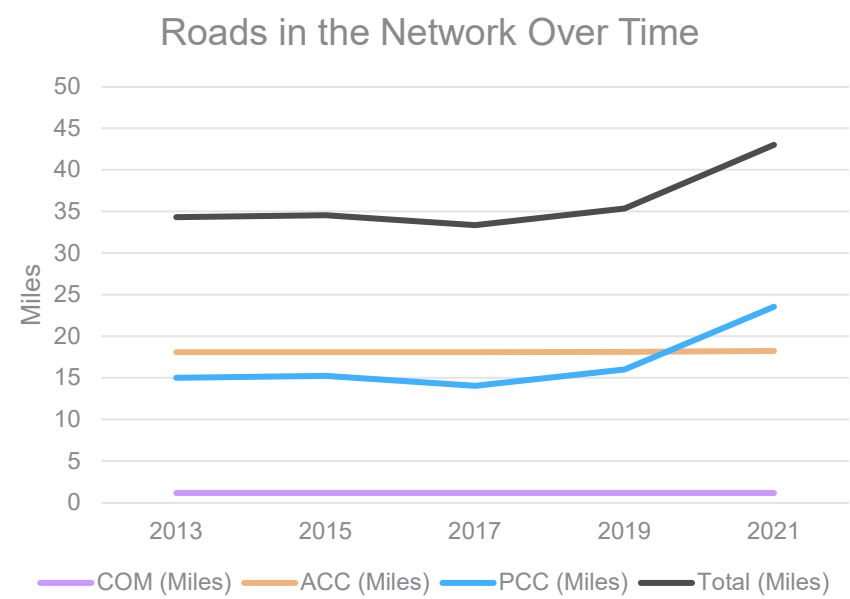


FIGURE 39: TOTAL LENGTH OF ROADS IN THE NETWORK

This figure demonstrates the amount of roadway miles in Bondurant by Pavement Type.

When looking at trends based on functional classification, we see that most of the network had been stable or on the decline until 2017 – 2019 when both arterial and local road saw significant improvement. This is again likely due to the influx of new pavements into the system in the local road category and the City’s focus on maintaining arterials for new development in the area. Unsurprisingly, the average PCI score for Collectors has been steadily declining. Overall, the trends match the shape we expect based on **Figure 38**.

Comparing the pavement types revealed similar trends. All types had largely been on the decline until 2017 when improvements were made due to new roads in the network.

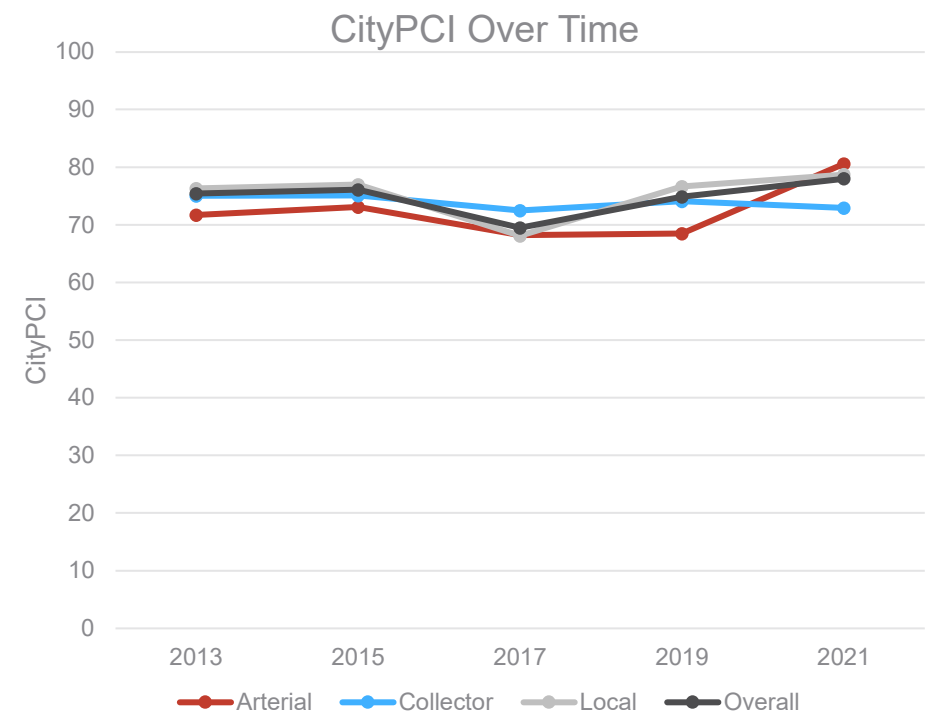


FIGURE 40: CONDITION TREND BY FUNCTIONAL CLASS

This figure demonstrates the fluctuations across Bondurant by Pavement Type

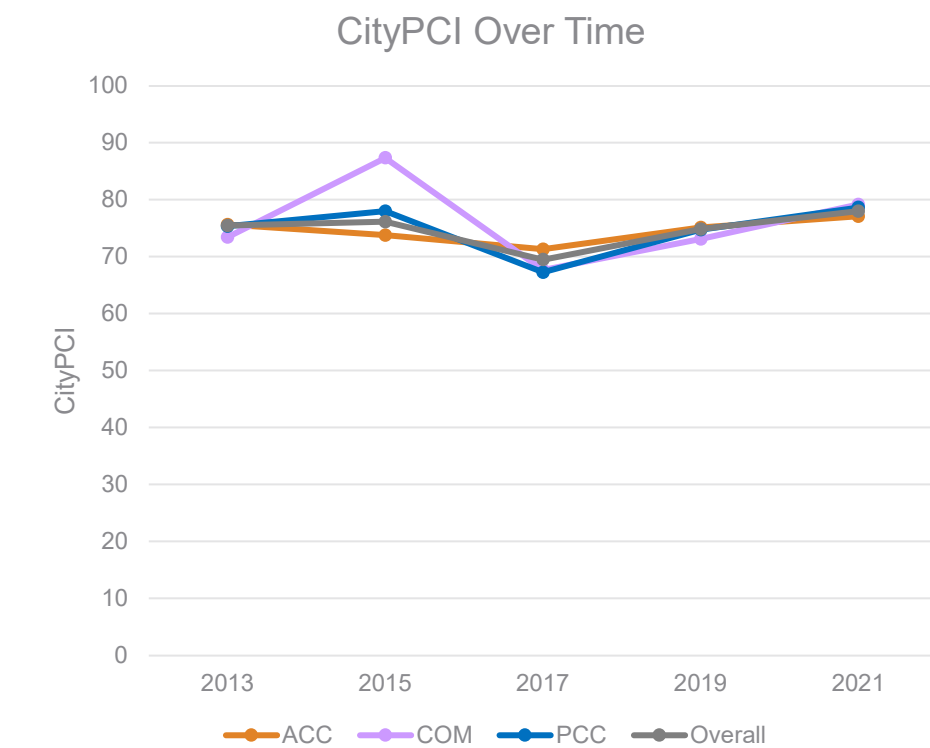


FIGURE 41: CONDITION TREND BY PAVEMENT TYPE

This figure demonstrates the fluctuations across Bondurant by Pavement Type

SUCCESS IN BONDURANT & CAUTIONS

Bondurant has many reasons to be proud:

- ▶ High CityPCI compared to cities of similar size in Iowa
- ▶ High proportion of “Very Good” and “Good” condition pavement
- ▶ Only small portions of pavement in need of repair, with most of the City representative of the high average.

This does not mean, however, that there is no work to be done. In fact, there are some specific weaknesses in the IPMP data that may superficially hide the true conditions of the streets in Bondurant. Some of those data gaps are caused by the way the data is collected, the types of data collected, and completeness of information.

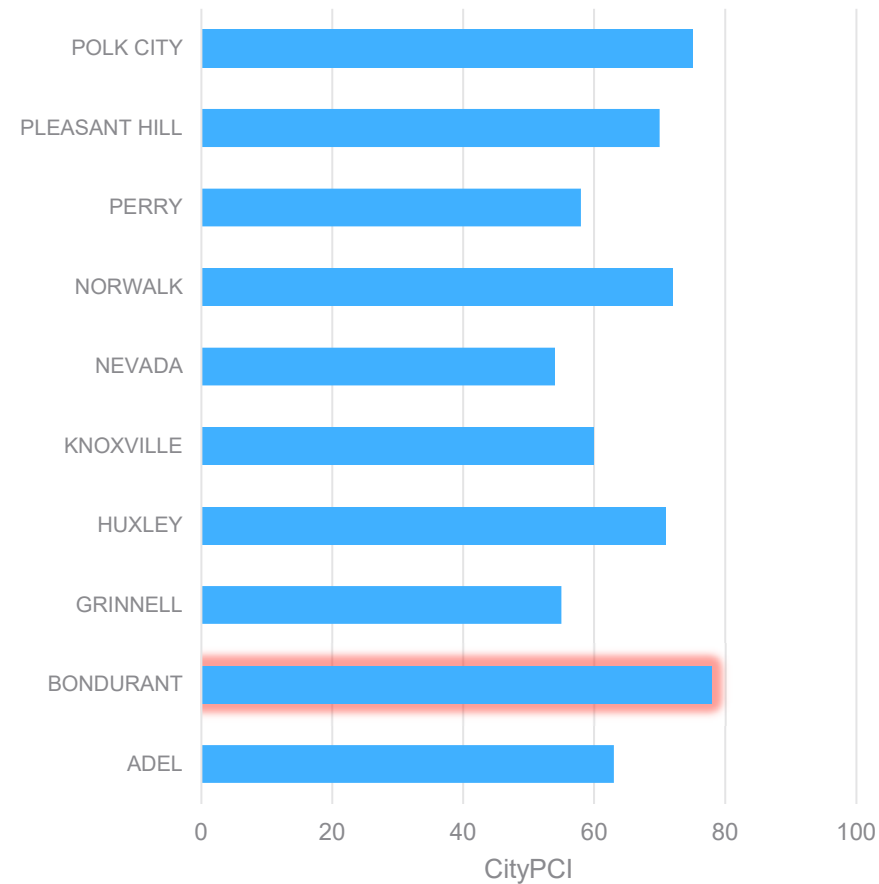


FIGURE 42: COMPARISON OF 9 JURISDICTIONS

This figure compares Bondurant’s average CityPCI score with other similar sized communities in Iowa

The **sampling methodology** used by the IPMP data vendor consultant only addresses one direction of travel for a road and has certain restrictions. That means the data set, while extensive and significantly better than subjective manual rating, is not fully comprehensive. In 2017, undivided roads with fewer than 5 lanes were only driven in one direction, meaning that up to 75% of pavement area may not be covered on wide streets. Similarly, on-street parking can limit the vehicle’s ability to read a continuous section of road accurately due to weaving maneuvers resulting in readings based on skewed angles and in areas outside the normal driving lane.

Roughness data can only be collected when travelling at 20 mph or more and requires a steady speed for at least 200 feet. Short street segments, dead-end roads, on-street parking, pedestrian crossings, and stop sign–controlled intersections can be very disruptive to the roughness measuring equipment, meaning that an urban area with many local streets will likely have low coverage for roughness data. For example, over 3.6 miles of streets in Bondurant did not collect any roughness data in 2015, and the data that was collected may not be reliable. Each collection cycle, 1%-5% do not have roughness data available. For those roads, roughness needs to be assumed based on other distress data. Luckily, the effect of roughness on CityPCI scores is minor.



FIGURE 43: ROUGHNESS PROFILE AFFECTED BY LOCAL DRIVING CONDITIONS

This Image was taken from Iowa DOT Pathweb showing a road where the collection vehicle was trailing a delivery van and weaving around parked cars causing a sudden change in roughness.

Other distresses, even though they were collected, may not factor at all into the CityPCI rating. Prime examples include punch-outs and failures. **Failures** are potholes and potholes that have been filled, identified as irregularly shaped asphalt patches. Failures are a critical distress both in pavement performance as well as driver perception of

road quality. Unfortunately, these distresses are treated the same as other patches, if included at all. The CityPCI rating system for full-depth asphalt does not formally include failure as a distress and is inconsistent in whether it should be considered at all, because the failure is not always indicative of the rest of the roadway conditions.

Punch-outs are another failure ignored by the CityPCI rating. Punch-outs are when the edge of road breaks off, typically in conditions where there is no curb, or the curb was constructed separately. Pavement edges may continue sinking due to erosion of the base material. The condition is commonly caused by poor bank stability on roads with ditches, and erosion prone subbase materials in urban areas where subsurface drainage issues are not addressed. Punch-outs were only captured by the data collection services a handful of times in Bondurant since collection started, but where it was present, it was not included as a contributing distress.



FIGURE 44: UNACCOUNTED FOR PUNCHOUT

These images are of a punch-out that was not included in the pavement rating for the section

The final caveat to this data collection system is that it can only address **surface** distresses. Underlying problems such as voiding, eroding subgrade/subbase, and structural deficiencies cannot be identified, only the symptoms. High priority is paid to alligator cracking, spalling, and patching because of their associations with these problems, but evidence of these major deficiencies is not possible to collect directly without ground penetrating radar or pavement cores (both of which are comparatively expensive).

Underlying pavement ages are similarly important from a deterioration standpoint. Older, more distressed, bases mean new surfaces will deteriorate faster, due to a lack of stable support. Construction history is not as readily available so base age was assumed, in many cases. This report’s methodology uses a “performance age” to group pavements that are deteriorating at similar rates, in order to estimate future behaviors.



FIGURE 45: UNACCOUNTED FOR FAILURE

These are images of a failure not included in the pavement rating for the associated road.

Map 1: Federal Functional Class Overview

Map 2: *Pavement Condition Overview*

Map 3: *Surface Type Overview*

Map 4: Ride Quality Overview

Map 5: *Pavement Deterioration Overview*

Map 6: *PCC Joint Health Overview*

Map 7: *Pavement Distresses Overview*

SCENARIOS/RECOMMENDATIONS

In order to create recommendations on spending strategies and setting performance goals, a number of budget-based scenarios were created. These scenarios were designed to address “what-if?” type questions. Each scenario used a set budget and projected the effects on the overall condition of the network. The projections were performed using Deighton Limited’s dTIMS BA, for a 15-year period, from 2024 to 2038.

Once all the data was processed, it was put into a dTIMS model to develop long term performance projections and to run a number of scenarios to determine optimal budgeting and assess the impact of using the recommended standards herein.

MODELLING

dTIMS BA (Deighton’s Total Infrastructure Asset Management Software – Business Analytics) is a computer program developed by Deighton Associates Limited in storing infrastructure asset data, developing projections of infrastructure asset performance, estimating remaining life in various infrastructure assets, determining when they need to be replaced or repaired, and estimating how much the treatment will cost. It allows for any and all asset data to be entered, there is no limit to what information can be stored within the program and considered during the modelling process. However, the user must manually program how all the data relates to each other, assign costs, develop the treatment triggers and effects, create funding pools that each treatment will pull from, and develop their own life-cycle curves for the infrastructure assets. Once this is accomplished, dTIMS’ primary feature goes to work; it runs a heuristic algorithm (a series of tests using general rules and guessing approaches for determining optimal solutions) to identify an optimal “Strategy” for maintenance and replacement of the infrastructure assets in question, given the budget, treatments, and life-cycle information supplied by the user.

Some manipulation through GIS was required to combine the IPMP data with outside data sources from the City and State before it could be imported into dTIMS. After the data were compiled in GIS, it was imported to dTIMS, and the models were run.

DETERMINING NEED

DEFINING NEED

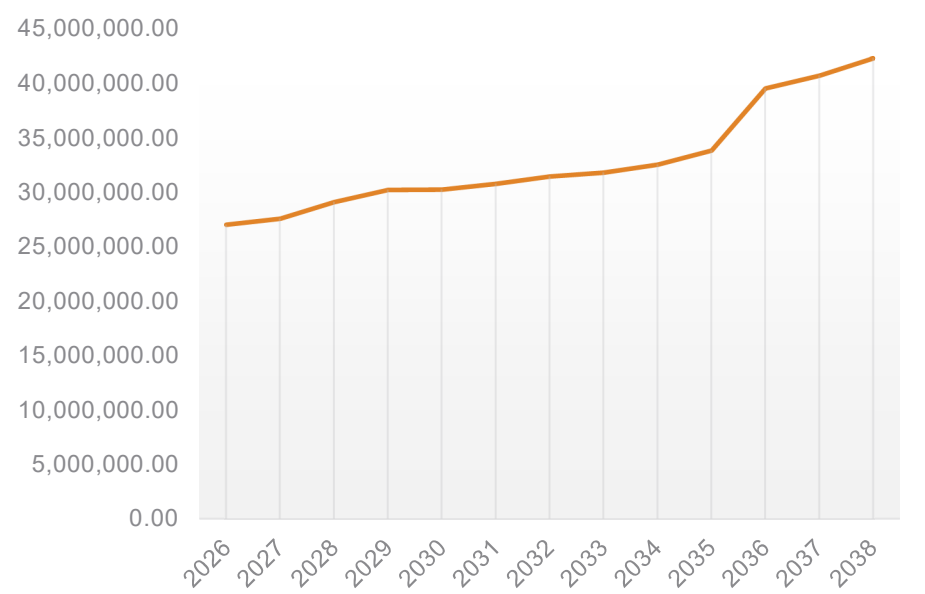
The first step in running various scenarios in dTIMS BA is to determine the “Need.” Need is defined as all outstanding work and forthcoming work in the analysis period. Some agencies may consider this as a “Backlog” projection.

Essentially, dTIMS BA analyzes the current conditions and creates condition projections for every pavement section in the database, after which it chooses a default treatment alternative for each segment, in every year, regardless of budget. This acts as a baseline scenario which could be considered as a Pavement Management Program operating at 100% efficiency with complete funding.

NEEDS IN BONDURANT

Using the pavement condition data collected by Pathways and distributed by IPMP, dTIMS BA analyzed the existing conditions of the roadway network in Bondurant, and an overall Need was determined.

The current Need for pavement repairs in 2026, or the total cost to address every single roadway distress in the City bringing the network to “Very Good” condition, is approximately \$27 Million. That Need is projected to grow to \$42 Million by 2038.



CURRENT NEED (2026) = \$27 MILLION

PROJECTED NEED BY 2038 = \$42 MILLION

FIGURE 46: PROJECTED “NEED”
This figure displays the existing funding required to bring every pavement up to “Very Good” condition, i.e., “Need” as well as its projected Growth over the next 15 Years.

SCENARIOS

To address the existing backlog (Need), the City will need to commit a steady amount of funding to maintain its roadways. A number of budget options were tested to determine a theoretical budget for the City of Bondurant.

Fiscally Constrained, or Budget-based Scenarios, take a fixed annual budget and attempt to optimize pavement management spending using the treatments shown in Table 3 on page 15.

The funding comparisons keep all the proposed work within the assigned budget, while maximizing the “Benefit” provided to the public. Benefit was determined as the difference between the conditions of the road network if nothing was done and the selected treatment effect (measured by difference in CityPCI scores). This method is standard practice when determining optimal treatments. The model used in this plan also factored in the amount of traffic (based on annual average daily traffic or AADT) on the affected roads. The final result represents both the magnitude/duration of the improvement and the number of people who will receive the benefit of driving on a newly reconstructed road. This benefit calculation was how the model determined how the overall condition of Bondurant would perform over a 15-year period.

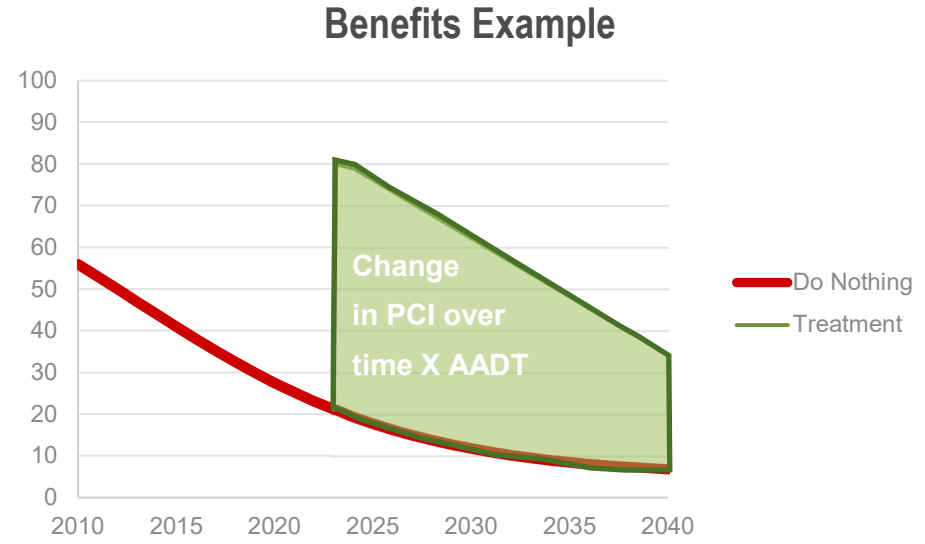


FIGURE 47: WHAT THE BENEFITS CALCULATION LOOKS LIKE
The red line is the “baseline” scenario, the green area is the “Benefit” the public experiences, calculated as the difference between the baseline and the new improved condition, factored by the number of people who drive on that road (Annual average daily traffic, AADT)

dTIMS BA checks each individual roadway segment to see if it triggers a specific treatment type, then calculates the “Benefit” of performing that treatment. Afterwards, dTIMS BA will then compare each treatment option and determine the one that gives the best ratio of benefit to cost. It then goes out further and sees if any treatments would trigger in future years that would give better benefit-cost returns (such as waiting to reconstruct a pavement rather than overlaying it). After comparing all the initial treatment selections across all the years, the program also considers subsequent treatments and their effects. Complex dTIMS models might look at dozens of treatments in sequence before picking the best choices, which are called “treatment strategies”.

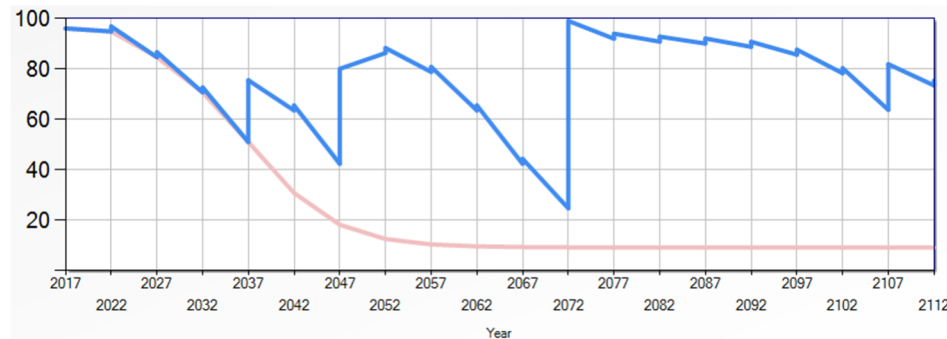


FIGURE 48: EXAMPLE OF A TREATMENT STRATEGY EXECUTED BY DTIMS.

The blue line is the effect, pink is what would happen if nothing were done. The jaggedness is from regular maintenance activities, the first peak is a PCC restoration, the second is a crack and seal overlay, the jump in 2072 is a reconstruction, and the final peak is another PCC restoration.

Of course, the best choice of treatment may not always be the one that can be afforded within the City's budget. The program then ranks each treatment strategy based on their benefit-cost ratio and picks those that it can afford, deferring those it cannot, and occasionally picking less optimal treatments because it would allow the program to use more of its budget in a timely manner.

The funding scenarios used were designed to hone in results that enable actionable changes in the existing pavement management program in Bondurant. Questions were asked at a high level, and the dTIMS BA model was adjusted to address those questions. The results were then interpreted to clarify what the numbers truly mean.

The funding scenarios performed looked at following questions:

- ▶ What happens if the City does nothing?
- ▶ What happens if funding increases?
- ▶ What happens if funding decreases?
- ▶ How much money to maintain a network average PCI of 60?
- ▶ How much money to maintain a network average PCI of 70?
- ▶ How much money to maintain a network average PCI of 80?
- ▶ What is the proper distribution of funds across Reconstruction/ Rehabilitation/ Restoration?

RESULTS

BUDGET PROJECTIONS

The City of Bondurant is currently in "Good" condition, and it is easier to maintain a network than it is to improve a network. As such, the City is well positioned to keep operations going on a limited budget while still ensuring a high quality of infrastructure.

The "Do Nothing" scenario option points out the value of Pavement Management. Network condition would drop below 60 in 10 years without it. It also shows the general trend the City can expect. **Figure 49** shows how quickly pavements would deteriorate if no work was completed. The proportion of pavements in very good condition starts to drop immediately, and the amount of roads in very poor condition starts to steadily increase.

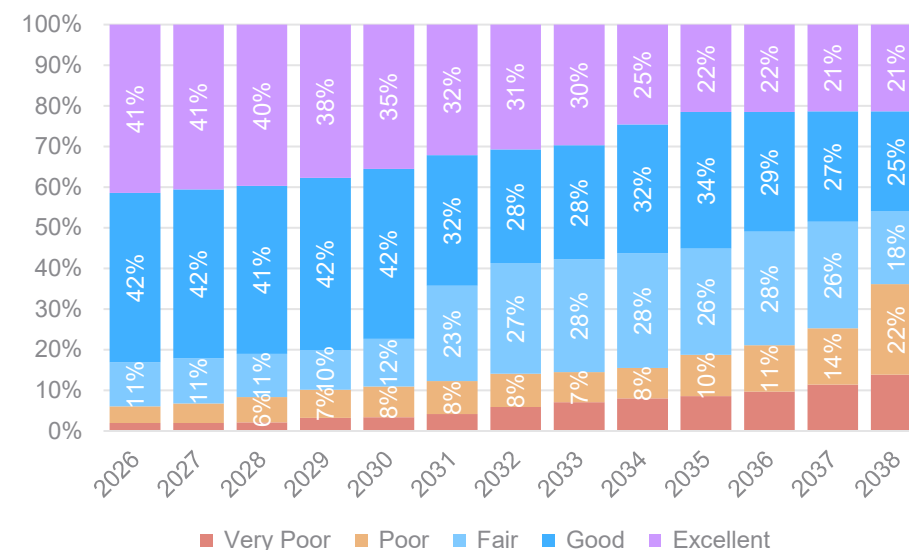


FIGURE 49: CONDITION DISTRIBUTION PROJECTION – DO NOTHING (\$0)

This graph is from the dTIMS BA results for the Do-Nothing Scenario over the next 13 years. Compared to the preferred budget the difference is pronounced

In order to determine an ideal budget for the City, budget scenarios were first explored ranging from \$250,000 all the way up to \$3 Million annual funding, with various intervals. **Figure 52 on page 31** shows these scenarios. The results showed that there are only marginal benefits to budgets over \$2 Million per year; any expenditures over that level are mostly wasted and are just done to use up the budget, not out of need and budgets under \$1.2 Million per year showed a decline. This indicated that the optimal budget would likely be one between \$1.2 Million and \$2 Million and would maintain the network average PCI score above 70/100 or "Good" on average.

Additional scenarios were developed to refine the results and establish a preferred expenditure strategy. In the end, it was determined that the recommended budget would be approximately \$1,200,000 per year. This budget allowed the City to maintain a PCI level around 75/100 with little variance over the 15-year analysis period. It neither wasted money nor short-changed the program. It also maintained the current pavement condition distribution, as seen in **Figure 50**, so that it did not just sink money into increasing the amount of "Very Good" while ignoring "Poor" and "Very Poor" roads.

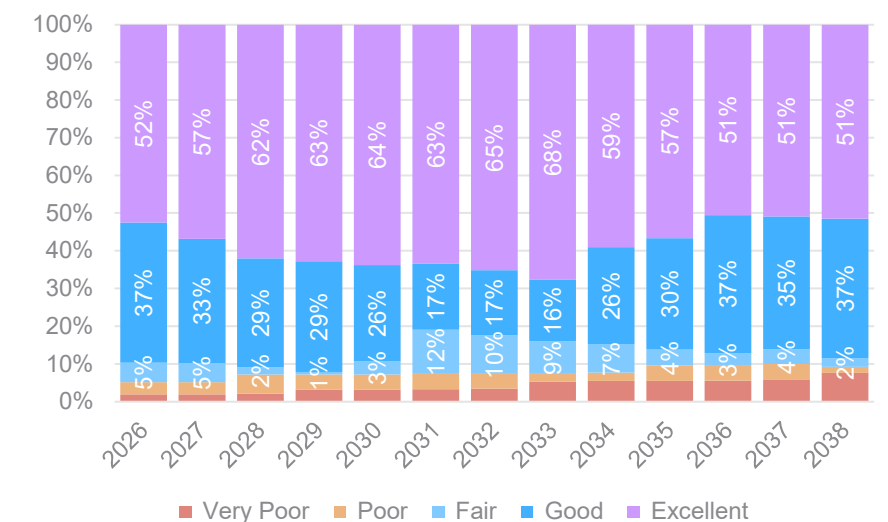


FIGURE 50: CONDITION DISTRIBUTION PROJECTION – PREFERRED BUDGET (\$1.2M)

This graph is from the dTIMS BA results for the preferred budget over the next 13 years.

Given the City's current streets maintenance budget, it is understood that a \$1.2 million budget may not be a realistic goal within the next year. **Figure 51** shows what happens if Bondurant gradually increases their budget over the next few years in order to reach a \$1.2 million budget by 2032.

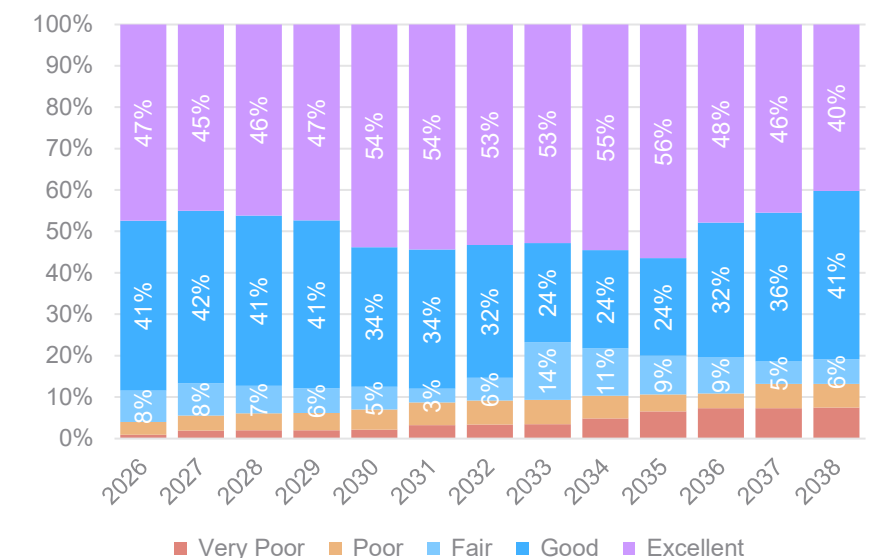


FIGURE 51: CONDITION DISTRIBUTION PROJECTION (VARYING BUDGETS)

This graph is from the dTIMS BA results for a \$650,000 budget for the next 3 years, \$1.0 Million budget for the following 3 years, and \$1.2 Million thereafter This graph is from the dTIMS BA results for the preferred budget over the next 13 years.

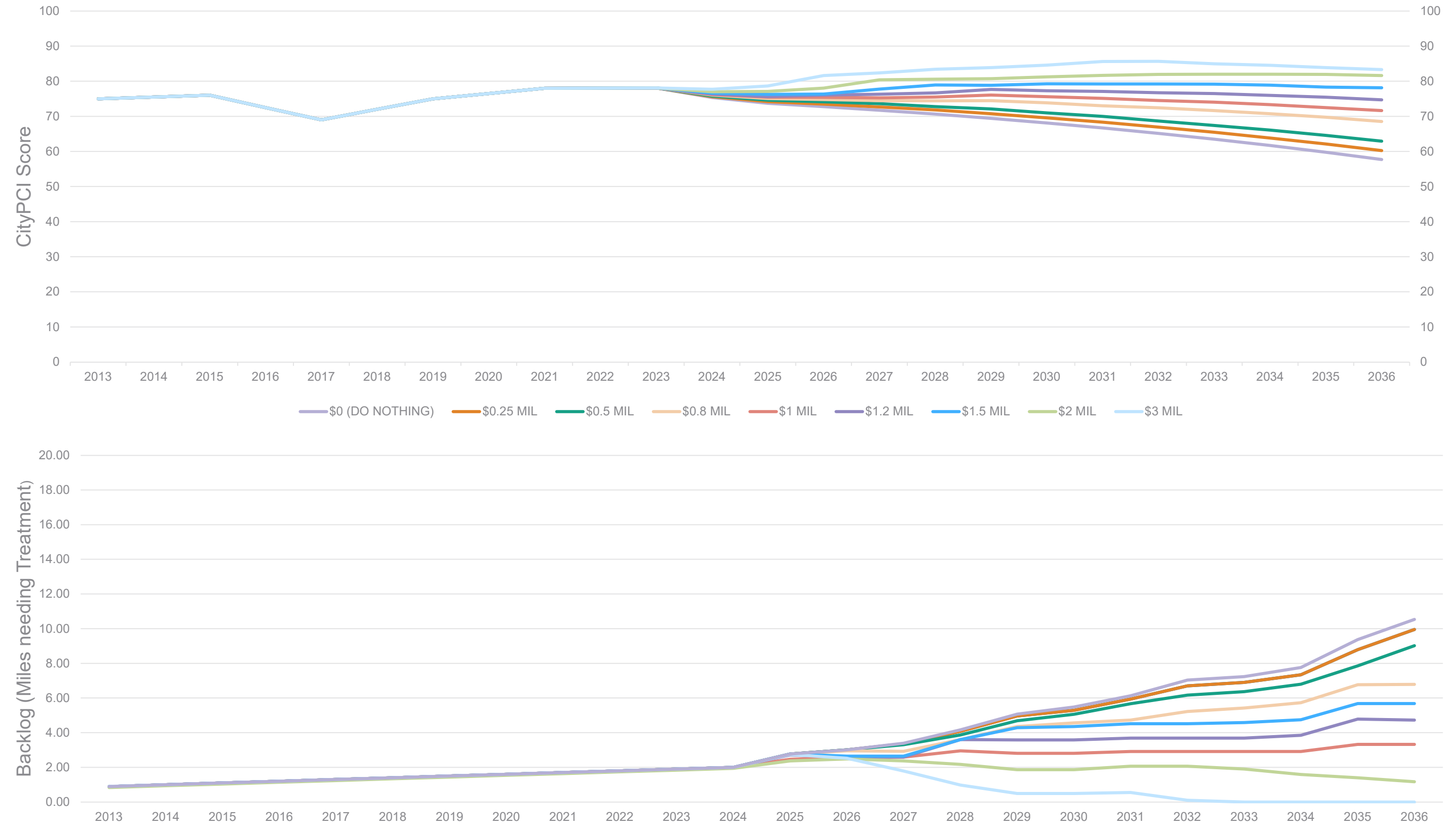


FIGURE 52: CITYPCI AND BACKLOG PROJECTIONS BY BUDGET
The results of the dTIMS BA modelling. These graphs represent the effects of adopting various budgets and what happens over the next 12 years. Changes to the network level Pavement Condition Index is on top and the bottom represents the miles of road that will need to be deferred for future treatment

TARGET-DRIVEN SCENARIOS

If the City wants to consider the cost implications of maintaining a level of service other than the one they currently have, a range of options was explored within dTIMS BA. This was done using the “Strategic Analysis Module” or SAM. A range of budgets was programmed to test which ones would result with a given average PCI at the end of the analysis period. This approach is more realistic than immediately jumping to the target and holding it, and actually reduces costs for both the higher and the lower goals.

PCI targets were tested ranging from 60 to 80 in 5 PCI increments and the average annual costs were rounded to the nearest \$100,000 for simplicity. Each jump in 5 PCI points yielded about a \$0.3 Million cost difference, with the preferred budget falling between the Targets for PCI=70 and PCI=75. Each of these goals falls within the “Good” category, though 80 is on the threshold for “Very Good.” This means that the difference in performance of the network may not be noticeable during the analysis period. That said, these costs are only the average for the analysis period. For lower targets it takes nearly the whole 15 years to drop to 60 so the model was only putting forth minimal maintenance. Beyond the immediate future that budget may end up rising higher than the projected budget of \$1 Million.

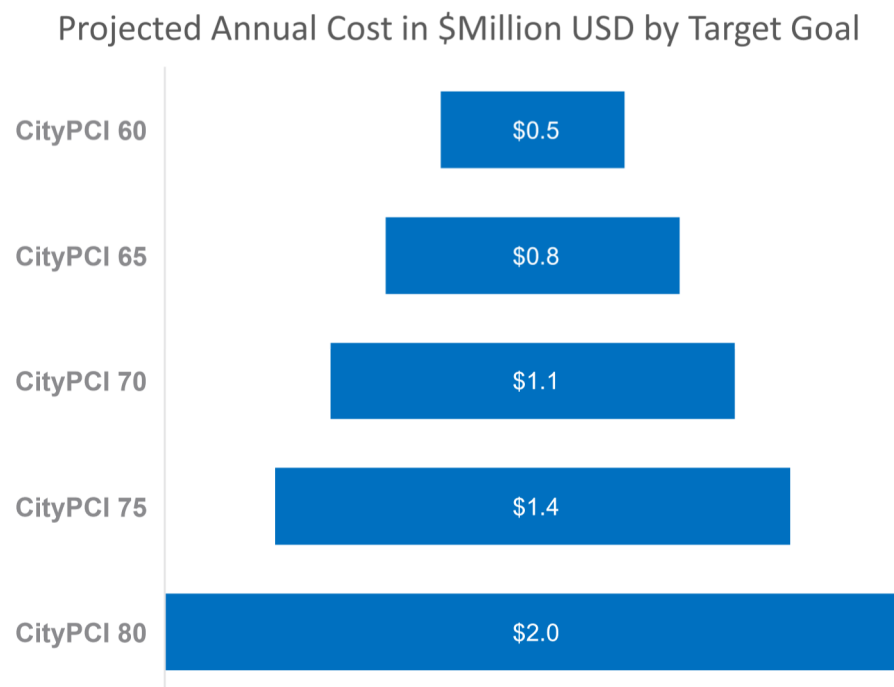


FIGURE 53: EST. COSTS TO MAINTAIN AVERAGE CONDITION LEVELS

This figure shows the dTIMS cost results in rounded to the nearest \$100k in order to maintain a certain average condition level. To determine total cost.

“HYBRID” GOAL SCENARIO

Different functional classifications typically are used by vastly different amounts of traffic and are traveled at different speeds, meaning that the effects of pavement distresses on drivers may not be equal. As such, setting a “hybrid” goal where local streets are held to a different standard than arterials may present a cost savings opportunity. In addition, this approach puts emphasis on spending more on higher volume streets to get more “band for the buck.”

Local roads make up the majority of Bondurant’s pavement network and the target performance level of the local roads are driving the majority of costs to maintain the overall network PCI. As such, exploring alternatives for local road performance will give the City more tools to optimize their budget.

If the target goal for local roads were to be set at 70, still considered quite good, the City would save approximately \$600,000 annually compared to what would be required to maintain the local roads at their current condition of 78/100.

Arterials and Collectors are the most important streets, so maintaining a higher goal of “Good” (75/100) might be more suitable. Bondurant’s arterials and collectors are in exceptional condition already so only minimal maintenance over the next 15 years is necessary.

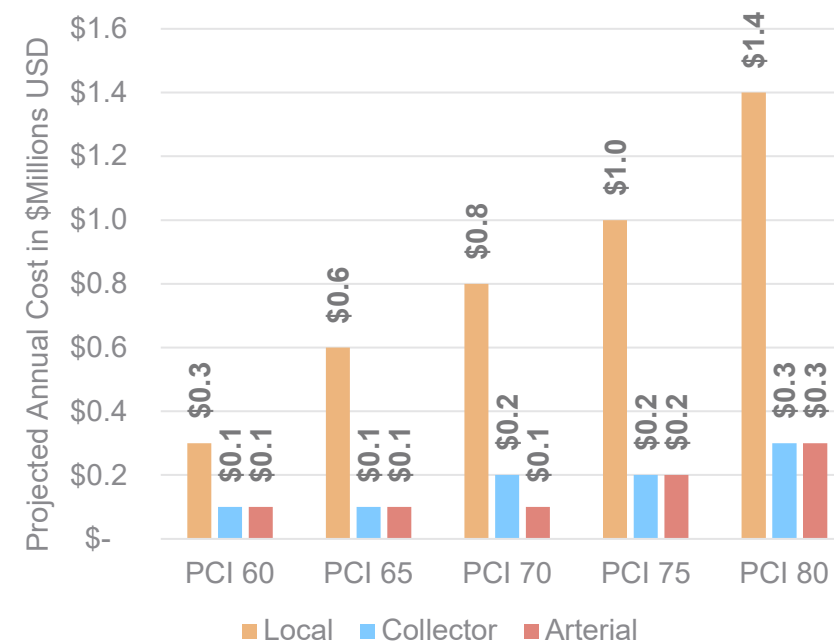


FIGURE 54: EST. COSTS TO MAINTAIN CERTAIN CONDITION LEVELS BY CLASS

This figure shows the dTIMS cost results rounded to the nearest \$100k in order to maintain a certain average condition level based on the functional class. To determine total cost, add 3 different class options together.

IDEAL SPENDING PROPORTIONS

When looking at the types of treatments applied there is an optimal balance, unique to each city. Too much reconstruction can eat up your budget quickly and not leave anything to maintain older pavements, meaning more early failures. Too much rehabilitation means maintaining the ideal candidates really well but end up ignoring the “lost-causes” for extended periods while you try to carve out funds for reconstruction only occasionally. Both cases can result in a lopsided distribution of pavement conditions that is heavy on the two extremes.

Research performed by HR Green has indicated that most cities in Iowa tend to perform best with a 60/40 split between rehabilitation and reconstruction or 55/35 with the remaining 10% focused on restoration treatments like crack sealing and patching.

However, for Bondurant, The dTIMS BA model provided insight for splitting the funding and indicated an **ideal funding distribution of 80/10/10** between Rehabilitation, Restoration, and Reconstruction. This result is slightly atypical but is a clear result of Bondurant’s current pavement distributions. There are a small number of roads that need major work, but a large amount of relatively newer, low-risk, pavements that do not yet need rehabilitation. The budget therefore is focused more towards preserving the “Good” pavements with restoration treatments and addressing the few existing pavements that are in “Poor” or “Very Poor” condition. Over time, however, this may need to shift more towards Reconstruction.

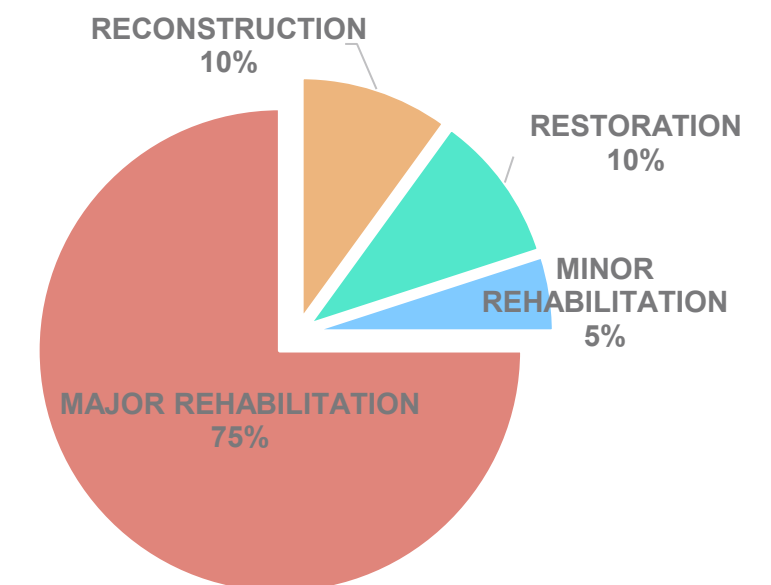


FIGURE 55: DTIMS BA RECOMMENDED BUDGET PROPORTIONS

This figure shows the results returned by dTIMS BA when developing the construction program.

LAND DEVELOPMENT AND INCREASING LIABILITIES

The recommended budget solutions assume that the amount of maintenance, rehabilitation, and reconstruction needs in Bondurant will be static and unchanging. The size of the network and its characteristics are fixed in time. However, the reality is that Bondurant is still a growing City.

In 2010, Bondurant’s population was 3,930. Since then, the population of Bondurant has grown to 8,035 in 2021, a nearly 105% increase in population in just 10 years. This kind of population change is driven by new development and housing opportunities.

Along with the expansion of housing and population comes increased demand for infrastructure. In order to provide for the future needs, either the City or Developers will need to ensure they are providing adequate funding for road reconstruction.

Expanding the street network also means increasing the City’s maintenance liabilities. More roads require more money. HRG estimates that for each mile of new roadway built, the City will need to spend approximately **\$103,000 more each year** on maintenance and rehabilitation, not accounting for inflation.

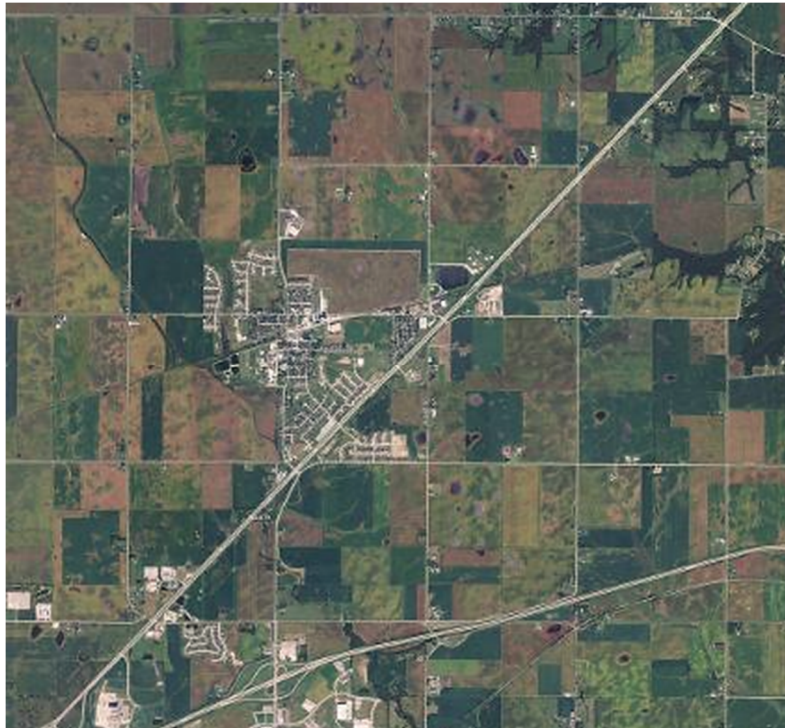


FIGURE 56: 2010 AERIAL IMAGERY (USDA)
Aerial imagery from 2010 shows the historical core of the community’s infrastructure and serves as a reference for how much it has expanded in the past 10 years.

PERFORMANCE METRICS AND GOAL SETTING

Pavement Management Programs are ongoing processes. Adopting a plan and analyzing potential budgets are not enough. They need to be actionable and have clear, measurable performance goals.

The first steps in moving forward are to approve the findings of this pavement management plan, identify a funding strategy, and then develop an objective, data-driven Capital Improvement Plan. The Capital Improvement Plan will assist decision makers in determining the most cost-effective actions are to use the funding they have available to improve or maintain conditions in Bondurant.

With the Scenario results in mind, Bondurant needs to set some measurable performance goals for the near future, that will be addressed by said Capital Improvement Program. This allows a City to track its performance, ensuring that it remains on track and is actually effective.

RECOMMENDED PERFORMANCE METRICS

- ▶ Maintain a Hybrid CityPCI goal of 70 for Local Streets and 75 for Collectors and Arterials.
- ▶ Clearly establish a dedicated budget for Pavement Management activities
- ▶ Steadily Increase average annual spending on roadway improvements to approximately \$1.2 million per year.
- ▶ Maintain an ideal Rehabilitation budget share of about 80%, Reconstruction budget share of around 10%, and Restoration share of at least 10%.

“LIVING DOCUMENTS”

Another important part of this performance tracking and goal-setting is to renew this plan as physical, fiscal, and political conditions change. HRG recommends that Pavement Management Plans act as “Living Documents” that grow with cities and adapt to their needs by regular updates and changes. By default, for most agencies this will mean renewing the plan every 2-4 years, complete with new pavement condition data.

Looked at another way, using the assumptions from **Cost Comparison Section** on **page 52**, the cost increase is approximately **\$880 to \$945 per lot**.

TABLE 16: ADDITIONAL COSTS OF MAINTAINING 1 MILE OF NEW ROAD

Year	Action	Cost (PV)	Annual Cost (PV)
1	Construction	By Developer	By Developer
5	Seal	\$24,000	\$4,800
9	Seal	\$24,000	\$2,667
12	Seal & Patch	\$82,135	\$6,845
15	Rehab (PCC Restoration)	\$ 410,675	\$27,378
18	Seal	\$24,000	\$1,333
21	Seal	\$24,000	\$1,143
24	Seal & Patch	\$82,135	\$3,422
27	Seal & Patch	\$82,135	\$3,042
30	Rehab (Overlay)	\$ 772,069	\$25,736
33	Seal	\$24,000	\$727
36	Seal	\$24,000	\$667
39	Seal & Patch	\$82,135	\$2,106
42	Seal & Patch	\$82,135	\$1,956
45	Rehab (Mill & Overlay)	\$887,058	\$19,712
48	Seal	\$24,000	\$500
51	Seal	\$24,000	\$471
54	Seal & Patch	\$82,135	\$1,521
57	Seal & Patch	\$82,135	\$1,441
60	Seal & Patch	\$82,135	\$1,369
65	Reconstruct	\$3,778,210	\$58,126
Total		\$6,697,092	\$103,032



FIGURE 57: 2022 AERIAL IMAGERY (USDA)
Aerial imagery from 2022 can show the extent of growth that has taken place over the past 10 years.

CAPITAL IMPROVEMENT PLAN

The Capital Improvement Plan (CIP) is a list of recommended projects for Bondurant to complete over the next 10 years. This list of projects was generated using the results of the dTIMS BA model, as well as several other factors. The project list is optimized for the most effective use of available funds, based on the pavement condition data and planning-level information provided by the City.

Appendix A: Capital Improvement plan includes a complete list of recommended projects and maps identifying the location for the proposed treatments. Projects are sorted into three phases, Phase 1 (FY2026-FY2028), Phase 2 (2029-2031), and Phase 3 (FY2032-2035). It is assumed that the annual budget will start at \$500,000 in 2026 and gradually increase to \$1.2 Million by 2032. For this reason, an average annual budget of \$650,000 was used to establish projects for Phase 1 and an average annual budget of \$1 Million was used for Phase 2.

These lists and maps will serve as a tool to assist City staff during the project planning process, but they do not replace engineering judgement. Project types may change from what is in the CIP and projects will likely move between phases for various reasons. Some projects may even leave the plan entirely as new ones are added. Some reasons the program may change include field conditions not captured by the IPMP data, required utility improvements, or environmental hazards causing changes to local conditions.

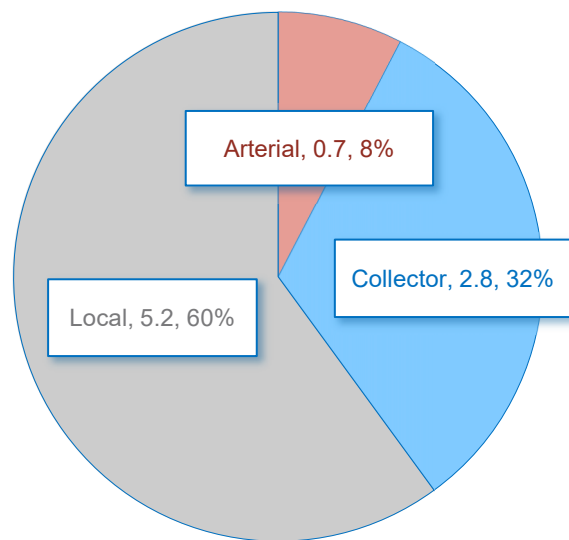


FIGURE 58: LENGTH OF TREATMENT BY FEDERAL FUNCTIONAL CLASS
 This area graph shows the breakdown of projects based on the miles of each functional class included.

Consisting of **80 PROJECTS**, the recommended projects contained within the CIP will address approximately **9 MILES** of roads. Together, collectors and arterials make up about 40% of the projects by length and local roads make up about 60%. This distribution of projects reflects a similar distribution of overall roadway classifications in Bondurant. The plan acknowledges that the major corridors experience higher traffic volume and will therefore need more frequent maintenance, but the sheer volume of local roads in the network means that they will make up the majority of the projects.

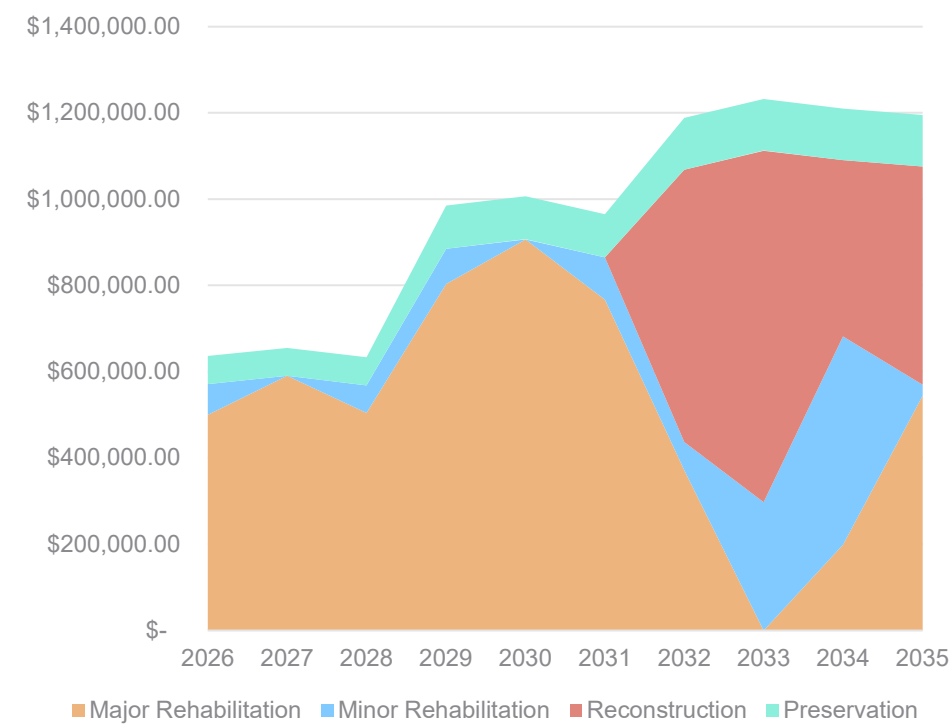


FIGURE 59: TREATMENT TYPE OVER TIME
 This area graph shows the treatment distribution for each year of the CIP.

APPENDIX A: CAPITAL IMPROVEMENT PLAN

Map 8: Sample Projects – Varying Annual Budgets

FIGURE 60: CAPITAL IMPROVEMENT PLAN – LIST OF RECOMMENDED PROJECTS (PHASE 1 - FY2026–FY2028)

Phase	Branch	From Intersection	To Intersection	Recommended Treatment Type	Estimated Cost	Surface Type	Functional Classification	AADT	CityPCI	IRI	SY	Miles
Phase 1	GARFIELD STREET SOUTHWEST	3RD STREET SOUTHWEST	2ND STREET SOUTHWEST	Major Rehabilitation	\$ 55,463.29	PCC	7	289	59	291	920	0.06
Phase 1	THIRD STREET NORTHWEST	SHILOH ROSE PARKWAY NORTHWEST	MALLARD POINTE DRIVE NORTHWEST	Major Rehabilitation	\$ 129,942.56	PCC	7	77	61	377	2173	0.12
Phase 1	FOURTH STREET NORTHWEST	SHILOH ROSE PARKWAY NORTHWEST	MALLARD POINTE DRIVE NORTHWEST	Major Rehabilitation	\$ 141,563.44	PCC	7	98	61	192	2363	0.13
Phase 1	GARFIELD STREET SOUTHWEST	4TH STREET SOUTHWEST	3RD STREET SOUTHWEST	Major Rehabilitation	\$ 87,298.89	PCC	7	289	55	304	1464	0.06
Phase 1	4TH STREET SOUTHWEST	GARFIELD STREET SOUTHWEST	4TH STREET SOUTHEAST	Major Rehabilitation	\$ 89,419.56	PCC	7	289	60	309	1495	0.07
Phase 1	OLESON DRIVE	BRICK STREET SOUTHEAST	HUBBELL AVENUE	Major Rehabilitation	\$ 54,923.53	PCC	7	540	99	N/A	908	0.05
Phase 1	10TH COURT SOUTHEAST	LINCOLN STREET SOUTHEAST	N Dead End	Major Rehabilitation	\$ 96,116.18	PCC	7	289	59	319	1605	0.09
Phase 1	WASHINGTON AVENUE	PAINE STREET SOUTHEAST	HUBBELL AVENUE	Major Rehabilitation	\$ 53,233.58	PCC	7	370	60	222	886	0.06
Phase 1	LINCOLN STREET SOUTHEAST	S Dead End	LINCOLN STREET NORTHEAST	Major Rehabilitation	\$ 97,489.27	PCC	7	289	64	393	1620	0.07
Phase 1	NORTHEAST 2ND STREET	PAINE STREET SOUTHEAST	PLEASANT STREET NORTHEAST	Major Rehabilitation	\$ 76,255.84	ACC	5	3130	53	203	1414	0.10
Phase 1	NORTHEAST 2ND STREET	SNYDER STREET SOUTHEAST	PATTERSON STREET SOUTHEAST	Major Rehabilitation	\$ 45,619.20	ACC	5	3130	43	170	846	0.06
Phase 1	NORTHEAST 2ND STREET	PLEASANT STREET NORTHEAST	HUBBELL AVENUE	Major Rehabilitation	\$ 78,362.31	ACC	5	1630	53	223	1449	0.10
Phase 1	NORTHEAST 2ND STREET	PATTERSON STREET SOUTHEAST	PAINE STREET SOUTHEAST	Major Rehabilitation	\$ 45,619.20	ACC	5	3130	60	148	846	0.06
Phase 1	WALNUT DRIVE NORTHWEST	DEER RIDGE DRIVE NORTHWEST	EVERGREEN CIRCLE NORTHWEST	Major Rehabilitation	\$ 42,248.87	PCC	7	36	64	240	703	0.04
Phase 1	PATTERSON STREET SOUTHEAST	PAINE STREET SOUTHEAST	NORTHEAST 2ND STREET	Major Rehabilitation	\$ 163,891.20	PCC	7	289	33	317	2727	0.19
Phase 1	PAINE STREET SOUTHEAST	PATTERSON STREET SOUTHEAST	NORTHEAST 2ND STREET	Major Rehabilitation	\$ 215,424.00	PCC	7	289	65	309	3598	0.20
Phase 1	LINCOLN STREET SOUTHEAST	13TH STREET SOUTHEAST	HUBBELL AVENUE	Minor Rehabilitation	\$ 64,178.95	PCC	7	250	78	236	2572	0.16
Phase 1	LINCOLN STREET SOUTHEAST	HUBBELL AVENUE	BRICK STREET SOUTHEAST	Minor Rehabilitation	\$ 24,640.00	PCC	7	1090	51	294	988	0.06
Phase 1	LINCOLN COURT	10TH COURT SOUTHEAST	W Dead End	Minor Rehabilitation	\$ 29,920.00	PCC	7	289	48	296	1202	0.09
Phase 1	11TH COURT SOUTHEAST	GRANT COURT	LINCOLN STREET SOUTHEAST	Minor Rehabilitation	\$ 75,366.64	PCC	7	540	48	320	1675	0.12
Phase 1	LINCOLN STREET SOUTHEAST	BRICK STREET SOUTHEAST	11TH COURT SOUTHEAST	Minor Rehabilitation	\$ 44,758.22	PCC	7	1090	49	358	995	0.06
Phase 1	TAILFEATHER DRIVE NORTHWEST	SPRUCE DRIVE NORTHWEST	GRANT STREET NORTH	Minor Rehabilitation	\$ 17,160.00	PCC	7	76	86	N/A	688	0.04
Phase 1	Annual Streets Maintenance			Preservation	\$ 65,000.00	Varies						
Phase 1	Annual Streets Maintenance			Preservation	\$ 65,000.00	Varies						
Phase 1	Annual Streets Maintenance			Preservation	\$ 65,000.00	Varies						
Average Annual Cost					\$ 642,000.00							

Map 9: Phase 1 Projects - \$650,000 Annual Budget

FIGURE 61: CAPITAL IMPROVEMENT PLAN – LIST OF RECOMMENDED PROTECTS (PHASE 2 – FY2029-FY2031)

Phase	Branch	From Intersection	To Intersection	Recommended Treatment Type	Estimated Cost	Surface Type	Functional Classification	AADT	CityPCI	IRI	SY	Miles
Phase 2	GRANT STREET SOUTH	35TH STREET SOUTHWEST	City Limits	Major Rehabilitation	\$ 147,213.04	ACC	4	2220	59	171	2723	0.21
Phase 2	GRANT STREET SOUTH	City Limits	35TH STREET SOUTHWEST	Major Rehabilitation	\$ 145,119.96	ACC	4	2220	59	147	2686	0.21
Phase 2	14TH STREET SOUTHEAST	LINCOLN STREET SOUTHEAST	MICHAEL STREET SOUTHEAST	Major Rehabilitation	\$ 117,973.39	PCC	7	26	76	250	1972	0.12
Phase 2	NORTHWEST 2ND STREET	DEER RIDGE DRIVE NORTHWEST	BLAINE STREET NORTHWEST	Major Rehabilitation	\$ 56,322.78	ACC	5	2870	75	107	1039	0.07
Phase 2	NORTHWEST 2ND STREET	GARFIELD STREET NORTHWEST	GRANT STREET NORTH	Major Rehabilitation	\$ 49,472.71	ACC	5	2870	68	122	921	0.07
Phase 2	FIFTH STREET NORTHWEST	SHILOH ROSE PARKWAY NORTHWEST	MALLARD POINTE DRIVE NORTHWEST	Major Rehabilitation	\$ 150,109.52	PCC	7	98	73	232	2497	0.14
Phase 2	NORTHWEST 2ND STREET	BLAINE STREET NORTHWEST	GARFIELD STREET NORTHWEST	Major Rehabilitation	\$ 100,509.87	ACC	5	2870	64	109	1853	0.13
Phase 2	NORTHEAST 78TH AVENUE	NORTHEAST 2ND STREET	NORTHEAST 78TH AVENUE	Major Rehabilitation	\$ 634,145.00	ACC	5	520	84	97	11412	0.88
Phase 2	NORTHEAST 2ND STREET	MAIN STREET NORTHEAST	LINCOLN STREET NORTHEAST	Major Rehabilitation	\$ 50,984.24	ACC	5	3130	86	109	941	0.07
Phase 2	SNYDER STREET SOUTHEAST	1ST STREET SOUTHEAST	NORTHEAST 2ND STREET	Major Rehabilitation	\$ 129,254.40	PCC	7	289	58	352	2150	0.15
Phase 2	NORTHEAST 2ND STREET	LINCOLN STREET SOUTHEAST	LINCOLN STREET NORTHEAST	Major Rehabilitation	\$ 28,865.14	PCC	7	289	67	152	484	0.02
Phase 2	MALLARD POINTE DRIVE NORTHWEST	FOURTH STREET NORTHWEST	FIFTH STREET NORTHWEST	Major Rehabilitation	\$ 63,413.24	PCC	7	151	84	191	1062	0.06
Phase 2	LINCOLN STREET SOUTHEAST	15TH STREET SOUTHEAST	14TH STREET SOUTHEAST	Major Rehabilitation	\$ 66,569.92	PCC	7	26	80	181	1108	0.06
Phase 2	10TH COURT SOUTHEAST	GRANT COURT	LINCOLN COURT	Major Rehabilitation	\$ 63,413.24	PCC	7	300	80	294	1053	0.06
Phase 2	WASHINGTON AVENUE	4TH STREET SOUTHEAST	BRICK STREET SOUTHEAST	Major Rehabilitation	\$ 126,799.85	PCC	7	6	73	174	2105	0.12
Phase 2	10TH COURT SOUTHEAST	LINCOLN COURT	LINCOLN STREET SOUTHEAST	Major Rehabilitation	\$ 63,074.15	PCC	7	300	55	446	1051	0.06
Phase 2	NORTHWEST 2ND STREET	NORTHEAST 64TH STREET	CREEKSIDE DRIVE SOUTHWEST	Major Rehabilitation	\$ 81,422.60	ACC	5	3620	77	121	1513	0.11
Phase 2	NORTHWEST 2ND STREET	CREEKSIDE DRIVE SOUTHWEST	FIRESIDE DRIVE NORTHWEST	Major Rehabilitation	\$ 61,637.67	ACC	5	3620	66	141	1145	0.08
Phase 2	NORTHWEST 2ND STREET	FIRESIDE DRIVE NORTHWEST	LANDON DRIVE NORTHWEST	Major Rehabilitation	\$ 70,769.17	ACC	5	3620	73	119	1312	0.09
Phase 2	NORTHWEST 2ND STREET	LANDON DRIVE NORTHWEST	SHILOH ROSE PARKWAY NORTHWEST	Major Rehabilitation	\$ 140,016.43	ACC	5	3620	87	115	2596	0.18
Phase 2	BLAINE STREET NORTHWEST	NORTH 1ST STREET	NORTHWEST 2ND STREET	Major Rehabilitation	\$ 54,594.38	PCC	7	289	72	263	907	0.06
Phase 2	TAILFEATHER COURT NORTHWEST	S Dead End	MALLARD POINTE DRIVE NORTHWEST	Major Rehabilitation	\$ 75,023.24	PCC	7	26	69	301	1254	0.07
Phase 2	13TH STREET SOUTHEAST	COVE STREET SOUTHEAST	MICHAEL STREET SOUTHEAST	Minor Rehabilitation	\$ 22,595.71	PCC	7	51	72	223	901	0.06
Phase 2	13TH STREET SOUTHEAST	LINCOLN STREET SOUTHEAST	COVE STREET SOUTHEAST	Minor Rehabilitation	\$ 27,341.22	PCC	7	51	71	255	1089	0.07
Phase 2	JEFFERSON AVENUE	BRICK STREET SOUTHEAST	9TH STREET SOUTHEAST	Minor Rehabilitation	\$ 48,430.50	PCC	7	26	86	220	1937	0.13
Phase 2	10TH COURT SOUTHEAST	GRANT STREET SOUTH	GRANT COURT	Minor Rehabilitation	\$ 38,016.00	PCC	7	480	64	266	1518	0.07
Phase 2	9TH COURT SOUTHEAST	W Dead End	LINCOLN STREET SOUTHEAST	Minor Rehabilitation	\$ 43,657.17	PCC	7	289	65	303	1741	0.12
Phase 2	Annual Streets Maintenance			Preservation	\$ 100,000.00	Varies						
Phase 2	Annual Streets Maintenance			Preservation	\$ 100,000.00	Varies						
Phase 2	Annual Streets Maintenance			Preservation	\$ 100,000.00	Varies						
Average Annual Cost					\$ 986,000.00							

Map 10: Phase 2 Projects - \$1,000,000 Annual Budget

FIGURE 62: CAPITAL IMPROVEMENT PLAN – LIST OF RECOMMENDED PROJECTS (PHASE 3 – FY202032-FY2035)

Phase	Branch	From Intersection	To Intersection	Recommended Treatment Type	Estimated Cost	Surface Type	Functional Classification	AADT	CityPCI	IRI	SY	Miles
Phase 3	ALPHA STREET NORTHWEST	SHILOH ROSE PARKWAY NORTHWEST	MALLARD POINTE DRIVE NORTHWEST	Major Rehabilitation	\$ 131,246.80	PCC	7	77	73	203	2181	0.12
Phase 3	1ST STREET NORTHWEST	SHILOH ROSE PARKWAY NORTHWEST	MALLARD POINTE DRIVE NORTHWEST	Major Rehabilitation	\$ 125,981.04	PCC	7	77	65	258	2098	0.12
Phase 3	ALPHA STREET NORTHWEST	BLAINE STREET NORTHWEST	NORTH 1ST STREET	Major Rehabilitation	\$ 142,889.66	PCC	7	289	64	168	2383	0.16
Phase 3	NORTH 1ST STREET	BLAINE STREET NORTHWEST	ALPHA STREET NORTHWEST	Major Rehabilitation	\$ 91,712.37	PCC	7	289	67	288	1527	0.10
Phase 3	GARFIELD STREET SOUTHWEST	2ND STREET SOUTHWEST	1ST STREET SOUTHWEST	Major Rehabilitation	\$ 52,040.06	PCC	7	289	67	316	864	0.06
Phase 3	15TH STREET SOUTHEAST	LINCOLN STREET SOUTHEAST	MICHAEL STREET SOUTHEAST	Major Rehabilitation	\$ 17,607.39	ACC	4	550	86	57	1754	0.12
Phase 3	15TH STREET SOUTHEAST	ADAMS STREET SOUTHEAST	LINCOLN STREET SOUTHEAST	Major Rehabilitation	\$ 72,382.23	ACC	4	550	86	64	1335	0.09
Phase 3	DEER RIDGE DRIVE NORTHWEST	THIRD STREET NORTHWEST	5TH COURT NORTHWEST	Major Rehabilitation	\$ 107,938.41	PCC	7	100	48	232	1803	0.10
Phase 3	HENRY STREET SOUTHWEST	S Dead End	32ND STREET SOUTHWEST	Major Rehabilitation	\$ 107,563.08	PCC	7	26	85	216	1786	0.12
Phase 3	GRANT STREET SOUTH	15TH STREET SOUTHEAST	HUBBELL AVENUE	Major Rehabilitation	\$ 22,852.75	PCC	4	550	70	N/A	377	0.03
Phase 3	11TH COURT SOUTHEAST	LINCOLN STREET SOUTHEAST	N Dead End	Major Rehabilitation	\$ 74,389.25	PCC	7	289	67	211	1245	0.09
Phase 3	LINCOLN STREET SOUTHEAST	5TH STREET SOUTHEAST	4TH STREET SOUTHEAST	Major Rehabilitation	\$ 53,244.76	PCC	7	170	54	307	886	0.06
Phase 3	LINCOLN STREET SOUTHEAST	4TH STREET SOUTHEAST	3RD STREET SOUTHEAST	Major Rehabilitation	\$ 51,543.62	PCC	7	170	42	264	866	0.06
Phase 3	DEER RIDGE DRIVE NORTHWEST	6TH COURT NORTHWEST	MULBERRY DRIVE NORTHWEST	Major Rehabilitation	\$ 61,286.59	PCC	7	151	75	249	1020	0.06
Phase 3	MALLARD POINTE DRIVE NORTHWEST	ALPHA STREET NORTHWEST	1ST STREET NORTHWEST	Minor Rehabilitation	\$ 25,138.00	PCC	7	151	77	262	995	0.06
Phase 3	32ND STREET SOUTHWEST	WOLF CREEK ROAD SOUTHWEST	POPLAR DRIVE SOUTHWEST	Minor Rehabilitation	\$ 181,672.92	PCC	5	1330	N/A	N/A	7249	0.23
Phase 3	32ND STREET SOUTHWEST	POPLAR DRIVE SOUTHWEST	COMMERCE PARKWAY SOUTHWEST	Minor Rehabilitation	\$ 212,612.85	PCC	5	1330	N/A	N/A	8496	0.27
Phase 3	32ND STREET SOUTHWEST	COMMERCE PARKWAY SOUTHWEST	GRANT STREET SOUTH	Minor Rehabilitation	\$ 88,853.13	PCC	5	1330	N/A	N/A	3539	0.11
Phase 3	32ND STREET SOUTHWEST	HENRY STREET SOUTHWEST	WOLF CREEK ROAD SOUTHWEST	Minor Rehabilitation	\$ 107,144.74	PCC	5	1330	N/A	N/A	4286	0.14
Phase 3	32ND STREET SOUTHWEST	HUBBELL AVENUE	HENRY STREET SOUTHWEST	Minor Rehabilitation	\$ 51,430.43	PCC	5	2630	N/A	N/A	2059	0.07
Phase 3	PLEASANT STREET SOUTHEAST	COURTYARD DRIVE SOUTHEAST	NORTHEAST 2ND STREET	Minor Rehabilitation	\$ 138,738.74	ACC	7	460	83	107	3950	0.28
Phase 3	PLEASANT STREET SOUTHEAST	15TH STREET	13TH STREET SOUTHEAST	Minor Rehabilitation	\$ 65,776.00	ACC	7	460	78	102	1883	0.12
Phase 3	NORTHEAST 4TH STREET	4TH STREET NORTHWEST	LINCOLN STREET NORTHEAST	Reconstruction	\$ 506,204.66	PCC	7	289	48	379	2242	0.16
Phase 3	MAIN STREET NORTHEAST	RAILROAD STREET	GRAIN STREET	Reconstruction	\$ 175,241.18	ACC	7	630	44	416	763	0.05
Phase 3	MAIN STREET NORTHEAST	GRAIN STREET	NORTHEAST 2ND STREET	Reconstruction	\$ 233,654.91	ACC	7	630	63	206	1020	0.07
Phase 3	LINCOLN STREET NORTHEAST	NORTHEAST 4TH STREET	FIFTH STREET NORTHWEST	Reconstruction	\$ 247,885.84	PCC	7	151	73	370	1078	0.06
Phase 3	LINCOLN STREET NORTHEAST	NORTHEAST 2ND STREET	NORTHEAST 3RD STREET	Reconstruction	\$ 320,127.92	PCC	7	289	70	302	1390	0.08
Phase 3	LINCOLN STREET NORTHEAST	NORTHEAST 3RD STREET	NORTHEAST 4TH STREET	Reconstruction	\$ 247,187.38	PCC	7	289	66	367	1073	0.06
Phase 3	BRICK STREET SOUTHEAST	FILMORE AVENUE	CLEVELAND AVENUE	Reconstruction	\$ 208,011.53	PCC	7	289	44	228	904	0.06
Phase 3	BRICK STREET SOUTHEAST	CLEVELAND AVENUE	JEFFERSON AVENUE	Reconstruction	\$ 208,011.53	PCC	7	289	55	230	902	0.06
Phase 3	BRICK STREET SOUTHEAST	JEFFERSON AVENUE	WASHINGTON AVENUE	Reconstruction	\$ 215,310.18	PCC	7	289	32	364	934	0.06

Phase	Branch	From Intersection	To Intersection	Recommended Treatment Type	Estimated Cost	Surface Type	Functional Classification	AADT	CityPCI	IRI	SY	Miles
Phase 3	Annual Streets Maintenance			Preservation	\$ 120,000.00	Varies						
Phase 3	Annual Streets Maintenance			Preservation	\$ 120,000.00	Varies						
Phase 3	Annual Streets Maintenance			Preservation	\$ 120,000.00	Varies						
Phase 3	Annual Streets Maintenance			Preservation	\$ 120,000.00	Varies						
Average Annual Cost					\$ 1,210,000.00							

Map 11: Phase 3 Projects - \$1,200,000 Annual Budget

APPENDIX B: PAVEMENT STANDARDS RECOMMENDATIONS

URBAN PAVEMENT SYSTEM DESIGN

For the purposes of this discussion, the pavement system consists of the elements shown in **Figure 63**.

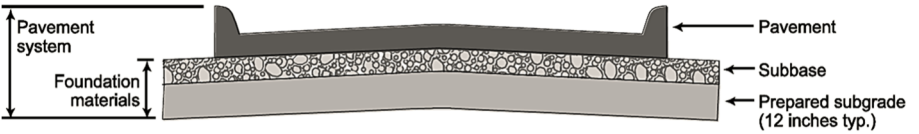


FIGURE 63: ILLUSTRATION PAVEMENT SYSTEM ELEMENTS

This diagram identifies the key elements to a pavement system

Proper design, construction, and maintenance of the various components of the pavement system are critical to the performance of long-life pavements.

PAVEMENT FOUNDATION

It is common for local street and highway pavements to be constructed from PCC supported on a natural subgrade without considering or using a subgrade stabilized treatment or support layer such as an aggregate subbase. When support layers are considered, they typically serve as a construction platform and improve the level of stability and uniformity for the pavement foundation which can result in increased performance and thus increased pavement life. An aggregate subbase can also improve the drainage under the pavement, minimizing the deterioration caused by water entrapment. The question is, how much do they benefit the pavement and is the benefit worth the costs, particularly if the pavement is meeting the design life.³

The pavement design life for local roadways (not including heavily traveled arterials or trunk highways) is normally based on the pavement thickness and less concern is typically given to the support system. Unless there are material related distress failures in concrete pavement (i.e. freeze-thaw damage, ASR, D-cracking) the normal mode of failure is the vertical distortions of the pavement surface from subgrade movement. The degradation is normally faulting, slab movement, joint failures, cracking, etc. and is represented by the dropping of the pavement condition index (PCI).³

SUBGRADE SOILS

Concrete pavement is relied upon for its durability and strength. For a concrete pavement to provide long term performance, its foundation needs to have uniform support. Typically, in Iowa, the foundation includes the natural subgrade and, in some instances, an aggregate subbase.

Concrete pavement is relied upon for its durability and strength. In order for a concrete pavement to provide long term performance, its foundation needs to have uniform support. Typically, in Iowa, the foundation includes the natural subgrade and, in some instances, an aggregate subbase. If the pavement is placed directly on the natural subgrade, preparation is needed to provide uniformity. At a minimum this includes topsoil removal, scarification of the underlying subgrade to a depth of one foot and compaction to a specified depth, density and moisture content. For additional information, see SUDAS Design Manual Chapter 6.⁴

Typical soils found in the vicinity of Bondurant are moderate to high plasticity soils (fat clays and lean clays with liquid limits greater than 45 and/or plasticity indices greater than 23). These soil types can experience cycles of volume change as moisture contents vary, which can result in upward and downward movement of supported pavements that could cause distortion or structural damage. The soils encountered in Bondurant can be expected to have low k values of 50 to 100 psi/inch and corresponding low CBRs of 1 to 3, as shown in **Table 17**, which indicates subgrade suitability of various soils:

When constructing any pavement (rigid or flexible) on natural subgrade that is subject to poor drainage and/or has poor soils, there will likely be measurable soil breakdown and movement due to freeze-thaw conditions and/or traffic loading.³

It should be noted that variability in the soil affects both rigid and flexible pavements. Rigid concrete pavements transfer the traffic load to the aggregate subbase and subgrade foundation at a smaller value than flexible asphalt pavements because they are able to distribute the load to a larger area. For example, a 100-psi tire load typically results in less than 5 psi to the aggregate subbase for concrete pavement and is approximately 20 psi for the aggregate subbase for asphalt pavement. Therefore, asphalt pavement requires a thicker aggregate subbase and/or a thicker pavement to provide additional support and strength as compared to a concrete pavement. Although concrete pavements can perform better than asphalt pavements when subjected

to poor support characteristics, they are more rigid and are subject to more tensile cracking.

Table 17 illustrates the subgrade reactions for rigid and flexible pavements.

TABLE 17: SUITABILITY OF SOILS FOR SUBGRADE APPLICATIONS

Table 6E-1.01: Suitability of Soils for Subgrade Applications					
Subgrade Soils for Design	Unified Soil Classifications	Load Support and Drainage Characteristics	Modulus of Subgrade Reaction (k), psi/inch	Resilient Modulus (M _R), psi	CBR Range
Crushed Stone	GW, GP, and GU	Excellent support and drainage characteristics with no frost potential	220 to 250	Greater than 5,700	30 to 80
Gravel	GW, GP, and GU	Excellent support and drainage characteristics with very slight frost potential	200 to 220	4,500 to 5,700	30 to 80
Silty gravel	GW-GM, GP-GM, and GM	Good support and fair drainage, characteristics with moderate frost potential	150 to 200	4,000 to 5,700	20 to 60
Sand	SW, SP, GP-GM, and GM	Good support and excellent drainage characteristics with very slight frost potential	150 to 200	4,000 to 5,700	10 to 40
Silty sand	SM, non-plastic (NP), and >35% silt (minus #200)	Poor support and poor drainage with very high frost potential	100 to 150	2,700 to 4,000	5 to 30
Silty sand	SM, Plasticity Index (PI) <10, and <35 % silt	Poor support and fair to poor drainage with moderate to high frost potential	100 to 150	2,700 to 4,000	5 to 20
Silt	ML, >50% silt, liquid limit <40, and PI <10	Poor support and impervious drainage with very high frost value	50 to 100	1,000 to 2,700	1 to 15
Clay	CL, liquid limit >40 and PI >10	Very poor support and impervious drainage with high frost potential	50 to 100	1,000 to 2,700	1 to 15

Source: American Concrete Pavement Association; Asphalt Paving Association; State of Ohio; State of Iowa; Rollings and Rollings 1996.

³ Gross, J., Harrington, D., Wiegand, P., and Cackler, T. Guidance for Improving Foundation Layers to Increase Pavement Performance on Local Roads, Iowa: Report No. TR-640, Iowa Department of Transportation. 2014.

⁴ Institute for Transportation, Iowa State University, Statewide Urban Design and Specifications, Design Manual, Rev. 2022

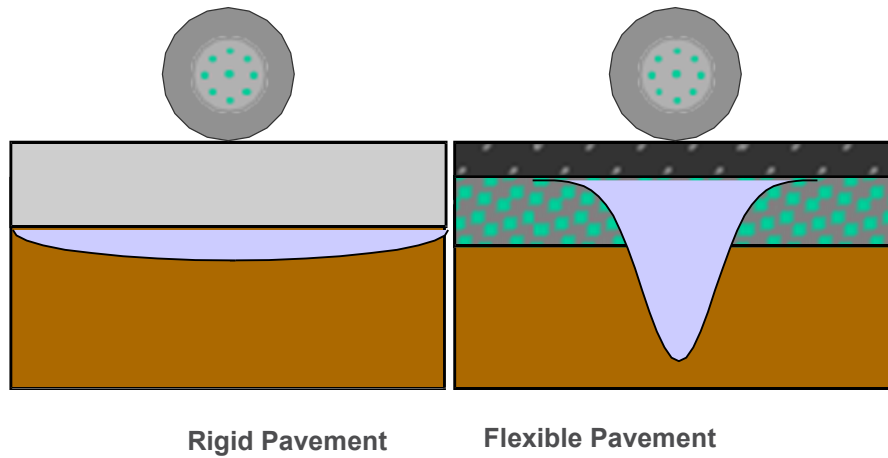


FIGURE 64: SUBGRADE REACTION (GROSS)³

This diagram shows how loads are distributed differently based on surface type.

STABILIZED SUBGRADES

The need to stabilize subgrades is primarily due to excessive moisture in the subgrade itself.

High moisture in soils may be encountered during construction for reasons ranging from a naturally high water table to seasonal rainfall and even to changes in drainage conditions during construction. Regardless of the cause, in situ wet soils must be addressed before constructing an aggregate subbase or placement of the pavement on the subgrade. Placing subdrains before construction or letting the soil dry out through a natural process is not normally a practical approach because of time constraints. The two most commonly used methods are chemical modification of the soils, particularly in high moisture conditions, and reinforcement/separation.⁵

CHEMICAL STABILIZED SUBGRADE

A stabilized subgrade, such as soil cement or fly ash stabilization, will help to dry out excessive moisture soils and develop the uniformity needed to provide a construction platform and reduce delays during construction. When using chemical stabilizers, the percent of the stabilizer needs to be stipulated when the water content, soil type and freeze- thaw performance are considered.⁵

Cement Modified Soils (CMS) are soils and/or manufactured aggregates mixed with a small portion of Portland cement. CMS are

normally used to improve material properties in the subgrade. Also, CMS helps prevent migration of subgrade soil and water into the aggregate subbase and provides some additional strength to the subgrade. CMS are principally used to modify fine grained soils such as silts and clays having high plasticity content. Some specifications require enough cement content to reduce the Plastic Index (PI) within a range of 12 to 15. Typically, a CMS amount equivalent to 3 to 5 percent of the soil's dry weight is incorporated into the mix to achieve the desired strength. This combination allows for the reduction of plasticity, minimization of moisture related volumetric changes, an increase in bearing strength and an improvement in stability. This also provides a weather resistant construction platform.

A successful chemical stabilization can be achieved by incorporating approximately 10 to 15 percent fly ash (measured by dry weight of the native soil) into the existing subgrade. Fly ash can improve the subgrade CBR from 2 to 3 to as much as 25 to 30. It can also improve the unconfined compressive strength from 50 psi to 400 psi. Fly ash stabilized subgrades can also reduce the shrink-swell potential of clay soils and upgrade the condition of marginal soils. It is also a good drying agent for wet soils and provides a working platform during construction.

REINFORCED STABILIZED SUBGRADE

Reinforced subgrade treatment is typically used when subgrades have an unstable (soft) but not extremely high moisture content. This may be accomplished through the use of geosynthetics, such as geogrids and woven geotextiles.⁵

UNSTABILIZED AGGREGATE SUBBASES

Unstabilized aggregate subbases are appropriate when a stable and uniform construction platform will benefit construction. (ACPA 2007) An aggregate subbase support layer can provide a working platform during construction as well as provide uniformity as a support layer. A granular support layer will also serve as a drainage system to help drain surface water away from the pavement as well as provide a cutoff layer from subsurface moisture. If an aggregate subbase is used, a subdrain and outlet will be needed to complete the drainage system due to the poor drainage properties of Iowa soils.⁵

Premature deterioration of PCC pavement joints may be attributed to poorly draining joints, and subsurface drainage will help alleviate the problem (Taylor et al. 2016)⁵.

Commonly used Iowa DOT and SUDAS aggregate subbase materials include modified subbase, granular subbase and special backfill. The Iowa DOT and SUDAS specifications for modified subbase and special backfill allow for crushed stone, gravels, and recycled pavement materials meeting material IM210 or uniformly blended combinations of these materials with a maximum of 50 percent (Reclaimed Asphalt Pavement).⁶

The target permeability of approximately 150 feet per day provides the adequate drainage necessary for a pavement foundation layer. Although materials as coarse and open-graded as ASTM No. 57 stone have been used as draining layers, they are not recommended for concrete pavements due to their lack of adequate stability for construction operations and their susceptibility to long-term settlement under heavy truck traffic. It is better to design the gradation of the unstabilized aggregate subbase to include more fines for the sake of stability than to omit the fines for the sake of drainage (ACPA 2007). Therefore, modified subbase is the preferred subbase material for local roadways in Iowa.

In summary, the benefits of aggregate subbases and a drainage system include the following:⁵

- Increases performance and service life
- Provides a construction platform
- Maintains uniform support
- Provides drainage from water infiltration
- Helps reduce shrink and swell of high volume-change soils
- Controls excessive or differential frost heave
- Minimizes mud-pumping of fine-grained soils
- Prevents consolidation of subgrade
- Provides capillary cut off for highwater table

⁵ Taylor, P., Zhang, J., Wang, X. Conclusions from the Investigation of Deterioration of Joints in Concrete Pavement, Report No. TPF-5(224), Federal Highway Administration, 2016.; ACPA, Subgrades and Subbases for Concrete Pavements, EB204P, American Concrete Pavement Association, 2007.

⁶ Gross, J., Harrington, D., Wiegand, P., and Cackler, T. Guidance for Improving Foundation Layers to Increase Pavement Performance on Local Roads, Iowa: Report No. TR-640, Iowa Department of Transportation. 2014.

SUBDRAINS

It is known that drainage is also important to the long-term performance of concrete pavement.

Drainage can be achieved with the use of an aggregate subbase with subdrain outlets. It is important to prepare the natural subgrade prior to the placement of the aggregate subbase to achieve the best performance.^{5,7}

PAVEMENT FOUNDATION RECOMMENDATIONS

The performance of a pavement depends on the quality of its subgrade and subbase layers. These foundational layers play a key role in mitigating the detrimental effects of climate and the static and dynamic stresses generated by traffic. Therefore, building a stable subgrade and a properly drained subbase is vital for constructing an effective and long-lasting pavement system.^{5,7}

In order to determine what soils are present and understand their characteristics, it is essential to complete a geotechnical investigation. It is very important that the conditions of the subgrade are known prior to design in order to select various treatments if necessary, and to specify various materials and preparation to provide uniformity and support for the pavement section.⁸

The subgrade, the layer of soil on which the subbase or pavement is built, provides support to the remainder of the pavement system. It is crucial for highway engineers to develop a subgrade with a California Bearing Ratio (CBR) value of at least 10. Research has shown that if a subgrade has a CBR value less than 10, the subbase material will deflect under traffic loadings in the same manner as the subgrade and cause pavement deterioration². Manipulation, and possibly stabilization, of the on-site soils will be required to achieve this level of support.

The subbase, the layer of aggregate material immediately below the pavement, provides drainage and stability to the pavement. Undrained water in the pavement supporting layers can freeze and expand, creating high internal pressures on the pavement structure. Moreover, flowing water can carry soil particles that clog drains and, in combination with traffic, pump fines from the subbase or subgrade. It is therefore crucial that highway engineers develop a stable, permeable subbase with longitudinal subdrains². According to the MEPDG analysis for low volume roads, PCC pavement systems with aggregate subbase thickness above 5 inches, do not show a significant benefit

over thicker sections. Two thickness options to consider include 1) 6" or more to accommodate migration of soil into the aggregate, or 2) 4"-5" with a separation layer of geotextile or stabilized subgrade.^{7,8}

Longitudinal subdrains are essential with subbases to provide positive subsurface drainage. Rigid or corrugated plastic pipe meeting SUDAS specifications, minimum 6" in diameter, with perforations, and sufficient outlets to storm sewer structures or daylighted are recommended. In areas, where parallel storm sewer is present, it may be possible to utilize the storm sewer piping, along with porous rock backfill and open joints covered with engineering fabric, to serve as longitudinal subdrains. Also, if sized adequately, the subdrains could also serve as a footing drain collector line for adjacent private properties.

Recommendation:

- Conduct geotechnical investigation in all new developments to determine the suitability of soils to be used for pavement subgrade
- Improve subgrade support to provide a CBR of 10, unless the geotechnical investigation determines subgrade soils are adequate
- Construct drainable subbase, using material meeting requirements of SUDAS modified subbase, and install longitudinal subdrains, unless the geotechnical investigation determines the subgrade soil is free draining

Pavement

PAVEMENT THICKNESS

- ▶ It is typical and current practice to use a pre-determined minimum pavement thickness for local roads. These minimum thicknesses are typically 6 or 7 inches.⁸
- ▶ Some current thickness design methodologies were developed for facilities with more traffic and may not be applicable for local roads with lower traffic volumes.⁸
- ▶ Because local roads do not carry significant levels of heavy traffic and because some thickness design methodologies revert to predetermined minimums, modifying the design parameters for improved foundations with geotextiles and aggregate subbases will not decrease the thickness design significantly.⁸
- ▶ It is common for PCC pavements to be designed for 40 to 50 years of service based on a pavement thickness design. Some older pavements

were designed for only 20 years. Although pavements are reaching the specified design life, the last 15 to 20 percent of its design life may be at a low level of service including poor rideability. On a PCI scale this may include the lower end of the fair category and possibly the poor category.⁸

The SUDAS pavement thickness tables, SUDAS Design Section 5F-1, provide recommended pavement thicknesses for various calculated ESALs, subgrade conditions, roadway types, and pavement types. The calculated thicknesses are based on the AASHTO *Guide for the Design of Pavement Structures*, which is used throughout the industry for pavement thickness design. Due to established policies in many jurisdictions across the state, the minimum pavement thickness for streets on natural subgrade was set at 7 inches for rigid pavement and 8 inches for flexible pavement. For pavements with a granular subbase, the minimum thickness was set at 6 inches for both pavement types. As noted in the thickness tables, whenever a thickness was calculated that was less than the minimum, the minimum was used.⁸

PCC PAVEMENT JOINTING

Proper jointing is critical to the performance of PCC pavements. A well-designed jointing system will:

- ▶ Control cracking
- ▶ Divide the pavement into practical construction increments
- ▶ Accommodate slab movement
- ▶ Provide load transfer

⁷ Schaefer, V., Stevens, L., White, D., Ceylan, H. Design Guide for Improved Quality of Roadway Subgrades and Subbases, Iowa: Report No. TR-525, Iowa Department of Transportation, 2008.

⁸ Tay⁸ Taylor, P., Zhang, J., Wang, X. Conclusions from the Investigation of Deterioration of Joints in Concrete Pavement, Report No. TPF-5(224), Federal Highway Administration, 2016.; ACPA, Subgrades and Subbases for Concrete Pavements, EB204P, American Concrete Pavement Association, 2007.

LOAD TRANSFER⁹

For jointed concrete pavements to perform adequately, traffic loadings must be transferred effectively from one side of the joint to the other. This is called load transfer. Adequate load transfer results in lower deflections, which reduces faulting, spalling, and corner breaks, thereby increasing pavement life. Load transfer across joints for street pavements is developed either by aggregate inter-lock or dowel bars.

Aggregate interlock is the interlocking action between aggregate particles at the face of the joint. It relies on the shear interaction between aggregate particles at the irregular crack faces that form below the saw cut. This form of load transfer has been found to be most effective on roadways with short spacings and low truck volumes. Studies have found that aggregate interlock load transfer provides acceptable pavement performance when truck semi-trailer volumes are fewer than 80 to 120 trucks per day per lane. Laboratory and field studies have shown that aggregate interlock load transfer is improved with subgrade strength; size, angularity, and durability of the aggregate; joint face roughness; and slab thickness. Furthermore, these studies found that shorter slabs increase aggregate interlock effectiveness by reducing the movement and opening at each joint.

DOWEL BARS⁹

Dowel bars are round, smooth, steel bars placed across transverse joints to transfer loads without restricting horizontal joint movements due to thermal and moisture contractions and expansions. They also keep slabs in horizontal and vertical alignment. Dowels reduce deflections and stresses due to traffic loads. This in turn prevents or reduces faulting, pumping, and corner breaking on roadways that carry a large number of trucks and/or have longer joint spacings. The use of dowel bars for minimizing faulting and pumping should be considered when the slabs are longer than 20 ft (6.0 m), when truck semi-trailer traffic exceeds 80 to 120 per day per lane, or when the accumulated design traffic exceeds four to five million AASHTO ESAL's per lane. Typically, this truck traffic level requires an 8-in.-thick slab or greater. Since most residential city streets do not experience these truck traffic levels and recommended joint spacings are not greater than 15 ft., dowels are generally not necessary.

⁹ ACPA, Design and Construction of Joints for Concrete Streets, American Concrete Pavement Association, 1992.

TRANSVERSE CONTRACTION JOINTS⁹

TABLE 18: TRANSVERSE JOINT REQUIREMENTS (SUDAS 5G-2.01)

Pavement Thickness	Transverse Joint Type	Transverse Joint Spacing
6"	C	12'
7"	C	15'
8"	CD ¹	15'
9"	CD ¹	15'
≥ 10"	CD ¹	17'

¹ No dowels within 24" of the back of curb

Contraction joints constructed transversely across pavement lanes are spaced to control natural initial and mature cracking of the concrete pavement. The joint interval is designed so that intermediate (random) transverse cracks do not form.

Joint spacing for jointed plain (unreinforced) concrete pavements (JPCP) depends on slab thickness, concrete aggregate, subgrade/subbase support, and environmental conditions. Transverse joint spacing should be limited to 24T (T is slab thickness) for pavements on subgrades and granular subbases or 21T if the pavement is placed on stabilized subbases, existing concrete, or asphalt. Transverse joint spacing is 12 feet for pavements 6 inches thick, 15 feet for pavements 7 to 9 inches thick, and 20 feet for pavements over 9 inches thick. Longitudinal joint spacing for two lane streets, where lane delineation is not necessary, should be limited to a maximum of 10 feet. Generally, transverse joint spacing should not exceed 150% of the longitudinal joint spacing. SUDAS Table 5G-2.01 provides transverse and longitudinal joint spacings for standard two-lane streets.

LONGITUDINAL CONTRACTION JOINTS⁹

Longitudinal contraction joints release stresses from restrained warping and dynamic loading. A longitudinal joint is usually placed at the center of the pavement to allow the pavement to hinge due to lane loading and help delineate separation of opposing traffic. Controlling cracking and proper constructability are the primary functions of longitudinal contraction joints. Lane delineation is a secondary function.

An important consideration when establishing the distance between longitudinal joints for jointed plain concrete pavements is the prevention of random longitudinal cracking at the quarter point, which is the midpoint between the centerline and the back of the curb. Pavements less than 9 inches thick may not crack through a longitudinal joint placed close to the gutter, which could cause longitudinal cracks at the quarter point. Quarter point jointing will address this concern. Gutterline jointing, with a longitudinal joint closer than five feet from the edge of pavement, is discouraged unless widening is imminent in the future and the pavement thickness is at least 9 inches.

The following are the longitudinal jointing options provided by SUDAS Design Section 5G-2 for 26' B-B and 31' B-B standard width pavements:

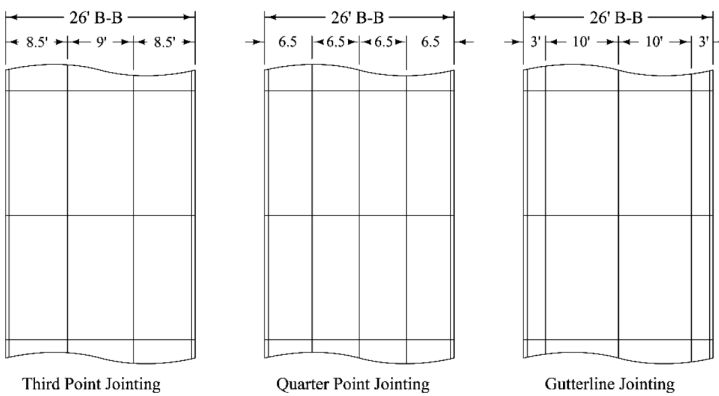


FIGURE 65: 26 FOOT B-B PAVEMENT (SUDAS 5G-2.04)

Jointing options for a 26' wide pavement

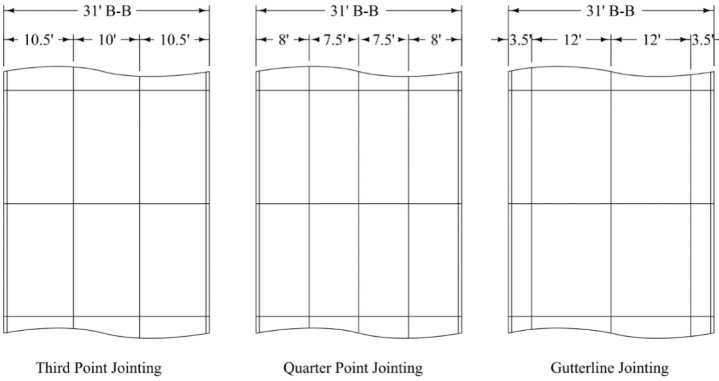


FIGURE 66: 31 FOOT B-B PAVEMENTS (SUDAS 5G-2.05)

Jointing options for a 31' wide pavement.

PCC PAVEMENT MIX¹⁰

Municipalities in Iowa typically specify concrete mixes in the following way. If the city does not have joint deterioration concerns, then they often continue using their default Class C mix. SUDAS Section 7010 refers to Iowa DOT IM 529 and simply indicates that cities should use Iowa DOT Class C (or M) mix as described.

If the city has concerns with joint deterioration, then they should consider one of two high-durability mixes: C-SUD or CV-SUD. These mixes are identified in Iowa DOT IM 529. The C-SUD and CV-SUD mixes have the SUD designation for SUDAS. The “V” designation

refers to the use of a Class V aggregate as specified in Iowa DOT Section 4117. While a conventional Class C concrete has a target w/c ratio of 0.43 and max of 0.488, the C-SUD mix has a target of 0.40 and max of 0.45. As a result, a C-SUD mix provides a more durable concrete pavement with lower permeability than conventional Class C mix due to its lower w/c ratio. With slip-form paving operations, however, the w/c ratio will typically be lower than the target w/c ratio during production with any mix design. The higher durability is desired to reduce joint deterioration due to the use of deicing chemicals. A joint saturated with de-icing salts limits the ability to allow the joint to dry out. To maintain the lower w/c ratio, a low- or mid-range water reducer may be necessary. For even greater durability, the use of ternary mixes

should also be considered. Further references for mix proportioning in C-SUD and CV-SUD can be found in the Proportion Table 4 of Iowa DOT Materials IM 529. Note that these mixtures assume a basic w/c ratio of 0.40 and a maximum w/c ratio of 0.45.

The above mixture is based on Type I or Type II cements (Sp. G. = 3.14). Mixes using blended cements (Type IP or IS) must be adjusted for cement gravities listed in IM 401. Use proportions listed above if not utilizing three aggregates. The above mixture is based on Type IP cements.



¹⁰ Weiss, J., Ley, M.T., Sutter, L. Harrington, D., Gross, J. Guide to the Prevention and Restoration of Early Joint Deterioration in Concrete Pavements, Iowa: Report No. TR-697, Iowa Department of Transportation, 2016.

Current Design Standards

The City of Bondurant does not have a formally adopted design standard for pavements. However, guidance provided to designers includes the following:

- ▶ Jointed plain concrete pavement (JPCP), 7" thick
- ▶ Standard Class C mix
- ▶ Jointing is determined by designer
- ▶ The required pavement foundation consists of prepared subgrade utilizing on-site soils
- ▶ The typical cross-section shown in **Figure 67**

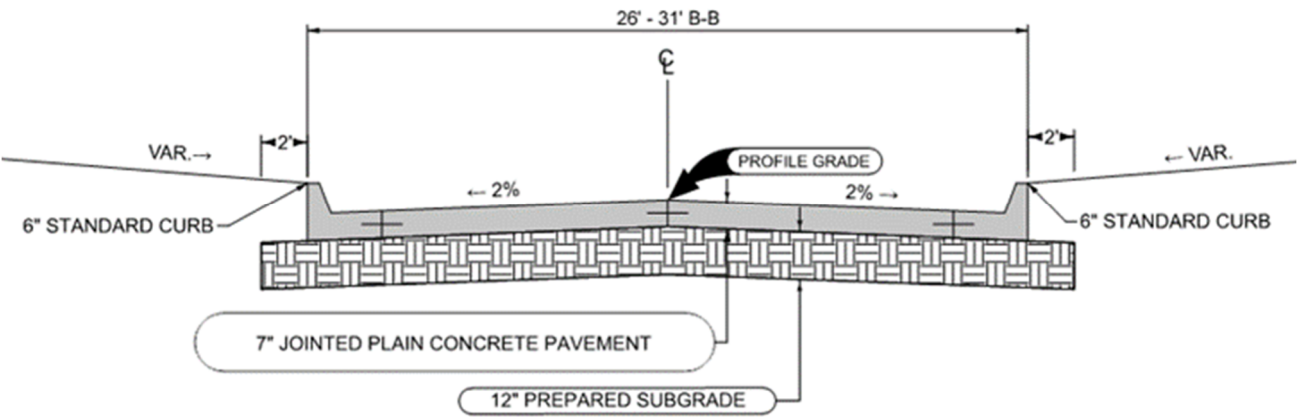


FIGURE 67: CURRENT DESIGN STANDARD

This diagram identifies the elements of the standard Bondurant pavement. A simple slab placed directly on a prepared subgrade.

PAVEMENT FOUNDATION RECOMMENDATIONS

Geotechnical Investigation: Conduct geotechnical investigations in all new developments to determine the suitability of soils to be used for pavement subgrade.

Subgrade: Improve subgrade support to provide a CBR of 10, unless the geotechnical investigation determines subgrade soils are adequate.

Subbase and Subdrain: Construct drainable subbases, using material meeting requirements of SUDAS modified subbase, and install longitudinal subdrains, unless the geotechnical investigation determines the subgrade soil is free draining. The depth of the subbase should be 6" on the prepared subgrade or 4" with an appropriate geotextile between the prepared subgrade and the subbase material.

PAVEMENT RECOMMENDATIONS

For the purposes of this discussion, the recommendations are for typical low-volume local streets, which have little truck traffic, not exceeding 85 trucks/day.

Pavement Thickness: The SUDAS pavement thickness design table for local low volume streets indicates a 6"-thick JPCP with an adequate foundation will perform satisfactorily and provide a 50-year life, according to the AASHTO design guide. However, experience across Iowa has shown 7" pavement will outperform the thinner pavement and is the standard thickness for most jurisdictions and is the recommended thickness of JPCP.

Pavement Jointing: Transverse joint spacing for 7"-thick JPCP paving should not exceed 15 feet, and 'C' joints, without dowels, is recommended because of the low truck volumes expected. Either quarter-point or third-point longitudinal jointing is recommended for 26'-wide pavements. Quarter-point jointing is recommended for 31'-wide pavements.

Pavement Mix: A Class C-SUD concrete mix is recommended. To help prevent early pavement joint deterioration, special attention should be given to maintaining adequate air content in the pavement after placement, in the range of 6% to 8%. Also, a water to cement ratio (w/c) of 0.40, with 0.45 maximum, is required. Supplementary cementitious materials (SCMs) are encouraged, and cement replacement rates of 20-25% Class F fly ash or 30-35% Class C fly ash or a combination of 20% slag and 20% Class C fly ash should be considered.

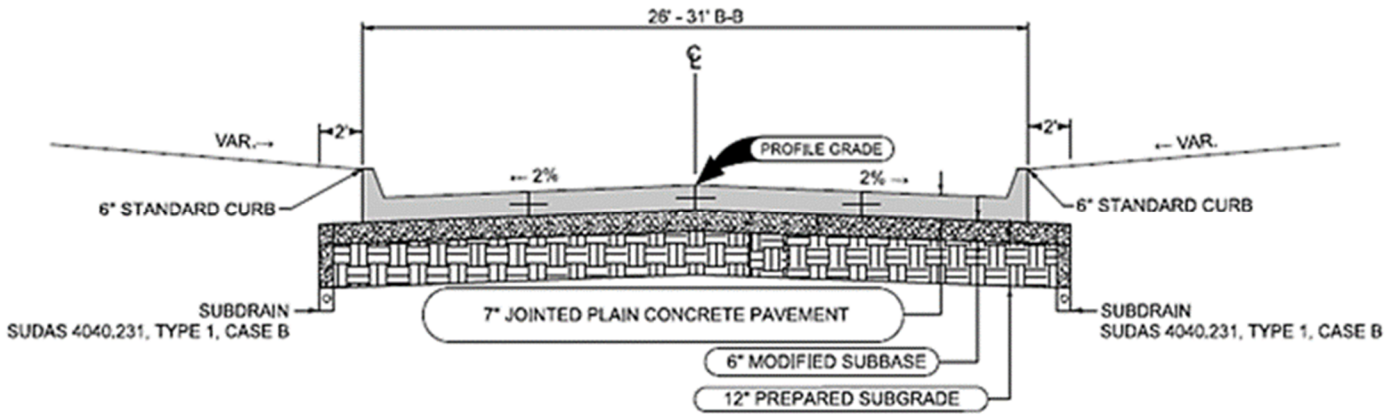


FIGURE 68: RECOMMENDED DESIGN STANDARD (SUDAS)

This diagram identifies the elements of the proposed SUDAS pavement standard. Prepared subgrade, aggregate subbase, subdrain, and a slab designed for the conditions.

RECOMMENDED VS. CURRENT STANDARDS BENEFIT/COST COMPARISON

The following cost comparison and the benefits of the recommended higher standard of design will focus only on the costs associated with the pavement system, as previously defined, and will not include all other development infrastructure costs, such as site grading, storm sewer, water main, sanitary sewer, etc. In addition, no cost benefit has been determined for other benefits of long-lasting pavements, such as prolonged higher service level and less inconvenience to the adjoining properties and traveling public.

The additional costs from the recommendations are for the drainable subbase and the subdrain. Other recommendations, such as the geotechnical investigation, subgrade CBR of 10, and the Class C-SUD concrete mix are either required or recommended by SUDAS and should not add cost to the paving system.

ADDITIONAL COSTS DUE TO RECOMMENDED PAVEMENT SYSTEM STANDARDS

To determine the relative costs of the pavement system using the current Bondurant pavement design standards and the recommended standards, two representative residential street segments were used.

- A two-block segment of 26'-wide street paving, 900'-long from center of intersection to center of intersection
- A one-block segment of 26'-wide street paving, 870'-long from center of intersection to center of intersection

As previously mentioned, only pavement system costs were compared, which included excavation (for the pavement only), subgrade preparation, subbase and subdrains (for the recommended standard), and pavement. **Table 19 & Table 21** determine the estimated cost per square yard of the pavement system, including pavement and pavement foundation.

TABLE 19 CURRENT STANDARD COST COMPARISON – TWO-BLOCK 900' SEGMENT

Item No.	Item	Unit	Unit Price	Quantity	Total Cost
1	Excavation, Class 10	CY	\$10.00	1136	\$11,360.00
2	Subgrade Preparation	SY	\$4.00	3408	\$13,632.00
3	PCC Pavement, 7"	SY	\$74.00	3009	\$222,666.00
				Total	\$247,658.00
				Cost/SY	\$82.31

TABLE 20: RECOMMENDED STANDARD COST COMPARISON – TWO-BLOCK 900' SEGMENT

Item No.	Item	Unit	Unit Price	Quantity	Total Cost
1	Excavation, Class 10	CY	\$10.00	1704	\$17,040.00
2	Subgrade Preparation	SY	\$4.00	3408	\$13,632.00
3	Subbase, Modified, 6"	SY	\$10.00	3408	\$34,080.00
4	PCC Pavement, 7"	SY	\$74.00	3408	\$222,666.00
5	Subdrains, PVC, 6" *	LF	\$20.00	1112	\$22,240.00
6	Subdrain Cleanout	EA	\$800.00	3	\$2,400.00
7	Subdrain Outlets and Connections	EA	\$500.00	3	\$1,500.00
				Total	\$313,558.00
				Cost/SY	\$104.21

TABLE 21: CURRENT STANDARD COST COMPARISON– ONE-BLOCK 870' SEGMENT

Item No.	Item	Unit	Unit Price	Quantity	Total Cost
1	Excavation, Class 10	CY	\$10.00	1035	\$10,350.00
2	Subgrade Preparation	SY	\$4.00	3104	\$12,416.00
3	PCC Pavement, 7"	SY	\$74.00	2718	\$201,132.00
				Total	\$223,898.00
				Cost/SY	\$82.38

TABLE 22: RECOMMENDED STANDARD COST COMPARISON– ONE-BLOCK 870' SEGMENT

Item No.	Item	Unit	Unit Price	Quantity	Total Cost
1	Excavation, Class 10	CY	\$10.00	1552	\$15,520.00
2	Subgrade Preparation	SY	\$4.00	3104	\$12,416.00
3	Subbase, Modified, 6"	SY	\$10.00	3104	\$31,040.00
4	PCC Pavement, 7"	SY	\$74.00	2718	\$201,132.00
5	Subdrains, PVC, 6" *	LF	\$20.00	1187	\$23,740.00
6	Subdrain Cleanout	EA	\$800.00	2	\$1,600.00
7	Subdrain Outlets and Connections	EA	\$500.00	4	\$2,000.00
				Total	\$287,448.00
				Cost/SY	\$105.76



COST COMPARISON

COST OF PAVEMENT SYSTEMS

The following is a comparison of the costs of the current design standards and the recommended design standards for two similar sections of pavement in a residential area, as previously described:

Example 1: Two-block 900’ Segment

Additional pavement system cost due to recommended design standards

$\$104.21 - \$82.31 = +\$21.90/\text{SY}$

Percent increase in pavement system cost due to recommended design standards

$\$21.90 / \$82.31 = +26.6\%$

COST OF RESIDENTIAL LOTS

Another way to look at this additional cost is how it might affect the cost of each residential development lot. As an illustration, a normal residential lot is presumed to be 70’+ wide and 140’+ deep and corner lots are 90’ wide. Using the two street pavement examples illustrated in Section 6.1, the following costs are calculated:

Example 1: Two-block 900’ segment

As many as 20 lots or as few as 12 lots could front on the street segment, depending on orientation. Assuming an average of 16 lots, the additional cost per lot for the improved standards would be \$65,900 / 16 lots = \$4,118.75/lot.

Example 2: One-block 870’ segment

As many as 22 lots or as few as 18 lots could front on the street segment, depending on orientation. Assuming an average of 20 lots, the additional cost per lot for the improved standards would be \$63,550 / 20 lots = \$3,177.50/lot.

An estimated per lot additional cost due to the recommended standards ranges from \$3,177.50 to \$4,118.75, or an average of \$3,648.13.

Example 2: One-block 870’ Segment

Additional pavement system cost due to recommended design standards

$\$105.76 - \$82.38 = +\$23.38/\text{SY}$

Percent increase in pavement cost due to recommended design standards

$\$23.38 / \$82.38 = +28.4\%$

Averages of the two examples yield the following results due to the recommended design standards:

Additional pavement system cost +\$22.64

Percent increase in pavement system cost +27.5%



LIFE BENEFIT OF RECOMMENDED STANDARDS

As indicated in previous discussions, improved pavement foundations and subsurface drainage will substantially increase the expected life of a pavement. It is also expected that improved jointing and concrete mixtures will provide additional longevity and improved service. Properly designed and maintained PCC pavements should be expected to provide at least 50 years of good service, as opposed to the expected life of 30 to 35 years for the current design standards. Therefore, a conservative estimate of the additional pavement life for the recommended pavement system standards is 15 years.

Additional pavement life due to recommended design standards		
50 years – 35 years =		+15 years
Percent increase in pavement life due to recommended design standards		
15 years / 35 years =		+42.8%
Benefit/Cost Ratio		
Life Benefit Increase % / Additional Cost % = 42.8% / 27.5% =		1.56:1

FUTURE RECONSTRUCTION SAVINGS

As would be anticipated with additional expected life, pavements constructed at the higher recommended design standards should require reconstruction less frequently. As an illustration, over a period of 100 years, it would be expected that pavement constructed with the recommended design standards would require only one pavement reconstruction to last that period of time. On the other hand, pavement constructed at the current design standard would require two reconstructions to serve for a similar length of time.

Based on present costs and the cost of removing and replacing only the pavement in the future, and not including other associated work, such as excavation, intakes, drives, design, and other associated costs, the following assumptions using an average of the two previous pavement examples of similar length are made:

- Number of residential lots: 18
- Total area of pavement: 2,864 SY
- Area of pavement per lot: 159 SY
- Initial cost of pavement with current design: \$82.35/SY
- Initial cost of pavement with recommended design: \$104.99/SY
- Cost to remove and replace pavement = \$12 + \$74 = \$86/SY

the following conservative costs could be expected:

Costs for pavement constructed with current design standards to serve for 100 years

Initial pavement system cost:	
2,864 SY @ \$82.35 =	\$235,850
Initial pavement system cost per residential lot:	
\$235,850 / 18 lots =	\$13,103
Pavement reconstruction cost at 35 years:	
2,864 SY @ \$86.00 =	\$246,304
Pavement reconstruction cost per residential lot at 35 years:	
\$246,304 / 18 lots =	\$13,684
Pavement reconstruction cost at 70 years:	
2,864 SY @ \$86.00 =	\$246,304
Pavement reconstruction cost per residential lot at 70 years:	
\$246,304 / 18 lots =	\$13,684
Total pavement costs with current design standards for 100 years:	
Pavement system initial cost and pavement reconstruction costs	\$728,458
Pavement system initial cost and pavement reconstruction costs per lot	\$40,470

Cost for pavement constructed with recommended design standards to serve for 100 years

Initial pavement system cost:	
2,864 SY @ \$104.99 =	\$300,691
Initial pavement system cost per residential lot:	
\$300,691 / 18 lots =	\$16,705
Pavement reconstruction cost at 50 years:	
2,864 SY @ \$86.00 =	\$246,304
Pavement reconstruction cost per residential lot at 50 years:	
\$246,304 / 18 lots =	\$13,684
Total pavement costs with recommended design standards for 100 years:	
Pavement system initial cost and pavement reconstruction costs	\$546,995
Pavement system initial cost and pavement reconstruction costs per lot	\$30,388

For each residential lot, an initial investment of approximately \$3,648 more for longer lasting pavement using the recommended design standards will reduce future reconstruction costs by an estimated \$10,082 in present day dollars.

FIGURE 69: PROJECTED PAVEMENT CONSTRUCTION & RECONSTRUCTION TIMELINE -100-YEAR CYCLE (AVERAGE STREET SEGMENT)

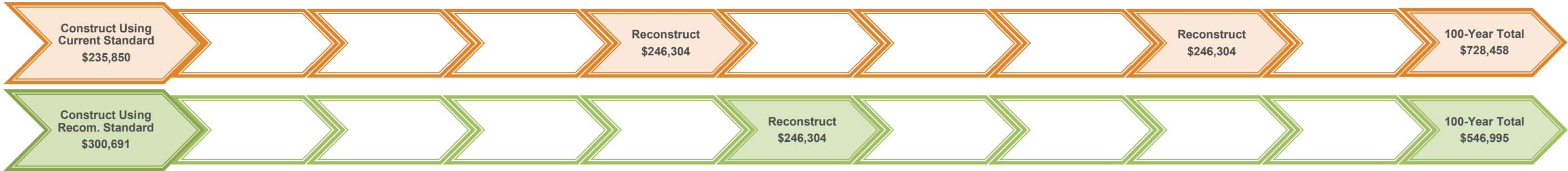
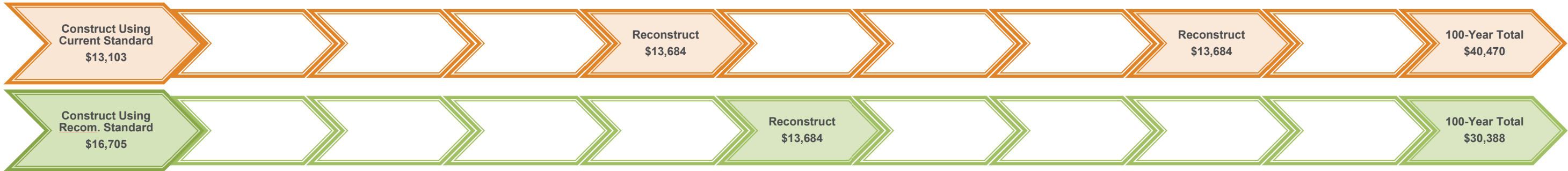


FIGURE 70: PROJECTED PAVEMENT CONSTRUCTION & RECONSTRUCTION TIMELINE -100-YEAR CYCLE (PER LOT)





**BUSINESS OF THE CITY COUNCIL
BONDURANT, IOWA
AGENDA STATEMENT**

Item No. 6.g.
For Meeting of 6/3/2024
Resolution

TITLE: - Resolution Levying assessment for costs of delinquent water for 706 Filmore Avenue, SE, Bondurant, Polk County, Iowa

CONTACT PERSON:

Jene Jess, Finance Director

BRIEF HISTORY & ANALYSIS: 706 Filmore Ave SE has a delinquent account. They have received the following attempts to collect:

1. Original Bill
2. Cut off Notice
3. Subsequent Bill Each Month

There have also been attempts to call the property owner. Due to lack of responsiveness and payment a levy assessment is necessary.

FUNDING SOURCE: NA

STAFF RECOMMENDATION: Approve resolution on a roll call vote.

APPROVED FOR SUBMITTAL:

ATTACHMENTS:

1. RESOLUTION NO. 240603-118

CITY OF BONDURANT
RESOLUTION NO. 240603-118

RESOLUTION LEVYING ASSESSMENT FOR COSTS OF DELINQUENT WATER
FOR 706 FILMORE AVE SE, BONDURANT, POLK COUNTY, IOWA

WHEREAS the City of Bondurant provided utility services to the property; AND

WHEREAS an invoice was sent to the following property owners as a delinquent utility bill pertaining to Chapter 52, Section 92.06

706 Filmore Ave SE \$2393.90 (As of 05/17/2024)

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Bondurant in session this 3rd day of June 2024, that it hereby gives approval to proceed with the special assessment with the amount shown thereon assessed and levied against the property for collection in the same manner as property tax.

BE IT FURTHER RESOLVED, that said assessment may be paid in full within thirty days after the first publication notice of May 23rd, 2024. Thereafter, all unpaid special assessments shall be payable at the office of the County Treasurer of Polk County, Iowa.

BE IT FURTHER RESOLVED that the City Clerk is hereby directed to certify said schedule to the County Treasurer of Polk County, Iowa and to publish notice of said certification in the Herald-Index.

Passed this 3rd day of June 2024,

By: _____
Angela McKenzie, Mayor Pro Tem

ATTEST: I, Shelby Hagan, City Clerk of Bondurant, hereby certify that at a meeting of the city Council held on the above date, among other proceedings the above was adopted.

IN WITNESS WHEREOF, I have hereunto set my hand the day and year above written.

Shelby Hagan, City Clerk

Name	Yay	Nay	Abstain	Absent
Cox				
Driscoll				
McKenzie				
Peffer				
Sillanpaa				



**BUSINESS OF THE CITY COUNCIL
BONDURANT, IOWA
AGENDA STATEMENT**

Item No. 6.h.
For Meeting of 6/3/2024
Resolution

TITLE: - Resolution approving Civic Campus Phase I right-of-way acquisition, easement, and right-of-entry documents and authorizing payment for such land rights in an amount not to exceed a combined \$175,000

CONTACT PERSON:

Marketa Oliver, ICMA-CM, SPHR, City Administrator

BRIEF HISTORY & ANALYSIS: The attached resolution approves the necessary right-of-way acquisition/warranty deed, easements, and right-of-entry documents and also authorizes payment for such land rights in an amount not to exceed a combined \$175,000 associated with Phase I of the Civic Campus construction project. Right-of-way is needed from the owner of Parcels [8022-32-200-004](#) and [8022-32-176-001](#). Temporary and perpetual easements are needed from the owners of the following parcels: [8022-32-200-004](#), [8022-32-176-001](#), and [8022-29-400-017](#). Right-of-entry documents have also been prepared for these right-of-way acquisition and easement need areas ensuring the City and its contractors have access to these areas prior to the easements and right-of-way acquisition documents being recorded.

FUNDING SOURCE:

STAFF RECOMMENDATION: Approve resolution on a roll call vote.

APPROVED FOR SUBMITTAL:

ATTACHMENTS:

1. RESOLUTION NO. 240603-119
2. Signed, Combined

CITY OF BONDURANT
RESOLUTION NO. 240603-119

RESOLUTION APPROVING THE CIVIC CAMPUS PHASE I RIGHT-OF-WAY
ACQUISITION, EASEMENT, AND RIGHT-OF-ENTRY DOCUMENTS AND
AUTHORIZING PAYMENT FOR SUCH LAND RIGHTS IN AN AMOUNT NOT TO
EXCEED A COMBINED \$175,000

WHEREAS the Building Bondurant Comprehensive Plan included the following Policy: Follow and Implement the recommendations outlined in the Civic Campus Master Plan to help support City Departments in maintaining an efficient infrastructure system; and

WHEREAS the City of Bondurant is in the process of the design and construction of certain public improvements associated with Phase I of implementing the Civic Campus Master Plan so that proper access and service is available to the first building to be constructed in the Civic Campus, which will be the Bondurant Emergency Services Facility; and

WHEREAS the construction of the public improvements requires the acquisition of certain real estate interests, including temporary easements, permanent easements, and the acquisition of property by fee title; and

WHEREAS City staff and engineers have made certain offers for the acquisition of real property interests with those offers being considered by the respective property owner, and

WHEREAS it is necessary for the City to approve the acquisitions, authorize the payment of the agreed to compensation for the property acquisitions and to move forward with the completion and closing on the property acquisitions upon acceptance by the property owners.

WHEREAS the City Administrator is authorized to undertake such steps as are necessary to close the appropriate transactions including the authorization for payment of any costs associated with the closing of transactions.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Bondurant, Iowa, that the right-of-way acquisition, easement, and right-of-entry documents between the City of Bondurant and all property owners are hereby approved, including authorizing payment for such land rights in an amount not to exceed a combined \$175,000 and the Mayor, City Administrator, and City Clerk are authorized to take necessary actions to effect the execution and recording of said documents.

Passed this 3rd day of June 2024,

By: _____
Angela McKenzie, Mayor Pro Tem

ATTEST: I, Shelby Hagan, City Clerk of Bondurant, hereby certify that at a meeting of the City Council held on the above date, among other proceedings the above was adopted.

IN WITNESS WHEREOF, I have hereunto set my hand the day and year above written.

Shelby Hagan, City Clerk

Council Action	Ayes	Nays	Abstain	Absent
Cox				
Driscoll				
McKenzie				
Peffer				
Sillanpaa				

DRAWN TJP CHECKED MDL APPROVED MDL DATE 03-28-2024

EASEMENT EXHIBIT

FOR TEMPORARY CONSTRUCTION BEING CONVEYED TO
THE CITY OF BONDURANT, IOWA

PARCEL NO.:
231/00021-000-023

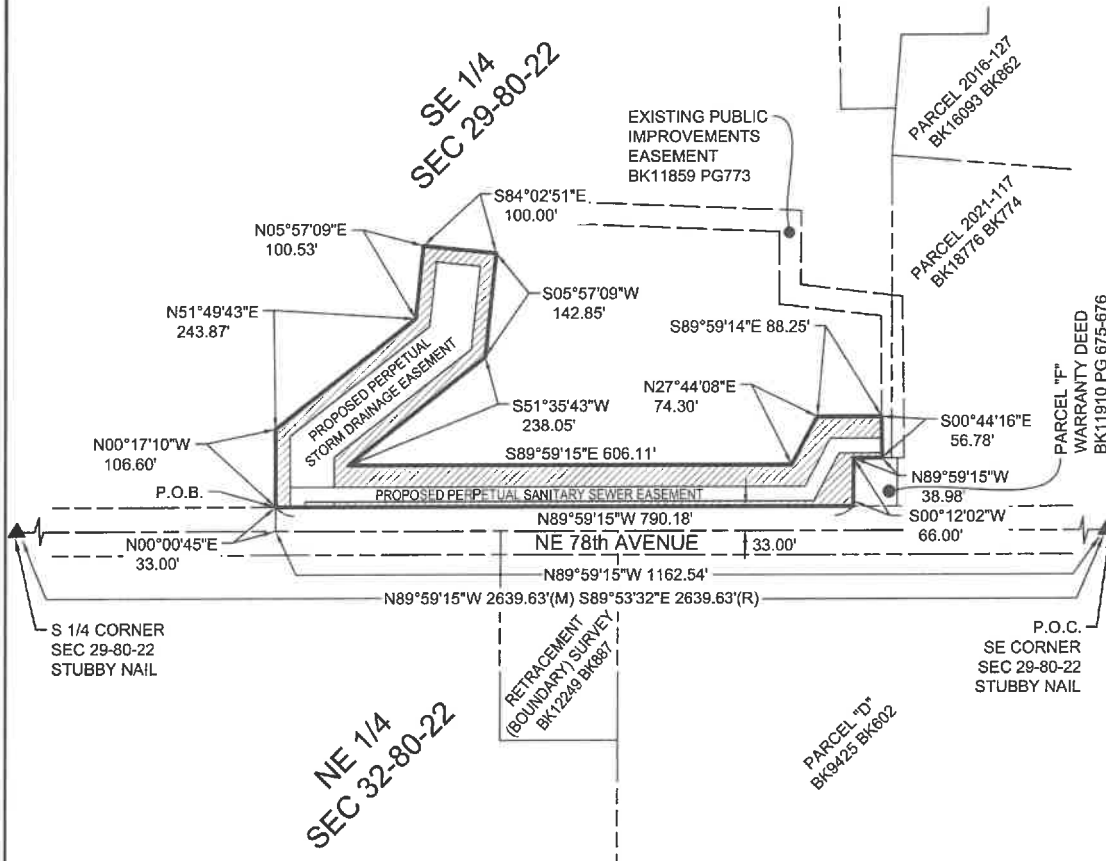
PROPERTY OWNER:
DAVID J. ROSS
8564 NE SANTIAGO DRIVE
BONDURANT, IA 50035
BOOK 11842, PAGE 36

PHYSICAL ADDRESS:
NA

LEGAL DESCRIPTION:

A PART OF THE SOUTHEAST QUARTER OF SECTION 29, TOWNSHIP 80 NORTH, RANGE 22 WEST OF THE FIFTH PRINCIPAL MERIDIAN, POLK COUNTY, IOWA AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 29; THENCE NORTH 89°59'15" WEST ALONG THE SOUTH LINE OF SAID SOUTHEAST QUARTER, 1162.54 FEET; THENCE NORTH 00°00'45" EAST, 33.00 FEET TO THE NORTH RIGHT-OF-WAY LINE OF NE 78th STREET AND THE POINT OF BEGINNING; THENCE NORTH 00°17'10" WEST, 106.60 FEET; THENCE NORTH 51°49'43" EAST, 243.87 FEET; THENCE NORTH 05°57'09" EAST, 100.53 FEET; THENCE SOUTH 84°02'51" EAST, 100.00 FEET; THENCE SOUTH 05°57'09" WEST, 142.85 FEET; THENCE SOUTH 51°35'43" WEST, 238.05 FEET; THENCE SOUTH 89°59'15" EAST, 606.11 FEET; THENCE NORTH 27°44'08" EAST, 74.30 FEET; THENCE SOUTH 89°59'14" EAST, 88.25 FEET TO THE WEST LINE OF AN EXISTING EASEMENT FOR PUBLIC IMPROVEMENTS RECORDED IN BOOK 11859, PAGE 773 IN THE POLK COUNTY RECORDER'S OFFICE; THENCE SOUTH 00°44'16" EAST ALONG SAID WEST LINE, 56.78 FEET TO THE NORTH LINE OF PARCEL "F" AS SHOWN ON THE WARRANTY DEED RECORDED IN BOOK 11910, PAGE 675 IN SAID POLK COUNTY RECORDER'S OFFICE; THENCE NORTH 89°59'15" WEST ALONG THE NORTH LINE OF SAID PARCEL "F", 38.98 FEET TO THE NORTHWEST CORNER OF SAID PARCEL "F"; THENCE SOUTH 00°12'02" WEST ALONG THE WEST LINE OF SAID PARCEL "F", 66.00 FEET TO SAID NORTH RIGHT-OF-WAY LINE; THENCE NORTH 89°59'15" WEST ALONG SAID NORTH RIGHT-OF-WAY LINE, 790.18 FEET TO THE POINT OF BEGINNING, EXCEPTING THEREFROM A PROPOSED PERPETUAL STORM DRAINAGE EASEMENT AND A PROPOSED PERPETUAL SANITARY SEWER EASEMENT AND CONTAINING 49,295 SQUARE FEET (1.13 ACRES).



LEGEND

- ▲ FOUND SECTION CORNER MONUMENT
- FOUND PROPERTY MONUMENT
- (M) MEASURED BEARING OR DIMENSION
- (R) RECORDED BEARING OR DIMENSION
- SECTION LINE
- PROPERTY LINE
- TEMPORARY EASEMENT AREA
49,295 SQ. FT. (1.13 ACRES)



CERTIFIED SITE IMPROVEMENTS - PLEASANT ST NE & 2nd STREET NE

VEENSTRA & KIMM INC.
3000 WESTOWN PKWY - WEST DES MOINES, IA 50265 - (515) 225-8000

EXHIBIT **03-T1** SHEET 1 OF 1

P:\42992\42992-SURVEY\PLANS\42992_EAS-03_T1_Rev1.dwg 5/16/2024 3:08 PM

DRAWN TJP CHECKED MDL APPROVED MDL DATE 03-28-2024

EASEMENT EXHIBIT

FOR SANITARY SEWER BEING CONVEYED TO
THE CITY OF BONDURANT, IOWA

PARCEL NO.:
231/00021-000-023

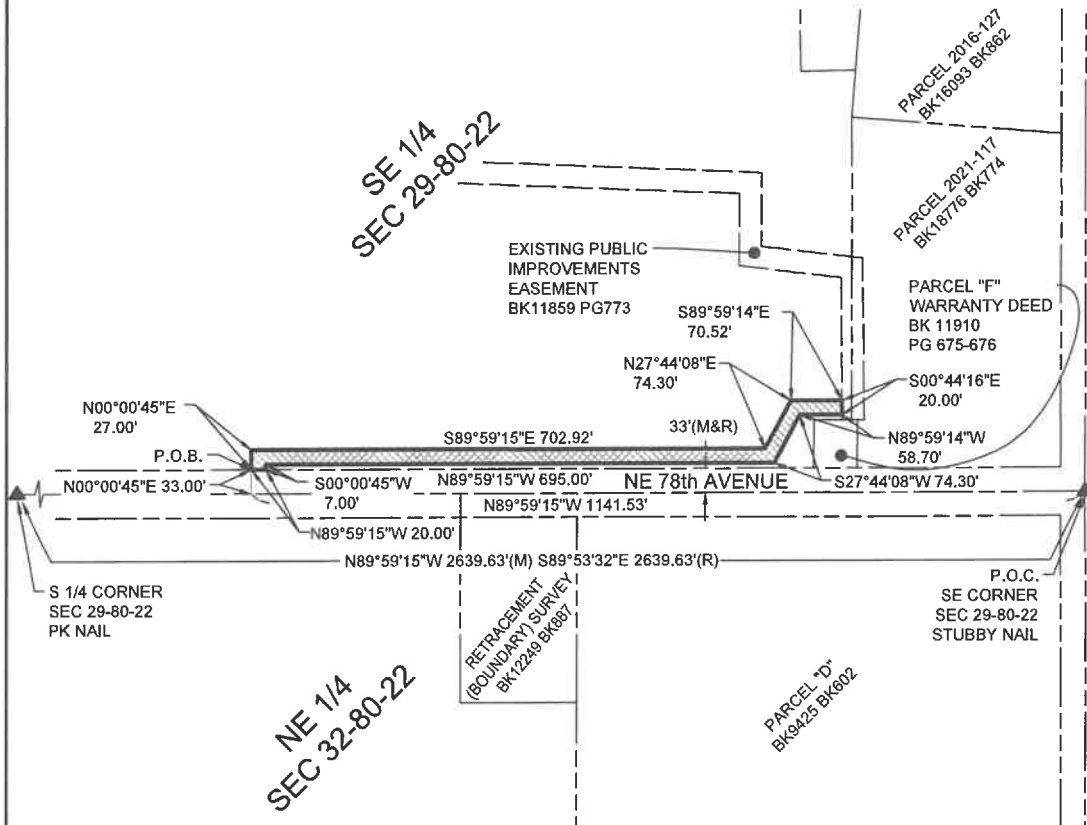
PROPERTY OWNER:
DAVID J. ROSS
8564 NE SANTIAGO DRIVE
BONDURANT, IA 50035
BOOK 11842, PAGE 36

PHYSICAL ADDRESS:
NA

LEGAL DESCRIPTION:

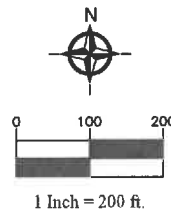
A PART OF THE SOUTHEAST QUARTER OF SECTION 29, TOWNSHIP 80 NORTH, RANGE 22 WEST OF THE FIFTH PRINCIPAL MERIDIAN, POLK COUNTY, IOWA AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 29; THENCE NORTH 89°59'15" WEST ALONG THE SOUTH LINE OF SAID SOUTHEAST QUARTER, 1141.53 FEET; THENCE NORTH 00°00'45" EAST, 33.00 FEET TO THE NORTH RIGHT-OF-WAY LINE OF NE 78th STREET AND THE POINT OF BEGINNING; THENCE CONTINUING NORTH 00°00'45" EAST, 27.00 FEET; THENCE SOUTH 89°59'15" EAST, 702.92 FEET; THENCE NORTH 27°44'08" EAST, 74.30 FEET; THENCE SOUTH 89°59'14" EAST, 70.52 FEET TO THE WEST LINE OF AN EXISTING EASEMENT FOR PUBLIC IMPROVEMENT RECORDED IN BOOK 11859, PAGE 773 IN THE POLK COUNTY RECORDER'S OFFICE; THENCE SOUTH 00°44'16" EAST ALONG SAID WEST LINE, 20.00 FEET; THENCE NORTH 89°59'14" WEST, 58.70 FEET; THENCE SOUTH 27°44'08" WEST, 74.30 FEET; THENCE NORTH 89°59'15" WEST, 695.00 FEET; THENCE SOUTH 00°00'45" WEST, 7.00 FEET TO SAID NORTH RIGHT-OF-WAY LINE; THENCE NORTH 89°59'15" WEST ALONG SAID NORTH RIGHT-OF-WAY LINE, 20.00 FEET TO THE POINT OF BEGINNING AND CONTAINING 17,097 SQUARE FEET (0.39 ACRES).



LEGEND

- ▲ FOUND SECTION CORNER MONUMENT
- FOUND PROPERTY MONUMENT
- (M) MEASURED BEARING OR DIMENSION
- (R) RECORDED BEARING OR DIMENSION
- SECTION LINE
- - - - - PROPERTY LINE
- ▨ PERPETUAL EASEMENT AREA
17,097 SQ.FT. (0.39 ACRES)



CERTIFIED SITE IMPROVEMENTS - PLEASANT ST NE & 2nd STREET NE

VEENSTRA & KIMM INC.
3000 WESTOWN PKWY - WEST DES MOINES, IA 50265 - (515) 225-8000

EXHIBIT **03-P1** SHEET 1 OF 1

P:\42892\42892-SURVEY\PLATS\42892 EAS-03 P1 Rev1.dwg 5/17/2024 2:16 PM

DRAWN TJP CHECKED MDL APPROVED MDL DATE 03-28-2024

EASEMENT EXHIBIT

FOR STORM WATER DRAINAGE BEING CONVEYED TO
THE CITY OF BONDURANT, IOWA

PARCEL NO.:
231/00021-000-023

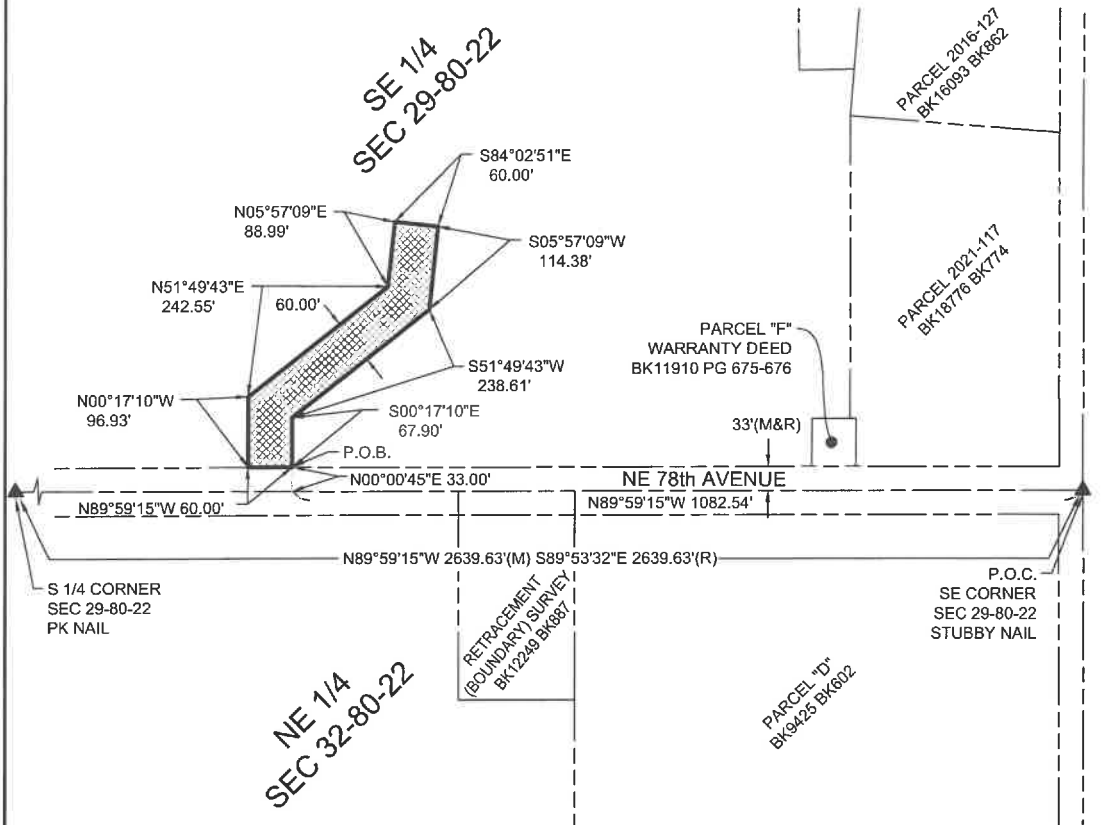
PROPERTY OWNER:
DAVID J. ROSS
8564 NE SANTIAGO DRIVE
BONDURANT, IA 50035
BOOK 11842, PAGE 36

PHYSICAL ADDRESS:
NA

LEGAL DESCRIPTION:

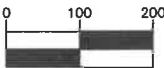
A PART OF THE SOUTHEAST QUARTER OF SECTION 29, TOWNSHIP 80 NORTH, RANGE 22 WEST OF THE FIFTH PRINCIPAL MERIDIAN, POLK COUNTY, IOWA AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 29; THENCE NORTH 89°59'15" WEST ALONG THE SOUTH LINE OF SAID SOUTHEAST QUARTER, 1082.54 FEET; THENCE NORTH 00°00'45" EAST, 33.00 FEET TO THE NORTH RIGHT-OF-WAY LINE OF NE 78th STREET AND THE POINT OF BEGINNING; THENCE NORTH 89°59'15" WEST ALONG SAID NORTH RIGHT-OF-WAY LINE, 60.00 FEET; THENCE NORTH 00°17'10" WEST, 96.93 FEET; THENCE NORTH 51°49'43" EAST, 242.55 FEET; THENCE NORTH 05°57'09" EAST, 88.99 FEET; THENCE SOUTH 84°02'51" EAST, 60.00 FEET; THENCE SOUTH 05°57'09" WEST, 114.38 FEET; THENCE SOUTH 51°49'43" WEST, 238.61 FEET; THENCE SOUTH 00°17'10" EAST, 67.90 FEET TO THE POINT OF BEGINNING AND CONTAINING 25,481 SQUARE FEET (0.58 ACRES).



LEGEND

- ▲ FOUND SECTION CORNER MONUMENT
- FOUND PROPERTY MONUMENT
- (M) MEASURED BEARING OR DIMENSION
- (R) RECORDED BEARING OR DIMENSION
- SECTION LINE
- PROPERTY LINE
- ▨ PERPETUAL EASEMENT AREA
25,481 SQ.FT. (0.58 ACRES)



1 Inch = 200 ft.

CERTIFIED SITE IMPROVEMENTS - PLEASANT ST NE & 2nd STREET NE

VEENSTRA & KIMM INC.
3000 WESTOWN PKWY - WEST DES MOINES, IA 50265 - (515) 225-8000

EXHIBIT **03-P2** SHEET 1 OF 1

P:\42882\42882-SURVEY\PLATS\0282 EAS-03 P2 Rev1.dwg 5/17/2024 2:17 PM

TEMPORARY RIGHT-OF-ENTRY

David J. Ross (hereinafter referred to as the "Grantor" does hereby grant unto the City of Bondurant (hereinafter referred to as the "CITY"), a Temporary Right-of-Entry under, over, through and across the following described property:

A PART OF THE SOUTHEAST QUARTER OF SECTION 29, TOWNSHIP 80 NORTH, RANGE 22 WEST OF THE FIFTH PRINCIPAL MERIDIAN, POLK COUNTY, IOWA AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 29; THENCE NORTH 89°59'15" WEST ALONG THE SOUTH LINE OF SAID SOUTHEAST QUARTER, 1162.54 FEET; THENCE NORTH 00°00'45" EAST, 33.00 FEET TO THE NORTH RIGHT-OF-WAY LINE OF NE 78th STREET AND THE POINT OF BEGINNING; THENCE NORTH 00°17'10" WEST, 106.60 FEET; THENCE NORTH 51°49'43" EAST, 243.87 FEET; THENCE NORTH 05°57'09" EAST, 100.53 FEET; THENCE SOUTH 84°02'51" EAST, 100.00 FEET; THENCE SOUTH 05°57'09" WEST, 142.85 FEET; THENCE SOUTH 51°35'43" WEST, 238.05 FEET; THENCE SOUTH 89°59'15" EAST, 606.11 FEET; THENCE NORTH 27°44'08" EAST, 74.30 FEET; THENCE SOUTH 89°59'14" EAST, 88.25 FEET TO THE WEST LINE OF AN EXISTING EASEMENT FOR PUBLIC IMPROVEMENTS RECORDED IN BOOK 11859, PAGE 773 IN THE POLK COUNTY RECORDER'S OFFICE; THENCE SOUTH 00°44'16" EAST ALONG SAID WEST LINE, 56.78 FEET TO THE NORTH LINE OF PARCEL "F" AS SHOWN ON THE WARRANTY DEED RECORDED IN BOOK 11910, PAGE 675 IN SAID POLK COUNTY RECORDER'S OFFICE; THENCE NORTH 89°59'15" WEST ALONG THE NORTH LINE OF SAID PARCEL "F", 38.98 FEET TO THE NORTHWEST CORNER OF SAID PARCEL "F"; THENCE SOUTH 00°12'02" WEST ALONG THE WEST LINE OF SAID PARCEL "F", 66.00 FEET TO SAID NORTH RIGHT-OF-WAY LINE; THENCE NORTH 89°59'15" WEST ALONG SAID NORTH RIGHT-OF-WAY LINE, 790.18 FEET TO THE POINT OF BEGINNING AND CONTAINING 90,555 SQUARE FEET (2.08 ACRES).

(hereinafter referred to as the "Property") for the limited purpose of allowing the CITY, its agents, contractors and employees access thereto for the purposes of beginning the Construction on the Civic Campus Improvements Project, (hereinafter referred to as the "Project") as per the plans and specifications for the construction of the project now on file in the office of the Public Works Director. The said Right-of-Entry shall be for the limited purpose of allowing personnel and equipment thereon to build the Project.

1. **DURATION**. It is understood and agreed that this Easement allowing entry in, upon and onto the Easement Area described shall be in effect beginning on the date that the Grantor signs this document until the proposed acquisitions, perpetual and temporary easements are signed, recorded and in effect for the construction of this project above described and the CITY's performance of its obligation hereunder.

Signed this 24th day of May, 2024

DAVID J. ROSS

David Ross
Signature

ACKNOWLEDGEMENT

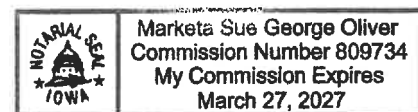
State of Iowa)

ss.

County of Polk)

On the 24th day of May, 2024, before me, the undersigned, a Notary Public in and for the State of Iowa, personally appeared David Ross, to me known to be the identical person(s) named in and who executed the foregoing instrument, and acknowledged that (he) (she) (they) executed the instrument as (his) (her) (their) voluntary act and deed.

Marketa Sue George Oliver, Notary Public



DRAWN TJP CHECKED MDL APPROVED MDL DATE 05-16-2024

EASEMENT EXHIBIT

FOR TEMPORARY RIGHT OF ENTRY BEING CONVEYED TO
THE CITY OF BONDURANT, IOWA

PARCEL NO.:
231/00021-000-023

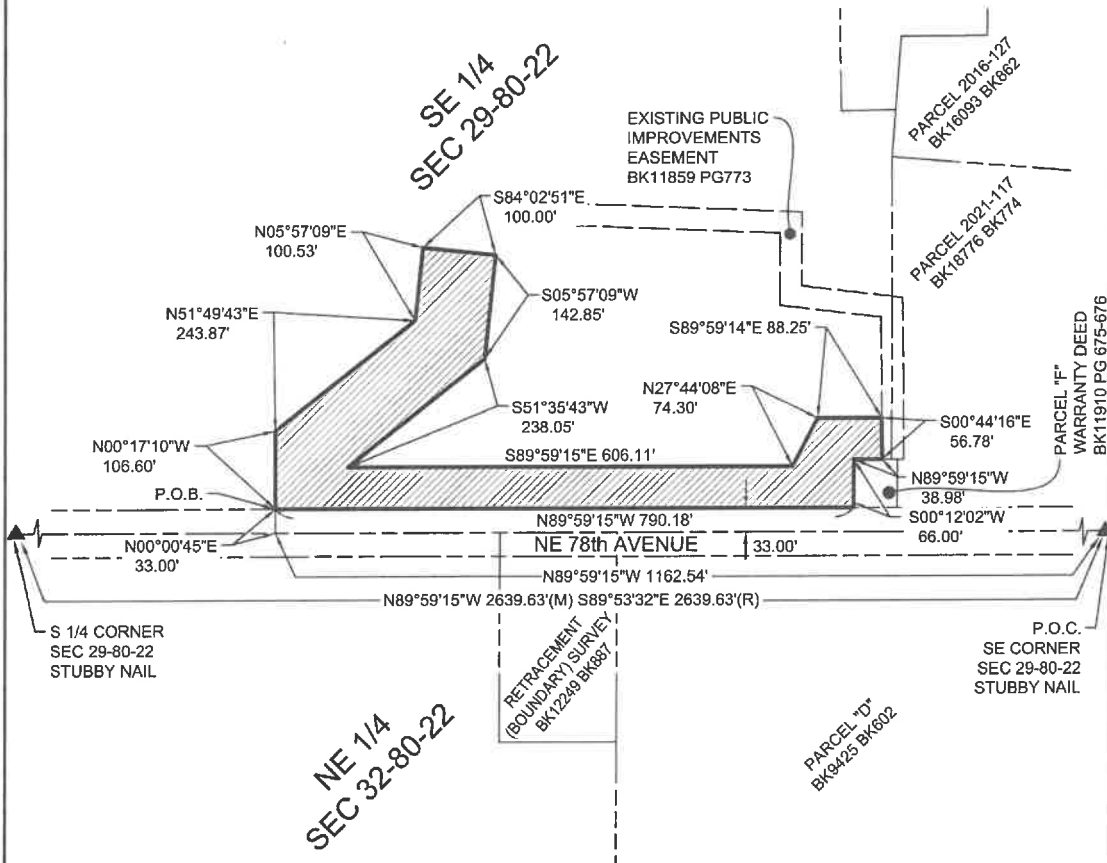
PROPERTY OWNER:
DAVID J. ROSS
8564 NE SANTIAGO DRIVE
BONDURANT, IA 50035
BOOK 11842, PAGE 36

PHYSICAL ADDRESS:
NA

LEGAL DESCRIPTION:

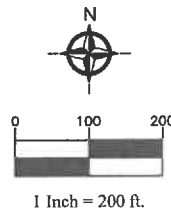
A PART OF THE SOUTHEAST QUARTER OF SECTION 29, TOWNSHIP 80 NORTH, RANGE 22 WEST OF THE FIFTH PRINCIPAL MERIDIAN, POLK COUNTY, IOWA AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 29; THENCE NORTH 89°59'15" WEST ALONG THE SOUTH LINE OF SAID SOUTHEAST QUARTER, 1162.54 FEET; THENCE NORTH 00°00'45" EAST, 33.00 FEET TO THE NORTH RIGHT-OF-WAY LINE OF NE 78th STREET AND THE POINT OF BEGINNING; THENCE NORTH 00°17'10" WEST, 106.60 FEET; THENCE NORTH 51°49'43" EAST, 243.87 FEET; THENCE NORTH 05°57'09" EAST, 100.53 FEET; THENCE SOUTH 84°02'51" EAST, 100.00 FEET; THENCE SOUTH 05°57'09" WEST, 142.85 FEET; THENCE SOUTH 51°35'43" WEST, 238.05 FEET; THENCE SOUTH 89°59'15" EAST, 606.11 FEET; THENCE NORTH 27°44'08" EAST, 74.30 FEET; THENCE SOUTH 89°59'14" EAST, 88.25 FEET TO THE WEST LINE OF AN EXISTING EASEMENT FOR PUBLIC IMPROVEMENTS RECORDED IN BOOK 11859, PAGE 773 IN THE POLK COUNTY RECORDER'S OFFICE; THENCE SOUTH 00°44'16" EAST ALONG SAID WEST LINE, 56.78 FEET TO THE NORTH LINE OF PARCEL "F" AS SHOWN ON THE WARRANTY DEED RECORDED IN BOOK 11910, PAGE 675 IN SAID POLK COUNTY RECORDER'S OFFICE; THENCE NORTH 89°59'15" WEST ALONG THE NORTH LINE OF SAID PARCEL "F", 38.98 FEET TO THE NORTHWEST CORNER OF SAID PARCEL "F"; THENCE SOUTH 00°12'02" WEST ALONG THE WEST LINE OF SAID PARCEL "F", 66.00 FEET TO SAID NORTH RIGHT-OF-WAY LINE; THENCE NORTH 89°59'15" WEST ALONG SAID NORTH RIGHT-OF-WAY LINE, 790.18 FEET TO THE POINT OF BEGINNING AND CONTAINING 90,555 SQUARE FEET (2.08 ACRES).



LEGEND

- ▲ FOUND SECTION CORNER MONUMENT
- FOUND PROPERTY MONUMENT
- (M) MEASURED BEARING OR DIMENSION
- (R) RECORDED BEARING OR DIMENSION
- SECTION LINE
- PROPERTY LINE
- ▨ TEMPORARY RIGHT OF ENTRY AREA
90,555 SQ.FT. (2.08 ACRES)



CERTIFIED SITE IMPROVEMENTS - PLEASANT ST NE & 2nd STREET NE

VEENSTRA & KIMM INC.
3000 WESTOWN PKWY - WEST DES MOINES, IA 50265 - (515) 225-8000

EXHIBIT **03-T2** SHEET 1 OF 1

PL\42892\42892-SURVEY\PLATS\42892 05-16-2024 3:07 PM

DRAWN TJP CHECKED MDL APPROVED MDL DATE 01-04-2024

P:\42892\42892-SURVEY\PLATS\42892 ACQ-07-1.dwg 5/16/2024 3:02 PM

Index Legend	
City:	Boundurant
County:	Polk
Parcel ID:	230/00449-003-000
Description:	Pt. NE 1/4 Sec 32-80-22
Proprietor:	The Virgil C. Webb, Villiam Garber and Flora Webb Garber Foundation
Surveyor:	Michael D. Lee
Company:	Veenstra & Kimm, Inc.
3000 Westown Parkway	
Return to:	West Des Moines, IA 50266 (515) 225-8000

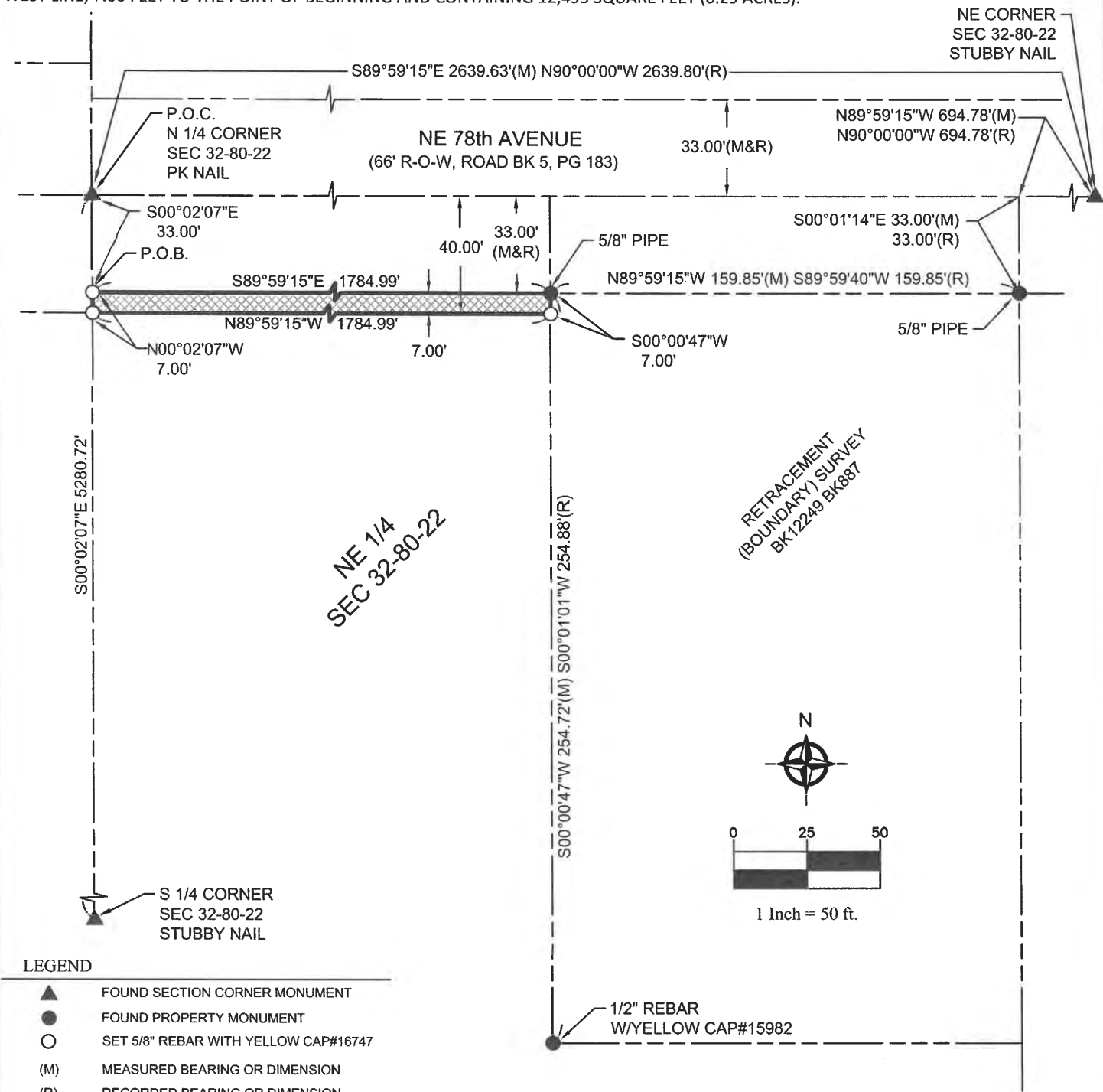
ACQUISITION PLAT

FOR ROAD RIGHT-OF-WAY
IN THE NE 1/4 OF SECTION 32-80-22

LEGAL DESCRIPTION:

A PART OF THE NORTHEAST QUARTER OF SECTION 32, TOWNSHIP 80 NORTH, RANGE 22 WEST OF THE FIFTH PRINCIPAL MERIDIAN, POLK COUNTY, IOWA AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTH QUARTER CORNER OF SAID SECTION 32; THENCE SOUTH 00°02'07" EAST ALONG THE WEST LINE OF SAID NORTHEAST QUARTER, 33.00 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF NE 78TH AVENUE AND THE POINT OF BEGINNING; THENCE SOUTH 89°59'15" EAST ALONG SAID SOUTH RIGHT-OF-WAY LINE, 1784.99 FEET TO THE WEST LINE OF A RETRACEMENT BOUNDARY SURVEY RECORDED IN BOOK 12249, PAGE 887 IN THE POLK COUNTY RECORDER'S OFFICE; THENCE SOUTH 00°00'47" WEST ALONG SAID WEST LINE, 7.00 FEET; THENCE NORTH 89°59'15" WEST, 1784.99 FEET TO SAID WEST LINE OF THE NORTHEAST QUARTER; THENCE NORTH 00°02'07" WEST ALONG SAID WEST LINE, 7.00 FEET TO THE POINT OF BEGINNING AND CONTAINING 12,495 SQUARE FEET (0.29 ACRES).



CERTIFIED SITE IMPROVEMENTS - PLEASANT ST NE & 2nd STREET NE



I hereby certify that this land surveying document was prepared and the related survey work was performed by me or under my direct personal supervision and that I am a duly licensed Professional Land Surveyor under the laws of the State of Iowa.

Michael D. Lee 5-17-2024
MICHAEL D. LEE, P.L.S. DATE
License Number: 16747
My license renewal date is DECEMBER 31, 2024
Pages or sheets covered by this seal: This Sheet

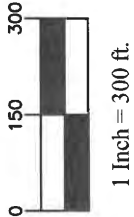
**VEENSTRA
& KIMM INC.**
3000 WESTOWN PKWY - WEST DES MOINES, IA 50265 - (515) 225-8000

EXHIBIT **07-ACQ1** SHEET 1 OF 1

ACQUISITION PLAT
FOR ROAD RIGHT-OF-WAY
IN THE NW 1/4 OF SECTION 32-80-22



GRID NORTH
IOWA STATE PLANE
COORDINATE SYSTEM
SOUTH ZONE



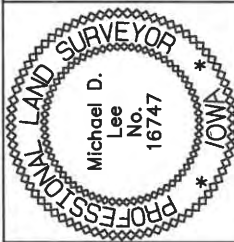
Index Legend	
City:	Bondurant, Iowa
County:	Polk County
Description:	Pt. NW 1/4 Sec 32-80-22
Proprietor:	The Virgil C. Webb, William Garber and Flora Webb
	Garber Foundation
Requestor:	City of Bondurant
Surveyor:	Michael D. Lee
Company:	Veenstra & Kimm, Inc.
Return to:	3000 Westown Parkway West Des Moines, IA 50266 (515) 225-8000

LEGAL DESCRIPTION:
A PART OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 32, TOWNSHIP 80 NORTH, RANGE 22 WEST OF THE FIFTH PRINCIPAL MERIDIAN, POLK COUNTY, IOWA AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE NORTH QUARTER CORNER OF SAID SECTION 32; THENCE SOUTH 00°02'07" EAST ALONG THE EAST LINE OF SAID NORTHWEST QUARTER, 1980.00 FEET TO THE NORTHEAST CORNER OF SAID SOUTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER; THENCE NORTH 89°47'36" WEST ALONG THE NORTH LINE OF SAID SOUTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, 1302.57 FEET TO THE POINT OF BEGINNING; THENCE SOUTHEASTERLY ALONG A 560.00 FOOT RADIUS CURVE CONCAVE TO THE WEST WHOSE ARC LENGTH IS 149.40 FEET AND WHOSE CHORD BEARS SOUTH 07°32'15" EAST, 148.96 FEET; THENCE SOUTH 00°06'20" WEST, 515.78 FEET TO THE SOUTH LINE OF SAID SOUTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER; THENCE SOUTH 89°57'49" WEST ALONG SAID SOUTH LINE, 40.00 FEET TO THE SOUTHWEST CORNER OF SAID SOUTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER; THENCE NORTH 00°06'20" EAST ALONG THE WEST LINE OF SAID SOUTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, 663.55 FEET TO THE NORTHWEST CORNER OF SAID SOUTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER; THENCE SOUTH 89°47'36" EAST ALONG SAID NORTH LINE, 20.19 FEET TO THE POINT OF BEGINNING AND CONTAINING 25.571 SQUARE FEET (0.59 ACRES), SUBJECT TO ANY AND ALL EASEMENTS OF RECORD.

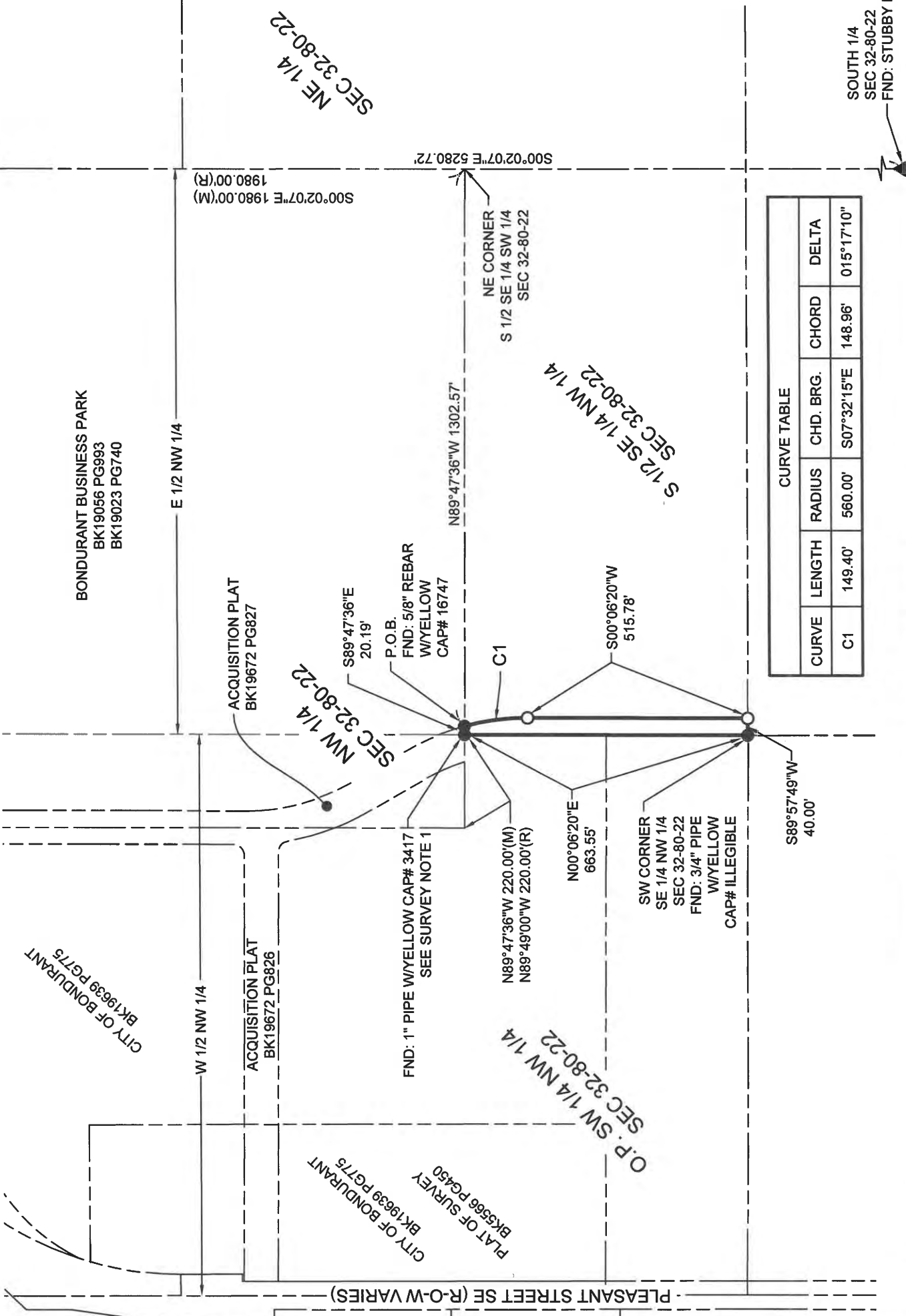
SUPPORTING DOCUMENTS	BOOK	PAGE	LEGEND
WARRANTY DEED	4725	395	▲ FOUND SECTION CORNER MONUMENT
ROW EASEMENT	4725	399	△ SET SECTION CORNER MONUMENT
WARRANTY DEED	6539	463	● FOUND PROPERTY MONUMENT (AS NOTED)
WARRANTY DEED	5514	513	○ SET 5/8" REBAR W/YELLOW CAP#16747 (UNLESS NOTED)
WARRANTY DEED	19056	122	(M) MEASURED BEARING OR DIMENSION
WARRANTY DEED	19023	740	(R) RECORDED BEARING OR DIMENSION
PLAT OF RETRACEMENT	13080	445	SECTION LINE
PLAT OF SURVEY	5566	450	PROPERTY LINE
PLAT OF SURVEY	8082	319	ACQUISITION AREA = 25.571 SQ.FT. (0.59 ACRES)
OP OF SW1/4 NW1/4	B	47	

SURVEY NOTES
1) MONUMENT IS ON THE EAST LINE OF THE WEST HALF OF THE NORTHWEST QUARTER OF SECTION 32-80-22 AND MATCHES THE WARRANTY DEED RECORDED IN BOOK 6539, PAGE 463.

FIELD SURVEY COMPLETED: JANUARY 2023



I hereby certify that this land surveying document was prepared and the related survey work was performed by me or under my direct personal supervision and that I am a duly licensed Professional Land Surveyor under the laws of the State of Iowa.
Michael D. Lee
MICHAEL D. LEE, P.L.S.
License Number: 16747
My license renewal date is DECEMBER 31, 2024
Pages or sheets covered by this seal: SHEET 1
DATE: 5-17-2024



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DRAWN TJP

CHECKED MDL

APPROVED MDL

DATE 01-04-2024

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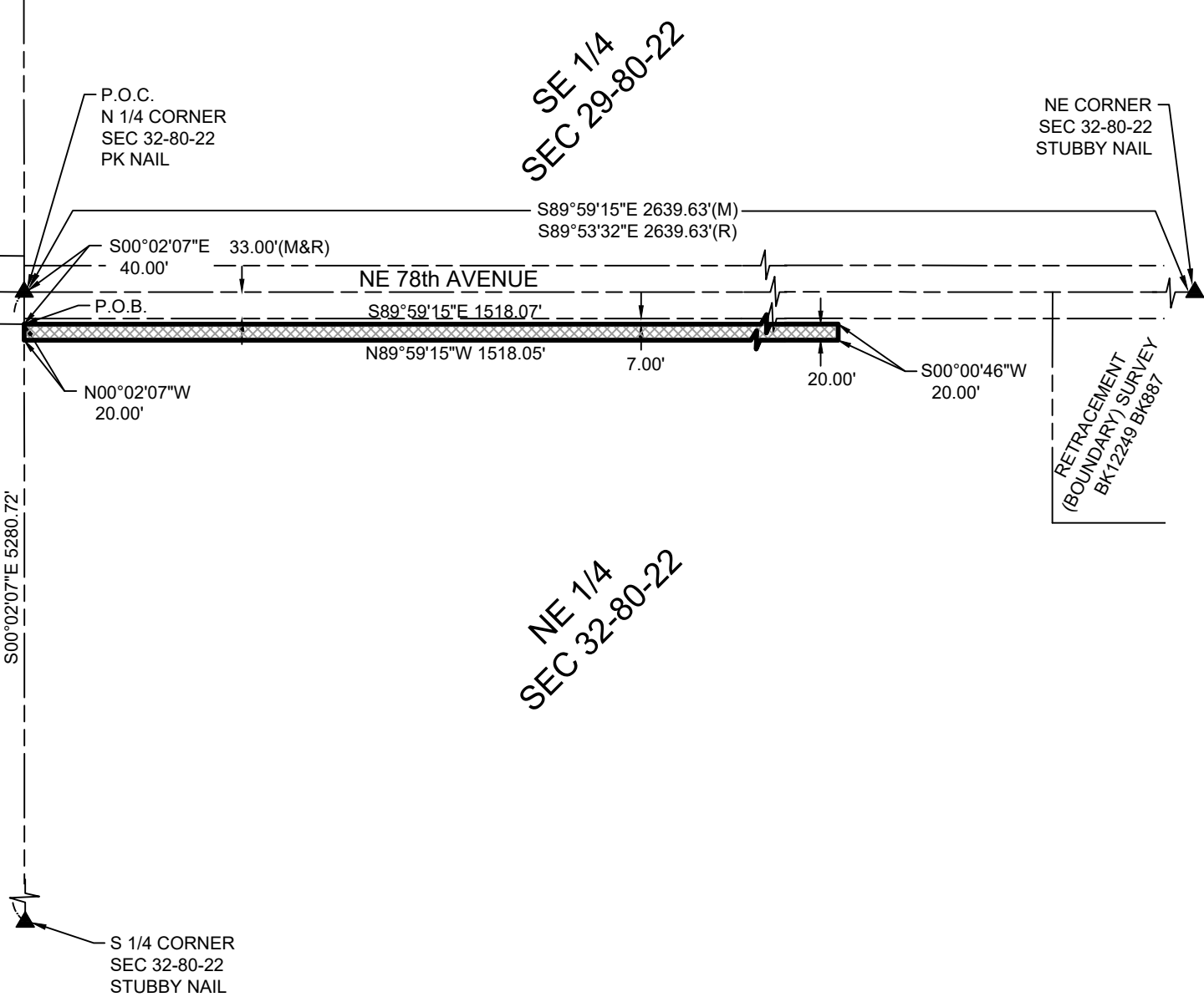
EASEMENT EXHIBIT

PARCEL NO.:
230/00449-003-000

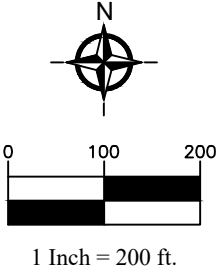
PROPERTY OWNER:
THE VIRGIL C. WEBB, WILLIAM GARBER
AND FLORA WEBB GARBER FOUNDATION
5360 NE 70TH AVENUE
ALTOONA, IA 50009
BOOK 13384, PAGE 354

PHYSICAL ADDRESS:
NA

LEGAL DESCRIPTION:
A PART OF THE NORTHEAST QUARTER OF SECTION 32, TOWNSHIP 80 NORTH, RANGE 22 WEST OF THE FIFTH PRINCIPAL MERIDIAN, POLK COUNTY, IOWA AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE NORTH QUARTER CORNER OF SAID SECTION 32; THENCE SOUTH 00°02'07" EAST ALONG THE WEST LINE OF SAID NORTHEAST QUARTER, 40.00 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 89°59'15" EAST, 1518.07 FEET; THENCE SOUTH 00°00'46" WEST, 20.00 FEET; THENCE NORTH 89°59'15" WEST, 1518.05 FEET TO SAID WEST LINE; THENCE NORTH 00°02'07" WEST ALONG SAID WEST LINE, 20.00 FEET TO THE POINT OF BEGINNING AND CONTAINING 30,361 SQUARE FEET (0.70 ACRES).



LEGEND	
	FOUND SECTION CORNER MONUMENT
	FOUND PROPERTY MONUMENT
(M)	MEASURED BEARING OR DIMENSION
(R)	RECORDED BEARING OR DIMENSION
---	SECTION LINE
----	PROPERTY LINE
	PERPETUAL EASEMENT AREA 30,361 SQ.FT. (0.70 ACRES)



CERTIFIED SITE IMPROVEMENTS - PLEASANT ST NE & 2nd STREET NE



**VEENSTRA
& KIMM INC.**
3000 WESTOWN PKWY - WEST DES MOINES, IA 50265 - (515) 225-8000

EXHIBIT **07-P1** SHEET 1 OF 1

MDL DATE 04-18-2024
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EASEMENT EXHIBIT

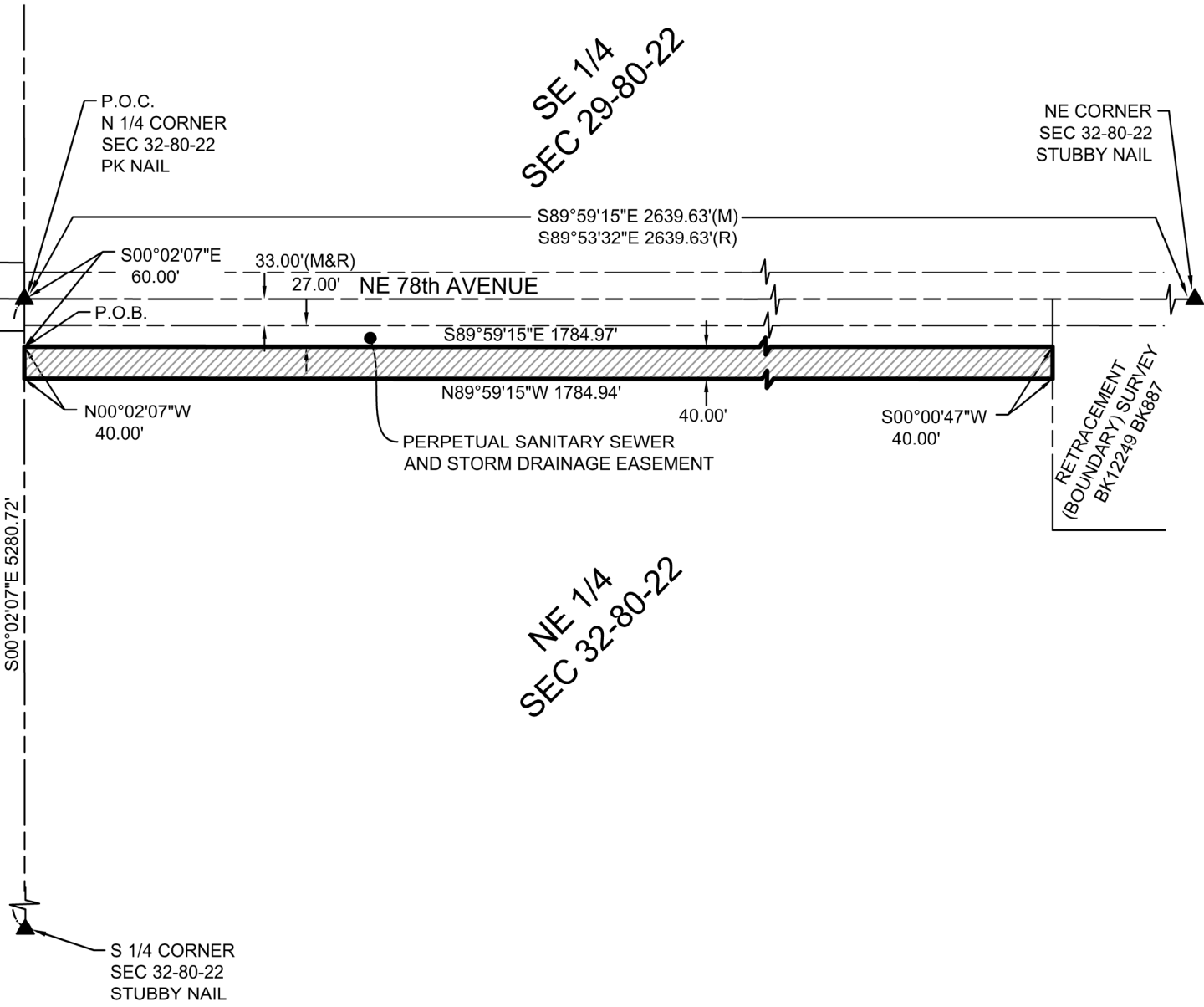
FOR TEMPORARY CONSTRUCTION BEING CONVEYED TO
THE CITY OF BONDURANT, IOWA

PARCEL NO.:
230/00449-003-000

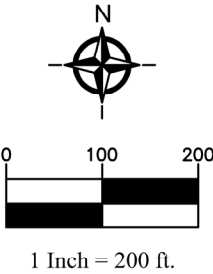
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LEGEND	
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**VEENSTRA
& KIMM INC.**
3000 WESTOWN PKWY - WEST DES MOINES, IA 50265 - (515) 225-8000

MDL DATE 01-04-2024
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EASEMENT EXHIBIT

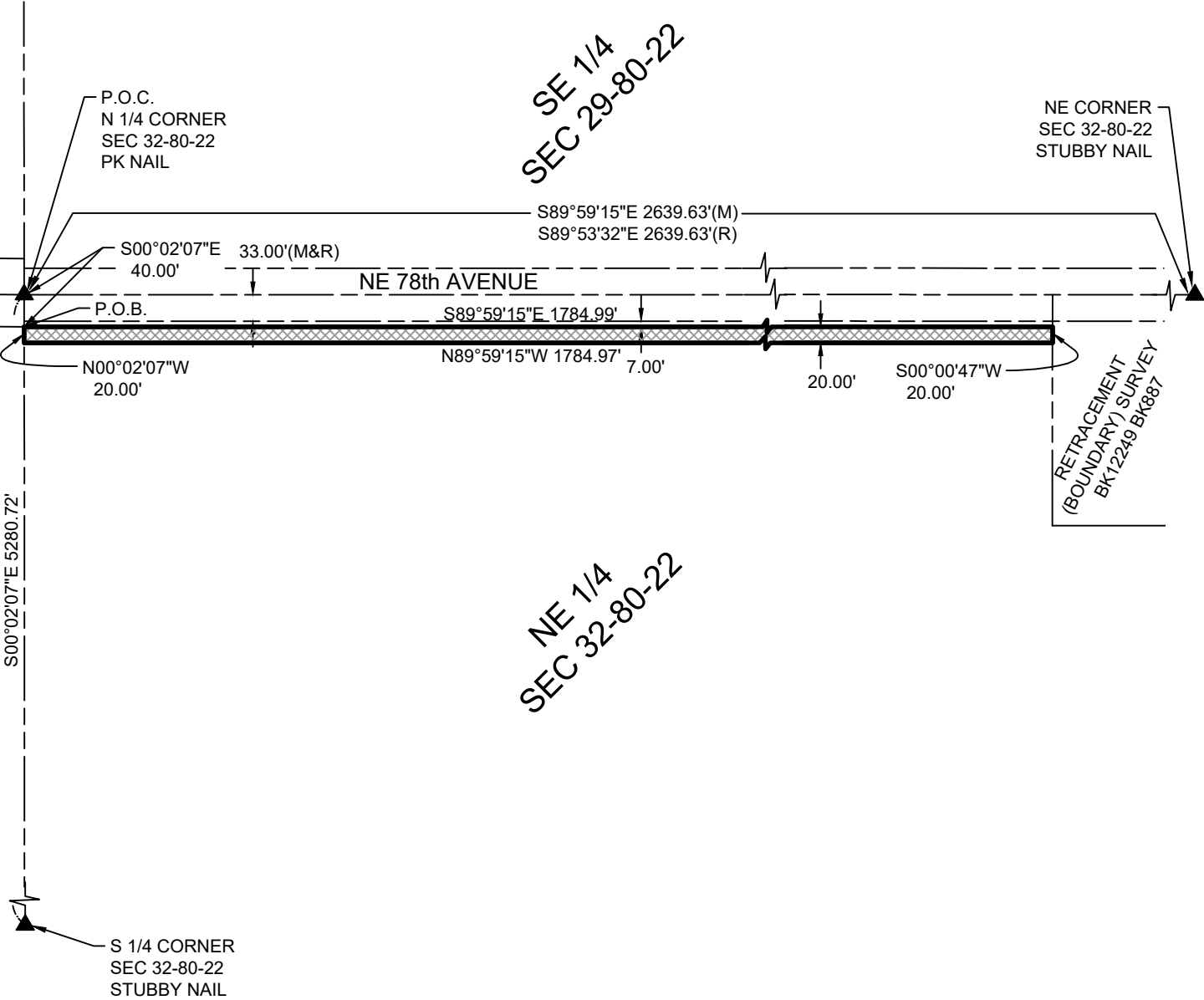
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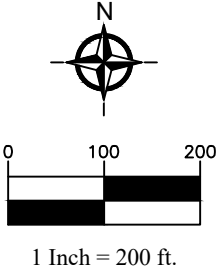
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CERTIFIED SITE IMPROVEMENTS - PLEASANT ST NE & 2nd STREET NE



**VEENSTRA
& KIMM INC.**
3000 WESTOWN PKWY - WEST DES MOINES, IA 50265 - (515) 225-8000

TEMPORARY RIGHT-OF-ENTRY

The Virgil C. Webb, William Garber and Flora Webb Garber Foundation (hereinafter referred to as the "Grantor") does hereby grant unto the City of Bondurant (hereinafter referred to as the "CITY"), a Temporary Right-of-Entry under, over, through and across the following described property:

A PART OF THE NORTHEAST QUARTER OF SECTION 32, TOWNSHIP 80 NORTH, RANGE 22 WEST OF THE FIFTH PRINCIPAL MERIDIAN, POLK COUNTY, IOWA AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTH QUARTER CORNER OF SAID SECTION 32; THENCE SOUTH 00°02'07" EAST ALONG THE WEST LINE OF SAID NORTHEAST QUARTER, 33.00 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF NE 78th STREET AND THE POINT OF BEGINNING; THENCE SOUTH 89°59'15" EAST ALONG, 1784.99 FEET TO THE WEST LINE OF A RETRACEMENT BOUNDARY SURVEY RECORDED IN BOOK 12249, PAGE 887 IN THE POLK COUNTY RECORDER'S OFFICE; THENCE SOUTH 00°00'47" WEST ALONG SAID WEST LINE, 67.00 FEET; THENCE NORTH 89°59'15" WEST, 1784.94 FEET TO SAID WEST LINE OF THE NORTHEAST QUARTER; THENCE NORTH 00°02'07" WEST ALONG SAID WEST LINE, 67.00 FEET TO THE POINT OF BEGINNING AND CONTAINING 119,593 SQUARE FEET (2.75 ACRES).

(hereinafter referred to as the "Property") for the limited purpose of allowing the CITY, its agents, contractors and employees access thereto for the purposes of beginning the Construction on the Civic Campus Improvements Project, (hereinafter referred to as the "Project") as per the plans and specifications for the construction of the project now on file in the office of the Public Works Director. The said Right-of-Entry shall be for the limited purpose of allowing personnel and equipment thereon to build the Project.

1. **DURATION**. It is understood and agreed that this Easement allowing entry in, upon and onto the Easement Area described shall be in effect beginning on the date that the Grantor signs this document until the proposed acquisitions, perpetual and temporary easements are signed, recorded and in effect for the construction of this project above described and the CITY's performance of its obligation hereunder.

Signed this _____ day of _____, 2024

THE VIRGIL C. WEBB, WILLIAM GARBER
AND FLORA WEBB GARBER FOUNDATION

Signature

Printed Name

Title, _____

ACKNOWLEDGEMENT

State of _____)

ss.

County of _____)

On this ____ day of _____, 2024, before me, a Notary Public, in and for the State and County, personally appeared _____ (signatory name), to me personally known, who by me duly sworn or affirmed did say that that person is _____ (official title) of said _____ (name of foundation) and that said instrument was signed on behalf of said foundation by authority of its Board of Directors and the said _____ (signatory name) acknowledged the execution of said instrument to be the voluntary act and deed of said foundation by its voluntarily executed.

Notary Signature

Notary Public in the state of _____

MDL DATE 04-18-2024
DRAWN TJP
CHECKED MDL
APPROVED
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EASEMENT EXHIBIT

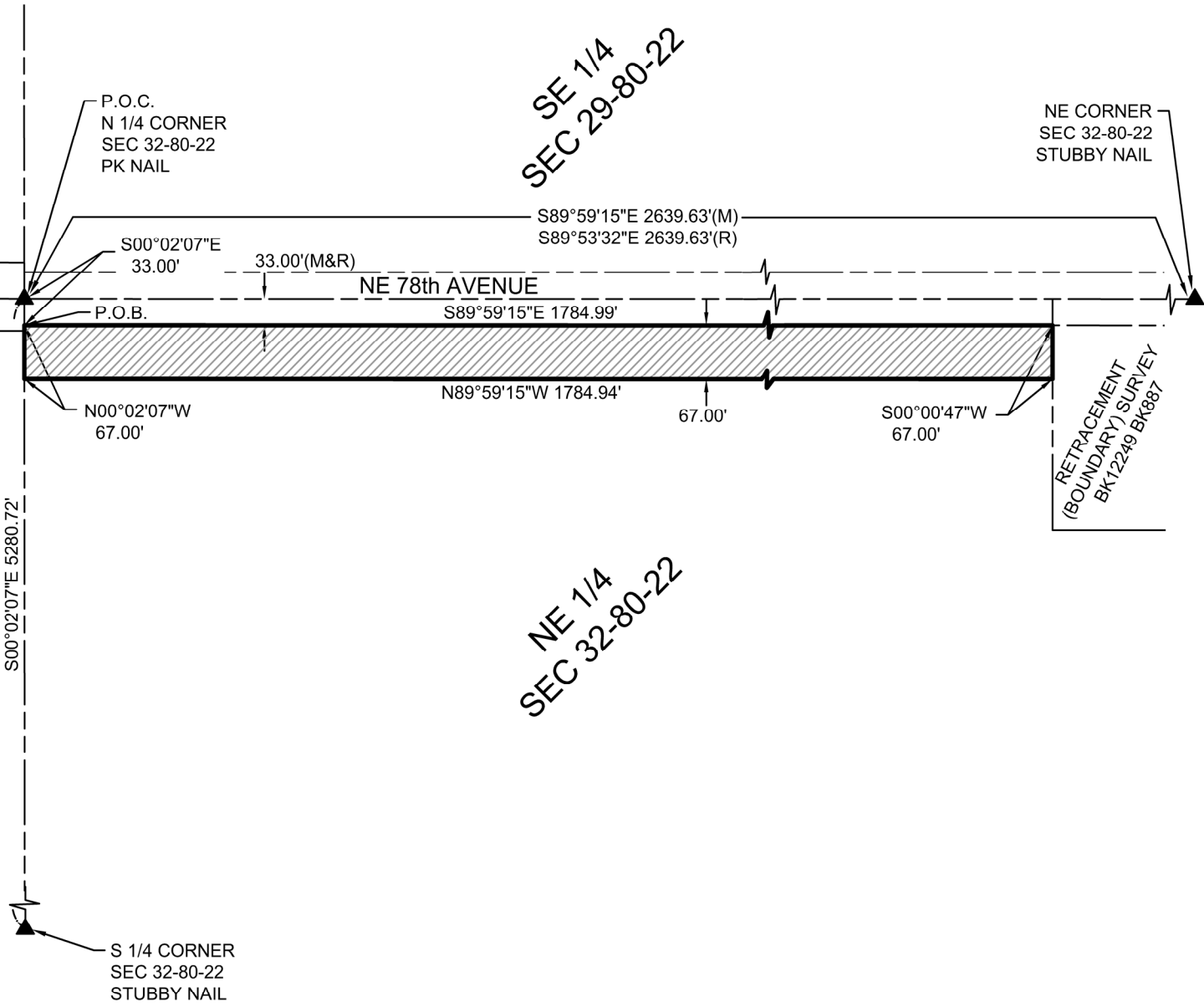
FOR TEMPORARY RIGHT OF ENTRY BEING CONVEYED TO
THE CITY OF BONDURANT, IOWA

PARCEL NO.:
230/00449-003-000

PROPERTY OWNER:
THE VIRGIL C. WEBB, WILLIAM GARBER
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LEGEND

▲

FOUND SECTION CORNER MONUMENT

●

FOUND PROPERTY MONUMENT

(M)

MEASURED BEARING OR DIMENSION

(R)

RECORDED BEARING OR DIMENSION

SECTION LINE

PROPERTY LINE

TEMPORARY RIGHT OF ENTRY AREA
119,593 SQ.FT. (2.75 ACRES)

N

0

100

200

1 Inch = 200 ft.

CERTIFIED SITE IMPROVEMENTS - PLEASANT ST NE & 2nd STREET NE

VEENSTRA

& KIMM INC.

3000 WESTOWN PKWY - WEST DES MOINES, IA 50265 - (515) 225-8000

EXHIBIT 07-T2 SHEET 1 OF 1



**BUSINESS OF THE CITY COUNCIL
BONDURANT, IOWA
AGENDA STATEMENT**

Item No. 6.i.
For Meeting of 6/3/2024
Resolution

TITLE: - Resolution approving a Community Challenge Grant Memorandum of Understanding between the City of Bondurant and AARP for funding to assist with constructing the Garden installation at the ARTocka Trail Loop

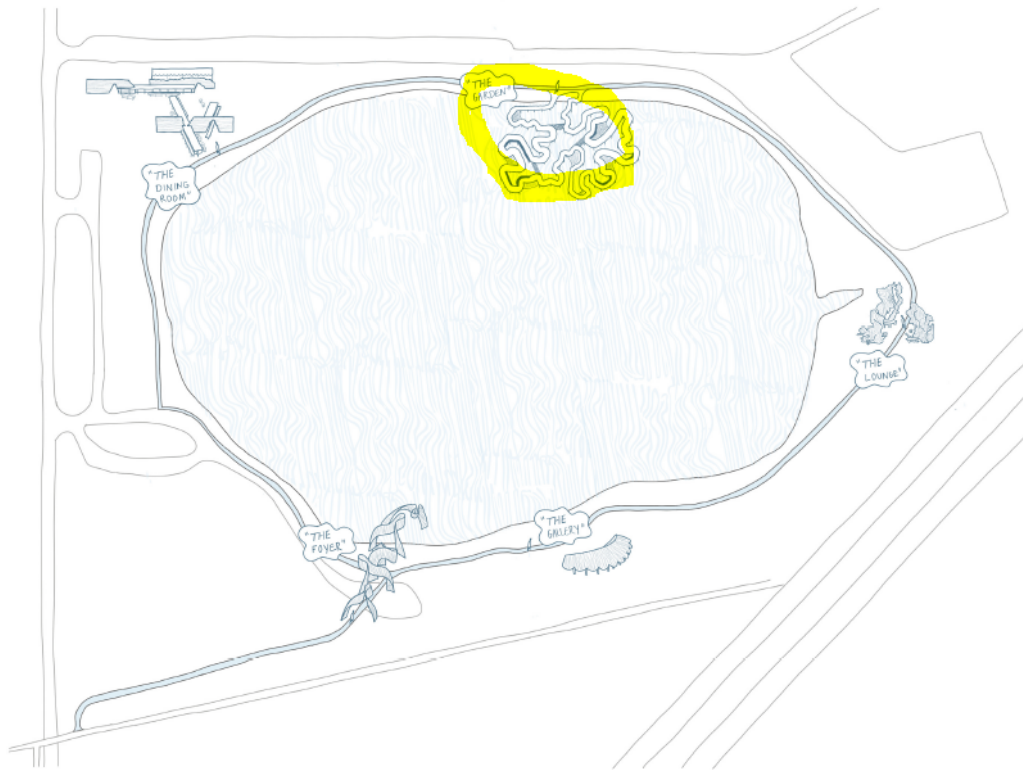
CONTACT PERSON:

Maggie Murray, Planning & Community Development Director

BRIEF HISTORY & ANALYSIS: The attached resolution approves a Community Challenge Grant Memorandum of Understanding between the City of Bondurant and AARP for funding to assist with implementing the Garden installation at the ARTocka Trail Loop. The City of Bondurant will receive \$20,000 under this AARP Community Challenge Grant Program. The overall estimated budget for the Garden installation is \$250,000. The City is still waiting to hear back from several other potential grant funding sources related to this Garden installation to help further reduce the City's local match.

Implementation of the Garden installation is consistent with the following long-range planning documents: 2022 Community Visioning Plan, 2022 Building Bondurant Comprehensive Plan, and the 2024 Art, Culture, & Wayfinding Master Plan. The Art, Culture, & Wayfinding Master Plan included an artist concept created by the artist group I/Thee where they propose a total of five art installations surrounding Lake Petocka, where each installation is considered to be a "room" to be utilized by residents and visitors to better help activate the lake and surrounding park area.

ARTocka Trail Loop Concept included in Art, Culture, & Wayfinding Master Plan



Artist Concept for the Garden installation at the ARTocka Trail Loop



The Garden

The garden is a fractal shaped boardwalk that meanders through a series of sculpted floating gardens. The installation is designed using a differential growth algorithm that mimics undulating forms found in nature, combining traditions of land art and parametric design to create an experiential work of art. Here, the design triples the 77 foot segment of shoreline into a nearly 250-foot boardwalk, allowing local residents to take greater advantage of Lake Petocka. The Garden creates a more dynamic experience of the water's edge through the series of the floating gardens that weave between a boardwalk and float out into the lake. The boardwalk provides new amenities in the form of seating, a kayak launch, and a fishing outpost for the community.

FUNDING SOURCE:

STAFF RECOMMENDATION: Approve resolution on a roll call vote.

APPROVED FOR SUBMITTAL:

ATTACHMENTS:

1. RESOLUTION NO. 240603-120
2. IA_CITY OF BONDURANT_MOU

CITY OF BONDURANT
RESOLUTION NO. 240603-120

RESOLUTION APPROVING COMMUNITY CHALLENGE GRANT MEMORANDUM OF
UNDERSTANDING BETWEEN THE CITY OF BONDURANT AND AARP FOR FUNDING TO
ASSIST WITH CONSTRUCTING THE GARDEN INSTALLATION AT THE ARTOCK TRAIL
LOOP

WHEREAS the City of Bondurant was notified it will receive \$20,000 under AARP's Community Challenge Grant Program for funding to assist with implementing the Garden installation at the ARTocka Trail Loop; and

WHEREAS the City must approve AARP's Community Challenge Grant Memorandum of Understanding to gain access to the grant funds; and

WHEREAS, the Memorandum of Understanding includes topics related to funding, 50+ Focus, Project Timeline, Scope of Grant and Anticipated Activities to be Funded, Reporting Requirements, Documentation and Right to Audit, Permissible Use of Grant Funds, Repayments, and Refunds, Term and Termination, No Implied Agency, No Commercial or Political Activity, Prohibition on Collection of AARP Member Data, Indemnification, Insurance, Acknowledgement and Trademark Licenses, Warranties, Confidentiality and Privacy, Additional Terms, and Notice.

WHEREAS implementation of the Garden installation is consistent with the following long-range planning documents: 2022 Community Visioning Plan, 2022 Building Bondurant Comprehensive Plan, and the 2024 Art, Culture, & Wayfinding Master Plan.

NOW, THEREFORE, BE IT RESOLVED, that the Bondurant City Council hereby approves the attached Community Challenge Grant Memorandum of Understanding with AARP for \$20,000 in grant funding to assist with constructing the Garden installation at the ARTocka Trail Loop, authorizing staff to sign and return the Memorandum of Understanding to AARP.

Passed this 3rd day of June 2024,

By: _____
Angela McKenzie, Mayor Pro Tem

ATTEST: I, Shelby Hagan, City Clerk of Bondurant, hereby certify that at a meeting of the City Council held on the above date, among other proceedings the above was adopted.

IN WITNESS WHEREOF, I have hereunto set my hand the day and year above written.

Shelby Hagan, City Clerk

Name	Yay	Nay	Abstain	Absent
Cox				
Driscoll				
McKenzie				
Peffer				
Sillanpaa				

COMMUNITY CHALLENGE GRANT MEMORANDUM OF UNDERSTANDING

This MEMORANDUM OF UNDERSTANDING (“Agreement”) serves as an agreement between **AARP**, a social welfare organization located at 601 E Street, NW, Washington, DC 20049 and **City of Bondurant**, a municipality located at **200 2nd St NE, PO Box 37 Bondurant, Iowa 50035** (“Organization”). Whereas, AARP wishes to grant Organization funding for the purposes set forth herein, and Organization wishes to perform the grant activities described herein. Therefore, the parties agree as follows:

1. **Funding.** AARP shall provide Organization with a one-time payment of grant funding in the amount of **\$20,000.00** (“Grant Funds”).
2. **50+ Focus.** Organization will use the Grant Funds to improve the local community with a focus on the needs of people age 50+ by **making public spaces more inclusive to meet the needs of diverse older adults and all residents (with a focus on people age 50 and older)** (“Goal”).
3. **Project Timeline.** Organization will perform the activities described herein and **complete all projects** between the date of execution of this contract and **December 15, 2024, at 11:59 p.m.** (“Grant Period”).
4. **Scope of Grant and Anticipated Activities to be Funded.** Organization shall use the Grant Funds to undertake the following activities in **Bondurant, Iowa** during the Grant Period and achieve the following deliverables (collectively “Grant Activities”):
 - a. Organization will create multigenerational engagement through beautification and artistic efforts at a multiuse outdoor space to encourage active living and engagement among older adults of all ability levels.
 - ~~b. Organization will create 5 unique artistic installations around Lake Petoeka, forming the ARTocka Trail Loop, to encourage community interaction and engagement, especially for adults age 50-plus.~~
 - c. Organization will construct a kayak launch at Lake Petoeka as part of the Garden project, including 250 feet of ADA accessible floating dock to offer recreational opportunities for all community members, especially adults age 50-plus or those with limited mobility.
 - d. Organization will incorporate at least 4 ADA-accessible public benches along the floating dock. Each bench will have capacity for at least two adults, for adults aged 50-plus to rest and socialize.
 - e. Organization will install 10 new lights around the Garden area for enhanced safety during evening events, to improve nighttime visibility for those aged 50-plus.
 - ~~f. Organization will designate and provide local seniors exclusive access to designated garden plots within the ARTocka Trail Loop, fostering intergenerational connections and promoting active aging.~~
 - g. Organization will create ADA-accessible walkways in the garden that ensure that older adults age 50-plus and of differing abilities can access the community garden.
 - h. Organization will organize 4 community events at the Garden with programming to encourage participation from underrepresented groups. At least half of the attendees will be age 50-plus.
 - i. Organization will engage 25 community members as volunteers, emphasizing older adult participants, to promote healthy aging and facilitate intergenerational interactions during project implementation.
 - j. Organization will document and communicate project progress through regular updates via social media, newsletters and community outreach acknowledging the AARP grant, reaching a minimum of 500 residents.

- k. Organization will include AARP provided and/or approved branding and language that indicates AARP's support for the Challenge project as applicable:
 - i. Events and Temporary Demonstrations: Signs, banners, or similar signage associated with the activity will indicate that the event or activity was funded with support from AARP
 - ii. Permanent Structures: Structures (benches, wayfinding signs, community gardens, tables, seating, shelters, art installations, murals, or similar structures) will include a permanent plaque or other sign that indicates support from AARP
 - iii. Printed Digital Resources or similar communications: Materials will include the AARP logo and mention of support from AARP
- 5. **Reporting Requirements.** Grantee shall submit a financial and programmatic After-Action Report to AARP, detailing all progress or achievement of the Grant Activities described herein. The report must include an itemized listing of any and all expenditures and draw-downs of the Grant Funds made during the Grant Period. Organization will submit After Action Report for the Grant Activities and other requirements in this Agreement with visuals (photos and/or video) to AARP point of contact provided in this Agreement by **June 20, 2025** ("After-Action Report Deadline"). Grantee agrees that the submission of the After-Action Report at the conclusion of the project is required by the After-Action Report Deadline and failure to submit the required report will result in the removal from the AARP website until the time of submission, and non-completion will disqualify an applicant from future AARP Community Challenge grant programs
- 6. **Documentation and Right to Audit.** Organization shall retain invoices, receipts, accounting records and other supporting documentation for at least five (5) years following the expiration of the Grant Period. Organization shall maintain books and records consistent with generally accepted accounting principles and good business practices. AARP retains the right to audit Organization's books and records upon reasonable notice, for the limited purpose of confirming that Grant Funds are expended and drawn down solely to conduct Grant Activities and in accordance with the terms of this Agreement.
- 7. **Permissible Use of Grant Funds, Repayments, and Refunds.** Organization shall use the Grant Funds exclusively for the performance of Grant Activities. AARP retains the right to receive an immediate refund of all improperly expended or unearned funds, as determined in AARP's sole and reasonable discretion, from Organization upon written demand. If Organization anticipates a change in the scope or direction of Grant Activities, it must procure prior written approval from AARP before expending Grant Funds for any activity not specifically detailed herein. Furthermore, upon the expiration of the Grant Period or if Organization fails to comply with any term of this Agreement, Organization agrees to return any unexpended portion of the Grant Funds in Organization's possession upon written demand from AARP.
- 8. **Term and Termination.** The effective date of this Agreement shall be the date of execution, and the Agreement shall automatically terminate on **January 31, 2025**. This Agreement may be terminated by AARP at any time and for any reason upon written notification to Organization. Upon such termination, Organization shall return all unexpended portions of the paid Grant Funds to AARP with receipts and other documentation to substantiate the returned amount within forty-five (45) days of written receipt of early termination from AARP, and AARP shall have no further obligation to provide Organization with any Grant Funds.
- 9. **No Implied Agency.** Nothing in this Agreement shall be deemed to create any partnership, joint venture, joint enterprise, or agency relationship among the parties, and no party shall have the right to enter into contracts on behalf of, to legally bind, to incur debt on behalf of, or to otherwise incur any liability or obligation on behalf of, the other party hereto, in the absence of a separate writing, executed

by an authorized representative of the other party. Each party shall be solely responsible for its employees and contractors used to provide the Agreement.

10. **No commercial or political activity.** Both parties recognize that AARP is a non-profit, non-partisan tax-exempt organization and agree that the Grant Funds will not be used to support or oppose political candidates or initiatives. Notwithstanding any specific deliverable herein, Grant Funds shall not be used to promote any commercial product or service or for-profit entity.
11. **Prohibition on Collection of AARP Member Data.** Grantee shall not at any time collect or maintain any information from individuals that shall directly or indirectly identify such individuals as AARP members, prospects, or persons interested in AARP.
12. **Indemnification.** To the extent allowable by applicable law, each Party (an "Indemnifying Party") shall indemnify, hold harmless, and defend the other Party, its affiliates, and their respective officers, directors, employees, contractors, agents and representatives (each of whom is an "Indemnified Party") against all liability, costs, actions, suits, judgments, damages, and expenses (including reasonable attorneys' fees and court costs) arising out of or resulting from (a) the negligent, reckless or willful acts or omissions of Indemnifying Party, its officers, directors, employees, independent contractors, or agents, (b) Indemnifying Party's breach of this Agreement, including failure to provide the services and work as set forth in this Agreement; and (c) any claim that the services or work product of the Indemnifying Party provided under this Agreement infringes or violates the intellectual property or other rights of third parties, except to the extent caused by the Indemnified Party. The Parties acknowledge and agree that the indemnity specified herein will include, without limitation, indemnification for settlements or compromises of matters covered by this indemnity. The Indemnifying Party shall not settle any such suit or claim without the Indemnified Party's prior written consent if such settlement would be adverse to the Indemnified Party's interest. The Indemnified Party may, at its option, conduct the defense in any third-party action arising as described above and the Indemnifying Party agrees fully to cooperate with such defense. The obligations and rights granted in this Section shall survive the expiration and termination of the Agreement.
13. **Insurance.** Both parties agree to carry and maintain comprehensive general liability and professional liability in an amount not less than one million dollars (\$1,000,000) and workers' compensation insurance in an amount as required by applicable law covering all personnel engaged in the furnishing of services under this Agreement for the duration of the Grant Period.
14. **Acknowledgment and Trademark Licenses.** Organization shall acknowledge AARP's support in all press releases, public announcements, and publicly-released documents related to the Grant Activities detailed herein. To that end, AARP grants Organization a royalty-free non-exclusive, revocable license to use its name and corporate logo solely for that purpose upon the advanced written approval of AARP in each instance. In addition, Organization grants AARP a non-exclusive, royalty-free, world-wide, license to use Organization's corporate trademark, including its name and/or logo for the limited purpose of communications regarding the grant between AARP and Organization to AARP members, the 50+ and the general public in promotion of AARP in all media and mediums, including without limitations, broadcast, print, online and AARP membership materials until the expiration or termination of this Agreement. All trademark licenses granted under this section are non-transferrable and Organization shall not create any new use of the AARP trademark upon expiration or termination of this Agreement.
15. **Warranties.** Each Party hereby represents and warrants that: (a) it has full power and authority to enter into this Agreement and perform its obligations hereunder; (b) it is duly organized, validly existing and in good standing under the laws of the jurisdiction of its origin; (c) it has not entered into, and during the Term will not enter into, any agreement that would prevent it from complying with this

Agreement; (d) it will comply with all applicable laws and regulations in its performance of this Agreement; and (e) the content, media and other materials used or provided as part of the Agreement shall comply with all applicable laws and regulations and shall not infringe or otherwise violate the intellectual property rights, rights of publicity or other proprietary rights of any third party. If necessary, Organization shall enter into written agreements and obtain written releases from third parties, in order to ensure that any work product can be used by AARP as contemplated herein.

16. **Confidentiality and Privacy.** Both parties agree to take commercially reasonable measures to protect information obtained from the other, provided information is marked “confidential” or is of such a nature that the recipient party has reason to believe it is confidential. Organization shall not rent, sell, lease, distribute, or otherwise knowingly make available to any third party any information obtained from AARP about AARP, AARP members, or any AARP activity, unless prior written authorization has been obtained from AARP or Organization is required to release information by valid subpoena or court order. This section shall survive the expiration or termination of this Agreement.
17. **Additional Terms.** Organization shall not assign or otherwise transfer the Agreement, including by change of control, to any party without the prior written consent of AARP. This Agreement represents the entire agreement between Parties and replaces any prior agreement or proposed variation. Should there be any conflict between any forms or documents exchanged by the Parties, the terms and conditions of this Agreement shall govern. This Agreement shall be amended only by mutual written agreement executed by all Parties or their respective designees. The Parties agree that this Agreement will be governed by the Laws of the District of Columbia without regard to District of Columbia conflict of laws statutes/rules. If any portion of this Agreement shall be declared illegal, void or otherwise unenforceable, the remaining provisions will not be affected, but will remain in full force and effect.
18. **Notice.** For purposes of this Agreement, the following individuals shall serve as points of contact, including delivery of reports, for both AARP and the Organization:

AARP
Mike Watson
Director, Livable Communities
601 E Street NW
Washington, DC 20049

City of Bondurant
Tiffany Luig
Economic Development Coordinator
200 2nd St NE
PO Box 37
Bondurant, Iowa 50035

ACCEPTED AND AGREED TO BY:

AARP

By: _____

Printed Name: Mike Watson

Title: Director, Livable Communities

Date: _____

City of Bondurant

By: _____

Printed Name: Tiffany Luig

Title: Economic Development Coordinator

Date: _____



**BUSINESS OF THE CITY COUNCIL
BONDURANT, IOWA
AGENDA STATEMENT**

Item No. 6.j.
For Meeting of 6/3/2024
Resolution

TITLE: - Resolution approving updates to a job grade and wage scale for FY25

CONTACT PERSON:

Jene Jess, Finance Director

BRIEF HISTORY & ANALYSIS: The Mayor and City Council reviewed market research to establish wage ranges for each city position and decided to "match the market" wages for employees. On July 5, 2022, they created job grades and wage scales to ensure pay equity and communicate future compensation potential. They also adopted a Compensation Philosophy and Policy, stating that compensation should adjust with market and economic changes, using the Midwest CPI as a reference. The Iowa League of Cities' Budget Special Report for FY 2024-25 noted a 3.2 percent increase in the Midwest Region CPI, leading to adjusted wage ranges. The next city-wide salary study is scheduled for FY25, effective for FY26 compensation. Given significant market changes for the City Clerk position and the staff member's nine years in the role, using only the Midwest CPI to adjust the wage range for FY25 would put that position in the "lagging the market" category, which was not the intent of the Compensation Philosophy and Policy adopted by the Mayor and Council. This results in the inability to give a full merit and CPI increase for the person in that role. Staff recognized this issue and a position-specific salary study was conducted in FY24, and the findings should be implemented for FY25 compensation. Below shows the current FY25 ranges and the updated, recommended range, based on the current market information. The attached resolution implements the recommendations.

Current FY25

City Clerk	\$77,748	\$93,297	\$103,663
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Updated FY25

City Clerk	\$85,312	\$102,374	\$113,749
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FUNDING SOURCE: Current resources

STAFF RECOMMENDATION: Discuss and adopt the resolution.

APPROVED FOR SUBMITTAL:

ATTACHMENTS:

1. RESOLUTION NO. 240603-121

CITY OF BONDURANT
RESOLUTION NO. 240603-121

RESOLUTION APPROVING UPDATES TO A JOB GRADE AND WAGE SCALE FOR
FY25 PURSUANT TO COMPENSATION PHILOSOPHY AND POLICY

WHEREAS the Mayor and City Council reviewed market research to determine what wage ranges should be established for each city position; AND

WHEREAS the Mayor and City Council determined the City should match current market wages for its employees; AND

WHEREAS on July 5, 2022, the Mayor and City Council created job grades and wage scales to help ensure pay equity among employees and communicate future compensation potential to employees; AND

WHEREAS, on July 5, 2022, the Mayor and City Council adopted the Compensation Philosophy and Policy, which states that, "Compensation rarely remains static. The rate of pay is constantly changing with external market and economic activity. Aging is the activity of increasing salary grades with the market without the cost of purchasing or soliciting new salary survey data each year. To do this, the City of Bondurant will use the Midwest CPI as published in the Iowa League of Cities Annual Special Budget Report. It measures changes in the cost of total compensation, which includes wages, salaries, and the employer's cost of employee benefits." AND

WHEREAS the Iowa League of Cities issued its Budget Special Report for Fiscal Years (FY) 2024-25 in which it documents the Midwest Region CPI rose 3.2 percent and wage ranges were adjusted; accordingly, AND

WHEREAS FY25 is the next scheduled salary study for the City-wide positions effective for FY26 compensation. Staff recognizes there has been a lot of movement in the market for a City Clerk position. That staff member has nine years in the position putting them in the max range of the wages for that position.

WHEREAS Staff conducted a salary study for the City Clerk position and recommends implementing that piece of the salary study effective for FY25 compensation in order to avoid lagging the market.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Bondurant, Iowa, that the updated range for the City Clerk is approved as shown below.

Updated FY25

City Clerk	\$85,312	\$102,374	\$113,749
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Passed this 3rd day of June 2024

By: _____
Angela McKenzie, Mayor

ATTEST: I, Shelby Hagan, City Clerk of Bondurant, hereby certify that at a meeting of the City Council held on the above date, among other proceedings the above was adopted.

IN WITNESS WHEREOF, I have hereunto set my hand the day and year above written.

Shelby Hagan, City Clerk

Council Action	Ayes	Nays	Abstain	Absent
Cox				
Driscoll				
McKenzie				
Peffer				
Sillanpaa				



**BUSINESS OF THE CITY COUNCIL
BONDURANT, IOWA
AGENDA STATEMENT**

Item No. 6.k.
For Meeting of 6/3/2024
Resolution

TITLE: - Resolution Levying assessment for costs of delinquent water for 213 Tailfeather Drive, NW, Bondurant, Polk County, Iowa

CONTACT PERSON:

Jene Jess, Finance Director

BRIEF HISTORY & ANALYSIS: 213 Tailfeather Dr NW has an outstanding delinquent curb stop repair bill.

They have received the following attempts to collect:

1. A Notice to Abate
2. Second Notice to Abate
3. Invoice

There have also been attempts to call the property owner. Due to lack of responsiveness and payment a levy assessment is necessary.

FUNDING SOURCE: NA

STAFF RECOMMENDATION: Approve resolution on a roll call vote.

APPROVED FOR SUBMITTAL:

ATTACHMENTS:

1. RESOLUTION NO. 240603-122

CITY OF BONDURANT
RESOLUTION NO. 240603-122

RESOLUTION LEVYING ASSESSMENT FOR COSTS OF A CURB STOP REPAIR
FOR 213 TAILFEATHER DR NW, POLK COUNTY, IOWA

WHEREAS, the City of Bondurant repaired to the property; AND

WHEREAS, an invoice was sent to the following property owners pertaining to Chapter 50, Section 50.03.

213 Tailfeather Dr NW

\$1,935 (As of 05/15/2024)

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Bondurant in session this 3rd of June 2024, that it hereby gives approval to proceed with the special assessment with the amount shown thereon assessed and levied against the property for collection in the same manner as property tax.

BE IT FURTHER RESOLVED, that said assessment may be paid in full within thirty days after the first publication notice of 15th of May 2024. Thereafter, all unpaid special assessments shall be payable at the office of the County Treasurer of Polk County, Iowa.

BE IT FURTHER RESOLVED, that the City Clerk is hereby directed to certify said schedule to the County Treasurer of Polk County, Iowa and to publish notice of said certification in the Herald-Index.

Passed this 3rd day of June 2024,

By: _____
Angela McKenzie, Mayor Pro Tem

ATTEST: I, Shelby Hagan, City Clerk of Bondurant, hereby certify that at a meeting of the city Council held on the above date, among other proceedings the above was adopted.

IN WITNESS WHEREOF, I have hereunto set my hand the day and year above written.

Shelby Hagan, City Clerk

Name	Yay	Nay	Abstain	Absent
Cox				
Driscoll				
McKenzie				
Peffer				
Sillanpaa				



**BUSINESS OF THE CITY COUNCIL
BONDURANT, IOWA
AGENDA STATEMENT**

Item No. 7.a.
For Meeting of 6/3/2024
Public Hearing

TITLE: Public Hearing regarding the Featherstone Planned Unit Development Substantial Modification Request related to the Outlot W/Featherstone Townhomes Plat 1 area

CONTACT PERSON:

Marketa Oliver, ICMA-CM, SPHR, City Administrator
Maggie Murray, Planning & Community Development Director

BRIEF HISTORY & ANALYSIS: The City has received a Substantial Modification request from HRC Bondurant LLC (Hubbell Realty Company) to amend the approved Featherstone Planned Unit Development in the area known as Outlot W, or Featherstone Townhomes Plat 1. An approved site plan/preliminary plat and final plat is currently on file for this area for 74 townhome units, including the following language of the City Council resolutions approving both the site plan/preliminary plat and the final plat: *all units within the Featherstone Townhomes Plat 1 development area shall include basements unless granted an accessibility waiver by Council, as authorized by Section 178.06.4.P. of the Zoning Code.*

Below is an excerpt from the May 26, 2022 Planning & Zoning Commission meeting minutes in which the topic of basements was discussed and where the developer (Moseley with Hubbell Realty Company) indicated that this basement requirement would be workable.

Moseley added that they would be installing basements unless an individual that would like to live within the development would not like to have a basement due to accessibility reasonings. Member Clayton indicated that the applicant should come back to the city to amend the site plan to allow for a particular unit to not have a basement if in the event a potential resident requests a zero-entry home. Member Clayton added that it should be handled on a case-by-case basis. Member Cameron agreed with Member Clayton's thoughts. She added that zero-entry does not come up often.

The applicant asked what the language would be for this amendment. Member Clayton explained that the applicant would just need to come to the city for an exception if there was a potential case where an individual would like to have a zero-entry unit. The applicant indicated that this would be workable.

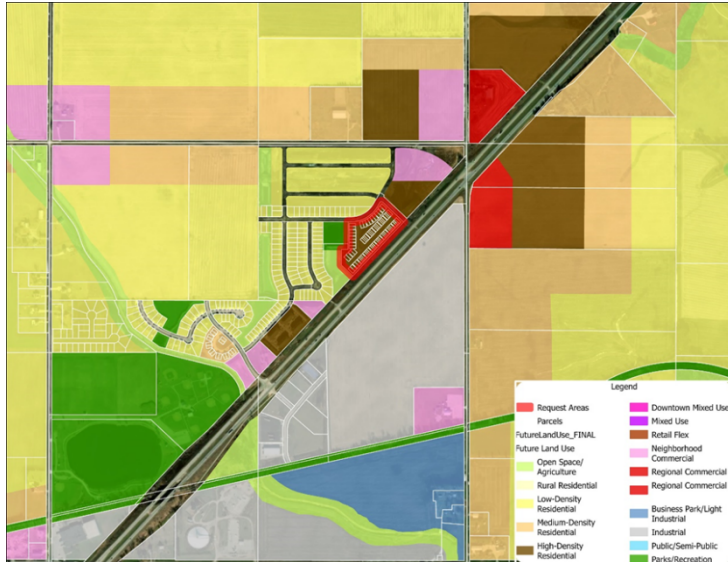
The current Substantial Modification request by Hubbell Realty Company is to reduce the square footage of a portion of the townhome units and to construct 64 of the proposed 74 units as slab-on-grade, with also reserving the option for the remaining units to be constructed as slab on grade if desired by the home buyers. Per Section 178.06.5.D of the Zoning Code, a Substantial Modification shall be processed in the same manner as a rezoning and additionally shall comply with the application process for a PUD.

The applicant is proposing Lots 7-8 and 11-58 to be constructed slab-on-grade with additional bi-attached units to be constructed as slab-on-grade if desired by the home buyer. Along with their Substantial Modification request, Hubbell Realty Company has submitted plans to potentially include tornado safe rooms into the residential units (see attached plans). The applicant has also submitted updated square footage layouts for the submitted townhome units. These square footages meet minimum requirements and no additional residential units have been requested.

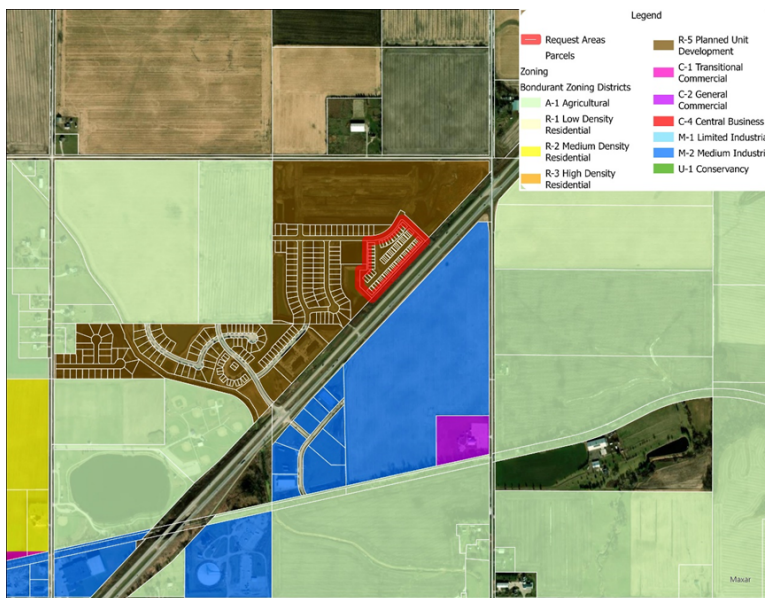
An aerial of “Outlot W”/Featherstone Townhomes Plat 1 can be found below:



The City's Future Land Use Map, which guides potential rezoning requests but is not the regulatory tool like the Zoning Ordinance/Map, currently guides these parcels as High-Density Residential. The Substantial Modification request does not affect the current Future Land Use designation of High-Density Residential.



The property in question is currently zoned as being within the City's Planned Unit Development (R-5) District. The Substantial Modification request would not change the existing zoning district of the property, and would rather look to potentially modify requirements of the approved Featherstone Planned Unity Development. The property is outlined in red on the City Zoning Map below:



Public Input

As is required by the City's Zoning Code, letters were sent to property owners within 200' of the Substantial Modification area. No public comment has been received by staff at the time of writing this agenda statement.

Planning & Zoning Commission Recommendation

The Planning & Zoning Commission held a public hearing regarding this Featherstone

Planned Unit Development Substantial Modification request during their meeting on May 9, 2024 where the following motion was made and seconded, but was denied with a 5-2 vote: *Approve a Substantial Modification request to allow up to 40 units to be slab on grade where a FEMA-approved storm shelter shall be installed in those units that are slab on grade and also where an additional garage depth of 3' shall be provided in those units that are slab on grade.* This translates to recommended denial of Hubbell Realty Company's Substantial Modification request.

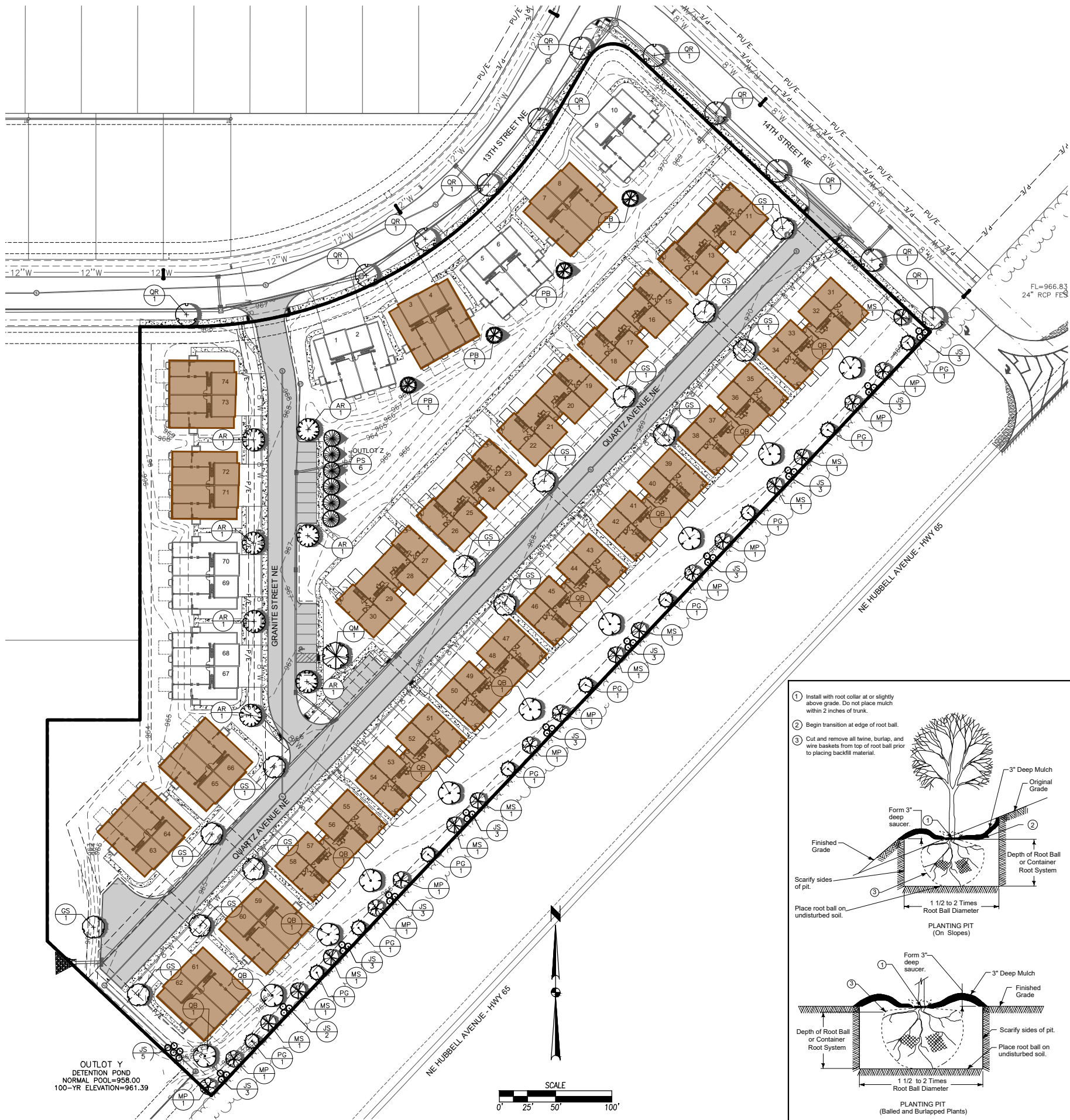
FUNDING SOURCE: N/A

STAFF RECOMMENDATION: Council may vote on a First Ordinance reading at a later meeting date following this required public hearing.

APPROVED FOR SUBMITTAL:

ATTACHMENTS:

1. 2024 Featherstone Townhomes Plat 2 - Slab on Grade Exhibit
2. 2024 Proposed Storm Shelter Packet
3. 2024 Featherstone Townhomes Plat 2 Final Plat
4. 2024 Emerson Duplex Layout
5. 2024 Redfield-Lacona Layout
6. 2022 RESOLUTION NO. 221107-XXX Approving Featherstone Townhomes Plat 1 Final Plat
7. 2022 Featherstone Townhomes Plat 1_Final Plat_2022-10-13
8. 2021 Featherstone Approved PUD Conceptual Plan



LANDSCAPE NOTES

1. LOCATE ALL UTILITIES BEFORE ANY PLANTING BEGINS.
2. THE 2022 EDITION OF THE SUDAS STANDARD SPECIFICATIONS AND ALL CITY SUPPLEMENTALS, IF APPLICABLE, SHALL APPLY TO ALL WORK ON THIS PROJECT UNLESS OTHERWISE NOTED.
3. TYPE, SIZE, AND QUALITY OF PLANT MATERIAL SHALL CONFORM TO THE MOST CURRENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK ANSI Z60.1
4. ALL PLANT MATERIAL SHALL BE HEALTHY SPECIMENS WITHOUT DEFORMITIES, VOIDS AND OPEN SPACES, WITH WELL DEVELOPED BRANCH AND ROOT SYSTEMS; TRUE TO HEIGHT, SHAPE AND CHARACTER OF GROWTH OF THE SPECIES OR VARIETY.
5. SEED (TYPE 1) OR SOD ALL DISTURBED AREAS AS DIRECTED BY OWNER.
6. BACKFILL TO TOP OF CURB. (MINUS 1 1/2" FOR SOD, IF REQ.)
7. WEED PREVENTER (PRE-EMERGENT) SHALL BE SPREAD OVER SOIL AFTER PLANTING AND BEFORE MULCHING IN ALL PLANTING BEDS PER MANUFACTURER'S RECOMMENDATIONS.
8. SHREDDED HARDWOOD MULCH SHALL BE PLACED AROUND ALL TREES, SHRUBS TO A (MIN) DEPTH OF 3".
9. ALL EDGING SHALL STEEL.
10. PLANT QUANTITIES ARE SHOWN FOR INFORMATION ONLY, THE DRAWING SHALL PREVAIL IF ANY CONFLICTS ARISE.
11. ALL DEBRIS SPILLED IN THE PUBLIC R.O.W. SHALL BE PICKED UP BY THE CONTRACTOR AT THE END OF EACH WORK DAY.
12. CONTRACTOR SHALL WARRANTY ALL PLANT MATERIALS FOR A PERIOD OF ONE YEAR FROM DATE OF INSTALLATION.
13. CONTRACTOR SHALL PROVIDE IRRIGATION DESIGN TO OWNER, IF REQUESTED, FOR APPROVAL.

LANDSCAPE REQUIREMENTS

ONE TREE PER 50 LF OF STREET FRONTAGE OR ONE TREE PER SIX PARKING STALLS, WHICHEVER IS GREATER.

1,839 LF OF FRONTAGE = 37 TREES

TREES PROVIDED = 43 TREES

BUFFER

1. THE LANDSCAPE BUFFER YARD ALONG HIGHWAY 65 SHALL BE 25 FEET WIDE WITH 1 OVERSTORY, 1 CONIFER, 2 UNDERSTORY TREES, AND 4 SHRUBS AND/OR GRASS EVERY 100 FEET.
2. BUFFER YARD TREE SPECIES SHALL BE LIMITED TO THE SPECIES LISTED IN SECTION 151.03 OF THE CITY CODE. DECIDUOUS TREES SHALL BE 1.75" CALIPER AND CONIFEROUS TREES SHALL BE A MINIMUM 5' HEIGHT.

BUFFER LENGTH = 933 LF (ALONG NE HUBBELL AVE.)

REQUIRED:

OVERSTORY TREES	= 10
CONIFER TREE	= 10
UNDERSTORY TREES	= 20
SHRUBS/ GRASSES	= 38

PROVIDED:

OVERSTORY TREES	= 10
CONIFER TREE	= 10
UNDERSTORY TREES	= 20
SHRUBS/ GRASSES	= 38

151.04

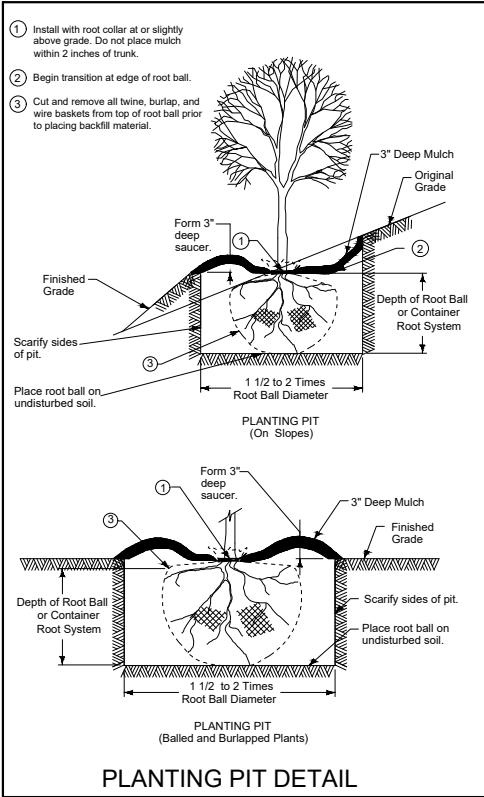
STREET TREE PLANTING RESTRICTIONS. NO STREET TREE SHALL BE PLANTED IN ANY PARKING EXCEPT IN ACCORDANCE WITH THE FOLLOWING:

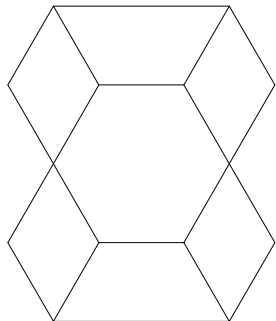
1. NO STREET TREE SHALL BE PLANTED UNLESS THE PARKING IS AT LEAST NINE (9) FEET IN WIDTH.
2. NO STREET TREE SHALL BE PLANTED CLOSER THAN FOUR (4) FEET TO THE CURB OR CURBLINE AND NO CLOSER THAN FOUR (4) FEET TO THE SIDEWALK. WHENEVER POSSIBLE TREES SHALL BE CENTERED BETWEEN THE CURB OR CURBLINE AND THE SIDEWALK OR PROPERTY LINE. IF NO PUBLIC SIDEWALK EXISTS, THE STREET TREE SHALL AVOID THE LOCATION OF THE FUTURE PUBLIC SIDEWALK AREA, AS DETERMINED BY THE PUBLIC WORKS DIRECTOR.
3. NO STREET TREE SHALL BE PLANTED WITHIN FIFTEEN (15) LATERAL FEET OF AN OVERHEAD UTILITY LINE.
4. NO STREET TREES SHALL BE PLANTED CLOSER THAN THIRTY-FIVE (35) FEET TO THE INTERSECTING LOT LINES OF A CORNER LOT.
5. ON A CORNER LOT, NO STREET TREE SHALL BE ERECTED, PLACED, PLANTED, OR ALLOWED TO GROW IN SUCH A MANNER AS TO MATERIALLY IMPEDE VISION BETWEEN A HEIGHT OF TWO AND-HALF (2 1/2) FEET ABOVE THE CENTERLINE GRADES OF THE INTERSECTING STREETS IN THE AREA BOUNDED BY THE STREET LINES OF SUCH CORNER LOTS AND A LINE JOINING ALONG SAID STREET LINES TWENTY-FIVE FEET FROM THE POINT OF INTERSECTION OF THE RIGHT-OF-WAY LINES.
6. NO STREET TREE SHALL BE PLANTED CLOSER THAN FIVE (5) FEET FROM ALLEYS OR DRIVEWAYS.
7. NO STREET TREE SHALL BE PLANTED WITHIN FIVE (5) LATERAL FEET FROM A WATER MAIN OR SANITARY SEWER MAIN.
8. NO STREET TREE SHALL BE PLANTED WITHIN TEN (10) FEET OF A FIRE HYDRANT OR UTILITY POLE.
9. NO STREET TREE SHALL BE PLANTED WITHIN TWENTY-FIVE (25) FEET OF ANOTHER STREET TREE.

SEEDBED PREPARATION SUDAS SECTION 7E-24 - PERMANENT SEEDING

TOPSOIL:
IN ORDER TO PROVIDE AN ADEQUATE GROWING MEDIUM, A MINIMUM OF 6 INCHES OF TOPSOIL SHOULD BE PLACED OVER THE DISTURBED AREA PRIOR TO SEEDING. DEEPER TOPSOIL DEPTHS (8-12 INCHES OR GREATER) ARE DESIRABLE AS THEY INCREASE THE ORGANIC MATTER AVAILABLE FOR USE BY THE PLANTS, ALLOW FOR DEEPER ROOT PENETRATION AND INCREASE THE MOISTURE HOLDING ABILITY OF THE SOIL. THESE BENEFITS WILL INCREASE THE DROUGHT TOLERANCE AND LONG-TERM HEALTH OF THE VEGETATION. WHERE SUFFICIENT TOPSOIL IS NOT AVAILABLE, COMPOSTED MATERIAL MAY BE INCORPORATED AT THE RATE OF 1 INCH OF COMPOST FOR EVERY 3 INCHES OF DEFICIENT TOPSOIL. THIS WILL INCREASE THE ORGANIC MATTER CONTENT OF THE SOIL, AND PROVIDE AN ADEQUATE GROWING MEDIUM FOR VEGETATION.

PLANT SCHEDULE				
EVERGREEN TREES	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
PB	4	Black Hills Spruce	Picea glauca densata	B&B, 5' HEIGHT
PG	10	Colorado Blue Spruce	Picea pungens 'Glaucia'	B&B, 6' HEIGHT
PS	6	White Pine	Pinus strobus	B&B, 5' HEIGHT
ORNAMENTAL TREES	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
MP	10	Prairifire Crab Apple	Malus x 'Prairifire'	B&B, 1.5" CALIPER
MS	10	Spring Snow Crab Apple	Malus x 'Spring Snow'	B&B, 1.5" CALIPER
OVERSTORY TREES	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
AR	7	Red Maple	Acer rubrum	B&B, 2" CALIPER
GS	14	Skyline Honey Locust	Gleditsia triacanthos 'Skyline'	B&B, 2" CALIPER
QB	10	Swamp White Oak	Quercus bicolor	B&B, 2" CALIPER
QM	1	Burr Oak	Quercus macrocarpa	B&B, 2" CALIPER
QR	11	Red Oak	Quercus rubra	B&B, 2" CALIPER
SHRUBS	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
JS	38	Spartan Juniper	Juniperus chinensis 'Spartan'	36" HEIGHT





REDGUARD®
DIVERSIFIED STRUCTURES
121 INDUSTRIAL BLVD.
THOMASVILLE GA. 31792
3X5 EXTREME RESIDENTIAL SHELTER

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S8 - DOOR DETAILS	
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S10 - BENCH DETAILS	

DESIGN CRITERIA	
1. BUILDING CODE: FEMA 320 (2021) and ICC 500 (2020)	
2. LIVE LOADS:	
a. FLOOR = 100 PSF	
b. ROOF = 100 PSF	
3. WIND DESIGN DATA FOR COMMUNITY TORNADO SHELTER:	
a. BASIC WIND SPEED = V = 250 MPH (IN ACCORDANCE WITH ICC500, SECTION 304.2)	
b. WIND IMPORTANCE FACTOR: I = 1.0	
c. WIND EXPOSURE CATEGORY = C (IN ACCORDANCE WITH ICC500, SECTION 304.4)	
d. DIRECTIONALITY FACTOR = Kd = 1.0 (IN ACCORDANCE WITH ICC500, SECTION 304.3)	
e. TOPOGRAPHIC FACTOR = Kzt = 1.0 (IN ACCORDANCE WITH ICC500, SECTION 304.5)	
f. HEIGHT ADJUSTMENT FACTOR = Kz = 0.85	
g. ENCLOSURE CLASSIFICATION = PARTIAL PER FEMA	
h. INTERNAL PRESSURE COEFFICIENT = GCpi = +/- 0.55 (IN ACCORDANCE WITH ICC500, SECTION 304.7)	
i. BASIC WIND PRESSURE = qh = 160 PSF (3 SECOND GUST)	
4. FOUNDATION DESIGN DATA:	
FOUNDATION DESIGN IS BASED ON AN ASSUMED ALLOWING BEARING CAPACITY OF 2000 PSF.	
5. ALL OPENINGS OF SAFE ROOM SHALL BE PROTECTED BY IMPACT PROTECTIVE DEVICES AND ALLOWABLE LOADS AS SHOWN IN ICC-500 CHAPTER 3.	
6. MISSILE SPEED AND SHELTER IMPACT:	
a. DEBRIS IMPACT TEST MISSILE: 15-POUND SAWN LUMBER 2 X 4.	
b. VERTICAL SURFACES: 90 MILES PER HOUR.	
c. HORIZONTAL SURFACES: 60 MILES PER HOUR.	

PROJECT INFORMATION	
TYPE:	
STAND- ALONE, SINGLE-USE, RESIDENTIAL TORNADO SHELTER PER ICC 500-2020 & FEMA 320-2021	
CONSTRUCTION TYPE -IIB	
NON SPRINKLED-	
EXITS - 1	
EXIT ACCESS TRAVEL DISTANCE- 5' MAXIMUM	
EGRESS DOOR WIDTH- 24"	
ACCESSIBLE PATH OF EGRESS- 24"	
USABLE AREA = 14 SQ. FT	
OCCUPANT LOAD = 4 PERSONS	
VENT REQUIREMENTS = MINIMUM 20 SQ. IN	
SHELTER IS NOT DESIGNED FOR FLOOD PRONE AREA	

DESIGN RESPONSIBILITY	
1. THERMAL AND MOISTURE PROTECTION ARE BY OTHERS.	
2. SITE WORK INCLUDING GRADING, DRAINAGE, SITE UTILITIES, ARE BY OTHERS.	
3. SIGNAGE: SIGNAGE SHALL BE PROVIDED PER ICC 500 508.1	
4. SHELTER HAS BEEN DESIGNED CONSIDERING THE IMPACT OF HOST AND NEARBY BUILDINGS PER ICC-500 304.8 AND 305.3	

STRUCTURAL STEEL	
1. BUILDING CODE: AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) LRFD 3rd EDITION.	
2. W-SHAPES SHALL BE ASTM A 992, GRADE 50.	
3. CHANNELS AND ANGLES SHALL BE ASTM A 36.	
4. PLATE AND BAR SHALL BE ASTM A 36.	
5. RECTANGULAR HOLLOW STRUCTURAL SECTIONS (HSS) SHALL BE ASTM A 500, GRADE B.	
6. WELDING ELECTRODES SHALL BE E70XX.	
7. EXTERIOR PLATE SHALL BE 1/4" THICK, Fy = 36 KSI MINIMUM.	
8. SHALL BE COATED WITH SHERWIN WILLIAMS POWDURA POLYESTER POWDER COATING (DWS4-20028 2604 BRIT WHITE) OR APPROVED EQUIVALENT.	
9. STANDALONE SHELTER SHALL COMPLY WITH IBC 2018 1403.2, 1405.4 AND DESIGNED AS "OPEN CONSTRUCTION WITH NO WALL CAVITIES".	

FOUNDATION PLAN NOTES	
1.. PER ICC500, SECTION 308.1, CONNECTION OF STORM SHELTERS TO FOUNDATIONS OR SLABS: SHELTERS SHALL BE DESIGNED TO RESIST ALL LOADS SPECIFIED IN CHAPTER 3 OF THE ICC500 AND TO TRANSFER THE RESULTANT FORCES IN TO THE GROUND.	
2. PER ICC500, SECTION 308.1.1.1, SLABS ON GRADE: EXISTING SLABS-ON-GRADE SHALL BE DESIGNED FOR THE APPLICABLE LOADS IN ACCORDANCE WITH SECTION 301.	
3. PER ICC500, SECTION 308.1.1.2, JOINTS IN CONCRETE SLABS-ON-GRADE: DESIGN CALCULATIONS FOR CONCRETE SLABS-ON-GRADE SUPPORTING STORM SHELTERS SHALL INCLUDE THE EFFECT OF EXPANSION JOINTS, CONTRACTION JOINTS OR CONSTRUCTION JOINTS WHERE SUCH SLABS-ON-GRADE ARE UTILIZED TO RESIST TENSILE AND SHEAR LOADS FROM THE SUPPORTED STORM SHELTERS.	

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DIVERSIFIED STRUCTURES

RESIDENTIAL TORNADO SHELTER

TYPE: 3X5 EXTREME COVER PAGE

Drawn By: MARK INSLEY

Checked By:

Date Drawn: 08/16/2023

Project #:

REV #	DATE	REVISION DESCRIPTION

C1

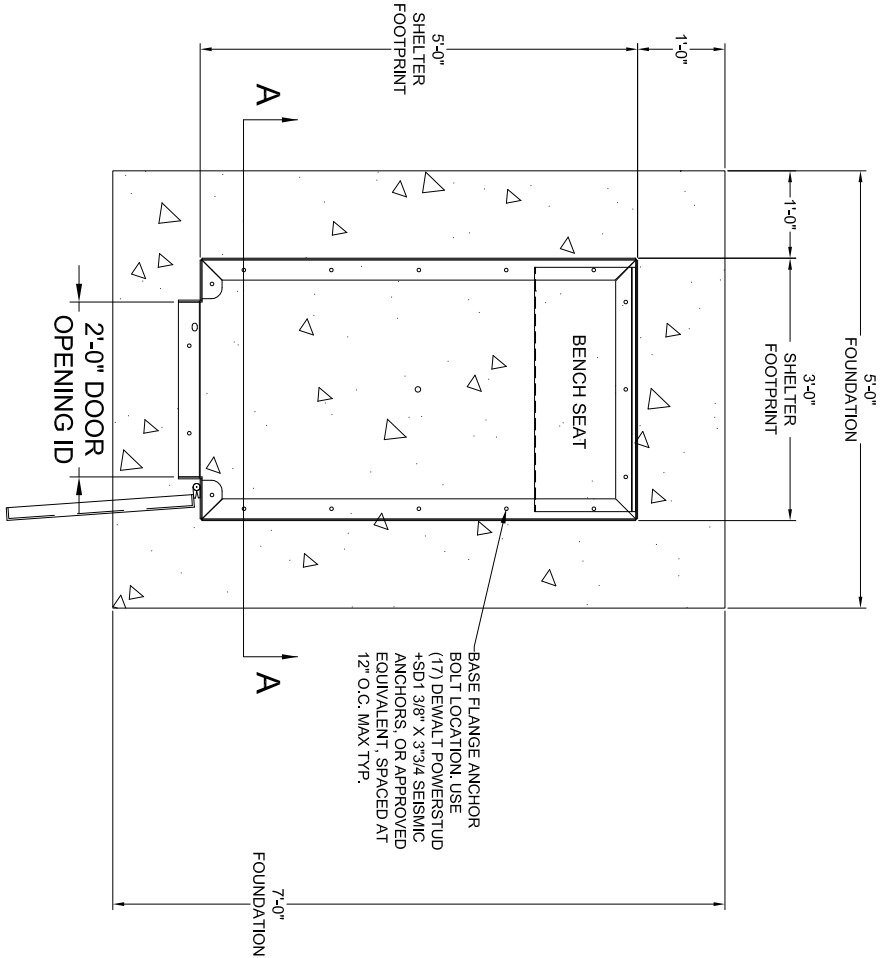
Sheet Number

CONCRETE MAT FOUNDATION:

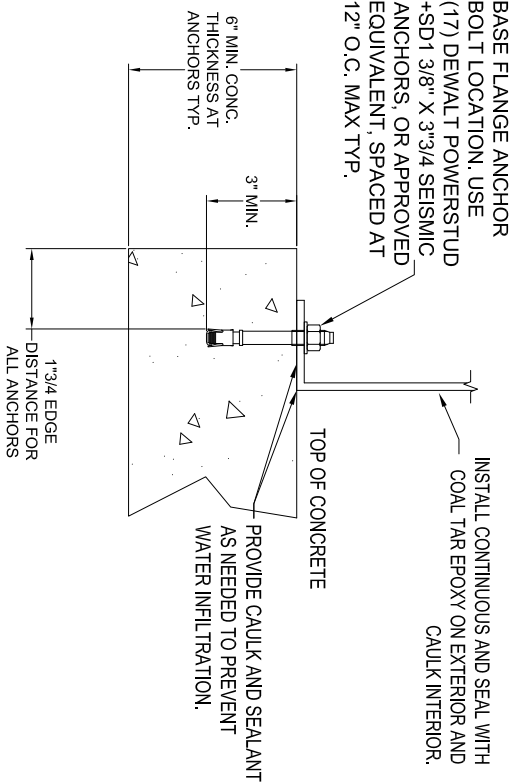
- 1. 3000 PSI CONCRETE
- 2. REINFORCE #5 REBAR AT 16" EACH WAY TOP WITH 180 DEGREE HOOK TURN DOWN
- 3. FINISH TOP WITH STEEL TROWEL
- 4. PROVIDE FLATNESS AND LEVELNESS AS NEEDED TO ANCHOR SHELTER TO CONCRETE
- 5. 24" FOOTER ON PERIMETER WITH 12" CONTINUOUS THICKNESS THROUGHOUT

SITE NOTES:

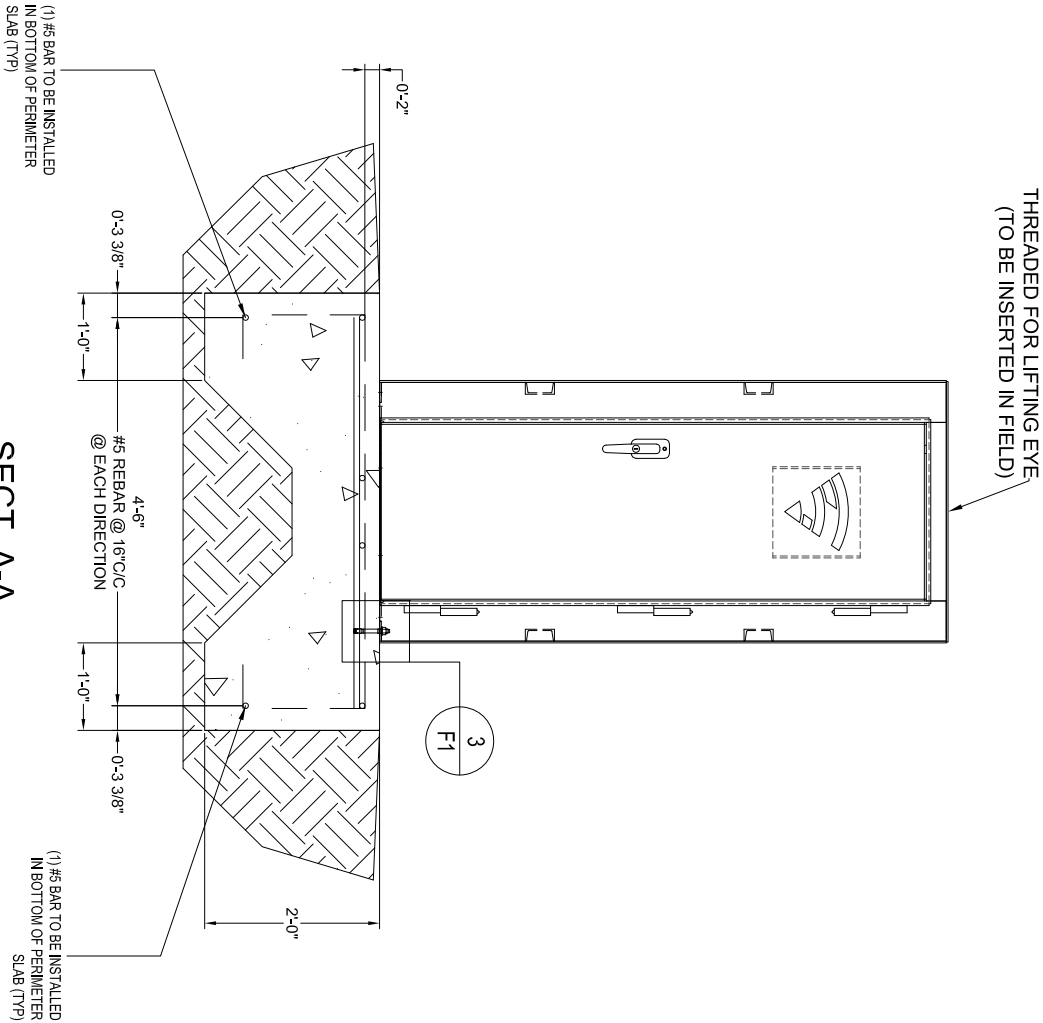
- 1. SAFE ALLOWABLE BEARING PRESSURE OF 2000 PSF MINIMUM.
- 2. SITE GRADING AND DRAINAGE IS BY OTHERS. SLOPE GRADE AWAY FROM FOUNDATION AS NEEDED TO DIVERT WATER AWAY FROM FOUNDATION.



1 FOUNDATION PLAN - TOP VIEW
F1



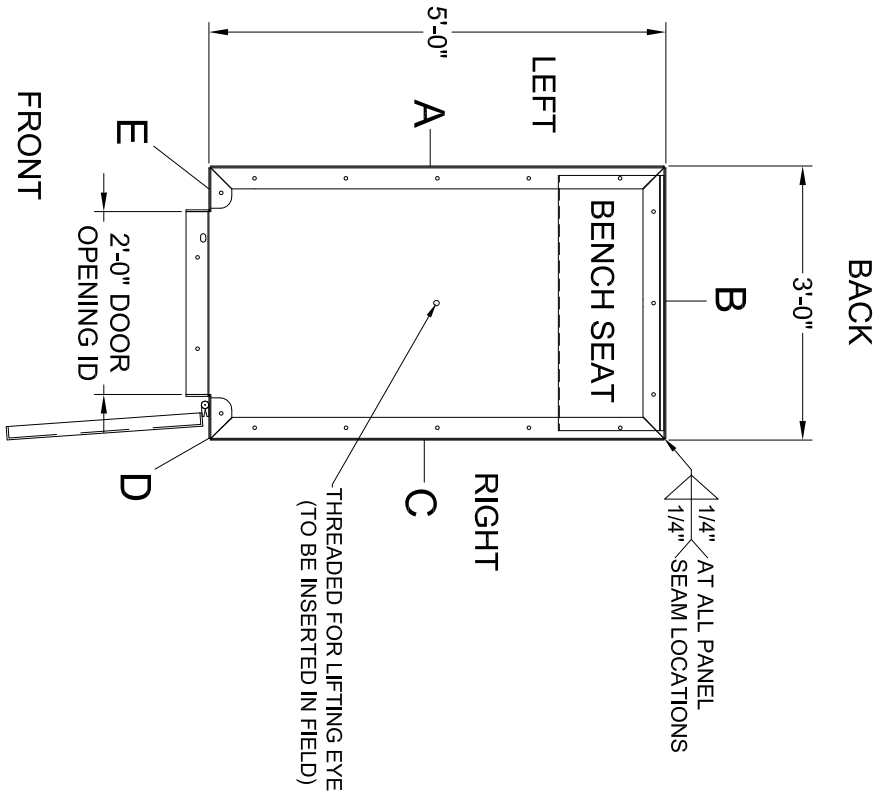
3 ANCHOR BOLT DETAIL
F1



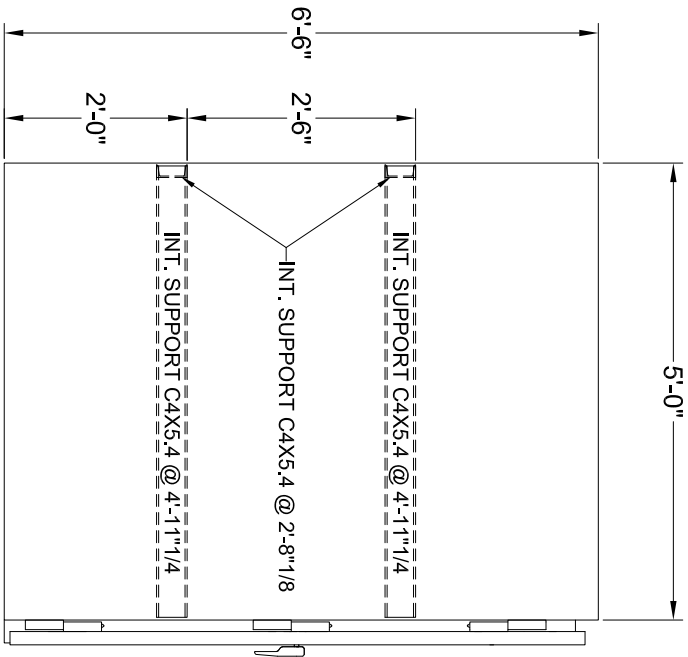
2 FOUNDATION PLAN - SECTION A-A
F1

Designed By: MARK INSLEY				
Checked By:				
Date Drawn: 08/16/2023				
Project #:				
REVISION DESCRIPTION	DATE	REV #		

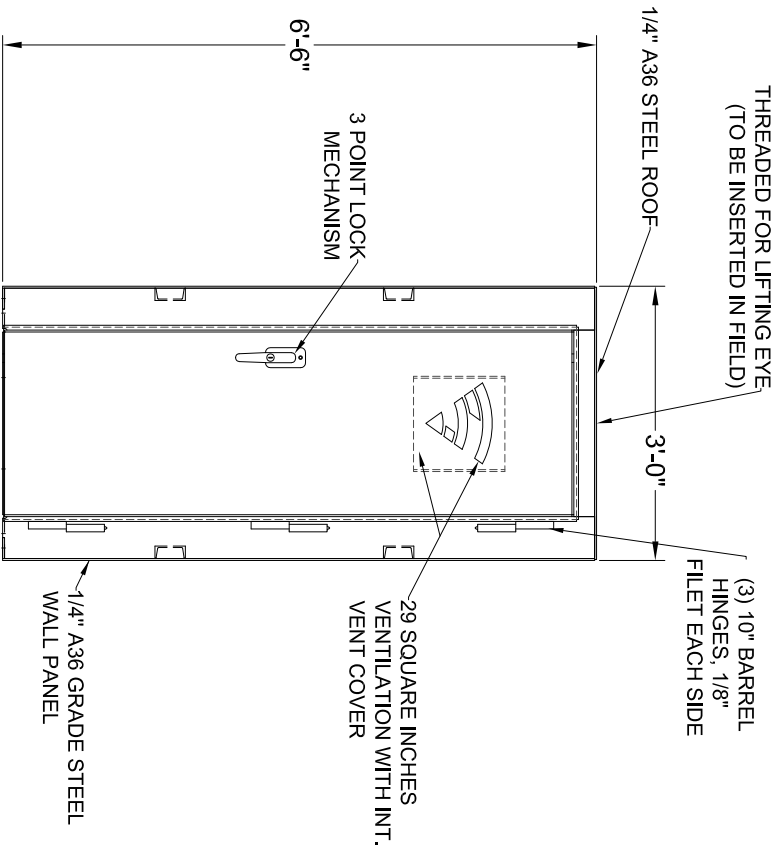
C4X5.4 INT. SUPPORT
C4X5.4 (4) @ 4'-11"1/4
C4X5.4 (2) @ 2'-8"1/8



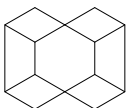
1 TOP INT. VIEW
S1



2 LEFT VIEW
S1



3 FRONT VIEW
S1



REDGUARD
DIVERSIFIED STRUCTURES
RESIDENTIAL TORNADO SHELTER
TYPE: 3X5 EXTREME FLOOR PLAN

Designed By: MARK INSLEY

Checked By:

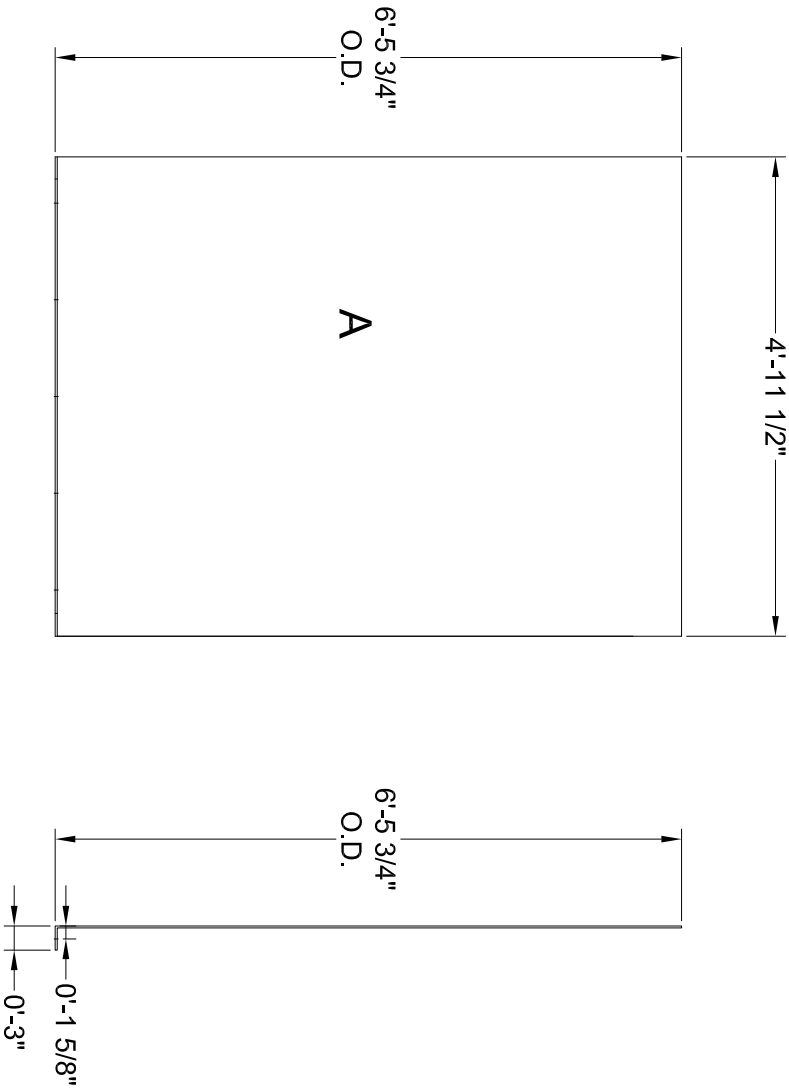
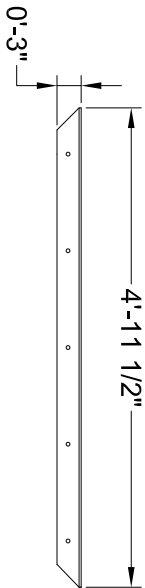
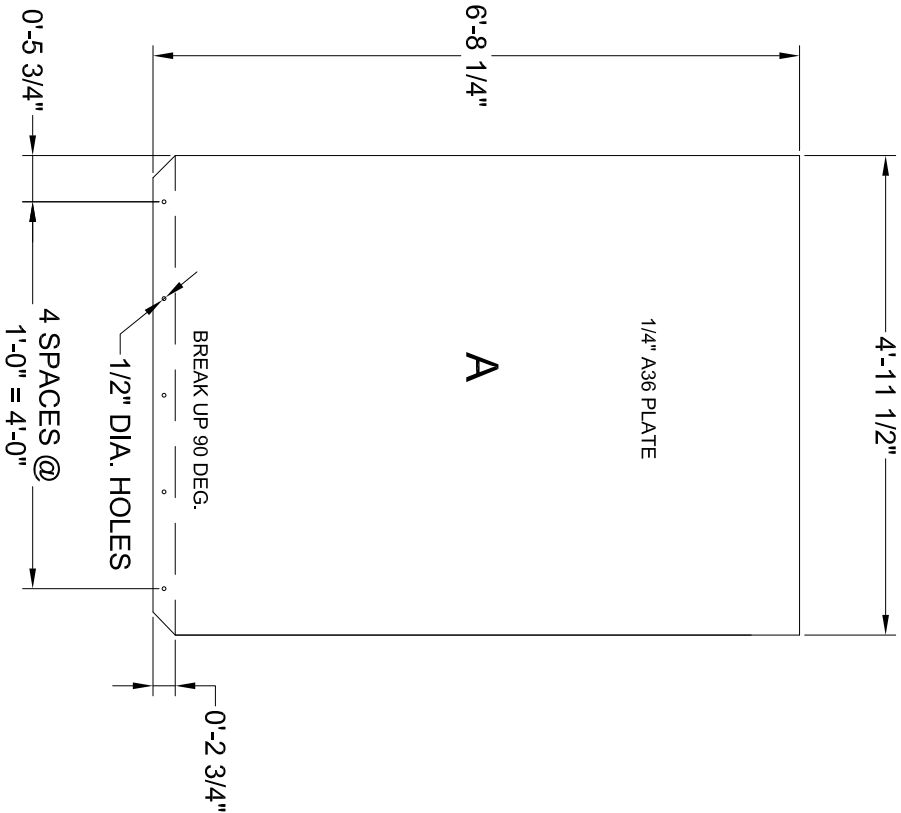
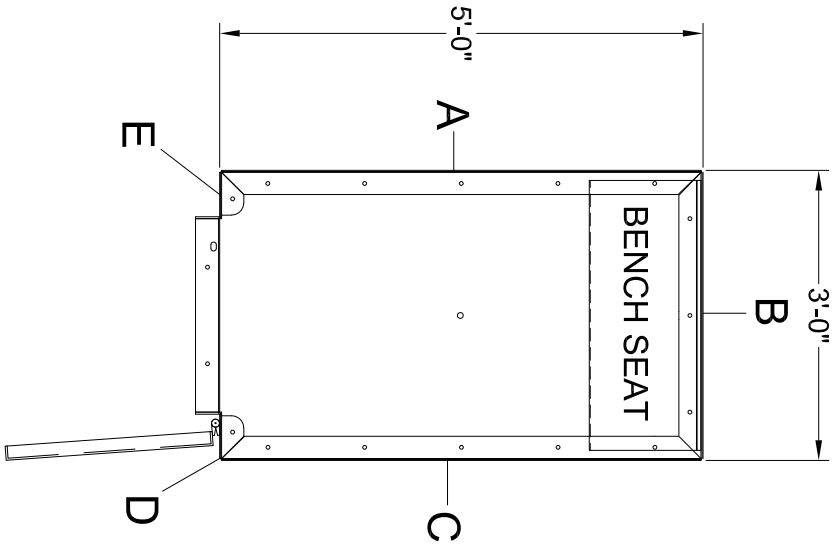
Date Drawn: 8/16/2023

Project #:

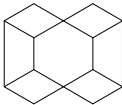
REV #	DATE	REVISION DESCRIPTION

S1

Sheet Number



1 LEFT PANEL
S2



REDGUARD®
DIVERSIFIED STRUCTURES
RESIDENTIAL TORNADO SHELTER
TYPE: 3X5 EXTREME LEFT PANEL DETAILS

Drawn By: MARK INSLEY

Checked By:

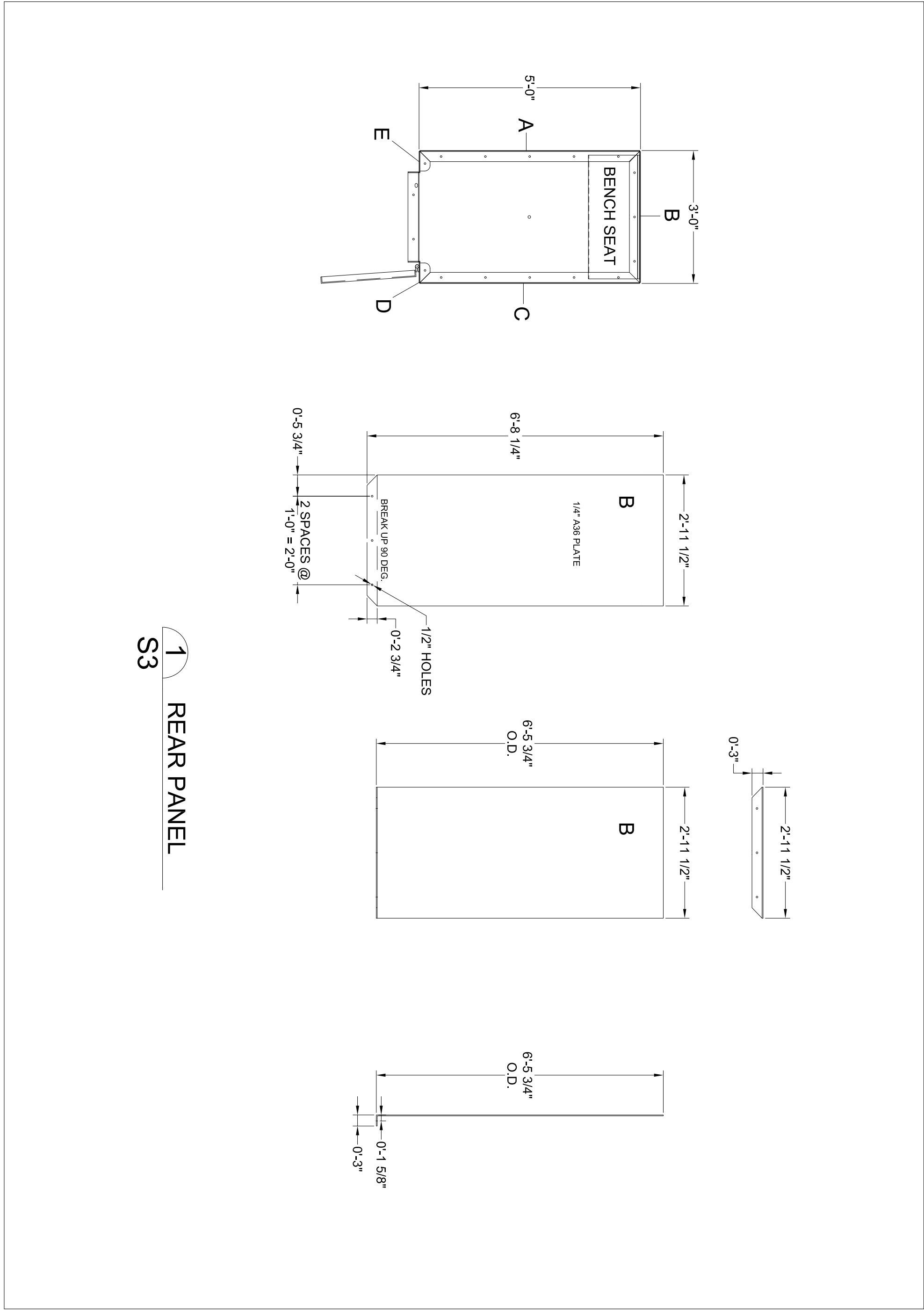
Date Drawn: 08/16/2023

Project #:

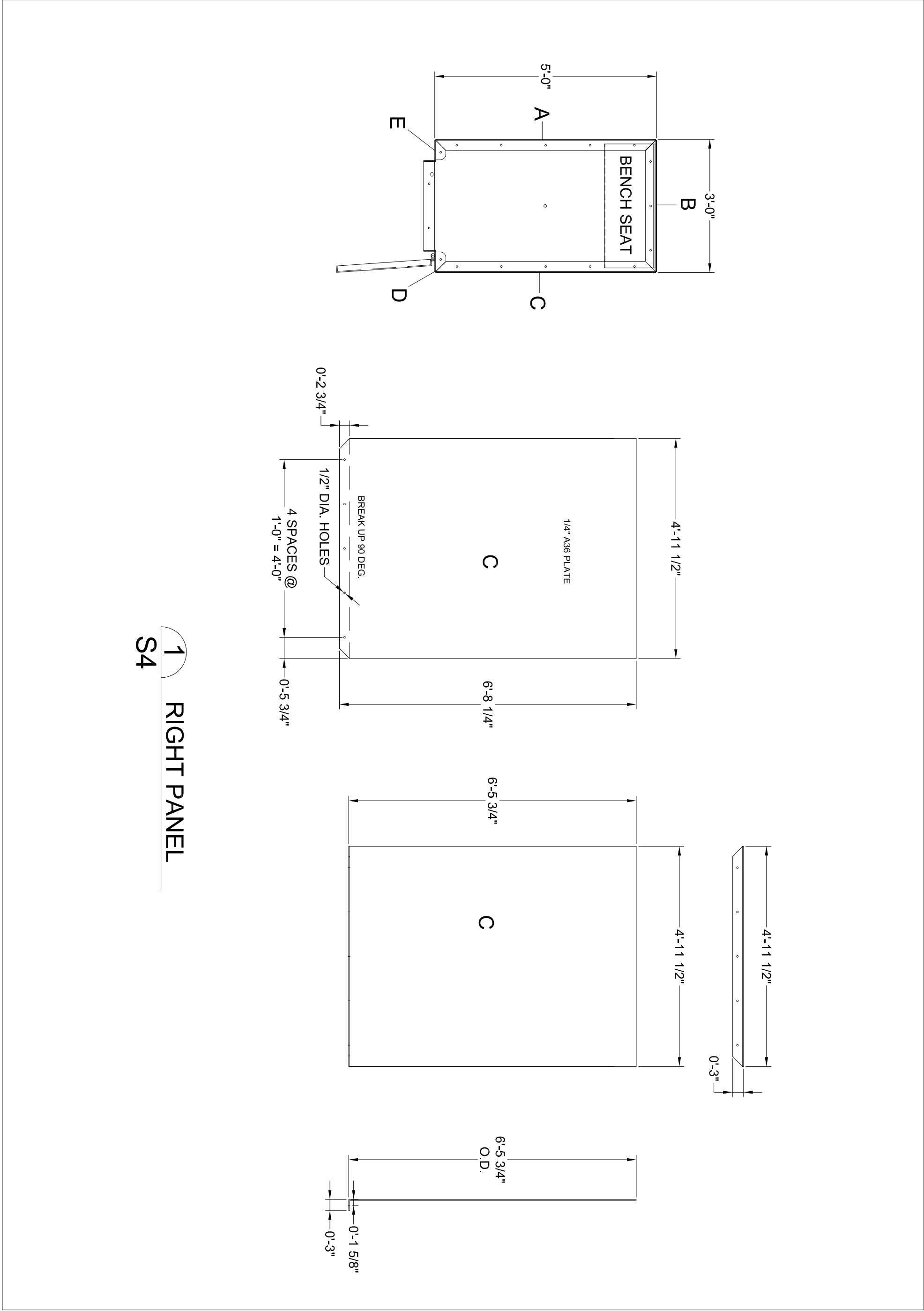
REV #	DATE	REVISION DESCRIPTION

S2

Sheet Number

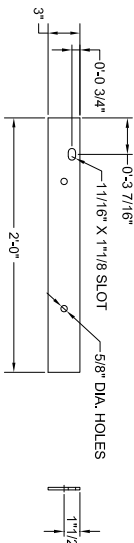
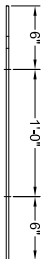
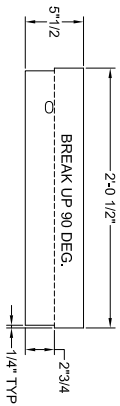
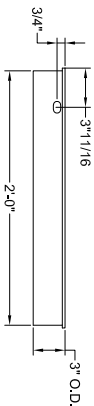
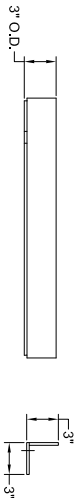


Sheet Number	S3	REV #	DATE	REVISION DESCRIPTION	Project #:	Drawn By: MARK TINSLEY	
						Checked By:	
						Date Drawn: 08/16/2023	
 REDGUARD® DIVERSIFIED STRUCTURES RESIDENTIAL TORNADO SHELTER TYPE: 3X5 EXTREME REAR PANEL DETAILS							



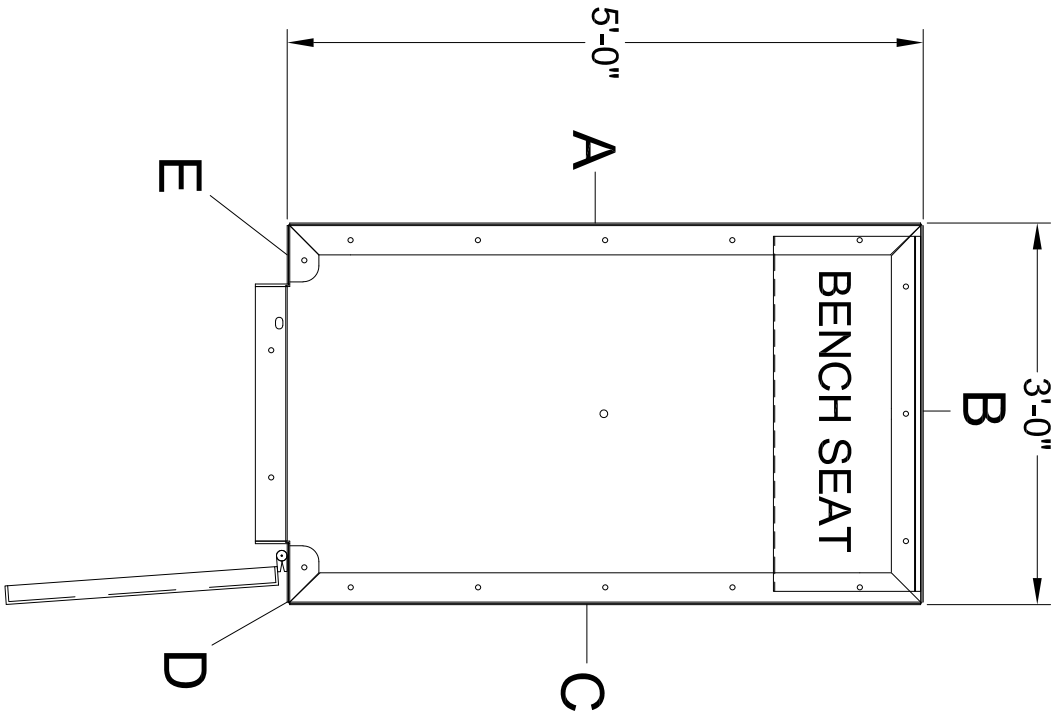
S4	Sheet Number
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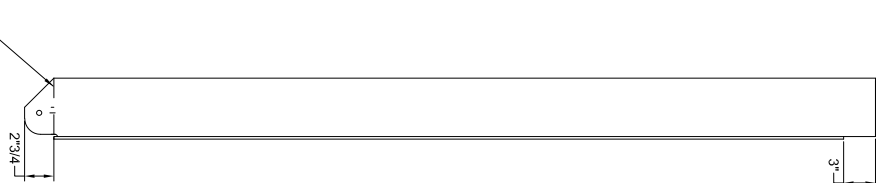
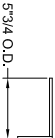
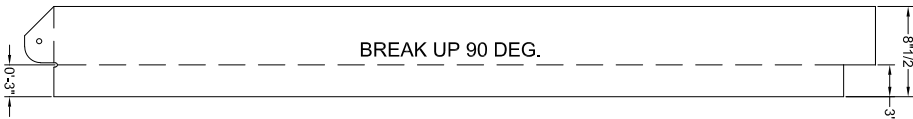


1 DOOR FRAME (HEADER)
S5

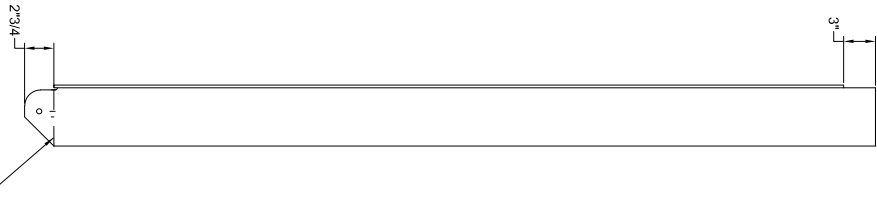
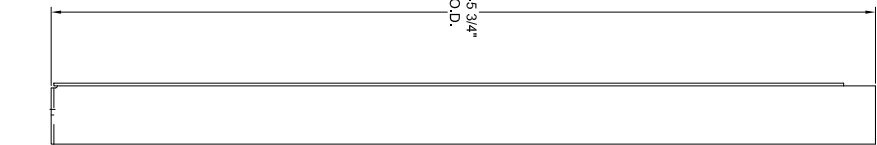
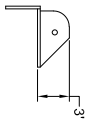
2 DOOR FRAME (THRESHOLD PLATE)
S5



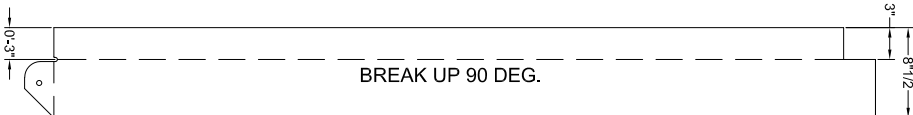
3 DOOR FRAME PANEL DETAILS
S5



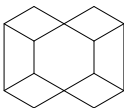
BREAK DOWN 90 DEG.



BREAK DOWN 90 DEG.



5 DOOR FRAME (D)
S5



REDGUARD®
DIVERSIFIED STRUCTURES

RESIDENTIAL TORNADO SHELTER
TYPE: 3X5 EXTREME DOOR FRAME PANEL DETAILS

Designed By: MARK INSLEY

Checked By:

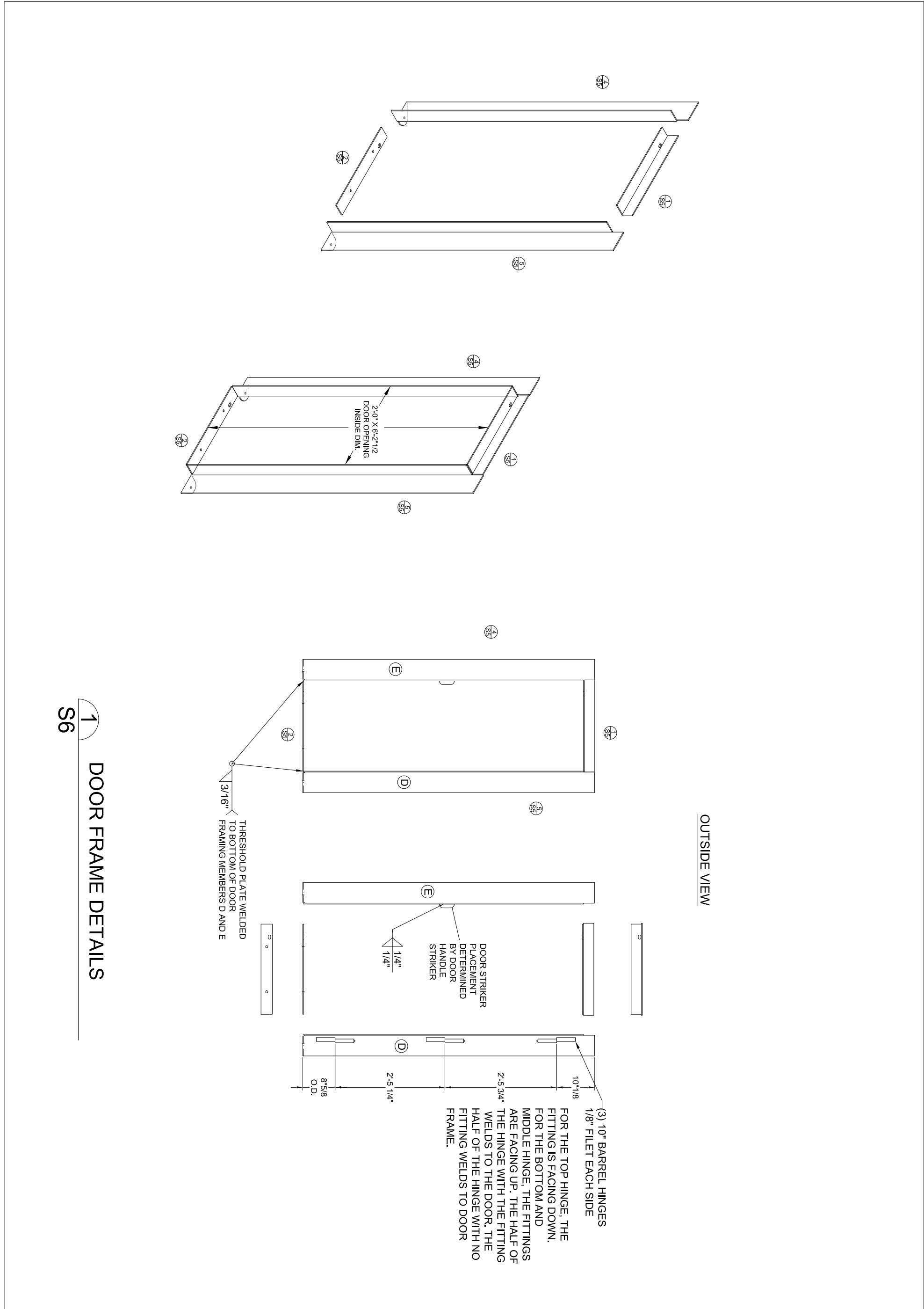
Date Drawn: 08/16/2023

Project #:

REV #	DATE	REVISION DESCRIPTION

S5

Sheet Number



DOOR FRAME DETAILS

1
S6

REV #

DATE

REVISION DESCRIPTION

Project #:

Date Drawn: 8/16/2023

Checked By: MARK INSLEY

Drafted By: MARK INSLEY

REDGUARD®

DIVERSIFIED STRUCTURES

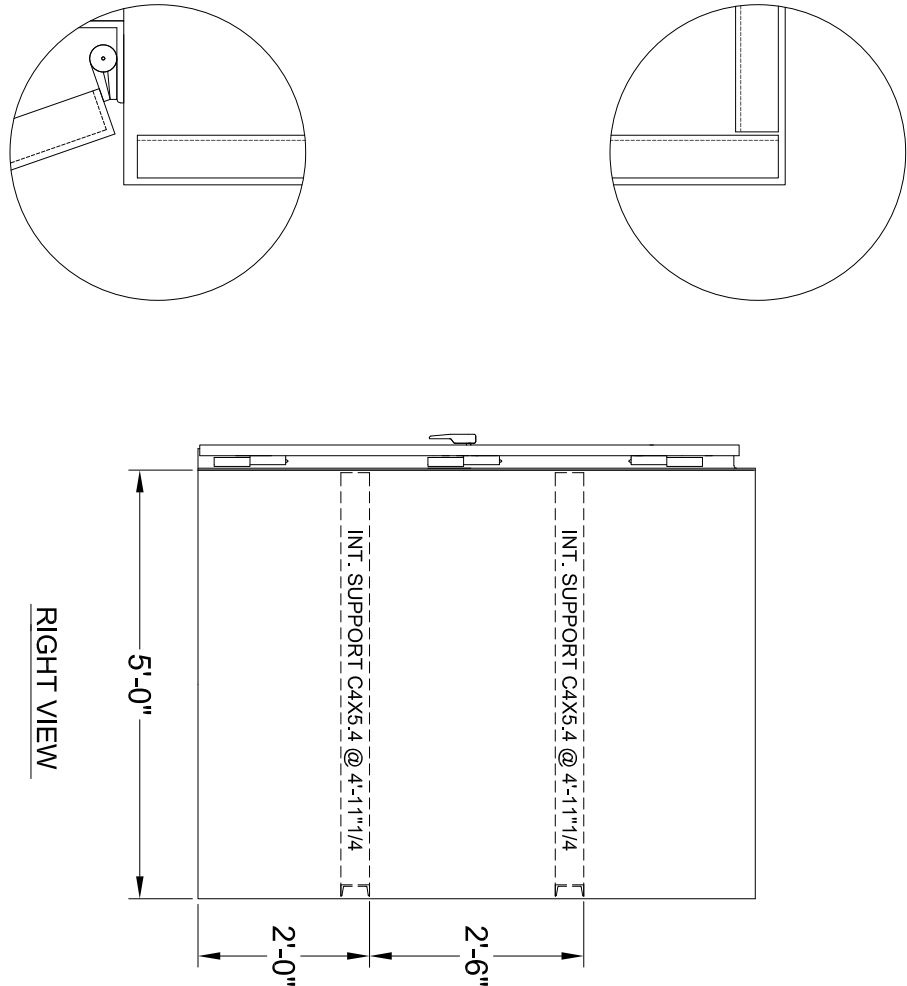
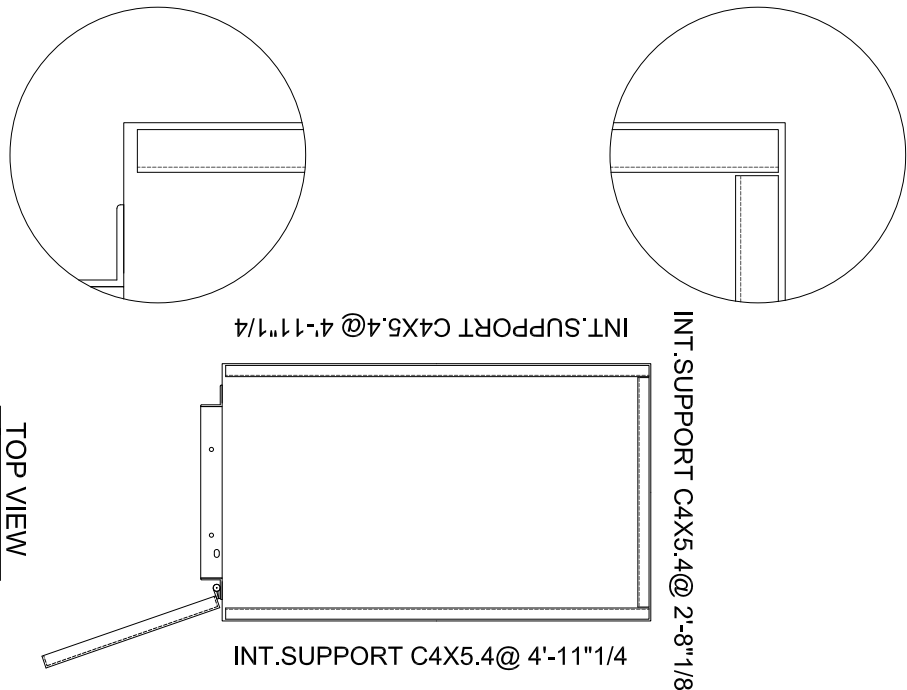
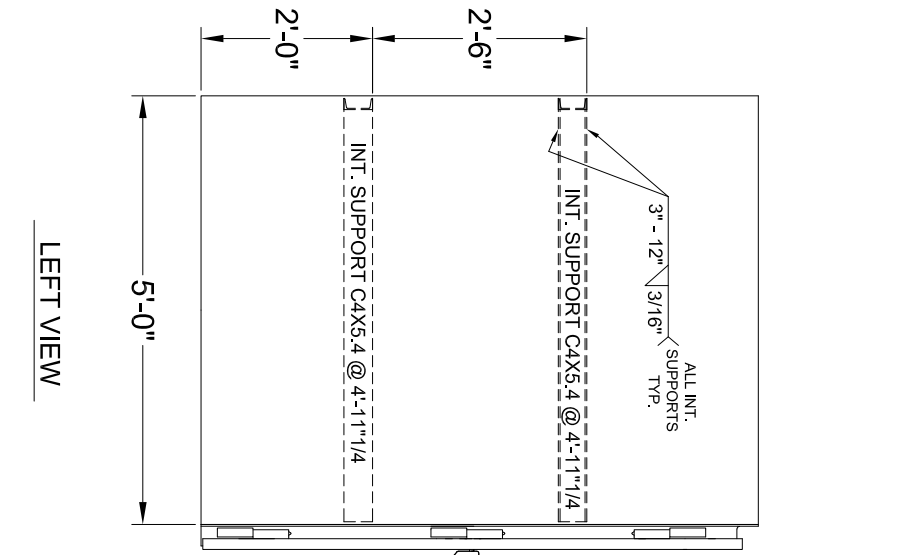
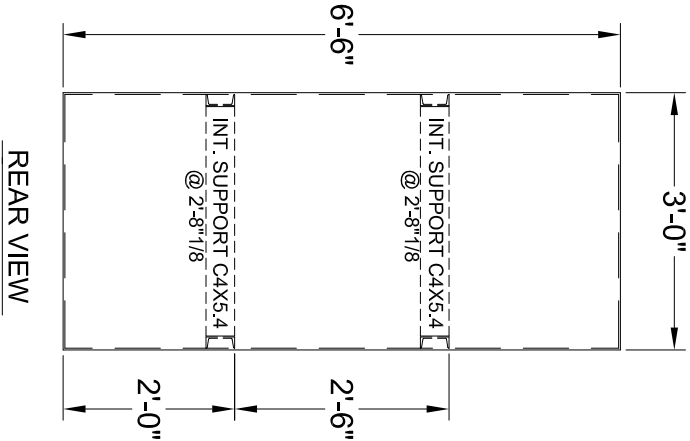
RESIDENTIAL TORNADO SHELTER

TYPE: 3X5 EXTREME DOOR FRAME DETAILS

S6

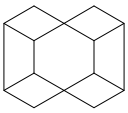
Sheet Number

MATERIALS LIST				
Pl. No.	Qty.	DESCRIPTION	DATE	APPROVED
EX0305RISC	2	REAR INT. SUPPORT C4X5.4 @ 2' 8-1/8"	8/15/2023	
EX0305LRISC	4	LEFT AND RIGHT INT. SUPPORT C4X5.4 @ 4' 11-1/4"	8/15/2023	



1 INT. SUPPORT CHANNEL LOCATIONS

S7

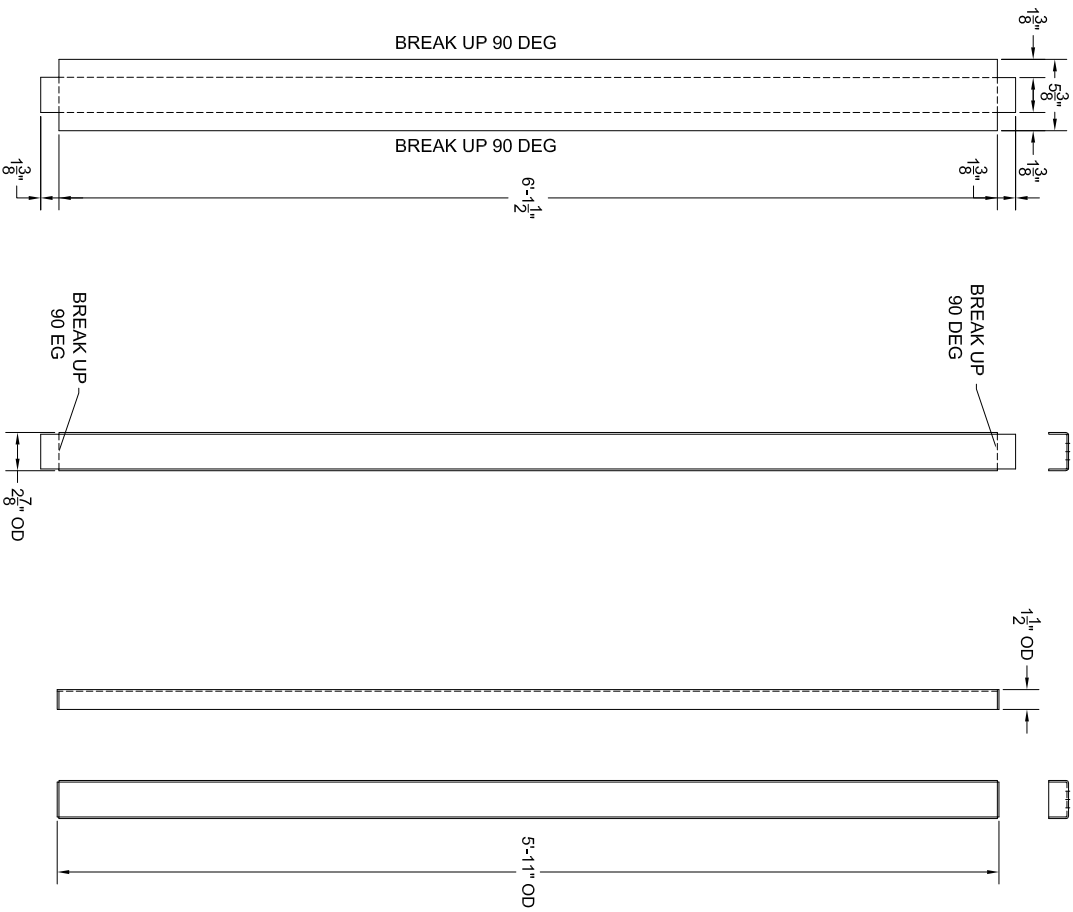
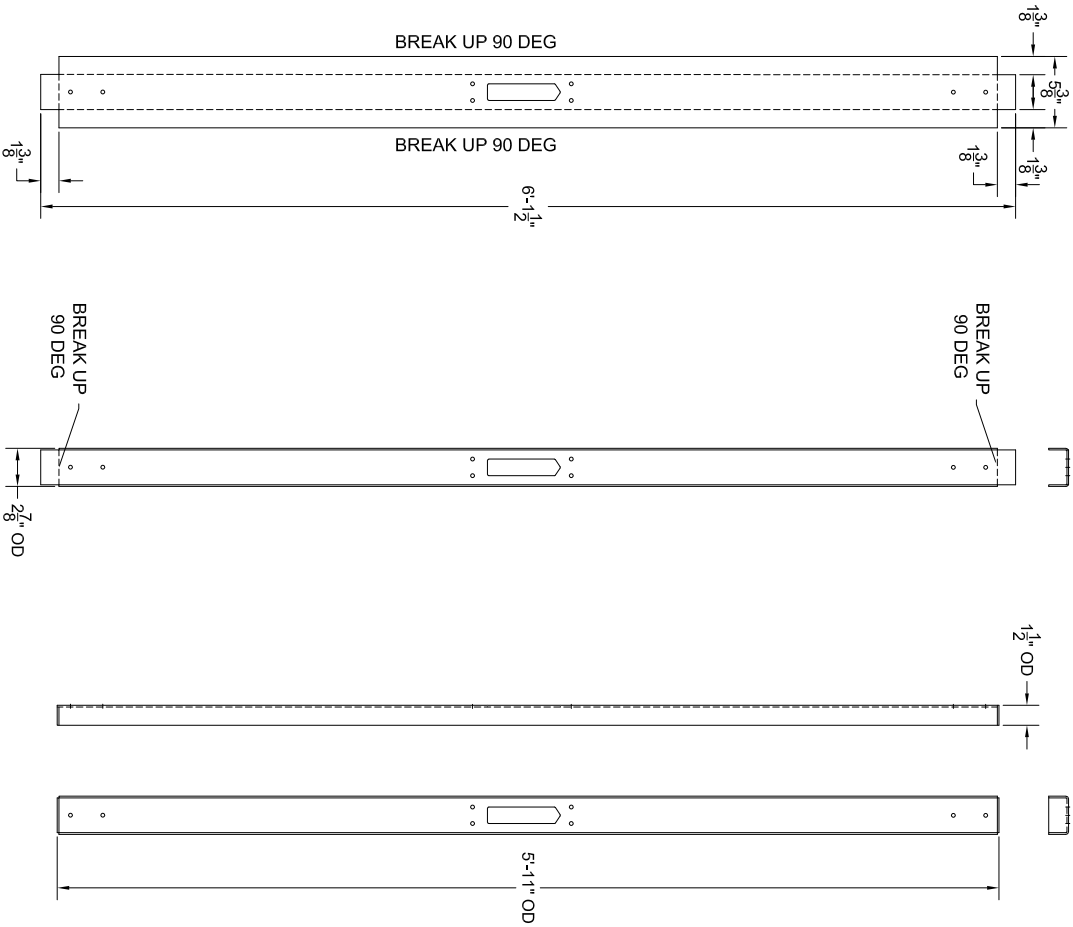


REDGUARD®
DIVERSIFIED STRUCTURES
RESIDENTIAL TORNADO SHELTER
TYPE: 3X5 EXTREME INT. SUPPORT DETAIL

Designed By: MARK INSLEY			
Checked By:			
Date Drawn: 8/16/2023			
Project #:			
REV #	DATE	REVISION DESCRIPTION	

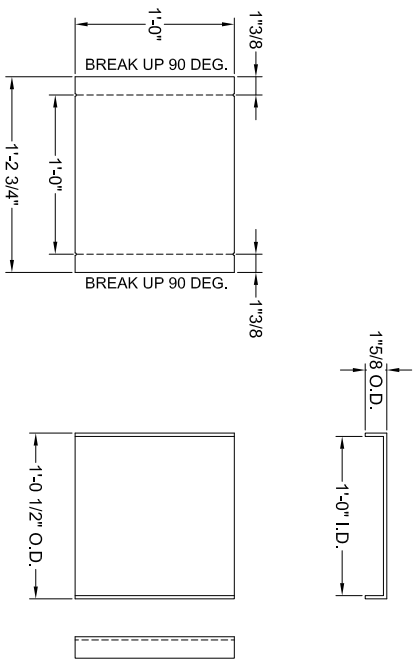
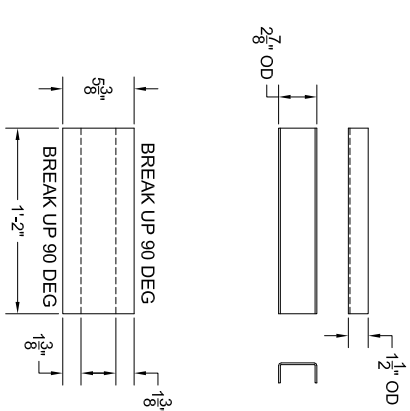
S7

Sheet Number



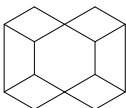
1 DOOR STIFFNER (A)
S8

2 DOOR STIFFNER (B)
S8



3 DOOR STIFFNER (C)
S8

4 VENT SHROUD
S8



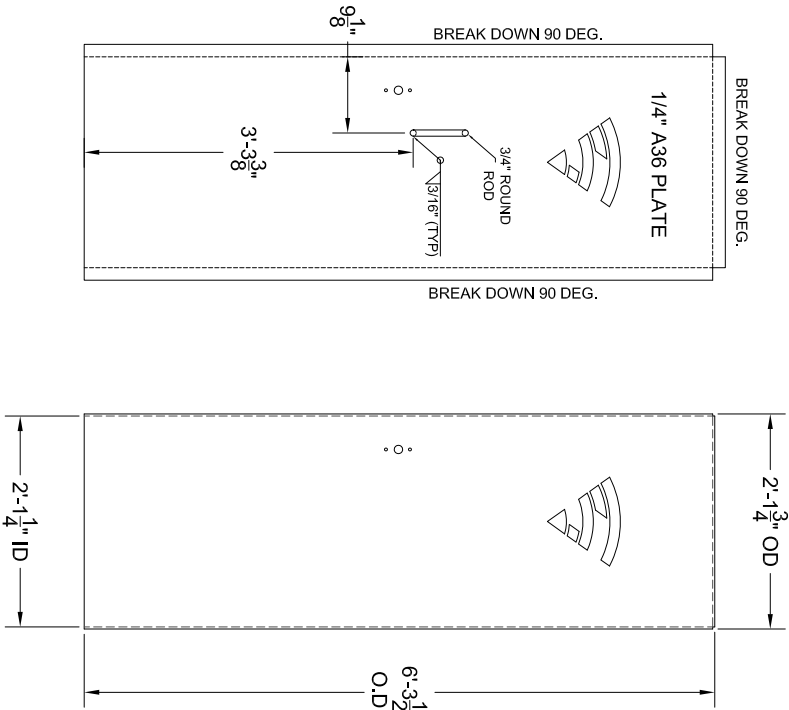
REDGUARD®
DIVERSIFIED STRUCTURES
RESIDENTIAL TORNADO SHELTER
TYPE: 3X5 EXTREME DOOR MEMBER DETAILS

Designed By: MARK INSLEY				
Checked By:				
Date Drawn: 08/16/2023				
Project #:				
REV #	DATE	REVISION DESCRIPTION		

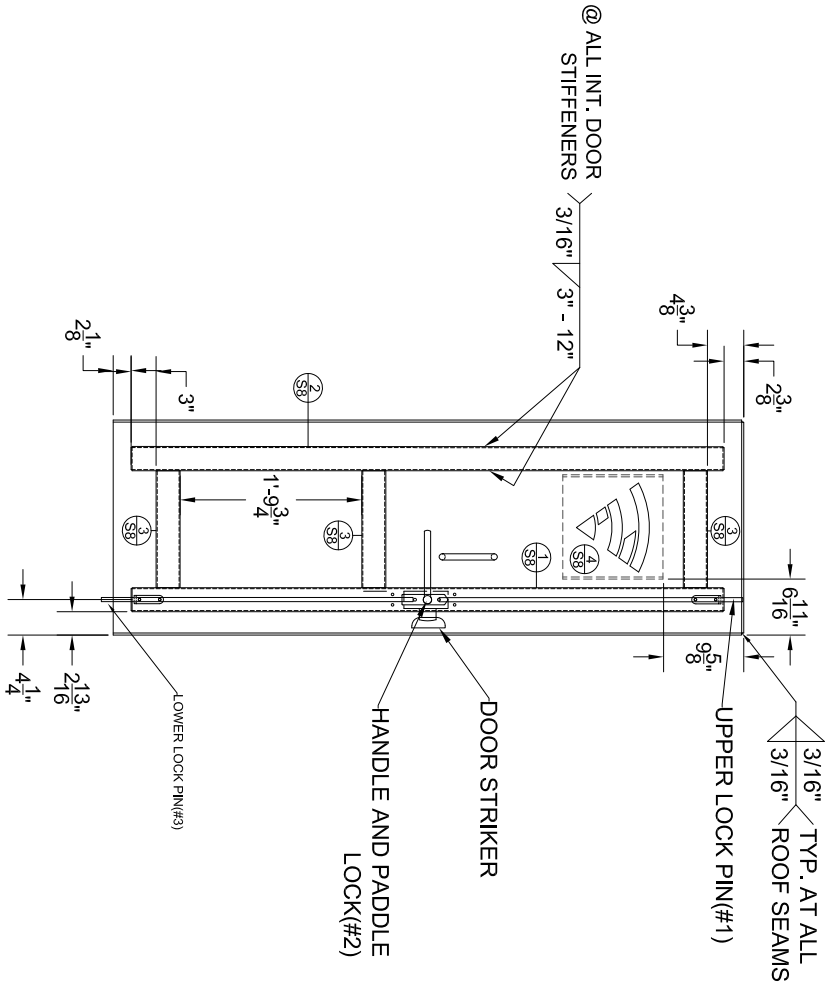
S8

Sheet Number

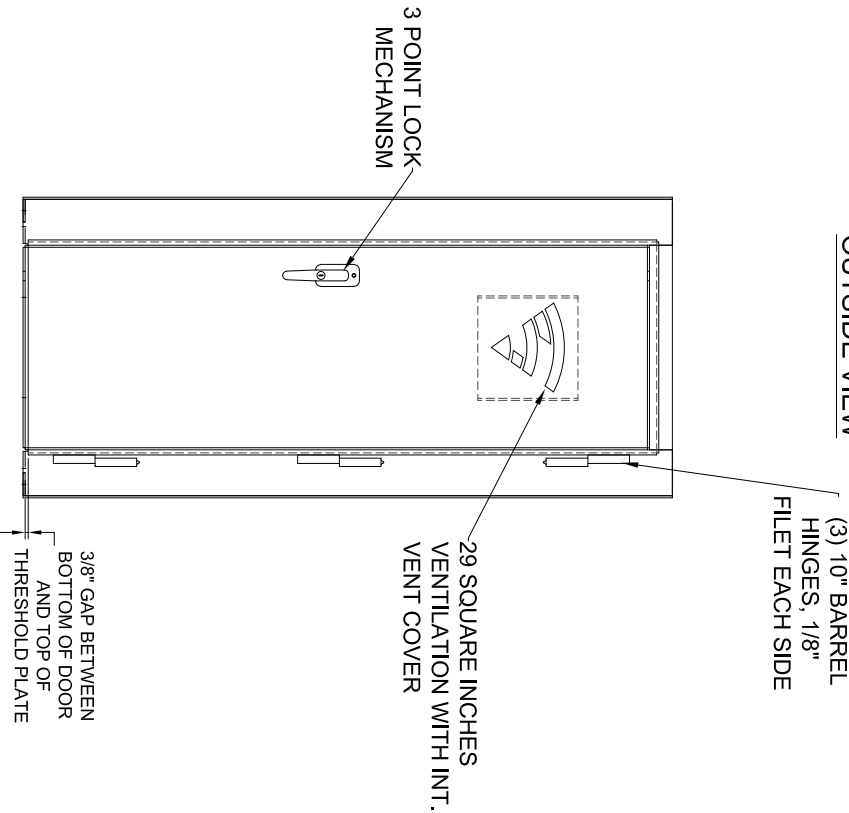
OUTSIDE VIEW



INSIDE VIEW

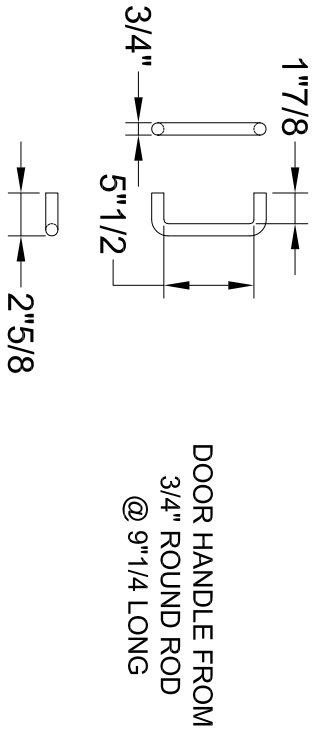


OUTSIDE VIEW



1 DOOR ASSEMBLY DETAIL

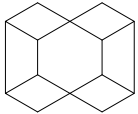
S9



DOOR HANDLE FROM
3/4" ROUND ROD
@ 9" 1/4" LONG

2 INSIDE DOOR HANDLE

S9 NTS

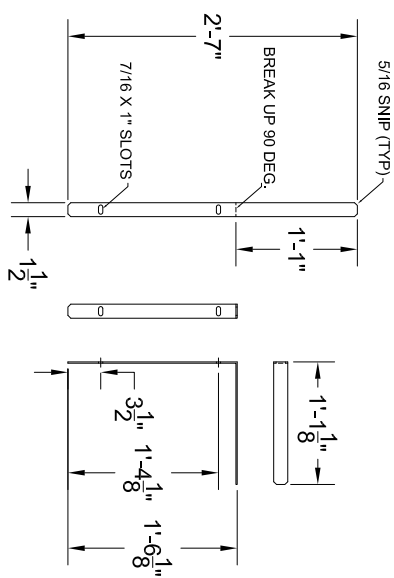


REDGUARD®
DIVERSIFIED STRUCTURES
RESIDENTIAL TORNADO SHELTER
TYPE: 3X5 EXTREME DOOR ASSEMBLY DETAIL

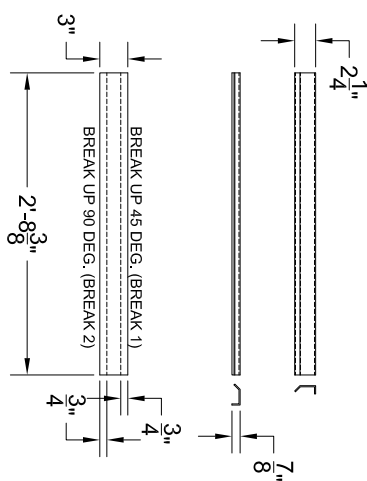
Drawn By: MARK INSLEY	REV #	DATE	REVISION DESCRIPTION
Checked By:			
Date Drawn: 8/16/2023			
Project #:			

S9

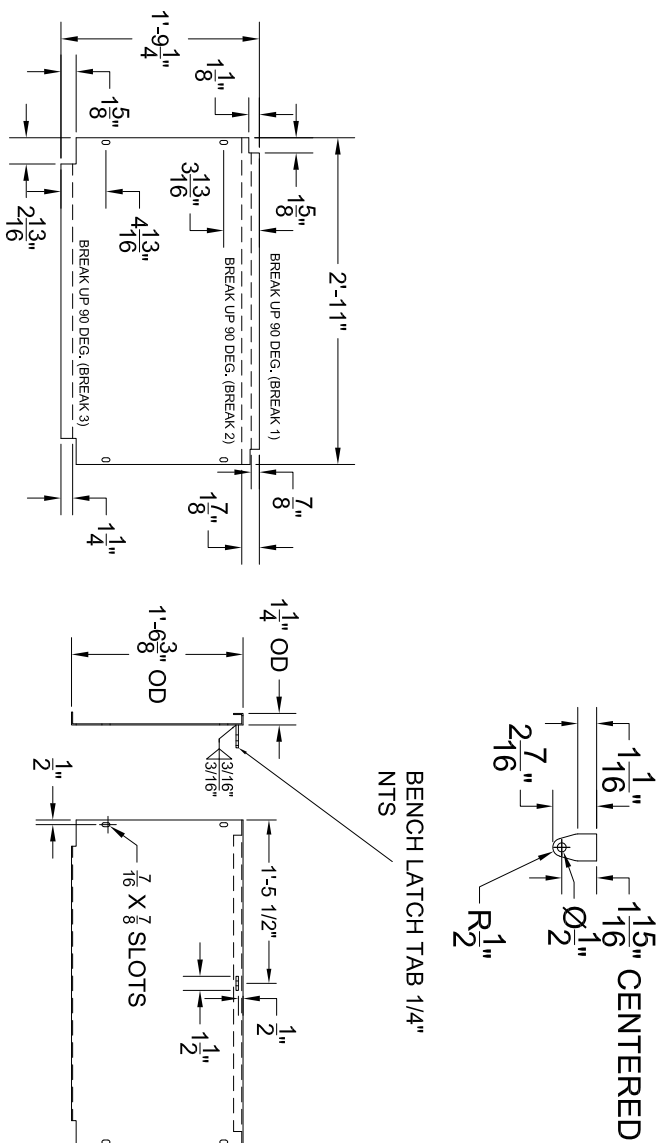
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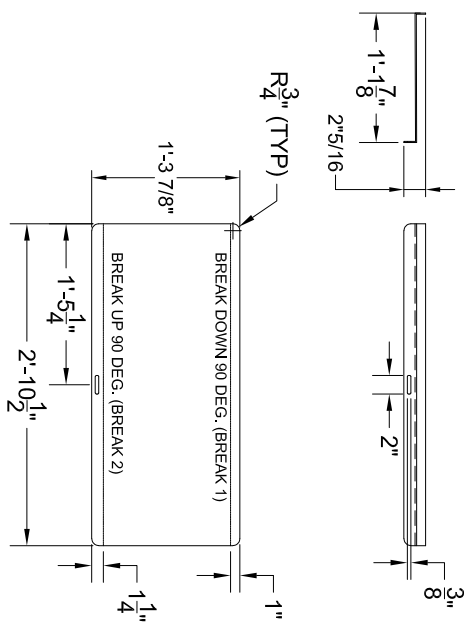
BENCH MOUNT (SIDES)
1
S10



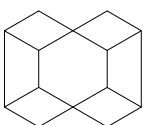
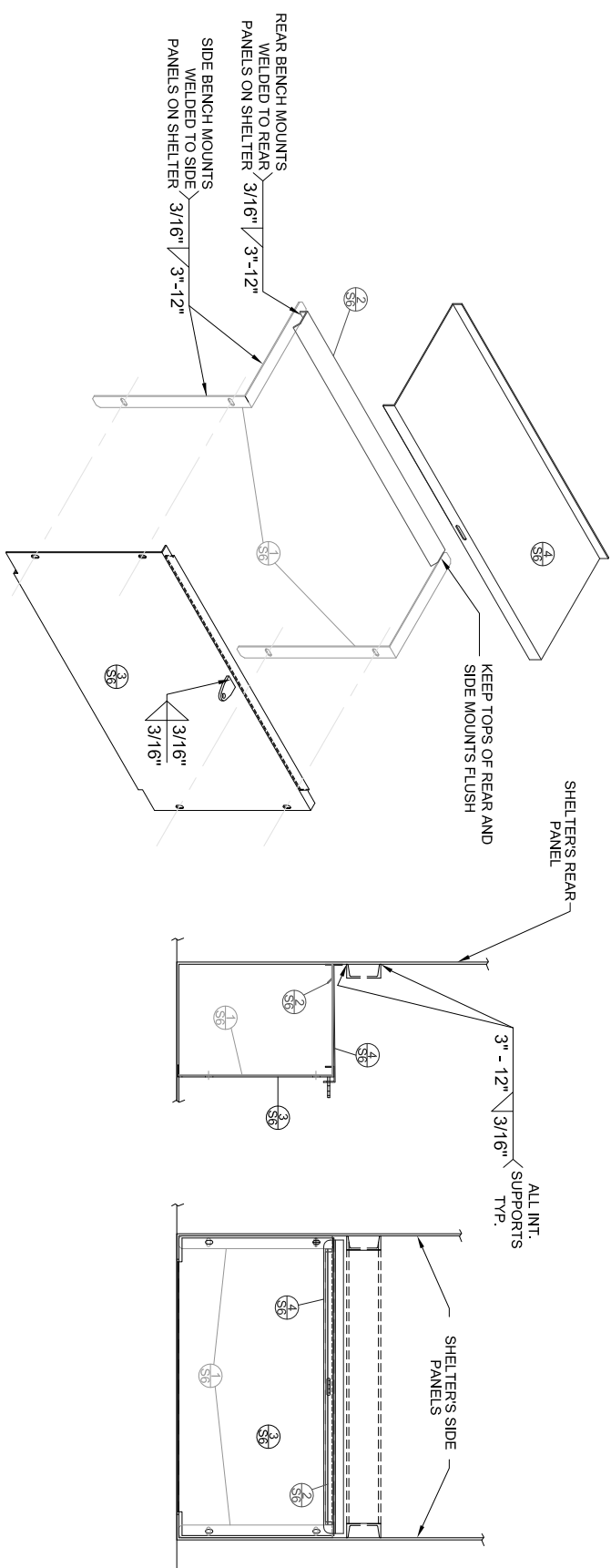
2 BENCH MOUNT (REAR)
S10



3 BENCH FRONT COVER PLATE
S10



BENCH TOP
4
S10



REDGUARD®
 DIVERSIFIED STRUCTURES
RESIDENTIAL TORNADO SHELTER
 TYPE: 3X5 EXTREME BENCH DETAILS

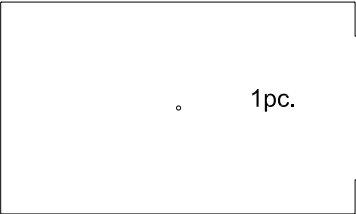
Defined By: MARK TINSLEY Checked By: Date Drawn: 8/16/2023				Project #:
REV #	DATE	REVISION DESCRIPTION		

Sheet Number

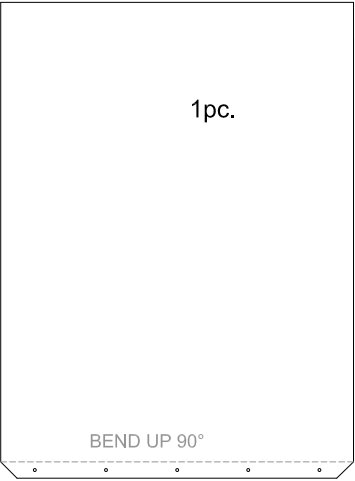
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CUT PARTS
(ONLY IMPORT LAYER 0)

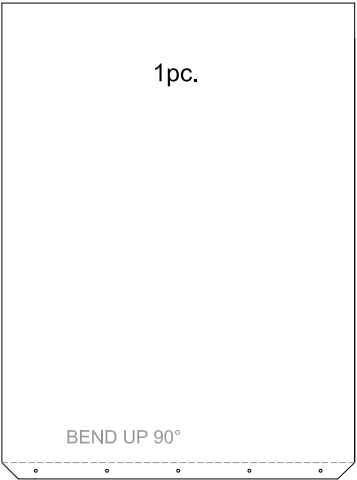
EX35ROOF



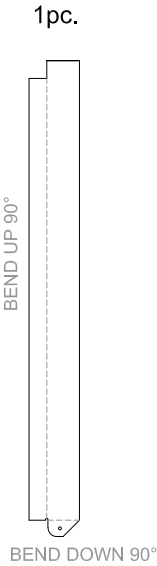
EX35C



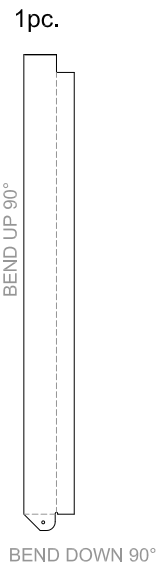
EX35A



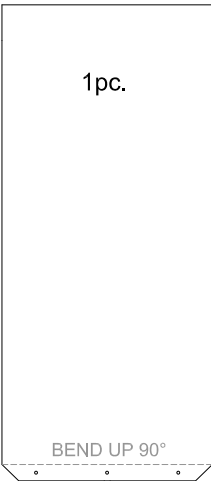
EX35D



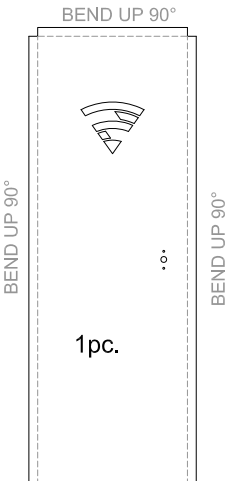
EX35E



EX35B



EX35DOOR



PART LOCATION PER PANEL

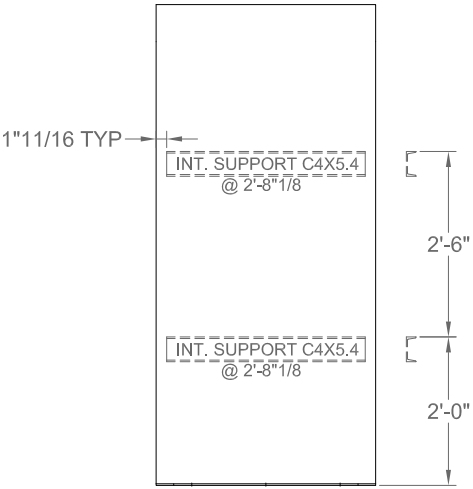
EX35A



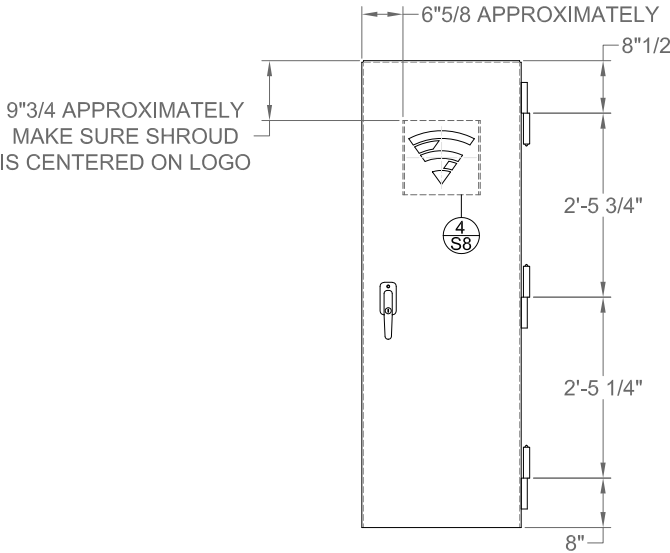
EX35C



EX35B



EX35DOOR



SHEET LIST

(3)-60X82X1/4 "

(1)-72X82X1/4 "

(1/3)-60X96X10GA

(1/2)-48X96X12GA

C4X5.4 CHANNEL

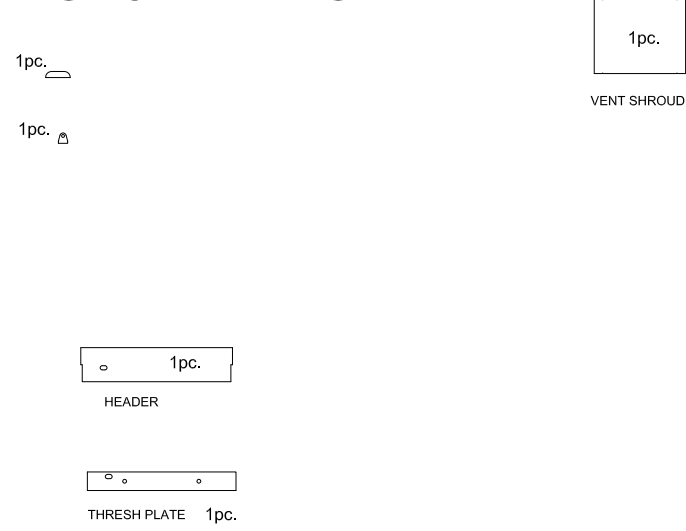
4 @ 59 1/4"

2 @ 32 1/8"

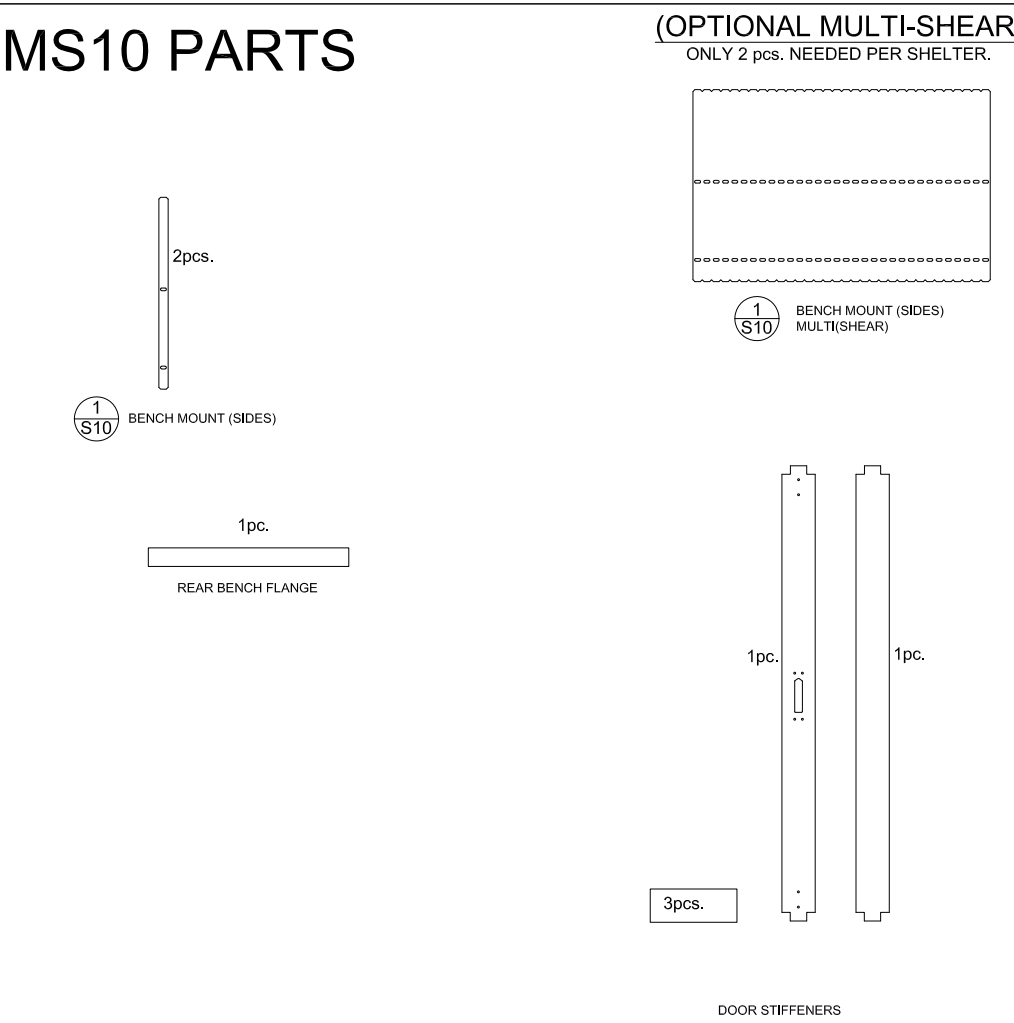
3/4" ROUND ROD

1 @ 9"1/4

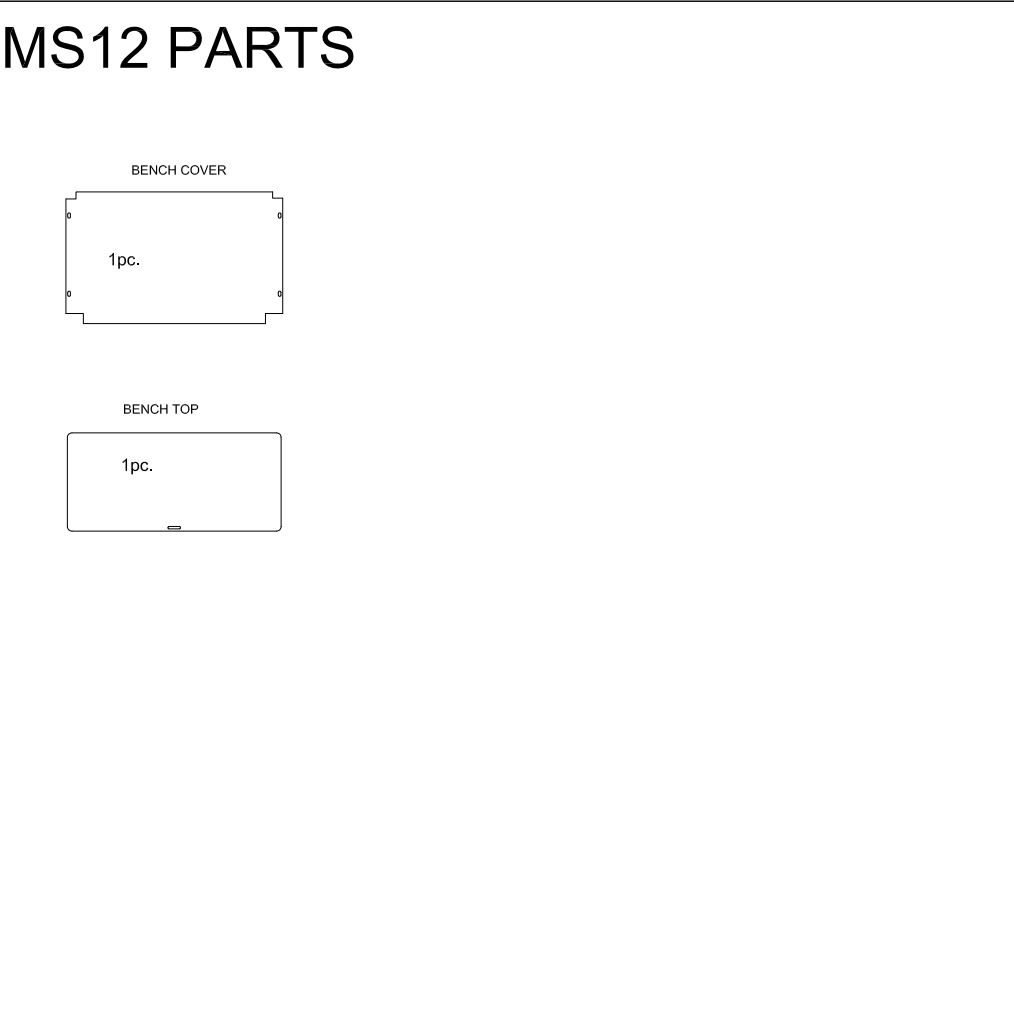
MS25 PARTS



MS10 PARTS



MS12 PARTS



LIMITED LIFETIME WARRANTY

This product has been manufactured and tested to the highest quality standards by RedGuard Diversified Services, LLC, dba Survive-a-Storm Shelters (SAS). This warranty covers defects in material or workmanship for new products. This warranty extends to the original purchaser only and is nontransferable. Only consumers purchasing our products from authorized dealers, retailers, or resellers, or through our website may obtain coverage under our limited warranties.

We warrant this product against defects in material or workmanship as follows:

We will replace at no charge for parts only or, at its option, replace any product or part of the product that proves defective because of improper workmanship and/or material, under normal installation, use, service and maintenance. If we is unable to provide a replacement and repair is not practical or cannot be made in a timely fashion, we may elect to refund the purchase price in exchange for the return of the product.

This warranty is in effect for the lifetime of the product from the documented date of purchase as established by a written sales order or receipt. In order for this warranty to remain in-force after the first anniversary of purchase, purchaser must within 30 days of each anniversary of purchase, submit to manufacturer a minimum of five color photographs showing the exterior of the door, the stairway(s) if an underground safe room, the door hinges, the floor, and the sidewalls of the safe room. Purchaser should take special care to photograph any damage to the safe room so that the manufacturer may, at its sole and exclusive option, take steps to mitigate such damage.

Our warranty does not cover any problem that is caused by:

- A. Conditions, malfunctions, or damage not resulting from defects in materials or workmanship.
- B. Conditions, malfunctions, or damage resulting from normal wear and tear, improper installation, improper maintenance, misuse, abuse, negligence, accident, or alteration.
- C. Accessories, connected materials and products, or related products not manufactured by us.

We will only provide coverage under this warranty if proof of purchase can be established to its satisfaction through receipt or sales order. Defects in installation will be covered under this warranty only if the product is installed by the manufacturer or factory authorized installer. This warranty is void if, in the sole and exclusive assessment of the manufacture, the product has been altered or modified in such a way as to affect the structure or soundness of the product or if such alterations or modifications are found by manufacturer to have contributed to the failure of the product.

To obtain service under this warranty, please
contact us by writing at the following address:

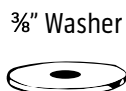
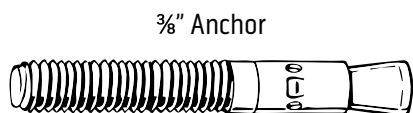
Warranty Claim
Survive-a-Storm
1207 Sunset Drive
Thomasville, GA 31792

In your claim, please provide a copy of the original proof of purchase including the address at which the product is situated. Provide your contact phone number along with e-mail address (if available), a written description of the problem, and photographs depicting the defect in materials or workmanship. You can expect to hear from a representative of our company within two weeks of receipt of your warranty claim.

Manufacturer specifically disclaims and will be held harmless for any incidental or consequential damages, including but not limited to, loss of use of the shelter and any injury or loss that may arise pursuant thereto.

Purchaser acknowledges receipt of this warranty at the time of purchase and agrees to be bound by the terms and conditions included herein. Any dispute arising from this Limited Lifetime Warranty shall be adjudicated in the County of THOMAS State of GEORGIA, USA. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state. Our warranties do not affect any additional rights consumers have under laws in their jurisdictions governing the sale of consumer goods. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the limitations or exclusions in our warranty may not apply. You may be required by law to give us a reasonable opportunity to correct or cure any failure before you can bring any action in court against us under the Magnuson-Moss Warranty Act.

Assembly Hardware Included



3/8" Anchor, Washer, Nut Quantities

4x4	4x6	4x8	6x4	6x6	6x8	8x4	8x6
16	20	24	20	24	28	24	28

Tools Needed

Hammer
 Utility Knife
 9/16" Socket & Ratchet
 Torque Wrench
 3/8" Masonry Bit
 Hammer Drill

1 - Determine the location to install the shelter. The concrete slab it is to be installed on must be free of major cracks and defects that could compromise the foundation. It is imperative that the foundation meet the engineered specifications. The concrete used in the foundation must be a minimum of 2500 psi concrete. This is generally the minimum psi concrete available, and most concrete is 3000 psi plus by code. If there is doubt about the concrete, consult a local concrete company for testing. The minimum distance an anchor bolt can be from the edge of foundation is 4".

2 - Unbolt the shelter from the inside to remove it from the skid. With a pallet jack, forklift or tractor, place the shelter in its desired location. Notice the holes in the bottom interior flange of the shelter. After the shelter is in the desired location, use a hammerdrill with a 3/8" masonry bit to drill through the holes in the shelters bottom flange. Drill the holes to approximately 3 1/4" deep into the concrete. (Most hammer drills have a depth guide that can be set to a desired depth). Do not drill too deep. You do not want to drill completely through the concrete.

3 - Take the provided anchors, washers, and nuts and place one flat washer on each anchor and then thread the nut on until it is about flush with the top of anchor. Put the anchor into each of the holes and tap completely in with a hammer.

4 - Use a torque wrench and 9/16" socket to torque the anchors to 25 lbs/ft. After torquing all anchors, it is recommended to repeat the torque process a second time to ensure that all anchors are to 25 lbs/ft.

5 - Remove the lifting eyelet from the roof of the shelter and replace it with the provided 3/8" bolt and washer. This is done to eliminate leaking if the shelter is placed outside in the elements.





INSTALLER APPLICATION

Installers are persons, firms, corporations or partnerships who are engaged in the installation of safe rooms and who certify they install safe rooms in compliance with the Manufacturer's specifications, ICC/NSSA 500 Standard and the FEMA P-361 criteria in the design, manufacture, installation and inspection of Pre-manufactured Residential and/or Community/Commercial safe room produced.

Applicant Name: _____

Company Name: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Phone Number: _____ Fax Number: _____

E-mail: _____ Web Address: _____

The information above will appear on the NSSA website once approved for membership

- 1A. **Installers:** Describe the safe room product(s) that you will be installing. Include the prevalent materials used in the process of the installation, whether it is an above-ground or below-ground and the sizes of the safe room(s) you will install. (*You may attach promotional brochures or copies of web pages*).

- 1B. **Installers:** Describe the types of end-users you are providing safe room(s), i.e., residential, "other" residential (small business), commercial or community. (*You may attach photographs and/or additional sheets describing products*).

2. Who referred or encouraged you to apply for membership with the NSSA?

3. I submit with this application a signed copy of a Producer Member Endorsement.
4. I submit with this application a signed commitment that I have received and reviewed a Producer Member's installation specifications.

5. I agree and understand the NSSA may implement quality assurance measures in order to monitor MEMBER'S compliance with the latest NSSA Standard, including but not limited to: (i) affixing of a safe room "seal" on all products sold; (ii) filing "Inspection Checklist" and "Certificate of Installation" for all safe room(s); (iii) maintaining record serial numbers; (iv) perform periodic review and independent inspection of safe room(s) products and materials; and (v) other means of assisting members in complying with the NSSA Standard and Bylaws.
6. I will install only the safe room(s) that meet or exceed the NSSA Standard and I will meet the highest standards for business practices. Copies of all marketing brochures and product warranties will be filed with NSSA.
7. I enclose a membership application processing deposit of \$175. I understand that this deposit will be applied to my NSSA membership dues when membership is approved. The deposit will be retained by NSSA until membership is approved.
8. I have read the NSSA Bylaws which include the *Code of Ethics* and agree to abide by them. I also agree to support the purpose and objectives of NSSA and uphold its principles of maintaining quality in the safe room/storm shelter industry.

Signature

Title

Company

Date

STATE OF _____

COUNTY OF _____

SUBSCRIBED BEFORE ME on this the _____ day of _____, the year of _____

Do certify with my hand and seal of office.

(SEAL)

Signature of Notary

Print Name



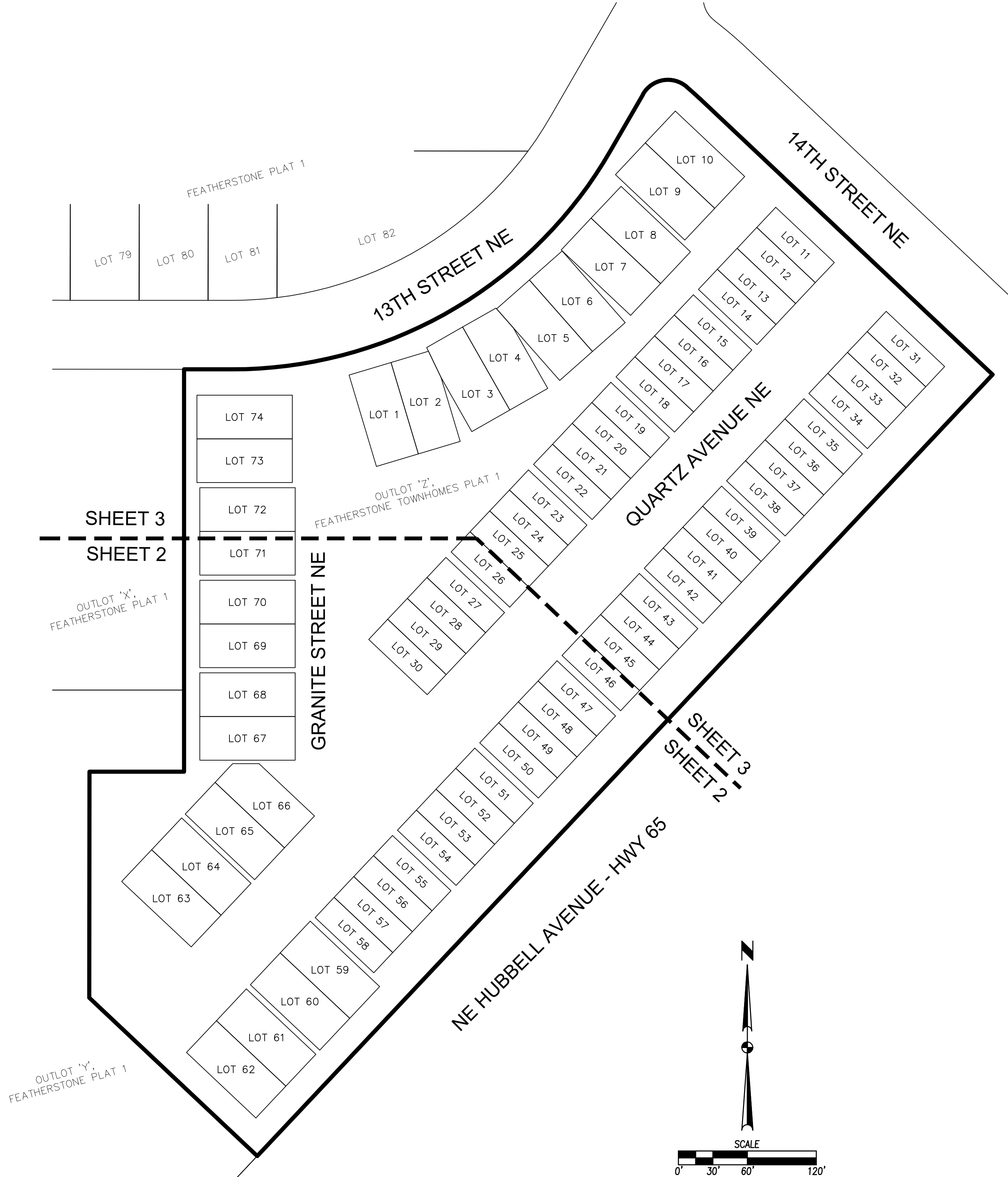


FILE: A:\2023\2204276 UNO\2204276-FINAL PLAT 2.DWG
DATE: 07/27/2023 11:04 AM
DRAWN BY: JON EROHL
CHECKED BY: JON EROHL
COMMENTS: ENG

INDEX LEGEND
LOCATION: LOTS 1 THROUGH 74 AND OUTLOT 'Z'
FEATHERSTONE TOWNHOMES PLAT 1
BONDURANT, POLK COUNTY, IOWA
REQUESTOR BY: HRC BONDURANT LLC
PROPRIETOR: 6900 WESTOWN PARKWAY
WEST DES MOINES, IA 50266
SURVEYOR: MATTHEW J. THOMAS, PLS
PREPARED BY: CIVIL DESIGN ADVANTAGE, LLC
& RETURN TO: 4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PH: 515-369-4400

FEATHERSTONE TOWNHOMES PLAT 2

FINAL PLAT



OWNER / DEVELOPER

HRC BONDURANT LLC
CONTACT: STEVE MOSELEY
6900 WESTOWN PARKWAY
WEST DES MOINES, IA 50266

ENGINEER / SURVEYOR

CIVIL DESIGN ADVANTAGE
4121 NW URBANDALE DRIVE
URBANDALE, IA 50322

DATE OF SURVEY

SEPTEMBER 20, 2022

PLAT DESCRIPTION

LOTS 1 THROUGH 74 AND OUTLOT 'Z', FEATHERSTONE TOWNHOMES PLAT 1, AN OFFICIAL PLAT, NOW INCLUDED IN AND FORMING A PART OF THE CITY OF BONDURANT, POLK COUNTY, IOWA AND CONTAINING 7.97 ACRES (347,253 SQUARE FEET).

THE PROPERTY IS SUBJECT TO ALL EASEMENTS, RESTRICTIONS AND COVENANTS OF RECORD.

ZONING

R-5 PLANNED UNIT DEVELOPMENT (PUD) DISTRICT

NOTES

1. ANY SET MONUMENTATION SHOWN ON THIS PLAT WILL BE COMPLETED WITHIN ONE YEAR FROM THE DATE THIS PLAT WAS RECORDED.
2. LOTS MAY BE SUBJECT TO MINIMUM PROTECTION ELEVATIONS AND OTHER ELEVATION RESTRICTIONS NOT SHOWN ON THIS PLAT. REFER TO THE SEPARATELY-RECORDED MPE TABLE.
3. ANY USE OF A PUBLIC UTILITY EASEMENT IN AN AREA OVERLAPPING A DESIGNATED CITY OF BONDURANT EASEMENT IS SUBORDINATE TO THE CITY'S USE OF THAT EASEMENT AND ANY USER OF THE PUBLIC UTILITY EASEMENT MUST RELOCATE AT NO COST TO THE CITY IF THE USE OF THE EASEMENT IS IN CONFLICT WITH THE CITY'S USE OF ITS DESIGNATED EASEMENT AT ANY TIME.
4. LOTS 1 THROUGH 74 AND OUTLOT 'Z', FEATHERSTONE TOWNHOMES PLAT 1 ARE TO BE REPLACED BY LOTS 1 THROUGH 74 AND OUTLOT 'Z' OF THIS PLAT.
5. LOTS 11 THROUGH 60 OF THIS PLAT ARE IN A DIFFERENT LOCATION THAN LOTS 11 THROUGH 60 OF FEATHERSTONE TOWNHOMES PLAT 1.
6. THE LOCATION OF LOTS 1 THROUGH 10 AND 61 THROUGH 74 ON THIS PLAT ARE UNCHANGED FROM THE LOCATION OF LOTS 1 THROUGH 10 AND 61 THROUGH 74 OF FEATHERSTONE TOWNHOMES PLAT 1.
7. EXISTING LOT LINES AND MONUMENTS FROM FEATHERSTONE TOWNHOMES PLAT 1 ARE NOT SHOWN FOR CLARITY.

LEGEND

	FOUND	SET
SECTION CORNER AS NOTED	▲	△
1/2" REBAR, RED PLASTIC CAP#19968 (UNLESS OTHERWISE NOTED)	●	○
MEASURED BEARING & DISTANCE	(M)	
RECORDED BEARING & DISTANCE	(R)	
DEEDED BEARING & DISTANCE	(D)	
PUBLIC UTILITY EASEMENT	P.U.E.	
CURVE ARC LENGTH	AL	
LOT ADDRESS	(1234)	
CENTERLINE	_____	
SECTION LINE	_____	
EASEMENT LINE	_____	
BUILDING SETBACK LINE	_____	
PLAT BOUNDARY	_____	

BULK REGULATIONS

MULTI-FAMILY: TOWNHOMES OR APARTMENTS

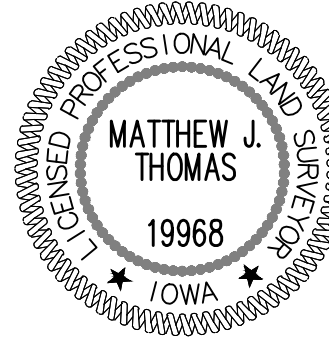
TOWNHOMES (MAX. 12 DU/AC.):

SETBACKS
FRONT YARD = 25 FT
REAR YARD = 25 FT
UNCOVERED DECKS MAY ENCROACH INTO THE REAR SETBACK UP TO 10 FT FROM REAR PROPERTY LINE.
COVERED DECKS MUST MEET REAR YARD SETBACK.
MIN. DISTANCE BETWEEN BUILDINGS = 10 FT
MAXIMUM HEIGHT = 45 FT
TWO PARKING STALLS SHALL BE PROVIDED FOR EACH UNIT.

APARTMENTS (MAX. 20 DU/AC.):

SETBACKS
FRONT YARD = 30 FT
REAR YARD = 35 FT PRINCIPAL STRUCTURE
= 5 FT ACCESSORY BUILDING
SIDE YARD = 10 FT PRINCIPAL STRUCTURE
= 3 FT ACCESSORY BUILDING
UNCOVERED DECKS MAY ENCROACH INTO THE REAR SETBACK UP TO 10 FT FROM REAR PROPERTY LINE.
COVERED DECKS MUST MEET REAR YARD SETBACK.
MIN. DISTANCE BETWEEN BUILDINGS = 15 FT
MAXIMUM HEIGHT = 45 FT
1.5 PARKING STALLS SHALL BE PROVIDED FOR EACH 1 BEDROOM UNIT, AND 2 PARKING STALLS FOR EACH 2 BEDROOM OR LARGER UNIT.

PARKING PROVIDED = 316 SPACES
(INCLUDES GARAGES AND DRIVEWAYS)



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

MATTHEW J. THOMAS, P.L.S. DATE
LICENSE NUMBER 19968
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2023
PAGES OR SHEETS COVERED BY THIS SEAL:
SHEETS 1 THROUGH 3

DATE

03/22/24

REVISIONS

4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400

TECH: ENGINEER: REVIEW:

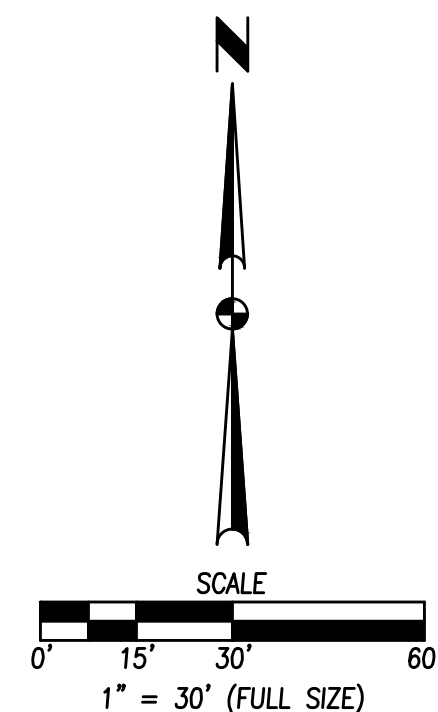
FEATHERSTONE
TOWNHOMES PLAT 2
FINAL PLAT

BONDURANT, IOWA

1
3

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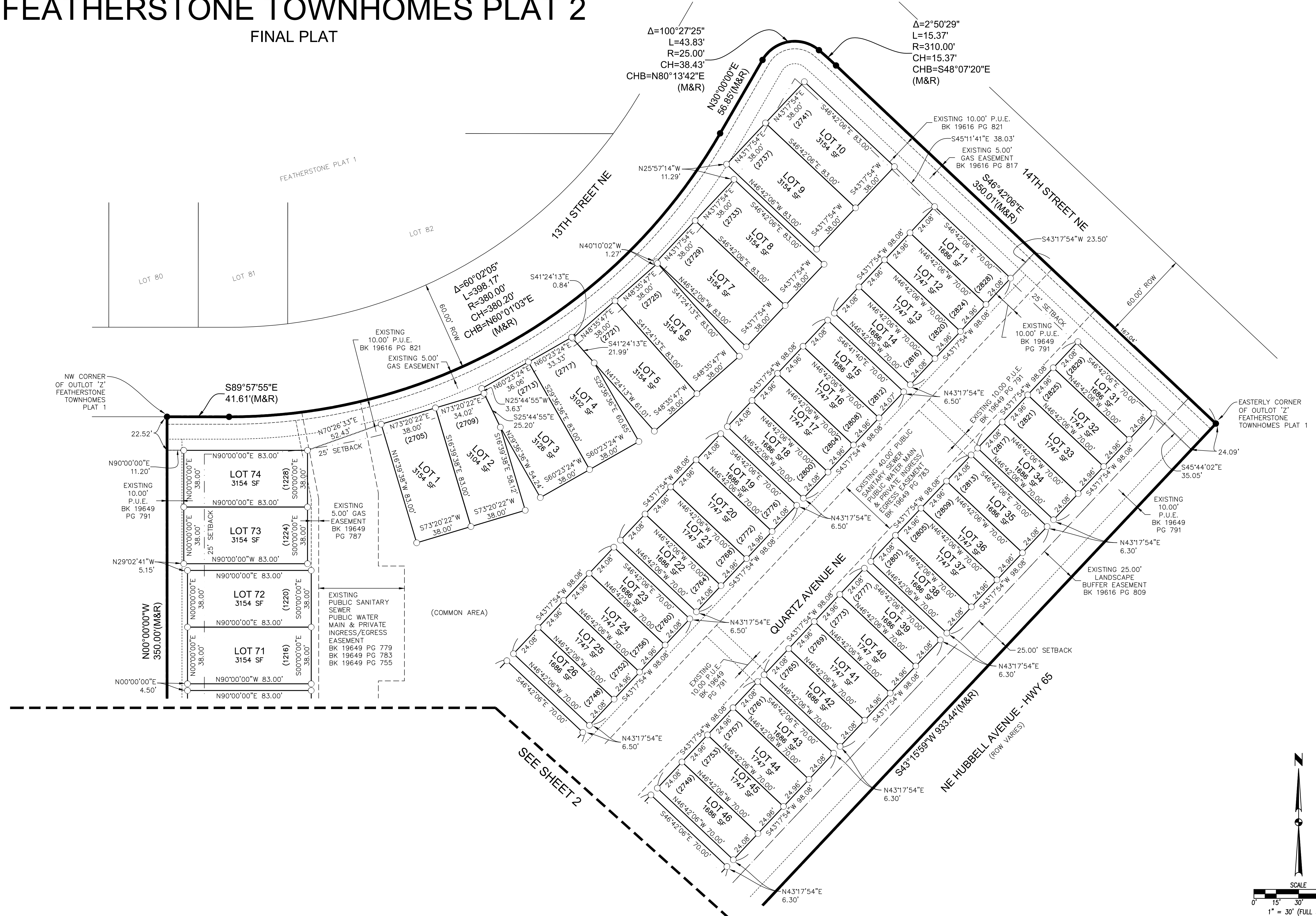
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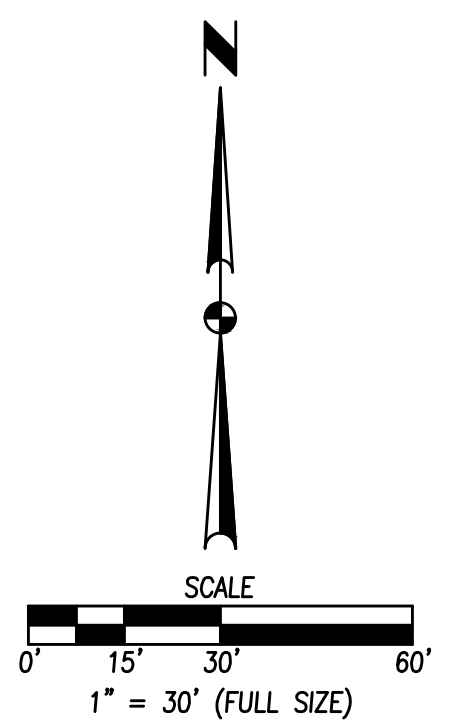
2/3
2204.276
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FEATHERSTONE TOWNHOMES PLAT 2

FINAL PLAT



FILE: A:\2023\2204.276\DWG\2204.276-FINAL PLAT 2.DWG
PLOTTER: HP DesignJet T1200
PLOT DATE: 5/27/2024 11:04 AM
COMMENTS:
TECH: JON EROHIL



		FEATHERSTONE TOWNHOMES PLAT 2 FINAL PLAT		3 3 2204.276
BONDURANT, IOWA		CIVIL DESIGN ADVANTAGE		ENGINEER:
4121 NW URBANDALE DRIVE URBANDALE, IA 50322 PHONE: (515) 369-4400		TECH:		REVIEW:
REVISIONS		PREPARED		DATE: 03/22/24

F:\HH\Design\Design Team Due Diligence\Comp Analysis 2023\Multifam\Featherstone\Extended Emerson Duplex.rvt



1 Main Level Footprint
1/8" = 1'-0"

Emerson Duplex Base



HUBBELL HOMES
6900 Westown Parkway
West Des Moines IA, 50266

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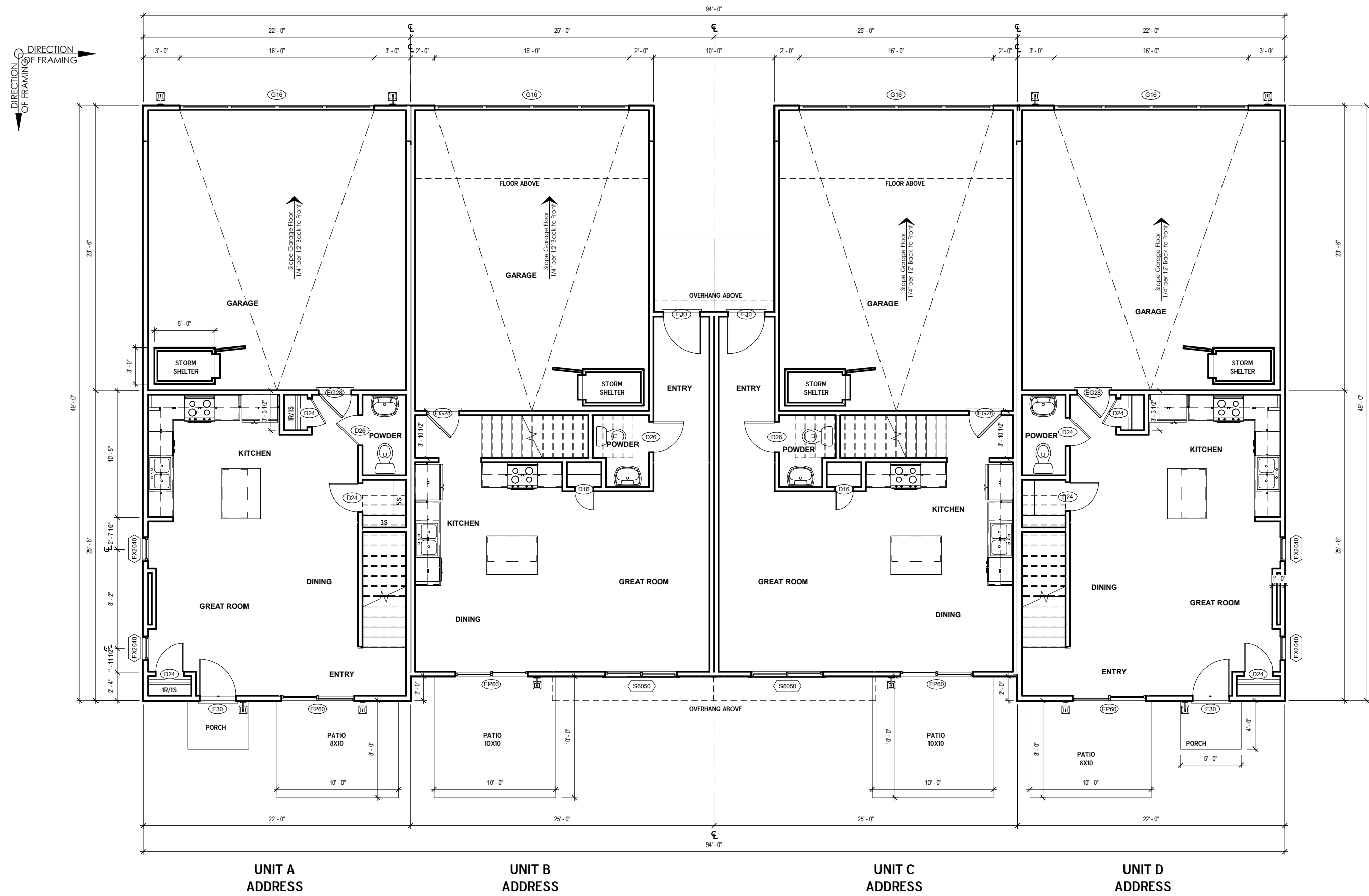
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Client: _____ Date: _____

Issue Date: 5/8/2024 5:14:57 PM

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Redfield-Lacona Plan



1 Main Level Footprint
1/8" = 1'-0"

Client: _____ Date: _____
Issue Date: 5/8/2024 5:10:04 PM

CITY OF BONDURANT
RESOLUTION NO. 221107-XX

RESOLUTION APPROVING THE FEATHERSTONE TOWNHOMES PLAT 1 FINAL
PLAT

WHEREAS, Civil Design Advantage submitted the Featherstone Townhomes Plat 1 Final Plat; AND

WHEREAS, the Owner/Developer is HRC Bondurant LLC; AND

WHEREAS, this is a subdivision within Bondurant's city limits described as follows:

OUTLOT "W", FEATHERSTONE PLAT 1, AN OFFICIAL PLAT IN THE CITY OF BONDURANT, POLK COUNTY, IOWA AND CONTAINING 7.97 ACRES (347,253 SQUARE FEET).

THE PROPERTY IS SUBJECT TO ANY AND ALL EASEMENTS OF RECORD.

WHEREAS, the Featherstone Townhomes Plat 1 Final Plat area was included as part of the Featherstone (Top Farms) Preliminary Plat approved by City Council on December 20, 2021; AND

WHEREAS, the Featherstone Townhomes Plat 1 Final Plat area was included as part of the Featherstone Townhomes Preliminary Plat/Site Plan approved by City Council on June 6, 2022; AND

WHEREAS, the Featherstone Townhomes Plat 1 Final Plat area is zoned Planned Unit Development (R-5).

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Bondurant, Iowa, that the Featherstone Townhomes Plat 1 Final Plat is hereby approved subject to the following Code items being addressed and that such items shall be addressed prior to the City releasing this resolution for recording:

1. That all public improvements shall be completed and inspected by the Public Works Director
2. That the required as-builts shall be submitted to the City.
3. That the 4-year maintenance bonds are submitted to the City.
4. That the developer pays the water and sanitary sewer connection fee district invoices.
5. That the developer pay the fee in lieu of public parkland dedication fee for the equivalent of 0.81 acres.
6. That the developer and the City of Bondurant enter into a development agreement regarding the following topics – cost share the 16th Street NE public street improvements and water main upsizing

7. That as noted on the resolution approving the Featherstone Townhomes Preliminary Plat/Site Plan, that all units within the Featherstone Townhomes Plat 1 development area shall include basements unless granted an accessibility waiver by Council, as authorized by Section 178.06.4.P of the Zoning Code.

Passed this 7th day of November, 2022

By: _____
Doug Elrod, Mayor

ATTEST: I, Shelby Hagan, City Clerk of Bondurant, hereby certify that at a meeting of the City Council held on the above date, among other proceedings the above was adopted.

IN WITNESS WHEREOF, I have hereunto set my hand the day and year above written.

Shelby Hagan, City Clerk _____

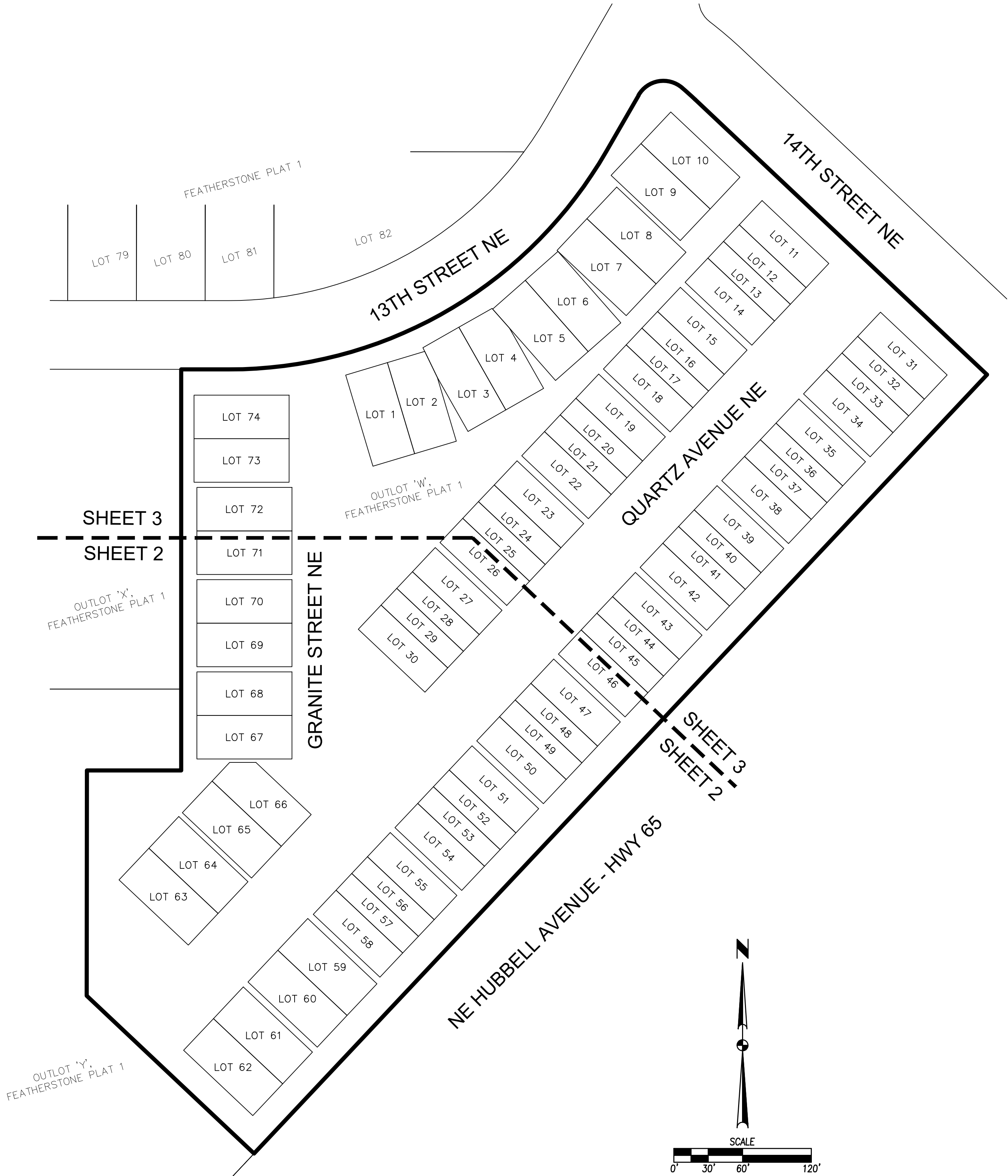
Council Action	Ayes	Nays	Abstain	Absent
Cox				
Peffer				
Sillanpaa				
McKenzie				
Driscoll				

FILE: IA_2204.276.DWG DATE PLOTTED: 10/13/2022 10:27 AM COMMENT: PLOTTED BY: CIVIL DESIGN ADVANTAGE

INDEX LEGEND
LOCATION: OUTLOT 'W', FEATHERSTONE PLAT 1
BONDURANT, POLK COUNTY, IOWA
REQUESTOR: HRC BONDURANT LLC
PROPRIETOR: HRC BONDURANT LLC
6900 WESTOWN PARKWAY
WEST DES MOINES, IA 50266
SURVEYOR: MATTHEW J. THOMAS
COMPANY: CIVIL DESIGN ADVANTAGE
PREPARED BY
& RETURN TO: CIVIL DESIGN ADVANTAGE
4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PH: 515-369-4400

FEATHERSTONE TOWNHOMES PLAT 1

FINAL PLAT



OWNER / DEVELOPER

HRC BONDURANT LLC
CONTACT: STEVE MOSELEY
6900 WESTOWN PARKWAY
WEST DES MOINES, IA 50266

ENGINEER / SURVEYOR

CIVIL DESIGN ADVANTAGE
4121 NW URBANDALE DRIVE
URBANDALE, IA 50322

DATE OF SURVEY

SEPTEMBER 20, 2022

PLAT DESCRIPTION

OUTLOT 'W', FEATHERSTONE PLAT 1, AN OFFICIAL PLAT IN THE CITY OF BONDURANT, POLK COUNTY, IOWA AND CONTAINING 7.97 ACRES (347,253 SQUARE FEET).

THE PROPERTY IS SUBJECT TO ANY AND ALL EASEMENTS OF RECORD.

ZONING

R-5 PLANNED UNIT DEVELOPMENT (PUD) DISTRICT

NOTES

1. ANY SET MONUMENTATION SHOWN ON THIS PLAT WILL BE COMPLETED WITHIN ONE YEAR FROM THE DATE THIS PLAT WAS RECORDED.
2. LOTS MAY BE SUBJECT TO MINIMUM PROTECTION ELEVATIONS AND OTHER ELEVATION RESTRICTIONS NOT SHOWN ON THIS PLAT. REFER TO THE SEPARATELY-RECORDED MPE TABLE.
3. ANY USE OF A PUBLIC UTILITY EASEMENT IN AN AREA OVERLAPPING A DESIGNATED CITY OF BONDURANT EASEMENT IS SUBORDINATE TO THE CITY'S USE OF THAT EASEMENT AND ANY USER OF THE PUBLIC UTILITY EASEMENT MUST RELOCATE AT NO COST TO THE CITY IF THE USE OF THE EASEMENT IS IN CONFLICT WITH THE CITY'S USE OF ITS DESIGNATED EASEMENT AT ANY TIME.

CURVE DATA

CURVE	DELTA	RADIUS	LENGTH	BEARING	CHORD
C1	90°00'00"	26.00'	40.84'	N88°17'54"E	36.77'
C2	6°02'04"	380.00'	40.02'	N79°39'16"E	40.00'
C3	7°21'47"	380.00'	48.83'	N86°21'11"E	48.80'

LEGEND

	FOUND	SET
SECTION CORNER AS NOTED	▲	△
1/2" REBAR, RED PLASTIC CAP #19968 (UNLESS OTHERWISE NOTED)	●	○
MEASURED BEARING & DISTANCE	M	
RECORDED BEARING & DISTANCE	R	
DEEDED BEARING & DISTANCE	D	
PUBLIC UTILITY EASEMENT	P.U.E.	
CURVE ARC LENGTH	AL	
LOT ADDRESS	(1234)	
CENTERLINE	---	
SECTION LINE	---	
EASEMENT LINE	---	
BUILDING SETBACK LINE	---	
PLAT BOUNDARY	---	

BULK REGULATIONS

MULTI-FAMILY: TOWNHOMES OR APARTMENTS

TOWNHOMES (MAX. 12 DU/AC.):

SETBACKS
FRONT YARD = 25 FT
REAR YARD = 25 FT
UNCOVERED DECKS MAY ENCR OACH INTO THE REAR.
SETBACK UP TO 10 FT FROM REAR PROPERTY LINE.
COVERED DECKS MUST MEET REAR YARD SETBACK.
MIN. DISTANCE BETWEEN BUILDINGS = 10 FT
MAXIMUM HEIGHT = 45 FT
TWO PARKING STALLS SHALL BE PROVIDED FOR EACH UNIT.

APARTMENTS (MAX. 20 DU/AC.):

SETBACKS
FRONT YARD = 30 FT
REAR YARD = 35 FT PRINCIPAL STRUCTURE
= 5 FT ACCESSORY BUILDING
SIDE YARD = 10 FT PRINCIPAL STRUCTURE
= 3 FT ACCESSORY BUILDING
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MIN. DISTANCE BETWEEN BUILDINGS = 15 FT
MAXIMUM HEIGHT = 45 FT
1.5 PARKING STALLS SHALL BE PROVIDED FOR EACH 1 BEDROOM UNIT, AND 2 PARKING STALLS FOR EACH 2 BEDROOM OR LARGER UNIT.

PARKING PROVIDED = 316 SPACES
(INCLUDES GARAGES AND DRIVEWAYS)

PROFESSIONAL LAND SURVEYOR
MATTHEW J. THOMAS, P.L.S.
19968
IOWA

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

MATTHEW J. THOMAS, P.L.S. DATE
LICENSE NUMBER 19968
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2023
PAGES OR SHEETS COVERED BY THIS SEAL:
SHEETS 1 THROUGH 3

DATE

10/13/2022

19/26/2022

REVISIONS

4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400

TECH: REVIEW:

ENGINEER: CIVIL DESIGN ADVANTAGE

1

3

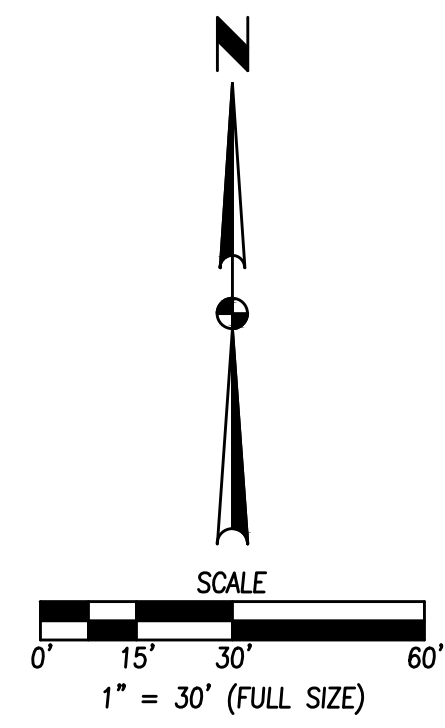
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FEATHERSTONE TOWHOMES PLAT 1

FINAL PLAT

BONDURANT, IOWA

FINAL PLAT





2

3

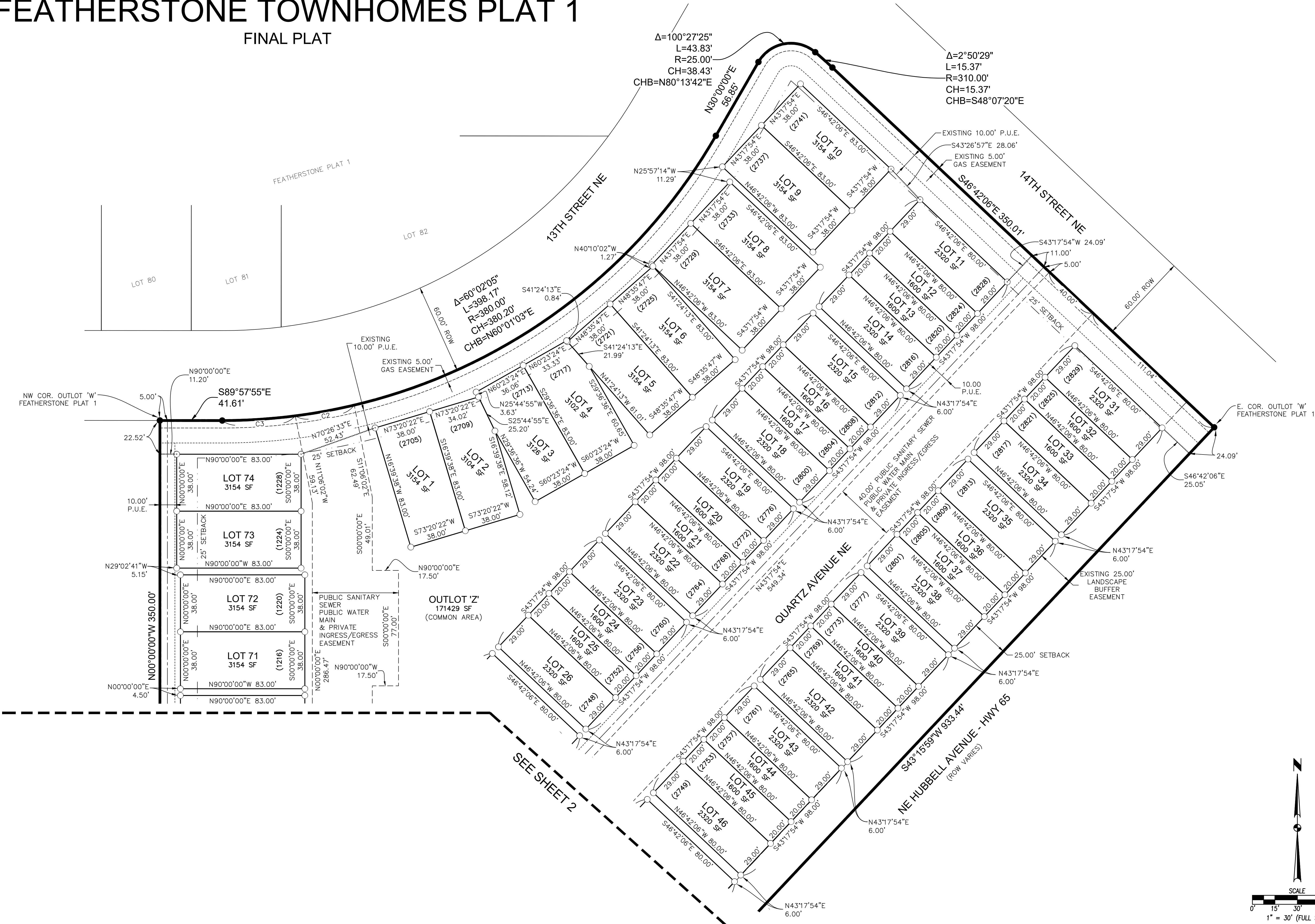
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FEATHERSTONE TOWHOMES PLAT 1

FINAL PLAT

BONDURANT, IOWA

FEATHERSTONE TOWNHOMES PLAT 1
FINAL PLAT



3

FEATHERSTONE TOWHOMES PLAT 1

FINAL PLAT

3

2204.276

DATE

10/13/2022

REVISIONS

SECOND SUBMITTAL

FIRST SUBMITTAL

4121 NW URBANDALE DRIVE
URBANDALE, IA 50322
PHONE: (515) 369-4400

TECH:

REVIEW:

ENGINEER:

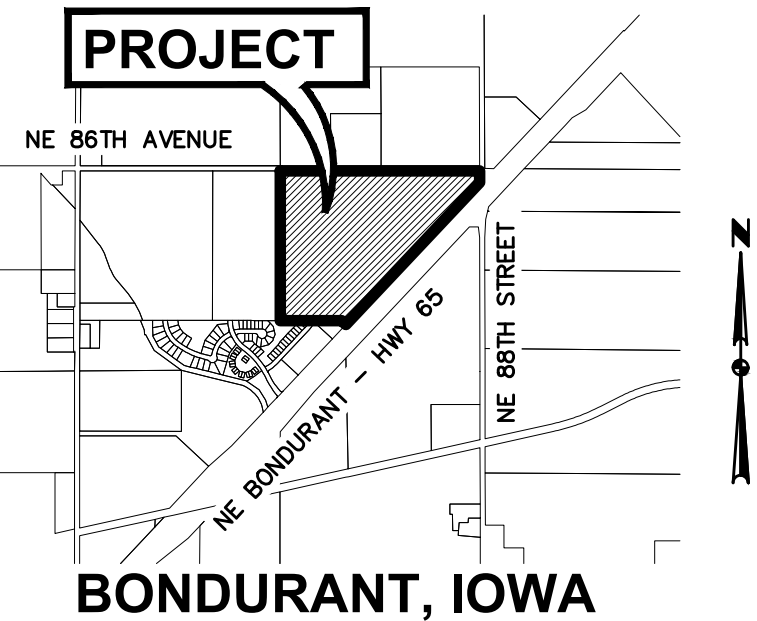
CIVIL DESIGN ADVANTAGE

BONDURANT, IOWA

FILE: H:\2020\2021716 UMC\2021716-PRELIMINARY PLAT.DWG
DATE PLOTTED: 1/11/2022 3:14 PM
DRAWN BY: EMILY HARDING, TECH
CHECKED BY: EMILY HARDING, TECH

VICINITY MAP

NOT TO SCALE



PRELIMINARY PLAT TOP FARMS PROPERTY

LEGAL DESCRIPTION

THAT PART OF THE EAST 1/2 OF SECTION 29, TOWNSHIP 80 NORTH, RANGE 22 WEST OF THE 5TH P.M., CITY OF BONDURANT, POLK COUNTY, IOWA LYING NORTHERLY OF NE HUBBELL ROAD (US HIGHWAY 65) AND LYING NORTHERLY OF PARK SIDE PLAT 2, AN OFFICIAL PLAT.

NOTES

1. ALL HOMES ON LOTS 1 - 178 SHALL HAVE A MINIMUM 2-CAR GARAGE.
2. A MINIMUM OF 30% OF THE LOTS WITHIN LOTS 1 - 178 SHALL BE 65' WIDE OR LARGER.
3. WINDOW WELLS CANNOT ENCR OACH INTO SIDE YARD SETBACKS WHEN SIDE YARD SETBACK IS 5'.
4. THE LANDSCAPE BUFFER YARD ON THE LOTS WITHIN AREA 'A' THAT ARE ADJACENT TO NE 86TH AVENUE SHALL BE 25 FEET WIDE WITH 1 OVERSTORY TREE, 2 CONIFER TREES, AND 4 SHRUBS AND/OR GRASS EVERY 100 FEET TO BE INSTALLED AT THE TIME EACH LOT CONSTRUCTS A HOME.
5. THE LANDSCAPE BUFFER YARD ALONG HIGHWAY 65 SHALL BE 25 FEET WIDE WITH 1 OVERSTORY, 1 CONIFER, 2 UNDERSTORY TREES, AND 4 SHRUBS AND/OR GRASS EVERY 100 FEET.
6. BUFFER YARD TREE SPECIES SHALL BE LIMITED TO THE SPECIES LISTED IN SECTION 151.03 OF THE CITY CODE. DECIDUOUS TREES SHALL BE 1.75" CALIPER AND CONIFEROUS TREES SHALL BE A MINIMUM 5' HEIGHT.
7. THE PRELIMINARY PLAT IS CONSISTENT WITH THE CITY'S FUTURE LAND USE MAP, THE PARKS, TRAILS & GREENWAY MASTER PLAN, AND THE COMPREHENSIVE PLAN BASED ON THE PROPOSED LAND USE AND PARKLAND DEDICATION.
8. PROPOSED EASEMENTS ARE PUBLIC UNLESS OTHERWISE NOTED.

OWNER

TOP FARMS LLLP
250 GOLFVIEW DRIVE
DURANT, IA 52747

DEVELOPER

HUBBELL REALTY COMPANY
CONTACT: STEVE MOSELEY
6900 WESTOWN PARKWAY
WEST DES MOINES, IA 50266

ENGINEER / SURVEYOR

CIVIL DESIGN ADVANTAGE
CONTACT: EMILY HARDING
3405 SE CROSSROADS DRIVE, SUITE G
GRIMES, IOWA 50111
PH. (515) 369-4400
FX. (515) 369-4410

ZONING

EXISTING: R-5 PLANNED UNIT DEVELOPMENT (PUD) DISTRICT

DATE OF SURVEY

NOVEMBER 1, 2021

BENCHMARKS

1. BURY BOLT ON HYDRANT AT SW CORNER OF TOP FARMS PROPERTY
ELEVATION=945.14
2. BURY BOLT ON HYDRANT AT SW CORNER OF MALLARD & 3RD STREET
ELEVATION=963.51

PARKLAND DEDICATION

OUTLOT X WILL BE DEDICATED TO THE CITY OF BONDURANT TO CONTRIBUTE TO THE SATISFACTION OF THE PARKLAND REQUIREMENT. PAYMENT IN LIEU OF PARKLAND WILL BE PAID FOR ANY REMAINING PARKLAND REQUIREMENT ACREAGE. PUBLIC PARKLAND DEDICATION SHALL ADHERE TO SECTION 180.06 OF THE SUBDIVISION CODE.

UTILITY WARNING

THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY AND RECORDS OBTAINED BY THIS SURVEYOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN COMPRISE ALL THE UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION SHOWN. A REQUEST WAS MADE TO IOWA ONE CALL TO LOCATE THEIR UTILITIES IN THE FIELD.

LEGEND

PROPOSED

TYPE SW-501 STORM INTAKE

TYPE SW-503 STORM INTAKE

TYPE SW-505 STORM INTAKE

TYPE SW-506 STORM INTAKE

TYPE SW-513 STORM INTAKE

TYPE SW-401 STORM MANHOLE

TYPE SW-402 STORM MANHOLE

TYPE SW-301 SANITARY MANHOLE

STORM/SANITARY CLEANOUT

WATER VALVE

FIRE HYDRANT ASSEMBLY

SANITARY SEWER WITH SIZE

STORM SEWER

WATERMAIN WITH SIZE

EXISTING

SANITARY MANHOLE

WATER VALVE BOX

FIRE HYDRANT

WATER CURB STOP

STORM SEWER MANHOLE

STORM SEWER SINGLE INTAKE

STORM SEWER DOUBLE INTAKE

FLARED END SECTION

DECIDUOUS TREE

CONIFEROUS TREE

ELECTRIC POWER POLE

STREET LIGHT

POWER POLE W/ TRANSFORMER

UTILITY POLE W/ LIGHT

ELECTRIC BOX

ELECTRIC TRANSFORMER

TELEPHONE JUNCTION BOX

UNDERGROUND TELEPHONE

UNDERGROUND ELECTRIC

SANITARY SEWER W/ SIZE

STORM SEWER W/ SIZE

WATER MAIN W/ SIZE

BULK REGULATIONS

LOTS 1 - 178
SINGLE FAMILY DETACHED LOTS

PERMITTED USES - PRINCIPAL: ONE-STORY, TWO-STORY, AND ONE AND ONE-HALF STORY HOMES.

SETBACKS

FRONT YARD = 30 FT
REAR YARD = 30 FT PRINCIPAL STRUCTURE
= 5 FT ACCESSORY BUILDING
SIDE YARD = 5 FT PRINCIPAL STRUCTURE
= 3 FT ACCESSORY BUILDING

SIDE YARD (65'-WIDE LOTS) = 15 FT TOTAL, WITH 7' MIN. ON ONE SIDE
WHEN TWO-STORY, 5' MIN. ON ONE SIDE WHEN ONE-STORY OR ONE AND ONE-HALF STORY.

UNCOVERED DECKS MAY ENCR OACH INTO THE REAR SETBACK UP TO 10 FT FROM REAR PROPERTY LINE. COVERED DECKS MUST MEET REAR YARD SETBACK.

MIN. LOT AREA = 5,000 SF
THE SAME HOME ELEVATION CANNOT BE BUILT ON ADJACENT LOTS.

MINIMUM FLOOR AREA

RANCH = 950 SF
TWO STORY = 1,000 SF OF LIVABLE SPACE
SPLIT LEVEL = 875 SF ON TWO ADJACENT LEVELS
SPLIT FOYER = 850 SF ON THE MAIN FLOOR

OUTLOT W

MULTI-FAMILY: TOWNHOMES OR APARTMENTS

TOWNHOMES (MAX. 12 DU/AC.):

SETBACKS

FRONT YARD = 25 FT
REAR YARD = 25 FT
UNCOVERED DECKS MAY ENCR OACH INTO THE REAR SETBACK UP TO 10 FT FROM REAR PROPERTY LINE. COVERED DECKS MUST MEET REAR YARD SETBACK.

MIN. DISTANCE BETWEEN BUILDINGS = 10 FT

MAXIMUM HEIGHT = 45 FT

TWO PARKING STALLS SHALL BE PROVIDED FOR EACH UNIT.

APARTMENTS (MAX. 20 DU/AC.):

SETBACKS

FRONT YARD = 30 FT
REAR YARD = 35 FT PRINCIPAL STRUCTURE
= 5 FT ACCESSORY BUILDING
SIDE YARD = 10 FT PRINCIPAL STRUCTURE
= 3 FT ACCESSORY BUILDING

UNCOVERED DECKS MAY ENCR OACH INTO THE REAR SETBACK UP TO 10 FT FROM REAR PROPERTY LINE. COVERED DECKS MUST MEET REAR YARD SETBACK.

MIN. DISTANCE BETWEEN BUILDINGS = 15 FT

MAXIMUM HEIGHT = 45 FT

1.5 PARKING STALLS SHALL BE PROVIDED FOR EACH 1 BEDROOM UNIT, AND 2 PARKING STALLS FOR EACH 2 BEDROOM OR LARGER UNIT.

OUTLOT T & U

COMMERCIAL OR MULTI-FAMILY

MULTI-FAMILY:

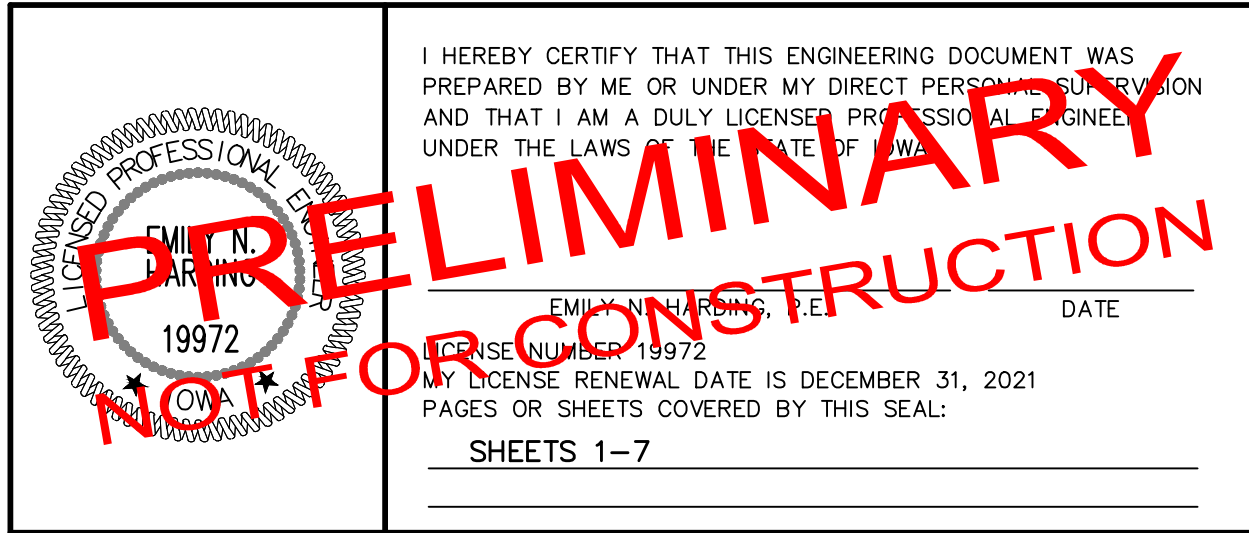
OUTLOT W BULK REGULATIONS SHALL ALSO APPLY.

COMMERCIAL:

SETBACKS

FRONT YARD = 30 FT
REAR YARD = 25 FT PRINCIPAL STRUCTURE
= 5 FT ACCESSORY BUILDING
SIDE YARD SETBACKS SHALL BE NONE EXCEPT WHEN ADJACENT TO RESIDENTIAL DISTRICT THEN A 10' BUFFER WITH 6' OPAQUE FENCE.

THE MAXIMUM HEIGHT OF THE PRINCIPAL BUILDING SHALL BE 55 FEET.
THE MAXIMUM NUMBER OF STORIES SHALL BE 2 STORIES.
THE MINIMUM AMOUNT OF OPEN SPACE SHALL BE 10%.
GENERAL COMMERCIAL (C-2) DISTRICT USES ARE ALLOWED.



GA

DATE

1-11-2022

11-08-2021

REVISIONS

SECOND SUBMITTAL

FIRST SUBMITTAL

TECH: MDM

ENGINEER: ENH

4121 NW URBANDALE DRIVE
URBANDALE, IOWA 50322
PHONE: (515) 369-4400

GA

CIVIL DESIGN ADVANTAGE

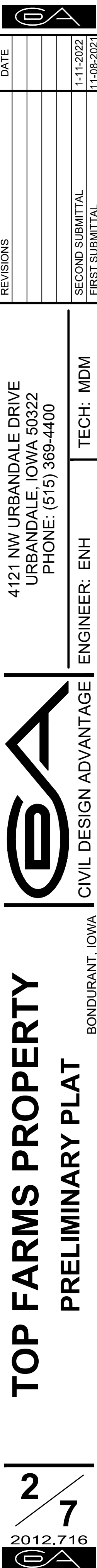
BONDURANT, IOWA

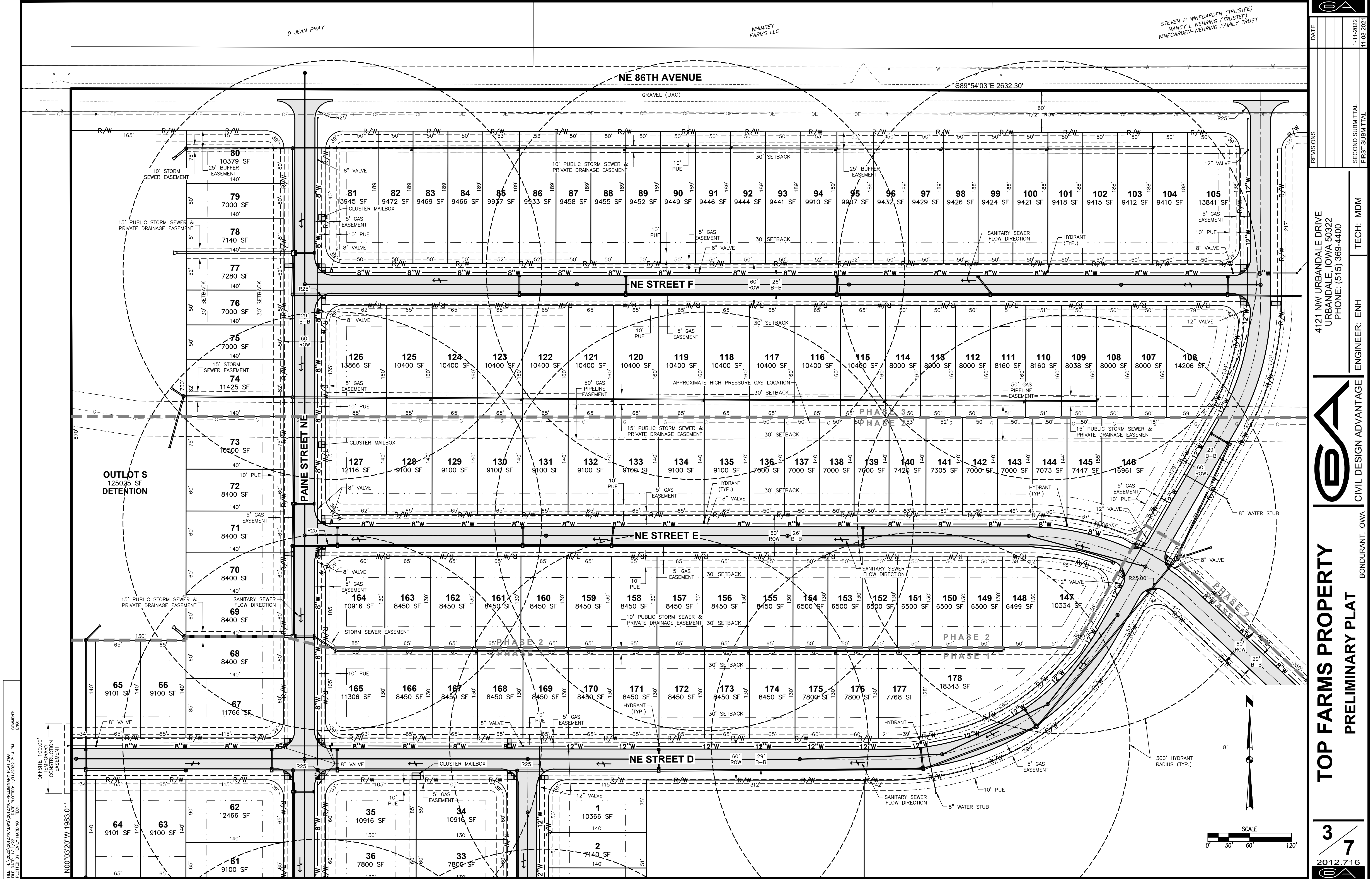
TOP FARMS PROPERTY
PRELIMINARY PLAT

1/7

2012.716

GA





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DATE PLOTTED: 1/11/2022 3:14 PM
DRAWN BY: T.M.H. HARDING, TECH

STEVEN P. WINEGARDEN (TRUSTEE)
NANCY L. NEHRING (TRUSTEE)
WINEGARDEN-NEHRING FAMILY TRUST

DATE

1-11-2022

REVISIONS

SECOND SUBMITTAL
FIRST SUBMITTAL

4121 NW URBANDALE DRIVE
URBANDALE, IOWA 50322
PHONE: (515) 369-4400

TECH: MDM

ENGINEER: ENH

3

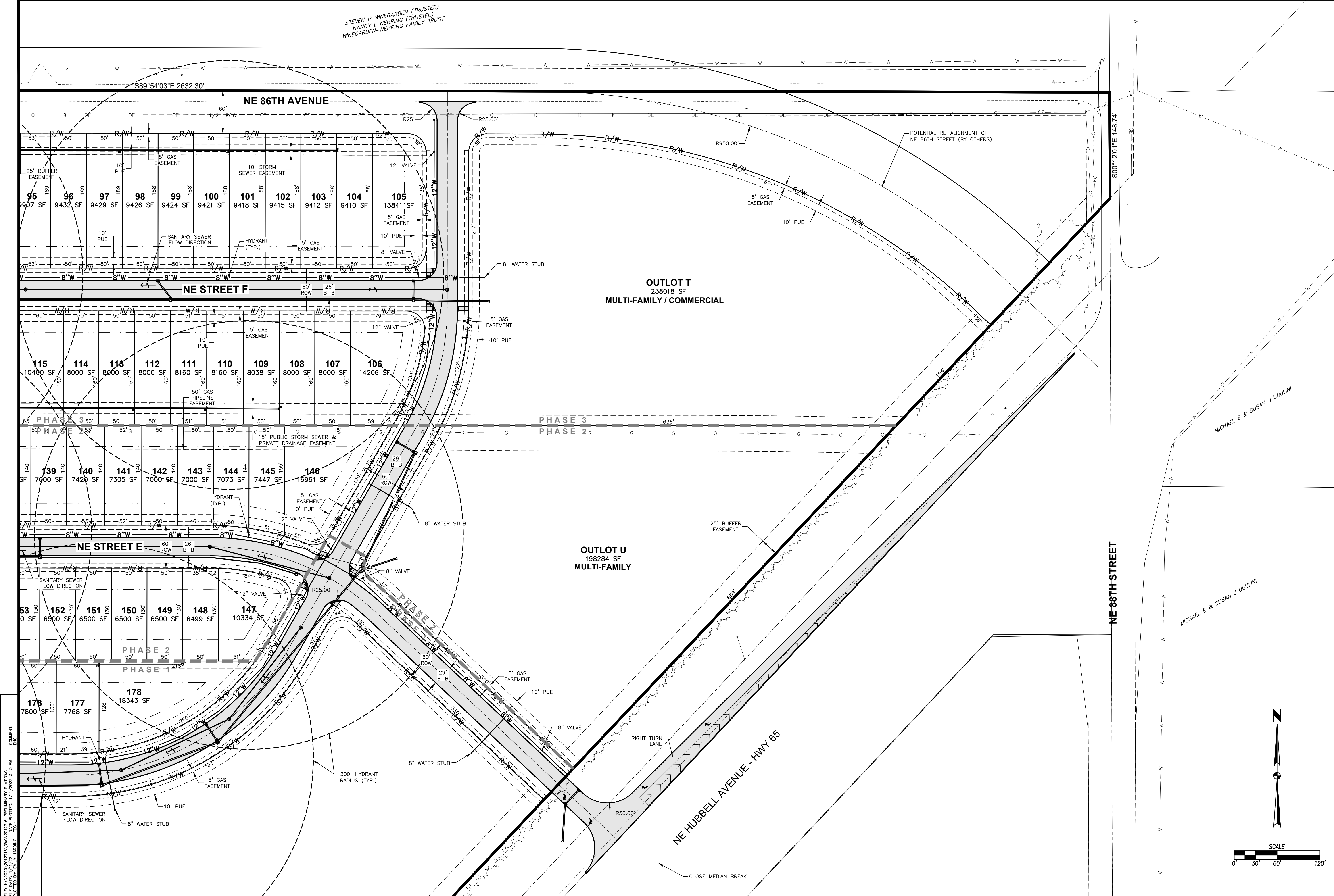
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2012.716

TOP FARMS PROPERTY
PRELIMINARY PLAT

CIVIL DESIGN ADVANTAGE

BONDURANT, IOWA



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DRAWN BY: J. HARRIS
CHECKED BY: J. HARRIS
PLOTTED BY: J. HARRIS
DATE: 1/11/2022 3:15 PM
SCALE: 1"=60'

STEVEN P. WINEGARDEN (TRUSTEE)
NANCY L. NEHRING (TRUSTEE)
WINEGARDEN-NEHRING FAMILY TRUST

DATE

1-11-2022

REVISIONS

SECOND SUBMITTAL
FIRST SUBMITTAL

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URBANDALE, IOWA 50322
PHONE: (515) 369-4400

TECH: MDM
ENGINEER: ENH

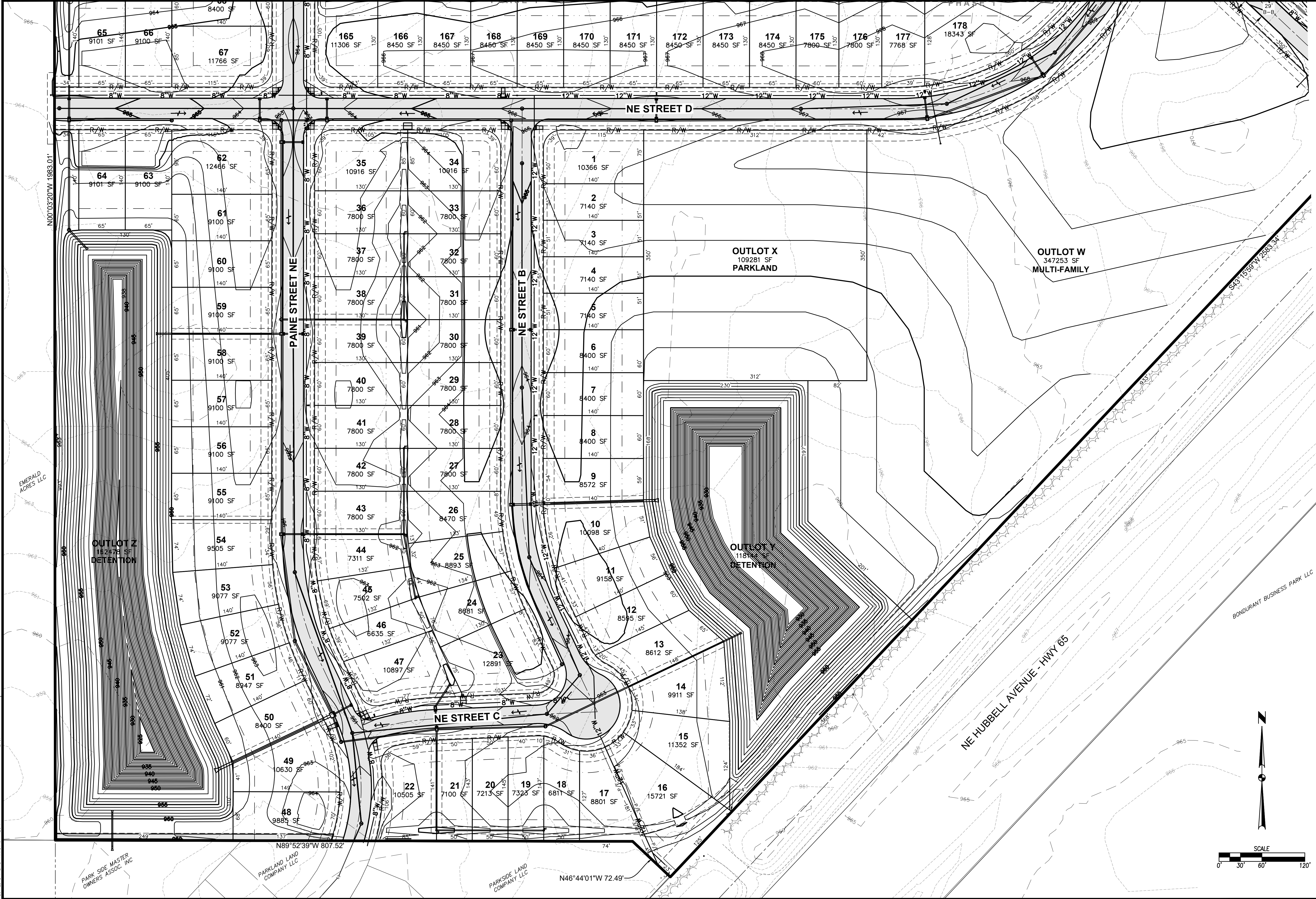
TOP FARMS PROPERTY
PRELIMINARY PLAT

4 / 7
2012.716

CIVIL DESIGN ADVANTAGE

BONDURANT, IOWA

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DRAWN BY: T.M.H.
CHECKED BY: T.M.H.
PLOTTER: T.M.H.
PLOT: 1/11/2022 3:15 PM



DATE: 1-11-2022

REVISIONS: 1-11-2022

SECOND SUBMITTAL: 11-08-2021

TECH: MDM

ENGINEER: ENH

4121 NW URBANDALE DRIVE
URBANDALE, IOWA 50322
PHONE: (515) 369-4400

57

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TOP FARMS PROPERTY
PRELIMINARY PLAT

57

2012.716

EMERALD ACRES LLC

PARK SIDE MASTER OWNERS ASSOC. INC.

PARKLAND LAND COMPANY LLC

PARKSIDE LAND COMPANY LLC

BONDURANT BUSINESS PARK LLC

