



Updated:

6/26/17 @ 11:30am

Added communications for the following items:

Item 1 - CUP for Cell Tower at 2138 N 1000 Rd

Item 2 - Site Plan for 1930 Airport Rd

6/20/17 @ 4:30pm

**LAWRENCE-DOUGLAS COUNTY METROPOLITAN PLANNING COMMISSION
CITY HALL, 6 EAST 6TH STREET, CITY COMMISSION MEETING ROOM
AGENDA FOR PUBLIC & NON-PUBLIC HEARING ITEMS
JUNE 26 & 28, 2017 6:30PM - 10:30PM**

GENERAL BUSINESS:

ELECTION OF OFFICERS FOR 2017-2018

Accept nominations for and elect Chair and Vice-Chair for the coming year.

PLANNING COMMISSION ACTION SUMMARY

Receive and amend or approve the action summary (minutes) from the Planning Commission meeting of May 24, 2017.

COMMITTEE REPORTS

Receive reports from any committees that met over the past month.

COMMUNICATIONS

- a) Receive written communications from the public.
- b) Receive written communications from staff, Planning Commissioners, or other commissioners.
- c) Receive written action of any waiver requests/determinations made by the City Engineer.
- d) Disclosure of ex parte communications.
- e) Declaration of abstentions from specific agenda items by commissioners.

AGENDA ITEMS MAY BE TAKEN OUT OF ORDER AT THE COMMISSION'S DISCRETION

REGULAR AGENDA (JUNE 28, 2017) MEETING

PUBLIC HEARING ITEMS:

Recess LDCMPC

Convene Joint Meeting with Eudora Planning Commission

ITEM NO. 1 CONDITIONAL USE PERMIT FOR CELL TOWER; 2138 N 1000 RD (SLD)

CUP-17-00215: Consider a Conditional Use Permit for a new 190 ft self-supporting wireless telecommunications facility (tower), located at 2138 N 1000 Rd. Submitted by MW Towers LLC for F. Dwane Richardson & Valerie Richardson, property owners of record. *Joint meeting with Eudora Planning Commission.*

Adjourn Joint Meeting with Eudora Planning Commission

Convene as the Airport Zoning Commission

ITEM NO. 2 SITE PLAN FOR WILDLIFE HAZARD FENCE; 1930 AIRPORT RD (SLD)

SP-17-00236: Consider a Site Plan (by the Lawrence Douglas County Metropolitan Planning Commission sitting as the Airport Zoning Commission per Section 20-302) for construction of a wildlife hazard fence at Lawrence Municipal Airport, located at 1930 Airport Rd. Submitted by the City of Lawrence, property owner of record.

**Adjourn Airport Zoning Commission
Reconvene LDCMPC**

ITEM NO. 3 RS5 TO RS7; 1.13 ACRES; 309, 321, 325, 331 INDIANA ST (BJP)

Z-17-00217: Consider a request to rezone approximately 1.13 acres from RS5 (Single-Dwelling Residential) District to RS7 (Single-Dwelling Residential) District, located at 309, 321, 325, and 331 Indiana St. Submitted by Summer Wedermyer on behalf of Philip R Jones, Jennifer M Padilla, Nathan R Littlejohn III, Lynette Littlejohn, Emily C H Hensley, Nate Wedermyer, and Summer Wedermyer, property owners of record.

ITEM NO. 4 MINOR SUBDIVISION VARIANCE FOR 2645 HASKELL (SLD)

MS-17-00251: Consider a variance request for the reduction of right-of-way width for Haskell Ave from 150' to 100' associated with a Minor Subdivision for Lawrence Industrial Park No. 2, located at 2645 Haskell Ave. Submitted by CFS Engineers, for Hedge Tree LLC, property owners of record.

****DEFERRED****

ITEM NO. 5 ~~TEXT AMENDMENT TO DEVELOPMENT CODE; PARKING & ACCESS STANDARDS (SMS)~~

~~**TA-13-00235:** Continue discussion related to proposed Text Amendments to the City of Lawrence Land Development Code, Article 9 and related sections of Chapter 20, for comprehensive revisions to parking and access standards. *Action on this item will not occur until after the commission completes their discussion on several of the elements of the code language and a final draft is available for their review.*~~

MISCELLANEOUS NEW OR OLD BUSINESS

Consideration of any other business to come before the Commission.

ADJOURN

CALENDAR

May 2017						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

June 2017						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

July 2017						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

PCCM Meeting:

(Generally 2nd Wednesday of each month, 7:30am-9:00am)

2017
LAWRENCE-DOUGLAS COUNTY METROPOLITAN PLANNING COMMISSION
MID-MONTH & REGULAR MEETING DATES

Mid-Month Meetings, Wednesdays 7:30 – 9:00 AM	Mid-Month Topics		Planning Commission Meetings 6:30 PM, Monday and Wednesday	
Jan 11	CANCELLED		Jan 23	Jan 25
Feb 8	Douglas County Natural Areas Assessment – Kelly Kindscher		--	Feb 22
Mar 8	East Lawrence Rezoning	Dg Co Food System Assessment & Plan	Mar 13	Mar 15
Apr 12	Development Review Process – Planning 101		Apr 24	Apr 26
May 10	CANCELLED		May 22	May 24
Jun 14	APA Conference recap		Jun 26	Jun 28
Jul 12	Michael Davidson – Explore Lawrence Hotel Market & Short Term Rentals		Jul 24	Jul 26
Aug 9	Transportation 2040 Update		Aug 21	Aug 23
Sep 13			Sep 25	Sep 27
Oct 11			Oct 23	Oct 25
Nov 1			Nov 13	Nov 15
Dec 6			Dec 18	Dec 20
PC Orientation – all day (tbd)				
	Suggested topics for future meetings: <i>How City/County Depts interact on planning issues</i> <i>Stormwater Stds Update – Stream Setbacks</i> <i>Overview of different Advisory Groups – potential overlap on planning issues</i> <i>Joint meeting with other Cities’ Planning Commissions</i> <i>Joint meeting with other Cities and Townships – UGA potential revisions</i> <i>New County Zoning Codes</i> <i>Tour City/County Facilities</i> <i>Water Resources</i>		<i>Communication Towers – Stealth Design, # of co-locations, notice area</i> <i>WiFi Connectivity & Infrastructure Planning</i> <i>Oread Overlay Districts & Design Guidelines</i> <i>Comprehensive Plan – Goals & Policies</i> <i>Affordable Housing</i> <i>Retail Market Impacts</i> <i>Case Studies</i>	
Meeting Locations	The Planning Commission meetings are held in the City Commission meeting room on the 1 st floor of City Hall, 6 th & Massachusetts Streets, unless otherwise noticed.			
Planning & Development Services Lawrence-Douglas County Planning Division 785-832-3150 www.lawrenceks.org/pds				

Revised 5/18/17

2017 PLANNING COMMISSION ATTENDANCE

	Jan 25 2017	Feb 22 2017	Mar 15 2017	April 24 2017	April 26 2017	May 24 2017	June 28 2017
Britton	Yes	Yes	Yes	Yes	Yes	Yes	
Butler	No	Yes	Yes	Yes	Yes	No	
Carpenter	Yes	Yes	Yes	Yes	Yes	Yes	
Culver	Yes	Yes	Yes	Yes	Yes	Yes	
Kelly	Yes	Yes	Yes	Yes	Yes	Yes	
Sands	Yes	Yes	Yes	Yes	Yes	No	
Struckhoff	Yes	No	Yes	Yes	Yes	Yes	
von Achen	Yes	Yes	Yes	Yes	Yes	Yes	
Weaver		Yes	Yes	Yes	Yes	Yes	
Willey	No	Yes	Yes	Yes	Yes	Yes	

2017 MID-MONTH ATTENDANCE

	Jan 11 2017	Feb 8 2017	Mar 8 2017	April 12 2017	May 10 2017	June 14 2017	July 12 2017
Britton	-	Yes	Yes	No	-		
Butler	-	No	Yes	No	-	No	
Carpenter	-	Yes	Yes	Yes	-	Yes	
Culver	-	Yes	Yes	Yes	-	Yes	
Kelly	-	Yes	Yes	Yes	-	Yes	
Sands	-	No	Yes	No	-	Yes	
Struckhoff	-	Yes	Yes	Yes	-	Yes	
von Achen	-	Yes	Yes	Yes	-		
Weaver	-	Yes	Yes	Yes	-	Yes	
Willey	-	Yes	Yes	Yes	-	Yes	



PLANNING COMMISSION MEETING
May 24, 2017
Meeting Action Summary

May 24, 2017 – 6:30 p.m.

Commissioners present: Britton, Carpenter, Culver, Kelly, Struckhoff, von Achen, Weaver, Willey

Staff present: McCullough, Stogsdill, Day, Larkin, Pepper, Weik, Ewert

GENERAL BUSINESS

Recognize Clay Britton and Pennie von Achen for their years of service on Planning Commission.

PLANNING COMMISSION ACTION SUMMARY MINUTES

Receive and amend or approve the action summary (minutes) from the Planning Commission meeting of March 15, 2017.

Motioned by Commissioner Britton, seconded by Commissioner Struckhoff, to approve the March 15, 2017 Planning Commission action summary minutes.

Unanimously approved 8-0.

Receive and amend or approve the action summary (minutes) from the Planning Commission meeting of April 24 & 26, 2017.

Motioned by Commissioner Britton, seconded by Commissioner von Achen, to approve the April 24 & 26, 2017 Planning Commission action summary minutes.

Unanimously approved 8-0.

COMMITTEE REPORTS

No reports from any committees that met over the past month.

EX PARTE / ABSTENTIONS / DEFERRAL REQUEST

- No ex parte.
- No abstentions.

PC Minutes 5/24/17

ITEM NO. 1A SPECIAL USE PERMIT FOR LMH; 3RD & MICHIGAN ST (SLD)

SUP-17-00153: Consider a Special Use Permit/Institutional Development Plan for a new parking lot at Lawrence Memorial Hospital and a master plan for the Hospital uses, located at 3rd & Michigan St. Submitted by Landplan Engineering for LMH Board of Trustees and City of Lawrence, property owners of record.

ITEM NO. 1B RS5 TO H; 1.38 ACRES; 302, 306, 310, 314, 318, 322 MICHIGAN (SLD)

Z-17-00158: Consider a request to rezone approximately 1.38 acres from RS5 (Single-Dwelling Residential) District to H (Hospital) District, located at 302 Michigan St, 306 Michigan St, 310 Michigan St, 314 Michigan St, 318 Michigan St, and 322 Michigan St. Submitted by Landplan Engineering PA on behalf of Lawrence Memorial Hospital and LMH Board of Trustees, property owners of record.

STAFF PRESENTATION

Ms. Sandra Day presented items 1A and 1B together.

APPLICANT PRESENTATION

Mr. CL Maurer, Landplan Engineering, agreed with the staff report. He showed a rendering on the overhead of what the parking lot would look like.

PUBLIC HEARING

Mr. Ernest Richardson, 215 Arkansas, expressed concern about angled off-street parking on Arkansas Street.

Mr. Bart Littlejohn, Pinckney Neighborhood Association, expressed concern about the lack of greenspace around the parking lot. He said elimination of affordable housing was tough but the neighborhood understand that was a part of it. He asked the City work with Lawrence Memorial Hospital to replace the affordable housing.

Ms. Pat Miller expressed concern about increased parking while still having a viable neighborhood for residents to live.

APPLICANT CLOSING COMMENTS

Mr. Maurer said the parking on Arkansas Street was back-in parking as a recommendation from the City to allow cars to back in and be able to look both ways to pull out when they leave. He said it was a new parking concept used in other bicycle communities.

COMMISSION DISCUSSION

Commissioner von Achen inquired about the landscape buffer between the two remaining houses and parking lot.

Mr. Maurer said there may not be enough room between the retaining wall and the property line to plant landscaping. He said it may be possible to put something on top of the wall like juniper to drape over the wall.

Complete audio & video from this meeting can be found online:

<https://lawrenceks.org/boards/lawrence-douglas-county-metropolitan-planning-commission/>

Ms. von Achen asked how many parking spaces would be gained in place of the houses that would be demolished.

Mr. Maurer said 94.

Commissioner Carpenter asked how many spaces would be added in phase II for on-street parking.

Ms. Day said approximately 84-86 total spaces in the diagonal parking. She said there may be half of that already with the parallel parking along the curb.

Commissioner Carpenter inquired about lighting.

Mr. Maurer said the lighting would be LED lighting with only two light poles in the lot.

Commissioner Kelly asked about additions/changes made to the hospital over the years and the increased need for parking.

Mr. Maurer said in the mid-1990's an addition was built around the shelter house and a parking lot was added, as well as the doctor parking lot being changed. He said when the medical office building was built they widened and added parking. He stated in the last four years there was vacated right-of-way that was turned into angled parking. He said when the garage was added parking was added at the same time.

Ms. Day said every time a structure was built parking was added.

Commissioner Kelly asked why the Code was so far off on parking requirements.

Ms. Day said the total required parking was around 200 total parking spaces. She said there was overflow parking happening in the neighborhood.

Commissioner Carpenter struggled with the demolition of six houses when the parking lot would only provide ten more spaces than the angled spaces.

Mr. Maurer said angled parking was not the first choice due to safety factors. He said the City was not in favor of angled parking since it would have to be paid for and maintained by the City.

Commissioner Kelly asked what other parking options the hospital explored.

Mr. Maurer said staff park as far away from the hospital as possible and utilize the private parking lot at the Medical Arts building.

Commissioner Kelly asked if other options had been considered, such as bussing staff from off-site locations.

Mr. Maurer said he couldn't think of any empty parking lot for off-site parking.

Commissioner Kelly said this felt like a short-term solution to a long-term plan. He said he understood there was a cost to parking structures but a parking garage would create a less dense

site. He felt this was a version of parking sprawl. He said someone going to the hospital would have to walk a long way if they parked on Michigan Street. He did not feel like this was good planning.

Commissioner von Achen said the on-street parking on Arkansas Street would be general neighborhood parking so it would not be exclusive to the hospital.

Mr. Maurer said that was correct.

Commissioner Britton would prefer not to demolish houses to build a parking lot. He felt the hospital had addressed issues head on and he appreciate that. He said Lawrence Memorial Hospital was a non-profit community hospital and he appreciated them wanting to save money for a better use. He felt this may be the best solution for right now.

Mr. Maurer said there was a plan from 10 years ago that showed a parking garage on the west side with two levels but it only increased the parking by 50 stalls for \$2-3 million dollars. He said a parking garage would not be able to have a lower level, due to the soil, so going up was the only option.

Commissioner Willey said this was addressing a need that was for the medical campus and neighborhood. She felt this was the best solution possible.

Commissioner Struckhoff wondered how the hospital staff utilize parking. He asked if a staff survey was conducted to see where employees were coming from to encourage carpooling. He wondered if any thought had been given to incentivize carpooling for employees, such as being able to park closer with multiple occupants in the vehicle.

Mr. Maurer said staff are already encouraged to park at 4th and Michigan or the lots on the east side. He said many nurses work double shifts or unusual schedules.

Mr. Rich Webb, Lawrence Memorial Hospital, said it was a struggle to get employees to commute because everyone's schedule is different. He said they were trying to minimize the frustration of patients not able to find parking spaces. He said a parking study was conducted that showed they were close to what was needed but it did not look at how many were parking in the neighborhood. He said they looked at ways to reconfigure Arkansas Street right-of-way but it would shut off the entrance which would affect residents. He said he was not sure the hospital was the best place to try new concept parking because people going to the hospital have a lot on their minds. He said the hospital has numerous volunteers and students so they were trying to address an immediate need so users can find spaces.

Commissioner Struckhoff said he'd like to see a long-term goal created to reduce trips to the hospital campus. He did not feel like this was a long-term plan and did not address the problem. He wondered about the proportion of employee growth and the number of parking spaces over time.

Mr. Webb said the hospital administration believed this would be sufficient because they were planning for off-site facility locations.

Commissioner von Achen said a certain amount of the parking problem was due to the hospitals success with ongoing programs, classes, and clinics.

Commissioner Culver said the hospital was a huge community asset and they were cornered within a residential area. He said although it seemed like a short-term plan to provide more surface parking the hospital has taken a proactive approach to address parking needs. He felt it was important going forward to look at metrics for parking with this type of use. He was not aware of the inability to go down with a structured parking garage. He said a multiple-story parking garage in a residential neighborhood would create other issues. He felt this proposal would fit the immediate need and had minimal consequences to the neighborhood.

Commissioner Britton asked staff what the best solution would be if money were not an issue.

Mr. McCullough said parking garages were common in urban settings and that many hospitals of a certain size do have a parking garage. He said the hospital has been trying to find the right balance between how much parking is enough. He said he was not sure it was within Planning Commission's scope to say whether the hospital was addressing their demand. He said people were parking on the residential streets today at this site.

Commissioner von Achen inquired about the request to reduce the number of bicycle spaces.

Ms. Day said many different types of people have the hospital campus as a destination. She said in many instances patients are not going to be biking to the facility. She said it was a professional guess that 70% of the required bicycle parking seemed reasonable.

Mr. McCullough said the city was doing a parking study and the hospital was one of the areas being looked at. He said they have some work to do on the parking ratio in the Code.

Commissioner Carpenter said his first reaction was to disagree with tearing down houses to replace with a parking lot. He wondered where the line would be drawn to encroachment into the neighborhood. He felt it was more of a policy question that couldn't be answered tonight.

Commissioner Kelly said he recognized the hospital was a community asset. He said downtown was also a tremendous asset and it had upward parking to deal with parking issues. He said he didn't love this solution and he wanted more thought to be given to a long-term plan for this area. He felt they needed to continually have parking discussions in planning the community. He said he would vote against this so that the City Commission would take a closer look at it.

Commissioner von Achen said no one likes the idea of tearing down houses to build surface parking but there was no other option. She said she would support the application.

ACTION TAKEN on Item 1A

Motioned by Commissioner von Achen, seconded by Commissioner Britton, to approve the Special Use Permit/Institutional Development Plan, SUP-17-00153, for Lawrence Memorial Hospital and related parking lot expansion and forwarding the request to the City Commission with a recommendation of approval, subject to the following conditions:

1. Approval of and publication of an ordinance to rezone 1.38 Acres from RS5 to H.
2. Prior to recording of the Institutional Development Plan with the Register of Deeds Office the applicant shall:
 - a. Revise and resubmit a drainage study per city Stormwater Engineer's approval.

- b. Provision of a stormwater pollution provision plan and a notice of intent approved by KDHE prior to construction site construction.
 - c. Provide detailed plans for the construction of the parking lot and the installation of the pervious pavement per the approval of the City Stormwater Engineer.
 - d. Submission of public improvement plans to the City for review and approval.
3. Prior to recording of the Institutional Development Plan with the Register of Deeds Office the applicant shall provide a revised site plan with the following notes and changes:
- a. ~~Show 9 parking spaces located along Woody Park for clarification on the drawings.~~ **[Note shown on revised plan provided to staff dated 5/19/2017].**
 - b. Show sanitary sewer line extended to meet minimum City Code requirements for LMH property for ~~326 and 330 Michigan Street~~ per the approval of the City Utility Engineer.
 - c. ~~Revise the landscape plan to include additional shrubs along the north and south property lines to screen the parking lot from adjacent residence.~~ **[Additional landscaping shown on revised plan provided to staff dated 5/19/2017]**
 - d. ~~Revise landscape plan to include additional shrubs and ornamental trees along Michigan Street.~~ **[Additional landscaping shown on revised plan provided to staff dated 5/19/2017]**
 - e. ~~Provision of a note that states Public Improvements Plan are required for review and approval for the following improvements:~~ **[Note shown on revised plan provided to staff dated 5/19/2017]**
 - i. ~~Storm sewer~~
 - ii. ~~Sanitary sewer extension to 326 and 330 Michigan Street~~
 - iii. ~~Sidewalk improvements~~
 - iv. ~~Maine Street Crosswalks.~~
 - f. Provision of a revised plan to show the location of a minimum of ~~123~~ 86 bicycle parking spaces, the distribution and type of bicycle parking spaces based on the APBP recommended rack design and number of bike parking at each bike parking location subject to staff approval.
 - g. Provision of a revised plan to show a conceptual 10' connection of a shared-use path from Sandra Shaw trail through Woody Park or around the Hospital Property to 2nd and Michigan with a note on the face of the site plan that the alignment may be modified by the pending MPO study. **[Conceptual alignment shown on revised plan provided to staff dated 5/19/2017.]**
 - h. ~~Execution of an agreement to fund and construct shared-use path with phase 2 to install on street parking spaces along Arkansas and Maine Streets~~ Provision of a note on the face of the plan that states: *"At the time of the final alignment of the trail, LMH and City of Lawrence Staff will discuss sharing in the cost and possible route through LMH property".*

Commissioner Willey said she would vote in support but recognized the difficulties with parking.

Commissioner Britton said this wasn't a parking problem, it was a driving problem. He encouraged City Commission to think long-term to address the driving problem. He said ultimately this was the solution that existed and he would vote in favor of it even though it felt shortsighted.

Commissioner Struckhoff said he would support this but felt something needed to be done about the driving problem. He said hospital staff needed to be encouraged to carpool, walk, bike, etc. He wanted to see a goal driven effort to reduce single occupancy car trips to institutions in the city.

Complete audio & video from this meeting can be found online:

<https://lawrenceks.org/boards/lawrence-douglas-county-metropolitan-planning-commission/>

Commissioner Carpenter said he would vote in opposition although he felt they were looking at the best plan for the time being. He wanted City Commission to know there were identified issues that needed to be considered.

Motion carried 6-2, with Commissioners Carpenter and Kelly voting in opposition.

ACTION TAKEN on Item 1B

Motioned by Commissioner von Achen, seconded by Commissioner Willey, to approve the request to rezone approximately 1.38 acres, from RS5 (Single-Dwelling Residential) District to H (Hospital) District based on the findings presented in the staff report and forwarding it to the City Commission with a recommendation for approval.

Motion carried 6-2, with Commissioners Carpenter and Kelly voting in opposition.

PC Minutes 5/24/17

ITEM NO. 2 A TO I-3; 26.995 ACRES; 1705 N 1399 RD (BJP)

Z-17-00155: Consider a request to rezone approximately 26.995 acres from County A (Agricultural) District to I-3 (Industrial) District, located directly east of 1705 N 1399 Rd. Submitted by Law Office of Dan Watkins on behalf of RD Johnson Excavating Company LLC, property owner of record.

STAFF PRESENTATION

Ms. Becky Pepper presented the item.

APPLICANT PRESENTATION

Mr. Patrick Watkins was present for questioning.

PUBLIC HEARING

No public comment.

COMMISSION DISCUSSION

Commissioner Carpenter asked if there had been communication with the property owner immediately to the east.

Ms. Pepper said the property owner to the east would have received notice in the mail but that the property owner had not reached out to staff.

Commissioner von Achen asked to see the aerial view on the overhead. She inquired about the zoning of a specific property to the west.

Ms. Pepper said it was zoned Agricultural and was a legal non-conforming salvage yard.

Ms. Stogsdill said it was in existence before 1966 when the county adopted zoning.

Ms. Pepper said the property owner attempted to rezone to a legal use but the rezoning was denied.

Commissioner Willey said the industrial use was appropriate for the area.

ACTION TAKEN

Motioned by Commissioner Britton, seconded by Commissioner Culver, to approve the request to rezone approximately 26.995 acres from County A (Agricultural) District to I-3 (Industrial) District, located directly east of 1705 N 1399 Rd, and forward to the Board of County Commissioners with a recommendation for approval based on the findings of fact found in the body of the staff report.

Unanimously approved 8-0.

PC Minutes 5/24/17

ITEM NO. 3 PRD TO RM15; 8.566 ACRES; 2115 EXCHANGE CT (KEW)

Z-17-00157: Consider a request to rezone approximately 8.566 acres from PRD (Planned Residential Development) District to RM15 (Multi-Dwelling Residential) District, located at 2115 Exchange Ct. Submitted by Paul Werner Architects on behalf of Southwind Capital LLC, property owner of record.

STAFF PRESENTATION

Ms. Katherine Weik presented the item.

APPLICANT PRESENTATION

Mr. Paul Werner, Paul Werner Architects, was present for questioning.

PUBLIC HEARING

No public comment.

ACTION TAKEN

Motioned by Commissioner Struckhoff, seconded by Commissioner von Achen, to approve the rezoning request (Z-17-00157) from PRD (Planned Residential Development) District to RM15 (Multi-Dwelling Residential) District and forwarding it to the City Commission with a recommendation for approval based on the findings of fact found in the body of the staff report.

Unanimously approved 8-0.

PC Minutes 5/24/17

ITEM NO. 4 FINAL DEVELOPMENT PLAN FOR MT BLUE ADDITION; 2350 & 2400 FRANKLIN RD (BJP)

FDP-17-00185: Consider a Final Development Plan for Mt. Blue Addition, Lot 1 and Mt. Blue Addition No. 2, Lot 9 to accommodate mini storage units and a gun range and retail store, located at 2350 & 2400 Franklin Rd. Submitted by Paul Werner Architects on behalf of Ace Self Storage LLC, property owner of record.

STAFF PRESENTATION

Ms. Becky Pepper presented the item.

APPLICANT PRESENTATION

Ms. Leticia Cole, Paul Werner Architects, was present for questioning.

PUBLIC HEARING

No public comment.

ACTION TAKEN

Motioned by Commissioner Britton, seconded by Commissioner Struckhoff, to approve the Revised Final Development Plan (FDP-17-00185) for Mt. Blue Addition based upon the findings of fact presented in the body of the staff report and subject to the following conditions:

1. Execution of a Site Plan Performance Agreement.
2. Provision of mylar and recording fees.
3. Submittal of an Erosion Control Plan for review and approval by the City Stormwater Engineer

Unanimously approved 8-0.

PC Minutes 5/24/17

**ITEM NO. 5 EXTENSION REQUEST; PRELIMINARY PLAT FOR NORTH LAWRENCE
RIVERFRONT ADDITION (SLD)**

PP-2-1-12: Consider an extension request for a Preliminary Plat for North Lawrence Riverfront Addition, located at 401 North 2nd Street. Submitted by Paul Werner Architects, for North Mass Redevelopment, LLC, Douglas County Kaw Drainage District, City of Lawrence, Kaw River Estates, LLC, HDD of Lawrence LLC, D & D Rentals of Lawrence LLC, Jeffrey W. Hatfield, Exchange Holdings LLC, Loosehead Investments LLC, and Riverfront Properties of Lawrence LLC, property owners of record.

STAFF PRESENTATION

Ms. Sandra Day presented the item.

APPLICANT PRESENTATION

Mr. Paul Werner, Paul Werner Architects, said an extension was needed to continue progress on this extensive project.

PUBLIC HEARING

No public comment.

COMMISSION DISCUSSION

Commissioner Britton inquired about the time limit on plats.

Ms. Day said staff look at whether amendments to the Code would affect the design of the subdivision but in this case there had not been during that period.

Commissioner Carpenter inquired about downtown parking requirements.

Ms. Day said the downtown district does not technically have a parking requirement. She said this project would have a parking requirement and design guidelines would need to be submitted.

ACTION TAKEN

Motioned by Commissioner Britton, seconded by Commissioner von Achen, to approve the extension request for 24 months.

Approved 8-0.

MISCELLANEOUS NEW OR OLD BUSINESS

Consideration of any other business to come before the Commission.

ADJOURN 8:53pm

Complete audio & video from this meeting can be found online:
<https://lawrenceks.org/boards/lawrence-douglas-county-metropolitan-planning-commission/>

Planning Commission

Key Links



City of Lawrence
Douglas County
PLANNING & DEVELOPMENT SERVICES



Plans & Documents

- [Horizon 2020](#)
- [Sector/Area Plans](#)
- [Transportation 2040](#)
- [2015 Retail Market Study](#)

Development Regulations

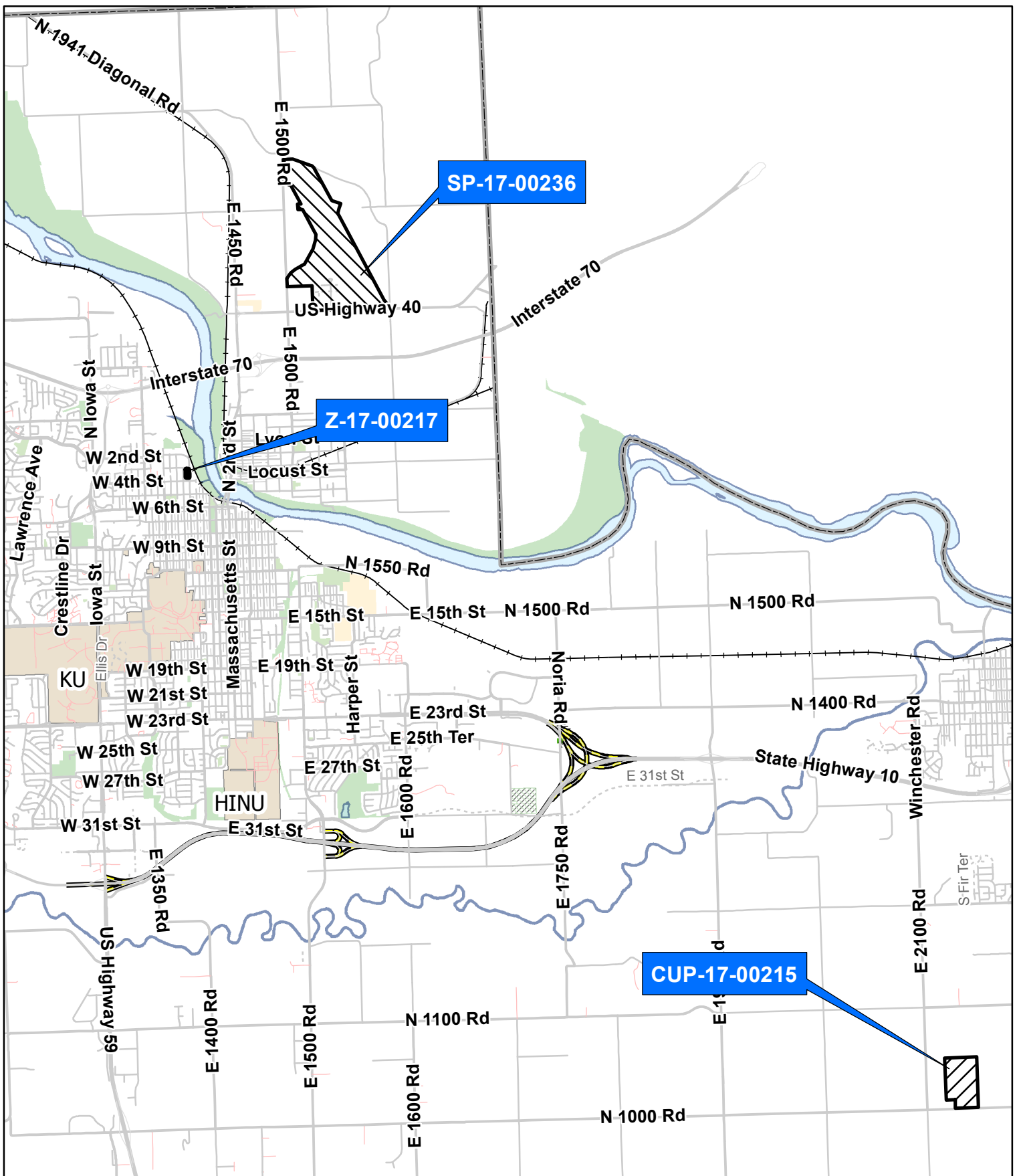
- [Community Design Manual](#)
- [County Zoning Regulations](#)
- [City Land Development Code](#)
- [Subdivision Regulations](#)

Online Mapping

- [City of Lawrence Interactive GIS Map](#)
- [Douglas County Property Viewer](#)
- [Submittals to the Planning Office](#)

Planning Commission

- [Bylaws](#)
- [Mid-Months & Special Meetings](#)
- [Minutes](#)
- [Planning Commission Schedule/Deadlines](#)



PLANNING COMMISSION REPORT Regular Agenda –Public Hearing Item	
PC Staff Report 6/24/17	
ITEM NO. 1	CONDITIONAL USE PERMIT FOR CELL TOWER; 2138 N 1000 RD (SLD)
CUP-17-00215: Consider a Conditional Use Permit for a new 190 ft self-supporting wireless telecommunications facility (tower), located at 2138 N 1000 Rd. Submitted by MW Towers LLC for F. Dwane Richardson & Valerie Richardson, property owners of record. <i>Joint meeting with Eudora Planning Commission.</i> (Eudora Planning Commission has sent a written response and will not attend.	
STAFF RECOMMENDATION: Staff recommends approval of the Conditional Use Permit for a <i>Communication Tower (Wireless Facility)</i> use, subject to the following conditions: 1. Provision of a revised site plan drawing that shows the location of the tower enclosure setback at least 60' from the right-of-way line and the tower shall be setback 150' from the future right-of-way line per section 12-310 of the County Zoning Regulations.	

Reason for Request:

Applicant's Response:

"To construct and maintain a 190 foot wireless telecommunications facility and related equipment shelters/cabinets."

ATTACHMENTS

1. Lease area survey and fall zone
2. Site plan
3. Memo summarizing City of Eudora recommendation
4. Letter from applicant regarding tower design and fall zone
5. Recommended setback exhibit

KEY POINTS

- Proposed location for new wireless communication facility.
- Structures less than 200' are generally not required to provide lighting per FAA.
- Access to site is from N 1000 Road.
- Property is located within 3 miles of the City of Eudora.

ASSOCIATED CASES/OTHER ACTION REQUIRED

- Existing home occupation – non-compliant. Use has expanded beyond allowable limits. Conditional use permit required for home business. (CUP application submitted on 6/19/2017 for a future Planning Commission meeting.)
- Approval of the Conditional Use by the Board of County Commissioners.
- Applicant shall obtain a permit for the Conditional Use from the Zoning and Codes Office prior to commencing the use.
- Applicant shall obtain a building permit from the Zoning and Codes Office prior to any construction.

PUBLIC COMMUNICATION

1. Communication from the City of Eudora Planning Commission.
2. Multiple calls from property owners requesting clarification of proposed tower location.
3. Nearby property owner called to express concerns that tower will conflict with aerial spraying, use of ultra-light aircraft, impact local wetlands and the Santa Fe Trail.
4. Hiquan Ma and Zongwu Cai; 2115 N 1000 Road letter.

GENERAL INFORMATION	
Current Zoning and Land Use:	A (County-Agricultural) District; <i>Agriculture</i> . This property includes 94 acres with a rural residence, out buildings and crop land.
Surrounding Zoning and Land Use:	A (County-Agricultural); <i>Agriculture</i> in all directions. Existing agricultural area with scattered rural residences along county roads.

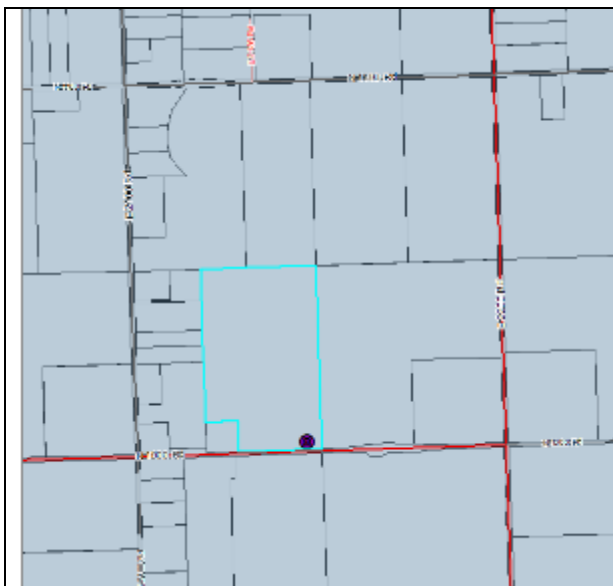


Figure 1: Existing Zoning; A (Agricultural) District

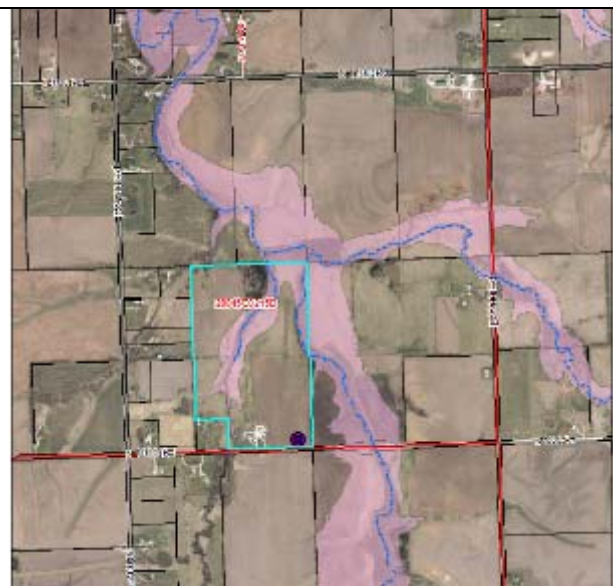


Figure 2: Existing Land Use and Regulatory Floodplain

Summary of Request

This application is for the construction of a new 190' self-support structure to be located on the north side of N 1000 Road. The structure is designed to provide platforms for multiple wireless communication providers. This project has been submitted in accordance with criteria set out in Section 12-319-1.02 of the County Zoning Ordinance. It should be noted that the application was submitted (April 24, 2017) and reviewed based on regulations in effect on the date of the submittal. Recent changes to wireless communications uses were not in effect until May 24, 2017 (TA-16-00511).

The text amendment was made to align the local zoning code regulations with the adopted State and Federal changes to law regarding wireless communication made effective last July.

This application does not include any justification reports or propagation maps. The applicant did provide the extra one mile notice that is required by the County Zoning Regulations.

I. ZONING AND USES OF PROPERTY NEARBY

The 93-acre parent parcel includes active agricultural land and accessory buildings. The nearby and surrounding area is uniformly zoned A (Agricultural). Land uses include large tracts of land with smaller rural residential parcels located along County roads. Smaller lots are concentrated along E 2100 Road west of the property. Larger land tracts are located to the east, north and south.

Section 20-319-4.31 (d) (5) states that towers “should be located in areas zoned commercial, industrial or agricultural” zoning district. The existing zoning is consistent with this land use preference and proposed development request.

Staff Finding – The subject property and immediately surrounding land area are zoned and used for agricultural activities and include rural residences along County roads. The proposed location of the tower (*Wireless Support Structure*) is consistent with the zoning district location requirements of the County Zoning Regulations.

II. CHARACTER OF THE AREA

The property is located within the Eudora Township. The area is characterized by agricultural uses and rural residential homes located along county roads. Both N 1000 and E 2200 Roads are principal arterial thoroughfares in the area. The north property line of the parent parcel is located approximately one mile south of the City of Eudora. The proposed tower would be located about 1.7 miles south.

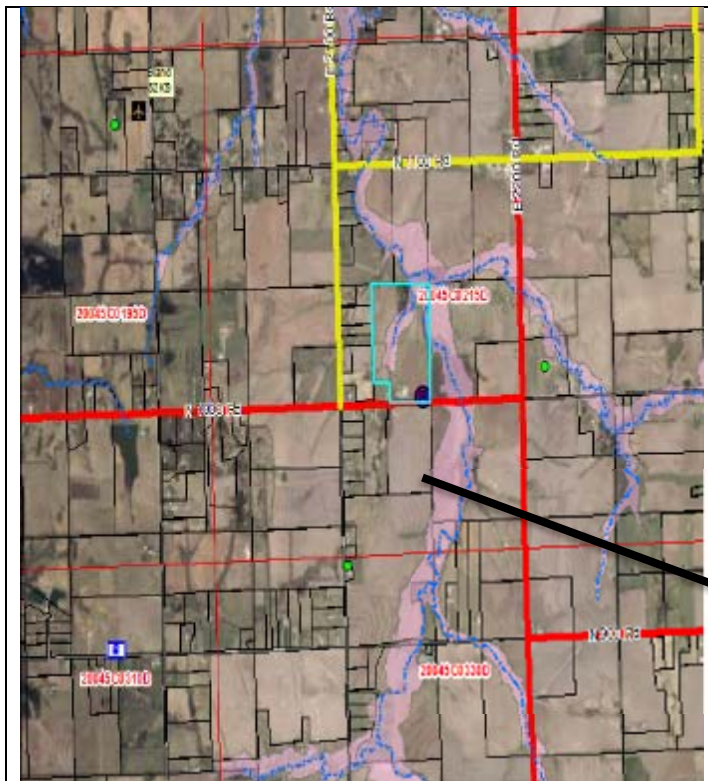


Figure 3: Area Map

The property and proposed tower location are located outside of the Eudora growth area but are located within three miles of the incorporated City Limits.

The Little Wakarusa Creek is located to the east of the property. A tributary to the creek is located within the subject property.

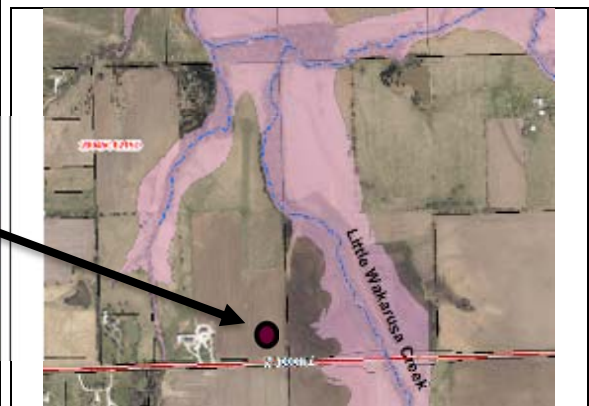


Figure 4: Little Wakarusa Creek

Staff Finding –The subject property is located within three miles of the City of Eudora within the unincorporated portion of Douglas County. The predominant characteristic of the area is agricultural.

III. SUITABILITY OF SUBJECT PROPERTY FOR THE USES TO WHICH IT HAS BEEN RESTRICTED

Applicant's Response: *"The subject property is agricultural. The subject property is suitable for a wireless telecommunications facility because it is geographically located in an area where public and private demand for high speed data and wireless communications exceed existing capacity and additional wireless equipment and access is needed to serve the demand."*

The proposed request does not alter the base zoning A (Agricultural) District. Uses permitted in this district include agricultural activities such as farms, truck gardens, nurseries, grazing and similar activities. Residential uses are also permitted. Certain uses are permitted in the A (Agricultural) District subject to review and approval of a Conditional Use Permit such as *Wireless Facilities* and support structures (towers). Section 12-319.4.31(d) specifically identifies commercial, industrial or agricultural zoning districts as suitable for communication towers (*Wireless Facilities*).

The specific location of the tower within the property is discussed later in this report as it pertains to building setbacks.

Staff Finding – The property, as zoned A (Agricultural) District, is suitable for the proposed use.

IV. LENGTH OF TIME SUBJECT PROPERTY HAS REMAINED VACANT AS ZONED

The proposed location of the tower is on the southeast corner of a 95 acre parcel. The property is undeveloped except for an area to the west along N 1000 Road which includes a residence and multiple agricultural buildings. Improvements appear on the parcel in the 1941 Aerial. Zoning was established in Douglas County in 1966.

Staff Finding –The property has been used for agricultural uses since before the adoption of the Zoning Regulations in 1966. The majority of the 95 acres is undeveloped except for the area located in the southwest corner of the property noted above.

V. EXTENT TO WHICH REMOVAL OF RESTRICTIONS WILL DETRIMENTALLY AFFECT NEARBY PROPERTY

Applicant's Response: *The granting of a Conditional Use Permit will not detrimentally affect nearby property because the wireless telecommunications facility will be located on a 95 acre farm tract with no direct visibility to any existing residences."*

Section 12-319-1.01 of the County Zoning Regulations recognize that *"....certain uses may be desirable when located in the community, but that these uses may be incompatible with other uses permitted in a district...when found to be in the interest of the public health, safety, morals and general welfare of the community may be permitted, except as otherwise specified in any district from which they are prohibited."*

Communication towers are specifically recommended to be located in commercial, industrial or agricultural zoning districts. This proposed development request is located within the existing A (Agricultural) District.

The subject property is encumbered by regulatory floodplain. However, the proposed location of the tower is identified in the southeast corner of the property along N 1000 Road and will not encroach on the floodplain.

Nearby uses include a private air strip located approximately two miles to the northwest. This private air strip is oriented north and south and located west of E 2000 Road. The proposed tower would not be located in direct alignment with the air strip.

Staff Finding –The proposed request is comparable to similar wireless facility requests made in Douglas County.

VI. RELATIVE GAIN TO THE PUBLIC HEALTH, SAFETY AND WELFARE BY THE DESTRUCTION OF THE VALUE OF THE PETITIONER’S PROPERTY AS COMPARED TO THE HARDSHIP IMPOSED UPON THE INDIVIDUAL LANDOWNERS

Applicant’s Response: *N/A. No property values will be destroyed and no hardship imposed on landowners. The public health, safety and welfare will be improved by increased access to high speed data and wireless telecommunications services provide by tower tenants.*

Evaluation of the relative gain weighs the benefits to the community-at-large vs. the benefit of the owners of the subject property. Approval of the request expands the structural network of towers that are capable of supporting wireless communication equipment. The proposed request facilitates wireless communications and wireless data use within the community. The proposed equipment does not conflict with existing emergency communication equipment. The majority of the property will remain viable for existing land uses and uses permitted within the A (Agricultural) District.

The County Public Works Director noted in the review that the proposed location of the tower, in proximity to the existing road right-of-way, will cause a conflict in the future with widening and improvement of N 1000 Road (County Route 458). N 1000 Road is classified as a Principal Arterial. The Subdivision Regulations require 120’ of right-of-way (50’ from center line.) The existing right-of-way along this road segment is only 30’ from centerline, so the fence enclosure should be moved at least 30’ north to preserve future right-of-way.

New structures are required to be setback 150’ from the right-of-way along Principal Arterial roads. The following graphs represents the location of the enclosure based on the existing and future right of way.

Table 1: Setback Requirements

Proposed enclosure setback from Right-of-way			
Roadway from center line.	Set back	Proposed Enclosure	
30’ ROW	30’	75’	

Recommended enclosure setback from right-of-way			
Roadway from center line.	Set back		Proposed Enclosure
60’ ROW	150’		75’

By moving the tower and enclosure farther north appropriate right-of-way is preserved for future improvements to the roadway.

Staff Finding – In staff’s opinion, the approval of this request as proposed does not preserve the necessary right-of-way for N 1000 Road, a Principal Arterial. Shifting the base of the tower and enclosure to the north right-of-way will be preserved. Staff recommends the tower site be relocated to the north to accommodate a future road improvement along N 1000 Road.

VII. CONFORMANCE WITH THE COMPREHENSIVE PLAN

Applicant’s Response: *North 1000 Road is designed as a principal arterial road. Having a facility to provide high speed data and wireless communications is paramount for economic growth. Additionally, reliable wireless services are critical for public safety and emergency services.*

Chapter 10; Community Facilities of *Horizon 2020* addresses public utilities. Key strategies (Page 10-10) primarily address municipal utilities such as water and wastewater planning. One strategy states:

- *The visual appearance of utility improvements will be addressed to ensure compatibility with existing and planned land use areas.*

The plan specifically addressed electric and telephone services and encourages this infrastructure to be placed underground in conjunction with new development where feasible. Wireless communication towers support the wireless industry and accommodate the reduction of hardwire infrastructure. However, it should not be interpreted that wireless communication will replace hardwire needs in the community.

The plan recognizes that *"telephone and electric utilities have a strong visual presence in the unincorporated Douglas County Landscape."* Large transmission lines and easements should be coordinated throughout the community to minimize visual and environmental impacts.

The Comprehensive Plan does not explicitly address communication towers.

Staff Finding – The comprehensive plan does not provide any specific land use recommendations regarding *Wireless Facilities*. A Conditional Use Permit can be used to allow specific non-residential uses subject to approval of a site plan. This tool allows proportional development in harmony with the surrounding area. The proposed request is consistent with the Comprehensive Plan.

CUP PLAN REVIEW

In addition to typical site plan design standards, communication towers must address specific requirements of section 12-319-4.31 of the County Zoning Regulations. As discussed above, the proposed use is located in an appropriate zoning district.

New communication towers require design that shall accommodate at least three two-way antennas for every 150’ of tower height or co-location space. The proposed tower site plan includes four co-location spaces on this tower.

The proposed project locates the wireless tower facility within a 75’ square enclosure area. The enclosure would be fenced and is shown graphically to include two future 12’ by 20’ tenant ground lease areas within the proposed fence enclosure (50’ by 50’). The current project does not include or show the location of a generator. Generators are typically provided by individual communication providers to support equipment during times of power loss. Tenant co-location on the tower in the future would be considered through an administrative site plan application review.

Parking and Access:

Wireless Facilities do not require traditional off-street parking. Access to the tower enclosure area is provided from a driveway access from N 1000 Road. Access to the site is limited to construction and maintenance. There are no offices or manned operations at this location. A county driveway permit would be required separately.

Utilities

Typical utilities are not required for this use. The site plan shows the location of an access and utility easement that will accommodate services (electric and phone) connections to the site. Water and sanitary sewer serves are not required.

Landscape and Screening:

This site will not be irrigated and will not be staffed. The survival of vegetation used for screening is usually unsuccessful especially in a rural application. The project as proposed does not include a landscape plan. An existing tree line is located along the east property line.

Tower Design

- Accommodations for the co-location of equipment for multiple tenants is provided with this proposed structure design.
- The overall tower height is less than 200'. Mandatory lighting is not required or proposed for the structure.

Setback

As discussed above the building setback for structures is 150' from the right-of-way for buildings located along Principal Arterial roads. For example, a new residence would be required to be setback 150' from the north right-of-way line along this segment of N 1000 Rod.

The tower is required, per section 12-319-4.31(d), to be setback at least equal to the height of the tower to the nearest property line measured from the center of the tower. The tower (center of tower), as proposed, is located 67' from the north right-of-way line (south property line) and approximately 80' from the east property line. The fence enclosure is proposed to be located 31' north of the right-of-way and 42.4' west of the east property line. While the tower is setback an additional distance, the location of the fence enclosure would not be adequately setback once the roadway for N 1000 Road is widened.

The typical right-of-way profile for a rural Primary Arterial Road is 120' (without a median) or 150' (with a median). The existing right-of way for this segment of N 1000 Road is 60'. Each property owner would provide one half of the right-of-way or roadway easement as applicable.

Primary structures are typically required to be setback 150' from the right-of-way for properties located along Principal Arterial roads per 12-318. This setback standard applies to residential structures. The existing residence to the west does not appear to meet this design standard. The following graphic shows the location of the tower and lease area in relationship to the right-of-way lines (south property line).



Figure 5: Proposed location of tower and enclosure

The proposed tower location is setback in line with the existing residence. The enclosure area would be located one foot north of the easement.

Wireless communication towers must meet the minimum setback established by Section 12-319-4.31(d) or provide documentation certified by a registered engineer certifying that in the event of a failure or collapse, the fall zone will be contained within the proposed setback area. The applicant has provided a letter from the tower designer indicating the intended design for the tower to result in collapse radius equal to the identified distance in the attached survey (67.5').

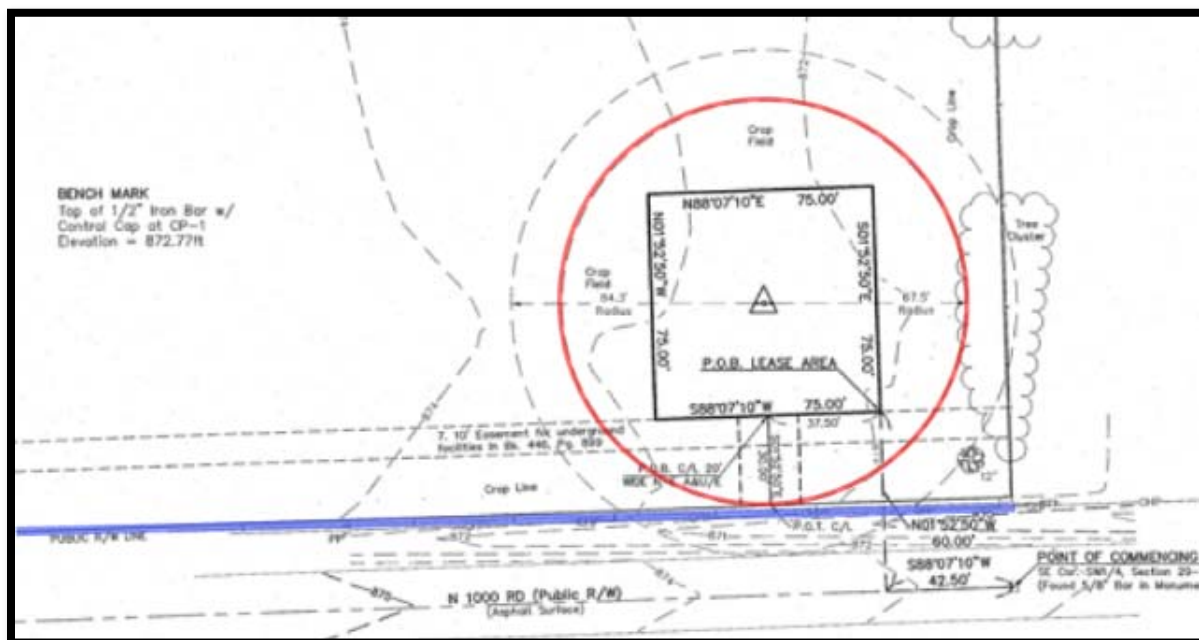


Figure 6: Fall Zone

Evaluation of the required structural documentation will continue to be reviewed with the submission of a building permit to the County Zoning and Codes Office. The lease area is located 42.5' from the east property line. The fall zone is located completely within the parent parcel.

The tower and ground equipment will be located in a 50' by 50' enclosure area within the larger lease area of 75' by 75'. Additional ground equipment could result in the need to expand the ground enclosure to accommodate added equipment in the future.

Staff recommends the enclosure area be setback the tower enclosure setback at least 60' from the right-of-way line and the tower shall be setback 150' from the future right-of-way line. This is intended to preserve the right-of-way for improvements to N 1000 Road.

Lighting

Lighting is not proposed with this application for the communication tower. The tower will need to meet any applicable FAA requirements. Generally, towers less than 200' are not required to be lit. ground equipment will have lighting on front and rear sides of the building. Lighting must be shielded and directed down.

Other

Prior to construction of the tower the applicant will be required to obtain a Conditional Use Permit, issued by the County Zoning and Codes office as well as applicable building and floodplain development permits.

Recent changes to federal laws allow some future modifications to approved and existing communication towers, base stations, co-location equipment and other features. The full scope of these changes has not been assessed by staff. Changes can include expanding the tower by up to an additional 20' and increasing the base station (enclosure area) by up to 10%.

Conclusion

The proposed application meets the required documentation requirements of the County Zoning Regulations. Staff recommends a changes to the site plan to facilitate the project compatibility with future roadway improvements along N 1000 Road as discussed in the body of this staff report.

The property owner has a current home-based business that is currently not in compliance with the home occupation regulations. The property owner has submitted a separate Conditional Use Permit for the continuation of the business at this location. The application will be considered on a future Planning Commission agenda.

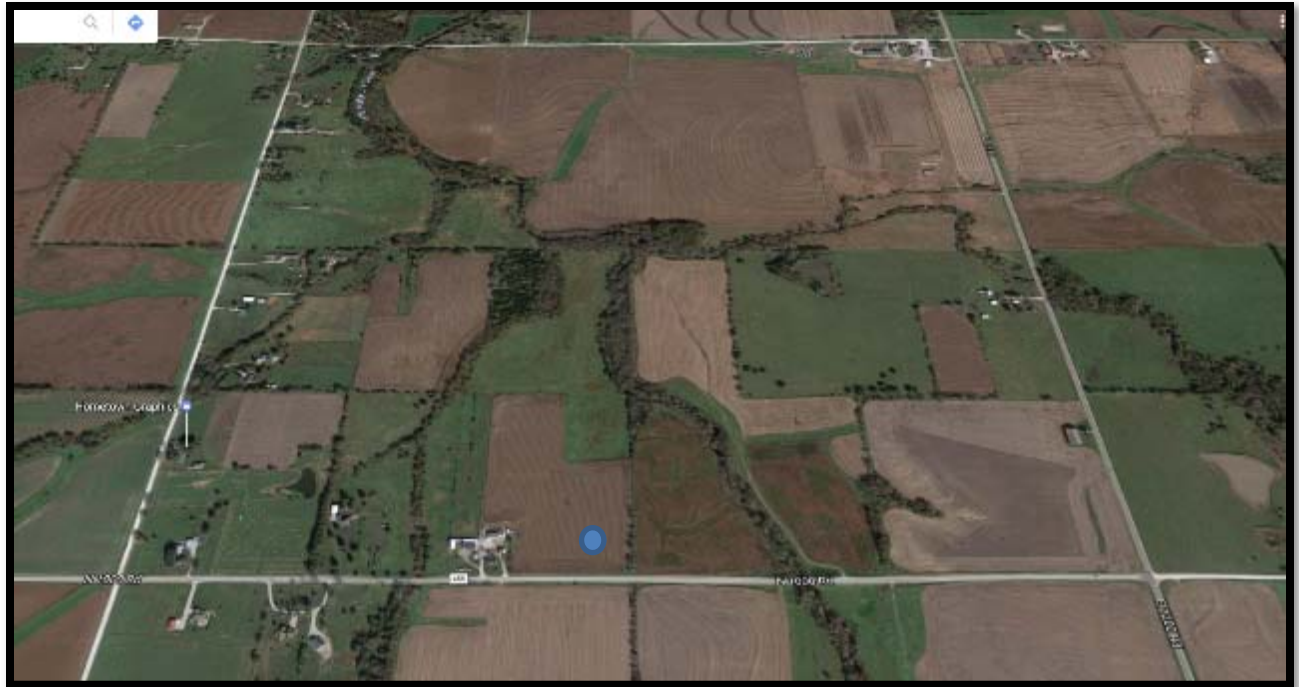


Figure 7: Aerial of surrounding property

EUDORA
PART OF THE SW 1/4, SECTION 29, T13S, R21E,
IN DOUGLAS COUNTY, KANSAS

PROPERTY DESCRIPTION: Parent Parcel as Provided

The East 100 acres of the Southwest Quarter of Section 29, Township 13 South, Range 21 East of the 6th P.M., in Douglas County, Kansas,

LESS AND EXCEPT:

Beginning at the Southwest corner of the East 100 acres of the Southwest Quarter of Section 29, Township 13 South, Range 21 East of the 6th P.M.; thence North 467 feet; thence East 467 feet; thence South 467 feet; thence West to the point of beginning, Douglas County, Kansas, Subject to easements, reservations, and restrictions, if any of record.

NOTE: The parent parcel graphically shown hereon, in full or in part, is the same as that described above.

Property information shown hereon was provided by Premier Title of Kansas, Inc., Case No. 35318, effective November 8, 2016 at 8:00 a.m..

Schedule B-II Information:

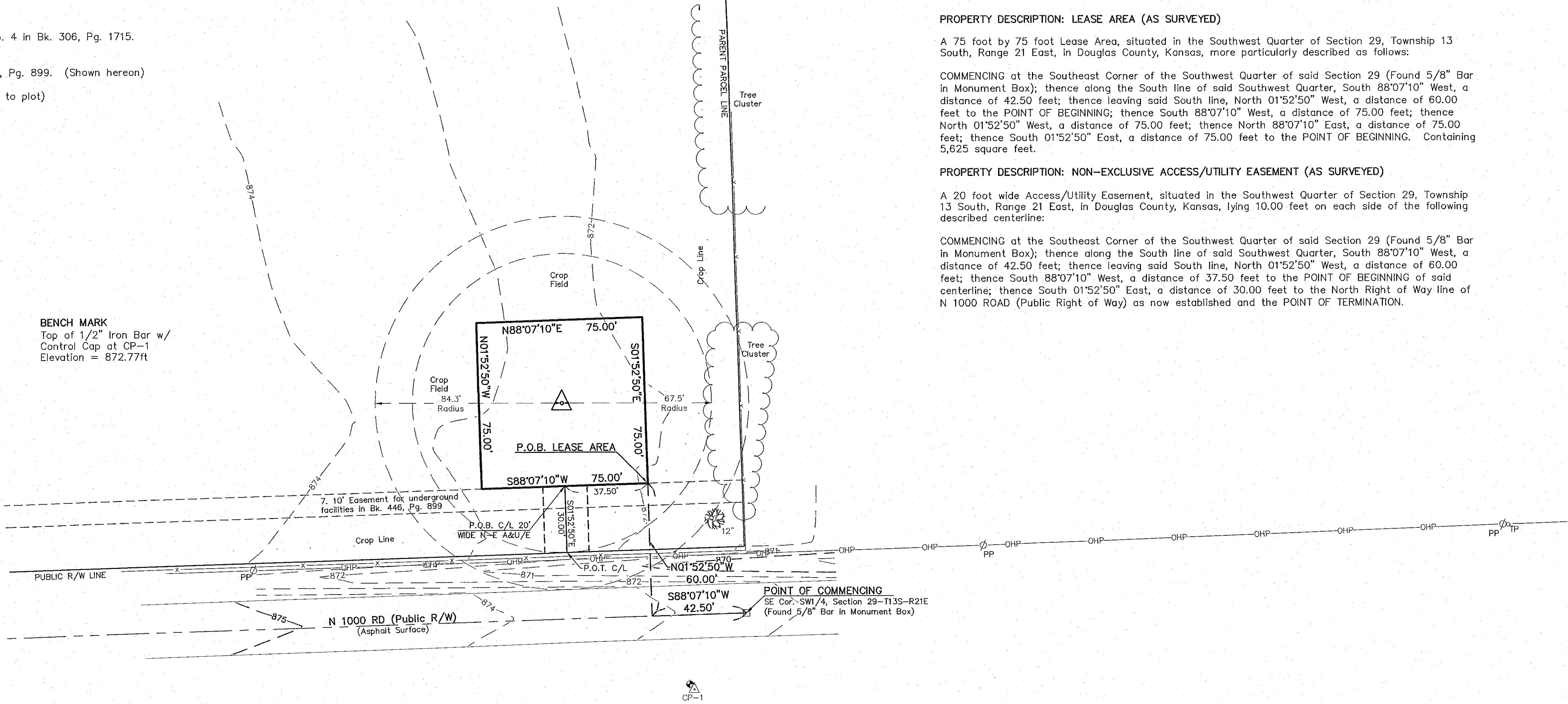
6. R/W Easement granted to Rural Water Dist. No. 4 in Bk. 306, Pg. 1715. (Blanket in nature, unable to plot)
7. Easement for Underground Facilities in Bk. 446, Pg. 899. (Shown hereon)
8. Oil and Gas Leases (Blanket in nature, unable to plot)

PROPOSED CELL TOWER DATA

Center of Tower
Lat 38°53'03.75" North
Long 95°06'10.46" West

Ground Elevation = 872ft

BENCH MARK
Top of 1/2" Iron Bar w/
Control Cap at CP-1
Elevation = 872.77ft



Notes:

Bearings shown hereon are referenced to Grid North of the Kansas State Plane Coordinate System of 1983 (NAD 83), (2011 ADJ.), North Zone. Obtained by static GPS observations and Rtnex File submittals for NGS Opus solutions.

Vertical Datum = NAVD88 using GEOID12B

The purpose of this survey is to establish and describe a Lease Area and associated Easements. This is not a boundary survey of the Parent Parcel.

The utilities as shown on this drawing were developed from the information available (existing utility maps, aboveground observations and or surface markings placed on the ground by the utility company or a representative thereof). This company has made no attempt to excavate or go below surface to locate utilities and does not extend or imply a guaranty or warranty as to the exact location of or complete inventory of utilities in this area. It shall be the contractors responsibility to verify the location and depth of all utilities (whether shown or not) prior to excavation or construction and to protect said utilities from damage.

PROPERTY LEGEND

SECTION CORNER	□
RIGHT OF WAY	R/W
CENTERLINE	C/L
POINT OF BEGINNING	P.O.B.
POINT OF TERMINATION	P.O.T.
ACCESS/UTILITY EASEMENT	A&U/E
NON-EXCLUSIVE	N-E
BROKEN SCALE	—

LEGEND

POWER POLE	PP
TELEPHONE PEDESTAL	TP
PROPOSED TOWER	△
TREE (DIA.)	⊗
TREE LINE	—
FENCE	X
OVERHEAD POWER LINE	OHP
BENCHMARK	⬆
CONTROL POINT	△

PROPERTY DESCRIPTION: LEASE AREA (AS SURVEYED)

A 75 foot by 75 foot Lease Area, situated in the Southwest Quarter of Section 29, Township 13 South, Range 21 East, in Douglas County, Kansas, more particularly described as follows:

COMMENCING at the Southeast Corner of the Southwest Quarter of said Section 29 (Found 5/8" Bar in Monument Box); thence along the South line of said Southwest Quarter, South 88°07'10" West, a distance of 42.50 feet; thence leaving said South line, North 01°52'50" West, a distance of 60.00 feet to the POINT OF BEGINNING; thence South 88°07'10" West, a distance of 75.00 feet; thence North 01°52'50" West, a distance of 75.00 feet; thence North 88°07'10" East, a distance of 75.00 feet; thence South 01°52'50" East, a distance of 75.00 feet to the POINT OF BEGINNING. Containing 5,625 square feet.

PROPERTY DESCRIPTION: NON-EXCLUSIVE ACCESS/UTILITY EASEMENT (AS SURVEYED)

A 20 foot wide Access/Utility Easement, situated in the Southwest Quarter of Section 29, Township 13 South, Range 21 East, in Douglas County, Kansas, lying 10.00 feet on each side of the following described centerline:

COMMENCING at the Southeast Corner of the Southwest Quarter of said Section 29 (Found 5/8" Bar in Monument Box); thence along the South line of said Southwest Quarter, South 88°07'10" West, a distance of 42.50 feet; thence leaving said South line, North 01°52'50" West, a distance of 60.00 feet; thence South 88°07'10" West, a distance of 37.50 feet to the POINT OF BEGINNING of said centerline; thence South 01°52'50" East, a distance of 30.00 feet to the North Right of Way line of N 1000 ROAD (Public Right of Way) as now established and the POINT OF TERMINATION.

CERTIFICATION:

I HEREBY CERTIFY THAT A SURVEY WAS MADE BY ME, OR UNDER MY DIRECT SUPERVISION, ON THE GROUND OF THE LEASE AREA, AND ASSOCIATED EASEMENT PREMISES HEREIN DESCRIBED, AND THE RESULTS OF SAID SURVEY ARE REPRESENTED HEREON TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND BELIEF.



JEFFREY B. LOVELACE KS-LS1326
DATE: 02-07-17

05-19-17: REVISED TYPO
05-02-17: REVISED PER COMMENTS
03-09-17: ADDED A/E

LOVELACE & ASSOCIATES
Land Surveying - Land Planning
Telecommunications Surveys
929 SE 3rd Street Lee's Summit, Missouri 64063
Phone: (816) 347-9997 Fax: (816) 347-9979

SURVEY COORDINATED BY:

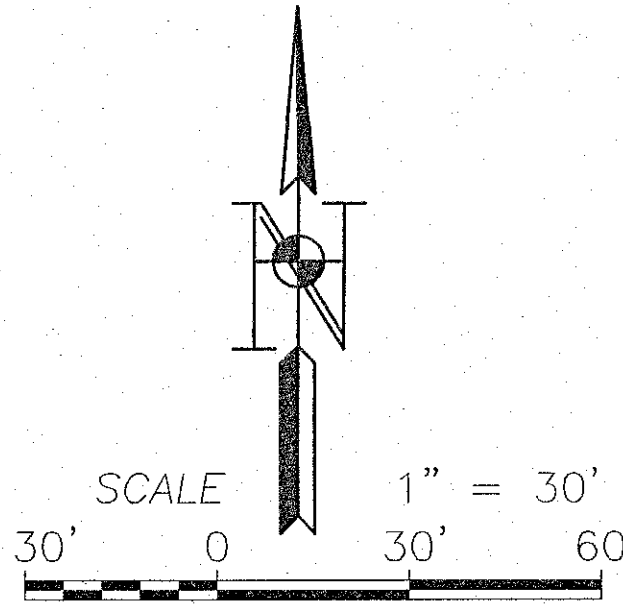
LOVELACE AND ASSOCIATES, LLC
P.O. BOX 68,
LEE'S SUMMIT, MO 64063
TELEPHONE: 816-347-9997
FAX: 816-347-9979

SURVEY PROVIDED BY:

LOVELACE AND ASSOCIATES, LLC
P.O. BOX 68,
LEE'S SUMMIT, MO 64063
TELEPHONE: 816-347-9997
FAX: 816-347-9979

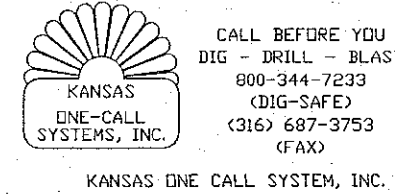
SURVEY PROVIDED FOR:

MW TOWERS, LLC
3864 WEST 75TH ST.,
PRAIRIE VILLAGE, KS 66208
TELEPHONE: 913-449-4774



FLOOD NOTE:

According to my interpretations of Community Panel No. 20045C0215D of the Flood Insurance Rate Map for Douglas County, Kansas, dated 08-05-2010, the subject property is in Flood Zone "X", ie. "areas determined to be Outside the 0.2% annual chance floodplain".



SITE I.D.: NA

SITE NAME: CN35318

SITE LOCATION:
CITY OF EUDORA,
DOUGLAS COUNTY, KS

LA PROJECT NO.: 17023

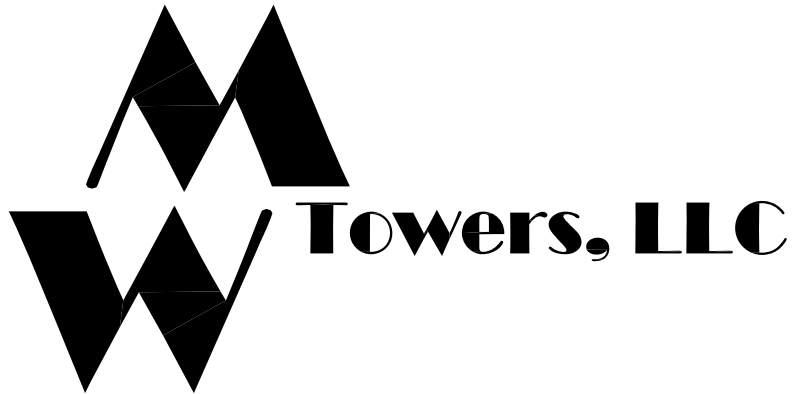
DRAWN BY: A.C.T.

CHECKED BY: J.B.L.

DATE: 02-07-17

FIELDWORK DATE: 02-01-17

SHEET NUMBER
1 OF 1

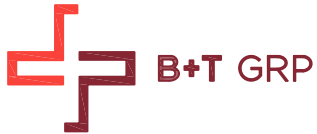


SITE NAME:
EUDORA SOUTH

SITE NUMBER:
CN35318

ADDRESS
EUDORA, KS 66025

PROPOSED 190'-0" SELF-SUPPORT TOWER



CN35318
EUDORA SOUTH
ADDRESS
EUDORA, KS 66025
PROPOSED SELF-SUPPORT TOWER

PROJECT SUMMARY

SITE NAME: EUDORA SOUTH
SITE NUMBER: CN35318
SITE ADDRESS: EUDORA, KS 66025

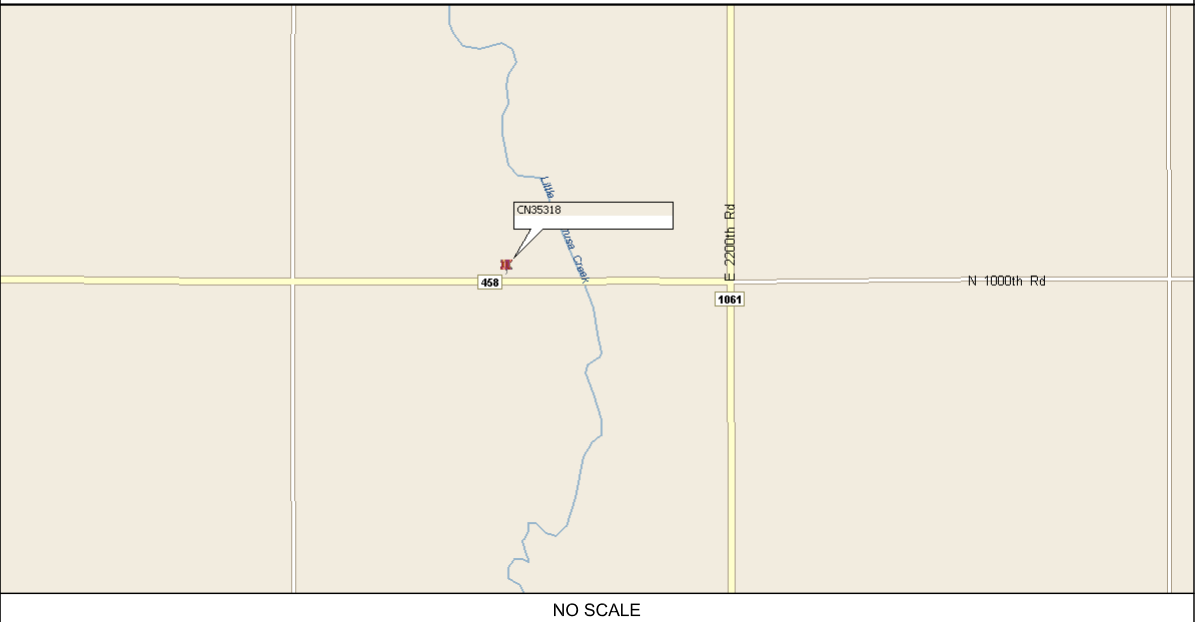
JURISDICTION: DOUGLAS COUNTY
TOWER OWNER: MW TOWERS, LLC
3864 WEST 75TH STREET
PRAIRIE VILLAGE, KS 66208
(913) 449-4774

NAD83
LATITUDE: 38° 53' 03.75" N
LONGITUDE: 95° 06' 10.46" W

CUSTOMER/
APPLICANT: MW TOWERS, LLC
3864 WEST 75TH STREET
PRAIRIE VILLAGE, KS 66208
(913) 449-4774

OCCUPANCY TYPE: UNMANNED
A.D.A. COMPLIANCE: FACILITY IS UNMANNED AND NOT
FOR HUMAN HABITATION

LOCATION MAP



DRAWING INDEX

SHEET #	SHEET DESCRIPTION	REV. #
T-1	TITLE SHEET	A
GN-1	GENERAL NOTES	A
GN-2	GENERAL NOTES	A
GN-3	GENERAL NOTES	A
C-1	SURVEY	02/01/17
C-1.1	OVERALL SITE PLAN & TOWER ELEVATION	A
C-2	COMPOUND DETAILS	A
C-3	FENCE DETAILS	A
E-1	POWER/TELCO ROUTING AND DETAILS	A
E-2	UTILITY RACK ELEVATIONS	A
G-1	GROUNDING PLAN AND DETAILS	A

JURISDICTION

JURISDICTION: DOUGLAS COUNTY

ZONING: N/A

POWER PROVIDER: BALDWIN CITY MUNICIPAL LIGHT AND WATER
(785) 594-6427
TELCO PROVIDER: CENTURYLINK
(877) 290-5458

DRIVING DIRECTIONS

DEPART KANSAS CITY INTERNATIONAL AIRPORT ON INTERNATIONAL CIRCLE, KEEP RIGHT ONTO LP COOKINGHAM DR. TAKE RAMP (RIGHT) ONTO MO-D [LP COOKINGHAM DR], TAKE RAMP (RIGHT) ONTO I-29 [US-71]. AT EXIT 3B, TAKE RAMP (RIGHT) ONTO I-635. AT EXIT 1A, TURN RIGHT ONTO RAMP. TAKE RAMP (RIGHT) ONTO I-35, AT EXIT 222B, TAKE RAMP (RIGHT) ONTO I-435 [FRONTIER MILITARY SCENIC BYWAY]. AT EXIT 1B, TURN RIGHT ONTO RAMP. ROAD NAME CHANGES TO KS-10 [GOVERNOR JOHN ANDERSON JR HWY]. KEEP RIGHT ONTO RAMP, TURN LEFT ONTO CR-1061 [CHURCH ST]. KEEP STRAIGHT ONTO CR-1061 [E 2200TH RD], KEEP STRAIGHT ONTO CR-1061 [CHURCH ST]. KEEP STRAIGHT ONTO CR-1061 [E 2200TH RD], TURN RIGHT ONTO CR-458 [N 1000TH RD]. TURN RIGHT ONTO ACCESS ROAD AND ARRIVE AT CN35318.

A/E DOCUMENT REVIEW STATUS

TITLE	SIGNATURE	DATE
MW TOWERS LLC PROP:		
MW TOWERS LLC R.F. MGR.:		
MW TOWERS LLC NetOps:		
MW TOWERS LLC CONST. MGR.:		
INTERCONNECT:		
MW TOWERS LLC SITE DEV. MGR.:		
PROPERTY OWNER:		
PLANNING:		

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

B&T ENGINEERING, INC.

**THIS DOCUMENT IS
PRELIMINARY IN
NATURE AND IS NOT
A FINAL, SIGNED
AND SEALED
DOCUMENT**

IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER: REVISION:

T-1 A

CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING/DWELLING	IBC 2012
STRUCTURAL	IBC 2012
MECHANICAL	IMC 2012
ELECTRICAL	NEC 2011

PROJECT DESCRIPTION

- THE PROPOSED PROJECT INCLUDES:
- INSTALL 190'-0" SELF-SUPPORT TOWER.
 - INSTALL 50'-0"x 50'-0" COMPOUND.
 - INSTALL MULTI-METER RACK.

DO NOT SCALE DRAWINGS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SEE SHEET GN-1, GN-2 & GN-3
FOR ADDITIONAL CONSTRUCTION NOTES



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(800) DIG-SAFE
CALL 3 WORKING DAYS
BEFORE YOU DIG!**



IMPORTANT NOTE:

THE CONTRACTOR MUST PROVIDE CLOSE-OUT DOCUMENTS AT THE FINAL INSPECTION WALK BEFORE PAYMENTS WILL BE MADE.

GENERAL REQUIREMENTS

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY, SPECIFICATIONS AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS, THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND/OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE OWNERS REPRESENTATIVE OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED THEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK AND FAMILIARIZE THEMSELVES WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS OTHERWISE NOTED OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL MAINTAIN A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE, UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC., DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS/RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PLAIN SPOTS, DUST OR SMUDGES OF ANY KIND.
13. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT SECTIONS OF THE APPLICABLE BUILDING CODES AND ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
14. THE CONTRACTOR SHALL NOTIFY THE TOWER OWNERS REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL THAT CONFLICT IS RESOLVED BY TOWER OWNERS REPRESENTATIVE.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC., ON THE JOB.
16. THE CONTRACTOR SHALL SUBMIT, AT THE END OF THE PROJECT, A COMPLETE SET OF AS-BUILT DRAWINGS TO TOWER OWNERS PROJECT MANAGER.

SITE WORK AND DRAINAGE

EARTHWORK, EXCAVATION AND GRADING

PART 1 GENERAL

- 1.01 WORK INCLUDED: REFER TO SURVEY AND SITE PLAN FOR WORK INCLUDED.
- 1.02 RELATED WORK

A. CONSTRUCTION OF EQUIPMENT FOUNDATIONS

B. INSTALLATION OF ANTENNA SYSTEM
- 1.03 DESCRIPTIONS

A. ACCESS ROAD, TURNAROUND AREAS AND SITES ARE CONSTRUCTED TO PROVIDE A WELL DRAINED, EASILY MAINTAINED, EVEN SURFACE FOR MATERIAL AND EQUIPMENT DELIVERIES AND MAINTENANCE PERSONNEL ACCESS.
- 1.04 QUALITY ASSURANCE

A. APPLY SOIL STERILIZER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION (USE AS NEEDED)

B. VEGETATION LANDSCAPING, IF INCLUDED WITHIN THE CONTRACT WILL BE PLACED AND MAINTAINED AS RECOMMENDED BY NURSERY INDUSTRY STANDARDS.
- 1.05 SEQUENCING

A. CONTRACTOR IS RESPONSIBLE FOR LAYOUT AND CONSTRUCTION STAKING.

B. GRUB THE COMPLETE ROAD AND SITE AREA PRIOR TO FOUNDATION CONSTRUCTION OR PLACEMENT OF BACK FILL OR SUB-BASE MATERIAL.

C. CONSTRUCT TEMPORARY CONSTRUCTION ZONE ALONG ACCESS DRIVE.

D. THE SITE AREA WILL BE BROUGHT TO SUB-BASE COURSE ELEVATION AND THE ACCESS ROAD TO BASE COURSE ELEVATION PRIOR TO FORMING FOUNDATIONS.

E. APPLY SILT STERILIZER PRIOR TO PLACING BASE MATERIALS.

F. IF REQUIRED, GRADE, SEED, FERTILIZE AND MULCH DISTURBED AREAS IMMEDIATELY AFTER BRINGING THE SITE AND ACCESS ROAD TO BASE ELEVATION. WATER TO ENSURE GROWTH.

G. REMOVE EXCESS GRAVEL FROM TEMPORARY CONSTRUCTION ZONE.

H. AFTER APPLICATIONS OF FINAL SURFACES, APPLY SOIL STERILIZER TO THE STONE SURFACES.
- 1.06 SUBMITTALS

A. BEFORE CONSTRUCTION

1. IF LANDSCAPING IS APPLICABLE TO THE CONTRACT, SUBMIT TWO COPIES OF THE LANDSCAPING PLAN UNDER NURSERY LETTERHEAD. IF A LANDSCAPE ALLOWANCE IS INCLUDED IN THE CONTRACT, PROVIDE AN ITEMIZED LISTING OF PROPOSED COSTS UNDER NURSERY LETTERHEAD (REFER TO SITE PLAN FOR LANDSCAPING REQUIREMENT).

2. SUBMIT FOR APPROVAL, 1/2 CUBIC FOOT OF THE PROPOSED SURFACE COURSE MATERIAL.

3. LANDSCAPING WARRANTY STATEMENT, IF REQUIRED.

PART 2 PRODUCTS

- 2.01 MATERIALS

A. ROAD AND SITE MATERIALS: FILL MATERIAL SHALL BE ACCEPTABLE, SELECT FILL AND SHALL BE IN ACCORDANCE WITH LOCAL DEPARTMENT OF HIGHWAY AND PUBLIC TRANSPORTATION STANDARD SPECIFICATIONS.

B. SOIL STERILIZER SHALL BE EPA REGISTERED OF LIQUID COMPOSITION AND OF PRE-EMERGENCE DESIGN.

C. SOIL STABILIZER FABRIC SHALL BE MIRAFI OR GREATER -- 500% AT ACCESS ROAD AND SOAK AT COMPOUND.

D. GRAVEL FILL: WELL GRADED, HARD, DURABLE, NATURAL SAND AND GRAVEL, FREE FROM ICE AND SNOW, ROOTS, SOD RUBBISH, AND OTHER DELETERIOUS OR ORGANIC MATTER. MATERIAL SHALL CONFORM TO THE FOLLOWING GRADATION REQUIREMENTS.

U.S. SIEVE NO.	PASSING BY WEIGHT
4"	100
1/2"	50-85
#4	40-75
#10	30-60
#40	10-30
#100	5-20
#200	0-5

GRAVEL FILL TO BE PLACED IN LIFTS OF 9" MAXIMUM THICKNESS AND COMPACTED TO 95% DENSITY.

- 2.02 EQUIPMENT

A. COMPACTION SHALL BE ACCOMPLISHED BY MECHANICAL MEANS. LARGER AREAS SHALL BE COMPACTED BY SHEEP'S FOOT, VIBRATORY OR RUBBER TIED ROLLERS WEIGHING AT LEAST 5 TONS. SMALLER AREAS SHALL BE COMPACTED BY POWER-DRIVER, HAND-HELD TAMPER.

B. PRIOR TO OTHER EXCAVATION AND CONSTRUCTION EFFORTS, GRUB ORGANIC MATERIAL TO A MINIMUM OF 6" BELOW ORIGINAL GROUND LEVEL.

C. UNLESS OTHERWISE INSTRUCTED BY MW TOWERS, REMOVE TREES, BRUSH AND DEBRIS FROM THE PROPERTY TO AN AUTHORIZED DISPOSAL LOCATION.

D. PRIOR TO PLACEMENT OF FILL OR BASE MATERIALS, ROLL THE SOIL.

E. WHERE UNSTABLE CONDITIONS ARE ENCOUNTERED, LINE THE RUBBED AREAS WITH STABILIZER MAT PRIOR TO PLACEMENT OFFILL OR BASE MATERIAL.

- 3.03 INSTALLATION

A. THE SITE AND TURNAROUND AREAS SHALL BE AT THE SUB-BASE COURSE ELEVATION PRIOR TO FORMING FOUNDATIONS. GRADE OR FILL THE SITE AND ACCESS ROAD AS REQUIRED TO PRODUCE EVEN DISTRIBUTION OF SPOILS RESULTING FROM FOUNDATION EXCAVATIONS. THE RESULTING GRADE SHALL CORRESPOND WITH SAID SUB-BASE COURSE. ELEVATIONS ARE TO BE CALCULATED FROM FINISHED GRADES OR SLOPES INDICATED.

B. CLEAR EXCESS SPOILS, IF ANY, FROM JOB SITE AND DO NOT SPREAD BEYOND THE LIMITS OF THE OWNERS LEASE PROPERTY UNLESS AUTHORIZED BY PROJECT MANAGER.

C. THE ACCESS ROAD SHALL BE BROUGHT TO BASE COURSE ELEVATION PRIOR TO FOUNDATION CONSTRUCTION.

D. DO NOT CREATE DEPRESSIONS WHERE WATER MAY POND.

E. THE CONTRACT INCLUDES ALL NECESSARY GRADING, BANKING, DITCHING AND COMPLETE SURFACE COURSE FOR ACCESS ROAD. ALL ROADS OR ROUTES UTILIZED FOR ACCESS TO PUBLIC THOROUGHFARE IS INCLUDED SCOPE OF WORK UNLESS OTHERWISE INDICATED.

F. WHEN IMPROVING AN EXISTING ACCESS ROAD, GRADE THE EXISTING ROAD TO REMOVE ANY ORGANIC MATTER AND THEN SMOOTH SURFACE BEFORE PLACING FILL OR STONE.

G. PLACE FILL OR STONE IN 3" MAXIMUM LIFTS AND COMPACT BEFORE PLACING NEXT LIFT.

H. THE FINISH GRADE, INCLUDING TOP SURFACE COURSE SHALL EXTEND A MINIMUM OF 12" BEYOND THE SITE FENCE AND SHALL COVER THE AREA AS INDICATED.

I. RIPRAP SHALL BE APPLIED TO THE SIDE SLOPES OF ALL FENCED AREAS, PARKING AREAS AND TO ALL OTHER SLOPES GREATER THAN 2:1.

J. RIPRAP SHALL BE APPLIED TO THE SIDES OF DITCHES OR DRAINAGE SWALES AS INDICATED ON PLANS.

K. RIPRAP ENTIRE DITCH FOR 6'-0" IN ALL DIRECTIONS AT CULVERT OPENINGS.

L. SEED, FERTILIZER AND STRAW COVER SHALL BE APPLIED TO ALL OTHER DISTURBED AREAS AND DITCHES, DRAINAGE SWALES, NOT OTHERWISE RIPRAPPED.

M. UNDER NO CIRCUMSTANCES SHALL DITCHES, SWALES OR CULVERTS BE PLACED SO THEY DIRECT WATER TOWARDS OR PERMIT STANDING WATER IMMEDIATELY ADJACENT TO SITE. IF OWNER DESIGNS OR IF DESIGN ELEVATIONS CONFLICT WITH THIS GUIDANCE, ADVISE THE OWNER IMMEDIATELY.

N. IF A DITCH LIES WITH SLOPES GREATER THAN TEN PERCENT, MOUNT DIVERSIONARY HEADWALLS IN THE DITCH FOR 6'-0" ABOVE THE CULVERT ENTRANCE.

O. SEED AND FERTILIZER SHALL BE APPLIED TO SURFACE CONDITIONS WHICH WILL ENCOURAGE ROOTING. RAKE AREAS TO BE SEEDED TO EVEN THE SURFACE AND TO LOOSEN THE SOIL.

P. SOW SEEDS IN TWO DIRECTIONS IN TWICE THE QUANTITY RECOMMENDED BY THE SEED PRODUCER.

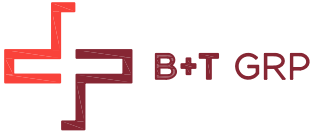
Q. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE GROWTH OF SEEDED AND LANDSCAPED AREAS BY WATERING TO THE POINT OF RELEASE FROM THE CONTRACT. CONTINUE TO REWORK BARE AREAS UNTIL COMPLETE COVERAGE IS OBTAINED.
- 3.04 FIELD QUALITY CONTROL

A. COMPACTION SHALL BE 90% MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-1557 FOR SITE WORK AND 95% MAXIMUM DENSITY UNDER SLAB AREAS. AREAS OF SETTLEMENT WILL BE EXCAVATED AND REFILLED AT CONTRACTOR'S EXPENSE.
- 3.05 PROTECTION

A. PROTECT SEEDED AREAS FROM EROSION BY SPREADING STRAW TO A UNIFORM LOOSE DEPTH OF 1"-2". STAKE AND TIE DOWN AS REQUIRED. USE OF EROSION CONTROL MESH OR MULCH NET SHALL BE AN ACCEPTABLE ALTERNATIVE.

B. ALL TIRES PLACED IN CONJUNCTION WITH A LANDSCAPE CONTRACT SHALL BE WRAPPED/TIED WITH HOSE PROTECTED WIRE AND SECURED TO STAKES EXTENDING 2'-0" INTO THE GROUND ON FOUR SIDES OF THE TREE.

C. ALL EXPOSED AREAS SHALL BE PROTECTED AGAINST WASHOUTS AND SOIL EROSION. STRAW BALES SHALL BE PLACED AT THE INLET APPROACH TO ALL NEW OR EXISTING CULVERTS.



CN35318

EUDORA SOUTH

ADDRESS
EUDORA, KS 66025

PROPOSED SELF-SUPPORT TOWER

PROJECT NO: 112623.001

CHECKED BY: SLM

ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION
A	3/28/17	RPS	PRELIMINARY REVIEW

B&T ENGINEERING, INC.

THIS DOCUMENT IS
PRELIMINARY IN
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A FINAL, SIGNED
AND SEALED
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IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
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TO ALTER THIS DOCUMENT.

SHEET NUMBER: GN-1

REVISION: A

112623_EUDORA SOUTH_NSB.dwg – Sheet:GN-2 – User: smanuel – Mar 30, 2017 – 5:08pm

CONCRETE

CAST-IN-PLACE CONCRETE
PART 1 – GENERAL

- 1.01 DESCRIPTION
WORK INCLUDES CONSTRUCTION OF CAST-IN-PLACE CONCRETE FOUNDATIONS, INCLUDING FURNISHING AND INSTALLING READY-MIX CONCRETE, REINFORCING, FORMWORK AND ACCESSORY MATERIALS AS SHOWN ON THE DRAWINGS. CAST-IN-PLACE CONCRETE INCLUDES ALL SITE CONCRETE, INCLUDING FOUNDATIONS, SLABS ON GRADE, EQUIPMENT PADS AND GUARDPOST FOUNDATIONS.
- 1.02 RELATED WORK
A. COORDINATE UNDER SLAB CONDUITS
B. COORDINATE WITH GROUNDING
- 1.03 APPLICABLE STANDARDS
A. ACI 301 – SPECIFICATIONS FOR STRUCTURAL CONCRETE BUILDINGS
B. ACI 347 – GUIDE TO FORMWORK FOR CONCRETE
C. ASTM C33 – CONCRETE AGGREGATES
D. ASTM C94 – READY-MIXED CONCRETE
E. ASTM C150 – PORTLAND CEMENT
F. ASTM C260 – AIR-ENTRAINING ADMIXTURES FOR CONCRETE
G. ASTM C309 – LIQUID MEMBRANE FORMING COMPOUNDS FOR CURING CONCRETE
H. ASTM C494 – CHEMICAL ADMIXTURES FOR CONCRETE
I. ASTM A615 – STEEL WELDED WIRE FABRIC FOR CONCRETE REINFORCEMENT
J. ASTM A185 – STEEL WELDED WIRE FABRIC FOR CONCRETE REINFORCEMENT

- 1.04 QUALITY ASSURANCE
CONCRETE MATERIALS AND OPERATIONS SHALL BE TESTED AND INSPECTED BY THE ENGINEER.

- 1.05 TESTS
CONCRETE MATERIALS AND OPERATIONS SHALL BE TESTED AND INSPECTED BY THE ENGINEER AS THE WORK PROGRESSES. FAILURE TO DETECT ANY DEFECTIVE WORK OR MATERIAL SHALL NOT IN ANY WAY PREVENT LATER MATERIAL REJECTION WHEN SUCH DEFECT IS DISCOVERED, NOR SHALL IT OBLIGATE THE ENGINEER FOR FINAL ACCEPTANCE.
A. FIVE CONCRETE TEST CYLINDERS SHALL BE TAKEN OF THE TOWER AND PIER FOUNDATION. TWO SHALL BE TESTED AT THREE DAYS AND TWO AT TWENTY-EIGHT DAYS. THE FIFTH CYLINDER SHALL BE KEPT SEPARATELY, IF REQUIRED TO BE USED IN THE FUTURE.
B. ONE ADDITIONAL TEST CYLINDER SHALL BE TAKEN DURING COLD WEATHER AND CURED ON SIDE UNDER SAME CONDITIONS AS CONCRETE IT REPRESENTS.

PART 2 – PRODUCT

- 2.01 CONCRETE MATERIALS
CONCRETE SHALL BE COMPOSED OF PORTLAND CEMENT, WATER, FINE COARSE AGGREGATES AND ADMIXTURES AS SPECIFIED BELOW. ALL, WELL MIXED AND BROUGHT TO PROPER CONSISTENCY.
- A. CEMENT: CEMENT SHALL BE IN TYPE II, GRAY COLOR, LOW-ALKALI PORTLAND CEMENT CONFORMING TO ASTM C150.
B. FINE AND COARSE AGGREGATES: AGGREGATES FOR USE IN CONCRETE SHALL COMPLY WITH ASTM C33.
C. WATER: WATER FOR MIXING AND CURING CONCRETE SHALL BE FREE FROM SEWAGE, OIL, ACID, ALKALI, SALTS AND SHALL BE FREE FROM OBJECTIONABLE QUANTITIES OF SILT AND OTHER DELETERIOUS SUBSTANCES.
- 2.02 ADMIXTURES
A. AIR ENTRAINMENT: AIR ENTRAINING AGENT SHALL CONFORM TO ASTM C280. THE ADMIXTURE SHALL BE ADDED AS PART OF THE COMPUTED MIXING WATER REQUIREMENTS. AGENTS PREPARED IN SOLUTION SHALL BE MAINTAINED AT A UNIFORM STRENGTH AND SHALL BE BATCH BY MEANS OF RELIABLE MECHANICAL DISPENSERS.
- B. CHEMICAL ADMIXTURES: ASTM 494, TYPE A – WATER REDUCING AND RETARDING.
- 2.03 CURING COMPOUND: ASTM C309, TYPE 1, CLASS B, TRANSLUCENT.
- 2.04 ACCESSORIES
A. NON-SHRINK GROUT: PREMIXED COMPOUND CONSISTING OF NON-METALLIC AGGREGATE, CEMENT, WATER AND PLASTICIZING AGENTS; CAPABLE OF DEVELOPING MINIMUM COMPRESSIVE STRENGTH OF 7,000 PSI IN 28 DAYS.
B. JOINT FILLERS BITUMINOUS TYPE, ASTM D1751 OR NON-BITUMINOUS TYPE, ASTM D1752.
C. ANCHOR BOLTS: ASTM A307; UNPRIMED.

- 2.05 CONCRETE MIX
A. CONCRETE SHALL BE PROPORTIONED FOR WORKABILITY, MAXIMUM DENSITY, STRENGTH AND DURABILITY REQUIREMENTS IN ACCORDANCE WITH ACI 301. THE 28 DAY DESIGN, COMPRESSIVE STRENGTH OF CONCRETE SHALL BE SPECIFIED ON THE DRAWINGS. CONCRETE FURNISHED MAY BE A COMMERCIAL READY-MIX PROVIDED THAT DELIVERY TO THE PLACING LOCATION IS SATISFACTORILY ESTABLISHED AS OCCURRING NOT LATER THAN 45 MINUTES AFTER ADDITION OF WATER TO THE MIX. SLUMP OF DELIVERED CONCRETE SHALL NOT EXCEED 5".
- B. THE FOLLOWING STRENGTHS SHALL BE USED:
1. FENCE POST FOUNDATIONS – DESIGN COMPRESSIVE STRENGTH AT 28 DAYS OF 2,000 PSI.
2. EQUIPMENT FOUNDATIONS – DESIGN COMPRESSIVE STRENGTH AT 28 DAYS OF 4,000 PSI.
3. ALL OTHER CONCRETE NOT SPECIFIED – DESIGN COMPRESSIVE STRENGTH AT 28 DAYS OF 3,000 PSI.
4. CONCRETE SPECIFICATION FOR MONOPOLE OR TOWER FOUNDATION SHALL CONFORM TO MANUFACTURER'S RECOMMENDATIONS.
- C. USE ACCELERATING ADMIXTURES IN COLD WEATHER ONLY WHEN APPROVED BY THE ENGINEER. USE OF ADMIXTURES WILL NOT RELAX COLD WEATHER PLACEMENT REQUIREMENTS.
- D. USE SET-RETARDING ADMIXTURES DURING HOT WEATHER ONLY WHEN APPROVED BY THE ENGINEER.
- E. ADD AIR ENTRAINING AGENT TO CONCRETE MIX FOR CONCRETE WORK SUBJECT TO OR EXPOSED TO EXTERIOR.

PART 3 – EXECUTION

- 3.01 INSPECTION
THE CONTRACTOR SHALL VERIFY ANCHORS, SEATS, PENETRATIONS, PLATES, REINFORCEMENT AND OTHER ITEMS TO BE CAST INTO CONCRETE ARE ACCURATELY PLACED, HELD SECURELY AND SHALL NOT CAUSE HARDSHIP IN PLACING CONCRETE.
- 3.02 PREPARATION
A. THE CONTRACTOR SHALL PREPARE PREVIOUSLY PLACED CONCRETE BY CLEANING WITH STEEL BRUSH AND APPLYING BONDING AGENT. APPLY BONDING AGENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- 3.03 PLACING CONCRETE
A. THE ENGINEER SHALL BE NOTIFIED NOT LESS THAN 24 HOURS IN ADVANCE OF CONCRETE PLACEMENT, UNLESS INSPECTION IS WAIVED IN EACH CASE, PLACING OF CONCRETE SHALL BE PERFORMED ONLY IN THE PRESENCE OF THE ENGINEER. CONCRETE SHALL NOT BE PLACED UNTIL ALL FORMWORK, EMBEDDED PARTS, STEEL REINFORCEMENTS FOUNDATION SURFACES AND JOINTS INVOLVED IN THE PLACING HAVE BEEN APPROVED AND UNTIL FACILITIES ACCEPTABLE TO THE ATC REPRESENTATIVE HAVE BEEN PROVIDED AND MADE READY FOR ACCOMPLISHMENT OF THE WORK AS SPECIFIED. CONCRETE MAY NOT BE ORDERED FOR PLACEMENT UNTIL ALL ITEMS HAVE BEEN APPROVED AND ATC HAS PERFORMED A FINAL INSPECTION AND GIVEN APPROVAL TO START PLACEMENT TESTING.
- B. PLACEMENT OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 301.
- C. THE CONTRACTOR SHALL ENSURE THAT REINFORCEMENT, INSERTS, EMBEDDED PARTS, FORMED JOINTS AND VAPOR BARRIERS ARE NOT DISTURBED DURING CONCRETE PLACEMENT.
- 3.04 SURFACE FINISHES
A. SURFACES AGAINST WHICH BACKFILL OR CONCRETE SHALL BE PLACED REQUIRE NO TREATMENT EXCEPT REPAIR OF DEFECTIVE AREAS.
- B. SURFACES THAT WILL BE PERMANENTLY EXPOSED SHALL PRESENT A UNIFORM FINISH PROVIDED BY THE REMOVAL OF FINS AND THE FILLING OF HOLES AND OTHER IRREGULARITIES WITH DRY PACK GROUT, OR BY SACKING WITH UTILITY OR ORDINARY GROUT.
- C. SURFACES THAT WOULD NORMALLY BE LEVEL AND WHICH WILL BE PERMANENTLY EXPOSED TO THE WEATHER SHALL BE SLOPED FOR DRAINAGE. UNLESS ENGINEER'S DESIGN DRAWING SPECIFIES A HORIZONTAL SURFACE OR SURFACES, SUCH AS STAIR TREADS, WALLS, CURBS, AND PARAPETS SHALL BE SLOPED APPROXIMATELY 1/4 INCH PER/FT.
- D. SURFACES THAT WILL BE COVERED BY BACKFILL OR CONCRETE SHALL BE SMOOTH SCREENED.
- E. EXPOSED SLAB SURFACES SHALL BE CONSOLIDATED, SCREENED, FLOATED, AND STEEL TROWELED. HAND OR POWER-DRIVEN EQUIPMENT MAY BE USED FOR FLOATING SHALL BE STARTED AS SOON AS THE SCREENED SURFACE HAS ATTAINED A STIFFNESS TO PERMIT FINISHING OPERATIONS. FLOATING SHALL BE CONTINUED THE MINIMUM TIME REQUIRED TO PRODUCE A SURFACE UNIFORM IN TEXTURE AND FREE FROM SCREENED MARKS OR OTHER IMPERFECTIONS. THE FINAL FINISH SHALL BE PRODUCED BY USE OF STEEL-BLADED FINISHING TROWELS. STEEL TROWELING SHALL COMMENCE ONLY AFTER THE SURFACES TO BE FINISHED HAVE BEEN BROUGHT TO CORRECT ELEVATION AND ALL SURFACE IMPERFECTIONS CORRECTED AND SHALL BE CONTINUED ONLY UNTIL THE SURFACE IS SMOOTH AND UNIFORM IN TEXTURE AND APPEARANCE. IF FREE WATER IS BROUGHT TO THE SURFACE DURING THE FINISHING OPERATIONS, IT SHALL BE REMOVED BY SPONGING, FINISHING SHALL BE TIMED AND PERFORMED SO THAT EXTRA WATER NEED NOT BE APPLIED TO THE SURFACE BEING TROWELED.

- 3.05 PATCHING
THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY UPON REMOVAL OF THE FORMS TO OBSERVE CONCRETE SURFACE CONDITIONS. IMPERFECTIONS SHALL BE PATCHED ACCORDING TO THE ENGINEER'S DIRECTION.
- 3.06 DEFECTIVE CONCRETE
THE CONTRACTOR SHALL NOTIFY OR REPLACE CONCRETE NOT CONFORMING TO REQUIRED LEVELS AND LINES, DETAILS, AND ELEVATIONS AS SPECIFIED IN ACI301.
- 3.07 PROTECTION
A. IMMEDIATELY AFTER PLACEMENT, THE CONTRACTOR SHALL PROTECT THE CONCRETE FROM PREMATURE DRYING, EXCESSIVELY HOT OR COLD TEMPERATURES, AND MECHANICAL INJURY. FINISH WORK SHALL BE PROTECTED.
B. CONCRETE SHALL BE MAINTAINED WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.
C. ALL CONCRETE SHALL BE WATER CURED BY CONTINUOUS (NOT PERIODIC) FINE MIST SPRAYING OR SPRINKLING ALL EXPOSED SURFACES. WATER SHALL BE CLEAN AND FREE FROM ACID, ALKALI, SALTS, OIL, SEDIMENT, OR ORGANIC MATTER. SUCCESSFUL CURING SHALL BE ASSURED BY USE OF AN AMPLE WATER SUPPLY UNDER PRESSURE IN PIPES, WITH ALL NECESSARY APPLIANCES OF HOSE, SPRINKLERS AND SPRAYING DEVICES.

METALS

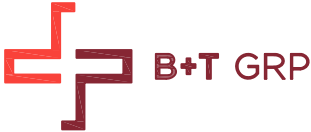
PART 1 – GENERAL

- 1.01 WORK INCLUDED
A. THE WORK CONSISTS OF THE FABRICATION AND INSTALLATION OF ALL MATERIALS TO BE FURNISHED, AND WITHOUT LIMITING THE GENERALITY THEREOF, INCLUDES ALL EQUIPMENT, LABOR AND SERVICES REQUIRED FOR ALL STRUCTURAL STEEL WORK INCLUDING ALL ITEMS INCIDENTAL THERETO AS SPECIFIED HEREIN AND AS SHOWN ON THE DRAWINGS, INCLUDING:
1. STEEL FRAMING INCLUDING BEAMS ANGLES, CHANNELS AND PLATES.
2. WELDING AND BOLTING OF ATTACHMENTS.
- 1.02 REFERENCE STANDARDS
A. THE WORK SHALL CONFORM TO THE CODES AND STANDARDS OF THE FOLLOWING AGENCIES AS FURTHER CITED HEREIN:
1. ASTM: AMERICAN SOCIETY FOR TESTING AND MATERIALS, 196 RACE STREET, PHILADELPHIA, PA 19103, USA AS PUBLISHED IN "COMPILATION OF ASTM STANDARDS IN BUILDING CODES."
2. AWS: AMERICAN WELDING SOCIETY INC., 2501 NW 7TH STREET, MIAMI, FL 33125 USA AS PUBLISHED IN "CODE FOR STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES": "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."

PART 2 – PRODUCTS

- 2.01 MATERIALS
A. STRUCTURAL STEELS SHALL COMPLY WITH THE REQUIREMENTS OF ASTM A36 AND A50 FOR STRUCTURAL STEEL.
- 2.02 WELDING
A. ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS. CERTIFICATION DOCUMENTS SHALL BE MADE AVAILABLE FOR ENGINEER'S AND/OR OWNER'S REVIEW IF REQUESTED.
B. WELDING ELECTRODES FOR MANUAL SHIELDED METAL ARC WELDING SHALL CONFORM TO ASTM 1-233, E70 SERIES. BARE ELECTRODES AND GRANULAR FLUX USED IN THE SUBMERGED ARC PROCESS SHALL CONFORM TO AISC SPECIFICATIONS.
C. FIELD WELDING SHALL BE DONE AS PER AWS D 1.1 REQUIREMENTS. VISUAL INSPECTION IS ACCEPTABLE.
D. STUD WELDING SHALL BE ACCOMPLISHED BY CAPACITOR DISCHARGE (CD) WELDING TECHNIQUE USING MIDWEST FASTENERS, INC. CD100 CAPACITOR DISCHARGE STUD WELDER OR APPROVED EQUAL.
E. PROVIDE STUD FASTENERS OF MATERIALS AND SIZES SHOWN ON DRAWINGS OR AS RECOMMENDED BY THE MANUFACTURER FOR STRUCTURAL LOADINGS REQUIRED.
F. FOLLOW MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS TO PROPERLY SELECT AND INSTALL STUD WELDS.
- 2.03 BOLTING
A. BOLTS SHALL BE 3/4" (MINIMUM) CONFORMING TO ASTM A325 HOT DIP GALVANIZED OR ASTM A153, NUTS SHALL BE HEAVY HEX TYPE.
B. ALL BOLTS SHALL BE INSTALLED IN SLIP CRITICAL CONNECTIONS CONFORMING TO AISC METHOD, CONFORMING TO THE 1/4 TURN METHOD.

- 2.04 FABRICATION
A. FABRICATION OF STEEL SHALL CONFORM TO THE AISC AND AWS STANDARDS AND CODES.
- 2.05 FINISH
A. STRUCTURAL STEEL EXPOSED TO WEATHER SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123.
- 2.06 PROTECTION
A. UPON COMPLETION OF ERECTION INSPECT ALL GALVANIZED STEEL AND PAINT ANY FIELD CUTS, WELDS, OR GALVANIZED BREAKS WITH ZINC BASED PAINT. COLOR TO MATCH THE GALVANIZING PROCESS.



CN35318

EUDORA SOUTH

ADDRESS
EUDORA, KS 66025

PROPOSED SELF-SUPPORT TOWER

PROJECT NO: 112623.001

CHECKED BY: SLM

ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION
A	3/28/17	RPS	PRELIMINARY REVIEW

B&T ENGINEERING, INC.

**THIS DOCUMENT IS
PRELIMINARY IN
NATURE AND IS NOT
A FINAL, SIGNED
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DOCUMENT**

IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER: **GN-2** REVISION: **A**

112623_EUDORA SOUTH_NSB.dwg -- Sheet:GN-3 -- User: smanuel -- Mar 30, 2017 -- 5:08pm

ELECTRICAL SPECIFICATIONS

GENERAL PROPERTIES

- A.

REQUIREMENTS: FURNISH ALL LABOR, MATERIALS, SERVICE, EQUIPMENT AND APPLIANCES REQUIRED TO COMPLETE THE INSTALLATION OF THE COMPLETE ELECTRICAL SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS AND CONTRACT DRAWINGS.
- B.

REQUIREMENTS OF REGULATORY AGENCIES AND STANDARDS: INSTALLATION, MATERIAL, EQUIPMENT AND WORKMANSHIP SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THE NATIONAL ELECTRIC CODE (NEC) – APPLICABLE STATE ELECTRIC CODES, THE NATIONAL ELECTRICAL SAFETY CODE (NESC), AND THE TERMS AND THE CONDITIONS OF THE AUTHORITIES HAVING LAWFUL JURISDICTION PERTAINING TO THE WORK REQUIRED. ALL MODIFICATIONS REQUIRED BY THESE CODES, RULES, REGULATIONS AND AUTHORITIES SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL CHARGE TO THE UNDERWRITER’S LABORATORIES (UL): ALL MATERIALS, APPLIANCES OR DEVICES SHALL CONFORM TO THE APPLICABLE STANDARDS OF UNDERWRITER’S LABORATORIES, INCLUDING THE LABEL OF OR LISTING BY: UL IS REQUIRED.
- C.

MATERIALS: ALL SIMILAR MATERIALS AND EQUIPMENT SHALL BE THE PRODUCT OF THE SAME MANUFACTURER WHERE NO SPECIFIC MATERIAL APPARATUS OR APPLIANCE IS MENTIONED. MANUFACTURER MAY BE USED PROVIDING IT CONFORMS TO THE CONTRACT REQUIREMENTS AND MEETS THE APPROVAL OF THE OWNER. MATERIAL AND EQUIPMENT SHALL BE THE STANDARD PRODUCTS OF MANUFACTURER’S REGULARLY ENGAGED IN THE PRODUCTIONS OF SUCH MATERIAL AND SHALL BE THE MANUFACTURER’S CURRENT IN STANDARD AND DESIGN.
- D.

EXECUTION: FABRICATION, ERECTION AND INSTALLATION OF THE COMPLETE ELECTRICAL SYSTEM SHALL BE DONE IN A FIRST CLASS WORKMANLIKE MANNER BY QUALIFIED PERSONNEL EXPERIENCED IN SUCH WORK AND SHALL PROCEED IN AN ORDERLY MANNER SO AS NOT TO HOLD UP PROGRESS OF THE PROJECT.
- E.

PERFORMANCE TESTS: THOROUGHLY TEST FEEDERS, EQUIPMENT AND ALL CIRCUITS FOR PROPER OPERATING CONDITION AND FREEDOM FROM GROUNDS AND SHORT CIRCUITS BEFORE ACCEPTANCE IS REQUESTED. ALL EQUIPMENT, APPLIANCES AND DEVICES SHALL BE OPERATED UNDER LOAD CONDITIONS.
- F.

AS–BUILT DRAWINGS: DURING PROCESS OF THE WORK, MAINTAIN AN ACCURATE RECORD OF THE INSTALLATION OF THE SYSTEM, LOCATING EACH CIRCUIT PRECISELY BY DIMENSION. UPON COMPLETION OF THE INSTALLATION, TRANSFER ALL RECORDED DATA TO BLUE PRINTS OF THE ORIGINAL DRAWINGS.

RACEWAYS AND FITTINGS

- A.

CONDUITS: ELECTRICAL METALLIC TUBING (EMT): MILD STEEL, ZINC COATED ON THE OUTSIDE AND EITHER ZINC COATED OR COATED WITH AN APPROVED CORROSION RESISTANT COATING ON THE INSIDE. MAXIMUM, SIZE 2 ELECTRICAL TRADE SIZE, UNLESS NOTED ON THE DRAWINGS OF SPECIFICALLY APPROVED FOR EQUIPMENT CONNECTIONS. SIZES NOT NOTED ON DRAWINGS SHALL BE AS REQUIRED BY NEC.
- B.

CONDUIT FITTINGS: CONNECTORS AND COUPLINGS: EMT COUPLINGS AND CONNECTORS EITHER STEEL OR MALLEABLE IRON ONLY. CONCRETE TIGHT OR RAIN TIGHT AND EITHER THE GLAND AND RING COMPRESSION TYPE OR THE STAINLESS STEEL MULTIPLE LOCKING TYPE CONNECTORS TO HAVE INSULATED THROATS, EMT FITTINGS USING SET SCREWS OR INDENTATIONS AS A MEANS OF ATTACHMENT ARE NOT TO BE PERMITTED. BUSHINGS: INSULATED TYPE DESIGNED TO PREVENT ABRASION OF WIRES WITHOUT IMPAIRING THE CONTINUITY OF THE CONDUIT, IMC AND RIGID ALUMINUM CONDUIT.
- C.

CONDUIT INSTALLATIONS: CONDUITS SYSTEMS, EMT OR RIGID NONMETALLIC CONDUIT UNLESS NOTED. CONDUIT INSTALLATION: INSTALL CONCEALED CONDUIT AND EMT IN AS DIRECT LINES AS POSSIBLE. INSTALL EXPOSED CONDUITS AND EMT PARALLEL TO OR AT RIGHT ANGLES TO THE LINES OF THE BUILDING. RIGHT ANGLE BENDS IN EXPOSED CONDUIT AND EMT RUNS SHALL BE MADE WITH STANDARD ELBOWS, SCREW JOINTED CONDUIT FITTINGS OR CONDUIT BENT TO RADIUS NO LESS THAN THOSE OF STANDARD ELBOWS.
- D.

CONDUIT SUPPORTS: PROVIDE SUPPORTS FOR HORIZONTAL CONDUITS AND EMT NOT MORE THAN 8 FEET APART WITH NOT LESS THAN TWO ELBOW OR BEND INCLUDING RUNS ABOVE SUSPENDED CEILINGS AND WITHIN 3 FEET OF ALL JUNCTION BOXES, SWITCHES, FITTINGS, ETC. INSTALL HOLE PIPE STRAPS ON CONDUITS 1 INCH OR SMALLER. INSTALL INDIVIDUAL PIPE HANGERS FOR CONDUITS LARGER THAN 1 INCH. SPRING STEEL FASTENERS WITH HANGER RODS MAY BE USED IN DRY LOCATIONS IN LIEU OF PIPE STRAPS.

CONDUCTORS

- A.

WIRES AND CABLES (600 VOLTS): CONFORM TO THE APPLICABLE UL AND IPCEA STANDARDS FOR THE USE INTENDED. COPPER CONDUCTORS WITH 600 VOLTS INSULATION UNLESS OTHERWISE SPECIFIED OR NOTED ON THE DRAWINGS. STRANDED CONDUCTORS FOR NO. 8 OR LARGER WHERE ELSEWHERE SPECIFIED OR NOTED ON THE DRAWINGS. USE OF ALUMINUM CONDUCTORS WILL NOT BE PERMITTED. INSULATION SHALL BE TYPE THHN/THWN INSULATION 75° C FOR ALL CONDUCTORS, OTHERWISE SPECIFIED CONDUCTORS COLOR–CODED IN ACCORDANCE WITH NEC. CONNECT ALL CONDUCTORS OF THE SAME PHASE CONDUCTOR, COLOR CODING SHALL BE A–BLACK, B–RED, N–WHITE, WITH GREEN FOR ALL GROUND CONDUCTORS.

- B.

CONNECTORS AND LUGS: FOR COPPER CONDUCTORS NO. 6 AND SMALLER: 3M SCOTCH–LOK OR THOMAS & BETTS STA–KON COMPRESSION OR INDENT TYPE CONNECTORS WITH INTEGRAL OR SEPARATE INSULATING CAPS. FOR COPPER CONDUCTORS LARGER THAN NO. 6 SOLDERLESS INDENT HEX SCREW OR BOLT TYPE PRESSURE CONDUCTORS, PROPERLY TAPED OR INSULATED.
- C.

SPLICES: (480 VOLTS AND UNDER): CONDUCTOR LENGTHS SHALL BE CONTINUOUS FROM TERMINATION TO TERMINATION WITHOUT SPLICES UNLESS APPROVED BY THE BUILDING INSPECTOR.

CIRCUIT BREAKERS

- A.

PROVIDE MOLDED CASE, BOLT–ON, THERMAL MAGNETIC TRIP, SINGLE, TWO OR THREE POLE BRANCH CIRCUIT BREAKERS AS SHOWN ON DRAWINGS. MULTIPLE POLE BREAKERS SHALL BE SINGLE HANDLE, COMMON TRIP, A/C RATING TO MATCH EXISTING OR AS REQUIRED FOR AVAILABLE FAULT CURRENTS.

GROUNDING

1.

ALL ELECTRICAL AND GROUNDING AT THE CELL SITE SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 780 (LATEST EDITION), AND MANUFACTURER.
2.

IF THE AC PANEL IN THE POWER CABINET IS WIRED AS SERVICE ENTRANCE, THE AC SERVICE GROUND CONDUCTOR SHALL BE CONNECTED TO GROUND ELECTRODE SYSTEM. WHEN THE AC PANEL IN THE POWER CABINET IS CONSIDERED A SUB–PANEL, THE GROUND WIRE SHALL BE INSTALLED IN THE AC POWER CONDUIT. THE INSTALLATION SHALL BE PER LOCAL AND NATIONAL ELECTRIC CODE (NFPA–70).
3.

EXOTHERMIC WELDING IS RECOMMENDED FOR GROUNDING CONNECTION WHERE PRACTICAL. OTHERWISE, THE CONNECTION SHALL BE MADE USING COMPRESSION TYPE–2 HOLE LONG BARREL LUGS OR DOUBLE CRIMP CLAMP “C” CLAMP. THE COPPER CABLES SHALL BE COATED WITH ANTI–OXIDANT (COPPER SHIELD) BEFORE MAKING THE CRIMP CONNECTIONS. THE MANUFACTURER’S TORQUING RECOMMENDATIONS ON THE BOLT ASSEMBLY TO SECURE CONNECTIONS ARE TO BE FOLLOWED.
4.

THE ANTENNA CABLES SHALL BE GROUNDED AT THE TOP AND BOTTOM OF THE VERTICAL RUN FOR LIGHTING PROTECTION. THE ANTENNA CABLE SHIELD SHALL BE BONDED TO A COPPER GROUND BUS AT THE LOWER MOST POINT OF A VERTICAL RUN JUST BEFORE IT BEGINS TO BEND TOWARD THE HORIZONTAL PLANE. WIRE RUNS TO GROUND SHALL BE KEPT AS STRAIGHT AND SHORT AS POSSIBLE. ANTENNA CABLE SHIELD SHALL BE GROUNDED JUST BEFORE ENTERING THE CELL CABINET. ANY ANTENNA CABLES OVER 200 FEET IN LENGTH SHALL ALSO BE EQUIPPED WITH ADDITIONAL GROUNDING AT MID–POINT.
5.

ALL GROUNDING CONDUCTORS INSIDE THE BUILDING SHALL BE RUN IN CONDUIT RACEWAY SYSTEM, AND SHALL BE INSTALLED AS STRAIGHT AS PRACTICAL WITH MINOR BENDS TO AVOID OBSTRUCTIONS. THE BENDING RADIUS OF ANY #2 GROUNDING CONDUCTOR IS 8”. PVC RACEWAY MAY BE FLEXIBLE OR RIGID PER THE FIELD CONDITIONS. GROUNDING CONDUCTORS SHALL NOT MAKE CONTACT WITH ANY METALLIC CONDUITS, SURFACES OR EQUIPMENT.
6.

PROVIDE PVC SLEEVES WHERE GROUNDING CONDUCTORS PASS THROUGH THE BUILDING WALLS AND /OR CEILINGS.
7.

INSTALL GROUND BUSHINGS ON ALL METALLIC CONDUITS AND BOND TO THE EQUIPMENT GROUND BUS IN THE PANEL BOARD.
8.

GROUND ANTENNA BASES, FRAMES, CABLE RACKS AND OTHER METALLIC COMPONENTS WITH #2 GROUNDING CONDUCTORS AND CONNECT TO INSULATED SURFACE MOUNTED GROUND BARS. CONNECTION DETAILS SHALL FOLLOW MANUFACTURER’S SPECIFICATIONS FOR GROUNDING.
9.

GROUND COAXIAL SHIELD AT BOTH ENDS USING MANUFACTURER’S GUIDELINES.

GROUND FIELD TEST PROCEDURE:

- A.

THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE A “FALL OF POTENTIAL” TEST ON THE NEW SUPPLEMENTAL GROUND FIELD PRIOR TO FINAL CONNECTION OF THE GROUNDING SYSTEM TO EQUIPMENT. THE TEST SHALL BE PERFORMED BY A QUALIFIED AND CERTIFIED TESTING AGENT. PROVIDE INDEPENDENT TEST RESULTS TO THE PROJECT MANAGER FOR REVIEW. THE GROUND SYSTEM RESISTANCE TO EARTH GROUND SHALL NOT EXCEED FIVE (5) OHMS. IF THE GROUND TEST EXCEEDS THE MAXIMUM OF 5 OHMS THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ADDITIONAL GROUND CONNECTIONS AS REQUIRED TO MEET THE 5 OHMS MAXIMUM.

ENCLOSURES:

- A.

ANY ENCLOSURES PURCHASED BY THE CONTRACTOR SHALL BE STAINLESS STEEL NEMA 4X (WEATHERPROOF) CONSTRUCTION. HOFFMAN ENCLOSURES OR APPROVED EQUAL.

GENERAL NOTES

1.

CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTORS FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
2.

LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO ROUGH–IN.
3.

THE CONDUIT RUNS AS SHOWN ON THE PLANS ARE APPROXIMATE. EXACT LOCATION AND ROUTING SHALL BE PER EXISTING FIELD CONDITIONS.
4.

PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR REQUIRED BY NEC.
5.

ALL CONDUITS SHALL BE MET WITH BENDS MADE IN ACCORDANCE WITH NEC TABLE 346–10. NO RIGHT ANGLE DEVICE OTHER THAN STANDARD CONDUIT ELBOWS WITH 12” MINIMUM INSIDE SWEEPS FOR ALL CONDUITS 2” OR LARGER.
6.

ALL CONDUIT TERMINATIONS SHALL BE PROVIDED WITH PLASTIC THROAT INSULATING GROUNDING BUSHINGS.
7.

ALL WIRE SHALL BE TYPE THWN, SOLID, ANNEALED COPPER UP TO SIZE #10 AWG (#8 AND LARGER SHALL BE CONCENTRIC STRANDED) 75° C, (167° F), 98% CONDUCTIVITY, MINIMUM #12.
8.

ALL WIRES SHALL BE TAGGED AT ALL PULL BOXES, J–BOXES, EQUIPMENT BOXES AND CABINETS WITH APPROVED PLASTIC TAGS, ACTION CRAFT, BRADY OR APPROVED EQUAL.
9.

CONDUIT ROUGH–IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION TO CONFLICTS. VERIFY WITH MECHANICAL CONTRACTOR AND COMPLY AS REQUIRED.
10.

ALL PANEL DIRECTORIES SHALL BE TYPE WRITTEN NOT HAND WRITTEN.
11.

INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULLBOXES AND ALL DISCONNECT SWITCHES, STARTERS AND EQUIPMENT CABINETS.
12.

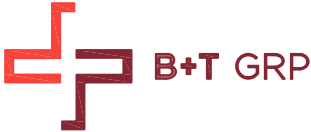
THE CONTRACTOR SHALL PREPARE AS–BUILT DRAWINGS, DOCUMENT ANY AND ALL WIRING AND EQUIPMENT CONDITIONS AND CHANGES WHILE COMPLETING THIS CONTRACT. SUBMIT AT SUBSTANTIAL COMPLETION.
13.

ALL DISCONNECT SWITCHES AND OTHER CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED, LAMICOID NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON AND PANEL FIELD LOCATIONS FED FROM (NO EXCEPTIONS).
14.

ALL ELECTRICAL DEVICES AND INSTALLATIONS OF THE DEVICES SHALL COMPLY WITH (ADA) AMERICANS WITH DISABILITIES ACR AS ADOPTED BY THE APPLICABLE STATE.
15.

PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS OR RISERS THROUGH BUILDING. DO NOT PENETRATE STRUCTURAL MEMBERS WITHOUT CONSTRUCTION MANAGERS APPROVAL. SLEEVES AND/OR PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE PACKED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING OF THE WALL OR STRUCTURE. FILL FOR FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE, FIRE AND FUMES. ALL MATERIAL SHALL BE UL APPROVED FOR THIS PURPOSE.
16.

ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT (NEW AND EXISTING) SHALL BE FIELD VERIFIED WITH THE OWNER’S REPRESENTATIVE AND EQUIPMENT SUPPLIER PRIOR TO ROUGH–IN OF CONDUIT AND WIRE. ALL EQUIPMENT SHALL BE PROPERLY CONNECTED ACCORDING TO THE NAMEPLATE DATA FURNISHED ON THE EQUIPMENT (THE DESIGN OF THESE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AT THE TIME OF DESIGN AND SOME EQUIPMENT CHARACTERISTICS MAY VARY FROM DESIGN AS SHOWN ON THESE DRAWINGS). LOCATION OF ALL OUTLET, BOXES, ETC. AND THE TYPE OF CONNECTION (PLUG OR DIRECT) SHALL BE CONFIRMED WITH THE OWNER’S REPRESENTATIVE PRIOR TO ROUGH–IN.



CN35318

EUDORA SOUTH

ADDRESS
EUDORA, KS 66025

PROPOSED SELF-SUPPORT TOWER

PROJECT NO:	112623.001
CHECKED BY:	SLM

ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION
A	3/28/17	RPS	PRELIMINARY REVIEW

B&T ENGINEERING, INC.

THIS DOCUMENT IS
PRELIMINARY IN
NATURE AND IS NOT
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OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:	REVISION:
GN-3	A

CN35318
PART OF THE SW 1/4, SECTION 19, T13S, R21E,
IN DOUGLAS COUNTY, KANSAS

PROPERTY DESCRIPTION: Parent Parcel as Provided

The East 100 acres of the Southwest Quarter of Section 29, Township 13 South, Range 21 East of the 6th P.M., in Douglas County, Kansas,

LESS AND EXCEPT:

Beginning at the Southwest corner of the East 100 acres of the Southwest Quarter of Section 29, Township 13 South, Range 21 East of the 6th P.M.; thence North 467 feet; thence East 467 feet; thence South 467 feet; thence West to the point of beginning, Douglas County, Kansas, Subject to easements, reservations, and restrictions, if any of record.

NOTE: The parent parcel graphically shown hereon, in full or in part, is the same as that described above.

Property information shown hereon was provided by Premier Title of Kansas, Inc., Case No. 35318, effective November 8, 2016 at 8:00 a.m..

Schedule B-II information:

- R/W Easement granted to Rural Water Dist. No. 4 in Bk. 306, Pg. 1715. (Blanket in nature, unable to plot)
- Easement for Underground Facilities in Bk. 446, Pg. 899. (Shown hereon)
- Oil and Gas Leases (Blanket in nature, unable to plot)

PROPOSED CELL TOWER DATA

Center of Tower
Lat 38°53'03.75" North
Long 95°06'10.46" West
Ground Elevation = 872ft

BENCH MARK
Top of 1/2" Iron Bar w/
Control Cap at CP-1
Elevation = 872.77ft

PROPERTY LEGEND

SECTION CORNER	□
RIGHT OF WAY	R/W
CENTERLINE	C/L
POINT OF BEGINNING	P.O.B.
POINT OF TERMINATION	P.O.T.
ACCESS/UTILITY EASEMENT	A&U/E
NON-EXCLUSIVE	N-E
BROKEN SCALE	—

LEGEND

POWER POLE	⊙ PP
TELEPHONE PEDESTAL	⊙ TP
PROPOSED TOWER	△
TREE (DIA.)	⊗
TREE LINE	—
FENCE	— X —
OVERHEAD POWER LINE	— OHP —
BENCHMARK	⊙
CONTROL POINT	△

PROPERTY DESCRIPTION: LEASE AREA (AS SURVEYED)

A 75 foot by 75 foot Lease Area, situated in the Southwest Quarter of Section 19, Township 13 South, Range 21 East, in Douglas County, Kansas, more particularly described as follows:

COMMENCING at the Southeast Corner of the Southwest Quarter of said Section 19 (Found 5/8" Bar in Monument Box); thence along the South line of said Southwest Quarter, South 88°07'10" West, a distance of 42.50 feet; thence leaving said South line, North 01°52'50" West, a distance of 60.00 feet to the POINT OF BEGINNING; thence South 88°07'10" West, a distance of 75.00 feet; thence North 01°52'50" West, a distance of 75.00 feet; thence North 88°07'10" East, a distance of 75.00 feet; thence South 01°52'50" East, a distance of 75.00 feet to the POINT OF BEGINNING. Containing 5,625 square feet.

PROPERTY DESCRIPTION: NON-EXCLUSIVE ACCESS/UTILITY EASEMENT (AS SURVEYED)

A 20 foot wide Access/Utility Easement, situated in the Southwest Quarter of Section 19, Township 13 South, Range 21 East, in Douglas County, Kansas, lying 10.00 feet on each side of the following described centerline:

COMMENCING at the Southeast Corner of the Southwest Quarter of said Section 19 (Found 5/8" Bar in Monument Box); thence along the South line of said Southwest Quarter, South 88°07'10" West, a distance of 42.50 feet; thence leaving said South line, North 01°52'50" West, a distance of 60.00 feet; thence South 88°07'10" West, a distance of 37.50 feet to the POINT OF BEGINNING of said centerline; thence South 01°52'50" East, a distance of 30.00 feet to the North Right of Way line of N 1000 ROAD (Public Right of Way) as now established and the POINT OF TERMINATION.

Notes:

Bearings shown hereon are referenced to Grid North of the Kansas State Plane Coordinate System of 1983 (NAD 83), (2011 ADJ.), North Zone. Obtained by static GPS observations and Rinex File submittals for NGS Opus solutions.

Vertical Datum = NAVD88 using GEOID12B

The purpose of this survey is to establish and describe a Lease Area and associated Easements. This is not a boundary survey of the Parent Parcel.

The utilities as shown on this drawing were developed from the information available (existing utility maps, aboveground observations and or surface markings placed on the ground by the utility company or a representative thereof). This company has made no attempt to excavate or go below surface to locate utilities and does not extend or imply a guaranty or warranty as to the exact location of or complete inventory of utilities in this area. It shall be the contractors responsibility to verify the location and depth of all utilities (whether shown or not) prior to excavation or construction and to protect said utilities from damage.

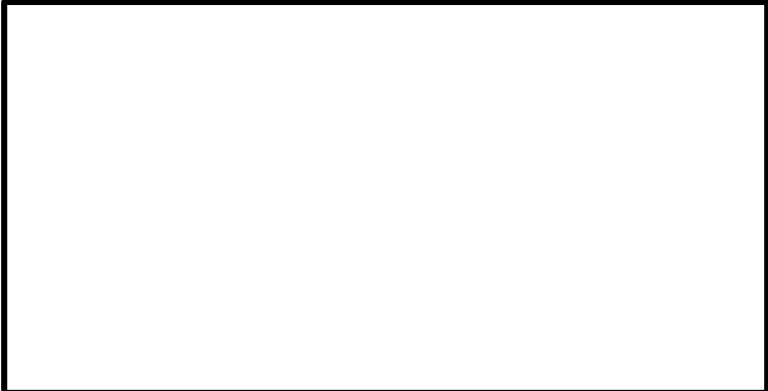
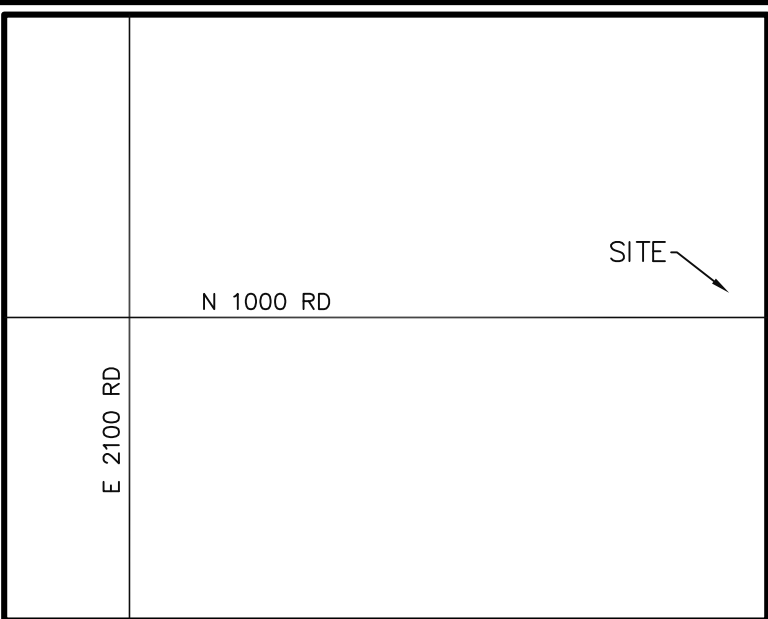
CERTIFICATION:

I HEREBY CERTIFY THAT A SURVEY WAS MADE BY ME, OR UNDER MY DIRECT SUPERVISION, ON THE GROUND OF THE LEASE AREA, AND ASSOCIATED EASEMENT PREMISES HEREIN DESCRIBED, AND THE RESULTS OF SAID SURVEY ARE REPRESENTED HEREON TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND BELIEF.

JEFFREY B. LOVELACE KS-LS1326

DATE: _____

03-09-17: ADDED A/E



LOVELACE & ASSOCIATES
Land Surveying - Land Planning
Telecommunications Surveys
929 SE 3rd Street Lee's Summit, Missouri 64063
Phone: (816) 347-9997 Fax: (816) 347-9979

SURVEY COORDINATED BY:

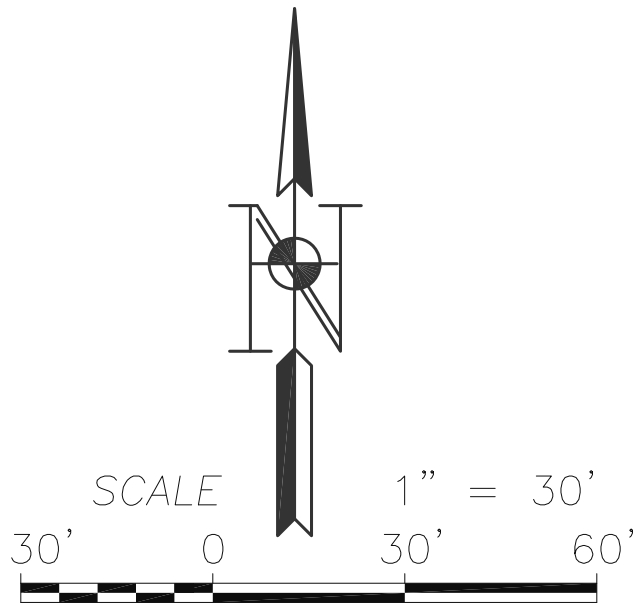
LOVELACE AND ASSOCIATES, LLC
P.O. BOX 68,
LEE'S SUMMIT, MO 64063
TELEPHONE: 816-347-9997
FAX: 816-347-9979

SURVEY PROVIDED BY:

LOVELACE AND ASSOCIATES, LLC
P.O. BOX 68,
LEE'S SUMMIT, MO 64063
TELEPHONE: 816-347-9997
FAX: 816-347-9979

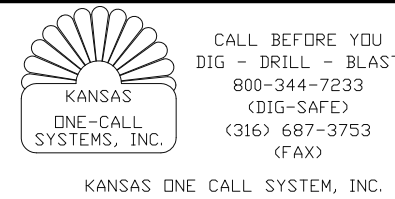
SURVEY PROVIDED FOR:

MW TOWERS, LLC
3864 WEST 75TH ST.,
PRAIRIE VILLAGE, KS 66208
TELEPHONE: 913-449-4774



FLOOD NOTE:

According to my interpretations of Community Panel No. 20045C0215D of the Flood Insurance Rate Map for Douglas County, Kansas, dated 08-05-2010, the subject property is in Flood Zone "X", ie. "areas determined to be Outside the 0.2% annual chance floodplain".



SITE I.D.: NA

SITE NAME: CN35318

SITE LOCATION:
CITY OF EUDORA,
DOUGLAS COUNTY, KS

LA PROJECT NO.: 17023

DRAWN BY: A.C.T.

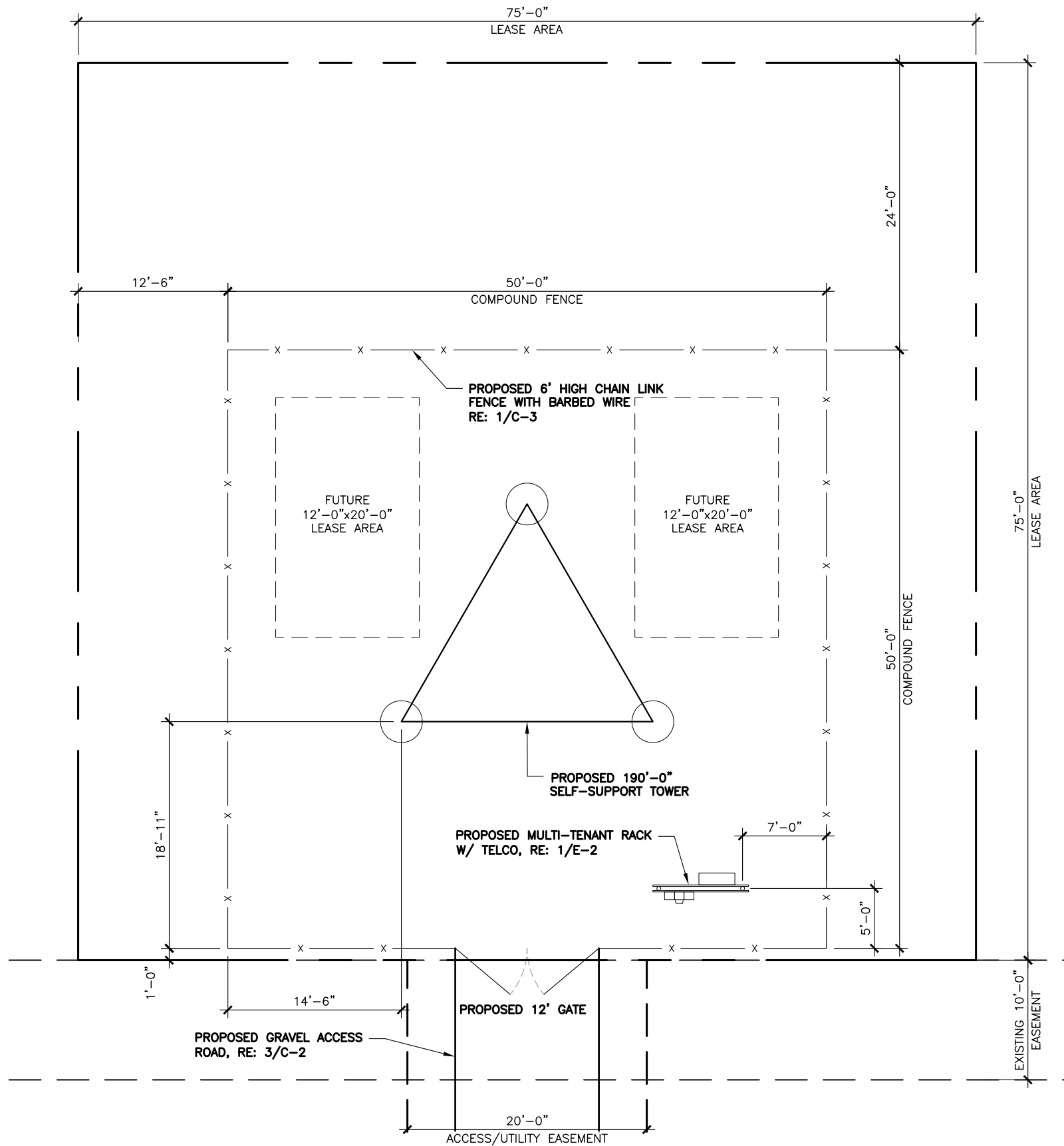
CHECKED BY: J.B.L.

DATE: 02-07-17

FIELDWORK DATE: 02-01-17

SHEET NUMBER
1 OF 1

112623_EUDORA SOUTH_NSB.dwg - Sheet: C-1.1 - User: smanuel - Mar 30, 2017 - 5:08pm



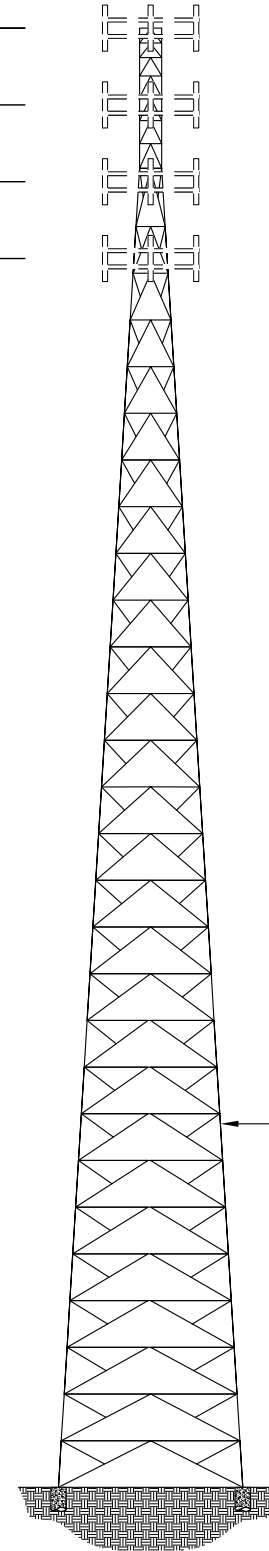
1 OVERALL SITE PLAN

SCALE: 0' 4' 8' 16' 32'



STRUCTURAL ANALYSIS NOTE:
REFER TO STRUCTURAL ANALYSIS OR
STRUCTURAL LETTER FOR APPROVAL OF
ADDITIONAL NEW APPURTENANCES.

- TOP OF TOWER
ELEV. = 190'-0"
- FUTURE ANTENNAS
ELEV. = 190'-0"
- FUTURE ANTENNAS
ELEV. = 180'-0"
- FUTURE ANTENNAS
ELEV. = 170'-0"
- FUTURE ANTENNAS
ELEV. = 160'-0"



PROPOSED 190'-0" SELF-SUPPORT TOWER

2 TOWER ELEVATION

SCALE: N.T.S.



CN35318
EUDORA SOUTH
ADDRESS
EUDORA, KS 66025
PROPOSED SELF-SUPPORT TOWER

PROJECT NO: 112623.001
CHECKED BY: SLM

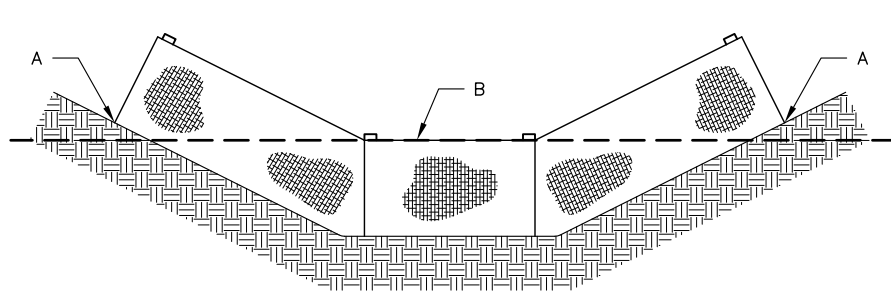
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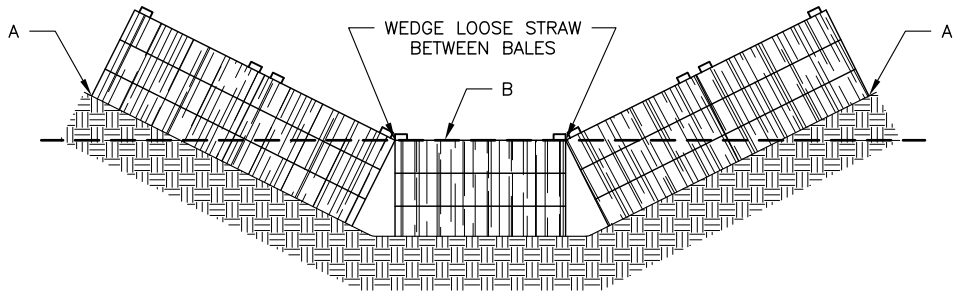
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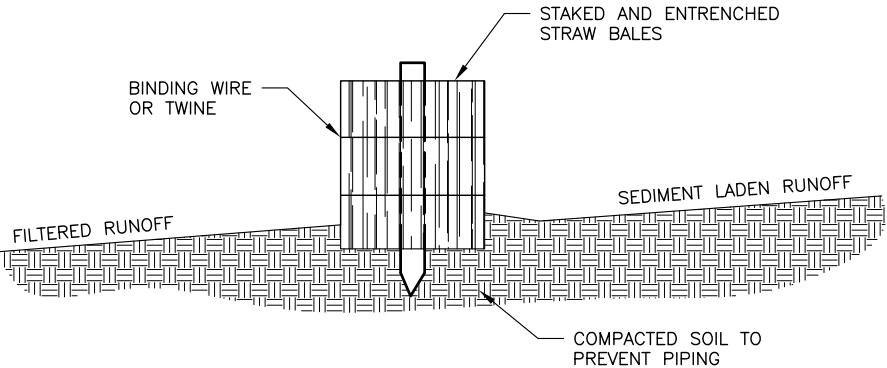
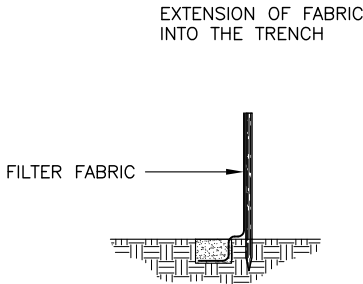
SHEET NUMBER: C-1.1
REVISION: A



POINTS A SHOULD BE HIGHER THAN POINT B

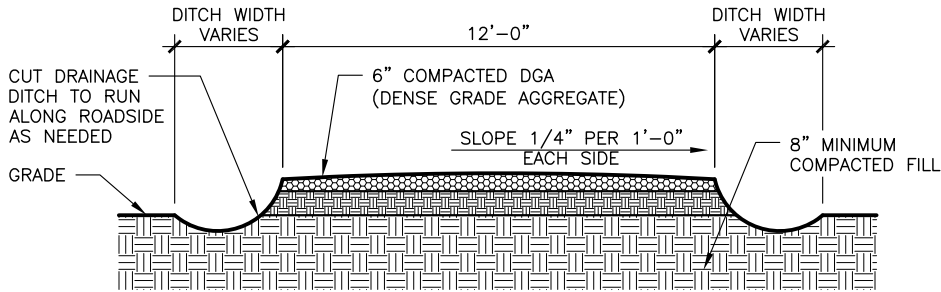


POINTS A SHOULD BE HIGHER THAN POINT B

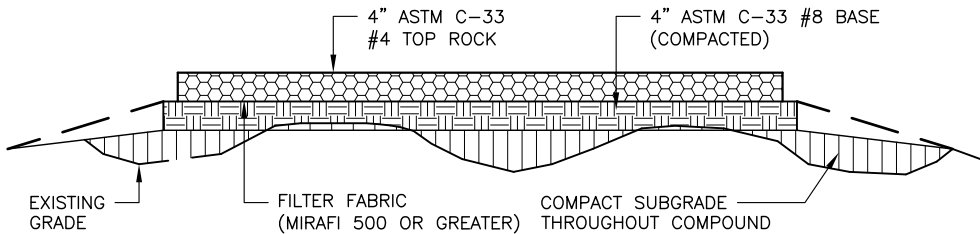


1 SILT FENCE DETAIL
SCALE: N.T.S.

2 STRAW BALE BARRIER
SCALE: N.T.S.



3 ACCESS ROAD DETAIL
SCALE: N.T.S.



4 COMPOUND DETAIL
SCALE: N.T.S.



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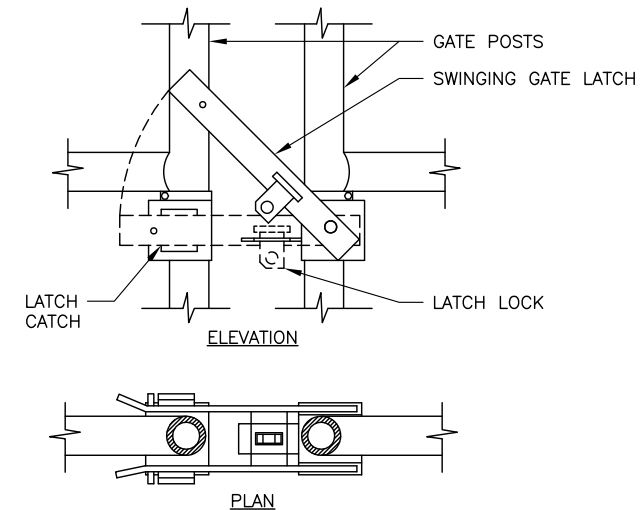
SHEET NUMBER: **C-2** REVISION: **A**

PART 1 – GENERAL
4.01 SEQUENCING

- F. ALL TOP AND BRACED RAIL SHALL BE 1 5/8" DIAMETER SCHEDULE 40 MECHANICAL — SERVICE PIPE. FRAMES SHALL HAVE WELDED CORNERS.
- G. GATE FRAMES SHALL HAVE A FULL-HEIGHT VERTICAL BRACE AND A FULL-WIDTH HORIZONTAL BRACE, SECURED IN PLACE BY USE OF GATE BRACE CLAMPS.
- H. GATE HINGES SHALL BE MERCHANTS METAL MODEL 64386 HINGE ADAPTER WITH MODEL 6409, 188 DEGREE ATTACHMENT, OR APPROVED EQUAL.
- I. THE GUIDE (LATCH ASSEMBLY) SHALL BE TAMPER PROOF.
- J. LATCHES, STOPS AND KEEPERS SHALL BE PROVIDED FOR ALL GATES.
- K. ALL STOPS SHALL HAVE A FULL-HEIGHT PLUNGER BAR WITH DOME CAP.
- L. DOUBLE GATES SHALL HAVE A FULL-HEIGHT PLUNGER BAR WITH DOME CAP.
- M. A NO. 7 GAUGE, ZINC COATED, TENSION WIRE SHALL BE USED AT THE BOTTOM OF THE FABRIC, TERMINATED WITH BAND CLIPS AT CORNER AND GATE POSTS.
- N. A 6"x1/2" EYE-BOLT TO HOLD TENSION WIRE WILL BE PLACED AT LINE POSTS.
- O. STRETCHER BARS SHALL BE 3/16" X 3/4" OR HAVE EQUIVALENT CROSS SECTIONAL AREA.
- P. ALL CORNER, GATE AND END PANELS SHALL HAVE A 3/8" TRUSS ROD WITH TURNBUCKLES AND BE BRACED WITH ONE 1-5/8" HORIZONTAL COMPRESSION MEMBER, SECURELY ATTACHED WITH IRON FITTINGS.
- Q. PROVIDE OTHER HARDWARE INCLUDING BUT NOT LIMITED TO TIE CLIPS, BAND CLIPS AND TENSION BAND CLIPS.
- R. BARBED WIRE GATE GUARDS SHALL BE FITTED WITH DOME CAPS.
- S. BARBED WIRE SUPPORT ARMS SHALL BE CAST IRON WITH SET BOLT AND LOCK WIRE IN THE ARM.
- T. ALL CAPS SHALL BE CAST STEEL.

4.04 EQUIPMENT: EXCAVATE POST HOLES WITH MECHANICAL AUGER EQUIPMENT.

- 4.07 PROTECTION: UPON COMPLETION OF ERECTION, INSPECT FENCE MATERIAL AND PAINT FIELD CUTS OR GALVANIZING BREAKS WITH ZINC-BASED PAINT COLOR TO MATCH THE GALVANIZING PROCESS.



2 GATE LATCH DETAIL
SCALE: N.T.S.



CN35318

EUDORA SOUTH

ADDRESS
EUDORA, KS 66025

PROPOSED SELF-SUPPORT TOWER

PROJECT NO:	112623.001
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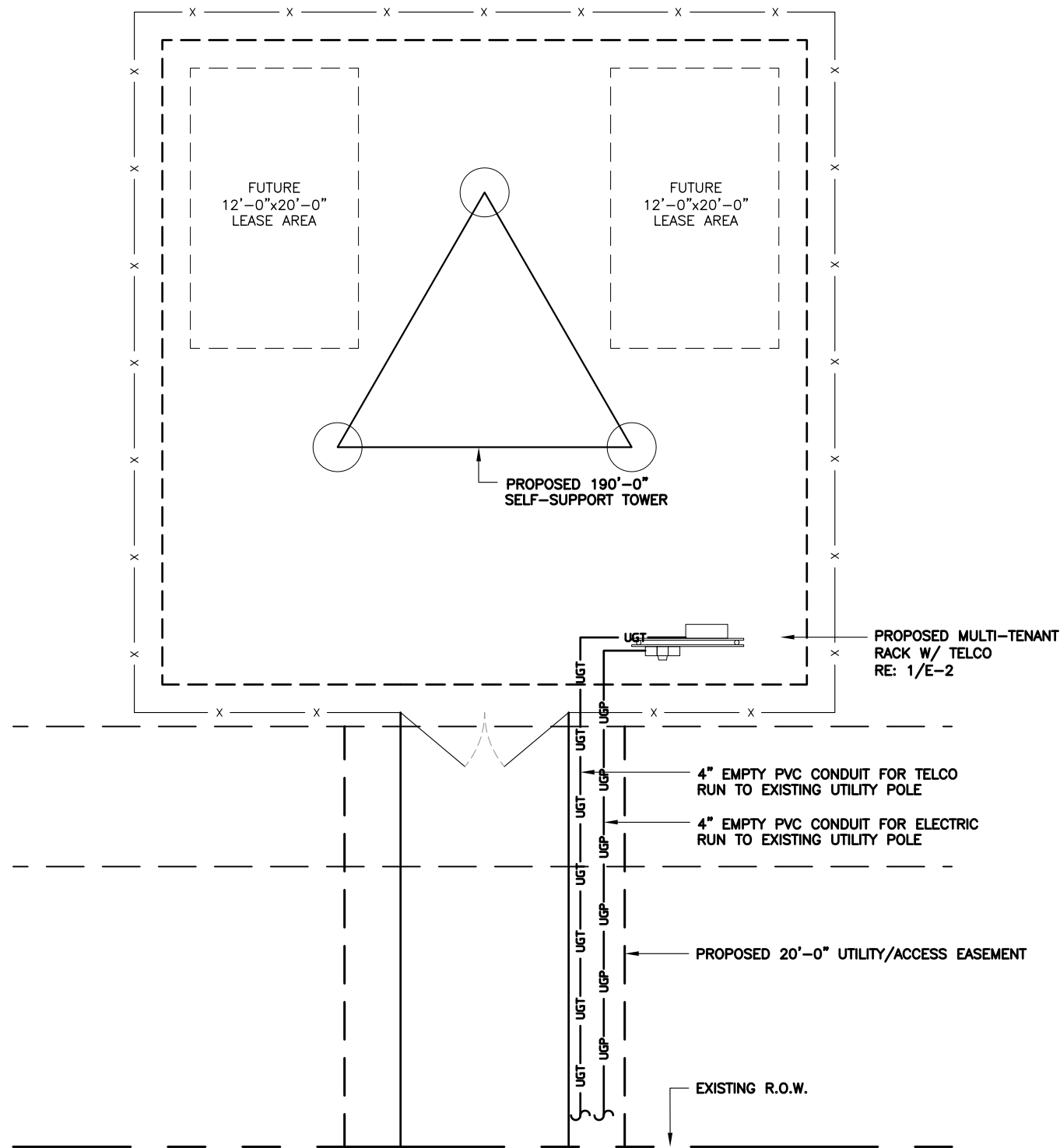
SHEET NUMBER:

C-3

REVISION:

A

112623_EUDORA SOUTH_NSB.dwg -- SheetE-1 -- User: smanuel -- Mar 30, 2017 -- 5:08pm



1 UTILITY ROUTING PLAN
SCALE: 0' 4' 8' 16' 32'



GENERAL ELECTRICAL NOTES

1. REFER TO SPECIFICATIONS DRAWINGS IN THIS SET FOR ELECTRICAL SPECIFICATIONS.
2. REFER TO ELECTRICAL DETAILS WHICH ARE APPLICABLE FOR THE TYPE OF ELECTRICAL AND TELEPHONE SERVICES REQUIRED FOR THIS SHELTER. VERIFY REQUIREMENTS. FOR ELECTRICAL AND TELEPHONE SERVICES WITH LOCAL UTILITIES BEFORE BIDDING AND INCLUDE IN SCOPE OF WORK.
3. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL A NEW 200A/2P/200A FUSED MAIN DISCONNECT SWITCH WITH SERVICE ENTRANCE LABEL IN WEATHERPROOF NEMA 3R ENCLOSURE (WHEN REQUIRED BY LOCAL JURISDICTION). MOUNT ADJACENT TO METER BASE ON OUTSIDE WALL OF THIS DISCONNECT SWITCH AND THRU WALL TO SHELTER DISCONNECT SWITCH. VERIFY WITH LOCAL BUILDING INSPECTOR BEFORE BID AND INCLUDE IN SCOPE OF WORK IF REQUIRED.

POWER & TELEPHONE GENERAL NOTES

1. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR FINAL AND EXACT WORK/MATERIALS REQUIREMENTS AND CONSTRUCT TO UTILITY COMPANY ENGINEERING PLANS AND SPECIFICATIONS ONLY.
2. CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, PULL WIRES, CABLE PULLBOXES, CONCRETE ENCASEMENT OF CONDUIT (IF REQUIRED), TRANSFORMER PAD, BARRIERS, POLE RISERS, TRENCHING, BACKFILL AND INCLUDE ANY UTILITY COMPANY REQUIREMENTS IN SCOPE OF WORK.
3. UTILITY CONTACTS, SEE SHEET T-1

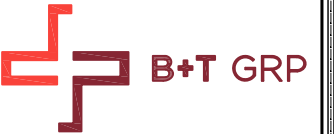
ELECTRICAL EQUIPMENT LOAD

1. ELECTRICAL SERVICE CHARACTERISTICS:
120/240 VOLT, SINGLE PHASE, THREE WIRE --200 AMP SERVICE
2. CONNECTED BUILDING LOADS:

A. LIGHTING	120V	640 WATTS
B. RADIO EQUIPMENT (RECTIFIERS)	240V	19,200 WATTS
C. RADIO EQUIPMENT (FUTURE)	240V	6,680 WATTS
D. MISCELLANEOUS POWER (DEHYDRATOR, ETC.)	120V	1,800 WATTS
E. (2) 4 TON A/C UNITS	240V	13,800 WATTS
F. (2) 8KW ELECTRIC HEATERS WITH A/C UNIT	240V	16,000 WATTS

CONNECTED LOAD WITH FUTURE RECTIFIERS AND UTILIZING HEATING AS LARGEST A/C UNIT LOAD.

3. DEMAND BUILDING LOAD BASED ON HIGHEST DEMAND LOAD REPORTED FROM LOCAL POWER COMPANY ON SIMILAR BUILDING.
4. FULL CONNECTED LOAD COULD POSSIBLY BY ACHIEVED AFTER A POWER OUTAGE HAS BEEN RESTORED. ALL RECTIFIERS WILL DRAW MAXIMUM POWER FOR RECHARGE OF BATTERIES. BOTH A/C UNITS WILL RUN TO SATISFY THERMOSTAT DEMAND.



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PROPOSED SELF-SUPPORT TOWER

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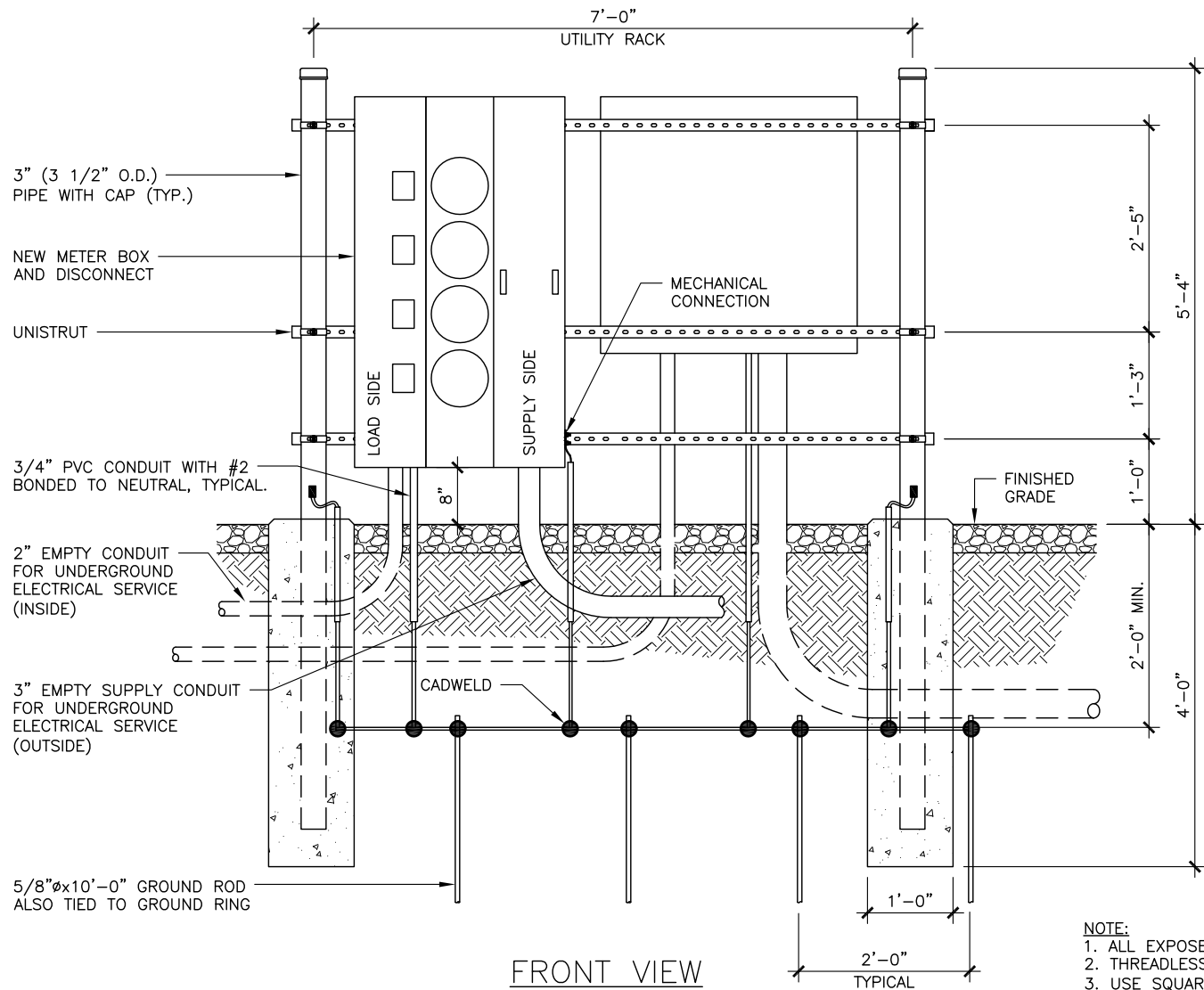
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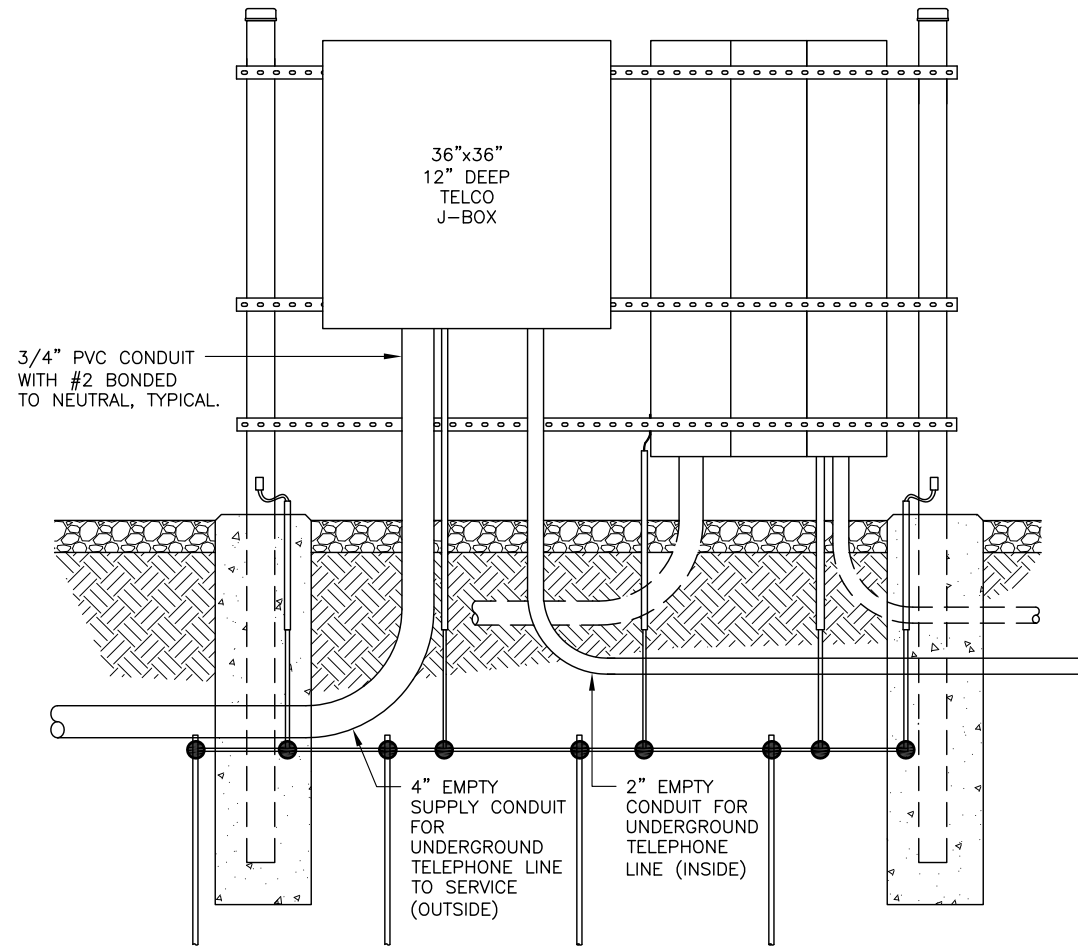
SHEET NUMBER: REVISION:

E-1 **A**

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FRONT VIEW

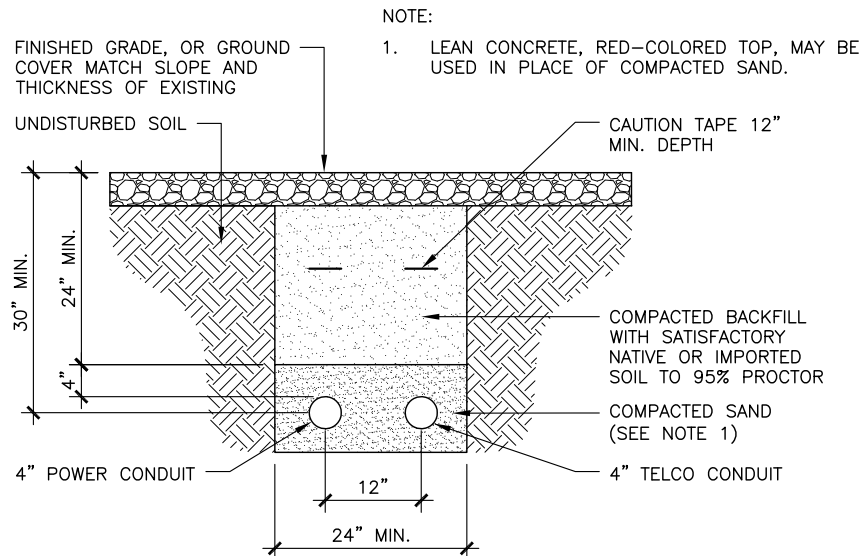


REAR VIEW

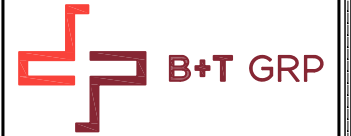
NOTE:

1. ALL EXPOSED ELECTRICAL CONDUIT MUST BE RIGID.
2. THREADLESS CONNECTORS ARE NOT ALLOWED.
3. USE SQUARE "D" 200A FUSABLE DISCONNECT
4. EMT CONDUIT CAN ONLY BE USED INSIDE
5. USE ONLY COMPRESSION TYPE FITTINGS ON EMT CONDUIT
6. USE ONLY STRANDED CONDUCTORS FOR ALL ELECTRICAL WIRING. (EXCEPT TELCO AND THERMOSTAT)
7. USE SCHEDULE 80 CONDUIT UNDER DRIVEWAYS AND/OR ANY VEHICLE CROSSING AREA.

1 UTILITY RACK ELEVATIONS
SCALE: N.T.S.



2 TRENCH DETAIL
SCALE: N.T.S.



CN35318

EUDORA SOUTH

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EUDORA, KS 66025

PROPOSED SELF-SUPPORT TOWER

PROJECT NO: 112623.001
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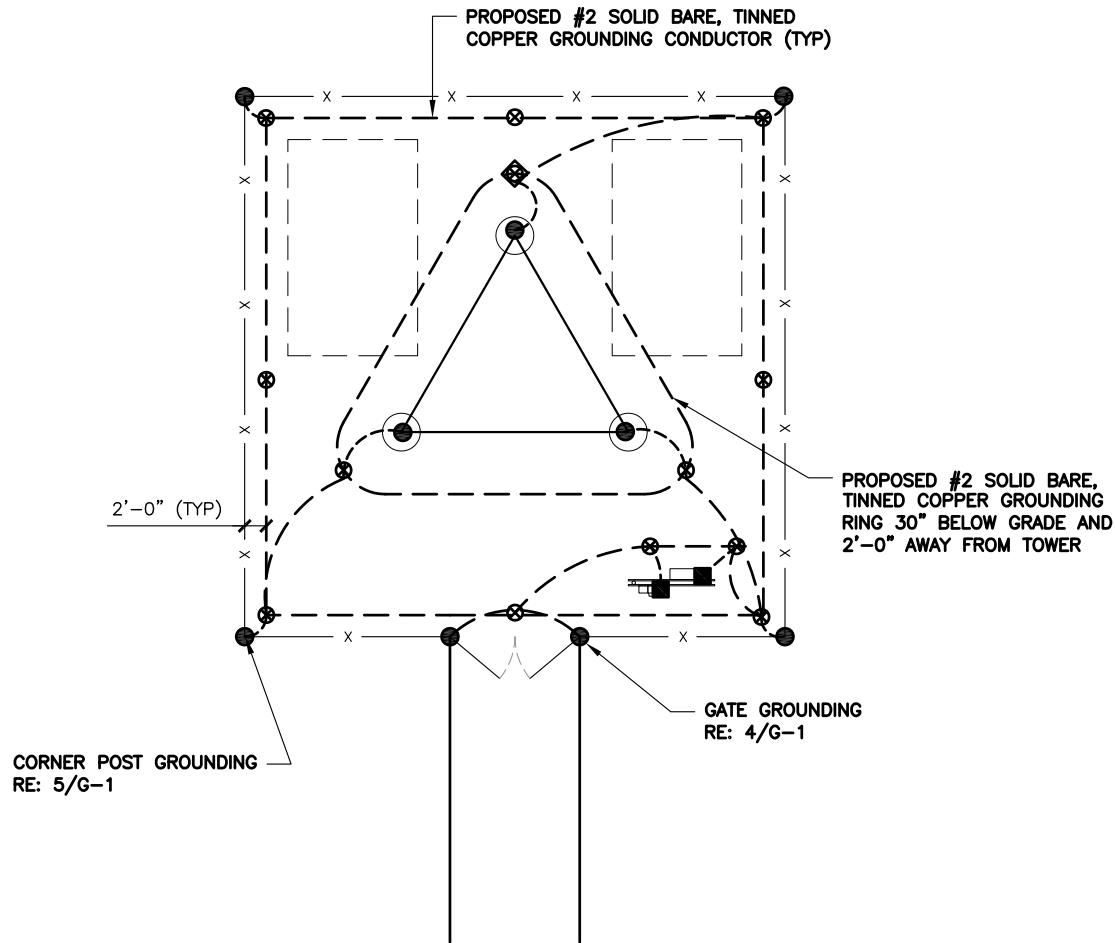
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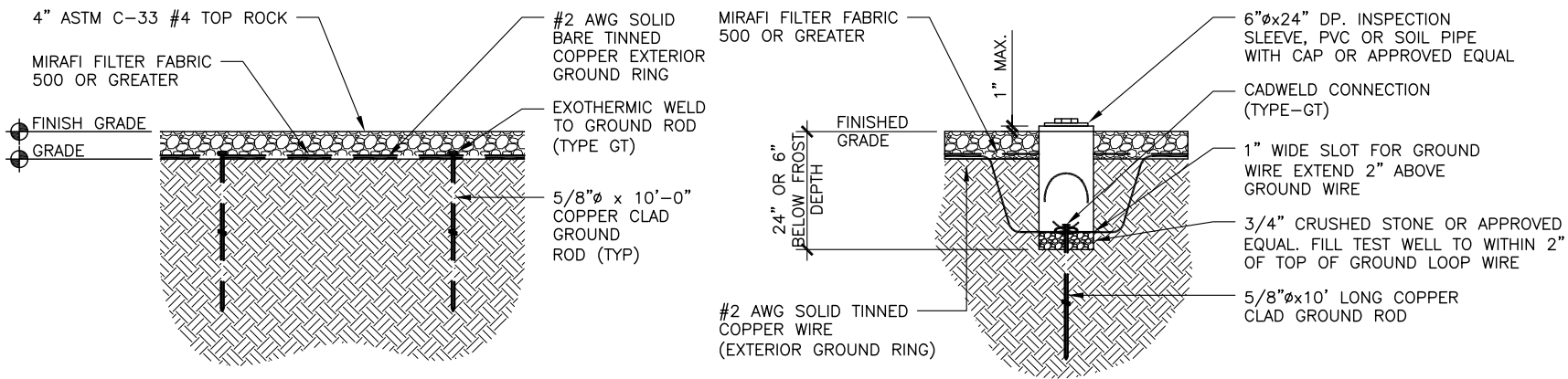
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SHEET NUMBER: **E-2**
REVISION: **A**

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1 GROUNDING PLAN
SCALE: N.T.S.



2 GROUND RING DETAIL
SCALE: N.T.S.

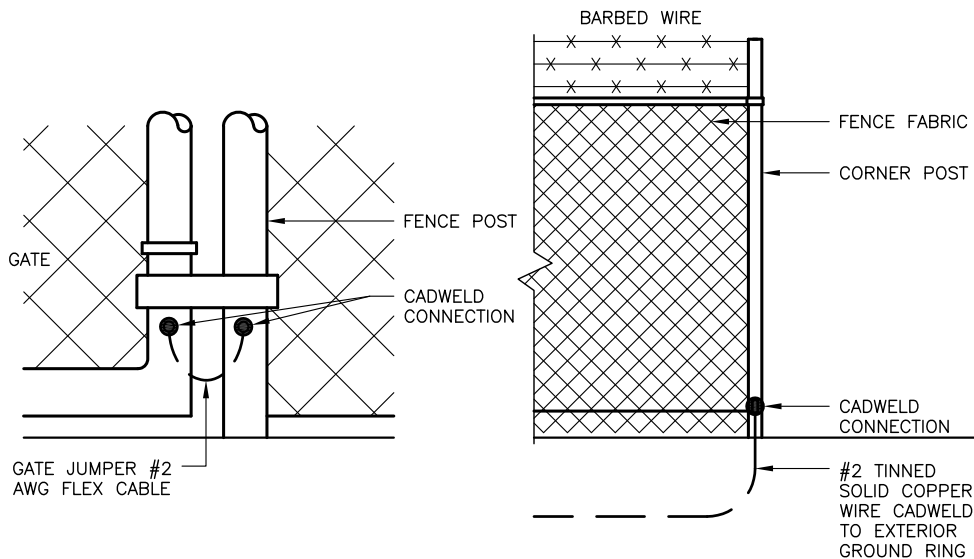
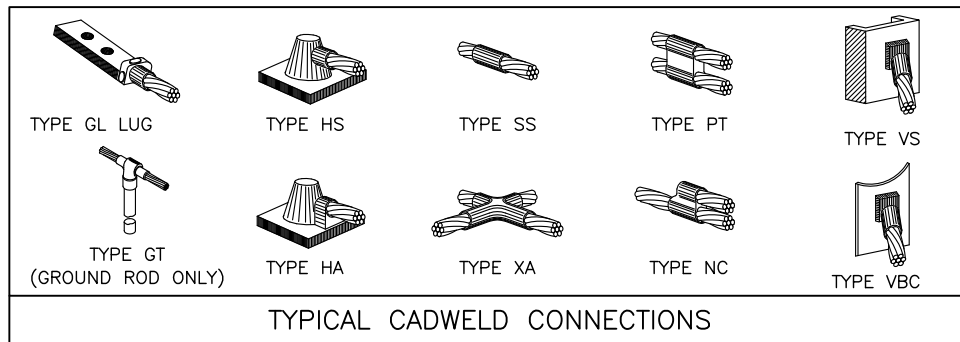
3 GROUND TEST WELL
SCALE: N.T.S.

GROUNDING LEGEND

- 5/8"x10'-0" COPPER CLAD GROUND ROD WITH INSPECTION WELL (FIELD VERIFY LOCATION WITH MANAGER)
- 5/8"x10'-0" COPPER CLAD GROUND ROD AT 15'-0" MAX. CENTERS
- MECHANICAL CONNECTION
- EXOTHERMIC WELD (CAD WELD)
- #2 SOLID COPPER TINNED WIRE UNLESS NOTED OTHERWISE

GROUNDING NOTES:

- ALL ELECTRICAL AND GROUNDING AT THE CELL SITE SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 780 (LATEST EDITION), AND MANUFACTURER.
- IF THE AC PANEL IN THE POWER CABINET IS WIRED AS SERVICE ENTRANCE, THE AC SERVICE GROUND CONDUCTOR SHALL BE CONNECTED TO GROUND ELECTRODE SYSTEM. WHEN THE AC PANEL IN THE POWER CABINET IS CONSIDERED A SUB-PANEL, THE GROUND WIRE SHALL BE INSTALLED IN THE AC POWER CONDUIT. THE INSTALLATION SHALL BE PER LOCAL AND NATIONAL ELECTRIC CODE (NFPA-70).
- EXOTHERMIC WELDING IS RECOMMENDED FOR GROUNDING CONNECTION WHERE PRACTICAL. OTHERWISE, THE CONNECTION SHALL BE MADE USING COMPRESSION TYPE-2 HOLES. LONG BARREL LUGS OR DOUBLE CRIMP CLAMP "C" CLAMP. THE COPPER CABLES SHALL BE COATED WITH ANTIOXIDANT (COPPER SHIELD) BEFORE MAKING THE CONNECTIONS. THE MANUFACTURER'S TORQUING RECOMMENDATIONS ON THE BOLT ASSEMBLY TO SECURE CONNECTIONS ARE TO BE FOLLOWED.
- PROVIDE PVC SLEEVES WHERE GROUNDING CONDUCTORS PASS THROUGH THE BUILDING WALLS AND /OR CEILINGS.
- INSTALL GROUND BUSHINGS ON ALL METALLIC CONDUITS AND BOND TO THE EQUIPMENT GROUND BUS IN THE PANEL BOARD.
- GROUND ANTENNA BASES, FRAMES, CABLE RACKS AND OTHER METALLIC COMPONENTS WITH #2 GROUNDING CONDUCTORS AND CONNECT TO INSULATED SURFACE MOUNTED GROUND BARS. CONNECTION DETAILS SHALL FOLLOW MANUFACTURER'S SPECIFICATIONS FOR GROUNDING.
- GROUND FIELD TEST PROCEDURE:
THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE A "FALL OF POTENTIAL" TEST ON THE NEW SUPPLEMENTAL GROUND FIELD PRIOR TO FINAL CONNECTION OF THE GROUNDING SYSTEM TO EQUIPMENT. THE TEST SHALL BE PERFORMED BY A QUALIFIED AND CERTIFIED TESTING AGENT. PROVIDE INDEPENDENT TEST RESULTS TO THE PROJECT MANAGER FOR REVIEW. THE GROUND SYSTEM RESISTANCE TO EARTH GROUND SHALL NOT EXCEED FIVE (5) OHMS. IF THE GROUND TEST EXCEEDS THE MAXIMUM OF 5 OHMS THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ADDITIONAL GROUND CONNECTIONS AS REQUIRED TO MEET THE 5 OHMS MAXIMUM.



4 GATE GROUNDING
SCALE: N.T.S.

5 FENCE GROUNDING
SCALE: N.T.S.



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REVISION: **A**

Memorandum

City of Lawrence

Planning & Development Services

TO: Lawrence Douglas County Metropolitan Planning Commission

FROM: Sandy Day, Planning Staff

CC: CUP-17-0021; communication tower located at 2138 N 1000 Road

Date: June 8, 2017

RE: City of Eudora Planning Commission review of project.

The proposed development application is located within three miles of the incorporated limits of the City of Eudora. The project was forwarded to the City of Eudora for review. This project has been advertised as a joint Planning Commission/Eudora meeting.

The City of Eudora met separately on June 7, 2017. At their meeting, the Eudora Commission ruled unanimously to forward a recommendation to the Lawrence Douglas County Metropolitan Planning Commission for approval for the Conditional Use Permit, CUP-17-000215 with the following stipulation:

Move the tower 190 ft. from public right of way and adjacent property, or have the applicant submit a registered engineer's certification regarding the fall zone.

This information was provided to staff by Curtis Baumann, Codes Administrator, City of Eudora.

May 22, 2017

Mr. Paul Wrablica III
Telecom Realty Consultants, LLC
3864 West 75th Street
Prairie Village, KS 66208

RE: Proposed 190' Sabre Self-Supporting Tower for Eudora South, KS

Dear Mr. Wrablica,

Upon receipt of order, we propose to design and supply the above referenced Sabre tower for a Basic Wind Speed of 90 mph with no ice and 40 mph with 3/4" radial ice, Structure Class II, Exposure Category C and Topographic Category 1, in accordance with the Telecommunications Industry Association Standard ANSI/TIA-222-G, "Structural Standard for Antenna Supporting Structures and Antennas".

When designed according to this standard, the wind pressures and steel strength capacities include several safety factors, resulting in an overall minimum safety factor of 25%. Therefore, it is highly unlikely that the tower will fail structurally in a wind event where the design wind speed is exceeded within the range of the built-in safety factors.

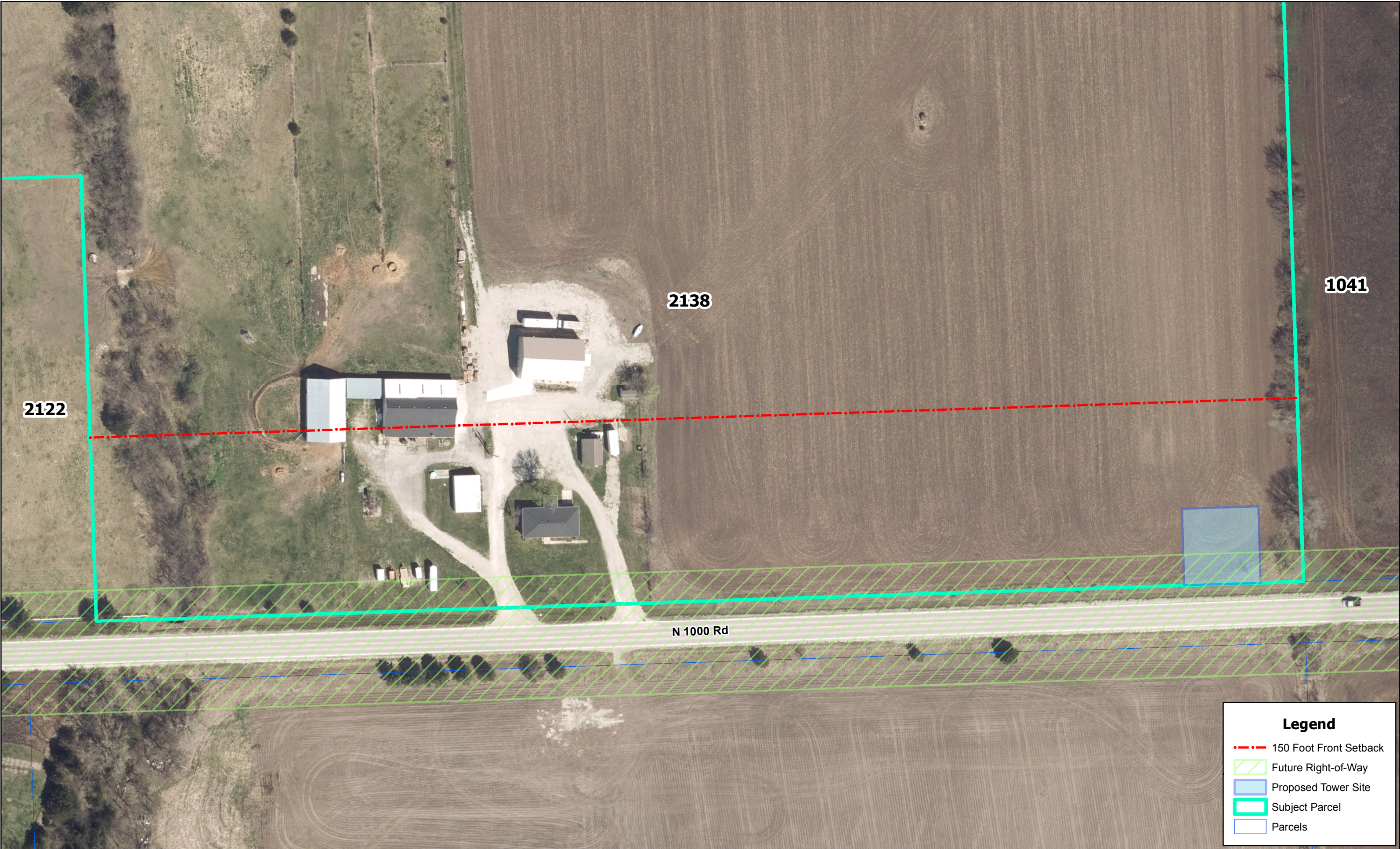
Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within one or more of the tower members in the upper portion. This would result in a buckling failure mode, where the loaded member would bend beyond its elastic limit (beyond the point where the member would return to its original shape upon removal of the wind load).

Therefore, it is likely that the overall effect of such an extreme wind event would be localized buckling of a tower section. Assuming that the wind pressure profile is similar to that used to design the tower, the tower is most likely to buckle at the location of the highest combined stress ratio in the upper portion of the tower. This would result in the portion of the tower above the failure location "folding over" onto the portion of the tower below the failure location. ***Please note that this letter only applies to the above referenced tower designed and manufactured by Sabre Towers & Poles.*** In the unlikely event of total separation, this, in turn, would result in collapse within a radius equal to 67.5 feet.

Sincerely,

Robert E. Beacom, P.E., S.E.
Senior Design Engineer





Legend

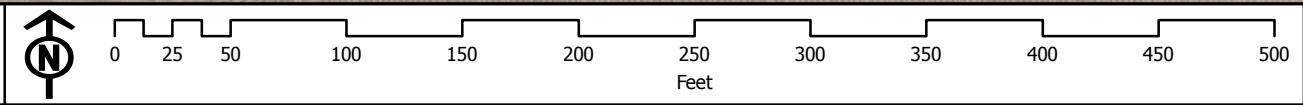
150 Foot Front Setback

Future Right-of-Way

Proposed Tower Site

Subject Parcel

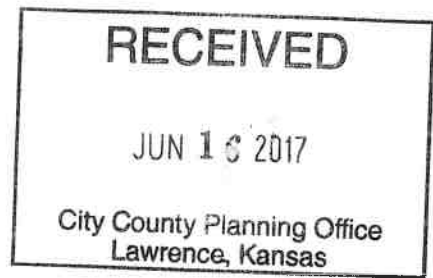
Parcels



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CUP-17-00215: Conditional Use Permit for a new 190 ft. self-supporting wireless telecommunications facility (tower), located at 2138 N 1000 Rd



City of Lawrence

Douglas County

Planning & Development Services

Dear Sandra,

We are a property owners living near the 2138 N 1000 Road, Eudora, KS 66025. We received the letter regarding having a self-supporting wireless telecommunication tower located at 2138 N 1000 Rd. We are strongly against to have this tower in this location. Our area did not have any cable internets (that is already very weird), all surrounding area neighbors rely only on wireless internets either through satellite wireless internet or wireless internets provided by cellular phone companies. All the wireless internet signals will interfere each other, our area is the far away (5 miles away) from the Towers of Verizon and Sprint wireless, those wireless signals are not very strong. We are fear that we will have even worse signal if the other wireless Tower is set up. So we are not agreeing to build another wireless tower near us.

Thank you for considering our concerns.

Sincerely,

Two handwritten signatures in black ink. The first signature is "Huiqun Ma" and the second is "Zongwu Cai".

Huiqun Ma and Zongwu Cai

2115 N 1000 Road

Eudora, KS 66025

pg 1 of 3

FAX COVER SHEET

TO: Lawrence-Douglas County Planning Commission

fax 785-832-3160 ✓
Three PAGES TOTAL

From Barbara J. Braa & Michael G. Braa
Phone 785-542-3829

RE CUP -17=00215 Conditional Use Permit == Hearing 6/28

The following two pages contain written comments regarding the hearing referenced above

**** Please confirm receipt of this FAX by leaving a message at the phone number above.**

Thank you!

**Michael & Barbara Braa
1032 E 2100 Road
Eudora, KS 66025**

June 24, 2017

To - Lawrence— Douglas County Planning Commission

RE CUP-17-00215 – Conditional Use Permit for a new 190-foot telecommunications facility (tower) at 2138 N 1000 Road (aka Douglas County Road 458)

We received notice regarding a proposed communications facility/tower conditional use permit request for 2138 N 1000 Road, also known as Douglas County Road 458. This property is near our rural Eudora home of 17 years. Below are some of our questions /concerns:

- 1) Is this facility/tower, which would be as tall as a nineteen story building, appropriate in our rural residential area? The affected residences total 10-12, if you count recent and pending construction in the immediately area.
- 2) Will this require another driveway cut onto this property which already has two cuts? Does Douglas County Road 458 allow that much access to a single property?
- 3) Is the facility/tower to be positioned exactly in the SE corner of the property or is that an estimated location?
- 4) Will this 190 foot tower require lighting? If so, what type - strobing or steady? It is just under the 200' height to require lighting. Can lighting be added later due to safety concerns without notification to the surrounding homeowners?
- 5) The property also has a grass airstrip upon which ultra-light aircraft lands frequently. Will this use be rescinded or continue as well on this land?
- 6) The current schematic shows the tower, the surrounding compound fence and two "future lease areas." What will be on those separate future lease areas? More towers?
- 7) Is anyone concerned about the loss of agricultural land?
- 8) Towers such as this often make the surrounding land less aesthetically appealing. Home owners purchased and or built in the area for the aesthetics and this is likely to mar the view and limit future use of the surrounding areas.
- 9) If property value falls due to the detrimental effects on surrounding homes, the tax base and resulting tax revenue to the county will fall too. Is this considered in your decision?

- 10) Will you consider the potential erosion of land values of the surrounding properties? No one wants to have their hard-earned appreciation to vanish.
- 11) How long is the lease? Permanent? Who is responsible for the upkeep around the tower & for any safety concerns? Who is responsible to remove the tower and compound if it falls into disuse or becomes obsolete?
- 12) Is any plant screening required to mask the unattractive fenced compound?
- 13) Does the leasehold stay with the owner of the land or does it stay with the current owner even if the current owner sells the land?
- *I know of a property where the lease went with the seller and not with the land. The use of the land is now seriously affected and 9+ acres are sitting unused due to the tower right in the middle of otherwise usable land.*
- 14) Is there a historical marker for the Santa Fe Trail on property that is due east? Any restrictions due to historical nature of that marking?

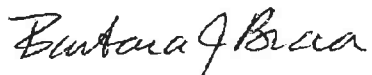
We hope you will seek answers to our questions and concerns prior to your decision regarding approval of this conditional use request.

To us, it seems that an area which will affect fewer residential properties would be more appropriate. We hope the Planning Committee members, and ultimately the County Commissioners will consider all of the above concerns when considering approval or denial of this request for a conditional use permit.

Please contact either of us if you have questions or feedback prior to the meeting on 6/28. Barbara can be reached at w. 785-465-1065 or c. 785-760-7525. Michael can be reached at 785-542-3829.

Thank you for considering our questions and input before making your decision.

Sincerely,



Barbara J. Braa



Michael G. Braa

cc: Douglas County Commissioners

From: Kelly, Pat [<mailto:PAKelly@StateStreet.com>]
Sent: Monday, June 26, 2017 10:05 AM
To: Sandra Day <sday@lawrenceks.org>
Cc: pkelly3855@aol.com
Subject: Protest against CUP-17-00215

Hi Sandy

I am against the approval of CUP-17-00215 for the following reasons which I speak to in more detail at the hearing on Wednesday, June 28, 2017.

- **Decrease in property values**
- **Aesthetics**
- **Historical**
- **Safety/Hazard issues**
- **Environmental**

**Regards,
Pat Kelly**

PATRICK & AMY JANKOWSKI
2111 N. 1000TH RD
EUDORA, KS 66025
(785) 542-2070

21 June 2017

To: Lawrence-Douglas County Metropolitan Planning Commission / Eudora Planning Commission

RE: CUP-17-00215, Telecommunications tower located at 2138 N. 1000th Rd. Eudora, KS 66025

Dear Commission members,

First, as a prior member of the Eudora Planning Commission I would like to thank you for your service and for allowing me to voice my concerns.

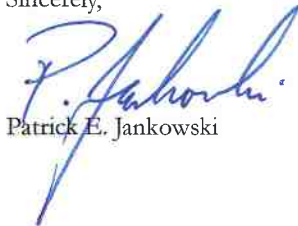
I'm sure that you are all well aware that telecommunication (cell) towers have many things in common with wind turbines in western Kansas, most notably "visual" pollution. I have enclosed a copy of an article from the Notre Dame Journal of Law, Ethics & Public Policy which reviews cell tower visual pollution. Although the article neither condemns or condones erection of new cell towers it does offer a solution to lessen the effects of the visual pollution by disguising the cell tower as a tree (photo on the last page). Perhaps some of you have noticed some of the same cell tower camouflage along K-10 near Desoto, KS? As a neighbor who chose to move outside the city to enjoy country scenery I feel that new cell towers should be required to use some type of disguise when placed in rural residential areas, thus limiting the amount of visual pollution.

Another type of pollution cell towers have in common with wind turbines is light pollution. My family and I, as well as many of our neighbors enjoy spending time outdoors, especially in the evening hours after sunset. I would assume that a tower of 190 ft. would require safety lighting, especially with its proximity to the Vinland airport. I think I can speak for most of us in the area when I say that our evening outdoor activities would certainly be less enjoyable in the presence of constantly blinking lights. There have also been several studies done to document the adverse effects of light pollution on humans, animals and especially migratory birds.

I find myself questioning the geographic placement of this tower. The property is significantly lower than the properties to both the east, west and south. Anyone who drives Douglas County 458 highway west from Eudora knows there is a significant drop in elevation east of the property in question at Captain's creek, followed by a rise in elevation west of county road 2100, placing the tower in what common sense would tell me is close to the lowest geographical area in the vicinity. Not to mention that there is a significantly taller tower at a higher elevation approximately 3 miles to the west of the proposed location which would seem to serve as a better alternative to the proposed tower.

Finally, there have also been several studies done by the real estate profession which show that the closer a property is to a cell tower, the less desirable and less valuable it becomes, mostly due to my first two objections stated above. I fully understand and agree that a property owner should have the right to develop a property as they see fit, with the understanding that such development should not impede upon his neighbors and their property. With these concerns in mind I must object to the Conditional Use Permit# CUP-17-00215.

Sincerely,



Patrick E. Jankowski



Amy M. Jankowski



City of Lawrence
Douglas County
PLANNING & DEVELOPMENT SERVICES

6 East 6th St.
P.O. Box 708
Lawrence, KS 66044

www.lawrenceks.org/pds/

Phone 785-832-3150
Tdd 785-832-3205
Fax 785-832-3160

June 5, 2017

Dear Property Owner:

The Lawrence-Douglas County Metropolitan Planning Commission will hold its regular meeting on **Wednesday, June 28, 2017, beginning at 6:30 p.m., in the Commission Meeting Room on the first floor of City Hall, 6 E. 6th Street, Lawrence.** The following item may be of interest to you:

CUP-17-00215: Consider a Conditional Use Permit for a new 190 ft self-supporting wireless telecommunications facility (tower), located at 2138 N 1000 Rd. Submitted by MW Towers LLC for F. Dwane Richardson & Valerie Richardson, property owners of record. *Joint meeting with Eudora Planning Commission.*

Conditional Use Permit requests are considered public hearing items and the public will be given the opportunity to make oral comments on such requests at the meeting. Written comments are welcomed and encouraged. The Commission has established a **deadline for receipt of all written communications of no later than 10:00 a.m. on Monday, June 26, 2017.** This deadline allows time for the Commission to receive and review comments prior to the meeting.

A complete legal description for this property is available at the Planning Office, 6 E. 6th Street, Monday - Friday from 8:00 a.m. until 5:00 p.m. If you have questions relating to this matter, please contact me at 832-3161.

PLEASE NOTE: If you have recently transferred ownership of your property in the area of this request, or if such property is under a contract purchase agreement, we ask you to please forward this letter to the new owner or the contract purchaser.

Sincerely,

Sandra Day
Sandra Day, AICP
Planner II

1st Concern is Property Value Due to

Pollution:

- (A) Visual Pollution
- (B) Light Pollution - Humans & Animals - cattle

2nd Concern: Why Place a tower in this valley when there is a taller tower directly visible to the west.





1-1-2012

Cell Phone Towers as Visual Pollution

John Copeland Nagle

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CELL PHONE TOWERS AS VISUAL POLLUTION

JOHN COPELAND NAGLE*

Granger, Indiana is a collection of residential subdivisions filled with nearly 800 cul-de-sacs. Besides those subdivisions, Granger's most prominent features are its proximity to South Bend and to the Michigan state line, its lack of any real downtown, and the precarious status of an unincorporated community of 30,000 residents who rely upon individual water wells and septic tanks.¹ Granger was also known for spotty wireless coverage when cell phones first became popular. My cell phone did not receive a signal in my Granger home, nor did most of my visitors whose phones were serviced by other providers. So I was pleased to learn that a new cell phone tower was planned for a vacant field about one mile from my home. Then I checked my mailbox one day and found a bright pink flyer that objected to the proposed tower as "visual pollution." Most of my neighbors felt the same way, as demonstrated by the 1,135 residents who signed a petition against the tower. Another resident reported that she had abandoned plans to build a deck on the back of her house because she did not want to look at a tower. "View is everything," said one neighbor, "and a tower kills the view." Heeding these complaints, the county council repeatedly voted to deny the necessary permits.²

These stories can be multiplied across the country. Indeed, they have been, as local newspaper accounts and the reports of litigated disputes attest. There are now about 200,000 cell sites (including both tow-

* John N. Matthews Professor of Law, Notre Dame Law School; nagle.8@nd.edu. Alejandro Camacho offered helpful comments on an earlier draft of this paper. Research librarians Chris O'Byrne and Patti Ogden provided invaluable assistance, and I am grateful for the research assistance of Kacy Romig and Rachel Williams.

1. The origin of Granger's name is contested, with one view citing the name of the grange farm movement of the late nineteenth century (when Granger was founded) and the alternative view crediting Father Alexis Granger, the priest who operated a farm in the area beginning in 1867. See Carol Draeger, *Where (and What) is Granger?: Not a City or Village, ZIP Code 46530 is Michiana's Own "Beverly Hills 90210"—A State of Being. So to Speak*, SOUTH BEND TRIB., July 22, 2001, at A1.

2. See Carol Elliott, *Can You Hear Them Now? Poses of Wireless Technicians Patrol the Roads to Improve Cell Phone Reception*, SOUTH BEND TRIB., Nov. 28, 2004, at B1; Don Porter, *Communications Towers Sprouting Up All Over: "Visual Pollution" Could Be Result in Residential Areas*, SOUTH BEND TRIB., June 30, 1997, at B1; Don Porter, *Will Granger Accept Another Tower?*, SOUTH BEND TRIB., June 11, 2003, at A1; James Wensits, *County Council Denies Cell Phone Tower Plea; Granger Foes Mount Strong Opposition*, SOUTH BEND TRIB., Feb. 11, 2004, at A1; James Wensits, *New Location But Same Question: Cell Tower Site Still Sought to Serve Granger Area*, SOUTH BEND TRIB., Jan. 30, 2004, at A1; James Wensits, *Tower Plan Wilts Under Pressure; Council Rejects Site Near Knollwood*, SOUTH BEND TRIB., June 11, 2003, at A1.

ers and antennas attached to existing structures) to accommodate the exponential increase in the use of wireless communication devices. Yet residents repeatedly object to the environmental, health, safety, and especially aesthetic harms of cell phone towers, which in turn lead to claims of reduced property values. As National Public Radio's Noah Adams reported in November 2004, "Americans everywhere from Manhattan to Hollywood take their cell phones for granted, but in many parts of the country where scenery is cherished, cell phone towers have been called visual pollution."³

Cell phone towers are just the most recent target of visual pollution complaints. The term visual pollution has been used by courts, academics, and environmental groups to explain their distaste for ugly buildings, telephone towers, billboards, flags and signs, and numerous other images that have been derided as polluting the visual landscape.⁴ As Chief Jus-

3. *Day to Day: Squaring off Over "Frankenpines" in the Adirondacks* (NPR radio broadcast Nov. 22, 2004), available at <http://www.npr.org/templates/story/story.php?storyId=4182101>. For additional descriptions of cell phone towers as visual pollution, see *AT&T Wireless PCS, Inc. v. City Council of Va. Beach*, 155 F.3d 423, 427 (4th Cir. 1998); *Avoid Cell Tower Pollution*, CHATTANOOGA TIMES FREE PRESS, May 30, 2007, at B7; Eric Peterson, *Silo to Hide Cellular Tower, Schaumburg OK's Church's Request*, DAILY HERALD, Aug. 11, 2004, at 1; Richard Quinn, *New Cell Towers, Public Protests Rising Together*, VIRGINIAN-PILOT [NORFOLK, VA.], Oct. 7, 2007, at B1; *Visual Pollution*, BURLINGTON FREE PRESS [VT.], Feb. 23, 2003, at 10A; *The Early Show: Cell Phone Towers in Disguise* (CBS television broadcast Nov. 29, 2006), available at http://www.cbsnews.com/video/watch/?id=2214391n963f&source=search_video; ScenicNevada.org, *Taming Wireless Telecommunications Towers*, <http://www.scenicnevada.org/main/towers.html>.

4. For judicial references to visual pollution, see, e.g., *Ballen v. City of Redmond*, 466 F.3d 736, 744 (9th Cir. 2006) (billboards); *Shivwits Band of Paiute Indians v. Utah*, 428 F.3d 966, 983 (10th Cir. 2005) (billboards); *Cleveland Area Bd. of Realtors v. City of Euclid*, 88 F.3d 382, 384 (6th Cir. 1996) (residential signs); *Kramer v. Gov't of V.I.*, 479 F.2d 350, 352 (3d Cir. 1973) (drive-in theater); *Lamar Adver. Co. v. Twp. of Elmira*, 328 F. Supp. 2d 725, 729 (E.D. Mich. 2004) (billboards); *People v. Amerada Hess Corp.*, 765 N.Y.S.2d 202, 205 (N.Y. Dist. Ct. 2003) (gas stations); *Blue Legs v. EPA*, 732 F. Supp. 81, 83 (D.S.D. 1990) (waste dumps); *State v. Watson*, 6 P.3d 752, 758 (Ariz. Ct. App. 2000) (trash); *Stearn v. County of San Bernardino*, 170 Cal. App. 4th 434 (Cal. Ct. App. 2009) (billboards); *Am. Nat'l Bank & Trust Co. v. City of Chi.*, 568 N.E.2d 25, 35-36 (Ill. App. Ct. 1990) (building that blocked view); *Mayor & City Council of Balt. v. Mano Swartz, Inc.*, 299 A.2d 828, 833 (Md. 1973) (billboards); *John Donnelly & Sons, Inc. v. Outdoor Adver. Bd.*, 339 N.E.2d 709, 718 (Mass. 1975) (billboards); *Mtn. Cmty. for Responsible Energy v. Pub. Serv. Comm.*, 665 S.E.2d 315, 329 (W. Va. 2008) (affirming an administrative decision allowing the construction of 124 wind turbines because "[s]ome people consider them eyesores they do not want in their backyards. Others consider them elegant or beautiful.").

For some of the other references to visual pollution, see Final National Pollutant Discharge Elimination System (NPDES) General Permits for the Eastern Portion of Outer Continental Shelf (OCS) of the Gulf of Mexico (GMG280000) and Record of Decision, 63 Fed. Reg. 55,718, 55,722 (Oct. 16, 1998) (noting that an Alabama coastal city had complained that offshore drilling structures constituted visual pollution); Sunrise Powerlink Project: Final EIR/EIS 3-1663 (Oct. 2008) (comment from the Sierra Club

tice Burger once wrote, "[E]very large billboard adversely affects the environment, for each destroys a unique perspective on the landscape and adds to the visual pollution of the city. Pollution is not limited to the air we breathe and the water we drink; it can equally offend the eye and the ear."⁵

Visual pollution is a fascinating example of pollution. Ordinarily, we associate pollution with air pollution, water pollution, and hazardous wastes. But we also worry about hostile work environments "polluted" by discrimination, claims of cultural pollution leveled against violent entertainment and internet pornography, and political processes polluted by excessive campaign spending. As I have argued elsewhere, a wide range of pollution claims have long appeared in the law and literature, with the idea of moral pollution preceding the contemporary understanding of pollution as a uniquely environmental phenomenon.⁶ Some of these other pollution claims persist, as evidenced by the kinds of pollution discussed in legal and political debates and by the continuing role that pollution plays in academic writing about anthropology.⁷

Offensive sights fit within this broader understanding of pollution. These offensive sights are polluting agents because their appearance is found objectionable. A polluting agent is placed into the environment by a sign, a tower, a building, or a disorganized pile of materials. The affected environment is the heretofore uncluttered outdoor landscape. The most common harm associated with visual pollution is the annoyance resulting from the perception of something that is judged unsightly. That is not the only harm, though. Signs, communications towers, and discarded cars have all been blamed for reducing property values and inhibiting the enjoyment of neighboring property. Aesthetic concerns have also been linked to human health and blamed for depriving landowners of the cultural identity of their neighborhood. Billboards have been accused of distracting drivers, degrading public taste, encouraging

Visual Pollution Task Force objecting to "visual pollution and visual impacts of the 150 miles of 160 foot-tall and 65 foot-wide transmission towers covering some of San Diego's formerly most scenic parks and neighbourhoods"); Harvey K. Flad, *Country Clutter: Visual Pollution and the Rural Landscape*, 553 ANNALS AM. ACAD. POL. & SOC. SCI. 117 (1997); Lesley K. McAllister, *Revisiting a "Promising Institution": Public Law Litigation in the Civil Law World*, 24 GA. ST. U. L. REV. 693, 730 (2008) (noting that Brazilian prosecutors regarded the reduction of visual pollution as one of their six priority areas); Peter J. Howe, *Storefront Tobacco Ads Said to Target Students*, BOSTON GLOBE, Sept. 11, 1998, at B2 (cigarette advertisements).

5. *Metromedia, Inc. v. City of San Diego*, 453 U.S. 490, 560-61 (1980) (Burger, C.J., dissenting).

6. See John Copeland Nagle, *The Idea of Pollution*, 43 U.C. DAVIS L. REV. ____ (forthcoming 2009).

7. See *id.* The classic work on pollution as an anthropological concept is MARY DOUGLAS, *PURITY AND DANGER: AN ANALYSIS OF CONCEPTS OF POLLUTION AND TABOO* (1966).

needless consumption, and desecrating the landscape. Billboards also illustrate the cumulative nature of visual pollution, for the sight of a solitary billboard proves much less objectionable than a highway that is filled with them. Visual pollution rarely results from a purposeful effort to offend the aesthetic sensibilities of others, though the person or organization that introduces the sight to the landscape may expect that the sensibilities of many viewers will be offended.

Visual pollution also illustrates the three ways of responding to pollution. Toleration is the initial response. Toleration is championed by First Amendment scholars as the appropriate response to claims of cultural pollution resulting from violent entertainment and internet pornography (though not the appropriate response for hostile work environments). The idea of tolerating pollution may seem foreign to environmental law, but in fact many environmental laws prescribe the tolerable amount of air or water pollution, or they establish the permissible tolerances for pesticides. Prevention is the second response to pollution. Here the goal is to altogether eliminate pollution by preventing it from occurring. The Pollution Prevention Act states the national policy of the United States that pollution should be prevented or reduced at the source whenever feasible.⁸ The act establishes a program for achieving that goal, but it is generally understood that zero pollution is a goal our society has so far been unwilling to pay to achieve. So the most common response to pollution is avoidance. The law variously encourages dilution, filtering, separating pollution and its victims, and the treatment and removal of pollution as methods to reduce the harms resulting from exposure to pollution.⁹

This Essay seeks to analyze the idea of visual pollution in the context of cell phone towers. Part I provides a general description of the nature of, and responses to, visual pollution. Part II examines the debate concerning the aesthetics of cell phone towers, which pits affected residents against cellular providers, with local governments exercising their traditional powers of land use regulation while being constrained by a federal law designed to promote wireless services. Part III reflects on the lessons that the idea of pollution offers for controversies regarding cell

8. 42 U.S.C. § 13101(b) (2000). Pollution prevention also appears in other federal statutes. A primary goal of the Clean Air Act (CAA) is to encourage or otherwise promote reasonable actions for pollution prevention. 42 U.S.C. § 7401(c) (2000). The Clean Water Act (CWA) supports activities and programs for the prevention, reduction, and elimination of pollution. 33 U.S.C. §§ 1253(a), 1254(a) (2000). The Resource Conservation and Recovery Act declares that wherever feasible, the generation of hazardous wastes is to be reduced or eliminated as expeditiously as possible. 42 U.S.C. § 6902(b) (2000).

9. See generally John Copeland Nagle, *The Three Responses to Pollution* (Mar. 2009) (unpublished manuscript, on file with author).

phone towers, and the lessons that the cell phone tower controversies offer for understanding pollution in other contexts.

I. VISUAL POLLUTION

The first reported case to acknowledge "visual pollution" rejected a challenge to a gas station to be located in the downtown shopping area of a Detroit suburb.¹⁰ Two years later, the same court upheld another Detroit suburb's rejection of a proposed high-rise sign to advertise another gas station located along Interstate 75. The court enthusiastically embraced municipal aesthetic regulation:

The modern trend is to recognize that a community's aesthetic well-being can contribute to urban man's psychological and emotional stability. It is true that the question of what is beautiful and pleasing is for each individual to decide. We should begin to realize, however, that a visually satisfying city can stimulate an identity and pride which is the foundation for social responsibility and citizenship. These are proper concerns of the general welfare. Yellin, *Visual Pollution and Aesthetic Regulation*, 12 *The Municipal Attorney* 186 (1971). Madison Heights has determined that its citizens' well-being will be served best by preventing the visual pollution which occurs when high-rise signs dot major thoroughfares. It has sought to do this by limiting the height of free-standing signs within its boundaries.

The use of such signs for advertising purposes is often done with little regard for their natural or man-made environment. Their garishness often intrudes on a citizen's visual senses. Property owners do have the right to put their property to profitable use. But, we do not think that the right to advertise a business is such that a businessman may appropriate common airspace and destroy common vistas. Nor do we believe that the right to advertise a business means the right to interfere with the landscape and the views along public thoroughfares.¹¹

The concurring judge warned, however, that "[w]e will all live to rue the day that public officials are permitted to meddle in private affairs on aesthetic considerations since . . . each person has his own yardstick for the evaluation of matters aesthetic."¹²

10. *Pure Oil Div. of Union Oil Co. of Cal. v. City of Northville*, 183 N.W.2d 303, 304 (Mich. Ct. App. 1970). The suburb's website now boasts of the "charming and relaxed setting of downtown Northville." Northville Downtown!, <http://downtown.northville.org/>.

11. *Sun Oil Co. v. City of Madison Heights*, 199 N.W.2d 525, 529 (Mich. Ct. App. 1972).

12. *Id.* at 530 (Targonski, J., concurring in the result).

Of course, the law struggled with aesthetic concerns long before the term visual pollution was coined. Traditionally, aesthetic complaints were insufficient to establish a nuisance. As Horace Wood's treatise explained over a century ago, "[T]he law will not declare a thing a nuisance because it is unpleasant to the eye."¹³ The courts repeatedly rejected assertions that aesthetic objections to junk yards, fences, and other things as unsightly rendered those objects a nuisance.¹⁴ The basis for those decisions was the reluctance of courts to find that offenses to one's sense of aesthetics constituted an injury that could be remedied by the courts.¹⁵

"The cases rejecting aesthetic nuisances are now in tension with other areas of the law. Aesthetic concerns were once held insufficient to support zoning laws, but the modern trend is to uphold zoning conducted for aesthetic purposes."¹⁶ Other areas of the law now accept aesthetic concerns as a valid purpose, too.¹⁷ Moreover, several academic commentators have favored the acceptance of aesthetic nuisance cases. Raymond Coletta has argued that "it seems somewhat incongruous to allow individuals redress for offenses to their senses of hearing and smell, but at the same time to deny them a remedy for offenses to their sense of sight."¹⁸

13. HORACE G. WOOD, A PRACTICAL TREATISE ON THE LAW OF NUISANCES IN THEIR VARIOUS FORMS; INCLUDING REMEDIES THEREFOR AT LAW AND IN EQUITY 24 (3d ed. 1893); see also DAN B. DOBBS, THE LAW OF TORTS 1331 (2000) ("[B]ecause tastes differ and criteria for aesthetic judgment are deemed unreliable, courts have been reluctant to say that an inappropriate and ugly sight can be a nuisance."); W. PAGE KEETON ET AL., PROSSER & KEETON ON THE LAW OF TORTS 626 & n.3 (5th ed. 1984) (indicating that "mere unsightliness" does not constitute a nuisance, but that "aesthetic considerations . . . play an important part in determining reasonable use"); John Copeland Nagle, *Moral Nuisances*, 50 EMORY L.J. 265 (2001) (discussing the application of nuisance law to aesthetic harms).

14. See, e.g., *Bixby v. Cravens*, 156 P. 1184, 1187 (Okla. 1917) (holding that an unsightly fence did not constitute a nuisance because landowners are "not compelled to consult the 'aesthetic taste' of their neighbors" when building a fence); *Mathewson v. Primeau*, 395 P.2d 183, 189 (Wash. 1964) (holding that the unsightliness of a pig farm did not create a nuisance); *State Rd. Comm'n of W. Va. v. Oakes*, 149 S.E.2d 293, 300 (W. Va. 1966) (rejecting a nuisance claim against the storage of rubbish near a road).

15. See generally Raymond Robert Coletta, *The Case of Aesthetic Nuisance: Rethinking Traditional Judicial Attitudes*, 48 OHIO ST. L.J. 141, 145-48 (1987) (explaining that courts refused to find a nuisance based on mere unsightliness because of the belief that aesthetic harms are subjective and de minimis).

16. Nagle, *supra* note 13, at 286.

17. See, e.g., *Berman v. Parker*, 348 U.S. 26, 36 (1954) (holding that aesthetic concerns can justify a use of the government's eminent domain power). See generally Coletta, *supra* note 15, at 159 & n.111 (citing cases illustrating that "many federal and state courts have upheld a wide variety of aesthetically oriented regulations" since *Berman*).

18. Coletta, *supra* note 15, at 165-66. Coletta adds that "there is no physiological reason for treating visual perceptions any differently from noise or smell." *Id.* at 166.

These arguments have resulted in increasing judicial acceptance of aesthetic nuisance claims. The cases also contain novel assertions of the harm caused by unsightly activities on a neighbor's property. One landowner, for example, asserted that the view of wrecked cars on a neighbor's lot made him self-conscious and unwilling to invite friends over for cookouts.¹⁹ Yet the reluctance to rely upon unsightliness as an injury giving rise to a nuisance still endures in some courts.²⁰ Today most courts agree that a nuisance claim can rest on either aesthetic concerns themselves, or the decreased property value associated with unpleasant aesthetics. But aesthetic nuisance claims remain rare compared to the ubiquity of zoning provisions governing appearances.

Zoning law now provides the primary means for regulating visual pollution. Local ordinances prescribe the acceptable colors, architectural styles, sizes, location, and variety of buildings and other structures constructed within communities throughout the United States. The other source of legal regulation of visual pollution is contained in statutes specifically designed to preserve the aesthetic appeal of certain places. For example, federal and state law designate particular rivers, highways, and communities as "scenic" and thus entitled to protection against any structures or other sights that would impair the visual quality of that environment.

Many laws, and many claims of visual pollution, target billboards. "Billboards erode the quality of life," claimed one scenic advocacy organization. "They pollute our landscape, destroy our historic, cultural, and natural diversity, and undermine America's heritage and sense of place."²¹ It took a while for that view to take hold, and even longer for the law to accept it. Consider the concerns articulated by a Maryland court in 1973:

The effort to eliminate what was referred to in argument before us as "visual pollution" by controlling signs and billboards through the exercise of the zoning power has been slowly developing. The

19. *Foley v. Harris*, 286 S.E.2d 186, 188 (Va. 1982).

20. See, e.g., *Oklejas v. Williams*, 302 S.E.2d 110, 111 (Ga. Ct. App. 1983) (rejecting the claim that the unsightliness of a wall constituted a nuisance); *Carroll v. Hurst*, 431 N.E.2d 1344, 1349 (Ill. App. Ct. 1982) (rejecting the claim that a junkyard and salvage operation constituted a nuisance because "[n]o testimony was given that defendant's use of his land created an unsightly view; indeed, under Illinois law, a landowner does not have a right to a pleasing view of his neighbor's land"); *Ness v. Albert*, 665 S.W.2d 1, 2 (Mo. Ct. App. 1983) (holding that the presence of several dilapidated appliances and other refuse was not a nuisance because of the subjective nature of aesthetic considerations).

21. 132 CONG. REC. S13509 (daily ed. Sept. 24, 1986) (remarks of Sen. Stafford) (introducing materials from the Coalition on Scenic Beauty). Bill Bryson had a different impression during his travels throughout the United States. See BILL BRYSON, *THE LOST CONTINENT: TRAVELS IN SMALL-TOWN AMERICA* 49 (1990) ("[I]n the lonesome heartlands billboards were practically a public service.").

principal difficulty is that other forms of pollution, stench and noise and the like, can be measured by more nearly objective standards. If beauty, however, lies in the eyes of the beholder, so does the tawdry, the gaudy and the vulgar—and courts have traditionally taken a gingerly approach to legislation which circumscribes property rights by applying what amount to subjective standards, which may well be those of an idiosyncratic group.²²

Gradually, legislatures and courts became more accepting of billboard regulations. The federal Highway Beautification Act restricts the placement of billboards and other signs near interstate highways.²³ That 1965 law resulted from a campaign led by Lady Bird Johnson, and upon signing the statute, her husband Lyndon proclaimed that “[b]eauty belongs to all the people. And as long as I am President, what has been divinely given to nature will not be taken recklessly away by man.”²⁴ The Visual Pollution Control Act of 1990 would have further regulated billboards, though Congress declined to enact that law.²⁵ The regulation of billboards raises First Amendment issues because billboards contain speech, and much of the recent litigation has considered whether local regulations of billboards comply with the First Amendment’s standards.²⁶

This approach is seen in earlier efforts to address the aesthetic concerns of towers. “It is always interesting to observe the manner in which the courts deal with new inventions and apply old principles of law to new conditions.” That statement could summarize the reaction to the law governing cell phone towers, but it actually appeared in Edward Quinton Keasbey’s 1900 treatise entitled *The Law of Electric Wires in Streets and Highways*.²⁷ Telephone poles and wires, electric poles and wires, and trolley wires were all the subject of complaints—and litigation—concerning their aesthetic impacts. Or, as Keasbey put it, “a line of posts and wires often spoils the appearance of a pretty place.”²⁸

22. *Mayor & City Council of Balt. v. Mano Swartz, Inc.*, 299 A.2d 828, 833 (Md. 1973).

23. 23 U.S.C. § 131 (2000).

24. Lyndon B. Johnson, Remarks at the Signing of the Highway Beautification Act of 1965 (October 22, 1965), in *AMERICAN EARTH: ENVIRONMENTAL WRITING SINCE THOREAU* 398 (Bill McKibben ed., 2008); see also Flad, *supra* note 4, at 125 (referring to “the Highway Beautification Act, which was specifically enacted to curtail visual pollution along roadways”).

25. Visual Pollution Control Act of 1990, S. 2500, 101st Cong. (1990).

26. See, e.g., *Outdoor Media Group, Inc. v. City of Beaumont*, 506 F.3d 895 (9th Cir. 2007) (describing the First Amendment standards applicable to billboard ordinances).

27. EDWARD QUINTON KEASBEY, *THE LAW OF ELECTRIC WIRES IN STREETS AND HIGHWAYS* vii (1900).

28. *Id.* at 108. Keasbey also noted that “there are few, if any, decisions” involving telegraph lines before 1883 even though that technology had been employed since the 1840s. *Id.* at 97.

Telephone and electric systems were installed by public utilities that possessed the power of eminent domain. That allowed the utilities to decide where to locate their poles and wires. Some landowners tried to block the installation of unsightly poles and wires on their property, but the courts usually found that the placement was incident to the existing street or utility easements or otherwise authorized.²⁹ More litigation concerned the proper measure of compensation owed to those whose property was taken for the new systems. Specifically, numerous courts considered whether the aesthetic harm of the pole and wires was a compensable harm. The courts reached differing results.³⁰ Some courts held that the reduction in property value attributable to the unsightliness of the poles and wires was compensable.³¹ Other courts held the oppo-

29. See, e.g., *Palmer v. Larchmont Elec. Co.*, 52 N.E. 1092, 1095 (N.Y. 1899) (noting that "[i]t may be that some prejudice exists against wires strung on unsightly poles," but holding that the town was authorized to build them pursuant to the earlier construction of a highway); *Dayton v. City Ry. Co.*, 12 Ohio Dec. 258, 285 (Ohio Ct. Com. Pl. 1902) ("With rare unanimity the courts have concurred in holding that an electric street railway . . . is not an additional servitude upon the fee within the streets, but a legitimate use of the streets within the original general purpose of their dedication."); *Pelton v. E. Cleveland R.R. Co.*, 10 Dec. Reprint 545, 1889 WL 352, at *7 (Ohio Ct. Com. Pl. 1889) (admitting that electric trolley wires and poles "add nothing to the beauty of the street," but adding that "[o]ne of these poles is no more of an obstruction than a lamp post or an electric light post"). But see *Donovan v. Allert*, 91 N.W. 441 (N.D. 1902) (holding that a telephone company had not acquired the right to erect unsightly telephone poles on the plaintiff's property); *Krueger v. Wis. Tel. Co.*, 81 N.W. 1041 (Wis. 1900) (holding that the placement of a telephone pole is a new servitude). See generally KEASBEY, *supra* note 27, at 110-11 (summarizing the arguments on both sides).

30. *Kamo Elec. Coop. v. Cushard*, 416 S.W.2d 646, 651-55 (Mo. Ct. App. 1967) (discussing many of the cases on both sides and concluding that "the trend of authority is presently inclined to the view that the disfigurement of farms by unsightly power lines is a compensable element of damage").

31. See *Bd. of Trade Tel. Co. v. Darst*, 61 N.E. 398, 399 (Ill. 1901) (holding that the damage suffered by the property owner due to the unsightliness of the telegraph poles or structure was a proper element of his damages for loss of value to his property); *Cushard*, 416 S.W.2d at 648-50 (upholding a \$5,000 compensation award where about half of the damages were attributed to the aesthetic loss); *Union Elec. Co. v. Simpson*, 371 S.W.2d 673, 681 (Mo. Ct. App. 1963) (holding that jury allowed to consider any effect that the power lines would have had on value of owner's land, and thus allowed to consider that line would be unsightly); *Wadsworth Land Co. v. Charlotte Elec. Co.*, 88 S.E. 439, 440-41 (N.C. 1915) (holding that unsightliness of trolley wires and poles was a consideration in the depreciation in value of property); *Ohio Pub. Serv. Co. v. Dehring*, 172 N.E. 448, 449 (Ohio Ct. App. 1929) (holding that the unsightliness of towers and transmission lines may be considered in determining damages); *Anderson v. Phila. Elec. Co.*, 2 Pa. D. & C.2d 709, 713 (Pa. Ct. Com. Pl. 1953) (allowing compensation for the presence of the poles, though not merely their unsightliness); *Sw. Tel. & Tel. Co. v. Smithdeal*, 136 S.W. 1049 (Tex. 1911) (owner allowed to recover for loss of value to property for unsightly wires and poles); *Tex. Power & Light Co. v. Jones*, 293 S.W. 885, 886-87 (Tex. Civ. App. 1927) (owner could recover for damages caused to property because power lines are unsightly).

site.³² The Mississippi Supreme Court, for example, refused to compensate the residents of Bay St. Louis who complained that electric poles and wires interfered with their view of the Gulf of Mexico:

It is said the poles and wires of appellant are unsightly, and are a disfigurement to the property, and an especial injury in that it obstructs the open view of the sea. Similar erections in all cities and towns present, though perhaps in a less degree, like inconveniences to the owners of palatial residences, but disfigurements of this kind to property are not the subjects of compensation, or, if so, they are conclusively presumed to have been paid for upon the opening of the street and its dedication to public use.³³

Another court even contended that "[s]ince the advent of rural electrification, many farms have transmission lines traversing them and instead of being unsightly, many prospective buyers of farms regard them as evidence that an abundance of electric power is manifest."³⁴

Several property owners claimed that the aesthetic harms produced by telephone or electric systems constituted a nuisance. In 1881, the New York Attorney General filed a nuisance suit against "huge telegraph poles, of a size and clumsiness such as has been rarely seen outside of the Maine woods in which they got their growth."³⁵ One Louisiana court ordered the removal of ten-foot posts that were "unsightly, interfere with and are a menace to the full and free use of the sidewalk and prevent the planting of trees and grass" by the sidewalk.³⁶ But most courts refused to hold that the unsightliness of the poles or wires resulted in a nuisance.³⁷

Detroit residents took a different approach. When the city authorized a new electric street railway system, the neighbors "cut[] down the poles, and threatened to continue to do so."³⁸ The railway then sought an injunction against the actions of the neighbors. The Michigan

32. See *Ill. Power & Light Corp. v. Barnett*, 170 N.E. 717, 719 (Ill. 1930) (holding that unsightliness of towers is not a proper element of damage to land); *Ill. Power Co. v. Wieland*, 155 N.E. 272, 274 (Ill. 1927) (holding unsightliness of poles for electric wires is not a proper element of damage); *Kamo Elec. Coop. v. Brooks*, 337 S.W.2d 444, 451 (Mo. Ct. App. 1960) (denying compensation for aesthetic harms but suggesting that it might be forthcoming if the property hosted "an amusement park, cemetery, campus, institutional grounds, club grounds, school or hospital lawns, garden or a beautified estate, or the like"); *Shinzel v. Bell Tel. Co. of Phila.*, 31 Pa. Super. 221, 226 (Pa. Super. Ct. 1906) (unsightliness of poles do not constitute a special injury for which damages can be recovered).

33. *Gulf Coast Ice Mfg. Co. v. Bowers*, 32 So. 113, 114 (Miss. 1902).

34. *Salt River Rural Elec. Coop. v. Thurman*, 275 S.W.2d 780, 782 (Ky. 1955).

35. *The Unsightly Telegraph Poles. Suit by the Attorney-General to Remove the Pine-Street Obstructions*, N.Y. TIMES, Mar. 1, 1881, at 3 (referring to the telegraph poles as "these huge, ugly excrescences").

36. *Viering v. N.K. Fairbanks Co.*, 14 Teiss. 130, 1916 WL 1706, at *2 (La. Ct. App. 1917).

37. See *City of Passaic v. Pub. Serv. Corp. of N.J.*, 73 A. 122 (N.J. Ch. 1909).

38. *Detroit City Ry. v. Mills*, 48 N.W. 1007, 1008 (Mich. 1891).

Supreme Court approved the requested remedy, albeit by a 3-2 vote. The majority was dismissive of the neighbors' aesthetic complaints about the poles: "If it be said they are unsightly, and therefore offend his taste, it can well be replied that they are no more so than the lamp-post or the electric tower."³⁹ One dissenter responded that "poles may be so thickly planted along our sidewalks as even to exclude light and air from our dwellings, and yet we shall have no remedy."⁴⁰

Over time, municipalities began to object to the aesthetics of telephone and electric poles and wires. They enacted prohibitions against such poles and wires or required them to be located in less intrusive places.⁴¹ The utilities objected to those laws, and more litigation resulted.⁴² Sometimes the courts forced the use of underground wires themselves. In 1894, for example, a local court held that "[t]he city of Cleveland should maintain its wires in conduits underground" because the "large and unsightly poles erected . . . in front of the residences of the plaintiffs, thus marring and in a measure destroying the beauty of a beautiful avenue," was not a reasonable exercise of the city's authority.⁴³ Eventually, technological developments helped the aesthetic cause. Once underground wires became available, cities and courts required them instead of the objectionable above-ground systems.⁴⁴

39. *Id.* at 1012.

40. *Id.* at 1018 (Morse, J., dissenting).

41. See generally KEASBEY, *supra* note 27, at 57-58 (summarizing the municipal power to regulate poles and wires).

42. See *Vill. of Jonesville v. S. Mich. Tele. Co.*, 118 N.W. 736 (Mich. 1908); *City of Plattsmouth v. Neb. Tel. Co.*, 114 N.W. 588, 591 (Neb. 1908) (holding that a city ordinance requiring underground wires exceeded the government's police power); *Castle v. Bell Tel. Co. of Buffalo*, 61 N.Y.S. 743, 745-46 (N.Y. Sup. Ct. 1899) (concluding that "public and private interests would be greatly promoted by" requiring underground wires instead of "unsightly telephone and telegraph poles"); *Am. Rapid Tel. Co. v. Hess*, 12 N.Y.S. 536 (N.Y. Gen. Term 1890) (upholding a New York City ordinance requiring the removal of unsightly telegraph poles and wires and their replacement underground); *Duq. Light Co. v. City of Pitt.*, 97 A. 85, 89 (Pa. 1916) (sustaining a Pittsburgh ordinance requiring underground wires to avoid "the unsightly disfigurement of the streets"); *Appeal of Bell Tel. Co.*, 10 A.2d 817, 820 (Pa. Super. Ct. 1940) (noting that "[t]he esthetic features are not to be entirely ignored" in upholding a borough ordinance requiring underground wires); see also *Mut. Union Tel. Co. v. City of Chi.*, 16 F. 309, 315 (C.C. N.D. Ill. 1883) (opining "[t]here must be a power, I think, somewhere" for city authorities to remove and "put an end to such unsightly obstructions as these [telegraph] poles and wires [that] are now in our streets"); *Greenville Gas, Elec. Light, Power & Fuel Co. v. City of Greenville*, 130 N.W. 333, 334 (Mich. 1911) (describing a city ordinance prohibiting overhead electric wires and poles because they were unsightly).

43. *Prentiss v. Cleveland Tel. Co.*, 1 Ohio Dec. 79, 1894 WL 1374, at *2-*3 (Ohio Ct. Com. Pl. 1894).

44. See *City of Monroe v. Postal Tel. Co.*, 162 N.W. 76 (Mich. 1917) (upholding a city ordinance requiring telegraph wires to be removed from poles and placed underground).

II. CELL PHONE TOWERS

Motorola's Martin Cooper is credited with inventing the first portable telephone in 1973.⁴⁵ A trial of the first cellular system linked 2,000 customers in Chicago in 1978.⁴⁶ Since then, the number of cell phones has increased dramatically to 34 million in 1995, 159 million in 2004, and now 270 million.⁴⁷

Cell phones and other personal wireless services depend on the transmission of radio signals. The easiest—and cheapest—way to transmit those signals is from antennas that are placed on towers. The antennas must be placed on high towers because wireless technology is relatively low-powered and requires a line-of-sight to the next tower. Coverage within an area is maintained by arranging antennas in a honeycomb-shaped grid, from which the term "cell" originates. A phone call is transferred from one tower's coverage area to another as a phone user travels. Providers want to increase the number of cells and decrease the geographic coverage of each cell in order to increase the quality of service and therefore attract subscribers. The coverage area of each cell determines the most desirable tower locations. Antennas may be located on existing towers, light poles, or roof tops in urban areas, but new towers must be built outside of cities in order to achieve continuous wireless service. Additionally, towers are expensive, so providers have an incentive to build as few as possible.⁴⁸

Several harms are attributed to cell phone towers, including health impacts from electromagnetic fields, safety, harm to wildlife, and loss of property value. The most common complaint is aesthetic. As one court observed, "Few people would argue that telecommunications towers are aesthetically pleasing."⁴⁹ Many people object to the sight of a tower or to

45. See Mary Bellis, *Selling the Cell Phone: Part 1: History of Cellular Phones*, <http://inventors.about.com/library/weekly/aa070899.htm>.

46. See *id.*; Thomas A. Wikle, *Cellular Tower Proliferation in the United States*, 92 GEOGRAPHICAL REV. 45, 49 (2002).

47. See U.S. CENSUS BUREAU, THE 2009 STATISTICAL ABSTRACT: THE NATIONAL BOOK tbl.1112 (2008), <http://www.census.gov/compendia/statab/tables/09s1112.pdf>; Wikle, *supra* note 46, at 47; Associated Press, *Group: Ban All Cell-Phone Use by Drivers*, CHI. TRIB., Jan. 12, 2009, at A3 (reporting that there are 270 million cell phone users in the United States).

48. For the basics of cell phone technology, see, e.g., Wikle, *supra* note 46, at 54; see also *Voice Stream PCS I, LLC v. City of Hillsboro*, 301 F. Supp. 2d 1251 (D. Or. 2004); David W. Hughes, *When NIMBY's Attack: The Heights to Which Communities Will Climb to Prevent the Siting of Wireless Towers*, 23 J. CORP. L. 469, 478–86 (1998).

49. *Sw. Bell Mobile Sys. v. Todd*, 244 F.3d 51, 61 (1st Cir. 2001); see also *Am. Bird Conservancy v. Fed. Comm'n's Comm'n*, 545 F.3d 1190, 1195 (9th Cir. 2008) (dismissing a lawsuit alleging that cell phone towers were killing endangered Hawaiian petrel and Newall's shearwaters); *PrimeCo Pers. Comm'n's, Ltd. P'ship v. City of Mequon*, 352 F.3d 1147, 1149 (7th Cir. 2003) ("The unsightliness of the antenna and the adverse effect on property values that is caused by its unsightliness are the most common concerns," while environmental and safety effects are sometimes cited as well.).

a tower's interference with their preexisting view. But it is hard to be too precise about the nature of the aesthetic harm. The most common complaint is that cell phone towers are so different—and taller—than other features of the landscape. The emphasis upon the contrast between a tower and the existing landscape makes the harm depend upon where a tower is located. Commercial districts and areas with tall buildings or other structures are generally regarded as places where the aesthetic impact of a cell phone tower is least, while the harm is greatest in residential communities, historic sites, parks, forests, hillsides, or wilderness areas. Some observers have also cited the metallic character of most towers as producing an industrial or even "intergalactic" appearance.⁵⁰

Cellular providers do not enjoy the power of eminent domain, unlike the utilities that built telephone and electric systems a century ago. Instead, cell phone providers must persuade—and pay—private or public landowners to allow a tower on their property. That makes the paid property owner happy, but it leaves the neighboring individuals and businesses to suffer the externality—the pollution—of the aesthetic harms. Those neighbors often turn to their local governments, who have become adept at employing zoning law and other regulations to achieve aesthetic ends. The efforts to combat the aesthetic harms mirror the efforts to combat other types of pollution, though with some unique twists.

A. *Responding to the Visual Pollution of Cell Phone Towers*

Recall the three responses to pollution claims: tolerance, prevention, and avoidance.⁵¹ Tolerance is an obvious response to the presence of cell phone towers. Aesthetic harms are real, but they are perhaps the least serious and most subjective of all of the harms associated with pollution claims. An ugly cell phone tower does not expose people or wildlife nearby to any toxic chemicals, nor does it interfere with most uses of one's property or other activities, nor has anyone lodged any moral objections to cell phone towers. Aesthetic harms are especially subjective, though distaste with the sight of cell phone towers is widespread. And when people object to the sight of cultural pollution in the form of pornographic movies displayed at drive-in theaters, the typical response has been to encourage those who are offended to avert their eyes or to simply be more tolerant.

50. See Robert Long, Note, *Allocating the Aesthetic Costs of Cellular Tower Expansion: A Workable Regulatory Regime*, 19 STAN. ENVTL. L.J. 373, 390 (2000) (describing cell phone towers as "industrial-looking, metallic structures"); see also Hughes, *supra* note 48, at 497 (noting that "[t]he metallic composition of these towers further compounds the visual contrast"); B. Blake Levitt, *Cell-Phone Towers and Communities: The Struggle for Local Control*, ORION AFIELD, Autumn 1998, at 32, 33 (referring to the "intergalactic look" of cell phone towers).

51. See *supra* text accompanying notes 8–9.

Toleration is an especially appropriate response to claims of visual pollution because the harm is generally less than other kinds of pollution and the harm is more subjective. Virginia Postrel sees the battle against the visual pollution of cell phone towers as the latest confirmation of Ronald Coase's insight "that pollution is not a simple matter of physical invasion or evil-doing. It is a byproduct of valuable actions."⁵² Postrel explicitly calls for "tolerance" of cell phone towers and other forms of visual pollution because "[e]nforcing taste means blocking experimentation," and because we can simply avert our eyes from the offending structure (just like drive-in movies).⁵³ Postrel also contends that "since we tend to become used to our surroundings over time, it becomes easier and easier to ignore visual offenses. Sometimes we even come to enjoy sights we once found annoying."⁵⁴ There is ample precedent to support this call for toleration of cell phone towers. One geographer insists that "[t]he majority of Americans who use and value cell phones seem willing to overlook the visual impacts of towers," just as they have done with barbed wire, electric wires, and telephone poles.⁵⁵ The experience with these other structures suggests that it is likely that people will grow accustomed to the sight of cell phone towers if they persist in coming decades; the intolerance for cell phone towers could be a temporary phenomenon.

Pollution prevention may be another viable response to the visual pollution of cell phone towers. In this context, prevention means retaining the benefit of cell phone coverage without experiencing the externality of aesthetic harms. So far, the prevention of those harms has been difficult because we want cell phones to work as we move from one area to another. Cell phone providers satisfy these popular desires by designing a honeycomb of cells, each containing a tower that transmits the radio signals necessary for communication via cell phone. Each provider, moreover, needs its own antenna to transmit its customers' signals, and usually that means that each provider needs its own tower. Multiple towers for each provider can be avoided by "co-location"—the placement of multiple antennas on a single tower—and the resulting elimination of the need to build a new tower eliminates the additional visual pollution that a new tower would cause. Co-location is not always possible,

52. Virginia Postrel, *Economic Scene: When it Comes to Enforcing Taste, It's Best to Tread Lightly—If at All*, N.Y. TIMES, July 13, 2000, at C2.

53. *Id.*

54. *Id.*

55. Wikle, *supra* note 46, at 56. Wikle cites Pierce F. Lewis, *Aesthetic Pollution: When Cleanliness Is Not Enough*, 52 PUB. MGMT. 8 (1970), for the proposition that "the frontier philosophy of Americans has led to acceptance of landscape elements viewed as functional, such as barbed wire." Cellular providers have made the same argument. See *Sprint Spectrum Ltd. P'ship v. Parish of Plaquemines*, No. Civ.A. 01-0520, 2003 WL 193456, at *17 (E.D. La. Jan. 28, 2003) (reporting the testimony of a Sprint official who "observed that in his experience the towers tend to lose their identity and blend into the landscape over time").

though, because of leasing disputes between providers and because of the electrical interference that can occur from placing antennas too close together.⁵⁶

Prevention thus requires a technological development that provides phone coverage without towers that loom over the landscape. One township tried to justify a moratorium on new cell phone towers pending the necessary "rapidly advancing technologies in wireless telecommunications."⁵⁷ The court overturned the moratorium, though, because while satellite technology or other developments could make cell phone towers obsolete, "the use of communications towers and antennas is still the most prevalent and realistic technology in the industry at the present time."⁵⁸ Femtocells are the next, best hope for reducing the need for cell phone towers. A femtocell is the size of an ordinary home internet router and operates like a mini-cell phone tower that boosts the cellular provider's existing signal for better use inside a home. Sprint began offering nationwide femtocell service in August 2008. Cellular providers would benefit from femtocells "by being able to offload traffic from their main networks, saving the substantial cost of building more cell phone towers."⁵⁹ If that actually happens, then fewer cell phone towers are necessary and the visual pollution associated with cellular service may be prevented. The ability to prevent that pollution may also persuade courts to uphold laws requiring such prevention, just as the courts began to uphold laws restricting telephone and electric poles once underground wiring became feasible.⁶⁰

While toleration and prevention each hold promise, avoidance remains the most frequently employed response to the aesthetic complaints about cell phone towers. This strategy accepts that cell phone towers will exist and that people will object to them, so it works to prevent the objecting parties from being harmed. One way of doing that is treatment. For environmental pollutants, treatment means altering the chemical composition of the pollutant so that it is no longer harmful, as is frequently done in municipal wastewater treatment plants. For visual pollution, treatment refers to efforts to diminish the aesthetic impact of a

56. See Long, *supra* note 50, at 386-87 (describing co-location).

57. APT Minneapolis, Inc. v. Stillwater Twp., No. 00-2500 (JRT/FLN), 2001 WL 1640069, at *11 (D. Minn. June 22, 2001).

58. *Id.*

59. Ed Sutherland, *Femtocell FAQ: Is It Time for Your Own "Personal Cell-Phone Tower"? Cell-Service Miracle or Mirage? We Answer 18 Burning Questions About Femtocell Technology*, COMPUTERWORLD MOBILE & WIRELESS, Nov. 19, 2008, <http://www.computerworld.com/action/article.do?command=viewArticleBasic&articleId=9118798>; see also Roger O. Crockett, *A Cell Phone Tower in Your Living Room? Wireless Operators Want to Sell You a Toaster-Size Box That Will Improve Service—And Cut Their Costs*, BUS. WK., Nov. 10, 2008, at 56.

60. See *supra* in text at notes 55-57 above.

cell phone tower. For example, Gwinnett County in suburban Atlanta prescribes that towers

- shall either maintain a galvanized steel or concrete finish . . . or be painted a neutral color so as to reduce visual intrusiveness
- use materials, colors, textures, screening, and landscaping that will blend the tower facilities to the natural setting and building environment
- shall not be artificially lighted unless otherwise required (say by the Federal Aviation Administration), or
- include any commercial signage.⁶¹

These provisions are intended to accomplish the goals of the county's Telecommunications Tower and Antenna Ordinance, including "the design and construction of towers and antennas to minimize adverse visual impacts."⁶²

Camouflage represents a more aggressive approach to treating the visual pollution of cell phone towers. Cellular providers have disguised towers as flag poles, church steeples, light poles, chimneys, trees, silos, lighthouses, cacti, and bird nests. Towers have also been attached to existing structures, such as church steeples, buildings, chimneys, gas station signs along interstates, electricity poles, and clock towers.⁶³ There is also one case involving "an 80-foot tower designed to look like a ship's mast or a flagpole in a boyard in Manchester harbor."⁶⁴ The goal of these disguises is to transform cell phone towers into sights that are aesthetically innocuous, or even pleasing. The polluting vision is thus rendered harmless in much the same way that various environmental pollutants are treated to eliminate their toxic effects. But such camouflaging techniques are not always successful. In the Manchester harbor case, the local planning board objected to the tower because, as one member put it, "the proposed tower looked like an 80-foot smoke-stack."⁶⁵ Cellular providers sometimes object to camouflaging, too,

61. GWINNETT COUNTY, GA., CODE OF ORDINANCES ch. 108, art. 3, div. 4, § 108-55 (Municode through Oct. 21, 2008 ordinance).

62. *Id.* div. 1, § 108-31.

63. See Vince Vittore, *Crouching Market, Hidden Towers*, WIRELESS REV., Nov. 1, 2002, at 20, available at http://telephonyonline.com/wireless/towers/wireless_crouching_market_hidden/ (describing the development of cell tower camouflaging); Hughes, *supra* note 48, at 498-99 (describing camouflage techniques); Larson Camouflage Division, <http://www.utilitycamo.com/sites.html> (providing photos of camouflaged towers). A formal definition of "[c]amouflage design or camouflage tower" is "the design of a tower or tower structure that blends into the surrounding environment and is visually unobtrusive." HOUSTON, TX., CODE OF ORDINANCES ch. 41, art. 3, § 41.50 (Municode through Jan. 7, 2009 ordinance).

64. *Nextel Commc'ns of the Mid-Atl., Inc. v. Manchester-by-the-Sea*, 115 F. Supp. 2d 65, 68 (D. Mass. 2000).

65. *Id.* at 71. Another member of the planning board agreed "that the tower would not look like a mast." *Id.* On the other hand, the state historical commission

because it is much more expensive than simply building a regular metallic tower.⁶⁶ All pollution control is expensive, though, so it would be surprising if controlling visual pollution was the exception.

B. *Regulating the Location of Cell Phone Towers*

The most common way of avoiding the aesthetic harms of cell phone towers, and the most common response to those harms generally, is to place the towers where they are least objectionable. Initially, this separation strategy may be achieved by voluntary actions. Providers often seek to build towers away from any residential neighborhoods simply to avoid the controversy that is likely to ensue. For their part, residential neighborhoods can establish private covenants that forbid the location of cell phone towers on their property. Covenants forbidding a wide range of activities or structures have become a staple of new subdivisions, and they are easily employed to block the siting of a tower by current and future owners of the land. The first case to enforce a restrictive covenant to exclude a cell phone tower arose on land in Westchester County, New York, that was subject to a covenant prohibiting anything besides a single-family home. The New York Court of Appeals rejected the provider's claims that the enforcement of the covenant would violate the Federal Telecommunications Act (TCA) or generalized interests in public policy. The court reached that result even though the tower had already been built, and thus the court's decision ordered the removal of the tower within "a reasonable period of time."⁶⁷ In another case, a Florida state court ordered the demolition of a tower built on land that had been conveyed to the city "solely for passive park purposes."⁶⁸

concluded that "the stealth pole will be designed to blend in with the ships' masts in the marina," and therefore it would "have no adverse effect on the Manchester Village National Register Historic District and the Manchester Historic District." *Id.* at 69. You can decide for yourself who is right by looking at the photo at <http://www.necellularsites.net/Mass.htm>.

For similar competing views of cell phone towers that are disguised as flag poles, compare Edward C. Fennell, *POST & COURIER* [CHARLESTON, S.C.], Oct. 23, 2003, at 1C (describing the compliments for "a giant version of Old Glory visible for miles away from a 140-foot pole that almost nobody knows is also a cell-phone tower") with *Sprint Spectrum Ltd. P'ship v. Bd. of Zoning Appeals*, 244 F. Supp. 2d 108, 115 (E.D.N.Y. 2003) (opining that "it is reasonable for many residents to find camouflaging a monopole as a flagpole flying an American flag to be offensive").

66. See Hughes, *supra* note 48, at 499 (providing data on the cost of camouflaging cell phone towers circa 1998).

67. *Chambers v. Old Stone Hill Rd. Assocs.*, 806 N.E.2d 979, 984 (N.Y. Ct. App. 2004). I discuss the TCA *infra* Part II.C. See also *Burke v. Voicestream Wireless Corp.*, 87 P.3d 81 (Ariz. Ct. App. 2004) (enforcing a covenant that prohibited a cell phone tower built on a church).

68. *AT&T Wireless Servs. of Fla. v. WCI Cmty's., Inc.*, 932 So.2d 251, 253 (Fla. Dist. Ct. App. 2005).

Nuisance law is the traditional means of separating conflicting use of the land, including pollution claims. The plaintiffs in one nuisance case blamed a cell phone tower for straining the marriage of one couple and forcing another family to move because the tower was "'offensive,' 'overbearing,' that it clearly did not fit in place with the surrounding flora, and that he 'felt [his] dream house was shattered by this monstrosity.'"⁶⁹ But the judge visited the site and concluded that the tower "simply cannot be found without the assistance of a guide," and "it would be difficult to imagine being able to see this pole even in the dead of winter."⁷⁰ The court thus dismissed the nuisance claim because "[n]o harm occurred here, nor could it be plausibly so alleged."⁷¹ Most other nuisance cases involving the aesthetics of cell phone towers have failed as well.⁷²

Separation is usually achieved by the existing tools of municipal zoning laws and land use regulations. The standard zoning law contains restrictions on the height of structures, requirements that structures be set back a certain distance from the property's boundary, and designations upon which uses are permissible in each area. Zoning law further authorizes conditional uses and special exceptions that operate to allow certain structures only upon a showing of need and the absence of harm. Each of these provisions has been applied to cell phone towers. The typical tower is over one hundred feet tall, and the ideal place for a tower that best serves its purpose might be close to the property line or in a residential area or an environmentally sensitive location, so providers often struggle to gain the permission of local zoning authorities to build a new cell phone tower.⁷³

69. *Littlefield v. Zoning Bd. of Appeals*, No. 03CV1816F, 2007 WL 3258779, at *1 (Mass. Super. Ct. Sept. 25, 2007).

70. *Id.* at *1 & n.1.

71. *Id.* at *2.

72. See generally Gregory H. Birne, Annotation, *Tower or Antenna as Constituting Nuisance*, 88 A.L.R. 5th 641 (2004) (citing cases). Other nuisance cases target the noises emitted from cell phone towers. See *Cal. RSA No. 4 v. Madera County*, 2331 F. Supp. 2d 1291 (E.D. Cal. 2003) (holding that noise from a cell phone tower did not constitute a nuisance); *GTE Mobilnet of S. Tex. Ltd. P'ship v. Pascouet*, 61 S.W.3d 599 (Tex. Ct. App. 2001) (upholding a jury finding of nuisance based upon the noise and glaring lights from a 126-foot cell phone tower located on municipal land near a residential area).

73. Representative cases include *T-Mobile USA, Inc. v. County of Hawai'i Planning Comm'n*, 104 P.3d 930 (Haw. 2005) (holding that a special use permit was not needed to place an antenna in a fake chimney); *Sprint Spectrum, Ltd. P'ship v. Zoning Bd. of Adjustment*, 823 A.2d 87, 99 (N.J. Super. Ct. App. Div. 2003) (reversing the denial of a variance because, inter alia, the company had minimized the aesthetic impact of the antennas); *AT&T Wireless Servs. v. City of Streetsboro*, No. 97-P-0070, 1998 WL 813834, at *7 (Ohio Ct. App. June 26, 1998) (reversing the denial of a conditional use permit that relied "solely [on] statements made by nearby landowners expressing general concerns about aesthetic deterioration in the area," lowered property values, and health risks); *In re Shaw*, 945 A.2d 919 (Vt. 2008) (upholding the issuance of a conditional use

A recent Kansas City case is illustrative. T-Mobile wanted to build a 120-foot cell phone tower in Kansas City, Kansas. To do so, it needed a special permit, which would be forthcoming only after considering, *inter alia*, the effect of the tower on "[t]he character of the neighborhood" and "visual quality."⁷⁴ The city code also expressed a preference for locating cell phone towers in commercial districts rather than residential districts. The local board denied the application in part because the tower would be located in a residential district and because it "would be 'the tallest structure in the area' and 'may be considered unsightly by many.'"⁷⁵

Some municipalities have expanded upon their general zoning provisions by specifying which places are acceptable and which places are unacceptable for cell phone towers. For example, San Diego County's 2003 Wireless Telecommunications Facilities ordinance divides tower applications "into four tiers, depending primarily on the visibility and location of the proposed facility," and then it imposes more stringent aesthetic requirements upon proposals in residential areas than in industrial areas.⁷⁶ Towers located in residential areas must be camouflaged and they are subject to height and setback restrictions. The applicant for a permit to build a cell phone tower must prepare a "visual impact analysis," and the tower "must meet many design requirements, primarily related to aesthetics."⁷⁷

C. *The Federal Telecommunications Act of 1996*

The cumulative effect of such local ordinances has been extremely effective in restricting the location of cell phone towers. Zoning authorities often heed the objections that their constituents have voiced to the presence of a cell phone tower in their neighborhood, just as I experienced in my suburban community. One of my Notre Dame physics department colleagues was quoted in the local newspaper describing "[v]isual pollution of the scenery" as "a much bigger worry. I certainly wouldn't want one in my back yard."⁷⁸ One cannot imagine a clearer

permit for a cell phone tower); *Cingular Wireless v. Thurston County*, 129 P.3d 300 (Wash. Ct. App. 2006) (affirming the denial of a special use permit).

74. *T-Mobile Central, LLC v. Unified Gov't of Wyandotte County*, 546 F.3d 1299, 1304 (10th Cir. 2008) (quoting WYANDOTTE COUNTY-KANSAS CITY, KAN., CODE OF ORDINANCES ch. 27, art. 4, § 27-214(l)(5), art. 8, div. 6, § 27-593(a)(30)).

75. *Id.* at 1305.

76. *Sprint Telephony PCS, Ltd. P'ship v. County of San Diego*, 543 F.3d 571, 574 (9th Cir. 2008) (en banc) (describing the ordinance and rejecting a TCA challenge to it).

77. *Id.*; see also *Celco P'ship v. Town of Grafton*, 335 F. Supp. 2d 71, 75-76 (D. Mass. 2004) (prescribing a descending order of preferences for cell phone towers built on existing structures, where screening already exists, in commercial districts, on government or educational structures, or finally in residential districts).

78. Porter, *Communications Towers*, *supra* note 2, at B1.

statement of the NIMBY—"not in my back yard"—response that characterizes many complaints about pollution. Zoning law empowers local authorities with broad discretion to regulate such visual pollution. So much discretion, in fact, that cellular providers worry that the industry will never achieve its potential "if NIMBYs and local governments are allowed to bottleneck growth."⁷⁹

So Congress intervened to recalibrate the balance between the municipal zoning control of cell towers and the broader demand for cell phone coverage. The Telecommunications Act of 1996 (TCA) sought to provide "a pro-competitive, de-regulatory national policy framework designed to accelerate rapidly private sector deployment of advanced telecommunications and information technologies and services to all Americans by opening all telecommunications markets to competition."⁸⁰ Most of the law's provisions were designed to deregulate telephone service, though the law also regulated television station ownership and encouraged the installation of the V-chip technology that was seen as a solution to the claims of violent entertainment and pornography as cultural pollution. The TCA's treatment of cell phone towers is buried in § 332(c)(7). Entitled "Preservation of Local Zoning Authority," section 332(c)(7) is a compromise provision that acknowledged the concerns that local zoning decisions were creating a patchwork of requirements that impeded the development of wireless communications while recognizing legitimate local concerns about the siting of cell phone towers. The section strives to achieve the appropriate balance by imposing several substantive and procedural requirements for local zoning regulation of cell phone towers. For example, denial of permission to build a tower must be in writing, supported by "substantial evidence contained in a written record," and must neither "unreasonably discriminate" among providers nor effectively prohibit personal wireless services.⁸¹ Moreover, cell phone towers cannot be prohibited based upon the alleged environmental

79. Hughes, *supra* note 48, at 476; see also *id.* at 471 ("[Z]oning boards ignore their limited authority . . . to reject tower siting applications based on unsubstantiated myths that wireless towers and antennas are . . . eyesores."); Long, *supra* note 50, at 409 ("[A] coalition of localities bent on preventing cell towers could burden society with a negative externality by hoarding aesthetic resources at the expense of cellular customers."); Vittore, *supra* note 63, at 21 ("[T]here are about 37,000 different zoning authorities in the U.S. that have the ability to stall the construction of wireless towers.").

80. H.R. REP. NO. 104-458, at 1 (1996) (Conf. Rep.), *reprinted in* 1996 U.S.C.C.A.N. 10, 124.

81. See 47 U.S.C. § 332(c)(7)(B) (2000); *City of Rancho Palos Verdes v. Abrams*, 544 U.S. 113, 115-16 (2005) (summarizing the TCA's provisions governing municipal regulation of cell phone towers).

effects of their electronic emissions, "to the extent such facilities comply with the Commission's regulations concerning such emissions."⁸²

These provisions have generated extensive litigation as providers have challenged the unfavorable decisions of local zoning authorities. Much of that litigation has focused upon the meaning of the "substantial evidence" requirement, especially as it applies to aesthetic concerns. While there has been some dispute about the meaning of "substantial evidence," most courts agree that the TCA adopts the traditional understanding of substantial evidence in other contexts. That means the standard is "less evidence than a preponderance, but more than a scintilla of evidence. 'It means such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.'"⁸³

The TCA thus requires substantial evidence to support a local government's refusal to permit the construction of a cell phone tower. But substantial evidence of *what*? How does a local government show—or a cellular provider contest—that there is substantial evidence that a proposed cell phone tower will result in an aesthetic harm? Cellular providers have occasionally suggested that aesthetic harm can never yield substantial evidence, which would disqualify local governments from relying upon aesthetics to reject a proposed cell phone tower.⁸⁴ That extreme argument has failed in court,⁸⁵ but it leaves the nature of the relevant aesthetic evidence unresolved. Several types of evidence have been proffered: photos of the site, reports on nearby building and structures, and especially the complaints of neighboring individuals. Again, though, the challenge is to transform that evidence into a conclusion

82. See 47 U.S.C. § 332(c)(7)(B)(iv); see also *Sprintcom, Inc. v. P.R. Regulations & Permits Admin.*, 553 F. Supp. 2d 87 (D.P.R. 2008) (overturning a permit denial based upon the effects of electronic emissions).

83. *MetroPCS, Inc. v. City & County of S.F.*, 400 F.3d 715, 725 (9th Cir. 2004) (quoting *Cellular Tel. Co. v. Town of Oyster Bay*, 166 F.3d 490, 494 (2d Cir. 1999)); see also Stephanie E. Niehaus, Note, *Bridging the (Significant) Gap: To What Extent Does the Telecommunications Act of 1996 Contemplate Seamless Service?*, 77 NOTRE DAME L. REV. 641 (2002) (discussing the debate over the TCA's substantial evidence standard).

84. See *Sprint Spectrum Ltd. P'ship v. Parish of Plaquemines*, No. Civ.A. 01-0520, 2003 WL 193456, at *12 (E.D. La. Jan. 28, 2003) (describing Sprint's argument that allegations that a cell phone tower is unsightly are "information," not "evidence"); Timothy J. Tryniecki, *Cellular Tower Siting Jurisprudence Under the Telecommunications Act of 1996—The First Five Years*, 37 REAL PROP. PROB. & TR. J. 271, 282 (2002) ("Upon a first reading of the TCA, aesthetics now should be absolutely irrelevant, in that virtually no one would argue that even the best designed cellular tower is aesthetically positive.").

85. See, e.g., *Preferred Sites, LLC v. Troup County*, 296 F.3d 1210, 1219 (11th Cir. 2002) ("Aesthetic concerns may be a valid basis for denial of a permit if substantial evidence of the visual impact of the tower is before the board."); *Comm. for Reasonable Regulation of Lake Tahoe v. Tahoe Reg'l Planning Agency*, 311 F. Supp. 2d 972, 989–90 (D. Nev. 2004) ("Under the Telecommunications Act, substantial evidence may take the form of aesthetic information and judgment as long as it is apparent that aesthetic judgment is not a pretext for a particular decision.").

about aesthetics. The clearest photo, the most detailed report, and the most thoughtful comment must still rely upon some standard to judge what is aesthetically acceptable and what is not. The persuasive force of individual aesthetic objections has been particularly contested. In one case, seven residents complained that a proposed cell phone tower would (1) block the view of Mount Rainier, (2) "be an eyesore [and] cause our town to lose its reputation as a . . . beautiful community," (3) be a "hideous huge 100-foot piece of steel being placed in my space" where it would "substantially dominate and diminish the scenic beauty of my view of the forest . . . and my skyline view," (4) be a "monstrosit[y]" that "defaces the community," (5) be "an eyesore" that would turn off tourists, (6) be "the start of a huge monster" that would change the character of the community, and (7) defeat the community's efforts to remove power lines and telephone lines.⁸⁶ The town relied upon such claims to deny a permit for the tower. But the court dismissed the complaints of the residents as "no more than individualized aesthetic opinions, not based on any fixed standards adopted by the town."⁸⁷ The court added that "[a]s 'beauty is in the eye of the beholder,' 'adverse impacts' are also in the eye of the beholder," and the town failed to adopt any standards by which to judge those proposals that would infringe upon "the town's desire to maintain its scenic beauty and views."⁸⁸

Cases like that show why the TCA has probably generated more land use litigation since 1996 than any other federal statute.⁸⁹ That litigation has produced a roughly even number of cases in which providers win or local officials win. Several patterns emerge from these cases, with courts emphasizing distinct features of a location depending upon whether they find that local governments have complied with the TCA or not.⁹⁰

86. *W. PCS BTA Corp. v. Town of Steilacoom*, No. C98-5664RJB, 1999 U.S. Dist. LEXIS 9068, at *14-*17 (W.D. Wash. Apr. 20, 1999).

87. *Id.* at *17.

88. *Id.* at *12-*13.

89. I say "probably" because my claim is based upon a casual review of reported cases for purposes of describing current developments in property law and environmental law. See J.B. RUEL ET AL., *THE PRACTICE AND POLICY OF ENVIRONMENTAL LAW* 1261-68 (2008) (discussing the TCA); JAMES CHARLES SMITH ET AL., *PROPERTY: CASES & MATERIALS* 737-40 (2d ed. 2008) (same). The only close competitors are the wetlands provisions of the Clean Water Act, 33 U.S.C. § 1344 (2000 & Supp. V 2006), and RLUIPA's restrictions on local government regulation of religious land uses, 42 U.S.C. § 2000cc(b)(1) (2000). It is also telling that the first TCA challenge to a municipal cell phone tower decision was filed five days after the law went into effect. See Susan Lorde Martin, Comment, *Communications Tower Sitings: The Telecommunications Act of 1996 and the Battle for Community Control*, 12 BERKELEY TECH. L.J. 483, 493 (1997) (citing *Sprint Spectrum Ltd. P'ship v. City of Medina*, 924 F. Supp. 1036 (W.D. Wash. 1996)).

90. These cases show three trends: compliance with a zoning ordinance favors providers, specific factual evidence of a tower's likely effects is especially valuable, and

The courts have relied on several propositions in overturning local zoning decisions denying permission for cell phone towers when those zoning decisions have been driven by aesthetic objections. First, it is well established that "generalized concerns about aesthetics are insufficient to constitute substantial evidence."⁹¹ As Judge Posner explained, "If blanket opposition to poles could count as sufficient evidence for denying an application to build an antenna, the substantial-evidence provision of the Telecommunications Act would be set at naught."⁹² Conclusory allegations about the appearance of a cell phone tower are not sufficient either.⁹³ Statements that rely upon a misunderstanding of a proposed tower do not count.⁹⁴ An inaccurate model of what a tower would look

towers are more likely to be excluded from residentially zoned areas than other areas. Long, *supra* note 50, at 400.

91. Preferred Sites, LLC v. Troup County, 296 F.3d 1210, 1219 (11th Cir. 2002). For applications of that principle, see, e.g., New Par v. City of Saginaw, 301 F.3d 390, 398 (6th Cir. 2002) (finding that the mere mention and lack of discussion of aesthetic concerns did not constitute substantial evidence); T-Mobile S., LLC v. Coweta County, No. 1:08-CV-0449-JOF, 2009 U.S. Dist. LEXIS 17067, at *26 (N.D. Ga. Mar. 5, 2009) (holding that a neighbor's "concerns about steel structures in a neighborhood setting are classic 'generalized concerns'"); Callahan Tower Joint Venture v. Benton County, No. 07-5214, 2008 U.S. Dist. LEXIS 56437, at *16-*17 (W.D. Ark. July 24, 2008) (no substantial evidence where the zoning board did not make any findings about aesthetics and the neighbors simply complained about the "eyesore"); Verizon Wireless LLC v. Douglas County, Kan. Bd. of Comm'rs, 544 F. Supp. 2d 1218, 1249 (D. Kan. 2008) (holding that the complaints of four neighbors about "an industrial looking site," the "unsightly" tower, an "eyesore," and not wanting to look at the tower did not constitute substantial evidence); Omnipoint Commc'ns, Inc. v. Vill. of Tarrytown Planning Bd., 302 F. Supp. 2d 205, 222 (S.D.N.Y. 2004) (holding that "unsubstantiated community objection to aesthetics is not sufficient evidence by itself to support" a permit denial); USOC of Greater Iowa, Inc. v. City of Bellevue, 279 F. Supp. 2d 1080, 1086 (D. Neb. 2003) ("[C]ounsel for the City acknowledged at trial that these 'NIMBY' concerns expressed by the eight residents did not constitute 'substantial evidence' for purposes of [the Telecommunications Act]."); SBA Commc'ns, Inc. v. Zoning Comm'n, 164 F. Supp. 2d 280, 291-92 (D. Conn. 2001) ("[T]hose citizens who expressed aesthetic concerns at the hearings did not articulate specifically how the proposed monopole would have an adverse aesthetic impact on the community.").

92. PrimeCo Pers. Commc'ns, Ltd. P'ship v. City of Mequon, 352 F.3d 1147, 1150 (7th Cir. 2003).

93. See Cellular Tel. Co. v. Bd. of Adjustment, 37 F. Supp. 2d 638, 650 (D.N.J. 1999) ("There was no evidence or testimony in support of the Board's conclusion that the negative aesthetic impact would be significant or that the facility would detract from the character or appearance of the area."); U.S. W. Commc'ns, Inc. v. City of Vadnais Heights, No. 97-2248, 1998 U.S. Dist. LEXIS 22962, at *15 (D. Minn. May 15, 1998) (noting the lack of evidence supporting "the City's conclusory statement that freestanding towers are an aesthetic blight").

94. See Cellular Tel. Co. v. Town of Oyster Bay, 166 F.3d 490, 495 (2d Cir. 1999) (observing that "a few comments suggested that the residents who expressed aesthetic concerns did not understand what the proposed cell sites would actually look like," with the residents referring to "a mass of spaghetti of wires" and "a small birthday cake with candles").

like is not substantial evidence.⁹⁵ A municipal zoning plan that employs vague aesthetic standards does not support a decision to refuse a tower.⁹⁶ Perhaps most interestingly, there is no aesthetic harm when a tower would be located in an already ugly site.⁹⁷

The decisions sustaining local government denials of cell phone towers because of aesthetics have adopted their own maxims. A cell phone tower may be rejected if it would be located in a prominent place,⁹⁸ in a historic area,⁹⁹ or in a scenic place.¹⁰⁰ A local government

95. See *SBA Towers II, LLC v. Town of Atkinson*, No. 07-CV-209-JM, 2008 U.S. Dist. LEXIS 72401, at *41-*42 (D.N.H. Sept. 19, 2008) (rejecting a simulation that was not to scale and did not contain all features of the tower).

96. See *W. PCS BTA Corp. v. Town of Steilacoom*, No. C98-5664RJB, 1999 U.S. Dist. LEXIS 9068, at *12-*13 (W.D. Wash. Apr. 20, 1999) (finding the municipal siting standards to be too vague to provide adequate guidance to cellular providers); cf. *Lucarelli v. City of S. Portland*, No. CV-96-1095, 1998 Me. Super. LEXIS 52, at *12 (Me. Super. Ct. Mar. 5, 1998) (holding as a matter of state law that a zoning board could not rely upon aesthetics to deny a cell phone tower "without legislatively established criteria").

97. See *Nextel W. Corp. v. Town of Edgewood*, 479 F. Supp. 2d 1219, 1232 (D.N.M. 2006) ("[T]here is not substantial evidence in the record of any significant visual or aesthetic difference between Plaintiff's proposed antenna array and those of other, similarly situated providers already located on the [existing] tower."); *Cal. RSA No. 4 v. Madera County*, 332 F. Supp. 2d 1291, 1308-09 (E.D. Cal. 2003) ("[T]he overarching presence of [a] concededly ugly and massive water storage tank" near the proposed tower meant that "assertions regarding several small antennae are without a factual foundation and are tantamount to speculative and generalized concerns.").

98. See *Sw. Bell Mobile Sys. v. Todd*, 244 F.3d 51, 61-62 (1st Cir. 2001) (sustaining the rejection of a proposed cell phone tower "on the top of a fifty-foot hill in the middle of a cleared field"); *Red Sky Comm'n, LLC v. City of Lenexa*, No. 07-2069-DJW, 2008 U.S. Dist. LEXIS 15335, at *53-*54 (D. Kan. Feb. 28, 2008) (finding substantial evidence where "the Proposed Site is at a high point topographically in the surrounding area and the proposed tower is taller than the trees located on this elevated piece of property" as well as relying upon the city code's encouragement "to unobtrusively locate new towers").

99. See *ATC Realty, LLC v. Town of Kingston*, 303 F.3d 91, 97 (1st Cir. 2002) (noting that "the tower would be located on property that was once listed by the state as being historically significant"); *AT&T Wireless PCS, Inc. v. Winston-Salem Zoning Bd. of Adjustment*, 172 F.3d 307, 316 (4th Cir. 1999) (sustaining a tower denial based upon "the tower's negative impact on the historical value of" a 1932 house proposed for listing on the National Register of Historic Places); *Se. Towers, LLC v. Pickens County*, No. 2:06-CV-0172-RWS, 2008 U.S. Dist. LEXIS 38767, at *25 (N.D. Ga. May 12, 2008) (considering tower near sites listed on the National Register of Historic Places); *Cellco P'ship v. Town of Grafton*, 336 F. Supp. 2d 71, 79-81 (D. Mass. 2004) (relying upon the negative visual impacts that a tower would have on the Grafton Historic District); *Sprint Spectrum Ltd. P'ship v. Bd. of Zoning Appeals*, 244 F. Supp. 2d 108, 114 (E.D.N.Y. 2003) (evaluating tower's proximity to the Old Setauket Historic District Transition Zone).

100. See *Voicestream Minneapolis, Inc. v. St. Croix County*, 342 F.3d 818, 831-32 (7th Cir. 2003) (rejecting a tower to be located near "the extraordinary scenery of the National Scenic Riverway and with the historic district in the City of Marine on St. Croix," and where "the National Park Service voiced strong opposition to the tower" based upon its visual impacts); *Sprint Spectrum, Ltd. P'ship v. Bd. of County Comm'rs*,

may also defend its rejection of a cell phone tower by showing that it would be out of character in the proposed location,¹⁰¹ for instance by being taller than any nearby structures.¹⁰² A local government may reject a cell phone tower that conflicts with its general zoning scheme.¹⁰³

These general trends are contradicted by numerous decisions that rely upon conflicting principles. For example, the character of a community may be contested such that the mere assertion that a tower would be out-of-place will not always survive judicial scrutiny.¹⁰⁴ The trashy appearance of an area is no guarantee that a new cell phone tower will be

59 F. Supp. 2d 1101, 1106, 1109 (D. Colo. 1999) (sustaining a tower denial because "[t]he unique and diverse landscapes of Jefferson County [at the foothills of the Rocky Mountains] are among its most valuable assets"); *Site Acquisitions, Inc. v. Town of New Scotland*, 770 N.Y.S.2d 157, 161 (N.Y. App. Div. 2003) (citing "proof of potential negative impact on views from widely used areas of natural beauty" as part of the substantial evidence supporting a permit denial).

101. See *Omnipoint Commc'ns, Inc. v. City of Nashua*, No. 07-CV-46-PB, 2008 U.S. Dist. LEXIS 8611, at *16-*17 (D.N.H. Feb. 6, 2008) (finding substantial evidence where "the proposed tower would be visually, aesthetically, and functionally out of character with the surrounding neighborhood" which was a residential neighborhood next to an undeveloped wooded area); *USOC of Greater Mo., LLC v. City of Ferguson*, No. 4:07-CV-1489 (JCH), 2007 U.S. Dist. LEXIS 87760, at *5, *22-*23 (E.D. Mo. Nov. 29, 2007) (the tower "would not blend in with the one story buildings surrounding it"); *Sprint Spectrum Ltd. P'ship v. County of Platte*, No. 06-6049-CV-SJ-DW, 2007 U.S. Dist. LEXIS 75724, at *12, *14-*15 (W.D. Mo. Oct. 11, 2007) (finding that the zoning commission's aesthetic concerns "were grounded in the specific characteristics of the proposed location, design and surrounding property," as evidenced by photos indicating "that the tower would not be obscured by trees or other structures and would dominate the visual landscape"); *R.H. Gump Revocable Trust v. City of Wichita*, 131 P.3d 1268, 1276 (Kan. Ct. App. 2006) (finding substantial evidence in the city's finding "that the proposed stealth flagpole was incompatible and inconsistent with the area" because "[t]here were no other flagpoles in the area, and extensive beautification efforts had been made in the area").

102. See *Todd*, 244 F.3d at 62 (observing that the proposed "tower would soar to almost four times the height of the water towers" located nearby); *T-Mobile S. LLC v. City of Jacksonville*, 564 F. Supp. 2d 1337, 1347 (M.D. Fla. 2008) ("The Planning Department also noted that the surrounding properties lacked either tall structures or trees and vegetation that would help reduce the impact of the proposed tower on adjacent landowners.").

103. See *Aegerter v. City of Delafield*, 174 F.3d 886, 890 (7th Cir. 1999) (upholding the rejection of a tower because "the proposed expansion of the commercial use in the area would be unsightly and inconsistent with its R-1 residential zoning").

104. See *AT&T Wireless Servs. of Cal. LLC v. City of Carlsbad*, 308 F. Supp. 2d 1148, 1162 (S.D. Cal. 2003) (rejecting the city's claim that a tower conflicted with the character of a neighborhood because "there simply is no evidence that the cell site would cause the area to look commercial since the site looks like a part of a large house in a neighborhood with very large houses"); *MIOP, Inc. v. City of Grand Rapids*, 175 F. Supp. 2d 952, 957-58 (W.D. Mich. 2001) (holding that the record lacked substantial evidence despite the value that the neighbors placed on their "rural setting, natural environment and peace and enjoyment").

approved,¹⁰⁵ nor does the presence of historic or scenic sites ensure that a new tower will be denied.¹⁰⁶ Such conflicts mimic the disputes about the appropriate location of other types of pollution. Part of the Clean Air Act discourages the location of new polluting facilities in areas that already experience clean air; environmental justice concerns counsel against locating such facilities in areas that already experience high levels of pollution.¹⁰⁷ Similarly, local governments vacillate between locating sources of cultural pollution such as adult theaters and bookstores all in one area or instead spreading them throughout the community.¹⁰⁸

There is also a more fundamental disagreement among the courts about the nature of federal judicial review of TCA claims involving the aesthetics of cell phone towers. Generally, one view simply defers to local decisions, while the other view demands a reasoned explanation to support a local decision. The first view is represented in an early TCA case arising in Virginia Beach. Hundreds of residents objected to a proposed tower, the board rejected it without explanation, and the Fourth Circuit held that "the repeated and widespread opposition of a majority of the citizens of Virginia Beach who voiced their views—at the Planning Commission hearing, through petitions, through letters, and at the City Council meeting—amount[ed] to far more than a 'mere scintilla' of evidence to persuade a reasonable mind to oppose the application."¹⁰⁹ Judge Luttig offered a spirited defense of the ability of local residents to simply decide not to host a cell phone tower:

[W]e should wonder at a legislator who ignored such opposition. In all cases of this sort, those seeking to build will come armed with exhibits, experts, and evaluations. Appellees, by urging us to hold that such a predictable barrage mandates that local govern-

105. See *BellSouth Mobility, Inc. v. Miami-Dade County*, 153 F. Supp. 2d 1345, 1357–58 (S.D. Fla. 2001) (upholding a county decision to exclude a tower because it "was aesthetically incompatible with the surrounding area," which was "deteriorating" and where "numerous light and utility poles already occupy the landscape").

106. See *Omnipoint Commc'ns, Inc. v. Vill. of Tarrytown Planning Bd.*, 302 F. Supp. 2d 205, 222 (S.D.N.Y. 2004) (concluding that the evidence in the record of aesthetic impacts was outweighed by other evidence asserting that the proposed tower would not impact the nearby historic area); *Corcoran v. Conn. Siting Council*, 934 A.2d 870, 874 (Conn. Super. Ct. 2006) (approving a cell phone tower located in an area designated as "a 'scenic viewpoint' for a 'scenic vista'"), *aff'd*, 934 A.2d 825 (Conn. 2007).

107. See 42 U.S.C. § 7477 (2000) (the Clean Air Act's prevention of significant deterioration command); Shi-Ling Hsu, *Fairness Versus Efficiency in Environmental Law*, 31 *ECOLOGY L.Q.* 303, 390–92 (2004) (describing efforts to address "hot spots" of pollution in poor communities).

108. Compare *City of Renton v. Playtime Theatres, Inc.*, 475 U.S. 41 (1986) (upholding an ordinance prohibiting the location of an adult business near schools, residences, churches, and parks) with *Young v. Am. Mini Theatres, Inc.*, 427 U.S. 50 (1976) (upholding an ordinance prohibiting the concentration of adult businesses).

109. *AT&T Wireless PCS, Inc. v. City Council of Va. Beach*, 155 F.3d 423, 431 (4th Cir. 1998).

ments approve applications, effectively demand that we interpret the Act so as to always thwart average, non-expert citizens; that is, to thwart democracy. The district court dismissed citizen opposition as "generalized concerns." Congress, in refusing to abolish local authority over zoning of personal wireless services, categorically rejected this scornful approach.¹¹⁰

Judge Luttig's opinion has been widely cited as reflecting the deferential approach to TCA review.¹¹¹

The alternative view is best expressed in a recent federal district court decision from Ocala, Florida. This time the court held that neighborhood opposition failed to satisfy the TCA's substantial evidence standard for cell phone tower denials:

It is predictable—and entirely understandable—in every case the Court has encountered under the Federal Telecommunications Act that there will be a group of property owners or nearby residents who oppose the erection of communications towers in their neighborhoods for purely subjective and mostly aesthetic reasons. It seems that such towers, like prisons, are just not welcome additions to the landscape, and those who hold those sincere opinions are entitled to some sympathy. This makes for hard cases when they are presented to local political bodies who might find it difficult to explain to their constituents, in an emotionally charged public hearing, the arcane difference between personal preference and substantial evidence. But the law requires the latter—substantial evidence—and while the substantial evidence standard is a lenient one (being something less than a preponderance of the evidence), when a tower erector meets all of the objective and reasonably relevant prerequisites established in advance by local authority for the placement of communications towers, the purely subjective preferences of the towers' putative neighbors, not augmented buy [sic] any technical or objective facts or evidence, simply do not constitute "substantial evidence" upon which local government can properly rely in denying an application. Unfortunately, this is such a case, and the Court is required to intervene to grant the Plaintiffs' requested remedy.¹¹²

That approach characterizes the majority view toward judicial review under the TCA.

110. *Id.*; see also Long, *supra* note 50, at 394 ("[H]omeowner groups are understandably frustrated by the TCA's robbery of their 'voice.'").

111. See, e.g., *Aegerter v. City of Delafield*, 174 F.3d 886, 890 (7th Cir. 1999) (citing the case but using it to distinguish between judicial review of the enactment of laws by municipal councils and judicial review of the administrative zoning decisions made by municipal councils, the latter of which are subject to review under the TCA).

112. *Vertex Dev., LLC v. Marion County*, No. 5:07-CV-380-Oc-10GRJ, 2008 U.S. Dist. LEXIS 59114, at *2–*3 (M.D. Fla. July 30, 2008).

But not everyone has been satisfied with this understanding of the TCA. The sparse legislative history of the section suggests that Congress may have expected local governments to retain more zoning authority than the courts have afforded them.¹¹³ The prevailing view has been attacked as "the biggest land-grab in one industry's favor at the federal level since the buildout of the railroads at the turn of the last century"¹¹⁴ and as an unconstitutional violation of states' rights under the Tenth Amendment.¹¹⁵ U.S. Senator Patrick Leahy repeatedly introduced legislation designed to shift all of the zoning power back to local officials.¹¹⁶ The premise of all of these efforts is that local governments will make the best decisions regarding the aesthetics of cell phone towers.

They are wrong. The TCA strikes the right balance between the visual pollution attributed to cell phone towers and the need for cell phone coverage. The combination of local authority constrained by federal law has encouraged municipal zoning officials to identify those places in their community where cell phone towers would produce the least aesthetic harms, rather than trying to ban such towers altogether. The abundant TCA litigation shows that local governments are capable of identifying the proper locations for cell phone towers, but they are equally capable of relying upon unsupported aesthetic complaints that fail to grapple with the hard questions of where to locate a new tower. The TCA forces local governments to think seriously about claims of visual pollution. The TCA also encourages cellular providers to research the propriety of possible sites for a new cell phone tower rather than simply choosing a site and then trying to force local officials to approve it—for a strategy that fails to seek to minimize aesthetic harms while evaluating the availability of sites that would satisfy coverage needs will cause a provider to lose a TCA claim. The delicate balance achieved by the TCA should be preserved, rather than shifting all of the power back

113. See H.R. REP. NO. 104-458, at 207-08 (1996), *reprinted in* 1996 U.S.C.C.A.N. 10, 222-23 (explaining that section 704 "preserves the authority of State and local governments over zoning and land use matters except in . . . limited circumstances," and stating that localities should have the flexibility to address aesthetic concerns); 142 CONG. REC. 2240 (statement of Rep. Sensenbrenner) (insisting that "[t]he authority of state and local governments over zoning and land use matters is absolutely essential and must be preserved"); 142 CONG. REC. 2230 (statement of Rep. Goodlatte) (praising the "agreement that protects the rights of local governments to see that their zoning regulations are carried forward in making sure that, when new cell towers are located, they have the ability to determine in each locality where they are placed while fairly making sure that these locations do not interfere with interstate commerce and with the opportunity to advance this new technology").

114. Levitt, *supra* note 50, at 33.

115. See *Petersburg Cellular P'ship v. Bd. of Supervisors*, 205 F.3d 688, 692 (4th Cir. 2000) ("[T]he federally imposed standard authorizing a state or local legislative body to deny a permit only on substantial evidence violates the Tenth Amendment.").

116. See, e.g., Local Control of Broadcast Towers Act, S. 3102, 107th Cong. (2002); 148 CONG. REC. S10361 (daily ed. Oct. 10, 2002) (statement of Sen. Leahy).

to local officials (as Senator Leahy's legislation would do) or to providers (as legislation to allow the Federal Communications Commission to preempt local zoning laws once contemplated).¹¹⁷

D. Cell Phone Towers in National Parks

One other location has generated a special amount of controversy regarding the placement of cell phone towers. National parks have experienced numerous disputes regarding the placement of cell phone towers. The TCA makes national parks and other federal lands available for cell phone towers,¹¹⁸ but, as a Park Service official once testified, "[N]o one would want to see a cellular phone tower on the rim of the Grand Canyon or in sight of Old Faithful."¹¹⁹ That is because, as the Park Service recently explained, "Scenery has always been an integral part of the fundamental resources and values of national parks. . . . Because the primary viewsheds are natural, built structures often stand out in stark contrast to the scenery and thereby degrade part of the fundamental resource."¹²⁰ Yet Old Faithful and the rest of Yellowstone National Park are in the midst of a debate about the appropriate location of cell phone towers. The first cell phone tower was built there in 2001. The park responded to complaints about that tower by ordering changes that make it less visible and by imposing a moratorium on additional cell phone towers in 2004. Then, in September 2008, the park released an environmental assessment that evaluated four alternative wireless communications services plans: retaining the current cell phone site "on a ridge above the Old Faithful development" and reviewing new proposals on a case-by-

117. See Matthew N. McClure, Comment, *Working Through the Static: Is There Anything Left to Local Control in the Siting of Cellular and PCS Towers After the Telecommunications Act of 1996?*, 44 VILL. L. REV. 781, 786 n.40 (1999) (citing proposals to empower the FCC to preempt local zoning).

118. Telecommunications Act of 1996 § 704(c), 47 U.S.C. § 157 (2000 & Supp. V 2006).

119. *The Wireless Privacy Enhancement Act of 1999 and the Wireless Communications and Public Safety Enhancement Act of 1999: Hearing Before the Subcomm. on Telecommunications, Trade & Consumer Protection of the H. Comm. on Commerce*, 106th Cong. 23 (1999) (prepared statement of Maureen Finnerty, Assoc. Dir., Park Operations & Educ., Nat'l Park Serv.). See also *Wireless Enhanced 911 Services: Hearing Before the Subcomm. on Telecommunications, Trade & Consumer Protection of the House Commerce Comm.*, 105th Cong. 74 (1998) (testimony of Denis Galvin, Deputy Dir., Nat'l Park Serv.) ("We don't want a tower on top of Independence Hall, and we don't want a tower [on the] Lincoln Memorial."); H.R. REP. NO. 104-204, 62 (1995) ("[U]se of the Washington Monument, Yellowstone National Park or a pristine wildlife sanctuary, while perhaps prime sites for antenna and other facilities, are not appropriate and use of them would be contrary to environmental, conservation, and public safety laws.").

120. U.S. DEPT. OF THE INTERIOR, NAT'L PARK SERV., YELLOWSTONE NATIONAL PARK, WIRELESS COMMUNICATIONS SERVICES PLAN: ENVIRONMENTAL ASSESSMENT 68 (2008), http://www.nps.gov/yell/parkmgmt/upload/WIRELESS%20EA%20September_9_08%20Final.pdf.

case basis, reducing wireless services, allowing a limited increase in wireless services, or allowing a substantial increase.¹²¹ The Park Service prefers the limited increase proposal, which would improve coverage in the two areas of the park while relocating the cell phone tower at Old Faithful "to the site near a water treatment plant to further reduce the impact on the viewshed."¹²² By contrast, the substantial increase proposal would keep the tower at Old Faithful while camouflaging it "to reduce its impact on the Old Faithful Historic District when it becomes feasible to do so."¹²³ Regardless of the chosen alternative, the park listed both appropriate sites for future cell phone towers (such as existing structures and vacant or non-historic buildings) and inappropriate sites (such as near residential buildings, on top of ridges or near creeks, and "[s]ites within plain view of sensitive natural or cultural areas, visitor centers, campgrounds, residential areas, trails, or park viewsheds").¹²⁴ The Park Service's approach should adequately address the visual pollution concerns about cell phone towers in national parks. Whether cell phones should be permitted at all raises harder, but different, questions about the nature of the experience that national parks are intended to provide.

III. CONCLUSION

The idea of pollution helps explain the controversy surrounding the aesthetics of cell phone towers. Claims of visual pollution assert a desire for a particular kind of environment—one free from the polluting effects of unwanted signs, towers, and other sights. Yet no environment is free from pollution, as demonstrated by the persistence of significant air pollution and water pollution nearly four decades after the enactment of the Clean Air Act and the Clean Water Act. The challenge is to decide how much pollution is acceptable. For federal environmental law, that is a question to be answered by the federal government. EPA identifies the National Ambient Air Quality Standards (NAAQS) that determine how much air pollution is acceptable. EPA also selects the technologies that each industry must employ to comply with the Clean Water Act. Yet there is no such standard for judging the visual pollution from cell phone

121. *Id.* at 21.

122. *Id.* at ii.

123. *Id.* at 33.

124. *Id.* at 46–47. Yellowstone, of course, is not the only national park to struggle with the aesthetic impacts of cell phone towers. For another example, see U.S. DEP'T OF THE INTERIOR, NAT'L PARK SERV., THEODORE ROOSEVELT NATIONAL PARK, REPLACEMENT OF A COMMUNICATIONS TOWER IN THEODORE ROOSEVELT NATIONAL PARK AND U.S. FOREST SERVICE ACCESS ROAD IMPROVEMENT: ENVIRONMENTAL ASSESSMENT 9 (2005) (approving the replacement of a tower within the park because the alternative of "building a new tower on other public or privately owned land would generally have significant impacts on the scenery and viewsheds of the region, by increasing the number of towers in the region by one").

towers. Some local governments have tried to legislate the kinds of places where towers should or should not be located, but those efforts have met with mixed success and sporadic application. The TCA does not address the question of where cell phone towers should be located, insisting only that local governments be able to justify their decisions. As those local governments continue to be especially suspect to constituent complaints, the hope for deciding how to respond to visual pollution remains elusive.

The experience with locating cell phone towers offers lessons for thinking about other kinds of pollution, too. Avoidance has been the dominant response to the visual pollution of cell phone towers, as individual citizens, cellular providers, local governments, and federal judges have all struggled to decide how to keep towers from imposing unacceptable aesthetic harms. But avoidance is likely to be an unstable response to pollution. It is likely that people will gradually accept the presence of cell phone towers (thus adopting a toleration response to pollution) or that technological developments will render towers obsolete (thus implementing a prevention response to pollution). Avoidance will persist only so long as prevention is impossible or toleration is unacceptable. The history of visual pollution claims involving other kinds of towers suggests that either toleration or prevention will prevail. A similar dynamic may explain the social response to other kinds of pollution, too. And the next visual pollution claims are already on the horizon. Literally: wind farm proposals are now experiencing the same kind of battle over aesthetics that cell phone towers have endured for the past two decades.¹²⁵

Meanwhile, Granger finally did build its cell phone tower. It is camouflaged to look like a really tall pine tree. The neighbors complained, and there are still signs saying "no cell tower" along the road.¹²⁶ My cell phone works fine . . . but my wife still cannot get a reliable signal on her I-Phone.

125. See *Residents Opposed to Kittitas Turbines v. State Energy Facility Site Evaluation Council*, 197 P.3d 1153 (Wash. 2008) (holding that the state governor could override a county's aesthetic concerns to allow the siting of a wind farm); Avi Brisman, *The Aesthetics of Wind Energy Systems*, 13 N.Y.U. ENVTL. L.J. 1, 74 (2005) (describing the "fear that wind farms will cause 'visual pollution' of the landscape").

126. See Nancy J. Sulok, *Commissioners OK Cell Phone Tower for Granger Area; Officials Respond to Need Despite Neighbors' Protests*, SOUTH BEND TRIB., Dec. 13, 2006, at B3 (reporting that one of the tower's opponents said "[t]hanks for killing us" as he left the meeting).



Like on K-10 in
the DeSoto Area

Memorandum

City of Lawrence

Planning & Development Services

TO:	Lawrence Douglas County Metropolitan Planning Commission Airport Zoning Commission
FROM:	Sandy Day, Planning Staff
Date:	June 19, 2017
RE:	ITEM NO. 2 SITE PLAN FOR WILDLIFE HAZARD FENCE; 1930 AIRPORT RD (SLD) SP-17-00236: Consider a Site Plan (by the Lawrence Douglas County Metropolitan Planning Commission sitting as the Airport Zoning Commission per Section 20-302) for construction of a wildlife hazard fence at Lawrence Municipal Airport, located at 1930 Airport Rd. Submitted by the City of Lawrence, property owner of record.

Attachments: A—Administrative Determination
B—Location Map
C—Proposed Plans

The Planning Director administratively approved a Site Plan [SP-17-00236], Attachment C, for construction of a fence at 1930 Airport Road subject to the *Airport Zoning Commission's*, approval of the permit.

Per Section, 20-302 (j) of the Land Development Code, the Lawrence/Douglas County Metropolitan Planning Commission will be the Airport Zoning Commission for the City of Lawrence and has the responsibility for administering and enforcing the regulations of this section.

The AZC shall review all permit applications and determine if such should be granted and if the application conforms to the Airspace Overlay District regulations.

The proposed fence is a Public Works project. ADG (Airport Development Group) is the City's airport consultant. The City has been working toward providing additional security to the airport and minimizing the conflicts wildlife pose to the airport operations since the fall of last year.

The fence will be located on airport property. A concurrent application for a local floodplain development permit was submitted for review and approval. The floodplain permit is in process.

Staff Recommendation:

Staff recommends the Airport Zoning Commission find that the application conforms to the Airport Overlay District Regulations and the proposed wildlife fence be approved.



SP-17-000236: A site plan for construction of a wildlife hazard fence at Lawrence Municipal Airport, located at 1930 Airport Rd. Submitted by the City of Lawrence, property owner of record.

ADMINISTRATIVE DETERMINATION: The Planning Director approves the above-described Site Plan subject to approval of the site plan by the Lawrence Douglas County Metropolitan Planning Commission sitting as the Airport Zoning Commission per Section 20-302.

ASSOCIATED CASES

- Lawrence Municipal Airport Addition (November 2001)
- Lawrence Municipal Airport Addition No. 2 (May 2010)
- SP-11-65-84; Airport Terminal Building 1915 Airport Road
- SP-7-65-89 Kohlman Aviation
- SP-3-11-96 New hangar – Stuber Executive Hangar; 1915 Airport Road
- SP-1-1-99; Dream Wings Aircraft Manufacturing. Expired not constructed.
- SP-2-12-99; Hangar west of terminal building 1915 Airport Road.
- SP-8-61-02; T-hanger; 830 Taylorcroft Road
- SP-4-24-03; LifeStar Air Ambulance Service; renovation of existing building and pavement improvements.
- SP-4-34-06; Great Planes Hangar Addition 1915 Airport
- N-4-01-06; Non-conforming use registration for Great Planes Hangar Addition 1915 Airport Road
- Z-4-5-09; GPI to IG Lawrence Municipal Airport.
- FP-17-00238; Local Floodplain Development Permit, Wildlife hazard fence.

KEY POINTS

- The proposed fence is for protection of the airport and airport operations from wildlife.
- A building permit is required for the fence to allow the construction of a 10' fence per FAA requirements.
- Proposed fence is designated by FAA as a "Wildlife Fence" not a security fence.

OTHER ACTION REQUIRED

- Planning Commission approval of the site plan as the Airport Zoning Commission.

PLANS AND STUDIES REQUIRED

- *Traffic Study* – Not applicable to this project.
- *Downstream Sanitary Sewer Analysis* - Not applicable to this project.
- *Historic Review Standards/Industrial Design Guidelines* – Not applicable to this project.
- *Drainage Study* – Not applicable to this project.
- *Retail Market Study* – Not applicable to this project.
- *Alternative Compliance* - Not applicable to this project.

COMMUNICATIONS RECEIVED

1. Request from Mark Andersen for additional information.

SUMMARY OF REQUEST

The proposed site plan is for the installation of barrier fencing around the airport runways and improvements to prevent wildlife from interrupting airport operations. The project is primarily funded through FAA grant money. The City of Lawrence will pay a 10% share of the cost. The FAA has deemed this project to be a "high priority safety concern" for the Lawrence Municipal Airport.

The location of the fence must maintain a minimum safe distance from runways and maintain a clear path for maintenance on both sides of the fence. The following graphic shows the location of the proposed fence (gold color) within the boundary of the airport property.

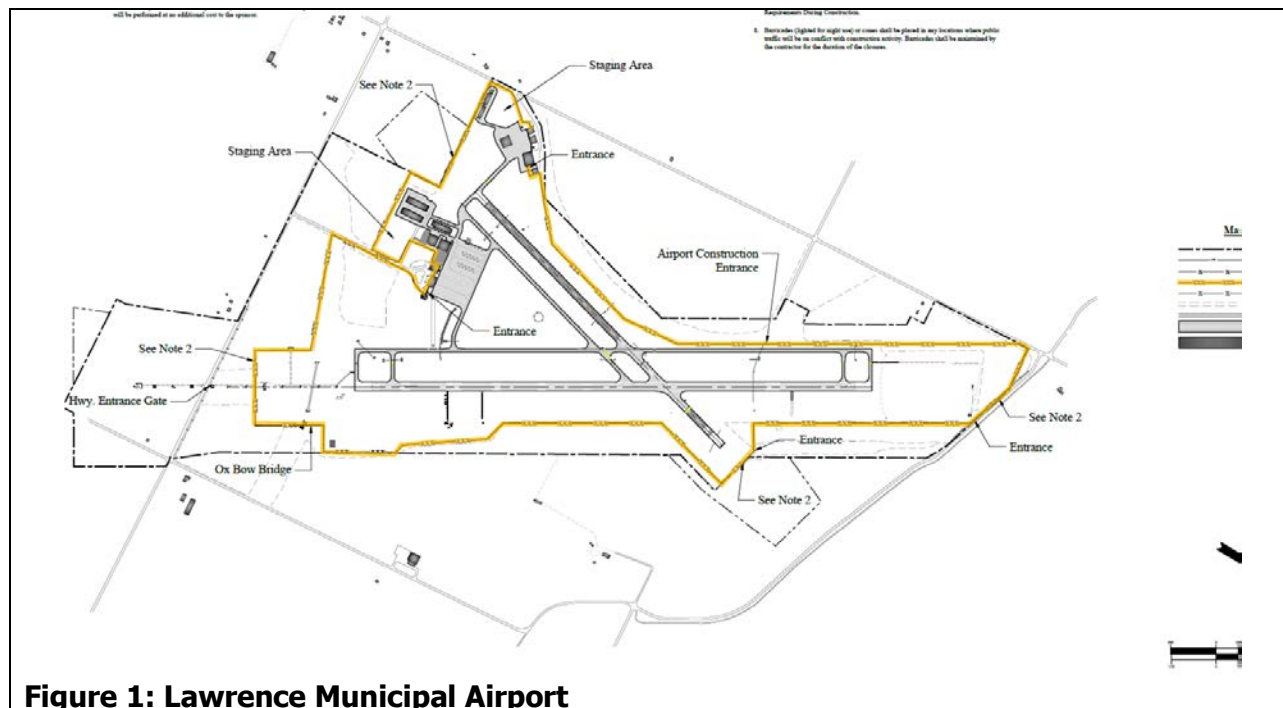


Figure 1: Lawrence Municipal Airport

GENERAL INFORMATION

Current Zoning and Land Use: Property is located within City Limits.

- IG (General Industrial) District. Existing Lawrence Municipal Airport. Buildings include terminal building, hangars, and associated businesses.
- Two tracts of land along the east and west sides of the airport were acquired from KU Endowment and have been annexed into the City but have not been rezoned to a City District.

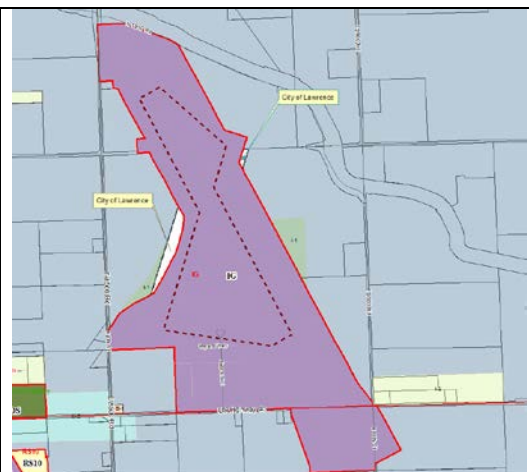


Figure 2: Existing Zoning

<i>Surrounding Zoning and Land Use:</i>	County A (Agricultural) District in all directions with exceptions noted below. The surrounding area is used for agricultural uses.
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County A (Agricultural) District in all directions with exceptions noted below. The surrounding area is used for agricultural uses.

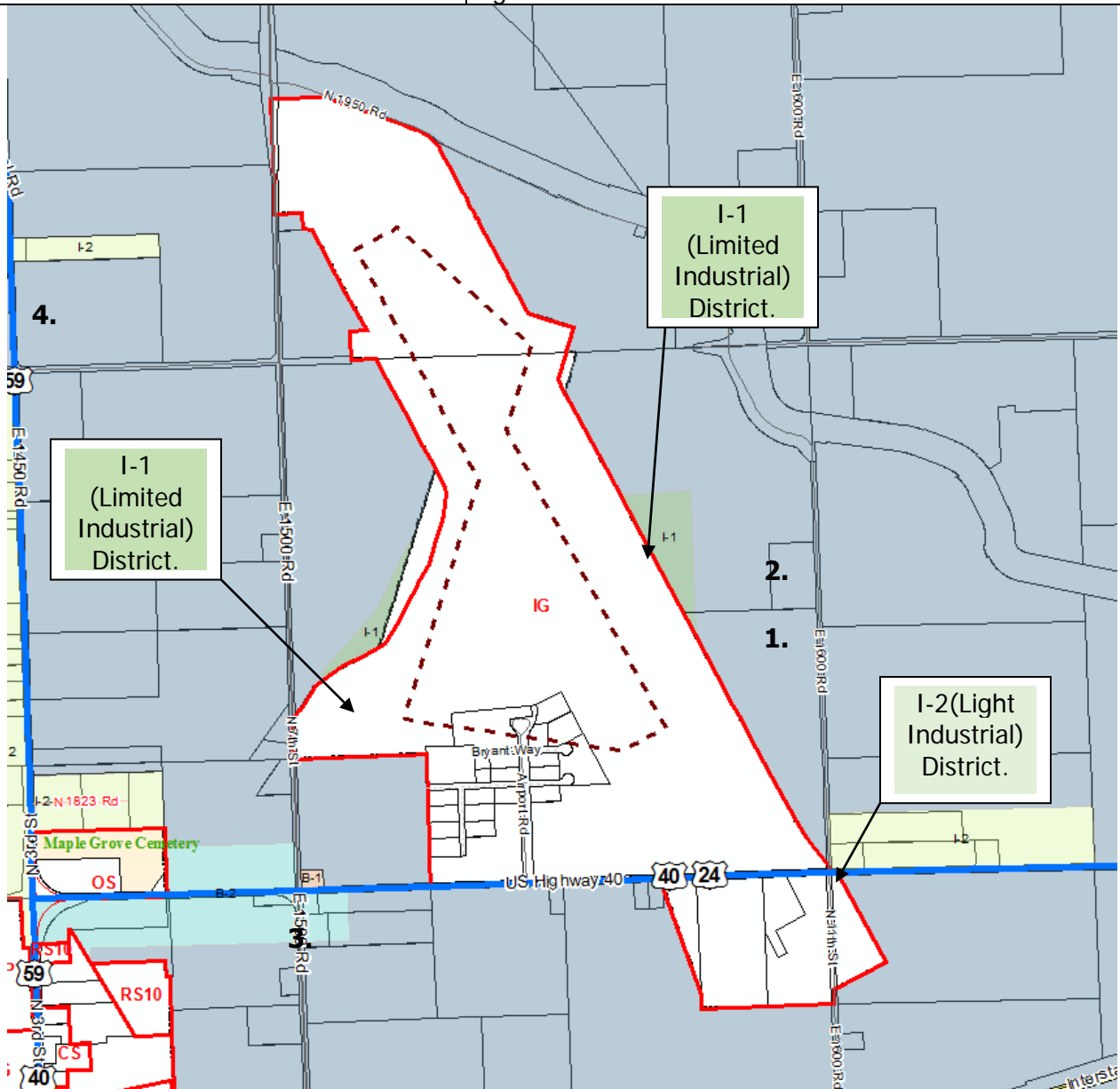


Figure 3: Surrounding Zoning

Surrounding Land Use include scattered rural residential homes along county roads and:

1. Prairie Moon School – 1853 E 1600 Road to the east.
2. KU Student Farm
3. The Fete – 1804 E 1500 Road to the south.
4. Shuck Implement

STAFF REVIEW

The proposed fence is 10' high with three strands of barbed wire. Additionally, the fence extends below grade to deter animals from digging under.

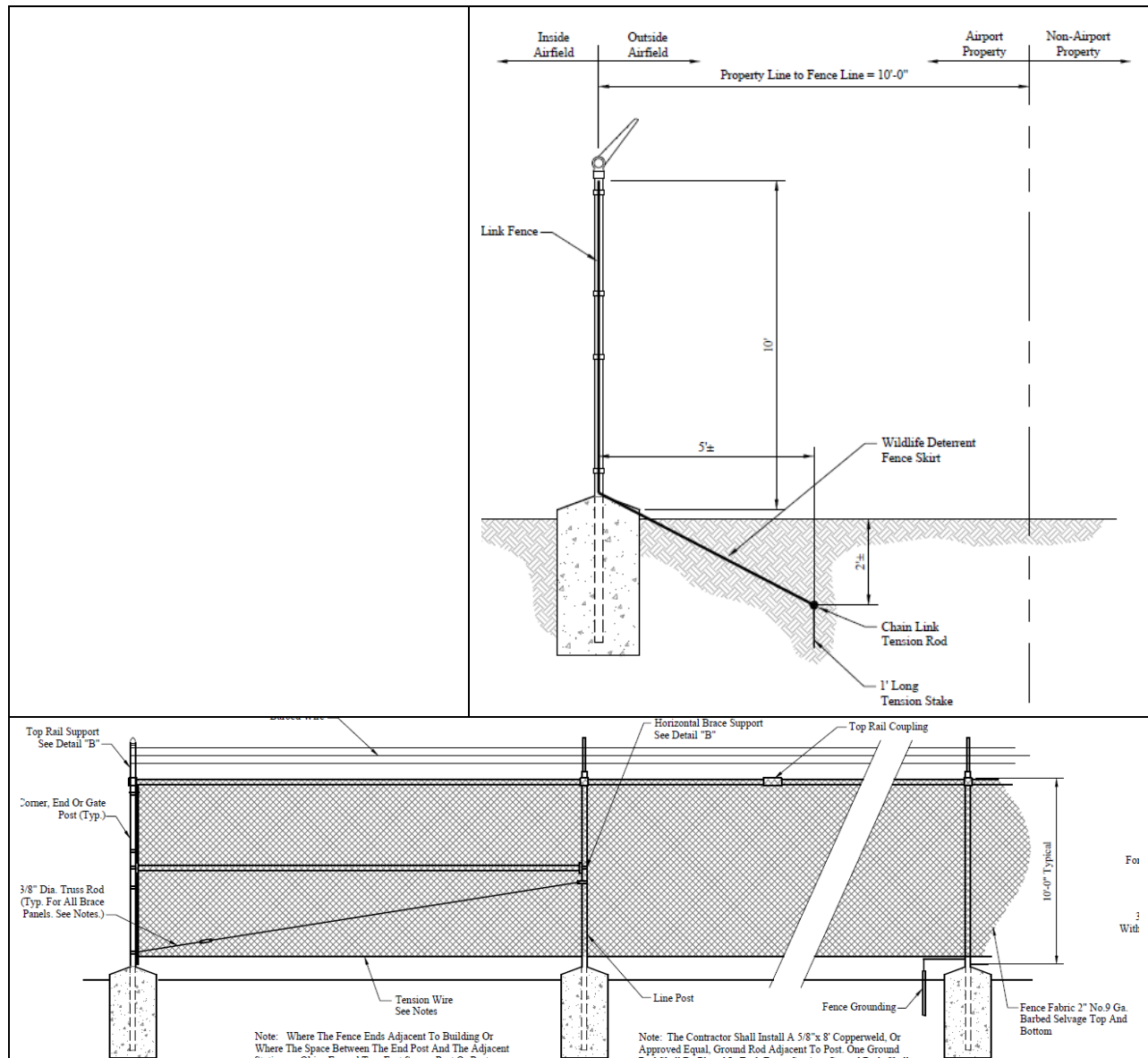


Figure 4: Fence Details

PARKING SUMMARY

A parking summary is not provided for this application, as it is not applicable. Off-street parking was required and provided for the terminal building and other hangars and commercial uses approved through the site plan process.

Landscaping and Screening

This project does not include a landscape plan. General landscaping and parking lot landscaping are deferred to individual lot development applications. Certain types of landscaping are negatively impactful for an airport.

The airport property is generally devoid of trees. Shrubs and ornamental trees may be found near buildings but are generally not appropriate for this use.

Lighting

Some obstruction lighting on the fence will be required. Additional information from FAA is pending regarding lighting at the end of runway 1-19.

Historic Resources Commission OR Industrial Design Standards

The airport is not located within the environs of a designated historic property or district. The property is zoned IG (General Industrial) District. Typically, chain link fences would not be appropriate for industrial development applications. The use of the property (airport), the requirement to prevent wildlife (wildlife hazards), the distance to be fenced requires a more feasible and manageable solution. The fencing design must be approved by the FAA as part of the permitting process. The use of chain link in this application is appropriate.

Access

Vehicular access to this site is provided from Airport Road for the main activities associated with the airport. Access to the KU facility on the west side of the airport property is accessed from E 1500 Road (N 7th Street). No changes to access are proposed with this application.

The project includes entrance gates at various locations for access to the airport property for maintenance purposes. Public access to these additional entrances is not permitted.

Pedestrian Connectivity

Internal pedestrian walkways are not proposed with this application. Pedestrian circulation is considered with each building development application. Pedestrian circulation on runways is not appropriate.

Floodplain

The airport includes areas that are located within the regulatory floodplain. The proposed fence project is subject to a local floodplain development permit.

Findings

Per Section 20-1305, staff shall first find that the following criteria have been met:

1) The Site Plan shall contain only platted land;

The Lawrence Municipal Airport is largely unplatted except for the buildings, structures, and development lots located at the south end of the airport property. Platting of property is a important component of major development projects to identify boundary setbacks and utility needs. The majority of the airport consists of the runways and related restricted areas and easements to ensure safe operations.

The Planning Director may waive Development Code standards per section 20-1305 (b)(2)(v) for good cause. Platting the entire airport property in this instance is impractical. The Director waives the requirement for this fence installation.

2) The site plan shall comply with all standards of the City Code, this Development Code and other adopted City policies and adopted neighborhood or area plan;

The only improvement proposed with this application is the construction of a 10' fence to secure the airport property and provide protections from wildlife interference with airport operations. The overall height of the fence requires a permit from Development Services.

3) The proposed use shall be allowed in the district in which it is located or be an allowed nonconforming use;

The property is zoned IG (General Industrial) District. Airports (*Major Utilities and Services*) is a permitted use in this district subject to the approval of a special use permit. The Airport was developed prior to this requirement. Therefore, per Section 20-1306 (b) the property was granted automatic Special Use Permit approval with the adoption of the Land Development Code.

The proposed fence does not alter the airport use. As improvements are made to the airport, the fence may need to be expanded.

4) Vehicular ingress and egress to and from the site and circulation within the site provides for safe, efficient and convenient movement of traffic not only within the site but on adjacent roadways as well and shall also conform with adopted corridor or access management policies and;

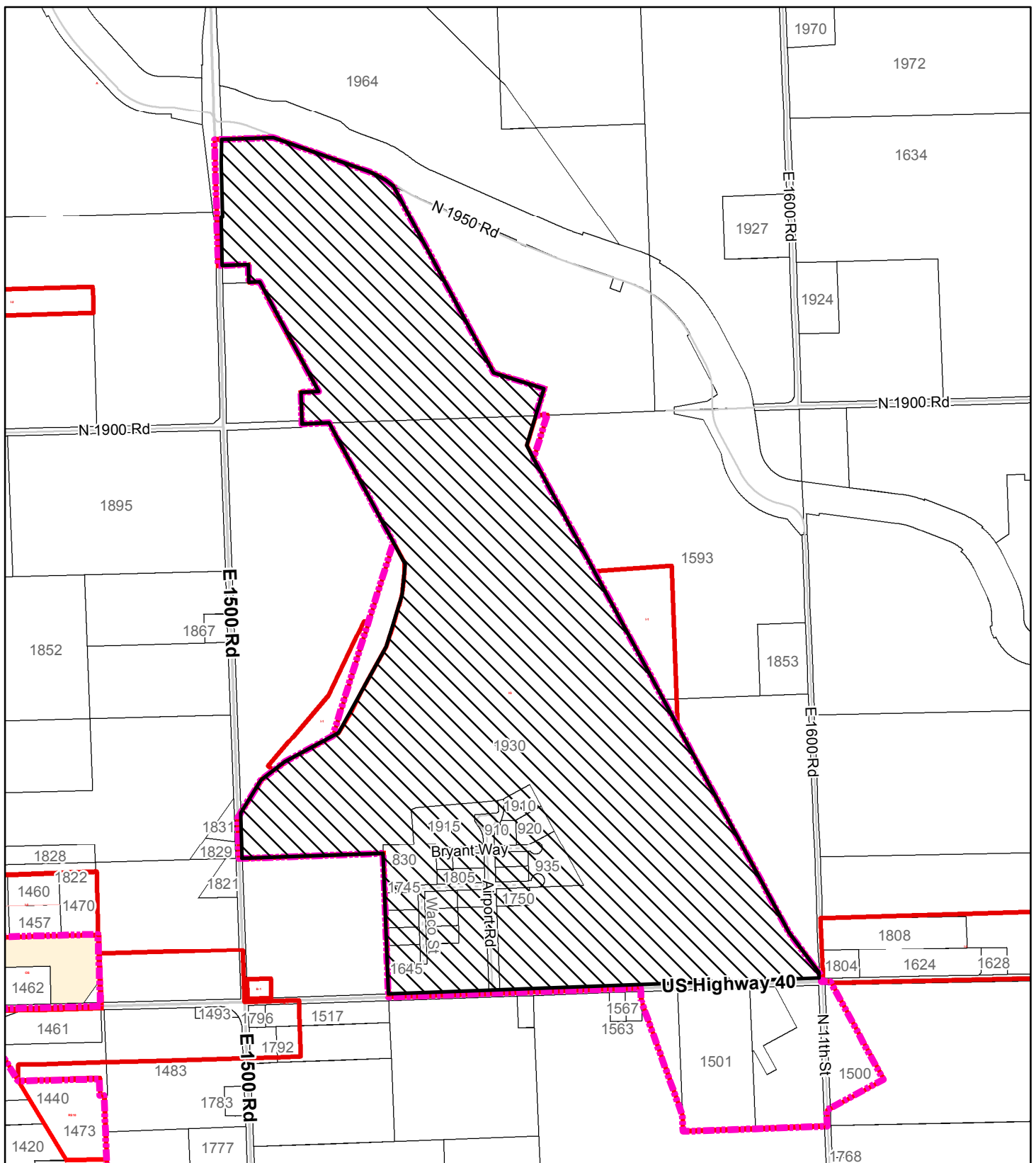
The proposed fence plan includes multiple access points around the perimeter of the enclosed area to accommodate pedestrians and vehicles as necessary. Sheets 5-9 note the location and type of access proposed for each fence break. These locations are intended to allow continuation of airport operations while prohibiting wildlife access to the operationally sensitive portion of the airport grounds.

5) The site plan provides for the safe movement of pedestrians within the site;

The purpose of this application is for the installation of a wildlife protection fence around the airport operations. The project does not include an assessment of the existing improvements that provide pedestrian connectivity around and through the site.

Conclusion

The proposed fence project is a joint project with FAA to increase the safety of the airport operations. The proposed fence will require a building permit. The City is working with the Consultant and various agencies to ensure that all local and Federal requirements are met.



SP-17-00236: Site Plan for construction of a wildlife hazard fence at Lawrence Municipal Airport, located at 1930 Airport Rd.

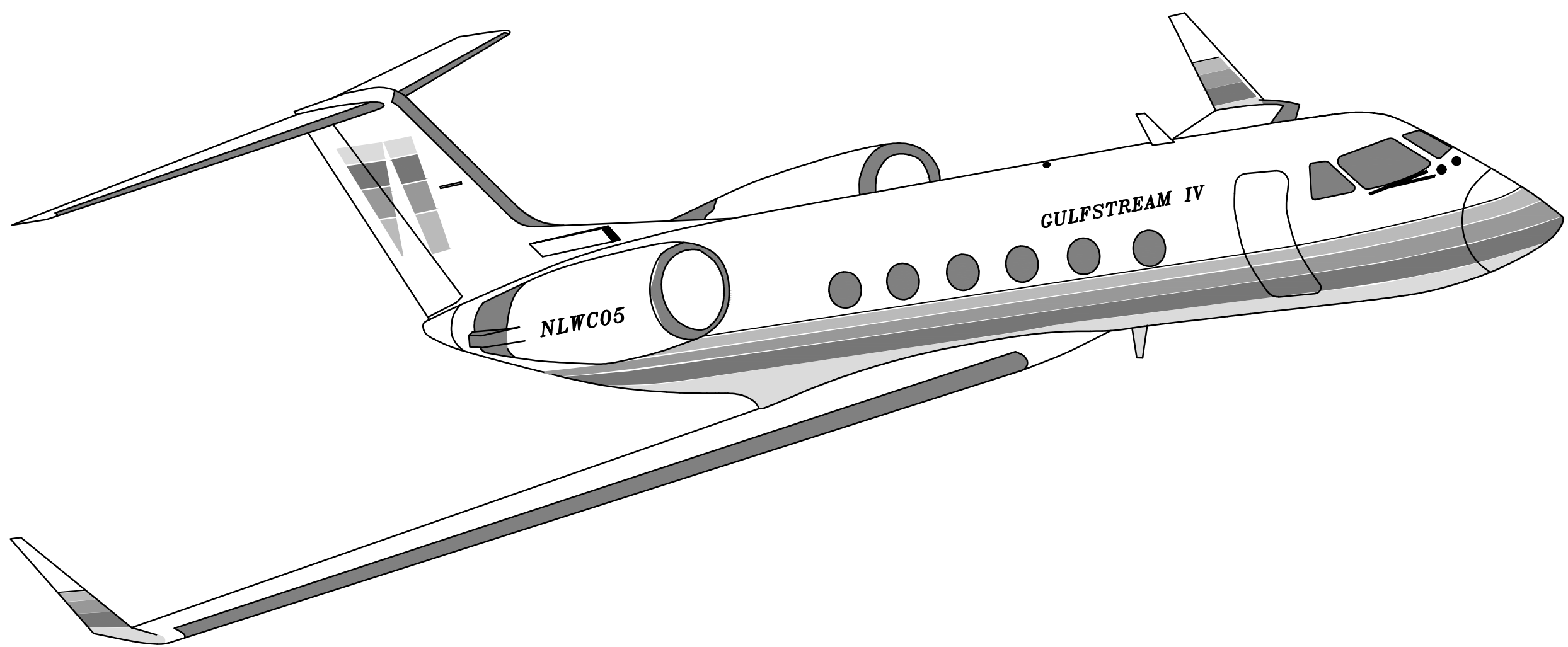
Construction Plans
For Improvement To:

Lawrence Municipal Airport

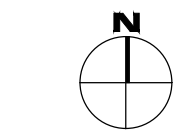
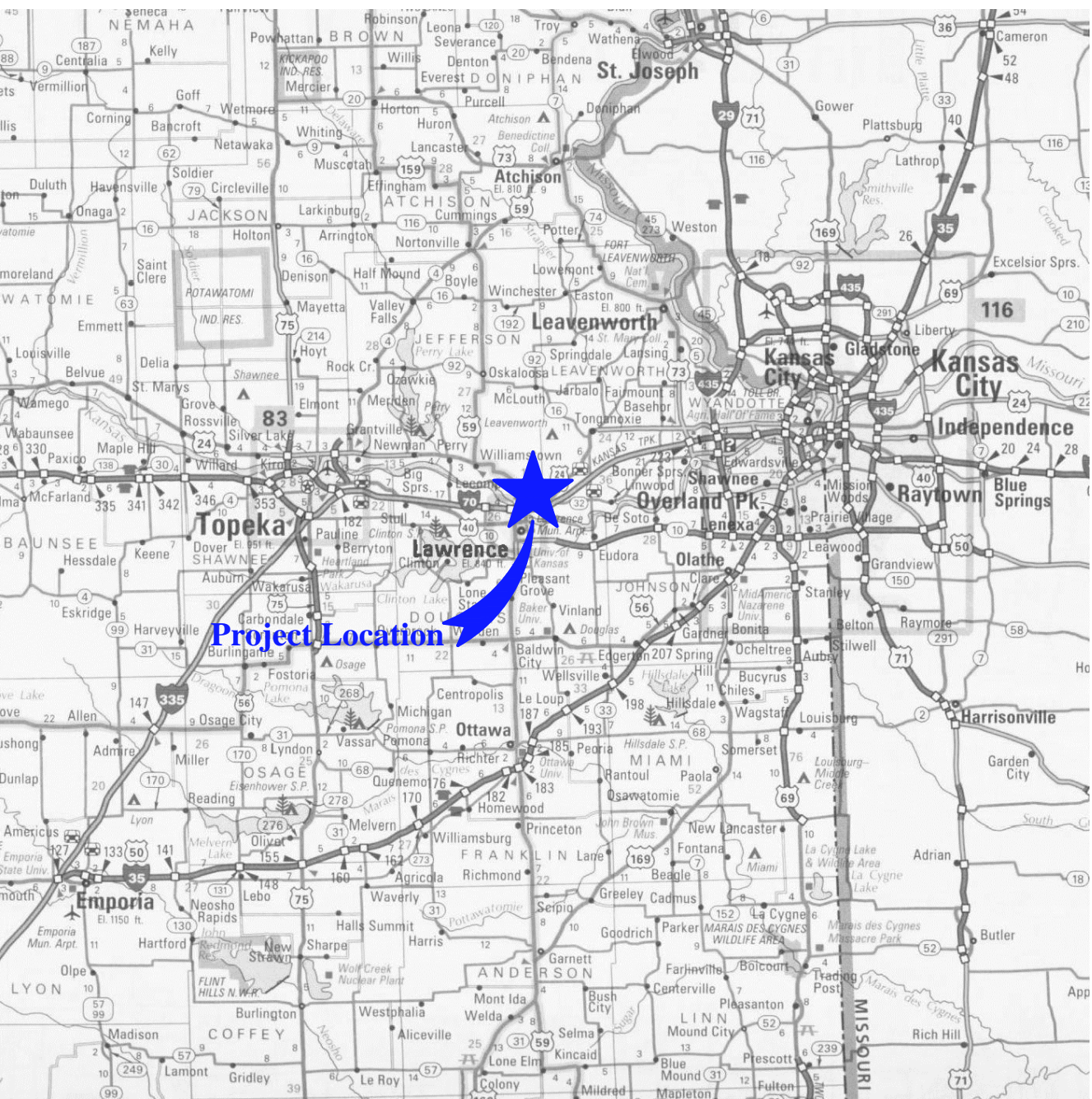
Lawrence, Kansas

A.I.P. Project No. 3-20-0047-21-2017

June 2017



Schedule I
Install 10' Wildlife Fence



Location Map
No Scale

Sponsored By:

Federal Aviation
Administration

City of
Lawrence, Kansas

Prepared By:

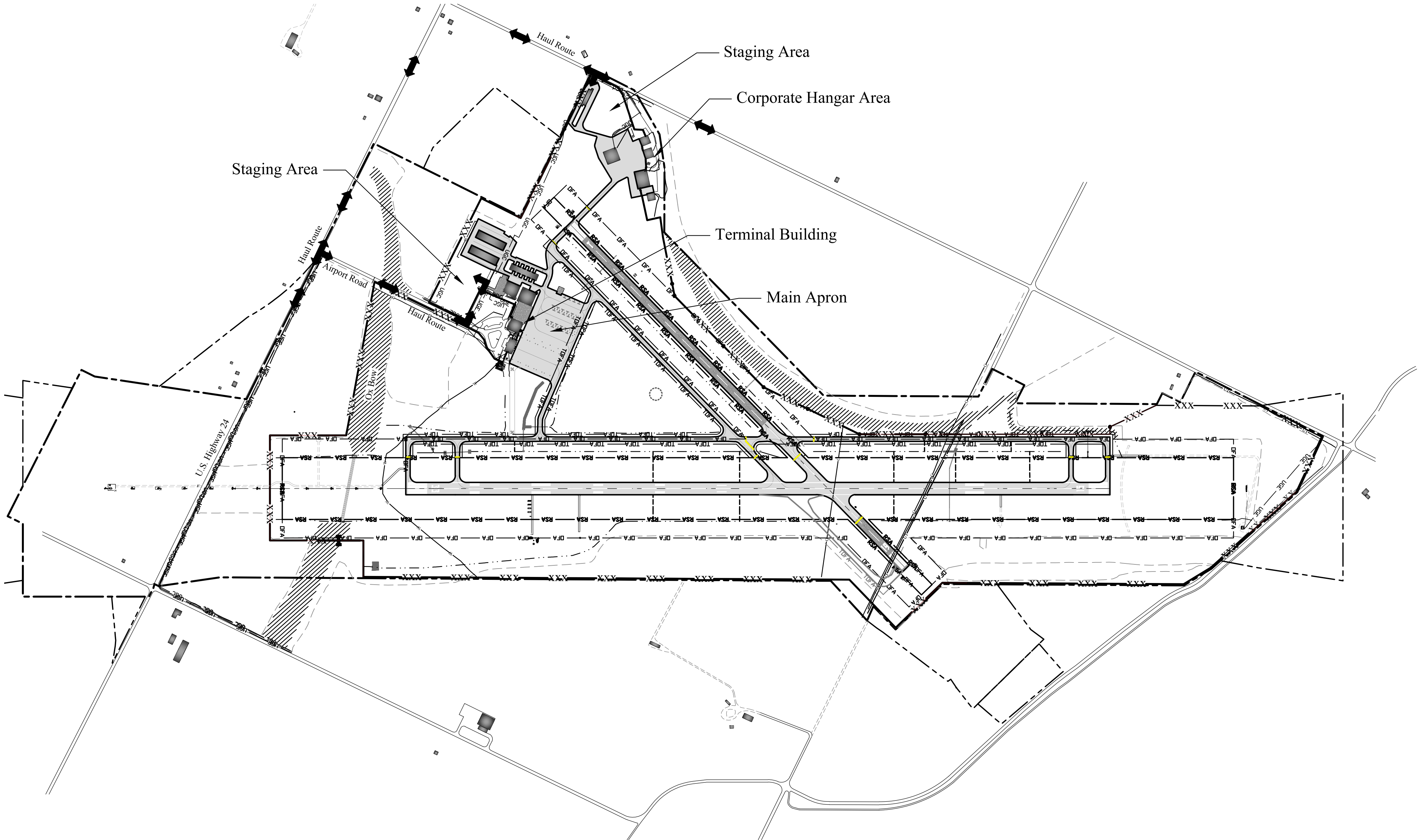
 **ADG** AIRPORT DEVELOPMENT GROUP Inc.
1776 South Jackson Street / Suite 950
Denver, Colorado 80210-3802
303.782.0882 / 303.782.0842 fax
www.ADGAirports.com

For Bidding Purposes Only - Not For Construction

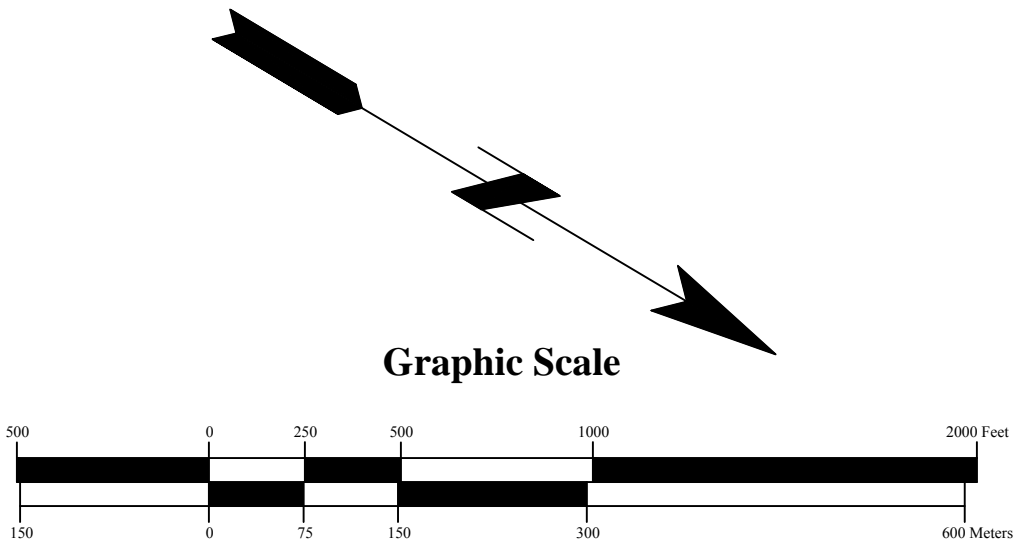
Summary Of Approximate Quantities				
Item No.	Description	Unit	Schedule 1	
			Design	Constructed
GP-105	Mobilization (Max 10% of Bid)	L.S.	1	~
P-151	Clearing and Grubbing	L.F.	24,870	~
P-152a	Temporary Levee Embankment	L.S.	1	~
P-152b	Muck Excavation	C.Y.	480	~
P-152c	Embankment	C.Y.	1,500	~
P-152d	Geogrid & Foundation Rock	S.Y.	70	~
P-152e	Rip Rap	S.Y.	400	~
P-156a	Silt Fence & Logs	L.F.	7,350	~
P-610	Structural Portland Cement Concrete	C.Y.	13	~
D-701a	4' x 8' Precast Box Culvert	L.F.	32	~
D-701b	4' x 8' Precast Box Culvert - Tapered Ends	Each	4	~
D-701c	4' x 8' Precast Box Culvert - Animal Grates	Each	2	~
D-701d	4' x 8' Precast Box Culvert - Trash Grates	Each	2	~
D-701e	Animal & Trash Grates	Each	3	~
F-162a	Chain Link Fence w/ Barbed Top (10')	L.F.	23,680	~
F-162b	Chain Link Fence w/ Barbed Top (6')	L.F.	1,190	~
F-162c	Chain Link Fence (6')	L.F.	1,230	~
F-162d	Automatic Gate (24')	Each	1	~
F-162e	Manual Driveway Gate (20')	Each	3	~
F-162f	Swing Gate (14')	Each	4	~
F-162g	Swing Gate (20')	Each	1	~
F-162h	Walk Gate (4')	Each	5	~
F-162i	L-810 LED Battery/Solar Obstruction Light	Each	7	~
F-163	Chain Link Fence Fabric (5')	L.F.	24,870	~
T-901a	Seeding	Acre	11	~
T-901b	Soil Sterilant	L.F.	24,870	~

Index To Drawings	
Title	Sheet
Cover Sheet	1
Project Layout, Summary Of Approximate Quantities, Index To Drawings, Airport Information, & Master Legend	2
General Notes And Project Safety Notes	3
Utility Plan	4
Fence Plan - Plan And Profile Points 1 - 26	5
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Fence Plan - Plan And Profile Points 53 - 57	7
Fence Plan - Plan And Profile Points 58 - 67	8
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Fence Plan - Plan And Profile Points 72 - 76	10
Fence Plan - Plan And Profile Points 74 - 81	11
Survey Data	12
Chain Link Fence Details I	13
Chain Link Fence Details II	14
Ox-Bow Crossing Details	15

Airport Design Data		
Criteria	Runway 15-33	Runway 1-19
Airport Reference Code	D-II	B-1
Critical Aircraft	Gulfstream II	Cessna 425 Conquest I
Wingspan	68.8'	44.1'
Weight	65,300 Lbs	8,500 Lbs
Instrument Runway Type	Precision	Visual
Elevation Above MSL	831.0'	832.1
Runway Dimensions	5,700' x 100'	3,901' x 75'
Runway Lighting	MIRL	MIRL
Runway Marking	Precision	Basic
Navigational Aids	ILS, NDB	None
Approach Aids	(33) PAPI-4, MALSR, (15) PAPI, REIL	None
Pavement Type	Asphalt	Asphalt
Runway Strength (1,000 lbs)	60 DWG	12.5 SWG, 15.6 DWG
Runway Safety Area	7,700' x 500'	4,381' x 120'
Runway Object Free Area	7,700' x 800'	4,381' x 400'
Runway Obstacle Free Zone	6,100' x 400'	4,301' x 400'
Proposed Apron And Taxiway	Yes	Yes
Strength (1,000 lbs)	60 DWG	12.5 SWG
Taxiway Width	35'	25'
Taxiway Safety Area Width	79'	49'
Taxiway Object Free Area Width	131'	89'
Taxilane Object Free Area Width	115'	79'



Master Legend	
	Existing Property Line
	Overhead Power Line
	Existing Fence Line to Remain
	New Chain Link Fence Line
	Existing Fence Line to be Removed
	Dirt Road
	Existing Paved Roads
	Existing Pavement
	Existing Buildings
	Ox Bow Swale Areas



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GROUP INC.

1776 South Jackson Street / Suite 950

Denver, Colorado 80240-3802

303.762.6644 Fax

www.ADGairports.com

Airport Development

A.I.P. Project No: 3-20-00xx-xx

Bid Set

Lawrence Municipal Airport

Lawrence, Kansas

Not For Construction

No.	Revision	Ckd	Date

Project No:	LWC1488
Designed By:	CLK
Drawn By:	JKY
Approved By:	CLK
Date:	June 2017

Project Layout Summary Of
Approximate Quantities, Index
To Drawings, Airport
Information, & Master Legend

Sheet:
2
of 15 Sheets

General Notes:

1. Disturbed areas should be re-seeded to prevent erosion and/or dust.

2. Survey benchmarks and fence alignment reference staking is provided by the Engineer as performed by Landplan Engineering of Lawrence, KS.

3. Contractor shall locate underground utilities in the work area prior to commencing work. Prior coordination required with Southern Star and Magnolia pipe line companies.

4. Contractor shall be responsible for disposal of any waste clearing and excavation off site.

5. All utility lines shown are approximate and shall be field confirmed by the contractor as to location and depth beneath areas of construction. Any damage to the known lines, or any others not shown, shall be repaired at the contractor's expense.

6. Contractor shall be responsible to construct and maintain any necessary access or haul routes. Haul routes shall be along the new fence line as much as possible. Additional haul roads shall be at no additional cost to the sponsor. Any new routes established by the contractor shall be restored and re-seeded at no additional cost to the sponsor.

7. Contractor shall monitor existing pavement conditions during hauling. If pavements show signs of yielding or failure, traffic will be halted and alternate haul routes will be approved by the engineer. For repeated pavement crossings at any given location, steel sheets may be necessary at the contractor's expense to prevent pavement damage.

8. Construction staging areas any other disturbed area beyond the authorized seeding limits shown in the plans shall be the responsibility of the contractor. Cleanup of these areas will be performed at no additional cost to the sponsor.
9. Construction entrance from HWY 24 for the construction of an embankment bridge across the oxbow will require heavy equipment and haul trucks. The contractor may improve this entrance and existing fence/gate as needed. Appropriate KDOT approved signs will be placed and maintained to warn highway traffic of trucks turning and entering the highway. The contractor is responsible for KDOT coordination for this activity and any speed limit adjustments.

10. Construction traffic for Ox Bow crossing must use caution to not damage the approach lighting facilities in that vicinity.

11. The owner will not be responsible for equipment or supplies left on the airport.

12. Care must be taken to not damage any buildings, signs, lights, or pavements. Any damage will be repaired by the contractor at no expense to the sponsor.

13. Contractor shall be responsible for coordination with local authorities and regulatory agencies in obtaining any permits which may be required during construction.

14. The contractor shall coordinate the scheduling of construction activities with the engineer. When construction activities are to commence, a minimum of 10 days notice shall be given by the contractor. No work shall commence until the contractor has approval of the engineer.

15. Clearing and grubbing will be completed per P-251 along fence line on 8' either side of centerline.

16. Upon completion of fence and skirt, cleared area shall be seeded per T-901a except where weed control soil sterilant shall be applied within 1-Foot on each side of fence per T-901b.

Safety Notes:

1. All personnel and equipment shall remain clear of the active Airport Operations Area (AOA) during this project without prior approval from the Airport Manager or Engineer.

2. The contractors' men and equipment must be kept out of runway and taxiway safety areas. This will be safely accomplished by remaining outside the new fence line. Extra caution is necessary at the ends of runways for landing and departing aircraft overhead. Contractor shall exercise particular care and have direct Engineer oversight while adjacent to any Aviation Sensitive Area marking.

3. Security of this airport is important. Contractors, Engineer and Airport Staff must all regulate access to this facility. Contractors must furnish a list of authorized personnel to the Engineer prior to the Notice to Proceed. This list must be updated during construction and should be used for allowing access onto the airport property. All personnel are subject to challenge by city or engineer staff.

4. NOTAMs will be issued by the owner prior to any construction operations.

5. Contractor shall submit written concurrence that they will participate in this construction safety plan prior to the pre-construction conference. The contractor shall participate in, but not be limited to, the location of all construction traffic routes, safety markings, barricades and items from the operations plan. This plan shall be signed by the contractor and shall become part of the contract.

6. Construction traffic on the airport outside the immediate area of construction is not authorized without permission from the engineer or airport manager.

7. Refer to Section 80, General Provisions, of the project specifications for Safety Requirements During Construction.

8. Barricades (lighted for night use) or cones shall be placed in any locations where public traffic will be on conflict with construction activity. Barricades shall be maintained by the contractor for the duration of the closures.
9. Airport entrances are identified on the layout plans. Haul route shall be along the new fence line as much as possible or as directed by Airport staff or Project Engineer to avoid in-season farming activity on the south property area of the Airport. Maximum equipment height shall be 15-feet.

10. Pavements will be maintained clear of mud and debris from construction traffic or operations.

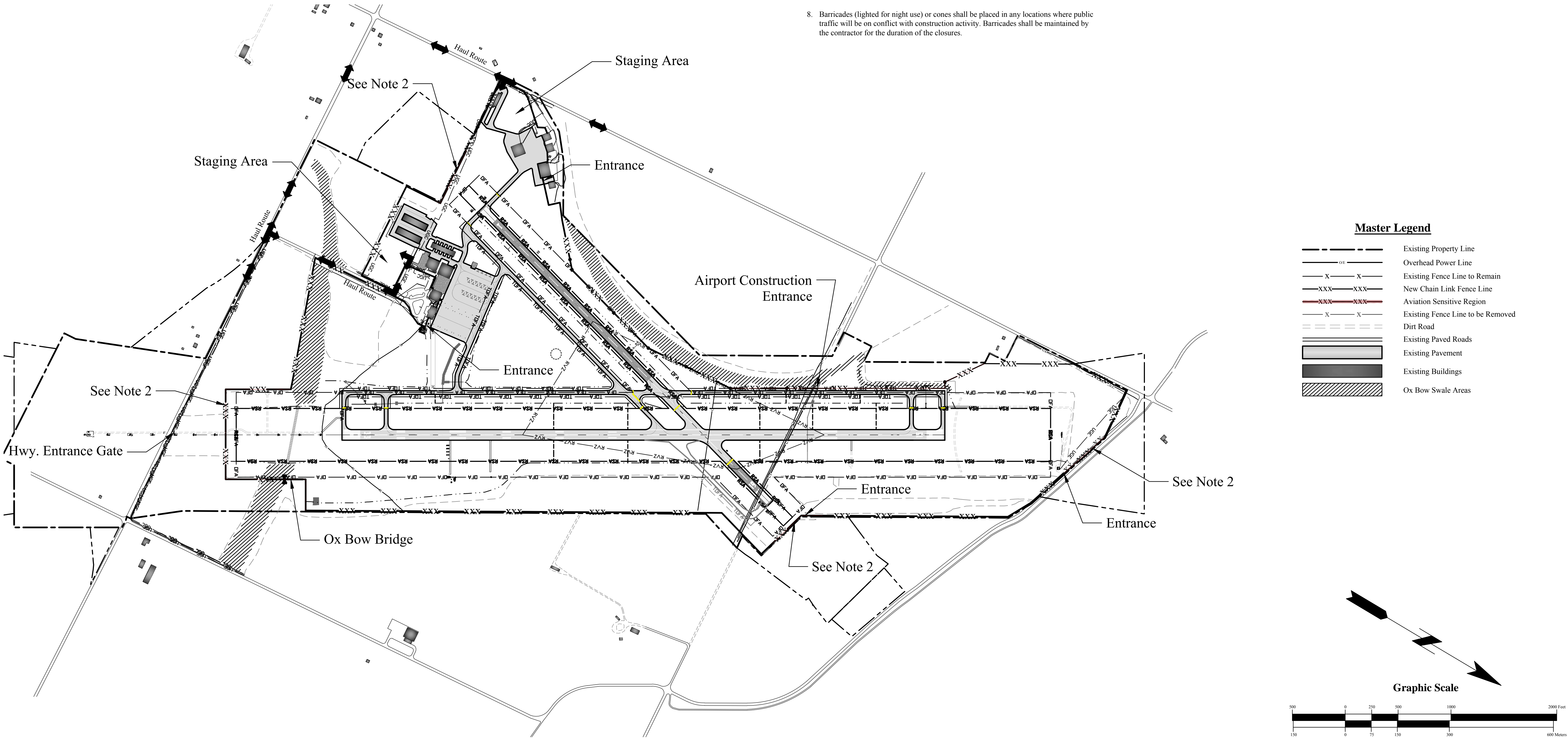
11. Efforts will be made to minimize impact to the contractors' activities, but airport safety and operational considerations shall be paramount. Contractors will cooperate with airport manager to remove men and equipment for critical Airport activity.

12. The contractor shall brief all vehicle operators on the construction operations plan prior to their being allowed onto the project. Additionally, all onsite personnel shall be familiar with FAA Advisory Circular 150/5370-2F, Operational Safety on Airports During Construction.

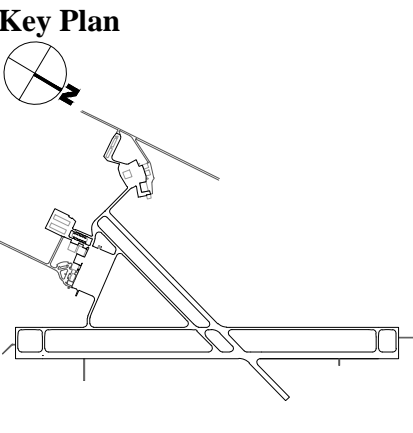
13. Care will be taken to not spill gasoline, oil or other materials on any buildings, pavement, or ground. The contractor will be responsible for remediation's.

14. At the end of each work day(period): all fences, gates and barricades must be secured for overnight.

15. Aircraft shall have the right-of-way over all other vehicles. At no time will the contractors' equipment or vehicles be permitted on any active airport operations area without approval from the airport manager or the engineer. All construction vehicles shall have flags (daytime only) or beacons on them while within the airport property.



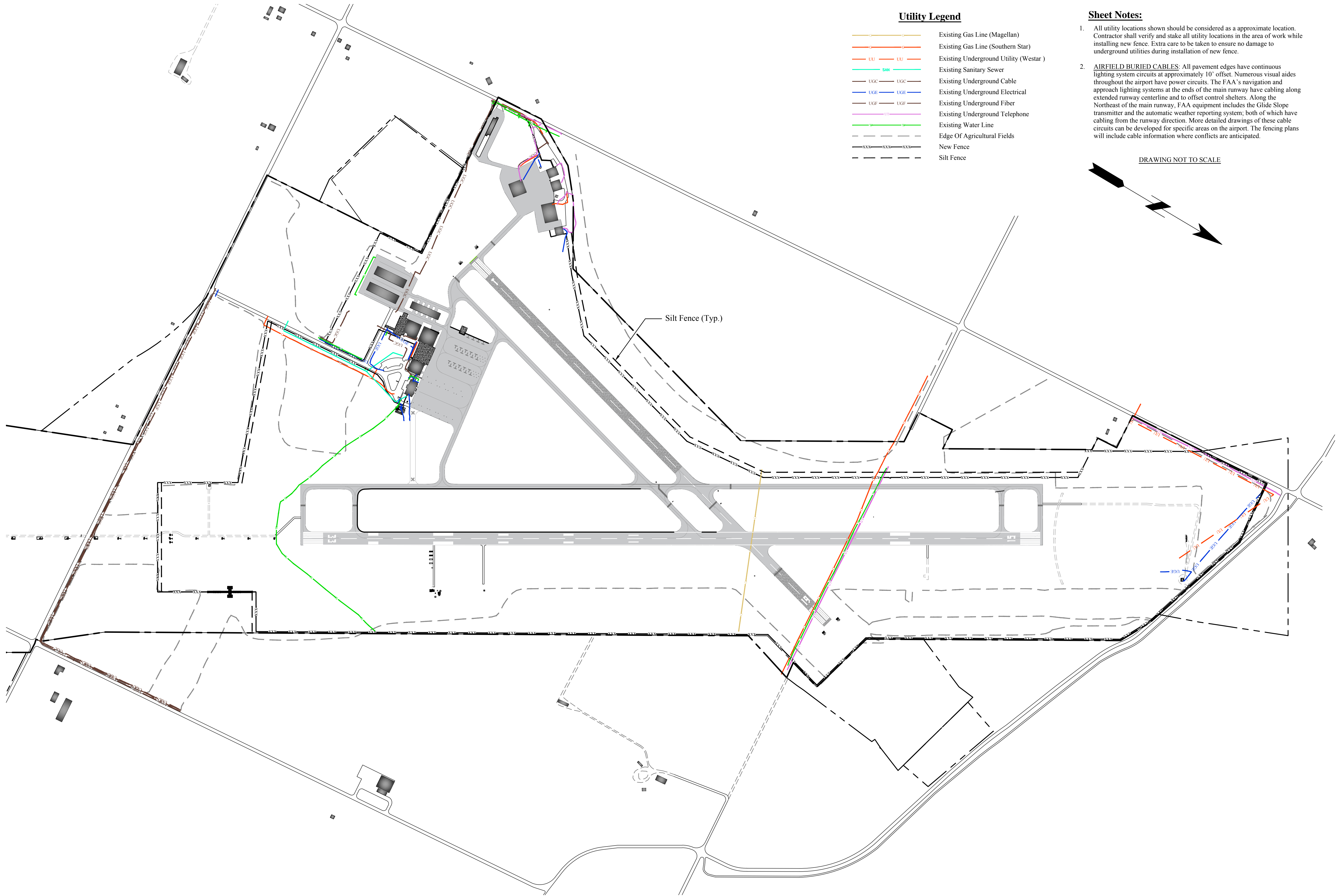
Not For Construction



No.	Revision	Ckd	Date

Project No:	LWC1488
Designed By:	CLK
Drawn By:	JKY
Approved By:	CLK
Date:	June 2017

General Notes & Project Safety Notes



Utility Legend

- Existing Gas Line (Magellan)
- Existing Gas Line (Southern Star)
- Existing Underground Utility (Westar)
- Existing Sanitary Sewer
- Existing Underground Cable
- Existing Underground Electrical
- Existing Underground Fiber
- Existing Underground Telephone
- Existing Water Line
- Edge Of Agricultural Fields
- New Fence
- Silt Fence

Sheet Notes:

- All utility locations shown should be considered as a approximate location. Contractor shall verify and stake all utility locations in the area of work while installing new fence. Extra care to be taken to ensure no damage to underground utilities during installation of new fence.
- AIRFIELD BURIED CABLES: All pavement edges have continuous lighting system circuits at approximately 10' offset. Numerous visual aides throughout the airport have power circuits. The FAA's navigation and approach lighting systems at the ends of the main runway have cabling along extended runway centerline and to offset control shelters. Along the Northeast of the main runway, FAA equipment includes the Glide Slope transmitter and the automatic weather reporting system; both of which have cabling from the runway direction. More detailed drawings of these cable circuits can be developed for specific areas on the airport. The fencing plans will include cable information where conflicts are anticipated.

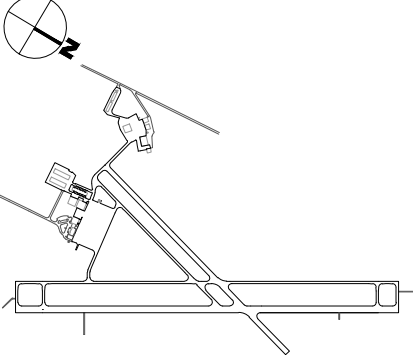
DRAWING NOT TO SCALE

Bid Set

Lawrence Municipal Airport
Lawrence, Kansas

Not For Construction

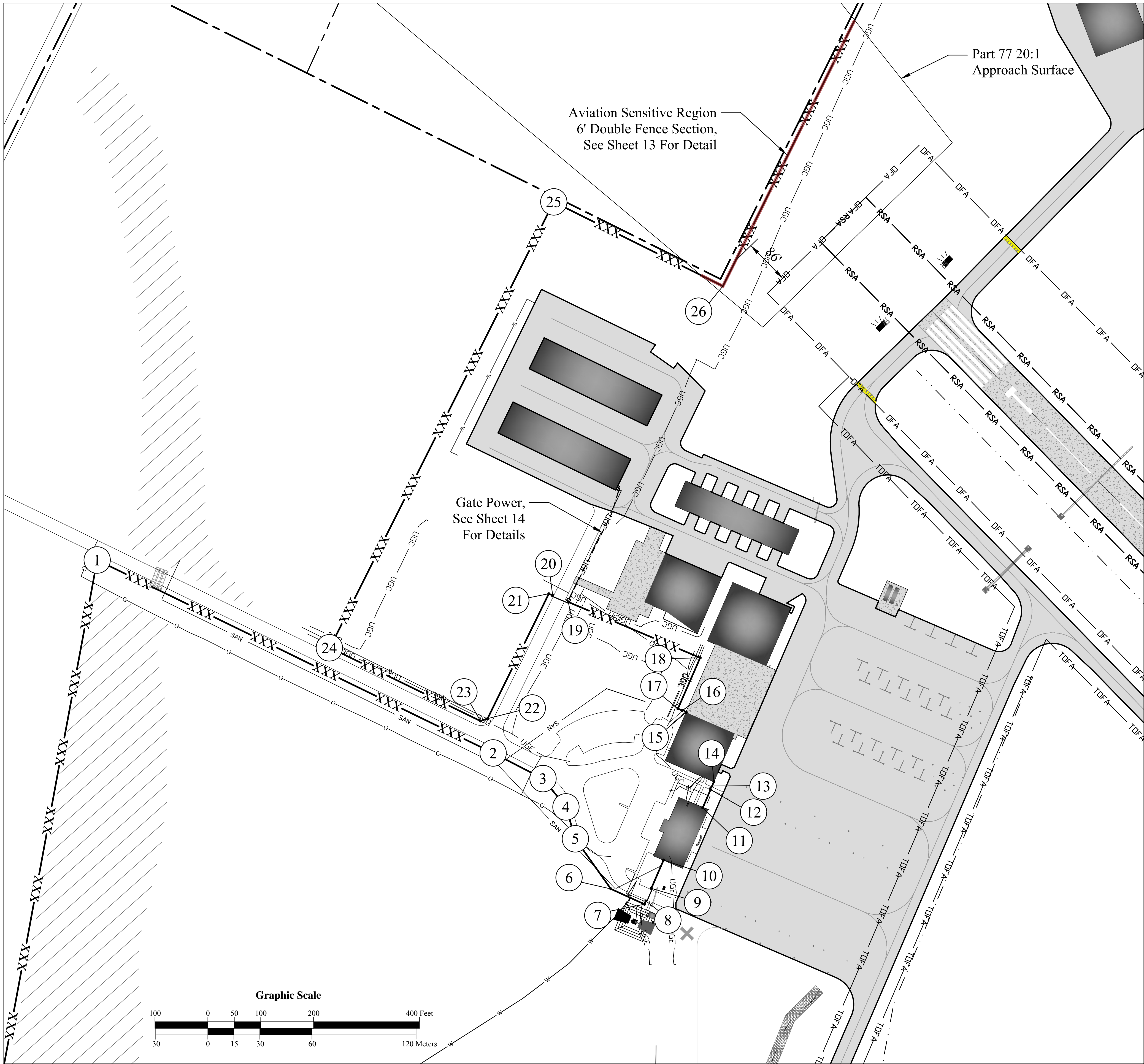
Key Plan



No.	Revision	Ckd	Date

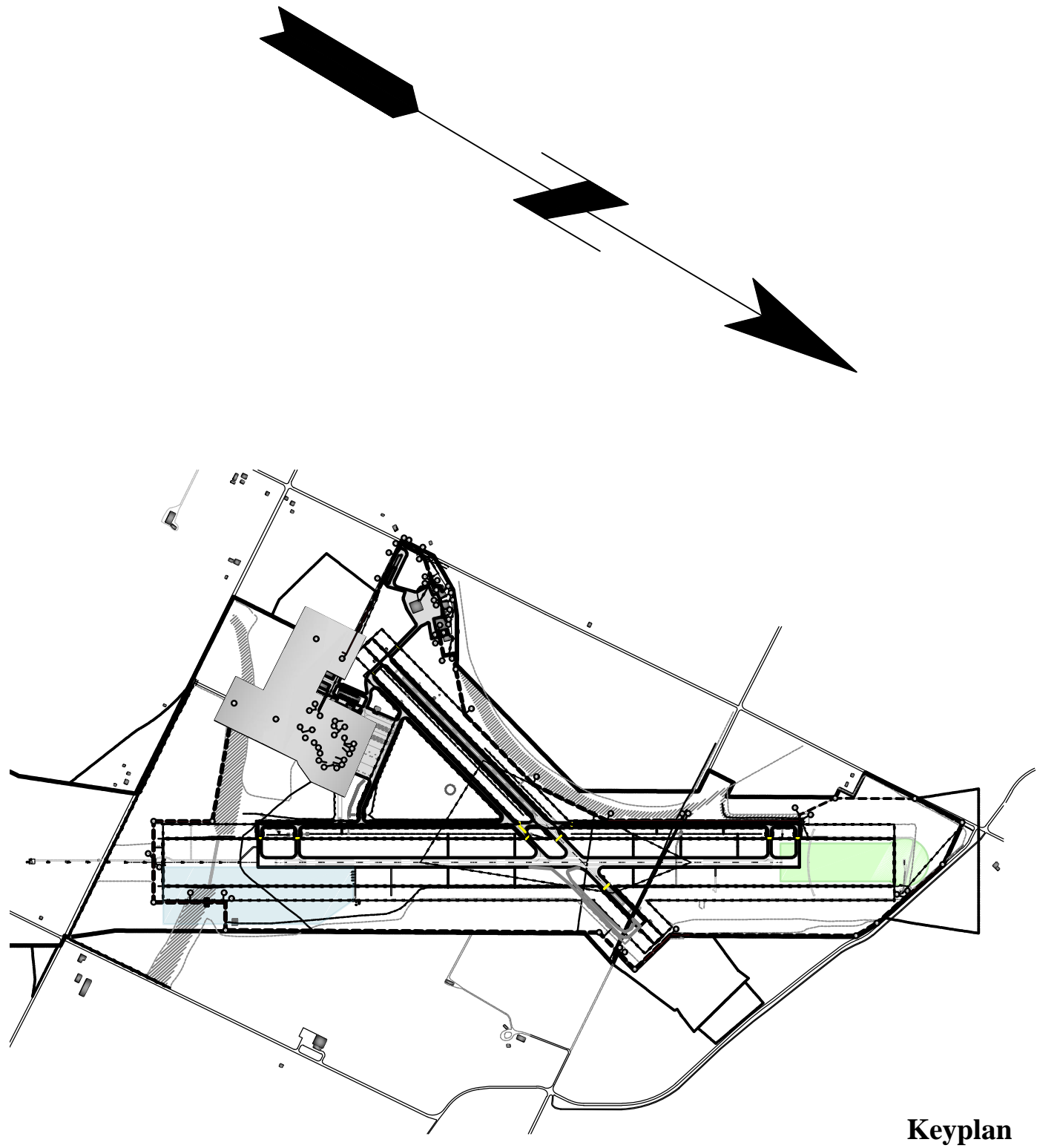
Project No:	LWC1488
Designed By:	CLK
Drawn By:	JKY
Approved By:	CLK
Date:	June 2017

Airport Utility P.Lan



Legend	
	Existing Property Line
	Overhead Power Line
	Existing Fence Line to Remain
	New Chain Link Fence Line
	Aviation Sensitive Region
	Existing Fence Line to be Removed
	Dirt Road
	Existing Paved Roads
	Existing Pavement
	Existing Buildings
	Ox Bow Swale Areas

Survey Data			
Survey Point	Northing	Easting	Comment
1	255688.23	2103391.54	
2	256626.33	2103355.99	
3	256689.85	2103382.50	
4	256734.20	2103427.06	
5	256838.11	2103478.70	
6	256907.84	2103474.05	4' Walk Gate
7	256097.27	2103467.42	
8	256907.27	2103467.42	20' Manual Driveway Gate Start (Apron)
9	256905.07	2103441.52	20' Manual Driveway Gate End (Apron)
10	256900.15	2103383.52	
11	256890.27	2103263.61	
12	256886.92	2103226.41	4' Walk Gate (Apron)
13	256886.26	2103219.16	
14	256885.46	2103210.20	
15	256805.28	2103117.12	4' Walk Gate (Parking)
16	256797.03	2103117.81	
17	256788.34	2103118.53	
18	256779.63	2103013.85	
19	256510.08	2103039.13	24' Automatic Driveway Gate Start (Hangar)
20	256478.22	2103042.12	24' Automatic Driveway End (Hangar)
21	256470.25	2103042.87	
22	256480.30	2103305.56	
23	256470.69	2103315.96	
24	256154.23	2103328.78	
25	256127.45	2102385.98	
26	256484.41	2102374.65	

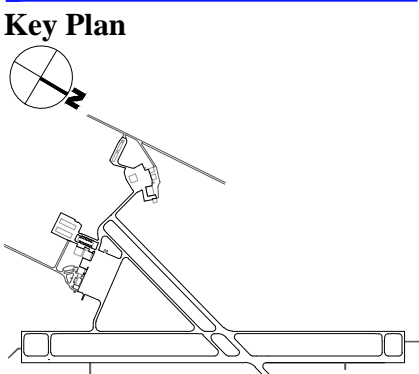


Bid Set

Lawrence Municipal Airport

Lawrence, Kansas

Not For Construction



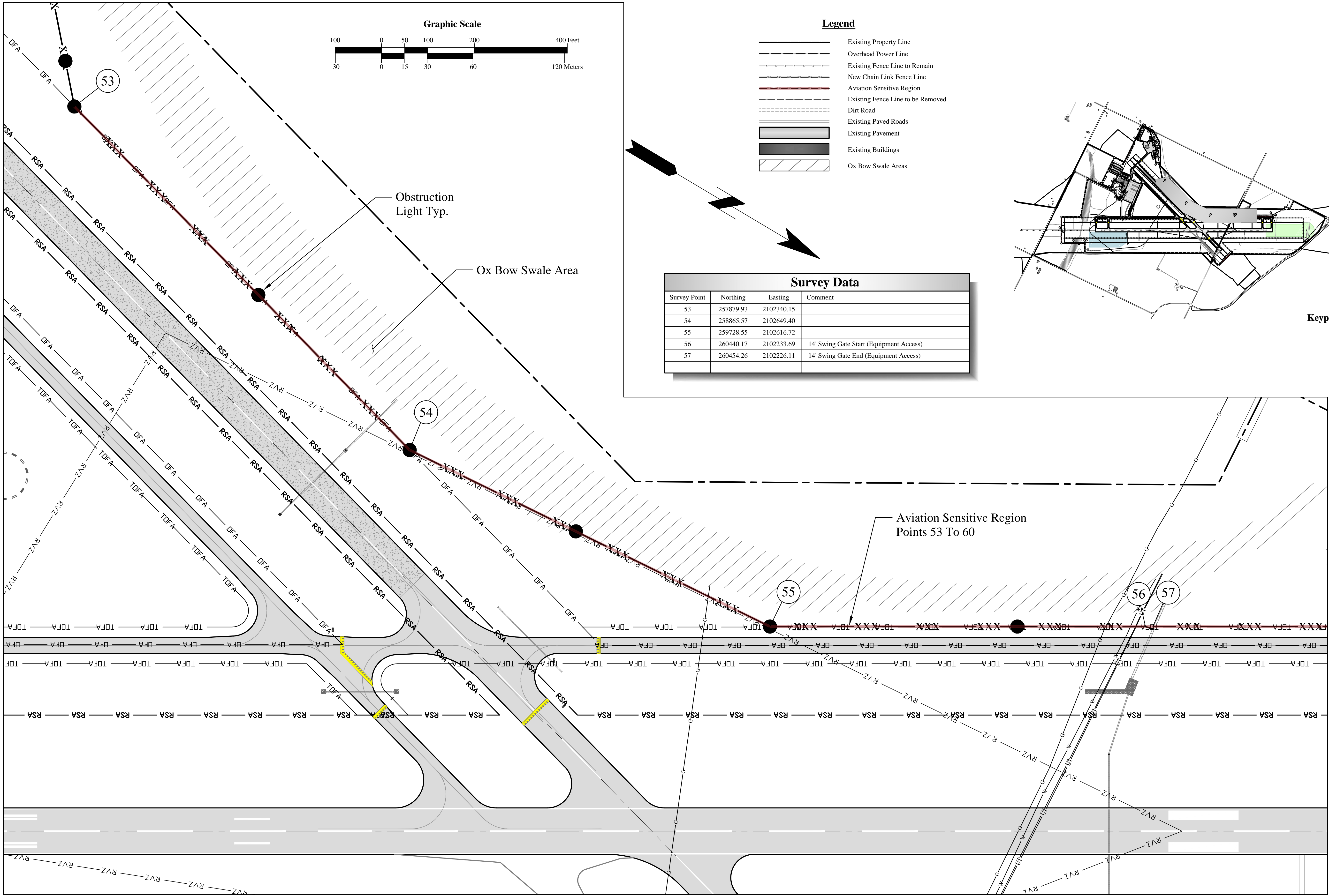
No.	Revision	Ckd	Date

Project No:	LWC1488
Designed By:	CLK
Drawn By:	JKY
Approved By:	CLK
Date:	June 2017

Fencing Layout

Plan

Points 1 - 26



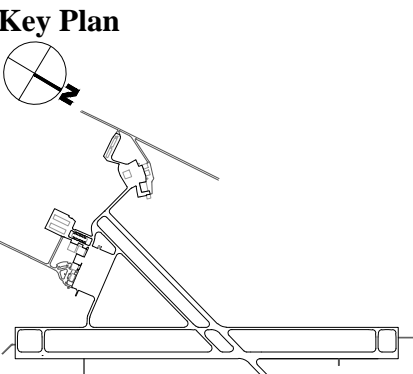
Legend

- Existing Property Line
- Overhead Power Line
- Existing Fence Line to Remain
- New Chain Link Fence Line
- Aviation Sensitive Region
- Existing Fence Line to be Removed
- Dirt Road
- Existing Paved Roads
- Existing Pavement
- Existing Buildings
- Ox Bow Swale Areas

Survey Data

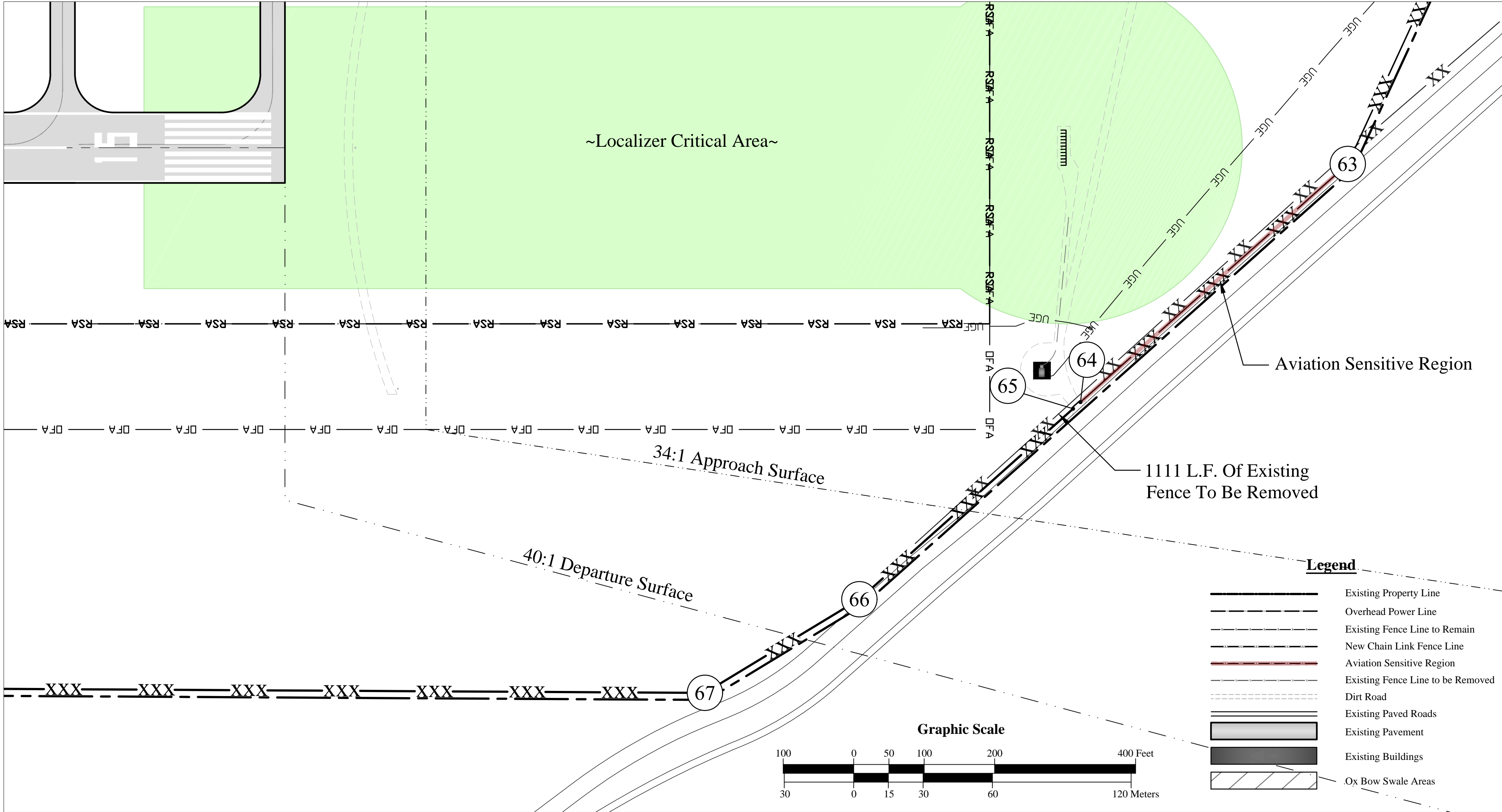
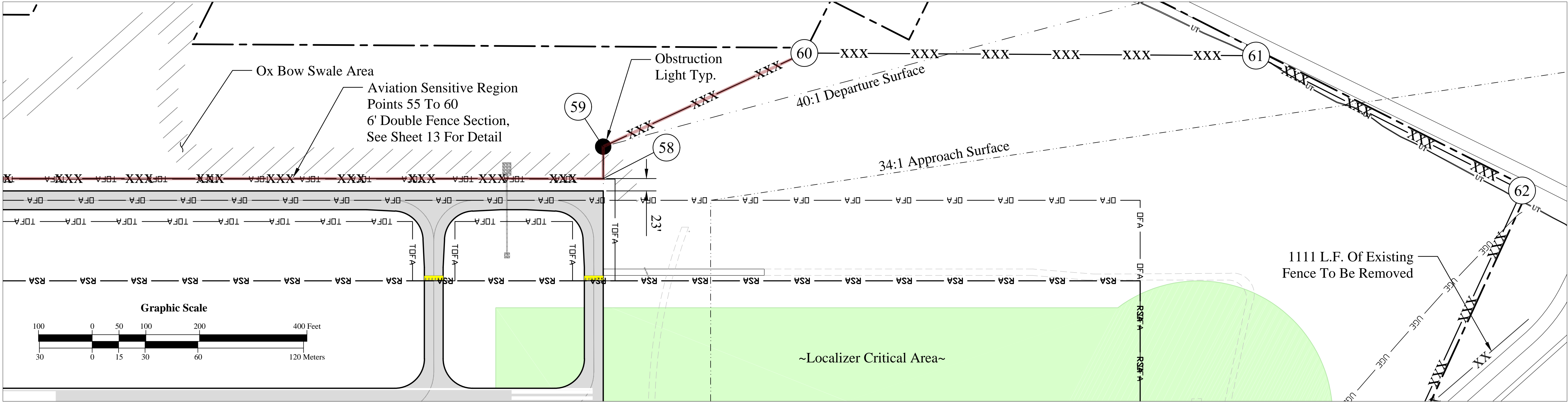
Survey Point	Northing	Easting	Comment
53	257879.93	2102340.15	
54	258865.57	2102649.40	
55	259728.55	2102616.72	
56	260440.17	2102233.69	14' Swing Gate Start (Equipment Access)
57	260454.26	2102226.11	14' Swing Gate End (Equipment Access)

Not For Construction

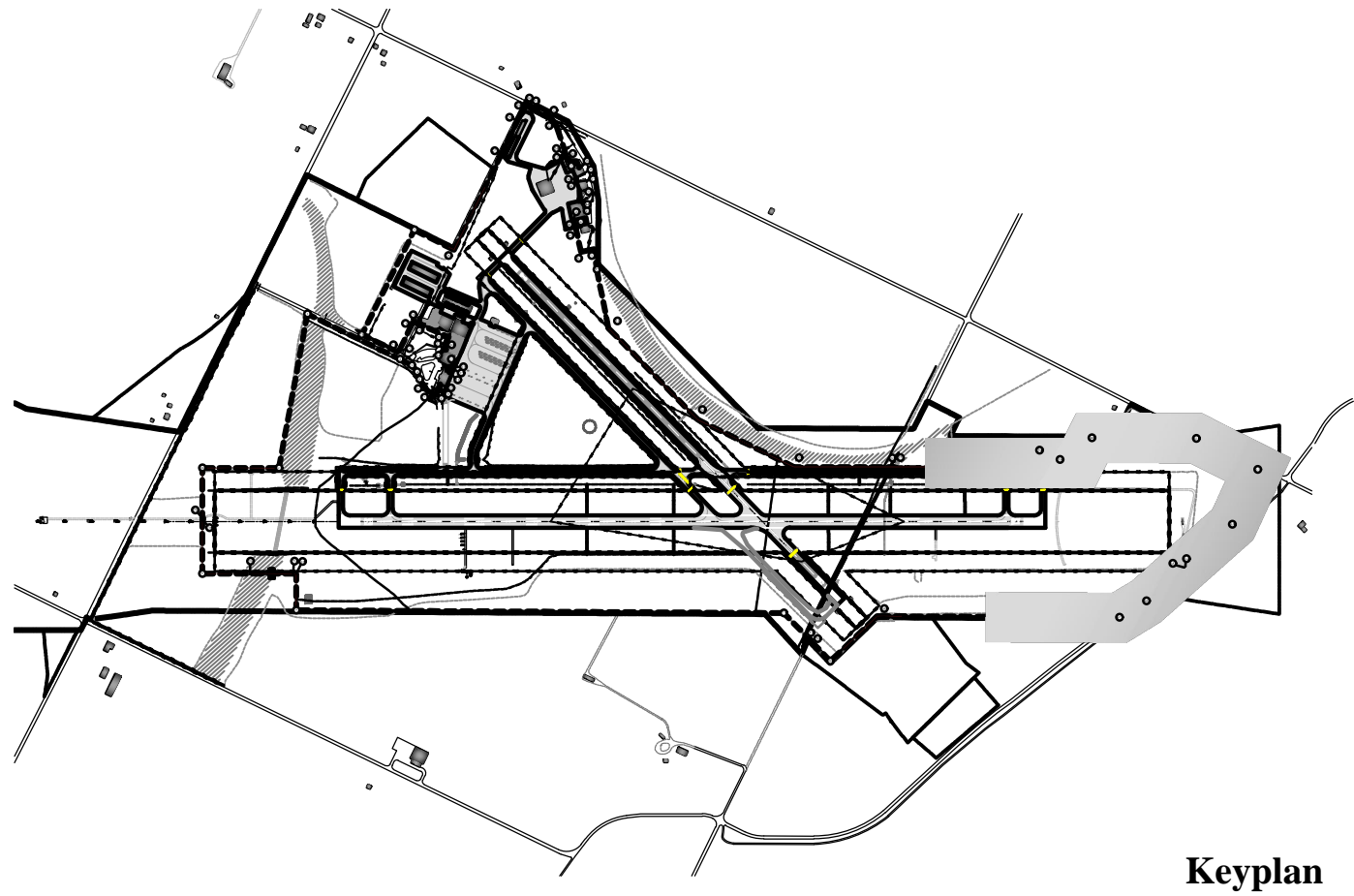


No.	Revision	Ckd	Date

Project No:	LWC1488
Designed By:	CLK
Drawn By:	JKY
Approved By:	CLK
Date:	June 2017



Survey Data			
Survey Point	Northing	Easting	Comment
58	261514.29	2101655.55	
59	261486.09	2101603.16	
60	261733.30	2101272.18	
61	262476.31	2100877.73	
62	263031.65	2100864.22	
63	263061.96	2101349.08	
64	262888.23	2101826.45	14' Swing Gate Start (LOC Access)
65	262883.44	2101839.61	14' Swing Gate End (LOC Access)
66	262744.50	2102221.38	
67	262614.49	2102442.27	

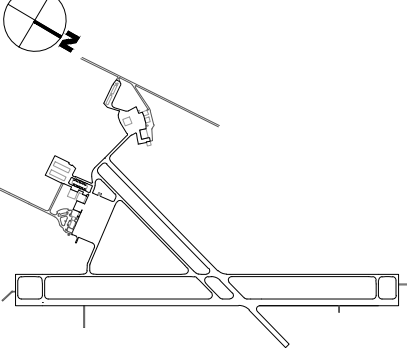


Bid Set

Lawrence
Municipal
Airport
Lawrence, Kansas

Not For Construction

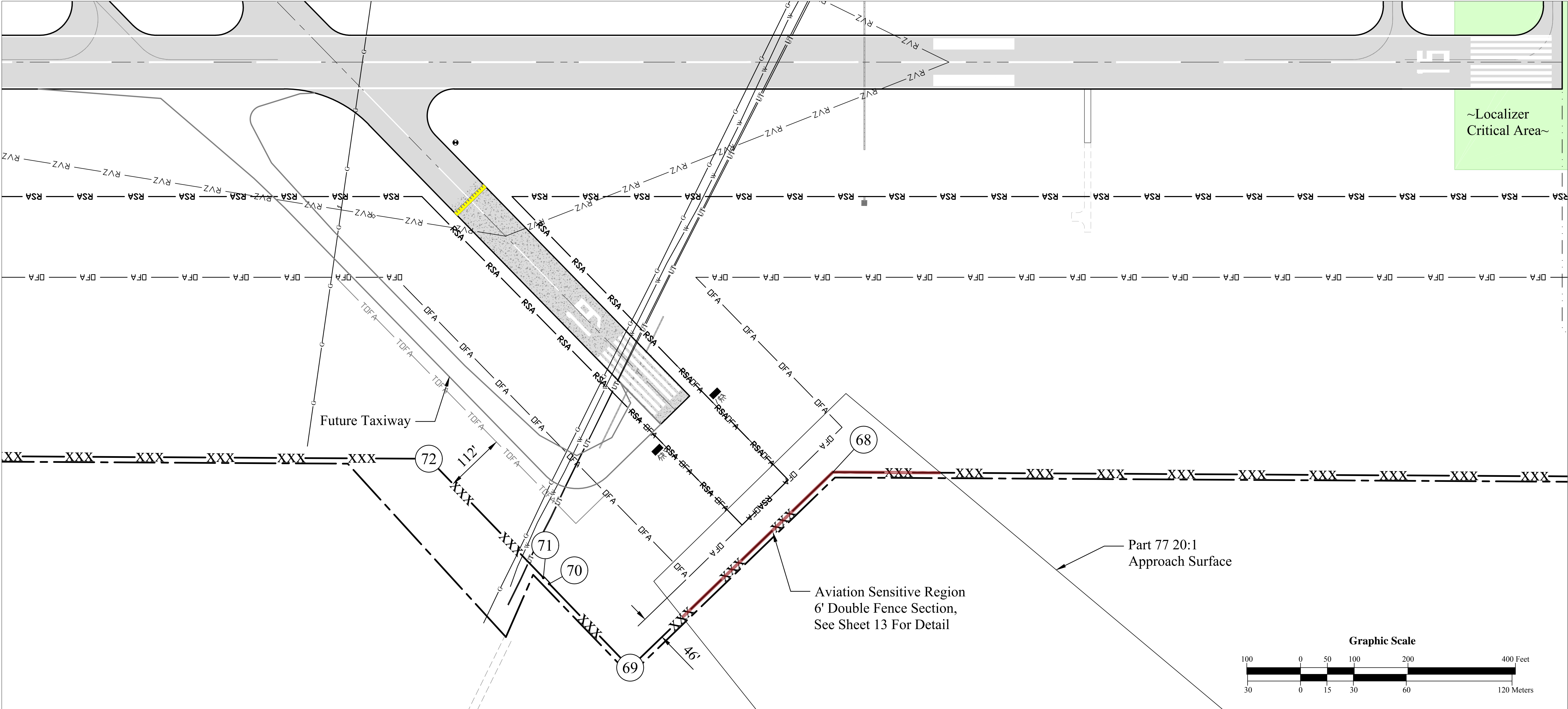
Key Plan



No.	Revision	Ckd	Date
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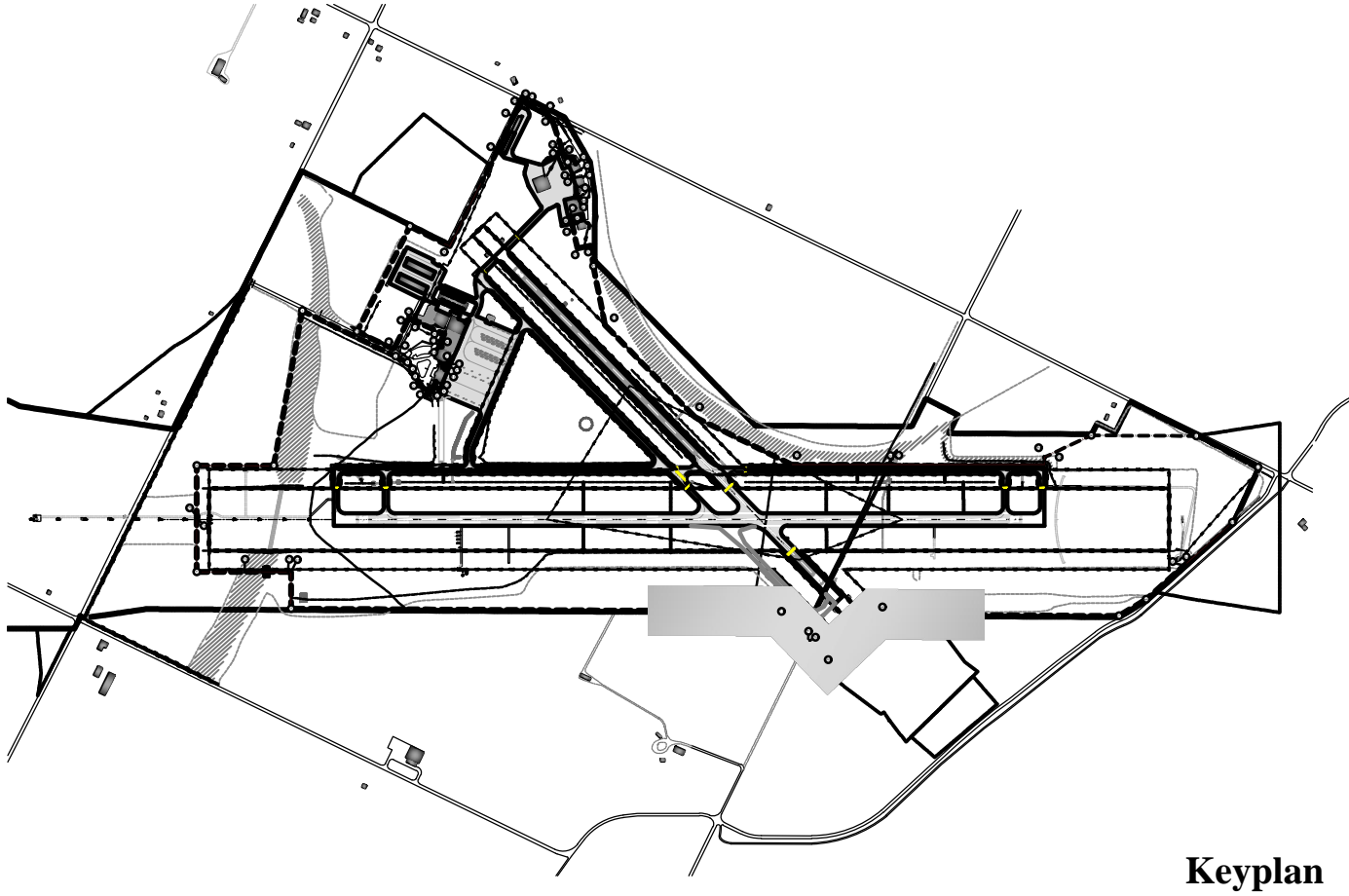
Project No:	LWC1488
Designed By:	CLK
Drawn By:	JKY
Approved By:	CLK
Date:	June 2017

Fencing Layout
Plan
Points 58 - 67



Survey Data			
Survey Point	Northing	Easting	Comment
68	260889.26	2103358.16	
69	260729.44	2103857.27	
70	260523.03	2103791.17	14' Swing Gate Start (Equipment Access)
71	260507.79	2103786.29	14' Swing Gate End (Equipment Access)
72	260215.36	2103692.65	

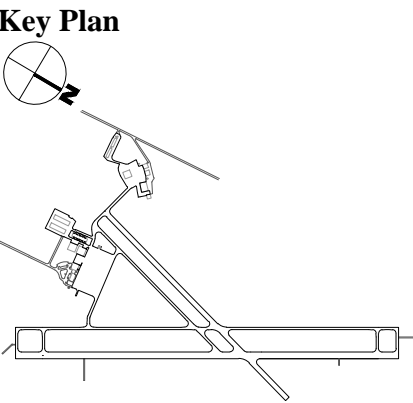
- Legend**
- Existing Property Line
 - Overhead Power Line
 - Existing Fence Line to Remain
 - New Chain Link Fence Line
 - Aviation Sensitive Region
 - Existing Fence Line to be Removed
 - Dirt Road
 - Existing Paved Roads
 - Existing Pavement
 - Existing Buildings
 - Ox Bow Swale Areas



Bid Set

Lawrence Municipal Airport
Lawrence, Kansas

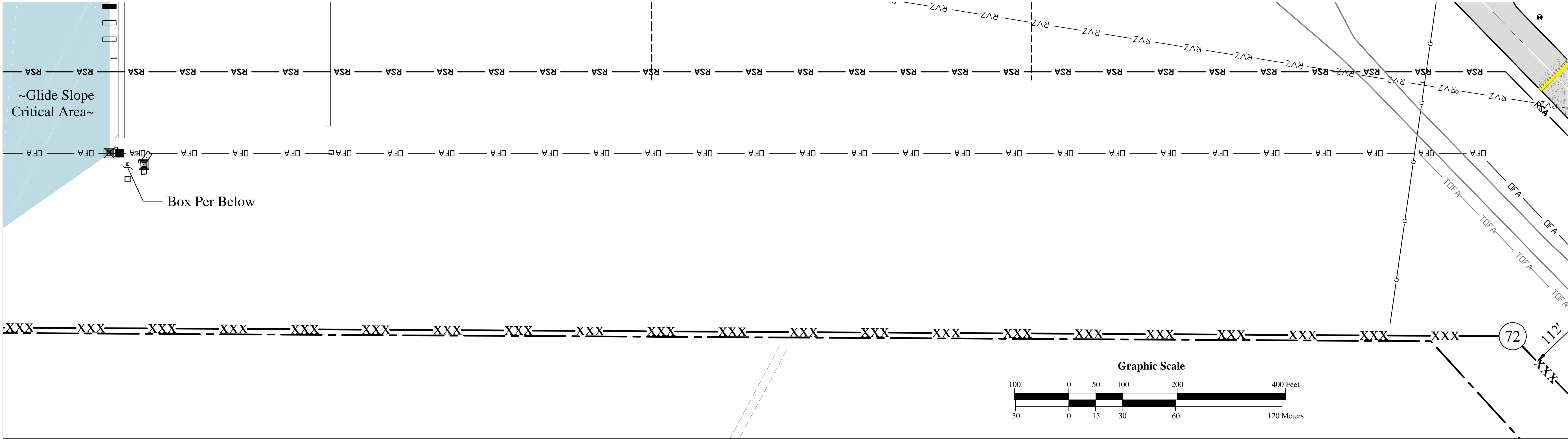
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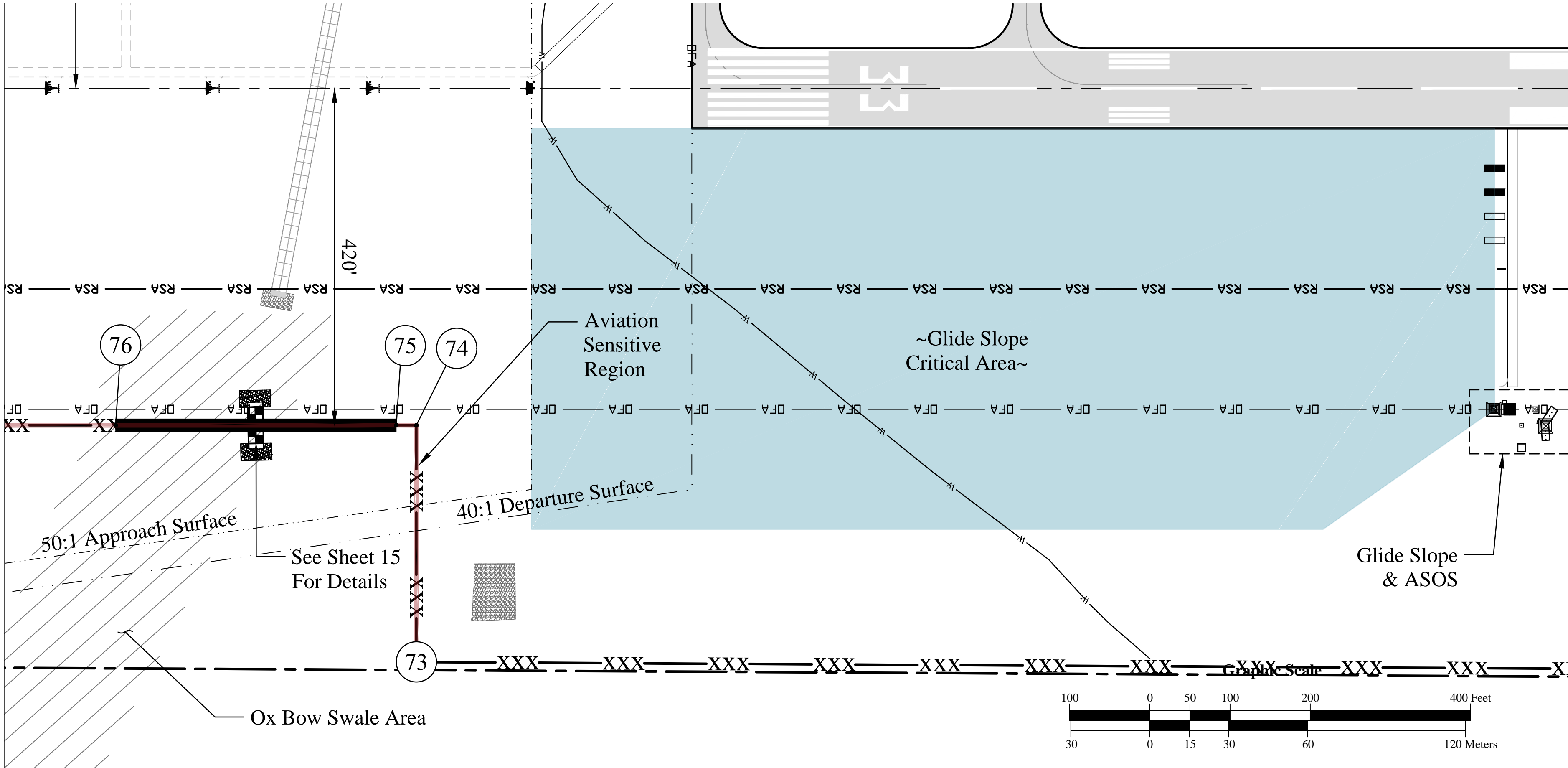
No.	Revision	Ckd	Date

Project No:	LWC1488
Designed By:	CLK
Drawn By:	JKY
Approved By:	CLK
Date:	June 2017

Fencing Layout Plan
Points 68 - 72

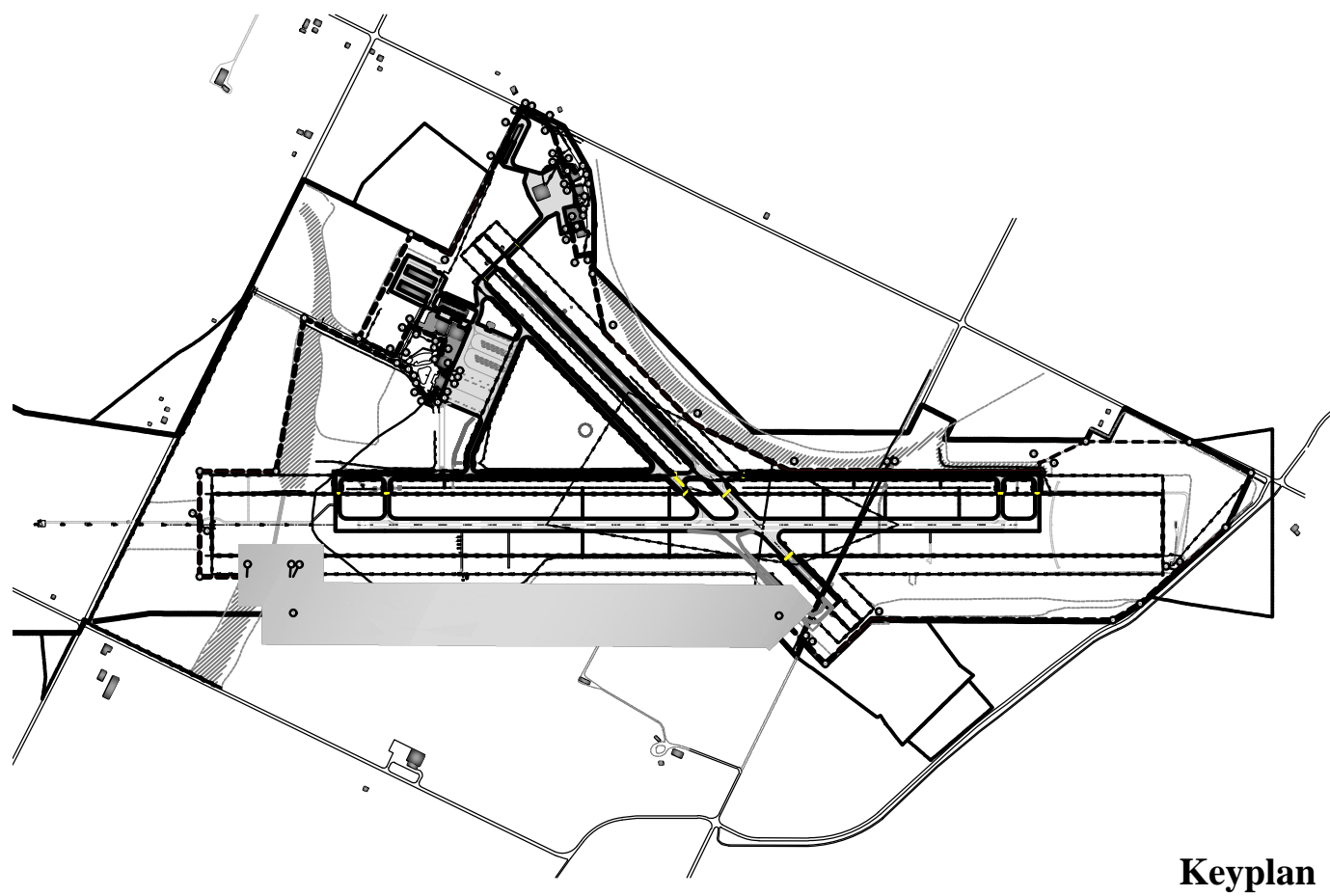


Survey Data			
Survey Point	Northing	Easting	Comment
72	260215.36	2103692.65	
73	256740.51	2105537.38	
74	256595.91	2105268.73	
75	256573.90	2105280.58	
76	256265.71	2105446.47	



Legend

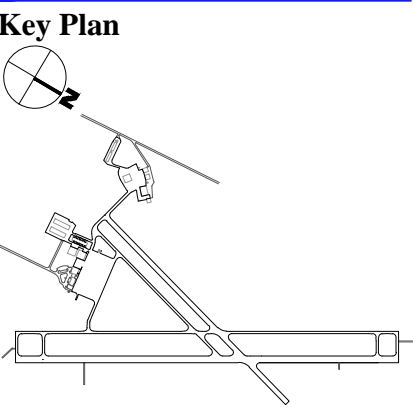
- Existing Property Line
- Overhead Power Line
- Existing Fence Line to Remain
- New Chain Link Fence Line
- Aviation Sensitive Region
- Existing Fence Line to be Removed
- Dirt Road
- Existing Paved Roads
- Existing Pavement
- Existing Buildings
- Ox Bow Swale Areas



Bid Set

Lawrence Municipal Airport
Lawrence, Kansas

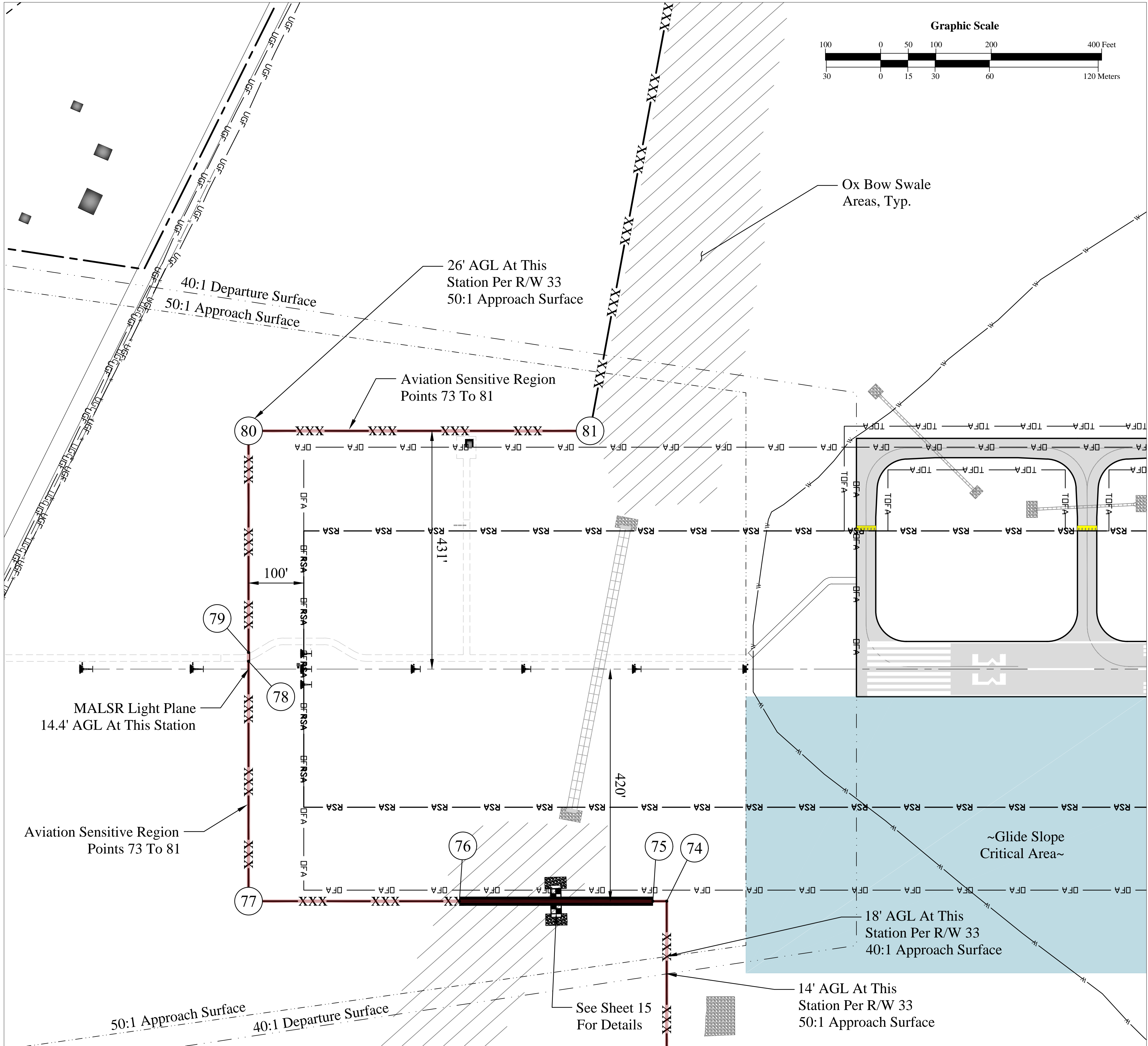
Not For Construction



No. Revision Ckd Date

Project No:	LWC1488
Designed By:	CLK
Drawn By:	JKY
Approved By:	CLK
Date:	June 2017

Fencing Layout
Plan
Points 72 - 76



Legend

- Existing Property Line
- Overhead Power Line
- Existing Fence Line to Remain
- New Chain Link Fence Line
- Aviation Sensitive Region
- Existing Fence Line to be Removed
- Dirt Road
- Existing Paved Roads
- Existing Pavement
- Existing Buildings
- Ox Bow Swale Areas

Survey Data

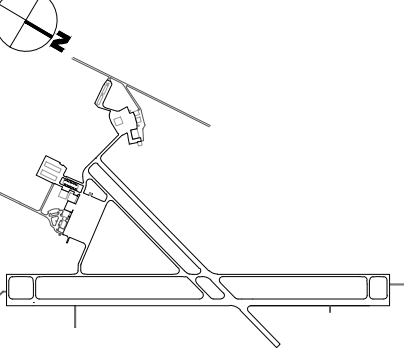
Survey Point	Northing	Easting	Comment
74	256600.65	2105277.54	
75	256578.64	2105289.34	
76	256270.44	2105455.27	
77	255934.39	2105636.15	
78	255728.63	2105253.88	14' Swing Gate Start (MALSR Access)
79	255721.05	2105239.80	14' Swing Gate End (MALSR Access)
80	255531.05	2104886.81	
81	256075.19	2104593.92	

Bid Set

Lawrence Municipal Airport
 Lawrence, Kansas

Not For Construction

Key Plan



No.	Revision	Ckd	Date

Project No:	LWC1488
Designed By:	CLK
Drawn By:	JKY
Approved By:	CLK
Date:	June 2017

Fencing Layout Plan
 Points 74 - 81

Survey Data			
Survey Point	Northing	Easting	Comment
1	255688.23	2103391.54	
2	256626.33	2103355.99	
3	256689.85	2103382.50	
4	256734.20	2103427.06	
5	256838.11	2103478.70	
6	256907.84	2103474.05	4' Walk Gate
7	256097.27	2103467.42	
8	256907.27	2103467.42	20' Manual Driveway Gate Start
9	256905.07	2103441.52	20' Manual Driveway Gate End
10	256900.15	2103383.52	
11	256890.27	2103263.61	
12	256886.92	2103226.41	4' Walk Gate
13	256886.26	2103219.16	
14	256885.46	2103210.20	
15	256805.28	2103117.12	4' Walk Gate
16	256797.03	2103117.81	
17	256788.34	2103118.53	
18	256779.63	2103013.85	
19	256510.08	2103039.13	24' Automatic Gate Start
20	256478.22	2103042.12	24' Automatic Gate End
21	256470.25	2103042.87	
22	256480.30	2103305.56	
23	256470.69	2103315.96	
24	256154.23	2103328.78	
25	256127.45	2102385.98	
26	256484.41	2102374.65	
27	256455.33	2101510.97	
28	256442.27	2101212.53	
29	256436.38	2101077.92	
30	256454.41	2101077.34	
31	256486.39	2101076.30	
32	256675.44	2101070.21	
33	256741.86	2101106.63	
34	256927.34	2101281.50	4' Walk Gate
35	256932.64	2101286.50	
36	256954.48	2101307.09	
37	257017.12	2101276.94	
38	257059.93	2101312.11	
39	257073.60	2101397.88	
40	257081.65	2101407.30	4' Walk Gate
41	257086.38	2101412.84	
42	257096.36	2101424.52	

Survey Data			
Survey Point	Northing	Easting	Comment
43	257149.02	2101475.08	
44	257184.12	2101532.45	20' Manual Driveway Gate Start
45	257192.47	2101546.10	20' Manual Driveway Gate End (Edge of Building)
46	257223.26	2101704.38	20' Swing Gate
47	257230.70	2101713.09	20' Manual Driveway Gate Start
48	257255.38	2101741.98	20' Manual Driveway Gate End
49	257297.04	2101790.75	
50	257394.52	2101904.93	
51	257476.86	2101834.59	
52	257574.75	2101969.50	
53	257879.93	2102340.15	
54	258865.57	2102649.40	
55	259728.55	2102616.72	
56	260440.17	2102233.69	14' Swing Gate Start (Equipment Access)
57	260454.26	2102226.11	14' Swing Gate End (Equipment Access)
58	261514.29	2101655.55	
59	261486.09	2101603.16	
60	261733.30	2101272.18	
61	262476.31	2100877.73	
62	263031.65	2100864.22	
63	263061.96	2101349.08	
64	262888.23	2101826.45	14' Swing Gate Start
65	262883.44	2101839.61	14' Swing Gate End
66	262744.50	2102221.38	
67	262614.49	2102442.27	
68	260889.26	2103358.16	
69	260729.44	2103857.27	
70	260523.03	2103791.17	14' Swing Gate Start
71	260507.79	2103786.29	14' Swing Gate End
72	260215.36	2103692.65	
73	256740.51	2105537.38	
74	256600.65	2105277.54	
75	256578.64	2105289.34	
76	256270.44	2105455.27	
77	255934.39	2105636.15	
78	255728.63	2105253.88	14' Swing Gate Start
79	255721.05	2105239.80	14' Swing Gate End
80	255531.05	2104886.81	
81	256075.19	2104593.92	

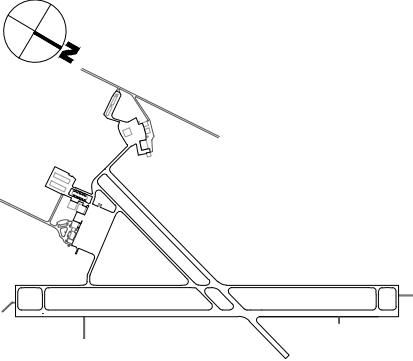
NOTE:
Coordinate System - US State Plane 1983
Project Datum - (WGS 84)
Zone - Kansas State Planes, North Zone
Coordinate Units - US Survey Feet
Distance Units - Grid US Feet
Each Point Is A Fence Brace With Concrete Footings.

Bid Set

Lawrence
Municipal
Airport
Lawrence, Kansas

Not For Construction

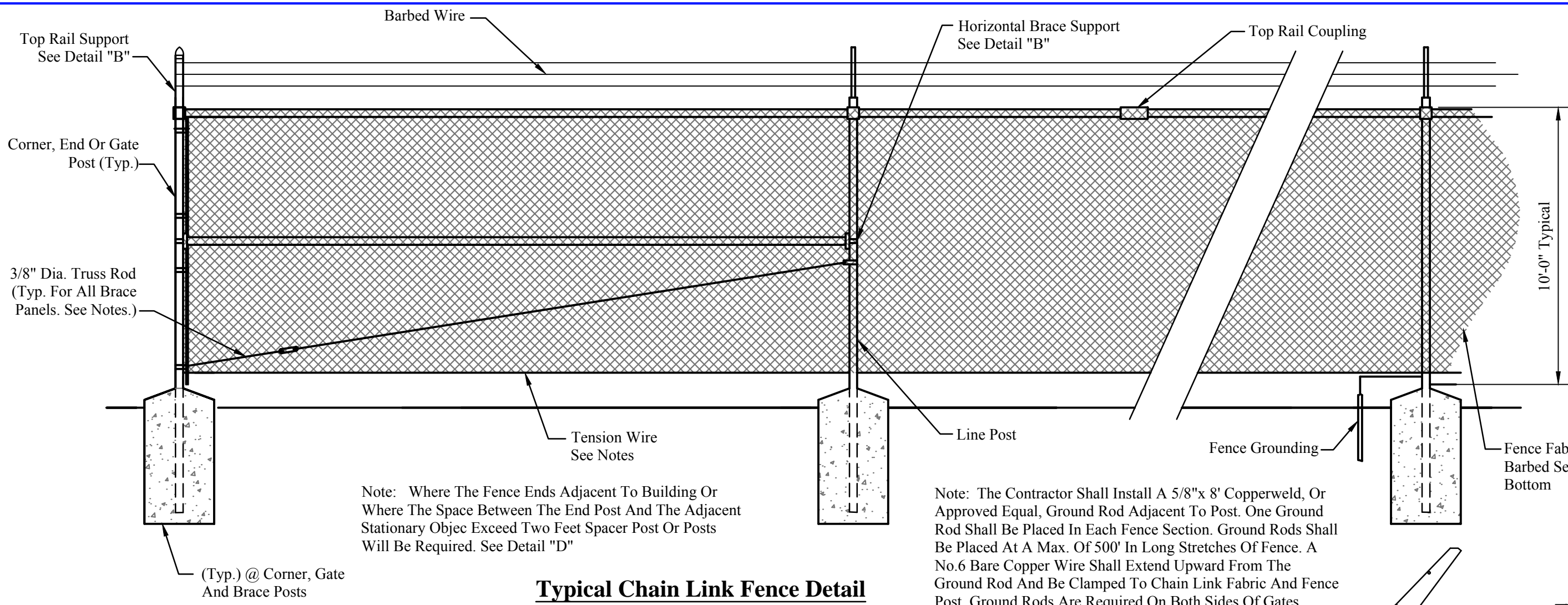
Key Plan



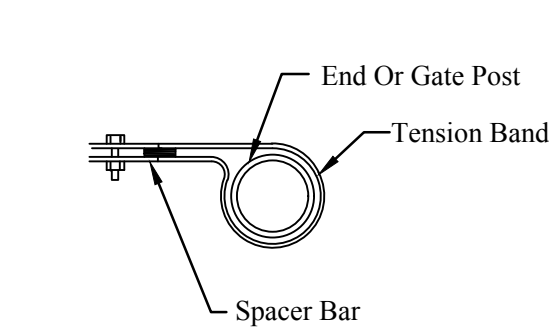
No.	Revision	Ckd	Date
-----	----------	-----	------

Project No:	LWC1488
Designed By:	CLK
Drawn By:	JKY
Approved By:	CLK
Date:	June 2017

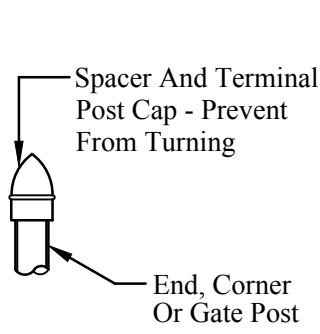
Survey Data



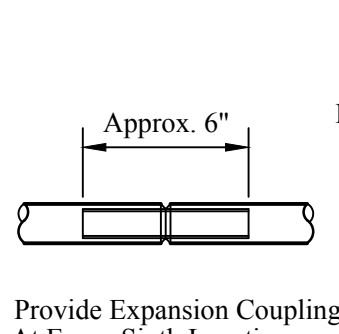
Typical Chain Link Fence Detail
No Scale



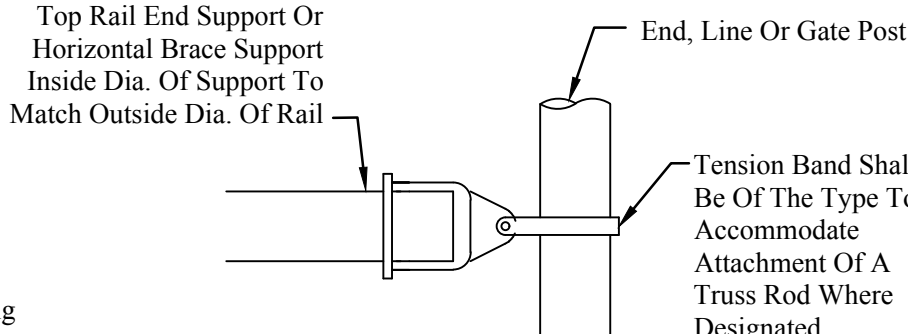
Detail "A" Tension Band & Stretcher Bar
No Scale



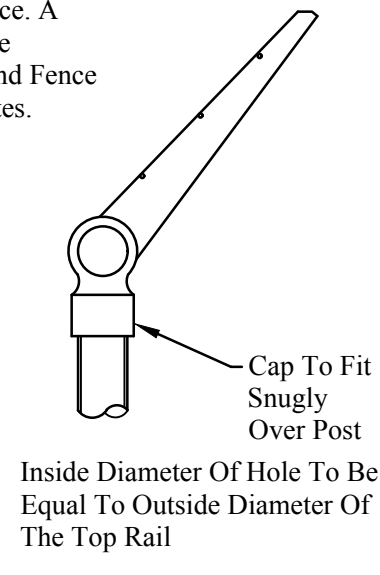
Detail "E" Spacer & Terminal Post Cap
No Scale



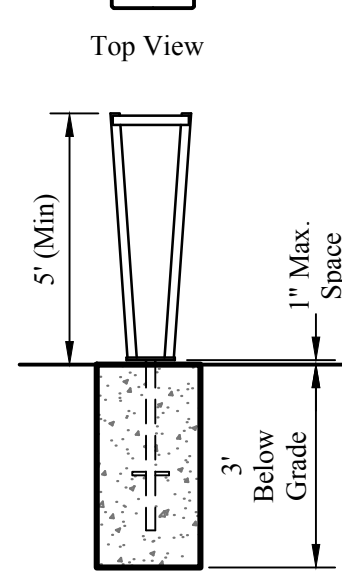
Detail "C" Top Rail Coupling
No Scale



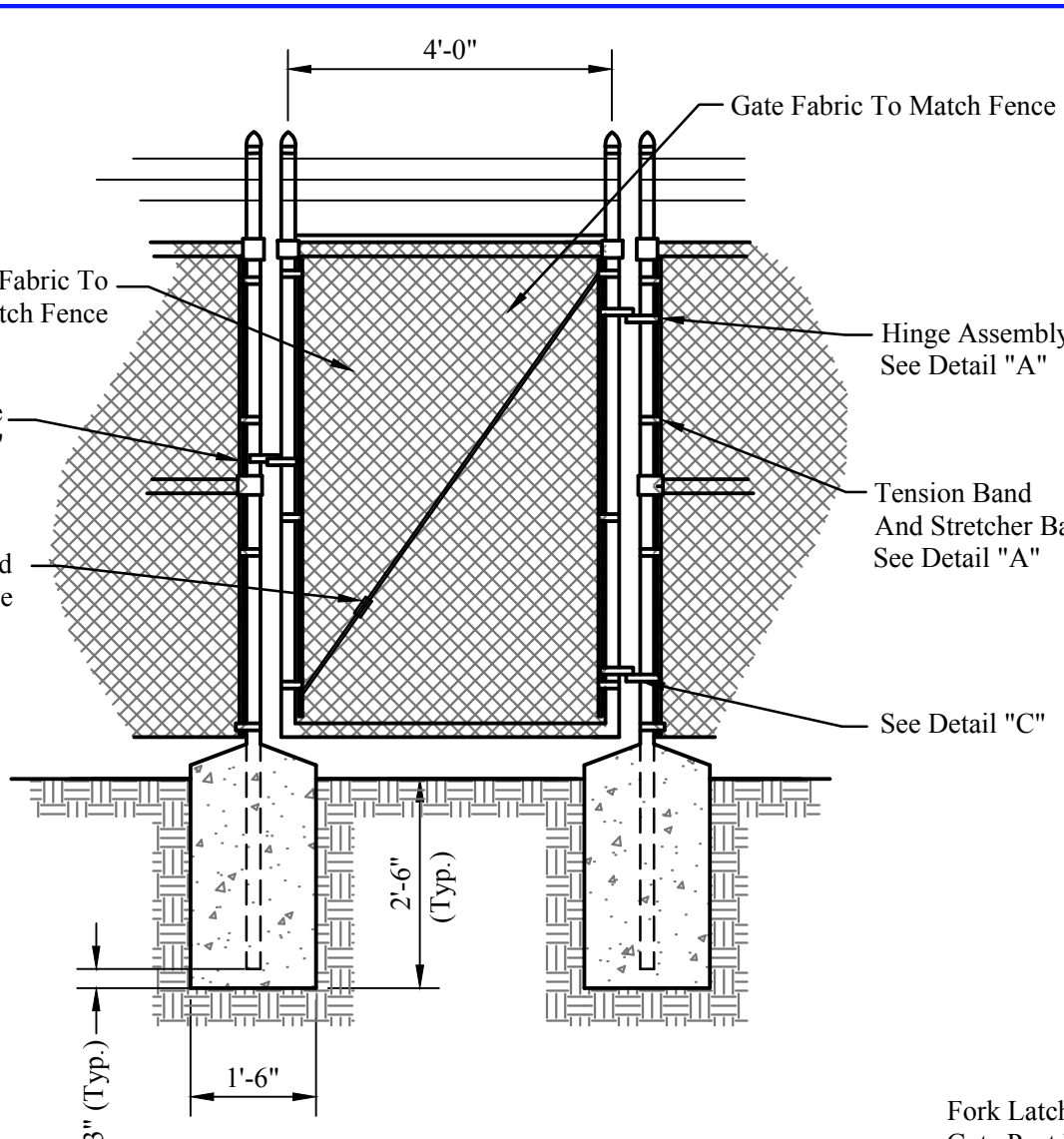
Detail "B" Top Rail End Or Horizontal Brace Support
No Scale



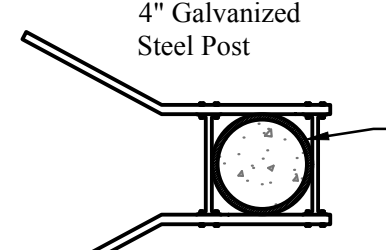
Detail "D" Post Cap And Top Rail Support
No Scale



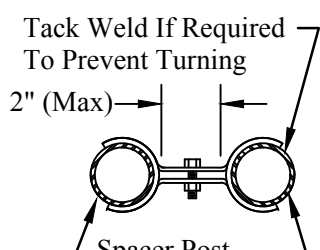
Yoke Detail
No Scale
Note: Yoke Shall be constructed of Galvanized Steel Per Gate Manufacturer



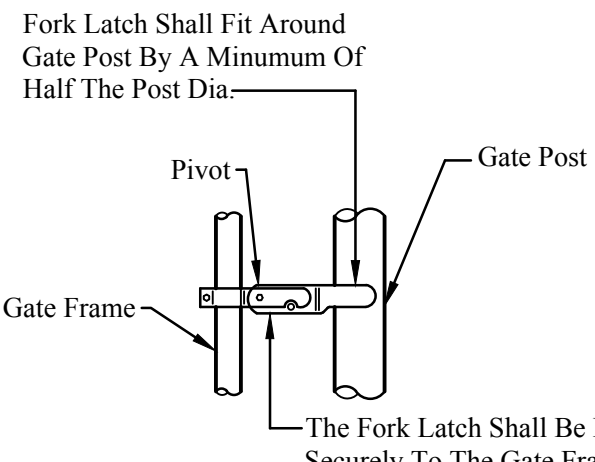
Pedestrian Gate Detail
No Scale



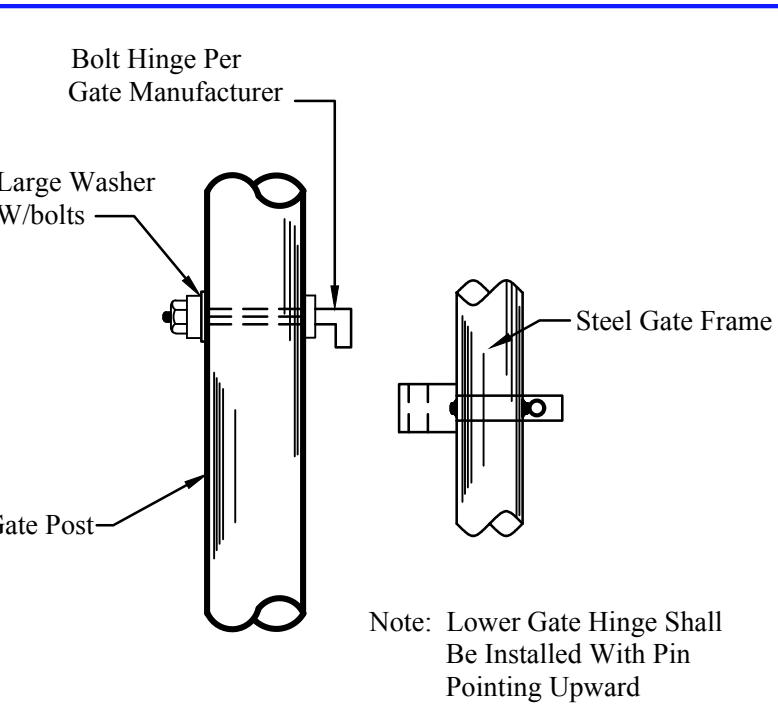
Detail "I" Gate Receiver Post Detail
No Scale



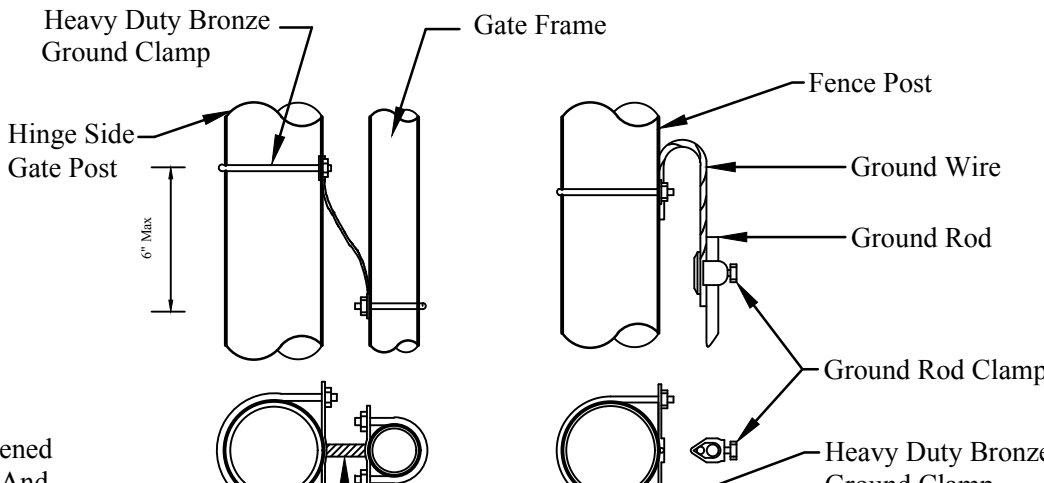
Detail "G" Spacer Post Detail
No Scale



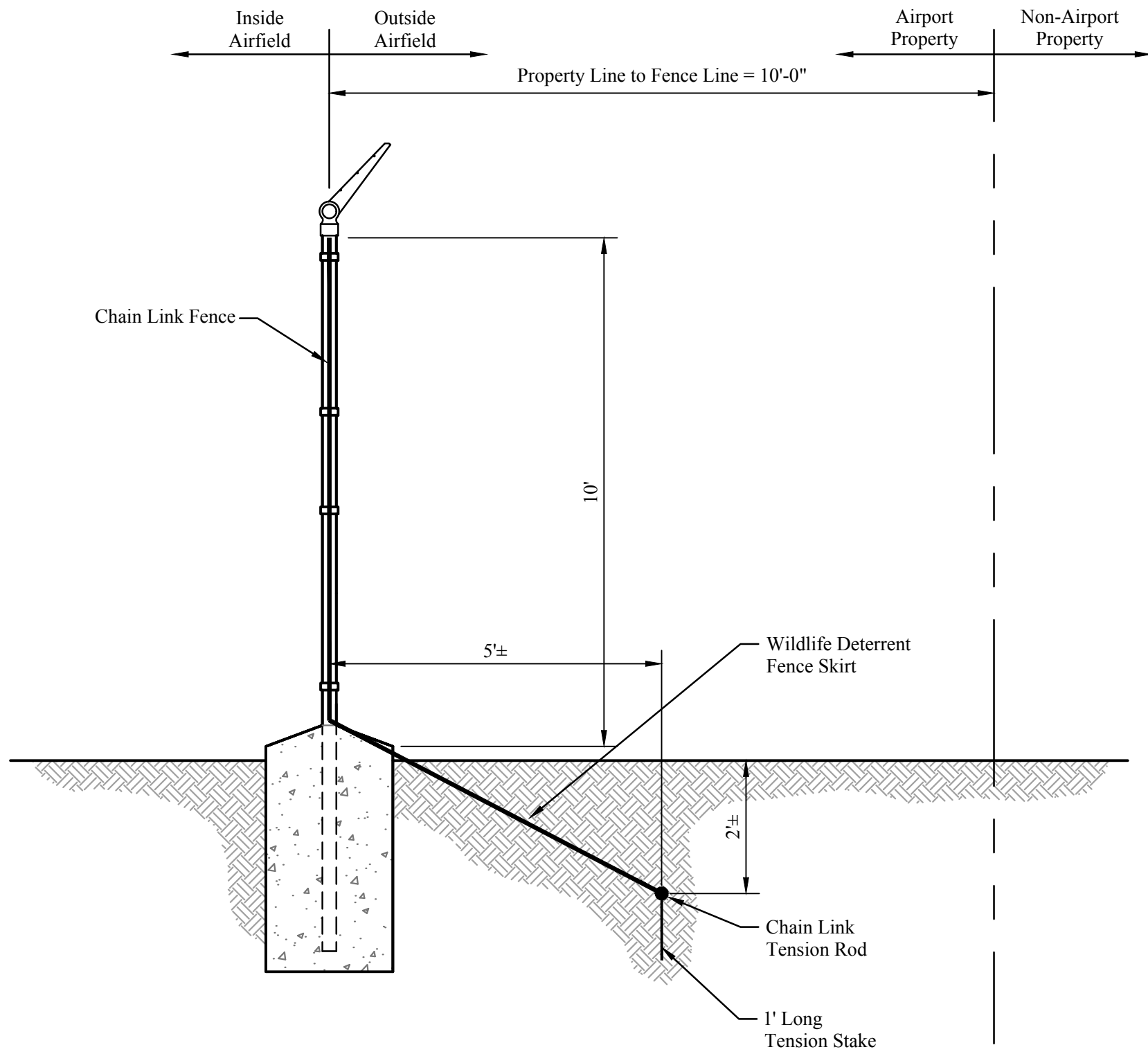
Detail "F" Swing Gate Fork Lock
No Scale



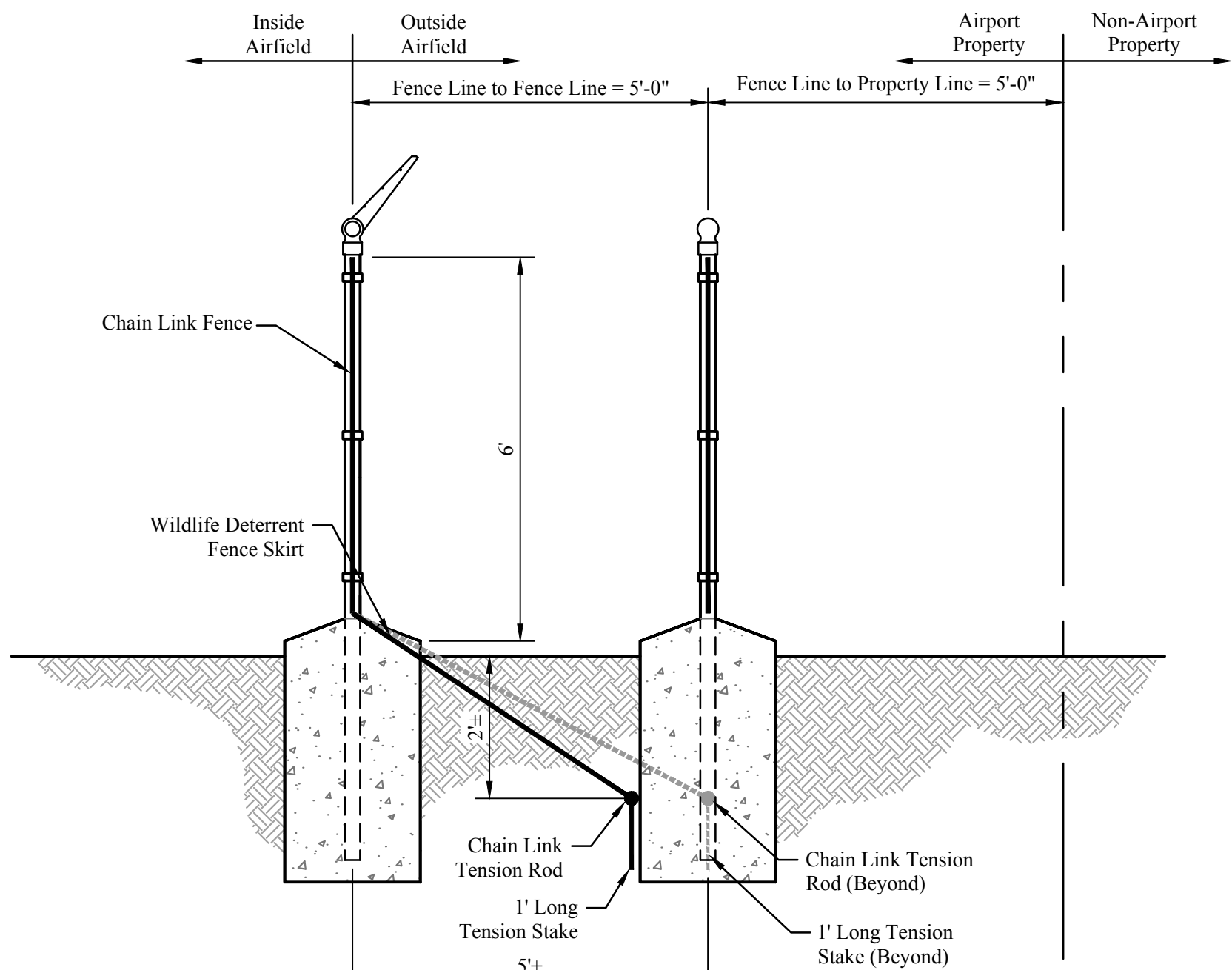
Detail "J" Upper/Lower Hinge Assembly



Detail "H" Gate Ground Strap Connection
No Scale

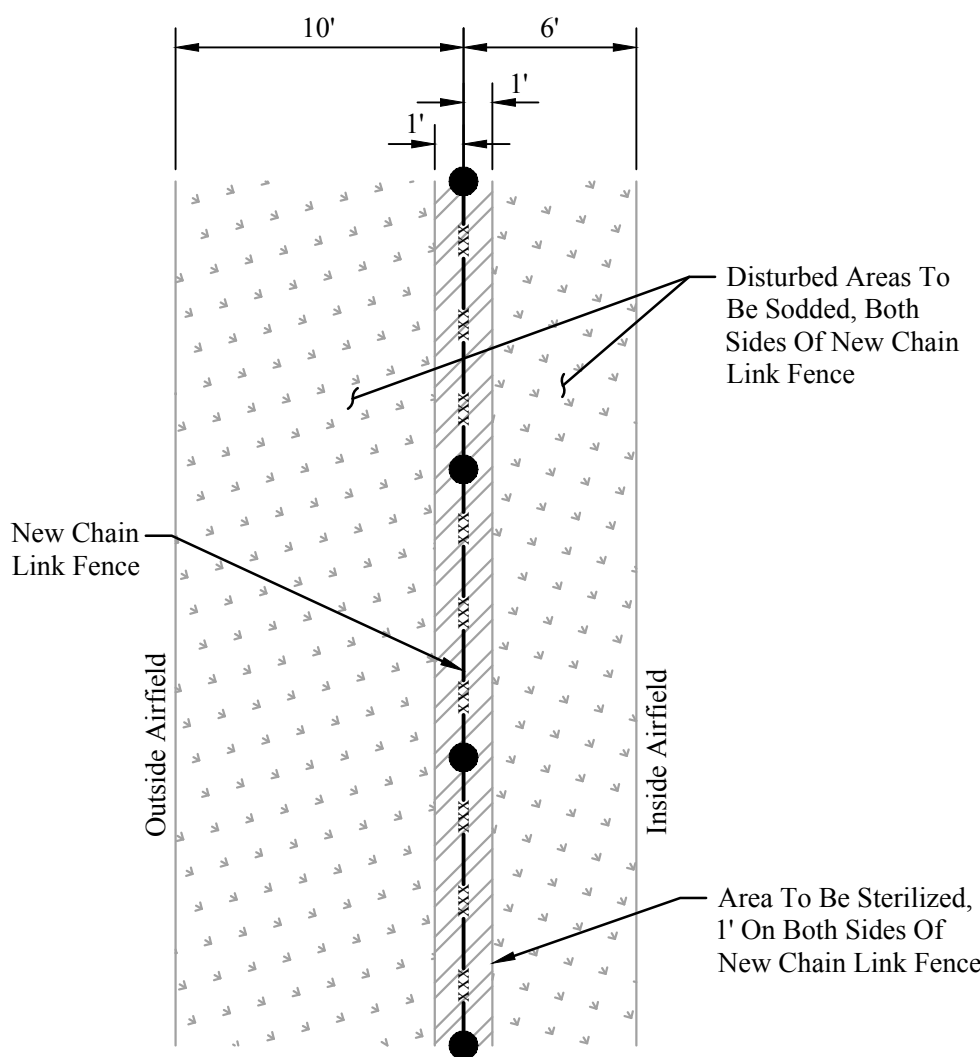


Security Fence w/ Deterrent Fence Skirt Detail "A"
No Scale

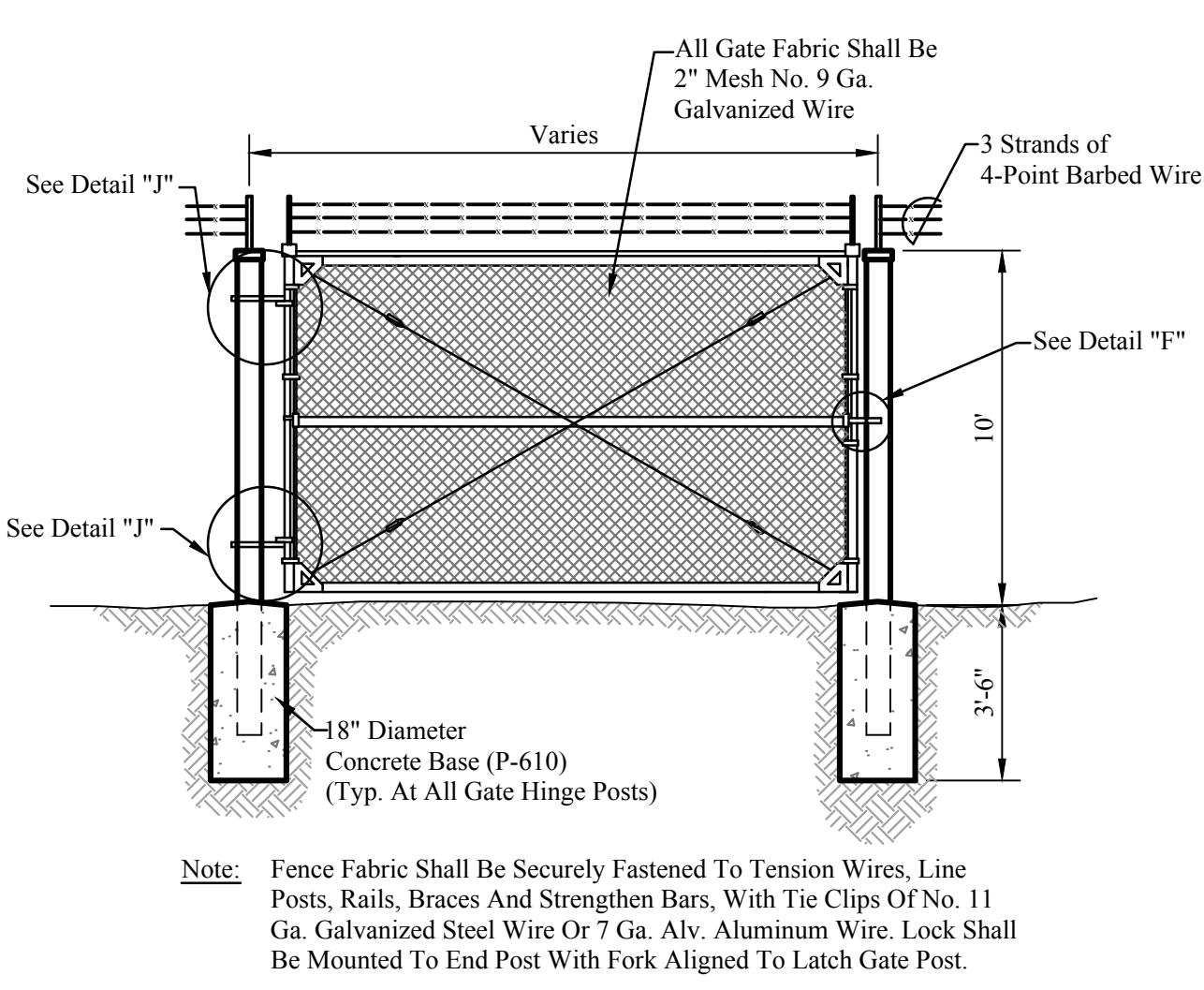


Security Fence w/ Deterrent Fence Skirt Detail "B"
No Scale

Note: Outer Fence Continues 10 Feet Beyond Inner Fence Limit.



Sodding Detail
No Scale



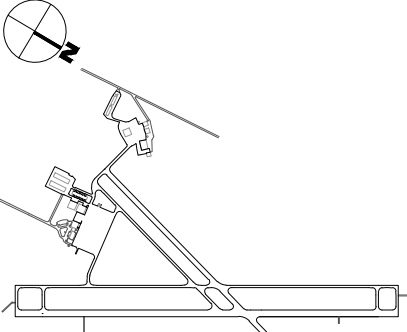
Typical Single Swing Chain Link Gate Detail
No Scale

Bid Set

Lawrence Municipal Airport
Lawrence, Kansas

Not For Construction

Key Plan

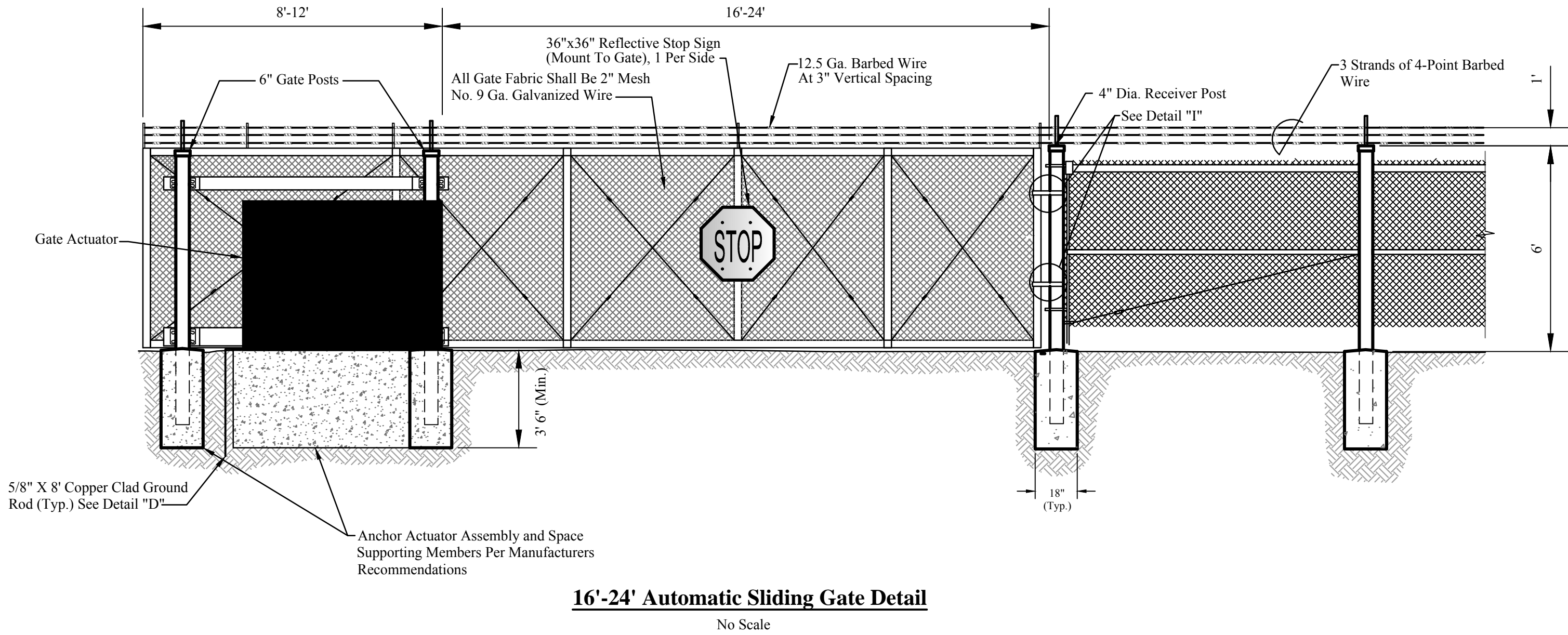
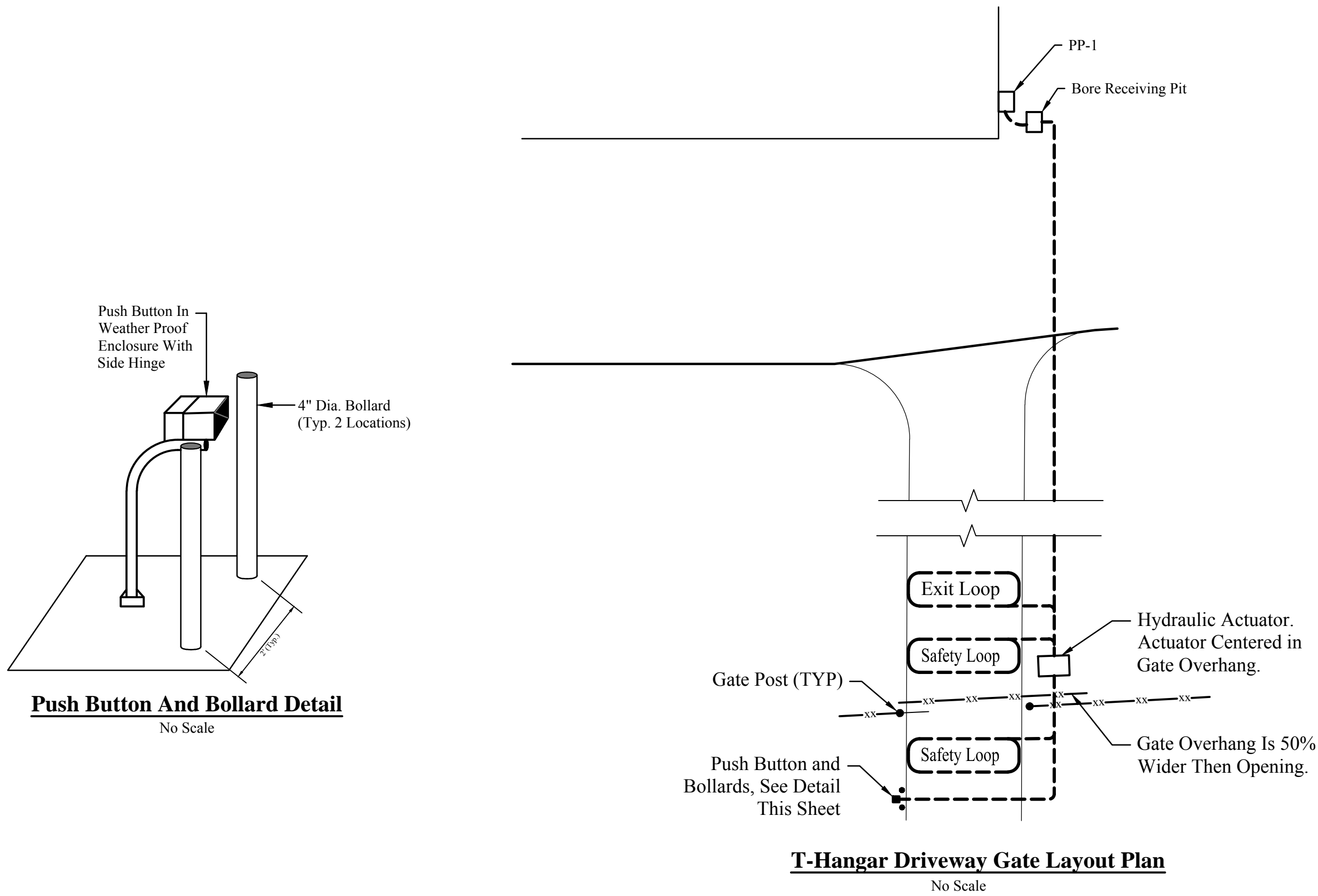


No.	Revision	Ckd	Date

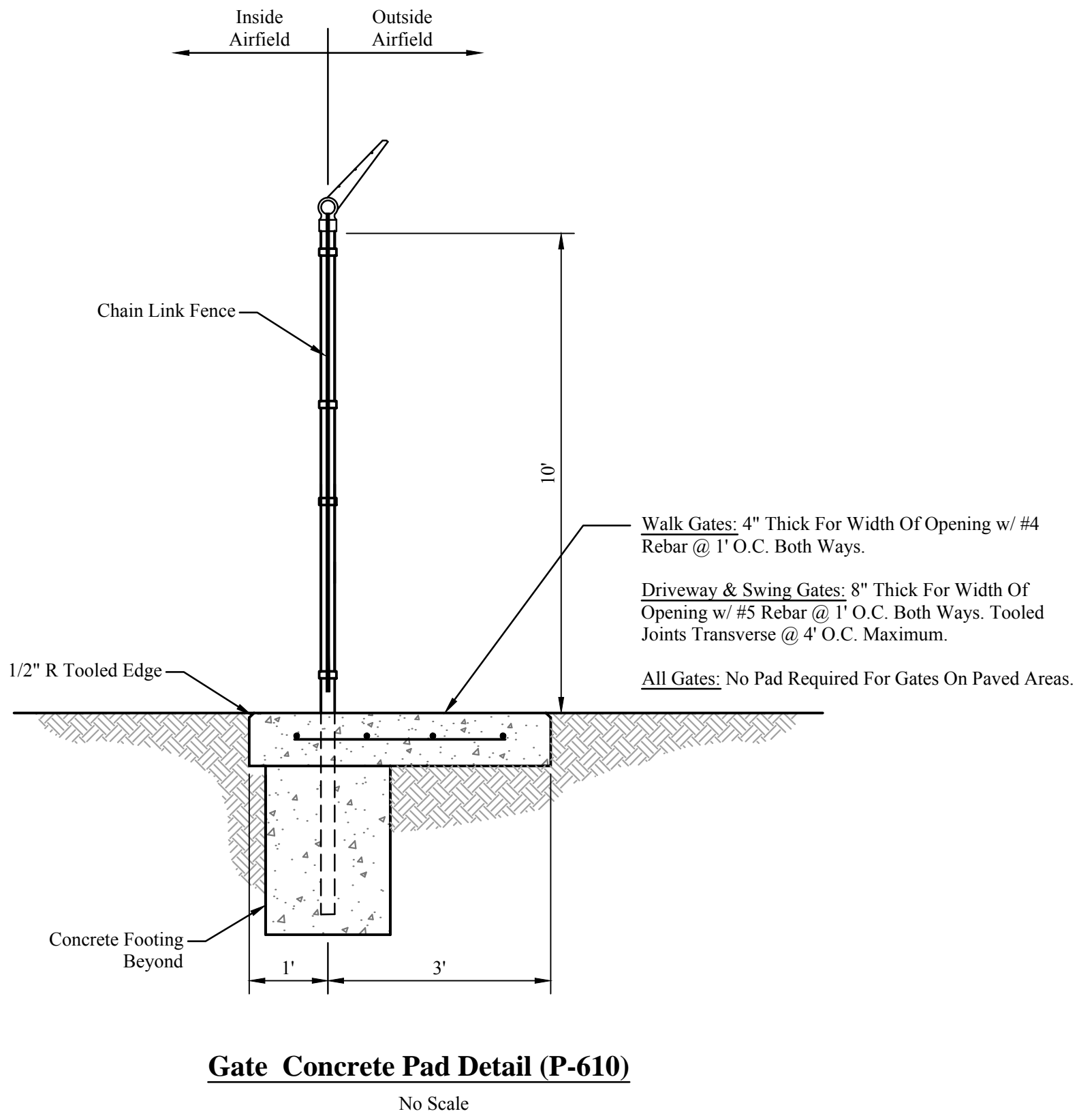
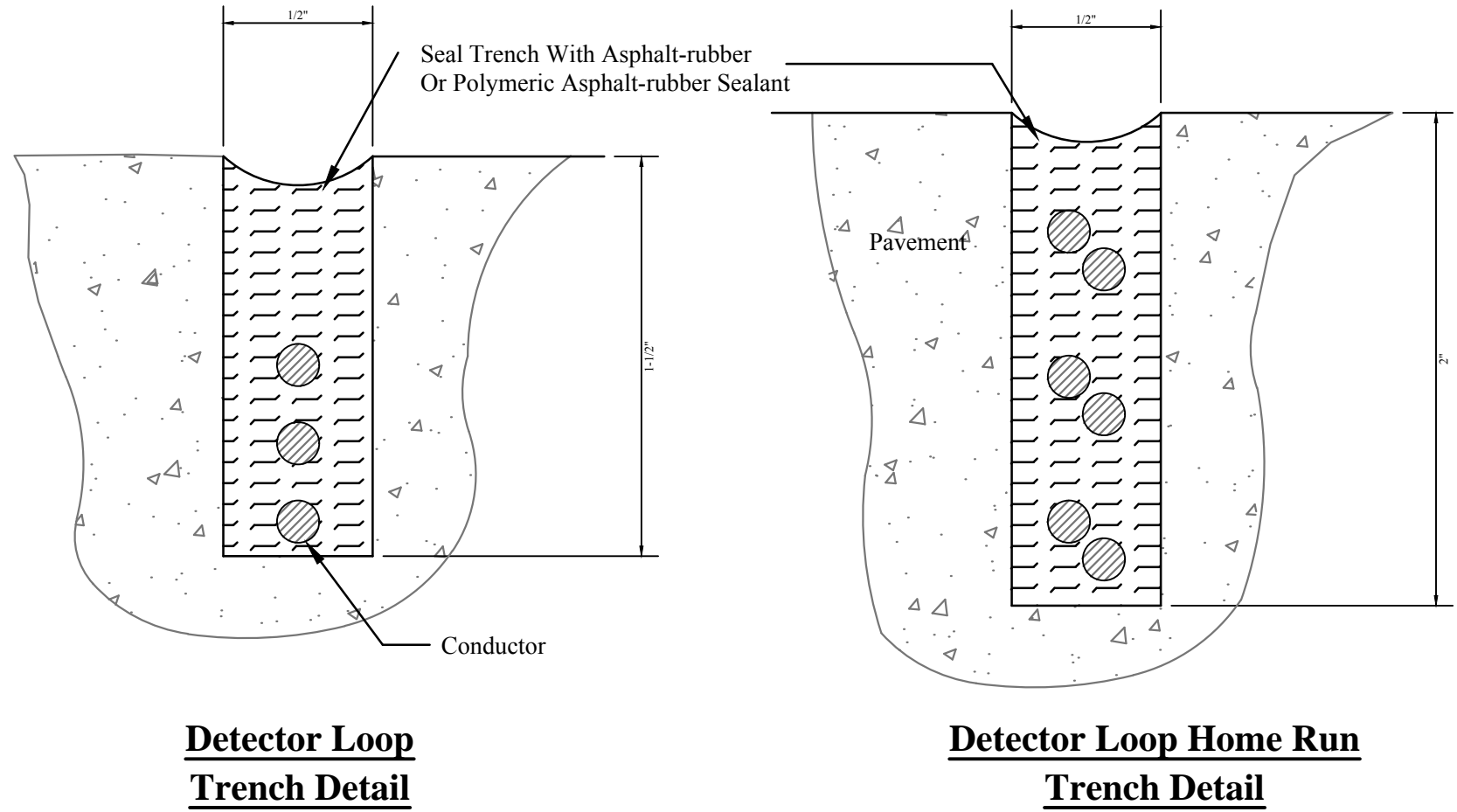
Project No:	LWC1488
Designed By:	CLK
Drawn By:	JKY
Approved By:	CLK
Date:	June 2017

Chain Link Fence Details I

Sheet:



Note: Manuel Sliding Gates Omit Actuator Controls And Add Lock Mechanism

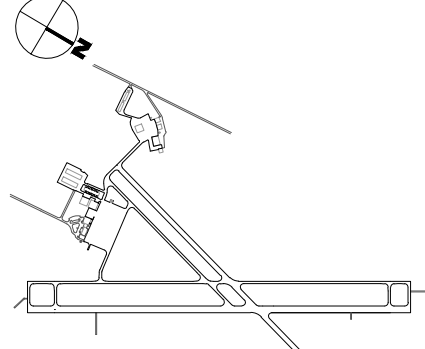


Bid Set

Lawrence Municipal Airport
Lawrence, Kansas

Not For Construction

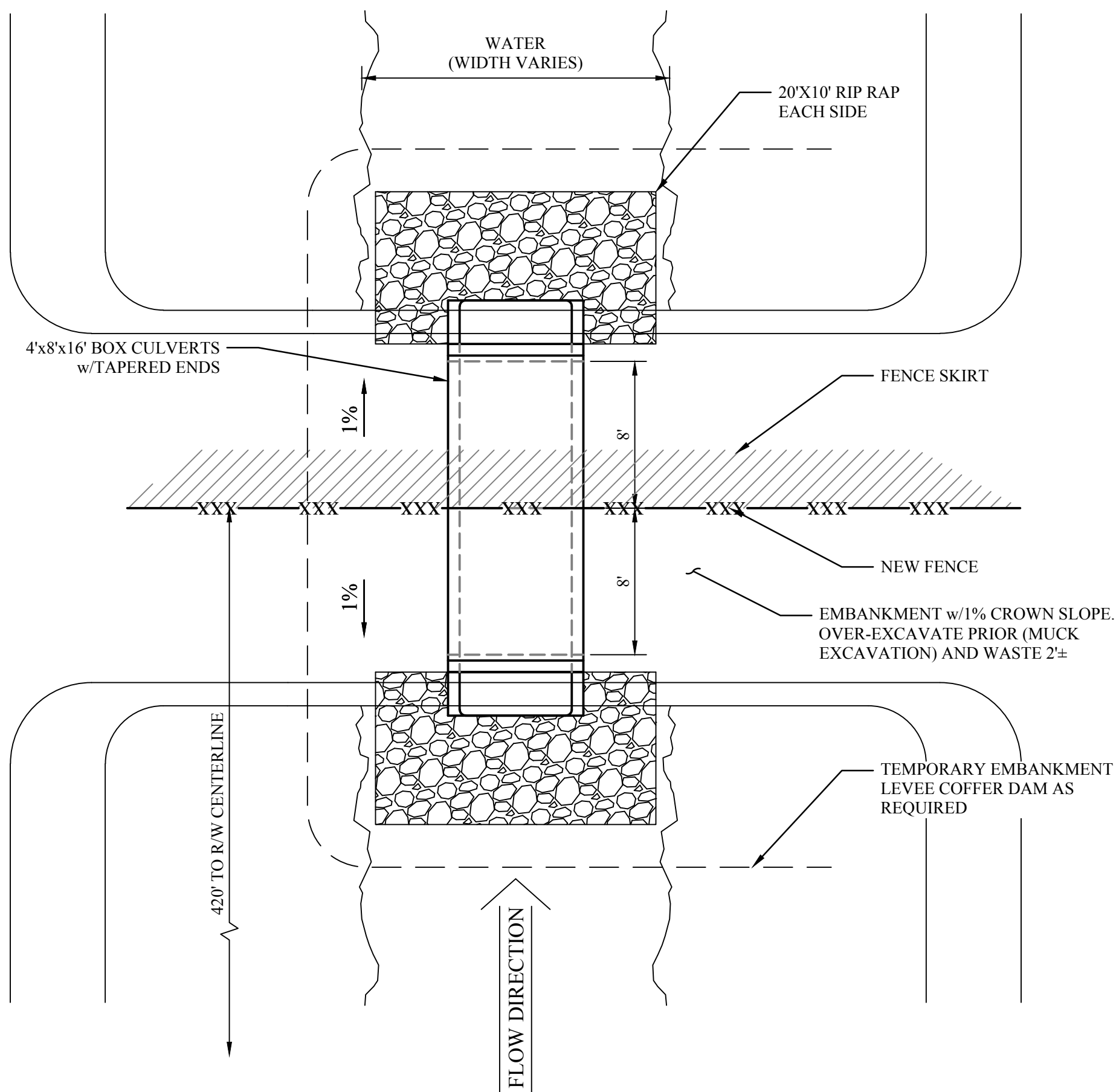
Key Plan



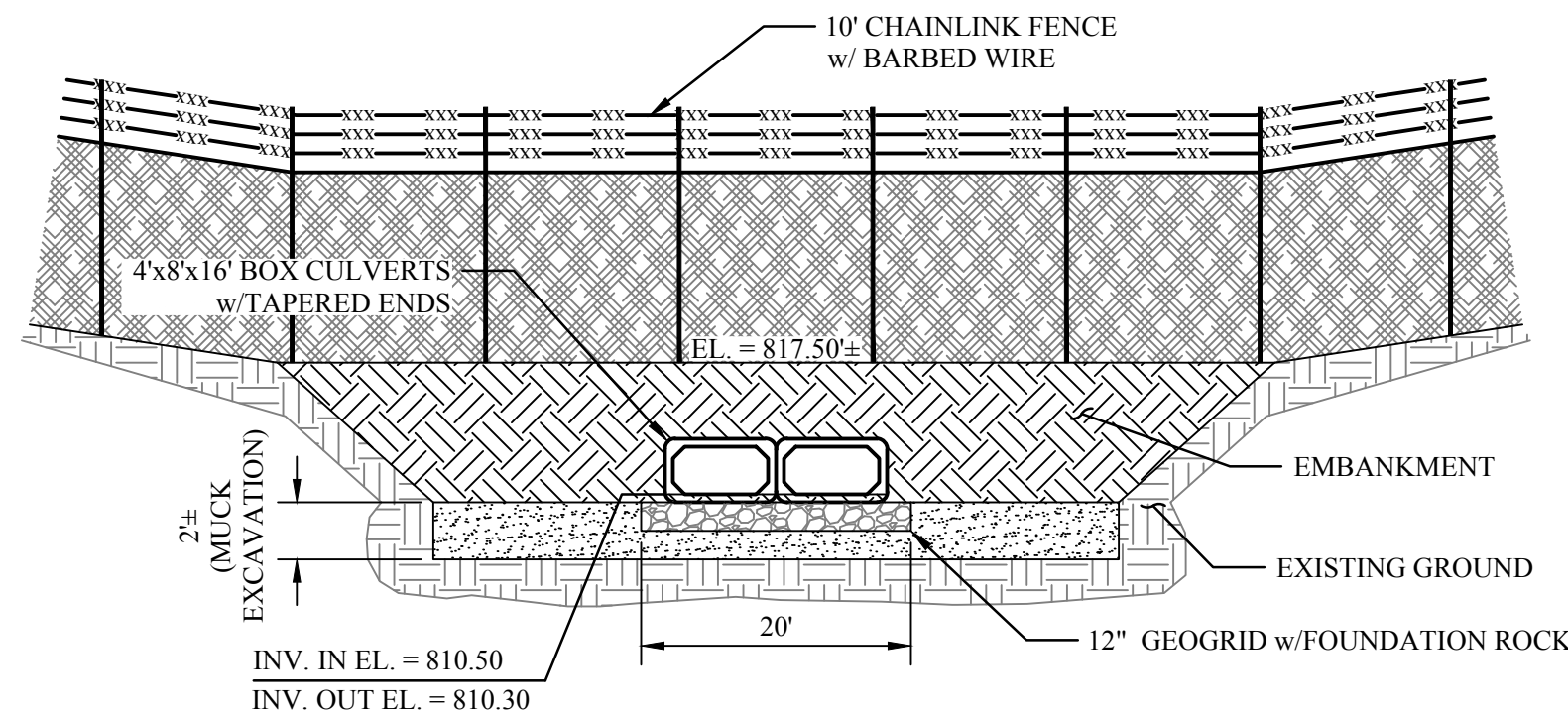
No.	Revision	Ckd	Date

Project No:	LWC1488
Designed By:	CLK
Drawn By:	JKY
Approved By:	CLK
Date:	June 2017

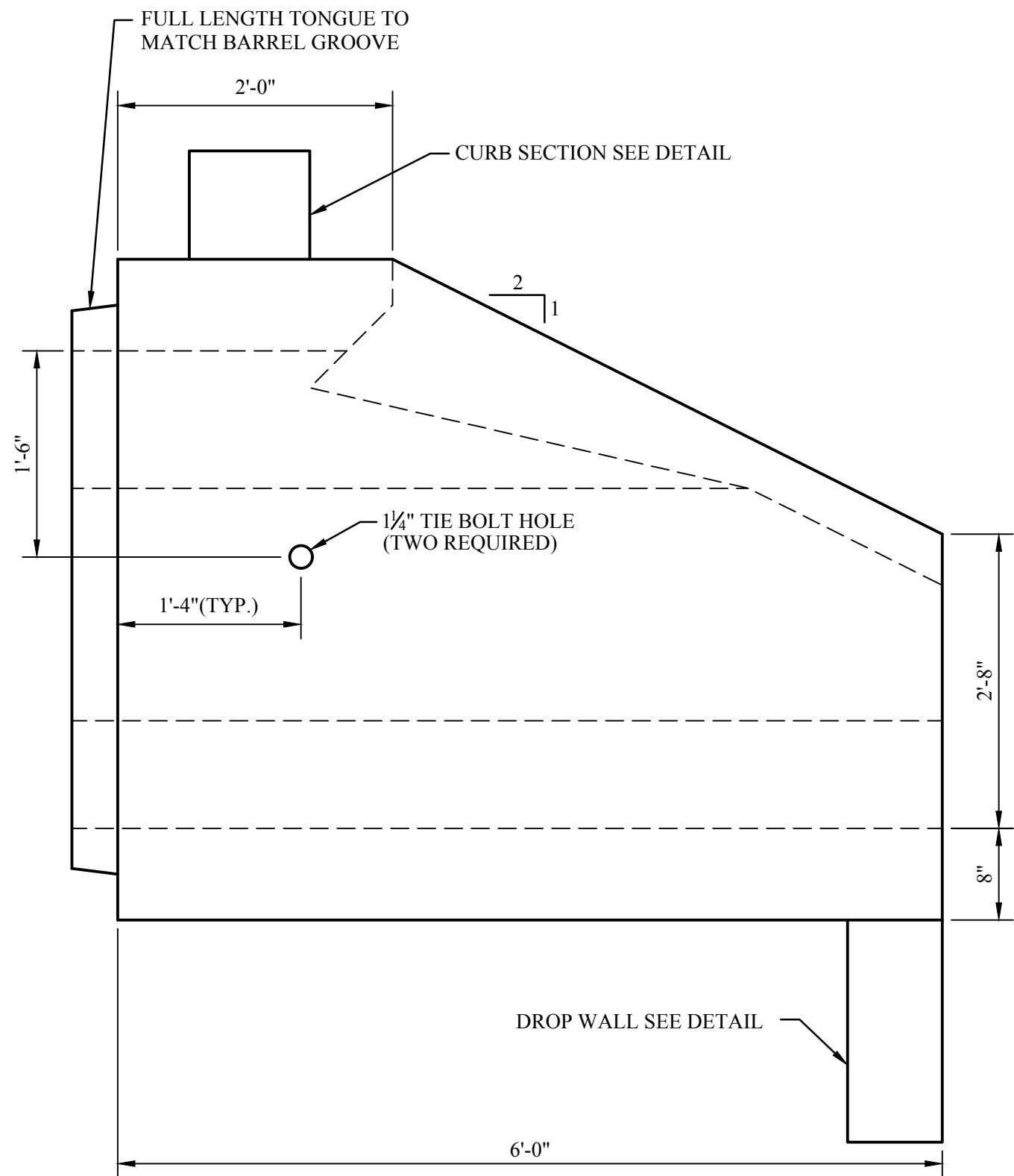
Chain Link Fence Details II



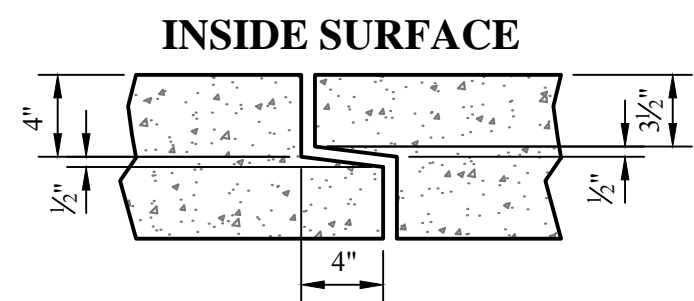
CROSSING PLAN VIEW
NO SCALE



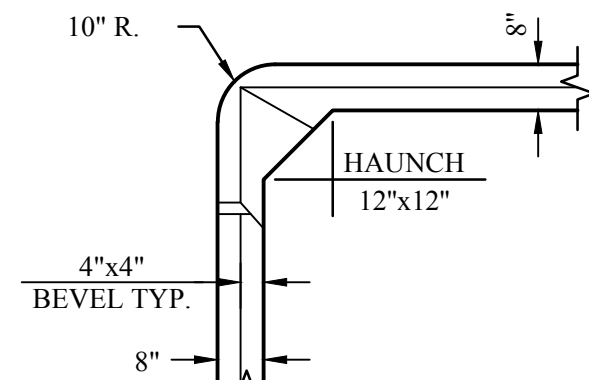
CROSS SECTION
NO SCALE



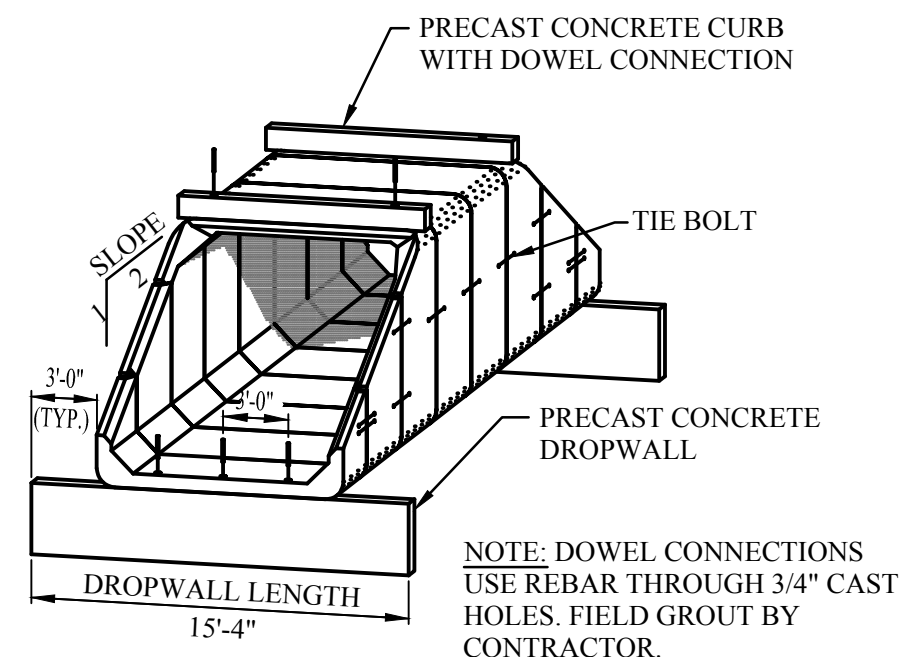
SLOPED END SECTION SIDE VIEW
NO SCALE



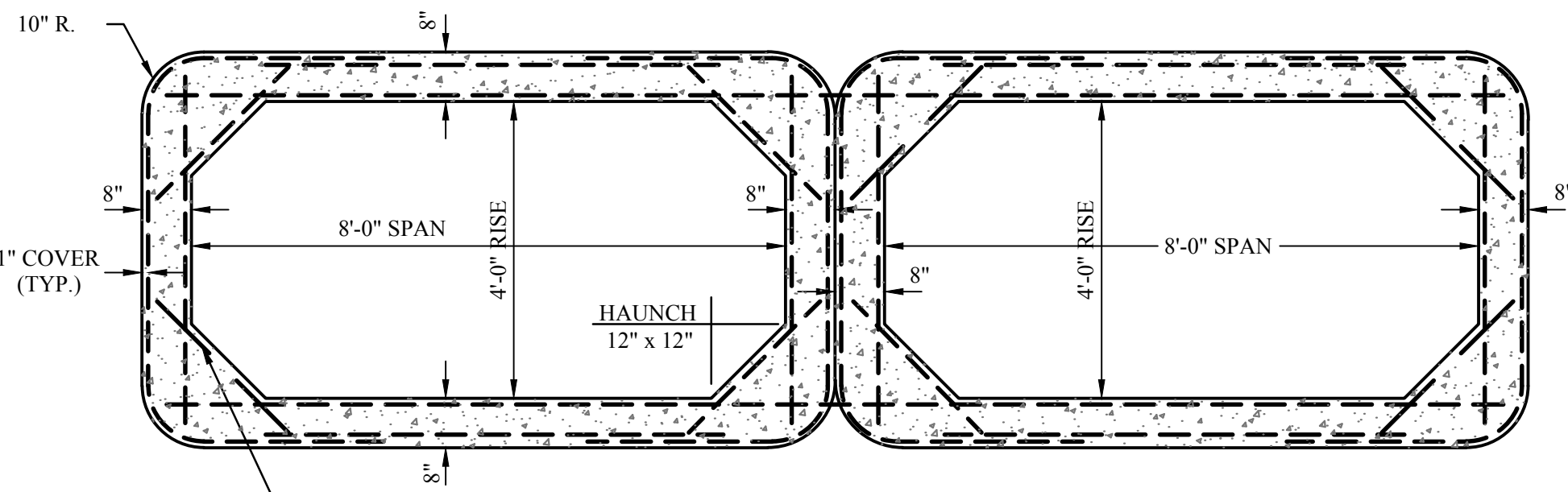
TYPICAL JOINT DETAIL
NO SCALE



CORNER DETAIL
NO SCALE

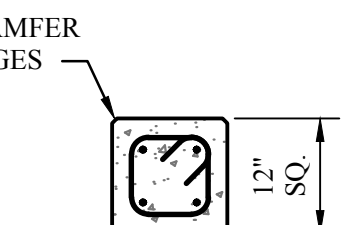


TYPICAL ASSEMBLY

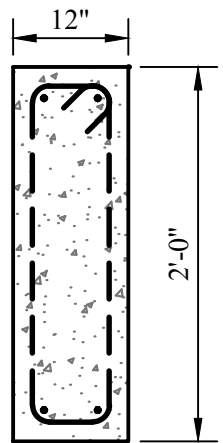


SECTION VIEW
NO SCALE

NOTE: THESE DETAILS ARE FOR A SINGLE CELL BOX CULVERT FROM THE K.C. CONCRETE PIPE COPMANY. THE CONTRACTOR MAY SUBSTITUTE AN EQUAL CULVERT IF APPROVED BY THE ENGINEER.



CURB SECTION VIEW



DROPWALL SECTION VIEW

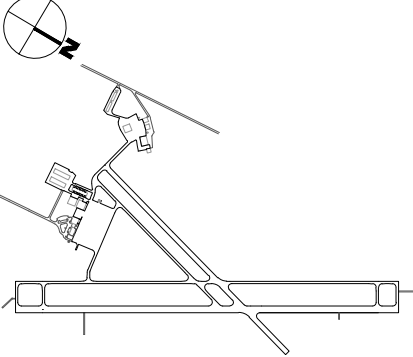
- Notes:**
1. Install vertical trash grate on each box entrance. Hinge at top for cleaning. Vertical bars 2" square tubing at 10" O.C., frame to be 2 1/2" square tubing.
 2. Install vertical animal grate on each box exit. Hinge at top for cleaning. Vertical bars to be 1 1/4" square tubing at 6" O.C.. Frame to be 2" square tubing.
 3. Install similar animal grate to entrance on existing RCP drain lines at Airport Road. 36" Diameter.
 4. Install similar grates to two existing 24" RCP drain lines along SW fence line

Bid Set

Lawrence Municipal Airport
Lawrence, Kansas

Not For Construction

Key Plan



No.	Revision	Ckd	Date
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Project No:	LWC1488
Designed By:	CLK
Drawn By:	JKY
Approved By:	CLK
Date:	June 2017

Ox Bow Crossing Details

June 23, 2017

Lawrence - Douglas Co Metropolitan Planning Commission;

Re: SP-17-00236

We received your letter of May 4, 2017.
My wife Dorothy and I own a nearby
parcel of land under Dorothy Congrone Trust.

Although the Proposed Wildlife Hazard
Fence does not affect our property, I
am submitting a comment as a
concerned tax payer and owners of farmland.
A few years ago there was a big outcry
from "concerned citizens" who opposed any
development that would take "precious
farmland" out of ag production. Where
are these folks now?

Perhaps a fence around the runway
can be justified. However, I do not see
any benefit from fencing land that is not
near a runway.

I especially question the need

of fencing south of Highway 24. It is obvious that this is not necessary. In addition there would be gaps in the fence at the two highway crossings.

Jim Congrove

Jim Congrove

1834 East 1700 Rd

Lawrence, Ks 66044

Jcongrove@aol.com

785-843-4015 home phone

PLANNING COMMISSION REPORT
Regular Agenda - Public Hearing Item

PC Staff Report
06/28/2017

ITEM NO. 3 RS5 TO RS7; 1.13 ACRES; 309, 321, 325, 331 INDIANA ST (BJP)

Z-17-00217: Consider a request to rezone approximately 1.13 acres from RS5 (Single-Dwelling Residential) District to RS7 (Single-Dwelling Residential) District, located at 309, 321, 325, and 331 Indiana St. Submitted by Summer Wedermyer on behalf of Philip R Jones, Jennifer M Padilla, Nathan R Littlejohn III, Lynette Littlejohn, Emily C H Hensley, Nate Wedermyer, and Summer Wedermyer, property owners of record.

STAFF RECOMMENDATION: Staff recommends approval of the request to rezone approximately 1.13 acres from RS5 (Single-Dwelling Residential) District to RS7 (Single-Dwelling Residential) District based on the findings presented in the staff report and forwarding it to the City Commission with a recommendation for approval.

Reason for Request: *"Request zoning from single dwelling residential district to the same district (RS7) to allow possible future accessory dwelling units on lots that meet the minimum requirement for RS7. Also to preserve the historic nature of the larger platted lots."*

KEY POINTS

- Request includes 4 existing parcels containing 8 platted lots. No change in the lot configuration is proposed.

ASSOCIATED CASES/OTHER ACTION REQUIRED

- DR-17-00226; Rezoning; State Law Review. This item was approved by the Historic Resources Commission on June 15, 2017.
- DR-17-00227; 331 Indiana Street; Remodel and New Addition; Demolition and New Construction of Accessory Structure; State Law Review and Certificate of Appropriateness. This item was approved by the Historic Resources Commission on June 15, 2017.

PLANS AND STUDIES REQUIRED

- *Traffic Study* – Not required for rezoning
- *Downstream Sanitary Sewer Analysis* – Not required for rezoning
- *Drainage Study* – Not required for rezoning
- *Retail Market Study* – Not applicable to residential request

ATTACHMENTS

- None

PUBLIC COMMENT RECEIVED PRIOR TO PRINTING

- Staff received a few phone calls from neighborhood residents who had questions about the purpose of the rezoning.

Project Summary:

Proposed request is for rezoning platted lots located along the west side of Indiana Street to allow for the potential development of *Accessory Dwelling Units* (ADU). This is a permitted use in the RS7 District, but not in the RS5 District.

The rezoning request was initially sought by the property owners of 331 Indiana Street for the purpose of constructing an ADU on their property. To prevent a spot zoning situation, the owners reached out to the property owners to the north who also owned larger parcels to see if they would like to be included in the rezoning request. Since the rezoning application was submitted,

the property owners of 331 Indiana have decided not to move forward with construction of an ADU and instead build a garage. However, there is still interest in pursuing the rezoning to allow for the development of ADUs on the subject properties in the future if desired.

1. CONFORMANCE WITH THE COMPREHENSIVE PLAN

The following section of Horizon 2020 relates to this rezoning request (staff comments are in italics):

Chapter 5 – Residential Land Use:

"A mixture of housing types, styles and economic levels should be encouraged for new residential and infill developments."

"The character and appearance of existing residential neighborhoods should be protected and enhanced. Infill development, rehabilitation or reconstruction should reflect architectural qualities and styles of existing neighborhoods."

The intent of the rezoning request is to permit the possible construction of Accessory Dwelling Units. As stated in the Land Development Code, the purpose of this housing type is to create new housing units while preserving the look and scale of single-family neighborhoods. ADUs also provide a mix of housing types that responds to changing family needs, and can provide a broader range of accessible and more affordable housing.

Staff Finding – The request for RS7 zoning is consistent with Chapter 5 of the Comprehensive Plan.

2. ZONING AND USE OF NEARBY PROPERTY, INCLUDING OVERLAY ZONING

Current Zoning and Land Use: RS5 (Single-Dwelling Residential) District; *Detached Dwellings.*

Surrounding Zoning and Land Use: RS5 (Single-Dwelling Residential) District to the north, south and west; *Detached Dwellings.*

RS7 (Single-Dwelling Residential) District to the east; *Detached Dwellings and Duplex.*

Staff Finding – The subject properties will be zoned similar to the residential properties on the east side of Indiana Street. The land uses surrounding the subject properties is primarily single-family residential. The existing land use of the subject properties is also single-family residential. The rezoning request does not represent a change in the existing land use.

3. CHARACTER OF THE NEIGHBORHOOD

Applicant's Response: *"The neighborhood is the historic Pinckney II and is National Register of Historic Places."*

The subject properties are located in the Pinckney neighborhood and are contributing structures in the Pinckney II Historic District. The majority of the residential development in the neighborhood includes single-family homes. There are no differences in the land uses permitted in the RS5 District and the RS7 District, with the exception of *Accessory Dwelling Units* (ADU). Section 20-534 of the Land Development Code provides regulations for the development of an ADU that will

ensure compatibility with the neighborhood. These regulations include, but are not limited to, size, appearance, parking, and occupancy.

Staff Finding – The proposed request does not substantially change or alter the character of the immediate neighborhood.

4. PLANS FOR THE AREA OR NEIGHBORHOOD, AS REFLECTED IN ADOPTED AREA AND/OR SECTOR PLANS INCLUDING THE PROPERTY OR ADJOINING PROPERTY

Staff Finding – The subject properties are located within the boundaries of the Pinckney Neighborhood Association. A portion of the neighborhood is included in the HOP District Plan, however, the subject properties do not fall within the boundaries of that plan. The boundaries of the HOP District Plan are W 5th Street to the north, W 7th Street to the south, California Street to the west, and Alabama Street to the east.

5. SUITABILITY OF SUBJECT PROPERTY FOR THE USES TO WHICH IT HAS BEEN RESTRICTED UNDER THE EXISTING ZONING REGULATIONS

Applicant's Response: *"The current zoning does not allow for accessory dwelling units but the current lot sizes meet the minimum requirements."*

The rezoning request was initiated to facilitate the construction of an *Accessory Dwelling Unit* (ADU). This housing type is not permitted under the current zoning of RS5. The subject properties are larger parcels with lot areas that meet the minimum lot area requirements of the RS7 District (7,000 square feet). Given the larger parcel sizes, the subject properties are well suited for the potential development of ADUs.

Staff Finding – The subject properties are suitably zoned for their existing land use. They are not, however, suitably zoned for the development of *Accessory Dwelling Units*.

6. LENGTH OF TIME SUBJECT PROPERTY HAS REMAINED VACANT AS ZONED

Staff Finding – The subject properties are developed with residential structures which were built between the late 1800s and early 1900s.

7. EXTENT TO WHICH APPROVING THE REZONING WILL DETRIMENTALLY AFFECT NEARBY PROPERTIES

Applicant's Response: *"Does not impact surrounding properties because it is the same zoning district. Adjacent properties (east) are currently zoned RS7."*

There are no differences in the land uses permitted in the RS5 District and the RS7 District, with the exception of *Accessory Dwelling Units* (ADU). Section 20-534 of the Land Development Code provides regulations for the development of an ADU that will ensure compatibility with the neighborhood. These regulations include, but are not limited to, size, appearance, parking, and occupancy.

The subject properties are also contributing structures in the Pinckney II Historic District. Development of an ADU would require review and approval by the Historic Resources Commission.

Staff Finding – There are no anticipated detrimental affects for nearby property.

8. THE GAIN, IF ANY, TO THE PUBLIC HEALTH, SAFETY AND WELFARE DUE TO THE DENIAL OF THE APPLICATION, AS COMPARED TO THE HARDSHIP IMPOSED UPON THE LANDOWNER, IF ANY, AS A RESULT OF DENIAL OF THE APPLICATION

Applicant's Response: *"No gain since it is the same zoning district. No hardship to landowner if it is not approved for same reason."*

Evaluation of this criterion includes weighing the benefits to the public versus the benefit of the owners of the subject property. Benefits are measured based on anticipated impacts of the rezoning request on the public health, safety, and welfare.

The subject properties are currently developed with residential structures. Regardless of the outcome of the rezoning request, there would be no change to the existing primary land use of the subject properties (*Detached Dwellings*). If the rezoning request is denied, development of *Accessory Dwelling Units* on the subject properties would not be permitted.

Development of ADUs on larger parcels provide an infill opportunity to expand housing choices in the neighborhood.

Staff Finding – There would be little gain to the public and there would be a hardship to the landowners in denial of the rezoning request.

9. PROFESSIONAL STAFF RECOMMENDATION

Staff recommends approval of the request to rezone approximately 1.13 acres from RS5 District to RS7 District as it is an appropriate zoning district for the subject properties.



Z-17-00217: Rezoning approximately 1.13 acres from RS5 (Single-Dwelling Residential) District to RS7 (Single-Dwelling Residential) District, located at 309, 321, 325, and 331 Indiana St.

Memorandum

City of Lawrence

Planning and Development Services

TO: Planning Commission

FROM: Planning Staff

CC: Scott McCullough, Planning and Development Services Director

Date: June 08, 2017

RE: **Item No. 4:** MS-17-00251 – Variance associated with Minor Subdivision for A Replat of Lot 4 of Lawrence Industrial Park No. 2, submitted by CFS Engineers for Consolidated Properties Inc. of Lawrence, property owner of record.

Variance requested: Reduction of Right-Of-Way for a Principle Arterial Street from 150' to 100'.

Attachment A: Minor Subdivision MS-17-00251

Minor Subdivisions are processed administratively but Planning Commission approval is required for variances from the Subdivision Design Standards. The Minor Subdivision (MS-17-00251) is being processed and requires Planning Commission approval of the reduced right-of-way along Haskell Avenue, a Principal Arterial Street. A copy of the Minor Subdivision is included with this memo for context; no other action is required by the Planning Commission related to the proposed Minor Subdivision.

The Subdivision Regulations state that an applicant may request a variance from the Design Standards in the Regulations in accordance with the variance procedures outlined in Section 20-813(g). This section lists the criteria that must be met in order for a variance to be approved. The requested variance is evaluated for compliance with the approval criteria below.

VARIANCE: Reduction in the width of right-of-way from 150' to 100' as required for a principal arterial street (Haskell Avenue) per Section 20-810 (e)(5).

The standard for the required right-of-way width changed in 2006 from 100' to 150' with the adoption of the Land Development Code. This property is located on the northwest corner of Haskell Avenue and E. 27th Street. The property to the East of Haskell Avenue is multi and single dwelling residential. Property to the south of E. 27th Street is light warehouse and industrial uses, and property immediately to the west is vacant, zoned IG (General Industrial) District.

This segment of Haskell Avenue is variable in width. The applicant proposes no additional dedication of Right-of-Way, keeping the ROW width at 100'. As noted in previous reports, the 150' of required right-of-way is more applicable to new greenfield development rather than existing corridors.

Criteria 1: Strict application of these regulations will create an unnecessary hardship upon the subdivider.

Development along this segment of the Haskell Avenue corridor includes both residential and non-residential uses with building and parking lot setbacks based on the existing property line/right-of-way line configuration.

STAFF FINDING: Strict application of the regulations would limit the owner's ability to develop the property based on an existing development pattern in the immediate area that generally recognizes a 100' right-of-way width along the corridor. Granting this requested variance from the required right-of-way dedication is not opposed to the purpose and intent of the regulations.

Criteria 2: The proposed variance is in harmony with the intended purpose of these regulations.

This design standard was adopted in 2006 with the Land Development Code. The wider right-of-width accommodates street design with boulevards, multiple lanes, and amenities that may or may not exist along developed street segments within the community. A similar variance has been granted for other projects located along developed urban corridors that are designated arterial streets. Some examples include:

1. PP-15-00067 Dream Haven regarding Peterson Road (4/20/15)
2. PP-14-00303 Schwegler Addition regarding Ousdahl Road, a collector street (9/22/15)
3. PP-13-00338 Menards Addition regarding 31st Street (11/8/13 and 10/21/13)
4. PP-13-00352 Burrough's Creek Addition regarding Haskell Avenue (10/21/13)
5. MS-15-00096 Bella Sera at the Preserve (5/18/15)
6. PP-16-00304 Rockeldge Addition No. 2 (9/26/16)

The proposed request does not alter the development pattern. The intent of the land division is to create two separate lots, one containing the industrial building and the other containing the residential building (NC-17-00252 for a non-conforming use of a residence in an industrial zoned area) without changing the existing access locations. The change in design requirements in 2006 requires the applicant to seek a variance from this standard as part of the subdivision process – Minor Subdivision Approval.

Section 20-810(e)(1) provides general design criteria for streets. Subsection iii states "*Arterial and collector streets shall be laid-out, arranged, and designed in accordance with any adopted Major Thoroughfares Map or corridor plan.*" Haskell Avenue is identified as a "Principal Arterial Street" and is an existing street. The Lawrence Traffic Safety Commission has identified a need for geometric improvements.

STAFF FINDING: Granting this requested variance from the required right-of-way is not opposed to the purpose and intent of the regulations.

Criteria 3: The public health, safety, and welfare will be protected.

Haskell Avenue is a designated "Principal Arterial Street". Its current width includes 100' of public right-of-way along this property. The current subdivision regulations require "Principal Arterial Streets" to include 150' of right-of-way. The majority of the current right-of-way is an existing condition of the site.

STAFF FINDING: Granting this requested variance from the required right-of-way will not harm the public health, safety, or welfare. These public aspirations will continue to be protected though the planning of corridor improvements. The future dedication of an easement at the corner will accommodate intersection improvements in the future.

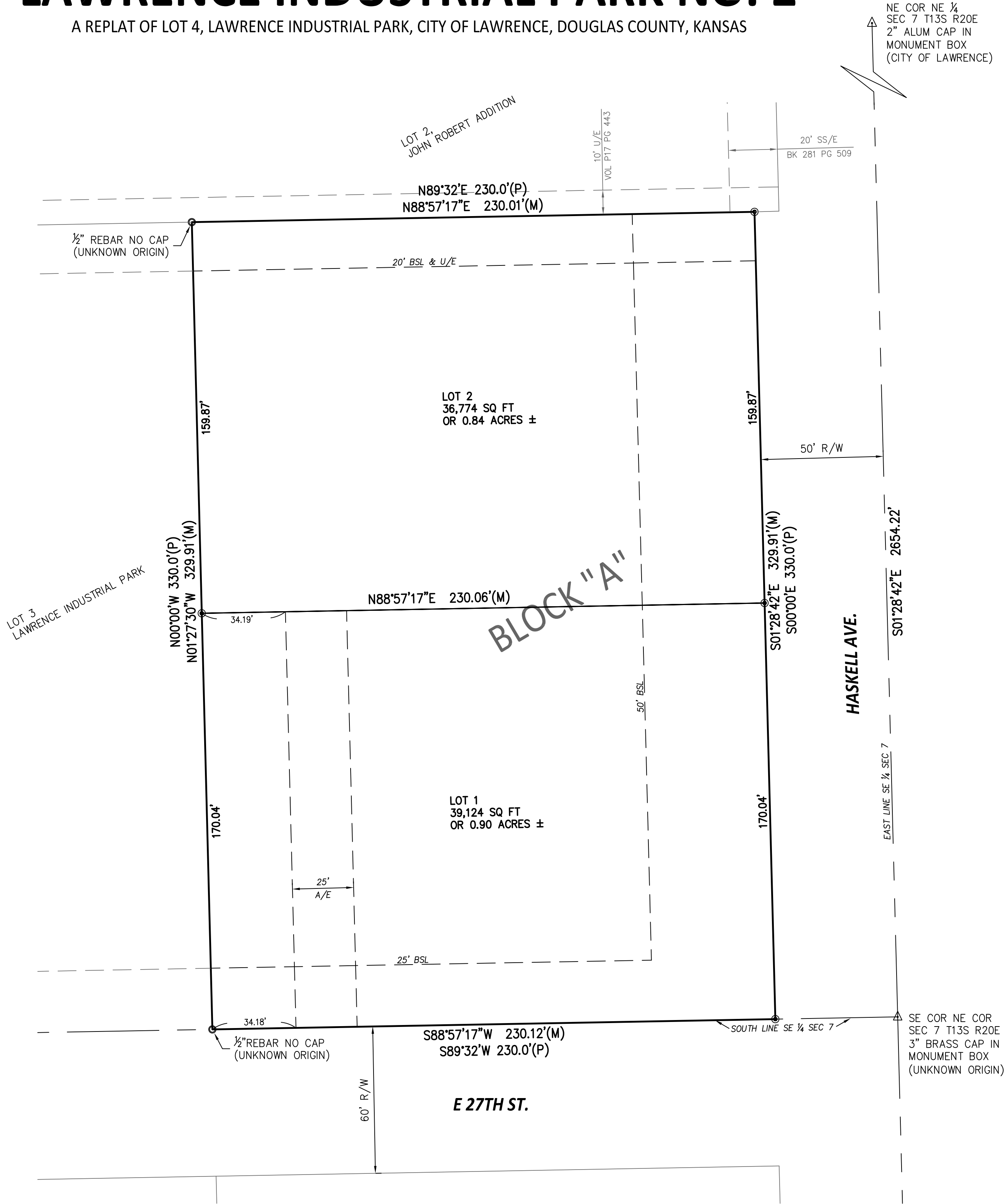
STAFF RECOMMENDATION

Approval of the variance requested for a Minor Subdivision, MS-17-00251, variance request to reduce the right-of-way from Section 20-810(a)(5) for a principal arterial street from 150' to 100' per section 20-813(g) of the Land Development Code for property located at 2465 Haskell Avenue.

MINOR SUBDIVISION

LAWRENCE INDUSTRIAL PARK NO. 2

A REPLAT OF LOT 4, LAWRENCE INDUSTRIAL PARK, CITY OF LAWRENCE, DOUGLAS COUNTY, KANSAS



LEGAL DESCRIPTION:

LOT 4, LAWRENCE INDUSTRIAL PARK, CITY OF LAWRENCE, DOUGLAS COUNTY KANSAS.

GENERAL NOTES:

- STREET TREES SHALL BE PROVIDED IN ACCORDANCE WITH THE MASTER STREET TREE PLAN FILED WITH THE DOUGLAS COUNTY REGISTER OF DEEDS AT BOOK _____ PAGE _____.
- SOILS INVESTIGATIONS SHALL BE PERFORMED BEFORE PRIMARY STRUCTURES ARE ERECTED ON LOTS WITH SLOPES GREATER THAN 3:1, OR NON-ENGINEERED FILL GREATER THAN 12 INCHES. A SOILS ENGINEER LICENSED BY THE STATE OF KANSAS SHALL PERFORM INVESTIGATIONS, AND A REPORT OF THE INVESTIGATION SHALL BE SUBMITTED TO THE CITY OF LAWRENCE CODES ENFORCEMENT DIVISION. OTHER LOTS MAY BE REQUIRED TO BE INVESTIGATED WHERE EXCAVATION REVEALS INDICATIONS OF UNSUITABLE CONDITIONS.
- THE CITY IS HEREBY GRANTED A TEMPORARY RIGHT OF ENTRY TO PLANT THE REQUIRED STREET TREES PURSUANT TO CHAPTER 20, ARTICLE 8, SECTION 20-811(G)(4) OF THE CITY SUBDIVISION REGULATIONS.
- ACCORDING TO "FIRM" MAP COMMUNITY PANEL NUMBER 20045C0186D EFFECTIVE AUG. 5TH, 2010, THIS PROPERTY LIES IN ZONE X; AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD.
- FURTHER DIVISION OR CONSOLIDATION OF ANY LOTS CONTAINED IN THIS MINOR SUBDIVISION/REPLAT IS PROHIBITED, AND SHALL BE PROCESSED AS A MAJOR SUBDIVISION UNLESS THE ACTION MEETS THE EXCEPTIONS NOTED IN SECTION 20-808(c)(5)(i).
- INTERIOR LOT CORNERS WILL BE SET UPON COMPLETION OF IMPROVEMENTS IN ACCORDANCE WITH SECTION 20-811(k).

SITE SUMMARY:

EXISTING LOT AREA: 1.75 ACRES ±

TOTAL NUMBER OF LOTS: 2

MINIMUM LOTS SIZE: 36,774 SQ. FT. ±

MAXIMUM LOT SIZE: 39,124 SQ. FT. ±

AVERAGE LOT SIZE: 37,949 SQ. FT. ±

CERTIFICATE OF SURVEYOR:

I HEREBY CERTIFY THAT THE PLATTED AREA SHOWN HEREON IS THE TRUE AND ACCURATE RESULTS OF A FIELD SURVEY DONE BY ME OR UNDER MY DIRECT SUPERVISION. THIS SURVEY CONFORMS TO THE KANSAS MINIMUM STANDARDS FOR BOUNDARY SURVEYS AND THAT IT REPRESENTS A CLOSED TRAVERSE. THE FIELD WORK WAS COMPLETED IN THE FIELD APRIL, 2017.

MARTIN G. LONG, P.S. 1081
CFS ENGINEERS, P.A.
2121 MOODIE ROAD, LAWRENCE, KS. 66044

DEDICATION:

BE IT KNOWN TO ALL MEN THAT I (WE) THE UNDERSIGNED OWNER(S) OF THE ABOVE DESCRIBED TRACT OF LAND HAVE HAD CAUSE FOR THE SAME TO BE SURVEYED AND PLATTED UNDER THE NAME LAWRENCE INDUSTRIAL PARK NO. 2 AND HAVE CAUSED THE SAME TO BE SUBDIVIDED INTO LOTS AS SHOWN AND FULLY DEFINED ON THIS PLAT. ALL STREETS, DRIVES, ROADS, ETC. SHOWN ON THIS PLAT AND NOT HERETOFORE DEDICATED TO THE CITY OF LAWRENCE ARE HEREBY SO DEDICATED. AN EASEMENT IS HEREBY DEDICATED TO THE CITY OF LAWRENCE AND PUBLIC UTILITY COMPANIES TO ENTER UPON, CONSTRUCT AND MAINTAIN UTILITIES UPON, OVER, AND UNDER THOSE AREAS OUTLINED ON THIS PLAT AS "UTILITY EASEMENT" OR "U/E". AN ACCESS EASEMENT OR "A/E" IS HEREBY DEDICATED TO OWNER(S) OF LOT 2, AND SHALL HAVE THE RIGHT OF INGRESS AND EGRESS UPON THE EASEMENT FOR ACCESS.

DOUG COMPTON - OWNER
CONSOLIDATED PROPERTIES OF LAWRENCE INC.

ACKNOWLEDGEMENT:

STATE OF KANSAS SS)
COUNTY OF DOUGLAS SS)

BE IT REMEMBERED, THAT ON THIS _____ DAY OF _____ A.D., 2017, BEFORE ME THE UNDERSIGNED, A NOTARY PUBLIC, IN AND FOR THE COUNTY AND STATE AFORESAID, CAME DOUG COMPTON, OWNER, CONSOLIDATED PROPERTIES OF LAWRENCE INC., WHO IS PERSONALLY KNOWN TO ME TO BE SAME PERSON(S) WHO EXECUTED THE WITHIN INSTRUMENT OF WRITING AND SUCH PERSON(S) DULY ACKNOWLEDGED THE EXECUTION OF THE SAME.

IN TESTIMONY THEREOF, I HAVE HEREUNTO SET MY HAND, AND AFFIXED MY SEAL THE DAY AND YEAR LAST ABOVE MENTIONED.

MY COMMISSION EXPIRES _____	NOTARY PUBLIC _____
	NOTARY PUBLIC PRINTED NAME _____

ENDORSEMENTS:

APPROVED AS A MINOR SUBDIVISION UNDER THE SUBDIVISION REGULATIONS OF THE CITY OF LAWRENCE AND THE UNINCORPORATED AREA OF DOUGLAS COUNTY.

SCOTT MCCULLOUGH - PLANNING DIRECTOR _____ DATE _____

EASEMENTS ACCEPTED BY CITY COMMISSION, LAWRENCE, KANSAS.

LESLIE SODEN - MAYOR _____ DATE _____

FILING RECORD:

STATE OF KANSAS SS)
COUNTY OF DOUGLAS SS)

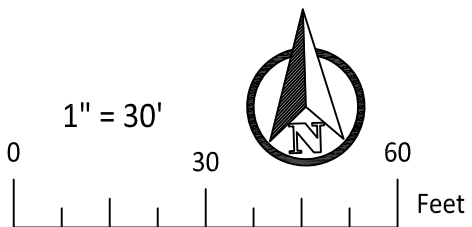
THIS IS TO CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD IN THE OFFICE OF THE DOUGLAS COUNTY REGISTER OF DEEDS, THIS _____ DAY OF _____, 2017, AT _____ O'CLOCK ____ M.

IN PLAT BOOK _____, PAGE _____.

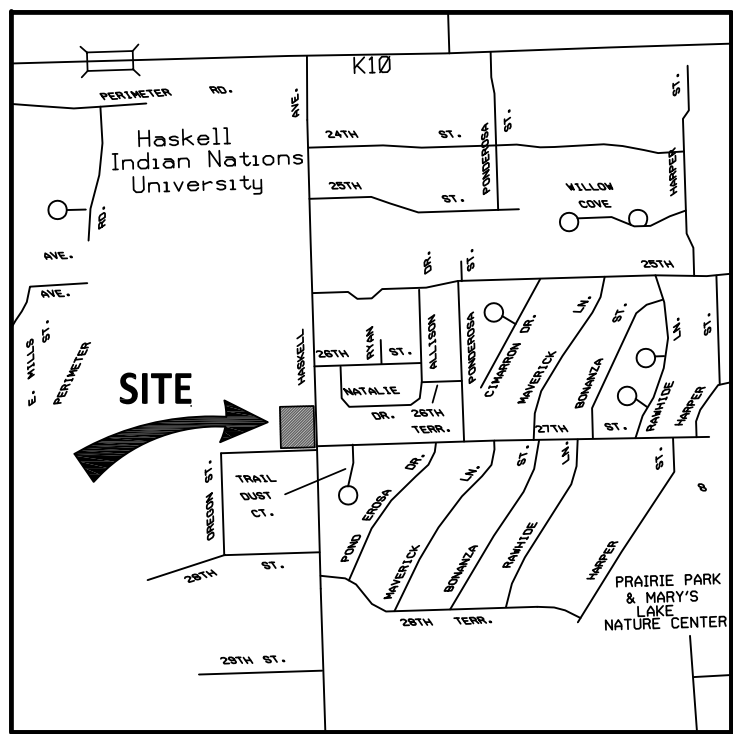
REGISTER OF DEEDS _____ DATE _____
KAY PESNELL

HORIZONTAL DATUM: NAD 83
PROJECTION: KANSAS NORTH 1501 (GROUND)
BASIS OF BEARING: EAST LINE NE ¼ SEC 7

VERTICAL DATUM: NAVD 88 PER GPS NETWORK OBSERVATION
GEOID: GEOID 12A



CFS ENGINEERS
cfse.com
2121 Moodie Rd., Lawrence, KS 66044
785.856.9800



VICINITY MAP
NO SCALE

LEGEND:

- = IRON PIN FOUND (½" REBAR NO CAP- UNKNOWN ORIGIN)
- ⊙ = IRON PIN SET (½" X 24" REBAR W/CAP- CLS 80)
- △ = SECTION CORNER (AS NOTED)
- POC = POINT OF COMMENCEMENT
- POB = POINT OF BEGINNING
- SS/E = SANITARY SEWER EASEMENT
- U/E = UTILITY EASEMENT
- (M) = MEASURED
- (P) = PLATTED
- BSL = BUILDING SETBACK LINE

REVIEWED BY:

REVIEWED IN COMPLIANCE WITH K.S.A. 58-2005

MICHAEL D. KELLY, KANSAS PS NO. 869
DOUGLAS COUNTY SURVEYOR

AJ Lang Property Management

A Division of AJ Lang Realty Inc.

124 N. Cherry
Olathe, KS 66061

June 7, 2017

City of Lawrence
Planning Commission
6 East 6th St.
P.O. Box 708
Lawrence, Ks. 66044

Re: MS-17-00251 variance request by CFS Engineers

Dear Gentle Persons,

AS owner of two properties that are east of the subject property requesting the variance from 150 feet to 100 feet easement for the widening of Haskell Street, I would ask that the commission take into consideration that when the widening does occur in the future, that land be condemned from the east and west sides of Haskell Street equally so that our units at 1003-1005 & 1007-1009 Natalie, are no closer to the roadway than those properties on the west side. As residential units, traffic noise effects the enjoyment of the property and marketability of the units and having Haskell St. closer to the units would diminish the value of the property.

Thank you for your consideration regarding this matter.

Sincerely,

A.J. Lang



Voice: 913-782-5252

FAX: 913-764-8456

www.AJLang.org