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- Property Boundary
- 10ft Contours

Project Features

ID

- 1 Cooling Tower Blowdown Pond
- 2 Cooling Tower
- 3 New Plant
- 4 Construction Parking
- 5 Ethanol Plant
- 6 Construction Laydown
- 7 Makeup Storage Pond
- 8 Water Pipelines
- Water Pipeline Corridors

Data Source: Contour lines created from
USGS Digital Elevation Model

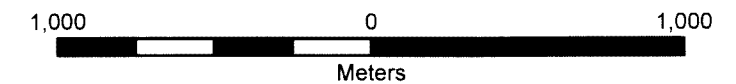


Exhibit 4-1

TOPOGRAPHIC MAP
OF PROJECT VICINITY
Big Stone II Project
Big Stone II Co-owners

Revised June 2006

Barr Footer Date: 6/8/2006 3:24:51 PM File: I:\Projects\4125\003\GIS\Project\StingPermit\Sting_062205_final_ArcMap_fig\Ex_4_04_Sting_Soils.mxd User: dwj

- Bc Cubden silty clay loam
- Da Divide loam
- EaA Egeland fine sandy loam, 0 to 2 percent slopes
- EaB Egeland fine sandy loam, 2 to 6 percent slopes
- Ec Estelline silty clay loam
- FbA Fordville loam, 0 to 2 percent slopes
- FcB Fordville-Renshaw loams, 2 to 6 percent slopes
- HbB Heimdal-Sisseton loams, 2 to 6 percent slopes
- HbC Heimdal-Sisseton loams, 6 to 9 percent slopes
- HcA Heimdal-Svea loams, 0 to 2 percent slopes
- HcB Heimdal-Svea loams, 2 to 6 percent slopes
- La Ladelle silt loam
- Lb Ladelle silt loam, channeled
- Mb Marysland loam
- Pa Parnell silty clay loam
- Pb Southam silty clay loam
- PcB Peever clay loam, 2 to 6 percent slopes
- Pf Orthents, Gravelly
- Ph Playmoor silty clay loam
- Po Poinsett silt loam
- RbA Renshaw loam, 0 to 2 percent slopes
- RbB Renshaw loam, 2 to 6 percent slopes
- RcD Renshaw-Sioux complex, 6 to 15 percent slopes
- SaE Sioux-Renshaw complex, 15 to 40 percent slopes
- SbE Sisseton loam, 15 to 40 percent slopes
- ScD Sisseton-Heimdal loams, 9 to 15 percent slopes
- Sd Svea loam
- SeA Swenoda fine sandy loam, 0 to 2 percent slopes
- Ta Tonka silt loam
- Va Vallery loam

Property Boundary

Soils

Project Features

ID

- 1 Cooling Tower Blowdown Pond
- 2 Cooling Tower
- 3 New Plant
- 4 Construction Parking
- 5 Ethanol Plant
- 6 Construction Laydown
- 7 Makeup Storage Pond
- 8 Water Pipelines
- Water Pipeline Corridors

Data Source: USDA NRCS
Soil Survey Geographic (SSURGO)

EXHIBIT
APPLICANTS'
EXHIBIT 36-B

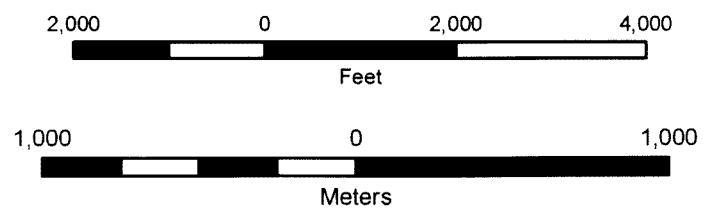
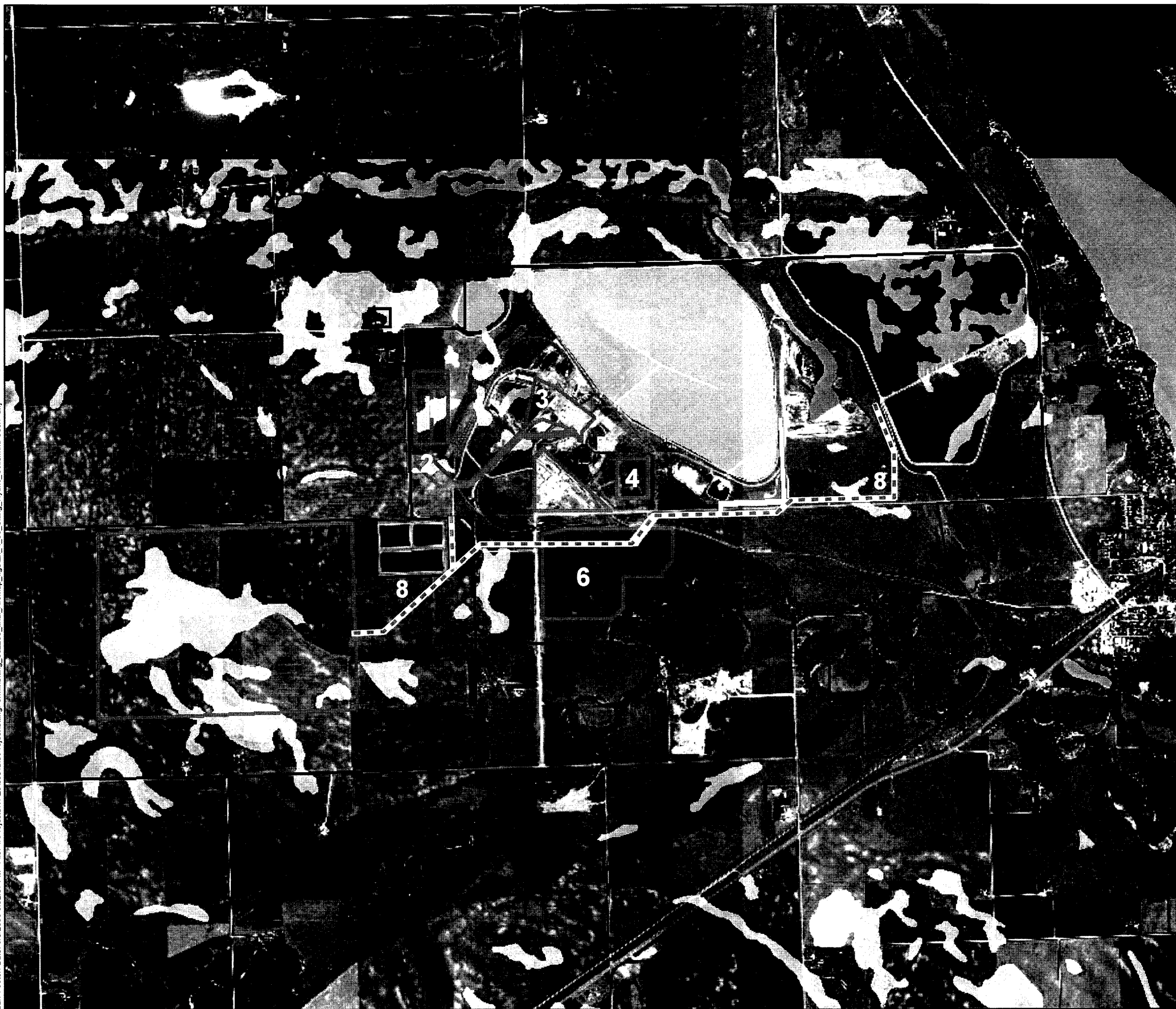


Exhibit 4-4

SOILS
Big Stone II Project
Big Stone II Co-owners

Revised June 2006

Barr Footer Date: 6/8/2006 3:32:01 PM File: I:\Projects\4125\003\GIS\Project\Siting\Permit\Siting_062205_final_ArcMap_Figs\Ex_4_05_Siting_Hydric_Soils.mxd User: dwj



Property Boundary
Hydric Soils

Project Features

- ID
- 1 Cooling Tower Blowdown Pond
 - 2 Cooling Tower
 - 3 New Plant
 - 4 Construction Parking
 - 5 Ethanol Plant
 - 6 Construction Laydown
 - 7 Makeup Storage Pond
 - 8 Water Pipelines
 - Water Pipeline Corridors

Data Source: USDA NRCS
Soil Survey Geographic (SSURGO)



2,000 0 2,000 4,000
Feet

1,000 0 1,000
Meters

EXHIBIT
Applicants'
EXHIBIT 36-C

Exhibit 4-5

HYDRIC SOILS
Big Stone II Project
Big Stone II Co-owners

Revised June 2006



- Property Boundary
- Project Features**
- ID**
- 1 Cooling Tower Blowdown Pond
 - 2 Cooling Tower
 - 3 New Plant
 - 4 Construction Parking
 - 5 Ethanol Plant
 - 6 Construction Laydown
 - 7 Makeup Storage Pond
 - 8 Water Pipelines
 - Water_Pipelines_Buffer2
 - Subwatershed Divides
 - Watershed Boundaries
 - 10ft Contours
 - Streams

EXHIBIT
APPLICANTS'
EXHIBIT 36-D



2,000 0 2,000 4,000
Feet

1,000 0 1,000
Meters

Exhibit 4-6

STREAM NETWORK &
WATERSHED DIVIDES
Big Stone II Project
Big Stone II Co-owners

Revised June 2006

Barr Footer: Date: 6/8/2006 3:41:09 PM File: I:\Projects\4125\003\GIS\Project\StringPermit\String_062205_final_ArcMap_Figs\Ex_4_07_String_Plant_Communities.mxd User: dwj

Plant Communities

- Cottonwood-reed canary grass depressional wetland
- Cottonwood-willow floodplain woodland
- Cottonwood-willow-reed canary grass depressional wetland
- Disturbed grassland w/ planted trees
- Disturbed grassland w/ trees
- Excavated/fill
- Farmed wetland
- Impervious surfaces
- Industrial
- Mixed deciduous woodland
- Mixed native/non-native meadow
- Mixed native/non-native meadow/Northern Great Plains cattail marsh
- Non-native dominated grasslands
- Northern bur oak mesic forest
- Northern bur oak openings
- Northern cordgrass wet prairie
- Northern cordgrass wet prairie/Northern Great Plains cattail marsh
- Northern plains transition bluestem prairie
- Northern sedge wet meadow/Northern Great Plains cattail marsh
- Northern sedge wet meadow/Willow woodland
- Oak woodland with non-native grasses
- Open water
- Perennial crops
- Planted deciduous trees with non-native grasses
- Row cropland

Property Boundary

Project Features

ID

- 1 Cooling Tower Blowdown Pond
- 2 Cooling Tower
- 3 New Plant
- 4 Construction Parking
- 5 Ethanol Plant
- 6 Construction Laydown
- 7 Makeup Storage Pond
- 8 Water Pipelines
- Water Pipeline Corridors

Plant community data collection
by Barr Engineering Company
in September 2004.



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Feet

1,000 0 1,000
Meters

Exhibit 4-7

PLANT COMMUNITIES
Big Stone II Project
Big Stone II Co-owners

Revised June 2006












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 Property Boundary




Project Features

ID

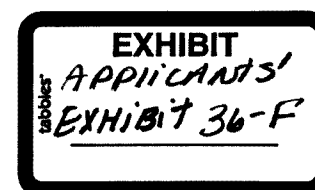
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-  2 Cooling Tower
-  3 New Plant
-  4 Construction Parking
-  5 Ethanol Plant
-  6 Construction Laydown
-  7 Makeup Storage Pond
-  8 Water Pipelines
-  Water Pipeline Corridors

Plant Communities

Quality

-  Low
-  Medium
-  High

Plant community data collection
by Barr Engineering Company
in September 2004.



2,000 0 2,000 4,000
Feet

1,000 0 1,000
Meters

Exhibit 4-8

PLANT COMMUNITY QUALITY
Big Stone II Project
Big Stone II Co-owners

Revised June 2006



- Property Boundary
- Extended Study Area
- Project Features**
- ID**
- 1 Cooling Tower Blowdown Pond
- 2 Cooling Tower
- 3 New Plant
- 4 Construction Parking
- 5 Ethanol Plant
- 6 Construction Laydown
- 7 Makeup Storage Pond
- 8 Water Pipelines
- Water Pipeline Corridors
- Bald Eagle Nest

Field observations made by Barr Engineering Company.
South Dakota Natural Heritage Database query completed
on September 24, 2004 by the SD Department of Game,
Fish and Parks.

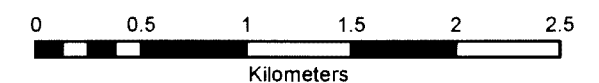
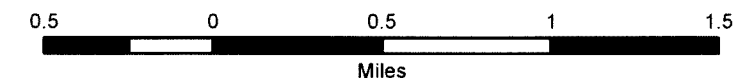
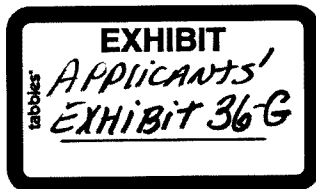


Exhibit 4-9

WILDLIFE
Big Stone II Project
Big Stone II Co-owners

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Barr Footer: Date: 6/6/2006 4:05:09 PM File: I:\Projects\411251003\GIS\Project\StingPermit\Sting_062205_Final_ArcMap_Fig4-10_Siting_Wetlands.mxd User: dwj



- Delineated wetlands
- NWI Wetlands
- Property Boundary
- Watershed Boundaries
- 10ft Contours

Project Features

- ID**
- 1 Cooling Tower Blowdown Pond
 - 2 Cooling Tower
 - 3 New Plant
 - 4 Construction Parking
 - 5 Ethanol Plant
 - 6 Construction Laydown
 - 7 Makeup Storage Pond
 - 8 Water Pipelines
 - Water Pipeline Corridor

Data Sources: USFWS National Wetlands Inventory.
Wetlands delineation and data collection within property boundary by Barr Engineering Company.

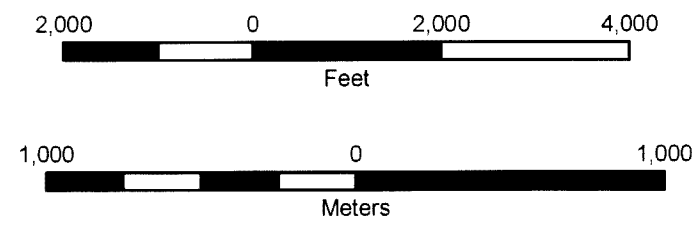
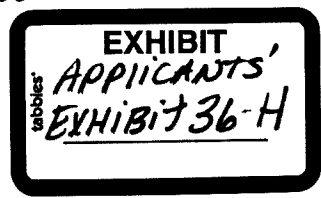


Exhibit 4-10
DELINEATED WETLANDS
Big Stone II Project
Big Stone II Co-owners

Revised June 2006



Barr Footer: Date: 6/8/2006 4:08:26 PM File: I:\Projects\4125003\GIS\Project\Siting\Permit\Siting_062205_final_ArcMap_figEx_4_11_Siting_Land_Use.mxd User: dwj

Land Use

- Disturbed grassland w/ trees
- Farmed wetland
- Farmstead
- Grassland
- Grassland pasture
- Hayfield
- Impoundments
- Industrial
- Mixed deciduous woodland
- Mixed native/non-native meadow
- Non-native dominated grassland
- Northern bur oak
- Roadways/railroads
- Row crops
- Wetland
- Windbreak
- Wooded pasture

- Property Boundary
- Project Features**
- ID
- 1 Cooling Tower Blowdown Pond
 - 2 Cooling Tower
 - 3 New Plant
 - 4 Construction Parking
 - 5 Ethanol Plant
 - 6 Construction Laydown
 - 7 Makeup Storage Pond
 - 8 Water Pipelines
 - Water Pipeline Corridors
 - Noise Monitoring Site

Plant community data collection by Barr Engineering Company. Simplified version of NCLD created by Barr Engineering Company.

EXHIBIT
APPLICANTS'
EXHIBIT 36-I

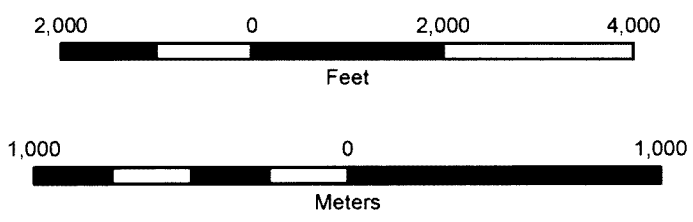


Exhibit 4-11

LAND USE

Big Stone II Project

Big Stone II Co-owners

Revised June 2006

Bar Footer: Date: 6/8/2006 4:13:58 PM File: I:\Projects\4125\003\GIS\Project\Siting\Permit\Siting_062205_final_ArcMap_figs\Ex_4_12_Siting_Zoning.mxd User: dwj



Property Boundary

Project Features

ID

- 1 Cooling Tower Blowdown Pond
- 2 Cooling Tower
- 3 New Plant
- 4 Construction Parking
- 5 Ethanol Plant
- 6 Construction Laydown
- 7 Water Storage Pond
- 8 Water Pipelines
- Water Pipeline Corridors
- Zoned Commercial

Data Source: 1st District Watertown GIS
Grant County, SD.



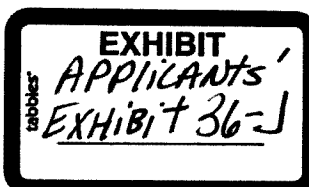
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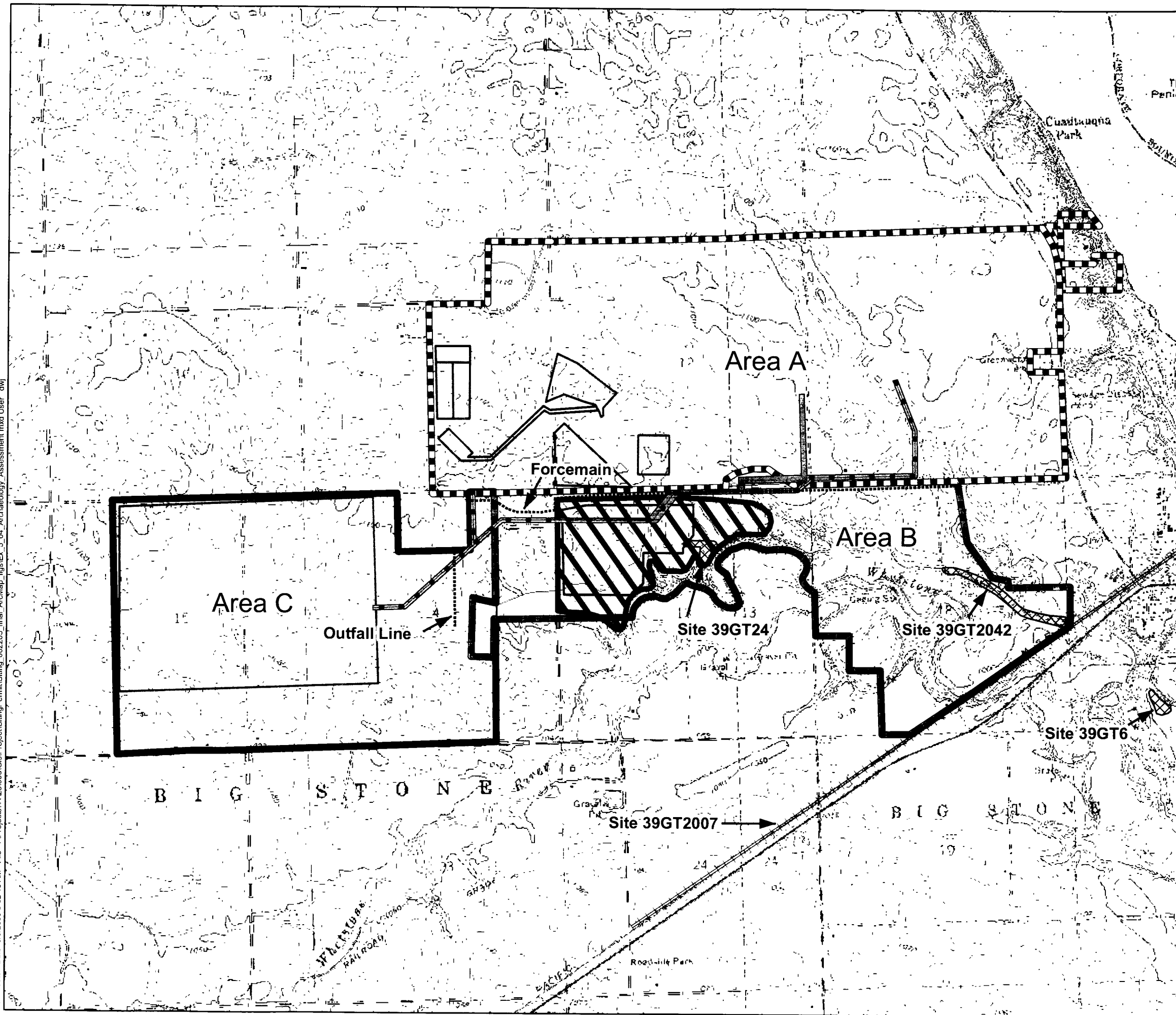
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Exhibit 4-12





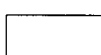


BIG STONE PROPERTY CURRENTLY
ZONED COMMERCIAL
Big Stone II Project
Big Stone II Co-owners

Revised June 2006





Legend

-  Site Boundary
-  Project Features
-  Water Pipeline
-  Water Pipeline Corridors
-  High Potential
-  1994 Survey
-  1996 Survey



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Feet

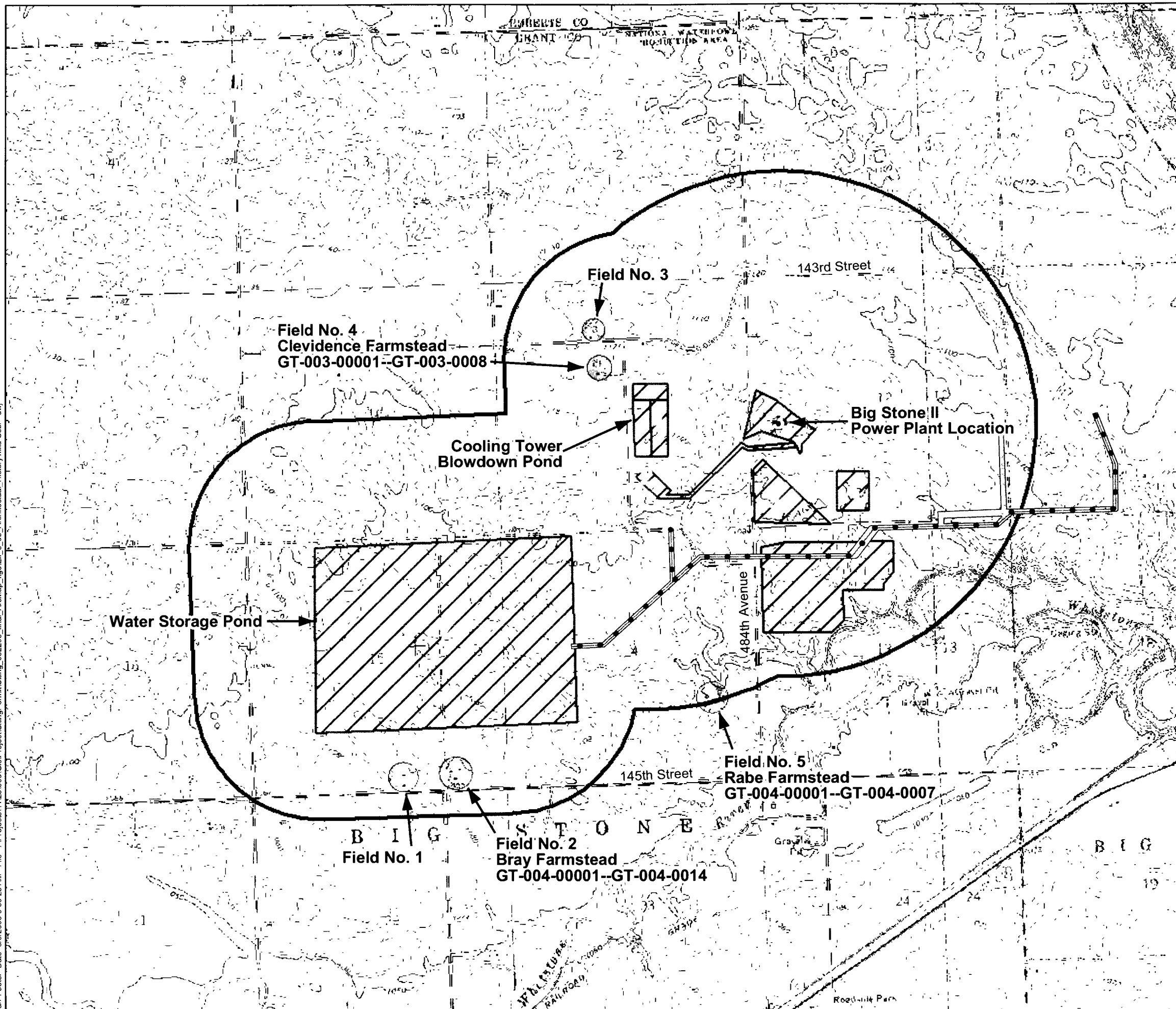
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Meters

EXHIBIT
APPLICANTS'
EXHIBIT 36-K

Exhibit 5-4

ARCHAEOLOGY ASSESSMENT RESULTS
Big Stone II Project
Big Stone II Co-owners

Revised June 2006



Legend

- Architectural History Surveyed Properties
- Architectural History Area of Potential Effect
- Project Features
- Water Pipeline
- Water Pipeline Corridors



1,000 0 1,000 2,000 3,000
Feet

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Meters

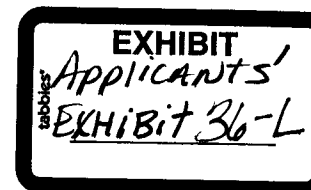


Exhibit 5-5

ARCHITECTURAL HISTORY
SURVEY RESULTS
Big Stone II Project
Big Stone II Co-owners

Revised June 2006