

ITEM #: 55  
DATE: 4-14-15

**COUNCIL ACTION FORM**

**REQUEST: PRELIMINARY PLAT FOR QUARRY ESTATES CONSERVATION SUBDIVISION**

**BACKGROUND INFORMATION:**

Quarry Estates LLC owns a 79-acre parcel (plus 6.5 acres of county road right-of-way) north of Ada Hayden Heritage Park and south of 190th Street. (See Location Map Attachment A-1; A-2) The City annexed this land in December, 2013 and approved a rezoning request to FS-RL (Suburban Residential Low Density) and FS-RM (Suburban Residential Medium Density) with a Master Plan on October 14, 2014. (See Zoning Map Attachment B) The proposed Preliminary Plat totals 160 homes within the FS-RL zoned area consisting of 140 single-family detached homes with a minimum of 20 attached single-family homes. The FS-RM zoned area is an outlot reserved for future development.

The Preliminary Plat must be found to conform to the zoning and subdivision standards. Development of this site is the first project to request approval under the Conservation Subdivision standards of Ames *Municipal Code*. Ames Conservation Subdivision standards are part of the Chapter 23 Subdivision Standards of the Municipal Code. **The intent of the standards is to protect the quality of water in Ada Hayden Lake, protect existing surface drainage systems, promote interconnected greenways, provide a minimum of 25% of area as commonly-owned open space and conservation areas, and protect such areas in perpetuity.** (See Attachment D)

The rezoning of the site in 2014 included a Master Plan and Zoning Agreement defining the general arrangement of uses and conditions for development of the site. (The Master Plan and Zoning Agreement accompany this report.) **The Preliminary Plat must be found to conform to the Master Plan and Zoning Agreement.** The numbers of dwelling units, their general locations, and net density of this preliminary plat are consistent with the Master Plan approved by City Council. The open spaces and access points generally conform to the Master Plan as well. The Zoning Agreement also requires a central transportation spine that includes a shared use path along the new Ada Hayden Drive and also requires sidewalks along 190<sup>th</sup> Street and Grant Avenue. The final element of the agreement was to require only one connection to Ada Hayden Park; the Preliminary Plat includes a crushed rock trail connection from Outlot F east of Lots 20-23 to the Upland Trail in the park. (The entire Preliminary Plat document accompanies this report.) Please refer to the Addendum section of this report for analysis of FS-RL and subdivision standards of approval.

Within the standards for approval of the subdivision, staff has focused on three additional aspects of this proposed Preliminary Plat: 1) traffic safety improvements where this development and the "Rose Prairie" development access Grant Avenue, 2)

the interface between the city park and residences along its north edge of the park and 3) adequate lighting where the new streets connect to the existing county/city road, 190<sup>th</sup> Street.

**Traffic Improvements - Ada Hayden Road and Grant Avenue.** City staff anticipates that Grant Avenue will be a significant traffic route in this general area. Story County intends to pave the remaining section of the road north of 190<sup>th</sup> Street in the next 3-5 years. Grant Avenue will provide access for all residential subdivisions along Grant Avenue as it provides direct access both into Ames and to the schools in Gilbert. The location of the intersection of the new Ada Hayden Road with Grant Avenue will also be the location of an access into the “Rose Prairie” development on the west side of Grant Avenue. Details of the “Rose Prairie” development are not known at this time as they are preparing to submit a rezoning and preliminary plat application this summer.

The developer has provided a traffic study addendum to the original North Growth area traffic study with traffic projections based on full build-out of all developments in this area. (Traffic Memorandum is part of this packet.) This analysis considered intersection improvement needs for Quarry Estates and based on projected roadway volumes, the warrant analysis for left turn lanes was not met and they are not proposed by the applicant for Grant Avenue or 190<sup>th</sup> Street. **To the contrary, staff has concluded that the nature and volumes of the future traffic justifies requiring left turn lanes at the intersection with Ada Hayden to improve safety and reduce traffic delays.** No turn lanes are recommended for 190<sup>th</sup> Street.

The applicant’s study considered warrant analysis based upon one reference guide of 2001 NCHRP 457 - National Cooperative Highway Research Program reports. Staff has reviewed additional transportation engineering references and guidance and determined that improved safety performance justify the inclusion of the turn lanes. Staff has relied upon NCHRP 745- *Left Turns at Unsignalized Intersections* in its evaluation. **Staff recommends a condition of approval for the plat to have the applicant design and construct turn lane improvements at the time Ada Hayden Road connects to Grant Road.** Staff recognizes that the intersection will also likely serve development to the west in Rose Prairie and in the event that Quarry Estates develops prior to Rose Prairie that the City will seek reimbursement to the developer of Quarry Estates of 50% of the 150 foot left turn lane construction costs. In the event that Rose Prairie was to develop first, Quarry Estates would provide reimbursement of 50% of the cost to Rose Prairie.

**Interface between Quarry Estates and Ada Hayden Park.** Through the design of this subdivision the city seeks to protect the park landscape from impacts of the development and the many more people who will be living next door to the park. The applicant has met with Planning, Public Works, and Parks and Recreation staff regarding their development of the conservation area plans for the subdivision. Specific concerns include protecting the steep slopes along the north edge of the park along the shared property boundary with Quarry Estates from erosion, from informal foot paths into the park, and from private improvements encroaching into the park. The City intends to plant tall native prairie grasses in the park up to the park boundary with

Quarry Estates as well as to designate the park boundary with fixed markers at intervals, although not with a continuous fence.

The Master Plan illustrates a conservation area and buffer varying in width along the south boundary of the site and its shared boundary with Ada Hayden Park. The Zoning Agreement specifies a minimum 30-foot wide buffer of undeveloped open space to be located between the developed lots of Quarry Estates and Ada Hayden Heritage Park. When Council was considering the Zoning Agreement and Master Plan, staff reported that the buffer will be planted with native grasses and forbs and will be established and installed in its entirety along with the public improvements for the first phase of the development. The agreement also specified that one trail connection was allowed into the park to connect to the Upland Trail.

Preliminary Plat includes 14 large lots for single-family detached homes along the south side of Ada Hayden Road adjacent to the park. There are three additional lots off of McFarland Drive adjacent to the park. There are approximately five lots along the south side of Quarry Drive adjacent to the park as well. Varying sized conservation easements are proposed between these homes and the park. At the time of Planning and Zoning Commission review, all of the conservation areas were shown as outlots as requested by staff of the applicant. The outlot south of Ada Hayden Drive varied in width from 30 to 50 feet. Staff reported to the Commission that it was still working on the details with the developer, such as the location of the rear building setback line and how the rear boundary of the 14 lots would be delineated with the conservation easement.

**The applicant now proposes a Preliminary Plat for City Council approval that contains some revisions to this buffer.** It is now proposed to be a conservation easement within each of the private lots for the 14 lots south of Ada Hayden Drive. The other areas remain as outlots. The proposed conservation area would vary in width from 30 feet to 85 feet. The applicant proposes this arrangement to address concerns about rear setbacks and developable areas of lots. As an easement rather than an outlot, there will be additional developable area on each lot that is not impacted by the rear setback from the property line. This is because the minimum setback of 20 feet falls within the conservation easement whereas with an outlot it would be from the closer property line to the homes than from the park boundary.

The applicant has also supplied additional details for delineation of the easement to help avoid the encroachment issues that are of concern to staff. The conservation easement will include the planting of tall prairie grasses coordinated with park plantings, a variety of large boulders along the conservation easement line, the installation of capped short wood posts with native prairie planting information along with each lot, and the creation of a limestone chip or gravel band that is 2-3 feet wide for the width of each lot that may also include a slight grade change or crease as well.

These combined elements should allow for a clear and respectful delineation of the prairie buffer and allow the Home Owners Association (HOA) to better enforce the conservation easement. The City will require the HOA covenants to specify performance of an annual inspection of the conservation easement for encroachments

and to ensure the upkeep of the buffer. The City will also be a party to the easement to identify non-compliance for the HOA to take corrective action.

Originally the buffer was envisioned as a storm water control measure as well. With the Preliminary Plat proposed grading, the stormwater runoff from the north area of these lots and the north half of the houses built along Ada Hayden will flow north into the treatment system through the rest of the Quarry Estates conservation area. Stormwater from the south part of the houses and yards will sheet flow into the park, as it now does, not concentrated into pipes and outlets that might promote erosion. Larger conservation areas are not needed along the park boundary for stormwater management. (See Addendum for description of the stormwater management plan for the subdivision.)

The conservation management plan will require that the HOA maintain this buffer and its representatives meet with city staff periodically to identify management activities needed. **City staff believes that this cooperation and this buffer will protect the steep slopes along the north edge of the park from erosion, from informal foot paths into the park and from private improvements encroaching into the park. The specific details as described in general above are required prior to the first final plat approval.**

**Lighting Intersections on 190<sup>th</sup> Street.** Street lights have not been required consistently along perimeter roadways of subdivisions. Note that a separate item on this agenda includes a Subdivision Code amendment that would require streetlights for adjacent roadways to subdivisions rather than only new internal roadways. If approved, it would apply to the final plats for Quarry Estates. However, in the event the text amendment does not apply to Quarry Estates, staff has concerns about the intersection visibility along 190<sup>th</sup> Street. **In order to assure that reasonable lighting occurs for intersections, staff proposes a condition of approval that street lighting plan be submitted prior to final plat approval that places a street light in the 190<sup>th</sup> Street right-of-way with spacing initiated from north to south into the development.** Street lights are already included in the Grant Avenue street improvements and not an individual component of this project.

An additional condition is proposed to address details of attached single-family home lot layout. On Quarry Drive at the east end of the development, most of the lots on both sides will have attached single-family as twin homes. The width of these lots is less than a standard detached single-family home lot and each lot contains a two-car garage and driveway. Depending on spacing, a double driveway cut in the curb on each lot can make it difficult to fit street lights, street trees and on-street parking spaces. **To ensure appropriate space is reserved for street trees and off-street parking coordinated with driveway placement, staff proposes a condition of approval that before approval of the final plat that includes Quarry Drive, a coordinated plan is provided to the Planning and Housing Department.**

**Planning and Zoning Commission Recommendation.** On April 1, 2015 the Commission considered the Preliminary Plat for Quarry Estates. The Commission discussed traffic on Grant Avenue and the proposed requirement for turn lanes at its

intersection with Ada Hayden Road. Commissioners supported planning for future impacts of development and also supported consistency requiring development improvements that accommodate those impacts. Commissioners supported the city enforcement of expectations and responsibilities for establishing and managing the conservation areas. The Commission recommended approval of the Preliminary Plat with the conditions stated in this report by a vote of 3 to 0 with one abstention due to a possible conflict of interest.

**ALTERNATIVES:**

1. The City Council can approve the Preliminary Plat for Quarry Estates at 904 W. 190<sup>th</sup> Street with the following conditions
  - A. Provide a north bound turn lane and also a south bound turn lane with minimum storage of 150 linear feet where Ada Hayden Road intersects Grant Avenue. Developer will be eligible for reimbursement of 50% of the initial construction cost of the turn lanes from the development west of the site as collected from the “Rose Prairie” developer. Alternatively, the developer shall be responsible for reimbursement of 50% of the cost of construction if the development to the west is built prior to the connection of Ada Hayden Road.
  - B. Prior to final plat, include in the street lighting plan a light at each intersection of Ada Hayden Road and McFarland Avenue with 190<sup>th</sup> Street and continue the regular spacing between lights from there into the subdivision.
  - C. To ensure appropriate space is reserved for street trees and off-street parking coordinated with driveway placement, before approval of the final plat that includes Quarry Drive, provide to the Planning and Housing Department a plan with the placement of street lights, street trees, and hydrants, and driveways for Quarry Drive.
2. The City Council can approve the Preliminary Plat for Quarry Estates at 904 W. 190<sup>th</sup> Street with modified conditions.
3. The City Council can deny the Preliminary Plat for Quarry Estates at 904 W. 190<sup>th</sup> Street, by finding that the preliminary plat does not meet the requirements of Section 23.302(3)(b) or Section 23.603 of the Ames Municipal Code and by setting forth its reasons to disprove or modify the proposed preliminary plat as required by Section 23.302(4) of the Ames Municipal Code. Code sections are found in Attachment D.
4. The City Council can defer action on this request to no later than May 1, 2015 and refer it back to City staff and/or the applicant for additional information.

**MANAGER'S RECOMMENDED ACTION:**

The Quarry Estates subdivision is the first of several residential developments on the north and west sides of Ada Hayden Park. It is also the first Conservation Subdivision

within the Ada Hayden watershed. The Quarry Estates preliminary plat demonstrates how the project will carry out the low-impact policies and techniques required by the Conservation Subdivision and will thus protect the quality of surface water flowing into Ada Hayden Lake, as was envisioned when the park land was acquired.

The Quarry Estates development will carry the native landscaping characteristic of the park into the residential area with 26% of site in conservation areas. It will include an integrated pedestrian and bicycle path system through and connected to the park's system. It will also provide sites for 160 much-needed new homes and for more than 80 additional multi-family dwelling units in the future.

The Preliminary Plat for Quarry Estates is consistent with the approved master plan and zoning agreement in many respects in terms of general distribution of homes and the density of development. The access points and circulation system are also consistent with the Master Plan. The conservation areas and outlots were adjusted as more detail was available for the stormwater design of the site and with additional improvement to delineate the buffer along Ada Hayden Heritage Park.

Therefore, it is the recommendation of the City Manager that the City Council act in accordance with Alternative #1 thereby approving the Preliminary Plat for Quarry Estates at 904 W. 190<sup>th</sup> Street with conditions A, B, and C. Note that with the approval of the preliminary plat, a number of additional plans and details are required to be submitted for approval prior to final plat approval.

## ADDENDUM

**Project Description.** Quarry Estates LLC owns a 79-acre parcel (plus 6.5 acres of county road right-of-way) north of Ada Hayden Heritage Park and south of 190th Street. (See Location Map Attachment A-1; A-2)

The proposed Preliminary Plat includes 140 lots for single-family detached homes and a minimum of 20 lots for single-family attached homes, within an area of the property that is zoned Suburban Residential Low Density (FS-RL). (For lot layout see Attachment C) The applicant may adjust the final counts of attached and detached single-family homes based upon the approved master plan ranges of development. In the northwest portion of the site, the Preliminary Plat includes Outlot ZZ, which is zoned Suburban Residential Medium Density (FS-RM). The area is intended for future development of attached residences or apartments. This area may be subdivided in the future or several buildings may be constructed on the same lot. In either case, a major site development plan must be approved by the City Council.

There are also seven outlots proposed for conservation areas and open space, totaling 21 acres. The project includes three points of access, two to 190<sup>th</sup> Street and one to Grant Avenue.

**Applicable Law.** Laws pertinent to the proposal are described on Attachment D. Pertinent for the City Council are Sections 23.302(5) and 23.302(6). Requirements for Ames Conservation Subdivision standards are in Division VI of Chapter 23 Subdivision Standards of the Municipal Code. Zoning standards for Suburban Residential development are contained in Article 12 of Chapter 29 of the Municipal Code.

**Lot Layout and Density.** Lot sizes for detached single-family homes range from 8,800 square feet to a few lots exceeding 20,000 square feet. The larger lot sizes are placed adjacent to Ada Hayden Park as view lots looking to the south. Homes will be a minimum of 30-85 feet from the park, varying in distance depending on the width of the conservation easement abutting homes and the park. The lots for attached single-family homes range from 6,000 square feet to 9,500 square feet in size.

All lots meet minimum size requirements for the zoning district. The FS-RL portion of the subdivision has a net density of 4.05 units per net acre, exceeding the minimum average net density required for FS-RL zoning of 3.75 units per acre. The area zoned FS-RM is 8.14 acres in size and will have a minimum of 82 dwelling units to meet the minimum average net density required for FS-RM zoning of 10 units per acre.

**Utilities.** Off-site infrastructure to support development of the site is part of the 2013 annexation agreement for the property. An agreement was approved by owners of this subject property and other developable land parcels west of Ada Hayden Heritage Park abutting Grant Road, which established the timing and responsibility for extension of all of the urban infrastructure necessary to provide city services to the North Growth area as an assessment district (Grant Avenue paving) and connection districts (sewer and water). Utilities will be available to serve development starting by summer of 2015.

Grant Road construction is expected to be completed in the fall of 2015. On-site infrastructure improvements are part of the preliminary plat requirements for each development site.

Note that the preliminary plat includes accommodation of a water extension to Ada Hayden Park. The final alignment and accompanying easement will be determined prior to final plat. It will extend south from Quarry Drive or through the Outlot D connection to Ada Hayden Drive and connect to the park to provide quality clean potable water to replace the current well water within the park.

**Traffic and Street Connections.** Grant Avenue is being rebuilt this summer as a rural collector street, meaning it is designed with two travel lanes, curb and gutter, and street lights. The cost of basic Grant Road improvements is shared by the City and three development interests with the aforementioned Assessment District. The road will be complete in the fall of 2015. Site specific access improvements are part of the individual subdivision review and not incorporated into the basic Grant Road improvements.

City staff anticipates that Grant Avenue will be a significant traffic route in this general area. Story County intends to pave the remaining section of the road north of 190<sup>th</sup> Street in the next 3-5 years. Grant Avenue will provide access for all residential subdivisions along Grant Avenue as it provides direct access both into Ames and to the schools in Gilbert. The location of the intersection of the new Ada Hayden Road with Grant Avenue will also be the location of an access into the “Rose Prairie” development on the west side of Grant Avenue. Details of the “Rose Prairie” development are not known at this time as they are preparing to submit a rezoning and preliminary plat application this summer.

The developer has provided a traffic study addendum to the original North Growth area traffic study with traffic projections based on full build-out of all developments in this area. (Traffic Memorandum is part of this packet.) This analysis considered intersection improvement needs for Quarry Estates and based on projected roadway volumes, the warrant analysis for left turn lanes was not met and they are not proposed by the applicant for Grant Avenue or 190<sup>th</sup> Street. **To the contrary, staff has concluded that the nature and volumes of the future traffic justifies requiring left turn lanes at the intersection with Ada Hayden to improve safety and reduce traffic delays.** No turn lanes are recommended for 190<sup>th</sup> Street.

Ada Hayden Road is the east-west collector street within the development, with McFarland Avenue providing connections south to single family detached homes on Ketelsen Drive and north to 190<sup>th</sup> Street and Ledges Drive providing connections north to single family detached homes and 190<sup>th</sup> Street. The street width for Ada Hayden Road meets the standard for a residential collector street, that is, a 31-foot pavement width as measured from the back of the curb within a 66-foot right-of-way, accommodating parking on one side. This right-of-way will include an 8-foot shared use path on the north side and a 4-foot sidewalk on the other. Other street widths meet the standards for local streets, that is, a 26-foot pavement width as measured from the back of the curb within a 55-foot right-of-way. This width allows for parking on one side of a



street. The street layout also includes mid-block crossings for pedestrians as required by FS-RL zoning when a block face exceeds 600 feet.

On Quarry Drive at the east end of the development, most of the lots on both sides will have attached single-family as twin homes. The width of these lots is less than a standard detached single family home lot and each lot contains a two-car garage and driveway. Depending on spacing, a double driveway cut in the curb on each lot can make it difficult to fit street lights, street trees and on-street parking spaces. **To ensure appropriate space is reserved for street trees and off-street parking coordinated with driveway placement, staff recommends a condition for a plan to be provided prior to approval of the final plat that includes Quarry Drive. The Planning and Housing Department would review the plan with the street light locations and street tree planting plan of Quarry Drive to maximizing the number of street trees and parking spaces.**

**Conservation Areas and Open Space.** In Conservation Subdivisions site features identified as healthy natural features in a site natural resources inventory shall be protected in conservation areas. Conservation area and open spaces are to form an interconnected system. The applicant completed a natural and cultural resources inventory and no significant native plant communities exist on the site, nor are there any streams, waterways or dry channels on site. (Natural Resources Inventory is available for review at the Planning and Housing Department.) **Therefore, the conservation areas in Quarry Estates will be “naturalized” by establishing native plant communities, which is consistent with the conservation subdivision requirements.**

The conservation subdivision ordinance requires 25% of the property to be interconnected conservation areas and open space distributed throughout the development and abutting 80% of residential lots. The proposed plat shows approximately 26.8% of the property with open space use, abutting approximately 87% of the lots. Open spaces serve as a buffer between proposed residences and existing residences on the east and south of the property.

Other major open space features of the plan are outlots A, C, and D. Outlot A is principally for stormwater management (see below). Approximately half of Lot C is designed for stormwater management and the remainder will be a recreational area available to the residents and maintained by the homeowner’s association. Lot D is meant to be a reestablished conservation area open space in a former pasture and provide a buffer between new development and the existing homes to the east.

**Landscaping and Street Trees.** The Landscape and Street Tree Plan together with a Conservation Area Management Plan portray the naturalized conservation areas. The Conservation Area Management Plan describes how these areas will be established and maintained. More detail for maintenance operations is required during the final plat process. The developer will have initial responsibility for creating the conservation areas and the future homeowner’s association will have long term management responsibilities. (The draft Conservation Area Management Plan is part of this packet.)

**Stormwater Management.** One of the principles of the Conservation Subdivision is to take the approach of Low Impact Development to design the project. This means the arrangement of lots, street and stormwater management minimize mass grading of the site, minimize impervious areas, and maximize use of natural stormwater treatment measures. The overall approach to stormwater management provides treatment and control of the peak runoff rate from the entire site by providing multiple opportunities to slow the flow of stormwater on the surface and settle out and filter out sediments, a process called the “treatment train.” This system includes surface sheet flow to collecting basins, directing flow by vegetated swales, settlement areas drained by pipes and pipe outlets into vegetated swales to carry water to other basins.

This system follows the existing topography of flow toward the center of the site and then flow to the west in a shallow, wide swale. Stormwater from the east third of the site is directed through this treatment train in the center of the site to swales along the south side of 190<sup>th</sup> Street flowing to the west. Stormwater from the western two-thirds of the site flows to the center and is carried through this treatment train to Grant Avenue. All of the stormwater runoff from these systems is carried under Grant Avenue to an existing major water way to the south and then to the east into Ada Hayden Park and Lake.

The steeper slopes in Ada Hayden Park are protected from increased runoff from streets, driveways, rooftops and other hard surfaces by directing as much of this flow as possible toward the north into the central treatment train system. Lots along the south side of Ada Hayden Drive (Lots 72 -85) will have the front half of the home direct runoff to the center of the development. All of the remaining flow of these lots will be to the south as sheet flow across land; none of the flow is collected in pipes and discharged at points. Additionally, the conservation area along the south buffer will help with erosion control.

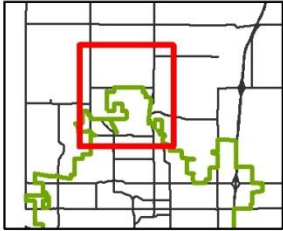
Vital to all of these stormwater management systems is the native prairie vegetation to be established that will help slow the rate of runoff and facilitate the percolation of water into the soil for natural filtration and treatment. The proposed open spaces include substantial areas of native prairie planting, as shown on the submitted Landscape and Street Tree Plan.

**Sidewalks.** North/south walking trails through the central Outlot C open space and the western Outlot E open space corridor supplement the shared use path or sidewalks along all streets to interconnect all residences and open spaces. This network includes one connection to Ada Hayden Park through a hard surfaced 8-foot wide shared use path in Outlot F. The developer will continue this connection into the park to the existing “Upland Trail,” with crushed rock surfacing at the request of the Parks Department. Note that that a separate text amendment to the Subdivision Code is on the same agenda and if approved would change the requirement for sidewalks to be five feet wide rather than the proposed four-foot wide sidewalks on the plat. **If approved, sidewalks would need to be widened to five feet with the final plat to conform to the proposed new standards.**

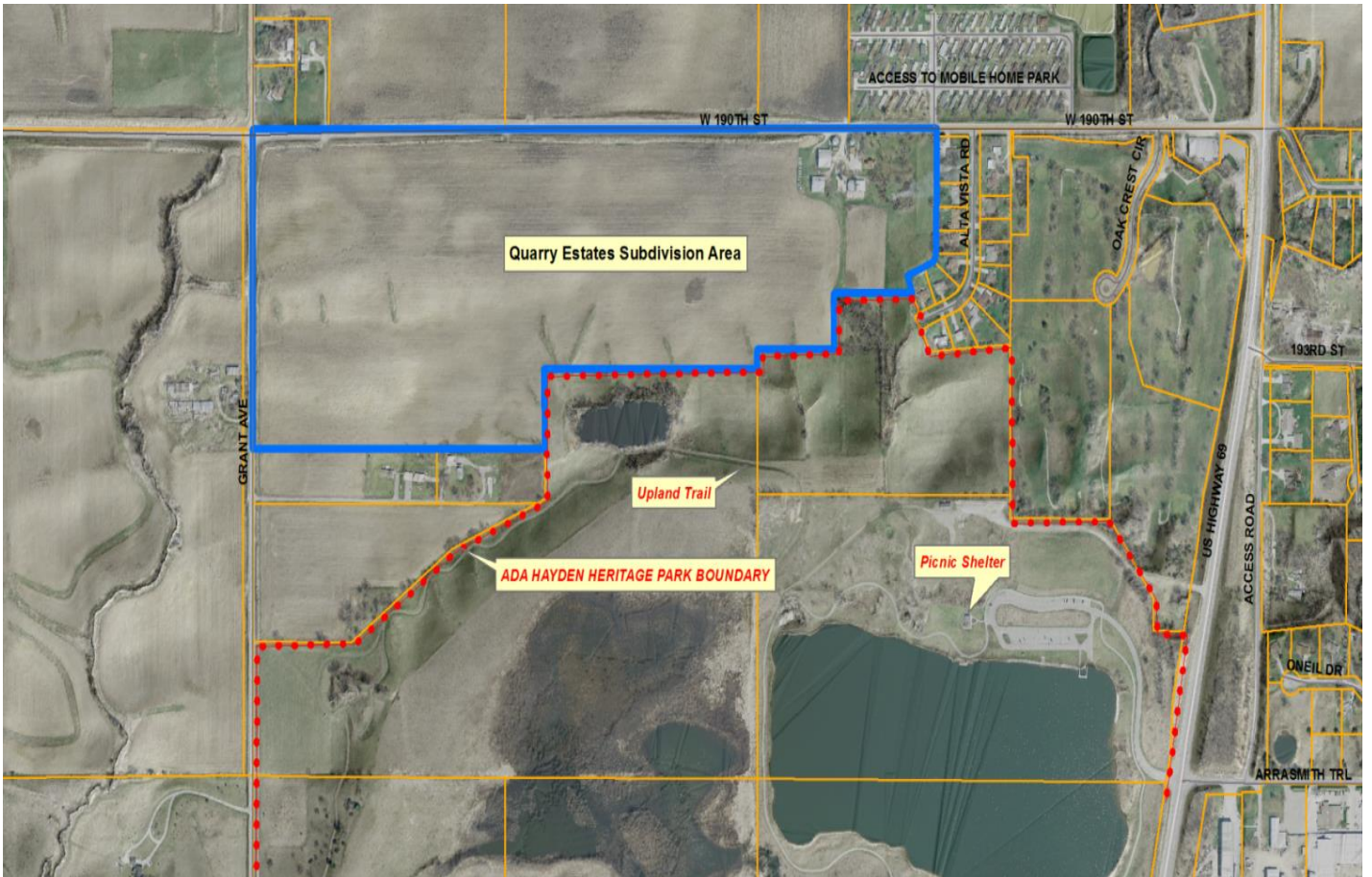
**Attachment A: Location Map-1**



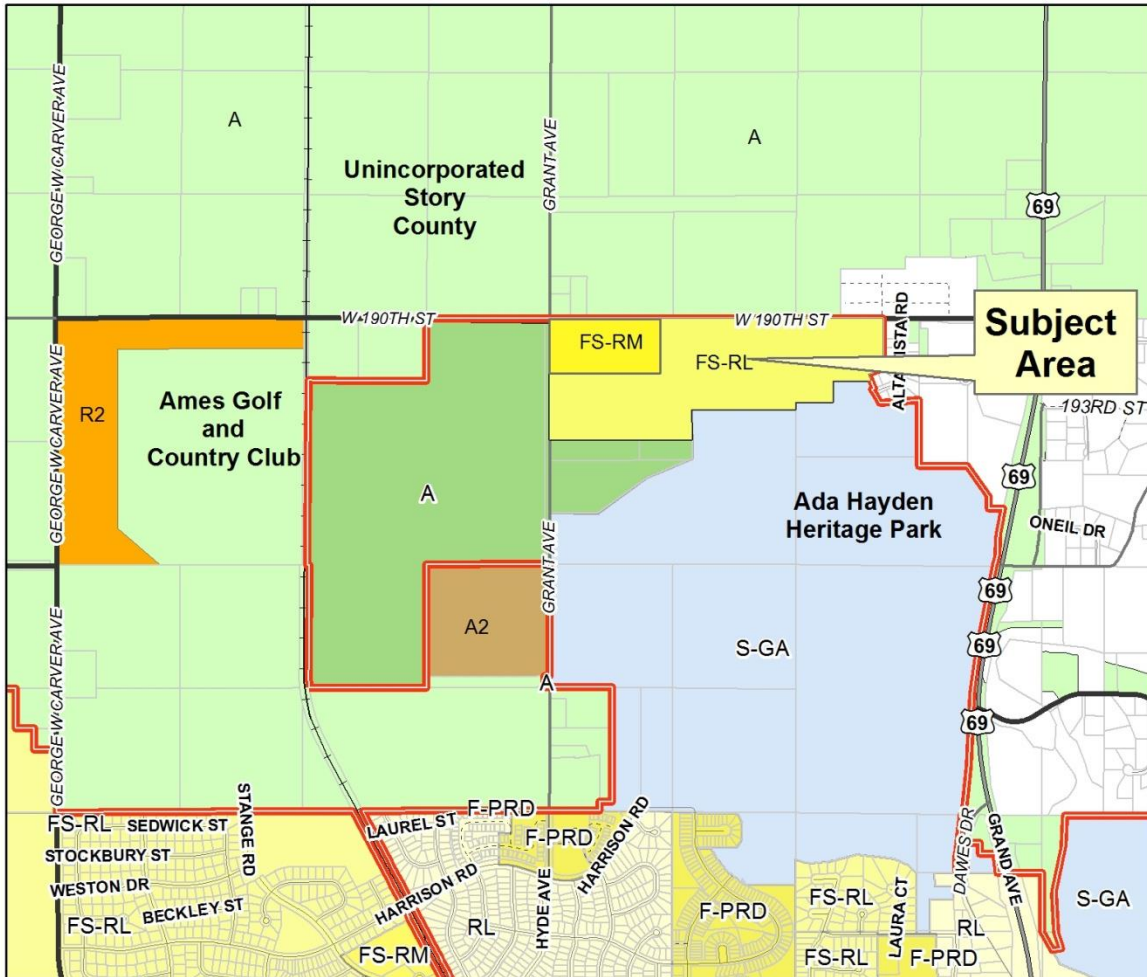
**Location Map  
Quarry Estates Property  
904 W 190th Street**



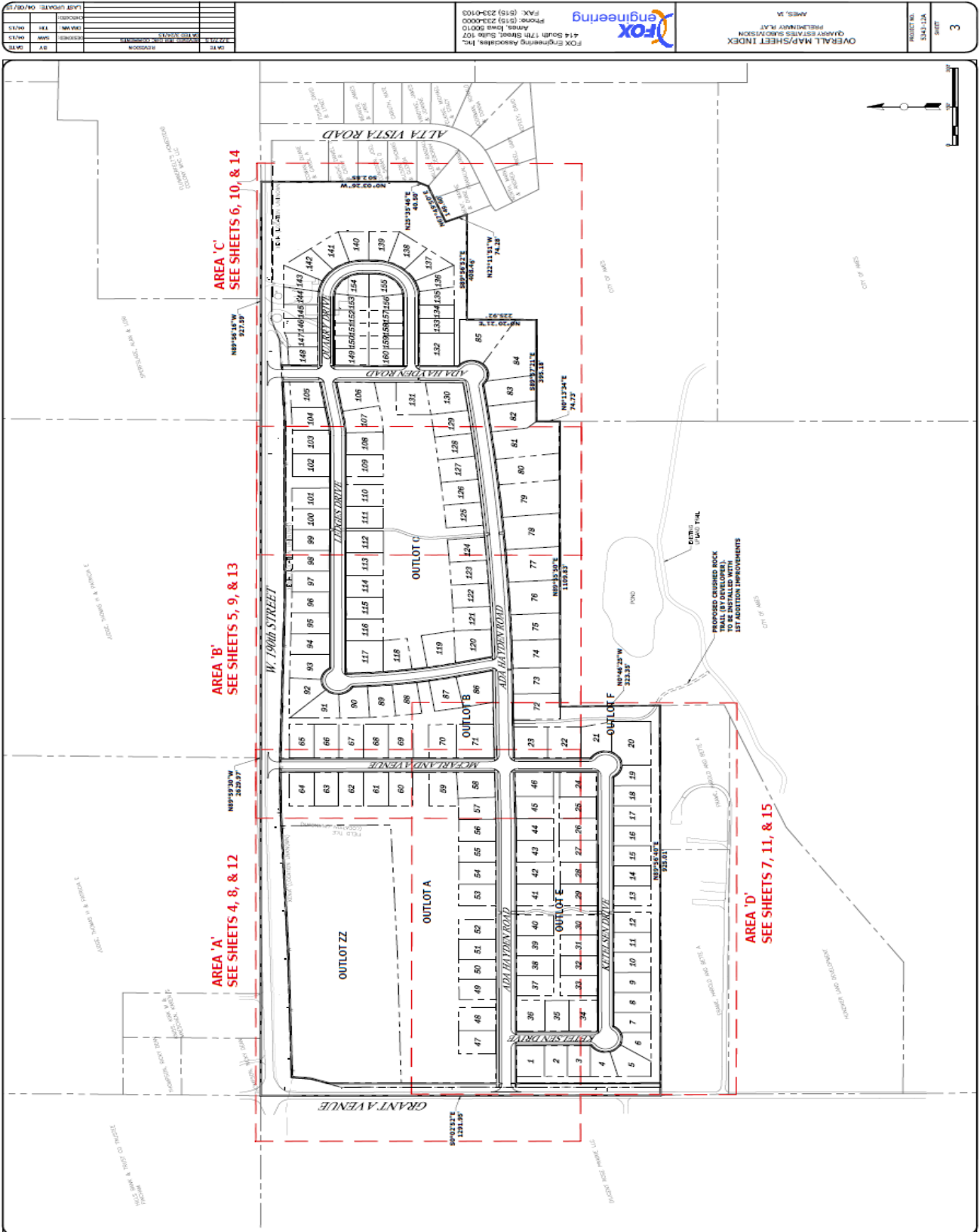
# Attachment A: Location Map-2



# Attachment B: Zoning Map



# Attachment C: Lot Layout



## Attachment D: Applicable Subdivision Law

The laws applicable to this Preliminary Plat Subdivision include, but are not limited to, the following: (verbatim language is shown in *italics*, other references are paraphrased):

Code of Iowa Chapter 354, Section 8 requires that the governing body shall determine whether the subdivision conforms to its Land Use Policy Plan.

Ames Municipal Code Chapter 23, Subdivisions, Division I, outlines the general provisions for subdivisions within the City limits and within two miles of the City limits of Ames.

Ames Municipal Code Section 23.302(5):

- (5) *City Council Review of Preliminary Plat: All proposed subdivision plats shall be submitted to the City Council for review and approval in accordance with these Regulations. The City Council shall examine the Preliminary Plat, any comments, recommendations or reports examined or made by the Planning and Zoning Commission, and such other information as it deems necessary and reasonable to consider.*

Ames Municipal Code Section 23.302(6):

- (6) *City Council Action on Preliminary Plat:*
- a. *Based upon such examination, the City Council shall determine whether the Preliminary Plat conforms to relevant and applicable design and improvement standards in these Regulations, to other City ordinances and standards, to the City's Land Use Policy Plan and to the City's other duly adopted plans. In particular, the City Council shall determine whether the subdivision conforms to minimum levels of service standards set forth in the Land Use Policy Plan for public infrastructure and shall give due consideration to the possible burden of the proposed subdivision on public improvements in determining whether to require the installation of additional public improvements as a condition for approval.*
  - b. *Following such examination and within 30 days of the referral of the Preliminary Plat and report of recommendations to the City Council by the Planning and Zoning Commission, the City Council shall approve, approve subject to conditions, or disapprove the Preliminary Plat. The City Council shall set forth its reasons for disapproving any Preliminary Plat or for conditioning its approval of any Preliminary Plat in its official records and shall provide a written copy of such reasons to the developer.*

Ames Municipal Code Chapter 23, Subdivisions, Division IV, establishes requirements for public improvements and contains design standards.

Ames Municipal Code Chapter 23, Subdivisions, Division VI establishes requirements for Conservation Subdivisions:

## **DIVISION VI CONSERVATION SUBDIVISIONS**

### **23.600. CONSERVATION DEVELOPMENT FOR SUBDIVISIONS**

#### **23.601. APPLICABILITY.**

Conservation Design Development is an alternative set of design objectives and standards for residential subdivision development. These objectives and standards can be used as an alternative to common residential subdivision development in Ames. However, they shall apply to all residential subdivision development in the undeveloped areas of Ada Hayden Watershed north of Bloomington Road.

*(Ord No. 4042, 8-10-10)*

#### **23.602. INTENT.**

The intent of Conservation Design Development is to preserve the existing natural features of the site, to preserve the natural drainage features and hydrologic characteristics of the landscape, and to reduce the impacts of development on the landscape; and

- (1) To maintain and protect in perpetuity Ames area natural character by preserving these important landscape elements including but not limited to those areas containing unique and environmentally sensitive natural features as prairie, woodlands, stream buffers and corridors, drainageways, wetlands, floodplains, ridgetops, steep slopes, critical species habitat, and by setting them aside from development;
- (2) To promote interconnected greenways and environmental corridors throughout Ames;
- (3) To provide commonly-owned open space and conservation areas for passive and/or active recreational use by residents of the development and, where specified, the larger community;
- (4) To permit various means for owning conservation areas, preserved landscape elements, and to protect such areas from development in perpetuity;
- (5) To provide greater flexibility in site dwellings and other development features than would be permitted by the application of standard use regulations in order to minimize the disturbance of natural landscape elements and sensitive areas, scenic quality, and overall aesthetic value of the landscape;
- (6) To protect and restore environmentally sensitive areas and biological diversity, minimize disturbance to existing soils, vegetation, and maintain environmental corridors, and
- (7) To preserve significant archaeological sites, historic buildings and their settings.

*(Ord No. 4042, 8-10-10)*



**23.603. GENERAL REQUIREMENTS.**

- (1) Design and Standards for Residential Lot Layout
  - (a) All residential units should be in cluster groups unless the site has been designed to preserve sensitive areas and maintain a stormwater treatment train.
  - (b) All lots shall take access from interior roads.
  - (c) All separation areas for residential lots along existing roads shall be landscaped in accordance with the conservation area landscaping requirements in Section 23.603(2)(f).
  - (d) Eighty percent (80%) of residential lots shall abut a conservation area or open space to the front or rear. Open space and conservation area across a road shall qualify for this requirement.
  - (e) Cluster groups shall be located to avoid or mitigate directly disturbing existing native prairie, woodlands, wetlands and other natural features identified in the site inventory of natural resources.
- (2) Site Requirements
  - (a) Open water areas - A 50-foot native vegetative buffer shall be maintained around open water areas such as ponds and lakes unless a specific common use area is identified.
  - (b) Stream buffers - Stream buffers with native vegetation shall be maintained along stream areas using the following requirements based on stream order:
    - (i) Streams exceeding 3<sup>rd</sup> order and above, the City requires sketches, maps, studies, engineering reports, tests, profiles, cross-sections, construction plans and specifications to determine adequate buffer widths.
    - (ii) Perennial streams (1<sup>st</sup> and 2<sup>nd</sup> order). The total required stream buffer width is one hundred (100) feet on each side perpendicular to the waterway measured from the outer wet edge of the channel during base flows.
    - (iii) Intermittent streams. The total required stream buffer width is fifty (50) feet on each side perpendicular to the water way measured from the centerline of the channel.
    - (iv) Waterways and/or dry channels that have a contributing drainage area of fifty (50) acres or greater. The total required stream buffer width is thirty (30) feet on each side perpendicular to the waterway measured from the centerline of the waterway.
    - (v) Waterways and/or dry channels with a contributing drainage area of less than 50 acres. The total required stream buffer width is twenty (20) feet on each side perpendicular to the waterway measured from the centerline of the waterway.
  - (c) Stormwater management
    - (i) Minimize the use of storm sewer piping and maximize the use of swales.
    - (ii) Use curb cuts in lieu of storm sewer intakes when appropriate to divert street water to a stormwater conveyance or treatment system.
    - (iii) Sump pump discharge can be discharged into a stormwater conveyance or treatment system.
    - (iv) On-site treatment and storage of stormwater generated by the development shall occur in conservation area if it is consistent with the environmental functions of the conservation area. Individual lot on-site stormwater management may also be used in conservation subdivisions in conjunction with open space and conservation area management of stormwater.
    - (v) Include detailed design information for the stormwater management practices following the design information provided in the Iowa Stormwater Management Manual. The stormwater treatment train approach shall be used where appropriate to capture, treat and release stormwater.
  - (d) Shared use paths, sidewalks, and driveways
    - (i) An accessible and interconnected shared use path system shall be developed to connect residential areas with open space/conservation areas within or adjacent to the site.
    - (ii) Sidewalks shall only be required on one side of streets; however, all lots shall have direct access to sidewalks or the pathway system.
    - (iii) Typical driveway approach sections, Chapter 7 of SUDAS specifications, shall be used.
  - (e) Conservation Area Requirements
    - (i) The conservation area shall be designated as a Conservation Easement as detailed in the definition section of this ordinance.
    - (ii) Applicants must provide an explanation of the conservation area objectives

achieved with their proposed development and identify the percentage of the total development area that this area occupies.

(iii) All conservation areas shall be part of a larger continuous and integrated system except for conservation areas that are naturally isolated from other conservation areas on or near the site. For the purposes of this section, continuous shall be defined as either physically touching or located across a public right-of-way, for example, on opposite sides of an internal road.

(iv) Conservation areas, in accordance with the Conservation Area Management and Ownership outlined in Section 23.605, shall protect site features identified in the site natural resources inventory Section 23.604 (1) and analysis as having particular value in preserving and/or restoring the natural character and conserving natural resources in compliance with the intent of this ordinance and consistent with the goals and objectives of this ordinance.

(v) Healthy natural features such as woodlands, prairie, wetlands, and streambanks shall generally be maintained in their natural condition. If recommended by a professional with pertinent qualifications, the Municipal Engineer may authorize a modification to improve the natural features' appearance or restore the overall condition and natural processes, in compliance with an approved management plan, as described in Section 23.605.

(vi) All wetlands, floodways, and/or identified wildlife habitat areas shall be contained in conservation areas.

(vii) Conservation areas and open space shall be distributed throughout the development and combined shall comprise at least twenty-five (25) percent of the total area of the subdivision. An area comprised of conservation areas and open space greater than twenty-five percent of the total area of the subdivision may be required if necessary to maintain health features such as woodlands, prairie, wetlands and streambanks in their natural condition as provided in 23.603(2)(v).

(viii) Safe and convenient pedestrian access and access easements sufficient for maintenance vehicles shall be provided to conservation areas.

(f) Landscaping for Conservation Subdivisions - A landscaping plan shall be prepared that identifies all proposed landscaping and conforms to the following:

(i) The preservation of existing native, non-invasive vegetation as identified in the natural resources inventory Section 23.604(1) as being in good condition and of good quality shall generally be preferred to the installation of new plant material.

(ii) Mass grading of sites shall be minimized in order to preserve the natural features of the site.

(iii) Within all required separation areas between residential lots and external roads and site boundaries, existing woodlands with desirable tree species shall be retained.

(iv) All new landscaping in conservation areas to be installed and existing native vegetation to be preserved shall be protected through conservation easement. Native landscaping shall be installed according to the guidelines provided in the Iowa Stormwater Management Manual Section 2E-6.

(v) Trees of native species as indicated by the Iowa Department of Natural Resources and approved by the City shall be planted along internal roads within cluster groups in a total amount equivalent to the standard subdivision requirements. Trees may be planted, but are not required, along internal roads passing through conservation areas.

(vi) Informal, irregular, or natural arrangement is required for newly planted trees to avoid the urban appearance that regular spacing may evoke.

(vii) Trees shall be located so as not to interfere with the installation and maintenance of utilities, shared use paths, or sidewalks that may parallel the road.

(viii) Within all conservation areas, separation between external roads and residential lots, a vegetated buffer area at least 25 feet in width shall be maintained or established. Where no natural trees and/or shrubs exist, native plant materials shall be planted.

(ix) Conservation areas required to meet Section 23.603(1)(d), shall be planted using native species to enhance privacy and a natural appearance.

(x) Required buffers around wetlands, all water bodies and drainageways must be naturally vegetated or planted with native plant species appropriate to the surrounding landscape.

(xi) Buffers consisting of an informal, irregular or natural arrangement of native plant species, combined with infrequent or prescriptive mowing are required to create a low-maintenance, naturalized landscape.

(xii) In addition to the above, land management practices minimizing the impact of

nutrients shall be used and demonstrated in Ada Hayden Watershed; minimal fertilization of lawns including the use of phosphorus-free fertilizers is recommended.

*(Ord No. 4042, 8-10-10)*

#### **23.604. APPLICATION PROCEDURE.**

In addition to the standard subdivision application requirements, an inventory and mapping of natural resources shall be conducted prior to the initial submittal.

(1) Inventory and Mapping of Natural Resources. An inventory of natural resources of the proposed development site shall be conducted by experts in the field such as biologists, ecologists, soil scientists, hydrologists, geologists or those credentialed in a manner acceptable to the Municipal Engineer and must be submitted with the conservation subdivision application. The inventory must include, but is not limited to the following information mapped at a scale of no less than one inch equals 50 feet:

(a) Topographic contours at 2-foot intervals.  
(b) United States Department of Agriculture, Natural Resource Conservation Service soil type locations and identification of soil type characteristics such as percolation rates, suitability for infiltration-based stormwater management practices, hydric soils, depth to water table, and suitability for wastewater disposal systems if applicable.

(c) Hydrologic characteristics, including surface water bodies, floodplains, groundwater recharge and discharge areas, wetlands, natural swales, drainage ways, and slopes 10% or greater.

(d) Land cover on the site including but not limited to prairie, woodland, forest, wetland and general cover type (pasture, woodland, etc.), and stand-alone trees with a caliper of more than [24] inches measured four feet off the ground. The inventory shall include comments on the health and condition of the natural resources.

(e) Known critical habitat areas for rare, threatened or endangered species using existing documented inventories.

(f) Cultural resources shall be identified by a brief description of historic character of buildings and structures, historically important landscapes, and archeological features using a review of existing, documented inventories.

(2) Education and Outreach Plan for the Development. An educational plan shall be developed and distributed to all perspective lot owners that describes the characteristics of the conservation subdivision including the development concept, conservation areas management practices that will be used to manage these areas, and benefits of the natural features. They shall also include information on lawn care strategies that reduce nutrient and pesticide inputs and pollution to local water bodies. Lot owners shall be made aware of the wildlife aspects of a conservation subdivision. Deer, birds, and other animals and insects will be attracted to the natural areas.

*(Ord. No. 4042, 8-10-10)*

#### **23.605. CONSERVATION AREA MANAGEMENT AND OWNERSHIP.**

(1) Conservation Area Management Plan. Every conservation subdivision must include a plan that provides evidence of a means to properly manage the conservation areas and open space areas in perpetuity through a conservation easement for conservation areas or common ownership for open space areas and evidence of the long-term means to properly manage and maintain all common facilities, including any stormwater facilities. The plan shall be approved by the Municipal Engineer prior to plat approval.

(a) A conservation area management plan shall be submitted with the following components during the following approval stages:

(2) Preliminary Plat:

(a) Include a conservation area management plan specifically focusing on the long-term management of conservation areas. The conservation area management plan shall include a narrative, based on the site analysis required in Section 23.604(1), describing:

(i) Existing conditions including all natural, cultural, historic, and scenic elements in the landscape.

(ii) The proposed completed condition for each conservation area; and the measures proposed for achieving the end state.

(iii) Proposed restoration measures, including: measures for correcting increasingly destructive conditions, such as erosion, and measures for restoring habitats, ecosystems, and historic features.

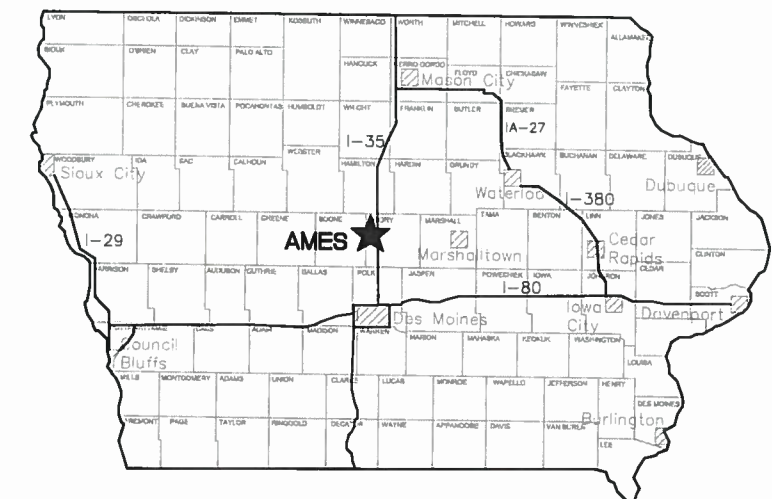
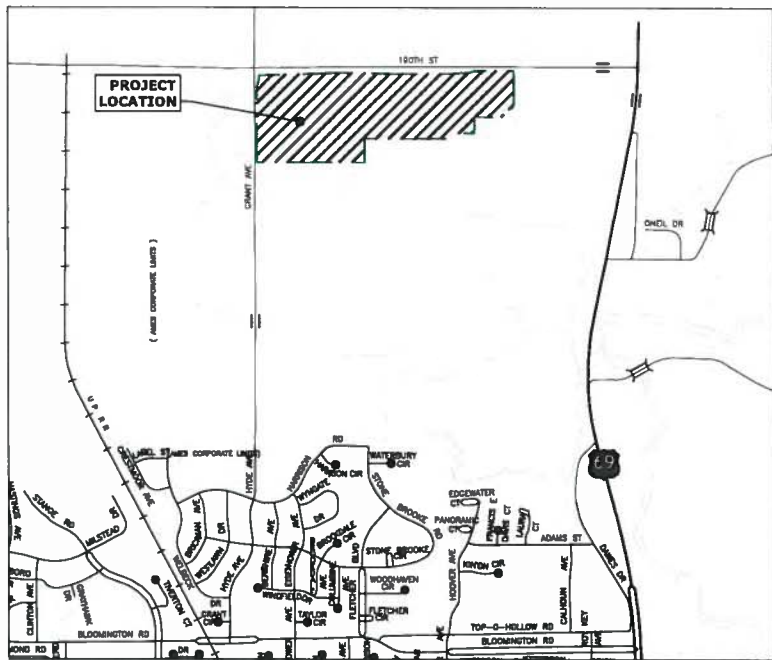
- (3) Final Plat:
- (a) The conservation area management plan shall include the following items for final plat approval:
- (i) Provide a copy of the conservation easement.
  - (ii) Designate the ownership of the conservation area and common facilities.
  - (iii) Establish necessary regular and periodic operation and maintenance responsibilities.
  - (iv) Estimate staffing needs, insurance requirements, and other associated costs and define the means for funding the same on an on-going basis.
  - (v) The operations needed for maintaining the stability of the resources, including: mowing schedules; native vegetation burns; weed control; planting schedules; clearing and cleanup; the applicant shall be required to provide financial security in a form acceptable to the city for the maintenance and operation costs of conservation areas for a two-year period of time at time of the plat.
- (b) In the event that the organization established to own and maintain the conservation areas, or any successor organization, fails to maintain all or any portion of the conservation areas in reasonable order and condition, such notice shall set forth by the Municipal Engineer listing the nature of corrections required and the time within which the corrections shall be made. Upon failure to comply within the time specified, the organization, or any successor organization, shall be considered in violation of this ordinance. In such case the security, if any, may be forfeited, and any permits may be revoked or suspended. The city may enter the premises and take corrective action.
- (i) The costs of corrective action by the City that exceeds the security shall be assessed against the properties that have the right of benefit of the conservation areas and shall become a lien on said properties.
- (c) Management plans can be amended by the owner identified under Section 23.605(6) with the approval of the Municipal Engineer.
- (4) Ownership Alternatives. The designated conservation areas shall be placed in Conservation Easement and may be owned and managed by one or a combination of the following:
- (a) A homeowners association shall be established if the conservation area is proposed to be owned by a homeowners association. Membership in the association is mandatory for all purchasers of homes in the development and their successors.
  - (b) A non-profit or for-profit conservation organization that specializes in Iowa native plant management.
  - (c) Other entity as approved by City Council.
- (5) Ownership & Maintenance Responsibilities. The bylaws, guaranteeing continuing maintenance of the conservation area and the declaration of covenants, conditions and restrictions of the homeowners association shall be submitted for approval to the City of Ames as part of the information required for the final plat. The bylaws or the declaration of covenants, conditions and restrictions of the homeowner's association shall contain the following information:
- (a) The legal description of the conservation area;
  - (b) The restrictions placed upon the use and enjoyment of the conservation areas or facilities;
  - (c) The homeowners association or third party assigned by the homeowners association entitled to enforce the restrictions;
  - (d) A mechanism to assess and enforce the common expenses for the land or facilities including upkeep and maintenance;
  - (e) The conditions and timing of the transfer of ownership and control of land facilities to the association.
- (6) A For-Profit or Non-profit Conservation Organization. If the conservation area is to be held by a for-profit or non-profit conservation organization, the organization must be acceptable to the City. The conveyance to the non-profit or for-profit conservation organization must contain appropriate provisions for reversion in the event that the organization becomes unwilling or unable to uphold the terms of the conveyance.
- (Ord No. 4042, 8-10-10)*

# QUARRY ESTATES SUBDIVISION

## PRELIMINARY PLAT

AMES, IA

**LOCATION MAP**   
1" = 1/4 MILE



Lot	Area (s.f.)	Lot	Area (s.f.)	Lot	Area (s.f.)	Lot	Area (s.f.)
1	10800	44	10233	87	10892	130	14087
2	8880	45	10348	88	9885	131	13029
3	8879	46	11711	89	9888	132	14033
4	7565	47	10800	90	10525	133	6050
5	11230	48	10807	91	10764	134	6050
6	7742	49	9361	92	11104	135	6615
7	9020	50	9360	93	11289	136	7639
8	9360	51	9360	94	10173	137	9585
9	9360	52	9359	95	10012	138	9494
10	9359	53	10090	96	9856	139	9171
11	9359	54	10089	97	9808	140	9171
12	9359	55	10089	98	9800	141	9494
13	9352	56	10094	99	9793	142	9566
14	9359	57	10085	100	9786	143	7636
15	9359	58	12152	101	9791	144	6615
16	9358	59	12156	102	10852	145	6050
17	9358	60	10400	103	10838	146	6034
18	9358	61	10401	104	10279	147	5491
19	8747	62	10400	105	10014	148	6686
20	20071	63	10400	106	12474	149	7153
21	11523	64	10400	107	11254	150	5506
22	12797	65	10400	108	10407	151	5510
23	12964	66	10400	109	10200	152	5513
24	11400	67	10400	110	10200	153	6260
25	10224	68	10400	111	10200	154	7435
26	10224	69	10400	112	10200	155	7410
27	10224	70	11700	113	10200	156	6219
28	10224	71	15721	114	10200	157	5487
29	10236	72	15020	115	10200	158	5490
30	9360	73	15243	116	10200	159	5494
31	9360	74	16712	117	14904	160	7147
32	9360	75	15831	118	10131	STREET R.O.W.	526019
33	9360	76	20777	119	12401	OUTLOT A	280320
34	10800	77	21756	120	13807	OUTLOT B	81997
35	9600	78	22973	121	10727	OUTLOT C	195341
36	10800	79	24429	122	10727	OUTLOT D	166834
37	9360	80	20479	123	10727	OUTLOT E	31291
38	9360	81	25071	124	10727	OUTLOT F	82806
39	9360	82	15048	125	10727	Outlot ZZ	354576
40	9360	83	16334	126	10727		
41	10242	84	29350	127	10727		
42	10222	85	21135	128	10727		
43	10222	86	13109	129	10727		

**NOTE:**  
LOTS 133-136 AND 143-160 WILL BE DEVELOPED AS SINGLE-FAMILY BI-ATTACHED TOWNHOUSES.

LOTS 137-142 MAY BE DEVELOPED AS SINGLE-FAMILY BI-ATTACHED, OR SINGLE-FAMILY DETACHED TOWNHOUSES.

LAND USE	Area (Acres)	Total
Residential (FS-RL)	39.47	Acres
Residential (FS-RM)	8.14	Acres
Outlots (open space)	19.25	Acres
Street Right-of-Way	12.08	Acres
Total	78.94	Acres

RESIDENTIAL DENSITY CALCULATION
160 Residential Units / 39.47 Acres = 4.05 Units Per Acre

OPEN SPACE	Area (Acres)	Total
Outlot A	6.44	Acres
Outlot B	1.88	Acres
Outlot C	4.48	Acres
Outlot D	3.83	Acres
Outlot E	0.72	Acres
Outlot F	1.90	Acres
Conservation Easement	1.92	Acres
Total	21.17	Acres

OPEN SPACE CALCULATION
21.17 Acres / 78.94 Acres = 26.82%

**OWNER/DEVELOPER**  
Quarry Estates LLC  
c/o Kurt Friedrich  
100 6th Street  
Ames, Iowa 50010

**PLAN PREPARER/ENGINEER**  
Scott Williams, P.E.  
FOX Engineering Associates  
414 S. 17th Street, Suite 107  
Ames, Iowa 50010

**LEGAL DESCRIPTION**  
Parcel 'L' in the North One-Half of Section 22, Township B4 North, Range 24 West of the 5th P.M., Story County, Iowa, said Parcel 'L' being shown on the Plat of Survey recorded on January 17, 2012 in Slide 425, Page 4.

**ZONING**  
Existing:  
Outlot ZZ is zoned Residential Medium Density (FS-RM).  
All other lots are zoned Residential Low Density (FS-RL).

**Proposed:**  
No changes are proposed.

**UTILITIES**  
All private utilities will be located within public utility easements shown, or within utility corridors provided for by the City's "Use of City Rights-of-Way Users" ordinance.

All sanitary sewer mains will be 8" diameter.

All water mains will be 8" diameter.

**SIDEWALKS, SHARED-USE PATHS, AND BICYCLE FACILITIES**  
4' or 8' wide sidewalks will be constructed along public streets, where shown.

8' wide paved shared-use paths will be constructed, where shown.

**STREETS**  
Ada Hayden Road will be 31' wide within 66' wide right-of-way.

Katelsen Drive, Ledges Drive, Quarry Drive, and McFarland Avenue will be 26' wide within 55' wide right-of-way.

All construction materials, dumpsters, detached trailers, or similar items are prohibited on public streets or within public right-of-way.

**PARKING RESTRICTIONS**  
Vehicle parking will be prohibited as follows:

Along the north and west sides of Ada Hayden Road  
Along the west side of McFarland Avenue  
Along the north and east sides (the "inside") of Katelsen Drive  
Along the south and east sides (the "inside") of Ledges Drive  
Along the "inside" of Quarry Drive

**SEDIMENT AND EROSION CONTROL**  
This site will be covered by an Iowa Department of Natural Resources NPDES permit. A sediment and erosion control plan will be created, and NPDES and City of Ames COSESCO permits will be obtained before grading activities for each addition within the subdivision begin.

QUARRY ESTATES SUBDIVISION

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**GENERAL NOTE:** ALL UTILITIES ARE ONLY GENERALLY LOCATED. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND EXPOSING ALL UTILITIES THAT MAY INTERFERE WITH CONSTRUCTION BEFORE CONSTRUCTION BEGINS.



INDEX OF SHEETS	
No.	Description
1	COVER SHEET/ LOCATION MAP/NOTES
2	TYPICAL SECTIONS/GENERAL NOTES
3	OVERALL MAP/SHEET INDEX
4-7	EXISTING CONDITIONS/REMOVALS
8-11	PROPOSED IMPROVEMENTS
12-15	STREET TREE AND LANDSCAPING PLAN

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

 *Scott A. Williams* 4/8/15 DATE  
SCOTT A. WILLIAMS  
License number 13310  
My license renewal date is December 31, 2014.  
Pages or sheets covered by this seal: 1-15

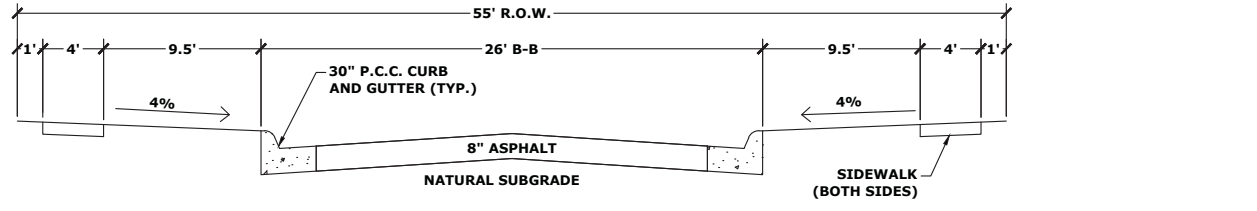
COVER SHEET/LOCATION MAP/NOTES  
QUARRY ESTATES SUBDIVISION  
PRELIMINARY PLAT  
AMES, IA

FOX Engineering Associates, Inc.  
414 South 17th Street, Suite 107  
Ames, Iowa 50010  
Phone: (515) 233-0000  
FAX: (515) 233-0103

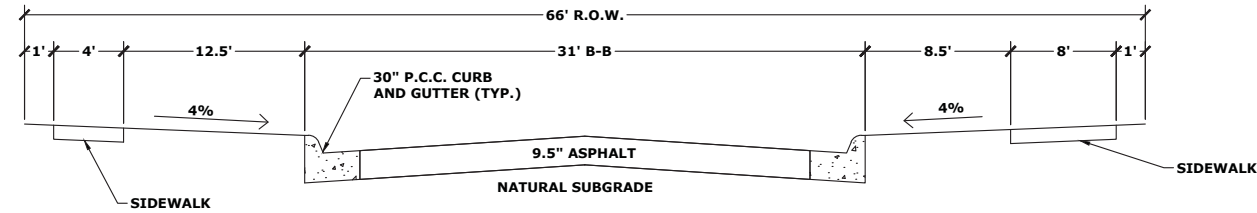
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DESIGNED	3/27/15	SCOTT A. WILLIAMS			
DRAWN					
CHECKED					
LAST UPDATE:	04/08/15				

PROJECT NO. 5343-12A  
SHEET 1

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LAYOUT NAME  
2



**1 LOCAL STREET TYPICAL SECTION**  
NTS



**2 COLLECTOR STREET TYPICAL SECTION**  
NTS

**STREET TREE NOTES**

- Trees shall be planted within the right-of-way of all streets proposed within the subdivision. Trees shall be planted in accordance with the requirements of Section 23.402 of the Subdivision Ordinance.
- Trees planted in the public right-of-way shall be of the species shown on the accompanying "Street Tree Table".
- Trees shall be planted no closer than the distance of the full spread of the tree to the next adjacent tree according to the species selected. Trees shall be planted at fifty (50) feet spacing on center. The spacing shall be adjusted as a result of drive openings, underground utilities, street lights, and other potential obstructions.
- A minimum of nine (9) square feet of area shall be maintained for each tree and no impervious material shall be installed closer than thirty (30) inches to the trunk of the tree.
- Trees shall not be located closer than two and one-half (2-1/2) feet to the back of curb or the sidewalk line. Where the distance between the back of curb and sidewalk is greater than eight (8) feet, trees shall be planted within four (4) feet of the sidewalk line.
- Trees shall not be planted closer than thirty (30) feet from the corner at intersections and shall not be closer than twenty (20) feet to the intersection of the front and side lot line on a corner lot.
- Trees shall not be planted closer than ten (10) feet to residential driveways.
- Trees shall not be located closer to a street light pole than the distance of the spread of the tree at maturity. The distance shall be measured from the center of the tree to the center of the pole.

**OUTLOTS A, B, C, D, E, AND F EASEMENTS**

- Public Utility, Storm Sewer, Surface Water Flowage, Sidewalk, Shared-Use Path, and Conservation easements extend over entire outlots.
- Outlots are to be owned by the homeowner's association.
- Outlots A, B, C, D, E and F may be used for storm water conveyance, treatment, and detention.
- Outlots A, B, and D may include subdivision entrance signage.

**OUTLOT C USE**

- A portion of Outlot C is to be used for recreation. The homeowner's association will determine needs for recreation facilities and be responsible for implementing any needed equipment or improvements.

**OUTLOT ZZ USE**

- Outlot ZZ is to be used for future medium density (F5-RM) residential development.

STREET	TREE DISTRIBUTION
Ada Hayden Road	X
McFarland Avenue	X
Ketelsen Drive	X
Ledges Drive	X
Quarry Drive	X

Species may be selected from:	
	Norway Maple
	Black Maple
	Skyline Honeylocust
	Red Oak
	Hackberry
	American Hophornbeam
	American Hornbeam
	American Linden
	Eastern Redbud

Species may be selected from:	
	Bur Oak
	White Oak
	Swamp White Oak
	Hazelnut
	Eastern Wahoo
	Serviceberry
	Viburnum

Roadway Curve Table					
Curve Number	Radius	Delta	Length	Chord	Chord Bearing
C1	43.00'	090°00'00"	67.54'	60.81'	134°56'40"
C2	42.50'	090°00'00"	66.76'	60.10'	044°56'40"
C3	8868.35'	008°29'04"	1313.26'	1312.06'	085°45'28"
C4	42.50'	081°10'35"	60.21'	55.30'	040°55'38"
C5	1972.50'	010°02'16"	345.56'	345.12'	353°14'49"
C6	42.50'	091°40'43"	68.00'	60.98'	044°06'18"
C7	350.00'	009°56'40"	60.75'	60.67'	084°58'20"
C8	117.50'	090°18'36"	185.20'	166.62'	135°11'03"
C9	117.50'	089°41'24"	183.93'	165.72'	225°11'03"

DATE	BY	REVISION	DATE
04/15	SAW	DESIGNED	04/15
04/15	TJH	DRAWN	04/15
04/08/15		CHECKED	04/08/15
		LAST UPDATE:	04/08/15

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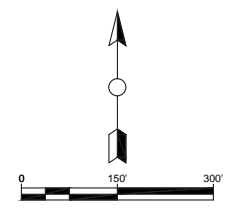
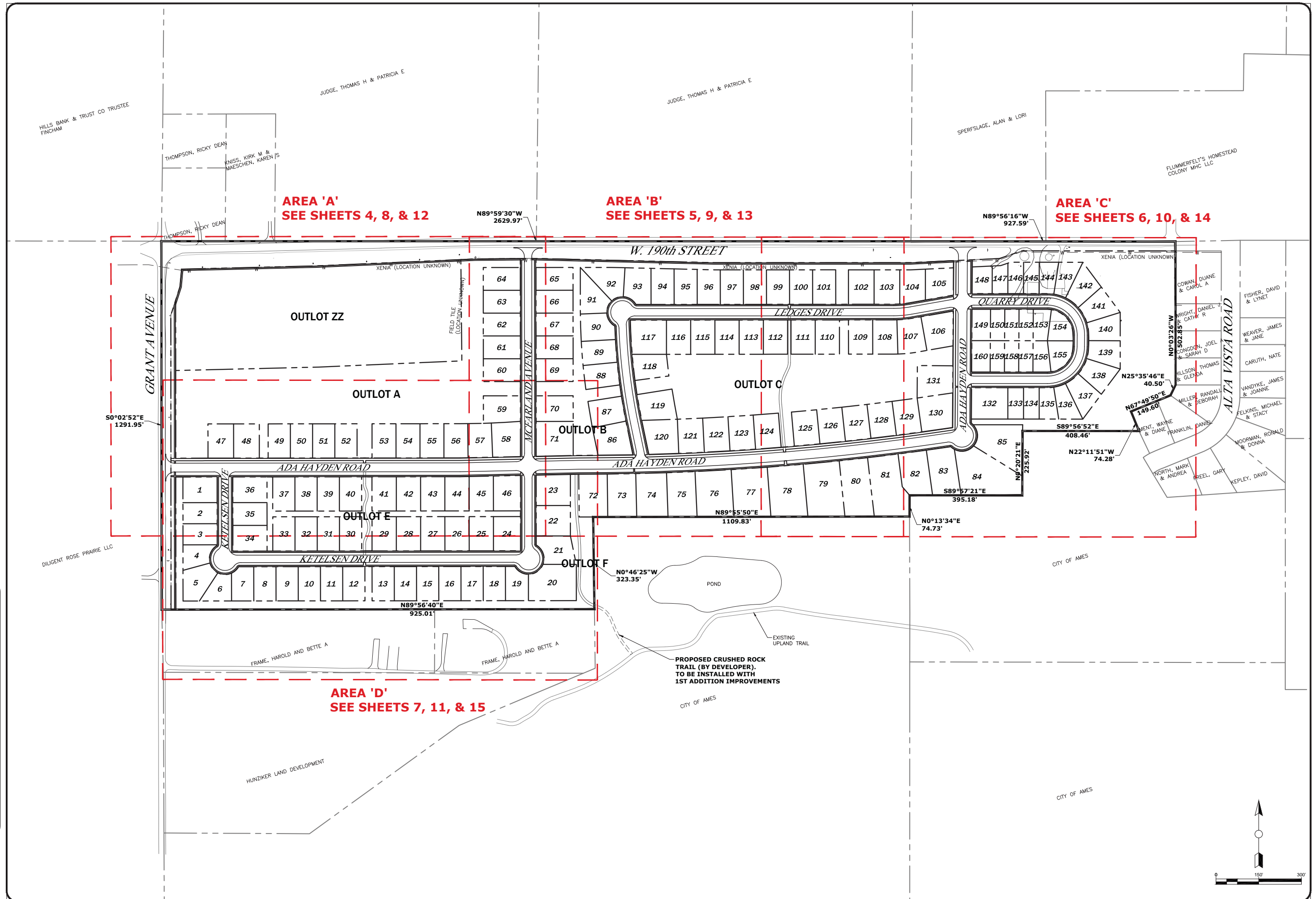


TYPICAL SECTIONS/GENERAL NOTES  
QUARRY ESTATES SUBDIVISION  
PRELIMINARY PLAT  
AMES, IA

PROJECT NO.  
5343-12A

SHEET  
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	TJH		04/15
			04/08/15

DATE: 3/27/15  
 BY: SAW  
 REVISION: REVISED PER DRC COMMENTS DATED 3/24/15  
 DATE: 04/15  
 BY: TJH  
 REVISION: DRAWN  
 DATE: 04/15  
 BY: [Blank]  
 REVISION: CHECKED  
 DATE: 04/08/15  
 BY: [Blank]  
 REVISION: LAST UPDATE

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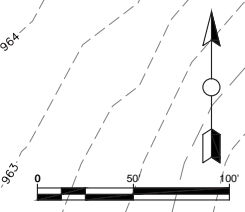
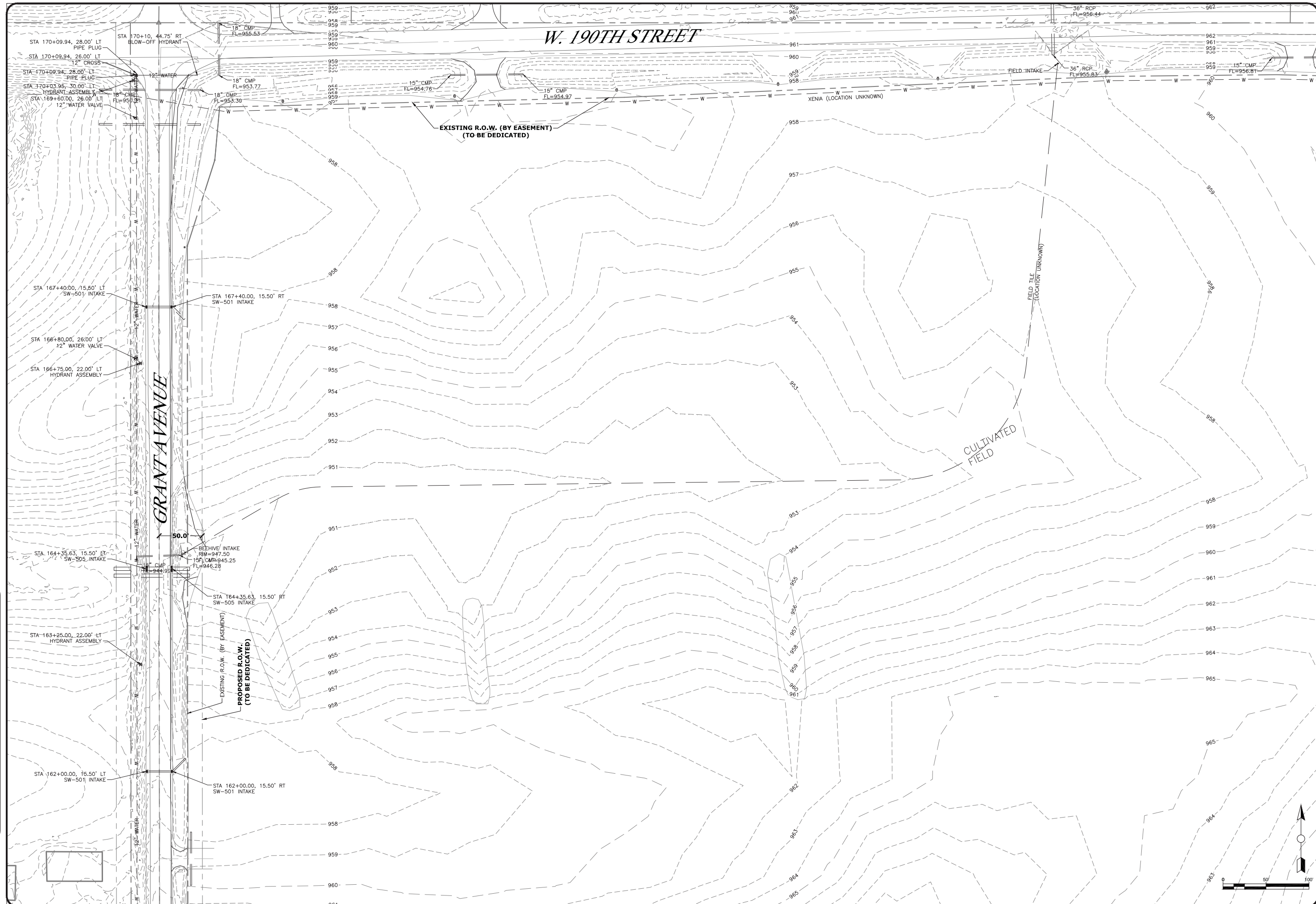
**FOX Engineering**

OVERALL MAP/SHEET INDEX  
 QUARRY ESTATES SUBDIVISION  
 PRELIMINARY PLAT  
 AMES, IA

PROJECT NO.  
 5343-12A

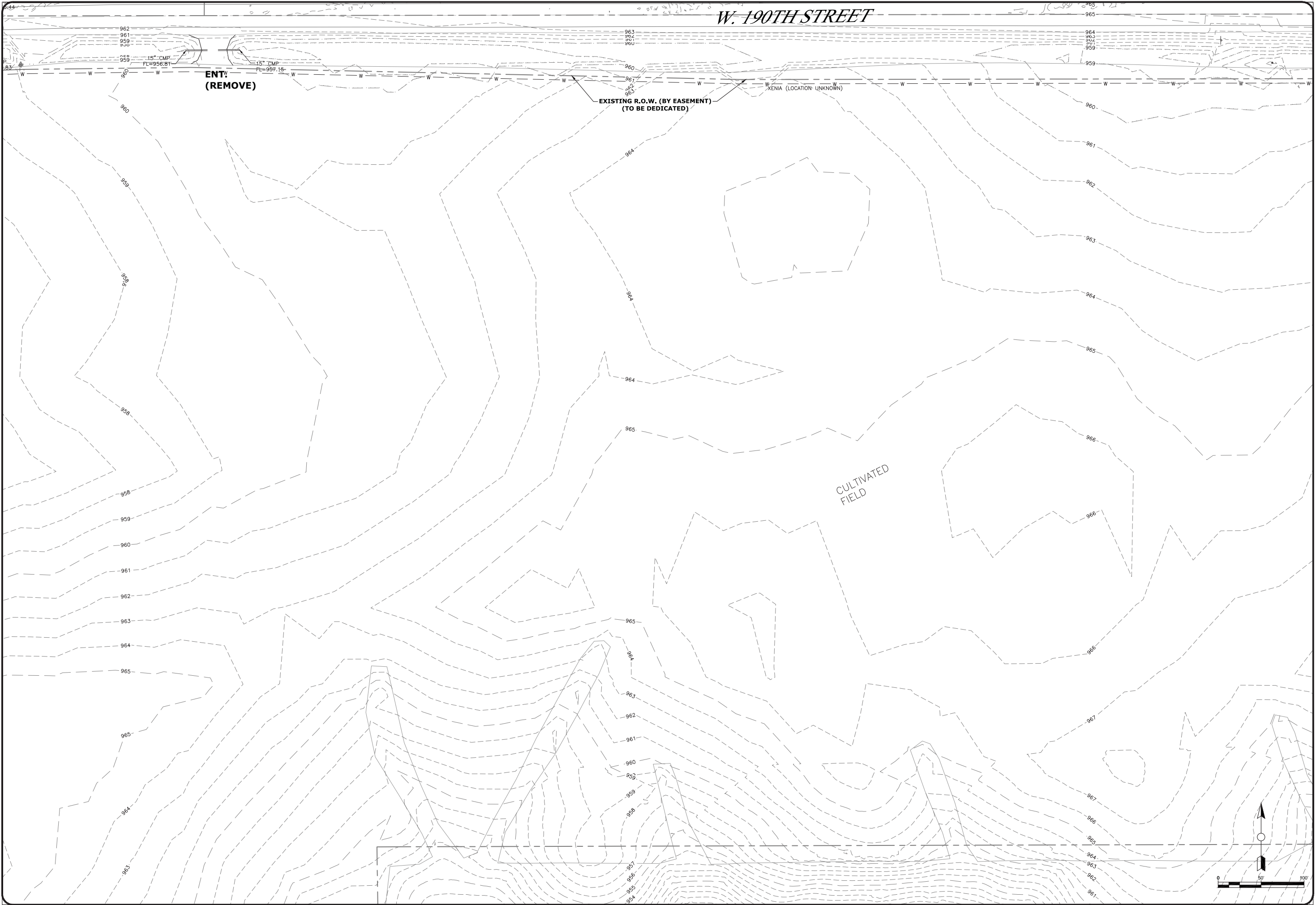
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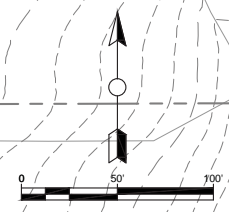


DATE 3/27/15		REVISION REVISED PER DRC COMMENTS DATED 3/24/15		DATE 04/15		BY SAW	
DATE 04/15		REVISION		DATE 04/15		BY TJH	
DATE 04/15		REVISION		DATE 04/15		BY CHECKED	
DATE 04/15		REVISION		DATE 04/15		BY LAST UPDATE: 04/08/15	
FOX Engineering Associates, Inc. 414 South 17th Street, Suite 107 Ames, Iowa 50010 Phone: (515) 233-0000 FAX: (515) 233-0103				<b>EXISTING CONDITIONS/REMOVALS - AREA 'A'</b> QUARRY ESTATES SUBDIVISION PRELIMINARY PLAT AMES, IA			
PROJECT NO. 5343-12A				SHEET 4			





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 PLOT STYLE TABLE  
 FoxGrayScale.ctb  
 LAYER MNGR NAME  
 LAYOUT NAME  
 5



W. 190TH STREET

ENTY  
 (REMOVE)

EXISTING R.O.W. (BY EASEMENT)  
 (TO BE DEDICATED)

CULTIVATED  
 FIELD

KXENIA (LOCATION UNKNOWN)

DATE	BY	REVISION
3/27/15	SAW	REVISED PER DRC COMMENTS DATED 3/24/15
04/15	TJH	
04/15		
04/08/15		

DATE	BY	REVISION

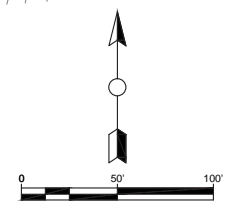
FOX Engineering Associates, Inc.  
 414 South 17th Street, Suite 107  
 Ames, Iowa 50010  
 Phone: (515) 233-0000  
 FAX: (515) 233-0103

**FOX**  
 engineering

EXISTING CONDITIONS/REMOVALS - AREA 'B'  
 QUARRY ESTATES SUBDIVISION  
 PRELIMINARY PLAT  
 AMES, IA

PROJECT NO.  
 5343-12A  
 SHEET  
 5

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 LAYOUT NAME  
 6



DATE	BY	REVISION
3/27/15	SAW	REVISED PER DRC COMMENTS DATED 3/24/15
04/15	TJH	
04/15		
04/08/15		

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EXISTING CONDITIONS/REMOVALS - AREA 'C' QUARRY ESTATES SUBDIVISION PRELIMINARY PLAT AMES, IA	
PROJECT NO. 5343-12A	
SHEET 6	

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LAYOUT NAME



DATE	REVISION	BY	DATE
3/27/15	REVISED PER DRC COMMENTS DATED 3/24/15	SAW	04/15
		TJH	04/15
			04/08/15

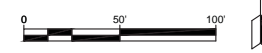
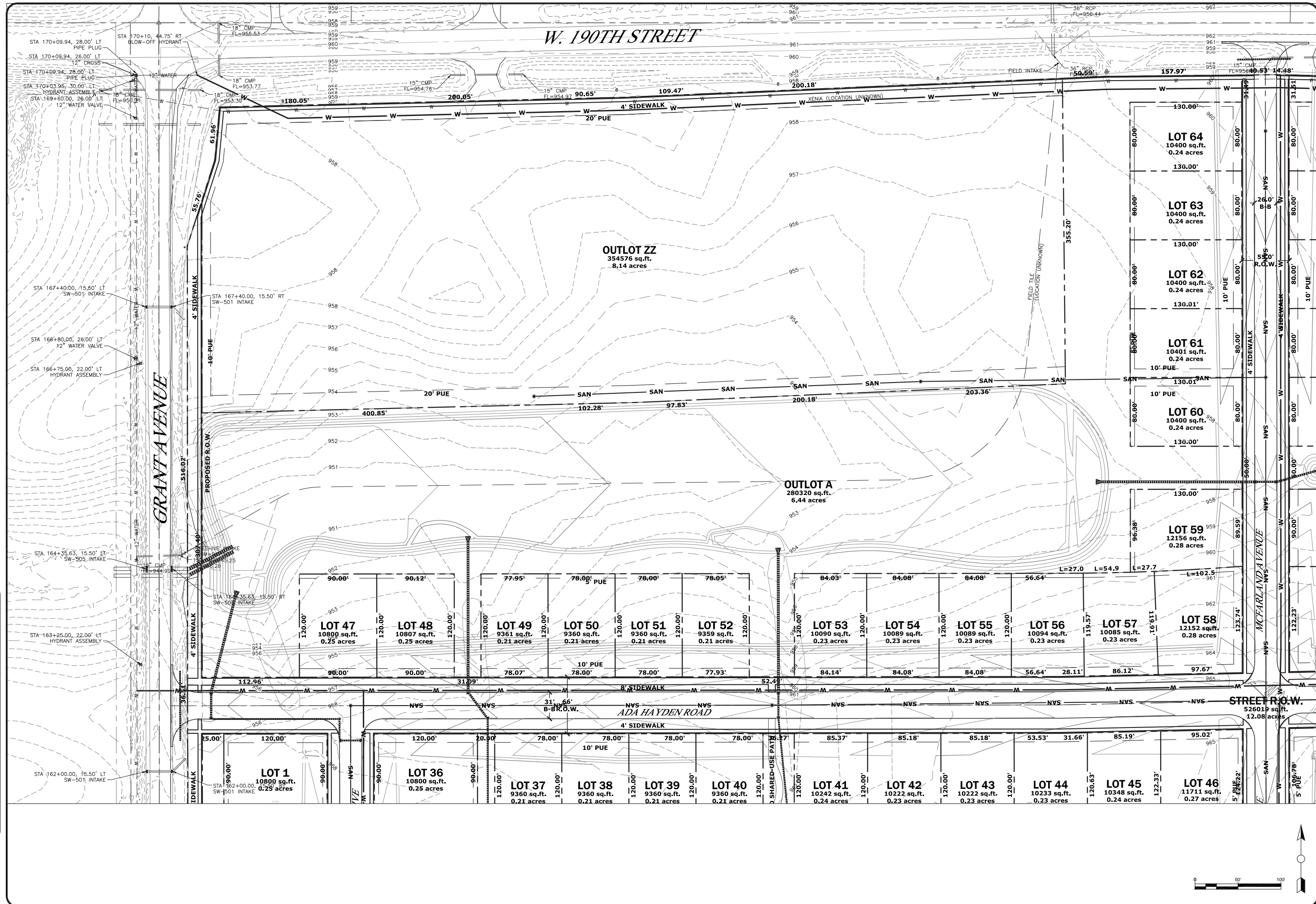
  

<p>FOX Engineering Associates, Inc. 414 South 17th Street, Suite 107 Ames, Iowa 50010 Phone: (515) 233-0000 FAX: (515) 233-0103</p> <p><b>FOX</b> engineering</p>	<p>EXISTING CONDITIONS/REMOVALS - AREA 'D' QUARRY ESTATES SUBDIVISION PRELIMINARY PLAT AMES, IA</p>
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PROJECT NO. 5343-12A
SHEET 7

DRAWING FILENAME  
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LAYER MGR NAME  
LAYOUT NAME  
PLOT STYLE TABLE  
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DATE	BY	REVISION	DATE
3/27/15	SAW	REVISED PER DRC COMMENTS	04/15
	TJH	DRAWN	04/15
		CHECKED	04/08/15
		DATE	LAST UPDATE:

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FAX: (515) 233-0103

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PROPOSED IMPROVEMENTS - AREA 'A'  
QUARRY ESTATES SUBDIVISION  
PRELIMINARY PLAN  
AMES, IA

PROJECT NO.  
5343-12A

SHEET  
8

W. 190TH STREET

W. 190th STREET



DRAWING FILENAME  
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PLOT STYLE TABLE  
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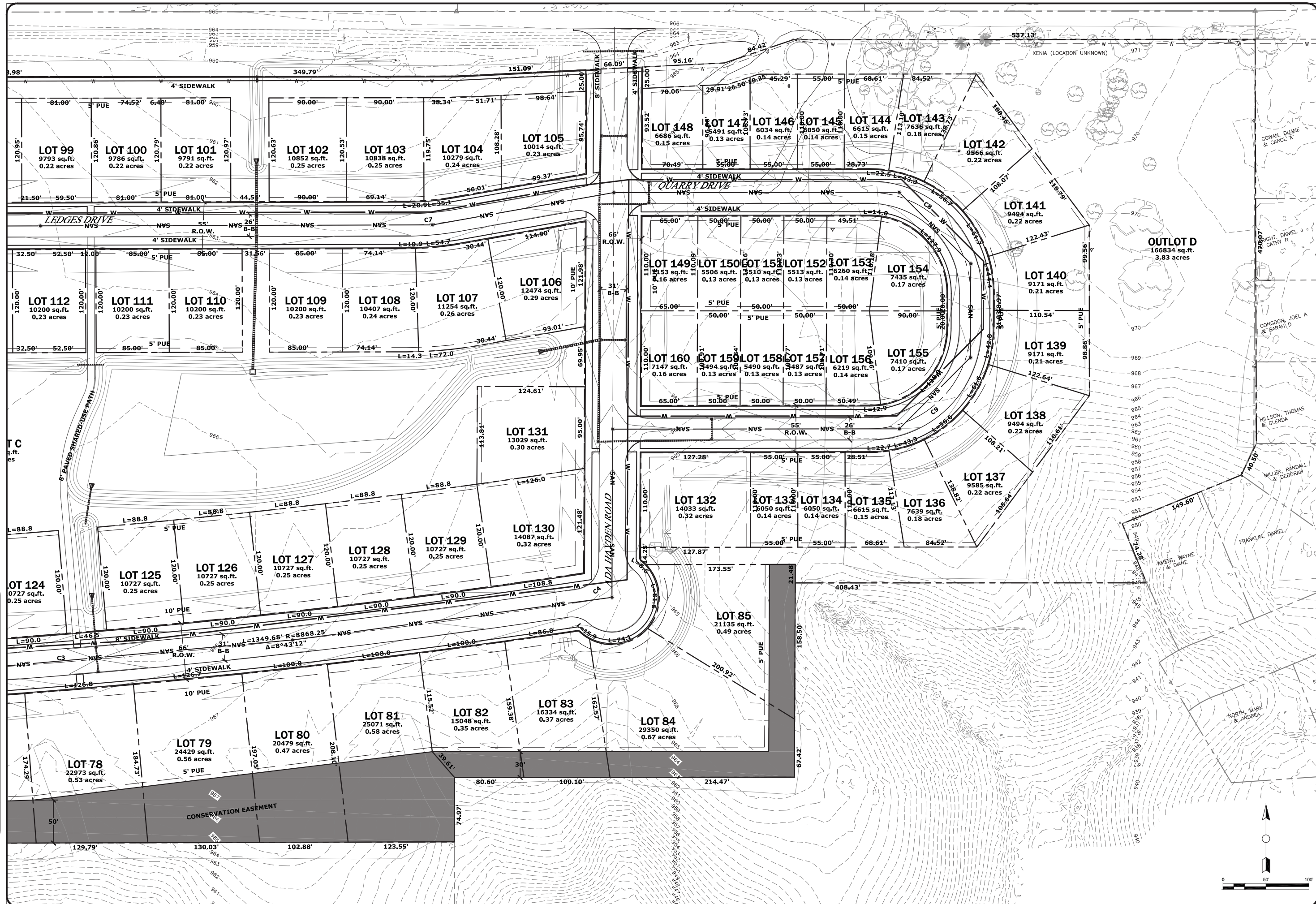
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3/24/15 <td>TJH <td>DRAWN </td></td>	TJH <td>DRAWN </td>	DRAWN
04/15 <td> <td>CHECKED </td></td>	<td>CHECKED </td>	CHECKED
04/15 <td> <td>LAST UPDATE: 04/08/15 </td></td>	<td>LAST UPDATE: 04/08/15 </td>	LAST UPDATE: 04/08/15

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PROPOSED IMPROVEMENTS - AREA 'B'  
QUARRY ESTATES SUBDIVISION  
PRELIMINARY PLAN  
AMES, IA

DRAWING FILENAME  
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	TJH	DRAWN	04/15
		CHECKED	04/08/15
		LAST UPDATE:	04/08/15

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Phone: (515) 233-0000  
FAX: (515) 233-0103

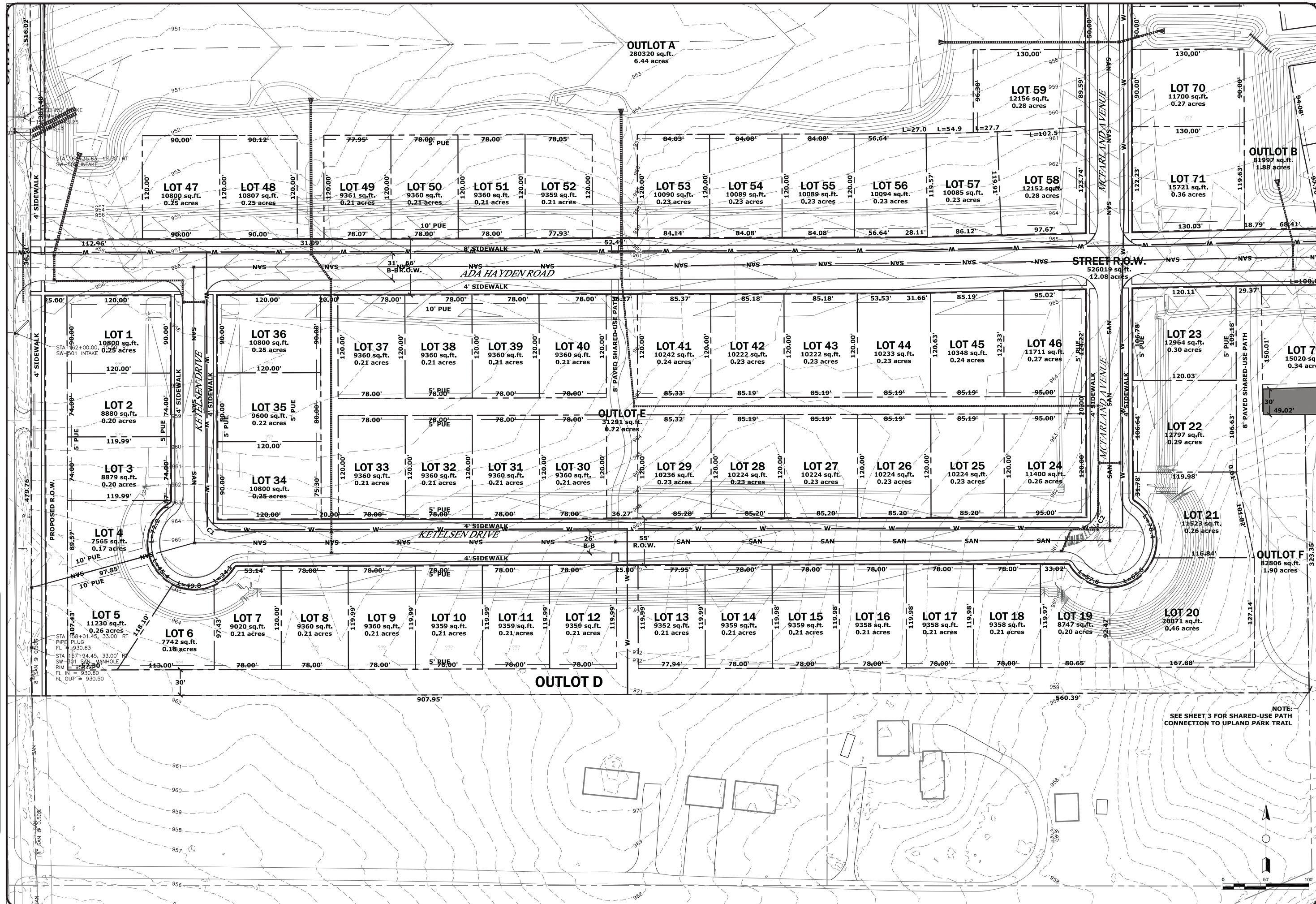
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PROPOSED IMPROVEMENTS - AREA 'C'  
QUARRY ESTATES SUBDIVISION  
PRELIMINARY PLAN  
AMES, IA

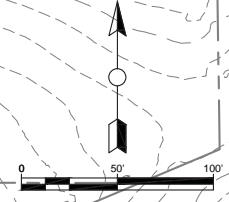
PROJECT NO.  
5343-12A

SHEET  
10

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PLOT STYLE TABLE  
FoxGrayScale.ctb  
LAYER MGR NAME  
11



NOTE:  
SEE SHEET 3 FOR SHARED-USE PATH  
CONNECTION TO UPLAND PARK TRAIL



DATE	3/27/15	REVISION	REVISED PER DRC COMMENTS	DATE	04/15
BY	SAW	DESIGNED		DATE	04/15
		DRAWN	TJH	CHECKED	
				LAST UPDATE:	04/08/15

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PROPOSED IMPROVEMENTS - AREA 'D'  
QUARRY ESTATES SUBDIVISION  
PRELIMINARY PLAN  
AMES, IA

PROJECT NO.  
5343-12A

SHEET  
11

DRAWING FILENAME  
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 PLOT STYLE TABLE  
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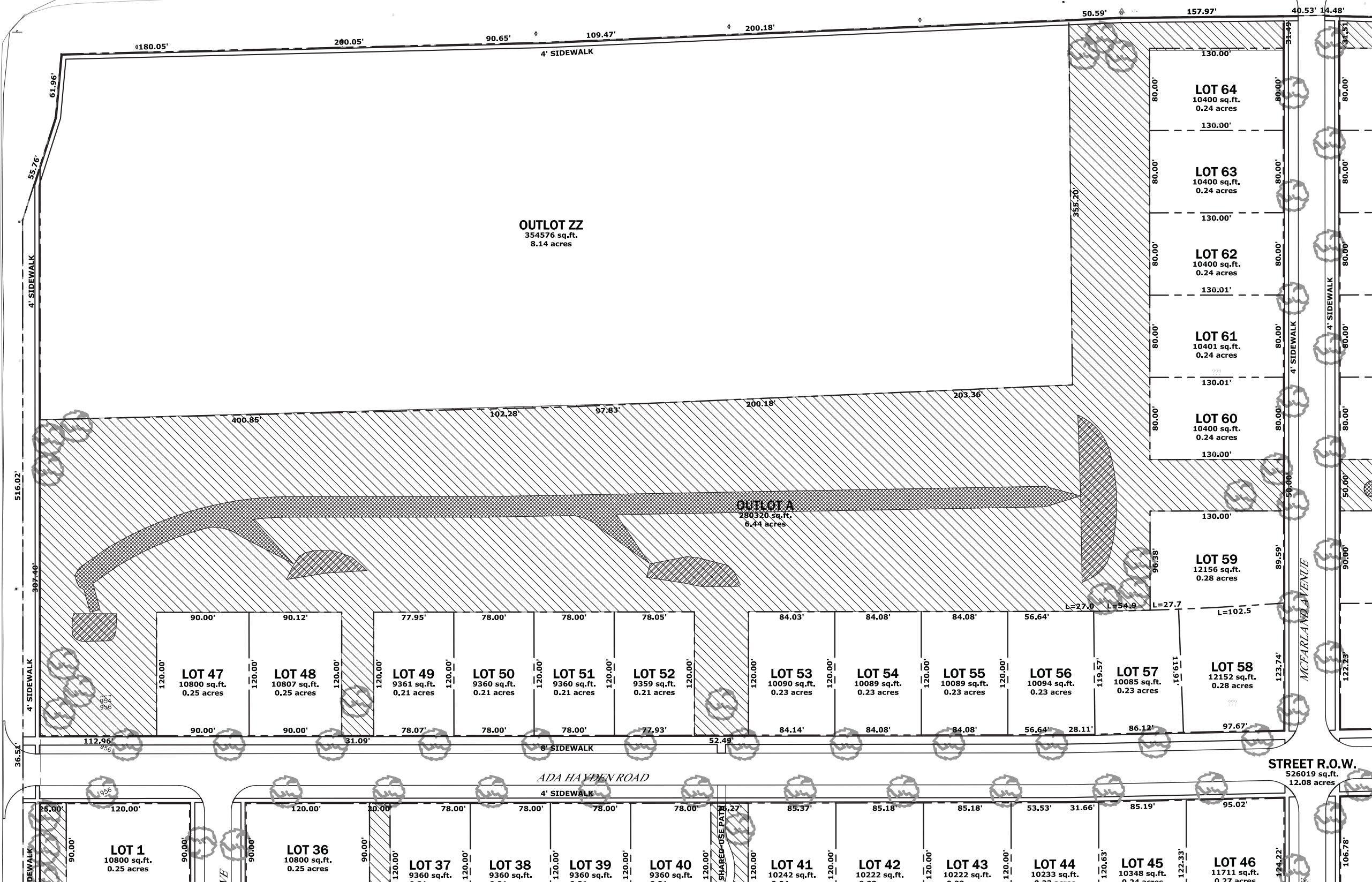
W. 190TH STREET

GRANT AVENUE

MCPARLAND AVENUE

ADA HAYDEN ROAD

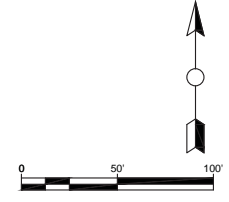
STREET R.O.W.  
 526019 sq.ft.  
 12.08 acres



**SEEDING**

	SEDIMENT BASIN		NATIVE PRAIRIE MIXTURE
	MOWED LAWN GRASS (SUDAS TYPE 1)		DRAINAGE SWALES (FLOODPLAIN MIXTURE)

**NOTE:**  
 SEE STREET TREE TABLE ON  
 SHEET 2 FOR ALLOWABLE SPECIES.



DATE	BY	REVISION	DATE
04/15	SAW	DESIGNED	04/15
04/15	TJH	DRAWN	04/15
04/08/15		CHECKED	
04/08/15		LAST UPDATE:	

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STREET TREE AND LANDSCAPE PLAN - AREA 'A'  
 QUARRY ESTATES SUBDIVISION  
 PRELIMINARY PLAT  
 AMES, IA

PROJECT NO.  
 5343-12A  
 SHEET  
 12



W. 190TH STREET



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PLOT STYLE TABLE  
LAYER MNGR NAME  
FOGgrayScale.ctb  
LAYOUT NAME  
13

**SEEDING**

- SEDIMENT BASIN
- MOWED LAWN GRASS (SUDAS TYPE 1)
- NATIVE PRAIRIE MIXTURE
- DRAINAGE SWALES (FLOODPLAIN MIXTURE)

**NOTE:**  
SEE STREET TREE TABLE ON  
SHEET 2 FOR ALLOWABLE SPECIES.

DATE	BY	REVISION	DATE
3/27/15	SAW	REVISED PER DRC COMMENTS	04/15
	TJH	DRAWN	04/15
		CHECKED	
		LAST UPDATE:	04/08/15

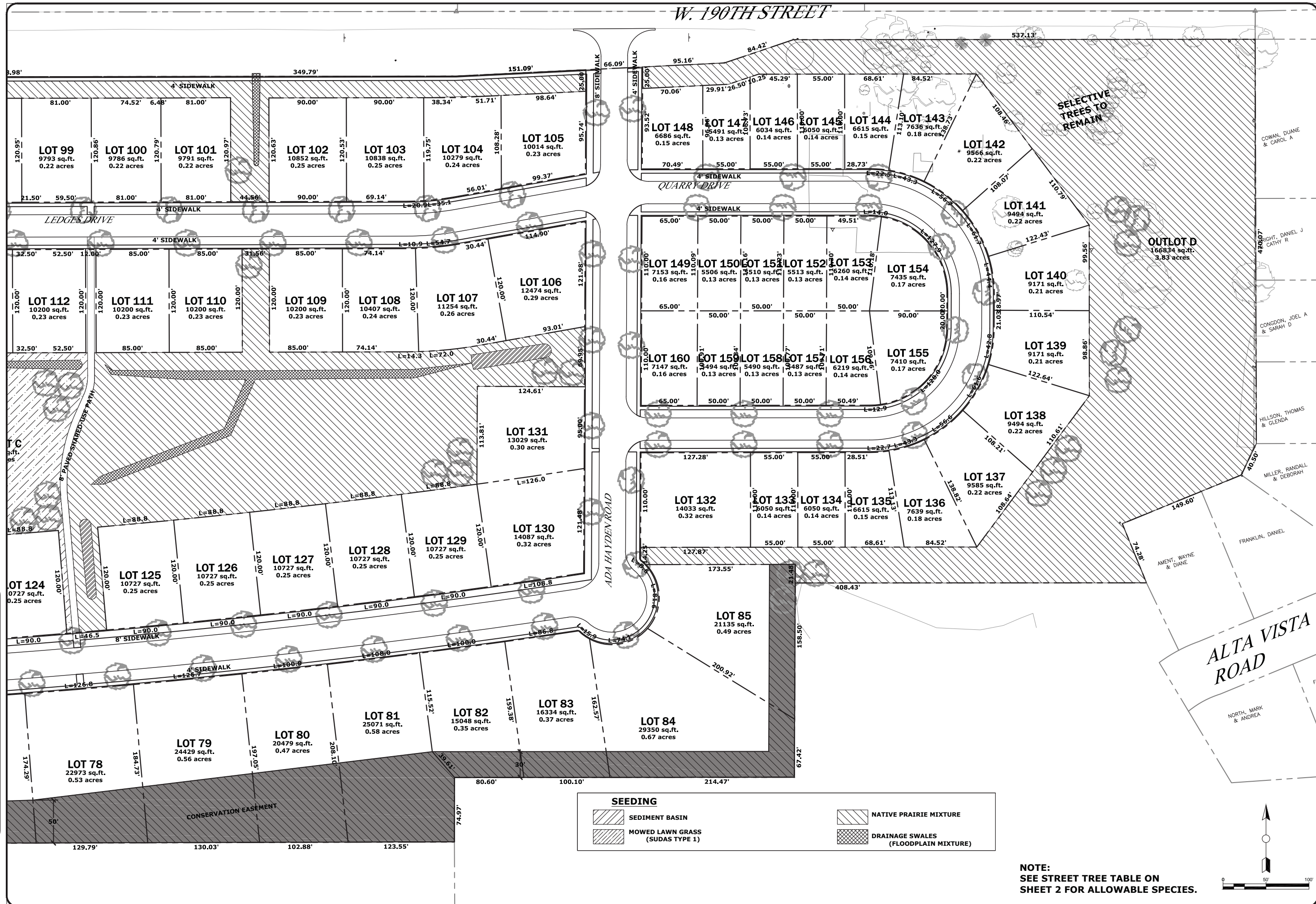
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Ames, Iowa 50010  
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FAX: (515) 233-0103

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STREET TREE AND LANDSCAPE PLAN - AREA 'B'  
QUARRY ESTATES SUBDIVISION  
PRELIMINARY PLAN  
AMES, IA

PROJECT NO.  
5343-12A

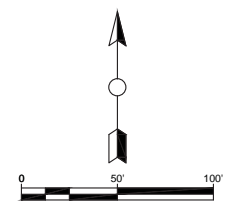
SHEET  
13



**SEEDING**

	SEDIMENT BASIN		NATIVE PRAIRIE MIXTURE
	MOWED LAWN GRASS (SUDAS TYPE 1)		DRAINAGE SWALES (FLOODPLAIN MIXTURE)

**NOTE:**  
SEE STREET TREE TABLE ON SHEET 2 FOR ALLOWABLE SPECIES.



DRAWING FILENAME  
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LAYER MGR NAME  
FOXY  
PLOT STYLE TABLE  
FOXY.ctb  
LAYOUT NAME  
1-4

DATE	BY	REVISION	DATE
3/27/15	SAW	REVISED PER DRC COMMENTS	04/15
		DATED 3/24/15	04/15
		DRAWN	
		CHECKED	
		LAST UPDATE:	04/08/15

PROJECT NO.  
5343-12A

SHEET  
14

STREET TREE AND LANDSCAPE PLAN - AREA 'C'  
QUARRY ESTATES SUBDIVISION  
PRELIMINARY PLAN  
AMES, IA

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DRAWING FILENAME  
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PLOT STYLE TABLE  
FoxGreyScale.ctb  
LAYER MNGR NAME  
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DATE	3/27/15	REVISION	REVISED PER DRC COMMENTS	DATE	04/15
BY	SAW	DESIGNED		DATE	04/15
		DRAWN	TJH	DATE	04/15
		CHECKED		DATE	04/08/15
		LAST UPDATE:			

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STREET TREE AND LANDSCAPE PLAN - AREA 'D'  
QUARRY ESTATES SUBDIVISION  
PRELIMINARY PLAT  
AMES, IA

PROJECT NO.  
5343-12A

SHEET  
15