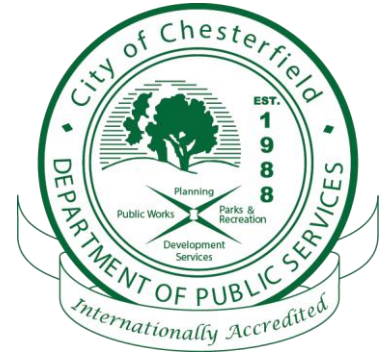


Memorandum

Planning & Development Services Division



To: Planning and Public Works Committee

From: Jonathan Raiche, Senior Planner

Date: August 20, 2015

RE: **TSP 49-2015 Sprint (1850 Baxter Rd):** A request to obtain approval for a Telecommunications Facility Siting Permit for the replacement of an existing tower with a new tower in an “NU” Non-Urban District located southeast of the intersection of Baxter Road and Cedar Mill Drive (19S220028).

Summary

Crown Castle on behalf of Sprint has submitted a request for a Telecommunications Siting Permit (TSP) for the above referenced property. The proposed TSP is for the removal and replacement of an existing wooden monopole with a new galvanized steel monopole to allow tenants on the tower to enhance their network equipment on the tower. This new structure is proposed inside the existing fenced area approximately 10 feet from the current location of the existing monopole. The new pole will have a maximum structure height of 99’ with antennas that reach up to 101’ which is comparable to the existing structure height of 100’. The applicant is currently proposing two (2) antenna arrays each with three (3) antennas to be installed on the structure with its initial installation. All associated ground mounted equipment will remain in the same general location with adjustments made to accommodate the new tower. An aerial photo and site photo are seen below indicating the existing conditions of the site.



Figure 1: Aerial Photo



Figure 2. Site Photo – North and East Facades

Discussion

Since the applicant is proposing an entirely new structure to replace the existing structure at this location, the site must receive a TSP as required by the Unified Development Code (UDC). The UDC also requires that any TSP which involves the installation of a new tower must go through the Public Hearing process. A Public Hearing was held at the August 10, 2015 Planning Commission meeting. The only speakers on the item were representatives of the applicant and no issues were raised at this Public Hearing. Per the UDC, final approval of the TSP will be issued by the City Council.

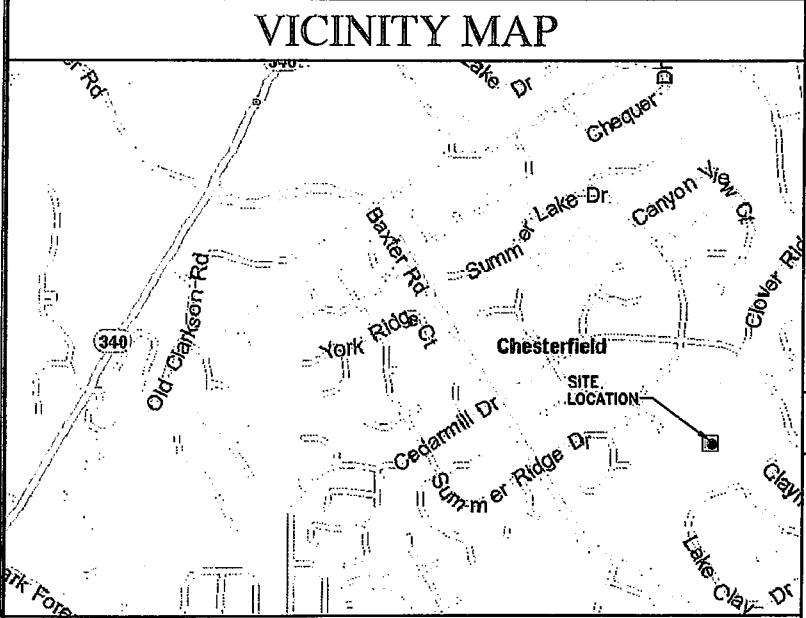
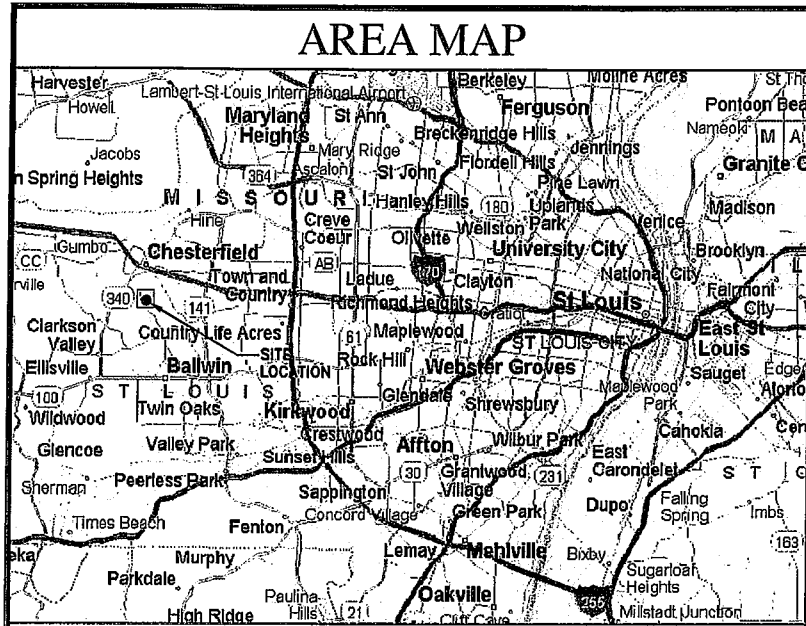
The subject site is owned by Missouri American Water and contains equipment for their utility services as seen in Figure 2. This site is also located adjacent to a large Ameren easement which contains large overhead power lines. The Ameren towers are larger and much more visible than the existing and proposed telecommunication monopole. Because the proposed structure will be structurally stronger, it will actually increase the ability for the applicant to provide collocation opportunities to other servers. This practice of collocation is highly encouraged by the City's UDC.

Staff has reviewed the request and finds that the applicant's proposal adheres to all UDC regulations as well as all applicable FAA and FCC regulations. Staff has no concerns with the proposal. After receiving a recommendation from the Planning and Public Works Committee, this request will be forwarded to the City Council for review. Attached please find a copy of the construction plans.

Respectfully submitted,

Jonathan D. Raiche, AICP
Senior Planner

cc. Aimee Nassif, Planning and Development Services Director



DRIVING DIRECTIONS

DEPART FROM LAMBERT-SAINTE LOUIS INTERNATIONAL AIRPORT:

TAKE I-70 WEST (3.3 MI) TO I-270.
 TAKE I-270 SOUTH (7.5 MI) TO I-64.
 TAKE I-64 WEST (6.0 MI) TO CLARKSON ROAD.
 TAKE CLARKSON ROAD SOUTH (1.1 MI) TO BAXTER ROAD.
 TAKE BAXTER ROAD EAST (0.9 MI) TO SITE ON LEFT.

- ### SCOPE OF WORK
- THE WIRELESS COMMUNICATION FACILITY IS NOT INTENDED FOR HUMAN OCCUPANCY
 - THIS FACILITY DOES NOT REQUIRE POTABLE WATER AND WILL NOT PRODUCE ANY SEWAGE.
 - THE SCOPE OF WORK CONSISTS OF MODIFYING THE EXISTING WIRELESS INSTALLATION:
 - REMOVAL OF EXISTING WOODEN POLE
 - INSTALLATION OF NEW MONOPOLE TOWER
 - INSTALLATION OF (2) NEW ICE BRIDGE/CABLE TRAYS
 - INSTALLATION OF (1) NEW STANDARD CRICKET COLLAR MOUNT
 - INSTALLATION OF (1) NEW SPRINT LP ANTENNA PLATFORM
 - RELOCATION OF (3) SPRINT ANTENNAS
 - RELOCATION OF (3) CRICKET ANTENNAS

PROJECT INFORMATION

CELL SITE NAME: ST. LOUIS COUNTY WATER COMPANY
CELL SITE ADDRESS: 1850 BAXTER ROAD
 CHESTERFIELD, MISSOURI 63017
PROPERTY OWNER: MISSOURI-AMERICAN WATER COMPANY
 727 CRAIG ROAD
 ST. LOUIS, MISSOURI 63141
CONTACT: CHRISTOPHER PARRISH
 PHONE: (314) 996-2334
LESSOR: CROWN CASTLE INC.
CONTACT: PETE FAULHABER
 PHONE: (314) 432-3158
LESSEES: SPRINT CRICKET
CONTACT: TIM LOYET LARRY EASTER
 PHONE: (314) 985-3322 (913) 544-8332
JURISDICTION: CHESTERFIELD
TOWER INFORMATION:
 LATITUDE: 38° 38' 6.96" N
 LONGITUDE: 90° 33' 11.99" W
 GROUND ELEV: 634' AMSL
 OVERALL STRUCTURE HT: 101'-0" AGL
 TOWER HT: 99'-0" AGL

CONSULTING TEAM

ENGINEER: SSC, INC.
 721 EMERSON ROAD, SUITE 475
 SAINT LOUIS, MISSOURI 63141
 PHONE: (314) 993-1010
 FAX: (913) 438-7777

M.L. OWENS - LEAD ENGINEER
 T.M. SUPER - LEAD ELECTRICAL
 M.J. O'CONNOR - LEAD DESIGNER

APPROVALS

	DATE
PROPERTY OWNER	
SITE ACQUISITION	
RF	
PROJECT MANAGER	
NETWORK OPERATIONS	

LESSOR/LICENSOR APPROVAL

INITIALS	DATE
LESSOR/LICENSOR	

LESSOR/LICENSOR: PLEASE CHECK THE APPROPRIATE BOX BELOW

NO CHANGES CHANGES NEEDED.
 SEE COMMENTS ON PLANS

DRAWING INDEX

PAGE NUMBER	TITLE DESCRIPTION	REVISION	RESPONSIBLE ENGINEER
T-1	TITLE SHEET	5	SC/E
A-1	OVERALL SITE PLAN	5	SC
A-2	ENLARGED SITE PLAN	5	SC
A-3	TOWER ELEVATION	5	SC
A-4	RFDS SHEET	5	SC
A-5	ANTENNA LAYOUT & MOUNTING DETAILS	5	SC
G-1	GROUNDING PLAN	5	E
G-2	GROUNDING DETAILS	5	E

APPLICABLE CODES:

INTERNATIONAL BUILDING CODE, 2009 EDITION
 NATIONAL ELECTRICAL CODE, 2008 EDITION
 TIA-222-G



CROWN CASTLE


SITE NAME:

ST. LOUIS COUNTY WATER COMPANY

SITE NUMBER:


880796

PLANS PREPARED FOR:



PLANS PREPARED BY:

424 S. Woods Mill Road, Suite 220
 Chesterfield, Missouri 63017
 Phone: 314-993-1010
 Fax: 913-438-7777



ENGINEERING LICENSE:

STATE OF MISSOURI
 PE CERTIFICATE OF AUTHORIZATION #001640

ENGINEER	PE #	DISCIPLINE
MLO MICHAEL L. OWENS	E-29058	STRUCTURAL/CIVIL SC
KV KEVIN VANMAELE	E-21561	STRUCTURAL/CIVIL SC
REJ ROBERT E. JENSEN	E-28974	STRUCTURAL/CIVIL SC
TMS TERRANCE M. SUPER	E-18521	ELECTRICAL E
SDK SHELTON D. KEISLING	E-27323	ELECTRICAL E
DEK DAVE E. KASPER	E-18063	ELECTRICAL E

DRAWING NOTICE:

THIS DRAWING HAS NOT BEEN PUBLISHED AND IS THE SOLE PROPERTY OF SSC, INC. AND IS LENT TO THE BORROWER FOR THEIR CONFIDENTIAL USE ONLY, AND IN CONSIDERATION OF THE LOAN OF THIS DRAWING, THE BORROWER PROMISES AND AGREES TO RETURN IT UPON REQUEST AND AGREES THAT IT WILL NOT BE REPRODUCED, COPIED, LENT OR OTHERWISE DISPOSED OF DIRECTLY OR INDIRECTLY, NOR USED FOR ANY PURPOSE OTHER THAN FOR WHICH IT IS FURNISHED.

SUBMITTALS

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	12/30/14	MAO	0
REVISED PER CLIENT COMMENTS	01/28/15	MAO	1
REVISED PER CLIENT COMMENTS	04/01/15	MAO	2
REVISED PER CLIENT COMMENTS	05/08/15	MAO	3
REVISED PER CLIENT COMMENTS	06/17/15	MAO	4
REVISED PER CLIENT COMMENTS	07/08/15	MAO	5

SITE NAME:

ST. LOUIS COUNTY WATER COMPANY

SITE NUMBER:

880796

SITE ADDRESS:

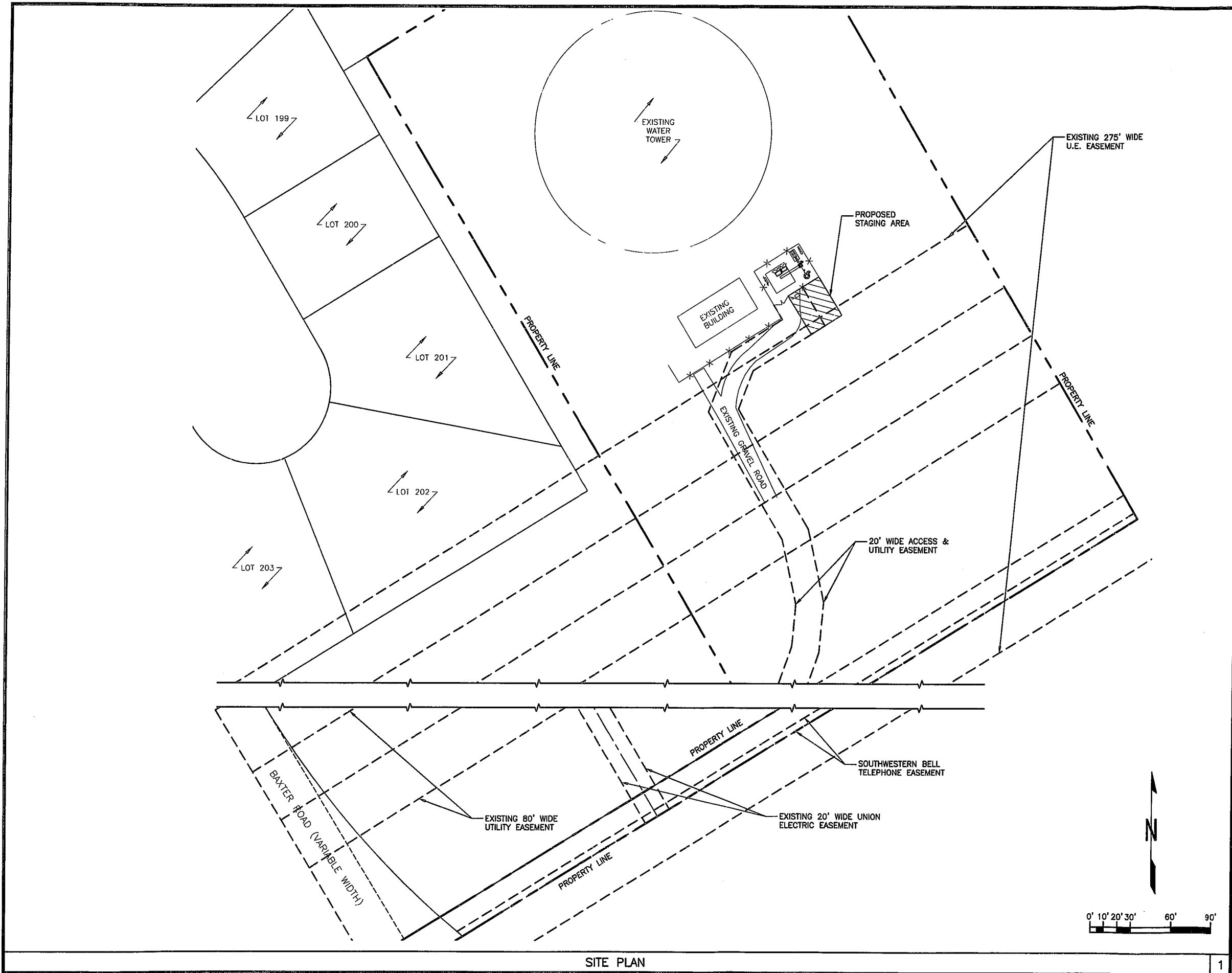
1850 BAXTER ROAD
 CHESTERFIELD, MISSOURI 63017

SHEET DESCRIPTION:

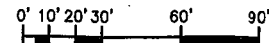
TITLE SHEET

SHEET NUMBER:

T-1



SITE PLAN



PLANS PREPARED FOR:

CROWN CASTLE

PLANS PREPARED BY:

424 S. Woods Mill Road, Suite 220
 Chesterfield, Missouri 63017
 Phone: 314-993-1010
 Fax: 913-438-777

SSC

ENGINEERING LICENSE:

STATE OF MISSOURI
 PE CERTIFICATE OF AUTHORIZATION #001640

ENGINEER: PE # DISCIPLINE:

MLO MICHAEL L. OWENS E-29058 STRUCTURAL/CIVIL SC
 KV KEVIN VANMAELE E-21561 STRUCTURAL/CIVIL SC
 REJ ROBERT E. JENSEN E-28974 STRUCTURAL/CIVIL SC
 TMS TERRANCE M. SUPPER E-16521 ELECTRICAL E
 SDK SHELTON D. KEISLING E-27323 ELECTRICAL E
 DEK DAVE E. KASPER E-16063 ELECTRICAL E

DRAWING NOTICE:

THIS DRAWING HAS NOT BEEN PUBLISHED AND IS THE SOLE PROPERTY OF SSC, INC. AND IS LOANED TO THE BORROWER FOR THEIR CONFIDENTIAL USE ONLY, AND IN CONSIDERATION OF THE LOAN OF THIS DRAWING, THE BORROWER PROMISES AND AGREES TO RETURN IT UPON REQUEST AND AGREES THAT IT WILL NOT BE REPRODUCED, COPIED, LENT OR OTHERWISE DISPOSED OF DIRECTLY OR INDIRECTLY, NOR USED FOR ANY PURPOSE OTHER THAN FOR WHICH IT IS FURNISHED.

SUBMITTALS	DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION		12/30/14	MJO	0
REVISED PER CLIENT COMMENTS		01/28/15	MJO	1
REVISED PER CLIENT COMMENTS		04/01/15	MJO	2
REVISED PER CLIENT COMMENTS		05/08/15	MJO	3
REVISED PER CLIENT COMMENTS		06/17/15	MJO	4
REVISED PER CLIENT COMMENTS		07/08/15	MJO	5

SITE NAME:

ST. LOUIS COUNTY WATER COMPANY

SITE NUMBER:

880796

SITE ADDRESS:

1850 BAXTER ROAD
 CHESTERFIELD, MISSOURI 63017

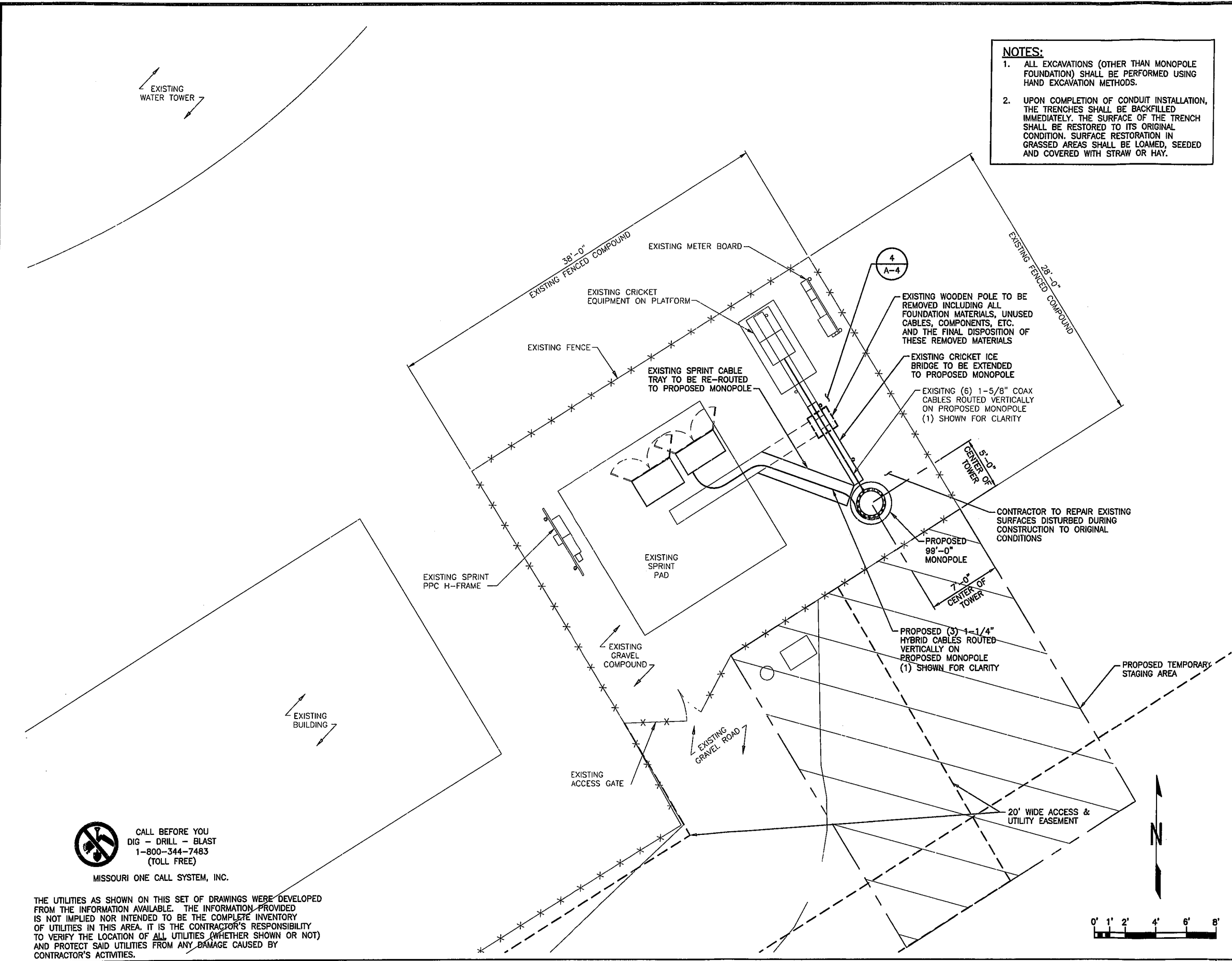
SHEET DESCRIPTION:

OVERALL SITE PLAN

SSC #:

SHEET NUMBER:

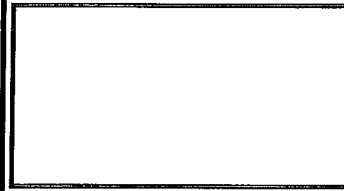
A-1



NOTES:

1. ALL EXCAVATIONS (OTHER THAN MONOPOLE FOUNDATION) SHALL BE PERFORMED USING HAND EXCAVATION METHODS.
2. UPON COMPLETION OF CONDUIT INSTALLATION, THE TRENCHES SHALL BE BACKFILLED IMMEDIATELY. THE SURFACE OF THE TRENCH SHALL BE RESTORED TO ITS ORIGINAL CONDITION. SURFACE RESTORATION IN GRASSED AREAS SHALL BE LOAMED, SEEDED AND COVERED WITH STRAW OR HAY.

PLANS PREPARED FOR:



PLANS PREPARED BY:

424 S. Woods Mill Road, Suite 220
 Chesterfield, Missouri 63017
 Phone: 314-993-1010
 Fax: 913-438-777

ENGINEERING LICENSE:
 STATE OF MISSOURI
 PE CERTIFICATE OF AUTHORIZATION #001640
 ENGINEER: PE # DISCIPLINE:
 MLO MICHAEL L. OWENS E-29058 STRUCTURAL/CIVIL SC
 KY KEVIN VANMAELE E-21561 STRUCTURAL/CIVIL SC
 REJ ROBERT E. JENSEN E-28974 STRUCTURAL/CIVIL SC
 TMS TERRANCE M. SUPER E-18521 ELECTRICAL E
 SDK SHELTON D. KEISLING E-27323 ELECTRICAL E
 DEK DAVE E. KASPER E-18063 ELECTRICAL E

DRAWING NOTICE:
 THIS DRAWING HAS NOT BEEN PUBLISHED AND IS THE SOLE PROPERTY OF SSC, INC. AND IS LOANED TO THE BORROWER FOR THEIR CONFIDENTIAL USE ONLY, AND IN CONSIDERATION OF THE LOAN OF THIS DRAWING, THE BORROWER PROMISES AND AGREES TO RETURN IT UPON REQUEST AND AGREES THAT IT WILL NOT BE REPRODUCED, COPIED, LENT OR OTHERWISE DISPOSED OF DIRECTLY OR INDIRECTLY, NOR USED FOR ANY PURPOSE OTHER THAN FOR WHICH IT IS FURNISHED.

SUBMITTALS	DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION		12/30/14	MJO	0
REVISED PER CLIENT COMMENTS		01/28/15	MJO	1
REVISED PER CLIENT COMMENTS		04/01/15	MJO	2
REVISED PER CLIENT COMMENTS		05/08/15	MJO	3
REVISED PER CLIENT COMMENTS		06/17/15	MJO	4
REVISED PER CLIENT COMMENTS		07/08/15	MJO	5

SITE NAME:
ST. LOUIS COUNTY WATER COMPANY

SITE NUMBER:
880796

SITE ADDRESS:
**1850 BAXTER ROAD
 CHESTERFIELD, MISSOURI 63017**

SHEET DESCRIPTION:
ENLARGED SITE PLAN

SSC #: - SHEET NUMBER:
A-2

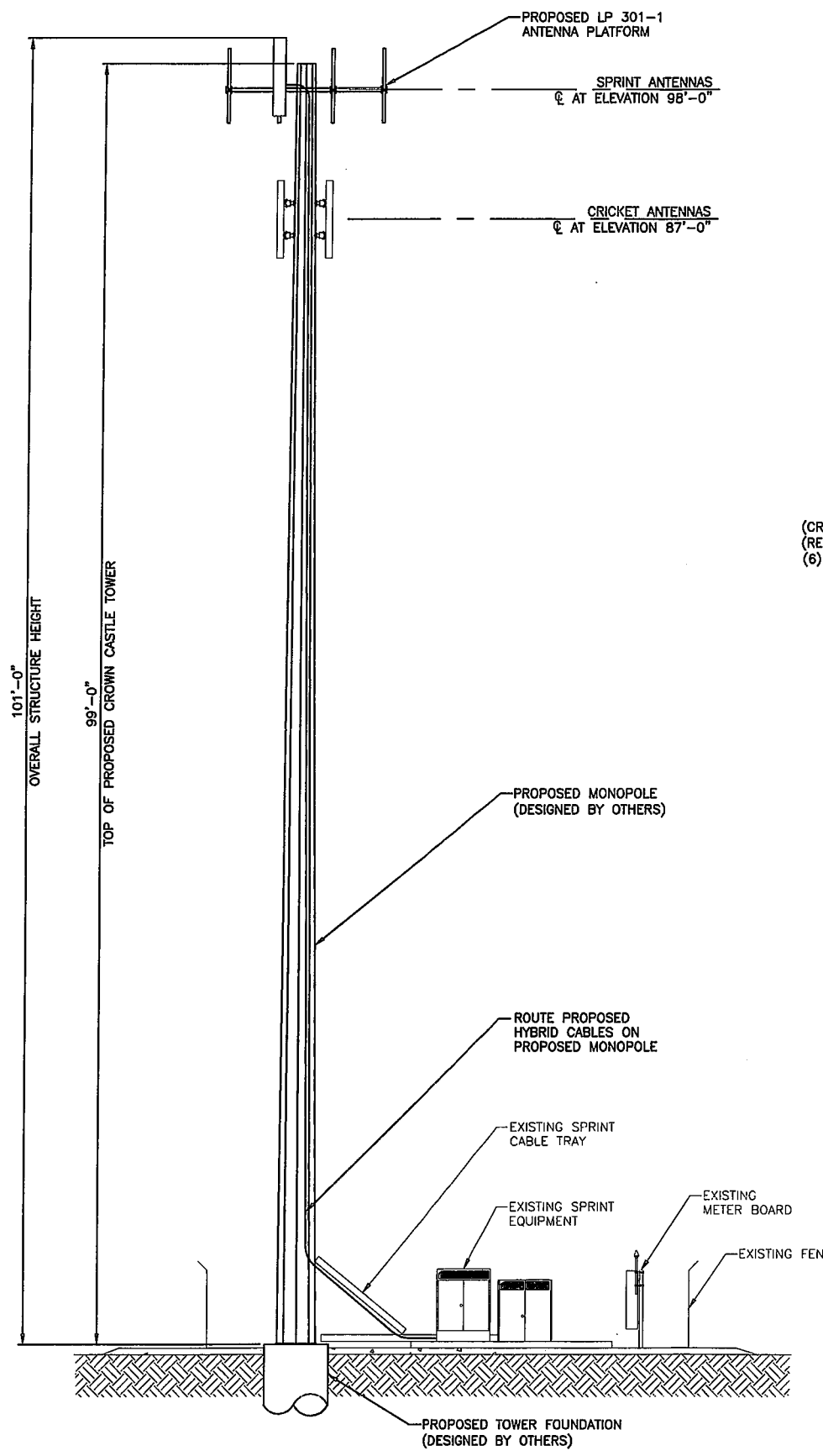


CALL BEFORE YOU DIG - DRILL - BLAST
 1-800-344-7483
 (TOLL FREE)
 MISSOURI ONE CALL SYSTEM, INC.

THE UTILITIES AS SHOWN ON THIS SET OF DRAWINGS WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THE INFORMATION PROVIDED IS NOT IMPLIED NOR INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE CAUSED BY CONTRACTOR'S ACTIVITIES.

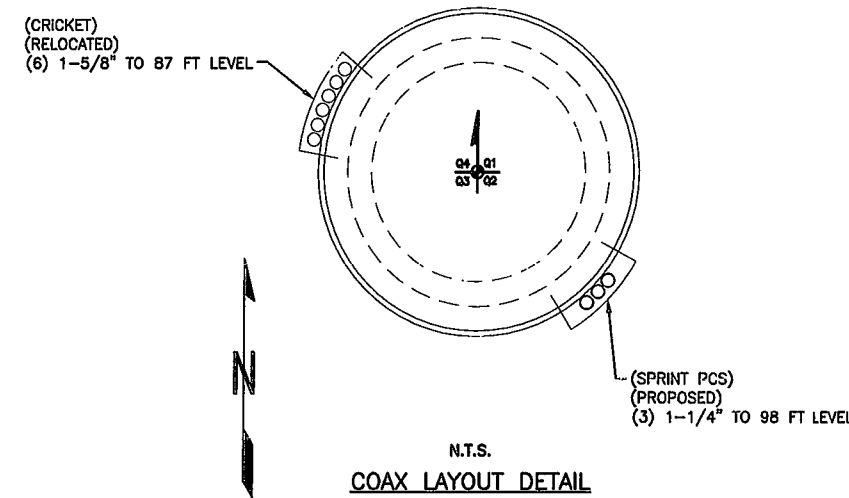
SITE PLAN





ALL ANTENNAS AND CABLES TO BE TAGGED WITH CARRIER ID.

STRUCTURAL TOWER ANALYSIS HAS BEEN PERFORMED BY PIER STRUCTURAL ENGINEERING CORP. ON 03/11/15. CONTRACTOR SHALL OBTAIN A COPY OF THE LATEST TOWER ANALYSIS.



TOWER ELEVATION

PLANS PREPARED FOR:

CROWN CASTLE

PLANS PREPARED BY:

424 S. Woods Mill Road, Suite 220
Chesterfield, Missouri 63017
Phone: 314-993-1010
Fax: 913-438-777

SSC

ENGINEERING LICENSE:

STATE OF MISSOURI
PE CERTIFICATE OF AUTHORIZATION #001640

ENGINEER	PE #	DISCIPLINE
MLO MICHAEL L. OWENS	E-29058	STRUCTURAL/CIVIL SC
KY KEVIN VANMAELE	E-21591	STRUCTURAL/CIVIL SC
REJ ROBERT E. JENSEN	E-28974	STRUCTURAL/CIVIL SC
TMS TERRANCE M. SUPER	E-18521	ELECTRICAL E
SDK SHELTON D. KEISLING	E-27323	ELECTRICAL E
DEK DAVE E. KASPER	E-18063	ELECTRICAL E

DRAWING NOTICE:

THIS DRAWING HAS NOT BEEN PUBLISHED AND IS THE SOLE PROPERTY OF SSC, INC. AND IS LENT TO THE BORROWER FOR THEIR CONFIDENTIAL USE ONLY, AND IN CONSIDERATION OF THE LOAN OF THIS DRAWING, THE BORROWER PROMISES AND AGREES TO RETURN IT UPON REQUEST AND AGREES THAT IT WILL NOT BE REPRODUCED, COPIED, LENT OR OTHERWISE DISPOSED OF DIRECTLY OR INDIRECTLY, NOR USED FOR ANY PURPOSE OTHER THAN FOR WHICH IT IS FURNISHED.

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	12/30/14	MJO	0
REVISED PER CLIENT COMMENTS	01/28/15	MJO	1
REVISED PER CLIENT COMMENTS	04/01/15	MJO	2
REVISED PER CLIENT COMMENTS	05/08/15	MJO	3
REVISED PER CLIENT COMMENTS	06/17/15	MJO	4
REVISED PER CLIENT COMMENTS	07/08/15	MJO	5

SITE NAME:

ST. LOUIS COUNTY WATER COMPANY

SITE NUMBER:

880796

SITE ADDRESS:

1850 BAXTER ROAD
CHESTERFIELD, MISSOURI 63017

SHEET DESCRIPTION:

TOWER ELEVATION

SSC #:

SHEET NUMBER:

A-3

Revision: B2
Date: 10/5/2012

RFDS Phase

BOM Code 1OUT-9A-2A-2-2-0-333AA-0-0-1ST-0CEEM_DxCEM_OAEM_T-0-0-0-D1_1

Cascade	ST23KC290
Market	Missouri
MTX/BSC	STL-MARYLAND_HEIGHTS-BSC_1,2
Lat	38.635
Lon	-90.55333
Structure Type	STEALTH

Existing BTS #	
New BTS #	
Existing Cell ID	290
New Cell ID	
RBS Cabinet Type	Outdoor

Comments:

Number of Sectors: 3

1900/800 TowerMountedRRU

ANTENNA #1 (800 MHz & 1900 MHz Dual Band)						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
Vendor	RFS	RFS	RFS			
Model	APXVRR18-C-3-1910I	APXVRR18-C-1-1910I	APXVRR18-C-4-1910I			
Antenna Band Type	Dual	Dual	Dual			
Antenna Count	1	1	1			
Gain (dBi)	17.8	16.7	17.8			
Beamwidth	68.7	69.4	69.4			
Azimuth	0	120	240			
Height (ft)	98	98	98			
Mech. DownTilt	0	0	0			
Elect. DownTilt 1900	3	1	4			
Elect. DownTilt 800	6	8	7			
EIRP (W)	250	250	250			
RET Count	3	3	3			
RET Manufacturer	RFS	RFS	RFS			
RET Model	ACU-A20-N	ACU-A20-N	ACU-A20-N			

Existing Antenna (For GM No Touch Sites Only)						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
Vendor						
Model						
Antenna Band Type						
Antenna Count						
Gain (dBi)						
Beamwidth						
Azimuth						
Height						
Mech. DownTilt						
Elect. DownTilt						
EIRP (W)						
RET Count						
RET Manufacturer						
RET Model						

ANTENNA #3 (800 MHz)						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
Vendor						
Model						
Antenna Band Type						
Antenna Count						
Gain (dBi)						
Beamwidth						
Azimuth						
Height						
Mech. DownTilt						
Elect. DownTilt						
EIRP (W)						
RET Count						
RET Manufacturer						
RET Model						
Antenna Count Per Sector	1	1	1	0	0	0

RRU Count						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
RRUS 11 Single	3	3	3			
RRUS 12 Single	0	0	0			
RRUS 12 Dual	0	0	0			
RRUS 13 Single	0	0	0			
RRUS 13 Dual	0	0	0			
RRUS A2 Module	1	1	1			

RRU Count - Detailed Breakdown						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
RRUS 11						
CDMA - 800	1	1	1			
CDMA - 1900	1	1	1			
LTE - 800	0	0	0			
LTE - 1600	0	0	0			
LTE - 1900	1	1	1			
LTE - 2500	0	0	0			
RRUS 12						
CDMA/LTE - 800	0	0	0			
CDMA/LTE - 1900	0	0	0			
LTE - 1600	0	0	0			
LTE - 2500	0	0	0			
RRUS 13						
CDMA/LTE - 800	0	0	0			
CDMA/LTE - 1900	0	0	0			
LTE - 1600	0	0	0			
LTE - 2500	0	0	0			
RRUS 11 Count	3	3	3			
RRUS 12 Count	0	0	0			
RRUS 13 Count	0	0	0			

CABLING						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
Est. Cable Length (feet)	112	112	112			
Number of Cables	1	1	1			
Cable1 Diameter	39 mm	39 mm	39 mm			
Cable1 Type	Hybrid Cable	Hybrid Cable	Hybrid Cable			
Cable1 Manufacturer	H+S	H+S	H+S			
Cable1 Model	TSZ 999 087/xxxxM	TSZ 999 087/xxxxM	TSZ 999 087/xxxxM			
Number of Cables	0	0	0			
Cable2 Diameter	39 mm	39 mm	39 mm			
Cable2 Type	Hybrid Cable	Hybrid Cable	Hybrid Cable			
Cable2 Manufacturer	H+S	H+S	H+S			
Cable2 Model	TSZ 999 068/xxxxM	TSZ 999 068/xxxxM	TSZ 999 068/xxxxM			
Top Jumper Length	3 m	3 m	3 m			
Top Jumper Type	TSR 951 70/3	TSR 951 70/3	TSR 951 70/3			
Cable Type						
Cable Manufacturer						
Cable Model						
Total Power Cables						
Cable Type	Fiber OPTO	Fiber OPTO	Fiber OPTO			
Cable Manufacturer	Ericsson	Ericsson	Ericsson			
Cable Model	RPM 253 469 2/xxxx	RPM 253 469 2/xxxx	RPM 253 469 2/xxxx			
Total Opto Cables	6	6	6			
Coax Cable - Main - Type						
Coax Cable - Main - Length						
Coax Cable - Main - Count						
Coax Cable - Main - Manufacturer						
Coax Cable - Main - Model						
Coax Cable - Top Jumper - Type						
Coax Cable - Top Jumper - Length						
Coax Cable - Top Jumper - Count						
Coax Cable - Top Jumper - Manufacturer						
Coax Cable - Top Jumper - Model						
Coax Cable - Bottom Jumper - Type						
Coax Cable - Bottom Jumper - Length						
Coax Cable - Bottom Jumper - Count						
Coax Cable - Bottom Jumper - Manufacturer						
Coax Cable - Bottom Jumper - Model						

800 MHz FILTER						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
Count	1	1	1			
Manufacturer	Ericsson	Ericsson	Ericsson			
Model	800 ESMR	800 ESMR	800 ESMR			

	Count	Model
RBS	1	6102
BBS	1	6102
MW 20p		
MW 20p BBS		

GPS INFO		
	GPS	Cable
Vendor	Ericsson	
Model	GPS-TMG-HR28NCM	
Type		
Diameter		

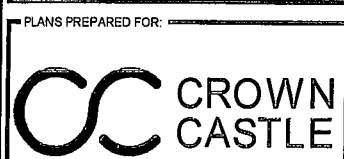
Carrier Information						
	Carriers	Frequencies	Start/Stop Freqs		Channel Element Counts	
			Tx (MHz)	Rx (MHz)	Total	Per Carrier
1x ADV-800	1		862.275-863.525	817.275-818.525	192	6
EVDO-800	0				0	0
1x ADV-1900	2	625;575;	1950.625-1994.375	1870.625-1884.375	384	12
EVDO-1900	2	600;475;	1950.625-1994.375	1870.625-1884.375	384	12
LTE 1900	1		1990.000-1995.000	1910.000-1915.000		
LTE 1600						
Total 800	1					
Total 1900	4					

RBS Configuration					
RBS Modules	RBS1		RBS2		RBS Cards
	Count		Count		
DBU	0	0	0	0	XCEMA (1900)
DBA	2	0	0	0	AEM (1900)
CEEM	0	0	0	0	XCEMA (800)
DUL	3	0	0	0	AEM (800)
XMU	2	0	0	0	

T1 COUNTS	
CDMA 800	1
CDMA 1900	2
EVDO 800	0
EVDO 1900	4
LTE	0

1900 3G Radio Config	
Radio Number	Freq Vect
Radio 1	(625;600;)(575;475)
Radio 2	
Radio 3	
Radio 4	0

CONTRACTOR TO VERIFY LATEST REVISION OF RFDS IN SITE HANDLER PRIOR TO CONSTRUCTION



PLANS PREPARED BY:
SSC
424 S. Woods Mill Road, Suite 220
Chesterfield, Missouri 63017
Phone: 314-993-1010
Fax: 913-438-777

ENGINEERING LICENSE:
STATE OF MISSOURI
PE CERTIFICATE OF AUTHORIZATION #001640
ENGINEER: PE #: DISCIPLINE:
MLO MICHAEL L OWENS E-29058 STRUCTURAL/CIVIL SC
KV KEVIN VANMAELE E-21561 STRUCTURAL/CIVIL SC
REI ROBERT E. JENSEN E-28974 STRUCTURAL/CIVIL SC
TMS TERRANCE M. SUPER E-18521 ELECTRICAL E
SDK SHELTON D. KEIBLING E-27323 ELECTRICAL E
DEK DAVE E. KASPER E-16063 ELECTRICAL E

DRAWING NOTICE:
THIS DRAWING HAS NOT BEEN PUBLISHED AND IS THE SOLE PROPERTY OF SSC, INC. AND IS LENT TO THE BORROWER FOR THEIR CONFIDENTIAL USE ONLY. AND IN CONSIDERATION OF THE LOAN OF THIS DRAWING, THE BORROWER PROMISES AND AGREES TO RETURN IT UPON REQUEST AND AGREES THAT IT WILL NOT BE REPRODUCED, COPIED, LENT OR OTHERWISE DISPOSED OF DIRECTLY OR INDIRECTLY, NOR USED FOR ANY PURPOSE OTHER THAN FOR WHICH IT IS FURNISHED.

SUBMITTALS	DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION		12/30/14	MJO	0
REVISED PER CLIENT COMMENTS		01/28/15	MJO	1
REVISED PER CLIENT COMMENTS		04/01/15	MJO	2
REVISED PER CLIENT COMMENTS		05/08/15	MJO	3
REVISED PER CLIENT COMMENTS		06/17/15	MJO	4
REVISED PER CLIENT COMMENTS		07/08/15	MJO	5

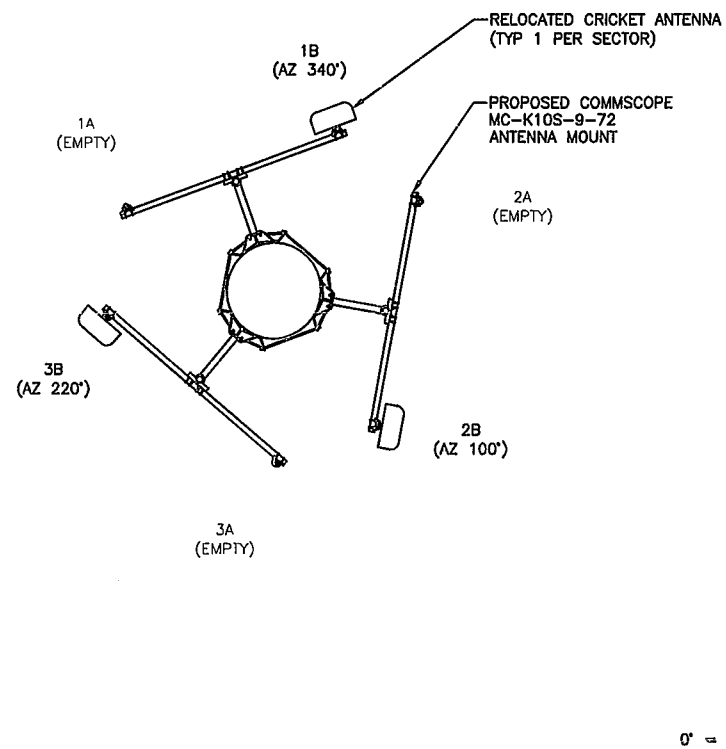
SITE NAME:
ST. LOUIS COUNTY WATER COMPANY

SITE NUMBER:
880796

SITE ADDRESS:
1850 BAXTER ROAD
CHESTERFIELD, MISSOURI 63017

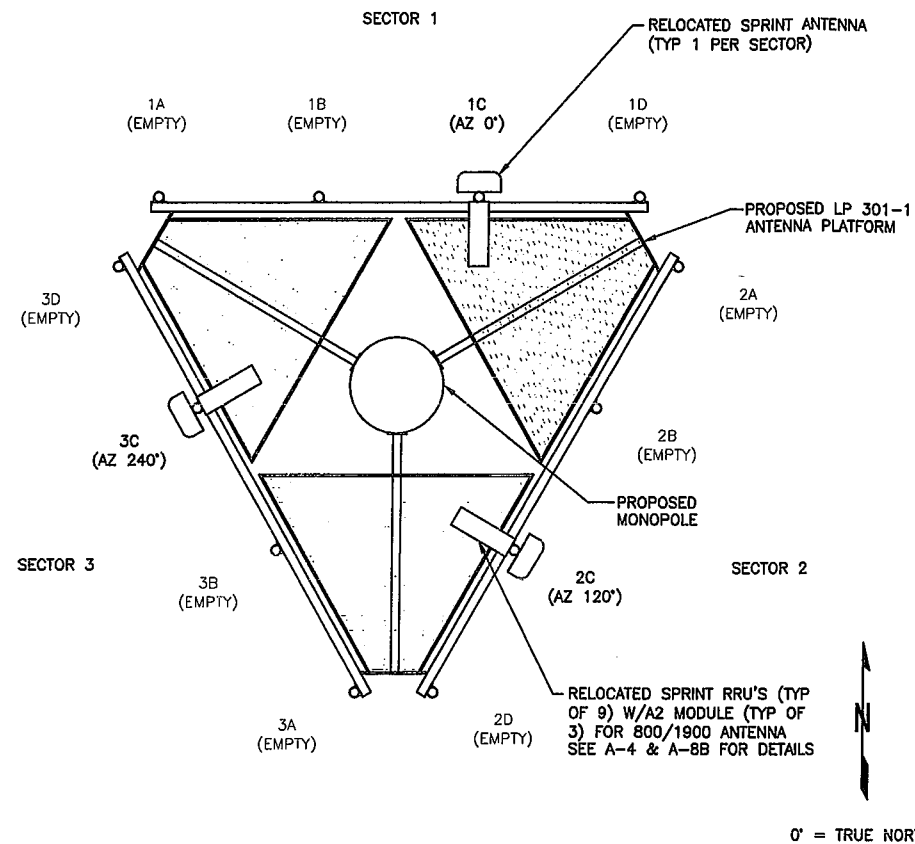
SHEET DESCRIPTION:
RFDS SHEET

SSC #:
SHEET NUMBER:
A-4



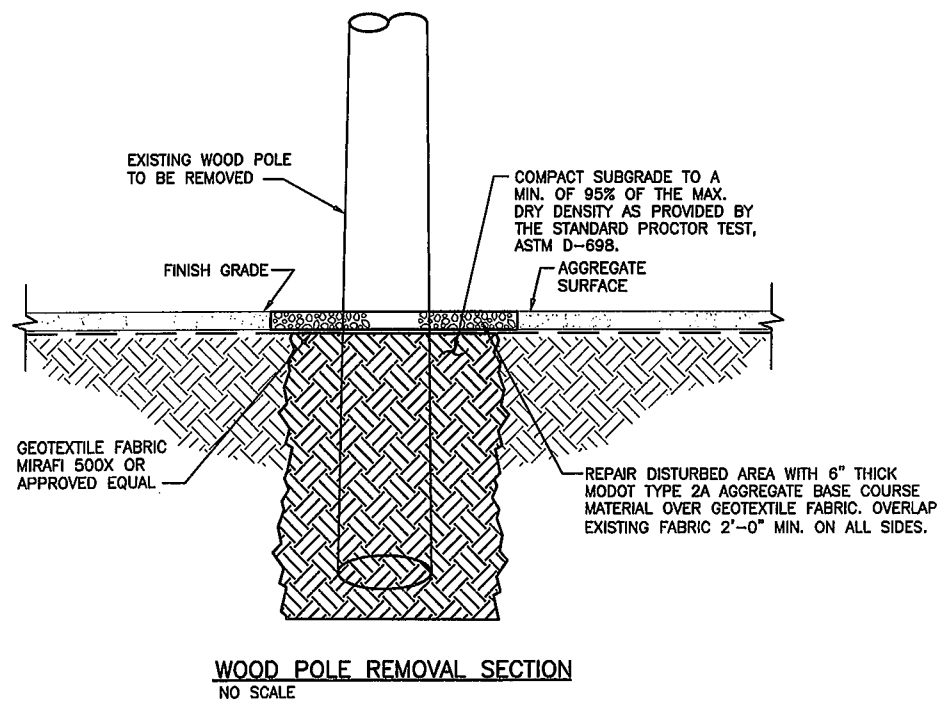
CRICKET ANTENNA LAYOUT @ 87'

3



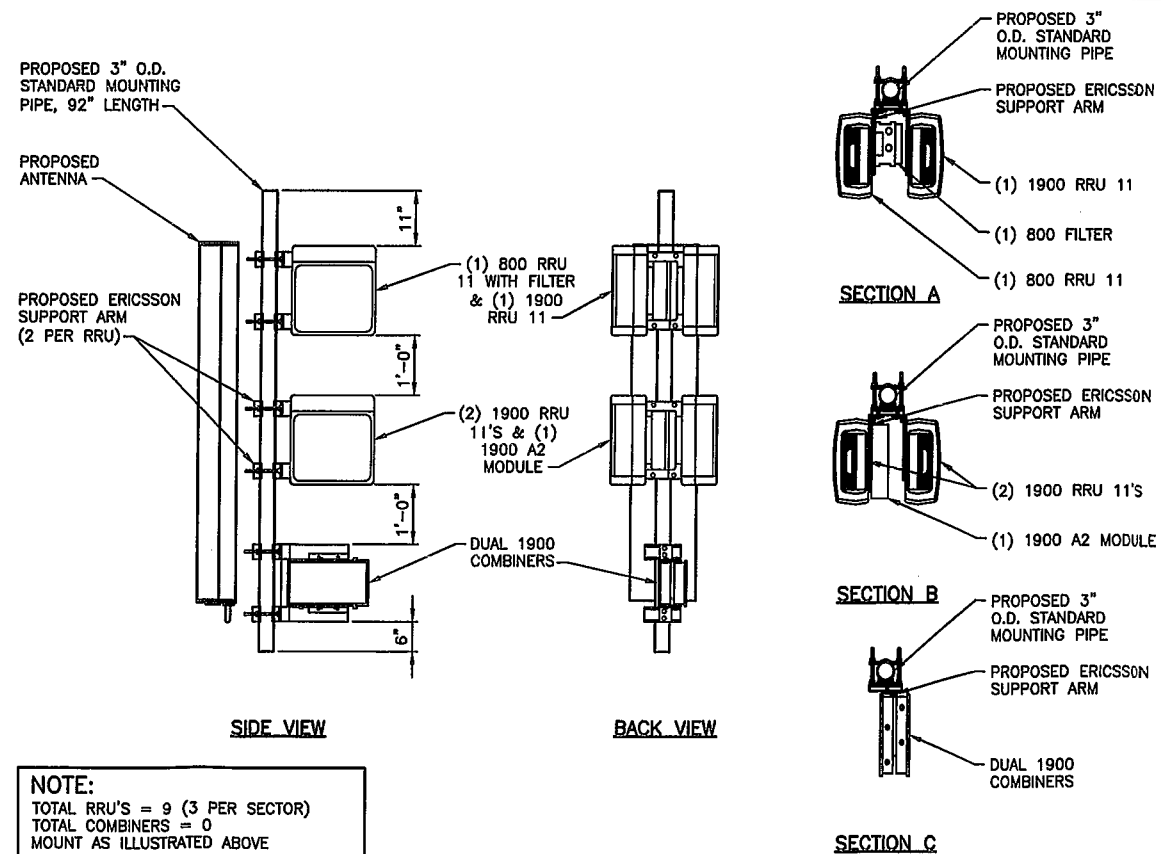
SPRINT ANTENNA AND RRU LAYOUT @ 98'

1



SURFACE TREATMENT REPLACEMENT DETAIL

4



RRU MOUNTING DETAIL

2

PLANS PREPARED FOR:

CROWN CASTLE

PLANS PREPARED BY:

424 S. Woods Mill Road, Suite 220
Chesterfield, Missouri 63017
Phone: 314-993-1010
Fax: 913-438-777

ENGINEERING LICENSE:

STATE OF MISSOURI

PE CERTIFICATE OF AUTHORIZATION #001640

ENGINEER: MICHAEL L. OWENS E-29058 STRUCTURAL/CIVIL SC
KEVIN VANHALE E-21501 STRUCTURAL/CIVIL SC
ROBERT E. JENSEN E-28974 STRUCTURAL/CIVIL SC
TMS TERRANCE M. SUPER E-18521 ELECTRICAL E
SDK SHELTON D. KEISLING E-27323 ELECTRICAL E
DEK DAVE E. KASPER E-18063 ELECTRICAL E

DRAWING NOTICE:

THIS DRAWING HAS NOT BEEN PUBLISHED AND IS THE SOLE PROPERTY OF SSC, INC. AND IS LENT TO THE BORROWER FOR THEIR CONFIDENTIAL USE ONLY, AND IN CONSIDERATION OF THE LOAN OF THIS DRAWING, THE BORROWER PROMISES AND AGREES TO RETURN IT UPON REQUEST AND AGREES THAT IT WILL NOT BE REPRODUCED, COPIED, LENT OR OTHERWISE DISPOSED OF DIRECTLY OR INDIRECTLY, NOR USED FOR ANY PURPOSE OTHER THAN FOR WHICH IT IS FURNISHED.

SUBMITTALS

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	12/30/14	MJO	0
REVISED PER CLIENT COMMENTS	01/28/15	MJO	1
REVISED PER CLIENT COMMENTS	04/01/15	MJO	2
REVISED PER CLIENT COMMENTS	05/08/15	MJO	3
REVISED PER CLIENT COMMENTS	08/17/15	MJO	4
REVISED PER CLIENT COMMENTS	07/09/15	MJO	5

SITE NAME:

ST. LOUIS COUNTY WATER COMPANY

SITE NUMBER:

880796

SITE ADDRESS:

1850 BAXTER ROAD
CHESTERFIELD, MISSOURI 63017

SHEET DESCRIPTION:

ANTENNA LAYOUT & MOUNTING DETAILS

SSC #:

SHEET NUMBER:

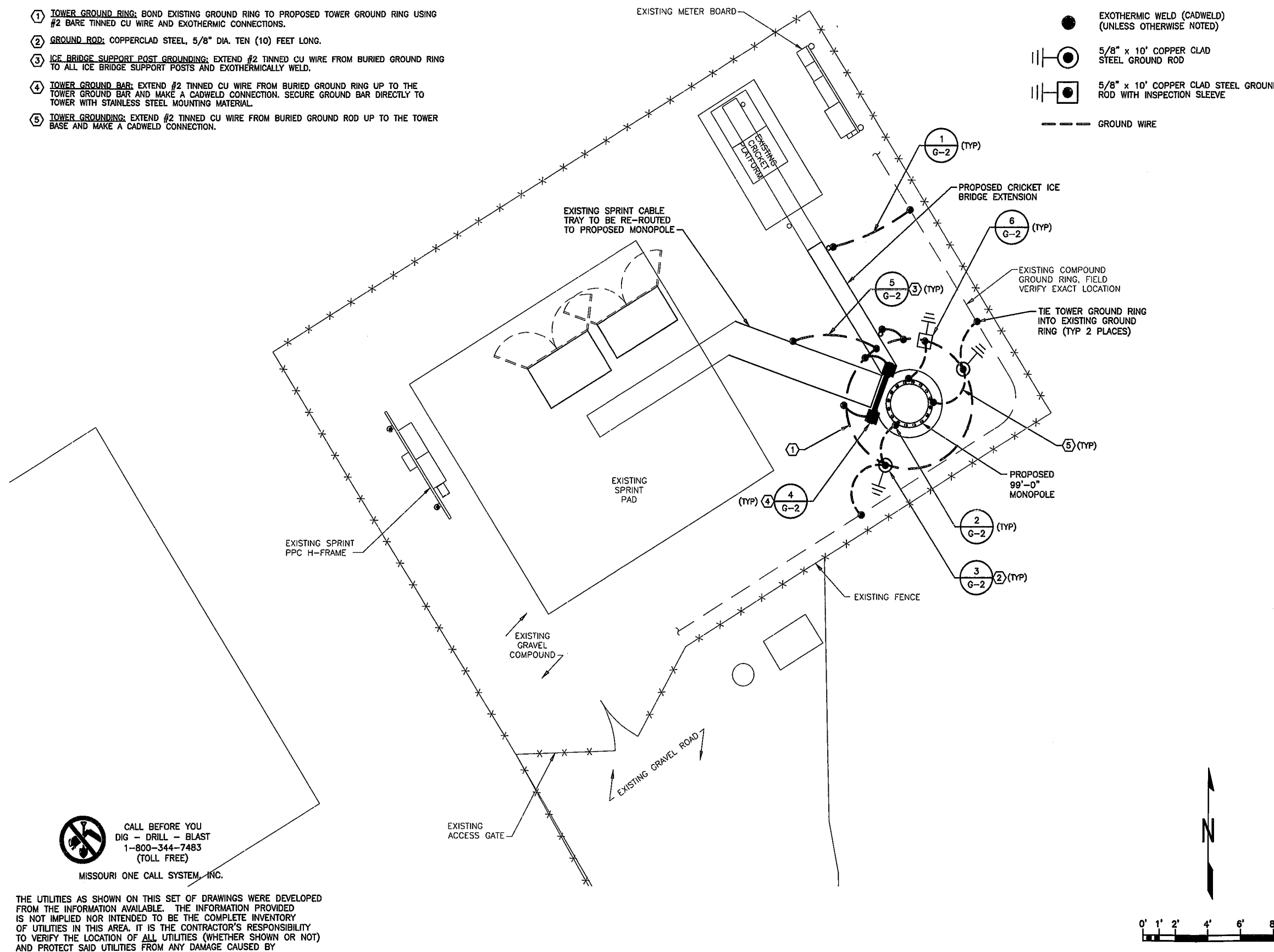
A-5

KEYED NOTES:

- ① **TOWER GROUND RING:** BOND EXISTING GROUND RING TO PROPOSED TOWER GROUND RING USING #2 BARE TINNED CU WIRE AND EXOTHERMIC CONNECTIONS.
- ② **GROUND ROD:** COPPERCLAD STEEL, 5/8" DIA. TEN (10) FEET LONG.
- ③ **ICE BRIDGE SUPPORT POST GROUNDING:** EXTEND #2 TINNED CU WIRE FROM BURIED GROUND RING TO ALL ICE BRIDGE SUPPORT POSTS AND EXOTHERMICALLY WELD.
- ④ **TOWER GROUND BAR:** EXTEND #2 TINNED CU WIRE FROM BURIED GROUND RING UP TO THE TOWER GROUND BAR AND MAKE A CADWELD CONNECTION. SECURE GROUND BAR DIRECTLY TO TOWER WITH STAINLESS STEEL MOUNTING MATERIAL.
- ⑤ **TOWER GROUNDING:** EXTEND #2 TINNED CU WIRE FROM BURIED GROUND ROD UP TO THE TOWER BASE AND MAKE A CADWELD CONNECTION.

SYMBOLS

- EXOTHERMIC WELD (CADWELD) (UNLESS OTHERWISE NOTED)
- ⊕ 5/8" x 10' COPPER CLAD STEEL GROUND ROD
- ⊕ 5/8" x 10' COPPER CLAD STEEL GROUND ROD WITH INSPECTION SLEEVE
- GROUND WIRE

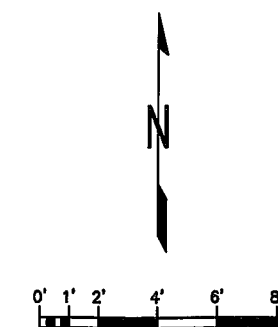


CALL BEFORE YOU
DIG - DRILL - BLAST
1-800-344-7483
(TOLL FREE)

MISSOURI ONE CALL SYSTEM, INC.

THE UTILITIES AS SHOWN ON THIS SET OF DRAWINGS WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THE INFORMATION PROVIDED IS NOT IMPLIED NOR INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE CAUSED BY CONTRACTOR'S ACTIVITIES.

SITE PLAN



PLANS PREPARED FOR:

CROWN CASTLE

PLANS PREPARED BY:

424 S. Woods Mill Road, Suite 220
Chesterfield, Missouri 63017
Phone: 314-993-1010
Fax: 913-438-777

ENGINEERING LICENSE

STATE OF MISSOURI
PE CERTIFICATE OF AUTHORIZATION #001640

ENGINEER	PE #:	DISCIPLINE:
MLO MICHAEL L. OWENS	E-29058	STRUCTURAL/CIVIL SC
XV KEVIN VANMAELE	E-21561	STRUCTURAL/CIVIL SC
REJ ROBERT E. JENSEN	E-28974	STRUCTURAL/CIVIL SC
TMS TERRANCE M. SUPER	E-18521	ELECTRICAL E
SDK SHELTON D. KEISLING	E-27323	ELECTRICAL E
DEK DAVE E. KASPER	E-16063	ELECTRICAL E

DRAWING NOTICE:

THIS DRAWING HAS NOT BEEN PUBLISHED AND IS THE SOLE PROPERTY OF SSC, INC. AND IS LOANED TO THE BORROWER FOR THEIR CONFIDENTIAL USE ONLY. AND IN CONSIDERATION OF THE LOAN OF THIS DRAWING, THE BORROWER PROMISES AND AGREES TO RETURN IT UPON REQUEST AND AGREES THAT IT WILL NOT BE REPRODUCED, COPIED, LENT OR OTHERWISE DISPOSED OF DIRECTLY OR INDIRECTLY, NOR USED FOR ANY PURPOSE OTHER THAN FOR WHICH IT IS FURNISHED.

SUBMITTALS

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	12/30/14	MJO	0
REVISED PER CLIENT COMMENTS	01/28/15	MJO	1
REVISED PER CLIENT COMMENTS	04/01/15	MJO	2
REVISED PER CLIENT COMMENTS	05/08/15	MJO	3
REVISED PER CLIENT COMMENTS	08/17/15	MJO	4
REVISED PER CLIENT COMMENTS	07/08/15	MJO	5

SITE NAME:

ST. LOUIS COUNTY WATER COMPANY

SITE NUMBER:

880796

SITE ADDRESS:

1850 BAXTER ROAD
CHESTERFIELD, MISSOURI 63017

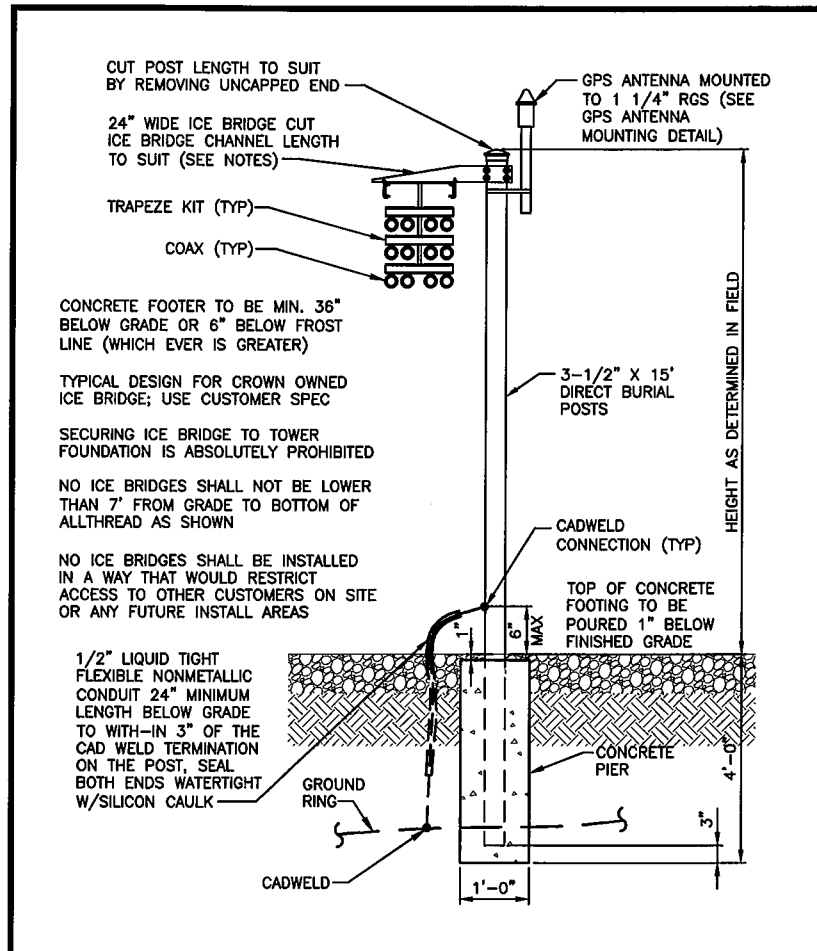
SHEET DESCRIPTION:

GROUNDING PLAN

SSC #:

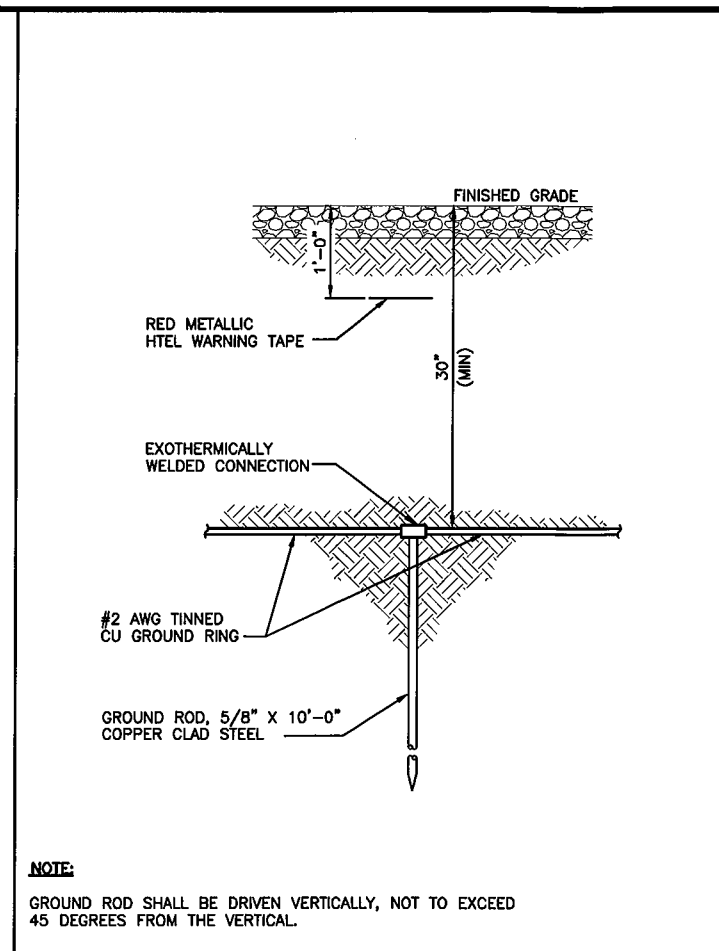
SHEET NUMBER:

G-1



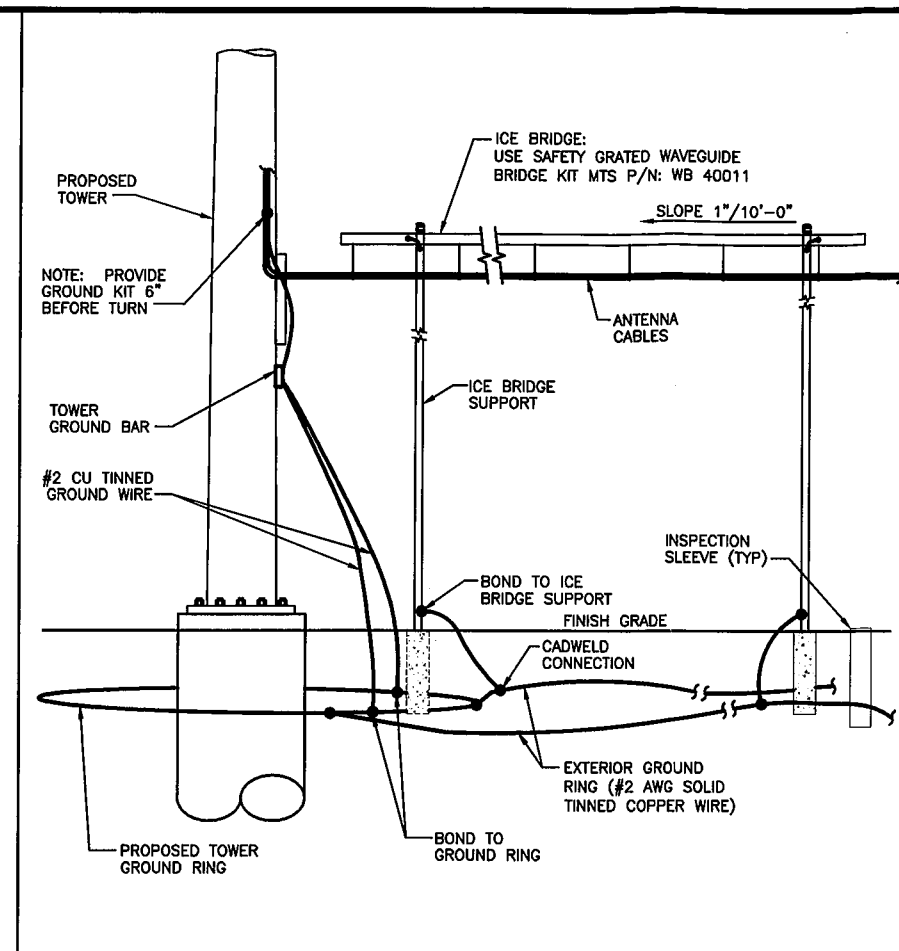
ICE BRIDGE SUPPORT POST FOUNDATION

5



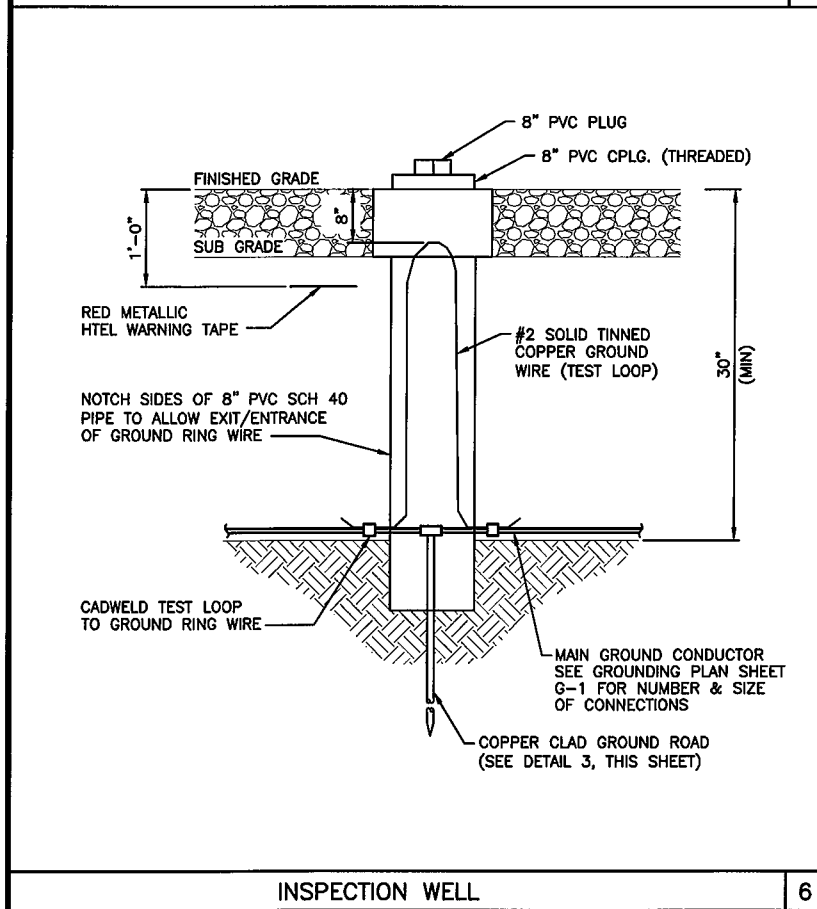
GROUND ROD

3



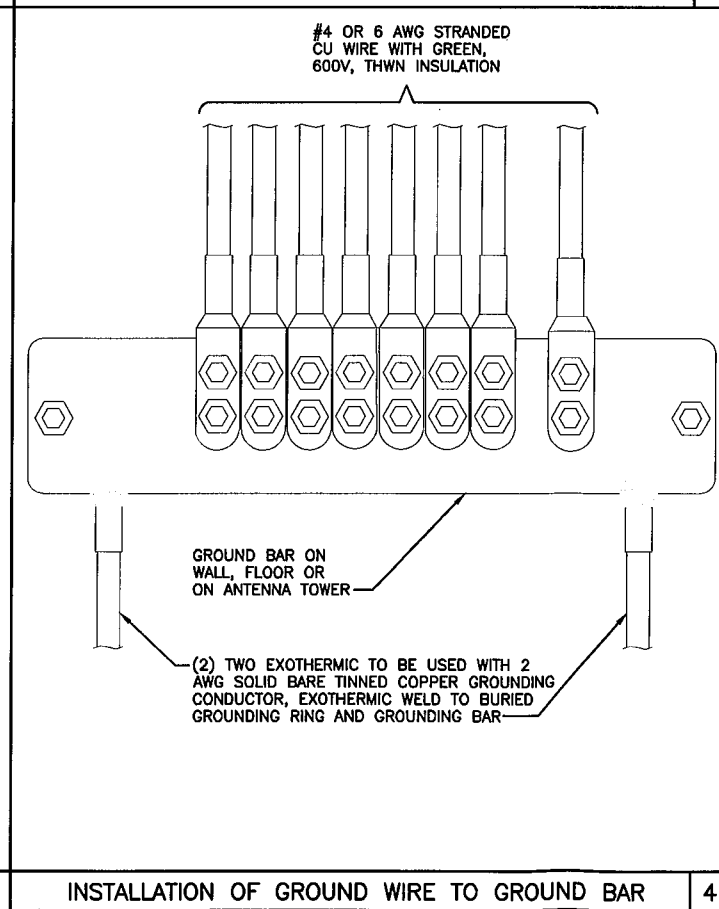
ICE BRIDGE AND ANTENNA CABLE DETAIL

1



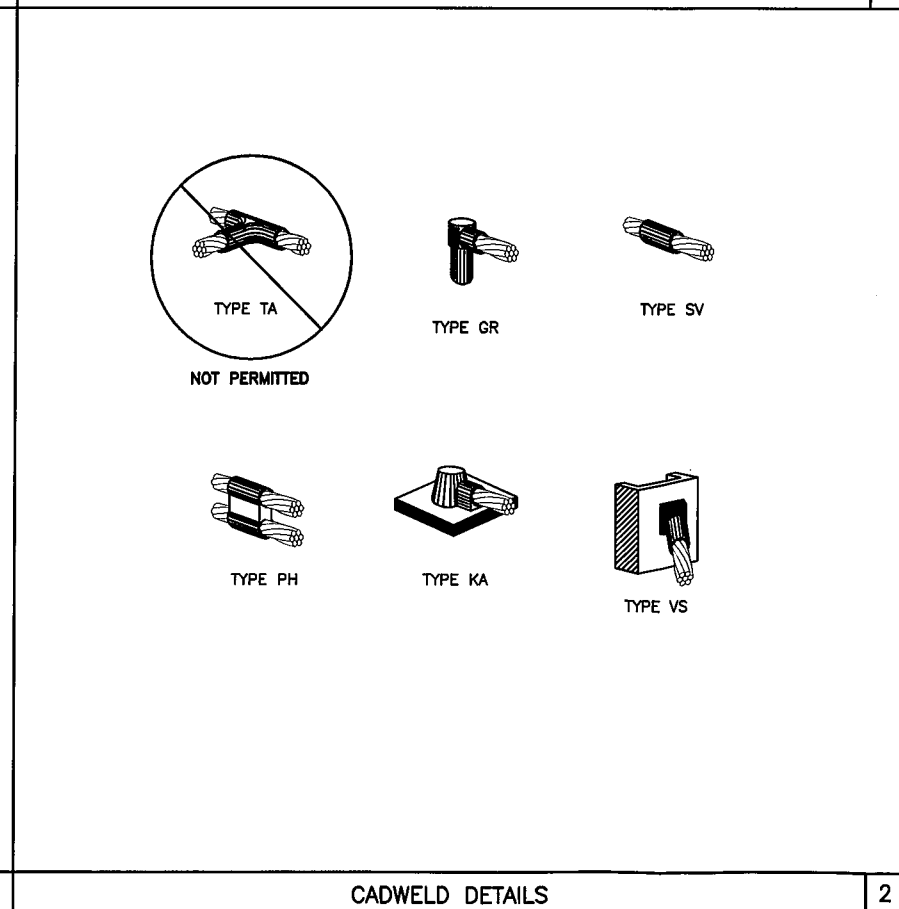
INSPECTION WELL

6



INSTALLATION OF GROUND WIRE TO GROUND BAR

4



CADWELD DETAILS

2

PLANS PREPARED FOR:

PLANS PREPARED BY:

424 S. Woods Mill Road, Suite 220
Chesterfield, Missouri 63017
Phone: 314-993-1010
Fax: 913-438-777

ENGINEERING LICENSE:

STATE OF MISSOURI
PE CERTIFICATE OF AUTHORIZATION #001640

ENGINEER: PE #: DISCIPLINE:

MLO MICHAEL L. OWENS E-29058 STRUCTURAL/CIVIL SC
KV KEVIN VANMAELE E-21561 STRUCTURAL/CIVIL SC
REJ ROBERT E. JENSEN E-20974 STRUCTURAL/CIVIL SC
TMS TERRANCE M. SUPER E-18521 ELECTRICAL E
SDK SHELTON D. KEISLING E-27323 ELECTRICAL E
DEK DAVE E. KASPER E-16063 ELECTRICAL E

DRAWING NOTICE:

THIS DRAWING HAS NOT BEEN PUBLISHED AND IS THE SOLE PROPERTY OF SSC, INC. AND IS LENT TO THE BORROWER FOR THEIR CONFIDENTIAL USE ONLY, AND IN CONSIDERATION OF THE LOAN OF THIS DRAWING, THE BORROWER PROMISES AND AGREES TO RETURN IT UPON REQUEST AND AGREES THAT IT WILL NOT BE REPRODUCED, COPIED, LENT OR OTHERWISE DISPOSED OF DIRECTLY OR INDIRECTLY, NOR USED FOR ANY PURPOSE OTHER THAN FOR WHICH IT IS FURNISHED.

SUBMITTALS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	12/30/14	MJO	0
REVISED PER CLIENT COMMENTS	01/28/15	MJO	1
REVISED PER CLIENT COMMENTS	04/01/15	MJO	2
REVISED PER CLIENT COMMENTS	05/08/15	MJO	3
REVISED PER CLIENT COMMENTS	05/17/15	MJO	4
REVISED PER CLIENT COMMENTS	07/06/15	MJO	5

SITE NAME:

ST. LOUIS COUNTY WATER COMPANY

SITE NUMBER:

880796

SITE ADDRESS:

1850 BAXTER ROAD
CHESTERFIELD, MISSOURI 63017

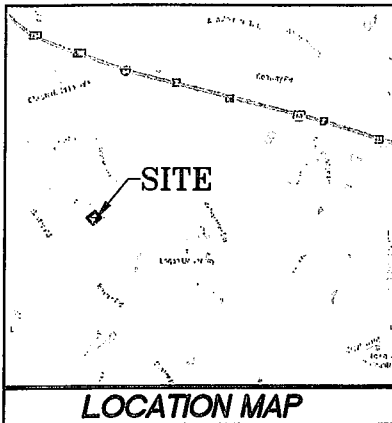
SHEET DESCRIPTION:

GROUNDING DETAILS

SSC #:

SHEET NUMBER:

G-2



PARENT TRACT DESCRIPTION:
 A tract of land in Lot 6 of Henry Eberwein's Subdivision in U.S. Survey 1978, Township 45 North, Range 4 East, and being more particularly described as follows:
 Beginning at the intersection of the South line of U.S. Survey 1978 with the line of prolongation Southwesterly of the West line of said Lot 6; thence extending East along said survey line, 1525 feet to a point; thence North at a right angle to said survey line, 575 feet to a point; thence West and parallel with said survey line, 315 feet to a point; thence South at a right angle to said lot mentioned line, 555 feet to a point; thence West and parallel with said survey line, 1210 feet, more or less, to a point in the West line of said Lot 6 or its prolongation Southwesterly; and thence South along the West line of said Lot 6 (prolonged Southwesterly) 20 feet, more or less, to the point of beginning.

LEASE AREA:
 A tract of land in Lot 6 of Henry Eberwein's Subdivision in U.S. Survey 1978, Township 45 North, Range 4 East, and being more particularly described as follows:
 Commencing at the intersection of the Southeast corner of a tract of land conveyed to St. Louis Water Company as recorded in Deed Book 6215, page 315 of the St. Louis County, Missouri Recorder of Deeds Office with the Southern line of U.S. Survey 1978, said point also being in the Northern line of Claymont Lake Estates Plat Two, a subdivision as recorded in Plat Book 163, pages 24 & 25 of said St. Louis County Recorder of Deeds Office; thence in a Northwesterly direction along the Eastern line of said St. Louis County Water tract, North 31 degrees 41 minutes 48 seconds West, 265.85 feet to a point; thence South 58 degrees 04 minutes 20 seconds West, 100.74 feet to the True Point of Beginning; thence continuing South 59 degrees 04 minutes 20 seconds West, 40.00 feet to a point; thence North 31 degrees 55 minutes 40 seconds West, 30.00 feet to a point; thence North 58 degrees 04 minutes 20 seconds East, 40.00 feet to a point; thence South 31 degrees 55 minutes 40 seconds East, 30.00 feet to the Point of Beginning and containing 1,200 square feet.

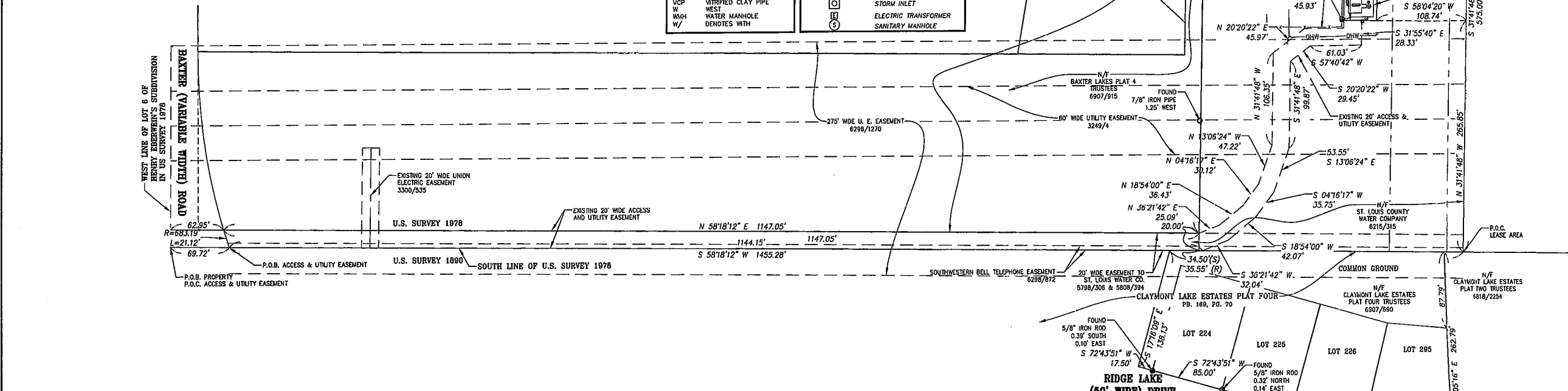
20' ACCESS AND UTILITY EASEMENT:
 A tract of land in Lot 6 of Henry Eberwein's Subdivision in U.S. Survey 1978, Township 45 North, Range 4 East, and being more particularly described as follows:
 Commencing at the intersection of the South line of U.S. Survey 1978 with the Southwesterly prolongation of the West line of said Lot 6; thence in a Northwesterly direction along said U.S. Survey line, North 59 degrees 18 minutes 12 seconds East, 69.72 feet more or less to a point in the Eastern right-of-way of Baxter Road to the true Point of Beginning; thence in a northerly direction along said right-of-way along on or to the right having a central angle of 1 degree 46 minutes 15 seconds, a radius of 663.19 feet more or less, on one length of 21.12 feet more or less to a point; thence leaving said right-of-way North 58 degrees 18 minutes 12 seconds East, 1,147.05 feet more or less to a point in the Western line of a tract of land conveyed to St. Louis County Water Company as recorded in Deed Book 6215, page 315 of the St. Louis County, Missouri Recorder of Deeds Office; thence North 36 degrees 21 minutes 42 seconds East, 25.09 feet to a point; thence North 18 degrees 54 minutes 50 seconds East, 36.43 feet to a point; thence North 04 degrees 18 minutes 17 seconds East, 30.12 feet to a point; thence North 13 degrees 08 minutes 24 seconds East, 47.22 feet to a point; thence North 31 degrees 41 minutes 48 seconds West, 106.35 feet to a point; thence North 20 degrees 20 minutes 22 seconds East, 45.97 feet to a point; thence North 57 degrees 40 minutes 42 seconds East, 45.93 feet to a point; thence North 31 degrees 55 minutes 40 seconds West, 8.48 feet to a point; thence North 31 degrees 55 minutes 40 seconds West, 22.00 feet to a point; thence North 31 degrees 55 minutes 40 seconds West, 28.33 feet to a point; thence South 57 degrees 40 minutes 42 seconds West 51.03 feet to a point; thence South 20 degrees 20 minutes 22 seconds West, 29.45 feet to a point; thence South 31 degrees 41 minutes 48 seconds East, 99.87 feet to a point; thence South 13 degrees 08 minutes 24 seconds East, 53.55 feet to a point; thence South 04 degrees 18 minutes 17 seconds West, 35.75 feet to a point; thence South 18 degrees 54 minutes 00 seconds West, 42.07 feet to a point; thence South 35 degrees 21 minutes 42 seconds West, 52.04 feet to a point in the aforementioned Northern line of said U.S. Survey line South 58 degrees 18 minutes 12 seconds West, 1,144.15 feet to the Point of Beginning and containing 29,976 square feet more or less.

ABBREVIATIONS

AC	ACRES
ASPH	ASPHALT
BK	BOOK
BLDG	BUILDING
BM	BENCH MARK
CLF	CHAIN LINK FENCE
CONC	CONCRETE
DB	DEED BOOK
E	EAST
EMH	ELECTRIC MANHOLE
EL	ELEVATION
FF	FINISHED FLOOR
L	LENGTH
FL	FLOW LINE
N	NORTH
NH	NORSE
NE	NORTHEAST
NTS	NOT TO SCALE
PB	PLAT BOOK
PG	PAGE
PVC	POLYVINYL CHLORIDE
P.O.C.	POINT OF COMMENCEMENT
P.O.S.	POINT OF BEGINNING
PWMT	PAVEMENT
R	RADIUS
RCP	REINFORCED CONC. PIPE
REC	RECORD
RR TIE	RAIL ROAD TIE WALL
RR IIE	RAIL ROAD TIE WALL
R/W	RIGHT OF WAY
S	SOUTH
SA	SANITARY
SBM	SITE BENCHMARK
SF	SQUARE FEET
ST	STORM
SUR	SURVEY
SW	SOUTHWEST
TRANS	TRANSFORMER
VCP	VITRIFIED CLAY PIPE
W	WEST
WMH	WATER MANHOLE
W/	W/

LEGEND

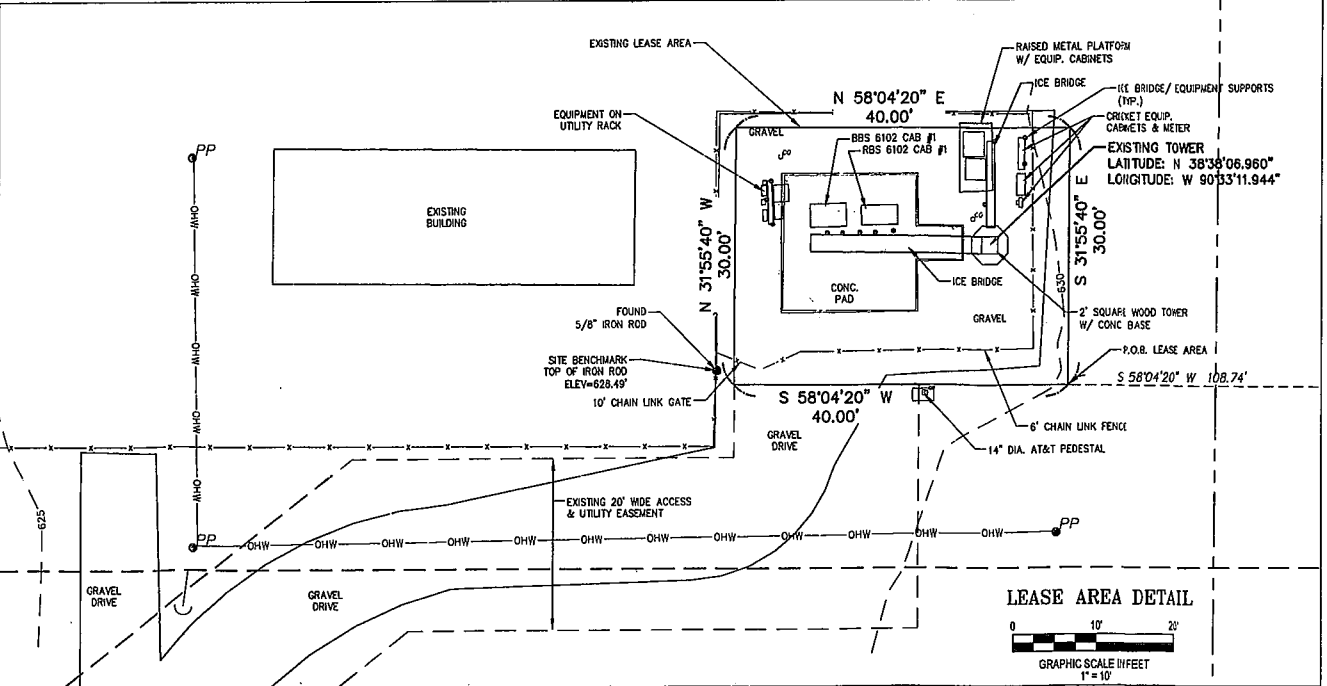
—PP	POWER POLE W/GUY WIRE
—PP	POWER POLE
—S	STREET SIGN
—GV	GAS VALVE
—GM	GAS METER
—WV	WATER VALVE
—WM	WATER METER
—W/F	WATER FAUCET OR SPRINKLER
—C/C	CLEAN OUT
—YD	YARD DRAIN
—E/E	ELECTRIC BOX OR METER
—MB	MAIL BOX
—T/CB	TELEPHONE OR CABLE BOX
—LS	LIGHT STANDARD
—F	FIRE HYDRANT
—TS	TRAFFIC SIGNAL
—YL	YARD LIGHT
—CM	COIN METER
—T	TEST HOLE
—OHW	OVERHEAD UTILITY LINE
—G	GAS LINE
—UE	UNDERGROUND ELECTRIC
—SS	SANITARY SEWER
—W	WATER LINE
—ST	STORM SEWER
—F	FENCE
—UT	UNDERGROUND TELEPHONE
—TL	TREE LINE
—P	PLUS OR MINUS
—T	TREE W/SIZE
—B	BUSH W/SIZE
—S	STORM GRATE INLET
—I	STORM INLET
—E	ELECTRIC TRANSFORMER
—M	SANITARY MANHOLE



SURVEYOR NOTES:
 The Title Insurance Commitment has been provided by Old Republic National Title Insurance Company, Commitment number S 99090652 W, dated September 3, 1999.
 Schedule B Section II comments:
 6. Easement(s) to Union Electric Company of Missouri recorded in Book 3249, page 4 and Book 3300, page 535. (Applies to and affects subject tract as shown).
 7. Easement(s) to St. Louis County Water Company recorded in Book 5798, page 306 and Book 5808, page 394. (Applies to and affects subject tract as shown).
 8. Easement(s) to Union Electric Company recorded in Book 6298, page 1270. (Applies to and affects subject tract as shown).
 9. Easement(s) to Southwestern Bell Telephone Company recorded in Book 6298, page 872. (Applies to and affects subject tract as shown).
 SITE DATUM ELEVATION: Elevations shown hereon are on U.S.G.S. datum and have been derived from GPS observation using the Missouri Department of Transportation's GNSS VRS network, WGS 84, NAVD 88.
 BASIS OF BEARINGS: Established from Baxter Lakes Plat Three, a subdivision as recorded in Plat Book 163, pages 56 thru 61 of the St. Louis County, Missouri Recorder of Deeds Office.
 SITE BENCHMARK: St. Louis County Benchmark #12093 NAVD88 (SLC20110) Elev=601.32 US Feet. NGVD29 Elev= 601.54 US Feet. "U" on top of the northwest corner of a concrete base of a transmission tower; 30' east of the centerline of Baxter Road and 350' north of County Field Drive.
 FLOOD PLAIN INFORMATION: The tract surveyed is within Zone "X", area determined to be outside the 0.2% annual chance floodplain, as located on FIRM Map No. 29169C0170K dated February 4, 2015.

SURVEYOR'S CERTIFICATE:
 This is to certify that at the request of Selective Site Consultants, we have during the month of April, 2015 executed a partial Property Boundary, Topographic and Improvement Survey on a Tract of Land described hereon and that the results of said survey are represented upon this plat. The purpose of this Survey is to establish and describe the Lease Tract and associated easements. This is not a Property Boundary Survey of the Parent Tract.

Gateway Land Services (Agent)
 By: *Lee C. Ferrenbach III*
 (Agent) Lee C. Ferrenbach III U.S. - 2310
 Vice President



GLS GATEWAY
 LAND SERVICES
 Engineering
 Surveying

Gateway Land Services, Inc.
 4 West Drive, Suite 110
 Chesterfield, MO 63077
 Office: 636.630.9626
 Fax: 636.630.9625
 www.glsllc.com
 Land Surveying Services No. LS-2008014482

STATE OF MISSOURI
 PROFESSIONAL LAND SURVEYOR
 LEE C. FERRENBACH III
 NUMBER
 PLS-2310
 License No. PLS-2310

PROJECT REVISION:

NO.	DATE	DESCRIPTION
1	7/7/15	ADDED WATER TOWER

SELECTIVE SITE CONSULTANTS
 ST. LOUIS COUNTY
 WATER TOWER
 1860 BAXTER ROAD
 CHESTERFIELD, MO 63017
 ST. LOUIS COUNTY

PARTIAL BOUNDARY, TOPOGRAPHIC & IMPROVEMENT SURVEY

A tract of land in Lot 6 of Henry Eberwein's Subdivision in U.S. Survey 1978, Township 45 North, Range 4 East, St. Louis County, Missouri.

DATE: 6/10/15
 BOOK NO.: N/A
 DRAFTED BY: LLW
 APPROVED BY: LCF
 FILE NAME: 15-081.DWG

SHEET TITLE:
 PARTIAL BOUNDARY TOPOGRAPHIC & IMPROVEMENT SURVEY

SHEET NUMBER
SUV-1

SHEET NO: 1 OF 1
 PROJECT NO: 15-081

C:\PROJ\01-2991\15-081\DWG\15-081_CAD\15-081.dwg 7/7/2015 11:49 AM