

Appendix H: Level of Use Estimates



Structural Assessments:

The Asylum

West Barn

Dairy Barn

Level-of-Use Analysis

PROPERTY CONDITION ASSESSMENT AND 'LEVEL-OF-USE' REPORT

January 25th, 2017



PREPARED FOR:

Johnson County Board of Supervisors

Johnson County Poor Farm - Johnson County, IA



Completed by: HBK Engineering - 509 South Gilbert Street, Iowa City, IA, 52240



REPORT DETAILS & INFORMATION	1-2
Assignment	
Background	
Team	
ASYLUM WALKTHROUGH	3-4
Notes and Findings	
Photo Journal	
DAIRY BARN WALKTHROUGH	5-6
Notes and Findings	
Photo Journal	
WEST BARN WALKTHROUGH	7-8
Notes and Findings	
Photo Journal	
CONCLUSIONS	9
Synopsis	
Critical Items for Consideration	
LEVEL-OF-USE ANALYSIS	10
Scope of Narrative	
Mothballing	
Open Air Public Use	
Climate Controlled Public Use	
ASYLUM	11
DAIRY BARN	13
WEST BARN	16



HBK Staff performed inspections on December 27th, 2016

REPORT DETAILS

Assignment

This report is a baseline analysis of the structural issues for each Poor Farm building in order to provide the Johnson County Board of Supervisors with a range of cost estimates for potential levels of use. This information is intended to facilitate Phase One of the Poor Farm Master Plan.

To achieve this goal, this report is presented in two sections. The first section provides a detailed analysis of the structural integrity for each building. HBK staff documented existing conditions and a walkthrough was completed that included photo and tactile analyses. Walkthrough documentation and findings were combined with historical documentation and input from Doug Steinmetz.

The second section takes the building assessments one step further and uses a “Level-of-Use” framework to justify a range of cost estimates for three potential levels of use:

- Mothballing—Structural Stability as it is defined by Department of Interior standards
- Open Air Public Use — Farmer’s Market, Auction, Flea Market, etc.
- Climate Controlled Public Use — Performance Venue, Multi-Purpose Public Facility

This information is intended to assist the planning process for Phase One of the Poor Farm Master Plan by providing general cost estimates for decision-makers to consider when determining potential uses of the entire Poor Farm site.

No detailed structural analysis or calculations were completed in the scope of this report. Material testing was not included in the scope of this project.

Background

Tom Kalman performed the structural review on December 27th, 2016. Observations were made of the entire property, supplementary visits were made by Vanessa Fixmer-Oraiz, Rob Decker and Michael Thomas. The Asylum, Dairy barn and West barn were all inspected, areas included the main floors, lofts (if applicable) and the exterior of each building. All information herein was gathered from the Johnson County Assessor’s website and on-site investigations.



Vanessa Fixmer-Oraiz

Vanessa has a Master’s Degree in Urban & Regional Planning from the University of Iowa and began serving as a project coordinator for HBK in 2015.



ROB DECKER, CPG, CPPII

Rob has 21 years of experience in construction management and structural design and inspection. Rob also manages the Iowa City office of HBK Engineering.



MICHAEL THOMAS, AIA

Michael has extensive experience in a wide variety of planning, design and construction projects. He serves as project manager on projects that require careful coordination within multi-discipline teams.



TOM KALMAN, EIT

Tom joined HBK in 2016. Since joining the structural design staff he has completed a variety of structural designs, inspections, and property condition assessments.

ASSESSOR'S INFORMATION

PARCEL: 1113151006

DEED HOLDER: Johnson County Iowa

TAX DISTRICT: Iowa City AG.

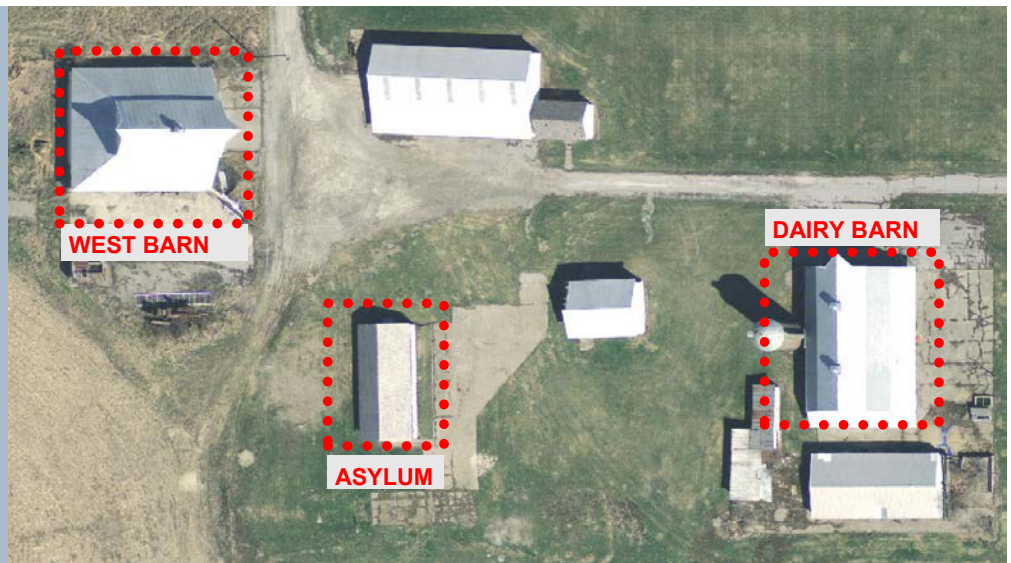
LEGAL DESCRIPTION: IOWA CITY SECTION:13
RANGE:7 NE 1/4 EXC HWY 218 & EXC THAT LAND
DESC AS AUDITOR'S PARCEL #2005005 IN SURVEY
BK 50 PG 58 & EXC LEASE AGREEMENTS AS DESC IN
BK 4353 PG 629 (JECC) & BK 4813 PG 120
(CHATHAM OAKS) & EXC ROW DESCR IN REC BK
5336 PG 928

PROPERTY AREA: 160 acres



Property location map near intersection of Highway 218 and Melrose Ave.

SITE LAYOUT



Close up aerial of Poor Farm property.

ASYLUM

INFRASTRUCTURE DETAILS

FOUNDATION WALL FOOTINGS:

Assumed to be Limestone (size and depth unknown)

INTERIOR WALLS: dimensional lumber (2" x 4" assumed)

SUBFLOORING: wood planking

ROOF FRAMING: Dimensional rafters (assumed 2x4)

ROOF SHEATHING: Plywood (Recently replaced.)

ROOF MATERIAL: Asphalt shingles (Recently replaced)



Asylum during the inspection on December, 27th 2016

SYNOPSIS of FINDINGS

**If an item has an associated picture it will be indicated. Pictures are located on the following page.*

- Interior flooring structure appears well maintained and in good condition. (Photo 5,6 & 7)
- Water damage marks on ceiling throughout. Not wet at time of inspection, water damaged appears to have occurred before current roof was installed.
- Hole in ceiling from apparent fire (Date unknown), hasn't been repaired likely for historical reasons. (Photo 4)
- Inadequate drainage away from the foundation. (Photo 8 & 9)
- Siding in serviceable condition but in need of repairs in some areas. (Photo 1 & 2)
- Windows appear to be recently replaced and are in good condition. (Photo 3)

PHOTO JOURNAL - ASYLUM



Photo - 1

Siding showing signs of distress in multiple areas, needs to be repaired or replaced.



Photo - 2

Siding showing signs of distress in multiple areas, needs to be repaired or replaced.



Photo - 3

Windows of the asylum appear to have been replaced recently, in good condition.



Photo - 4

Hole in ceiling caused by fire.



Photo - 5

Overall layout of the asylum, looking in from front door.

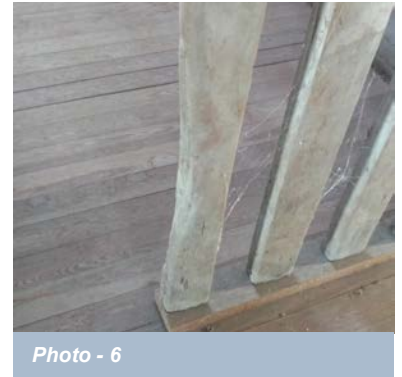


Photo - 6

Floor boards all in good condition throughout asylum.

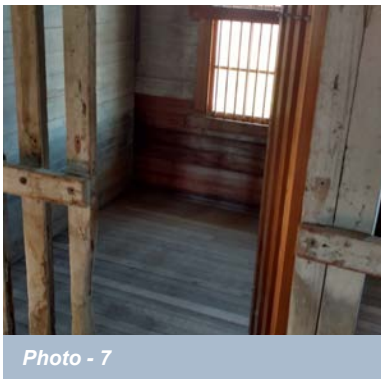


Photo - 7

Floor boards all in good condition throughout asylum.



Photo - 8

Inadequate drainage away from the foundation.

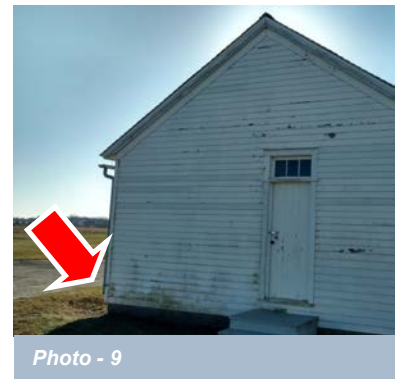


Photo - 9

Inadequate drainage away from the foundation.

DAIRY BARN

INFRASTRUCTURE DETAILS

COLUMN BEARING: Limestone footings assumed (unknown size).

WALL BEARING: Various, trench footings (unknown size).

WALLS: Dimensional lumber and other likely recycled from other projects at the time.

ROOF FRAMING: approx. 2x4 rafters with dimensional lumber spanning between and cedar shingles

FLOOR: Concrete along main level, wood joists for Hay Loft.

FRAMING: Main level is framed with wood columns and beams throughout that support second level loft.



Dairy Barn during the inspection on December 27th, 2016.

SYNOPSIS of FINDINGS

**If an item has an associated picture it will be indicated. Pictures are located on the following page.*

- Siding is in serviceable condition and in several spots have recently been repaired or replaced.
- Drainage of water away from building and foundation is not adequate. (Photo 1)
- Shed roof/overhang is in serviceable condition and appears that repairs were recently made to the Southwest corner. Appears that certain members were replaced and others had new members sistered to them. (Photos 4 & 7)
- Barn should be tested for lead paint and asbestos (Photo 3)
- Wood member, near connection along the east side of the hayloft showing signs of water damage, water damage is believed to be from a leak that has been previously fixed. (Photo 5)

PHOTO JOURNAL - DAIRY BARN



Photo - 1

Gutter not adequate to handle total capacity of water in a rain event, need better drainage away from structure.



Photo - 2

Walkway on first floor. Walls, columns and ceiling all appear to be in serviceable condition.



Photo - 3

Paint peeling off ceiling, assumed to be lead paint, will need to be removed.



Photo - 4

Shed roof/ Overhang in serviceable condition, some water damage.



Photo - 5

Water damage to members in the hay loft. Leak that caused damage seems to have been repaired but should be monitored.



Photo - 6

Structural repair made to member (Member added approx. 6"x4" attached with carriage bolts) on the south wall near stairs.



Photo - 7

Structural wood beam (4"x4") on the Southwest corner of shed roof/ overhang has recently been replaced, rafter above has member sistered to it.



Photo - 8

Siding appears to have been recently replaced in some areas.



Photo - 9

Hay loft floor in serviceable condition throughout, no spongy spots or damage noted.

WEST BARN

INFRASTRUCTURE DETAILS

COLUMN BEARING: Limestone footings (depth unknown)

WALL BEARING: Trench footings (unknown size & depth)

WALLS: Dimensional lumber and other likely recycled from other projects at the time.

ROOF FRAMING: approx. 2x4 rafters with dimensional lumber spanning between.

ROOFING MATERIAL: Cedar shingles have been covered by a standing seam metal roof.

FLOOR: Dirt in some areas concrete slabs in others.



West Barn during the inspection on December 27th, 2016

SYNOPSIS of FINDINGS

**If an item has an associated picture it will be indicated. Pictures are located on the following page.*

- Metal roof leaking in multiple spots allowing water infiltration into building. (Photos 4 & 5)
- Drainage of water away from building and foundation is not adequate due to lack of gutters and downspouts. (Photo 9)
- Footings supporting exterior walls have heaved, buckled and failed in multiple locations, has caused lateral shifting and racking of the structure. (Photos 2 & 3)
- Footings under the main center columns are not adequate and should be replaced. (Photos 6 & 7)
- Beam structure or possible hay loft in the center of the building has been removed compromising the structures lateral system and structural integrity.
- Siding has failed in many areas around the building and should be replaced. (Photo 1)
- Barn should be tested for lead paint and asbestos.

Johnson County Poor Farm
West Barn Floor Plans

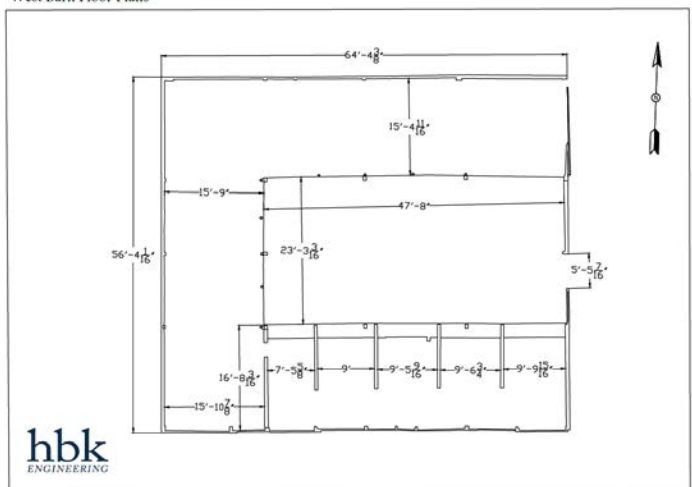


PHOTO JOURNAL - WEST BARN



Photo - 1

Siding needing replaced.



Photo - 2

Footing supporting exterior wall is cracked. Depth of footing unknown.



Photo - 3

Footing supporting the west wall has settled enough that footing is no longer in contact with load bearing column.



Photo - 4

Roof in need of repair, several spots are showing signs of leaking, some damage might pre date the metal roof, however metal roof likely leaking in spots.



Photo - 5

Roof in need of repair, several spots are showing signs section loss, some damage might pre date the metal roof, however metal roof likely leaking in spots.



Photo - 6

Main columns in the center of building resting on sill plate that bears on limestone. (Depth unknown)



Photo - 7

Main columns in the center of building resting on sill plate that bears on limestone. (Depth unknown)



Photo - 8

Typical column out of plumb due to footing/foundation settlement both under the column and of the attached exterior wall.



Photo - 9

Showing building out of straightness and the lack of adequate drainage away from the structure.

CONCLUSIONS

Analysis of the existing conditions detailed in this report indicate the Dairy Barn and the Asylum are in suitable condition for their age. Both structures have seen recent repairs that likely addressed many critical issues. The West Barn has many structural concerns. A list of the most critical items is included below. This list represents the opinions of HBK staff in regards to those items that should be addressed as soon as possible.

Non-destructive methods were used for this inspection so the analysis of the building is limited to the areas that were readily and safely accessible. This report represents an analysis of the facilities at the time, and in the condition of which, they were viewed. HBK staff are available for additional analysis of the report and questions regarding the property and our findings at no additional cost.

The team's services were performed in accordance with generally accepted practices and consistent with the ordinary standard of professional care of the industry by professional engineers and consultants providing similar services. No warranty or guarantee, express or implied, is included or intended by this evaluation with respect to the performance of professional services

CRITICAL ITEMS FOR CONSIDERATION

- ◆ Improve gutters/downspouts on ASYLUM to promote drainage away from foundation and minimize the risk of washout.
- ◆ Improve gutters/downspouts on DAIRY BARN to promote drainage away from foundation and minimize the risk of washout.
- ◆ WEST BARN
 - Foundation is inadequate and badly degraded. Significant repairs are required to stabilize. Considering the requested use of this structure, a series of underpinning & jacking will need to be completed to create a safe and usable facility.
 - Several lateral structural elements missing from facility. Has caused concerning amounts of differential settlement. Structural members should be added to restore lateral stability.
 - Several structural members are showing signs of section loss or cracking. Should be considered on a case by case basis to determine viable solutions. Sistering members possible some may need replaced.
 - Roof sheathing rotted out in multiple places resulting in roof leaking, needs to be replaced.
 - Siding around structure has failed in multiple places, needs to be replaced.

* While not structural in nature all three (3) structures should be tested for lead paint and asbestos.

“Level-of-Use” Analysis

Narrative Scope

This “Level-of-Use” analysis considers possibilities for future uses of the Johnson County Poor Farm’s West Barn, Dairy Barn, and Asylum Building. This analysis builds on the previous building assessment and uses a framework that considers three possibilities: Mothballing, Open Air Public Use, and Climate Controlled Public Use. Given the historic nature of the buildings, the US Department of the Interior standards were used as a benchmark consideration for each Level-of-Use. The following provide definitions for each:

1. Mothballing

The US Department of the Interior has specific recommendations for “Mothballing” a building (Preservation Brief 31). The intent is to stabilize a building until it can be fully restored or rehabilitated. These are the 9 recommended steps:

- A. Documentation
 1. Document the architectural and historical significance of the building.
 2. Prepare a condition assessment of the building.
- B. Stabilization
 3. Structurally stabilize the building, based on a professional condition assessment.
 4. Exterminate or control pests, including termites and rodents.
 5. Protect the exterior from moisture penetration.
- C. Mothballing
 6. Secure the building and its component features to reduce vandalism or break-ins.
 7. Provide adequate ventilation to the interior.
 8. Secure or modify utilities and mechanical systems.
 9. Develop and implement maintenance and monitoring plans for protection.

2. Open Air Public Use

The US Department of the Interior standards allow for some modifications to the building in order to make it useful for broader contemporary use. There are ten basic principles created to help preserve the distinctive character of a historic building and its site, while allowing for reasonable change to meet new needs. Rehabilitation efforts should be mindful of these ten principles.

3. Climate Controlled Public Use

The US Department of the Interior’s ten principles for rehabilitation require that the original features and characteristics of the building be respected, retained and preserved to the greatest extent possible. Discussions about transforming the building for uses that require climate control or would be alien to the original use would be difficult to achieve within the guidelines. Though it would jeopardize historic status, this option has been considered for the Dairy Barn and the West Barn. The Asylum already has historic status, and this would be difficult to transform.

Narratives

The following report outlines a range of cost opinions for each of the three buildings. Precision in cost opinions is difficult to achieve at this stage of development. These opinions are presented as order-of- magnitude projections of likely costs.

ASYLUM – NARRATIVE

1. Mothballing

Mothballing is identified by the US Department of the Interior as a means to stabilize a building until a more thorough renovation or rehabilitation can take place. The Asylum has already been restored and rehabilitated to a significant degree. As such, the mothballing concept does not apply to this building. One notable deficiency is roof storm water management. Existing gutters and downspouts are in disrepair. It is recommended that a new gutter and downspout system be installed to direct roof storm water away from the buildings foundations.

2. Open Air Public Use

It's conceivable that the building might support open air public use (as a museum, for example).

If the building were to be made available for public visits, measures should be taken to insure the safety of visitors. The Fire Marshal and other Building Officials should be consulted, and careful study of all applicable building codes, fire codes, life safety codes, and ADA considerations should be a part of any re-use scenarios. Additionally, it is recommended that insurance requirements be investigated and secured.

At a minimum, consideration should be given for adequate power and lighting, adequate ventilation, and safe path of travel.

3. Climate Controlled Public Use

Given that the building has been noted for historical significance, measures to control climate with insulation, vapor barriers, mechanical heating, cooling and ventilation, etc. ,would conflict with the goal of preserving architectural features and characteristics. This option has not been analyzed in this report, as any changes must be performed as part of an agreement with SHPO and other parties.

ASYLUM – COST OPINION

Costs associated with rehabilitation of historic structures are difficult to predict with certainty. There are a variety of unknowns that that could have an impact. The following is an attempt to compile an order-of magnitude estimate of the items described in the narrative above.



ASYLUM COST OPINION					
	Item	Unit	Quantity	\$/Unit	Subtotal
1	Mothballing				
	Stabilization				
	Gutters & Downspout	lf	175	\$8.00 - \$10.00	\$1,400 - \$1,750
	Subtotal				\$1,400 - \$1,750
2	Open Air Public Use				
	Path of travel, lighting, power, ventilation, etc.	allowance			\$8,000 - \$12,000
	Subtotal				\$8,000 - \$12,000
3	Climate Controlled Public Use				
	Given that the building has been noted for historical significance, measures to control climate with insulation, vapor barriers, mechanical heating, cooling and ventilation, etc. ,would conflict with the goal of preserving architectural features and characteristics. This option has not been analyzed in this report, as any changes must be performed as part of an agreement with SHPO and other parties.				
	Subtotal				NA

DAIRY BARN – NARRATIVE

1. Mothballing

Considerations for mothballing the West Barn include (*Per numbered criteria listed in the Narrative Scope*):

- a. Documentation
 - (1) and (2) A great deal of documentation is currently available. The recently completed 3D laser scan is a supplement to this collection.
- b. Stabilization
 - (5) Most of the stabilization steps have been completed for the Dairy Barn. One notable deficiency is roof storm water management. Existing gutters and downspouts are in disrepair and are undersized. It is recommended that a new gutter and downspout system be installed to direct roof storm water away from the buildings foundations.
- c. Mothballing
 - (7) There is no mechanical ventilation in the space, and because it is a barn, it's likely that there never has been. However, exhaust fans placed at a high elevation should be considered as a means of mitigating unwanted and harmful moisture accumulation at select times of the year.
 - (8) The existing electrical system is in disrepair and is not code compliant. Consideration should be given to updating the electrical service and improving the interior lighting for safety and security.
 - (9) A maintenance plan should be developed in order to monitor changes in the building to verify that mothballing features remain intact.

2. Open Air Public Use

It is conceivable that the building might support open air public use.

To accommodate such use, all elements of the Mothballing scope should be in place, and several should be enhanced. The Fire Marshal and other Building Officials should be consulted, and careful study of all applicable building codes, fire codes, life safety codes, and ADA considerations should be a part of any re-use scenarios. Additionally, it is recommended that insurance requirements be investigated and secured.

At a minimum, consideration should be given to additional power and lighting, additional ventilation, ADA related upgrades, resolve floor level variations or install a new floor, and provide water service and floor drains for incidental use.

There appears to be a significant amount of suspect hazardous materials. In particular, there is peeling paint that may contain lead. There is also the possibility of asbestos containing materials. Due to the unique nature of this work, thorough investigation should be performed by qualified individuals.

3. Climate Controlled Public Use

Transforming the building for uses that require climate control would be difficult to achieve within the US Department of the Interior guidelines. Such uses might include a performance venue, event space, or multi-purpose public facility. Costs associated with this change would likely be equal to or in excess of the cost of a new facility of similar size and configuration.

The hayloft is an architecturally appealing space that was previously accessed by a fixed ladder. If there is intent to allow public access to the hayloft, ADA compliant stairs and an elevator will be required.

DAIRY BARN – COST OPINION

Costs associated with rehabilitation of historic structures are difficult to predict . There are a variety of unknowns that that could have an impact. The following is an attempt to compile an order-of magnitude estimate of the items described in the narrative above.



DAIRY BARN COST OPINION					
	Item	Unit	Quantity	\$/Unit	Subtotal
1	Mothballing				
	Stabilization				
	Gutters & Downspout	lf	250	\$8.00 - \$10.00	\$2,000 - \$2,500
	Ventilation (Fans)	each	2	\$350	\$700
	Lightening Protection	allowance			\$2,000 - \$4,000
	Electric Service, Lighting, Outlets	allowance			\$5,000
	Subtotal				\$9,700 - \$12,200
2	Open Air Public Use				
	Applicable Code Upgrades	allowance			\$3,000 - \$6,000
	Power & Lighting Upgrades	allowance			\$3,000 - \$6,000
	Ventilation Upgrades (Fans)	each	4	\$350	\$1,400
	Floor Leveling or Replacement	Sf	2,500	\$5 - \$15	\$12,500 - \$37,500
	Water/Drain	allowance			\$5,000 - 8,000
	ADA Upgrades	allowance			\$4,000 - 7,000
	Hazardous Material Abatement	Not Included in this cost opinion			\$4,000 - 7,000
	Subtotal				\$34,400 - \$82,400
3	Climate Controlled Public Use				
	Insulating walls, insulated ceiling, Interior finishes, power, lighting, heating, ventilation, air conditioning, site improvements, structural enhancements	sf	2,500	\$175 - 300	\$437,500 - \$750,000
	Subtotal				\$435,000 - \$750,000

WEST BARN – NARRATIVE

Mothballing

Considerations for mothballing the West Barn include (*Per numbered criteria listed in the Narrative Scope*):

a. Documentation

(1) and (2) A great deal of documentation is currently available. The recently completed 3D laser scan is a supplement to this collection.

b. Stabilization

The County has secured Historic Resource Development Grant (\$106, 860 including the match). The itemized scope of the application appears to be targeting the Stabilization step:

- some structural underpinning
- siding repair/replacement
- new gutters, downspouts and tile
- new doors and windows
- concrete repair/replacement
- beams/materials to stabilize structure
- vermin removal

(3) This report advises that the amount of structural work that is required may be well in excess of what was originally assumed. Consideration should be given to replacing and reinforcing all perimeter foundations, as well as the foundations for the center portion. The need for additional beams and bracing should be considered in order to stabilize the building while and when foundations are repaired.

(4) The Grant will address removal of vermin and residue of their intrusion. Siding repairs will assist in discouraging ground based pests, but winged intruders are a natural part of the life of the building, and will likely continue.

(5) The exterior moisture protection is subjective, and may apply more to buildings that were never intended to be open air. The Grant calls for new cedar shingles on the roof, which would make great strides toward this protection. Consideration should be given to replacing the substrate beneath the shingles, as well as introducing a weather barrier. The cost of a fully functioning roofing system is likely to exceed the amount accounted for in the Grant application. Asphalt shingles should be considered as an alternative to cedar shake.

(5) Gutters and downspouts are probably not a part of the building's history, but should be considered now as a means of extending the life foundations.

c. Mothballing

(6) The building is currently not secured. This would be more possible once some of the doors and windows are replaced and some siding is replaced under "Stabilization". Locks should be placed on all doors to deter uninvited intruders.

(7) There is no mechanical ventilation in the space, and because it is a barn, it's likely that there never has been. However, exhaust fans placed at a high elevation should be considered as a means of

mitigating unwanted and harmful moisture accumulation at select times of the year.

(8) The existing electrical system is in disrepair and is not code compliant. Consideration should be given to updating the electrical service and improving the interior lighting for safety and security.

(9) A maintenance plan should be developed in order to monitor changes in the building to verify that mothballing features remain in tact.

Open Air Public Use

It's conceivable that the building might support open air public use, like a farmer's market, auction, flea market, or other light use gatherings.

To accommodate such use, all elements of the Mothballing scope should be in place, and several should be enhanced. The Fire Marshal and other Building Officials should be consulted, and careful study of all applicable building codes, fire codes, life safety codes, and ADA considerations should be a part of any re-use scenarios.

Additionally, it is advised that insurance requirements be investigated and secured.

At a minimum, consideration should be given to additional power and lighting, additional ventilation, ADA related upgrades, resolve floor level variations or install a new floor, and provide water service and floor drains for incidental use.

Climate Controlled Public Use

Transforming the building for uses that require climate control would be difficult to achieve within the US Department of the Interior guidelines. Such uses might include a performance venue, event space, or multi-purpose public facility. Alterations to make this viable would be extensive and would jeopardize some of the historic fabric of the building. Costs associated with this change would likely be equal to or in excess of the cost of a new facility of similar size and configuration.

WEST BARN – COST OPINION

Costs associated with rehabilitation of historic structures are difficult to predict with certainty. There are a variety of unknowns that that could have an impact. The following is an attempt to compile an order-of magnitude estimate of the items described in the narrative above. This includes only scope that is above and beyond what appears to have been covered by the recent grant proposal.



WEST BARN COST OPINION

	Item	Unit	Quantity	\$/Unit	Subtotal
1	Mothballing				
	Stabilization				
	Structural Underpinning	Cubic Yard	75-100	\$1,200- \$2,000	\$90,000 - \$200,000
	Lateral Systems	Per beam	5-10	\$2,800 - \$3,175	\$14,00 - \$31,750
	Repair/Replace damaged members	allowance			\$5,000 - \$10,000
	Roofing	SC (100sf)	35-40	\$187 - \$213	\$15,000 - \$20,000
	Siding	Sf		\$5.70 - \$8.45	\$2,500 - \$4,000
	Lightening Protection	Allowance		\$5,000 - \$7,000	\$5,000 - \$7,000
	Gutters and Downspouts	Lf	350	\$22.85 - \$28.57	\$5,000 - \$10,000
	Mothballing				
	Locks on doors	Each	4	\$70	\$280
	Ventilation (Fans)	Each	2	\$350	\$700
	Electric Service, Lighting, Outlets	Allowance		\$5,000	\$5,000
	Subtotal				\$145,480 - \$288,730
2	Open Air Public Use				
	Applicable Code Upgrades	allowance			\$3,000 - \$6,000
	Power & Lighting Upgrades	allowance			\$3,000 - \$6,000
	Ventilation Upgrades (Fans)	each	4	\$350	\$1,400
	Floor Leveling or Replacement	Sf	3635	\$5 - \$15	\$18,000 - \$54,000
	Water/Drain	allowance			\$5,000 - 8,000
	ADA Upgrades	allowance			\$4,000 - 7,000
	Hazardous Material Abatement	Not Included in this cost opinion			\$4,000 - 7,000
	Subtotal				\$34,400 - \$82,400
3	Climate Controlled Public Use				
	Insulating walls, insulated ceiling, Interior finishes, power, lighting, heating, ventilation, air conditioning, site improvements, structural enhancements	sf	3635	\$175 - 300	\$636,125 - \$1,090,500
	Subtotal				\$635,000 - \$1,090,500

Appendix I: Floor Plans for the West Barn, Dairy Barn, and Asylum

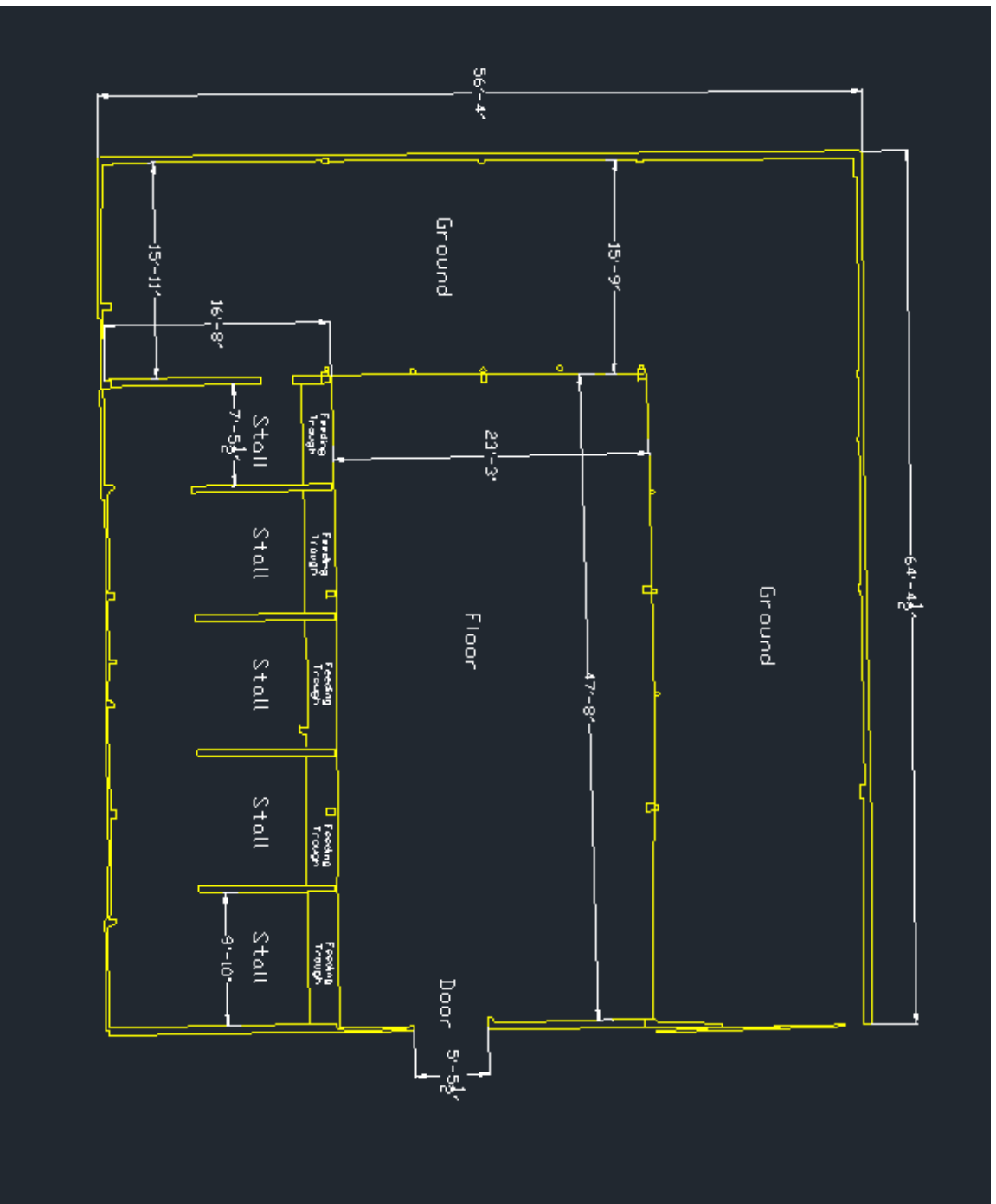


West Barn

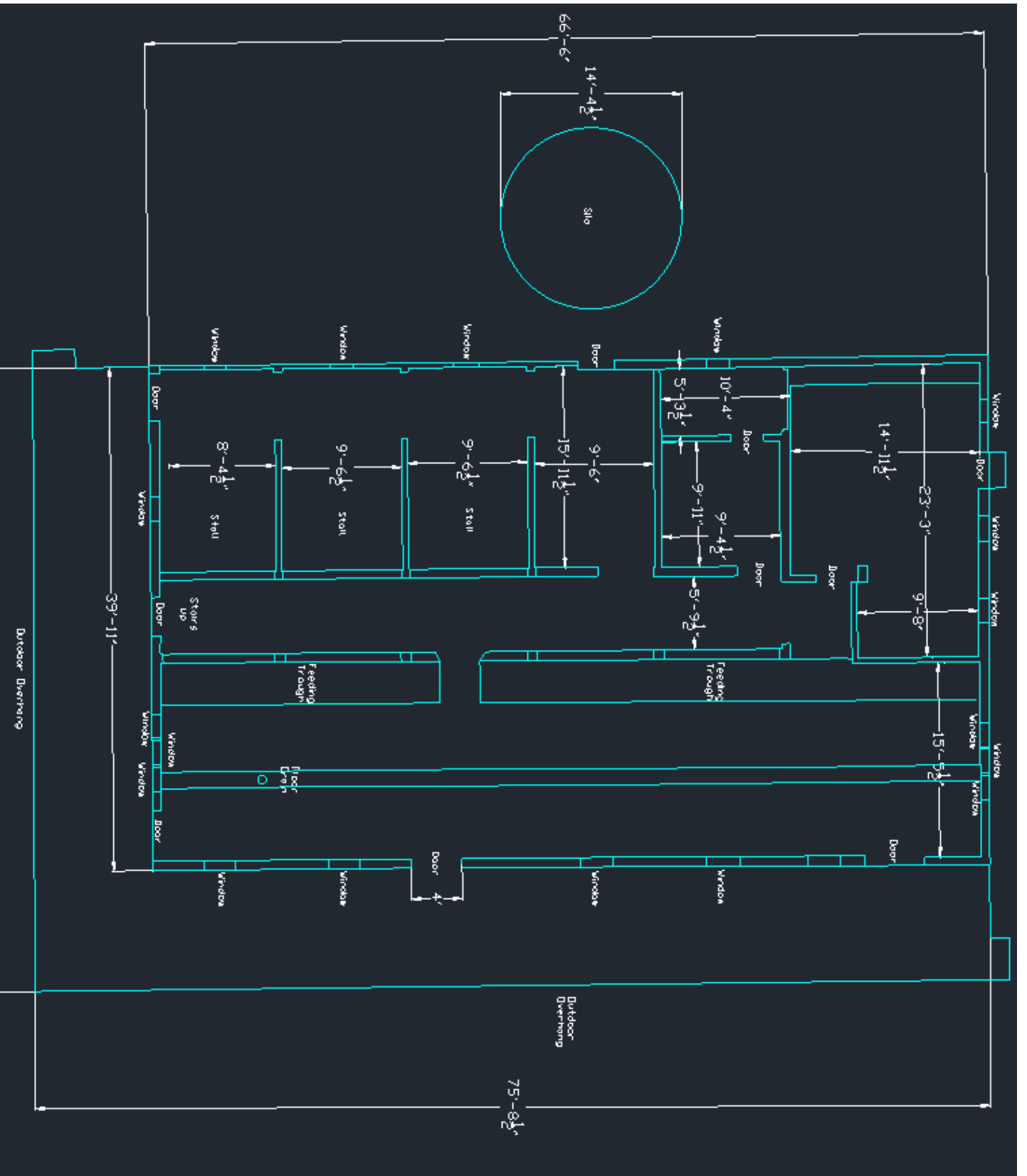
Dairy Barn

Asylum

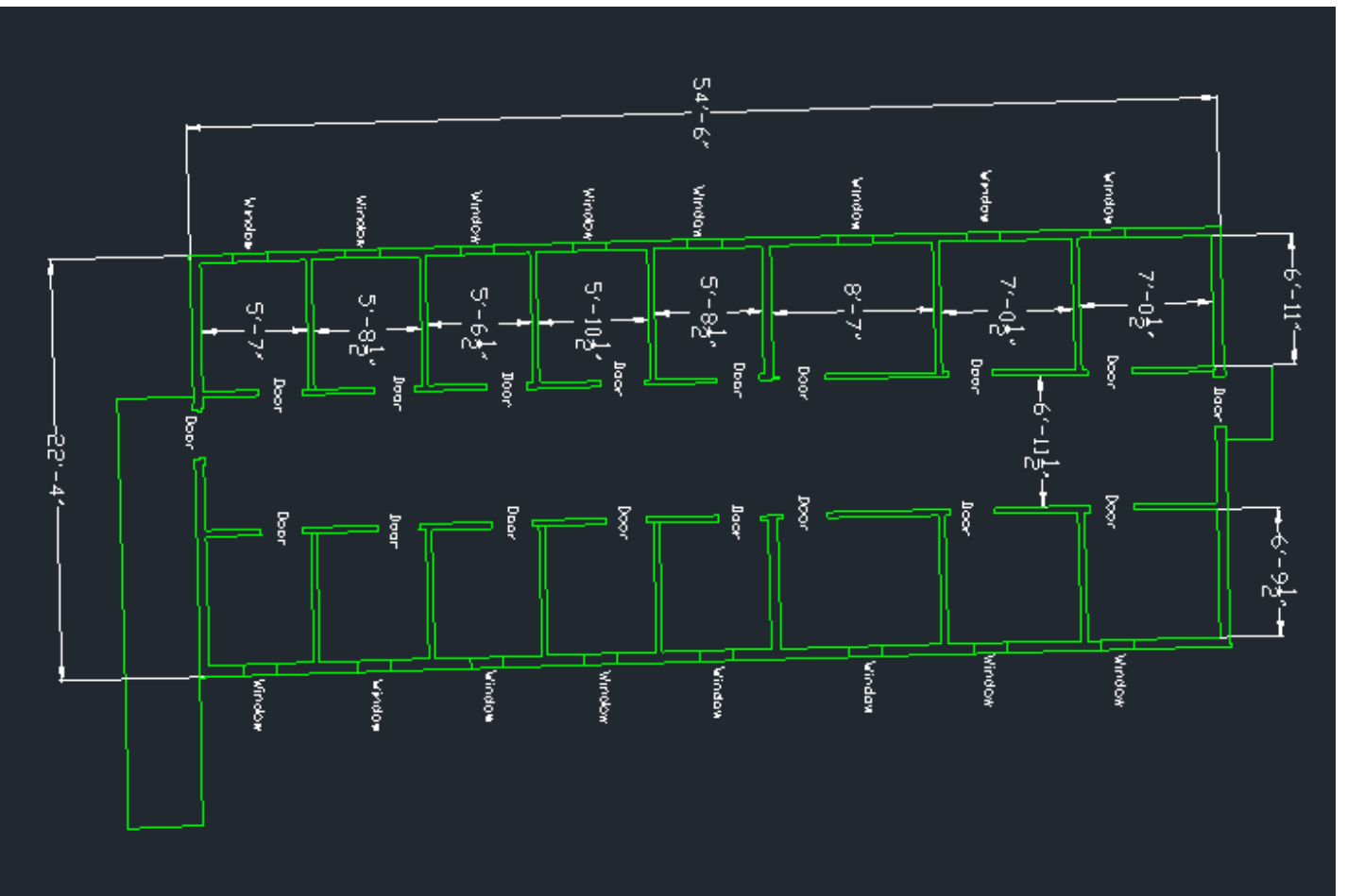
West Barn



Dairy Barn
First Floor



Asylum Building



Appendix J: Land Characteristics - Maps

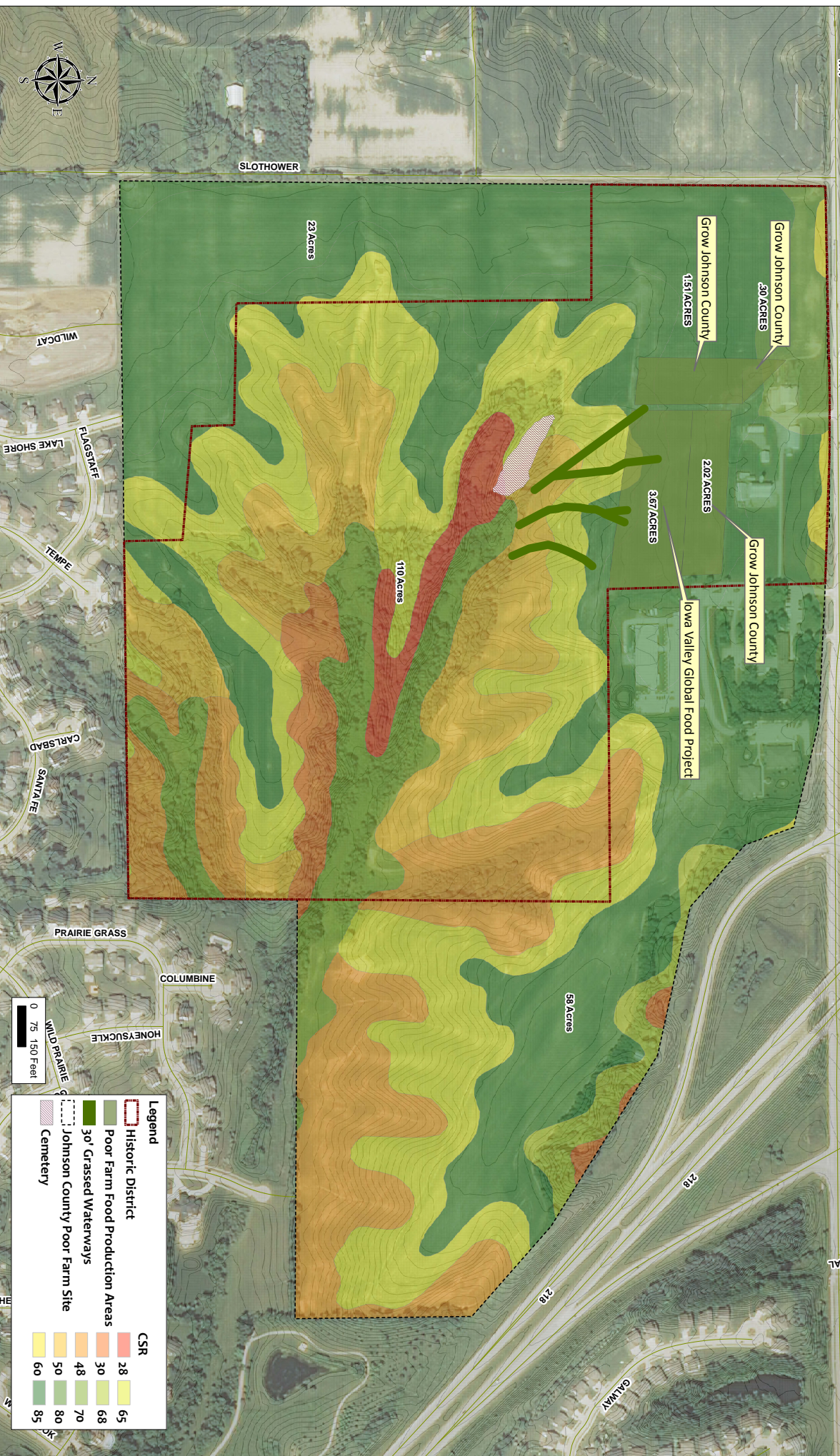


Corn Suitability Rating (CSR)

Soils Map

Topography (Courtesy of the Johnson County Soil and Water Conservation District)

Johnson County Poor Farm Master Plan Food Production Areas, CSR & Proposed Conservation Practices



Legend

	Historic District		CSR 28
	Poor Farm Food Production Areas		CSR 30
	30' Grassed Waterways		CSR 48
	Johnson County Poor Farm Site		CSR 50
	Cemetery		CSR 60
			CSR 65
			CSR 68
			CSR 70
			CSR 80
			CSR 85

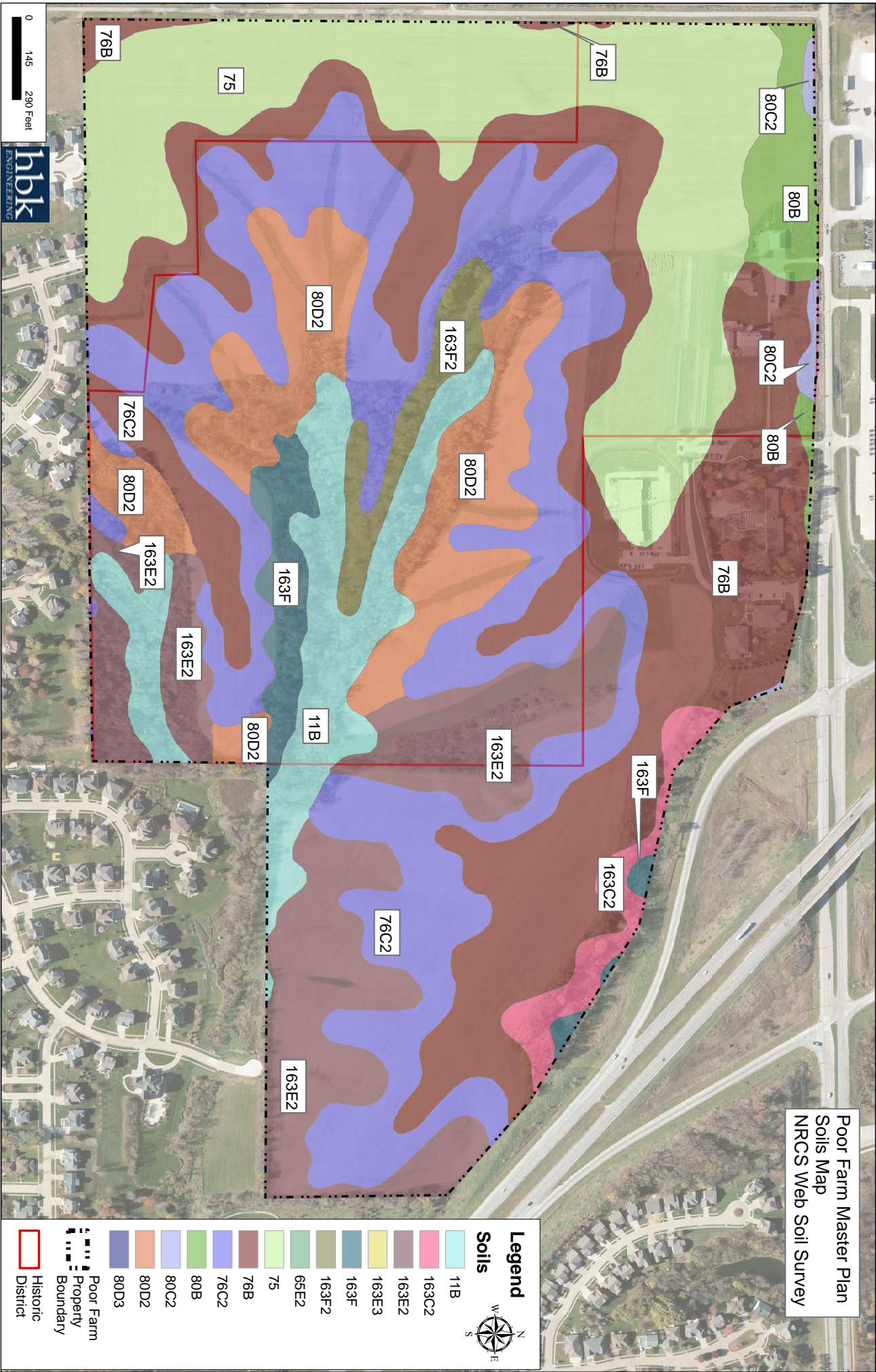


Map labels include: SLOTHOWER, WILDCAT, FLAGSTAFF, LAKE SHORE, TEMPE, CARLSBAD, SANTA FE, PRAIRIE GRASS, COLUMBINE, HONEYSUCKLE, WILD PRAIRIE, GALWAY, 218, MELROSE, and IOWA VALLEY GLOBAL FOOD PROJECT.

Area labels: 23 Acres, 30 Acres, 151 Acres, 202 Acres, 367 Acres, 110 Acres, 58 Acres.

County labels: Grow Johnson County.

Poor Farm Master Plan
Soils Map
NRCS Web Soil Survey



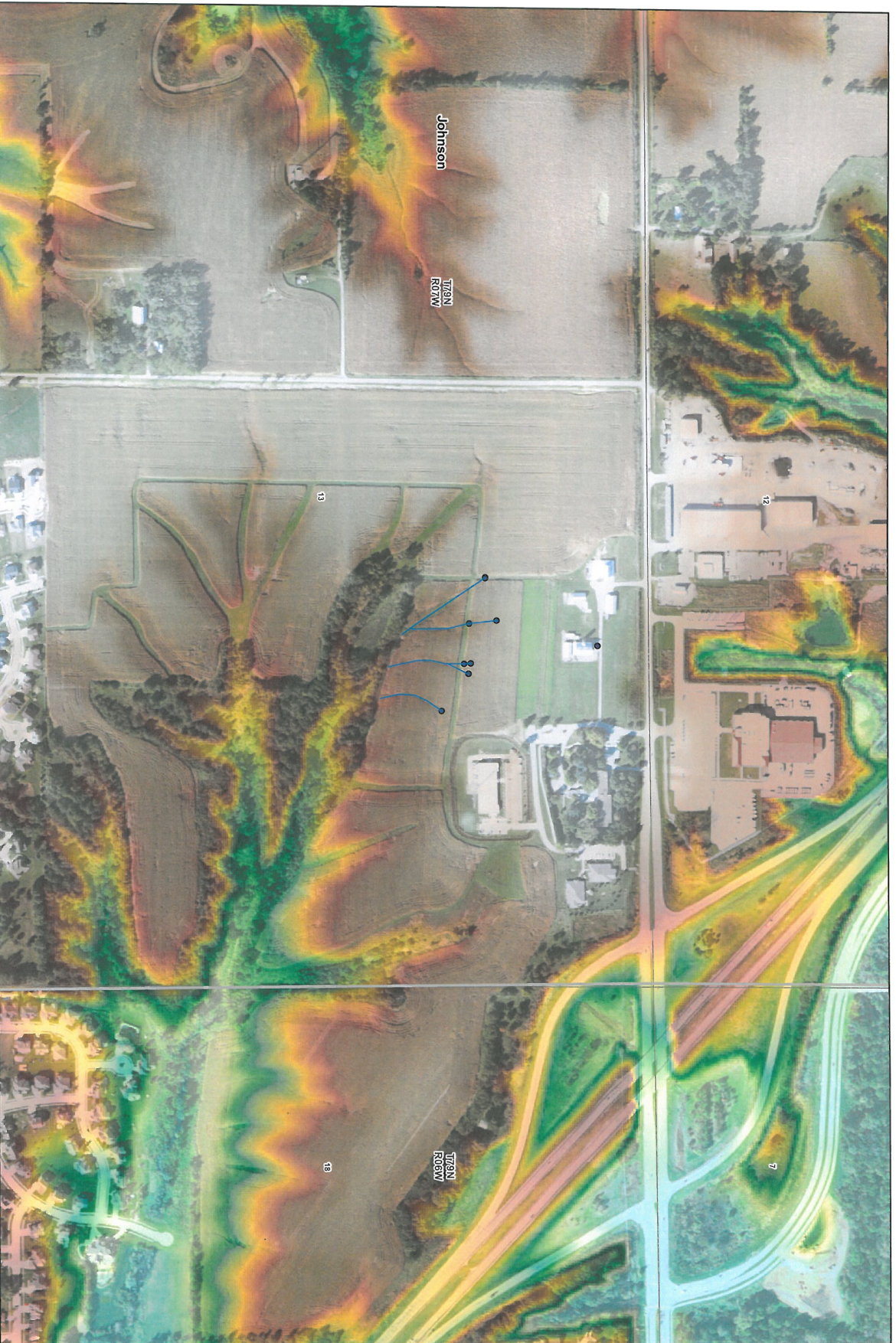
Legend

Soils

- 11B
- 163C2
- 163E2
- 163E3
- 163F
- 163F2
- 65E2
- 75
- 76B
- 76C2
- 80B
- 80C2
- 80D2
- 80D3

- Poor Farm Property Boundary
- Historic District

Johnson County Poor Farm



- Legend**
- Points
 - Iowa - Counties
 - Johnson Co - Townships
 - Johnson Co - Section Lines
- Johnson Co - 2015 Orthophoto**
- RGB**
- Red: Band_1
 - Green: Band_2
 - Blue: Band_3

