CASE NUMBER:

99-262

KY. PUBLIC SERVICE COMMISSION

Index for Case: 1999-00262 AS OF : 02/13/02

Sprint Spectrum, L.P. c/o Sprint PCS

Construct

Regular

CELL SITE - 7881 HWY 36 - SANDERS, CARROLL COUNTY

IN THE MATTER OF THE APPLICATION OF WIRELESSCO, L.P., BY AND THROUGH ITS AGENT AND GENERAL PARTNER SPRINT SPECTRUM, L.P., FOR ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT A PERSONAL COMMUNICATIONS SERVICES FACILITY IN THE LOUISVILLE MAJOR TRADING AREA (MARSHALL FACILITY)

SEQ NBR		Date	Remarks
1	(M)	06/28/99	NOTICE OF INTENT TO FILE CELL SITE APPLICATION (SANDRA KEENE)
2	(M)	07/30/99	APPLICATION (WIRELESSCO SANDRA KEENE)
3		08/04/99	Acknowledgement letter.
4		08/16/99	No deficiencies letter
5		09/15/99	Final Order granting C/N to construct and operate the Marshall cell site.
6	(M)	09/15/99	MOTION TO SUBMIT MATTER (SPRINTCOM INC SANDRA KEENE)
7		01/20/00	First Reminder to Jeffrey M. Pfaff C: Honorable Sandra F. Keene
8		02/07/02	Second reminder letter sent to Jeffery Pfaff requesting file copy of FAA and KAZVC approval for construction.
9	(M)	02/12/02	Sandra F Keene - Tilford, Dobbins, Alexander, - Notice of supplemental filing

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the matter of:

APPLICATION OF WIRELESSCO, L.P., BY AND THROUGH ITS AGENT AND GENERAL PARTNER SPRINT SPECTRUM, L.P., FOR ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT A PERSONAL COMMUNICATIONS SERVICES FACILITY IN THE LOUISVILLE MAJOR TRADING AREA [MARSHALL FACILITY]	)	CASE NO. 99-262

NOTICE OF SUPPLEMENTAL FILING

Comes the Applicant, WirelessCo, L.P., by and through its Agent and General Partner Sprint Spectrum, L.P., by counsel and submits the following information:

1. A copy of the "Determination of No Hazard to Air Navigation" from the Federal Aviation Administration for the Marshall facility, attached hereto as "Exhibit A";

2. A copy of the Applicant's FCC Antenna Structure Registration for the Marshall facility, attached hereto as "Exhibit B"; and

3. A copy of the Kentucky Airport Zoning Commission's approval for the Marshall facility, attached hereto as "Exhibit C".

Respectfully submitted,

Sandra F. Keene

Sandra F. Keene
TILFORD, DOBBINS, ALEXANDER
BUCKAWAY & BLACK LLP
1400 One Riverfront Plaza
Louisville, Kentucky 40202
(502) 584-1000

LV31XC001

Federal Aviation Administration
Southern Region, ASO-520
P.O. Box 20636
Atlanta, GA 30320

AERONAUTICAL STUDY
No: 00-ASO-1537-OE
PRIOR STUDY
No: 00-ASO-1536-OE

ISSUED DATE: 05/04/00

FRED ZHU LV31X3001
SPRINT SPECTRUM, LP
1150 N. MEADOW PKWAY, STE 118
ROSWELL, GA 30076

** DETERMINATION OF NO HAZARD TO AIR NAVIGATION **

The Federal Aviation Administration has completed an aeronautical study under the provisions of 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerning:

Description: CONSTRUCTION CRANE

Location: LOUISVILLE KY
Latitude: 38-07-38.90 NAD 83
Longitude: 085-41-11.10
Heights: 180 feet above ground level (AGL)
649 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking and/or lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory Circular 70/7460-1K.

This determination expires on 11/04/00 unless:

(a) extended, revised or terminated by the issuing office or
(b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case the determination expires on the date prescribed by the FCC for completion of construction or on the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE POSTMARKED OR DELIVERED TO THIS OFFICE AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, frequency(ies) or use of greater power will void this determination. Any future construction or alteration,

EXHIBIT
A

including increase in heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission if the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at 404-305-5579. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 00-ASO-1537-OE.

Earl P. Newalu Jr.

Earl P. Newalu Jr.
Specialist, Airspace Branch

(DNE)

Kentucky Airport Zoning Commis
125 Holmes Street
Frankfort, KY 40622

(502) 564-4480
fax: (502) 564-7953

No.: AS-021-CVG-99-146

STV 24882

LV33XC001A

September 14, 1999

APPROVAL OF APPLICATION

APPLICANT:
WIRELESS, L.P. dba SPRINT PCS
FRED ZHU
1150 N. MEADON PARKWAY
SUITE 118
ROSEWELL, GA 30076

SUBJECT: AS-021-CVG-99-146

STRUCTURE: Antenna Tower
LOCATION: Ghent, KY
COORDINATES: 38°39'36.81"N / 85°02'15.75"W
HEIGHT: 265'AGL/1,080'AMSL

The Kentucky Airport Zoning Commission has approved your application for a permit to construct (265'AGL/1,080'AMSL) Antenna Tower near Ghent, KY 38°39'37"N, 85°02'16"W.

This permit is valid for a period of 18 Month(s) from its date of issuance. If construction is not completed within said 18-Month period, this permit shall lapse and be void, and no work shall be performed without the issuance of a new permit.

A copy of the approved application is enclosed for your files.

Dual obstruction lighting is required in accordance with 602 KAR 50:100..

RBland

Ronald Bland, Administrator

received
9/21/99

Kentucky Airport Zoning Commissi
125 Holmes Street
Frankfort, KY 40622
(502) 564-4480
fax: (502) 564-7953
No.: AS-021-CVG-99-146

LV33XC001A

CONSTRUCTION/ALTERATION STATUS REPORT

September 14, 1999
AERONAUTICAL STUDY NUMBER: AS-021-CVG-99-146
WIRELESS, L.P. dba SPRINT PCS
FRED ZHU
1150 N. MEADON PARKWAY
SUITE 118
ROSEWELL, GA 30076

This concerns the permit which was issued to you by the Kentucky Airport Zoning Commission on September 13, 1999. This permit is valid for a period of 18 Month(s) from its date of issuance. If construction is not completed within the said 18-Month period, this permit shall lapse and be void, and no work shall be performed without the issuance of a new permit. When appropriate, please indicate the status of the project in the place below and return this letter to Ronald J. Bland, Administrator, Kentucky Airport Zoning Commission, 125 Holmes Street, Frankfort, Kentucky 40622. (502)564-4480.

STRUCTURE: Antenna Tower
LOCATION: Ghent, KY
COORDINATES: 38°39'36.81"N / 85°02'15.75"W
HEIGHT: 265'AGL/1,080'AMSL

CONSTRUCTION/ALTERATION STATUS

1. The project ( ) is abandoned. ( ) is not abandoned.

2. Construction status is as follows:
   Structure reached its greatest height of _____ ft. AGL
   _____ ft. AMSL on _____ (date).

   Date construction was completed. _____

   Type of obstruction marking/painting. _____

   Type of obstruction lighting. _____

   As built coordinates. _____

   Miscellaneous Information: _____

   _____

DATE _____

SIGNATURE/TITLE _____

received
9/13/99

EXHIBIT
C

Paul E. Patton, Governor

Ronald B. McCloud, Secretary
Public Protection and
Regulation Cabinet

Thomas M. Dorman
Executive Director
Public Service Commission

COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
211 Sower Boulevard
POST OFFICE BOX 615
FRANKFORT, KENTUCKY 40602
www.psc.state.ky.us
(502) 564-3940
Fax (502) 564-3460

Martin J. Huelsmann
Chairman

Edward J. Holmes
Vice Chairman

Robert E. Spurlin
Commissioner

February 7, 2002

Mr. Jeffery M. Pfaff
Legal/Regulatory Department
SprintCom, Inc.
c/o Sprint PCS
4900 Main Street, 11th Floor
Kansas City, MO 64112

Re: Case No. 1999-262
Second Reminder Letter

Dear Mr. Pfaff:

On July 30, 1999, the Commission issued an Order requiring Sprint Spectrum, LP to file a copy of FAA and KAZC approval for construction with the Commission. This information was due December 31, 1999. As of this date this information has not been filed. Please file the requested information no later than February 19, 2002.

Any questions concerning this matter should be directed to Jeff Johnson at (502) 564-3940, extension 417.

Sincerely,

Stephanie Bell
Secretary of the Commission

SB/rlm

cc: Honorable Sandra F. Keene

COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KENTUCKY 40602
www.psc.state.ky.us
(502) 564-3940
Fax (502) 564-1582

Paul E. Patton
Governor

Ronald B. McCloud, Secretary
Public Protection and
Regulation Cabinet

Helen Helton
Executive Director
Public Service Commission

January 20, 2000

Mr. Jeffrey M. Pfaff
Legal/Regualtory Department
Sprint Spectrum, L.P.
C/O Sprint PCS
4900 Main St., 11th Floor
Kansas City, MO 64112

Re: Case No. 99-262
First Reminder Letter

Dear Mr. Pfaff:

The Commission entered its Final Order in this case on September 15, 1999. Among other things, the Commission ordered that WirelessCo, L.P. shall file a copy of the final decisions regarding the pending FAA and KAZC applications for this site within 10 days of receiving these decisions. This must be filed to fully comply with the Commission's Order. Please make this filing, referencing the case number 99-262.

If you have questions concerning this letter, please contact Howell Brady, Principal Assistant to the Executive Director at 502-564-3940, extension 265. Otherwise, please mail the required filing to Helen C. Helton, Executive Director, Public Service Commission, 730 Schenkel Lane, Post Office Box 615, Frankfort, Kentucky 40602.

Sincerely,

Stephanie Bell
Secretary to the Commission

SB/lc

C: The Honorable Sandra F. Keene

FILE COPY

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the matter of:

APPLICATION OF WIRELESSCO, L.P., BY AND THROUGH ITS AGENT AND GENERAL PARTNER SPRINT SPECTRUM, L.P., FOR ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT A PERSONAL COMMUNICATIONS SERVICES FACILITY IN THE LOUISVILLE MAJOR TRADING AREA [MARSHALL FACILITY]	)	CASE NO. 99-262

MOTION TO SUBMIT MATTER FOR APPROVAL ON THE RECORD

Comes SprintCom, Inc., by counsel and moves to submit the application herein for approval on the record. In support of said motion, Applicant states the following:

1. The required notices have been posted at the proposed site and at the nearest public road to the proposed site.

2. The required notice of proposed construction has been published a newspaper of general circulation in the Sanders/Carroll County area.

3. Applicant has taken all required steps in serving notice of the proposed construction by certified mail upon all owners of property within 500 feet of the proposed facility. Copies of the returned certified mail receipts are attached hereto as "Exhibit 1." In identifying owners of property with 500 of the proposed facility, Applicant relied upon the records of the Boone County Property Valuation Administrator. Also included in "Exhibit 1," is a copy of the returned certified mail receipt from the Carroll County Judge Executive.

4. No opposition to the proposed tower has been communicated to the Applicant,

and to Applicant's knowledge, no opposition has been filed with the Commission. Applicant respectfully requests that the Commission issue a Certificate of Public Convenience and Necessity as applied for herein.

An Order granting the Certificate sought is tendered herewith.

Respectfully submitted,

Sandra F. Keene

Mark W. Dobbins
Sandra F. Keene
TILFORD, DOBBINS, ALEXANDER
BUCKAWAY & BLACK
1400 One Riverfront Plaza
Louisville, Kentucky 40202
(502) 584-6137

G:\OFFICE\MWD\WIRE3\001A\MOTION.SUB

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "*Return Receipt Requested*" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Richard Dale Marshall
7881 Highway 36 East
Sanders, Kentucky 41083

4a. Article Number
Z 009 6064 804

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery
8-2-99

5. Received By: *(Print Name)*

8. Addressee's Address *(Only if requested and fee is paid)*

6. Signature: *(Addressee or Agent)*
X Richard Marshall

PS Form **3811**, December 1994 102595-97-B-0179 Domestic Return Receipt

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "*Return Receipt Requested*" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Kentucky Transportation Cabinet
Department of Highways
P.O. Box 17130
Ft. Mitchell, Kentucky 41017

4a. Article Number
Z 009 6064 810

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery
7-31-99

5. Received By: *(Print Name)*
Mildred Marshall

8. Addressee's Address *(Only if requested and fee is paid)*

6. Signature: *(Addressee or Agent)*
X Mildred Marshall

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "*Return Receipt Requested*" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
GENE McMURRAY
COUNTY JUDGE EXECUTIVE
CARROLL COUNTY
440 MAIN STREET
CARROLLTON, KY 41008

4a. Article Number
Z 009 6064 805

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery
8-2-99

5. Received By: *(Print Name)*
Robert Cutter

8. Addressee's Address *(Only if requested and fee is paid)*
Same

6. Signature: *(Addressee or Agent)*
X Robert Cutter

PS Form **3811**, December 1994 102595-97-B-0179 Domestic Return Receipt

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

EXHIBIT
1

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the matter of:

APPLICATION OF WIRELESSCO, L.P., BY AND THROUGH ITS AGENT AND GENERAL PARTNER SPRINT SPECTRUM, L.P., FOR ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT A PERSONAL COMMUNICATIONS SERVICES FACILITY IN THE LOUISVILLE MAJOR TRADING AREA [MARSHALL FACILITY]	)	CASE NO. 99-262

ORDER

On July 30, 1999, WirelessCo, L.P. by and through its general partner, Sprint Spectrum ("WirelessCo), filed an Application seeking a Certificate of Public Convenience and Necessity to build and operate a personal communications system ("PCS") for the Louisville Major Trading Area. WirelessCo has requested authorization to construct a PCS site in Carroll County. WirelessCo was previously granted the authority to operate in Case No. 96-077.[1]

The proposed PCS site is located at 7881 Highway 36 East, Sanders, Carroll County, Kentucky (the "Marshall PCS site"). The coordinates for the Marshall site are North Latitude 38' 39-81" by West Longitude 85'41-15.75".

WirelessCo has provided information regarding the structure of the tower, safety measures, and antenna design criteria for the Marshall PCS site. Based upon the application, the

---

[1]Case No. 97-077, the Application of WirelessCo, L.P., by and through its general partner Sprint Spectrum, for Operating Authority and Issuance of Certificate of Public Convenience and Necessity to Construct Personal Communications Services Facilities in Kentucky.

design of the tower and foundation conforms to applicable nationally recognized building standards, and a Registered Professional Engineer has certified the plans.

Pursuant to 807 KAR 5:063 Section 1, WirelessCo notified the Carroll County Judge Executive of the pending construction. WirelessCo has filed applications with the Federal Aviation Administration ("FAA") and the Kentucky Airport Zoning Commission ("KAZC") seeking approval for the construction and operation of the Marshall PCS site. Both applications are pending.

WirelessCo has filed notices verifying that each person who owns property within 500 feet of the Marshall PCS site has been notified of the pending construction. The notice solicited any comments and informed the property owners or residents of their right to intervene. In addition, notice was posted in a visible location on the proposed site and the nearest public road. The notices remained posted for at least two weeks after WirelessCo's application was filed. To date, no intervention requests have been received.

Pursuant to KRS 278.280, the Commission is required to determine proper practices to be observed when it finds, upon complaint or on its own motion, that the facilities of any utility subject to its jurisdiction are unreasonable, unsafe, improper or insufficient. To assist the Commission in its efforts to comply with this mandate, WirelessCo should notify the Commission if its does not use this antenna tower to provide PCS radio telecommunications services in the manner set out in its application and this Order. Upon receipt of such notice, the Commission may, on its own motion, institute proceeding to consider the proper practices, including removal of the unused antenna tower, which should be observed by WirelessCo.

The Commission, having considered the evidence of record and being otherwise sufficiently advised, finds that WirelessCo should be granted a Certificate of Public Convenience and Necessity to construct and operate the Marshall PCS site under its previously approved tariff.

IT IS THEREFORE ORDERED that:

1. WirelessCo is hereby granted a Certificate of Public Convenience and Necessity to construct and operate the Marshall PCS site.

2. WirelessCo shall file a copy of the final decisions regarding the pending FAA and KAZC applications for this site within 10 days of receiving these decisions.

3. WirelessCo shall immediately notify the Commission in writing, if, after the antenna tower is built and utility service is commenced, the tower is not used for a period of 3 months in the manner authorized by this Order.

ATTEST:

_____

EXECUTIVE DIRECTOR

TENDERED BY:

Sandra F. Keene

Mark W. Dobbins
Sandra F. Keene
TILFORD, DOBBINS, ALEXANDER
BUCKAWAY & BLACK
1400 One Riverfront Plaza
Louisville, Kentucky 40202
(502) 584-6137

G:\OFFICE\MWD\WIRE3\001A\ORDER.1

institute proceedings to consider the proper practices, including removal of the unused antenna tower, which should be observed by WirelessCo, L.P.

The Commission, having considered the evidence of record and being otherwise sufficiently advised, finds that WirelessCo, L.P. should be granted a Certificate of Public Convenience and Necessity to construct and operate the Marshall cell site in the Louisville MTA under its previously approved tariff.

IT IS THEREFORE ORDERED that:

1. WirelessCo, L.P. is granted a Certificate of Public Convenience and Necessity to construct and operate the Marshall cell site.

2. WirelessCo, L.P. shall file a copy of the final decisions regarding the pending FAA and KAZC applications for this cell site construction within 10 days of receiving these decisions.

3. WirelessCo, L.P. shall immediately notify the Commission in writing, if, after the antenna tower is built and utility service is commenced, the tower is not used for a period of 3 months in the manner authorized by this Order.

Done at Frankfort, Kentucky, this 15th day of September, 1999.

By the Commission

ATTEST:

Executive Director

COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

August 16, 1999

Jeffrey M. Pfaff
Legal/Regulatory Department
Sprint Spectrum, L.P.
c/o Sprint PCS
4900 Main Street, 11th. Floor
Kansas City, MO. 64112

Honorable Sandra F. Keene
Attorney at Law
Tilford, Dobbins, Alexander
Buckaway & Black
1400 One Riverfront Plaza
Louisville, KY. 40202

RE: Case No. 99-262
SPRINT SPECTRUM, L.P. AGENT FOR WIRELESSCO., L.P.

The Commission staff has reviewed your application in the above case and finds that it meets the minimum filing requirements. Enclosed please find a stamped filed copy of the first page of your filing. This case has been docketed and will be processed as expeditiously as possible.

If you need further assistance, please contact my staff at 502/564-3940.

Sincerely,

Stephanie Bell
Secretary of the Commission

SB/hv
Enclosure

COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

August 4, 1999

Jeffrey M. Pfaff
Legal/Regulatory Department
Sprint Spectrum, L.P.
c/o Sprint PCS
4900 Main Street, 11th. Floor
Kansas City, MO. 64112

Honorable Sandra F. Keene
Attorney at Law
Tilford, Dobbins, Alexander
Buckaway & Black
1400 One Riverfront Plaza
Louisville, KY. 40202

RE: Case No. 99-262
SPRINT SPECTRUM, L.P. AGENT FOR WIRELESSCO., L.P.
(Construct) CELL SITE - 7881 HWY 36 - SANDERS, CARROLL COUNTY

This letter is to acknowledge receipt of initial application in the above case. The application was date-stamped received July 30, 1999 and has been assigned Case No. 99-262. In all future correspondence or filings in connection with this case, please reference the above case number.

If you need further assistance, please contact my staff at 502/564-3940.

Sincerely,

Stephanie Bell
Secretary of the Commission

SB/jc

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the matter of:

APPLICATION OF WIRELESSCO, L.P., BY AND THROUGH ITS AGENT AND GENERAL PARTNER SPRINT SPECTRUM, L.P., FOR ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT A PERSONAL COMMUNICATIONS SERVICES FACILITY IN THE LOUISVILLE MAJOR TRADING AREA [MARSHALL FACILITY]	)	CASE NO. 99-262

APPLICATION

WirelessCo, L.P., by and through its agent and general partner, Sprint Spectrum, L. P., hereby applies for a Certificate of Public Convenience and Necessity to construct and operate a Personal Communications Services ("PCS") facility to complement the network which will serve the customers of the Louisville Major Trading Area ("MTA"). In support of this Application, Sprint Spectrum respectfully states the following.

1. In support of this Application, WirelessCo. L.P., by and through its agent and general partner, Sprint Spectrum, L.P., respectfully states the following.

2. The complete name and address for the Applicant is: Sprint Spectrum, L.P., agent and general partner for WirelessCo., L.P., 11390 Old Roswell Road, Suite 100, Alphraetta, Georgia.

3. WirelessCo., L.P., is a Delaware Limited Partnership. The Kentucky Public Service Commission (the "Commission") has found that WirelessCo., L.P. has the technical, managerial and financial ability to operate a Commercial Mobile Radio Service ("CMRS") in the

order dated April 23, 1996, Case Number 96-077. A copy of WirelessCo's Articles of Incorporation were attached as an exhibit to said Application.

4. Applicant proposes to construct a self supporting tower at 7881 Highway 36 East, Sanders, Carroll County, Kentucky, an area located entirely within the Louisville MTA. Applicant refers to the site of such tower, for shorthand purposes, as the "Marshall" site.

5. The proposed PCS facility will consist of a 250 foot self-supporting lattice tower, with attached antennas extending upward for a maximum total height of 260' feet, and a concrete pad to accommodate two (2) base transceiver station (BTS) units. The BTS units will consist of one (1) current unit and one (1) future unit. The entire proposed PCS facility will be fenced with a secured access gate. Tower design information, including the vertical tower profile, is attached hereto as Exhibit "A."

6. The site development plan, signed and sealed by a professional engineer registered in Kentucky is included as Exhibit "B." A survey, signed and sealed by a professional land surveyor licensed in Kentucky, that shows the proposed location of the tower and all easements and existing structures within 500 feet of the proposed site and all of the easements and structures within 200 feet of the access drive (including the intersection with the public street system) is included in Exhibit "B." The site development plan and survey were prepared by Clough, Harbour, & Associates, LLP, 1080 Holcomb Bridge Road, Rosewell, Georgia. Certification, by a professional surveyor licensed in Kentucky, that the proposed facility is not located within a 100 year flood plain is included in Exhibit "B." Thus, a detailed description of the manner is which the proposed facility will be constructed may be found in Exhibits "A" and "B."

7. According to the Public Service Commission website, the names of all public

utilities, corporations, or persons with whom the proposed new construction is likely to compete are: BellSouth Telecommunications, Inc.

8. Public convenience and necessity require the construction of this proposed PCS facility. The proposed PCS facility is essential to implement service to WirelessCo L.P.'s current and future customers. The Facility is also necessary in accordance with FCC mandates for WirelessCo, L.P.'s license in the Louisville MTA.

The process that was used in selecting the site for the proposed PCS facility by the Applicants was consistent with the process used for selecting all other existing and proposed PCS facilities within the Louisville MTA. In its initial design phase, WirelessCo utilized an FCC database which identifies all existing towers and attempted to position its search rings in such a way so as to maximize co-location opportunities. For search rings in which no existing telecommunications towers existed (or where said towers were not reasonably available for collocation), such as the site proposed herein, Applicant investigated said search rings to locate tall buildings, water tanks, and other suitable, co-locatable structures. No such co-locatable structures were identified within the search ring for the facility proposed herein. A map, drawn to scale, which clearly depicts WirelessCo's search area is attached hereto as Exhibit "C."

The Applicant's engineers selected the optimum site in terms of elevation and location to provide the best quality service to its wireless communications customers in the service area. The search by the engineers for a proposed PCS facility included the measurement of signal levels from other proposed PCS facilities inside the Louisville MTA. The criteria used to identify uninterrupted service required the engineers to look for signal strengths above -100dBm. This particular level is determined to be the minimum signal for PCS phones to function adequately.

9. The proposed PCS facility will serve Kentucky customers in an area totally within Applicants' proposed service area in the Louisville MTA.

10. The proposed PCS facility design has been developed with consideration to severe wind load of 73.5 m.p.h., which conforms to standard EIA/TIA-222-F. The Electronic Industries Association Standards are accepted by the American National Standards Institute and the proposed facility is a nationally accepted tower design.

11. The soil boring and subsequent geotechnical engineering study were performed by Terracon, Inc. Terracon has performed hundreds of such studies for the cellular industry and others of similar interest. Terracon's offices are located at 6621 Bay Circle, Suite 129, Norcross, Georgia. The principal engineer for the site is Timothy G. Lagrow, P.E., a registered Professional Engineer for the Commonwealth of Kentucky. A copy of the Report of Geotechnical Exploration dated June 28, 1999, is attached hereto as Exhibit "D" A copy of the Phase I Environmental Study, including a NEPA checklist, is attached as Exhibit "E."

The full legal description of the lease area is included in Exhibit "B."

12. The foundation design for this proposed tower and PCS facility has been developed with the information provided in Terracon's geotechnical report. The final design for the foundation is included with Exhibit "A".

13. Personnel directly responsible for the design and construction of the proposed facility are qualified and experienced. The initial design of the tower and foundations was performed by Sabre Communications Corporations. The engineer of the design is Chi S. Lee. The construction of the proposed PCS facility will be performed by Crown Communications, Inc. The Operations Manager for the project is Dwayne Runion. Crown Communications has extensive

service in the telecommunications construction industry, and has constructed numerous cellular and/or similar facilities nationwide.

In the event the initial design of the tower and foundation is subsequently revised, the Applicants will amend this Application accordingly and will file with the Commission original and final drawings pursuant to applicable laws and regulations.

14. Copies of Applicant's Notice of Proposed Construction to the federal Aviation Administration (FAA) and to the Kentucky Airport Zoning Commission ("KAZC") are attached hereto as "Exhibit F."

15. Form 854 will be submitted to the FCC as required pending determination by the FAA. Since the proposed PCS facility will serve only the Louisville MTA, no further approvals by the FCC are required. See 47 C.F.R. 24.11 (b), "[b]lanket licenses are granted for each market and frequency block. Applications for individual sites are not required and will not be accepted."

16. The site for the proposed PCS facility is being leased from Richard and Mildred Marshall. A copy of the Memorandum of PCS Site Agreement is attached hereto as "Exhibit G."

17. The proposed PCS facility will be located at 7881 Highway 36, Sanders, Carroll County, Kentucky. Appropriate notices (in compliance with 807 KAR 5:063 Section 1(2)), 2' x 4', with the word "TOWER" in letters at least 4" high, have been posted in a visible location on the proposed site and on the nearest public road and shall remain posted for at least two (2) weeks after the Application is filed. The location of the proposed facility has been published in a newspaper of general circulation in Carroll County, Kentucky.

18. Clear directions to the proposed site, as well as the name, address and telephone number of the person who prepared said directions are set forth in Exhibit "H."

A vicinity map, drawn to scale no less than one (1) inch equals 200 feet, that identifies every structure and every owner of real estate within 500 feet of the proposed tower is included in Exhibit "B ."

19. Applicant has notified the Carroll County Judge Executive by certified mail, return receipt requested, of the proposed construction. Said County Judge Executive has been given the Commission docket number under which this application will be processed and has been informed of his or her right to request intervention. A copy of the notice so provided is included as "Exhibit I."

20. Applicant has notified every person who owns property within 500 feet of the proposed tower by certified mail, return receipt requested, of the proposed construction. Each such person has been given the docket number under which the proposed Application will be processed and has been informed of his or her right to request intervention.

21. A list of the property owners so notified is attached as Exhibit "J", together with copies of the certified letters sent to listed property owners. Copies of the return receipts will be filed with the Commission when received.

22. The area, as depicted on Exhibit "B", in which the proposed facility is to be constructed is zoned Agricultural. The site is part of a larger, 55 acre tract of farm land. Applicant's lessor owns all of the parcels of property surrounding that on which the proposed tower is to be located. Land uses on all sides of the proposed site are primarily pasture land and wooded areas. The proposed site is located on a hilltop, along the northwestern edge of a cow pasture and the southeastern edge of Interstate 71N.

23. Applicant has considered the likely effects of the installation on nearby land uses and values and has concluded that there is no more suitable location reasonably available from which

adequate service can be provided. The proposed tower is part of the Phase III network design for WirelessCo. The Phase III tower sites are located at the outside fringe of the existing tower network. As a result, most of the search rings are located in rural areas of the county. As part of the total network design, co-location on existing towers was explored as the first option. However, there are no like facilities or other tall structures within the Applicant's search ring. See Exhibit K.

The rural Phase III design utilizes a 250' tower, which will allow for greater distances between towers, thus minimizing the total number of new facilities needed. Furthermore, the proposed tower has been designed to accommodate additional carriers. Availability of co-locatable space further minimizes the need for construction of additional towers in the vicinity.

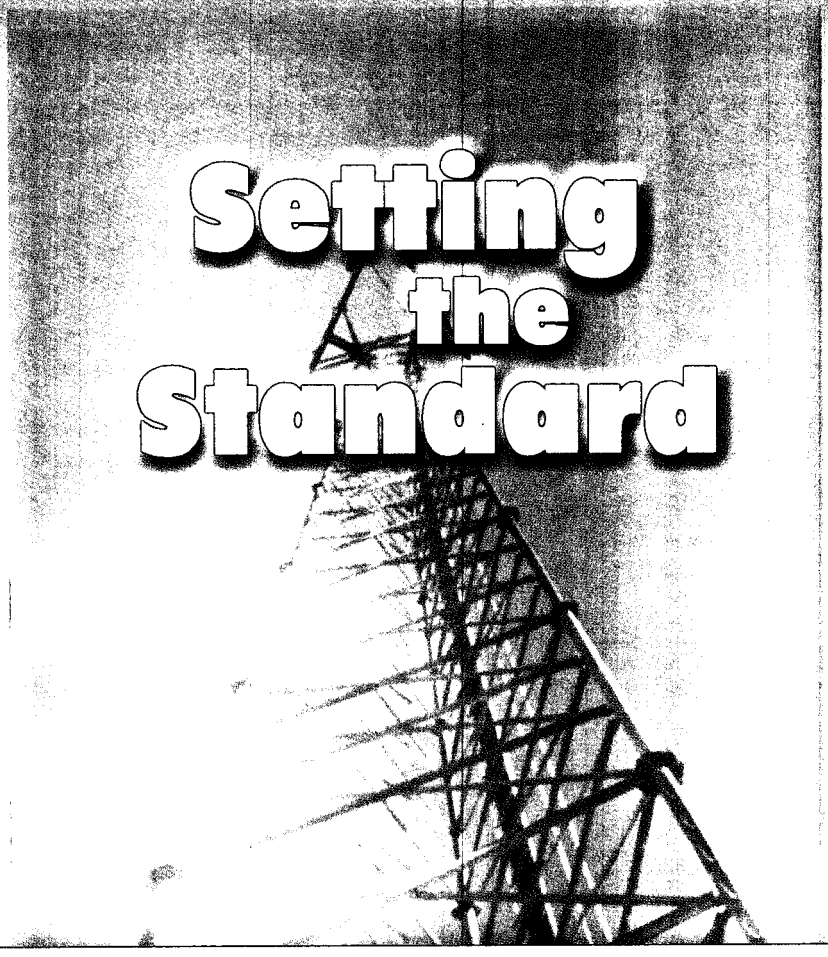
24. Any response to this Application may be directed to Sandra F. Keene at 1400 One Riverfront Plaza, Louisville, Kentucky 40222 or by calling (502)584-6137.

Respectfully submitted,

TILFORD, DOBBINS, ALEXANDER
BUCKAWAY & BLACK

Sandra F. Keene
1400 One Riverfront Plaza
Louisville, Kentucky 40202
(502) 584-6137

G:\OFFICE\MWD\WIRE3\001A\APPLICAT.1



SPRINT PCS

250' *MODEL S3T-L*

MARSHALL, KY *00-07024*

STAMPED PERMIT DRAWINGS

abre
COMMUNICATIONS CORPORATION
SIMPLY THE BEST
2101 Murray Street • P.O. Box 658 • Sioux City, IA 51102
Phone 712-258-6690 • 1-800-369-6690 • FAX 712-258-8250

Sabre
Communications
Corporation
Guyed and Self-Supporting Towers, Monopoles,
HF Antenna Systems and Turnkey Installations

July 19, 1999

Mr. Joe Nieman
Sprint PCS
11390 Old Roswell Road
Alpharetta, GA 30004

Re: Sabre #00-07024 – Marshall, KY – Site #LV33SC0001

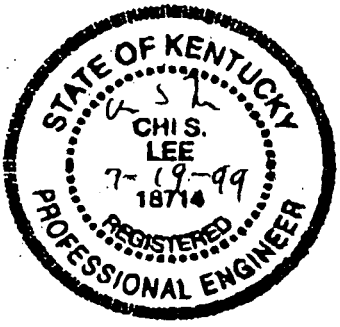
Dear Mr. Nieman,

I am writing this letter to confirm the 250' self supporting tower design for the above referenced site. The initial load would be twelve (12) DAPA 59010 antennas at 250' and two (2) HP dish antennas at 230'. This design would also be adequate for two (2) additional carriers of twelve (12) Decibel DB878 antennas at the 230' and 210' elevations.

Please feel free to contact our office if you should have any questions or require further information.

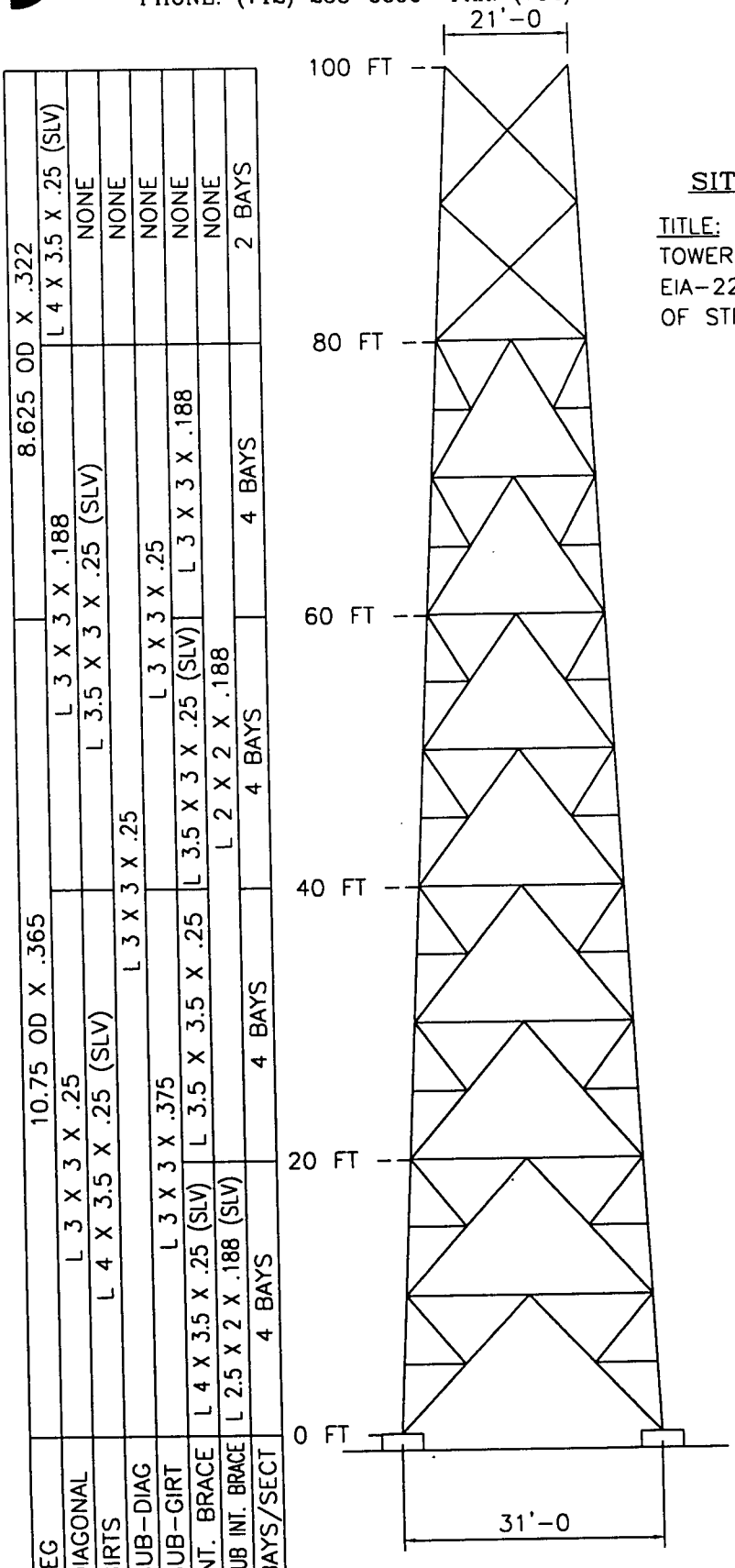
Sincerely,
SABRE COMMUNICATIONS

Mark E. Gothier
Contracts Manager



SABRE COMMUNICATIONS CORPORATION
2101 MURRAY STREET P.O. BOX 658 SIOUX CITY, IOWA 51102
PHONE: (712) 258-6690 FAX: (712) 258-8250

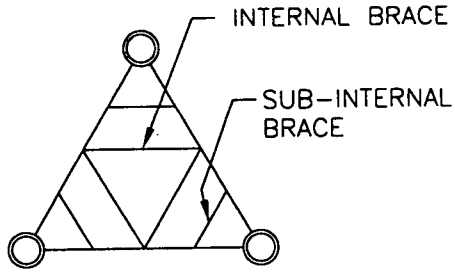
NO. 00-07024
COVER PAGE 1
DATE 7/13/99
BY KJT/MLC
ISSUE 1 7/15/99



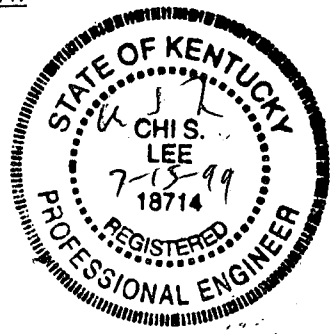
CUSTOMER: SPRINT PCS

SITE: MARSHALL, KY #LV33XC001

TITLE: 250' MODEL S3TL SELF-SUPPORTING TOWER AT 73 1/2 MPH + 1/2" ICE PER EIA-222-F-1996. ANTENNA LOADING PER PAGE 1 OF STRESS ANALYSIS.



PLAN VIEW



NOTES

1). ALL LEGS ARE 50 KSI
2). ALL BRACES ARE 36 KSI
3). ALL BOLTS EXCEPT ANCHOR BOLTS ARE A325-X OR EQUAL

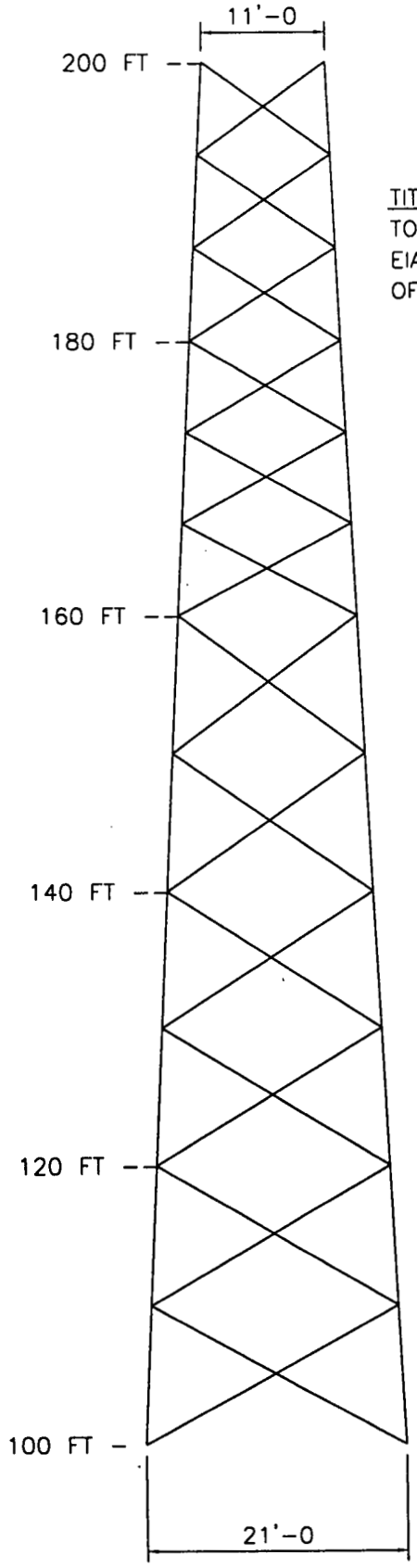
BASE REACTIONS

AXIAL LOAD = 69.97 KIPS
SHEAR PER LEG = 33.71 KIPS
UPLIFT PER LEG = 321.36 KIPS
COMP. PER LEG = 368.01 KIPS
O.T. MOMENT = 9253.51 FT-KIPS

SABRE COMMUNICATIONS CORPORATION
2101 MURRAY STREET P.O. BOX 658 SIOUX CITY, IOWA 51102
PHONE: (712) 258-6690 FAX: (712) 258-8250

NO. 00-07024
COVER PAGE 2
DATE 7/13/99
BY KJT/MLC
ISSUE 1 7/15/99

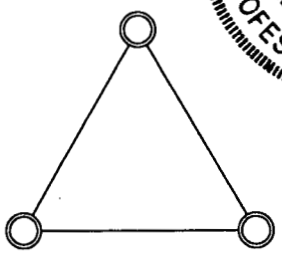
LEG	8.625 OD X .322	6.625 OD X .432	5.563 OD X .375
DIAGONAL	L 3.5 X 3.5 X .25	L 3 X 3 X .188	L 2.5 X 2.5 X .188
GIRTS	L 3.5 X 3.5 X .25 (SLV)	NONE	
SUB-DIAG		NONE	
SUB-GIRT		NONE	
INT. BRACE		NONE	
SUB INT. BRACE		NONE	
BAYS/SECT	2 BAYS	2 BAYS	3 BAYS



CUSTOMER: SPRINT PCS

SITE: MARSHALL, KY #LV33XC001

TITLE: 250' MODEL S3TL SELF-SUPPORTING TOWER AT 73 1/2 MPH + 1/2" ICE PER EIA-222-F-1996. ANTENNA LOADING PER PAGE 1 OF STRESS ANALYSIS.



PLAN VIEW

NOTES

1). ALL LEGS ARE 50 KSI
2). ALL BRACES ARE 36 KSI
3). ALL BOLTS EXCEPT ANCHOR BOLTS ARE A325-X OR EQUAL

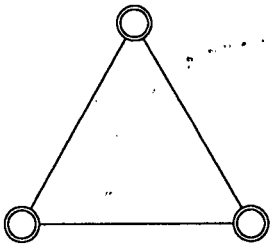
SABRE COMMUNICATIONS CORPORATION
2101 MURRAY STREET P.O. BOX 658 SIOUX CITY, IOWA 51102
PHONE: (712) 258-6690 FAX: (712) 258-8250

NO. 00-07024
COVER PAGE 3
DATE 7/13/99
BY KJT/MLC
ISSUE 1 7/15/99

CUSTOMER: SPRINT PCS

SITE: MARSHALL, KY #LV33XC001

TITLE: 250' MODEL S3TL SELF-SUPPORTING TOWER AT 73 1/2 MPH + 1/2" ICE PER EIA-222-F-1996. ANTENNA LOADING PER PAGE 1 OF STRESS ANALYSIS.

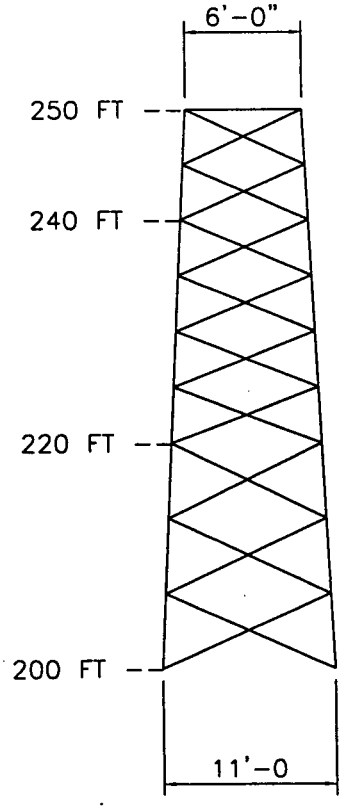


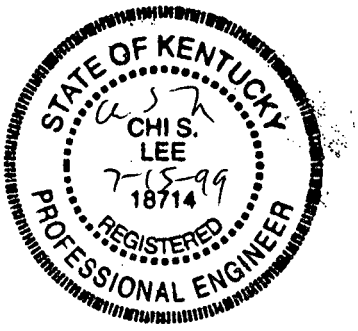
PLAN VIEW

LEG	4.5 OD X .438	3.5 OD X .437				
DIAGONAL	L 2 X 2 X .188	L 1.75 X 1.75 X .188				
GIRTS	NONE					
SUB-DIAG		NONE				
SUB-GIRT			NONE			
INT. BRACE				NONE		
BAYS/SECT	3 BAYS	4 BAYS				2 BAYS

3.5 OD X .300

L 1.75 X 1.75 X .188





NOTES

1). ALL LEGS ARE 50 KSI
2). ALL BRACES ARE 36 KSI
3). ALL BOLTS EXCEPT ANCHOR BOLTS ARE A325-X OR EQUAL

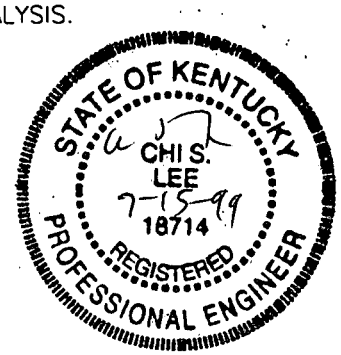
SABRE COMMUNICATIONS CORPORATION
2101 MURRAY STREET P.O. BOX 658 SIOUX CITY, IOWA 51102
PHONE: (712) 258-6690 FAX: (712) 258-8250

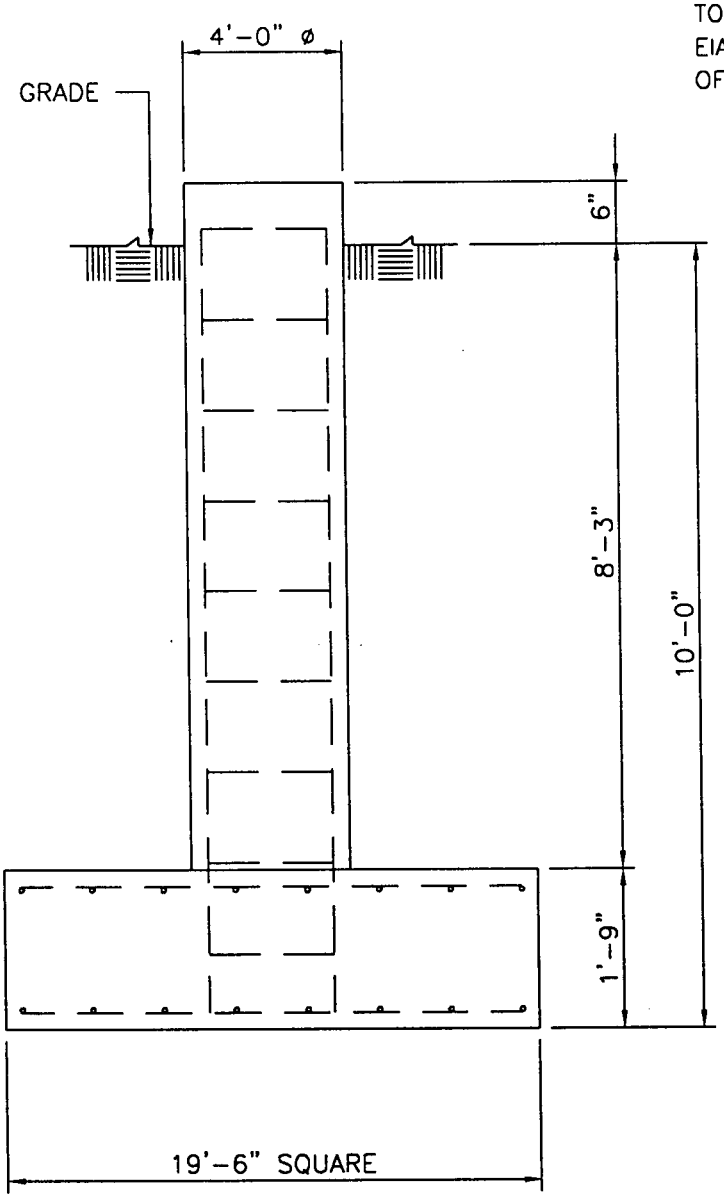
NO. 00-07024
COVER PAGE 4
DATE 7/13/99
BY KJT/MLC
ISSUE 1 7/15/99

CUSTOMER: SPRINT PCS

SITE: MARSHALL, KY #LV33XC001

TITLE: 250' MODEL S3TL SELF-SUPPORTING TOWER AT 73 1/2 MPH + 1/2" ICE PER EIA-222-F-1996. ANTENNA LOADING PER PAGE 1 OF STRESS ANALYSIS.





NOTES

1). CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI, IN ACCORDANCE WITH ACI 318-95.

2). REBARS PER ASTM A615 GR. 60.

3). FOUNDATION DESIGN IS BASED UPON SOIL REPORT (NO. 49997020) BY TERRACON DATED 6/28/99

4). USE (8) 1 3/4"ø (50 KSI) ANCHOR BOLTS WITH 1/2" THK. PLATE AT THE BOTTOM OF ANCHOR BOLTS PER LEG.

5). 3" MINIMUM CONCRETE COVER.

6). SEE SOILS REPORT FOR BACKFILL REQUIREMENTS.

PAD AND PIER
(28.72 CU. YDS. EACH)
(3) REQUIRED

REBAR SCHEDULE PER PAD & PIER	
PIER	(18) #7 V-BARS W/#4 TIES @ 12" C-C
PAD	(32) #7 H-BARS EVENLY SPACED EACH WAY TOP AND BOTTOM

50' S3TL SPRINT PCS MARSHAL KY LV33XC001 (00-07024) 7-12-99
3.5 MPH WIND + .5 ICE PER EIA-222-F-1996
-OVER-6 W.G. & CLIMBING LADDERS
NPUT DATA FILE SA2125S.DAT

*** TRIANGULAR TOWER ***

TOWER HEIGHT	(ft.)	= 250
WIND SPEED	(mph)	= 73.5
RADIAL ICE	(in.)	= 0
No. OF LEGS		= 3

No. OF WIND LOAD LEVEL(S) = 13

FROM	250 ft.	TO	240 ft.	WIND LOAD =	27 psf
FROM	240 ft.	TO	220 ft.	WIND LOAD =	26 psf
FROM	220 ft.	TO	200 ft.	WIND LOAD =	26 psf
FROM	200 ft.	TO	180 ft.	WIND LOAD =	25 psf
FROM	180 ft.	TO	160 ft.	WIND LOAD =	24 psf
FROM	160 ft.	TO	140 ft.	WIND LOAD =	23 psf
FROM	140 ft.	TO	120 ft.	WIND LOAD =	22 psf
FROM	120 ft.	TO	100 ft.	WIND LOAD =	21 psf
FROM	100 ft.	TO	80 ft.	WIND LOAD =	20 psf
FROM	80 ft.	TO	60 ft.	WIND LOAD =	19 psf
FROM	60 ft.	TO	40 ft.	WIND LOAD =	17 psf
FROM	40 ft.	TO	20 ft.	WIND LOAD =	15 psf
FROM	20 ft.	TO	0 ft.	WIND LOAD =	15 psf

*** ANTENNA LOADING DATA ***

PROJ. AREA ft^2	WIND LOAD kips	DEAD LOAD kips	ANTENNA ELEV. ft.	DESCRIPTION OF LOADING
68.0	1.84	2.60	250	(12) DAPA 59010 + T-BOOMS
114.0	3.02	1.20	230	(2) 8' HP DISHES

*** UNIFORM LOADING ***

FROM (ft)	TO (ft)	PROJECTED AREA (sq. ft./ft)	DEAD LOAD (k/ft.)	DESCRIPTION
250	0	0.85	0.016	W.G. & CLIMBING LADDERS
250	0	1.07	0.012	(12) 1 5/8 LINES
230	0	0.00	0.002	(2) 1 5/8 LINES

250' S3TL SPRINT PCS MARSHAL KY LV33XC001 (00-07024) 7-12-99
73.5 MPH WIND + .5 ICE PER EIA-222-F-1996
5-OVER-6 W.G. & CLIMBING LADDERS
INPUT DATA FILE SA2125S.DAT

*** TOWER MEMBER DATA ***

FROM ELEV. 250 ft. TO 0 ft. Fy OF LEGS = 50 ksi
FROM ELEV. 250 ft. TO 0 ft. Fy OF DIAGONALS AND GIRTS = 36 ksi

ELEVATION FROM ft	TO ft	TOWER'S LEG SIZE	DIAG. CONFIG.	K-VALUE	L in.	r in.	AREA in2	KL/r	Fa OR Ft ksi	ALLOW LOAD kips
250	240	3.5 OD X .3	XC	1.0	60.0	1.14	3.02	53	23.94	72.28
240	220	3.5 OD X .437	XC	1.0	60.0	1.09	4.20	55	23.55	98.89
220	200	4.5 OD X .438	XC	1.0	80.0	1.45	5.58	55	23.52	131.27
200	180	5.563 OD X .375	XC	1.0	80.0	1.84	6.11	43	25.33	154.79
180	160	5.563 OD X .375	XC	1.0	80.0	1.84	6.11	43	25.33	154.79
160	140	6.625 OD X .432	XC	1.0	120.0	2.19	8.40	55	23.59	198.12
140	120	8.625 OD X .322	XC	1.0	120.0	2.90	8.40	41	25.64	215.35
120	100	8.625 OD X .322	XC	1.0	120.0	2.90	8.40	41	25.64	215.35
100	80	8.625 OD X .322	XC	1.0	120.0	2.90	8.40	41	25.64	215.35
80	60	8.625 OD X .322	KG2	1.0	60.0	2.90	8.40	21	28.23	237.10
60	40	10.75 OD X .365	KG2	1.0	60.0	3.67	11.90	16	28.67	341.19
40	20	10.75 OD X .365	KG2	1.0	60.0	3.67	11.90	16	28.67	341.19
20	0	10.75 OD X .365	KG2	1.0	60.0	3.67	11.90	16	28.67	341.19

ELEVATION FROM ft	TO ft	TOWER'S DIAGONAL SIZE	DIAG. CONFIG.	K-VALUE	L in.	r in.	AREA in2	KL/r	Fa OR Ft ksi	ALLOW LOAD kips
250	240	L1.75X1.75X3/16	XC	1.0	45.9	0.34	0.62	134	8.32	5.17
240	220	L1.75X1.75X3/16	XC	1.0	55.7	0.34	0.62	162	5.67	3.52
220	200	L2X2X3/16	XC	1.0	69.4	0.39	0.71	176	4.81	3.44
200	180	L2.5X2.5X3/16	XC	1.0	78.4	0.50	0.90	158	5.95	5.37
180	160	L2.5X2.5X3/16	XC	1.0	88.7	0.50	0.90	179	4.65	4.19
160	140	L3X3X3/16	XC	1.0	106.7	0.60	1.09	179	4.66	5.08
140	120	L3.5X3X1/4(SLV)	XC	1.0	114.8	0.63	1.56	182	4.51	7.04
120	100	L3.5X3.5X1/4	XC	1.0	125.0	0.69	1.69	180	4.60	7.77
100	80	L4X3.5X1/4(SLV)	XC	1.0	135.5	0.73	1.81	185	4.38	7.93
80	60	L3X3X3/16	KG2	1.0	81.8	0.60	1.09	137	7.93	8.65
60	40	L3X3X3/16	KG2	1.0	85.1	0.60	1.09	143	7.32	7.98
40	20	L3X3X1/4	KG2	1.0	88.5	0.59	1.44	149	6.68	9.62
20	0	L3X3X1/4	KG2	1.0	92.1	0.59	1.44	156	6.16	8.88

ELEVATION FROM ft	TO ft	TOWER'S GIRT SIZE	DIAG. CONFIG.	K-VALUE	L in.	r in.	AREA in2	KL/r	Fa OR Ft ksi	ALLOW LOAD kips
250	240	NONE	XC	1.0	0.0	0.00	0.00	0	0.00	0.00
240	220	NONE	XC	1.0	0.0	0.00	0.00	0	0.00	0.00
220	200	NONE	XC	1.0	0.0	0.00	0.00	0	0.00	0.00

200	180	NONE	XC	1.0	0.0	0.00	0.00	0	0.00	0.00
180	160	NONE	XC	1.0	0.0	0.00	0.00	0	0.00	0.00
160	140	NONE	XC	1.0	0.0	0.00	0.00	0	0.00	0.00
140	120	NONE	XC	1.0	0.0	0.00	0.00	0	0.00	0.00
120	100	NONE	XC	1.0	0.0	0.00	0.00	0	0.00	0.00
100	80	NONE	XC	1.0	0.0	0.00	0.00	0	0.00	0.00
80	60	L3.5X3X1/4(SLV)	KG2	1.0	113.4	0.63	1.56	180	4.62	7.21
60	40	L3.5X3X1/4(SLV)	KG2	1.0	120.2	0.63	1.56	191	4.11	6.42
40	20	L4X3.5X1/4(SLV)	KG2	1.0	130.9	0.73	1.81	178	4.69	8.49
20	0	L4X3.5X1/4(SLV)	KG2	1.0	134.9	0.73	1.81	184	4.42	8.01

250' S3TL SPRINT PCS MARSHAL KY LV33XC001 (00-07024) 7-12-99
73.5 MPH WIND + .5 ICE PER EIA-222-F-1996
6-OVER-6 W.G. & CLIMBING LADDERS
INPUT DATA FILE SA2125S.DAT

*** TOWER SECTION DATA ***

NOTE: UNIFORM WIND & DEAD LOADS INCLUDE SECTION & LINEAR ATTACHMENT

SPAN ELEV ft	FACE WIDTH TOP ft	BOTTOM ft	UNIFORM WIND LOAD k/ft	UNIFORM DEAD LOAD k/ft	ANT'S LOAD kips	LEG AREA in2	TORQUE ft-k
250	6.00	7.00	0.111	0.079	2.60	3.02	0.0
240	7.00	9.00	0.116	0.096	1.20	4.20	4.5
220	9.00	11.00	0.124	0.113	0.00	5.58	0.0
200	11.00	13.00	0.144	0.129	0.00	6.11	0.0
180	13.00	15.00	0.149	0.134	0.00	6.11	0.0
160	15.00	17.00	0.150	0.157	0.00	8.40	0.0
140	17.00	19.00	0.160	0.180	0.00	8.40	0.0
120	19.00	21.00	0.169	0.191	0.00	8.40	0.0
100	21.00	23.00	0.167	0.203	0.00	8.40	0.0
80	23.00	25.00	0.200	0.251	0.00	8.40	0.0
60	25.00	27.00	0.197	0.259	0.00	11.90	0.0
40	27.00	29.00	0.190	0.312	0.00	11.90	0.0
20	29.00	31.00	0.198	0.325	0.00	11.90	0.0

ELEVATION FROM	TO	SECTION I.D.	STEEL WT. (kips/ft)
250	240	S3T-L73A10	0.051
240	220	S3T-L8MUS1A	0.066
220	200	S3T-L9MUS1A	0.083
200	180	S3T-L103A	0.099
180	160	S3T-L113A	0.104
160	140	S3T-L124A	0.127
140	120	S3T-L132A	0.150
120	100	S3T-L142A	0.161
100	80	S3T-L152A	0.173
80	60	S3T-L162A	0.221
60	40	S3T-L172A	0.229
40	20	S3T-L181A	0.282
20	0	S3T-L191A00	0.295

250' S3TL SPRINT PCS MARSHAL KY LV33XC001 (00-07024) 7-12-99
73.5 MPH WIND + .5 ICE PER EIA-222-F-1996
6-OVER-6 W.G. & CLIMBING LADDERS
INPUT DATA FILE SA2125S.DAT

*** RESULTS OF STRESS ANALYSIS ***

ELEVATION FROM ft	TO ft	CONFIG. OF DIAG	NO. OF PANELS	MOMENT OF INERTIA	ACCUM'D DEFLECTION ft	ACCUM'D SWAY deg	ACCUM'D TWIST deg
250	240	XC	2	63.80	1.170	0.484	0.054
240	220	XC	4	134.40	1.003	0.445	0.054
220	200	XC	3	279.00	0.855	0.407	0.052
200	180	XC	3	439.92	0.725	0.371	0.049
180	160	XC	3	598.78	0.566	0.321	0.045
160	140	XC	2	1075.20	0.430	0.274	0.040
140	120	XC	2	1360.80	0.316	0.229	0.039
120	100	XC	2	1680.00	0.224	0.187	0.037
100	80	XC	2	2032.80	0.153	0.148	0.036
80	60	KG2	4	2419.20	0.082	0.101	0.033
60	40	KG2	4	4022.20	0.037	0.060	0.029
40	20	KG2	4	4664.80	0.011	0.027	0.024
20	0	KG2	4	5355.00	0.000	0.004	0.015

ELEV ft	WIND SHEAR k	SHEAR PER FACE k	SHEAR RESISTED BY LEG k	TORQUE SHEAR k	NET SHEAR k	DIAGONAL LOAD k	GIRT LOAD k
250	2.96	1.71	0.20	0.00	1.51	0.88	0.00
240	8.30	4.79	0.88	0.58	4.49	2.35	0.00
220	10.78	6.22	1.72	0.47	4.98	2.72	0.00
200	13.67	7.89	2.54	0.40	5.75	3.03	0.00
180	16.64	9.60	3.37	0.35	6.58	3.40	0.00
160	19.64	11.33	4.20	0.31	7.43	4.12	0.00
140	22.84	13.18	5.05	0.27	8.40	4.55	0.00
120	26.22	15.13	5.92	0.25	9.46	5.03	0.00
100	29.55	17.05	6.80	0.23	10.47	5.50	0.00
80	33.55	19.36	7.72	0.21	11.85	7.40	5.92
60	37.48	21.62	8.66	0.19	13.15	7.99	6.58
40	41.28	23.82	9.63	0.18	14.36	8.52	7.18
20	45.24	26.10	10.62	0.17	15.65	9.10	7.82

250' S3TL SPRINT PCS MARSHAL KY LV33XC001 (00-07024) 7-12-99
73.5 MPH WIND + .5 ICE PER EIA-222-F-1996
6-OVER-6 W.G. & CLIMBING LADDERS
INPUT DATA FILE SA2125S.DAT

*** RESULTS OF STRESS ANALYSIS ***

SPAN ELEV ft.	BASE SPREAD ft.	OVERTURNING MOMENT ft-k	AXIAL LOAD kips	COMPRESSION PER LEG kips	UPLIFT PER LEG kips
240	7.00	24.00	3.39	5.09	2.83
220	9.00	136.52	6.51	19.69	15.35
200	11.00	327.30	8.76	37.28	31.44
180	13.00	571.78	11.34	54.57	47.01
160	15.00	874.87	14.02	72.02	62.68
140	17.00	1237.66	17.16	89.79	78.35
120	19.00	1662.41	20.76	107.95	94.11
100	21.00	2152.97	24.58	126.58	110.19
80	23.00	2710.65	28.64	145.64	126.55
60	25.00	3341.61	33.65	165.56	143.13
40	27.00	4051.83	38.83	186.23	160.35
20	29.00	4839.36	45.07	207.72	177.67
0	31.00	5704.53	51.57	229.68	195.30

*** BASE REACTIONS ***

SHEAR PER LEG kips	MAX. UPLIFT PER LEG kips	MAX. COMP. PER LEG kips	OVERTURNING MOMENT ft-k	ESTIMATED STEEL WEIGHT kips
26.12	195.30	229.68	5704.53	~~45.95~~

(8) 1 3/4" ANCHOR BOLTS / LEG

250' S3TL SPRINT PCS MARSHAL KY LV33XC001 (00-07024) 7-12-99
73.5 MPH WIND + .5 ICE PER EIA-222-F-1996
6-OVER-6 W.G. & CLIMBING LADDERS
INPUT DATA FILE SA2125S.DAT

SUMMARY OF STRESS RATIOS:-

NOTE:- DESIGN LOAD OF REDUNDANTS = 1.5% OF LEG LOAD

ELEVATION FROM ft	TO ft	SECTION I.D.	MEMBER OF TOWER	TOWER MEMBER SIZE	MEMBER LOAD (kips)	ALLOW. LOAD (kips)	COMBINED STRESS RATIO
250	240	S3T-L73A10	LEG	3.5 OD X .3	5.09	72.28	0.07
			DIAG	L1.75X1.75X3/16	0.88	5.17	0.17
240	220	S3T-L8MUS1A	LEG	3.5 OD X .437	19.69	98.89	0.20
			DIAG	L1.75X1.75X3/16	2.35	3.52	0.67
220	200	S3T-L9MUS1A	LEG	4.5 OD X .438	37.28	131.27	0.28
			DIAG	L2X2X3/16	2.72	3.44	0.79
200	180	S3T-L103A	LEG	5.563 OD X .375	54.57	154.79	0.35
			DIAG	L2.5X2.5X3/16	3.03	5.37	0.56
180	160	S3T-L113A	LEG	5.563 OD X .375	72.02	154.79	0.47
			DIAG	L2.5X2.5X3/16	3.40	4.19	0.81
160	140	S3T-L124A	LEG	6.625 OD X .432	89.79	198.12	0.45
			DIAG	L3X3X3/16	4.12	5.08	0.81
140	120	S3T-L132A	LEG	8.625 OD X .322	107.95	215.35	0.50
			DIAG	L3.5X3X1/4(SLV)	4.55	7.04	0.65
120	100	S3T-L142A	LEG	8.625 OD X .322	126.58	215.35	0.59
			DIAG	L3.5X3.5X1/4	5.03	7.77	0.65
100	80	S3T-L152A	LEG	8.625 OD X .322	145.64	215.35	0.68
			DIAG	L4X3.5X1/4(SLV)	5.50	7.93	0.69
80	60	S3T-L162A	LEG	8.625 OD X .322	165.56	237.10	0.70
			DIAG	L3X3X3/16	7.40	8.65	0.86
			GIRT	L3.5X3X1/4(SLV)	5.92	7.21	0.82

250' S3TL SPRINT PCS MARSHAL KY LV33XC001 (00-07024) 7-12-99
73.5 MPH WIND + .5 ICE PER EIA-222-F-1996
6-OVER-6 W.G. & CLIMBING LADDERS
INPUT DATA FILE SA2125S.DAT

SUMMARY OF STRESS RATIOS:-

ELEVATION FROM ft	TO ft	SECTION I.D.	MEMBER OF TOWER	TOWER MEMBER SIZE	MEMBER LOAD (kips)	ALLOW. LOAD (kips)	COMBINED STRESS RATIO
60	40	S3T-L172A	LEG	10.75 OD X .365	186.23	341.19	0.55
			DIAG	L3X3X3/16	7.99	7.98	1.00
			GIRT	L3.5X3X1/4(SLV)	6.58	6.42	1.02
40	20	S3T-L181A	LEG	10.75 OD X .365	207.72	341.19	0.61
			DIAG	L3X3X1/4	8.52	9.62	0.89
			GIRT	L4X3.5X1/4(SLV)	7.18	8.49	0.85
20	0	S3T-L191A00	LEG	10.75 OD X .365	229.68	341.19	0.67
			DIAG	L3X3X1/4	9.10	8.88	1.03
			GIRT	L4X3.5X1/4(SLV)	7.82	8.01	0.98

USE STD. REDUNDANTS FROM 0' to 80'

PIER AND PAD DESIGN BY SABRE COMMUNICATIONS, CORP.

250' S3TL SPRINT PCS MARSHALL KY LV33XC001 (00-07024) 7-12-99

REACTIONS:-

SHEAR = 33.71 kips; UPLIFT = 321.36 kips; COMPRESSION = 368.01 kips

ANGLE OF CONE OF UPLIFT (deg)	=	30
WATER TABLE BELOW GRADE (ft)	=	9999
WEIGHT OF SOIL (pcf)	=	100
SAFETY FACTOR OF SOIL REQUIRED	=	2
WEIGHT OF CONCRETE (pcf)	=	150
SAFETY FACTOR OF CONCRETE REQUIRED	=	1.25
ALLOW. SOIL BEARING CAPACITY (psf)	=	7500
Fy OF RE-BARS (ksi)	=	60
Fc OF CONCRETE (ksi)	=	3
HEIGTH OF PIER ABOVE GRADE (ft)	=	.5

NOTE: SEE SOILS REPORT FOR BACKFILL REQUIREMENTS

*** PIER AND PAD DATA **

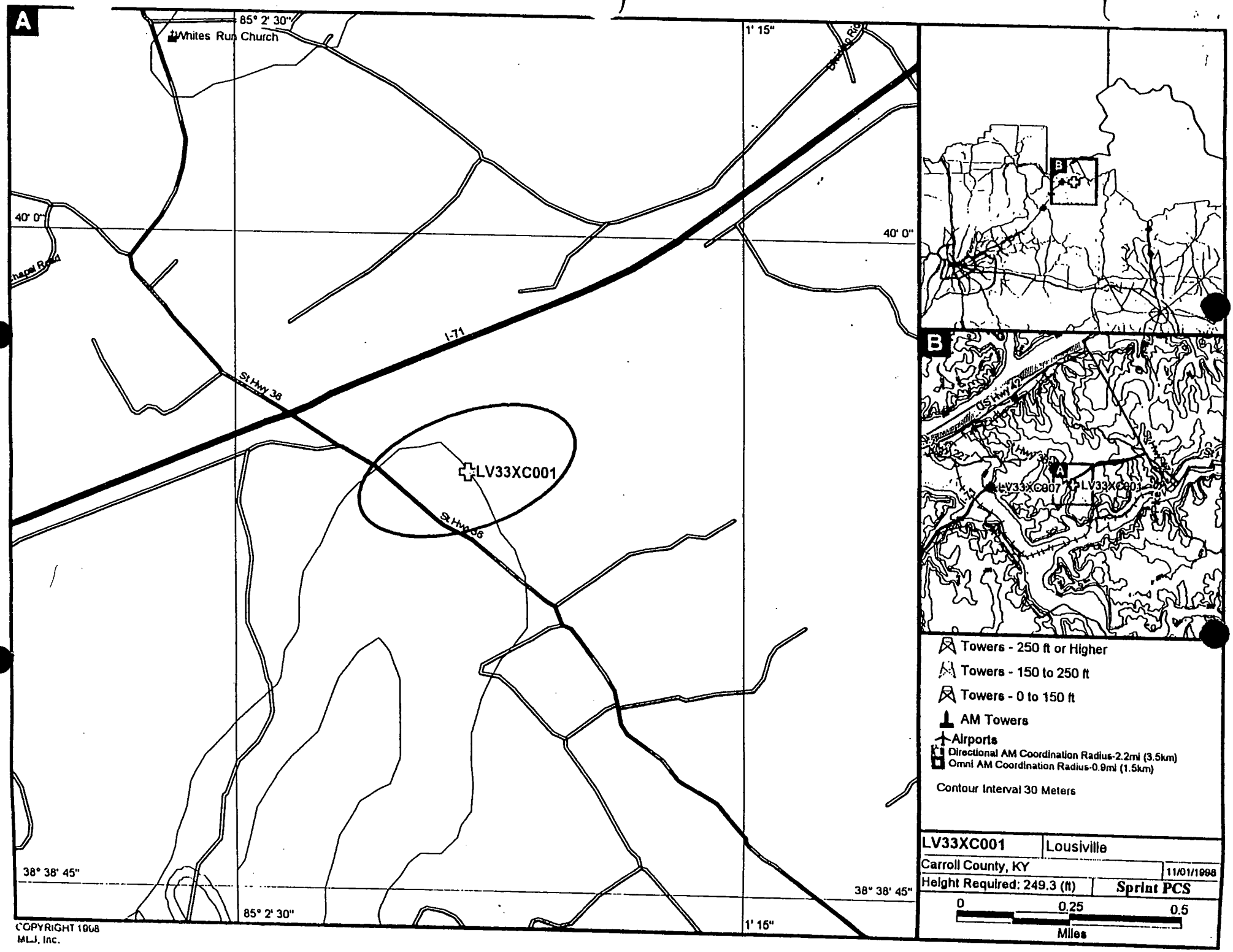
DIAMETER OF PIER (ft)	= 4.00
AREA OF RE-BARS OF PIER (sq. in.)	= 10.05
DEPTH OF BOTTOM OF PAD BELOW GRADE (ft)	= 10.00
THICKNESS OF PAD (ft)	= 1.75
WIDTH OF PAD (ft)	= 19.50
AREA OF TOP RE-BARS OF PAD (sq. in.)	= 18.73
AREA OF BOTTOM RE-BARS OF PAD (sq. in.)	= 18.73
PAD WITH UNDERCUT	= NO

CALCULATED SOIL BEARING PRESSURE (ksf)	=	0.97
ALLOWABLE VERTICAL FORCE (kips)	=	333.82
VOLUME OF CONCRETE OF EACH FOOTING (cu. yd.)	=	28.72

PIER: (18) #7 bars w/#4 ties @12"

PAD: (32) #7 bars, ea. way, top & bot.

EXHIBIT B
IS OVERSIZED AND NOT INCLUDED WITHIN THIS PACKET.
IT HAS BEEN SUPPLIED AS A SEPARATE PART OF THIS APPLICATION.



GEOTECHNICAL ENGINEERING REPORT

PROPOSED 250' COMMUNICATION TOWER
SITE NUMBER: LV33XC001A
SITE NAME: M&R MARSHALL
SITE IDENTIFIER: 7881 HIGHWAY 36 E
SANDERS, KENTUCKY

Project No. 49997020
June 28, 1998

Prepared for:

SPRINT SPECTRUM LP
Alpharetta, Georgia

Prepared by:

TERRACON
Atlanta, Georgia

Terracon

Terracon
6621 Bay Circle, Suite 120
Norcross, Georgia 30071
(770) 263-6774 Fax: (770) 263-9766

June 28, 1998

Sprint Spectrum LP
11390 Old Roswell Road
Suite 100
Alpharetta, Georgia 30004

Attention: Mr. Matt Allen

Re: Geotechnical Engineering Report
Proposed 250' Lattice Communication Tower
Site Number LV33XC001A
Sanders, Kentucky
Project No. 49997020

Dear Mr. Allen:

The subsurface exploration for the proposed communication tower planned in Sanders, Kentucky has been completed. The accompanying report presents the findings of the subsurface exploration and provides recommendations regarding earthwork and the design and construction of foundations for the proposed tower.

We appreciate the opportunity to be of service to you on this project. Should you have any questions concerning this report, or if we may be of further assistance, please contact us.

Sincerely,
TERRACON

Prepared by:

Jamal Najm, P.E.
Engineering Manager

Reviewed by:

For Timothy G. LaGrow, P.E.
Kentucky No. 17758

Copies: Addressee (5)

TABLE OF CONTENTS

GEOTECHNICAL ENGINEERING REPORT

PROPOSED COMMUNICATION TOWER
Site Number: LV33XC001A
Site Name: M&R MARSHALL
Site Identifier: 7881 Highway 36
Sanders, Kentucky

Project No. 49997020
June 28, 1998

INTRODUCTION

The subsurface exploration for the proposed tower planned in Sanders, Kentucky, has been completed. As a part of our subsurface exploration, one (1) boring extending to a depth of approximately 24 feet below existing grade has been performed at the proposed tower site. The purpose of this report is to describe the subsurface conditions encountered in the boring, analyze and evaluate the test data, and provide recommendations regarding earthwork and the design and construction of the foundations for the proposed communication tower and equipment building.

PROJECT DESCRIPTION

We understand the proposed project will consist of the construction of a 250-foot lattice tower. Exact tower loads are not available but based on our previous experience are anticipated to be as follows:

Vertical Load:	490 kips
Horizontal Shear:	40 kips
Uplift:	430 kips

A small, lightly loaded equipment building will also be constructed. At the time of our visit, the site was situated on a hilltop, along the northwestern edge of a cow pasture and the southeastern edge of Interstate 71 northbound. The site was covered with grass. Based on the existing topography, only minimal cut/fill operations are anticipated at the site.

SUBSURFACE EXPLORATION AND TESTING PROCEDURES

The boring was drilled near the tower center using a truck mounted drill rig. The tower center was staked in the field by the client's representative. At the time of the report submittal, surface elevations were not available and have, therefore, not been included on the boring log.

Representative samples were obtained by the split-barrel sampling procedure in accordance with ASTM Specification D-1586. In the split-barrel sampling procedure, the number of blows required to advance a standard 2-inch O.D. split-barrel sampler the last 12 inches of the typical total 18-inch penetration by means of a 140-pound hammer with a free fall of 30 inches, is the standard penetration resistance value (N). This value is used to estimate the in-situ relative density of cohesionless soils and the consistency of cohesive soils. The sampling depths and penetration distance, plus the standard penetration resistance values, are shown on the boring log. The samples were sealed and returned to the laboratory for testing and classification.

Auger refusal was encountered at the site approximately 14.1 feet below existing grade. Below this depth the boring was advanced using core drilling procedures in general accordance with ASTM Standard D-2113-83. The underlying refusal materials were cored with a diamond bit attached to the outer barrel of a core barrel, which consists of an inner and outer barrel. The inner barrel collected the cored material as the outer barrel was rotated at high speeds to cut the rock. The barrel was retrieved to the surface upon completion of each drill run. Once the core samples were retrieved, they were placed in a box and logged. The rock was later classified by an engineer and the "percent recovery" and rock quality designation (RQD) were determined.

The "percent recovery" is the ratio of the sample length retrieved to the drilled length, expressed as a percent. An indication of the actual in-situ rock quality is provided by calculating the sample's RQD. The RQD is the percentage of the length of broken cores retrieved which have core segments at least 4 inches in length compared to each drilled length. The percent recovery and RQD are related to rock soundness and quality as illustrated below:

Relation of RQD and In-Situ Rock Quality	
RQD (%)	Rock Quality
90 - 100	Excellent
75 - 90	Good
50 - 75	Fair
25 - 50	Poor
0 - 25	Very Poor

A field log of the boring was prepared by the drill crew. This log contained visual classifications of the materials encountered during drilling as well as the driller's interpretation of the subsurface conditions between samples. The final boring log included with this report

represents an interpretation of the field log and includes modifications based on visual observations of the geotechnical engineer.

Descriptive classifications of the soils indicated on the boring log are in accordance with the enclosed General Notes and the Unified Soil Classification System. A brief description of this classification system is included in the appendix of this report. All classification was by visual-manual procedures and was performed by experienced personnel.

Laboratory tests on the soil samples consisted of moisture content and an Atterberg Limits test. The results of the laboratory tests are shown on the boring log at the appropriate horizons.

SITE GEOLOGY

A review was conducted of published geologic mapping for the State of Kentucky. The mapping indicates the site is underlain by the Grant Lake Limestone formation of the Upper Ordovician Period. This formation is medium gray, with thin, very irregular and discontinuous beds, which consist mostly of whole and broken brachiopods and bryozoans in an argillaceous calcite matrix. The subject site is located over 2,200 feet southeast of the approximate southern limit of Glaciation as defined on the Vevay South geologic quadrangle.

SITE AND SUBSURFACE CONDITIONS

The site is a vacant parcel located at 7881 Hwy. 36 (US Route 60), Sanders, Carroll County, Kentucky. Specifically, the site is located directly off Hwy. 36 adjacent to Interstate 71. The proposed tower site will be located as shown on the enclosed Boring Location Diagram (Figure 1).

Specific conditions at the boring location are indicated on the attached boring log. The stratification boundaries shown on the boring log represent the approximate location of changes in soil and rock types; in situ, the transition between materials may be gradual. Conditions encountered at the boring location are summarized below.

Our boring encountered about 0.7 feet of topsoil underlain by tan silty clays to about 2 feet below grade. Below about 2 feet, the boring encountered tan lean to fat clays to an auger refusal depth of about 14.1 feet. These clays appeared to contain a significant amount of weathered shale and limestone fragments below about 6 feet. N-values in the upper 6 feet

typically ranged from about 15 to 20 blows per foot (bpf). Below about 6 feet, N-values were typically in excess of 50 bpf.

Rock coring techniques were employed to sample the refusal materials. The refusal materials consist of limestone. The upper 2 feet of this limestone was found to be moderately weathered and thin bedded. Below about 16 feet, the quality of the bedrock appeared to be relatively unweathered. This was evident by core recoveries of 100 percent and a RQD value of about 18 percent. The low RQD value is reflective of the thin-bedded nature of the bedrock. Considering the anticipated bearing depth of the tower foundations, coring operations were terminated at about 24.1 feet below existing grade.

Classification and descriptions of rock core samples are in accordance with the enclosed General Notes, and are based on visual and tactile observations. Petrographic analysis of thin sections may indicate other rock types.

WATER LEVEL OBSERVATIONS

No groundwater was encountered during the auger drilling portion of the borehole. Water was used to advance the borehole during rock coring operations. The introduction of water into the borehole precluded obtaining accurate groundwater level readings at the time of drilling operations. Long term observation of the groundwater level in monitoring wells, sealed from the influence of surface water, would be required to obtain accurate groundwater levels on the site.

Fluctuations of the groundwater level can occur due to seasonal variations in the amount of rainfall, runoff, and other factors not evident at the time the boring was performed. Perched water could develop at higher levels within more permeable layers following periods of heavy or prolonged precipitation. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

ANALYSIS AND RECOMMENDATIONS

General:

Based on the encountered subsurface conditions, the proposed tower can be either founded on drilled piers or on a mat foundation. The equipment building may be supported on shallow spread footings. Design recommendations for the tower drilled pier and mat foundation as well as shallow footings for the equipment building are presented in the following paragraphs.

Tower Foundations - Drilled Pier Alternative: The proposed tower can be supported on drilled pier foundations. Based on the results of our boring, we have developed the following tower foundation design parameters:

Tower Foundation Design Parameters

Depth * (feet)	Description **	Allowable Skin Friction (psf)	Allowable End Bearing Pressure (psf)	Allowable Passive Pressure (psf)	Internal Angle of Friction (Degree)	Cohesion (psf)	Lateral Subgrade Modulus (pci)	Strain, $\&_{50}$ (in/in)
0 - 3	Topsoil & Clays	Ignore	Ignore	Ignore	-	-	Ignore	Ignore
3 - 6	Lean to Fat Clays	475	Ignore	2,000	0	2,000	160	0.006
6 - 14	Lean to Fat Clays	565	7,500***	3,000	0	3,000	240	0.004
14 - 16	Weathered Limestone	1,000	10,000	4,000	0	20,000	1,600	0.0001
16 - 24	Limestone ****	2,500	20,000	5,000	0	50,000	3,000	0.00001

* Pier inspection is recommended to adjust pier length if variable soil/rock conditions are encountered.

** A total unit weight of 120 pcf can be assumed for the lean to fat clays. Unit weight of limestone can be estimated at 150 pcf.

*** Assume the pier will bear at least 3 pier diameters below the final grade.

**** The pier should be embedded at least 3 feet into bedrock to utilize these higher rock strength parameters. Furthermore, it is assumed that the pier will be extended using rock coring rather than shooting/blasting techniques.

The above indicated cohesion, friction angle, lateral subgrade modulus and strain values have no factors of safety, and the allowable skin friction and the passive resistances have factors of safety of 2 to 3. The cohesion, internal friction angle, lateral subgrade modulus and strain values given in the above table are based on published values and our past experience with similar soil/rock types. These values should, therefore, be considered approximate. To mobilize the higher rock strength parameters, the pier should be socketed, at least 3 feet into bedrock. Furthermore, it is assumed that the rock socket is developed using coring rather than blasting techniques. The allowable end bearing pressure provided in the table has an approximate factor of safety of at least 3. If the drilled piers are designed using the above parameters and are founded within the underlying bedrock, settlements are not anticipated to exceed 1/4 inch.

The upper 3 feet of silty clays should be ignored due to the potential affects of frost action. To avoid a reduction in uplift and lateral resistance caused by variable bedrock depths and

bedrock quality, it is recommended that a minimum pier length and minimum rock socket length be stated on the design drawings. Rock was encountered in our boring at a depth of about 14 feet but could vary between the tower leg locations. To facilitate pier length adjustments that may be necessary because of variable rock conditions, it is recommended that a Terracon representative observe the drilled pier excavation.

A drilled pier foundation should be designed with a minimum shaft diameter of 30 inches to facilitate clean out and possible dewatering of the pier excavation. Temporary casing may be required during the pier excavation in order to control possible groundwater seepage and support the sides of the excavation in weak soil or upper fractured rock zones. Care should be taken so that the sides and bottom of the excavation are not disturbed during construction. The bottom of the shaft should be free of loose soil or debris prior to reinforcing steel and concrete placement.

A concrete slump of at least 6 inches is recommended to facilitate temporary casing removal. It should be possible to remove the casing from a pier excavation during concrete placement provided that the concrete inside the casing is maintained at a sufficient level to resist any earth and hydrostatic pressures outside the casing during the entire casing removal procedure.

Tower Foundations - Mat Foundation Alternative: If desired, a mat foundation can be used to support the proposed tower. The mat foundation can be designed using the following parameters. These parameters are based on the findings of our boring, a review of published values and our experience with similar soil conditions. These design parameters also assume that the base of the mat foundation will rest on natural soils. The mat foundation should not rest on fill materials unless the fill consists of well graded crushed stone that is compacted and tested on a full time basis.

Mat Foundation Design Parameters

Depth (feet)	Description	Allowable Contact Bearing Pressure (psf)	Allowable Passive Pressure (psf)	Coefficient of Friction, Tan δ	Vertical Modulus of Subgrade Reaction (pci)
0 - 2'	Topsoil & Silty Clay	Ignore	Ignore	-	
$\geq$ 2'	Lean to Fat Clays	2,500	Ignore	0.35	125

To assure that soft soils are not left under the mat foundation, it is recommended that a geotechnical engineer observe the foundation subgrade prior to concrete placement. Provided the above recommendations are followed, total mat foundation settlements are not anticipated to exceed about 1 inch. Differential settlements will probably not exceed 50% of the total settlement value.

Equipment Building Foundations: The proposed equipment shed may be supported on shallow footings bearing on the existing stiff natural soils or newly compacted fill. We recommend the equipment building foundations be dimensioned using a net allowable soil bearing pressure of 2,500 pounds per square foot (psf). In using net allowable soil pressures for footing dimensioning, the weight of the footings and backfill over the footings need not be considered. Furthermore, the footings should be at least 12 inches wide and a minimum of 2.0 feet square. The foundation excavations should be observed by a qualified geotechnical engineer or his representative to verify that the bearing materials are suitable for support of the proposed loads.

The recommended soil bearing value should be considered an upper limit, and any value less than that listed above would be acceptable for the foundation system. Settlements are not expected to exceed about 1 inch. Footings should be placed at a depth of 2 feet, or greater, below finished exterior grade for protection against frost damage.

Parking and Drive Areas - It is our understanding that the drive that accesses the site will be surfaced with crushed stone. Parking and drive areas that are surfaced with crushed stone should have a minimum thickness of 6 inches and be properly placed and compacted as outlined herein. The crushed stone should meet Kentucky Department of Transportation (KDOT) specifications and applicable local codes.

It should be noted that a paving section consisting only of crushed graded aggregate base course should be considered a high maintenance section. Regular care and maintenance is considered essential to the longevity and use of the section. Site grades should be maintained in such a manner as to allow for adequate surface runoff. Any potholes, depressions or excessive rutting which may develop should be repaired as soon as possible to minimize the damage to the soil subgrade.

Resistivity Analysis: Resistivity of the subsurface soils was measured at the site using a Nilsson 400 resistivity meter. The Wenner Vertical Profiling Method was used. With this array, potential electrodes are centered on a traverse line between the current electrodes and an equal "A" spacing between electrodes is maintained. Resistivity measurements

were taken along two (2) traverses. Location of the soil resistivity traverse as shown on Figure 1 in the Appendix. Individual resistivity values at various "A" spacings are summarized in the following table:

Electric Resistivity Test Results

Traverse No.	"A" Spacing (ft)	Resistivity (ohm-cm^3)
A-A'	5	4,215
A-A'	10	5,360
A-A'	20	6,895
B-B'	5	4,690
B-B'	10	4,980
B-B'	20	6,130

Site Preparation: Site preparation should begin with the removal of topsoil and any loose or otherwise unsuitable materials that may be present. The actual stripping depth, along with any loose soils that require undercutting, should be evaluated by the geotechnical engineer at the time of construction by proofrolling.

Any fill and backfill placed on the site should consist of approved materials which are free of organic matter and debris. Suitable fill material should consist of either granular material or low-plasticity cohesive soil. Low-plasticity cohesive soil should have a liquid limit of less than 45 percent and a plasticity index of less than 25 percent. The upper on-site soils appear marginally suitable for use as fill because of their high silt content. Stringent moisture control will need to be exercised if these soils are to be adequately place and compacted. Further testing should be performed during construction to evaluate these materials. Fill should not contain frozen material and it should not be placed on a frozen subgrade.

The fill should be placed and compacted in lifts of 9 inches or less in loose thickness. All fill placed below structures or used to provide lateral resistance should be compacted to at least 98 percent of the material's maximum standard Proctor dry density (ASTM D-698). All cohesive fill should be placed, compacted, and maintained at moisture contents within minus 1 to plus 3 percent of the optimum value determined by the standard Proctor test.

We recommend the geotechnical engineer be retained to monitor fill placement on the project and to perform field density tests as each lift of fill is placed in order to evaluate compliance with the design requirements. Standard Proctor and Atterberg limits tests should be performed on the representative samples of fill materials before their use on the site.

GENERAL COMMENTS

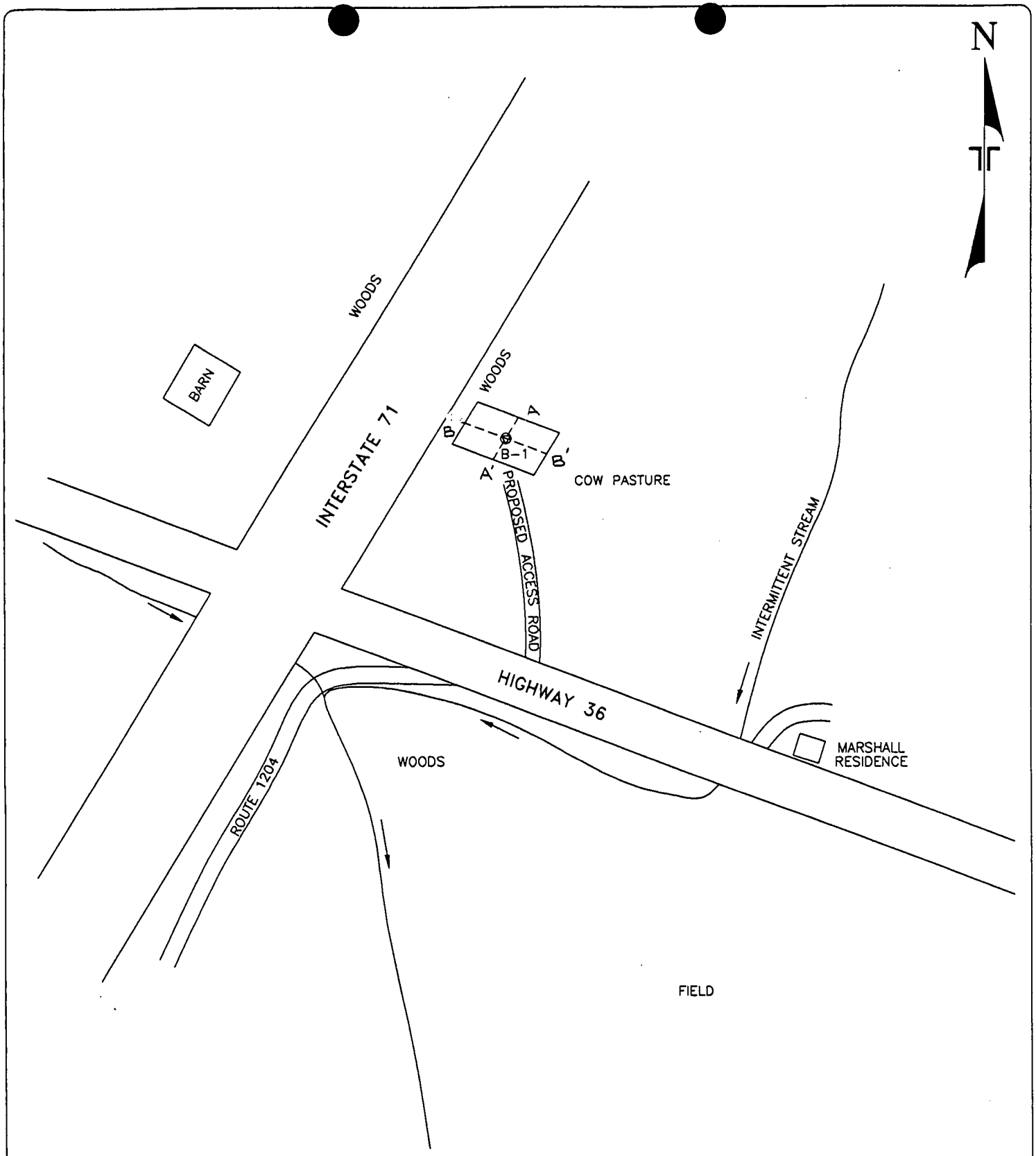
Terracon should be retained to review the final design plans and specifications so comments can be made regarding interpretation and implementation of our geotechnical recommendations in the design and specifications. Terracon also should be retained to provide testing and observation during excavation, grading, foundation and construction phases of the project.

The analysis and recommendations presented in this report are based upon the data obtained from the borings performed at the indicated locations and from other information discussed in this report. This report does not reflect variations which may occur between borings or across the site. The nature and extent of such variations may not become evident until construction. If variations appear, it will be necessary to reevaluate the recommendations of this report.

The scope of services for this project does not include either specifically or by implication any environmental assessment of the site or identification of contaminated or hazardous materials or conditions. If the owner is concerned about the potential for such contamination, other studies should be undertaken.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made. In the event that changes in the nature, design, or location of the project as outlined in this report, are planned, the conclusions and recommendations contained in this report shall not be considered valid unless Terracon reviews the changes, and either verifies or modifies the conclusions of this report in writing.

APPENDIX



LEGEND

------ RESISTIVITY TRAVERSE

⊘ BORING–1

BORING LOCATION DIAGRAM

M&R MARSHALL
SANDERS, KENTUCKY

Project Mngr: MG	Terracon		Project No. 49997020
Designed By: MG			Scale: NOT TO SCALE
Drawn By: JLK	1341 South 2nd Street Louisville, Kentucky 40208		File No. 49997020
Checked By: MG			Date: MAY 1999
Approved By: MG		Figure No.	1

R0 JLK 6/25/99

LOG OF BORING NO. B-1

CLIENT: SPRINT

ENGINEER: GEM ENGINEER

SITE: LV33XC001A
SANDERS, KENTUCKY

PROJECT: 250' LATTICE, M&R MARSHALL TOWER

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES RECOVERY, in.	SAMPLES SPT - N BLOWS / ft.	TESTS WATER CONTENT, %	TESTS DRY UNIT WT pcf	TESTS UNCONFINED STRENGTH, psf	TESTS LL-Liquid Limits PL-Plastic Limits PI-Atterberg Limits
	Approx. Surface Elev.: N/A										
	0.7 TOPSOIL		ML CL	1	SS		9	14.0			
	2 SILTY CLAY, WITH TRACE ROOTS, Tan, Moist, Stiff		CL CH	2	SS		16	12.0			LL=15 PL=11 PI=4
	LEAN TO FAT CLAY, Tan, Moist, Stiff to Very Stiff		CL CH	3	SS		16	27.0			
	6	5	CL CH	4	SS		23	26.0			
	LEAN TO FAT CLAY, WITH WEATHERED SHALE AND LIMESTONE FRAGMENTS, Tan, Moist, Hard		CL CH	5	SS		46	12.0			
			CL CH	6	SS		50+	12.0			
		10	CL CH	7	SS		50+	9.0			
			CL CH	8	SS		50+	9.0			
			CL CH	9	SS		50+	11.0			
	14.1 AUGER REFUSAL										
	MODERATELY WEATHERED FOSSILEROUS LIMESTONE, Thin Bedded, Gray, Moderately Hard	15		10	DB	100%	RQD 18%				
	Relatively Continuous and Unweathered Below 16'	20									
	24.1 BORING OF BORING										

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

WATER LEVEL OBSERVATIONS, ft		
WL	▽ NONE	▼
WL	▽	▼
WL		

Terracon

BORING STARTED	6-11-99		
BORING COMPLETED	6-11-99		
RIG	CME	FOREMAN	PC
APPROVED	JN	JOB #	49997020

BOREHOLE 49997020.GPJ TERRACON.GDT 6/28/99

GENERAL NOTES

DRILLING & SAMPLING SYMBOLS:

SS : Split Spoon - 1⅜" I.D., 2" O.D., unless otherwise noted
ST : Thin-Walled Tube - 2" O.D., Unless otherwise noted
PA : Power Auger
HA : Hand Auger
DB : Diamond Bit - 4", N, B
AS : Auger Sample
HS : Hollow Stem Auger
PS : Piston Sample
WS : Wash Sample
FT : Fish Tail Bit
RB : Rock Bit
BS : Bulk Sample
PM : Pressuremeter
DC : Dutch Cone
WB : Wash Bore

Standard "N" Penetration: Blows per foot of a 140 pound hammer falling 30 inches on a 2 inch OD split spoon, except where noted.

WATER LEVEL MEASUREMENT SYMBOLS:

WL : Water Level
WCI : Wet Cave In
DCI : Dry Cave In
AB : After Boring
WS : While Sampling
WD : While Drilling
BCR : Before Casing Removal
ACR : After Casing Removal

Water levels indicated on the boring logs are the levels measured in the borings at the times indicated. In pervious soils, the indicated levels may reflect the location of groundwater. In low permeability soils, the accurate determination of ground water levels is not possible with only short term observations.

DESCRIPTIVE SOIL CLASSIFICATION:

Soil Classification is based on the Unified Soil Classification System and ASTM Designations D-2487 and D-2488. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; they are described as: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are described as: clays, if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse grained soils are defined on the basis of their relative in-place density and fine grained soils on the basis of their consistency. Example: Lean clay with sand, trace gravel, stiff (CL); silty sand, trace gravel, medium dense (SM).

CONSISTENCY OF FINE-GRAINED SOILS:

Unconfined Compressive Strength, Qu, psf	Consistency
< 500	Very Soft
500 - 1,000	Soft
1,001 - 2,000	Medium
2,001 - 4,000	Stiff
4,001 - 8,000	Very Stiff
8,001 -16,000	Hard
> -16,000	Very Hard

RELATIVE DENSITY OF COARSE-GRAINED SOILS:

N-Blows/ft.	Relative Density
0-3	Very Loose
4-9	Loose
10-29	Medium Dense
30-49	Dense
50-80	Very Dense
80+	Extremely Dense

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term(s) (of Components Also Present in Sample)	Percent of Dry Weight
Trace	< 15
With	15 - 29
Modifier	> 30

RELATIVE PROPORTIONS OF FINES

Descriptive Term(s) (of Components Also Present in Sample)	Percent of Dry Weight
Trace	< 5
With	5 - 12
Modifier	> 12

GRAIN SIZE TERMINOLOGY

Major Component Of Sample	Size Range
Boulders	Over 12 in. (300mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm)
Silt or Clay	Passing #200 sieve (0.075mm)

Terracon

GENERAL NOTES

Sedimentary Rock Classification

DESCRIPTIVE ROCK CLASSIFICATION:

Sedimentary rocks are composed of cemented clay, silt and sand sized particles. The most common minerals are clay, quartz and calcite. Rock composed primarily of calcite is called limestone; rock of sand size grains is called sandstone, and rock of clay and silt size grains is called mudstone or claystone, siltstone, or shale. Modifiers such as shaly, sandy, dolomitic, calcareous, carbonaceous, etc. are used to describe various constituents. Examples: sandy shale; calcareous sandstone.

LIMESTONE	Light to dark colored, crystalline to fine-grained texture, composed of $CaCo_3$, reacts readily with HCl.
DOLOMITE	Light to dark colored, crystalline to fine-grained texture, composed of $CaMg(CO_3)_2$, harder than limestone, reacts with HCl when powdered.
CHERT	Light to dark colored, very fine-grained texture, composed of micro-crystalline quartz ($Si0_2$), brittle, breaks into angular fragments, will scratch glass.
SHALE	Very fine-grained texture, composed of consolidated silt or clay, bedded in thin layers. The unlaminated equivalent is frequently referred to as siltstone, claystone or mudstone.
SANDSTONE	Usually light colored, coarse to fine texture, composed of cemented sand size grains of quartz, feldspar, etc. Cement usually is silica but may be such minerals as calcite, iron-oxide, or some other carbonate.
CONGLOMERATE	Rounded rock fragments of variable mineralogy varying in size from near sand to boulder size but usually pebble to cobble size (½ inch to 6 inches). Cemented together with various cementing agents. Breccia is similar but composed of angular, fractured rock particles cemented together.

PHYSICAL PROPERTIES:

DEGREE OF WEATHERING

Slight	Slight decomposition of parent material on joints. May be color change.
Moderate	Some decomposition and color change throughout.
High	Rock highly decomposed, may be extremely broken.

HARDNESS AND DEGREE OF CEMENTATION

Limestone and Dolomite:

Hard	Difficult to scratch with knife.
Moderately Hard	Can be scratched easily with knife, cannot be scratched with fingernail.
Soft	Can be scratched with fingernail.

Shale, Siltstone and Claystone

Hard	Can be scratched easily with knife, cannot be scratched with fingernail.
Moderately Hard	Can be scratched with fingernail.
Soft	Can be easily dented but not molded with fingers.

Sandstone and Conglomerate

Well Cemented	Capable of scratching a knife blade.
Cemented	Can be scratched with knife.
Poorly Cemented	Can be broken apart easily with fingers.

BEDDING AND JOINT CHARACTERISTICS

Bed Thickness	Joint Spacing	Dimensions
Very Thick	Very Wide	> 10′
Thick	Wide	3′ - 10′
Medium	Moderately Close	1′ - 3′
Thin	Close	2″ - 1′
Very Thin	Very Close	.4″ - 2″
Laminated	—	.1″ - .4″

Bedding Plane	A plane dividing sedimentary rocks of the same or different lithology.
Joint	Fracture in rock, generally more or less vertical or transverse to bedding, along which no appreciable movement has occurred.
Seam	Generally applies to bedding plane with an unspecified degree of weathering.

SOLUTION AND VOID CONDITIONS

Solid	Contains no voids.
Vuggy (Pitted)	Rock having small solution pits or cavities up to ½ inch diameter, frequently with a mineral lining.
Porous	Containing numerous voids, pores, or other openings, which may or may not interconnect.
Cavernous	Containing cavities or caverns, sometimes quite large.

Terracon

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests[A]					Soil Classification	
					Group Symbol	Group Name[B]
Coarse-Grained Soils More than 50% retained on No. 200 sieve	Gravels More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines[C]	$Cu \geq 4$ and $1 \leq Cc \leq 3$[E]		GW	Well-graded gravel[F]
			$Cu < 4$ and/or $1 > Cc > 3$[E]		GP	Poorly graded gravel[F]
		Gravels with Fines More than 12% fines[C]	Fines classify as ML or MH		GM	Silty gravel[F, G, H]
			Fines classify as CL or CH		GC	Clayey gravel[F, G, H]
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines[E]	$Cu \geq 6$ and $1 \leq Cc \leq 3$[E]		SW	Well-graded sand[I]
			$Cu < 6$ and/or $1 > Cc > 3$[E]		SP	Poorly graded sand[I]
		Sands with Fines More than 12% fines[D]	Fines classify as ML or MH		SM	Silty sand[G, H, I]
			Fines classify as CL or CH		SC	Clayey sand[G, H, I]
Fine-Grained Soils 50% or more passes the No. 200 sieve	Silts and Clays Liquid limit less than 50	inorganic	PI > 7 and plots on or above "A" line[J]		CL	Lean clay[K, L, M]
			PI < 4 or plots below "A" line[J]		ML	Silt[K, L, M]
		organic	Liquid limit — oven dried / Liquid limit — not dried	< 0.75	OL	Organic clay[K, L, M, N] / Organic silt[K, L, M, O]
	Silts and Clays Liquid limit 50 or more	inorganic	PI plots on or above "A" line		CH	Fat clay[K, L, M]
			PI plots below "A" line		MH	Elastic silt[K, L, M]
		organic	Liquid limit — oven dried / Liquid limit — not dried	< 0.75	OH	Organic clay[K, L, M, P] / Organic silt[K, L, M, Q]
Highly organic soils		Primarily organic matter, dark in color, and organic odor			PT	Peat

[A]Based on the material passing the 3-in. (75-mm) sieve.

[B]If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C]Gravels with 5 to 12% fines require dual symbols:
GW-GM well-graded gravel with silt
GW-GC well-graded gravel with clay
GP-GM poorly graded gravel with silt
GP-GC poorly graded gravel with clay

[D]Sands with 5 to 12% fines require dual symbols:
SW-SM well-graded sand with silt
SW-SC well-graded sand with clay
SP-SM poorly graded sand with silt
SP-SC poorly graded sand with clay

[E]$Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F]If soil contains ≥ 15% sand, add "with sand" to group name.

[G]If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H]If fines are organic, add "with organic fines" to group name.

[I]If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J]If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K]If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel", whichever is predominant.

[L]If soil contains ≥ 30% plus. No. 200 predominantly sand, add "sandy" to group name.

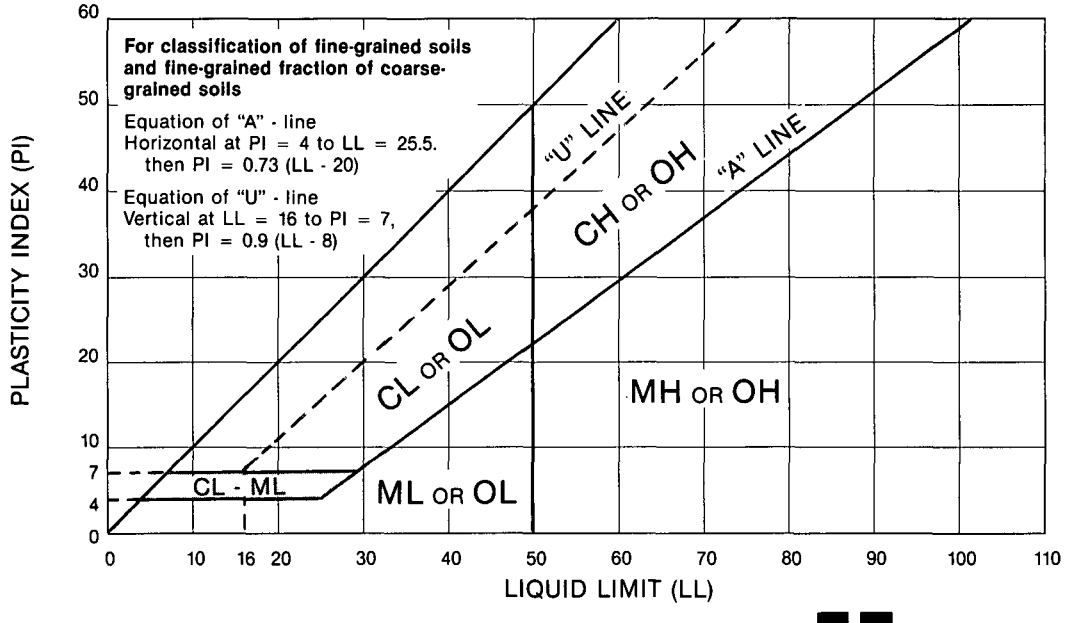
[M]If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N]PI ≥ 4 and plots on or above "A" line.

[O]PI < 4 or plots below "A" line.

[P]PI plots on or above "A" line.

[Q]PI plots below "A" line.



Terracon

Form 111—6-85

Terracon
718 Airpark Center Drive
Nashville, Tennessee 37217-2925
(615) 360-5958 Fax: (615) 360-6108

June 23, 1999

Sprint Spectrum LP
11390 Old Roswell Road
Suite 100
Alpharetta, Georgia 30004-2051

Attention: Mr. Matt Allen

Re: NEPA Review
Proposed Communication Tower
M&R Marshall Site
LV33XC001A
Sanders, Carroll County, Kentucky
Terracon Project Number: 49997020

Dear Mr. Allen:

Terracon has completed the requested National Environmental Policy Act (NEPA) review for the above referenced project. The NEPA review was conducted for compliance with Federal Communications Commission (FCC) requirements as identified in 47CFR Ch. 1.1307(a)1-8. Our findings from this review are outlined in the following paragraphs and summarized on the attached 10 point Checklist. Documentation, if received from the regulatory agencies, is enclosed with this letter.

Terracon has reviewed information available at several regulatory agencies and other sources to aid in addressing these requirements. The findings from this "cursory" review are presented in this letter report. For the purposes of this study, Terracon has assumed the environmental impact zone of the proposed construction to be limited to a 0.25-mile radius around the tower site. The 0.25-mile radius was selected based on the minimal grading and disturbance normally associated with tower construction. An exception to this was made for Item 6 (National Register of Historic Places) where an impact zone with a 1-mile radius was evaluated based on the requirements of the Kentucky Heritage Council (KHC). The following information provides Terracon's rationale for selection of either "Yes" or "No" for each item of the Checklist attached to this letter.

Item 1: Officially Designated Wilderness Areas - A review of the USGS 7.5-minute topographic map of the subject site was conducted. The proposed site is not located in an officially designated wilderness area. Therefore, a "No" was marked on the Checklist.

Item 2: Officially Designated Wildlife Preserve - A review of the USGS 7.5-minute topographic map of the subject site was conducted. The proposed site is not located in an officially designated wildlife preserve. Therefore, a "No" was marked on the Checklist.

Item 3: Endangered Species or Critical Habitats - Review of USGS 7.5-minute topographic maps denoting designated endangered species and critical habitats was conducted through the Kentucky Fish and Wildlife Commission (KFWC) internet web site. No endangered species or critical habitats were noted within a 0.25 mile radius of the site. The site is on a hilltop in a farm field bordering the Interstate I-71 northbound right-of-way. Therefore, a "No" was marked on the Checklist.

Item 4: Continued Existence of Endangered or Threatened Species – The Kentucky Division of Fish and Wildlife web site was searched concerning the presence of threatened or endangered species for this area. A review of the Division's database did not reveal any endangered, threatened, or rare species on or adjacent to the site, therefore, a "No" was marked on the Checklist.

Item 5: Destruction of Critical Habitats - The surface area where the site is proposed is a sloping hilltop within a farm field. Based on Items 3 and 4 above and the general setting of the site, no further evaluation should be required for this item. Therefore, a "No" was marked on the Checklist.

Item 6: National Register of Historic Places - A review of the Kentucky Heritage Council (KHC) files revealed six historical properties within one mile of the site. These sites are near the limits of the one mile radius and were not visable from the site. Four are on the opposite side of Interstate 71; one is adjacent to the northbound right-of-way of I-71 (northeast of the site) and obscured from the site by a series of intervening ridgetops; and one is in excess of 4300 feet northeast of the site, with its line of site obscured by ridgetop vegetation. Therefore, it is our opinion that no historical properties will be affected by this proposed tower. However, a letter requesting the "no affect" status of this site was submitted to the KHC for verification of these findings. The KHC considered the site a "no affect" to historical places, however, an archaeological survey was requested (see the following Item 7). A "No" was marked on the Checklist.

Item 7: Indian Religious Sites - A review of the KHC files did not indicate archaeological sites within 0.25 mile of the site. However, during the historical review for Item 6 above, the KHC requested an archaeological survey based on the undisturbed nature of the site. A telephone conversation with Jayne Fiegel of the KHC indicated that the archaeological survey did not find the site to be an archaeological concern, therefore, a "No" was marked on the Checklist. A record of communication is attached. The formal letter from the KHC will be forthcoming in 2 to 3 weeks.

Item 8: Flood Plain - Based on the fact that drainage is away from the site, with Interstate 71 adjacent to and below the site, the site is not within a 100-year floodplain. In addition, the site is 50 feet above the nearest stream, which is designated as having intermittent flow. Therefore, a "No" was marked on the Checklist.

Item 9: Significant Change in Surface Features (i.e.-wetland fill, deforestation or water diversion) - Based on the site location and the minimal surface disturbance that should be associated with the construction of this tower, it is believed that significant grade changes will not be required. Therefore, a "No" was marked on the Checklist.

Item 10: High Intensity White Lights - Based on conversations with Ms. Susan Belger of Sprint Spectrum, proposed towers will not use high intensity white lights. The proposed facility is not located in a residential neighborhood. Therefore, a "No" was marked on the Checklist. If needed, Ms. Belger stated that a tower can be fitted with dual mode lighting that consists of medium intensity white lights during the day that turn to flashing red after dusk.

With the exception of radio frequency radiation exposure, Terracon has completed the review in general compliance with 47CFR Ch. 1.1307(a)1-8. This review relied primarily upon public sources of readily available information, on conversations with persons knowledgeable of the federal regulations and proposed construction and on visual observations of the subject site. Terracon does not warrant the work of regulatory agencies or other third parties supplying information which may have been used during the preparation of this review. Furthermore, this NEPA review was prepared using Terracon's interpretation and opinion of the data available at the time of our review. If Sprint Spectrum desires a higher degree of assurance, the relevant state and federal agencies should be contacted to render their opinion on the individual items.

Based on the information obtained, in our opinion, no further information or evaluation appears warranted for this site. The radio frequency exposure aspect of the NEPA requirements should be evaluated by Sprint's Radio Frequency (RF) engineers. If site conditions or planned construction conditions change (i.e.- new location, increased tower height, etc.) this NEPA review should be reevaluated for compliance with these federal regulations.

We hope this provides you with sufficient information at the present time. If you have any questions concerning this letter, please feel free to contact our office.

Sincerely,
TERRACON

Michael E. Graham, P.G.
Project Geologist

Jamal Najm, P.E.
Project Manager

Enclosures

cc: Addressee (4)

Attachment B NEPA Land Use Screening Checklist

Cascade Number LV33XC001A *Site Name&MTA/BTA* Marshall Site

	LAND USE SCREENING	Raw Land Yes	Raw Land No	Rooftop or Co-Locate Yes	Rooftop or Co-Locate No
1.	Is the proposed facility located in an officially designated wilderness area.	☐	☒	○	○
2.	Is the proposed facility located in an officially designated wildlife preserve.	☐	☒	○	○
3.	May the proposed facility affect threatened or endangered species or designated critical habitats.	☐	☒	○	○
4.	Will the proposed facility likely jeopardize the continued existence of any proposed endangered or threatened species.	☐	☒	○	○
5.	Will the proposed facility likely result in the destruction or adverse modification of proposed critical habitats (as determined by the Endangered Species Act of 1973).	☐	☒	○	○
6.	Will the facility affect districts, sites, buildings, structures or objects, significant in American history, architecture, archeology, engineering or culture, that are listed (or eligible for listing) in the National Register of Historic Places.	___	NO	___	___
7.	Will the facility affect Indian religious site(s).	☐	☒	○	○
8.	Is the facility located in a flood plain.	☐	☒	○	○
9.	Will construction of the proposed facility involve significant change in surface features (e.g., wetland fill, deforestation or water diversion).	☐	☒	○	○
10.	Is the proposed facility located in a residential neighborhood and is required to be equipped with high intensity white lights.	☐	☒	○	○

Yes categories checked in the box sections (☐) require the submittal of an Environmental Assessment. Construction may not start on any of these sites prior to receipt of a FONSI (finding of no significant environmental impact) by FCC.

Yes categories checked in the circle sections (○) require the submittal of an Environmental Assessment, unless all local and state zoning/environmental approvals are obtained.

Yes categories checked in the underscore sections (___) require the submittal of an Environmental Assessment if the property owner or other wireless carriers (if any) cannot produce a copy of the approved Environmental Assessment or if approval from the State Historic Preservation Office and local environmental office cannot be obtained.

A copy of this checklist, and any EAs, evaluations and corrective measures shall be documented to the MTA/BTA project file on each site. The undersigned has reviewed and approved this NEPA checklist.

Signed: E&O MTA/BTA Director James W. Greene Date: 6-28-99
Print Name James W. Greene

Education, Arts and Humanities Cabinet

KENTUCKY HERITAGE COUNCIL
The State Historic Preservation Office

Paul E. Patton
Governor
Marlene M. Helm
Cabinet Secretary

David L. Morgan
Executive Director and
SHPO

June 2, 1999

Mr. Michael E. Graham, P.G.
Terracon Consultants, Inc.
1341 South 2nd Street
Louisville, Kentucky 40208

Re: Sprint Communications Towers
M&R Marshall Site
Sanders, Gallatin County, Kentucky
Project Site No. LV33XCOO1A

Dear Mr. Graham:

We have received the above referenced project for review and have the following findings. Because of the undisturbed nature of the project area, an archaeological survey will be required. After we review the resulting survey report, we will then let you know if any further Section 106 consultation is required.

If you have any questions, feel free to contact David Pollack of my staff at (502) 564-7005.

Sincerely,

David L. Morgan, Director
Kentucky Heritage Council and
State Historic Preservation Officer

300 Washington Street
Frankfort, Kentucky 40601
An equal opportunity employer M/F/D

Telephone (502) 564-7005
FAX (502) 564-5820

Terracon

12700 Shelbyville Road, Danville Bldg.
Louisville, Kentucky 40243

Record of Communication

Project: Communication Tower (Marshall Site) Date: 6/23/99

Project Number: 49997020 Time: 11:00 am

Terracon Rep: M. Graham Page: 1 of 1

Person Contacted: Jayne Fiegel

Firm: Kentucky Heritage Council

Location: Frankfort, Kentucky

Phone Number: 502·564·7005

Conversation: Ms. Fiegel stated that the archaeological survey was completed and that no archaeological concerns were found. She also mentioned that it would be approximately 2-3 weeks before the formal letter from the KHC would be completed and mailed.

Distribution: File: ✓, CC: _____

Action Required: Yes ____, No: ✓.

If yes, what action:

PHASE I ENVIRONMENTAL SITE ASSESSMENT

PROPOSED COMMUNICATION TOWER
LOCATION
SITE NAME: M&R Marshall
SITE NUMBER: LV33XC001A
SANDERS, KENTUCKY

Terracon Project No. 49997020
May 25, 1999

PREPARED FOR:
SPRINT SPECTRUM LP
Alpharetta, Georgia

PREPARED BY:
TERRACON
Louisville, Kentucky
Norcross, Georgia

Terracon

Terracon
718 Airpark Center Drive
Nashville, Tennessee 37217-2925
(615) 360-5958 Fax: (615) 360-6108

May 25, 1999

Sprint Spectrum LP
11390 Old Rosewell Road
Suite 100
Alpharetta, Georgia 30004

Attn: Mr. Matt Allen

RE: Phase I Environmental Site Assessment
Proposed Tower Location
Site Name: M&R Marshall
Site Number: LV33XC001A
Sanders, Kentucky
Terracon Project Number: 49997020

Dear Mr. Allen:

Terracon has completed a Phase I Environmental Site Assessment (Phase I ESA) for the above-referenced site near Sanders, Carroll County, Kentucky. The Phase I ESA was completed in accordance with our Contractor Services Agreement, dated January 7, 1999. Our observations concerning the environmental conditions at the site are contained in this report and the attached appendices. Based on a site reconnaissance and regulatory and historical review, a Phase II study does not appear warranted at this time.

We appreciate the opportunity to be of service to you on this project. If there are any questions concerning this report, or if we may be of further assistance, please contact us.

Sincerely,
TERRACON

Dale N. Reynolds, P.G.
Project Geologist

Jamal Najm, P.E.
Project Manager

xc: Addressee (4)

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF APPENDICES

PHASE I ENVIRONMENTAL SITE ASSESSMENT

PROPOSED COMMUNICATION TOWER

SITE NAME: M&R MARSHALL
SITE NUMBER: LV33XC001A
SANDERS, KENTUCKY

Terracon Project No. 49997020
May 25, 1999

1.0 INTRODUCTION

Terracon has completed a Phase I Environmental Site Assessment (ESA) of the proposed tower location at 7881 Hwy. 36 in Sanders, Carroll County, Kentucky. The Phase I assessment included the following tasks:

- an on-site visual survey of the subject property, and cursory review of adjacent property, to observe for deleterious environmental conditions;
- interview with property owner to obtain information indicating historical use and any recognized environmental conditions associated with the property; and,
- a review of various records to help identify current and historical recognized environmental conditions in connection with the property.

The purpose of this Phase I ESA was to accumulate data on present conditions and historical uses of the subject and nearby property and the potential impact that these conditions and uses may have had on the site. We understand Sprint Spectrum LP will hereafter evaluate the significance of recognized environmental conditions as related to the subject property.

The site property or subject site referred to in this report is the vacant parcel in a farm field where a proposed tower is to be constructed.

2.0 SITE DESCRIPTION

2.1 Location

The site is a vacant parcel, located within a 55 acre tract. The site is located at 7881 Hwy. 36 (US Route 60), Sanders, Carroll County, Kentucky. Specifically, the site is located directly off Hwy. 36 adjacent to Interstate 71. Maps showing the site location are included in Appendix A. The site is depicted on a portion of a US Geological Survey 7.5 minute map of the Vevay South, Kentucky topographic quadrangle that is included as Figure 1 in Appendix A.

2.2 Geology

A review was conducted of published geologic mapping for the State of Kentucky. The mapping indicates the site is underlain by the Grant Lake Limestone formation of the Upper Ordovician Period. This formation is medium gray, with thin, very irregular and discontinuous beds, which consisting mostly of whole and broken brachiopods and bryozoans in an argillaceous calcite matrix. The subject site is located over 2200 feet southeast of the approximate southern limit of Glaciation as defined on the Vevay South geologic quadrangle.

According to the SCS Soil Survey report for Carroll County, the soils at the site consist of Nicholson silt loam, 2 to 8 percent slopes. These soils are deep, well-drained, gently sloping soils that have a thick fragipan layer at a depth of 16 inches. The upper soil formed in loess or silty material, while the lower soil formed in residual material that weathered from interbedded limestone and calcareous shale. Permeability is moderate in the upper soil, but slow through the fragipan, causing a perched water table after a heavy rain. The soil typically has a moderate water capacity.

2.3 Topography

Based on a review of the Vevay South, Kentucky topographic quadrangle, the site is situated at an elevation of approximately 820 feet above mean sea level (MSL). Based on visual observations at the site, surface runoff appears to flow to the south and east. Likewise, the overall runoff for the area flows to the south and east toward Buffalo Creek. The area where the site is located is a hilltop.

Groundwater in this area will generally occur in more than one hydrogeologic setting. One groundwater zone can occur at the soil/bedrock interface. This groundwater regime is typically localized, recharged by surface water infiltration, and is primarily influenced by the topography. The deeper bedrock aquifer zones are controlled by bedrock structure, primary and secondary porosity, and location of recharge and discharge areas. Based on the assumption that groundwater flow mimics surface topography, as interpreted from the topographic quadrangle map, the upper

localized groundwater at the soil/bedrock interface flows to the southeast. Based on the structure contours from the Vevay South Geologic Quadrangle, regional groundwater in the deeper bedrock aquifers is assumed to flow southeast. No sinkholes are readily apparent at the site, and karst topography is not apparent in the area. The location of sinkholes is indicative of groundwater flow direction. The actual localized groundwater flow direction is often influenced by factors such as surface topography, underground structures, seasonal fluctuations, domestic well use, soil and bedrock geology, site and area development, and other factors beyond the scope of this study. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be ascertained.

2.4 Site Reconnaissance

The visual survey was performed by a Terracon environmental professional on May 5, 1999. A walk-through was performed while adjacent properties were observed from public vantage points. The purpose of the walk-through was to observe the site for obvious indication of chemical use, storage, treatment, and disposal practices, note indications of underground storage tanks (UST's), above ground storage tanks (AST's) distressed vegetation, chemical production and storage areas, if any, and obvious surface stains.

The location of the site property was identified from information supplied by Sprint Spectrum LP. A photographic record of the survey is included as Appendix B. A diagram depicting some of the site features and adjoining property use is presented as Figure 2 in Appendix A.

The site consists of an undeveloped, grass-covered parcel, located in a 55 acre tract of farmland. The proposed site is situated on a hilltop, along the northwestern edge of a cow pasture and the southeastern edge of Interstate 71 northbound. No visible evidence of prior buildings, groundwater wells, cisterns, or other structures was present. Obvious indications of underground storage tanks (USTs), other aboveground storage tanks (ASTs), chemical treatment or production areas, stressed vegetation, or visible signs of potential environmental impact were not observed on-site at the time of our visit.

2.5 Visual Survey of Surrounding Properties

Observations of adjacent properties from the subject site and public vantage points for obvious indications of environmental impact were conducted. Specifically, the adjacent properties are as follows:

- **North:** Interstate Route 71;
- **East:** a cow pasture;

- **South:** a cow pasture; and
- **West:** wooded border along I-71.

The Site Diagram (Figure 2) depicts the neighboring properties and observed features. The adjacent properties are also shown in the photographic documentation.

3.0 INTERVIEW

An interview with the owner, Mr. Richard Marshall, revealed that he acquired the property in circa 1947. He stated that the property was farmland when he obtained it and that he was not aware of any environmental concerns with the property. Mr. Marshall further stated, there have never been any structures, USTs, or ASTs on the proposed site. Mr. Marshall also reported that he is unaware of any thing having been buried or disposed of on the subject site.

A copy of the Record of Communication is included in Appendix C.

4.0 RECORDS REVIEW

4.1 EPA and State Environmental Databases

Terracon reviewed federal US Environmental Protection Agency (USEPA) and Kentucky Natural Resources and Environmental Protection Cabinet (KNREPC) database information provided by VISTA Environmental Services for indications of environmental concerns in the area of the subject property. Database information which is assessed by ZIP code, was acquired for the 41083 code, which covers a 1-mile radius of the subject site. Listed below are the federal and state databases which were searched and the number of occurrences which were encountered within the search area. The search area encompassed distances of between 0.125 to 1.0 mile from the perimeter of the site. VISTA uses US Census Bureaus and US Post Office address files to generate their reports. However, due to conversion of address data to location coordinates and the accuracy of government records, the locations may not match actual physical locations. The federal and state commercial databases include sections entitled "unmappable sites". The locations of the facilities listed in this section cannot be mapped due to incomplete or inaccurate information. Terracon reviews this section and compares the names and addresses (if available) with information generated during our site reconnaissance. A copy of the VISTA regulatory review report is provided in Appendix D.

KENTUCKY SITE DISTRIBUTION SUMMARY						
AGENCY	**DATABASE**	**TYPE OF RECORDS**	**within 1/8 mile**	**1/8 to 1/4 mile**	**1/4 to 1/2 mile**	**1/2 to 1 mile**
Databases searched to 1 mile						
US EPA	NPL	National Priority List	**0**	**0**	**0**	**0**
US EPA	CORRACTS (TSD)	RCRA Corrective Actions and associated treatment, storage, disposal facilities	**0**	**0**	**0**	**0**
Databases searched to 1/2 mile						
STATE	SCL	State equivalent CERCLIS list	**0**	**0**	**0**	**0**
US EPA	CERCLIS NFRAP	Sites currently or under review by USEPA	**0**	**0**	**0**	-
US EPA	TSD	RCRA permitted treatment, storage, disposal facilities.	**0**	**0**	**0**	-
STATE	SWLF	Permitted as solid waste landfills, incinerators, or transfer stations	**0**	**0**	**0**	-
Databases searched to 1/4 mile						
STATE	UST	Registered underground storage tanks	**0**	**0**	-	-
Databases searched to 1/8 mile						
US EPA	ERNS	Emergency Response Notification System of Spills	**0**	-	-	-
US EPA	LG GEN	RCRA registered large generators of hazardous waste	**0**	-	-	-
US EPA	SM GEN	RCRA registered small generators of hazardous waste	**0**	-	-	-

United States Environmental Protection Agency (USEPA)

National Priority List (NPL) Sites Found: Zero (0)

The National Priority List contains sites that are CERCLIS sites which the USEPA has identified as high priority to address conditions believed to pose a threat to public health and/or the environment. No facilities were noted on the NPL list within a one mile radius of the subject site.

CORRACTS (TSD) Sites Found: Zero (0)

The CORRACTS database is a listing of RCRA facilities which are undergoing corrective action. A corrective action order is issued when there has been a release of hazardous waste or constituents into the environment from a RCRA facility. The CORRACTS-TSD list was reviewed for a one mile radius of the subject site. The subject site was not noted on this list, neither were any facilities within the specified radius.

CERCLIS/NFRAP Sites Found: Zero (0)

The Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) database is a compilation of sites reported to the USEPA which have been investigated or are under investigation for a release or potential release of hazardous materials. Listing of a site on the CERCLIS database is not necessarily an indication that contamination is, or is not, present. The CERCLIS list was reviewed for a one-half mile radius of the subject site. No facilities were noted within the specified radius.

Treatment, Storage, Disposal (TSD) Sites Found: Zero (0)

The RCRA generator listings indicate that hazardous wastes are generated on a facility's premises as part of a company's normal business practices. The listings do not imply non-compliance with government regulations or that the facilities are/were polluting with hazardous wastes. The RCRA Generators database was reviewed for a one-eighth mile radius of the subject site. The subject site was not noted on this list, neither were any other facilities within the specified radius.

Emergency Response Notification System (ERNS) Sites Found: Zero (0)

The Emergency Response Notification System (ERNS) database listing is a compilation of spills of petroleum products or hazardous substances which have been reported to the USEPA. This database was reviewed for a one-eighth mile radius from the subject site. The subject site was not present on this list, nor were any facilities noted within the specified radius.

RCRA LARGE GENERATOR Sites Found: Zero (0)

The RCRA Large Generators of Hazardous Waste (LG GEN RCRA) list indicates that hazardous wastes (in excess of 1000 kg/month) are generated on a facility's premises as part of a company's normal business practices. The listings do not imply non-compliance with government regulations or that the facilities are/were polluting with hazardous wastes. The subject site was not noted on this list, nor were any other facilities within the specified radius.

RCRA SMALL GENERATOR Sites Found: Zero (0)

The Registered Small Generators of Hazardous Waste (SM GEN RCRA) list indicates that hazardous wastes are generated (less than 1000 kg/month) on a facility's premises as part of a company's normal business practices. The listings do not imply non-compliance with government regulations or that the facilities are/were polluting with hazardous wastes. The subject site was not noted on this list, neither were any facilities within the specified radius.

Kentucky Natural Resources and Environmental Protection Cabinet (KNREPC) Kentucky

SCL Sites Found: Zero (0)

The State Equivalent CERCLIS List database is maintained by the Kentucky Department of Environmental Protection under the State Leads List. The Kentucky State Leads List is an inventory of potential hazardous substance and waste disposal sites located within the state. In addition, Kentucky uses the USEPA CERCLIS database as an additional source of known or potentially contaminated sites in the state, and for the purpose of tracking sites to be investigated under the Preliminary Assessment/Site Investigation program for potential Superfund listing. No sites were listed within a 1-mile radius of the site.

SWLF Sites Found: Zero (0)

No solid waste facilities were noted on the Kentucky list of permitted Solid Waste Landfill Facilities (SWLF) as being within an approximate 1/2-mile radius of the subject site.

Registered (UST) Sites Found: Zero (0)

The underground storage tank (UST) database, maintained by the KNREPC, lists registered UST facilities within the State of Kentucky. The inclusion of a facility on the registered facilities database indicates the current or previous existence of underground storage tanks and does not necessarily indicate noncompliance with regulations and state requirements. The subject site was not on this list, nor were any facilities noted within the specified radius.

LUST Sites Found: Zero (0)

Kentucky does not publish a leaking UST list.

SPL Sites Found: Zero (0)

Kentucky does not maintain a State Equivalent Priority List (SPL).

Unmappable Sites: Two (2)

Based on the information provided by VISTA there are no unmappable sites located in proximity to the subject site.

4.2 Aerial Photographs

Historic aerial photographs are typically reviewed for information concerning the history of use or development on and near the property. Although aerial photographs are generally developed at a small scale, they may be useful in visually comparing historic and current conditions. They may also be helpful in determining whether conditions of obvious environmental concern existed on or near the subject property at the time they were taken. Terracon was not able to get to the Soil Conservation Service office for Carroll County, during normal office hours, to review historical aerial photographs. Therefore, the base map for the soil survey, taken from a 1972 aerial photograph was the only readily available photograph reviewed. The apparent conditions noted on the aerial photograph are listed below. A copy of the photograph is included in Appendix A.

- **1972 Aerial Photograph:** The site appears as rural farm property surrounded almost entirely by farmland and woodlands, as it did during the site inspection. Interstate 71 is present and other adjacent properties are shown as reported above.

No readily apparent environmental concerns, such as landfills, stockpiled materials or illegal dumping, were disclosed by a review of the aerial photographs.

4.3 United States Geologic Survey (USGS) Topographic Map

Terracon reviewed the USGS Vevay South, Kentucky 7.5 minute topographic map, dated 1967, photorevised in 1980, with a minor revision made in 1994. The current edition of this topographic map was used as a base map for the Site Vicinity Map provided as Figure 1 in Appendix A. Topographic maps are useful in identifying the presence or absence of structures on or near the subject property. Also, the color coding typically used on these maps indicates areas that are historically developed, recently developed, and undeveloped at the time of the map update.

Review of the topographic map indicates the site is located in a rural area. No structures are indicated on the site, but the property owner's home and outbuildings are depicted nearby. The surrounding parcels appear to be mostly open fields, with no residences other than those of the property owner nearby. No photorevisions are located on or adjacent to the subject site.

No readily apparent environmental concerns, such as landfills, were disclosed by a review of the topographic quadrangle.

5.0 FINDINGS AND CONCLUSIONS

Terracon has completed a Phase I ESA in general accordance with the scope and limitations of ASTM E-1527 of the proposed tower location in Sanders, Carroll County, Kentucky. The assessment produced the following findings.

- The site is a vacant grass covered parcel located on a 55 acre farm tract near the intersection of I-71 and US Route 36, Sanders, Carroll County, Kentucky. At the time of the inspection, the site had not been surveyed.

- A review of regulatory information indicated there were no federally regulated facilities within the specified search radii. Also, no facilities regulated by the state were noted within the specified search radii.

- An brief interview with the property owner confirmed the tower location and revealed that the property has been undeveloped farmland for more than the last fifty years.

- Review of an aerial photograph and a historic topographic map confirmed that no previous development had occurred on the subject property.

Based on the site reconnaissance and regulatory and historical review, Terracon did not observe conditions on the site location which, in our opinion, warrant a Phase II environmental assessment at this time. If the client or others require a higher level of confidence regarding the environmental quality of the property in light of the above findings, Terracon will provide recommendations for a Phase II assessment to address the findings listed above or for any concerns brought to our attention by others. Analytical data does provide the client a greater level of confidence relating to the environmental condition and liability of the property. As a general rule, no considered engineering opinion can be issued regarding the types and/or levels of contamination which may be associated with the property without an appropriate

scope of work which provides for intrusive exploration, material sampling, and chemical analysis.

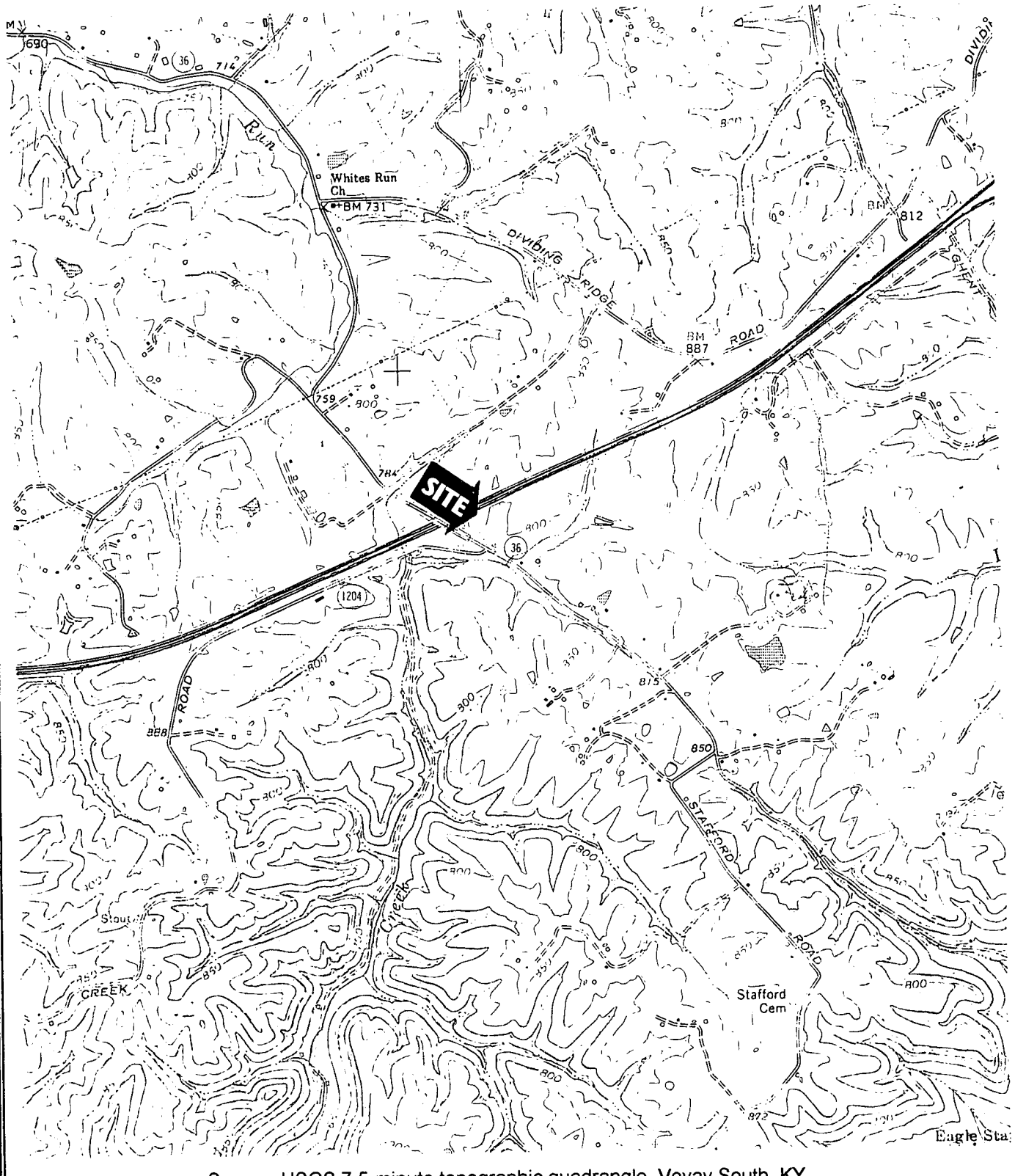
6.0 GENERAL COMMENTS

Terracon has performed a Phase I ESA in general compliance with the scope and limitations of ASTM E-1527 with the exception that information was not obtained on the site back to 1940. However, based on the rural setting, the site has historically been farm land. This non-intrusive environmental assessment relied upon readily available historical records, visual assessment of the property, and responses from environmental agencies and other third parties. Terracon does not warrant the work of regulatory agencies or other third parties supplying information which may have been used during the assimilation of this report. This assessment was not designed to provide chemical or radiological analysis or inferences about the condition of the soils and/or groundwater in the area of the study. This report does not reflect any variations of subsurface stratigraphy or chemical composition which may occur across the site or through time.

Subsurface conditions were not field evaluated, as this was outside the scope of this study, and may differ from the conditions implied by the surficial observations. This study is not intended to assess or otherwise determine soil impact, waste emplacement, or groundwater sampling through the completion of soil borings and the installation of monitoring wells. The scope of work, in accordance with our agreement, did not include these services.

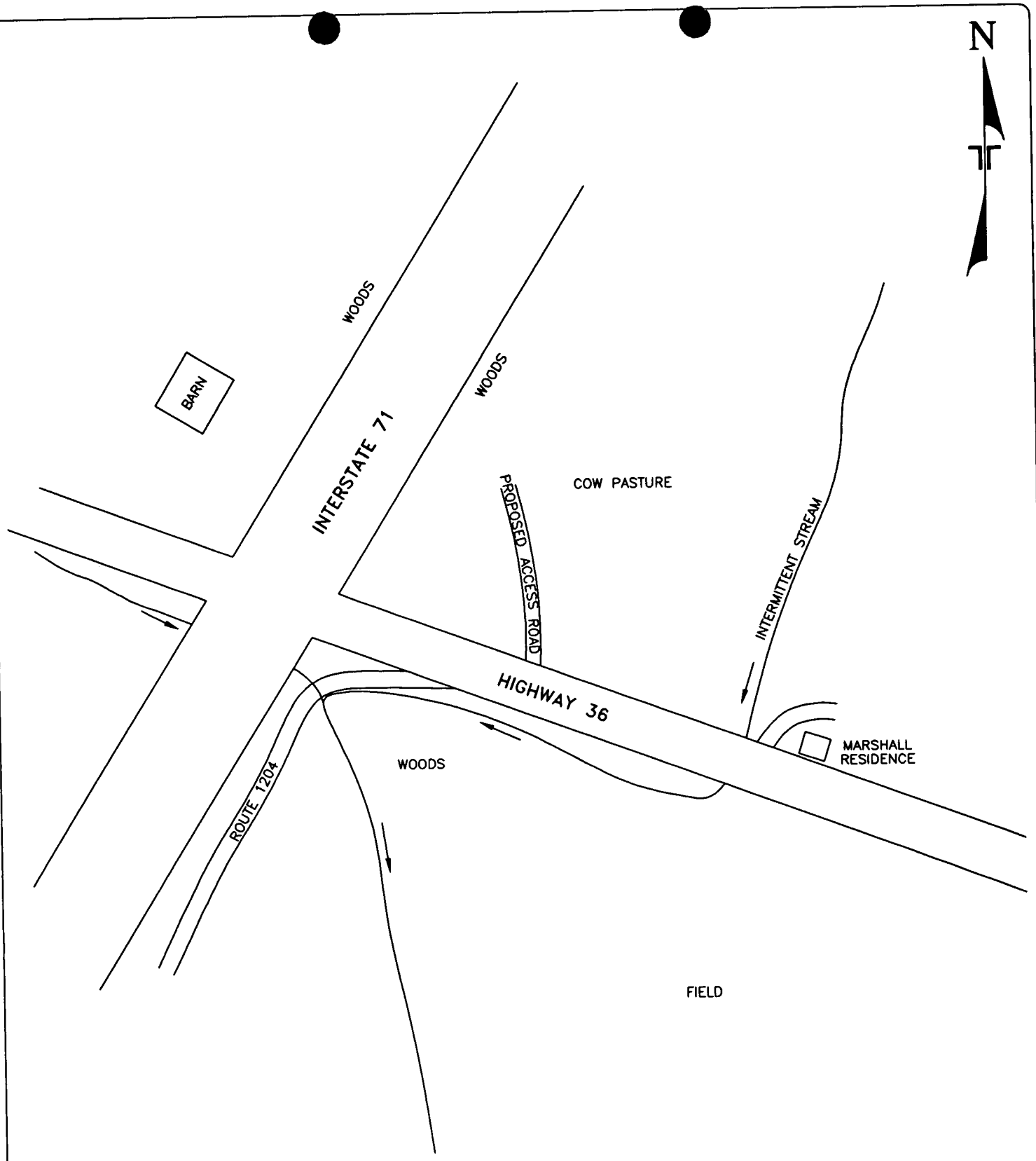
This report is prepared for exclusive use by Sprint Spectrum LP for specific application to the project discussed and has been prepared according to generally accepted environmental assessment practices. No warranty, express or implied, is made or intended. In the event that any changes in the nature or location of the source of possible contamination as outlined in this report are observed, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions of this report are modified or verified in writing by Terracon. The limitations of this assessment should be recognized as Sprint Spectrum LP formulates conclusions on the environmental risks associated with this property.

APPENDIX A - FIGURES



Source: USGS 7.5-minute topographic quadrangle, Vevay South, KY

Figure 1 **SITE VICINITY MAP** **SCALE: 1" = 2000'**	Terracon	**PROJECT** **M&R Marshall Site** **Sanders, KY** **PROJECT NO. 49997020**

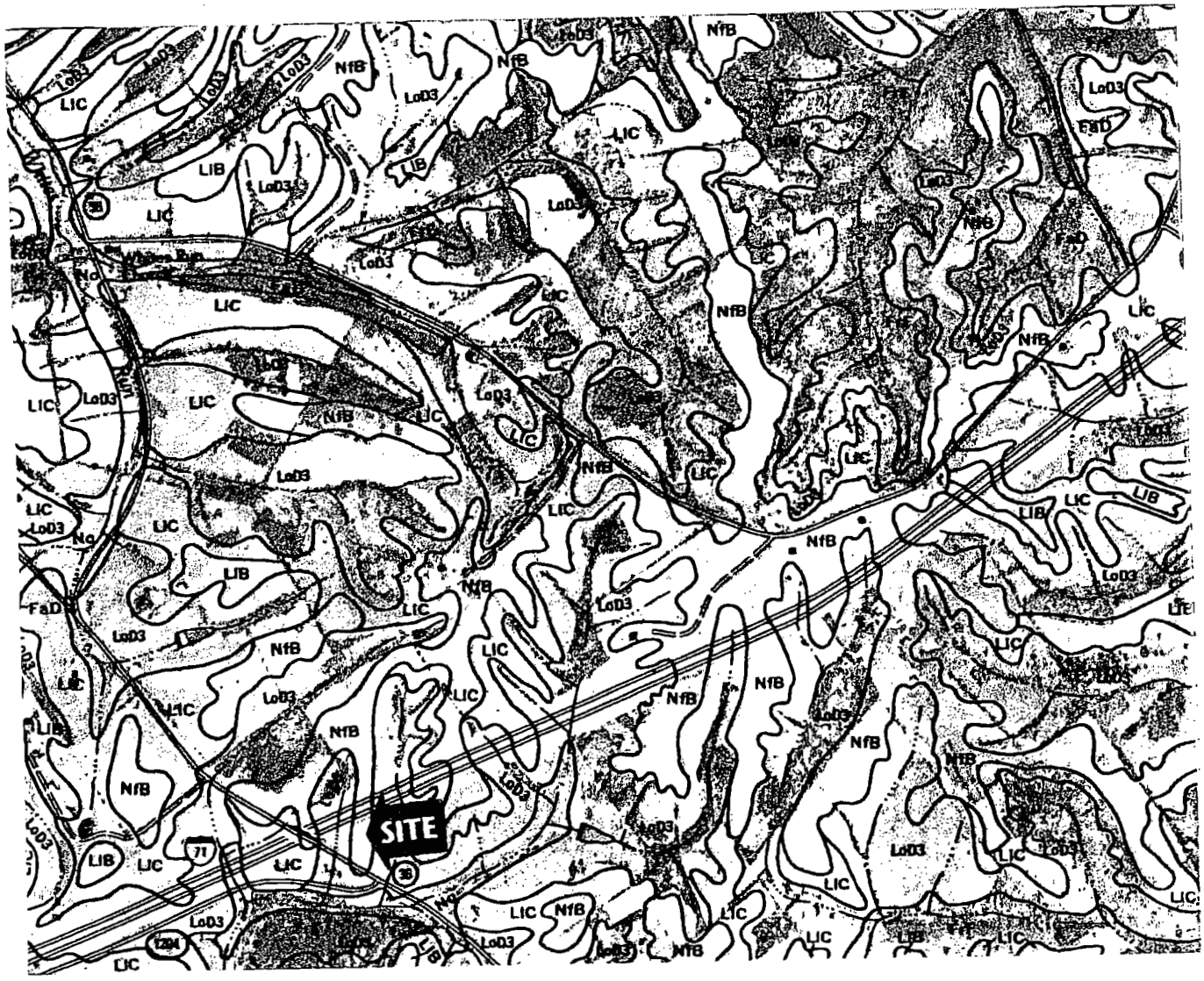


SITE DIAGRAM
PHASE I ESA
M&R MARSHALL
SANDERS, KENTUCKY

Project Mngr: MG	Terracon	Project No. 49997020
Designed By: MG		Scale: NOT TO SCALE
Drawn By: JLK	1341 South 2nd Street Louisville, Kentucky 40208	File No. 49997020
Checked By: MG		Date: MAY 1999
Approved By: MG	Figure No. 2	

RD JLK 5/25/99

NORTH

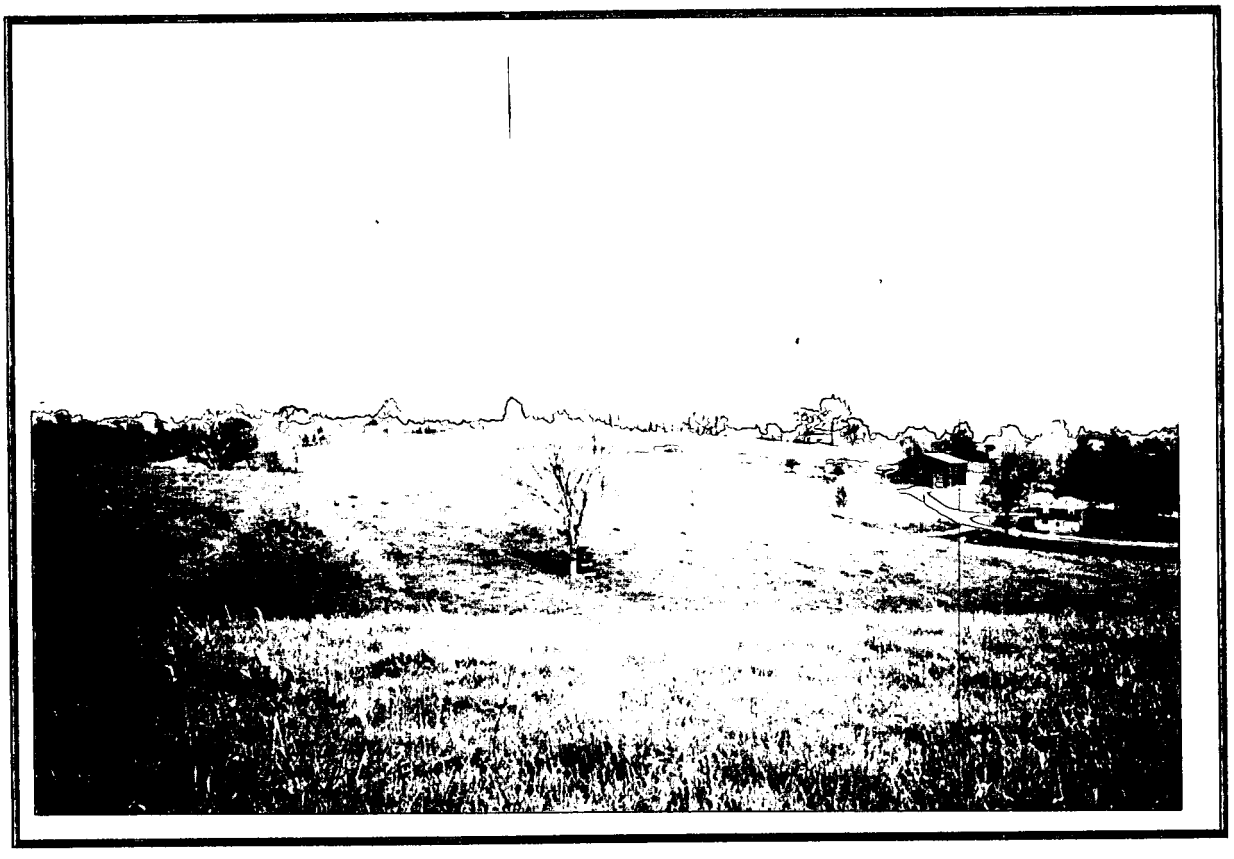


Source: USDA Soil Conservation Office, Carroll County, Kentucky.

Figure 3 **Aerial Photograph** **SCALE: Unknown**	Terracon	**PROJECT** **M&R Marshall Site** **Sanders, KY** **PROJECT NO. 49997020**

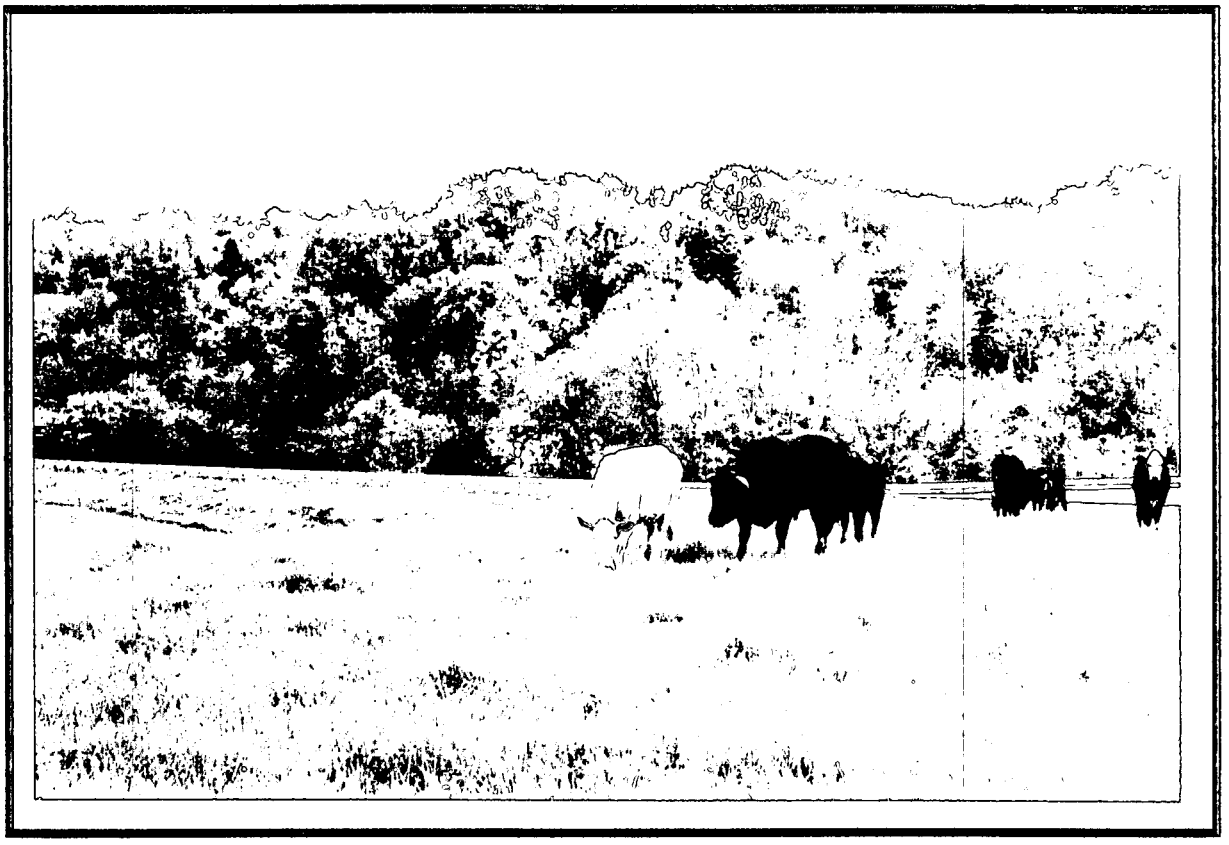
APPENDIX B - SITE PHOTOGRAPHS

Photograph No. 1
Looking east from site across cow pasture, showing owner's home right of center.

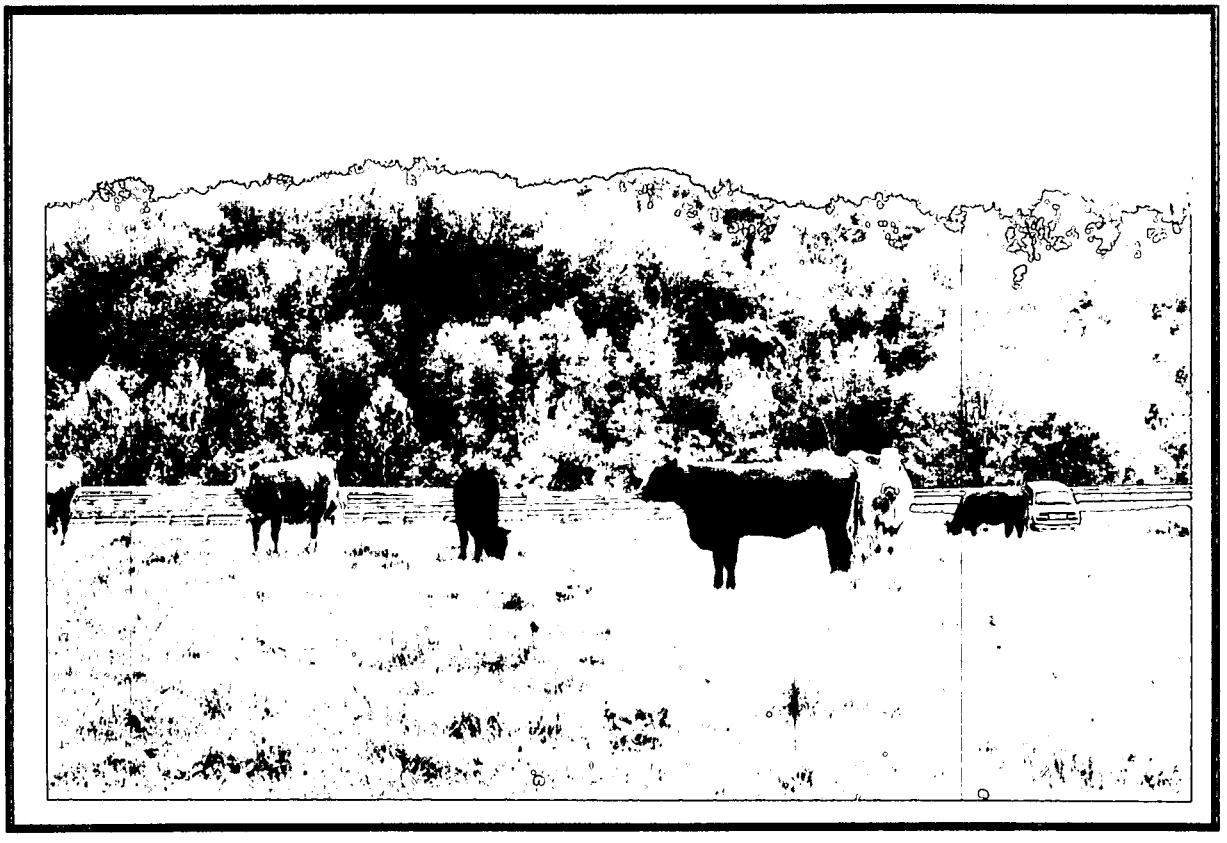


Photograph No. 2
Looking southeast across cow pasture at owner's home, showing SR 36 at far right.

Photograph No. 3
Looking southeast from site across cow pasture, showing SR 36 and woodland on other side.



Photograph No. 4
Looking south from site across cow pasture.



Photograph No. 5
Looking southwest across cow pasture towards SR 36.

Photograph No. 6
Looking west from site towards I-71.

Photograph No. 7
Looking southwest from SR36 along routes 1204 and I-71.

Photograph No. 8
Looking northwest along SR 36 at barn on northwest side of I-71.

APPENDIX C – RECORD OF COMMUNICATION

Terracon

718 Airpark Center Drive
Nashville, Tennessee 37217

Record of Communication

Project: M & R Marshall — Date: May 5, 1999

Project Number: 49997020 — Time:

Terracon Rep: Dale Reynolds — Page: 1 of 1

Person Contacted: Mr. Richard Marshall

Firm: property owner

Location: 7881 Hwy. 36

Phone Number: in-person

Conversation: Mr. Marshall reported that he acquired the 55 acre farm property in circa 1947. He reported that there have been no structures, USTs, or ASTs located on the subject parcel as far as he knew. He further stated that he was unaware of any environmental concerns associated with the subject site. Throughout the period that he has had personal knowledge of the property it has been undeveloped farmland used mainly as pasture.

Distribution: File: ✓, CC:

Action Required: Yes ____, No: ✓.

If yes, what action:

APPENDIX D – REGULATORY REVIEW REPORT

SITE ASSESSMENT PLUS REPORT

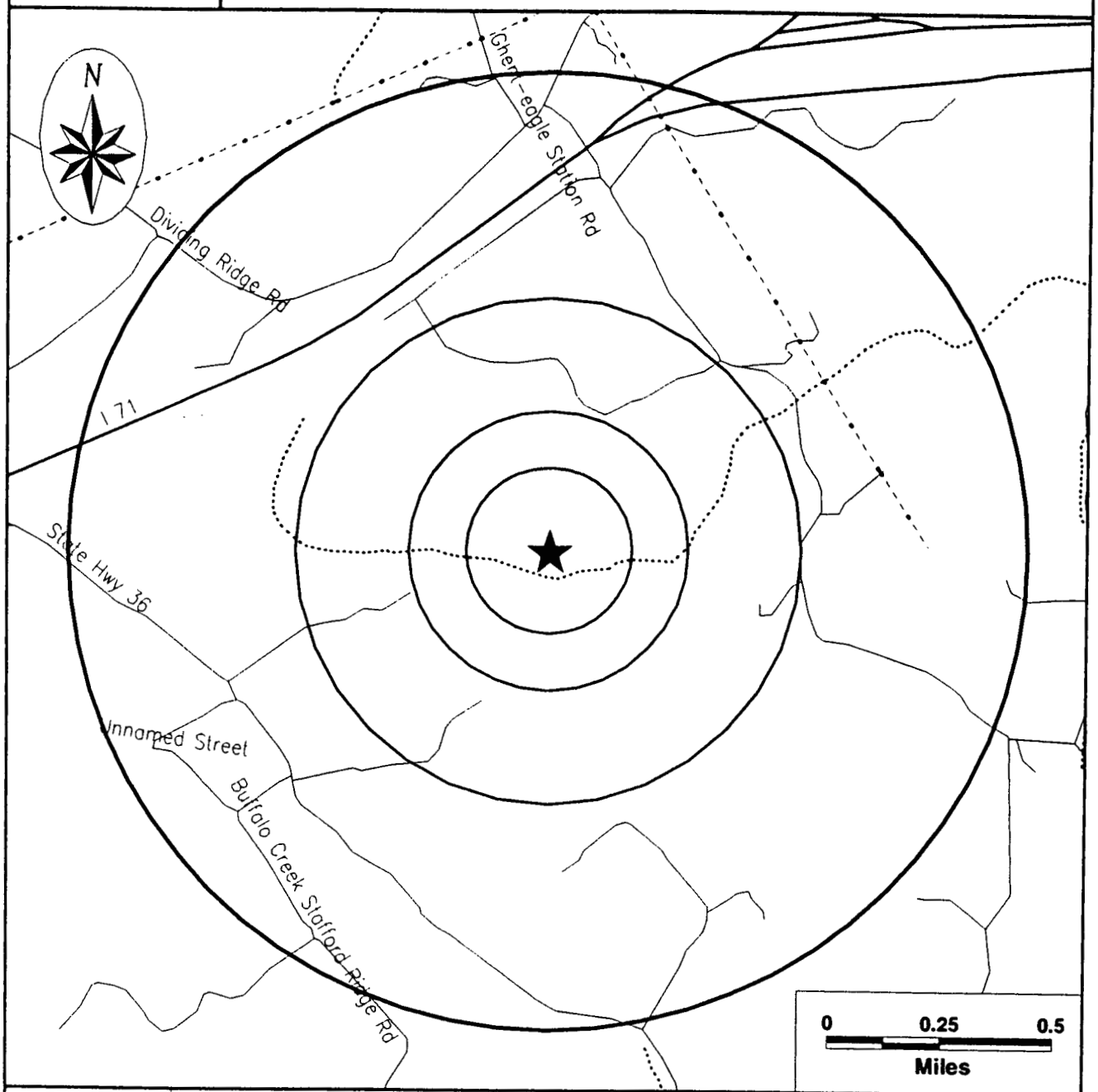
PROPERTY INFORMATION	CLIENT INFORMATION
Project Name/Ref #: 49997020 MR Marshall Sanders, KY 41183 Latitude/Longitude: (38.659111, 85.015527)	Carrie Gass Terracon 6621 Bay Circle Norcross, GA 30071

Site Distribution Summary Agency / Database - Type of Records			within 1/8 mile	1/8 to 1/4 mile	1/4 to 1/2 mile	1/2 to 1 mile
A) Databases searched to 1 mile:						
US EPA	NPL	National Priority List	0	0	0	0
US EPA	CORRACTS	RCRA Corrective Actions	0	0	0	0
B) Databases searched to 1/2 mile:						
STATE	SCL	State equivalent CERCLIS list	0	0	0	-
US EPA	CERCLIS / NFRAP	Sites currently or formerly under review by US EPA	0	0	0	-
US EPA	TSD	RCRA permitted treatment, storage, disposal facilities	0	0	0	-
STATE/ REG/CO	SWLF	Permitted as solid waste landfills, incinerators, or transfer stations	0	0	0	-
USGS/STATE	WATER WELLS	Federal and State Drinking Water Sources	0	0	0	-
C) Databases searched to 1/4 mile:						
US EPA	RCRA Viol	RCRA violations/enforcement actions	0	0	-	-
US EPA	TRIS	Toxic Release Inventory database	0	0	-	-
STATE	UST/AST	Registered underground or aboveground storage tanks	0	0	-	-
D) Databases searched to 1/8 mile:						
US EPA	ERNS	Emergency Response Notification System of spills	0	-	-	-
US EPA	GNRTR	RCRA registered small or large generators of hazardous waste	0	-	-	-

This report meets the ASTM standard E-1527 for standard federal and state government database research in a Phase I environmental site assessment. A (-) indicates a distance not searched because it exceeds these ASTM search parameters.

SITE ASSESSMENT PLUS REPORT

Map of Sites within One Mile



	Category:	A	B	C	D
Subject Site ★	Databases Searched to:	1 mi.	1/2 mi.	1/4 mi.	1/8 mi.
	Single Sites	◆	■	△	○
	Multiple Sites	◆	■	△	○
		NPL, SPL, CORRACTS (TSD)	CERCLIS\ NFRAP, TSD, LUST, SWLF, SCL	RCRA VIOL, TRIS, UST	ERNS, GENERATORS

Highways and Major Roads
Roads
Railroads
Rivers or Water Bodies
Utilities

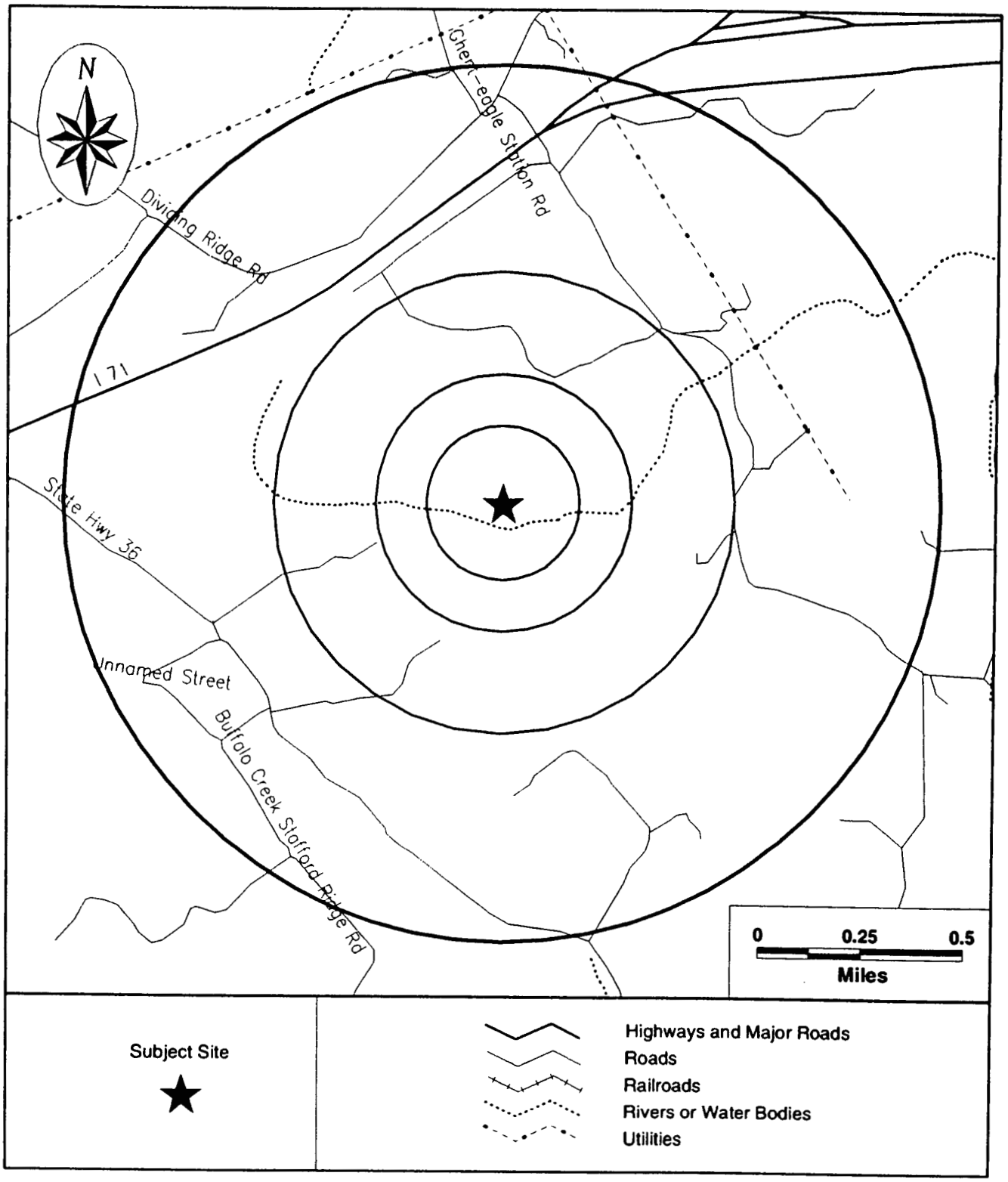
If additional databases are listed in the cover page of the report they are also displayed on this map. The map symbol used corresponds to the database category letter A,B,C,D.

For More Information Call VISTA Information Solutions, Inc. at **1 - 800 - 767 - 0403**
Report ID: **120105901**

Date of Report: **May 11, 1999**

SITE ASSESSMENT PLUS REPORT

Street Map



SITE ASSESSMENT PLUS REPORT

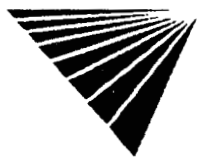
SITE INVENTORY

MAP ID	PROPERTY AND THE ADJACENT AREA (within 1/8 mile)	A		B					C			D	
	VISTA ID DISTANCE DIRECTION	NPL	CORRACTS	SCL	CERCLIS/NFRAP	TSD	SWLF	WATER WELLS	RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR
No Records Found													

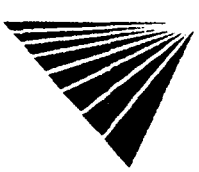
MAP ID	SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)	A		B					C			D	
	VISTA ID DISTANCE DIRECTION	NPL	CORRACTS	SCL	CERCLIS/NFRAP	TSD	SWLF	WATER WELLS	RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR
No Records Found													

MAP ID	SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)	A		B					C			D	
	VISTA ID DISTANCE DIRECTION	NPL	CORRACTS	SCL	CERCLIS/NFRAP	TSD	SWLF	WATER WELLS	RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR
No Records Found													

MAP ID	SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile)	A		B					C			D	
	VISTA ID DISTANCE DIRECTION	NPL	CORRACTS	SCL	CERCLIS/NFRAP	TSD	SWLF	WATER WELLS	RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR
No Records Found													



UNMAPPED SITES	VISTA ID	A		B						C			D	
		NPL	CORRACTS	SCL	CERCLIS/NFRAP	TSD	SWLF	WATER WELLS	RCRA VIOL	TRIS	UST/AST	ERNS	GWRTR
RAISORS 528 SPARTA SANDERS RD SANDERS, KY 41083	7058989										X		
SANDERS MARKET HWY 47 SANDERS, KY 41083	5284743										X		



X = search criteria; ▫ = tag-along (beyond search criteria).
For more information call VISTA Information Solutions, Inc. at **1 - 800 - 767 - 0403.**
Report ID: **120105901**
Version 2.6.1
Date of Report: **May 11, 1999**

SITE ASSESSMENT PLUS REPORT

DETAILS

PROPERTY AND THE ADJACENT AREA (within 1/8 mile)

No Records Found

SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)

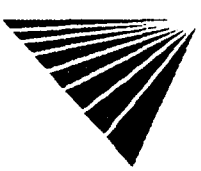
No Records Found

SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)

No Records Found

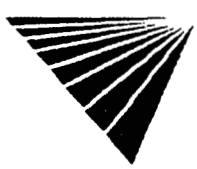
SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile)

No Records Found



UNMAPPED SITES

Records Found, No Details Displayed



SITE ASSESSMENT PLUS REPORT

DESCRIPTION OF DATABASES SEARCHED

A) DATABASES SEARCHED TO 1 MILE

NPL
SRC#: 5691

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for NPL was March, 1999.

The National Priorities List (NPL) is the EPA's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. A site must meet or surpass a predetermined hazard ranking system score, be chosen as a state's top priority site, or meet three specific criteria set jointly by the US Dept of Health and Human Services and the US EPA in order to become an NPL site.

CORRACTS
SRC#: 5596

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for HWDMS/RCRIS was February, 1999.

The EPA maintains this database of RCRA facilities which are undergoing "corrective action". A "corrective action order" is issued pursuant to RCRA Section 3008 (h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility. Corrective actions may be required beyond the facility's boundary and can be required regardless of when the release occurred, even if it predates RCRA.

B) DATABASES SEARCHED TO 1/2 MILE

CERCLIS
SRC#: 5594

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for CERCLIS was January, 1999.

The CERCLIS List contains sites which are either proposed to or on the National Priorities List(NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL. The information on each site includes a history of all pre-remedial, remedial, removal and community relations activiies or events at the site, financial funding information for the events, and unrestricted enforcement activities.

NFRAP
SRC#: 5595

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for CERCLIS-NFRAP was January, 1999.

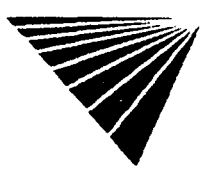
NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

SCL
SRC#: 5746

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for State Leads List (Branch Time Accountability) was December, 1998.

This database is provided by the Department of Environmental Protection. The agency may be contacted at: 502-564-6716.

The Kentucky State Leads List is an inventory of potential hazardous substance and waste disposal sites located within the state. In addition, Kentucky uses the U.S. EPA CERCLIS database as an additional source of known or potentially contaminated sites in the State, and for the purpose of tracking sites to be investigated under the Preliminary Assessment/Site Investigation program for potential Superfund listing.



RCRA-TSD
SRC#: 5596

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for HWDMS/RCRIS was February, 1999.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA TSDs are facilities which treat, store and/or dispose of hazardous waste.

SWLF
SRC#: 5744

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Active Solid Waste Disposal Facilities was January, 1999.

This database is provided by the Natural Resources Environmental Protection Division of Waste Management. The agency may be contacted at: 502-564-6716.

The Kentucky Active Landfill Facilities list does not provide a facility street address, city, or zip code.

SWLF
SRC#: 5745

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Inactive Solid Waste Disposal Facilities was January, 1999.

This database is provided by the Natural Resources Environmental Protection Division of Waste Management. The agency may be contacted at: 502-564-6716.

Water Wells
SRC#: 5384

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for USGS WATER WELLS was March, 1998.

The Ground Water Site Inventory (GWSI) database was provided by the United States Geological Survey (USGS). The database contains information for over 1,000,000 wells and other sources of groundwater which the USGS has studied, used, or otherwise had reason to document through the course of research. The agency may be contacted at 703-648-6819.

C) DATABASES SEARCHED TO 1/4 MILE

RCRA-Viols/Enfs
SRC#: 5596

VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for HWDMS/RCRIS was February, 1999.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Violators are facilities which have been cited for RCRA Violations at least once since 1980. RCRA Enforcements are enforcement actions taken against RCRA violators.

UST's
SRC#: 5393

VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for Underground Storage Tank Database was September, 1998.

This database is provided by the Department of Environmental Protection, Division of Waste Management-UST Section. The agency may be contacted at: 502-564-5174; Caution-Many states do not require registration of heating oil tanks, especially those used for residential purposes.

TRIS
SRC#: 4946

VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for TRIS was January, 1998.

Section 313 of the Emergency Planning and Community Right-to-Know Act (also known as SARA Title III) of 1986 requires the EPA to establish an inventory of Toxic Chemicals emissions from certain facilities(Toxic Release Inventory System). Facilities subject to this reporting are required to complete a Toxic Chemical Release Form(Form R) for specified chemicals.

D) DATABASES SEARCHED TO 1/8 MILE

ERNS
SRC#: 5598

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for was December, 1998.

The Emergency Response Notification System (ERNS) is a national database containing records from October 1986 to the release date above and is used to collect information for reported releases of oil and hazardous substances. The database contains information from spill reports made to federal authorities including the EPA, the US Coast Guard, the National Response Center and the Department of Transportation. The ERNS hotline number is (202) 260-2342.

RCRA-LgGen
SRC#: 5596

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for HWDMS/RCRIS was February, 1999.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Large Generators are facilities which generate at least 1000 kg./month of non-acutely hazardous waste (or 1 kg./month of acutely hazardous waste).

RCRA-SmGen
SRC#: 5596

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for HWDMS/RCRIS was February, 1999.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Small and Very Small generators are facilities which generate less than 1000 kg./month of non-acutely hazardous waste.

End of Report

FDA File
LV33XC001

Please Type or Print on This Form

Form Approved OMB No. 2120-

U.S. Department of Transportation
Federal Aviation Administration

Failure To Provide All Requested Information May Delay Processing of Your Notice

Notice of Proposed Construction or Alteration

FOR FAA USE ONLY
Aeronautical Study Number

1. Sponsor (person, company, etc. proposing this action):
Attn. of: Fred Zhu Site #LV33XC001A
Name: WirelessCo, L.P. dba Sprint PCS
Address: 1150 N. Meadow Parkway
Suite 118
City: Roswell State: GA Zip: 30076
Telephone: (770) 360-8689 Fax:

2. Sponsor's Representative (if other than #1):
Attn. of: David R. Hunter
Name: Airspace Safety Analysis Corporation
Address: Two Crown Center
1745 Phoenix Boulevard, Suite 120
City: Atlanta State: GA Zip: 30349
Telephone: (770) 994-1557 Fax: (770) 994-1637

3. Notice of: ☒ New Construction ☐ Alteration ☐ Existing
4. Duration: ☒ Permanent ☐ Temporary (___ months, ___ days)
5. Work Schedule: Beginning After FAA Approval End Within 18 Months
6. Type: ☒ Antenna Tower ☐ Crane ☐ Building ☐ Power Line
☐ Landfill ☐ Water Tank ☐ Other
7. Marking/Painting and/or Lighting Preferred:
☐ Red Lights and Paint ☒ Dual - Red and Medium Intensity White
☐ White - Medium Intensity ☐ Dual - Red and High Intensity White
☐ White - High Intensity ☐ Other
8. FCC Antenna Structure Registration Number (if applicable):

9. Latitude: 38 ° 39 ' 36.81
10. Longitude: 085 ° 02 ' 15.75
11. Datum: ☒ NAD 83 ☐ NAD 27 ☐ Other
12. Nearest: City: Ghent State: KY
13. Nearest Public-use (not private-use) or Military Airport or Heliport:
CINCINNATI/NORTHERN KENTUCKY I
14. Distance from #13. to Structure: 28.17 NM
15. Direction from #13. to Structure: 214.86° True Bearing
16. Site Elevation (AMSL): 815 ft.
17. Total Structure Height (AGL): 265 ft.
18. Overall Height (#16. + #17.) (AMSL): 1,080 ft.
19. Previous FAA Aeronatical Study Number (if applicable):
- OE
20. Description of Location: (Attach a USGS 7.5 minute Quadrangle Map with the precise site marked and any certfied survey.)
The proposed site is located 600' East from the intersection of Interstate 71 and State Route 36 (chart attached). The site is located 29.07 NM on a True Bearing of 217.39° from the ARP of CINCINNATI/NORTHERN KENTUCKY I.

Survey data attached.

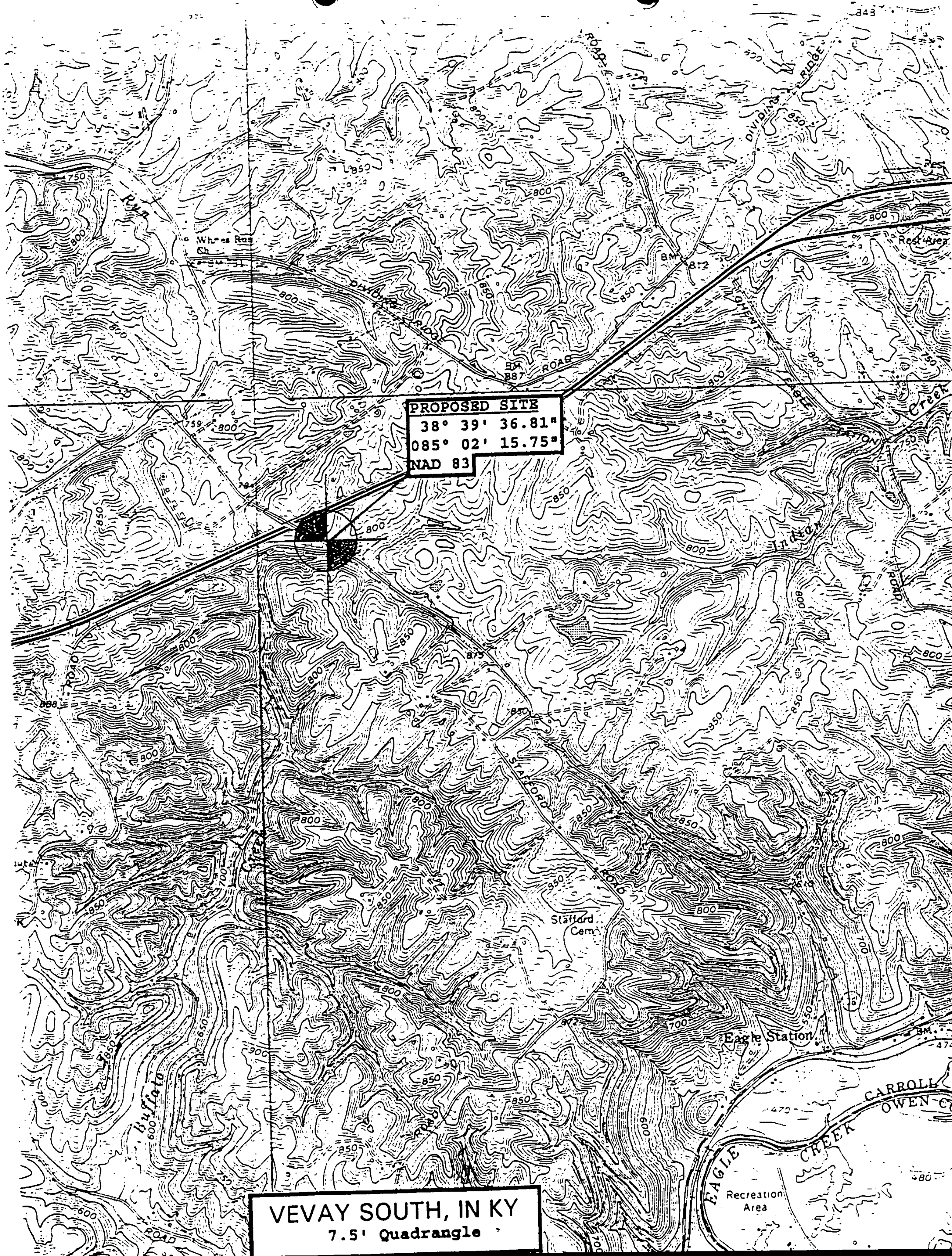
21. Complete Description of Proposal:
This proposed personal communications installation will operate in the 1945.0 - 1950.0 MHz band with 100.0 Watts ERP.

Frequency	Power (kW)

Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to civil penalty of $1,000 per day until the notice is received, pursuant to 49 U.S.C., Section 46301 (a).

I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking & lighting standards necessary.

Date	Typed or Printed Name and Title of Person Filing Notice	Signature
7/7/97	Fred Zhu, Regional RF Manager	


PROPOSED SITE
38° 39' 36.81"
085° 02' 15.75"
NAD 83
VEVAY SOUTH, IN KY
7.5' Quadrangle
DIVIDING RIDGE
ROAD
Eagle Station
Stafford Cem
STAFFORD ROAD
Indian Creek
EAGLE STATION
EAGLE CREEK
CARROLL
OWEN CO
Recreation Area
Rest Area
Buffalo
Run

KAZC FORM TC 56-50 (01/9

KENTUCKY TRANSPORTATION CABINET, DIVISION OF AERONAUTICS, 125 HOLMES STREET, FRANKFORT, KY 40622

APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE

– INSTRUCTIONS ON REVERSE SIDE OF FORM –

AERONAUTICAL STUDY NUMBER

1. NATURE OF PROPOSAL

A. TYPE	B. CLASS	C. WORK SCHEDULE
X NEW CONSTRUCTION	X PERMANENT	BEGIN After FAA Approval
___ ALTERATION	___ TEMPORARY	END Within 18 Months

2. DESCRIPTION OF STRUCTURE

This proposed personal communications installation will operate in the 1945.0 - 1950.0 MHz band with 100.0 Watts ERP.

The proposed site is located 600' East from the intersection of Interstate 71 and State Route 36 (chart attached). The site is located 29.07 NM on a True Bearing of 217.39° from the ARP of CINCINNATI/NORTHERN KENTUCKY I.

Survey data attached.

3A. APPLICANT - NAME, ADDRESS & TELEPHONE

Fred Zhu
WirelessCo, L.P. dba Sprint PCS
1150 N. Meadow Parkway
Suite 118
Roswell, GA 30076

(770) 360-8689

B. REPRESENTATIVE OF APPLICANT - NAME, ADDRESS & TELEPHONE

David R. Hunter
Airspace Safety Analysis Corporation
1745 Phoenix Boulevard, Suite 120
Atlanta, Georgia 30349

(770) 994-1557

4. LOCATION OF STRUCTURE

A. GEOGRAPHIC COORDINATES (NEAREST SECOND)	B. NEAREST KY CITY	C. NEAREST KY AIRPORT
	Ghent	CINCINNATI/NORTHERN KENTUCKY I
LATITUDE	(1) DISTANCE TO 4B	(1) DISTANCE TO RUNWAY
38° 39" 36.81'	4.7 SM	28.17 NM
LONGITUDE	(2) DIRECTION TO 4B	(2) DIRECTION TO AIRPORT
085° 02" 15.75'	North	37.1534.65

5. HEIGHT & ELEVATION

A. SITE ELEVATION (ABOVE MEAN SEA LEVEL)	815'
B. HEIGHT OF STRUCTURE, INCLUDING APPURTENANCES AND LIGHTS (ABOVE GROUND LEVEL)	265'
C. OVERALL HEIGHT (AMSL) (A+B)	1,080'

6. OBSTRUCTION MARKING & LIGHTING

	YES	NO
A. MARKED FOR THE PROTECTION OF AIR NAVIGATION (FLAGS, SPHERES, ETC.)		X
B. OBSTRUCTION MARKED IN ACCORDANCE WITH 602KAR50:100 (FAA AC 70/7460-1H)		X
C. OBSTRUCTION LIGHTED IN ACCORDANCE WITH 602KAR50:100 (FAA AC 70/7460-1H)	X	

7. HAS "NOTICE OF CONSTRUCTION OR ALTERATION" (FORM 7460-1) BEEN FILED WITH THE FEDERAL AVIATION ADMINISTRATION? IF SO, WHEN?

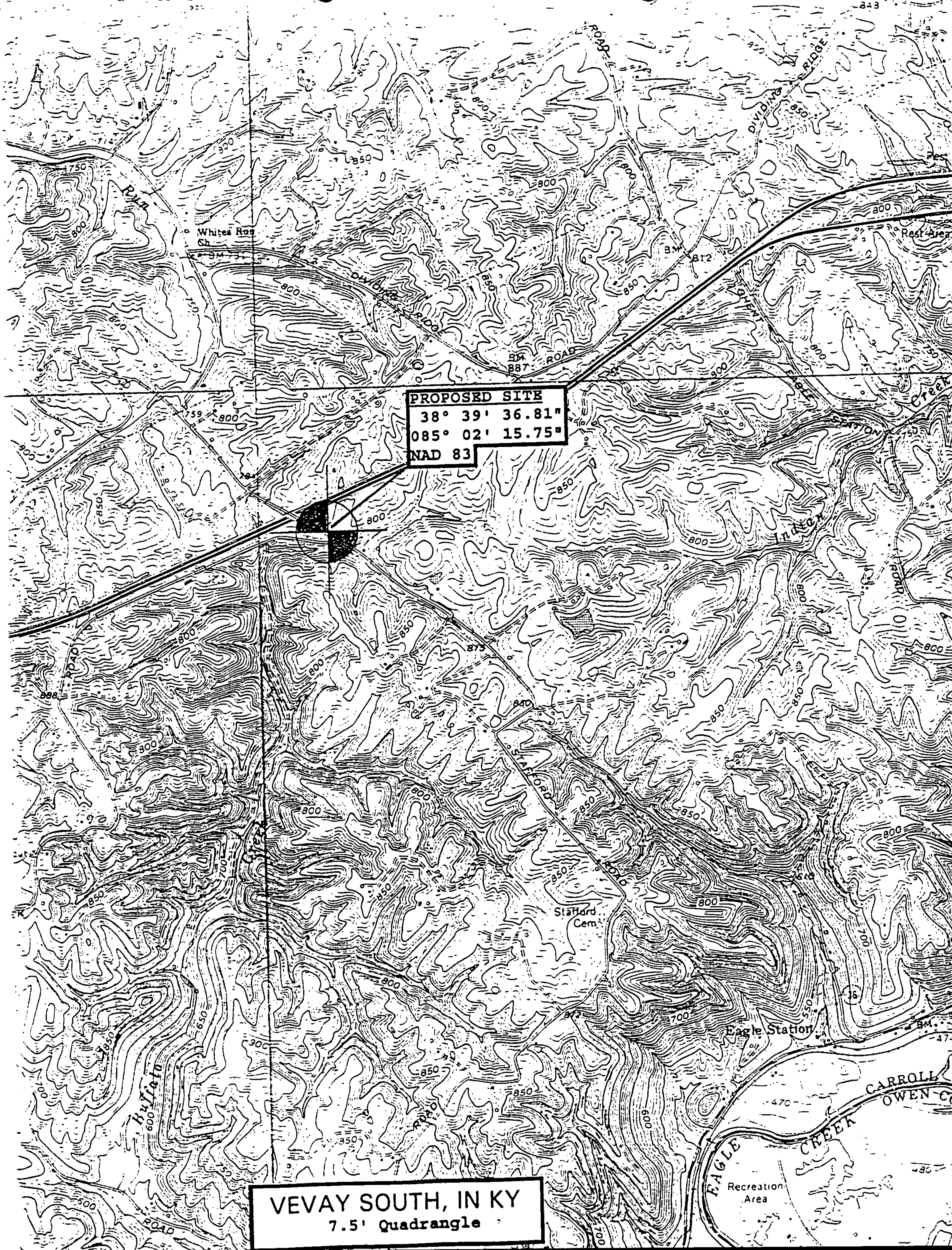
8. CERTIFICATION - I HEREBY CERTIFY THAT ALL THE ABOVE STATEMENTS MADE BY ME ARE TRUE, COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BY Fred Zhu
Regional RF Manager
NAME (PRINTED). SIGNATURE & TITLE

DATE 7/7/99

PENALTIES. PERSONS FAILING TO COMPLY WITH KENTUCKY REVISED STATUTES AND KENTUCKY AIRPORT ZONING COMMISSION ADMINISTRATIVE REGULATIONS ARE LIABLE FOR FINES OR IMPRISONMENT AS SET FORTH IN KRS 183.990(3). NON-COMPLIANCE WITH FEDERAL AVIATION ADMINISTRATION REGULATIONS MAY RESULT IN FURTHER PENALITIES.

COMMISSION ACTION	CHAIRMAN, KAZC (OR) ADMINISTRATOR, KAZC
APPROVED	DATE
DISAPPROVED	



VEVAY SOUTH, IN KY
7.5' Quadrangle

437

Version 3

EXHIBIT B

28332 | 6 | 7 | 99 / March 97

Site Name MARSHALL

PCS Site Agreement

Site I. D. LV3XC001A

Memorandum of PCS Site Agreement

This memorandum evidences that a lease was made and entered into by written PCS Site Agreement dated April 19, 1999, between RICHARD MARSHALL AND MILDRED MARSHALL (collectively "Owner") and Sprint Spectrum L.P., a Delaware limited partnership ("SSLP"), the terms and conditions of which are incorporated herein by reference.

Such Agreement provides in part that Owner leases to SSLP a certain site ("Site") located at 7881 HWY 36E, City of Sanders, County of Carroll, State of Kentucky, within the property of Owner which is described in Exhibit A attached hereto, with grant of easement for unrestricted rights of access thereto and to electric and telephone facilities for a term of five (5) years commencing on April 19, 1999, which term is subject to four (4) additional five (5) year extension periods by SSLP.

IN WITNESS WHEREOF, the parties have executed this Memorandum as of the day and year first above written.

"OWNER"

Benjamin R. Marshall
RICHARD MARSHALL

Mildred Marshall
MILDRED MARSHALL

Address: 7881 HWY 36E
Sanders, KY 41083

"SSLP"

Sprint Spectrum L.P., a Delaware limited partnership

By: James W. Greene

Name: James W. Greene

Title: Director, S.E. Region Site Development

Address: 11390 Old Roswell Road, Suite 100
Alpharetta, GA 30004

Owner Initials B.R.M / B.R.M

SSLP Initials JWG

Attach Exhibit A - Site Description

438

SPRINT SPECTRUM L.P. NOTARY BLOCK:

STATE OF Georgia

COUNTY OF Fulton

The foregoing instrument was acknowledged before me this nineteenth day of April, 1999, by James W. Greene, Director, SE. Region Site Development of Sprint Spectrum, L.P., a Delaware limited partnership, who executed the foregoing instrument on behalf of such limited partnership.

(AFFIX NOTARIAL SEAL)

(OFFICIAL NOTARY SIGNATURE)
NOTARY PUBLIC—STATE OF Georgia

Bonnie J. Koskowski
(PRINTED, TYPED OR STAMPED NAME OF NOTARY)

My commission expires:

Notary Public, Fulton County, Georgia
My Commission Expires March 16, 2003

OWNER NOTARY BLOCK:

STATE OF Kentucky

COUNTY OF Carroll

The foregoing instrument was acknowledged before me this 1st day of April, 1999, by Richard Marshall and Mildred Marshall, to be their true act and deed.

(AFFIX NOTARIAL SEAL)

Nicholas A. Marsh
(OFFICIAL NOTARY SIGNATURE)
NOTARY PUBLIC—STATE OF Kentucky

Nicholas A. Marsh
(PRINTED, TYPED OR STAMPED NAME OF NOTARY)

My commission expires:
12/22/2002

Prepared by:

Thomas J.B. Hurst
TILFORD, DOBBINS, ALEXANDER
BUCKAWAY & BLACK
1400 One Riverfront Plaza
Louisville, Kentucky 40202

INITIALED

Version 1

Site Name: MARSHALL

439

March, 1997

Site I.D. LV3XC001A

EXHIBIT A
TO
MEMORANDUM OF PCS SITE AGREEMENT

BEGINNING at a point two feet south of a Black Walnut tree standing in James Spicer's line, and corner to Lot No. 1 in the division of the land of Drusilla Ellis among her heirs; thence with said Spicer's line S. 53 1/2 W 98 pole to a stone corner to James Spicer; thence N 20 W. 29 poles; thence N 74 1/2 W 9 poles to the Baker road; thence with the same N. 54 W 12 poles, thence N. 76 1/2 W 18 poles, thence S 89 W. 27 1/4 poles to Robert Searcy corner; thence with his line N 1 E 61 poles to a stone; thence N 43 3/4 W 37 1/2 poles to the center of the Graham Road; thence with the same meanders thereof N. 53 1/4 E 60 poles; N 50 E40 poles, N 47 1/2 E 33 poles to a stone corner to Thomas Davis; thence with his line S 38 1/4 E 71 1/8 poles, to a stone, corner to Lot No. 1; thence with the same lot line S 54 1/4 W 37 1/2 poles to a stone also corner to Lot No. 1; thence S 38 1/4 E 92 poles to the beginning containing 121 1/4 acres.

Exception to above tract - 29 and 92/100 acres sold to W. J. Spicer by deed dated September 22, 1890, recorded in the Clerk's office of Carroll County Court in Deed Book 20, page 296, leaving 92 acres which is the 92 acres, more or less, which is the land conveyed by this deed.

BEING the same property acquired by Richard Marshall by a deed dated the 29th day of September, 1947, and of record in Deed Book 49, Page 136, in the office of the County Clerk of Carroll County, Kentucky.

Owner Initials M.M. / B.R.M.

SSLP Initials JMG

..., County of Carroll
...a Brock, Clerk of Carroll ... hereby
...at the foregoing Site agmt. was this
...ged in my office for record, a... and
...going certificate duly recorded ...
...my hand this 4 day of 6 1999
11.44 AM. Clerk Fee 9.00 3.00
Tax ____ Total Am... 12.00
...mber 12050
Marketta B...
...

HNZW/mattallen docs

EXHIBIT D

March 97

Site Name MARSHALL

PCS Site Agreement

Site I. D. LV33XC001A

Improvements

This Paragraph is in lieu of Paragraph 7 of the foregoing Agreement:

"**7. Improvements.** SSLP may, at its expense, make such improvements on the Site as it deems necessary from time to time for the operation of the PCS system. Owner agrees to cooperate with SSLP with respect to obtaining any required zoning approvals for the Site and such improvements. Upon termination or expiration of this Agreement, SSLP shall remove its equipment and improvements and will restore the Site to substantially the condition existing on the Commencement Date, except for ordinary wear and tear and casualty loss. Additionally, if at any time prior to the termination or expiration of this Agreement, wireless telecommunications service ceases from the Site for more than ninety (90) days, SSLP will remove the improvements within six (6) months.

Owner Initials M.M / B.R.M.

SSLP Initials JMH

TILFORD, DOBBINS, ALEXANDER,
BUCKAWAY & BLACK, LLP

ATTORNEYS AT LAW
1400 ONE RIVERFRONT PLAZA
LOUISVILLE, KENTUCKY 40202

PHONE: (502) 584-6137
FAX: (502) 584-2318

STUART E. ALEXANDER, JR.
WILLIAM A. BUCKAWAY, JR.
HAROLD E. DILLMAN[1]
CHARLES W. DOBBINS, JR.
TERRELL L. BLACK
JOHN M. NADER[3]
MARK W. DOBBINS
STUART E. ALEXANDER, III
C. THOMAS HECTUS[1]
RANDALL S. STRAUSE[7]
JOHN A. WILMES
SANDRA F. KEENE
THOMAS J. B. HURST
H. KEVIN EDDINS[1]
WILLIAM J. WALSH, IV[6]
PATRICK T. SCHMIDT
JOHN T. EVANS[5]
DANA M. TAYLOR

CAROLYN K. BALLEISEN*[2]
RANDOLPH NOE*[1]
MICHAEL G. KAREM*[4]
* *Of Counsel*

HENRY J. TILFORD (1880-1968)
CHARLES W. DOBBINS (1916-1992)
DONALD H. BALLEISEN (1924-1993)
LAWRENCE W. WETHERBY (1908-1994)

INDIANA OFFICE
219 N. CAPITOL AVENUE
P. O. BOX 640
CORYDON, INDIANA 47112
PHONE: (812) 738-2100

[1]*Also admitted in Indiana*
[2]*Also admitted in New York*
[3]*Also admitted in District of Columbia and Maryland*
[4]*Also admitted in District of Columbia*
[5]*Also admitted in Florida and Indiana*
[6]*Also admitted in Georgia and Illinois*
[7]*Also admitted in South Carolina*

July 30, 1999

Gene McMurry
County Judge Executive,
Carroll County
440 Main Street
Carrollton, Kentucky 41008

Re: Public Notice - Kentucky Public Service Commission
Docket No. 99-262

Dear Judge McMurry:

WirelessCo, L..P, by and through its general partner, Sprint Spectrum, L.P.has applied to the Public Service Commission of Kentucky for a Certificate of Public Convenience and Necessity to construct and operate a new facility to provide Personal Communications telecommunications service ("PCS"). The facility will include a 250 foot lattice tower, with attached antennas extending upward for a total height of 260 feet, and an equipment shelter to be located at 7881 Highway 36 East, Sanders, Carroll County, Kentucky. This notification letter (and the information contained herein) is required by the Commission's Administrative Regulations which govern construction of wireless telecommunications facilities.

The Commission invites your comments regarding the proposed construction. You also have the right to intervene in this matter. Your initial communication to the Commission must be received by the Commission within twenty (20) days of the date of this letter as shown above.

Your comments and request for intervention should be addressed to: Executive Director, Public Service Commission, P.O. Box 615, Frankfort, Kentucky 40502. Please refer to **Docket No. 99-262** in your correspondence.

Sincerely,

Sandra F. Keene

Mark W. Dobbins
Sandra F. Keene

Z 009 667 855

US Postal Service

Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail *(See reverse)*

Sent to GENE MCMURRAY	
Street & Number 4NO MAIN STREET	
Post Office, State, & ZIP Code CARROLLTON 41008	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

PS Form **3800**, April 1995

Fold at line over top of envelope to the right of the return address

CERTIFIED

Z 009 667 855

MAIL

EXHIBIT H

DIRECTIONS TO SITE (99-262)

From the county seat of Carrollton, Kentucky: Go east on US-42 towards SR-320 Travel 1.0 miles to SR-227 South. Turn right onto SR-227 South and proceed 3.6 miles. Turn left to take I-71N ramp. Travel 6.8 miles on I-71 N to exit 44. Go east on Highway 227 for 0.4 miles; then go turn north on Highway 1122 for 4.2 miles to stop sign. Go east on Highway 36 to site address, approximately 3.1 miles. Site is first lot on north side after crossing over I-71.

These directions were prepared by James M. Overfelt, Clough, Harbour & Associates, 1080 Holcomb Bridge Road, Rosewell, Georgia. (770) 922-2332.

G:\OFFICE\MWD\WIRE3\001A\EXHIBIT.I

PROPERTY OWNERS

Kentucky Transportation Cabinet
Department of Highways
P.O. Box 17130
Ft. Mitchell, Kentucky 41017

Richard Dale Marshall
7881 Highway 36 East
Sanders, Kentucky 41083

G:\OFFICE\MWD\WIRE3\001A\PROPERTY.LST

TILFORD, DOBBINS, ALEXANDER,
BUCKAWAY & BLACK, LLP

ATTORNEYS AT LAW
1400 ONE RIVERFRONT PLAZA
LOUISVILLE, KENTUCKY 40202

PHONE: (502) 584-6137
FAX: (502) 584-2318

STUART E. ALEXANDER, JR.
WILLIAM A. BUCKAWAY, JR.
HAROLD E. DILLMAN[1]
CHARLES W. DOBBINS, JR.
TERRELL L. BLACK
JOHN M. NADER[3]
MARK W. DOBBINS
STUART E. ALEXANDER, III
C. THOMAS HECTUS[1]
RANDALL S. STRAUSE[7]
JOHN A. WILMES
SANDRA F. KEENE
THOMAS J. B. HURST
H. KEVIN EDDINS[1]
WILLIAM J. WALSH, IV[6]
PATRICK T. SCHMIDT
JOHN T. EVANS[5]
DANA M. TAYLOR

CAROLYN K. BALLEISEN*[2]
RANDOLPH NOE*[1]
MICHAEL G. KAREM*[4]
* *Of Counsel*

HENRY J. TILFORD (1880-1968)
CHARLES W. DOBBINS (1916-1992)
DONALD H. BALLEISEN (1924-1993)
LAWRENCE W. WETHERBY (1908-1994)

INDIANA OFFICE
219 N. CAPITOL AVENUE
P. O. BOX 640
CORYDON, INDIANA 47112
PHONE: (812) 738-2100

[1]*Also admitted in Indiana*
[2]*Also admitted in New York*
[3]*Also admitted in District of Columbia and Maryland*
[4]*Also admitted in District of Columbia*
[5]*Also admitted in Florida and Indiana*
[6]*Also admitted in Georgia and Illinois*
[7]*Also admitted in South Carolina*

July 30, 1999

Kentucky Transportation Cabinet
Department of Highways
P.O. Box 17130
Ft. Mithcell, Kentucky 41017

Re: Public Notice - Kentucky Public Service Commission
Docket No. 99-262

Dear Sir or Madam:

WirelessCo, Lp.P, has applied to the Public Service Commission of Kentucky for a Certificate of Public Convenience and Necessity to construct and operate a new facility to provide Personal Communications telecommunications service ("PCS"). The facility will include a 250 foot lattice tower, with attached antennas extending upward for a total height of 260 feet, and an equipment shelter to be located at 7881 Highway 36 East, Sanders, Carroll County, Kentucky. This notification letter (and the information contained herein) is required by the Commission's Administrative Regulations which govern construction of wireless telecommunications facilities.

The Commission invites your comments regarding the proposed construction. You also have the right to intervene in this matter. Your initial communication to the Commission must be received by the Commission within twenty (20) days of the date of this letter as shown above.

Your comments and request for intervention should be addressed to: Executive Director, Public Service Commission, P.O. Box 615, Frankfort, Kentucky 40502. Please refer to **Docket No. 99-262** in your correspondence.

Sincerely,

Sandra F. Keene

Mark W. Dobbins
Sandra F. Keene

Z 009 667 810

US Postal Service

Receipt for Certified Mail

No Insurance Coverage Provided.

Kentucky Transportation Cabinet
Department of Highways
P.O. Box 17130
Ft. Mitchell, Kentucky 41017

Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

PS Form 3800, April 1995

Fold at line over top of envelope to the right of the return address

CERTIFIED

Z 009 667 810

MAIL

TILFORD, DOBBINS, ALEXANDER,
BUCKAWAY & BLACK, LLP

ATTORNEYS AT LAW
1400 ONE RIVERFRONT PLAZA
LOUISVILLE, KENTUCKY 40202

PHONE: (502) 584-6137
FAX: (502) 584-2318

STUART E. ALEXANDER, JR.
WILLIAM A. BUCKAWAY, JR.
HAROLD E. DILLMAN[1]
CHARLES W. DOBBINS, JR.
TERRELL L. BLACK
JOHN M. NADER[3]
MARK W. DOBBINS
STUART E. ALEXANDER, III
C. THOMAS HECTUS[1]
RANDALL S. STRAUSE[7]
JOHN A. WILMES
SANDRA F. KEENE
THOMAS J. B. HURST
H. KEVIN EDDINS[1]
WILLIAM J. WALSH, IV[6]
PATRICK T. SCHMIDT
JOHN T. EVANS[5]
DANA M. TAYLOR

CAROLYN K. BALLEISEN*[2]
RANDOLPH NOE*[1]
MICHAEL G. KAREM*[4]
* Of Counsel

HENRY J. TILFORD (1880-1968)
CHARLES W. DOBBINS (1916-1992)
DONALD H. BALLEISEN (1924-1993)
LAWRENCE W. WETHERBY (1908-1994)

INDIANA OFFICE
219 N. CAPITOL AVENUE
P. O. BOX 640
CORYDON, INDIANA 47112
PHONE: (812) 738-2100

[1]*Also admitted in Indiana*
[2]*Also admitted in New York*
[3]*Also admitted in District of Columbia and Maryland*
[4]*Also admitted in District of Columbia*
[5]*Also admitted in Florida and Indiana*
[6]*Also admitted in Georgia and Illinois*
[7]*Also admitted in South Carolina*

July 30, 1999

Richard Dale Marshall
7881 Highway 36 East
Sanders, Kentucky 41083

Re: Public Notice - Kentucky Public Service Commission
Docket No. 99-262

Dear Mr. Marshall:

WirelessCo, Lp.P, has applied to the Public Service Commission of Kentucky for a Certificate of Public Convenience and Necessity to construct and operate a new facility to provide Personal Communications telecommunications service ("PCS"). The facility will include a 250 foot lattice tower, with attached antennas extending upward for a total height of 260 feet, and an equipment shelter to be located at 7881 Highway 36 East, Sanders, Carroll County, Kentucky. This notification letter (and the information contained herein) is required by the Commission's Administrative Regulations which govern construction of wireless telecommunications facilities.

The Commission invites your comments regarding the proposed construction. You also have the right to intervene in this matter. Your initial communication to the Commission must be received by the Commission within twenty (20) days of the date of this letter as shown above.

Your comments and request for intervention should be addressed to: Executive Director, Public Service Commission, P.O. Box 615, Frankfort, Kentucky 40502. Please refer to **Docket No. 99-262** in your correspondence.

Sincerely,

Sandra F. Keene

Mark W. Dobbins
Sandra F. Keene

Z 009 667 804

US Postal Service

Receipt for Certified Mail

No Insurance Coverage Provided

Richard Dale Marshall
7881 Highway 36 East
Sanders, Kentucky 41083

Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

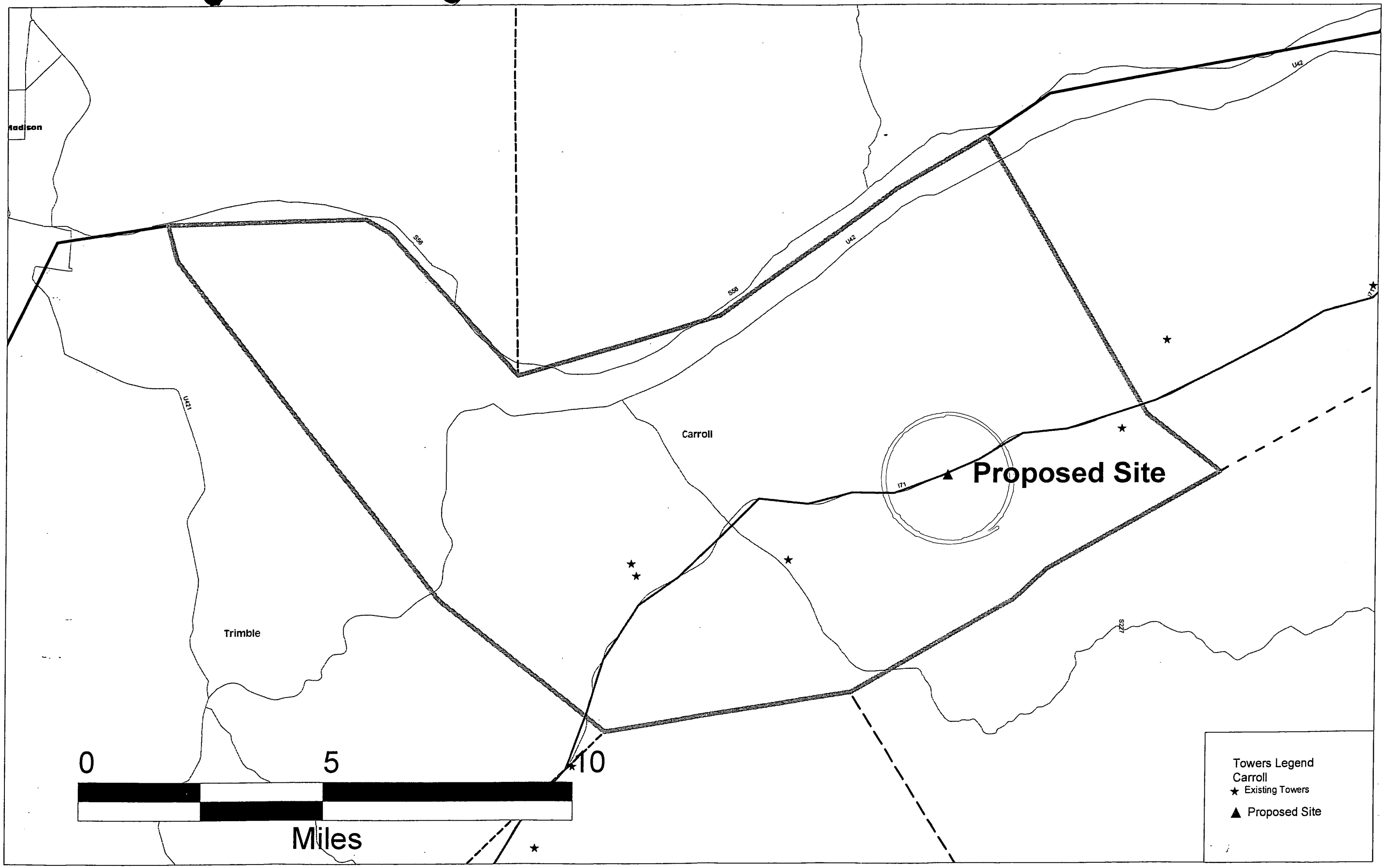
PS Form **3800**, April 1995

Fold at line over top of envelope to the right of the return address

CERTIFIED

Z 009 667 804

MAIL


Madison
S58
S58
U42
U42
U421
Carroll
I71
Proposed Site
Trimble
S27
0
5
10
Miles
Towers Legend
Carroll
Existing Towers
Proposed Site

TILFORD, DOBBINS, ALEXANDER
BUCKAWAY & BLACK

ATTORNEYS AT LAW

1400 ONE RIVERFRONT PLAZA
LOUISVILLE, KENTUCKY 40202

(502) 584-6137

STUART E. ALEXANDER, JR.
WILLIAM A. BUCKAWAY, JR.
CHARLES W. DOBBINS, JR.
TERRELL L. BLACK
JOHN M. NADER[3]
MARK W. DOBBINS
STUART E. ALEXANDER, III
JOHN A. WILMES
SANDRA F. KEENE
THOMAS J. B. HURST
H. KEVIN EDDINS[1]

CAROLYN K. BALLEISEN*[2]

RANDOLPH NOE*[1]
MICHAEL G. KAREM*[4]
* *Of Counsel*

HENRY J. TILFORD (1880-1968)
CHARLES W. DOBBINS (1916-1992)
DONALD H. BALLEISEN (1924-1993)
LAWRENCE W. WETHERBY (1908-1994)

TELECOPIERS
(502) 584-2318
(502) 587-1806
[1] *Also admitted in Indiana*
[2] *Also admitted in New York*
[3] *Also admitted in District of Columbia and Maryland*
[4] *Also admitted in District of Columbia*

NOTICE OF INTENT TO FILE A CELL SITE APPLICATION

June 25, 1999

Stephanie Bell
Secretary of the Commission
Public Service Commission
730 Schenkel Lane
P.O. Box 615
Frankfort, Kentucky 40602

RE: Case No. 99-262

Dear Ms. Bell:

This letter is to confirm my request for a case number on June 24, 1999. The Application is on behalf of WirelessCo., L.P., for a cell site located at in Carroll County, Kentucky (the "Marshall" facility). I was given Case Number 99-262. We intend to file the Application no later than July 31,1999, and we understand that the Case Number assigned to us in this matter may be reassigned if we have not submitted an Application by this date. If there are any questions, you may contact Mark Dobbins, Sandra Keene, or Heather Kuhn at 502-584-6137.

Thank you for your attention is this matter.

Sincerely,

Sandra F. Keene

Sandra F. Keene

G:\OFFICE\MWD\WIRE3\001A\BELL.1

4. ALL UNDERGROUND CONNECTIONS SHALL BE INS
REPRESENTATIVE PRIOR TO BACKFILLING.

5. IF ROCK IS ENCOUNTERED, GROUND ROD SHALL
DIAMETER DRILLED HOLES TO THE REQUIRED DE
APPLICATIONS OF MAGNESIUM SULPHATE OR CO

6. GROUNDING WIRE SHALL NOT BEND LESS THAN
MINIMUM BEND RADIUS OF 8".

7. PROVIDE CORROSION PROOFING PAINT ON SURF
INSTALLATION.

8. ALL BELOW GROUND CONNECTIONS SHALL BE H
PROVIDE CORROSION PROTECTION TO WELD ARE

9. ALL ABOVE GROUND CONNECTIONS SHALL BE E
CONNECTIONS. CRIMP CONNECTIONS SHALL NOT

10. ALL GROUND CONNECTIONS TO THE GROUND B
HOLE HYDRAULICALLY INDENTED LUGS.

11. WHERE GROUND CONNECTIONS ARE MADE THE
CLEANED AND MADE FREE OF FOREIGN MATERI
CORROSION, TO ENSURE AN ADEQUATE BOND.

12. ALL GROUNDING AND BONDING INSTALLATIONS
WITH SPRINT COM INC. ELECTRICAL AND GROUI

13. ALL GROUNDING CONNECTIONS, MADE THROUGH
THOMAS AND BETTS KOPR-SHIELD (TM OF JET
FOR THIS ANTI-OXIDATION COMPOUND. NO O
ALL WIRES BEFORE LUGGING. COAT ALL SURF

C. FIELD QUALITY CONTROL: FIELD INSPECTION AND TE
REQUIRED:

1. THE CONTRACTOR SHALL VERIFY THAT THE SYS
MEETS NEC ARTICLE 250 REQUIREMENTS, IS AC
AND LOCAL AUTHORITY HAVING JURISDICTION AN
ELECTRICAL AND GROUNDING SPECIFICATIONS.

2. THE CONTRACTOR SHALL MAKE ALL MEASUREM
GROUNDING NETWORK SYSTEM. SYSTEM SHALL
INSTALLATION.

3. THE GROUNDING NETWORK SYSTEM TEST PROCE
78 THREE POINT TECHNIQUE FOR GROUND RESI
HEREIN.

4. CONTRACTOR SHALL VERIFY THE ADEQUACY OF
SHALL CONDUCT "SITE RESISTANCE TO EARTH
96104 - RELEASE 5. INSTALLED SYSTEM SHA
THAN 5 OHMS.

5. RECORD GROUND RESISTANCE TEST RESULTS O
TEST" FORM.

6. TEST SHALL BE WITNESSED BY SPRINT REPRESE

7. COPIES OF THE TEST RESULTS SHALL BE SUBMI
REPRESENTATIVE & ENGINEER.

3.17 CHECKOUT, TESTING, AND ADJUSTING

A. CORRECTION/REPLACEMENT: AFTER TESTING BY CON
CORRECT ANY DEFICIENCIES, AND REPLACE MATERIALS
DEFECTIVE OR UNABLE TO PERFORM AT DESIGN OR R

B. POWER CONDUCTORS: CONTRACTOR SHALL CONDUCT
ON CONDUCTORS BETWEEN SERVICE DISCONNECT SWIT

C. GROUNDING:

1. IEEE FALL OF POTENTIAL TESTS:
a. CONDUCT TEST WITH A AEMC MODEL #4500 TE
TWO AUXILIARY GROUND RODS (AS DESCRIBED
PART 1) SHALL BE USED. THE AUXILIARY TES
FAR AWAY FROM THE RODS SO THAT THE REGI
IS LOCALIZED DO NOT OVERLAP.

ALL WIRES BEFORE LUGGING. COAT ALL SURFA

C. FIELD QUALITY CONTROL: FIELD INSPECTION AND TE
REQUIRED:

1. THE CONTRACTOR SHALL VERIFY THAT THE SYST
MEETS NEC ARTICLE 250 REQUIREMENTS, IS AC
AND LOCAL AUTHORITY HAVING JURISDICTION AN
ELECTRICAL AND GROUNDING SPECIFICATIONS.

2. THE CONTRACTOR SHALL MAKE ALL MEASUREME
GROUNDING NETWORK SYSTEM. SYSTEM SHALL
INSTALLATION.

3. THE GROUNDING NETWORK SYSTEM TEST PROCE
78 THREE POINT TECHNIQUE FOR GROUND RESI
HEREIN.

4. CONTRACTOR SHALL VERIFY THE ADEQUACY OF
SHALL CONDUCT "SITE RESISTANCE TO EARTH
96104 – RELEASE 5. INSTALLED SYSTEM SHA
THAN 5 OHMS.

5. RECORD GROUND RESISTANCE TEST RESULTS O
TEST" FORM.

6. TEST SHALL BE WITNESSED BY SPRINT REPRESI

7. COPIES OF THE TEST RESULTS SHALL BE SUBM
REPRESENTATIVE & ENGINEER.

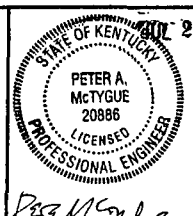
3.17 CHECKOUT, TESTING, AND ADJUSTING

A. CORRECTION/REPLACEMENT: AFTER TESTING BY CON
CORRECT ANY DEFICIENCIES, AND REPLACE MATERIALS
DEFECTIVE OR UNABLE TO PERFORM AT DESIGN OR R

B. POWER CONDUCTORS: CONTRACTOR SHALL CONDUCT
ON CONDUCTORS BETWEEN SERVICE DISCONNECT SWIT

C. GROUNDING:

1. IEEE FALL OF POTENTIAL TESTS:
   a. CONDUCT TEST WITH A AEMC MODEL #4500 TE
   TWO AUXILIARY GROUND RODS (AS DESCRIBED
   PART 1) SHALL BE USED. THE AUXILIARY TES
   FAR AWAY FROM THE RODS SO THAT THE REGI
   IS LOCALIZED DO NOT OVERLAP.



JUL 26

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.

Sp
1139(
SUITE
ALPHA

) CONNECTIONS SHALL BE INSPECTED BY THE OWNER'S
'RIOR TO BACKFILLING.

INTERED, GROUND ROD SHALL BE INSTALLED IN A 2 INCH
HOLES TO THE REQUIRED DEPTH AND BACKFILLED WITH
MAGNESIUM SULPHATE OR COPPER SULPHATE.

SHALL NOT BEND LESS THAN 90° IN ANY LOCATION WITH A
DIUS OF 8".

)N PROOFING PAINT ON SURFACES EXPOSED DURING

ID CONNECTIONS SHALL BE HEAVY DUTY EXOTHERMIC WELD.
)N PROTECTION TO WELD AREA.

'D CONNECTIONS SHALL BE BOLTED CLAMP, OR SPLIT BOLT
AP CONNECTIONS SHALL NOT BE USED FOR EXTERIOR GROUNDING.

IECTIONS TO THE GROUND BAR SHALL BE MADE WITH DOUBLE
.LY INDENTED LUGS.

)NNECTIONS ARE MADE THE CONTACT POINTS ARE TO BE
E FREE OF FOREIGN MATERIALS, SUCH AS PAINT AND
SURE AN ADEQUATE BOND.

ND BONDING INSTALLATIONS AND CONNECTIONS SHALL COMPLY
INC. ELECTRICAL AND GROUNDING SPECIFICATIONS.

)NNECTIONS, MADE THROUGHOUT THIS DRAWING SHALL BE MADE WITH
'S KOPR-SHIELD (TM OF JET LUBE INC.). THERE IS NO EQUIVALENT
IDATION COMPOUND. NO OTHER COMPOUND WILL BE ACCEPTED. COAT
LUGGING. COAT ALL SURFACES BEFORE CONNECTING.

: FIELD INSPECTION AND TESTING WILL BE PERFORMED AS

SHALL VERIFY THAT THE SYSTEM IS EFFECTIVELY GROUNDED,
E 250 REQUIREMENTS, IS ACCEPTABLE TO THE LOCAL UTILITY
RITY HAVING JURISDICTION AND MEETS THE SPRINT COM INC.
ROUNDING SPECIFICATIONS.

SHALL MAKE ALL MEASUREMENTS REQUIRED TO TEST THE
RK SYSTEM. SYSTEM SHALL BE TESTED AT THE TIME OF

TWORK SYSTEM TEST PROCEDURE SHALL COMPLY WITH NFPA
ECHNIQUE FOR GROUND RESISTANCE, EXCEPT AS MODIFIED

L VERIFY THE ADEQUACY OF THE INSTALLED SYSTEM. CONTRACTOR
SITE RESISTANCE TO EARTH GROUNDING TESTING" PER SPRINT STANDARD
5. INSTALLED SYSTEM SHALL ACHIEVE A GROUND RESISTANCE OF LESS

ESISTANCE TEST RESULTS ON SPRINT SPECTRUM "GROUND RESISTANCE

NESSED BY SPRINT REPRESENTATIVE.

T RESULTS SHALL BE SUBMITTED TO THE OWNER'S
ENGINEER.

STING

: AFTER TESTING BY CONTRACTOR, OWNER OR ENGINEER,
S, AND REPLACE MATERIALS AND EQUIPMENT SHOWN TO BE
PERFORM AT DESIGN OR RATED CAPACITY.

NTRACTOR SHALL CONDUCT A CONTINUITY & INSULATION TEST
SERVICE DISCONNECT SWITCH & POWER CABINET.

AL TESTS:
I A AEMC MODEL #4500 TESTER. THE METHOD OF USING
JND RODS (AS DESCRIBED IN I.E.E.E. STANDARD #81-1983,
USED. THE AUXILIARY TEST RODS MUST BE SUFFICIENTLY
E RODS SO THAT THE REGIONS IN WHICH THEIR RESISTANCE
)T OVERLAP.

3.18 SYSTEMS DEMONSTRATION

A. INSTRUCT THE OWNER'S REPRESENTA
MAINTENANCE OF ALL ELECTRICAL SY
OWNER'S REPRESENTATIVE.

3.19 CLEANING AND TOUCH-UP PAINTING

A. GENERAL: PERIODICALLY REMOVE FR(
CONSTRUCTION DEBRIS ACCUMULATED
SHALL BE LEFT CLEAN AND FREE OF
MATERIALS, PRIOR TO FINAL ACCEPTA

B. ELECTRICAL EQUIPMENT: REMOVE ALL
RUST, AND OTHER FOREIGN MATERIALS
ELECTRICAL EQUIPMENT AND ENCLOSUI
CURRENT CARRYING ELEMENTS AND IN

C. TOUCH-UP PAINTING: RESTORE AND I
OF ELECTRICAL EQUIPMENT SCRATCHEI
HANDLING, OR INSTALLATION. REMOVE
RECOMMENDED BY THE MANUFACTUREF

3.20 COAXIAL CABLE INSTALLATION:

A. THE COAXIAL CABLE SIZE SHALL BE AS

B. COAXIAL CABLE SUPPORTS.

1. SUPPORT COAXIAL CABLES INSIDE

2. SECURE AND SUPPORT COAXIAL CA

3. SECURE AND SUPPORT COAXIAL CA

C. COAXIAL CABLE GROUNDING:

1. THE COAXIAL CABLES SHALL BE GR
THE GROUNDING KITS AS SPECIFIEC

2. THE COAXIAL CABLES SHALL BE GR
DESIGNATED TOWERS USING THE GF

3. THE COAXIAL CABLES SHALL BE GR
TOWER OR MONOPOLE USING THE (

4. THE COAXIAL CABLES SHALL BE GR
USING THE GROUNDING KITS AS SP

4. THE COAXIAL CABLES SHALL BE GR
CABINET USING THE GROUNDING KI

LUGGING. COAT ALL SURFACES BEFORE CONNECTING.

FIELD INSPECTION AND TESTING WILL BE PERFORMED AS

HALL VERIFY THAT THE SYSTEM IS EFFECTIVELY GROUNDED,
250 REQUIREMENTS, IS ACCEPTABLE TO THE LOCAL UTILITY
ITY HAVING JURISDICTION AND MEETS THE SPRINT COM INC.
OUNDING SPECIFICATIONS.

HALL MAKE ALL MEASUREMENTS REQUIRED TO TEST THE
K SYSTEM. SYSTEM SHALL BE TESTED AT THE TIME OF

TWORK SYSTEM TEST PROCEDURE SHALL COMPLY WITH NFPA
CHNIQUE FOR GROUND RESISTANCE, EXCEPT AS MODIFIED

. VERIFY THE ADEQUACY OF THE INSTALLED SYSTEM. CONTRACTOR
TE RESISTANCE TO EARTH GROUNDING TESTING" PER SPRINT STANDARD
5. INSTALLED SYSTEM SHALL ACHIEVE A GROUND RESISTANCE OF LESS

SISTANCE TEST RESULTS ON SPRINT SPECTRUM "GROUND RESISTANCE

NESSED BY SPRINT REPRESENTATIVE.

T RESULTS SHALL BE SUBMITTED TO THE OWNER'S
ENGINEER.

STING

: AFTER TESTING BY CONTRACTOR, OWNER OR ENGINEER,
S, AND REPLACE MATERIALS AND EQUIPMENT SHOWN TO BE
PERFORM AT DESIGN OR RATED CAPACITY.

NTRACTOR SHALL CONDUCT A CONTINUITY & INSULATION TEST
SERVICE DISCONNECT SWITCH & POWER CABINET.

IAL TESTS:
H A AEMC MODEL #4500 TESTER. THE METHOD OF USING
UND RODS (AS DESCRIBED IN I.E.E.E. STANDARD #81-1983,
USED. THE AUXILIARY TEST RODS MUST BE SUFFICIENTLY
HE RODS SO THAT THE REGIONS IN WHICH THEIR RESISTANCE
NOT OVERLAP.

1. SUPPORT COAXIAL CABLES INSIDE I
2. SECURE AND SUPPORT COAXIAL CAI
3. SECURE AND SUPPORT COAXIAL CAI

C. COAXIAL CABLE GROUNDING:

1. THE COAXIAL CABLES SHALL BE GR
THE GROUNDING KITS AS SPECIFIED
2. THE COAXIAL CABLES SHALL BE GR
DESIGNATED TOWERS USING THE GF
3. THE COAXIAL CABLES SHALL BE GR
TOWER OR MONOPOLE USING THE (
4. THE COAXIAL CABLES SHALL BE GR
USING THE GROUNDING KITS AS SP
4. THE COAXIAL CABLES SHALL BE GR
CABINET USING THE GROUNDING KI

PERSON,
THE DIRECTION
RNEER, TO

Sprint Com Inc.
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GA 30004

NO.	DATE	REVISIONS	BY	CHK	APP'D
3	7/12/99	ISSUED FOR CONSTRUCTION	BHA	CMM	MSV
2	6/28/99	ISSUED FOR QA\QC	DR	CMM	MSV
1	/ /				
0	/ /				

SCALE: AS NOTED | DESIGNED DR | DRAWN DR

DRAWI
1080
BUILD

TRATION

IE OWNER'S REPRESENTATIVE(S) IN THE START-UP, OPERATION AND
E OF ALL ELECTRICAL SYSTEMS AND EQUIPMENT AS REQUESTED BY THE
PRESENTATIVE.

)UCH-UP PAINTING

PERIODICALLY REMOVE FROM THE PROJECT SITE, ALL WASTE, RUBBISH AND
ION DEBRIS ACCUMULATED FROM CONSTRUCTION OPERATIONS. THE PREMISES
.EFT CLEAN AND FREE OF ANY DEBRIS AND UNUSED CONSTRUCTION
PRIOR TO FINAL ACCEPTANCE.

EQUIPMENT: REMOVE ALL DUST, DIRT, DEBRIS, MORTAR, WIRE SCRAPS,
OTHER FOREIGN MATERIALS FROM THE INTERIOR AND EXTERIOR OF ALL
EQUIPMENT AND ENCLOSURES, AND WIPE DOWN. CLEAN ACCESSIBLE
ARRYING ELEMENTS AND INSULATORS PRIOR TO ENERGIZING.

PAINTING: RESTORE AND REFINISH TO ORIGINAL CONDITION, ALL SURFACES
CAL EQUIPMENT SCRATCHED, MARRED AND/OR DENTED DURING SHIPPING,
OR INSTALLATION. REMOVE ALL RUST, AND PRIME AND PAINT AS
)ED BY THE MANUFACTURER.

NSTALLATION:

L CABLE SIZE SHALL BE AS SHOWN ON DRAWINGS.

BLE SUPPORTS.

RT COAXIAL CABLES INSIDE MONOPOLES WITH "KELLEM" GRIP TYPE PRODUCTS.

: AND SUPPORT COAXIAL CABLES ON OPEN WAVEGUIDES STRUCTURAL TOWERS.

: AND SUPPORT COAXIAL CABLES ON ICE BRIDGES AS INDICATED ON DRAWINGS.

LE GROUNDING:

)AXIAL CABLES SHALL BE GROUNDED TO BUS BAR(S) AT THE ANTENNAS USING
:OUNDING KITS AS SPECIFIED ON THE DRAWINGS.

)AXIAL CABLES SHALL BE GROUNDED TO A BUS BAR AT THE MID-POINT OF
ATED TOWERS USING THE GROUNDING KITS AS SPECIFIED ON DRAWINGS.

)AXIAL CABLES SHALL BE GROUNDED TO A BUS BAR AT THE BOTTOM OF THE
OR MONOPOLE USING THE GROUNDING KITS SPECIFIED ON THE DRAWINGS.

)AXIAL CABLES SHALL BE GROUNDED TO A BUS BAR AT THE BULKHEADS
THE GROUNDING KITS AS SPECIFIED ON THE DRAWINGS.

)AXIAL CABLES SHALL BE GROUNDED TO A BUS BAR AT THE PRIMARY RADIO
T USING THE GROUNDING KITS AS SPECIFIED ON THE DRAWINGS.

- SUPPORTS:

COAXIAL CABLES INSIDE MONOPOLES WITH "KELLEM" GRIP TYPE PRODUCTS.

ND SUPPORT COAXIAL CABLES ON OPEN WAVEGUIDES STRUCTURAL TOWERS.

ND SUPPORT COAXIAL CABLES ON ICE BRIDGES AS INDICATED ON DRAWINGS.

GROUNDING:

:IAL CABLES SHALL BE GROUNDED TO BUS BAR(S) AT THE ANTENNAS USING
)NDING KITS AS SPECIFIED ON THE DRAWINGS.

(IAL CABLES SHALL BE GROUNDED TO A BUS BAR AT THE MID-POINT OF
:D TOWERS USING THE GROUNDING KITS AS SPECIFIED ON DRAWINGS.

(IAL CABLES SHALL BE GROUNDED TO A BUS BAR AT THE BOTTOM OF THE
R MONOPOLE USING THE GROUNDING KITS SPECIFIED ON THE DRAWINGS.

(IAL CABLES SHALL BE GROUNDED TO A BUS BAR AT THE BULKHEADS
E GROUNDING KITS AS SPECIFIED ON THE DRAWINGS.

(IAL CABLES SHALL BE GROUNDED TO A BUS BAR AT THE PRIMARY RADIO
USING THE GROUNDING KITS AS SPECIFIED ON THE DRAWINGS.

ION	BHA	CMM	MSV
	DR	CMM	MSV
	BY	CHK	APP'D

DR | DRAWN DR

CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
1080 HOLCOMB BRIDGE ROAD-ROSWELL, GEORGIA - 30076
BUILDING 200 - SUITE 330 770-992-2332

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA

SITE NO.: LV33XC001A

ELECTRICAL SPECIFICATIONS

DATE:	SPRINT JOB NO.	A\E JOB NO.	DRAWING NUMBER	REV
06/28/99	LV33XC001A	8113.55.05	KCA001E10	1

D. TRENCHING: CUT ALL TRENCHES NEATLY AND UNIFORMLY AND AMPLE WORKING ROOM AND AT LEAST SIX INCHES CLEARANCE (OR AS INDICATED TAKE NECESSARY PRECAUTIONS WHEN WORKIN UNDERGROUND UTILITIES, AND COORDINATE WITH THE INSTALLATI UTILITIES BY OTHER TRADES. UNLESS INDICATED OTHERWISE, PI RUNS DOWNWARD AWAY FROM BUILDINGS, MANHOLES, AND PAD EXCAVATE TRENCHES TO DEPTH INDICATED OR REQUIRED. LIMIT TRENCH TO THAT IN WHICH INSTALLATIONS CAN BE MADE AND T WITHIN THE SAME DAY.

E. SAND ENVELOPE: INSTALL A MINIMUM ENVELOPE OF THREE INCH AND SIDES: THREE INCHES EACH) OF FINE GRAIN SAND AROUND CABLES AND CONDUITS INSTALLED BELOW GRADE UNLESS INDICA

F. PREPARATION FOR BACKFILLING: BACKFILL EXCAVATIONS AS PR PERMITS, BUT NOT UNTIL COMPLETION OF INSPECTION, TESTING, RECORDING OF UNDERGROUND UTILITY LOCATIONS. PRIOR TO BA ALL CONCRETE FORM WORK, SHORING, BRACING, TRASH AND DEB

G. BACKFILLING: USE ONLY APPROVED MATERIALS FREE FROM BOU OBJECTS AND OTHER UNSUITABLE MATERIALS. MATCH THE FINA AND MATERIALS OF AREAS AFFECTED BY EXCAVATING, TRENCHIN REPLACE CONDUIT AND CABLES DAMAGED BY IMPROPER BACKFIL SURFACE MATERIALS TO MATCH EXISTING SURFACE MATERIALS IF OR SITE WORK IS BEING DONE IN AREA. PLACE SPECIFIED SOIL 4" – 8" LAYERS TO REQUIRED SUBGRADE ELEVATIONS.

H. BACKFILL PLACEMENT: PLACE BACKFILL AND FILL MATERIALS IN THAN 8" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY MORE THAN 4" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY TAMPERS. BEFORE COMPACTION, MOISTEN OR AERATE EACH LA PROVIDE OPTIMUM MOISTURE CONTENT. COMPACT EACH LAYER PERCENTAGE OF MAXIMUM DRY DENSITY OR RELATIVE DRY DENS CLASSIFICATION SPECIFIED BELOW. DO NOT PLACE BACKFILL OR SURFACES THAT ARE MUDDY, FROZEN, OR CONTAIN FROST OR I AND FILL MATERIALS EVENLY ADJACENT TO STRUCTURES, PIPING REQUIRED ELEVATIONS. PREVENT DISPLACEMENT OF RACEWAYS CARRYING MATERIAL UNIFORMLY AROUND THEM TO APPROXIMATE IN EACH LIFT.

3.9 RACEWAY SYSTEMS

A. RACEWAY TYPES: UNLESS INDICATED OTHERWISE, USE RACEWA

1. OUTDOORS, BELOW GRADE: (MINIMUM 3/4–INCH SIZE). S NON–METALLIC CONDUIT. STUB UP USING RIGID GALVANIZ POWER CONDUIT ONLY. FOR ALL OTHERS, PVC ELBOWS AC

2. OUTDOORS, EXPOSED: RIGID GALVANIZED STEEL CONDUIT SCHEDULE 40 WHERE NOT SUBJECT TO PHYSICAL DAMAGE.

3. LIQUID TIGHT FLEXIBLE STEEL CONDUIT: USE WHERE FLEXI CONNECTIONS ARE REQUIRED IN DRY, DAMP, WET OR OILY TO TRANSFORMERS, VIBRATING EQUIPMENT, AND EQUIPMEN ADJUSTMENTS IN POSITIONS AND FOR FINAL CONNECTIONS EQUIPMENT.

B. RACEWAY ROUTING: AS REQUIRED BY JOB CONDITIONS UNLESS DIMENSIONED POSITIONS ARE INDICATED ON THE DRAWINGS. INS AND JOISTS WHEREVER POSSIBLE. ROUTE EXPOSED CONDUIT, A CEILINGS, PARALLEL OR PERPENDICULAR TO WALLS, CEILINGS AN INSTALL TO MAINTAIN MINIMUM HEADROOM AND TO PRESENT A PARALLEL RACEWAYS TOGETHER WITH BENDS MADE FROM SAME EXACT LOCATIONS OF ALL RACEWAYS, PULL BOXES, AND JUNCTI CONFLICTS BEFORE INSTALLATION. DO NOT INSTALL HORIZONTA AFF IN EXPOSED LOCATIONS.

C. RACEWAY INSTALLATION: CUT CONDUIT ENDS SQUARE USING S REAM EACH CUT END SMOOTH. CAREFULLY MAKE ALL CONDUI THAT THE INSIDE DIAMETER OF PIPE IS NOT REDUCED. MAKE IN THE SAME PLANE. MAKE OFFSETS SO THAT LEGS ARE IN T PARALLEL. PROTECT STUB–UPS FROM DAMAGE, AND CAREFULL

D. FITTINGS: MAKE UP ALL RACEWAY FITTINGS TIGHT SO THAT FI FITTINGS AND ENCLOSURES CONSTITUTES A FIRM MECHANICAL ELECTRICAL CONDUCTOR. WHERE REQUIRED, PROVIDE BONDING ELECTRICAL CONTINUITY. PROVIDE INSULATING BUSHINGS ON C

E. PROTECTION: PROTECT ALL RACEWAYS, ENCLOSURES AND EQU CONSTRUCTION TO PREVENT ENTRY OF CONCRETE, DEBRIS AND FREE CLOGGED CONDUITS OF ALL OBSTRUCTIONS, OR REPLACE, DO NOT PULL WIRE WITHIN BUILDINGS UNTIL BUILDINGS ARE CO

F. BOXES: INSTALL ALL OUTLET, PULL AND JUNCTION BOXES RIG SUPPORT AND SECURE BOXES INDEPENDENTLY FROM CONDUITS INSTALL ALL BOXES SO AS TO BE ACCESSIBLE AND SO THAT C REMOVED.

SURFACES THAT ARE MUDDY, FROZEN, OR CONTAIN FROST OR
AND FILL MATERIALS EVENLY ADJACENT TO STRUCTURES, PIPIN
REQUIRED ELEVATIONS. PREVENT DISPLACEMENT OF RACEWAYS
CARRYING MATERIAL UNIFORMLY AROUND THEM TO APPROXIMA
IN EACH LIFT.

3.9 RACEWAY SYSTEMS

A. RACEWAY TYPES: UNLESS INDICATED OTHERWISE, USE RACEW

1. OUTDOORS, BELOW GRADE: (MINIMUM 3/4-INCH SIZE). NON-METALLIC CONDUIT. STUB UP USING RIGID GALVANI POWER CONDUIT ONLY. FOR ALL OTHERS, PVC ELBOWS A

2. OUTDOORS, EXPOSED: RIGID GALVANIZED STEEL CONDUIT SCHEDULE 40 WHERE NOT SUBJECT TO PHYSICAL DAMAGI

3. LIQUID TIGHT FLEXIBLE STEEL CONDUIT: USE WHERE FLE CONNECTIONS ARE REQUIRED IN DRY, DAMP, WET OR OIL TO TRANSFORMERS, VIBRATING EQUIPMENT, AND EQUIPMEI ADJUSTMENTS IN POSITIONS AND FOR FINAL CONNECTIONS EQUIPMENT.

B. RACEWAY ROUTING: AS REQUIRED BY JOB CONDITIONS UNLES DIMENSIONED POSITIONS ARE INDICATED ON THE DRAWINGS. IN AND JOISTS WHEREVER POSSIBLE. ROUTE EXPOSED CONDUIT, CEILINGS, PARALLEL OR PERPENDICULAR TO WALLS, CEILINGS A INSTALL TO MAINTAIN MINIMUM HEADROOM AND TO PRESENT A PARALLEL RACEWAYS TOGETHER WITH BENDS MADE FROM SAMI EXACT LOCATIONS OF ALL RACEWAYS, PULL BOXES, AND JUNC CONFLICTS BEFORE INSTALLATION. DO NOT INSTALL HORIZONT AFF IN EXPOSED LOCATIONS.

C. RACEWAY INSTALLATION: CUT CONDUIT ENDS SQUARE USING REAM EACH CUT END SMOOTH. CAREFULLY MAKE ALL CONDUI THAT THE INSIDE DIAMETER OF PIPE IS NOT REDUCED. MAKE IN THE SAME PLANE. MAKE OFFSETS SO THAT LEGS ARE IN PARALLEL. PROTECT STUB-UPS FROM DAMAGE, AND CAREFUL

D. FITTINGS: MAKE UP ALL RACEWAY FITTINGS TIGHT SO THAT FI FITTINGS AND ENCLOSURES CONSTITUTES A FIRM MECHANICAL ELECTRICAL CONDUCTOR. WHERE REQUIRED, PROVIDE BONDING ELECTRICAL CONTINUITY. PROVIDE INSULATING BUSHINGS ON C

E. PROTECTION: PROTECT ALL RACEWAYS, ENCLOSURES AND EQU CONSTRUCTION TO PREVENT ENTRY OF CONCRETE, DEBRIS AND FREE CLOGGED CONDUITS OF ALL OBSTRUCTIONS, OR REPLACE, DO NOT PULL WIRE WITHIN BUILDINGS UNTIL BUILDINGS ARE CO

F. BOXES: INSTALL ALL OUTLET, PULL AND JUNCTION BOXES RIGI SUPPORT AND SECURE BOXES INDEPENDENTLY FROM CONDUITS INSTALL ALL BOXES SO AS TO BE ACCESSIBLE AND SO THAT C REMOVED.

G. PROVIDE CAP TO PREVENT ENTRY OF MATERIALS AND MOISTURI

APR 26 1999

STATE OF KENTUCKY
PETER A. McTYGUE
20886
LICENSED PROFESSIONAL ENGINEER

Peter McTygue

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.

SI
1139
SUITE
ALPH

EATLY AND UNIFORMLY AND SO AS TO PROVIDE
ST SIX INCHES CLEARANCE ON BOTH SIDES
PRECAUTIONS WHEN WORKING NEAR EXISTING
DINATE WITH THE INSTALLATION OF CONCURRENT
SS INDICATED OTHERWISE, PITCH ALL CONDUIT
)INGS, MANHOLES, AND PAD MOUNTED EQUIPMENT.
ICATED OR REQUIRED. LIMIT LENGTH OF OPEN
ATIONS CAN BE MADE AND TRENCHES BACKFILLED

JM ENVELOPE OF THREE INCHES (TOP, BOTTOM,
F FINE GRAIN SAND AROUND ALL ELECTRICAL
ELOW GRADE UNLESS INDICATED OTHERWISE.

ACKFILL EXCAVATIONS AS PROMPTLY AS WORK
)N OF INSPECTION, TESTING, APPROVALS, AND
Y LOCATIONS. PRIOR TO BACKFILLING, REMOVE
G, BRACING, TRASH AND DEBRIS.

) MATERIALS FREE FROM BOULDERS, SHARP
IATERIALS. MATCH THE FINAL ELEVATIONS
D BY EXCAVATING, TRENCHING AND BACKFILLING.
IAGED BY IMPROPER BACKFILLING. REPLACE
STING SURFACE MATERIALS IF NO OTHER UTILITY
REA. PLACE SPECIFIED SOIL MATERIALS IN
GRADE ELEVATIONS.

(FILL AND FILL MATERIALS IN LAYERS OF NOT MORE
ERIAL COMPACTED BY HEAVY EQUIPMENT, AND NOT
R MATERIAL COMPACTED BY HAND OPERATED
)ISTEN OR AERATE EACH LAYER AS NECESSARY TO
NT. COMPACT EACH LAYER TO REQUIRED
SITY OR RELATIVE DRY DENSITY FOR EACH AREA
DO NOT PLACE BACKFILL OR FILL MATERIAL ON
N, OR CONTAIN FROST OR ICE. PLACE BACKFILL
ENT TO STRUCTURES, PIPING, AND EQUIPMENT TO
SPLACEMENT OF RACEWAYS AND EQUIPMENT BY
)UND THEM TO APPROXIMATELY SAME ELEVATION

D OTHERWISE, USE RACEWAY TYPES AS FOLLOWS:

IINIMUM 3/4-INCH SIZE). SCHEDULE 40 RIGID
B UP USING RIGID GALVANIZED STEEL ELBOWS, FOR
L OTHERS, PVC ELBOWS ACCEPTED.

ALVANIZED STEEL CONDUIT AND SUNLIGHT RESISTANT
JECT TO PHYSICAL DAMAGE.

ONDUIT: USE WHERE FLEXIBLE STEEL CONDUIT
N DRY, DAMP, WET OR OILY LOCATIONS, FOR CONNECTIONS
EQUIPMENT, AND EQUIPMENT REQUIRING MINOR
) FOR FINAL CONNECTIONS TO ALL MOTORS AND SIMILAR

BY JOB CONDITIONS UNLESS SPECIFIC ROUTES OR
ED ON THE DRAWINGS. INSTALL TIGHT TO SLABS, BEAMS
OUTE EXPOSED CONDUIT, AND CONDUIT INSTALLED ABOVE
AR TO WALLS, CEILINGS AND STRUCTURAL MEMBERS.
ROOM AND TO PRESENT A NEAT APPEARANCE. RUN
H BENDS MADE FROM SAME CENTER LINE. VERIFY
S, PULL BOXES, AND JUNCTION BOXES. RESOLVE ANY
)O NOT INSTALL HORIZONTAL CONDUIT RUNS BELOW 7'-6"

UIT ENDS SQUARE USING SAW OR PIPECUTTER AND
REFULLY MAKE ALL CONDUIT BENDS AND OFFSETS SO
IS NOT REDUCED. MAKE BENDS SO THAT LEGS ARE
S SO THAT LEGS ARE IN THE SAME PLANE AND
)M DAMAGE, AND CAREFULLY REBEND WHEN NECESSARY.

ITTINGS TIGHT SO THAT FINAL INSTALLATION OF RACEWAY,
ITES A FIRM MECHANICAL ASSEMBLY AND A CONTINUOUS
QUIRED, PROVIDE BONDING JUMPERS TO ASSURE
ISULATING BUSHINGS ON CONDUIT TERMINATIONS.

YS, ENCLOSURES AND EQUIPMENT DURING
F CONCRETE, DEBRIS AND OTHER FOREIGN MATTER.
STRUCTIONS, OR REPLACE, PRIOR TO PULLING WIRE.
UNTIL BUILDINGS ARE COMPLETELY ENCLOSED.

AND JUNCTION BOXES RIGIDLY, PLUMB AND LEVEL.
NDENTLY FROM CONDUITS TERMINATING AT BOX.
CESSIBLE AND SO THAT COVERS MAY BE EASILY

MATERIALS AND MOISTURE FOR ALL SPARE CONDUITS.

G. CONDUIT SEALS: INSTALL CONDUIT SEAL FOR E/
EXTERIOR BUILDING WALL, BELOW GRADE (UNLES
BUILDING FLOOR SLAB), AND ELSEWHERE AS INDI
SEALED WATERTIGHT INSTALLATION.

H. RIGID GALVANIZED STEEL CONDUIT SHALL BE USE
PHYSICAL DAMAGE. CUT ENDS WILL BE REAMED
(COMPRESSION FITTINGS WILL NOT BE ACCEPTED)

3.10 CONDUCTORS - 600 VOLT AND BELOW

A. MINIMUM CONDUCTOR SIZE: ALL BRANCH CIRCUIT
FEEDER CIRCUIT WIRING SHALL BE MINIMUM #2 A\
CONTROL CIRCUIT WIRING SHALL BE MINIMUM #14
PROVIDE LARGER SIZES AS INDICATED OR REQUIR

1: A FULL SIZE EQUIPMENT GROUNDING CONDU(
LIGHTING CONDUITS (CONDUITS WILL NOT BE

B. IN RACEWAY: INSTALL ALL WIRING IN CONDUIT O
UNLESS INDICATED OTHERWISE.

1: ROMEX, BX, AC AND MC TYPE CABLES ARE

C. TERMINATIONS: FURNISH AND INSTALL TERMINATI
TO MAKE ALL ELECTRICAL CONNECTIONS INDICATE
1: EXTERIOR AND SWITCHGEAR TERMINATIONS S
2: SPRING TYPE WIRE CONNECTORS USED IN E)

3.11 HANGERS AND SUPPORTS

A. GENERAL: RIGIDLY SUPPORT AND SECURE ALL M/
TO BUILDING STRUCTURE USING HANGERS, SUPPOF
FOR THE USE, MATERIALS AND LOADS ENCOUNTER
HARDWARE. PROVIDE CONDUIT SUPPORTS AT MAX

B. OVERHEAD MOUNTING: ATTACH OVERHEAD MOUNT
FRAMEWORK OR SUPPORTING METAL FRAMEWORK.
STEEL ROOFING, STEEL FLOORING OR CEILING MINE

C. WALL MOUNTING: SUPPORT WALL MOUNTED EQUIP
BLOCK, METAL FRAMING OR SUB-FRAMING.

D. EXTERIOR WALLS: MOUNT ALL EQUIPMENT LOCATE
BUILDING WALLS, AT LEAST ONE INCH AWAY FROM
SPACERS.

E. STRUCTURAL MEMBERS: DO NOT CUT, DRILL OR W
EXCEPT AS SPECIFICALLY APPROVED BY THE ENGIN

F. INDEPENDENT SUPPORT: DO NOT SUPPORT MATERI
EQUIPMENT, PIPING, DUCTWORK OR SUPPORTS FOR

G. TEMPORARY CONDITIONS: DO NOT ATTACH TO OR
REMOVABLE OR KNOCKOUT PANELS OR TEMPORARY

H. RACEWAY SUPPORTS: RIGIDLY SUPPORT ALL RACE
NEC, AND SO AS TO PREVENT DISTORTION OF ALIG
USE APPROVED HANGERS, CLAMPS AND STRAPS F(
PERFORATED STRAPS OR TIE WIRES. WHERE MULTI
TOGETHER, USE TRAPEZE TYPE HANGER ARRANGEM
ACCESSORIES, SUSPENDED BY THREADED RODS, AN
CAPACITY FOR FUTURE INSTALLATION OF ADDITIONA
VERTICAL CONDUITS SERVING FLOOR-MOUNTED OR
AWAY FROM WALLS WITH METAL BRACKET OR RIGID
TO FLOOR.

I. MISCELLANEOUS SUPPORTS: PROVIDE ANY ADDITI
BRACKETS, ANGLES, FASTENERS AND HARDWARE
SUPPORT ALL ELECTRICAL MATERIALS AND EQUIPM

J. ONE HOLE STRAPS SHALL NOT BE USED FOR CON

3.12 EQUIPMENT CONNECTIONS

A. VERIFICATION: OBTAIN AND REVIEW SHOP DRAWING
URER'S INSTRUCTIONS FOR EQUIPMENT FURNISI
ACTUAL EQUIPMENT TO VERIFY PROPER CONNECTIOI

B. ROUGH-IN: PROVIDE ALL REQUIRED CONDUIT, BOXI
AND MISCELLANEOUS ACCESSORIES, ETC., AS NECES
FINAL CONNECTIONS TO ALL EQUIPMENT REQUIRING
GENERAL, MOTORS AND EQUIPMENT SHALL BE WIREI
(OR SAFETY SWITCH) NEAR THE UNIT, AND FROM TI
METAL OR LIQUID TIGHT FLEXIBLE STEEL CONDUIT.

N, OR CONTAIN FROST OR ICE. PLACE BACKFILL
NT TO STRUCTURES, PIPING, AND EQUIPMENT TO
SPLACEMENT OF RACEWAYS AND EQUIPMENT BY
UND THEM TO APPROXIMATELY SAME ELEVATION

) OTHERWISE, USE RACEWAY TYPES AS FOLLOWS:

INIMUM 3/4-INCH SIZE). SCHEDULE 40 RIGID
3 UP USING RIGID GALVANIZED STEEL ELBOWS, FOR
L OTHERS, PVC ELBOWS ACCEPTED.

ALVANIZED STEEL CONDUIT AND SUNLIGHT RESISTANT
JECT TO PHYSICAL DAMAGE.

ONDUIT: USE WHERE FLEXIBLE STEEL CONDUIT
N DRY, DAMP, WET OR OILY LOCATIONS, FOR CONNECTIONS
EQUIPMENT, AND EQUIPMENT REQUIRING MINOR
) FOR FINAL CONNECTIONS TO ALL MOTORS AND SIMILAR

BY JOB CONDITIONS UNLESS SPECIFIC ROUTES OR
ED ON THE DRAWINGS. INSTALL TIGHT TO SLABS, BEAMS
OUTE EXPOSED CONDUIT, AND CONDUIT INSTALLED ABOVE
AR TO WALLS, CEILINGS AND STRUCTURAL MEMBERS.
ROOM AND TO PRESENT A NEAT APPEARANCE. RUN
BENDS MADE FROM SAME CENTER LINE. VERIFY
, PULL BOXES, AND JUNCTION BOXES. RESOLVE ANY
O NOT INSTALL HORIZONTAL CONDUIT RUNS BELOW 7'-6"

UIT ENDS SQUARE USING SAW OR PIPECUTTER AND
REFULLY MAKE ALL CONDUIT BENDS AND OFFSETS SO
IS NOT REDUCED. MAKE BENDS SO THAT LEGS ARE
S SO THAT LEGS ARE IN THE SAME PLANE AND
OM DAMAGE, AND CAREFULLY REBEND WHEN NECESSARY.

FITTINGS TIGHT SO THAT FINAL INSTALLATION OF RACEWAY,
UTES A FIRM MECHANICAL ASSEMBLY AND A CONTINUOUS
QUIRED, PROVIDE BONDING JUMPERS TO ASSURE
NSULATING BUSHINGS ON CONDUIT TERMINATIONS.

YS, ENCLOSURES AND EQUIPMENT DURING
F CONCRETE, DEBRIS AND OTHER FOREIGN MATTER.
STRUCTIONS, OR REPLACE, PRIOR TO PULLING WIRE.
UNTIL BUILDINGS ARE COMPLETELY ENCLOSED.

AND JUNCTION BOXES RIGIDLY, PLUMB AND LEVEL.
NDENTLY FROM CONDUITS TERMINATING AT BOX.
CCESSIBLE AND SO THAT COVERS MAY BE EASILY

MATERIALS AND MOISTURE FOR ALL SPARE CONDUITS.

FOR THE USE, MATERIALS AND LOADS ENCOUNTERI
HARDWARE. PROVIDE CONDUIT SUPPORTS AT MAX

B. OVERHEAD MOUNTING: ATTACH OVERHEAD MOUNT
FRAMEWORK OR SUPPORTING METAL FRAMEWORK.
STEEL ROOFING, STEEL FLOORING OR CEILING MINE

C. WALL MOUNTING: SUPPORT WALL MOUNTED EQUIP
BLOCK, METAL FRAMING OR SUB-FRAMING.

D. EXTERIOR WALLS: MOUNT ALL EQUIPMENT LOCATE
BUILDING WALLS, AT LEAST ONE INCH AWAY FROM
SPACERS.

E. STRUCTURAL MEMBERS: DO NOT CUT, DRILL OR W
EXCEPT AS SPECIFICALLY APPROVED BY THE ENGI

F. INDEPENDENT SUPPORT: DO NOT SUPPORT MATER
EQUIPMENT, PIPING, DUCTWORK OR SUPPORTS FOR

G. TEMPORARY CONDITIONS: DO NOT ATTACH TO OR
REMOVABLE OR KNOCKOUT PANELS OR TEMPORARY

H. RACEWAY SUPPORTS: RIGIDLY SUPPORT ALL RACE
NEC, AND SO AS TO PREVENT DISTORTION OF ALIG
USE APPROVED HANGERS, CLAMPS AND STRAPS FO
PERFORATED STRAPS OR TIE WIRES. WHERE MULTI
TOGETHER, USE TRAPEZE TYPE HANGER ARRANGEM
ACCESSORIES, SUSPENDED BY THREADED RODS, AN
CAPACITY FOR FUTURE INSTALLATION OF ADDITIONA
VERTICAL CONDUITS SERVING FLOOR-MOUNTED OR
AWAY FROM WALLS WITH METAL BRACKET OR RIGID
TO FLOOR.

I. MISCELLANEOUS SUPPORTS: PROVIDE ANY ADDITI
BRACKETS, ANGLES, FASTENERS AND HARDWARE
SUPPORT ALL ELECTRICAL MATERIALS AND EQUIPM

J. ONE HOLE STRAPS SHALL NOT BE USED FOR CON

3.12 EQUIPMENT CONNECTIONS

A. VERIFICATION: OBTAIN AND REVIEW SHOP DRAWING
URER'S INSTRUCTIONS FOR EQUIPMENT FURNISI
ACTUAL EQUIPMENT TO VERIFY PROPER CONNECTIOI

B. ROUGH-IN: PROVIDE ALL REQUIRED CONDUIT, BOXI
AND MISCELLANEOUS ACCESSORIES, ETC., AS NECES
FINAL CONNECTIONS TO ALL EQUIPMENT REQUIRING
GENERAL, MOTORS AND EQUIPMENT SHALL BE WIREI
(OR SAFETY SWITCH) NEAR THE UNIT, AND FROM TH
METAL OR LIQUID TIGHT FLEXIBLE STEEL CONDUIT.

C. CONNECTIONS: PROVIDE PROPERLY SIZED OVERLOA
FOR ALL EQUIPMENT CONNECTED, WHETHER FURNISH
OTHERS. VERIFY PROPER CONNECTIONS WITH MANU
AND COMPLY WITH SAME. VERIFY THAT EQUIPMENT
CONNECTIONS, WIRING AND ENERGIZATION, PRIOR TO

Sprint Com Inc.
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GA 30004

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	/ /				
1	/ /				
0	7/13/99	ISSUED FOR CONSTRUCTION	BHA	CMM	MSV
	6/28/99	ISSUED FOR QA\QC	DR	CMM	MSV

SCALE: AS NOTED | DESIGNED DR | DRAWN DR

1080 H
BUILDIN

ISTALL CONDUIT SEAL FOR EACH CONDUIT PENETRATING AN WALL, BELOW GRADE (UNLESS PENETRATION IS BELOW LOWEST AB), AND ELSEWHERE AS INDICATED, AND SO AS TO ACHIEVE A INSTALLATION.

TEEL CONDUIT SHALL BE USED IN AREAS SUBJECT TO CUT ENDS WILL BE REAMED, THREADED AND COLD GALVANIZED NGS WILL NOT BE ACCEPTED).

T AND BELOW

SIZE: ALL BRANCH CIRCUIT WIRING SHALL BE MINIMUM #12 AWG. ING SHALL BE MINIMUM #2 AWG UNLESS OTHERWISE NOTED. ALL RING SHALL BE MINIMUM #14 AWG, UNLESS INDICATED OTHERWISE. ZES AS INDICATED OR REQUIRED.

QUIPMENT GROUNDING CONDUCTOR WILL BE INSTALLED IN POWER AND UITS (CONDUITS WILL NOT BE USED AS A GROUNDING CONDUCTOR).

ALL ALL WIRING IN CONDUIT OR OTHER SPECIFIED RACEWAY, OTHERWISE.

AND MC TYPE CABLES ARE NOT ALLOWED.

RNISH AND INSTALL TERMINATIONS, INCLUDING LUGS IF NECESSARY, TRICAL CONNECTIONS INDICATED OR REQUIRED.
SWITCHGEAR TERMINATIONS SHALL HAVE AN ANTI-OXIDANT APPLIED.
WIRE CONNECTORS USED IN EXTERIOR BOXES SHALL BE SILICONE FILLED.

SUPPORT AND SECURE ALL MATERIALS, RACEWAY AND EQUIPMENT TURE USING HANGERS, SUPPORTS AND FASTENERS, SUITABLE RIALS AND LOADS ENCOUNTERED. PROVIDE ALL NECESSARY E CONDUIT SUPPORTS AT MAXIMUM 5 FT. O.C.

G: ATTACH OVERHEAD MOUNTED EQUIPMENT TO STRUCTURAL PPORTING METAL FRAMEWORK. DO NOT MAKE ATTACHMENTS TO EEL FLOORING OR CEILING MINERAL TILE.

SUPPORT WALL MOUNTED EQUIPMENT BY MASONRY, CONCRETE IING OR SUB-FRAMING.

MOUNT ALL EQUIPMENT LOCATED ON THE INTERIOR OR EXTERIOR LEAST ONE INCH AWAY FROM WALL SURFACE, USING SUITABLE

RS: DO NOT CUT, DRILL OR WELD ANY STRUCTURAL MEMBER CALLY APPROVED BY THE ENGINEER.

ORT: DO NOT SUPPORT MATERIALS OR EQUIPMENT FROM OTHER DUCTWORK OR SUPPORTS FOR SAME.

ONS: DO NOT ATTACH TO OR SUPPORT ELECTRICAL WORK FROM OCKOUT PANELS OR TEMPORARY WALLS OR PARTITIONS.

: RIGIDLY SUPPORT ALL RACEWAY WITH MAXIMUM SPACINGS PER) PREVENT DISTORTION OF ALIGNMENT DURING PULLING OPERATION. GERS, CLAMPS AND STRAPS FOR INDIVIDUAL RUNS. DO NOT USE S OR TIE WIRES. WHERE MULTIPLE PARALLEL RACEWAYS ARE RUN PEZE TYPE HANGER ARRANGEMENT MADE FROM U-CHANNEL AND ENDED BY THREADED RODS, AND ALLOW AT LEAST 25% SPARE IRE INSTALLATION OF ADDITIONAL RACEWAYS. RIGIDLY ANCHOR SERVING FLOOR-MOUNTED OR "ISLAND" TYPE EQUIPMENT MOUNTED WITH METAL BRACKET OR RIGID STEEL CONDUIT EXTENSION SECURED

PPORTS: PROVIDE ANY ADDITIONAL STRUCTURAL SUPPORT STEEL , FASTENERS AND HARDWARE AS REQUIRED TO ADEQUATELY TRICAL MATERIALS AND EQUIPMENT.

SHALL NOT BE USED FOR CONDUITS LARGER THAN 3/4 INCH.

AIN AND REVIEW SHOP DRAWINGS, PRODUCT DATA AND MANUFACT-ONS FOR EQUIPMENT FURNISHED BY OTHERS. EXAMINE TO VERIFY PROPER CONNECTION LOCATIONS AND REQUIREMENTS.

E ALL REQUIRED CONDUIT, BOXES, FITTINGS, WIRE, CONNECTORS ; ACCESSORIES, ETC., AS NECESSARY TO ROUGH IN AND MAKE TO ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS. IN AND EQUIPMENT SHALL BE WIRED IN CONDUIT TO A JUNCTION BOX) NEAR THE UNIT, AND FROM THERE TO THE UNIT IN FLEXIBLE GHT FLEXIBLE STEEL CONDUIT.

D. CONTROL WIRING: PROVIDE ALL C AS INDICATED OR REQUIRED. MOD DISCONNECT JUMPERS, ETC., AS R

3.13 IDENTIFICATION

A. GENERAL: LOCATE NAMEPLATE, M OUTSIDE OF EQUIPMENT OR BOX F IN MECHANICAL OR ELECTRICAL EC AND ON INSIDE OF FRONT COVER DOCUMENT DESIGNATIONS FOR IDE

B. NAMEPLATES: PROVIDE NAMEPLA SAFETY SWITCH, PANELBOARD, TR. EQUIPMENT, ETC.

C. UNDERGROUND WARNING TAPE: D ELECTRICAL, TELEPHONE, SIGNAL A UNDERGROUND WARNING TAPE LOC BELOW FINISHED GRADE.

D. MARKING PEN LABELING: MARK E DESIGNATION AND CIRCUIT NUMBEF

E. LABEL ALL WIRES AND CABLES AT BOXES AND JUNCTION BOXES.
WIRE TAGS: FOR POWER CIRCUITS CIRCUIT OR FEEDER NUMBER TO E/ AND PANELBOARD GUTTERS, AND

F. PANELBOARD CIRCUIT DIRECTORIES: COMPLETE EACH PANELBOARD CIR OR "SPARE" OR "SPACE" FOR EAC DELETING CIRCUITS AT AN EXISTIN NEW) CIRCUIT DIRECTORY CARD TO

3.14 ELECTRIC SERVICE

A. GENERAL: ARRANGE WITH THE UT INSTALLATION OF THE TEMPORARY ELECTRIC SERVICE. COMPLY WITH COMPANY.

B. SCI WILL ARRANGE FOR ELECTRIC CHARGES.

C. ARRANGE FOR AN INSPECTION OF JURISDICTION. OBTAIN A CERTIFIC COM. INC AND A COPY TO THE UT

D. COORDINATE METER SOCKET REQUI UTILITY.

E. GROUNDING: PROVIDE GROUNDING PER UTILITY COMPANY REQUIREMEI

F. SHORT CIRCUIT RATINGS: PROVIDE AS NEEDED TO MATCH UTILITY COI

3.15 TELEPHONE SERVICE

A. GENERAL: ARRANGE WITH THE UT INSTALLATION OF THE TELEPHONE REQUIREMENTS OF THE UTILITY CO

B. SCI WILL ARRANGE FOR TELEPHONE CHARGES.

3.16 GROUNDING SYSTEM

A. EXAMINATION:

1. VERIFY THAT SURFACES ARE MEASUREMENTS ARE AS SHO

B. INSTALLATION: INSTALL AS INDICA

1. GROUNDING NETWORK SYSTEM AND COMPACTION PER THIS AND ALL NECESSARY MATERI SPECIFIED SYSTEM.

2. ALL WELDED CONNECTIONS SH

URE USING HANGERS, SUPPORTS AND FASTENERS, SUITABLE
RIALS AND LOADS ENCOUNTERED. PROVIDE ALL NECESSARY
E CONDUIT SUPPORTS AT MAXIMUM 5 FT. O.C.

S: ATTACH OVERHEAD MOUNTED EQUIPMENT TO STRUCTURAL
PORTING METAL FRAMEWORK. DO NOT MAKE ATTACHMENTS TO
EL FLOORING OR CEILING MINERAL TILE.

UPPORT WALL MOUNTED EQUIPMENT BY MASONRY, CONCRETE
ING OR SUB-FRAMING.

MOUNT ALL EQUIPMENT LOCATED ON THE INTERIOR OR EXTERIOR
LEAST ONE INCH AWAY FROM WALL SURFACE, USING SUITABLE

RS: DO NOT CUT, DRILL OR WELD ANY STRUCTURAL MEMBER
ALLY APPROVED BY THE ENGINEER.

IRT: DO NOT SUPPORT MATERIALS OR EQUIPMENT FROM OTHER
DUCTWORK OR SUPPORTS FOR SAME.

ONS: DO NOT ATTACH TO OR SUPPORT ELECTRICAL WORK FROM
CKOUT PANELS OR TEMPORARY WALLS OR PARTITIONS.

: RIGIDLY SUPPORT ALL RACEWAY WITH MAXIMUM SPACINGS PER
PREVENT DISTORTION OF ALIGNMENT DURING PULLING OPERATION.
GERS, CLAMPS AND STRAPS FOR INDIVIDUAL RUNS. DO NOT USE
S OR TIE WIRES. WHERE MULTIPLE PARALLEL RACEWAYS ARE RUN
PEZE TYPE HANGER ARRANGEMENT MADE FROM U-CHANNEL AND
ENDED BY THREADED RODS, AND ALLOW AT LEAST 25% SPARE
RE INSTALLATION OF ADDITIONAL RACEWAYS. RIGIDLY ANCHOR
SERVING FLOOR-MOUNTED OR "ISLAND" TYPE EQUIPMENT MOUNTED
WITH METAL BRACKET OR RIGID STEEL CONDUIT EXTENSION SECURED

IPPORTS: PROVIDE ANY ADDITIONAL STRUCTURAL SUPPORT STEEL
S, FASTENERS AND HARDWARE AS REQUIRED TO ADEQUATELY
CTRICAL MATERIALS AND EQUIPMENT.

SHALL NOT BE USED FOR CONDUITS LARGER THAN 3/4 INCH.

IN AND REVIEW SHOP DRAWINGS, PRODUCT DATA AND MANUFACT-
ONS FOR EQUIPMENT FURNISHED BY OTHERS. EXAMINE
TO VERIFY PROPER CONNECTION LOCATIONS AND REQUIREMENTS.

E ALL REQUIRED CONDUIT, BOXES, FITTINGS, WIRE, CONNECTORS
ACCESSORIES, ETC., AS NECESSARY TO ROUGH IN AND MAKE
TO ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS. IN
ND EQUIPMENT SHALL BE WIRED IN CONDUIT TO A JUNCTION BOX
NEAR THE UNIT, AND FROM THERE TO THE UNIT IN FLEXIBLE
HT FLEXIBLE STEEL CONDUIT.

VIDE PROPERLY SIZED OVERLOAD AND SHORT CIRCUIT PROTECTION
CONNECTED, WHETHER FURNISHED UNDER THIS CONTRACT OR BY
OPER CONNECTIONS WITH MANUFACTURER'S PUBLISHED DIAGRAMS
SAME. VERIFY THAT EQUIPMENT IS READY FOR ELECTRICAL
G AND ENERGIZATION, PRIOR TO PERFORMING SAME.

DELETING CIRCUITS AT AN EXISTING
NEW) CIRCUIT DIRECTORY CARD TO

3.14 ELECTRIC SERVICE

A. GENERAL: ARRANGE WITH THE UTI
INSTALLATION OF THE TEMPORARY
ELECTRIC SERVICE. COMPLY WITH
COMPANY.

B. SCI WILL ARRANGE FOR ELECTRIC S
CHARGES.

C. ARRANGE FOR AN INSPECTION OF
JURISDICTION. OBTAIN A CERTIFICA
COM. INC AND A COPY TO THE UTI

D. COORDINATE METER SOCKET REQUIF
UTILITY.

E. GROUNDING: PROVIDE GROUNDING
PER UTILITY COMPANY REQUIREMEN

F. SHORT CIRCUIT RATINGS: PROVIDE
AS NEEDED TO MATCH UTILITY CON

3.15 TELEPHONE SERVICE

A. GENERAL: ARRANGE WITH THE UT
INSTALLATION OF THE TELEPHONE
REQUIREMENTS OF THE UTILITY COI

B. SCI WILL ARRANGE FOR TELEPHONE
CHARGES.

3.16 GROUNDING SYSTEM

A. EXAMINATION:

1. VERIFY THAT SURFACES ARE
MEASUREMENTS ARE AS SHO

B. INSTALLATION: INSTALL AS INDICA

1. GROUNDING NETWORK SYSTEM
AND COMPACTION PER THIS
AND ALL NECESSARY MATERI
SPECIFIED SYSTEM.

2. ALL WELDED CONNECTIONS SI
FROM CORROSION AS NOTED
ON ROOF INSTALLATIONS.

3. ALL CLAMP CONNECTIONS SH
ONLY WHERE SPECIFIED.

ICTION	BHA	CMM	MSV
DC	DR	CMM	MSV
	BY	CHK	APP'D

DR | DRAWN DR

CHA
DRAWING COPYRIGHT © 1999
CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
1080 HOLCOMB BRIDGE ROAD-ROSWELL, GEORGIA - 30076
BUILDING 200 - SUITE 330 770-992-2332

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA

NTROL WIRING: PROVIDE ALL CONTROL WIRING TO REMOTE DEVICES OR EQUIPMENT INDICATED OR REQUIRED. MODIFY EQUIPMENT CONTROL WIRING, INSTALL OR ;CONNECT JUMPERS, ETC., AS REQUIRED.

CATION

NERAL: LOCATE NAMEPLATE, MARKING, OR OTHER IDENTIFICATION MEANS ON TSIDE OF EQUIPMENT OR BOX FRONT COVERS WHEN ABOVE CEILINGS AND WHEN MECHANICAL OR ELECTRICAL EQUIPMENT ROOMS OR OTHER UNFINISHED AREAS, D ON INSIDE OF FRONT COVER WHEN IN FINISHED ROOMS/AREAS. USE CONTRACT CUMENT DESIGNATIONS FOR IDENTIFICATION UNLESS INDICATED OTHERWISE.

MEPLATES: PROVIDE NAMEPLATE ENGRAVED WITH EQUIPMENT DESIGNATION FOR EACH ,FETY SWITCH, PANELBOARD, TRANSFORMER, MOTOR STARTER, AND ALL OTHER IUIPMENT, ETC.

DERGROUND WARNING TAPE: DURING TRENCH BACKFILLING FOR EACH UNDERGROUND :CTRICAL, TELEPHONE, SIGNAL AND COMMUNICATIONS LINE, PROVIDE A CONTINUOUS DERGROUND WARNING TAPE LOCATED DIRECTLY ABOVE LINE, AT SIX TO EIGHT INCHES LOW FINISHED GRADE.

IRKING PEN LABELING: MARK EACH JUNCTION AND PULL BOX INDICATING SOURCE SIGNATION AND CIRCUIT NUMBER(S) FOR THE ENCLOSED CONDUCTORS.

3EL ALL WIRES AND CABLES AT EVERY POINT OF TERMINATION AND IN ALL PULL XES AND JUNCTION BOXES.
:E TAGS: FOR POWER CIRCUITS, APPLY WIRE TAG INDICATING APPROPRIATE :CUIT OR FEEDER NUMBER TO EACH CONDUCTOR PRESENT IN DISTRIBUTION PANEL D PANELBOARD GUTTERS, AND TO EACH CONDUCTOR IN PULL AND JUNCTION BOXES.

NELBOARD CIRCUIT DIRECTORIES: AT COMPLETION OF PROJECT, ACCURATELY MPLETE EACH PANELBOARD CIRCUIT DIRECTORY CARD, IDENTIFYING LOAD SERVED "SPARE" OR "SPACE" FOR EACH CIRCUIT POLE. WHEN MODIFYING, ADDING OR ETING CIRCUITS AT AN EXISTING PANELBOARD, UPDATE THE EXISTING (OR PROVIDE W) CIRCUIT DIRECTORY CARD TO ACCURATELY REFLECT FINAL CONDITIONS.

C SERVICE

NERAL: ARRANGE WITH THE UTILITY COMPANY AND SPRINT COM. INC. FOR A TIMELY STALLATION OF THE TEMPORARY ELECTRIC SERVICE (IF REQUIRED) AND PERMANENT ECTRIC SERVICE. COMPLY WITH AND COORDINATE ALL REQUIREMENTS OF THE UTILITY MPANY.

I WILL ARRANGE FOR ELECTRIC SERVICE ORDER AND PAY FOR ASSOCIATED UTILITY IARGES.

RANGE FOR AN INSPECTION OF THE ELECTRICAL SERVICE BY THE AUTHORITY HAVING RISDICTION. OBTAIN A CERTIFICATE OF INSPECTION. FURNISH A COPY TO SPRINT M. INC AND A COPY TO THE UTILITY COMPANY.

)ORDINATE METER SOCKET REQUIREMENTS WITH SPRINT COM. INC. AND ELECTRIC ILITY.

:OUNDING: PROVIDE GROUNDING ELECTRODE SYSTEM FOR THE SERVICE, PER THE NEC, :R UTILITY COMPANY REQUIREMENTS, AND AS INDICATED.

ORT CIRCUIT RATINGS: PROVIDE EQUIPMENT WITH HIGHER FAULT CURRENT RATINGS NEEDED TO MATCH UTILITY COMPANY AVAILABLE FAULT CURRENT.

)NE SERVICE

)ERAL: ARRANGE WITH THE UTILITY COMPANY AND SPRINT COM. INC. FOR A TIMELY TALLATION OF THE TELEPHONE SERVICE. COMPLY WITH AND COORDINATE ALL)UIREMENTS OF THE UTILITY COMPANY.

WILL ARRANGE FOR TELEPHONE SERVICE ORDER AND PAY FOR ASSOCIATED UTILITY ARGES.

ING SYSTEM

AMINATION:

VERIFY THAT SURFACES ARE READY TO RECEIVE WORK AND THAT THE FIELD MEASUREMENTS ARE AS SHOWN ON SHOP DRAWINGS.

STALLATION: INSTALL AS INDICATED ON THE DRAWINGS AND AS REQUIRED:

GROUNDING NETWORK SYSTEM SHALL INCLUDE ELECTRICAL TRENCHING, BACKFILL AND COMPACTION PER THIS SECTION; GROUNDING WIRE, GROUNDING ELECTRODES AND ALL NECESSARY MATERIALS AND LABOR REQUIRED TO COMPLETE THE SPECIFIED SYSTEM.

ALL WELDED CONNECTIONS SHALL BE HEAVY DUTY EXOTHERMIC TYPE PROTECTED FROM CORROSION AS NOTED ON DWGS. USE FOR OUTDOORS ONLY. DO NOT USE

LETING CIRCUITS AT AN EXISTING PANELBOARD, UPDATE THE EXISTING (OR PROVIDE W) CIRCUIT DIRECTORY CARD TO ACCURATELY REFLECT FINAL CONDITIONS.

IC SERVICE

NERAL: ARRANGE WITH THE UTILITY COMPANY AND SPRINT COM. INC. FOR A TIMELY STALLATION OF THE TEMPORARY ELECTRIC SERVICE (IF REQUIRED) AND PERMANENT ECTRIC SERVICE. COMPLY WITH AND COORDINATE ALL REQUIREMENTS OF THE UTILITY)MPANY.

I WILL ARRANGE FOR ELECTRIC SERVICE ORDER AND PAY FOR ASSOCIATED UTILITY HARGES.

RANGE FOR AN INSPECTION OF THE ELECTRICAL SERVICE BY THE AUTHORITY HAVING RISDICTION. OBTAIN A CERTIFICATE OF INSPECTION. FURNISH A COPY TO SPRINT)M. INC AND A COPY TO THE UTILITY COMPANY.

)ORDINATE METER SOCKET REQUIREMENTS WITH SPRINT COM. INC. AND ELECTRIC TILITY.

ROUNDING: PROVIDE GROUNDING ELECTRODE SYSTEM FOR THE SERVICE, PER THE NEC, ER UTILITY COMPANY REQUIREMENTS, AND AS INDICATED.

HORT CIRCUIT RATINGS: PROVIDE EQUIPMENT WITH HIGHER FAULT CURRENT RATINGS S NEEDED TO MATCH UTILITY COMPANY AVAILABLE FAULT CURRENT.

HONE SERVICE

ENERAL: ARRANGE WITH THE UTILITY COMPANY AND SPRINT COM. INC. FOR A TIMELY STALLATION OF THE TELEPHONE SERVICE. COMPLY WITH AND COORDINATE ALL QUIREMENTS OF THE UTILITY COMPANY.

I WILL ARRANGE FOR TELEPHONE SERVICE ORDER AND PAY FOR ASSOCIATED UTILITY HARGES.

)ING SYSTEM

AMINATION:

VERIFY THAT SURFACES ARE READY TO RECEIVE WORK AND THAT THE FIELD MEASUREMENTS ARE AS SHOWN ON SHOP DRAWINGS.

STALLATION: INSTALL AS INDICATED ON THE DRAWINGS AND AS REQUIRED:

GROUNDING NETWORK SYSTEM SHALL INCLUDE ELECTRICAL TRENCHING, BACKFILL AND COMPACTION PER THIS SECTION; GROUNDING WIRE, GROUNDING ELECTRODES AND ALL NECESSARY MATERIALS AND LABOR REQUIRED TO COMPLETE THE SPECIFIED SYSTEM.

ALL WELDED CONNECTIONS SHALL BE HEAVY DUTY EXOTHERMIC TYPE PROTECTED FROM CORROSION AS NOTED ON DWGS. USE FOR OUTDOORS ONLY. DO NOT USE ON ROOF INSTALLATIONS.

ALL CLAMP CONNECTIONS SHALL BE MADE ACCESSIBLE FOR INSPECTION. USE ONLY WHERE SPECIFIED.

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA

SITE NO.: LV33XC001A

ELECTRICAL SPECIFICATIONS

DATE:	SPRINT JOB NO.	A\E JOB NO.	DRAWING NUMBER	REV
06/28/99	LV33XC001A	8113.55.05	KCA001E9	1

2.9 SAFETY SWITCHES

A. GENERAL: HEAVY DUTY, HORSEPOWER RATED, FULLY E REJECTION FUSE CLIPS) OR NON-FUSED AS INDICATED, SWITCHING MECHANISM INTERLOCKED WITH COVER, AND DRY LOCATIONS, AND NEMA 3R ENCLOSURE FOR OUTDC INDICATED OTHERWISE. SWITCHES TO BE LABELED AS SERVICE ENTRANCE EQUIPMENT," WHERE REQUIRED.

B. RATINGS: VOLTAGE, PHASES, AMPERAGES AND FUSING

C. IN THE FUSED CONFIGURATION, SWITCHES SHALL HAVE OF AT LEAST 100,000 AMPS SYMMETRICAL AT SIX HUN WITH CLASS RK5 TIME DELAY CURRENT LIMITING FUSES SYMMETRICAL AT 600 VOLTS WHEN USED WITH CLASS

D. GUARDS: LINE SHIELD GUARDS TO PREVENT CONTACT

E. CONTACTS: SILVER ALLOY, SWITCH BLADES SHALL BE POSITION.

F. LUGS: SOLDERLESS TYPE.

G. REJECTION FUSE CLIPS: PROVIDE FOR FUSIBLE SWITCH THE INSTALLATION OF CLASS H AND CLASS K NON-CL

H. ACCEPTABLE MANUFACTURER: GENERAL ELECTRIC, SQ

2.10 FUSES

A. UL CLASS RK1, 250 VOLT OR 600 VOLT AS REQUIRED I ELEMENT, TIME DELAY, CURRENT LIMITING, 200,000 AIC, INDICATED. SIZE AND QUANTITY AS INDICATED ON POWE

B. ACCEPTABLE MANUFACTURERS: BUSSMANN "FUSETRON SHAWMUT.

2.11 MANUAL TRANSFER SWITCH

A. SIZE AS INDICATED ON ELECTRICAL PLAN, 250 VOLT N

B. DOUBLE POLE, DOUBLE THROW WITH SOLID NEUTRAL.

C. NEMA 1 ENCLOSURE UNLESS NOTED OTHERWISE.

D. MANUFACTURER: SQUARE D, CLASS 3110 TYPE 8225.

2.12 CIRCUIT BREAKERS

A. GENERAL: MOLDED CASE WITH THERMAL AND MAGNETI OTHERWISE. MINIMUM 10,000 AMPS INTERRUPTING CAI AS INDICATED OR REQUIRED BY AVAILABLE FAULT CUF

B. CIRCUIT BREAKERS FOR EXISTING EQUIPMENT SHALL B AS THE ORIGINAL EQUIPMENT.

2.13 PANELBOARDS

A. GENERAL:

1. TWO-ROW, BOLT IN CIRCUIT BREAKER WITH MAINS. DEVICES AS INDICATED.
2. MINIMUM 10,000 AIC FOR 250V AND 14,000 AIC F
3. LOCKABLE COVER, COPPER BUS.
4. PANELBOARDS SHALL HAVE MAIN CIRCUIT BREAKE POSITIONS).
5. COPPER BUS BARS (ALUMINUM COMPONENTS IN E ISOLATED NEUTRAL BUS AND FULL SIZE GROUNDIN

B. ACCEPTABLE MANUFACTURERS: SQUARE D, SEIMENS,

2.10 FUSES

A. UL CLASS RK1, 250 VOLT OR 600 VOLT AS REQUIRED F ELEMENT, TIME DELAY, CURRENT LIMITING, 200,000 AIC, INDICATED. SIZE AND QUANTITY AS INDICATED ON POWE

B. ACCEPTABLE MANUFACTURERS: BUSSMANN "FUSETRON' SHAWMUT.

2.11 MANUAL TRANSFER SWITCH

A. SIZE AS INDICATED ON ELECTRICAL PLAN, 250 VOLT N

B. DOUBLE POLE, DOUBLE THROW WITH SOLID NEUTRAL.

C. NEMA 1 ENCLOSURE UNLESS NOTED OTHERWISE.

D. MANUFACTURER: SQUARE D, CLASS 3110 TYPE 8225:

2.12 CIRCUIT BREAKERS

A. GENERAL: MOLDED CASE WITH THERMAL AND MAGNETI OTHERWISE. MINIMUM 10,000 AMPS INTERRUPTING CAI AS INDICATED OR REQUIRED BY AVAILABLE FAULT CUI

B. CIRCUIT BREAKERS FOR EXISTING EQUIPMENT SHALL BI AS THE ORIGINAL EQUIPMENT.

2.13 PANELBOARDS

A. GENERAL:

1. TWO-ROW, BOLT IN CIRCUIT BREAKER WITH MAINS DEVICES AS INDICATED.
2. MINIMUM 10,000 AIC FOR 250V AND 14,000 AIC F
3. LOCKABLE COVER, COPPER BUS.
4. PANELBOARDS SHALL HAVE MAIN CIRCUIT BREAKE POSITIONS).
5. COPPER BUS BARS (ALUMINUM COMPONENTS IN E ISOLATED NEUTRAL BUS AND FULL SIZE GROUNDIN

B. ACCEPTABLE MANUFACTURERS: SQUARE D, SEIMENS,

JUL 26 1999

STATE OF KENTUCKY
PETER A. McTYGUE
20886
LICENSED
PROFESSIONAL ENGINEER

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.

S
11
SU
ALI

HORSEPOWER RATED, FULLY ENCLOSED, FUSIBLE (WITH
)R NON-FUSED AS INDICATED, QUICK-MAKE, QUICK BREAK
TERLOCKED WITH COVER, AND NEMA1 ENCLOSURE FOR
/IA 3R ENCLOSURE FOR OUTDOOR LOCATIONS, UNLESS
WITCHES TO BE LABELED AS "SUITABLE FOR USE AS
'MENT," WHERE REQUIRED.

SES, AMPERAGES AND FUSING AS INDICATED.

.TION, SWITCHES SHALL HAVE AN INTERRUPTING CAPACITY
IPS SYMMETRICAL AT SIX HUNDRED (600) VOLTS WHEN USED
LAY CURRENT LIMITING FUSES, AND 200,000 AMPERES
_TS WHEN USED WITH CLASS RK1 CURRENT LIMITING FUSES.

UARDS TO PREVENT CONTACT WITH LIVE PARTS.

Y, SWITCH BLADES SHALL BE DE-ENERGIZED IN THE OPEN

PROVIDE FOR FUSIBLE SWITCHES (30-600A) TO PREVENT
ASS H AND CLASS K NON-CURRENT-LIMITING FUSES.

RER: GENERAL ELECTRIC, SQUARE D, SIEMANS.

OR 600 VOLT AS REQUIRED FOR SYSTEM VOLTAGE, DUAL
IRRENT LIMITING, 200,000 AIC, AMPERE RATINGS AS
NTITY AS INDICATED ON POWER DIAGRAM.

RERS: BUSSMANN "FUSETRON"; OR EQUAL BY GOULD

LECTRICAL PLAN, 250 VOLT NON-FUSED.

THROW WITH SOLID NEUTRAL.

ESS NOTED OTHERWISE.

RE D, CLASS 3110 TYPE 82253N.

WITH THERMAL AND MAGNETIC TRIPS UNLESS INDICATED
,000 AMPS INTERRUPTING CAPACITY, HIGHER RATINGS
ED BY AVAILABLE FAULT CURRENT.

EXISTING EQUIPMENT SHALL BE OF THE SAME MANUFACTURER
IENT.

IRCUIT BREAKER WITH MAINS, RATINGS AND BOLT ON BRANCH
D.

FOR 250V AND 14,000 AIC FOR 480V UNLESS OTHERWISE NOTED.

)PPER BUS.

HAVE MAIN CIRCUIT BREAKER (LOCKABLE IN ON & OFF

ALUMINUM COMPONENTS IN ELECTRICAL DEVICES IS PROHIBITED),
JS AND FULL SIZE GROUNDING BUS.

RERS: SQUARE D, SEIMENS, OR EQUIVALENT.

2.14 DEVICES:

A. SWITCHES: 20AMP, 120-277 VOLTS, A.
POLE, THREE WAY OR FOUR WAY AS II

B. RECEPTACLES: 20AMP, 125V, NEMA 5-
STAINLESS STEEL COVER, OUTDOOR OR
USE. PROVIDE GFCI TYPE WITH SOLID
OUTDOOR OR WET LOCATIONS.

C. AUXILIARY POWER (GENERATOR INLET)

1. PROVIDE 3 POLE, 4W, 125/250 VOL
AND CLOSURE PLUG AT EXTERIOR (
W/MATCHING BACKBOX AND CLOSUI

2. PROVIDE ADJACENT LAMACOID NAMI
PCS - PORTABLE GENERATOR CONI

2.15 CABLE TRAY

A. GENERAL: PROVIDE A COMPLETE CABLE
ACCESSORIES, ETC. AS REQUIRED OR IN

B. DESCRIPTION: ALUMINUM ALLOY CONST
TYPE: LADDER WITH 12" MAX. SPACING
DEPTH: MINIMUM 4"
WIDTH: AS INDICATED ON DRAWINGS (MI
6" VERTICAL RUNS).
SUPPORT SPAN: 8 FOOT MINIMUM UNLE.
LOADING: 100 lbs/ft
RADIUS: 36" MINIMUM, SMALLER MAY BE
COVER: VENTILATED .063 ALUMINUM, PR

C. GROUNDING: BOND ALL TRAY SECTIONS

D. ACCEPTABLE MANUFACTURERS: NEWTC

2.16 SURGE SUPPRESSION

A. PRODUCTS MANUFACTURERED BY NORTI

B. FURNISHED BY OWNER. INSTALLED BY T

PART 3 - EXECUTION

3.1 GENERAL

A. THE INSTALLATION OF ALL WORK SHALL
THE CONTRACT DOCUMENTS.

B. INSTALLATION REQUIREMENTS: ALL MA
AS RECOMMENDED BY THE RESPECTIVE
AND SKILLED IN THEIR PARTICULAR TRA
IN ACCORDANCE WITH THE STANDARDS
WARRANTY OR UL LISTING.

C. ADMINISTRATION AND SUPERVISION: AI
CONTRACTOR'S DIRECT SUPERVISION, U
AS NECESSARY TO COMPLETE THE WOF
SCHEDULE. THE CONTRACTOR SHALL
WHO SHALL HAVE AUTHORITY TO ACCE
AND WHO SHALL COOPERATE WITH THE
THE ENGINEER AND OWNER IN ALL MA
DELAYS.

D. MINIMUM MOUNTING HEIGHT: INSTALL
(E.G., LIGHTING FIXTURES) WITH NOT LE
UNLESS INDICATED OR APPROVED OTHE
AND EQUIPMENT MOUNTED ON WALLS.

E. DIMENSIONS AND CLEARANCES: FIELD
AFFECTING THE INSTALLATION OF ELEC
DATUM, BUILDING OPENINGS AND CLEAI
CONSTRUCTION PROGRESSES.

3.2 EXAMINATION

A. CONDITIONS VERIFICATION: EXAMINE T
THE WORK IS TO BE PERFORMED, AND

OR 600 VOLT AS REQUIRED FOR SYSTEM VOLTAGE, DUAL
RRENT LIMITING, 200,000 AIC, AMPERE RATINGS AS
NTITY AS INDICATED ON POWER DIAGRAM.

ERS: BUSSMANN "FUSETRON"; OR EQUAL BY GOULD

LECTRICAL PLAN, 250 VOLT NON-FUSED.

HROW WITH SOLID NEUTRAL.

ESS NOTED OTHERWISE.

E D, CLASS 3110 TYPE 82253N.

WITH THERMAL AND MAGNETIC TRIPS UNLESS INDICATED
,000 AMPS INTERRUPTING CAPACITY, HIGHER RATINGS
ED BY AVAILABLE FAULT CURRENT.

EXISTING EQUIPMENT SHALL BE OF THE SAME MANUFACTURER
MENT.

IRCUIT BREAKER WITH MAINS, RATINGS AND BOLT ON BRANCH
D.

FOR 250V AND 14,000 AIC FOR 480V UNLESS OTHERWISE NOTED.

OPPER BUS.

. HAVE MAIN CIRCUIT BREAKER (LOCKABLE IN ON & OFF

ALUMINUM COMPONENTS IN ELECTRICAL DEVICES IS PROHIBITED),
US AND FULL SIZE GROUNDING BUS.

RERS: SQUARE D, SEIMENS, OR EQUIVALENT.

6 VERTICAL RUNS).
SUPPORT SPAN: 8 FOOT MINIMUM UNLE
LOADING: 100 lbs/ft
RADIUS: 36" MINIMUM, SMALLER MAY E
COVER: VENTILATED .063 ALUMINUM, P

C. GROUNDING: BOND ALL TRAY SECTION

D. ACCEPTABLE MANUFACTURERS: NEWT(

2.16 SURGE SUPPRESSION

A. PRODUCTS MANUFACTURERED BY NORT

B. FURNISHED BY OWNER. INSTALLED BY

PART 3 – EXECUTION

3.1 GENERAL

A. THE INSTALLATION OF ALL WORK SHAL
THE CONTRACT DOCUMENTS.

B. INSTALLATION REQUIREMENTS: ALL MA
AS RECOMMENDED BY THE RESPECTIVE
AND SKILLED IN THEIR PARTICULAR TR/
IN ACCORDANCE WITH THE STANDARDS
WARRANTY OR UL LISTING.

C. ADMINISTRATION AND SUPERVISION: A
CONTRACTOR'S DIRECT SUPERVISION, U
AS NECESSARY TO COMPLETE THE WOI
SCHEDULE. THE CONTRACTOR SHALL
WHO SHALL HAVE AUTHORITY TO ACCE
AND WHO SHALL COOPERATE WITH THE
THE ENGINEER AND OWNER IN ALL MA
DELAYS.

D. MINIMUM MOUNTING HEIGHT: INSTALL
(E.G., LIGHTING FIXTURES) WITH NOT LE
UNLESS INDICATED OR APPROVED OTHE
AND EQUIPMENT MOUNTED ON WALLS.

E. DIMENSIONS AND CLEARANCES: FIELD
AFFECTING THE INSTALLATION OF ELEC
DATUM, BUILDING OPENINGS AND CLEAI
CONSTRUCTION PROGRESSES.

3.2 EXAMINATION

A. CONDITIONS VERIFICATION: EXAMINE TI
THE WORK IS TO BE PERFORMED, AND
TO THE PROPER AND TIMELY COMPLETI
UNSATISFACTORY CONDITIONS HAVE BE

3.3 COORDINATION

A. GENERAL: SEQUENCE, COORDINATE AN
MATERIALS AND EQUIPMENT FOR EFFICI
WITH THE OTHER TRADES. REVIEW THE
TRADES, AND REPORT AND RESOLVE AI
TO COMMENCING WORK.

OR ANY PERSON,
INDER THE DIRECTION
AL ENGINEER, TO

Sprint Com Inc.
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GA 30004

NO.	DATE	REVISIONS	BY	CHK	APP'D
3	7/12/99	ISSUED FOR CONSTRUCTION	BHA	CMM	MSV
2	6/28/99	ISSUED FOR QA\QC	DR	CMM	MSV
1	//				
0	//				

SCALE: AS NOTED | DESIGNED DR | DRAWN DR

: 20AMP, 120-277 VOLTS, A.C. ONLY, TOGGLE TYPE, SINGLE POLE, DOUBLE
REE WAY OR FOUR WAY AS INDICATED OR REQUIRED.

:LES: 20AMP, 125V, NEMA 5-208v DUPLEX TYPE. INDOOR MOUNTED USE
S STEEL COVER, OUTDOOR OR WET LOCATION MOUNTED USE DEVICE RATED FOR
OVIDE GFCI TYPE WITH SOLID STATE GROUND FAULT SENSING & 5 MA TRIP FOR
OR WET LOCATIONS.

' POWER (GENERATOR INLET)

DE 3 POLE, 4W, 125/250 VOLT FLANGED INLET, BACKBOX
CLOSURE PLUG AT EXTERIOR OF BUILDING WALL (HUBBELL #4100B12W
TCHING BACKBOX AND CLOSURE PLUG).

DE ADJACENT LAMACOID NAMEPLATE (12"x12") "SPRINT COM. INC.,
- PORTABLE GENERATOR CONNECTION".

PROVIDE A COMPLETE CABLE TRAY SYSTEM WITH BENDS, FITTINGS,
IES, ETC. AS REQUIRED OR INDICATED.

ON: ALUMINUM ALLOY CONSTRUCTION
)DER WITH 12" MAX. SPACING
INIMUM 4"
S INDICATED ON DRAWINGS (MINIMUM 12"HORIZONTAL RUNS - MINIMUM
AL RUNS).
SPAN: 8 FOOT MINIMUM UNLESS OTHERWISE NOTED
100 lbs/ft
56" MINIMUM, SMALLER MAY BE PERMITTED IF APPROVED BY OWNER
ENTILATED .063 ALUMINUM, PROVIDE WHERE INDICATED

IG: BOND ALL TRAY SECTIONS USING #2 AWG BARE COPPER GROUND.

BLE MANUFACTURERS: NEWTON INSTRUMENTS OR EQUIVALENT.

ESSION

S MANUFACTURERED BY NORTHERN TECHNOLOGIES.

D BY OWNER. INSTALLED BY THIS CONTRACT.

N

ALLATION OF ALL WORK SHALL BE IN ACCORDANCE WITH THE INTENT OF
TRACT DOCUMENTS.

TION REQUIREMENTS: ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED
IMENDED BY THE RESPECTIVE MANUFACTURERS, BY MECHANICS EXPERIENCED
ED IN THEIR PARTICULAR TRADE, IN A NEAT AND WORKMANLIKE MANNER,
DANCE WITH THE STANDARDS OF THE TRADE, AND SO AS NOT TO VOID ANY
OR UL LISTING.

RATION AND SUPERVISION: ALL WORK SHALL BE PERFORMED UNDER THE
TOR'S DIRECT SUPERVISION, USING SUFFICIENT AND QUALIFIED PERSONNEL
SSARY TO COMPLETE THE WORK IN ACCORDANCE WITH THE PROGRESS
E. THE CONTRACTOR SHALL ASSIGN ONE OR MORE COMPETENT SUPERVISORS
LL HAVE AUTHORITY TO ACCEPT AND EXECUTE ORDERS AND INSTRUCTIONS,
SHALL COOPERATE WITH THE OTHER CONTRACTORS AND SUBCONTRACTORS,
NEER AND OWNER IN ALL MATTERS TO RESOLVE CONFLICTS AND AVOID

MOUNTING HEIGHT: INSTALL EXPOSED RACEWAY AND ALL OTHER EQUIPMENT
HTING FIXTURES) WITH NOT LESS THAN 7'-6" CLEAR TO FINISHED FLOOR,
NDICATED OR APPROVED OTHERWISE, AND EXCLUDING RACEWAY
PMENT MOUNTED ON WALLS.

'S AND CLEARANCES: FIELD MEASURE ALL DIMENSIONS AND CLEARANCES
THE INSTALLATION OF ELECTRICAL WORK, IN RELATION TO ESTABLISHED
UILDING OPENINGS AND CLEARANCES, AND WORK OF OTHER TRADES, AS
TION PROGRESSES.

S VERIFICATION: EXAMINE THE AREAS AND CONDITIONS UNDER WHICH
IS TO BE PERFORMED, AND IDENTIFY ANY CONDITIONS DETRIMENTAL
ROPER AND TIMELY COMPLETION OF THE WORK. DO NOT PROCEED UNTIL

B. COOPERATION: COOPEF
DISCIPLINES FOR PLACE
RESOLVE INTERFERENCE
PRIOR TO COMMENCING

C. SUPPORTS AND SLEEVE:
DEVICES AND SLEEVES
STRUCTURAL COMPONEN

D. OBSTACLES AND INTERF
PROVIDE OFFSETS, FITTI
AS NECESSARY TO AVO
CONDITIONS.

3.4 EQUIPMENT PROTECTION

A. PROTECT ALL EQUIPMEN
PAINT, MORTAR, CONSTR
COMPLETE. REPAIR, REI
AREAS, EQUIPMENT, UTIL

3.5 LAYOUT

A. GENERAL: INSTALL MAT
PERPENDICULAR TO OTH
EXPOSED.

B. SERVICEABILITY: INSTAL
SERVICING, MAINTENANCE
TO MINIMIZE INTERFEREN

C. CLEARANCES: PRIOR TO
ADEQUATELY FIT AND CO
IN THE SPACES INDICATE
SUBMIT PLAN AND ELEV/
REARRANGEMENT, FOR T
EXPRESS WRITTEN PERMI

D. RIGHT-OF-WAY: WHEN
WIRING AND NEXT TO ST
FIRE PROTECTION PIPING
TO AVOID CONFLICTS. R

3.6 MOUNTING HEIGHTS

A. GENERAL: INDICATED HEI
OUTLET BOX TO FINISHED
INSTRUCTIONS FOR MOUN

3.7 HOLES, SLEEVES, AND OPENIN

A. GENERAL: PROVIDE ALL
COMPLETION OF WORK AN
SURROUNDING SURFACES.
BARRIERS USING APPROVE
OPENINGS, OR INSTALLING
ELEMENTS OR REINFORCIN
STRUCTURAL ENGINEER.

B. CONDUIT PENETRATIONS:
OF NOT LESS THAN 1/4"
WHEN OPENINGS ARE CUT
OPENING. SIZE SLEEVES
AND NOT MORE THAN 1"
TO MATCH SURROUNDING

3.8 UNDERGROUND ELECTRICAL WOF

A. GENERAL: PERFORM ALL
INDICATED OR REQUIRED
WORK. COORDINATE WOF
SERVICES AND CONDITION

B. CONDUIT BURIAL DEPTH:
ALL EXCAVATION AND BU

C. EXCAVATING: DO NOT E
FOR REMOVAL OF UNSTA
IS ENCOUNTERED, EXCAV
WITH A MINIMUM 6" LAYE
SURFACE AND THE ELEC

AL RUNS).
SPAN: 8 FOOT MINIMUM UNLESS OTHERWISE NOTED
100 lbs/ft
6" MINIMUM, SMALLER MAY BE PERMITTED IF APPROVED BY OWNER
ENTILATED .063 ALUMINUM, PROVIDE WHERE INDICATED

G: BOND ALL TRAY SECTIONS USING #2 AWG BARE COPPER GROUND.

LE MANUFACTURERS: NEWTON INSTRUMENTS OR EQUIVALENT.

ESSION

MANUFACTURERED BY NORTHERN TECHNOLOGIES.

) BY OWNER. INSTALLED BY THIS CONTRACT.

LLATION OF ALL WORK SHALL BE IN ACCORDANCE WITH THE INTENT OF RACT DOCUMENTS.

ION REQUIREMENTS: ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED MENDED BY THE RESPECTIVE MANUFACTURERS, BY MECHANICS EXPERIENCED ED IN THEIR PARTICULAR TRADE, IN A NEAT AND WORKMANLIKE MANNER, DANCE WITH THE STANDARDS OF THE TRADE, AND SO AS NOT TO VOID ANY OR UL LISTING.

ATION AND SUPERVISION: ALL WORK SHALL BE PERFORMED UNDER THE OR'S DIRECT SUPERVISION, USING SUFFICIENT AND QUALIFIED PERSONNEL SARY TO COMPLETE THE WORK IN ACCORDANCE WITH THE PROGRESS . THE CONTRACTOR SHALL ASSIGN ONE OR MORE COMPETENT SUPERVISORS L HAVE AUTHORITY TO ACCEPT AND EXECUTE ORDERS AND INSTRUCTIONS, SHALL COOPERATE WITH THE OTHER CONTRACTORS AND SUBCONTRACTORS, IEER AND OWNER IN ALL MATTERS TO RESOLVE CONFLICTS AND AVOID

MOUNTING HEIGHT: INSTALL EXPOSED RACEWAY AND ALL OTHER EQUIPMENT ITING FIXTURES) WITH NOT LESS THAN 7'-6" CLEAR TO FINISHED FLOOR, DICATED OR APPROVED OTHERWISE, AND EXCLUDING RACEWAY PMENT MOUNTED ON WALLS.

S AND CLEARANCES: FIELD MEASURE ALL DIMENSIONS AND CLEARANCES THE INSTALLATION OF ELECTRICAL WORK, IN RELATION TO ESTABLISHED UILDING OPENINGS AND CLEARANCES, AND WORK OF OTHER TRADES, AS CTION PROGRESSES.

S VERIFICATION: EXAMINE THE AREAS AND CONDITIONS UNDER WHICH IS TO BE PERFORMED, AND IDENTIFY ANY CONDITIONS DETRIMENTAL ROPER AND TIMELY COMPLETION OF THE WORK. DO NOT PROCEED UNTIL ACTORY CONDITIONS HAVE BEEN CORRECTED.

SEQUENCE, COORDINATE AND INTEGRATE THE INSTALLATION OF ALL S AND EQUIPMENT FOR EFFICIENT FLOW OF WORK, IN CONJUNCTION OTHER TRADES. REVIEW THE DRAWINGS FOR WORK OF THE OTHER AND REPORT AND RESOLVE ANY DISCOVERED DISCREPANCIES, PRIOR ENCING WORK.

TO MINIMIZE INTERFEREN

C. CLEARANCES: PRIOR TO ADEQUATELY FIT AND CO IN THE SPACES INDICATE SUBMIT PLAN AND ELEV/ REARRANGEMENT, FOR T EXPRESS WRITTEN PERMI

D. RIGHT-OF-WAY: WHEN WIRING AND NEXT TO ST FIRE PROTECTION PIPING TO AVOID CONFLICTS. R

3.6 MOUNTING HEIGHTS

A. GENERAL: INDICATED HEI OUTLET BOX TO FINISHED INSTRUCTIONS FOR MOUN

3.7 HOLES, SLEEVES, AND OPENIN

A. GENERAL: PROVIDE ALL COMPLETION OF WORK AN SURROUNDING SURFACES. BARRIERS USING APPROVI OPENINGS, OR INSTALLING ELEMENTS OR REINFORCIN STRUCTURAL ENGINEER.

B. CONDUIT PENETRATIONS: OF NOT LESS THAN 1/4" WHEN OPENINGS ARE CUT OPENING. SIZE SLEEVES AND NOT MORE THAN 1" TO MATCH SURROUNDING

3.8 UNDERGROUND ELECTRICAL WOF

A. GENERAL: PERFORM ALL INDICATED OR REQUIRED WORK. COORDINATE WOF SERVICES AND CONDITION

B. CONDUIT BURIAL DEPTH: ALL EXCAVATION AND BU

C. EXCAVATING: DO NOT E FOR REMOVAL OF UNSTA IS ENCOUNTERED, EXCAV WITH A MINIMUM 6" LAYE SURFACE AND THE ELEC MATERIALS WHERE DIREC LEGALLY DISPOSE OF EX FOR BACKFILL USE. SH REMOVE SHORING AND BI ALLOWED TO REMAIN, CU FINISHED GRADE.

STRUCTION	BHA	CMM	MSV
QA\QC	DR	CMM	MSV
NS	BY	CHK	APP'D
D DR	DRAWN DR		

CHA
DRAWING COPYRIGHT © 1999
CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
1080 HOLCOMB BRIDGE ROAD - ROSWELL, GEORGIA - 30076
BUILDING 200 - SUITE 330 770-992-2332

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA

B. COOPERATION: COOPERATE WITH THE OTHER CONTRACTORS AND INDIVIDUAL DISCIPLINES FOR PLACEMENT, ANCHORAGE AND ACCOMPLISHMENT OF THE WORK. RESOLVE INTERFERENCES BETWEEN WORK OF OTHER DISCIPLINES OR CONTRACTORS, PRIOR TO COMMENCING INSTALLATION.

C. SUPPORTS AND SLEEVES: COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SLEEVES TO BE SET IN POURED-IN-PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS, AS THEY ARE CONSTRUCTED.

D. OBSTACLES AND INTERFERENCES: WHEN INSTALLING EQUIPMENT AND RACEWAYS, PROVIDE OFFSETS, FITTINGS, ACCESSORIES AND CHANGES IN ELEVATION OR LOCATION AS NECESSARY TO AVOID OBSTACLES AND INTERFERENCES, PER ACTUAL FIELD CONDITIONS.

EQUIPMENT PROTECTION

A. PROTECT ALL EQUIPMENT, AND MATERIALS AND WORK FROM THE WEATHER ELEMENTS, PAINT, MORTAR, CONSTRUCTION DEBRIS AND DAMAGE, UNTIL PROJECT IS SUBSTANTIALLY COMPLETE. REPAIR, REPLACE, CLEAN, AND RETURN TO ORIGINAL CONDITION ALL DAMAGE AREAS, EQUIPMENT, UTILITIES, ETC., WORK SO AFFECTED.

LAYOUT

A. GENERAL: INSTALL MATERIALS AND EQUIPMENT LEVEL AND PLUMB, AND PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS, WHERE INSTALLED EXPOSED.

B. SERVICEABILITY: INSTALL EQUIPMENT AND RACEWAYS, ETC. TO READILY FACILITATE SERVICING, MAINTENANCE AND REPAIR OR REPLACEMENT OF COMPONENTS, AND SO AS TO MINIMIZE INTERFERENCE WITH OTHER EQUIPMENT AND INSTALLATIONS.

C. CLEARANCES: PRIOR TO COMMENCING WORK, VERIFY THAT ALL EQUIPMENT WILL ADEQUATELY FIT AND CONFORM TO THE INDICATED AND CODE REQUIRED CLEARANCES, IN THE SPACES INDICATED ON THE DRAWINGS. IF REARRANGEMENT IS REQUIRED, SUBMIT PLAN AND ELEVATION DRAWINGS OR SKETCHES INDICATING PROPOSED REARRANGEMENT, FOR THE ENGINEER'S APPROVAL. DO NOT REARRANGE WITHOUT EXPRESS WRITTEN PERMISSION OF THE ENGINEER.

D. RIGHT-OF-WAY: WHEN LAYING OUT WORK, GIVE PRIORITY FIRST TO COMMUNICATIONS WIRING AND NEXT TO STEAM AND CONDENSATE LINES, SANITARY LINES, DRAIN LINES, FIRE PROTECTION PIPING AND SHEET METAL DUCT WORK. PROVIDE OFFSETS AS REQUIRED TO AVOID CONFLICTS. RESOLVE ALL CONFLICTS BEFORE COMMENCING INSTALLATION.

MOUNTING HEIGHTS

A. GENERAL: INDICATED HEIGHTS ARE MEASURED FROM THE CENTER OF THE DEVICE OUTLET BOX TO FINISHED FLOOR OR GRADE, UNLESS INDICATED OTHERWISE. REQUEST INSTRUCTIONS FOR MOUNTING HEIGHTS NOT INDICATED.

HOLES, SLEEVES, AND OPENINGS

A. GENERAL: PROVIDE ALL HOLES, SLEEVES, AND OPENINGS REQUIRED FOR THE COMPLETION OF WORK AND RESTORE ALL SURFACES DAMAGED, TO MATCH SURROUNDING SURFACES. MAINTAIN INTEGRITY OF ALL FIRE AND SMOKE RATED BARRIERS USING APPROVED FIRESTOPPING SYSTEMS. WHEN CUTTING HOLES OR OPENINGS, OR INSTALLING SLEEVES, DO NOT CUT, DAMAGE OR DISTURB STRUCTURAL ELEMENTS OR REINFORCING STEEL, UNLESS APPROVED, IN WRITING, BY THE PROJECT STRUCTURAL ENGINEER.

B. CONDUIT PENETRATIONS: SIZE CORE DRILLED HOLES SO THAT AN ANNULAR SPACE OF NOT LESS THAN 1/4" AND NOT MORE THAN 1" IS LEFT AROUND THE CONDUIT. WHEN OPENINGS ARE CUT IN LIEU OF CORE DRILLED, PROVIDE SLEEVE IN ROUGH OPENING. SIZE SLEEVES TO PROVIDE AND ANNULAR SPACE OF NOT LESS THAN 1/4" AND NOT MORE THAN 1" AROUND THE CONDUIT, PIPE ETC. PATCH AROUND SLEEVE TO MATCH SURROUNDING SURFACES.

UNDERGROUND ELECTRICAL WORK

A. GENERAL: PERFORM ALL EXCAVATING, TRENCHING AND BACKFILLING, ETC. AS INDICATED OR REQUIRED FOR THE INSTALLATION OF ALL UNDERGROUND ELECTRICAL WORK. COORDINATE WORK WITH OTHER TRADES AND VERIFY EXISTING UNDERGROUND SERVICES AND CONDITIONS.

B. CONDUIT BURIAL DEPTH: 36" BELOW FINISHED GRADE, UNLESS INDICATED OTHERWISE. ALL EXCAVATION AND BURIAL DEPTHS INDICATED ARE BELOW FINISHED GRADE.

C. EXCAVATING: DO NOT EXCAVATE BELOW REQUIRED DEPTH, EXCEPT AS NECESSARY FOR REMOVAL OF UNSTABLE SOIL OR WHEN ROCK IS ENCOUNTERED. WHEN ROCK IS ENCOUNTERED, EXCAVATE SIX INCHES BELOW THE REQUIRED DEPTH AND BACKFILL WITH A MINIMUM 6" LAYER OF CRUSHED STONE OR GRAVEL BETWEEN ROCK BEARING SURFACE AND THE ELECTRICAL INSTALLATION. STOCKPILE SATISFACTORY EXCAVATED MATERIALS WHERE DIRECTED, UNTIL REQUIRED FOR BACKFILLING. REMOVE AND

TO MINIMIZE INTERFERENCE WITH OTHER EQUIPMENT AND INSTALLATIONS.

C. CLEARANCES: PRIOR TO COMMENCING WORK, VERIFY THAT ALL EQUIPMENT WILL ADEQUATELY FIT AND CONFORM TO THE INDICATED AND CODE REQUIRED CLEARANCES, IN THE SPACES INDICATED ON THE DRAWINGS. IF REARRANGEMENT IS REQUIRED, SUBMIT PLAN AND ELEVATION DRAWINGS OR SKETCHES INDICATING PROPOSED REARRANGEMENT, FOR THE ENGINEER'S APPROVAL. DO NOT REARRANGE WITHOUT EXPRESS WRITTEN PERMISSION OF THE ENGINEER.

D. RIGHT-OF-WAY: WHEN LAYING OUT WORK, GIVE PRIORITY FIRST TO COMMUNICATIONS WIRING AND NEXT TO STEAM AND CONDENSATE LINES, SANITARY LINES, DRAIN LINES, FIRE PROTECTION PIPING AND SHEET METAL DUCT WORK. PROVIDE OFFSETS AS REQUIRED TO AVOID CONFLICTS. RESOLVE ALL CONFLICTS BEFORE COMMENCING INSTALLATION.

MOUNTING HEIGHTS

A. GENERAL: INDICATED HEIGHTS ARE MEASURED FROM THE CENTER OF THE DEVICE OUTLET BOX TO FINISHED FLOOR OR GRADE, UNLESS INDICATED OTHERWISE. REQUEST INSTRUCTIONS FOR MOUNTING HEIGHTS NOT INDICATED.

HOLES, SLEEVES, AND OPENINGS

A. GENERAL: PROVIDE ALL HOLES, SLEEVES, AND OPENINGS REQUIRED FOR THE COMPLETION OF WORK AND RESTORE ALL SURFACES DAMAGED, TO MATCH SURROUNDING SURFACES. MAINTAIN INTEGRITY OF ALL FIRE AND SMOKE RATED BARRIERS USING APPROVED FIRESTOPPING SYSTEMS. WHEN CUTTING HOLES OR OPENINGS, OR INSTALLING SLEEVES, DO NOT CUT, DAMAGE OR DISTURB STRUCTURAL ELEMENTS OR REINFORCING STEEL, UNLESS APPROVED, IN WRITING, BY THE PROJECT STRUCTURAL ENGINEER.

B. CONDUIT PENETRATIONS: SIZE CORE DRILLED HOLES SO THAT AN ANNULAR SPACE OF NOT LESS THAN 1/4" AND NOT MORE THAN 1" IS LEFT AROUND THE CONDUIT. WHEN OPENINGS ARE CUT IN LIEU OF CORE DRILLED, PROVIDE SLEEVE IN ROUGH OPENING. SIZE SLEEVES TO PROVIDE AND ANNULAR SPACE OF NOT LESS THAN 1/4" AND NOT MORE THAN 1" AROUND THE CONDUIT, PIPE ETC. PATCH AROUND SLEEVE TO MATCH SURROUNDING SURFACES.

UNDERGROUND ELECTRICAL WORK

A. GENERAL: PERFORM ALL EXCAVATING, TRENCHING AND BACKFILLING, ETC. AS INDICATED OR REQUIRED FOR THE INSTALLATION OF ALL UNDERGROUND ELECTRICAL WORK. COORDINATE WORK WITH OTHER TRADES AND VERIFY EXISTING UNDERGROUND SERVICES AND CONDITIONS.

B. CONDUIT BURIAL DEPTH: 36" BELOW FINISHED GRADE, UNLESS INDICATED OTHERWISE. ALL EXCAVATION AND BURIAL DEPTHS INDICATED ARE BELOW FINISHED GRADE.

C. EXCAVATING: DO NOT EXCAVATE BELOW REQUIRED DEPTH, EXCEPT AS NECESSARY FOR REMOVAL OF UNSTABLE SOIL OR WHEN ROCK IS ENCOUNTERED. WHEN ROCK IS ENCOUNTERED, EXCAVATE SIX INCHES BELOW THE REQUIRED DEPTH AND BACKFILL WITH A MINIMUM 6" LAYER OF CRUSHED STONE OR GRAVEL BETWEEN ROCK BEARING SURFACE AND THE ELECTRICAL INSTALLATION. STOCKPILE SATISFACTORY EXCAVATED MATERIALS WHERE DIRECTED, UNTIL REQUIRED FOR BACKFILLING. REMOVE AND LEGALLY DISPOSE OF EXCESS EXCAVATED MATERIALS AND MATERIALS NOT SUITABLE FOR BACKFILL USE. SHORE AND BRACE AS REQUIRED FOR STABILITY OF EXCAVATION. REMOVE SHORING AND BRACING WHEN NO LONGER REQUIRED. WHERE SHEETING IS ALLOWED TO REMAIN, CUT TOP OF SHEETING OFF AT AN ELEVATION OF 30" BELOW FINISHED GRADE.

PART 1 – GENERAL

1.1 SCOPE OF WORK

A. PROVIDE ALL LABOR, MATERIAL, TOOLS, EQUIPMENT, NECESSARY FOR AND INCIDENTAL TO COMPLETION OF DRAWINGS AND/OR AS SPECIFIED HEREIN.

1.2 DRAWING USE AND INTERPRETATION

A. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THI AND EQUIPMENT UNLESS INDICATED OTHERWISE BY DI EQUIPMENT LOCATIONS AND ROUTINGS, ETC. SHALL B CONDITIONS AND/OR INSTRUCTIONS OF THE ENGINEER

1.3 COMPLETE SYSTEMS

A. GENERAL: FURNISH AND INSTALL ALL MATERIALS AS WHETHER SPECIFICALLY INDICATED OR NOT. ALL SYS ASSEMBLED, TESTED, ADJUSTED AND DEMONSTRATED TO OWNER'S ACCEPTANCE.

1.4 CODES AND REGULATIONS

A. GENERAL: COMPLY WITH ALL GOVERNING FEDERAL. ST CODES, RULES, AND REGULATIONS. WHERE THE CONTF REQUIREMENTS, THE CONTRACT DOCUMENTS SHALL GO\ INSTALLED CONTRARY TO OR BELOW MINIMUM LEGAL S'

B. UTILITIES: COMPLY WITH ALL APPLICABLE RULES, RES' THE UTILITY COMPANIES SERVING THE PROJECT SITE/F/

C. NON–COMPLIANCE: SHOULD ANY WORK BE PERFORMEL WITH ANY OF THE ABOVE, CONTRACTOR SHALL PROVID NECESSARY TO CORRECT THE DEFICIENCIES.

1.5 REFERENCE STANDARDS

A. ALL LATEST PUBLISHED STANDARDS OF THE FOLLOWING SHALL BE FOLLOWED AND APPLIED WHERE APPLICABLE,

1. (ANSI) AMERICAN NATIONAL STANDARDS INSTITUT
2. (ASTM) AMERICAN SOCIETY FOR TESTING AND MA'
3. (ETL) ELECTRICAL TESTING LABORATORY.
4. (ICEA) INSULATED CABLE ENGINEERS ASSOCIATIOI
5. (IEEE) INSTITUTE OF ELECTRICAL AND ELECTRONI(
6. (NBFU) NATIONAL BOARD OF FIRE UNDERWRITERS.
7. (NEMA) NATIONAL ELECTRICAL MANUFACTURERS A:
8. (NESC) NATIONAL ELECTRIC SAFETY CODE.
9. (NFPA) NATIONAL FIRE PROTECTION ASSOCIATION.
10. (UL) UNDERWRITER'S LABORATORIES.
11. (BOCA) BUILDING OFFICIALS & CODE ADMINISTRAT(
12. (NEC) NATIONAL ELECTRICAL CODE.

1.6 PERMITS

A. GENERAL: ALL PERMITS REQUIRED BY ALL APPLICABLE SPRINT COM INC.

1.7 SUBMITTALS

A. REQUIRED SUBMITTALS INCLUDE: LIST OF SUBCONTRAC' DRAWINGS; SAMPLES; TEST REPORTS; CERTIFICATIONS; \ RECORD DRAWINGS; AND VARIOUS ADMINISTRATIVE SUBM

B. RECORD DOCUMENTS: INDICATE ACTUAL INSTALLED LOC DEVICES, ROUTING OF MAJOR INTERIOR RACEWAYS, LOCA UNDERGROUND EQUIPMENT AND RACEWAYS, AND ALL AF CONTRACT DOCUMENTS, AND DEVIATIONS NECESSITATED ORDERS.

C. NUMBER OF COPIES: THREE

1.8 QUALITY ASSURANCE

A. MANUFACTURERS QUALIFICATIONS: NOT LESS THAN THF ACTUAL PRODUCTION OF THE SPECIFIED PRODUCTS.

B. INSTALLERS QUALIFICATIONS: FIRM WITH NOT LESS THAI INSTALLATION OF ELECTRICAL SYSTEMS AND EQUIPMENT TO THOSE REQUIRED FOR THIS PROJECT, AND HAVING SU TEN COMPARABLE SCALE PROJECTS.

C. INCIDENTAL WORK: PAINTING, PATCHING, WELDING, CARF THE LIKE REQUIRED FOR WORK SHALL BE PERFORMED BY APPROPRIATE TRADE.

1.5 REFERENCE STANDARDS

A. ALL LATEST PUBLISHED STANDARDS OF THE FOLLOWIN SHALL BE FOLLOWED AND APPLIED WHERE APPLICABL

1. (ANSI) AMERICAN NATIONAL STANDARDS INSTITI
2. (ASTM) AMERICAN SOCIETY FOR TESTING AND M
3. (ETL) ELECTRICAL TESTING LABORATORY.
4. (ICEA) INSULATED CABLE ENGINEERS ASSOCIATI
5. (IEEE) INSTITUTE OF ELECTRICAL AND ELECTRO
6. (NBFU) NATIONAL BOARD OF FIRE UNDERWRITER
7. (NEMA) NATIONAL ELECTRICAL MANUFACTURERS
8. (NESC) NATIONAL ELECTRIC SAFETY CODE.
9. (NFPA) NATIONAL FIRE PROTECTION ASSOCIATIOI
10. (UL) UNDERWRITER'S LABORATORIES.
11. (BOCA) BUILDING OFFICIALS & CODE ADMINISTRA
12. (NEC) NATIONAL ELECTRICAL CODE.

1.6 PERMITS

A. GENERAL: ALL PERMITS REQUIRED BY ALL APPLICABL SPRINT COM INC.

1.7 SUBMITTALS

A. REQUIRED SUBMITTALS INCLUDE: LIST OF SUBCONTRA(DRAWINGS; SAMPLES; TEST REPORTS; CERTIFICATIONS; RECORD DRAWINGS; AND VARIOUS ADMINISTRATIVE SUB

B. RECORD DOCUMENTS: INDICATE ACTUAL INSTALLED LC DEVICES, ROUTING OF MAJOR INTERIOR RACEWAYS, LOC UNDERGROUND EQUIPMENT AND RACEWAYS, AND ALL A CONTRACT DOCUMENTS, AND DEVIATIONS NECESSITATEC ORDERS.

C. NUMBER OF COPIES: THREE

1.8 QUALITY ASSURANCE

A. MANUFACTURERS QUALIFICATIONS: NOT LESS THAN TH ACTUAL PRODUCTION OF THE SPECIFIED PRODUCTS.

B. INSTALLERS QUALIFICATIONS: FIRM WITH NOT LESS THA INSTALLATION OF ELECTRICAL SYSTEMS AND EQUIPMENT TO THOSE REQUIRED FOR THIS PROJECT, AND HAVING S TEN COMPARABLE SCALE PROJECTS.

C. INCIDENTAL WORK: PAINTING, PATCHING, WELDING, CARI THE LIKE REQUIRED FOR WORK SHALL BE PERFORMED B APPROPRIATE TRADE.

JUL 26 1999

STATE OF KENTUCKY
PETER A. McTYGUE
20886
LICENSED
PROFESSIONAL ENGINEER

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.

Sp
1139(
SUITE
ALPHA

_, TOOLS, EQUIPMENT, TRANSPORTATION AND SERVICES
TAL TO COMPLETION OF ALL WORK AS INDICATED ON THE
IED HEREIN.

IATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS
:ATED OTHERWISE BY DIMENSIONS OR DETAILS. EXACT
OUTINGS, ETC. SHALL BE GOVERNED BY ACTUAL FIELD
TIONS OF THE ENGINEER AND/OR OWNER'S REPRESENTATIVE.

TALL ALL MATERIALS AS REQUIRED FOR COMPLETE SYSTEMS,
\TED OR NOT. ALL SYSTEMS SHALL BE COMPLETELY
:D AND DEMONSTRATED TO BE READY FOR OPERATION PRIOR

GOVERNING FEDERAL. STATE AND LOCAL LAWS, ORDINANCES,
IONS. WHERE THE CONTRACT DOCUMENTS EXCEED THESE
:T DOCUMENTS SHALL GOVERN. IN NO CASE SHALL WORK BE
BELOW MINIMUM LEGAL STANDARDS.

APPLICABLE RULES, RESTRICTIONS, AND REQUIREMENTS OF
/ING THE PROJECT SITE/FACILITIES.

ANY WORK BE PERFORMED WHICH IS FOUND NOT TO COMPLY
:ONTRACTOR SHALL PROVIDE ALL WORK AND PAY ALL COSTS
: DEFICIENCIES.

IDARDS OF THE FOLLOWING ASSOCIATIONS/ORGANIZATIONS
'PLIED WHERE APPLICABLE, AS MINIMUM REQUIREMENTS:

IONAL STANDARDS INSTITUTE.
IETY FOR TESTING AND MATERIALS.
STING LABORATORY.
BLE ENGINEERS ASSOCIATION.
ELECTRICAL AND ELECTRONIC ENGINEERS.
RD OF FIRE UNDERWRITERS.
CTRICAL MANUFACTURERS ASSOCIATION.
CTRIC SAFETY CODE.
PROTECTION ASSOCIATION.
S LABORATORIES.
CIALS & CODE ADMINISTRATORS.
CTRICAL CODE.

QUIRED BY ALL APPLICABLE AGENCIES, WILL BE OBTAINED BY

JDE: LIST OF SUBCONTRACTORS; PRODUCT DATA; SHOP
REPORTS; CERTIFICATIONS; WARRANTIES; MAINTENANCE MANUALS;
\RIOUS ADMINISTRATIVE SUBMITTALS.

CATE ACTUAL INSTALLED LOCATIONS FOR ALL EQUIPMENT AND
IR INTERIOR RACEWAYS, LOCATIONS OF ALL CONCEALED AND
AND RACEWAYS, AND ALL APPROVED MODIFICATIONS TO THE
D DEVIATIONS NECESSITATED BY FIELD CONDITIONS AND CHANGE

E

TIONS: NOT LESS THAN THREE YEARS EXPERIENCE IN THE
IE SPECIFIED PRODUCTS.

FIRM WITH NOT LESS THAN FIVE YEARS EXPERIENCE IN THE
\L SYSTEMS AND EQUIPMENT SIMILAR IN SCOPE AND COMPLEXITY
HIS PROJECT, AND HAVING SUCCESSFULLY COMPLETED AT LEAST
ROJECTS.

IG, PATCHING, WELDING, CARPENTRY, MECHANICAL WORK AND
)RK SHALL BE PERFORMED BY CRAFTSMAN SKILLED IN THE

1.9 INSPECTIONS

A. GENERAL: DURING AND UPON COMPLETION
ASSOCIATED COSTS FOR INSPECTIONS OF AI
CONTRACT, IN ACCORDANCE WITH THE CONI

B. INSPECTIONS REQUIRED: AS PER THE LAWS
STATE AGENCIES HAVING JURISDICTION AT T

C. INSPECTION AGENCY: APPROVED BY THE L
JURISDICTION AT THE PROJECT SITE.

D. CERTIFICATES: SUBMIT ALL REQUIRED INSP

1.10 DELIVERY STORAGE AND HANDLING

A. PACKING AND SHIPPING: DELIVER PRODUC
IDENTIFIED WITH MANUFACTURER'S IDENTIFIC

B. STORAGE AND PROTECTION: COMPLY WITH
ATIONS. STORE ALL PRODUCTS IN A MANI
WEATHER, AND ENTRY OF DEBRIS.

C. DAMAGED PRODUCTS: DO NOT INSTALL DA
REPLACEMENT.

1.11 MAINTAINING SITE CONDITIONS

A. THE CONTRACTOR IS RESPONSIBLE FOR MA
REMOVE AND DISPOSE OFF SITE ALL RUBB
STANCES IN A LEGAL MANNER. REMOVE F
FOREIGN DEPOSITS IN COMPLIANCE WITH O:
THE ORIGINAL CONDITION.

1.12 WARRANTIES

A. THE CONTRACTOR SHALL WARRANTY ALL (
OR AS STATED ELSEWHERE IN THE CONTR.

B. ROOF WARRANTY: ALL WORK ON ROOFS
THE ROOF MANUFACTURER AND CONTRAC
ROOF MANUFACTURER THAT THE WARRAN
COMPLETE.

1.13 TELEPHONE SERVICE

A. TELEPHONE UTILITY COMPANY: BELL SOUTH

1.14 ELECTRIC SERVICE

A. AS SHOWN ON DRAWINGS.

PART 2 – PRODUCTS

2.1 GENERAL

A. GENERAL REQUIREMENTS: ALL MATERIALS
CONTRACT DOCUMENTS, AND STANDARD P
WITH THE ALL MATERIALS AND EQUIPMENT
DEFECTS AND CORROSION.

B. ACCEPTABLE PRODUCTS: THE PRODUCT I
WILL BE ACCEPTABLE ONLY WHEN THAT F
NECESSARY TO COMPLY WITH ALL REQUIR

C. COMMON ITEMS: WHERE MORE THAN ONE
BE OF THE SAME TYPE AND MANUFACTUF

D. UL LISTING: ALL MATERIALS AND EQUIPM
(UL) LISTED AND LABELED, WHERE UL ST
OR EQUIPMENT.

2.2 SOIL MATERIALS

A. SUBBASE MATERIAL: NATURALLY OR AR
CRUSHED GRAVEL, CRUSHED STONE, CRU

B. DRAINAGE FILL: WASHED, EVENLY GRADI
UNCRUSHED GRAVEL, WITH 100 PERCENT
THAN 5 PERCENT PASSING A NO. 4 SIEV

C. BACKFILL AND FILL MATERIALS: MATERI
IFICATION GROUPS GW, GP, GM, SM, SW,
THAN 2" IN ANY DIMENSION, DEBRIS, WA
DELETERIOUS MATTER.

E DEFICIENCIES.

IDARDS OF THE FOLLOWING ASSOCIATIONS/ORGANIZATIONS
PPLIED WHERE APPLICABLE, AS MINIMUM REQUIREMENTS:

IONAL STANDARDS INSTITUTE.
IETY FOR TESTING AND MATERIALS.
STING LABORATORY.
BLE ENGINEERS ASSOCIATION.
ELECTRICAL AND ELECTRONIC ENGINEERS.
RD OF FIRE UNDERWRITERS.
CTRICAL MANUFACTURERS ASSOCIATION.
CTRIC SAFETY CODE.
PROTECTION ASSOCIATION.
S LABORATORIES.
CIALS & CODE ADMINISTRATORS.
CTRICAL CODE.

QUIRED BY ALL APPLICABLE AGENCIES, WILL BE OBTAINED BY

JDE: LIST OF SUBCONTRACTORS; PRODUCT DATA; SHOP
REPORTS; CERTIFICATIONS; WARRANTIES; MAINTENANCE MANUALS;
RIOUS ADMINISTRATIVE SUBMITTALS.

CATE ACTUAL INSTALLED LOCATIONS FOR ALL EQUIPMENT AND
R INTERIOR RACEWAYS, LOCATIONS OF ALL CONCEALED AND
AND RACEWAYS, AND ALL APPROVED MODIFICATIONS TO THE
D DEVIATIONS NECESSITATED BY FIELD CONDITIONS AND CHANGE

E

TIONS: NOT LESS THAN THREE YEARS EXPERIENCE IN THE
HE SPECIFIED PRODUCTS.

S: FIRM WITH NOT LESS THAN FIVE YEARS EXPERIENCE IN THE
AL SYSTEMS AND EQUIPMENT SIMILAR IN SCOPE AND COMPLEXITY
THIS PROJECT, AND HAVING SUCCESSFULLY COMPLETED AT LEAST
PROJECTS.

NG, PATCHING, WELDING, CARPENTRY, MECHANICAL WORK AND
ORK SHALL BE PERFORMED BY CRAFTSMAN SKILLED IN THE

THE ORIGINAL CONDITION.

1.12 WARRANTIES

A. THE CONTRACTOR SHALL WARRANTY ALL
OR AS STATED ELSEWHERE IN THE CONTR

B. ROOF WARRANTY: ALL WORK ON ROOFS
THE ROOF MANUFACTURER AND CONTRAC
ROOF MANUFACTURER THAT THE WARRAN
COMPLETE.

1.13 TELEPHONE SERVICE

A. TELEPHONE UTILITY COMPANY: BELL SOUTH

1.14 ELECTRIC SERVICE

A. AS SHOWN ON DRAWINGS.

PART 2 – PRODUCTS

2.1 GENERAL

A. GENERAL REQUIREMENTS: ALL MATERIALS
CONTRACT DOCUMENTS, AND STANDARD F
WITH THE ALL MATERIALS AND EQUIPMEN
DEFECTS AND CORROSION.

B. ACCEPTABLE PRODUCTS: THE PRODUCT
WILL BE ACCEPTABLE ONLY WHEN THAT F
NECESSARY TO COMPLY WITH ALL REQUIR

C. COMMON ITEMS: WHERE MORE THAN ONE
BE OF THE SAME TYPE AND MANUFACTUI

D. UL LISTING: ALL MATERIALS AND EQUIPM
(UL) LISTED AND LABELED, WHERE UL ST
OR EQUIPMENT.

2.2 SOIL MATERIALS

A. SUBBASE MATERIAL: NATURALLY OR AR
CRUSHED GRAVEL, CRUSHED STONE, CRU

B. DRAINAGE FILL: WASHED, EVENLY GRADI
UNCRUSHED GRAVEL, WITH 100 PERCENT
THAN 5 PERCENT PASSING A NO. 4 SIE\

C. BACKFILL AND FILL MATERIALS: *MATERI*
IFICATION GROUPS GW, GP, GM, SM, SW,
THAN 2" IN ANY DIMENSION, DEBRIS, WA
DELETERIOUS MATTER.

2.3 RACEWAY SYSTEMS

A. RACEWAY SIZING: AS REQUIRED BY NEC
INDICATED ON DRAWINGS. MINIMUM CON

B. RACEWAY TYPES: RIGID GALVANIZED ST
FLEXIBLE STEEL CONDUIT, LIQUID-TIGHT
HEAVYWALL AND SCHEDULE 80 EXTRA-H
CONFORMING TO APPLICABLE ANSI, NEM

FOR ANY PERSON,
UNDER THE DIRECTION
NAL ENGINEER, TO

Sprint Com Inc.
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GA 30004

NO.	DATE	REVISIONS	BY	CHK	APP'D
	/ /				
	/ /				
1	7/12/99	ISSUED FOR CONSTRUCTION	BHA	CMM	MSV
0	6/28/99	ISSUED FOR QA\QC	DR	CMM	MSV

SCALE: AS NOTED | DESIGNED DR | DRAWN DR

DURING AND UPON COMPLETION OF THE WORK, ARRANGE AND PAY ALL
D COSTS FOR INSPECTIONS OF ALL ELECTRICAL WORK INSTALLED UNDER THIS
, IN ACCORDANCE WITH THE CONDITIONS OF THE CONTRACT.

IS REQUIRED: AS PER THE LAWS AND REGULATIONS OF THE LOCAL AND/OR
NCIES HAVING JURISDICTION AT THE PROJECT SITE.

I AGENCY: APPROVED BY THE LOCAL AND/OR STATE AGENCIES HAVING
)N AT THE PROJECT SITE.

ES: SUBMIT ALL REQUIRED INSPECTION CERTIFICATES.

'AGE AND HANDLING

ND SHIPPING: DELIVER PRODUCTS IN ORIGINAL, UNOPENED PACKAGING, PROPERLY
WITH MANUFACTURER'S IDENTIFICATION, AND COMPLIANCE LABELS.

ND PROTECTION: COMPLY WITH ALL MANUFACTURER'S WRITTEN RECOMMEND-
STORE ALL PRODUCTS IN A MANNER WHICH SHALL PROTECT THEM FROM DAMAGE,
AND ENTRY OF DEBRIS.

PRODUCTS: DO NOT INSTALL DAMAGED PRODUCTS. ARRANGE FOR PROMPT
NT.

E CONDITIONS

RACTOR IS RESPONSIBLE FOR MAINTAINING A NEAT AND ORDERLY PROJECT SITE.
ND DISPOSE OFF SITE ALL RUBBISH, WASTE, LITTER, AND ALL FOREIGN SUB-
N A LEGAL MANNER. REMOVE PETRO-CHEMICAL SPILLS, STAINS AND OTHER
EPOSITS IN COMPLIANCE WITH OSHA REGULATIONS. RETURN ALL SURFACES TO
IAL CONDITION.

RACTOR SHALL WARRANTY ALL GENERAL WORK FOR A MINIMUM OF ONE YEAR
ITED ELSEWHERE IN THE CONTRACT.

RANTY: ALL WORK ON ROOFS SHALL BE PERFORMED IN FULL COMPLIANCE WITH
MANUFACTURER AND CONTRACTOR SHALL OBTAIN WRITTEN VERIFICATION FROM
UFACTURER THAT THE WARRANTY REMAINS VALID AFTER CONSTRUCTION IS

ICE

UTILITY COMPANY: BELL SOUTH.

E

)N DRAWINGS.

EQUIREMENTS: ALL MATERIALS AND EQUIPMENT SHALL BE IN ACCORDANCE
)OCUMENTS, AND STANDARD PRODUCTS OF THE VARIOUS MANUFACTURERS.
LL MATERIALS AND EQUIPMENT TO BE NEW, CLEAN, UNDAMAGED, AND FREE OF
ID CORROSION.

PRODUCTS: THE PRODUCT OF A SPECIFIED OR APPROVED MANUFACTURER
CEPTABLE ONLY WHEN THAT PRODUCT COMPLIES WITH OR IS MODIFIED AS
TO COMPLY WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS.

MS: WHERE MORE THAN ONE OF ANY SPECIFIC ITEM IS REQUIRED, ALL SHALL
SAME TYPE AND MANUFACTURER.

ALL MATERIALS AND EQUIPMENT SHALL BE UNDERWRITERS LABORATORIES
AND LABELED, WHERE UL STANDARDS AND LISTINGS EXIST FOR SUCH MATERIALS
NT.

ATERIAL: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR
RAVEL, CRUSHED STONE, CRUSHED SLAG, OR NATURAL OR CRUSHED SAND.

ILL: WASHED, EVENLY GRADED MIXTURE OF CRUSHED STONE, OR CRUSHED OR
GRAVEL, WITH 100 PERCENT PASSING A 1-1/2 INCH SIEVE, AND NOT MORE
RCENT PASSING A NO. 4 SIEVE.

ND FILL MATERIALS: MATERIALS COMPLYING WITH ASTM D2487 SOIL CLASS-
ROUPS GW, GP, GM, SM, SW, AND SP, FREE OF CLAY, ROCK, OR GRAVEL LARGER
ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, VEGETABLE, AND OTHER
S MATTER.

C. FITTINGS: ALL RACEWAY
STEEL OR MALLEABLE IRC
FITTING TO BE COMPRESS

D. OUTLET BOXES (SURFACE

E. PULL AND JUNCTION BOXI
JUNCTION AND PULL BOXI
GALVANIZED CODE GAUGE
WITH SCREW-ON COVERS.
SCREW-ON COVERS. FOR
AND WIREWAYS APPROVEL

F. PIPE SLEEVES: RIGID STEE

G. CONDUIT SEALS: FOR CAS
MANUFACTURERS: O-Z/GI
SEAL WALL SLEEVE FOR C
ACCEPTABLE MANUFACTUF

H. SWEEPS: ALL SWEEPS FOR
24" RADIUS.

2.4 CONDUCTORS - 600 VOLT AND

A. GENERAL: SINGLE-CONDU
CONDUCTORS WITH 600-V

B. CONNECTORS: NYLON SHI
AWG, AND BOLTED PRESSU
INSULATING COVERS FOR #

2.5 HANGERS AND SUPPORTS

A. GENERAL: ALL HANGERS, S
OR IF EQUIVALENT CORROS
SHALL BE MANUFACTURED
OUTDOOR USE SHALL BE H

B. TYPES: HANGERS, STRAPS
AS INDICATED OR REQUIRE

2.6 ELECTRICAL IDENTIFICATION

A. NAMEPLATES: THREE-LAY
ENGRAVED CHARACTERS OI
FASTENING. FASTENERS: S
STAINLESS STEEL MACHINE

B. UNDERGROUND WARNING TA
COLORED WITH CONTINUOUS
LINE BELOW AND "CAUTION

1. RED - ELECTRIC
2. ORANGE - COMMUNIC

C. MARKING PENS: PERMANE
MANUFACTURERS: SANFORI

D. WIRE TAGS: VINYL OR VIN
APPROPRIATE CIRCUIT NUM

2.7 ENCLOSURES

A. DRY LOCATION, INDOOR - N

B. WET LOCATION OR OUTDOOR

2.8 GROUNDING

A. SYSTEM DESCRIPTION: GR
RESISTANCE TO THE REFEF
CONSISTING OF BONDING O
ELECTRODES AND INTERCOI

B. MATERIAL: INDICATED AS

1. GROUND RODS: 5/8"

2. CHEMICAL GROUND R(
AS INDICATED.

3. CONDUCTORS: COI

IAL CONDITION.

:ACTOR SHALL WARRANTY ALL GENERAL WORK FOR A MINIMUM OF ONE YEAR
ITED ELSEWHERE IN THE CONTRACT.

RANTY: ALL WORK ON ROOFS SHALL BE PERFORMED IN FULL COMPLIANCE WITH
MANUFACTURER AND CONTRACTOR SHALL OBTAIN WRITTEN VERIFICATION FROM
JFACTURER THAT THE WARRANTY REMAINS VALID AFTER CONSTRUCTION IS

ICE

UTILITY COMPANY: BELL SOUTH.

E

ON DRAWINGS.

EQUIREMENTS: ALL MATERIALS AND EQUIPMENT SHALL BE IN ACCORDANCE
OCUMENTS, AND STANDARD PRODUCTS OF THE VARIOUS MANUFACTURERS.
LL MATERIALS AND EQUIPMENT TO BE NEW, CLEAN, UNDAMAGED, AND FREE OF
ID CORROSION.

: PRODUCTS: THE PRODUCT OF A SPECIFIED OR APPROVED MANUFACTURER
CEPTABLE ONLY WHEN THAT PRODUCT COMPLIES WITH OR IS MODIFIED AS
TO COMPLY WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS.

MS: WHERE MORE THAN ONE OF ANY SPECIFIC ITEM IS REQUIRED, ALL SHALL
SAME TYPE AND MANUFACTURER.

ALL MATERIALS AND EQUIPMENT SHALL BE UNDERWRITERS LABORATORIES
AND LABELED, WHERE UL STANDARDS AND LISTINGS EXIST FOR SUCH MATERIALS
NT.

ATERIAL: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR
RAVEL, CRUSHED STONE, CRUSHED SLAG, OR NATURAL OR CRUSHED SAND.

ILL: WASHED, EVENLY GRADED MIXTURE OF CRUSHED STONE, OR CRUSHED OR
GRAVEL, WITH 100 PERCENT PASSING A 1-1/2 INCH SIEVE, AND NOT MORE
:CENT PASSING A NO. 4 SIEVE.

ID FILL MATERIALS: MATERIALS COMPLYING WITH ASTM D2487 SOIL CLASS-
ROUPS GW, GP, GM, SM, SW, AND SP, FREE OF CLAY, ROCK, OR GRAVEL LARGER
ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, VEGETABLE, AND OTHER
S MATTER.

S

ZING: AS REQUIRED BY NEC (MINIMUM) WITH OVERSIZED RACEWAYS AS
N DRAWINGS. MINIMUM CONDUIT SIZE: 3/4-INCH, UNLESS INDICATED OTHERWISE.

'PES: RIGID GALVANIZED STEEL CONDUIT, ELECTRICAL METALLIC TUBING (EMT),
EEL CONDUIT, LIQUID-TIGHT FLEXIBLE STEEL CONDUIT AND SCHEDULE 40
AND SCHEDULE 80 EXTRA-HEAVYWALL RIGID NON-METALLIC (PVC) CONDUIT,
: TO APPLICABLE ANSI, NEMA AND UL STANDARDS.

2.5 HANGERS AND SUPPORTS

A. GENERAL: ALL HANGERS, SI
OR IF EQUIVALENT CORROSI
SHALL BE MANUFACTURED F
OUTDOOR USE SHALL BE HO

B. TYPES: HANGERS, STRAPS,
AS INDICATED OR REQUIRED.

2.6 ELECTRICAL IDENTIFICATION

A. NAMEPLATES: THREE-LAYE
ENGRAVED CHARACTERS ON
FASTENING. FASTENERS: SE
STAINLESS STEEL MACHINE S

B. UNDERGROUND WARNING TA
COLORED WITH CONTINUOUS
LINE BELOW AND "CAUTION,"

1. RED - ELECTRIC
2. ORANGE - COMMUNICA

C. MARKING PENS: PERMANEN
MANUFACTURERS: SANFORD

D. WIRE TAGS: VINYL OR VINY
APPROPRIATE CIRCUIT NUMB

2.7 ENCLOSURES

A. DRY LOCATION, INDOOR - NE

B. WET LOCATION OR OUTDOOR

2.8 GROUNDING

A. SYSTEM DESCRIPTION: GRO
RESISTANCE TO THE REFER
CONSISTING OF BONDING OI
ELECTRODES AND INTERCON

B. MATERIAL: INDICATED AS

1. GROUND RODS: 5/8"
2. CHEMICAL GROUND RO
AS INDICATED.
3. CONDUCTORS: COI
4. WELDS: HEAVY DU
CADWELD. WELDS SH
BY ZRC CHEMICAL PR
5. CONNECTIONS: USE

UCTION	BHA	CMM	MSV
OC	DR	CMM	MSV
	BY	CHK	APP'D
DR	DRAWN	DR	

CHA
DRAWING COPYRIGHT © 1999
CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
1080 HOLCOMB BRIDGE ROAD-ROSWELL, GEORGIA - 30076
BUILDING 200 - SUITE 330 770-992-2332

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA

C. FITTINGS: ALL RACEWAY FITTINGS (EXCEPT FOR RIGID NON-METALLIC CONDUIT) TO BE STEEL OR MALLEABLE IRON, AND UL-LISTED FOR THE INTENDED APPLICATION. EMT FITTING TO BE COMPRESSION TYPE.

D. OUTLET BOXES (SURFACE MOUNTED): CADMIUM PLATED CAST OR MALLEABLE IRON.

E. PULL AND JUNCTION BOXES, AND WIREWAYS: USE AS INDICATED AND REQUIRED. JUNCTION AND PULL BOXES FOR GENERAL INDOOR USE (DRY LOCATIONS) TO BE OF GALVANIZED CODE GAUGE STEEL CONSTRUCTION, MINIMUM 4" SQUARE BY 1-1/2" DEEP, WITH SCREW-ON COVERS. WIREWAYS TO BE UL LISTED, SHEET STEEL CONSTRUCTION WITH SCREW-ON COVERS. FOR EXTERIOR AND DAMP OR WET INDOOR LOCATIONS, USE BOXES AND WIREWAYS APPROVED FOR SUCH USE.

F. PIPE SLEEVES: RIGID STEEL CONDUIT OR IRON PIPE.

G. CONDUIT SEALS: FOR CAST-IN-PLACE CONCRETE APPLICATIONS: ACCEPTABLE MANUFACTURERS: O-Z/GEDNEY TYPE "FSK;" THUNDERLINE CORP. "LINK SEAL" WITH "LINK SEAL WALL SLEEVE FOR CORE DRILLED AND PRE-CAST OPENING APPLICATIONS: ACCEPTABLE MANUFACTURERS: O-Z/GEDNEY TYPE "CSML;" THUNDERLINE CORP. "LINK SEAL."

H. SWEEPS: ALL SWEEPS FOR COMMUNICATION EQUIPMENT OR INTO CONCRETE PAD SHALL BE 24" RADIUS.

CONDUCTORS – 600 VOLT AND BELOW

A. GENERAL: SINGLE-CONDUCTOR, 98% CONDUCTIVITY, ANNEALED, UNCOATED COPPER CONDUCTORS WITH 600-VOLT RATED TYPE "THHN/THWN" INSULATION.

B. CONNECTORS: NYLON SHELL INSULATED METALLIC SCREW-ON CONNECTORS FOR #14-#10 AWG, AND BOLTED PRESSURE OR COMPRESSION TYPE LUGS AND CONNECTORS WITH INSULATING COVERS FOR #8 AWG AND LARGER.

HANGERS AND SUPPORTS

A. GENERAL: ALL HANGERS, SUPPORTS, FASTENERS AND HARDWARE SHALL BE ZINC-COATED OR IF EQUIVALENT CORROSION RESISTANCE BY TREATMENT OR INHERENT PROPERTY, AND SHALL BE MANUFACTURED PRODUCTS DESIGNED FOR THE APPLICATION. PRODUCTS FOR OUTDOOR USE SHALL BE HOT DIP GALVANIZED.

B. TYPES: HANGERS, STRAPS, RISER SUPPORTS, CLAMPS, U-CHANNEL, THREADED RODS, ETC. AS INDICATED OR REQUIRED.

ELECTRICAL IDENTIFICATION

A. NAMEPLATES: THREE-LAYER LAMINATED PLASTIC WITH MINIMUM 3/16" HIGH WHITE ENGRAVED CHARACTERS ON BLACK BACKGROUND, AND PUNCHED FOR MECHANICAL FASTENING. FASTENERS: SELF-TAPPING STAINLESS-STEEL SCREWS OR NUMBER 10-32 STAINLESS STEEL MACHINE SCREWS WITH NUTS AND FLAT AND LOCK WASHERS.

B. UNDERGROUND WARNING TAPE: SIX-INCH WIDE POLYETHYLENE TAPE, PERMANENTLY BRIGHT COLORED WITH CONTINUOUS-PRINTED LEGEND INDICATING GENERAL TYPE OF UNDERGROUND LINE BELOW AND "CAUTION." COLORS AS FOLLOWS:

1. RED – ELECTRIC
2. ORANGE – COMMUNICATIONS

C. MARKING PENS: PERMANENT, WATERPROOF, QUICK DRYING BLACK INK. ACCEPTABLE MANUFACTURERS: SANFORD FINE POINT "SHARPIE," OR EQUAL.

D. WIRE TAGS: VINYL OR VINYL-CLOTH SELF-ADHESIVE WRAPAROUND TYPE INDICATING APPROPRIATE CIRCUIT NUMBER, ETC.

ENCLOSURES

A. DRY LOCATION, INDOOR – NEMA 1.

B. WET LOCATION OR OUTDOOR – NEMA 3R.

GROUNDING

A. SYSTEM DESCRIPTION: GROUNDING NETWORK SYSTEM SHALL ESTABLISH AN EARTH-RESISTANCE TO THE REFERENCE GROUND POINT NOT TO EXCEED 5 OHMS FOR BUILDING, CONSISTING OF BONDING OF STRUCTURE AND OTHER METAL OBJECTS; GROUNDING ELECTRODES AND INTERCONNECTING CONDUCTORS.

B. MATERIAL: INDICATED AS FOLLOWING.

1. GROUND RODS: 5/8" DIA. X 10'-0" LONG COPPER CLAD GROUND ROD.
2. CHEMICAL GROUND RODS: XIT GROUND ROD STRAIGHT SHAFT TYPE, LENGTH AS INDICATED.
3. CONDUCTORS: COPPER STRANDED OR SOLID TINNED BARE SIZE AS INDICATED

HANGERS AND SUPPORTS

A. GENERAL: ALL HANGERS, SUPPORTS, FASTENERS AND HARDWARE SHALL BE ZINC-COATED OR IF EQUIVALENT CORROSION RESISTANCE BY TREATMENT OR INHERENT PROPERTY, AND SHALL BE MANUFACTURED PRODUCTS DESIGNED FOR THE APPLICATION. PRODUCTS FOR OUTDOOR USE SHALL BE HOT DIP GALVANIZED.

B. TYPES: HANGERS, STRAPS, RISER SUPPORTS, CLAMPS, U-CHANNEL, THREADED RODS, ETC. AS INDICATED OR REQUIRED.

ELECTRICAL IDENTIFICATION

A. NAMEPLATES: THREE-LAYER LAMINATED PLASTIC WITH MINIMUM 3/16" HIGH WHITE ENGRAVED CHARACTERS ON BLACK BACKGROUND, AND PUNCHED FOR MECHANICAL FASTENING. FASTENERS: SELF-TAPPING STAINLESS-STEEL SCREWS OR NUMBER 10-32 STAINLESS STEEL MACHINE SCREWS WITH NUTS AND FLAT AND LOCK WASHERS.

B. UNDERGROUND WARNING TAPE: SIX-INCH WIDE POLYETHYLENE TAPE, PERMANENTLY BRIGHT COLORED WITH CONTINUOUS-PRINTED LEGEND INDICATING GENERAL TYPE OF UNDERGROUND LINE BELOW AND "CAUTION." COLORS AS FOLLOWS:

1. RED - ELECTRIC
2. ORANGE - COMMUNICATIONS

C. MARKING PENS: PERMANENT, WATERPROOF, QUICK DRYING BLACK INK. ACCEPTABLE MANUFACTURERS: SANFORD FINE POINT "SHARPIE," OR EQUAL.

D. WIRE TAGS: VINYL OR VINYL-CLOTH SELF-ADHESIVE WRAPAROUND TYPE INDICATING APPROPRIATE CIRCUIT NUMBER, ETC.

ENCLOSURES

A. DRY LOCATION, INDOOR - NEMA 1.

B. WET LOCATION OR OUTDOOR - NEMA 3R.

GROUNDING

A. SYSTEM DESCRIPTION: GROUNDING NETWORK SYSTEM SHALL ESTABLISH AN EARTH-RESISTANCE TO THE REFERENCE GROUND POINT NOT TO EXCEED 5 OHMS FOR BUILDING, CONSISTING OF BONDING OF STRUCTURE AND OTHER METAL OBJECTS; GROUNDING ELECTRODES AND INTERCONNECTING CONDUCTORS.

B. MATERIAL: INDICATED AS FOLLOWING.

1. GROUND RODS: 5/8" DIA. X 10'-0" LONG COPPER CLAD GROUND ROD.
2. CHEMICAL GROUND RODS: XIT GROUND ROD STRAIGHT SHAFT TYPE, LENGTH AS INDICATED.
3. CONDUCTORS: COPPER STRANDED OR SOLID TINNED BARE SIZE AS INDICATED.
4. WELDS: HEAVY DUTY EXOTHERMIC WELDS AS MANUFACTURED BY CADWELD. WELDS SHALL BE PROTECTED FROM CORROSION AS MANUFACTURED BY ZRC CHEMICAL PRODUCTS CO.
5. CONNECTIONS: USE DOUBLE HOLE LUGS FOR ALL MECHANICAL CONNECTIONS.

MARSHALL

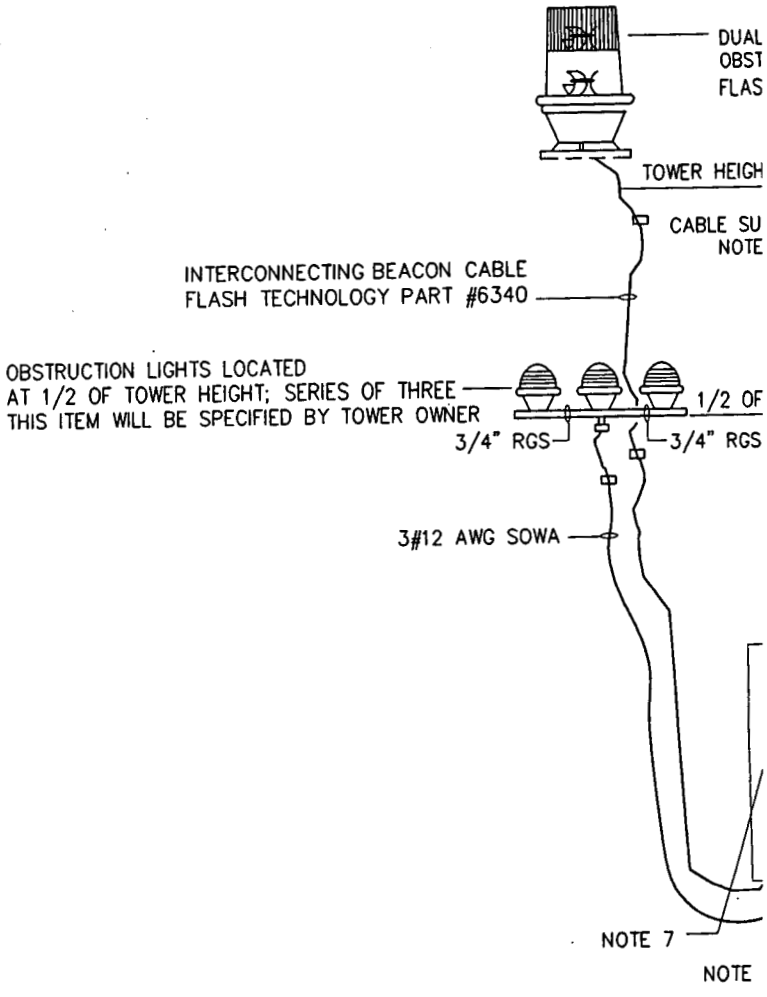
MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

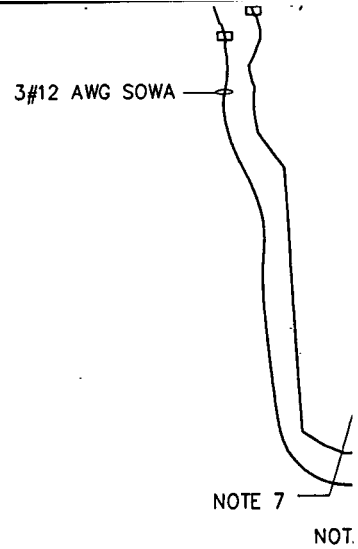
LOUISVILLE BTA

SITE NO.: LV33XC001A

ELECTRICAL SPECIFICATIONS

DATE:	SPRINT JOB NO.	A\E JOB NO.	DRAWING NUMBER	REV
06/28/99	LV33XC001A	8113.55.05	KCA001E7	1


DUAL
OBST
FLAS
TOWER HEIGH
CABLE SU
NOTE
INTERCONNECTING BEACON CABLE
FLASH TECHNOLOGY PART #6340
OBSTRUCTION LIGHTS LOCATED
AT 1/2 OF TOWER HEIGHT; SERIES OF THREE
THIS ITEM WILL BE SPECIFIED BY TOWER OWNER
1/2 OF
3/4" RGS
3/4" RGS
3#12 AWG SOWA
NOTE 7
NOTE

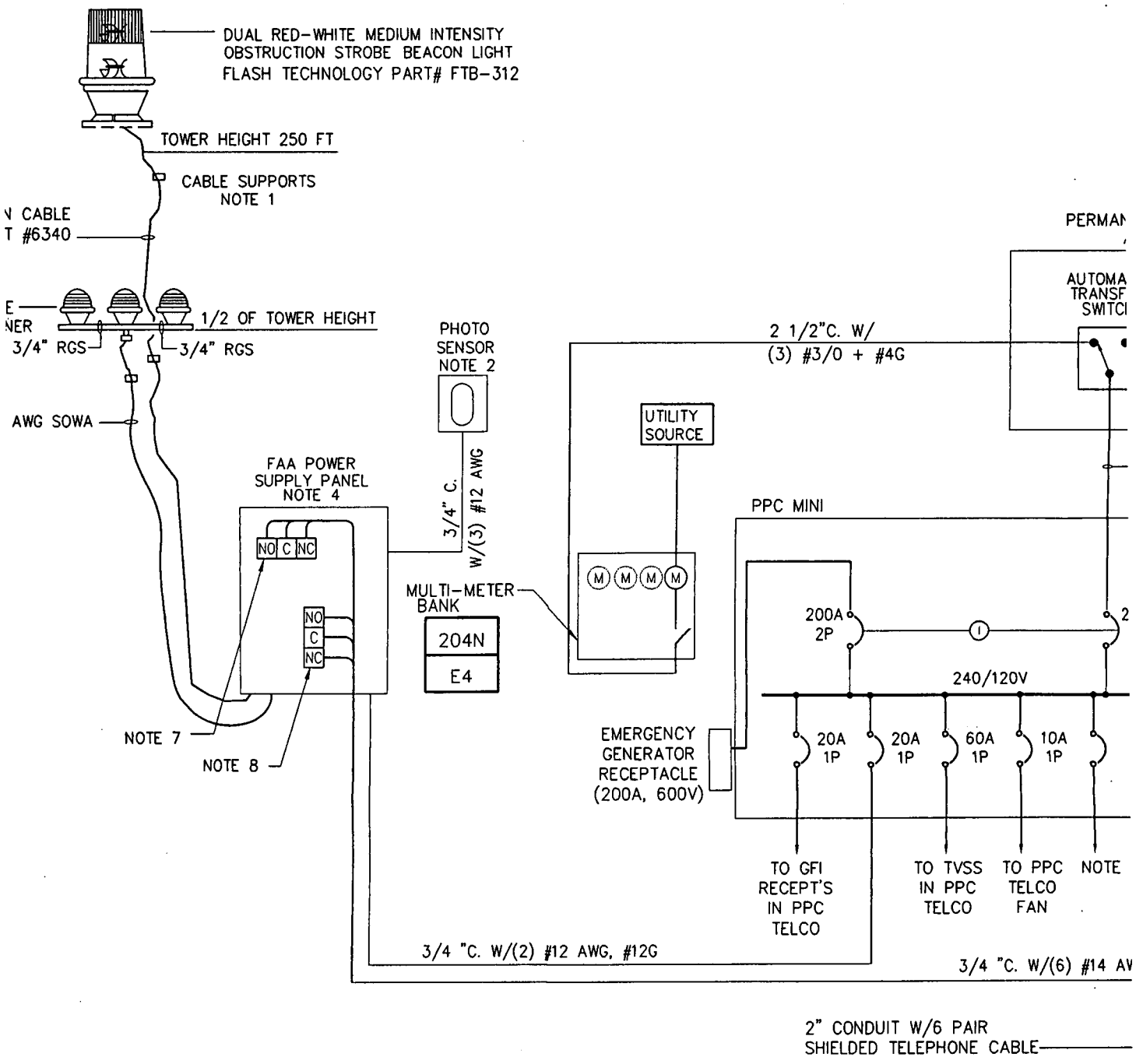


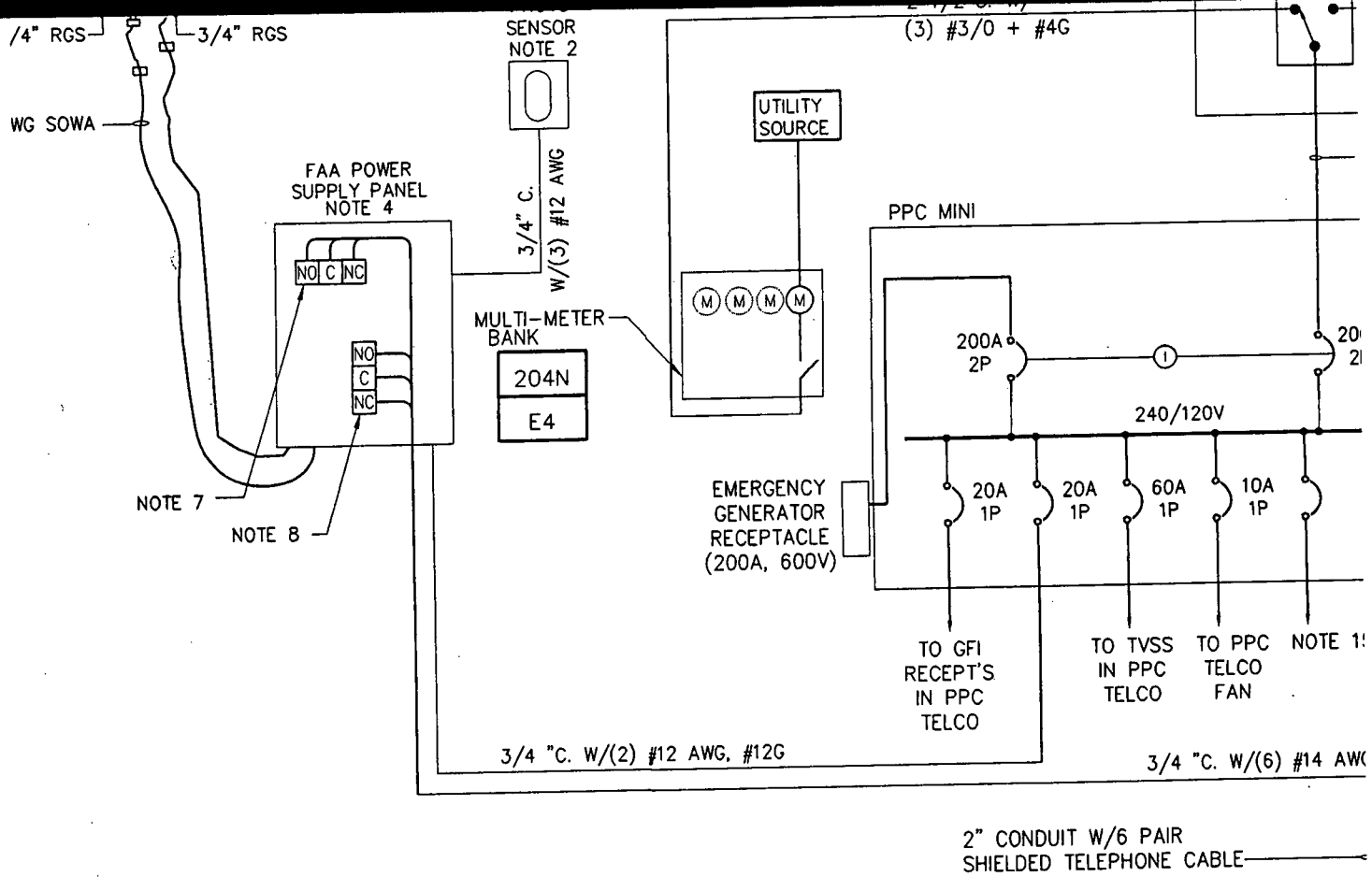
NOT.

JUL 26 1999

STATE OF KENTUCKY
PETER A.
McTYGUE
20886
LICENSED
PROFESSIONAL ENGINEER

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.


DUAL RED-WHITE MEDIUM INTENSITY
OBSTRUCTION STROBE BEACON LIGHT
FLASH TECHNOLOGY PART# FTB-312
TOWER HEIGHT 250 FT
CABLE SUPPORTS
NOTE 1
1/2 OF TOWER HEIGHT
3/4" RGS
3/4" RGS
AWG SOWA
PHOTO
SENSOR
NOTE 2
FAA POWER
SUPPLY PANEL
NOTE 4
NO C NC
NO
C
NC
3/4" C. W/(3) #12 AWG
MULTI-METER
BANK
204N
E4
NOTE 7
NOTE 8
2 1/2"C. W/
(3) #3/0 + #4G
UTILITY
SOURCE
M M M M
PPC MINI
200A
2P
240/120V
20A
1P
20A
1P
60A
1P
10A
1P
EMERGENCY
GENERATOR
RECEPTACLE
(200A, 600V)
TO GFI
RECEPT'S
IN PPC
TELCO
TO TVSS
IN PPC
TELCO
TO PPC
TELCO
FAN
NOTE
3/4 "C. W/(2) #12 AWG, #12G
3/4 "C. W/(6) #14 AV
2" CONDUIT W/6 PAIR
SHIELDED TELEPHONE CABLE

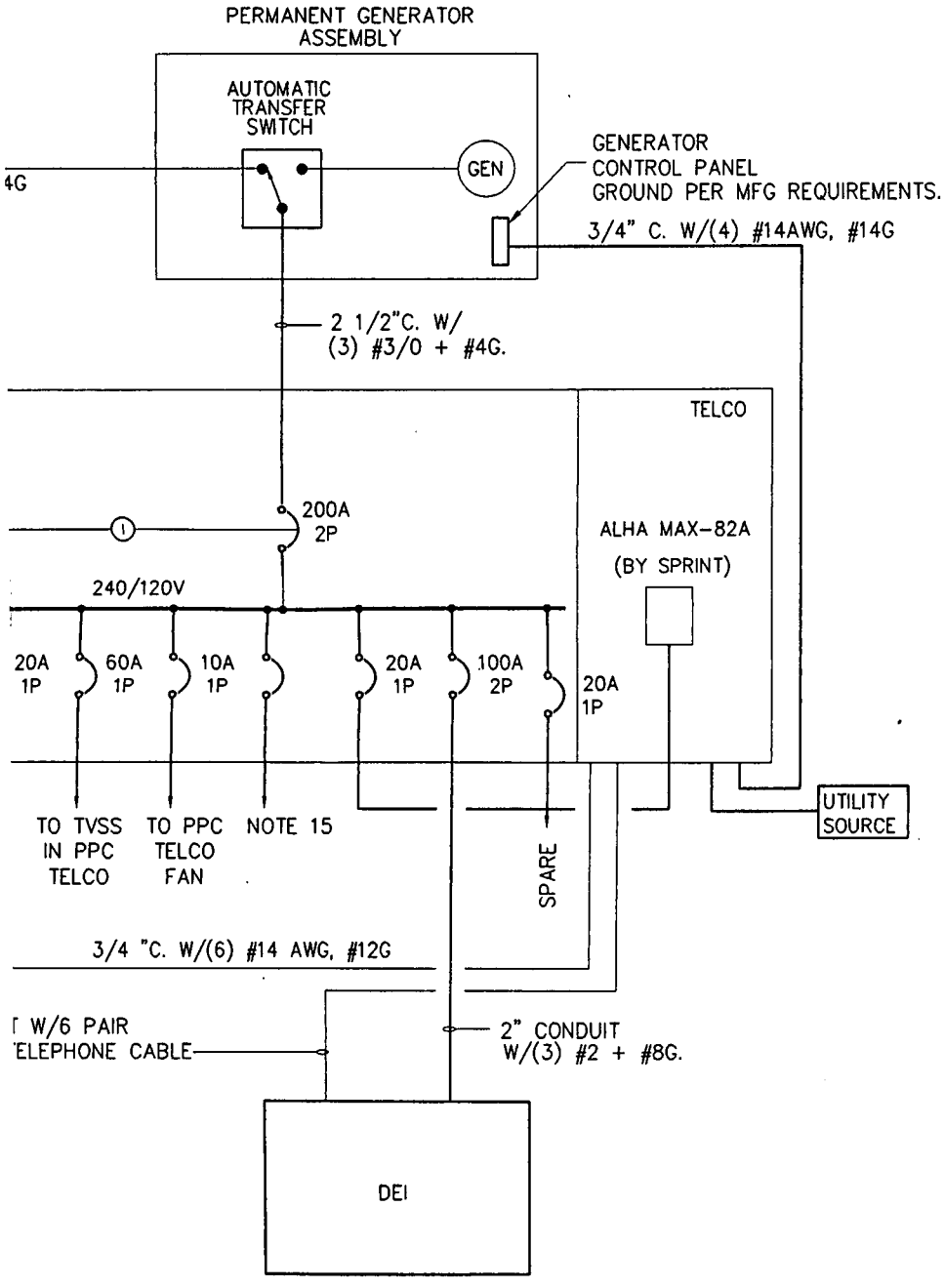


351	POWER, TELEPHONE AND
–	NO SCALE

Sprint Com Inc.
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GA 30004

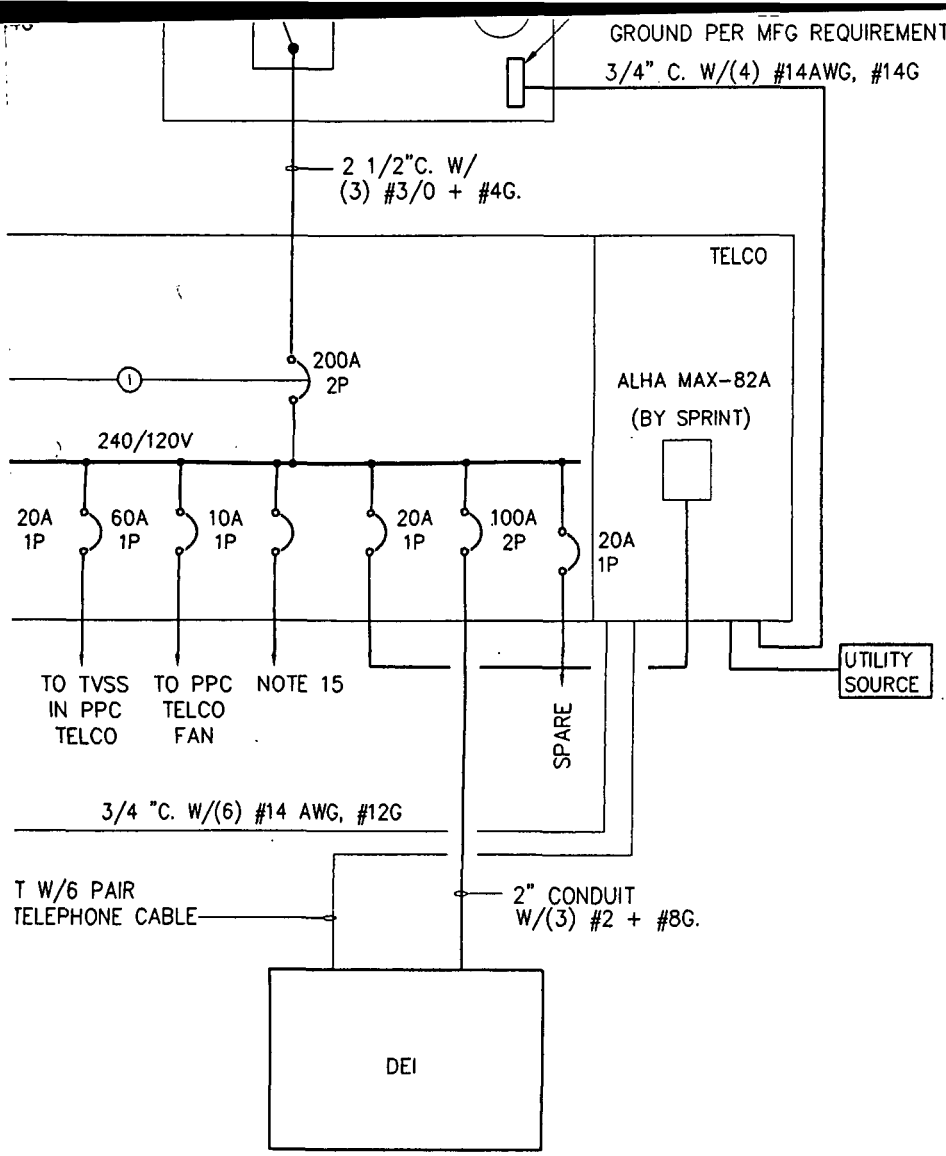
NO.	DATE	REVISIONS	BY	CHK	APP'D
1	7/29/99	DRAWING ADDED	RAD	ARS	MV

SCALE: AS NOTED | DESIGNED ARS | DRAWN RAD



NOTES:

1. PER THE N.E.C. THE CABLE M
   # PL TSEH-CO. 20.1.
2. THE PHOTO SENSOR MUST BE
3. CABLES AND CONDUITS ARE I
   TO BE ORDERED SEPARATELY
4. FAA POWER SUPPLY PANEL C
   CONVENIENT LOCATION, BASED
   MUST BE DETERMINED (FAA &
   WITHIN 3% OF THE LAMP VOL
5. FLASH TECHNOLOGY PRODUCT
   FLASH TECHNOLOGY CATALOG
6. THE CONNECTION DIAGRAM SH
   IS INDICATIVE OF TWO CIRCUIT
7. RELAY CONTACTS FOR THE AL
   1. POWER FAILURE.
   2. OBSTRUCTION MARKER L
8. RELAY CONTACTS FOR MARKE
   1. POWER FAILURE.
   2. MISSED ALARM FLASHES
   3. INCORRECT INTENSITY.
   4. PHOTO ELECTRIC CELL F.
   5. MODE STATUS CHANGED.
9. THE FLASHING STROBE LIGHTS,
   PANEL AND MOUNTING DETAIL
   AS SHOWN ON THE DWGS) & I
   COM INC. AS DESCRIBED ON TI
10. THE STROBE LIGHTS, MARKER I
    LIGHTING CONTROL PANEL AND
    MOUNTING AND WIRING SHALL I
    & IN ACCORDANCE WITH MANU
    BY TOWER INSTALLER.
11. THE FAA LIGHTING CONTROL PA
    BASE OF THE TOWER IN ACCOF
    DESIGN.
12. ALL WIRING FROM THE FAA LIGI
    STROBE LIGHTS, MARKER LIGHTS
    PERFORMED IN ACCORDANCE WI
    STANDARDS BY TOWER INSTALL
13. THE GENERAL CONTRACTOR SH/
    BETWEEN THE GENERATOR UNIT
    PANEL AS SHOWN ON THE DWG
    FACTURER INSTALLATION STANI
14. ALL WORK SHALL BE PERFORME
    REGULATIONS NEC AND CODES
    HAVING JURISDICTION.
15. CIRCUIT BREAKERS, CONDUIT AN
    CHARGER, HEATER, OUTLET, ETC
    COORDINATE INSTALLATION WITH



6. THE CONNECTION DIAGRAM SH IS INDICATIVE OF TWO CIRCUIT

7. RELAY CONTACTS FOR THE AL
   1. POWER FAILURE.
   2. OBSTRUCTION MARKER L

8. RELAY CONTACTS FOR MARKEI
   1. POWER FAILURE.
   2. MISSED ALARM FLASHES
   3. INCORRECT INTENSITY.
   4. PHOTO ELECTRIC CELL F
   5. MODE STATUS CHANGED.

9. THE FLASHING STROBE LIGHTS, PANEL AND MOUNTING DETAIL AS SHOWN ON THE DWGS) & I COM INC. AS DESCRIBED ON TI

10. THE STROBE LIGHTS, MARKER I LIGHTING CONTROL PANEL AND MOUNTING AND WIRING SHALL I & IN ACCORDANCE WITH MANU BY TOWER INSTALLER.

11. THE FAA LIGHTING CONTROL PA BASE OF THE TOWER IN ACCOF DESIGN.

12. ALL WIRING FROM THE FAA LIGI STROBE LIGHTS, MARKER LIGHTS PERFORMED IN ACCORDANCE WI STANDARDS BY TOWER INSTALLI

13. THE GENERAL CONTRACTOR SH/ BETWEEN THE GENERATOR UNIT PANEL AS SHOWN ON THE DWG FACTURER INSTALLATION STANC

14. ALL WORK SHALL BE PERFORME REGULATIONS NEC AND CODES HAVING JURISDICTION.

15. CIRCUIT BREAKERS, CONDUIT AN CHARGER, HEATER, OUTLET, ETC COORDINATE INSTALLATION WITH

TELEPHONE AND CONTROL – CONNECTION DIAGRAM

	RAD	ARS	MV
	BY	CHK	APP'D
ARS	DRAWN	RAD	

CHA
DRAWING COPYRIGHT © 1999
CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
1080 HOLCOMB BRIDGE ROAD-ROSWELL, GEORGIA - 30076
BUILDING 200 - SUITE 330 770-992-2332

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA

OTES:

PER THE N.E.C. THE CABLE MUST BE SUPPORTED EVERY 100 FT. MAX. USE CABLE TIES, PANDUIT # PL TSEH-CO. 20.1.

THE PHOTO SENSOR MUST BE MOUNTED OUTSIDE FACING THE UNOBSTRUCTED POLAR SKY.

CABLES AND CONDUITS ARE NOT INCLUDED IN THE MANUFACTURER'S BASE KIT. THEY HAVE TO TO BE ORDERED SEPARATELY FROM THE MANUF. OR ELSEWHERE.

FAA POWER SUPPLY PANEL CAN BE LOCATED EITHER AT THE BASE OF THE TOWER OR AT ANY CONVENIENT LOCATION, BASED ON THE LOCATION, SIZE AND TYPE OF CABLES AND CONDUITS MUST BE DETERMINED (FAA & FCC STANDARD REQUIRE THAT THE VOLTAGE AT LAMP SOCKET BE WITHIN 3% OF THE LAMP VOLTAGE). SUPPLIED BY SCI.

FLASH TECHNOLOGY PRODUCTS WILL BE FURNISHED BY SPRINT COM INC..
FLASH TECHNOLOGY CATALOG NUMBERS ARE USED FOR CLARIFICATION ONLY

THE CONNECTION DIAGRAM SHOWN IS TYPICAL AND DOES NOT INDICATE ACTUAL CIRCUITS. THIS IS INDICATIVE OF TWO CIRCUITS, ONE EACH TO TELEPHONE ENCLOSURE AND FAA LIGHTING.

RELAY CONTACTS FOR THE ALARM ACTUATED BY:
1. POWER FAILURE.
2. OBSTRUCTION MARKER LT FAILURE.

RELAY CONTACTS FOR MARKER ACTUATED BY:
1. POWER FAILURE.
2. MISSED ALARM FLASHES FOR RED & WHITE.
3. INCORRECT INTENSITY.
4. PHOTO ELECTRIC CELL FAILURE.
5. MODE STATUS CHANGED.

THE FLASHING STROBE LIGHTS, MARKER LIGHTS, FAA LIGHTING CONTROL PANEL AND MOUNTING DETAIL ALL REQUIRE WIRING (INCLUDING CONDUITS AND WIRES AS SHOWN ON THE DWGS) & PHOTO CELL UNIT SHALL BE SUPPLIED BY THE SPRINT COM INC. AS DESCRIBED ON THE THIRD PARTY BILL OF MATERIALS.

THE STROBE LIGHTS, MARKER LIGHTS, PHOTOCELL UNIT AND FAA LIGHTING CONTROL PANEL AND ALL NECESSARY ACCESSORIES FOR MOUNTING AND WIRING SHALL BE INSTALLED AS SHOWN ON DWGS & IN ACCORDANCE WITH MANUFACTURER INSTALLATION STANDARDS BY TOWER INSTALLER.

THE FAA LIGHTING CONTROL PANEL SHALL BE INSTALLED AT THE BASE OF THE TOWER IN ACCORDANCE WITH THE TOWER SUPPLIER DESIGN.

ALL WIRING FROM THE FAA LIGHTING CONTROL PANEL TO THE STROBE LIGHTS, MARKER LIGHTS AND PHOTOCELL UNITS SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER INSTALLATION STANDARDS BY TOWER INSTALLER.

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR WIRING BETWEEN THE GENERATOR UNIT, PPC AND FAA LIGHTING CONTROL PANEL AS SHOWN ON THE DWGS IN ACCORDANCE WITH MANU-FACTURER INSTALLATION STANDARDS.

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH FAA, FCC REGULATIONS NEC AND CODES THAT ADOPTED BY THE AUTHORITY HAVING JURISDICTION.

CIRCUIT BREAKERS, CONDUIT AND WIRING FOR GENERATOR BATTERY CHARGER, HEATER, OUTLET, ETC. AS REQUIRED BY MANUFACTURER. COORDINATE INSTALLATION WITH MANUFACTURER REQUIREMENTS.

THE CONNECTION DIAGRAM SHOWN IS TYPICAL AND DOES NOT INDICATE ACTUAL CIRCUITS. THIS IS INDICATIVE OF TWO CIRCUITS, ONE EACH TO TELEPHONE ENCLOSURE AND FAA LIGHTING.

RELAY CONTACTS FOR THE ALARM ACTUATED BY:
1. POWER FAILURE.
2. OBSTRUCTION MARKER LT FAILURE.

RELAY CONTACTS FOR MARKER ACTUATED BY:
1. POWER FAILURE.
2. MISSED ALARM FLASHES FOR RED & WHITE.
3. INCORRECT INTENSITY.
4. PHOTO ELECTRIC CELL FAILURE.
5. MODE STATUS CHANGED.

THE FLASHING STROBE LIGHTS, MARKER LIGHTS, FAA LIGHTING CONTROL PANEL AND MOUNTING DETAIL ALL REQUIRE WIRING (INCLUDING CONDUITS AND WIRES AS SHOWN ON THE DWGS) & PHOTO CELL UNIT SHALL BE SUPPLIED BY THE SPRINT COM INC. AS DESCRIBED ON THE THIRD PARTY BILL OF MATERIALS.

THE STROBE LIGHTS, MARKER LIGHTS, PHOTOCELL UNIT AND FAA LIGHTING CONTROL PANEL AND ALL NECESSARY ACCESSORIES FOR MOUNTING AND WIRING SHALL BE INSTALLED AS SHOWN ON DWGS & IN ACCORDANCE WITH MANUFACTURER INSTALLATION STANDARDS BY TOWER INSTALLER.

THE FAA LIGHTING CONTROL PANEL SHALL BE INSTALLED AT THE BASE OF THE TOWER IN ACCORDANCE WITH THE TOWER SUPPLIER DESIGN.

ALL WIRING FROM THE FAA LIGHTING CONTROL PANEL TO THE STROBE LIGHTS, MARKER LIGHTS AND PHOTOCELL UNITS SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER INSTALLATION STANDARDS BY TOWER INSTALLER.

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR WIRING BETWEEN THE GENERATOR UNIT, PPC AND FAA LIGHTING CONTROL PANEL AS SHOWN ON THE DWGS IN ACCORDANCE WITH MANUFACTURER INSTALLATION STANDARDS.

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH FAA, FCC REGULATIONS NEC AND CODES THAT ADOPTED BY THE AUTHORITY HAVING JURISDICTION.

CIRCUIT BREAKERS, CONDUIT AND WIRING FOR GENERATOR BATTERY CHARGER, HEATER, OUTLET, ETC. AS REQUIRED BY MANUFACTURER. COORDINATE INSTALLATION WITH MANUFACTURER REQUIREMENTS.

MARSHALL

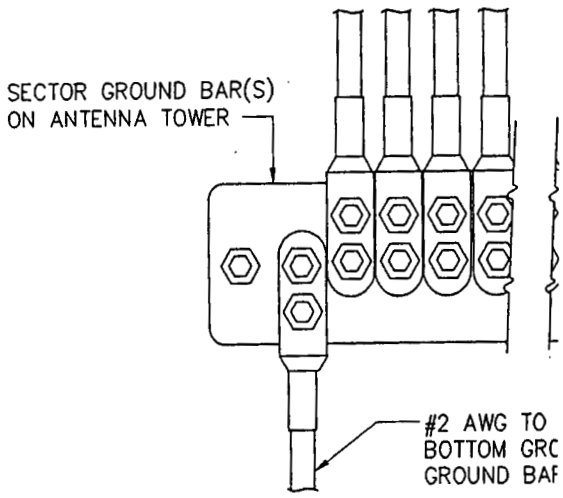
MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA

SITE NO.: LV33XC001A

FAA LIGHTING

DATE:	SPRINT JOB NO.	A\E JOB NO.	DRAWING NUMBER	REV
06/28/99	LV33XC001A	8113.55.05	KCA001E6A	0



NOTES:

1. COPPER GROUND BAR 1/4" x 4" x LENGTH AS ANTENNA, PLUS 50% SPARE CAPACITY, NEWTO 2-HOLE CENTERS TO MATCH NEMA DOUBLE LU
2. SIMILAR INSTALLATION FOR TOP AND BOTTOM ENTRY PORT GROUND BARS.

230	GROUND WIRE INSTA
–	NO SCALE

2. SIMILAR INSTALLATION FOR TOP AND BOTTOM ENTRY PORT GROUND BARS.

230
–

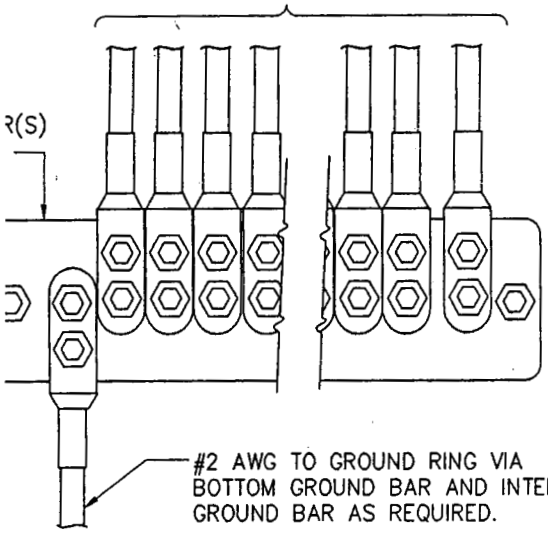
GROUND WIRE INSTA

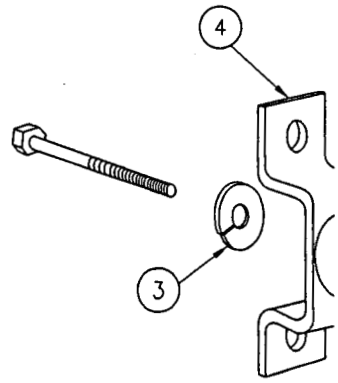
NO SCALE

JUL 26 1999

STATE OF KENTUCKY
PETER A. McTYGUE
20886
LICENSED
PROFESSIONAL ENGINEER

#6 AWG FROM ANTENNA COAX GROUND XIT.
#2 AWG FROM ANTENNA MAST OR MOUNTING BRACKET.





BAR 1/4" x 4" x LENGTH AS REQUIRED TO ACCOMMODATE INSTALLED
50% SPARE CAPACITY, NEWTON INSTRUMENT CO. OR EQUIVALENT.
TO MATCH NEMA DOUBLE LUG CONFIGURATION.

TION FOR TOP AND BOTTOM TOWER GROUND BARS AND FOR COAX
UND BARS.

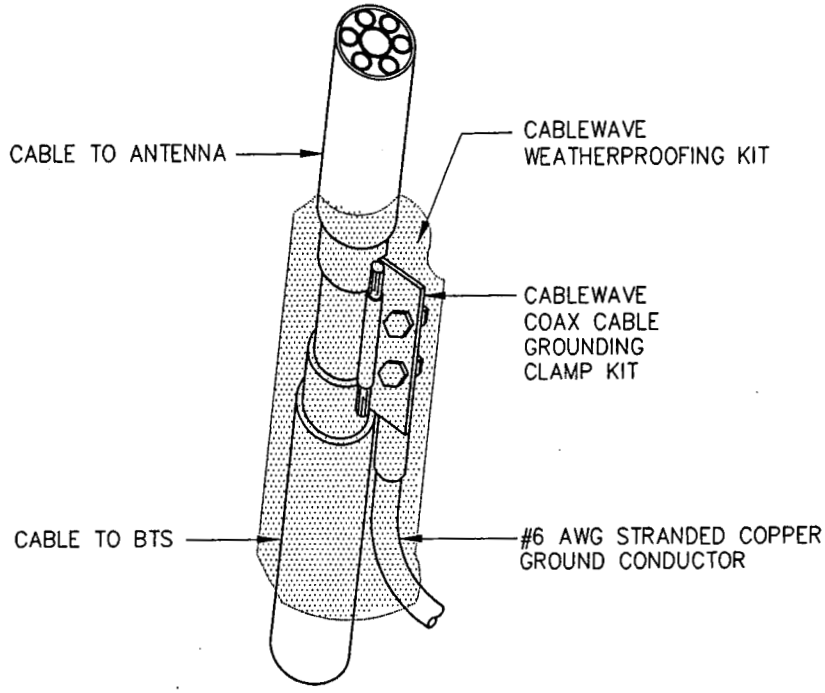
LEGEND

1 – COPPER GROU
CENTERS TO
2 – INSULATORS,
3 – 5/8" LOCKWA
4 – WALL MOUNTI
5 – 5/8–11 X 1"
6 – GROUND BAR
REQUIRED PL

ROUND WIRE INSTALLATION TO GROUND BAR

SCALE

ISSUE 1



NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND IN CABLE.
2. ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
3. 2–1/2" ø MAX FOR TX/RX ANTENNA CABLES.
4. 1–1/4" ø MAX FOR GPS ANTENNA CABLES.

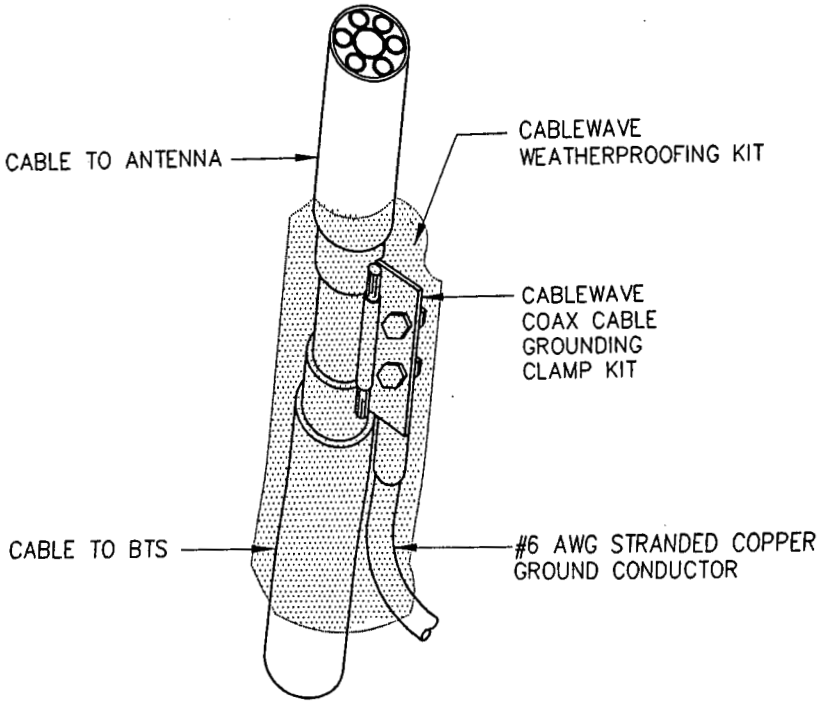
TION FOR TOP AND BOTTOM TOWER GROUND BARS AND FOR COAX
UND BARS.

5 – 5/8–11 X 1"
6 – GROUND BAR
REQUIRED PLU

ROUND WIRE INSTALLATION TO GROUND BAR

SCALE

ISSUE 1



NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND IN CABLE.
2. ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
3. 2–1/2" ø MAX FOR TX/RX ANTENNA CABLES.
4. 1–1/4" ø MAX FOR GPS ANTENNA CABLES.

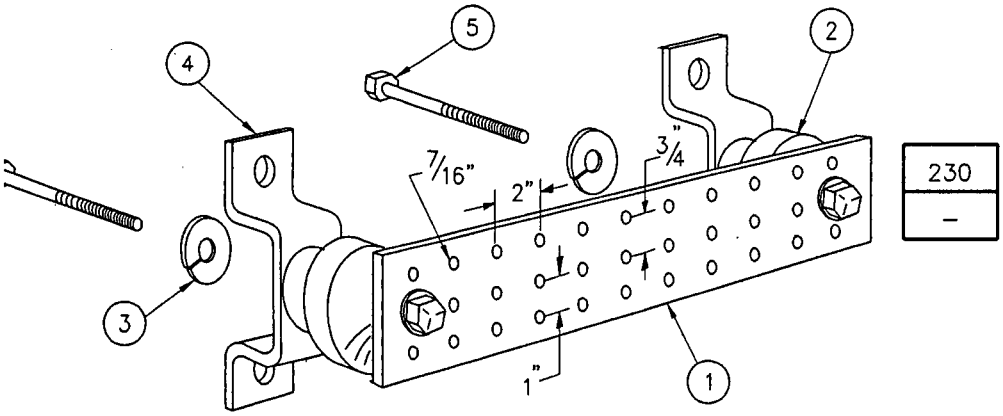
237	COAX CABLE GROUND
–	NO SCALE ISSUE 4

W FOR ANY PERSON,
G UNDER THE DIRECTION
IONAL ENGINEER, TO

Sprint Com Inc.
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GA 30004

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	7/12/99	ISSUED FOR CONSTRUCTION	TLH	CMM	MSV
0	6/28/99	ISSUED FOR QA\QC	DR	CMM	MSV

SCALE: AS NOTED | DESIGNED DR | DRAWN DR

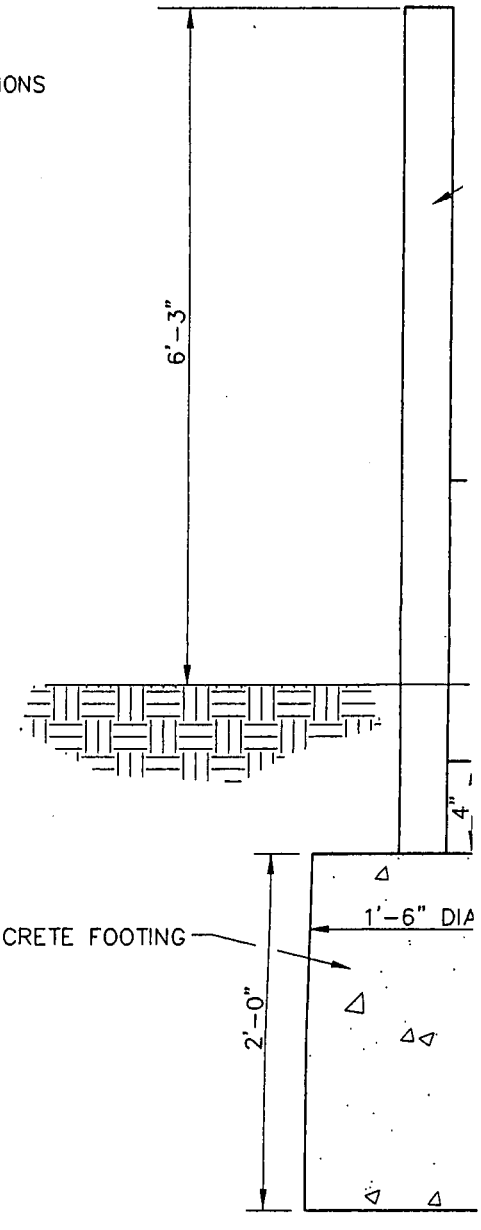


230
–

LEGEND

1 – COPPER GROUND BAR, 1/4"x 4"x 24" MIN., NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
2 – INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061–4
3 – 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015–8
4 – WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A–6056
5 – 5/8–11 X 1" H.H.C.S.BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012–1
6 – GROUND BAR SHALL BE SIZED TO ACCOMMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE 50% SPARE CAPACITY

231	GROUND BAR
–	NO SCALE ISSUE 1



ROOFING KIT

E

RANDED COPPER
NDUCTOR

D IN CABLE.
ID BAR.

3/8 - 11 x 1" H.H.C.S.BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1

6 - GROUND BAR SHALL BE SIZED TO ACCOMMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE 50% SPARE CAPACITY

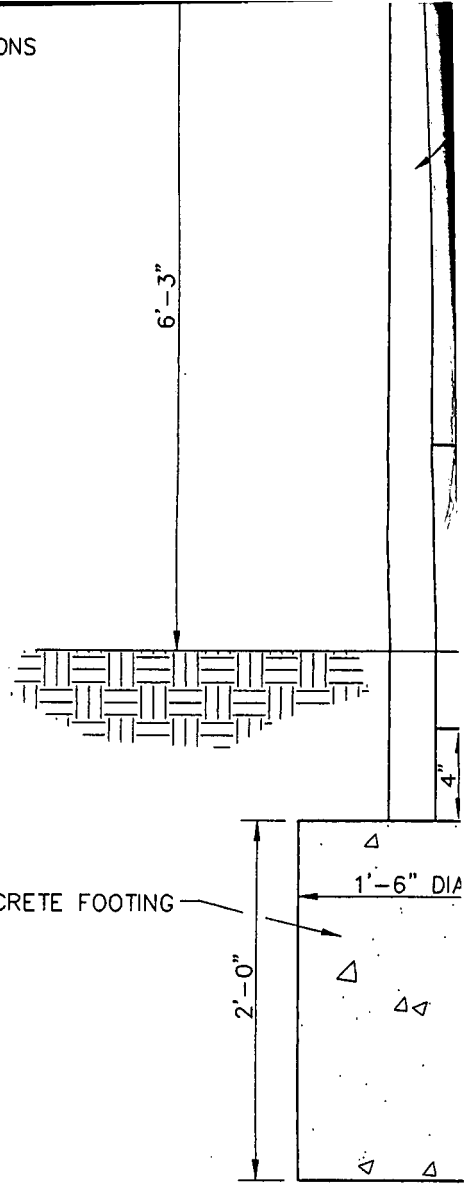
231	GROUND BAR
-	NO SCALE ISSUE 1

ROOFING KIT

E

RANDED COPPER
NDUCTOR

D IN CABLE.
D BAR.



296	TELEPHONE PEDES
-	NO SCALE

NOTE: LEAVE MINIMUM OF 4" BETWEEN GR
WILL ALLOW TELEPHONE COMPANY T

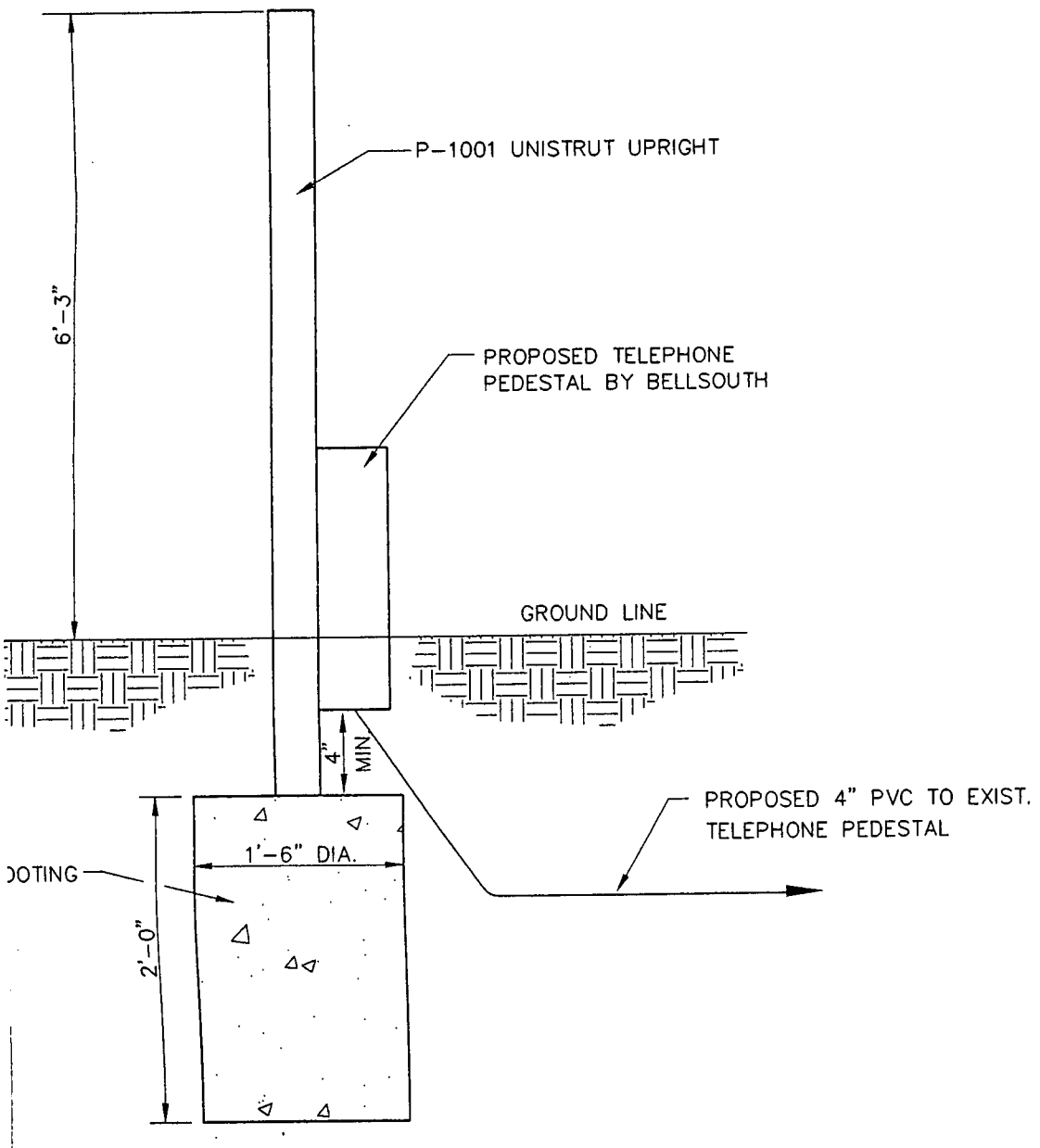
TION	TLH	CMM	MSV
	DR	CMM	MSV
	BY	CHK	APP'D
DR	DRAWN	DR	

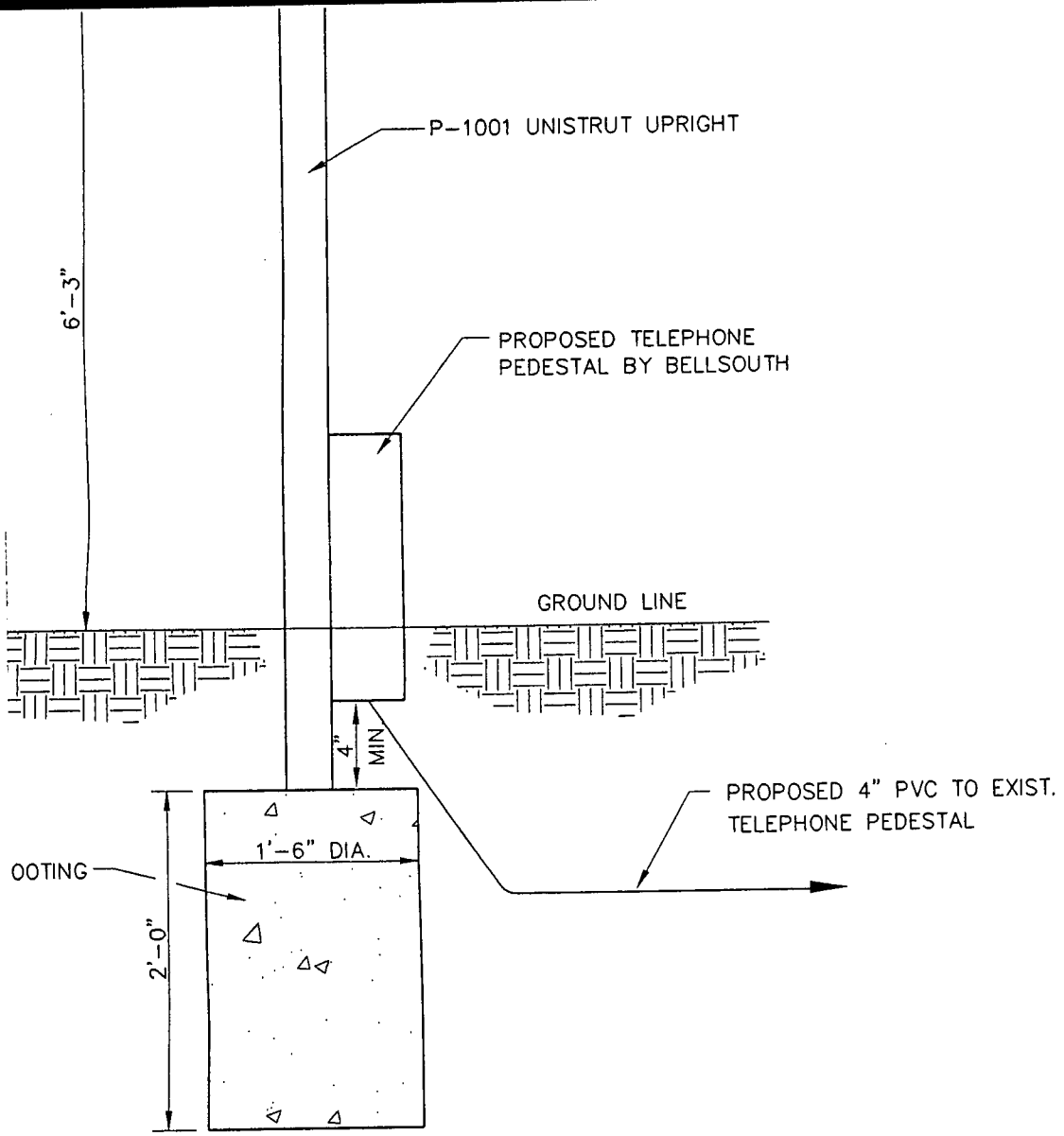
CHA
DRAWING COPYRIGHT © 1999
CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
1080 HOLCOMB BRIDGE ROAD-ROSWELL, GEORGIA - 30076
BUILDING 200 - SUITE 330 770-992-2332

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA


P-1001 UNISTRUT UPRIGHT
6'-3"
PROPOSED TELEPHONE
PEDESTAL BY BELLSOUTH
GROUND LINE
4"
MIN
PROPOSED 4" PVC TO EXIST.
TELEPHONE PEDESTAL
1'-6" DIA.
2'-0"



TELEPHONE PEDESTAL SUPPORT

NO SCALE ISSUE 0

E MINIMUM OF 4" BETWEEN GROUND AND TOP OF CONCRETE FOOTING. THIS
ALLOW TELEPHONE COMPANY TO ACCESS BOTTOM OF PROPOSED PEDESTAL.

MARSHALL

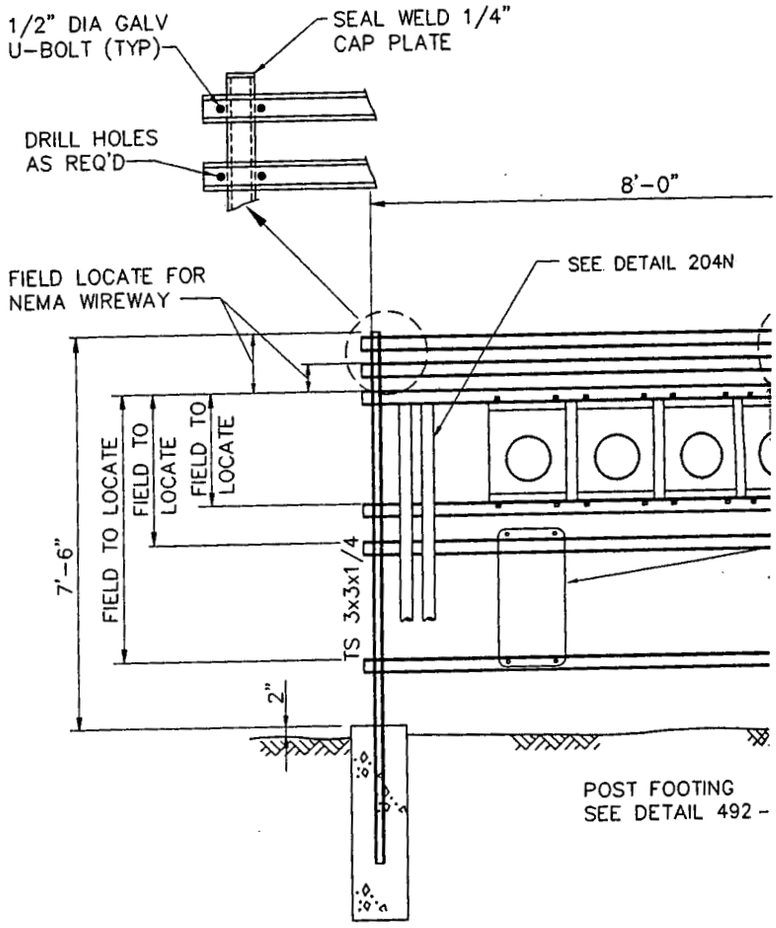
MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA

SITE NO.: LV33XC001A

ELECTRICAL DETAILS

DATE:	SPRINT JOB NO.	A\E JOB NO.	DRAWING NUMBER	REV
06/28/99	LV33XC001A	8113.55.05	KCA001E6	1

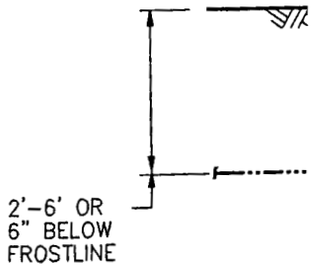


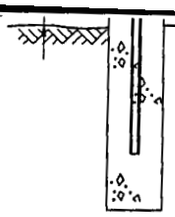
FRONT VIEW - ELECT

NOTES

1. COMBINATION SERVICE ENCLOSURE WITH 200A METER SOC
2. COMBINATION SERVICE ENCLOSURE WITH 200A METER SOC
3. COMBINATION SERVICE ENCLOSURE WITH 200A METER SOC
4. 12" x 12" x 6'-0" LONG WEATHERPROOF HINGED-LOCKAE

1	METI
-	NO SC





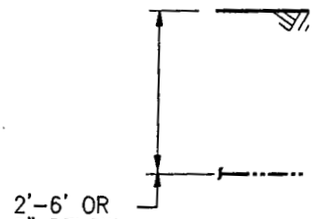
POST FOOTING
SEE DETAIL 492

FRONT VIEW – ELEC

NOTES

1. COMBINATION SERVICE ENCLOSURE WITH 200A METER SO
2. COMBINATION SERVICE ENCLOSURE WITH 200A METER SO
3. COMBINATION SERVICE ENCLOSURE WITH 200A METER SO
4. 12" x 12" x 6'–0" LONG WEATHERPROOF HINGED–LOCKA

1	MET
–	NO S



226	COPPEF
–	NO SCALE

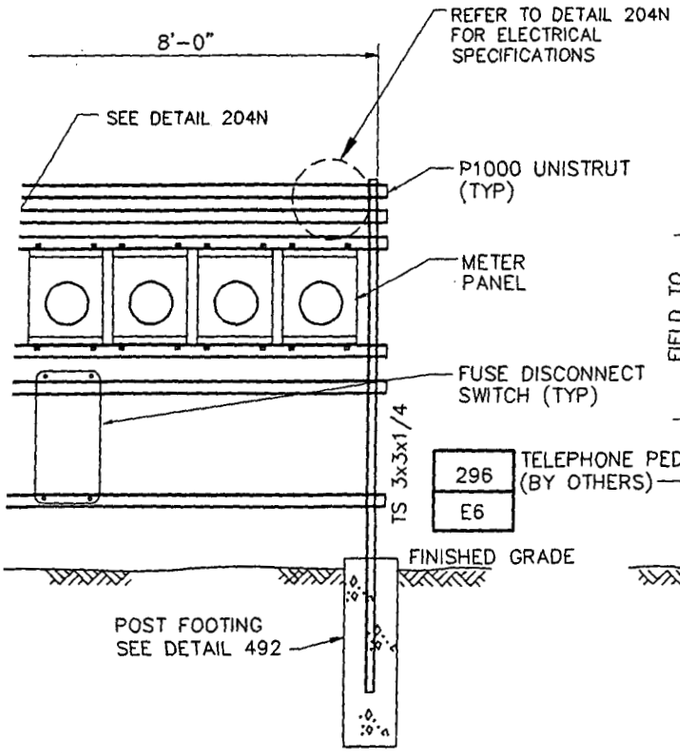
STATE OF KENTUCKY
PETER A. McTYGUE
20886
LICENSED
PROFESSIONAL ENGINEER

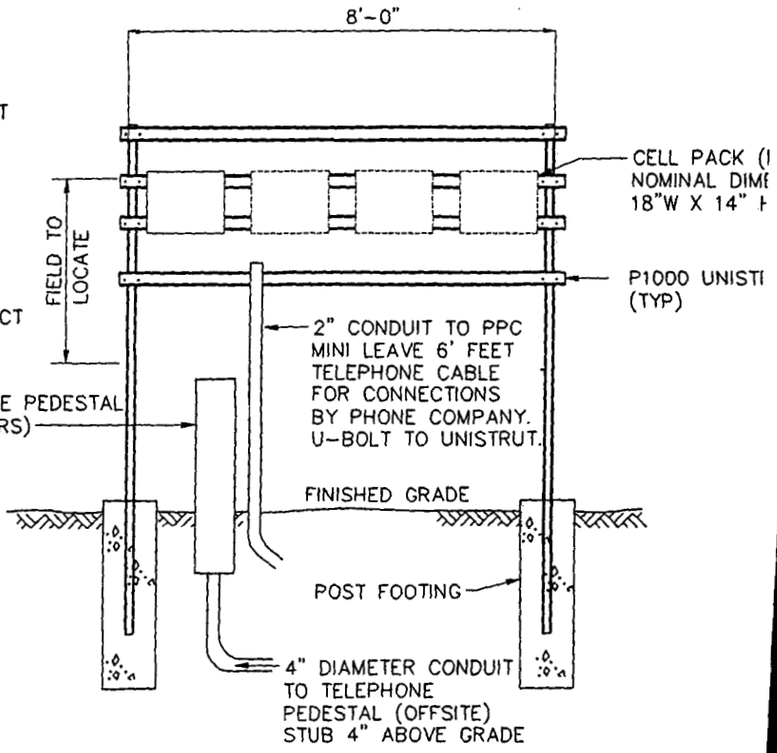
JUL 26 1999

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.

11
SU
AL

4"





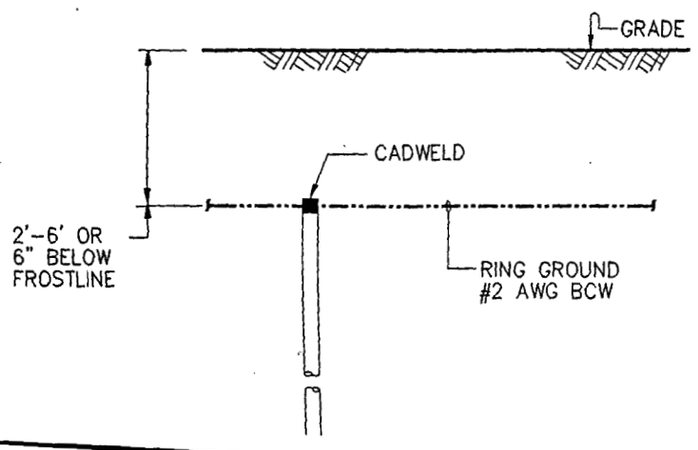
NT VIEW – ELECTRIC

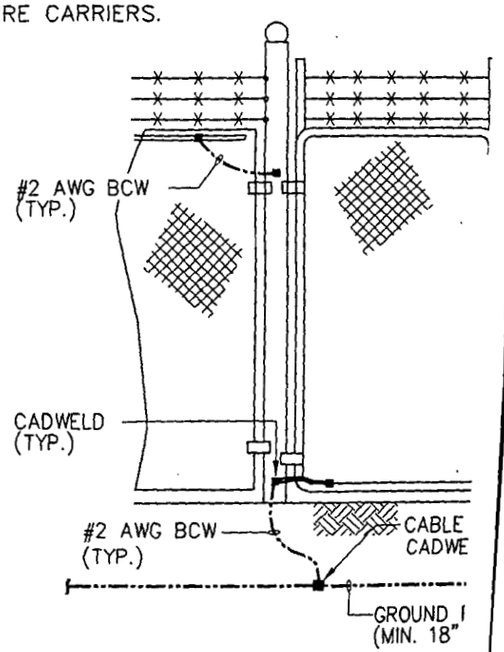
REAR VIEW – TELCO

RE WITH 200A METER SOCKET AND 200A/2P CIRCUIT BREAKER FOR SPRINT PCS EQUIPMENT.
RE WITH 200A METER SOCKET AND 200A/2P CIRCUIT BREAKER FOR FUTURE CARRIER.
RE WITH 200A METER SOCKET AND 200A/2P CIRCUIT BREAKER FOR FUTURE CARRIERS.
IERPROOF HINGED-LOCKABLE TROUGH.

1 – METER & TELEPHONE FRAME
NO SCALE

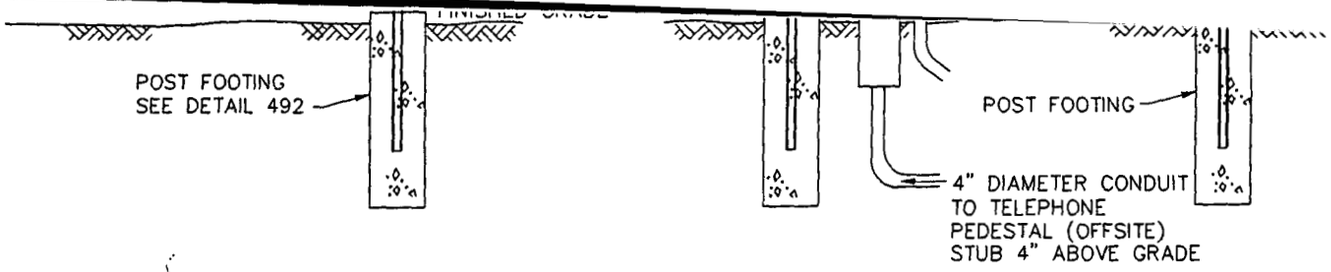
NO SCALE





NOTES:

1. THE #2 AWG BCW, FROM TO THE POST ABOVE. GRAI
2. BOND EACH HORIZONTAL I VERTICAL POLE BONDED T

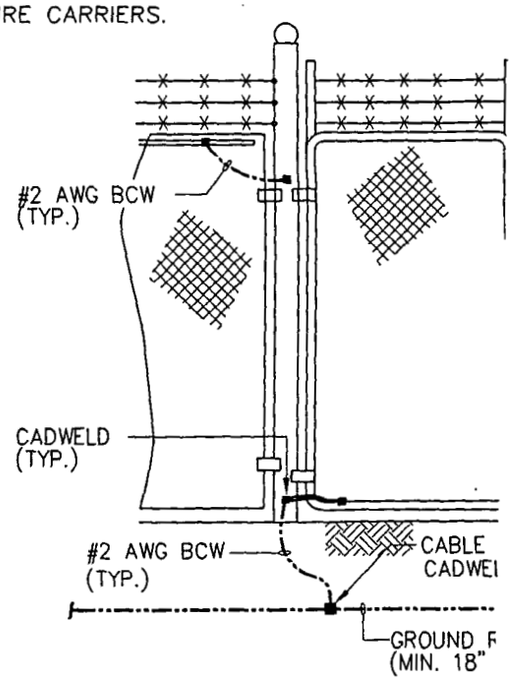


)NT VIEW – ELECTRIC

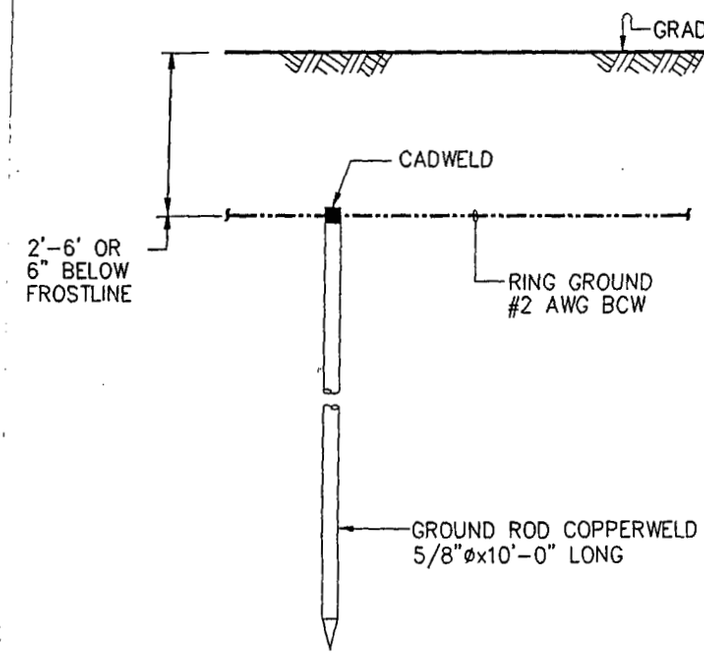
REAR VIEW – TELCO

RE WITH 200A METER SOCKET AND 200A/2P CIRCUIT BREAKER FOR SPRINT PCS EQUIPMENT.
RE WITH 200A METER SOCKET AND 200A/2P CIRCUIT BREAKER FOR FUTURE CARRIER.
RE WITH 200A METER SOCKET AND 200A/2P CIRCUIT BREAKER FOR FUTURE CARRIERS.
IERPROOF HINGED–LOCKABLE TROUGH.

1	METER & TELEPHONE FRAME
–	NO SCALE



NO SCALE



NOTES:

1. THE #2 AWG BCW, FROM
   TO THE POST ABOVE. GRAD
2. BOND EACH HORIZONTAL F
   VERTICAL POLE BONDED T(
3. GATE JUMPER SHALL BE #
   COPPER BRAID BURNDY TY
   FOR EXOTHERMIC WELDING.
4. GATE JUMPER SHALL BE IN
   TO DAMAGING STRAIN WHEN

226	COPPER–CLAD STEEL GROUND ROD
–	NO SCALE

285	FENCE GATI
–	NO SCALE

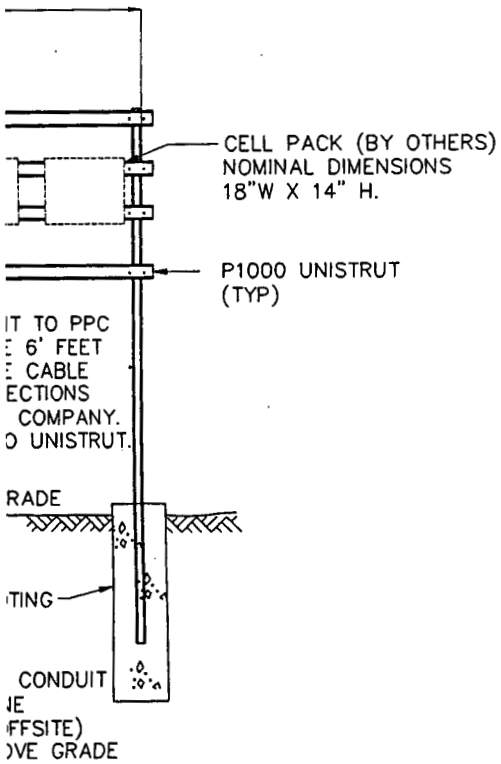
ISSUE 0

IF FOR ANY PERSON,
G UNDER THE DIRECTION
IONAL ENGINEER, TO

Sprint Com Inc.
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GA 30004

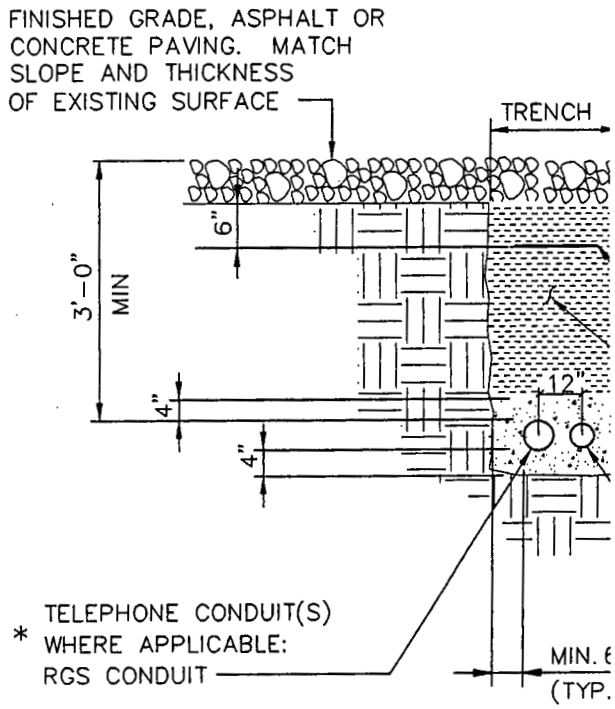
NO.	DATE	REVISIONS	BY	CHK	APP'D
2	//				
1	//				
0	7/12/99	ISSUED FOR CONSTRUCTION	TLH	CMM	MSV
A	6/28/99	ISSUED FOR QA\QC	DR	CMM	MSV

SCALE: AS NOTED | DESIGNED DR | DRAWN DR



ELCO

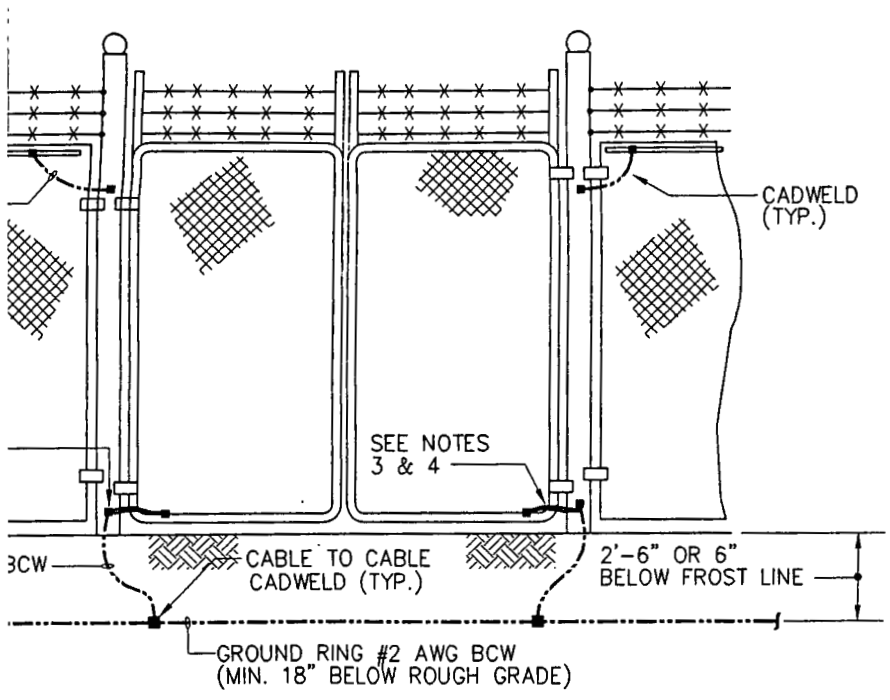
ENT.



* SEPARATION DIMENSION TO BE VERIFIED WI

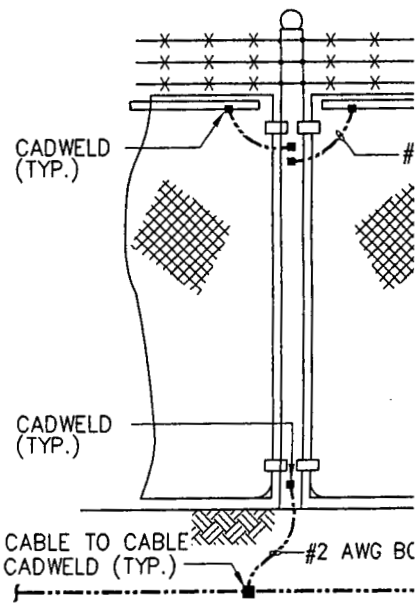
NOTES:
1. PROVIDE PVC CONDUIT BELOW GRADE EXCEPT
2. PROVIDE RGS CONDUIT AND ELBOWS AT STUE
3. PROVIDE RGS CONDUIT FOR INSTALLATIONS B

220	UNDERGROUND CO
–	NO SCALE



NOTES:

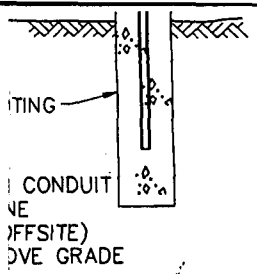
1. THE #2 AWG BCW, FROM THE GROUND RING SHALL BE CADWELDED TO THE POST ABOVE GRADE.
2. BOND EACH HORIZONTAL POLE/BRACE TO EACH OTHER AND TO EACH VERTICAL POLE BONDED TO THE EXTERIOR GROUND RING.



VERTICAL POST CONNECTED TO

NOTES

1. VERTICAL POSTS SHAL



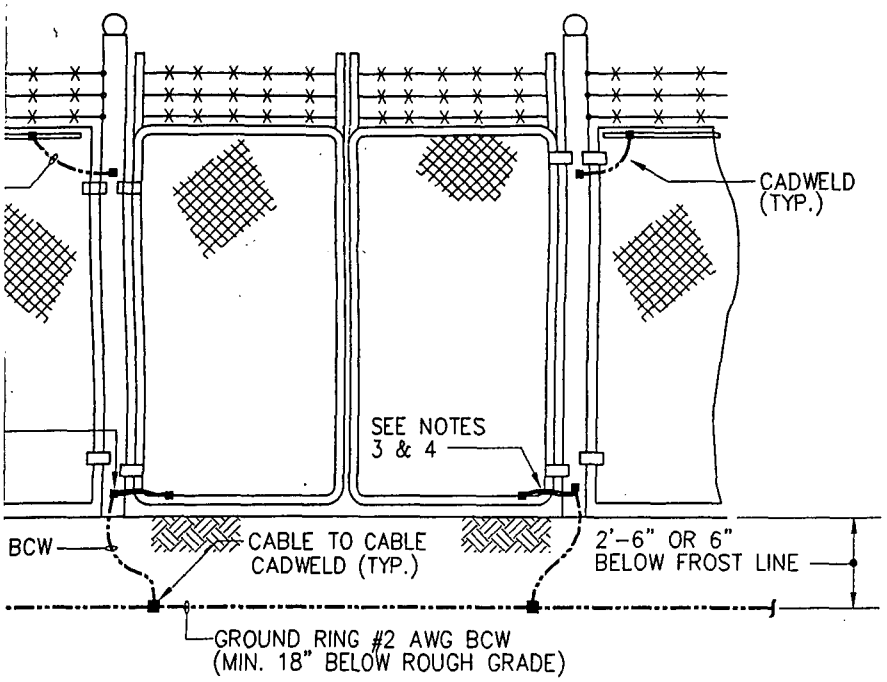
ELCO

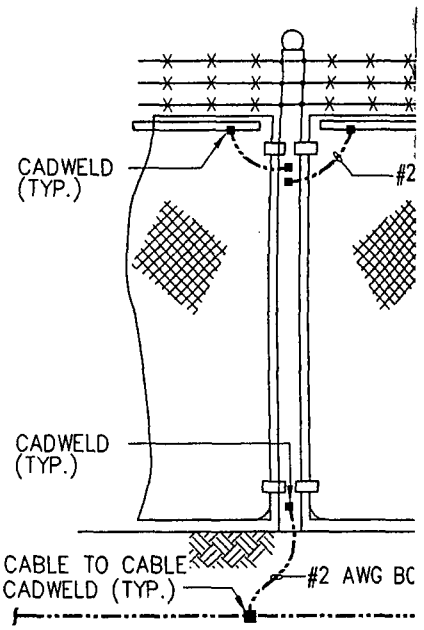
IENT.

* SEPARATION DIMENSION TO BE VERIFIED WIT

NOTES:
1. PROVIDE PVC CONDUIT BELOW GRADE EXCEPT
2. PROVIDE RGS CONDUIT AND ELBOWS AT STUB
3. PROVIDE RGS CONDUIT FOR INSTALLATIONS BI

220	UNDERGROUND CO
–	NO SCALE





NOTES:

1. THE #2 AWG BCW, FROM THE GROUND RING SHALL BE CADWELDED TO THE POST ABOVE GRADE.
2. BOND EACH HORIZONTAL POLE/BRACE TO EACH OTHER AND TO EACH VERTICAL POLE BONDED TO THE EXTERIOR GROUND RING.
3. GATE JUMPER SHALL BE #4/0 AWG WELDING CABLE OR FLEXIBLE COPPER BRAID BURNDY TYPE B WITH SLEEVES ON EACH END DESIGNED FOR EXOTHERMIC WELDING.
4. GATE JUMPER SHALL BE INSTALLED SO THAT IT WILL NOT BE SUBJECTED TO DAMAGING STRAIN WHEN GATE IS FULLY OPEN IN EITHER DIRECTION.

285	FENCE GATE GROUNDING
–	NO SCALE

ISSUE 0

VERTICAL POST CONNECTED TO

NOTES

1. VERTICAL POSTS SHA GATE POST. AS A MI RING IN EVERY 100 F
2. HORIZONTAL POLES S
3. BOND EACH HORIZON POST THAT IS BONDE

286	FEI
–	NO

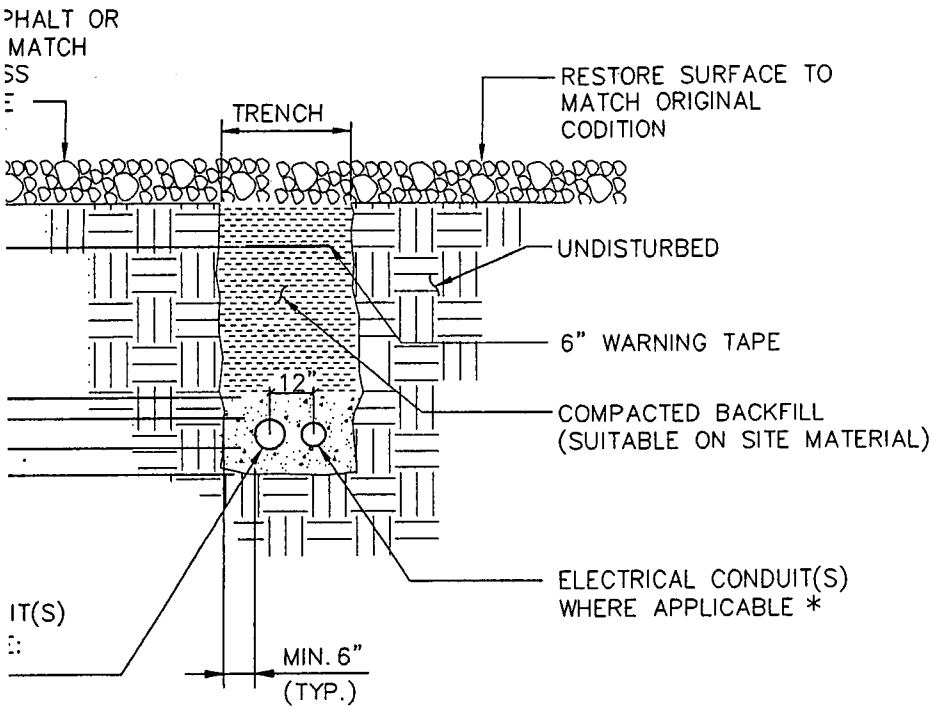
STRUCTION	TLH	CMM	MSV	
DA\QC	DR	CMM	MSV	
NS	BY	CHK	APP'D	
D DR	DRAWN DR			

CHA
DRAWING COPYRIGHT © 1999
CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
1080 HOLCOMB BRIDGE ROAD - ROSWELL, GEORGIA - 30076
BUILDING 200 – SUITE 330 770-992-2332

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA



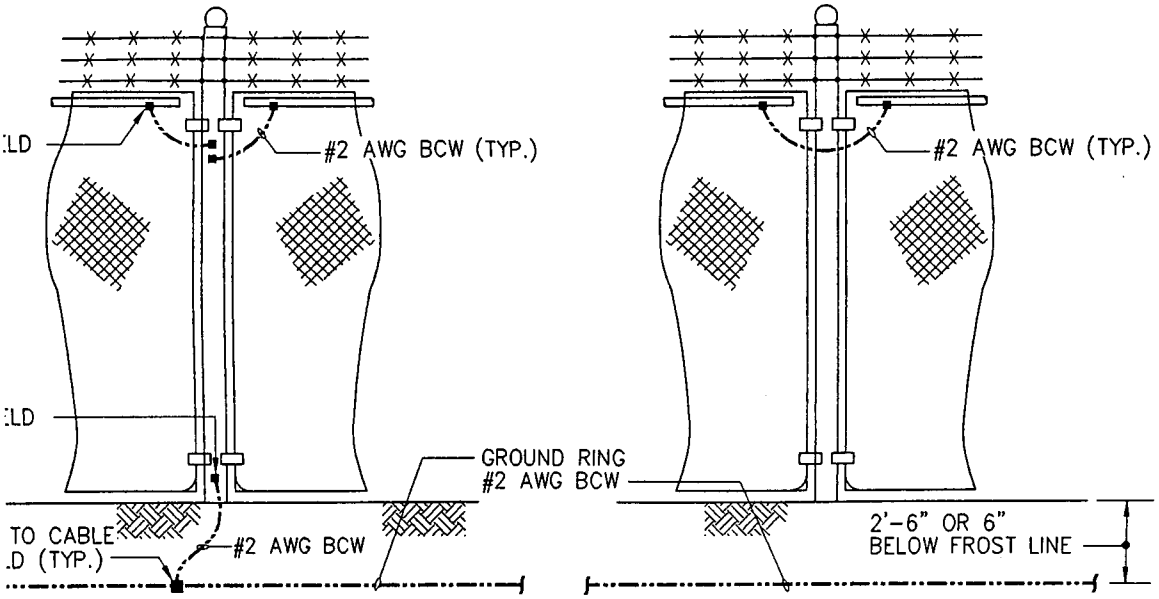
ENSION TO BE VERIFIED WITH LOCAL UTILITY CO. REQUIREMENTS

DUIT BELOW GRADE EXCEPT AS NOTED BELOW.
DUIT AND ELBOWS AT STUB UP LOCATIONS (i.e. SERVICE POLE, BTS EQUIPMENT, ETC..).
DUIT FOR INSTALLATIONS BELOW PARKING LOTS AND ROADWAYS.

UNDERGROUND CONDUIT(S) ELECTRIC/TELEPHONE

NO SCALE

ISSUE 9



VERTICAL POST CONNECTED TO RING

VERTICAL POST NOT CONNECTED TO RING

NOTES

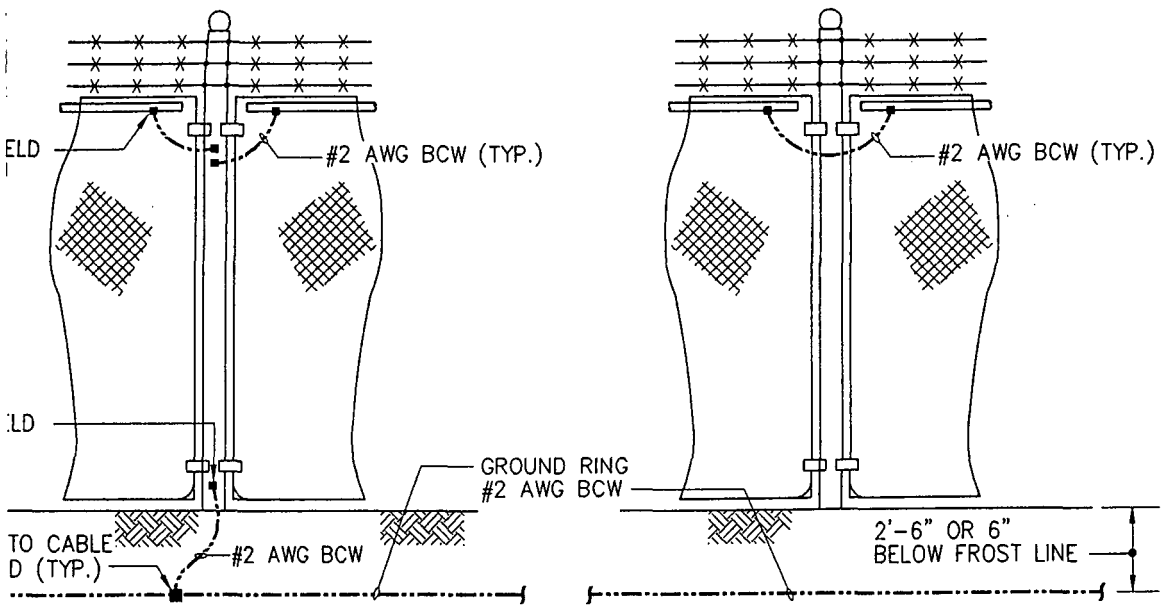
ENSION TO BE VERIFIED WITH LOCAL UTILITY CO. REQUIREMENTS

DUIT BELOW GRADE EXCEPT AS NOTED BELOW.
DUIT AND ELBOWS AT STUB UP LOCATIONS (i.e. SERVICE POLE, BTS EQUIPMENT, ETC..).
DUIT FOR INSTALLATIONS BELOW PARKING LOTS AND ROADWAYS.

UNDERGROUND CONDUIT(S) ELECTRIC/TELEPHONE

NO SCALE

ISSUE 9



VERTICAL POST CONNECTED TO RING

VERTICAL POST NOT CONNECTED TO RING

NOTES

1. VERTICAL POSTS SHALL BE BONDED TO THE RING AT EACH CORNER AND AT EACH GATE POST. AS A MINIMUM ONE VERTICAL POST SHALL BE BONDED TO THE GROUND RING IN EVERY 100 FOOT STRAIGHT RUN OF FENCE.
2. HORIZONTAL POLES SHALL BE BONDED TO EACH OTHER.
3. BOND EACH HORIZONTAL POLE/BRACE TO EACH OTHER AND TO EACH VERTICAL POST THAT IS BONDED TO THE EXTERIOR GROUND RING.

286
–

FENCE GROUNDING

NO SCALE

ISSUE 0

MARSHALL	SITE NO.: LV33XC001A				
MARSHALL 7881 HWY 36 SANDERS, KENTUCKY	ELECTRICAL DETAILS				
	DATE:	SPRINT JOB NO.	A\E JOB NO.	DRAWING NUMBER	REV
LOUISVILLE BTA	06/28/99	LV33XC001A	8113.55.05	KCA001E5	1

UTILITY POLE

TERMINATION POINTS COORDINATE WITH UTILITY COMPANIES

NOTES:

1. BOND ALL METAL OBJECTS TO POLE GROUNDING SYSTEM.
2. COORDINATE ALL INSTALLATIONS TO SERVICE POLE WITH UTILITY COMPANY.
3. UTILITY COMPANY IS RESPONSIBLE FOR CONDUCTOR INSTALLATION FROM BUSHING TO TERMINATION.

SERVICE POLE CODED NOTES:

(1) ELECTRICAL SERVICE CONDUIT(S) SIZE, QUANTITY AS INDICATED ON ELECTRICAL PLAN.

(2) CONDUCTORS FROM UTILITY POLE TO METER PROVIDE SUFFICIENT CABLE TO REACH A MINIMUM OF 36" ABOVE TERMINATION LOCATIONS.

(3) INSULATING BUSHING. USE DUCT SEAL TO MAKE WATERTIGHT.

(4) PIPE STRAP.

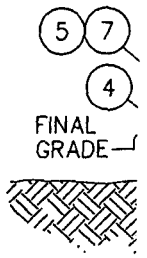
(5) TELEPHONE SERVICE CONDUIT(S) WITH PULL CORD. SIZE, QUANTITY AS INDICATED ON ELECTRICAL SITE PLAN.

(6) GROUNDING PER UTILITY CO. REQUIREMENTS.

(7) GALVANIZED STEEL RIGID CONDUIT RISER AND ELBOWS, SIZE AS INDICATED ON SITE ELECTRICAL PLAN.

(8) GALVANIZED STEEL TO PVC ADAPTER. TYPICAL TELEPHONE AND POWER CONDUITS.

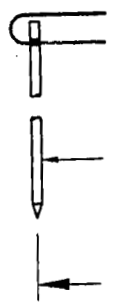
(9) PVC DIRECT BURIED CONDUITS. SIZE, QUANTITY AND ROUTING AS INDICATED ON ELECTRICAL SITE PLAN. TYPICAL TELEPHONE AND POWER CONDUITS.



CONDUCTOR INSTALLATION FROM [illegible]
TO TERMINATION.

SERVICE POLE CODED NOTES:

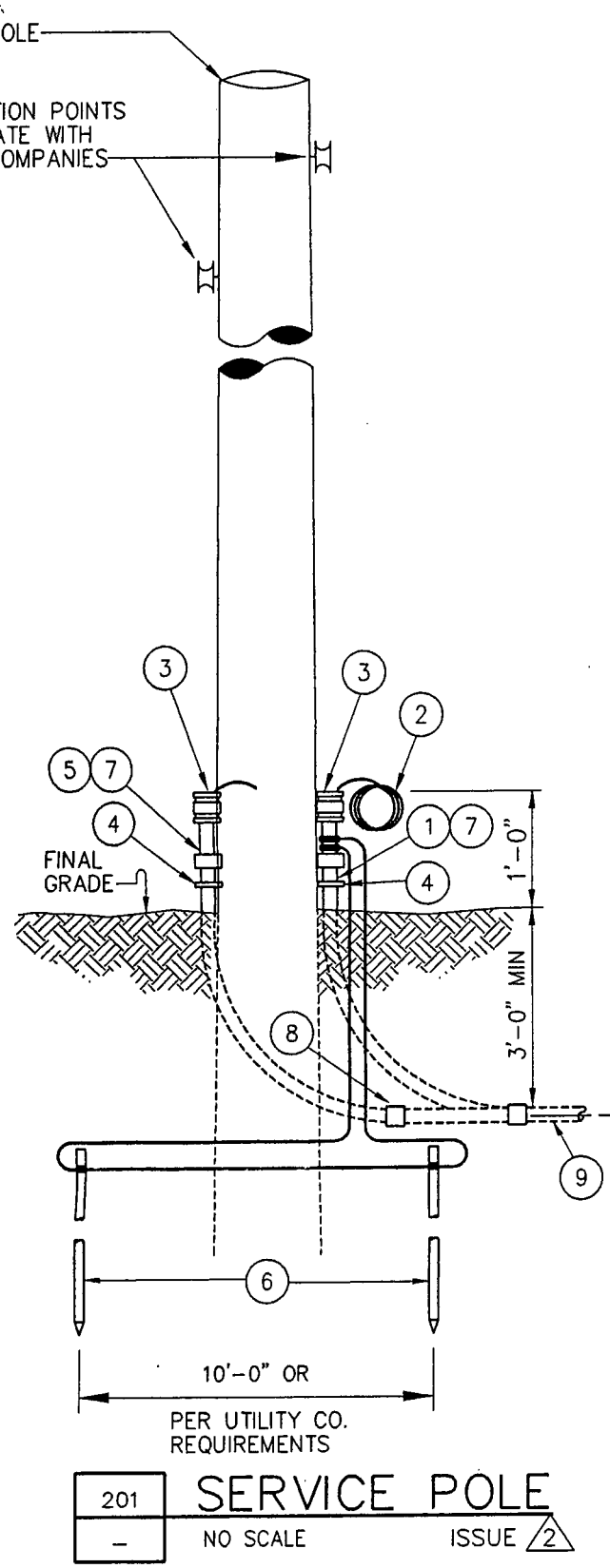
1. ELECTRICAL SERVICE CONDUIT(S) SIZE, QUANTITY AS INDICATED ON ELECTRICAL PLAN.
2. CONDUCTORS FROM UTILITY POLE TO METER PROVIDE SUFFICIENT CABLE TO REACH A MINIMUM OF 36" ABOVE TERMINATION LOCATIONS.
3. INSULATING BUSHING. USE DUCT SEAL TO MAKE WATERTIGHT.
4. PIPE STRAP.
5. TELEPHONE SERVICE CONDUIT(S) WITH PULL CORD. SIZE, QUANTITY AS INDICATED ON ELECTRICAL SITE PLAN.
6. GROUNDING PER UTILITY CO. REQUIREMENTS.
7. GALVANIZED STEEL RIGID CONDUIT RISER AND ELBOWS, SIZE AS INDICATED ON SITE ELECTRICAL PLAN.
8. GALVANIZED STEEL TO PVC ADAPTER. TYPICAL TELEPHONE AND POWER CONDUITS.
9. PVC DIRECT BURIED CONDUITS. SIZE, QUANTITY AND ROUTING AS INDICATED ON ELECTRICAL SITE PLAN. TYPICAL TELEPHONE AND POWER CONDUITS.



201

STATE OF KENTUCKY
PETER A. McTYGUE
20886
LICENSED
PROFESSIONAL ENGINEER

JUL 26 1999



'OLE

TO
IPANY.

.E FOR
BUSHING

S:

S) SIZE,
.ECTRICAL

LE TO
BLE TO
)VE

ICT SEAL

S) WITH
S INDICATED

EQUIREMENTS.

)UIT RISER
ED ON SITE

)APTER.
ER CONDUITS.

SIZE,
DICATED
YPICAL
)ITS.

201	SERVICE POLE
–	NO SCALE ISSUE 2

POW
SER

SEE ELECTRICAL
SITE PLAN

NOTE 1 & 4

200
2

SEE ELECTRICAL SITE PLAN

POWI
PANI

200 A
208/120
1ø, 3

SEE ELECTRICAL SITE PLAN

NOTES:

1. ELECTRICAL SEI
2. FOR COMPLETE
VENDOR PRINTS
3. WHEN UTILITY (
BREAKER IN PC
BOND SERVICE
4. UTILITY COMPAN

S:

S) SIZE,
ECTRICAL

LE TO
BLE TO
VE

CT SEAL

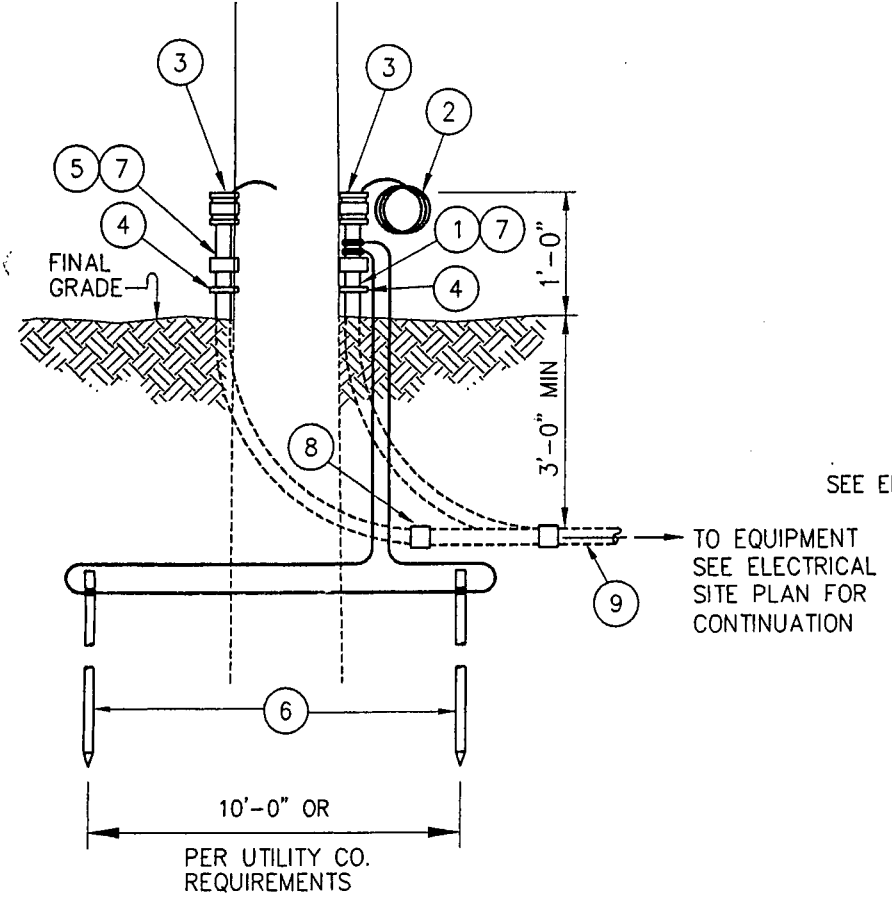
S) WITH
S INDICATED

EQUIREMENTS.

UIT RISER
TED ON SITE

APTER.
ER CONDUITS.

SIZE,
DICATED
YPICAL
UITS.



201 — SERVICE POLE
NO SCALE ISSUE 2

POW
PAN

200 /
208/12
1ø, .

SEE ELECTRICAL SITE PLAN

NOTES:

1. ELECTRICAL SEF
2. FOR COMPLETE
VENDOR PRINTS
3. WHEN UTILITY C
BREAKER IN PO
BOND SERVICE
4. UTILITY COMPAN
CURRENT AT TIM

LOAD DATA

NORMAL OPERATION
BATTERY RECHARGE OPE

205N — POWER
NO SCALE

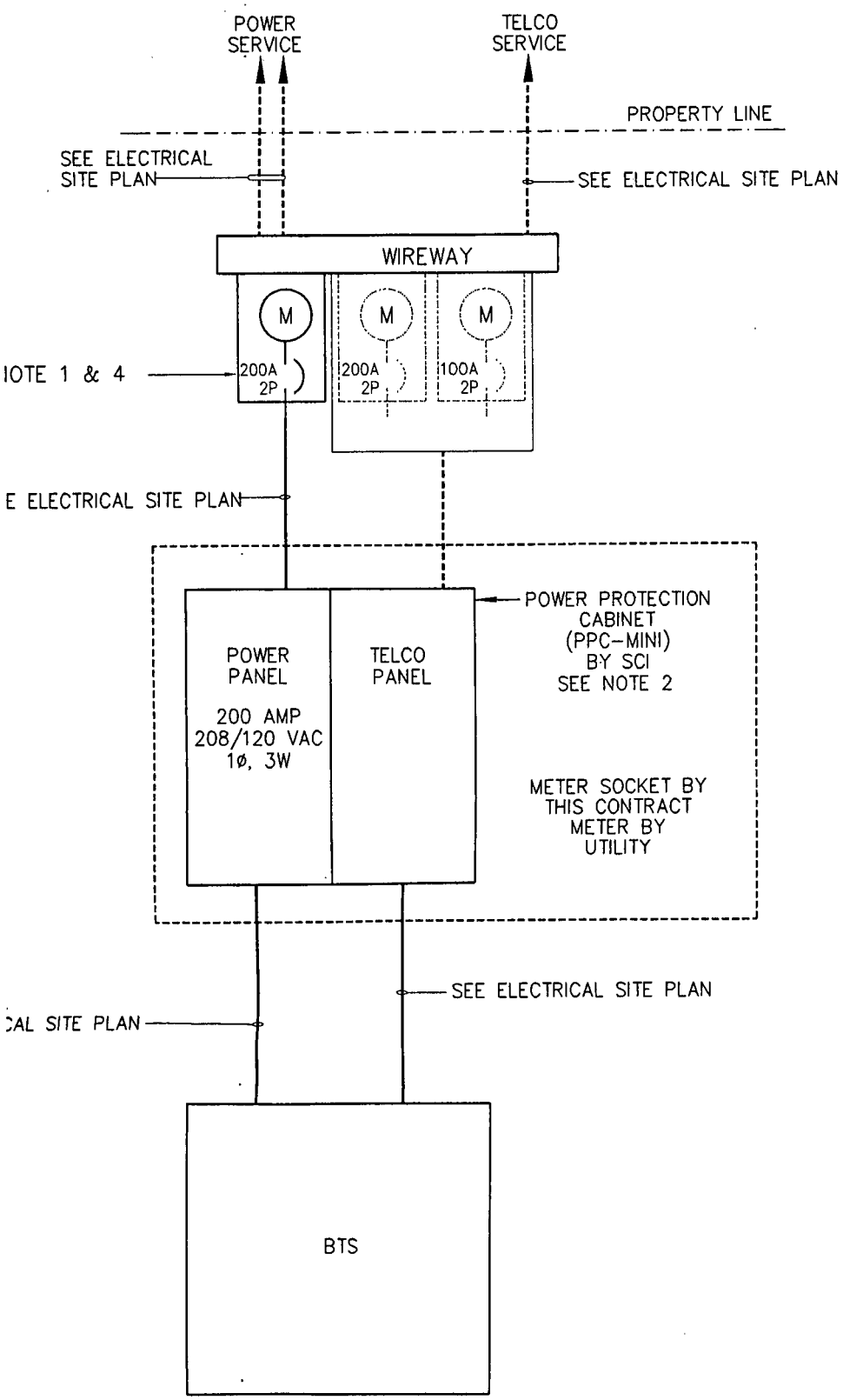
I ANY PERSON,
DER THE DIRECTION
ENGINEER, TO

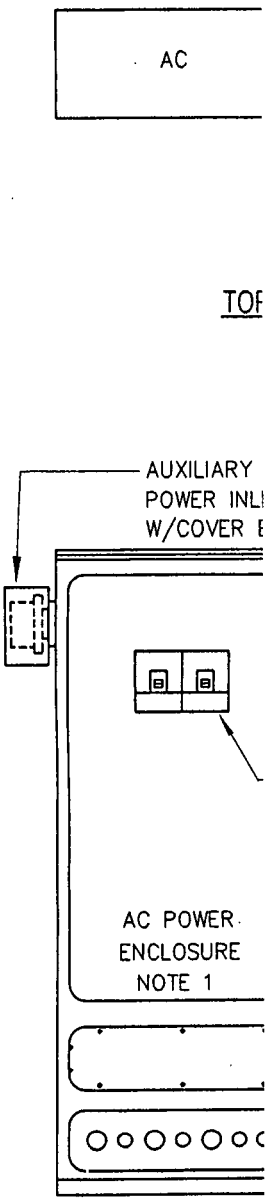
Sprint Com Inc.
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GA 30004

NO.	DATE	REVISIONS	BY	CHK	APP'D
3	7/23/99	BTS ADDED	AJH	CMM	MSV
2	7/12/99	ISSUED FOR CONSTRUCTION	BHA	CMM	MSV
1	6/25/99	ISSUED FOR QA\QC	DR	CMM	MSV
0	//				

SCALE: AS NOTED | DESIGNED DR | DRAWN DR

10E
BU





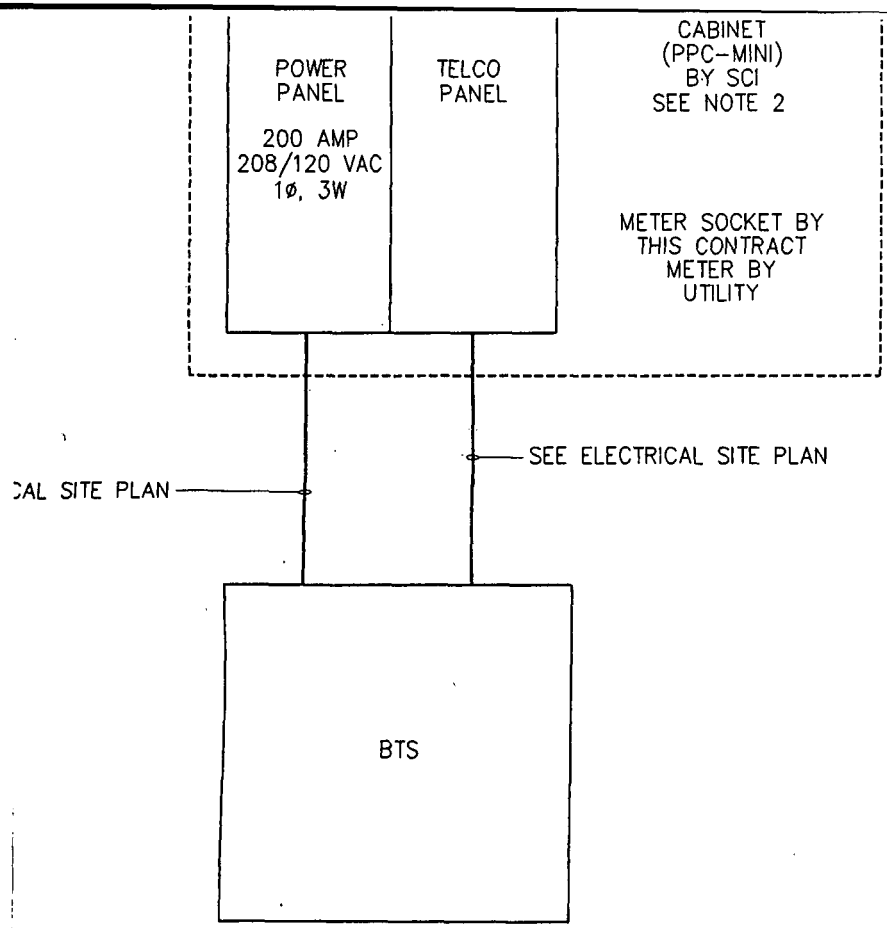
NOTES:

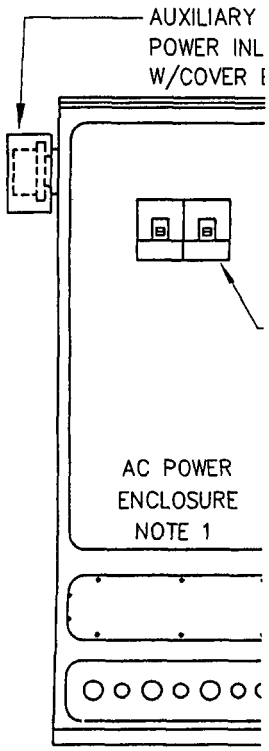
1. ELECTRICAL SERVICE SHALL BE RATED 200A, 208/120V, 1ø 3W.
2. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT REFER TO VENDOR PRINTS PROVIDED BY PPC MANUFACTURER.
3. WHEN UTILITY COMPANY REQUIRES A SERVICE DISCONNECT OTHER THAN MAIN BREAKER IN POWER PANEL OF PPC, REMOVE BONDING JUMPER IN PPC AND BOND SERVICE DISCONNECT PER NEC REQUIREMENTS.
4. UTILITY COMPANY DOES NOT HAVE INFORMATION REGARDING AVAILABLE FAULT

FRC

NOTES

1. AC POWER ENCLOSURE. 200
2. ALL EQUIPMENT SHALL BE GF
3. ELECTRICAL EQUIPMENT SHAL UTILITY COMPANIES AND AHJ.





NOTES:

1. ELECTRICAL SERVICE SHALL BE RATED 200A, 208/120V, 1ø 3W.
2. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT REFER TO VENDOR PRINTS PROVIDED BY PPC MANUFACTURER.
3. WHEN UTILITY COMPANY REQUIRES A SERVICE DISCONNECT OTHER THAN MAIN BREAKER IN POWER PANEL OF PPC, REMOVE BONDING JUMPER IN PPC AND BOND SERVICE DISCONNECT PER NEC REQUIREMENTS.
4. UTILITY COMPANY DOES NOT HAVE INFORMATION REGARDING AVAILABLE FAULT CURRENT AT TIME OF DRAWING ISSUE.

FR(

NOTES

1. AC POWER ENCLOSURE. 20(
2. ALL EQUIPMENT SHALL BE G
3. ELECTRICAL EQUIPMENT SHAI UTILITY COMPANIES AND AH(

LOAD DATA

NORMAL OPERATION	37 AMPS MAXIMUM	@ 208/120VAC, 1ø 3W
BATTERY RECHARGE OPERATION	53 AMPS MAXIMUM	@ 208/120VAC, 1ø 3W

205N
–

POWER & TELEPHONE DIAGRAM

NO SCALE

ISSUE 9

207N
–

FO
NO

	AJH	CMM	MSV
UCTION	BHA	CMM	MSV
OC	DR	CMM	MSV
	BY	CHK	APP'D

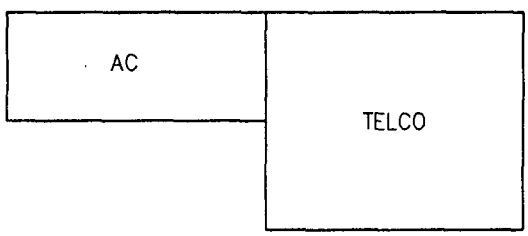
DR | DRAWN | DR

CHA
DRAWING COPYRIGHT © 1999
CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
1080 HOLCOMB BRIDGE ROAD - ROSWELL, GEORGIA - 30076
BUILDING 200 – SUITE 330 770-992-2332

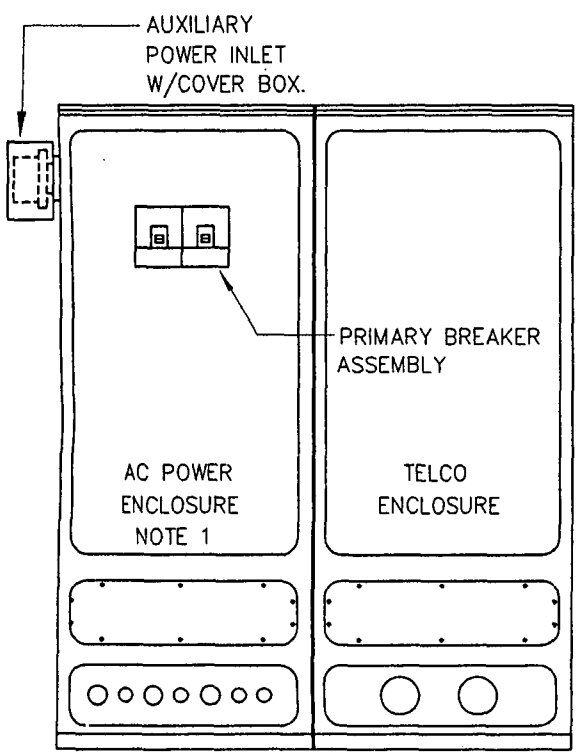
MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

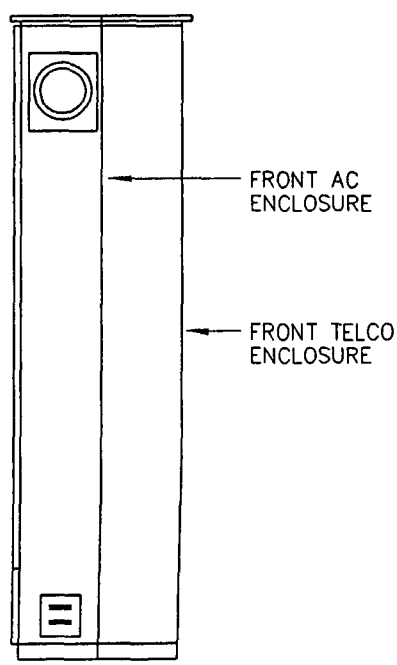
LOUISVILLE BTA



TOP VIEW



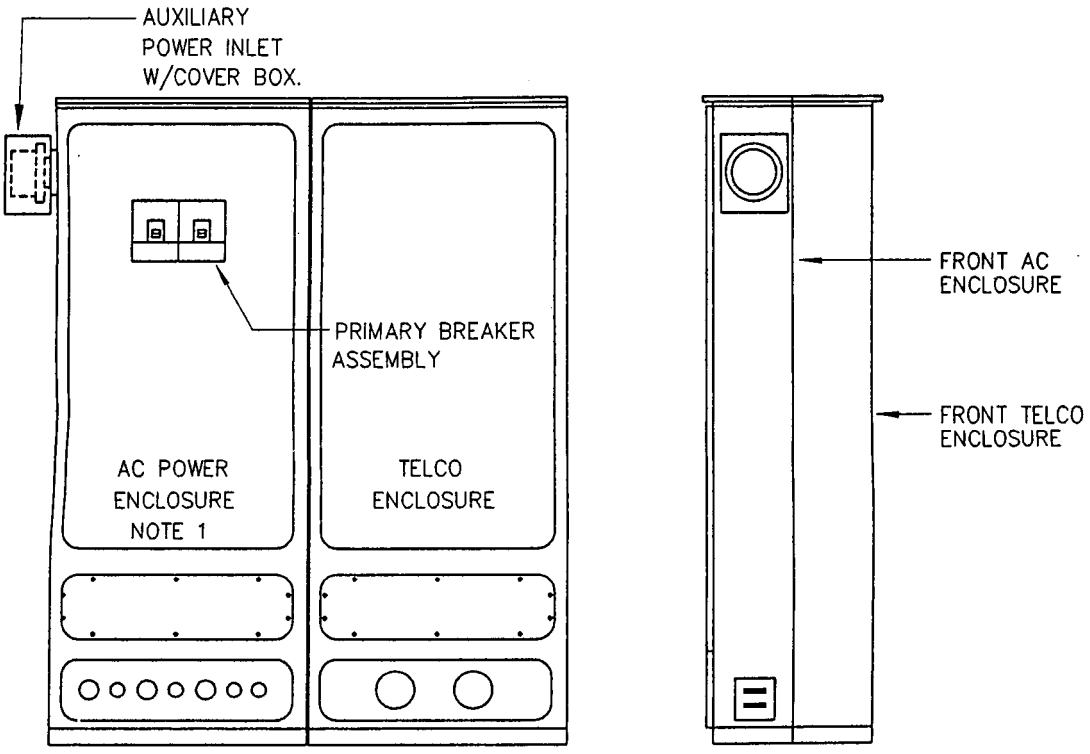
FRONT VIEW



SIDE VIEW

NOTES

1. AC POWER ENCLOSURE. 200 AMP, 208/120V, 1ø, 3W W/ GROUND. 200A/2P MAIN CIRCUIT BREAKER.
2. ALL EQUIPMENT SHALL BE GROUNDED. PER LATEST EDITION OF NEC AND AS INDICATED.
3. ELECTRICAL EQUIPMENT SHALL BE MIN. 3'-0" FROM ANY STRUCTURE AND AS REQUIRED BY LOCAL UTILITY COMPANIES AND AHJ.



FRONT VIEW

SIDE VIEW

NOTES

1. AC POWER ENCLOSURE. 200 AMP, 208/120V, 1ø, 3W W/ GROUND. 200A/2P MAIN CIRCUIT BREAKER.
2. ALL EQUIPMENT SHALL BE GROUNDED. PER LATEST EDITION OF NEC AND AS INDICATED.
3. ELECTRICAL EQUIPMENT SHALL BE MIN. 3'-0" FROM ANY STRUCTURE AND AS REQUIRED BY LOCAL UTILITY COMPANIES AND AHJ.

207N	PPC MINI DETAIL
–	FOR ORIENTATION SEE ELECTRICAL PLAN ISSUE 1
	NO SCALE

MARSHALL

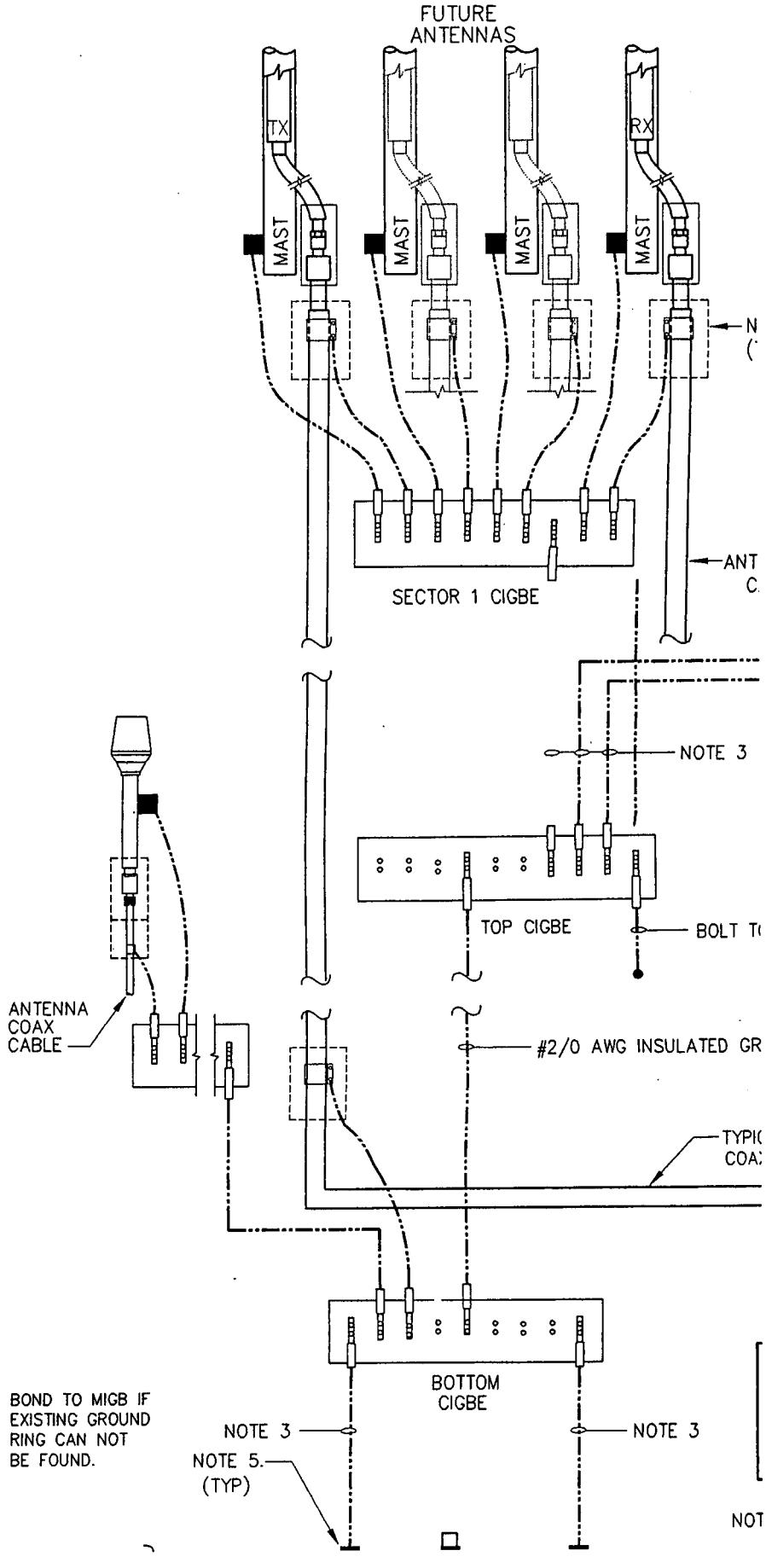
MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

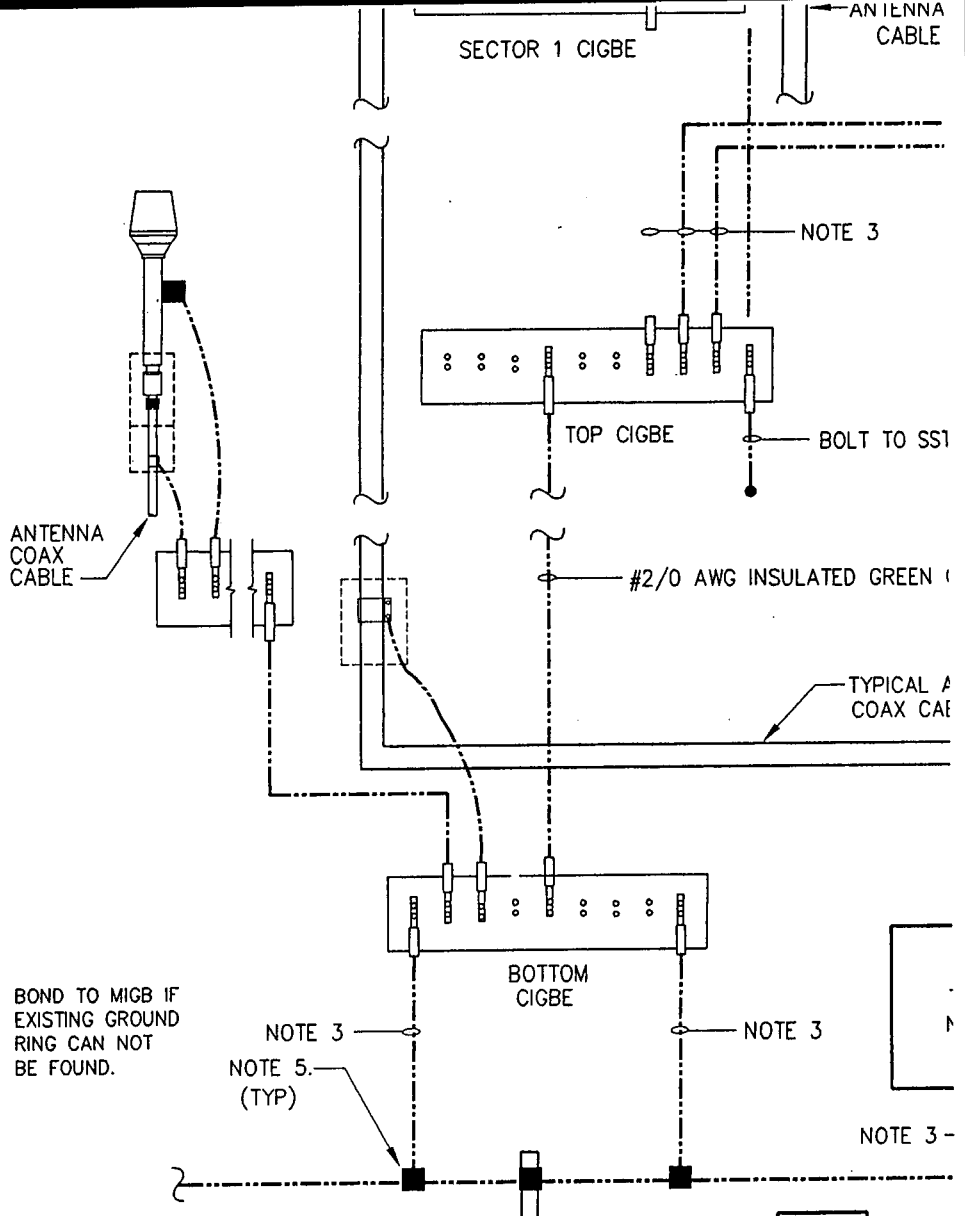
LOUISVILLE BTA

SITE NO.: LV33XC001A

ELECTRICAL DETAILS

DATE:	SPRINT JOB NO.	A\E JOB NO.	DRAWING NUMBER	REV
06/28/99	LV33XC001A	8113.55.05	KCA001E4	2


FUTURE
ANTENNAS
TX
RX
MAST
MAST
MAST
MAST
N
(
SECTOR 1 CIGBE
ANT
C
NOTE 3
TOP CIGBE
BOLT T
ANTENNA
COAX
CABLE
#2/0 AWG INSULATED GR
TYPI
COA
BOTTOM
CIGBE
BOND TO MIGB IF
EXISTING GROUND
RING CAN NOT
BE FOUND.
NOTE 3
NOTE 5.
(TYP)
NOTE 3
NOT



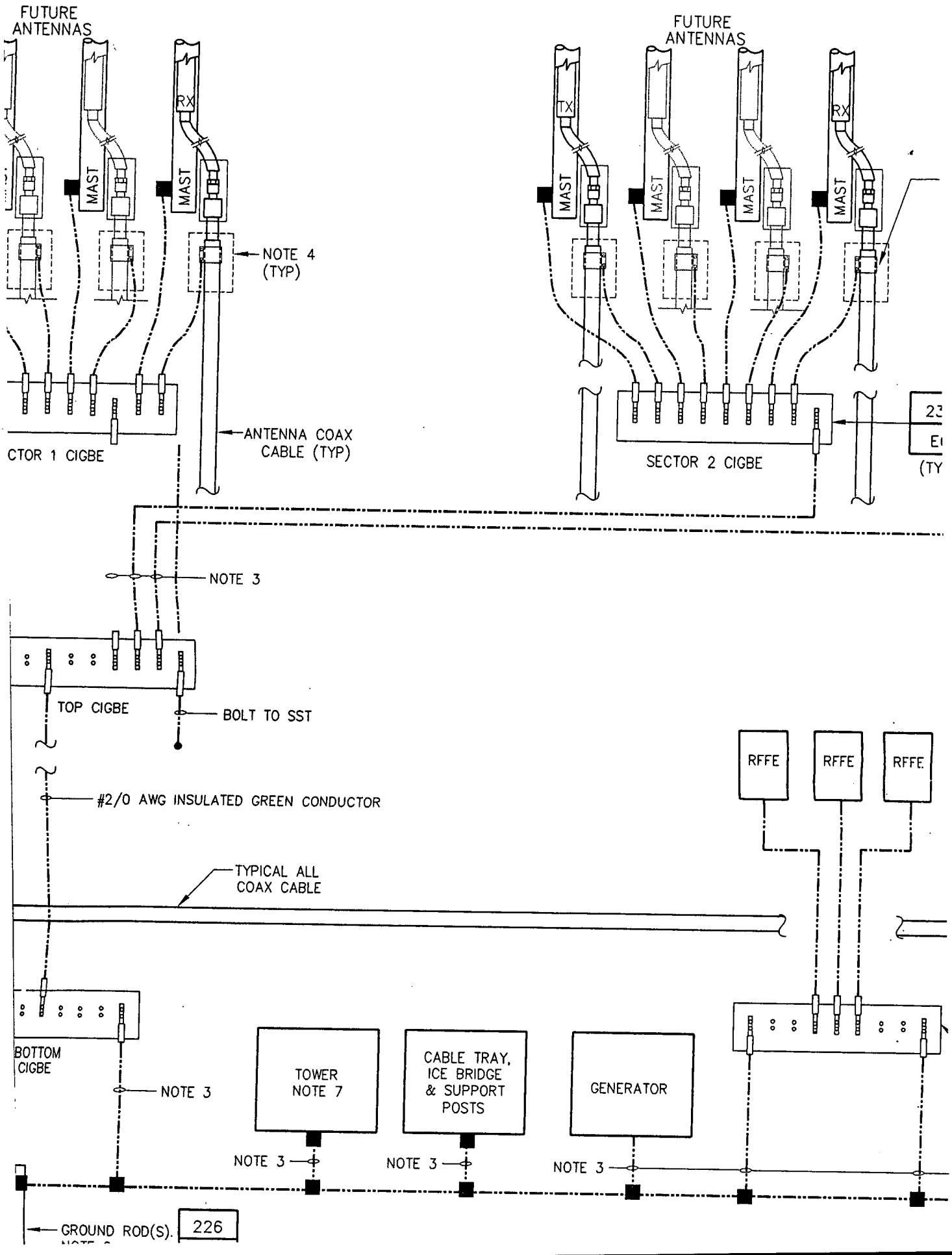
JUL 26 1999

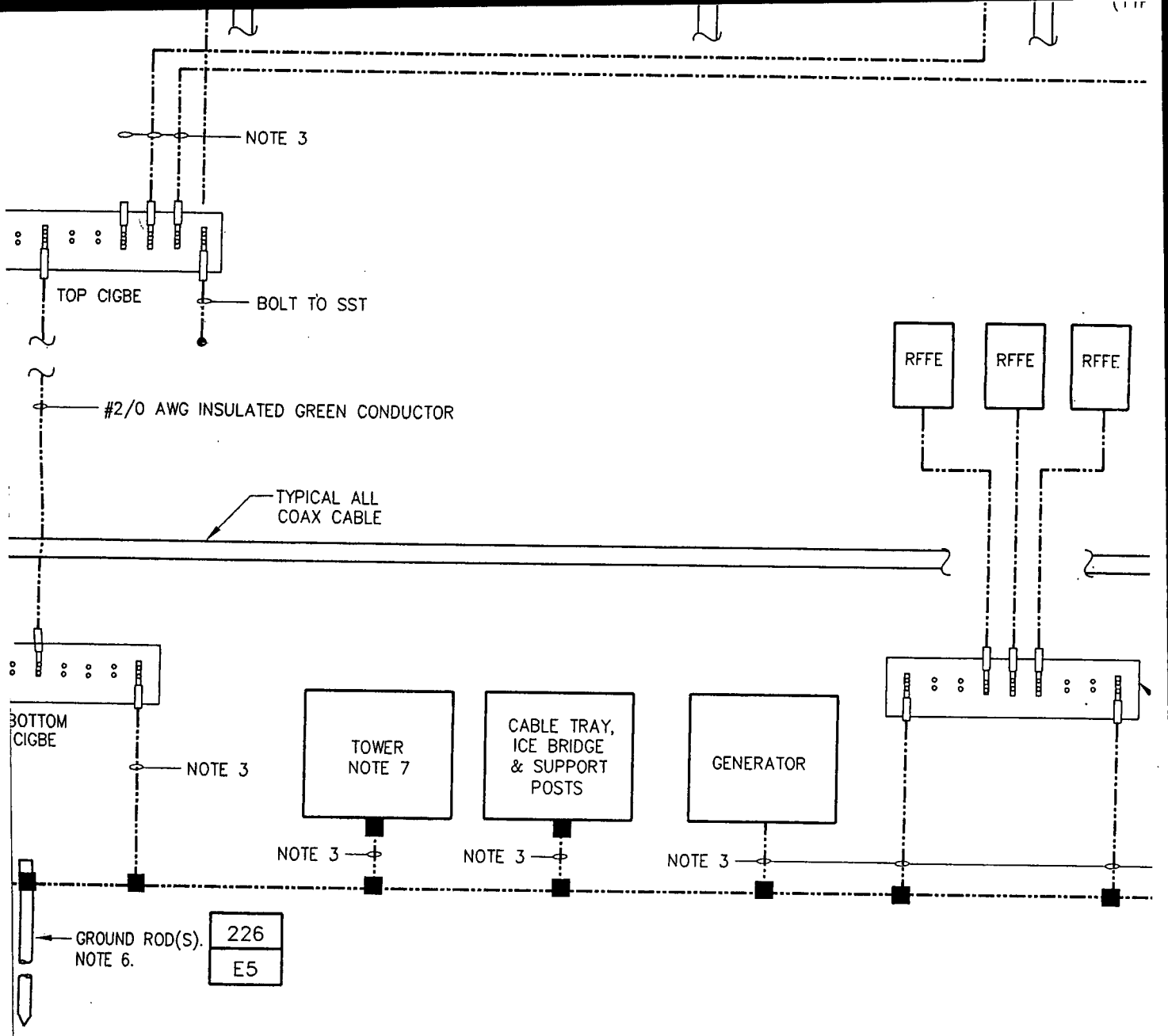
STATE OF KENTUCKY
PETER A. McTYGUE
20886
LICENSED PROFESSIONAL ENGINEER

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.

Sprint

11390 OLD ROSWEL
SUITE 100
ALPHARETTA, GA 30(


FUTURE ANTENNAS
RX
MAST
MAST
NOTE 4 (TYP)
CTOR 1 CIGBE
ANTENNA COAX CABLE (TYP)
FUTURE ANTENNAS
TX
RX
MAST
MAST
MAST
MAST
SECTOR 2 CIGBE
NOTE 3
TOP CIGBE
BOLT TO SST
#2/0 AWG INSULATED GREEN CONDUCTOR
RFFE
RFFE
RFFE
TYPICAL ALL COAX CABLE
BOTTOM CIGBE
NOTE 3
TOWER NOTE 7
CABLE TRAY, ICE BRIDGE & SUPPORT POSTS
GENERATOR
NOTE 3
NOTE 3
NOTE 3
GROUND ROD(S).
226



217
–

GROUNDING DIAGRAM LA

NO SCALE

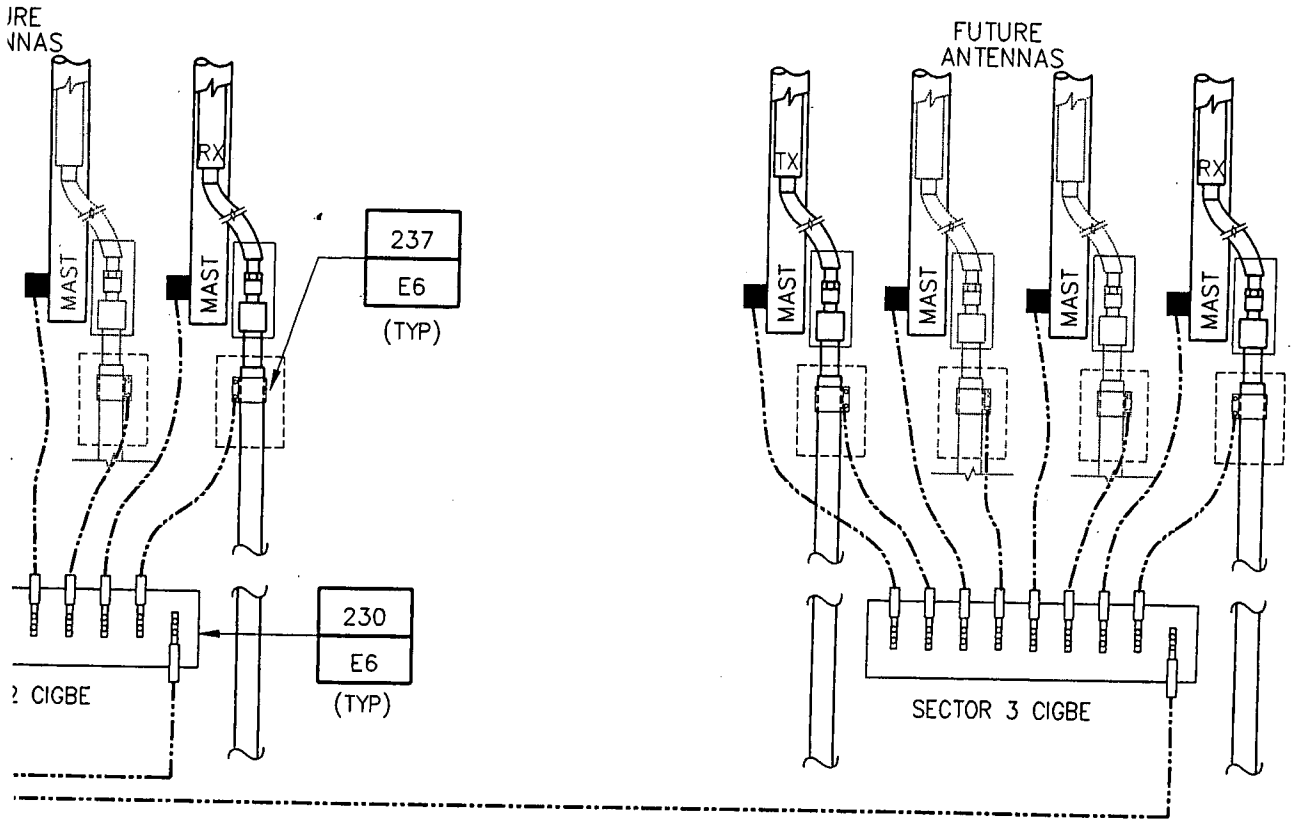
Sprint Com Inc.

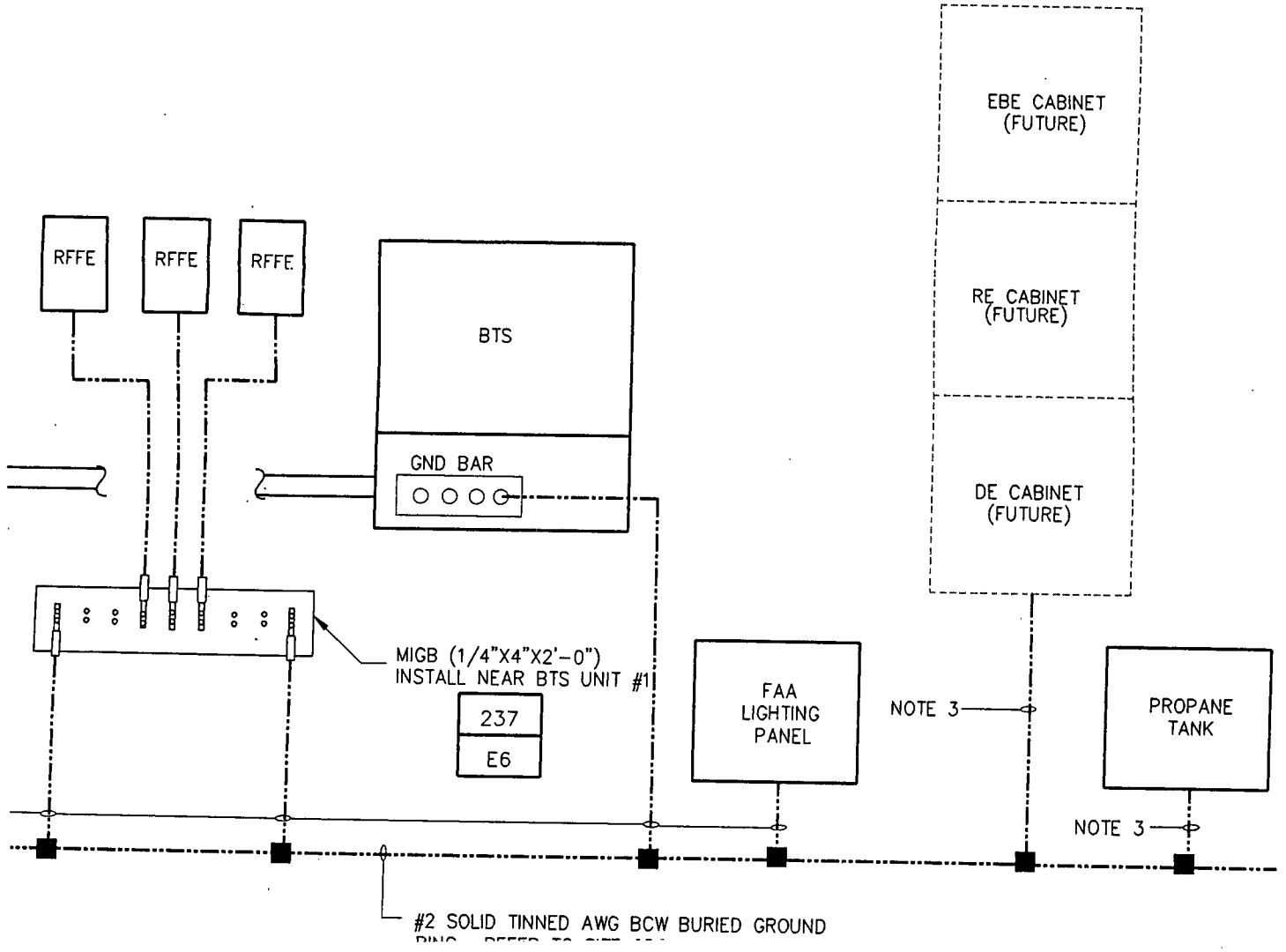
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GA 30004

NO.	DATE	REVISIONS	BY	CHK	APP'D
5	7/23/99	BTS ADDED	AJH	CMM	MSV
4	7/20/99	FAA LIGHTING ADDED	TLH	CMM	MSV
3	7/12/99	ISSUED FOR CONSTRUCTION	TLH	CMM	MSV
2	6/28/99	ISSUED FOR QA\QC	DR	CMM	MSV

SCALE: AS NOTED | DESIGNED DR | DRAWN DR

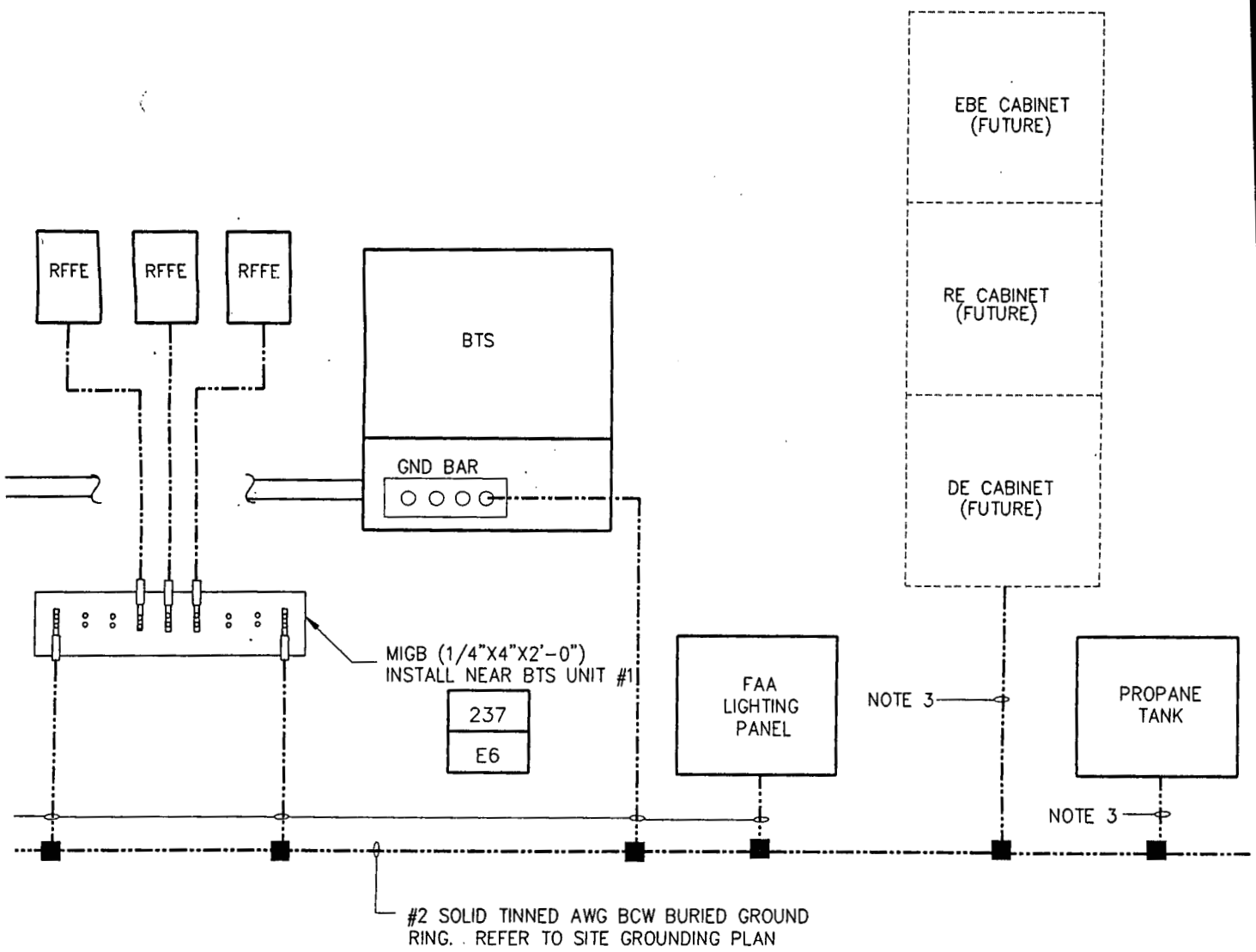
1080 HOLC
BUILDING 2


URE
ANNAS
RX
MAST
MAST
237
E6
(TYP)
230
E6
(TYP)
CIGBE
FUTURE
ANTENNAS
TX
MAST
MAST
MAST
MAST
RX
SECTOR 3 CIGBE


EBE CABINET
(FUTURE)
RE CABINET
(FUTURE)
DE CABINET
(FUTURE)
RFFE
RFFE
RFFE
BTS
GND BAR
MIGB (1/4"X4"X2'-0")
INSTALL NEAR BTS UNIT #1
237
E6
FAA
LIGHTING
PANEL
NOTE 3
PROPANE
TANK
NOTE 3
#2 SOLID TINNED AWG BCW BURIED GROUND

(TYP)

SECTOR 3 CIGBE



JNDING DIAGRAM LAND SITE

ISSUE 7

NOTES:

1. PROVIDE #2 AWG GROUNDING CONDUCTOR UNLESS NOTED OTHERWISI
2. PROVIDE BONDING AND GROUNDING CONDUCTORS WITH GREEN TYPE
3. PROVIDE SOLID TINNED BARE COPPER WIRE GROUNDING CONDUCTOR.
4. PROVIDE STANDARD COMMSCOPE COAX CABLE GROUNDING KIT OR FI OF GROUNDING CONDUCTOR SHALL NOT EXCEED 10' 0".
5. CADWELD CONNECTION.
6. PROVIDE GROUNDING ELECTRODES IN QUANTITY, TYPE AND SIZE AS I
7. BOND TO ONE LEG OF EXISTING SELF-SUPPORTING TOWER.

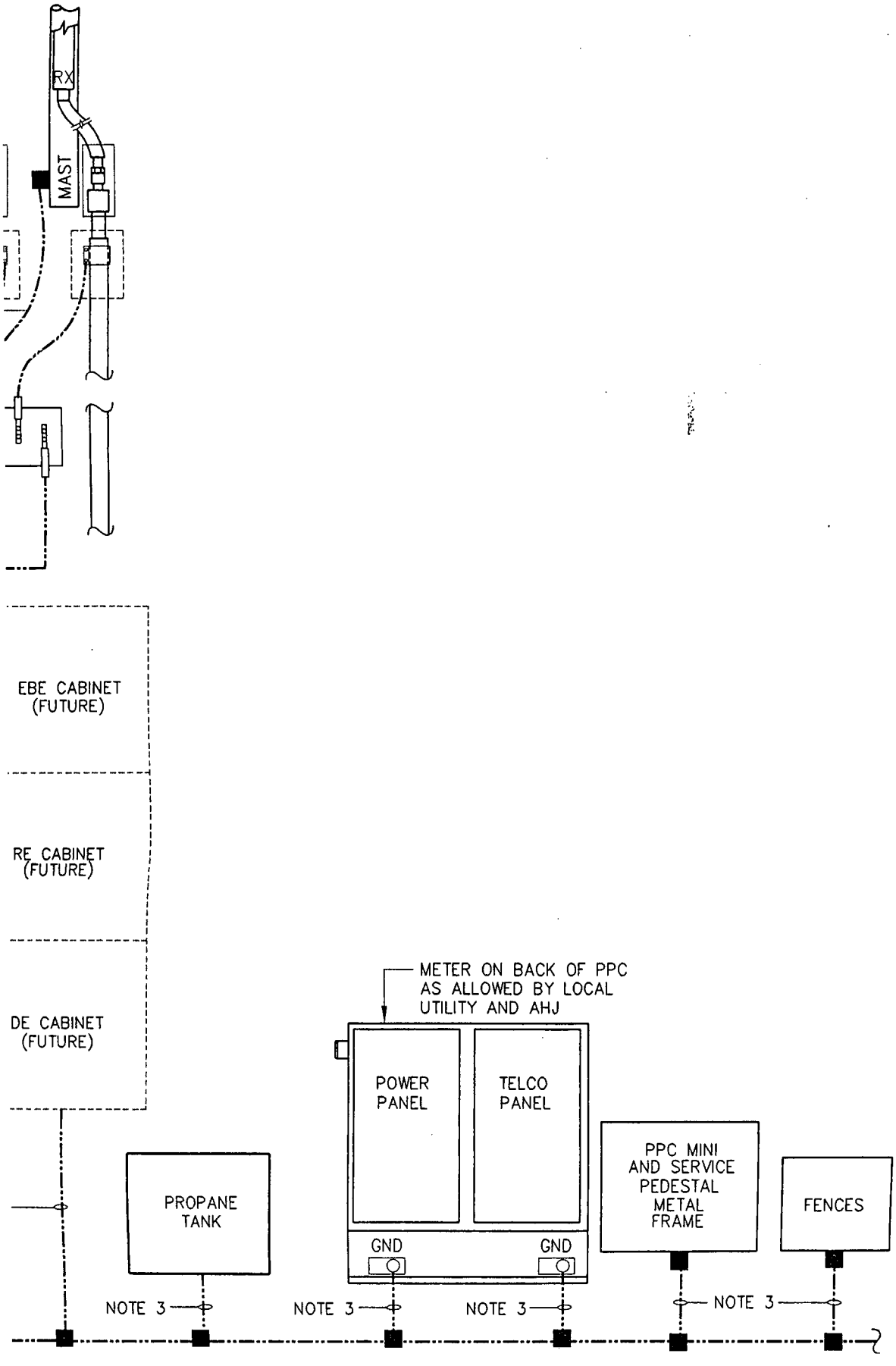
	AJH	CMM	MSV
	TLH	CMM	MSV
ON	TLH	CMM	MSV
	DR	CMM	MSV
	BY	CHK	APP'D
R	DRAWN	DR	

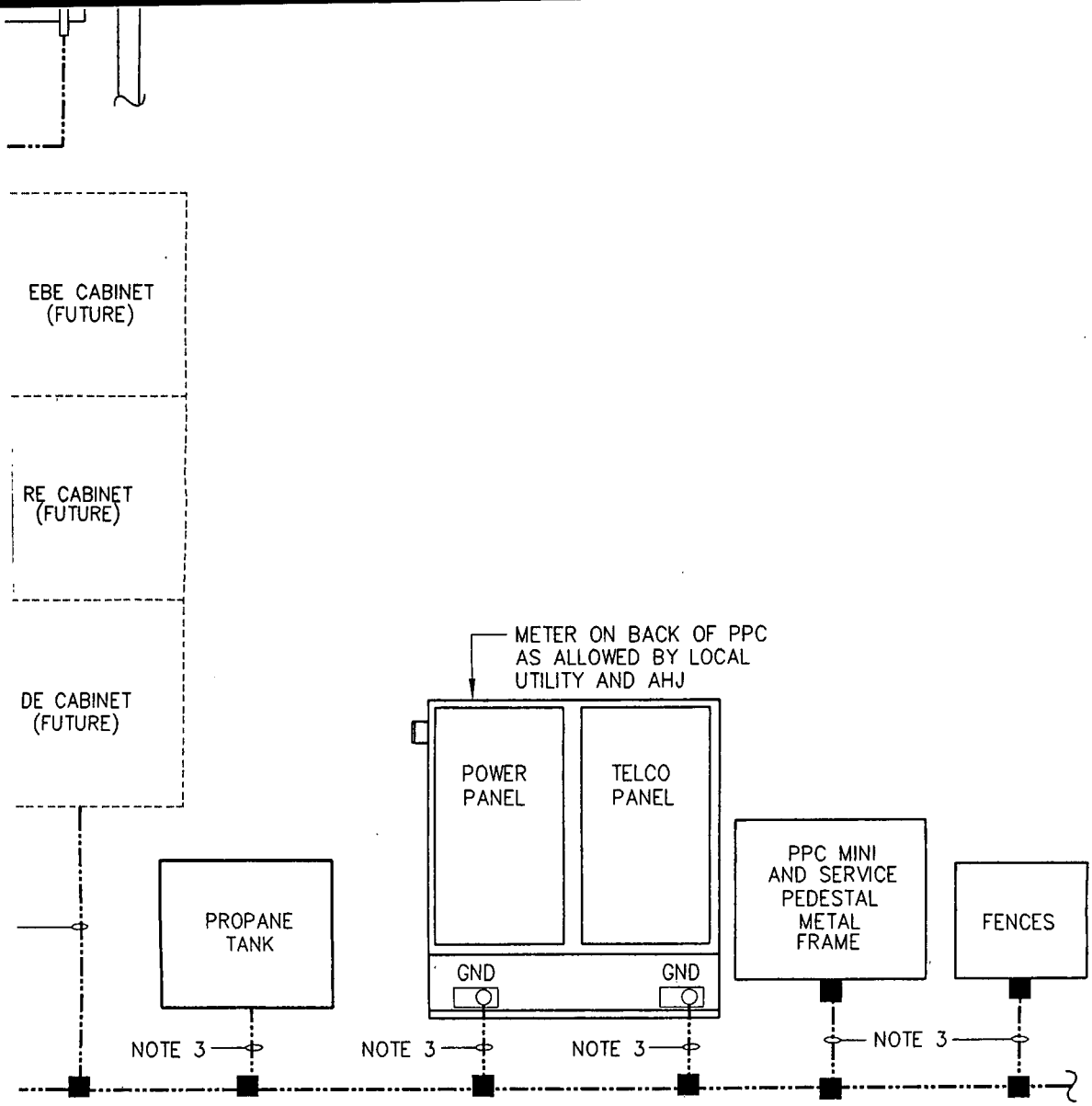
CHA
DRAWING COPYRIGHT © 1999
CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
1080 HOLCOMB BRIDGE ROAD-ROSWELL, GEORGIA - 30076
BUILDING 200 - SUITE 330 770-992-2332

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA


RX
MAST
EBE CABINET (FUTURE)
RE CABINET (FUTURE)
DE CABINET (FUTURE)
METER ON BACK OF PPC AS ALLOWED BY LOCAL UTILITY AND AHJ
POWER PANEL
TELCO PANEL
GND
GND
PROPANE TANK
PPC MINI AND SERVICE PEDESTAL METAL FRAME
FENCES
NOTE 3
NOTE 3
NOTE 3
NOTE 3



UCTOR UNLESS NOTED OTHERWISE.
CONDUCTORS WITH GREEN TYPE THWN INSULATION UNLESS OTHERWISE NOTED.
ER WIRE GROUNDING CONDUCTOR.
)AX CABLE GROUNDING KIT OR FIELD FABRICATE TO SUIT CONDITIONS. TOTAL LENGTH
NOT EXCEED 10' 0".

N QUANTITY, TYPE AND SIZE AS INDICATED ON SITE GROUNDING PLAN, DRAWING E-2.
.F-SUPPORTING TOWER.

MARSHALL

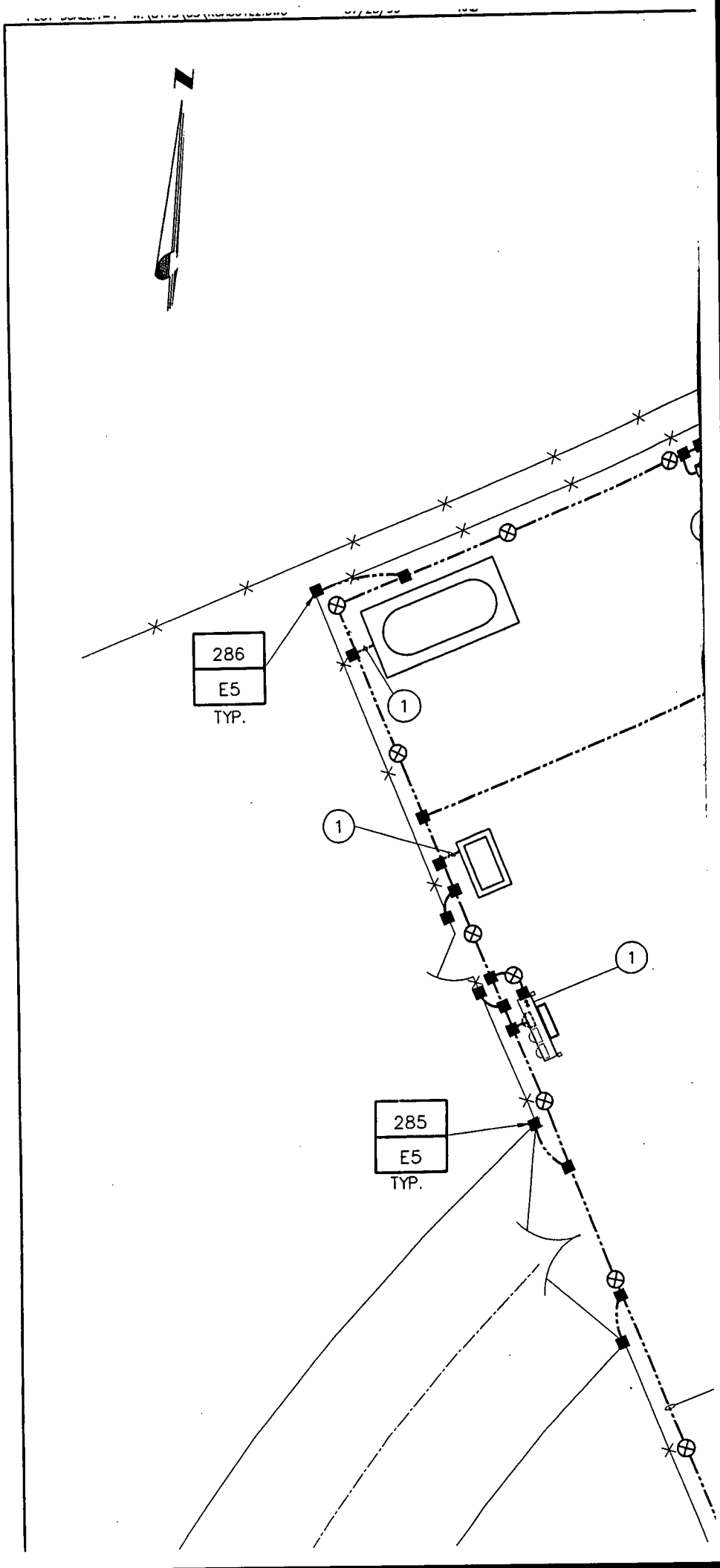
MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

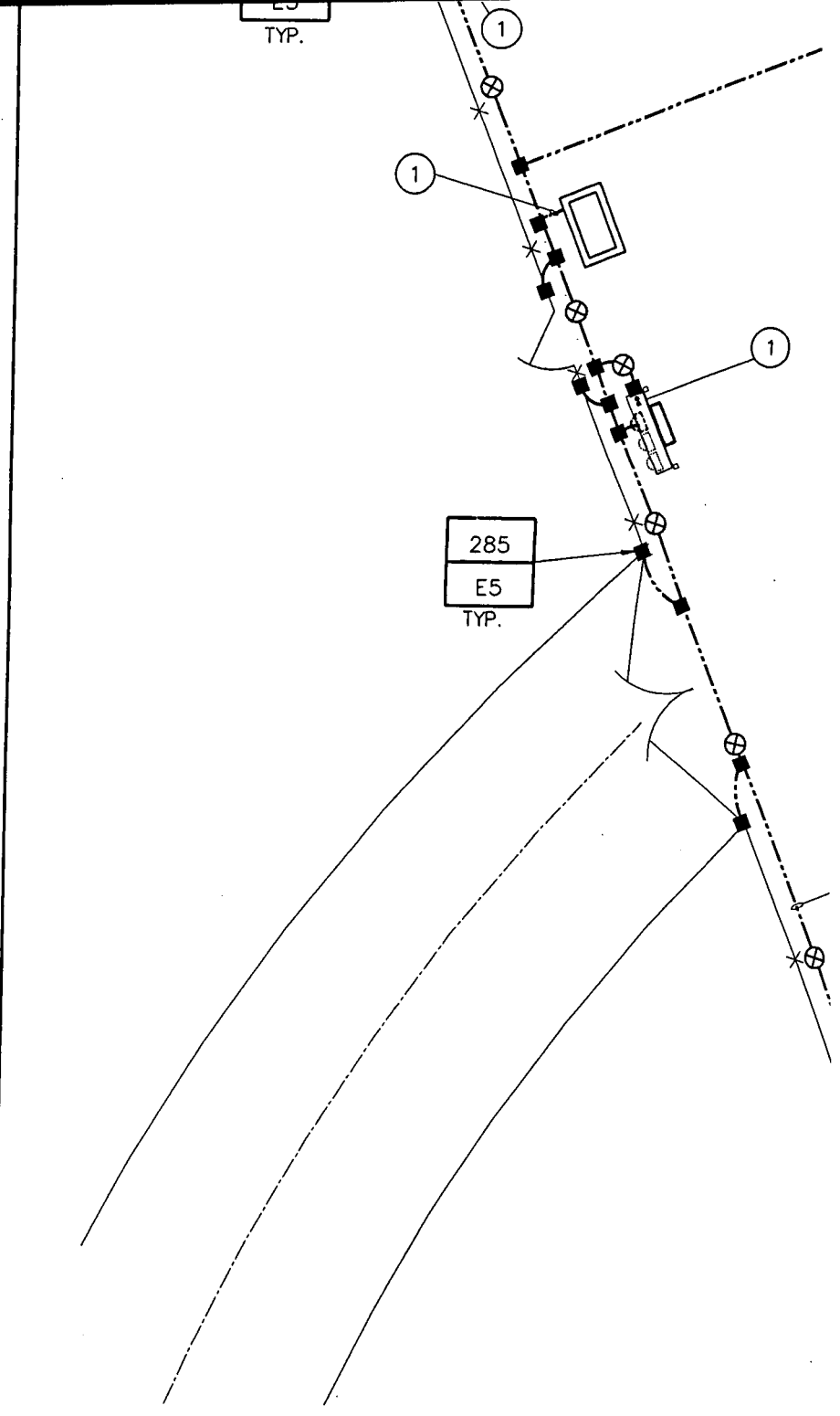
LOUISVILLE BTA

SITE NO.: LV33XC001A

GROUNDING DIAGRAM

DATE:	SPRINT JOB NO.	A\E JOB NO.	DRAWING NUMBER	REV
06/28/99	LV33XC001A	8113.55.05	KCA001E3	3


N
286
E5
TYP.
1
1
1
285
E5
TYP.

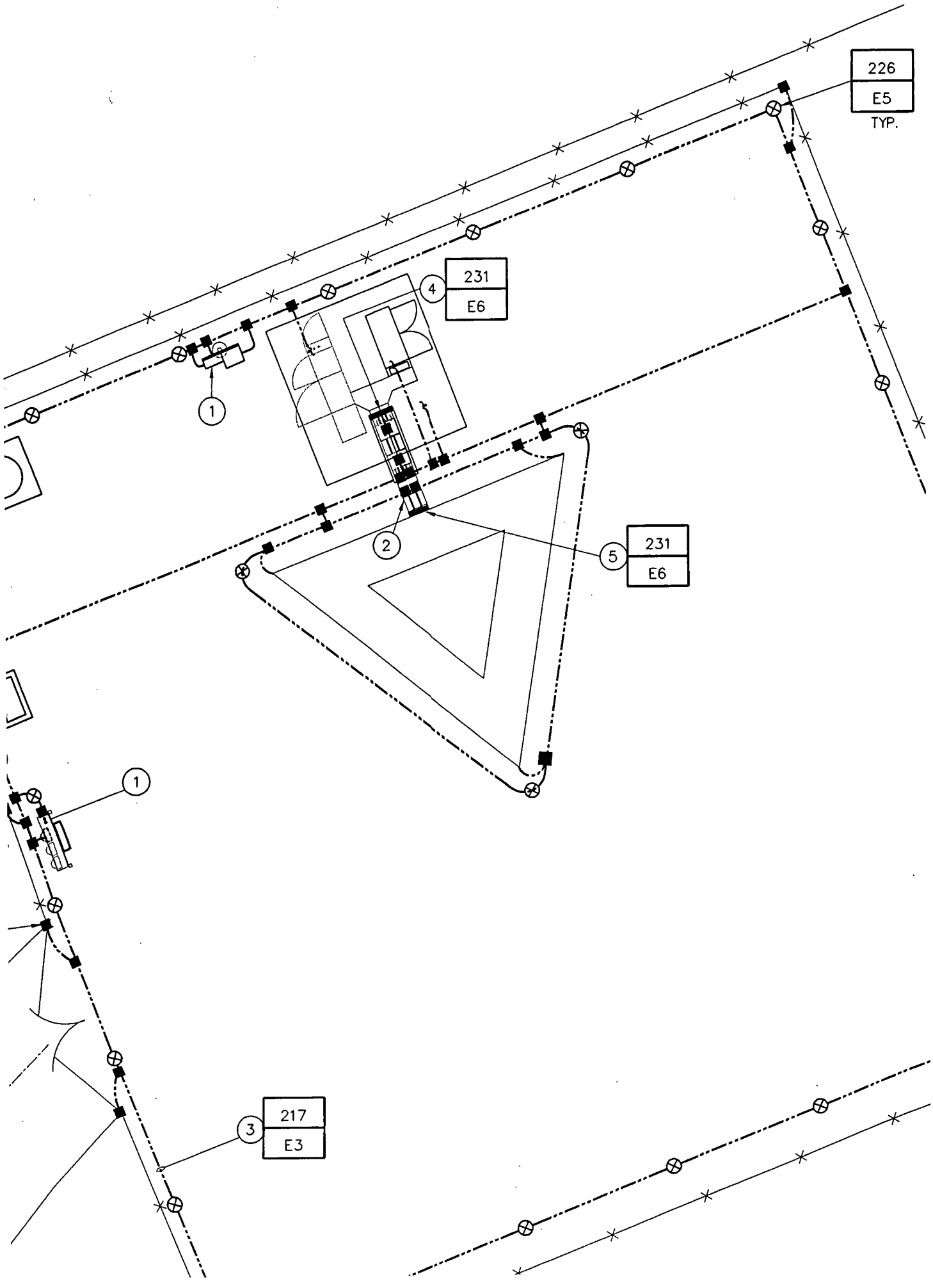


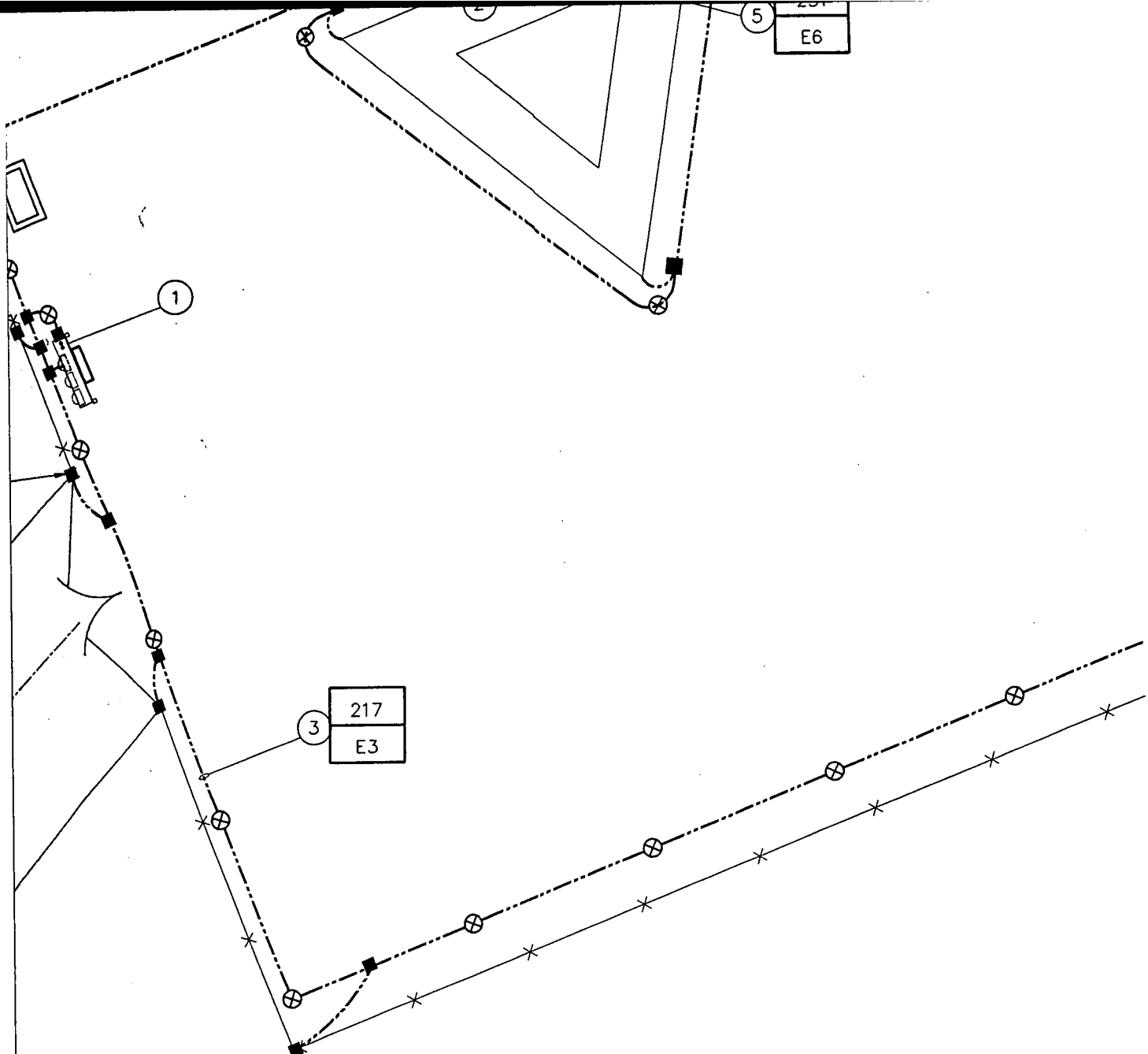
JUL 26 999

STATE OF KENTUCKY
PETER A. McTYGUE
20886
LICENSED
PROFESSIONAL ENGINEER

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.

S
11.
SU
ALF


226
E5
TYP.
4
231
E6
1
2
5
231
E6
1
3
217
E3



1 — GROUNDING PLAN

SCALE 1/8"=1'-0"

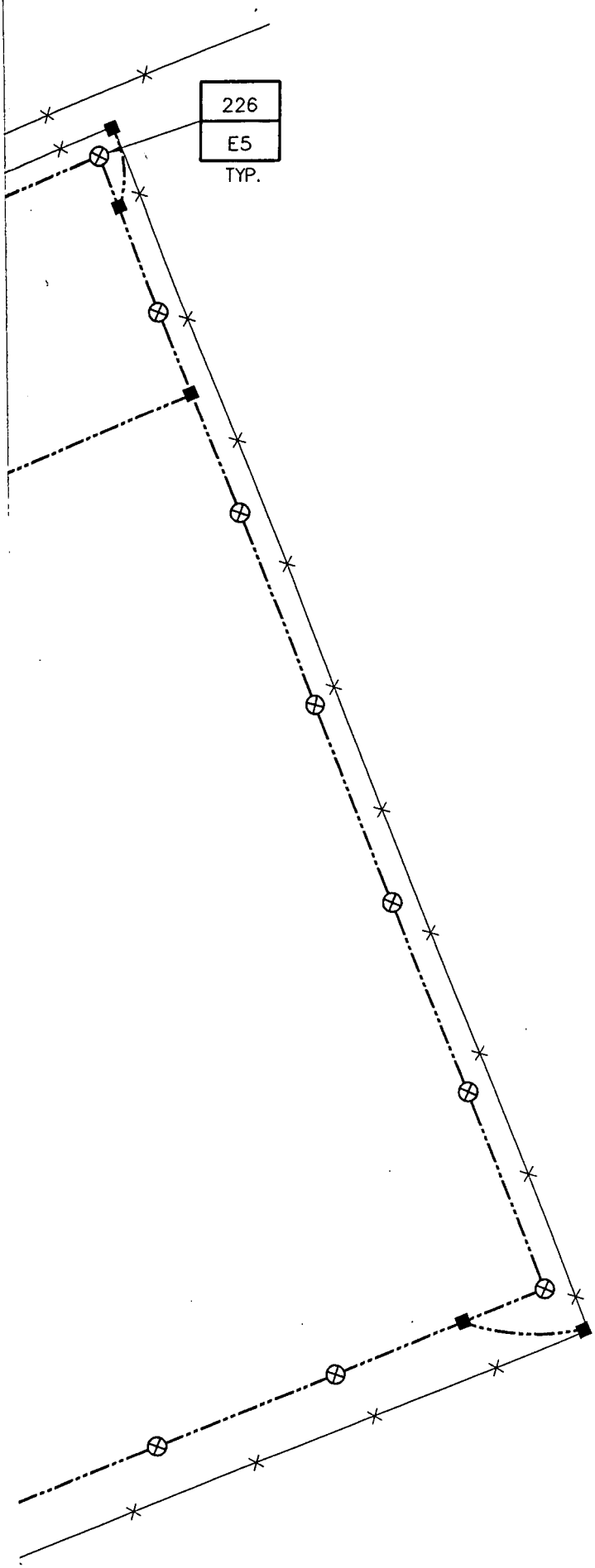
ANY PERSON,
DER THE DIRECTION
ENGINEER, TO

Sprint Com Inc.

11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GA 30004

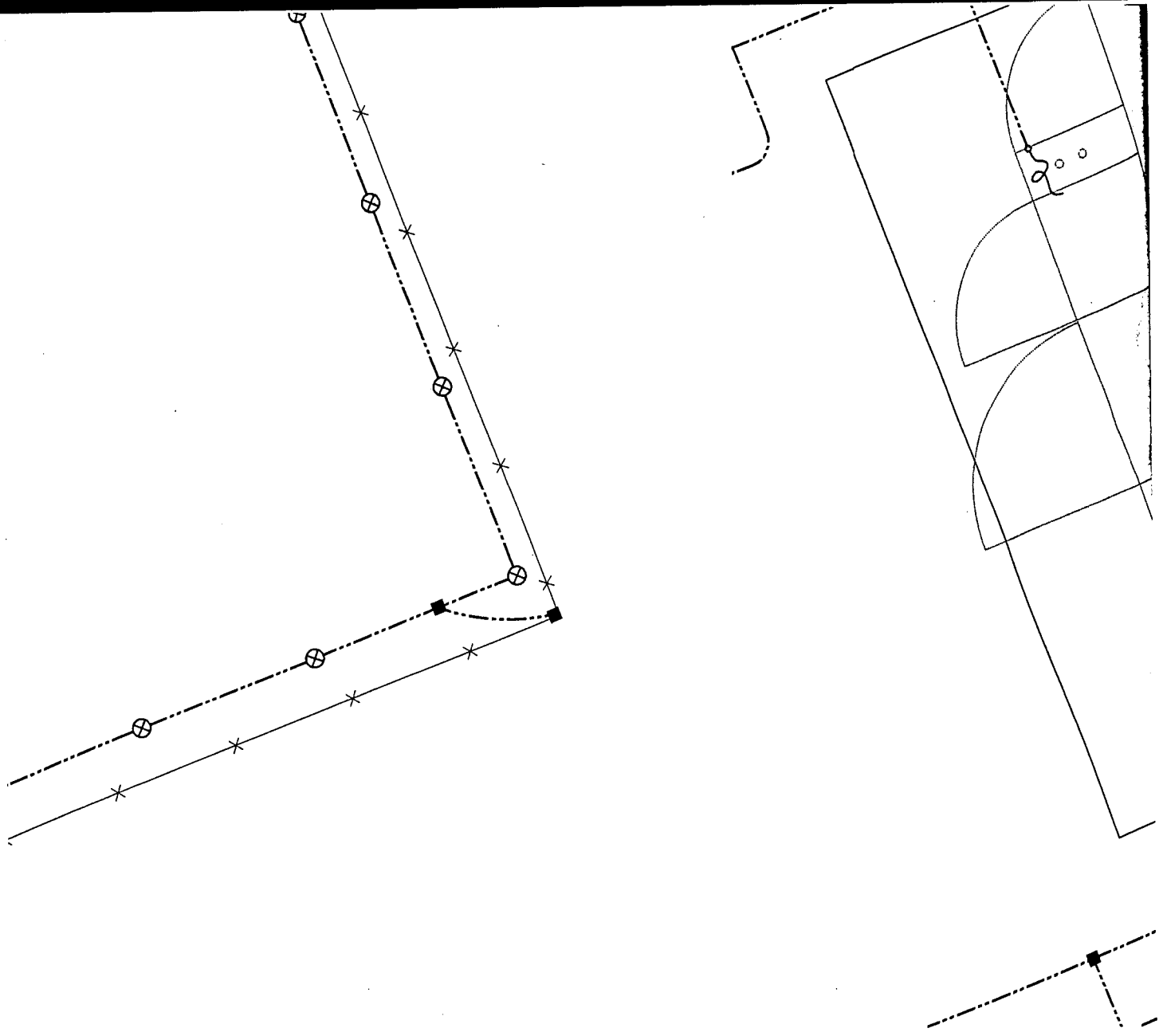
NO.	DATE	REVISIONS	BY	CHK	APP'D
5	7/23/99	BTS ADDED	AJH	CMM	MSV
2	7/20/99	FAA LIGHTING ADDED	RAD	CMM	MSV
1	7/12/99	ISSUED FOR CONSTRUCTION	TLH	CMM	MSV
0	6/28/99	ISSUED FOR QA\QC	GS	CMM	MSV

SCALE: AS NOTED | DESIGNED GS | DRAWN GS



CODED DRAWING NOTES:

1. GROUND METER AND SERVICE EQUI NEC, UTILITY REQUIREMENTS AND /
2. ICE BRIDGE. BOND EACH SECTION SUPPORT POST.
3. #2 SOLID TINNED BCW BURIED GR
4. MIGB.
5. TOP AND BOTTOM CIGBE(S).
6. RFFE'S FURNISHED BY SCI.



2	ENLARGED E
–	SCALE 1/2"=1'-0"

)ED	AJH	CMM	MSV	
: ADDED	RAD	CMM	MSV	
NSTRUCTION	TLH	CMM	MSV	
QA\QC	GS	CMM	MSV	
)NS	BY	CHK	APP'D	
:D GS	DRAWN GS			

CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
1080 HOLCOMB BRIDGE ROAD-ROSWELL, GEORGIA - 30076
BUILDING 200 – SUITE 330 770-992-2332

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA

DRAWING NOTES:

ROUND METER AND SERVICE EQUIPMENT PER
C, UTILITY REQUIREMENTS AND AS INDICATED.

E BRIDGE. BOND EACH SECTION AND EACH
UPPORT POST.

2 SOLID TINNED BCW BURIED GROUND RING.

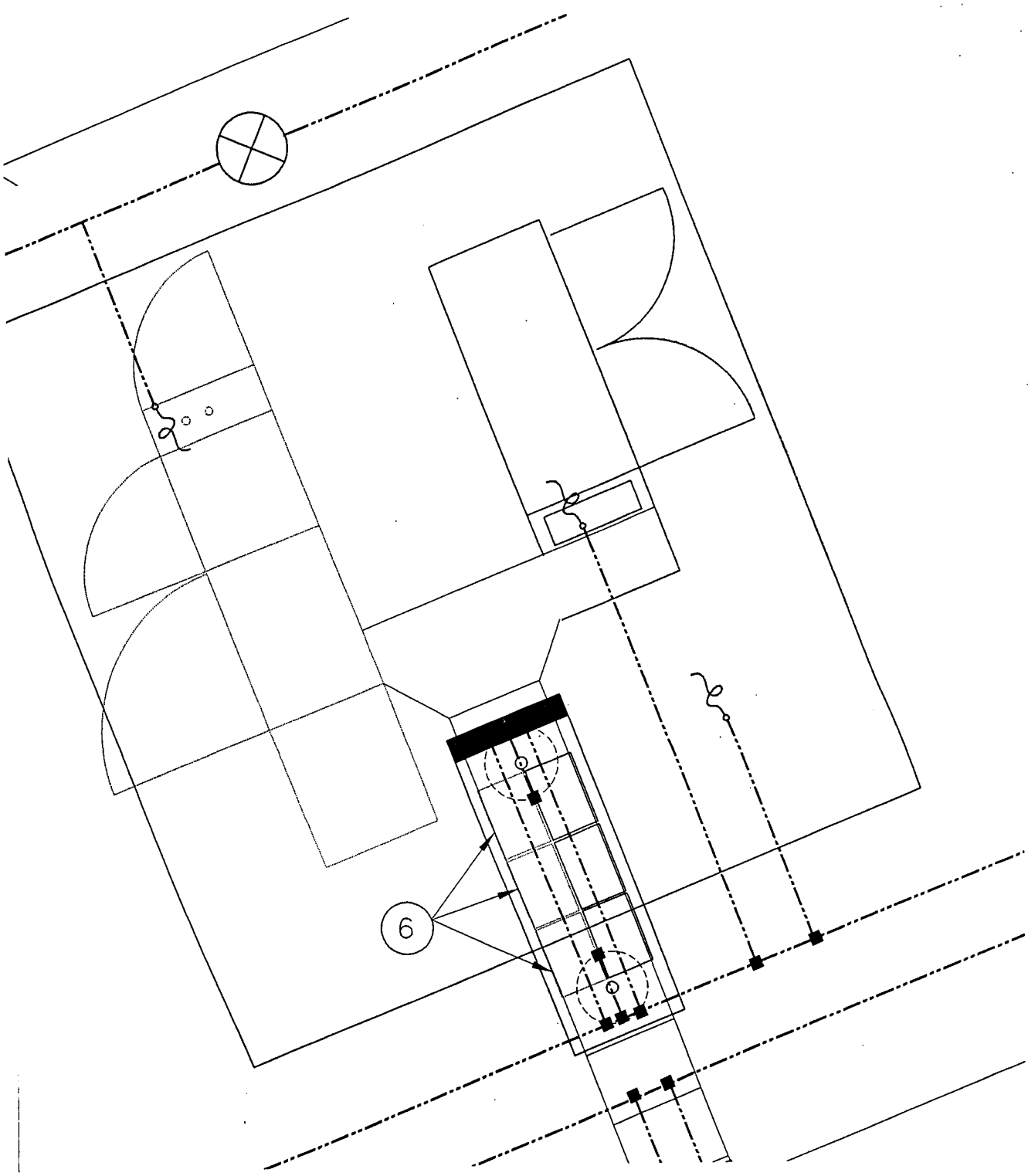
GB.

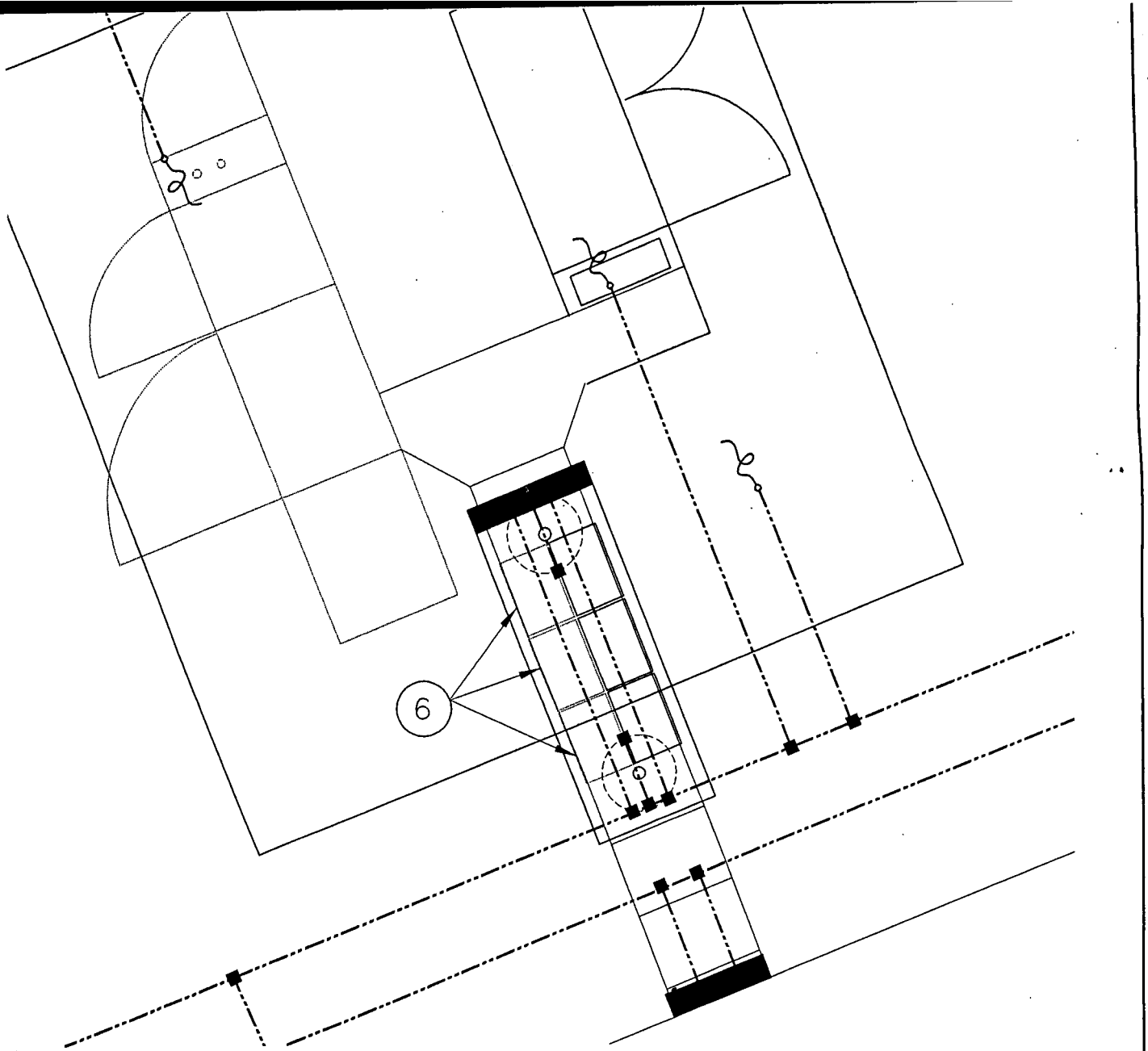
OP AND BOTTOM CIGBE(S).

FE'S FURNISHED BY SCI.

GROUNDING NOTE:

1. REFER TO DRAWING E3, GROUNDING DIAGRAM.





ENLARGED EQUIPMENT AREA – GROUNDING PLAN

SCALE 1/2"=1'-0"

MARSHALL MARSHALL 7881 HWY 36 SANDERS, KENTUCKY LOUISVILLE BTA	SITE NO.: LV33XC001A				
	GROUNDING PLAN				
	DATE:	SPRINT JOB NO.	A\E JOB NO.	DRAWING NUMBER	REV
	06/28/99	LV33XC001A	8113.55.05	KCA001E2	3

UTILITY CONTACTS:

OWEN ELECTRIC
CHUCK GILL
1-800-372-7612

BELLSOUTH
DAVE BANISTER
1-502-875-5365

ABBREVIATIONS

AHJ	AUTHORITY HAVING JURISDICTION
AWG	AMERICAN WIRE GAUGE
BCW	BARE COPPER WIRE
CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
DIA	DIAMETER
DWG	DRAWING
GPS	GLOBAL POSITIONING SYSTEM
MIGB	MASTER ISOLATED GROUND BAR
PCS	PERSONAL COMMUNICATION SYSTEM
PPC	POWER PROTECTION CABINET
RFFE	RADIO FREQUENCY FRONT END
RGS	RIGID GALVANIZED STEEL
RWY	RACEWAY
SCI	SPRINT COMMUNICATIONS INCORPORATED
SST	SELF SUPPORTING (LATTICE) TOWER
T to B	TOP to BOTTOM
TYP.	TYPICAL
W/	WITH
RE	RADIO ENCLOSURE
DE	DIGITAL ENCLOSURE
EBE	EXTERNAL BATTERY ENCLOSURE

SITE NO.: LV33XC001A

ELECTRICAL SITE PLAN

DATE:	SPRINT JOB NO.	A\E JOB NO.	DRAWING NUMBER	REV
06/28/99	LV33XC001A	8113.55.05	KCA001E1	3

LECTRICAL SYMBOLS

GROUND ROD

CADWELD TYPE CONNECTION

COMPRESSION TYPE CONNECTION

MIGB — MIGB/CIGBE – GROUND BAR

Ⓜ — METER

---- GROUNDING WIRE

---- UNDERGROUND TELEPHONE/ELECTRIC

) INDICATES CODED NUMBER

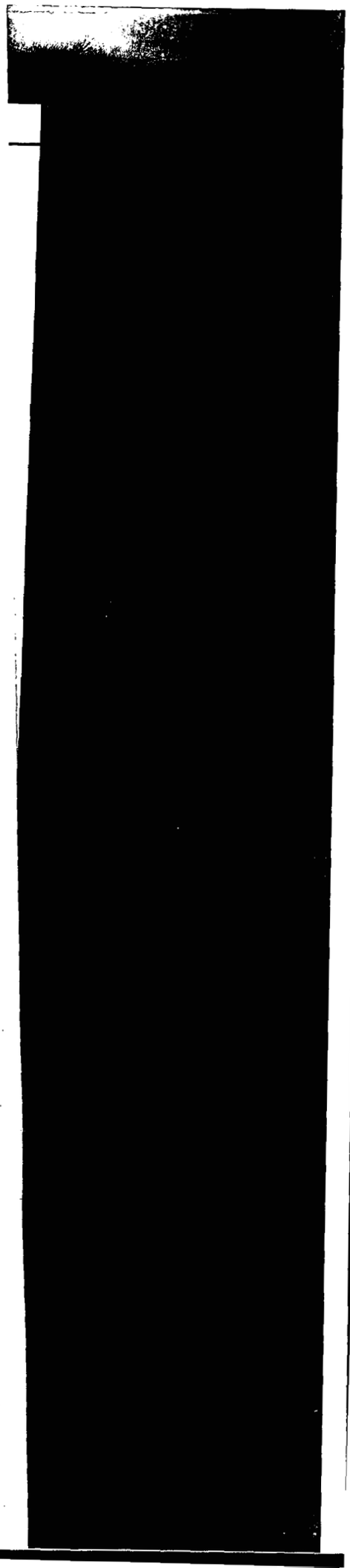
X ←— REPRESENTS DETAIL NUMBER

X ←— REFERENCE TO DRAWING NUMBER

UTILITY CONTACTS:

OWEN ELECTRIC
CHUCK GILL
1-800-372-7612

BELLSOUTH
DAVE BANISTER
1-502-875-5365



UTILITY CONTACTS:

OWEN ELECTRIC
CHUCK GILL
1-800-372-7612

BELLSOUTH
DAVE BANISTER
1-502-875-5365

ABBREVIATIONS

AHJ	AUTHORITY HAVING JURISDICTION
AWG	AMERICAN WIRE GAUGE
BCW	BARE COPPER WIRE
CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
DIA	DIAMETER
DWG	DRAWING
GPS	GLOBAL POSITIONING SYSTEM
MIGB	MASTER ISOLATED GROUND BAR
PCS	PERSONAL COMMUNICATION SYSTEM
PPC	POWER PROTECTION CABINET
RFFE	RADIO FREQUENCY FRONT END
RGS	RIGID GALVANIZED STEEL
RWY	RACEWAY
SCI	SPRINT COMMUNICATIONS INCORPORATED
SST	SELF SUPPORTING (LATTICE) TOWER
T to B	TOP to BOTTOM
TYP.	TYPICAL
W/	WITH
RE	RADIO ENCLOSURE
DE	DIGITAL ENCLOSURE
EBE	EXTERNAL BATTERY ENCLOSURE

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

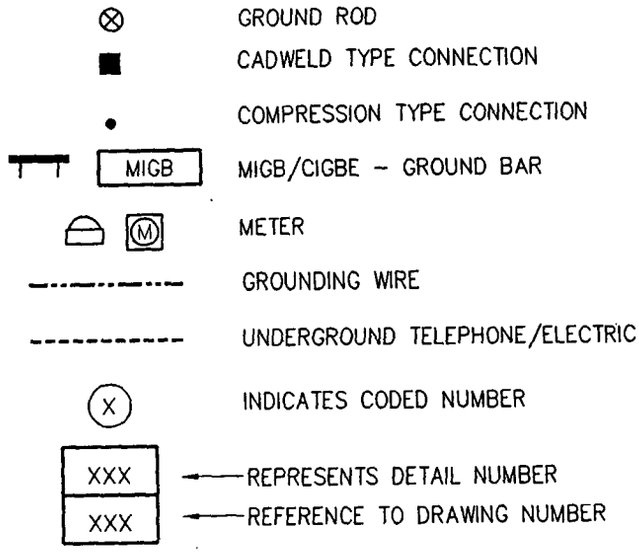
LOUISVILLE BTA

SITE NO.: LV33XC001A

ELECTRICAL SITE PLAN

DATE:	SPRINT JOB NO.	A\E JOB NO.	DRAWING NUMBER	RE
06/28/99	LV33XC001A	8113.55.05	KCA001E1	

ELECTRICAL SYMBOLS



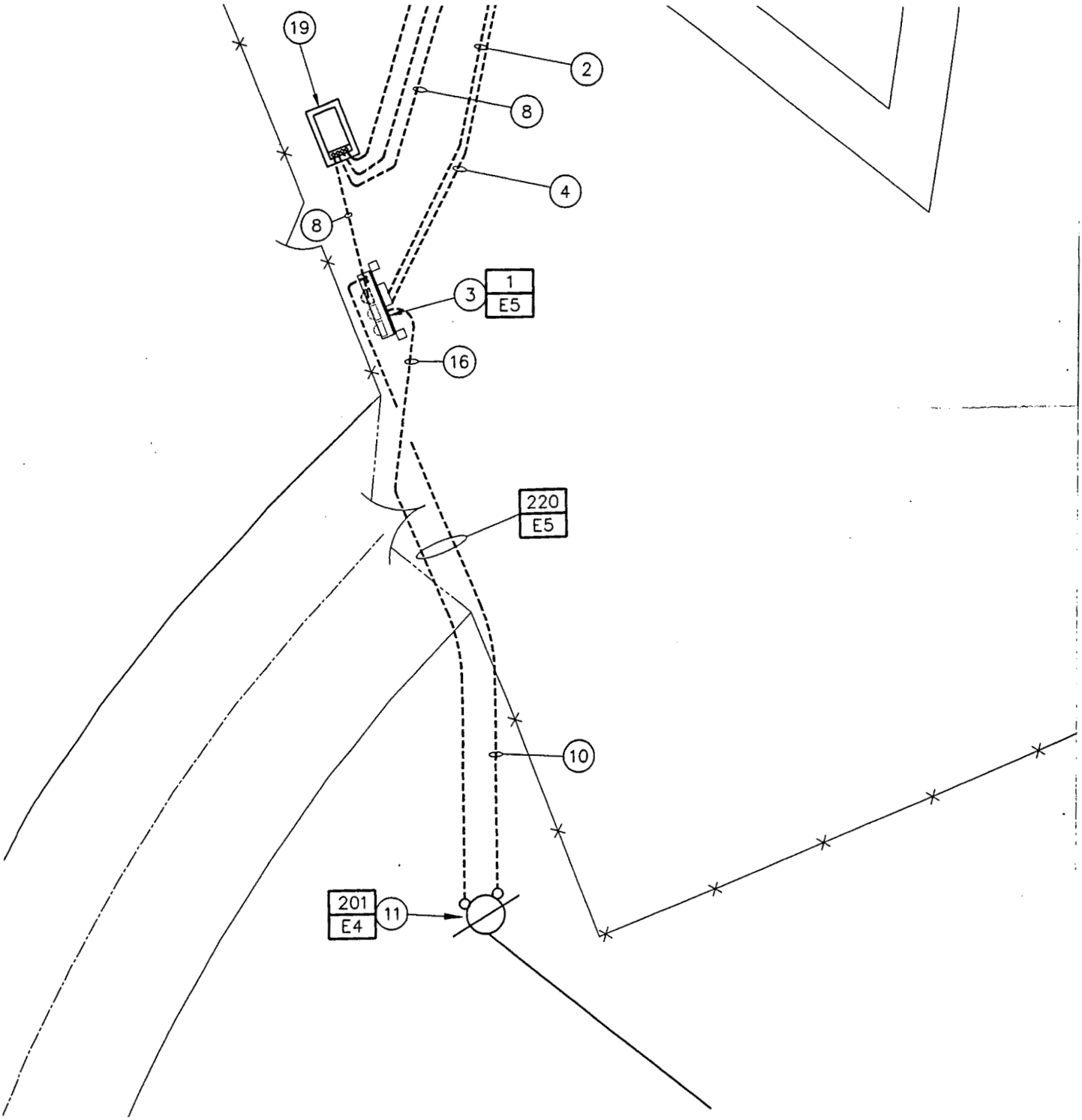
UTILITY CONTACTS:

OWEN ELECTRIC
CHUCK GILL
1-800-372-7612

BELLSOUTH
DAVE BANISTER
1-502-875-5365

ABBREVIATIONS

AHJ	AUTHORITY HAVING JURISDICTION
AWG	AMERICAN WIRE GAUGE
BCW	BARE COPPER WIRE
CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
DIA	DIAMETER
DWG	DRAWING
GPS	GLOBAL POSITIONING SYSTEM
MIGB	MASTER ISOLATED GROUND BAR



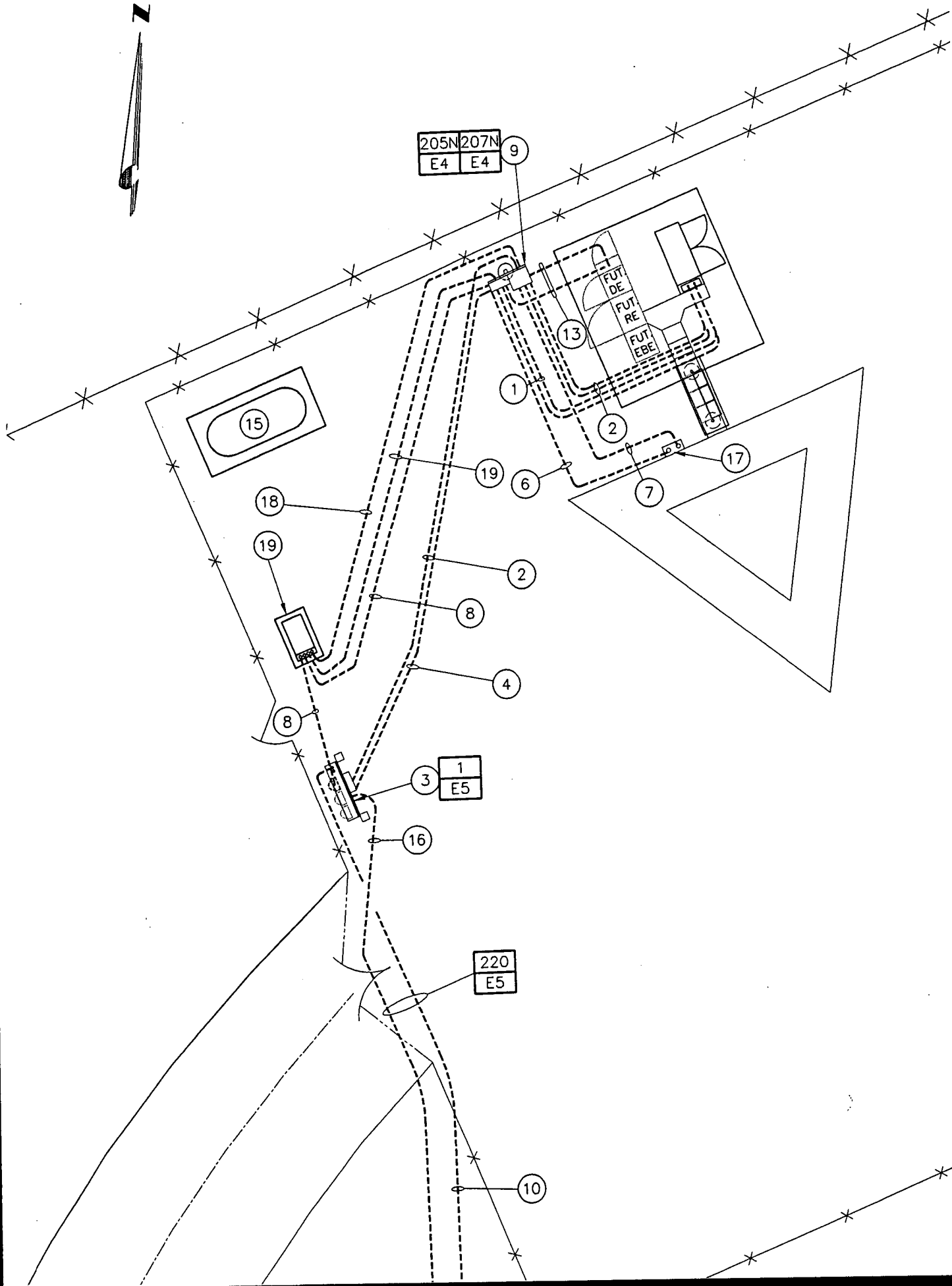
1 / – SITE PLAN
SCALE 1/8" = 1'-0"

NO.	DATE	REVISIONS	BY	CHK	APP'D
3	7/12/99	BTS ADDED	AJH	CMM	MSV
2	7/09/99	FAA LIGHTING ADDED	RAD	CMM	MSV
1	7/12/99	ISSUED FOR CONSTRUCTION	TLH	CMM	MSV
0	6/29/99	ISSUED FOR QA\QC	AJH	CMM	MSV

SCALE: AS NOTED | DESIGNED AJH | DRAWN AJH

Inc.

CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
1080 HOLCOMB BRIDGE ROAD - ROSWELL, GEORGIA - 30076
BUILDING 200 – SUITE 330 770-992-2332


N
205N E4
207N E4
9
FUT DE
FUT RE
FUT EBE
13
1
2
15
19
6
17
7
18
19
2
8
4
8
1 E5
3
16
220 E5
10

(4) 3/4"C. w/ (2) #12, #12G.

(5) BTS – 1

(6) 3/4"C. w/(3) #12, #12G.

(7) 3/4"C. w/(6) #14, #14G.

(8) 3"C. w/ (3)#3/0, #4G.

(9) PPC MINI FURNISHED BY SCI.

(10) 2 SETS OF 3"C. w/(3) #350 KCM EACH.

(11) LAST POLE IN LINE BY UTILITY.

(12) 1" PVC SLEEVE FOR GROUNDING CABLE.

(13) 2"C. w/ PULL WIRE.

(14) 1"C. W/ WIRING PER MANUFACTURER'S SPECIFICATIONS FOR GENERATOR OUTLET, HEATER, BATTERY CHARGER, ETC.

(15) PROPANE TANK FURNISHED BY SCI AND INSTALLED BY THIS CONTRACT.

(16) 4" TELEPHONE CONDUIT WITH PULL WIRE.

(17) FAA POWER SUPPLY PANEL BY SCI.

(18) 3/4"C. W/(4) #14, #14G.

(19) GENERATOR FURNISHED BY SCI AND INSTALLED BY THIS CONTRACT.

STATE OF KENTUCKY
PETER A. McTYGUE
20886
LICENSED PROFESSIONAL ENGINEER

JUL 26 2000

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.

Sprint Com
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GA 30004

GENERAL NOTE:

1. THIS SITE INCLUDES EXISTING UNDERGROUND ELECTRIC, TELEPHONE AND GROUNDING SERVICES IN THE VICINITY. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DISRUPTION OF THESE EXISTING FACILITIES. CONTACT ELECTRIC AND TELEPHONE AND ALL OTHER APPROPRIATE AGENCIES PRIOR TO EXCAVATION AT THIS SITE. ALL EXCAVATION IN THE IMMEDIATE VICINITY OF EXISTING SERVICE EQUIPMENT SHALL BE PERFORMED BY HAND.

2. DRAWINGS WERE COMPLETED BEFORE UTILITY COMPANIES WOULD CONFIRM SOURCE OF SERVICES. COORDINATE EXACT SOURCE AND INSTALLATION REQUIREMENTS WITH UTILITY COMPANIES.

CODED DRAWING NOTES:

(1) 2"C. w/ (3) #2 + #8G.

(2) 2"C. w/ (1) 6 PAIR SHIELDED TELEPHONE CABLE. LEAVE 10'-0" OF CABLE SLACK AT EACH END.

(3) 6'-0" METER BANK w/ (1) 200A COMBINATION METER/CB ENCLOSURE FOR SPRINT PCS EQUIPMENT AND (2) 200A COMBINATION METER/CB ENCLOSURES FOR FUTURE CARRIERS. METER PAN BY THIS CONTRACT, METER BY UTILITY. COORDINATE INSTALLATION REQUIREMENTS WITH UTILITY.

(4) 3/4" C. w/ (2) #12, #12G.

(5) BTS - 1

(6) 3/4"C. w/(3) #12, #12G.

(7) 3/4"C. w/(6) #14, #14G.

(8) 3"C. w/ (3)#3/0, #4G.

(9) PPC MINI FURNISHED BY SCI.

(10) 2 SETS OF 3"C. w/(3) #350 KCM EACH.

(11) LAST POLE IN LINE BY UTILITY.

(12) 1" PVC SLEEVE FOR GROUNDING CABLE.

(13) 2"C. w/ PULL WIRE.

(14) 1"C. W/ WIRING PER MANUFACTURER'S SPECIFICATIONS FOR GENERATOR OUTLET, HEATER, BATTERY CHARGER, ETC.

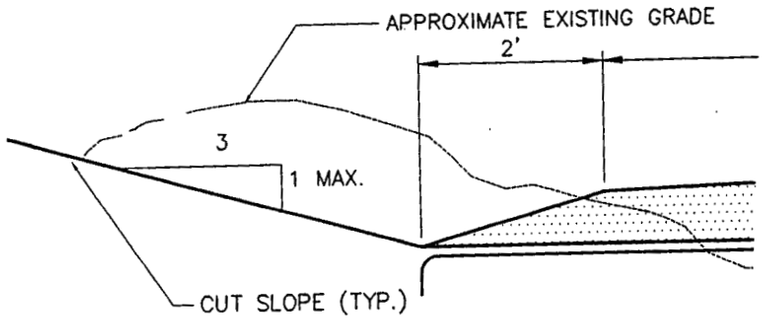
(15) PROPANE TANK FURNISHED BY SCI AND INSTALLED BY THIS CONTRACT.

(16) 4" TELEPHONE CONDUIT WITH PULL WIRE.

(17) FAA POWER SUPPLY PANEL BY SCI.

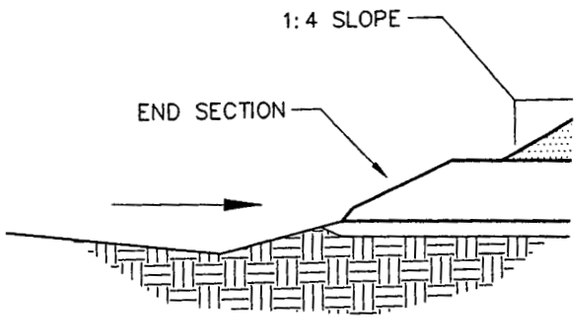
(18) 3/4"C. W/(4) #14, #14G.

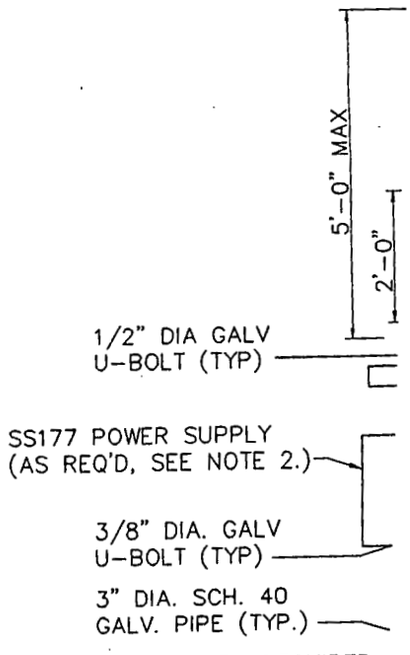
(19) GENERATOR FURNISHED BY SCI AND INSTALLED BY THIS CONTRACT.



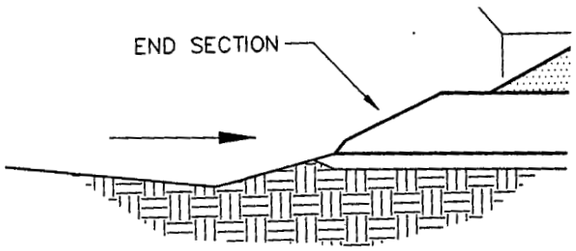
6" MIN. COMPACTED
CRUSHED STONE SURFAC

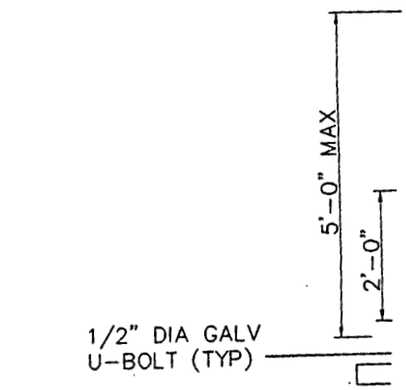
STABIL
ON CC



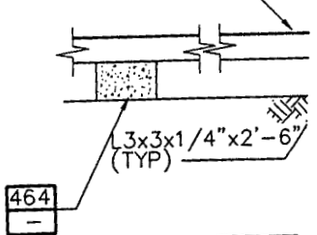


NOTE: WHERE REQUIRED
ROUTE CABLE TRAY TO
THE BTS FOUNDATION



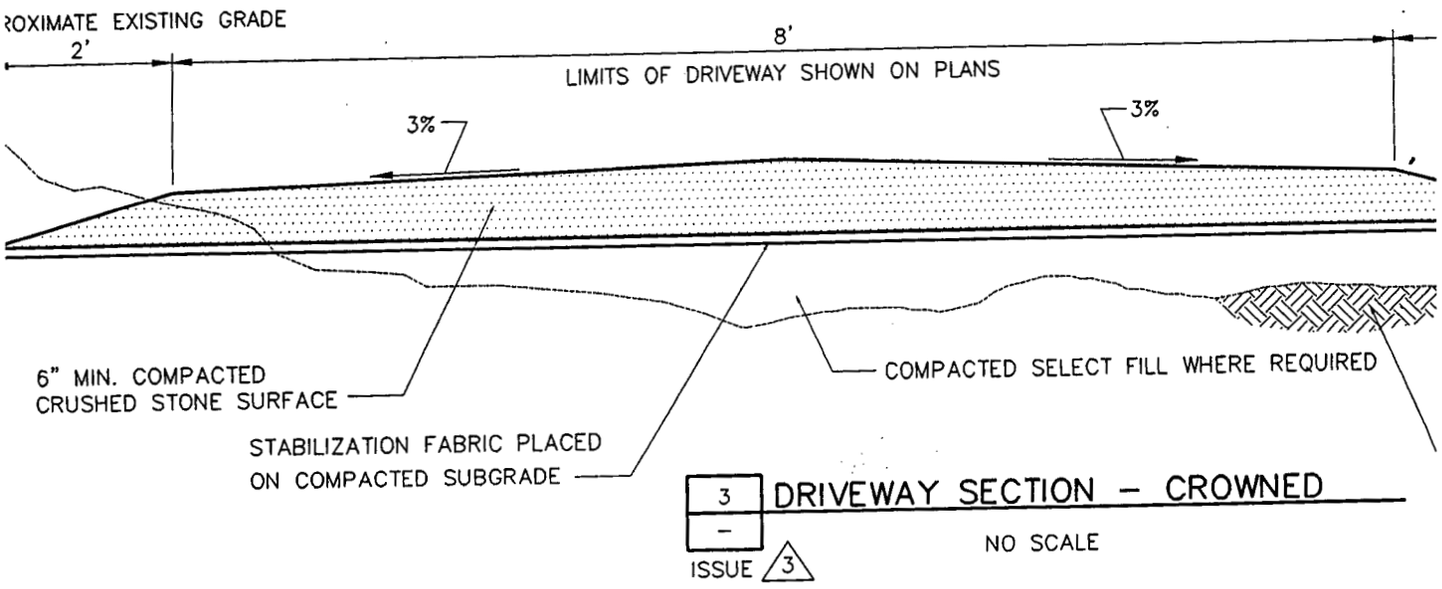


NOTE: WHERE REQUIRED ROUTE CABLE TRAY TO THE BTS FOUNDATION WITH GRADE MOUNTED UNISTRUT FRAMES



464
—

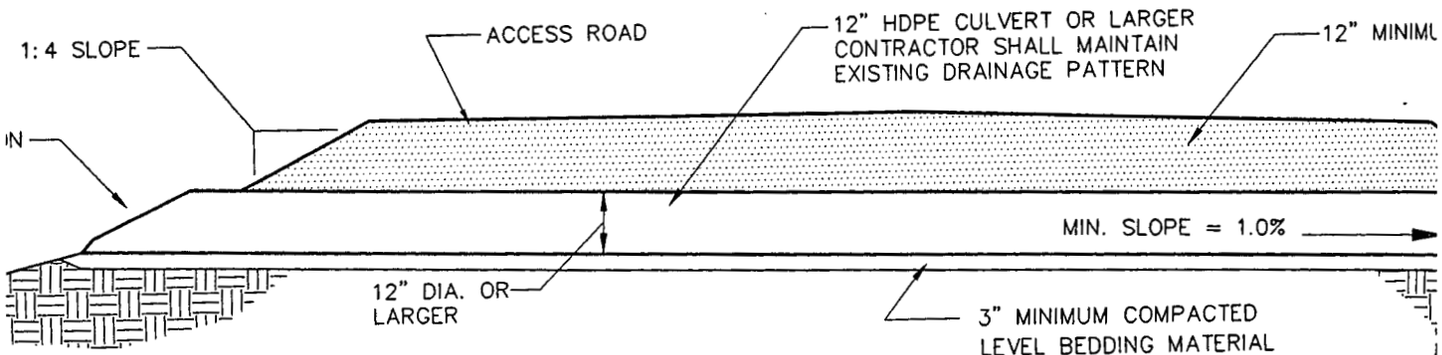
426N
—



3 – DRIVEWAY SECTION – CROWNED

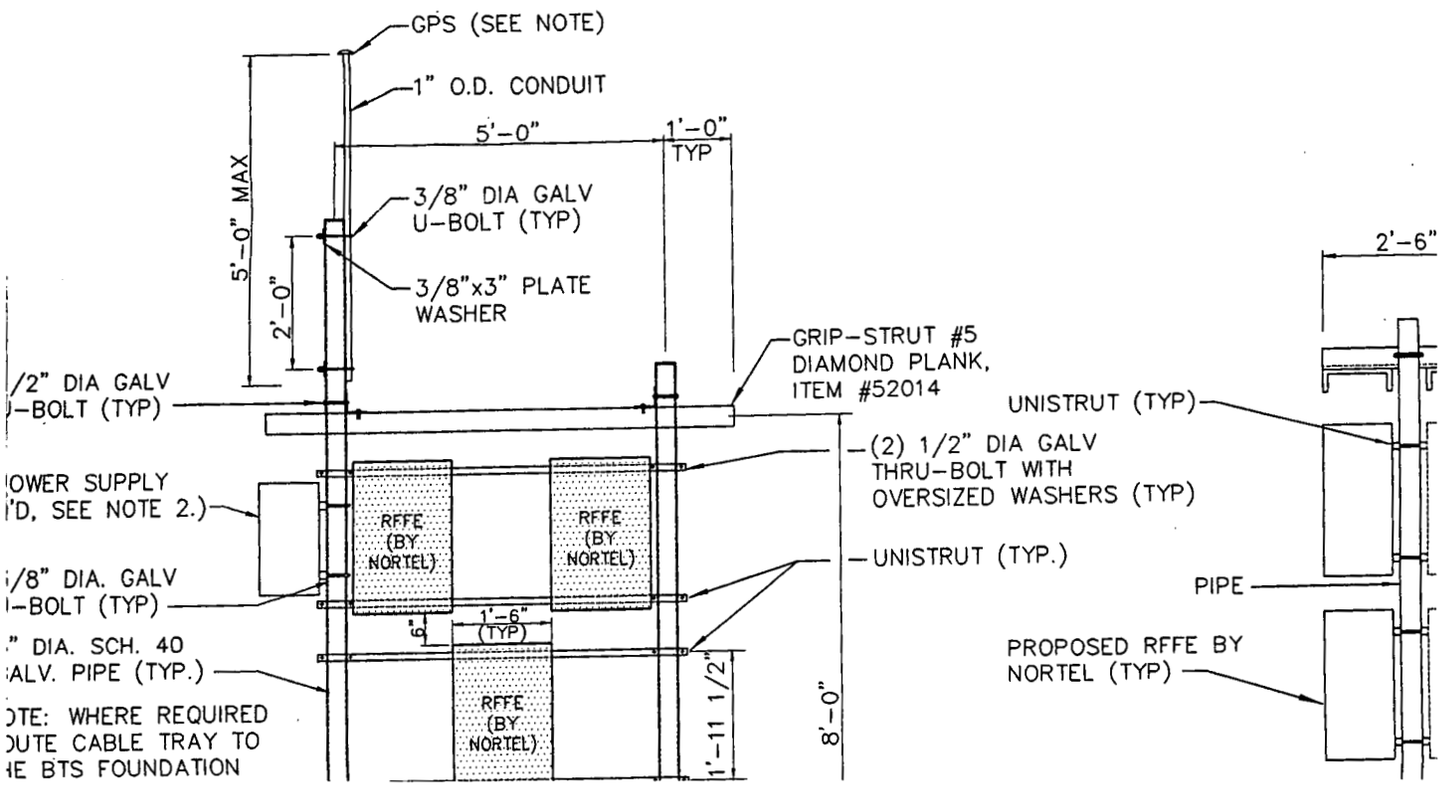
NO SCALE

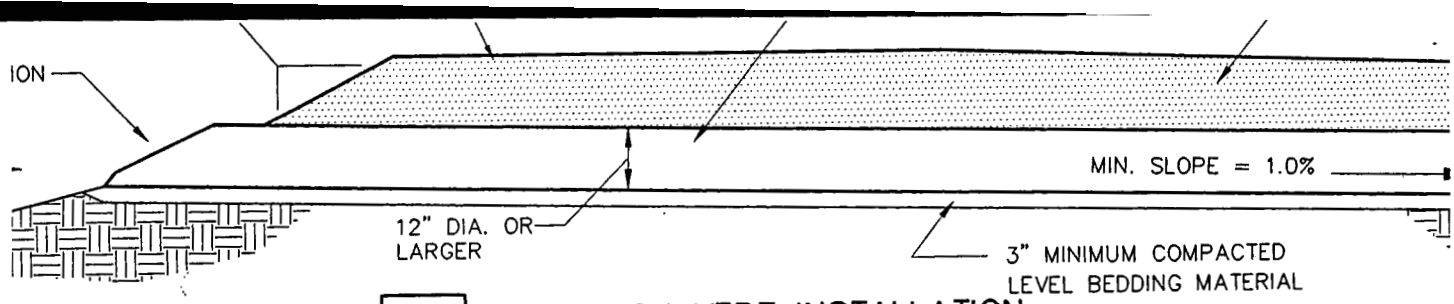
ISSUE 3



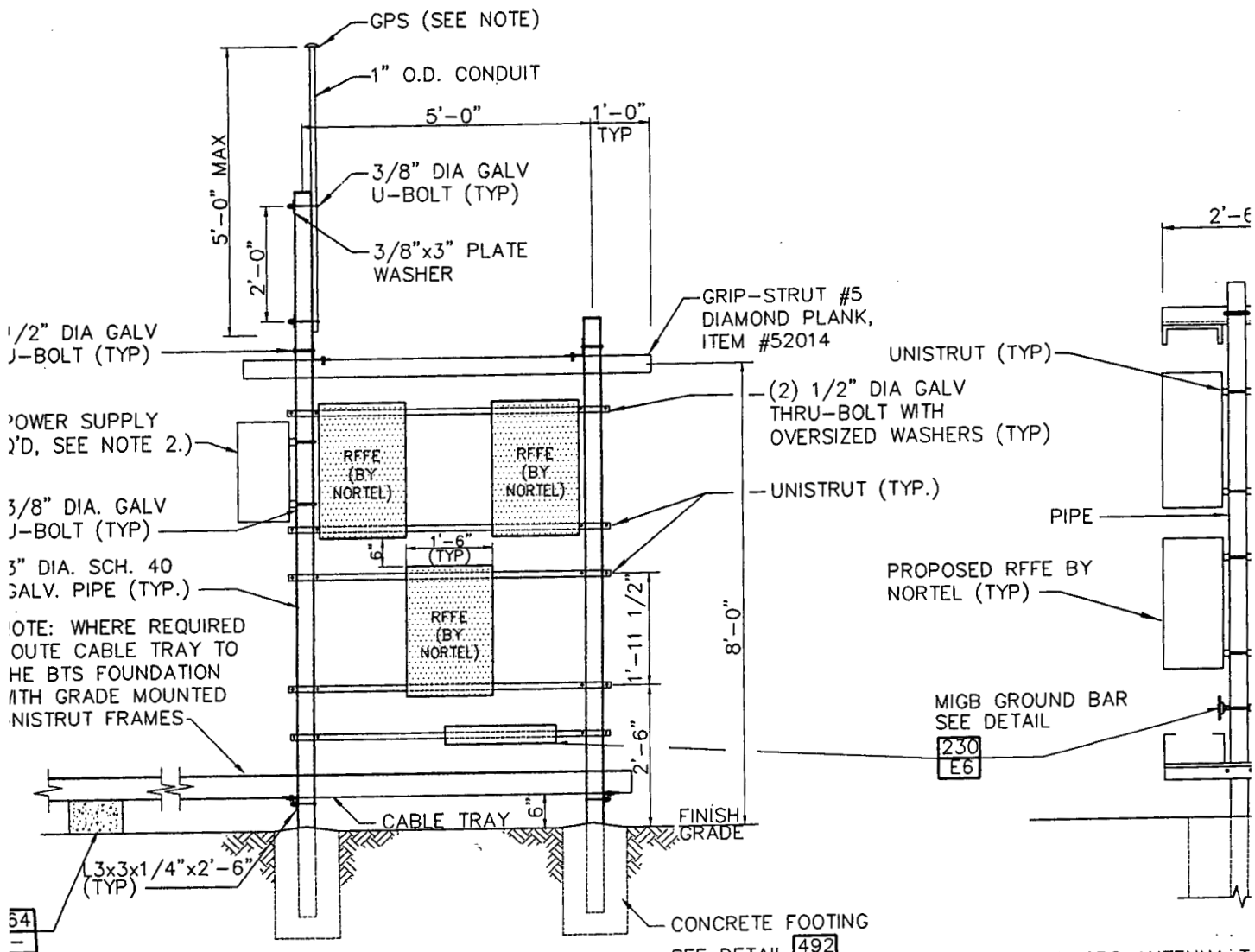
2 – TYPICAL CULVERT INSTALLATION

NO SCALE





2 — TYPICAL CULVERT INSTALLATION
NO SCALE



426N — RFFE FRAME DETAIL
ISSUE 3
NTS

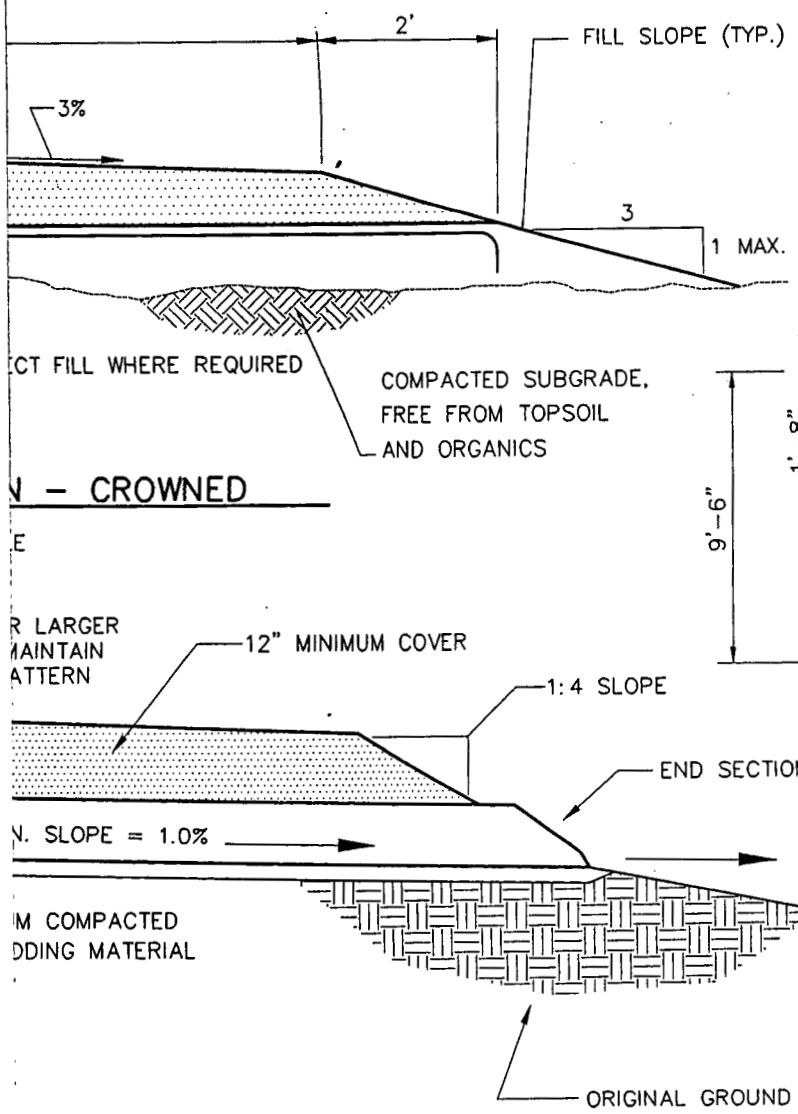
NOTE: 1. GPS ANTENNA T
2. POWER SUPPLY

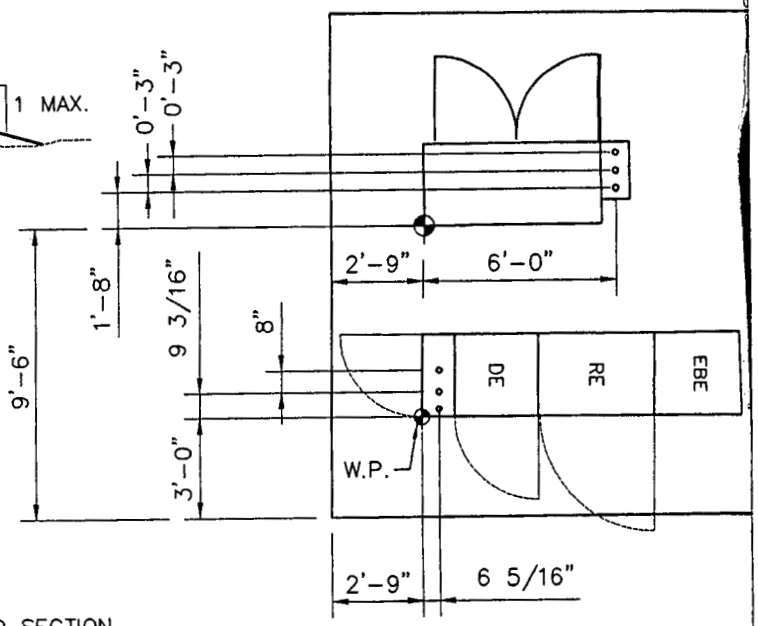
FOR ANY PERSON, UNDER THE DIRECTION AL ENGINEER, TO

Sprint Com Inc.
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GA 30004

NO.	DATE	REVISIONS	BY	CHK	APP'D
3	7/22/99	BTS ADDED	DWH	TM	SB
2	7/22/99	ISSUED FOR CONSTRUCTION	BHA	KSP	SB
1	6/28/99	ISSUED FOR QA\QC	RJS	KSP	SB
0					

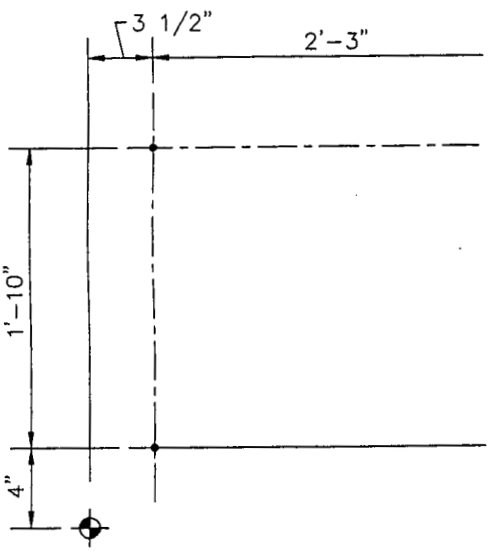
SCALE: AS NOTED | DESIGNED KSP | DRAWN RJS

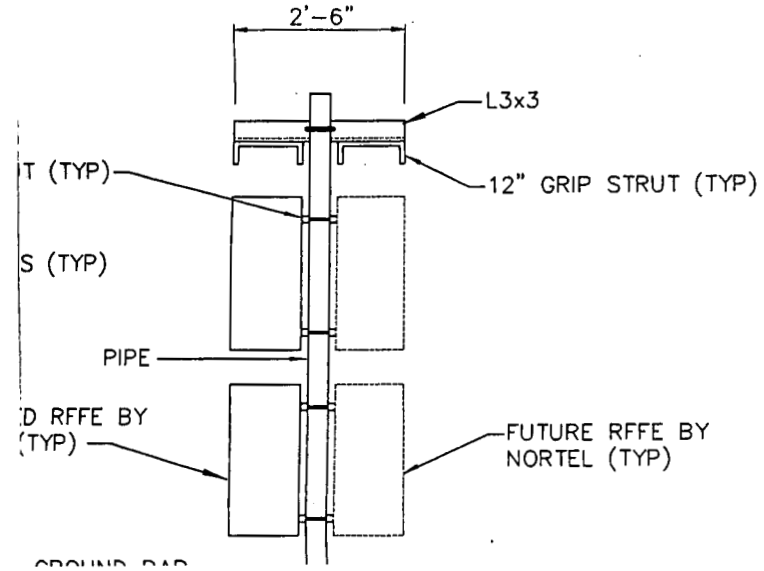




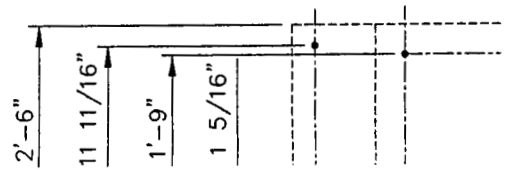
1	EQUIPMENT LAYOU
-	N

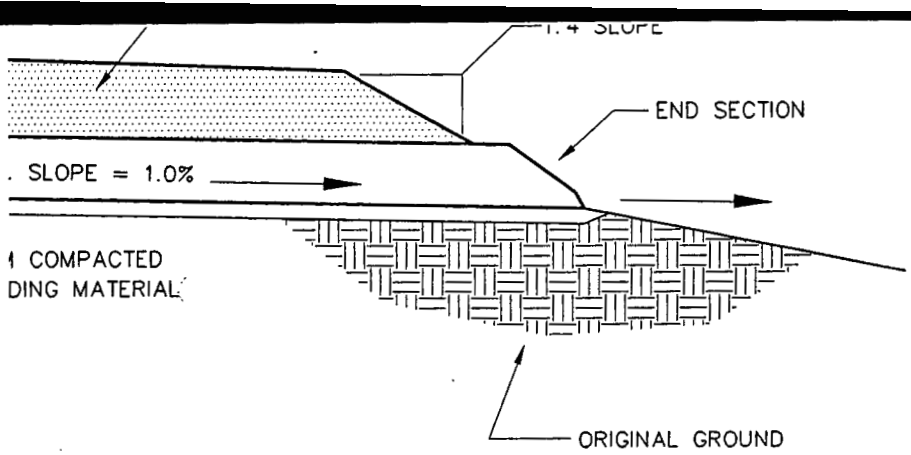
NOTE: SEE SITE PLAN FOR SLAB DIMEN

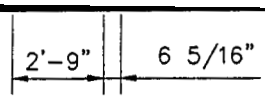




450N	BOLT PATT
-	ISSUE 1

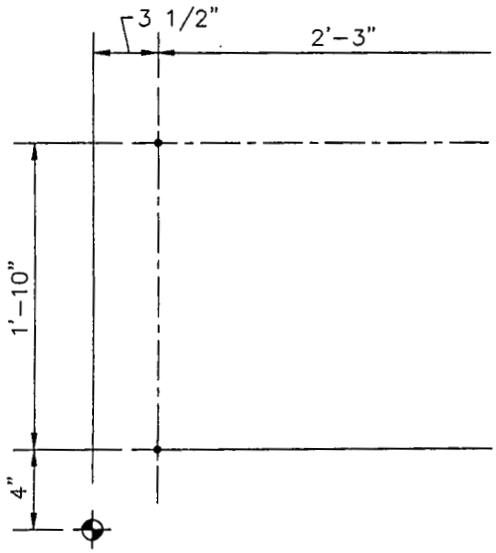


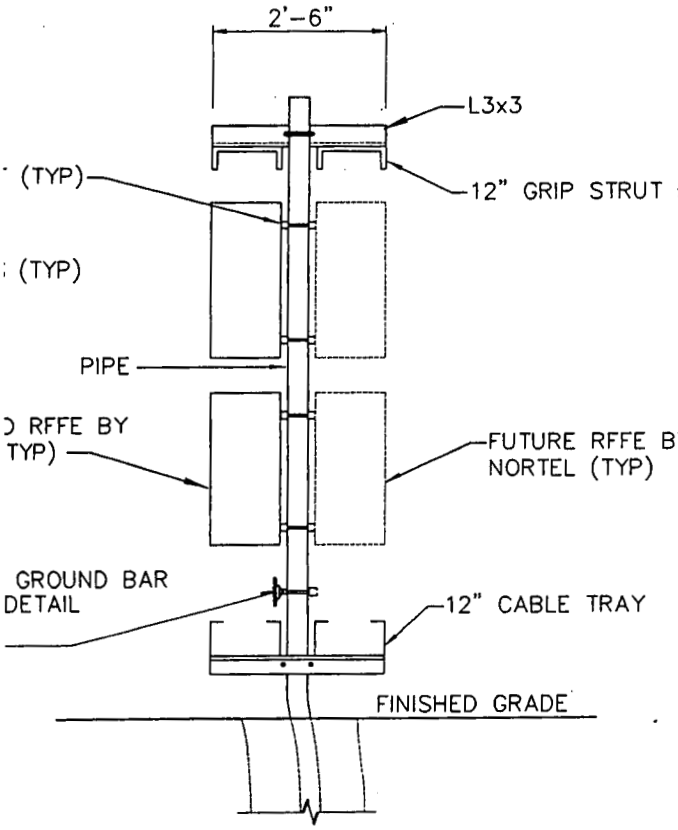




1 — EQUIPMENT LAYOU

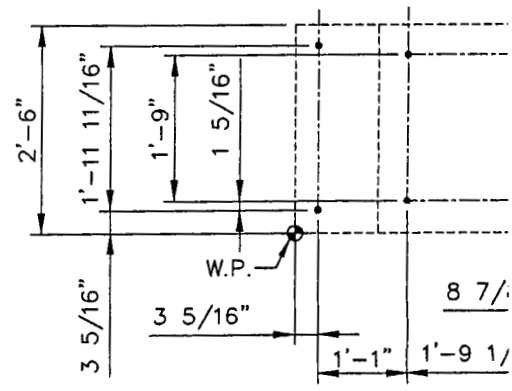
NOTE: SEE SITE PLAN FOR SLAB DIMEI





NOTE: 1. GPS ANTENNA TO COME WITH MAST-TO-ANTENNA COUPLING
2. POWER SUPPLY REQUIRED WITH FAA LIGHTING ONLY.

450N — BOLT PATT
ISSUE 1



450N1 — BOLT PATTER

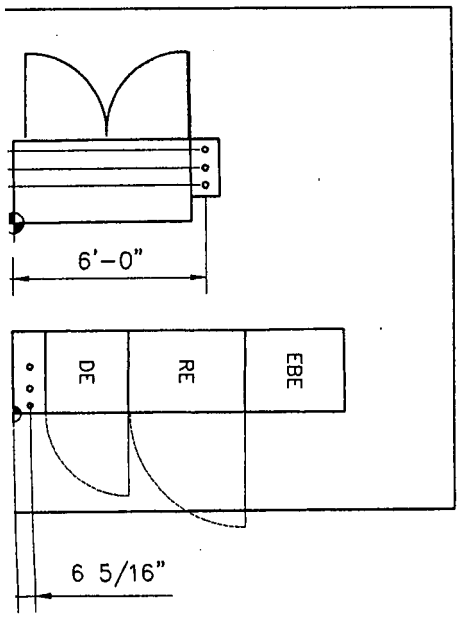
ED	DWH	TM	SB
ISTRUCTION	BHA	KSP	SB
OA\OC	RJS	KSP	SB
NS	BY	CHK	APP'D
D KSP	DRAWN	RJS	

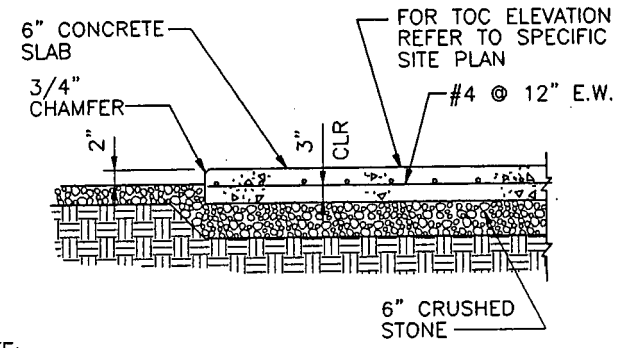
CHA
DRAWING COPYRIGHT © 1999
CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
1080 HOLCOMB BRIDGE ROAD-ROSWELL, GEORGIA - 30076
BUILDING 200 - SUITE 330
770-992-2332

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA





NOTE:

CONCRETE SHALL BE AIR ENTRAINED WITH THE NEUTRALIZED VINSOL SERIN, DAREX AEA OR SIKA AEA. THE AIR ENTRAINED AGENT SHALL COMPLY WITH ASTM C260, LATEST EDITION WITH MINIMUM ENTRAINED AIR OF 3% TO 5%.

EQUIPMENT LAYOUT

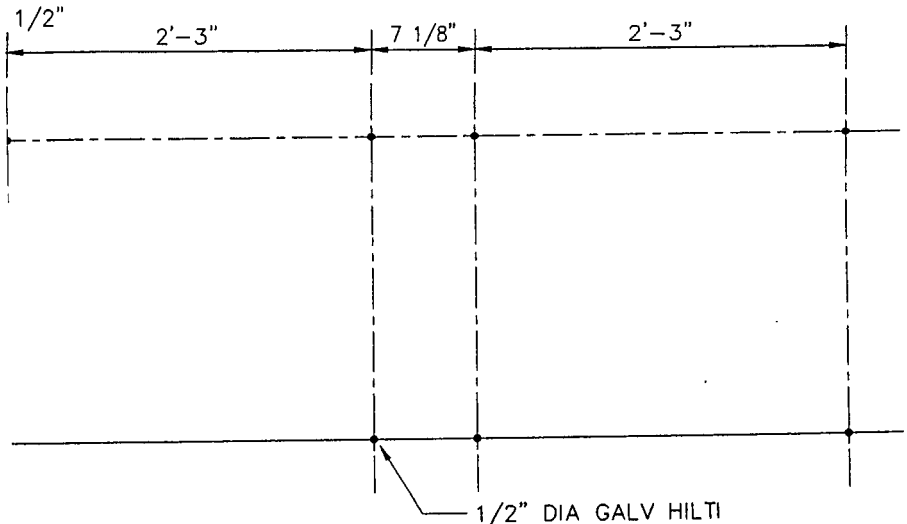
NTS

SEE SITE PLAN FOR SLAB DIMENSIONS.

484
–

EQUIPMENT PAD/SLAB ON GRADE

NTS

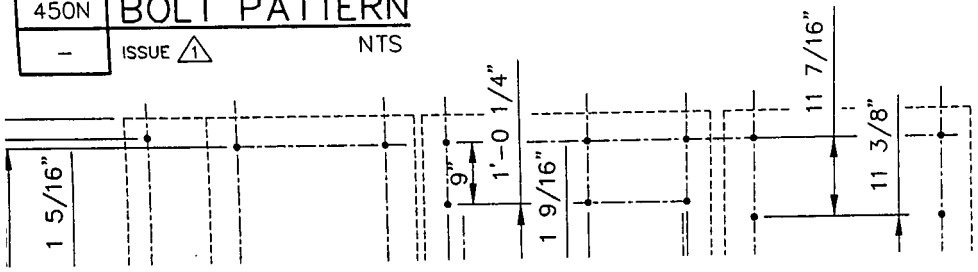


450N
–

BOLT PATTERN

ISSUE 1

NTS



6 5/16"

CONCRETE SHALL BE AIR ENTRAINED WITH THE NEUTRALIZED VINSOL SERIN, DAREX AEA OR SIKA AEA. THE AIR ENTRAINED AGENT SHALL COMPLY WITH ASTM C260, LATEST EDITION WITH MINIMUM ENTRAINED AIR OF 3% TO 5%.

EQUIPMENT LAYOUT

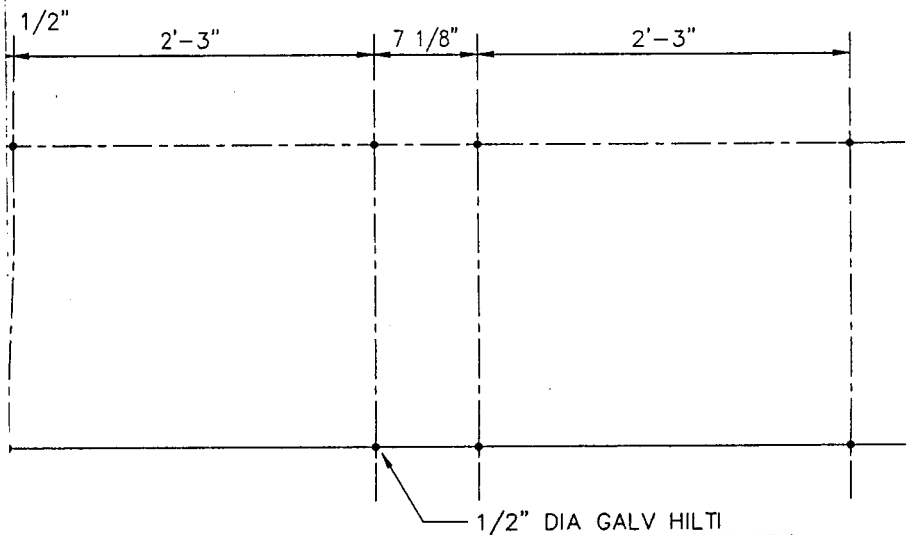
NTS

484
–

EQUIPMENT PAD/SLAB ON GRADE

NTS

SEE SITE PLAN FOR SLAB DIMENSIONS.

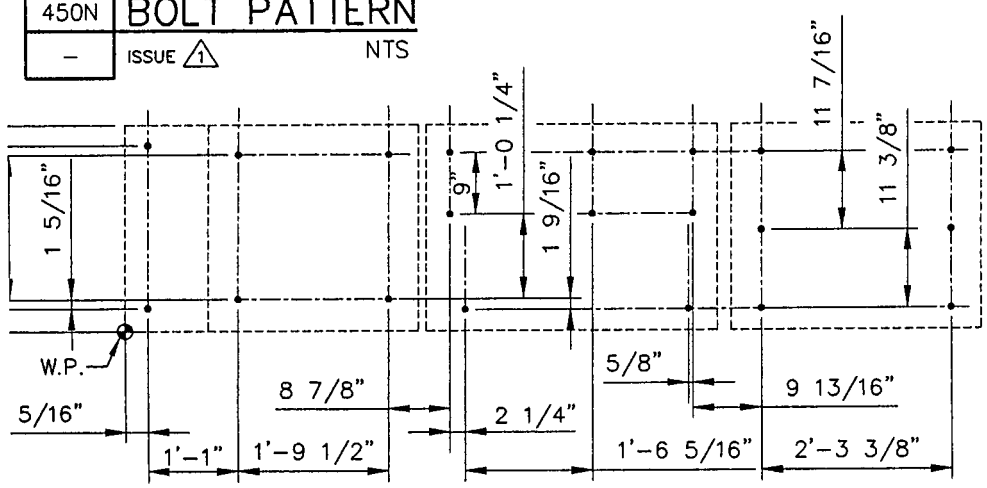


450N
–

BOLT PATTERN

ISSUE 1

NTS



450N1
–

BOLT PATTERN

NTS

NOTES:

1. ANCHORING HARDWARE KITS TO BE PROVIDED BY CABINET MFR.
2. RUBBER PAD IS REQUIRED FOR OUTDOOR INSTALLATIONS.

MARSHALL

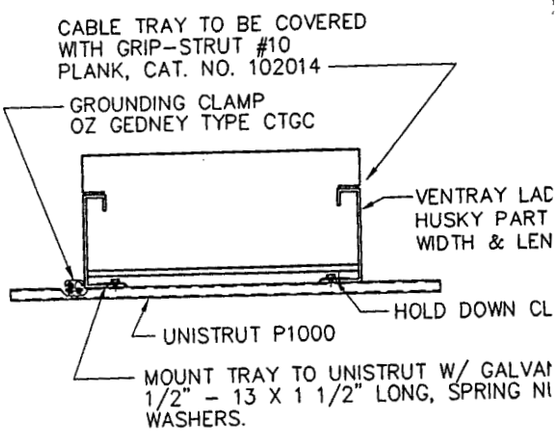
MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

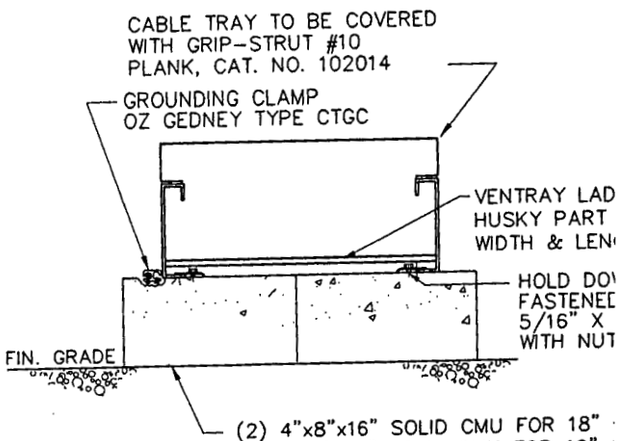
LOUISVILLE BTA

SITE NO.: LV33XC001A

MISCELLANEOUS DETAILS

DATE:	SPRINT JOB NO.	A\E JOB NO.	DRAWING NUMBER	REV
06/28/99	LV33XC001A	8113.55.05	KCA001C7	2



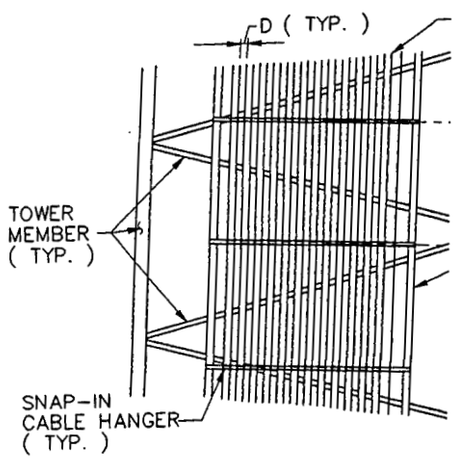


464
-

RACEWAY - CABLE TRAY MOUNTI

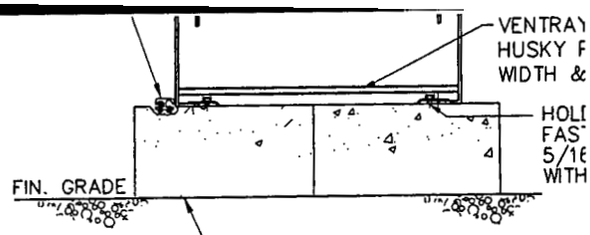
NOTE:

1. MAX. SPACING 6'-0" BETWEEN SUPPORTS
2. SEE SITE PLAN FOR REQUIRED CABLE TRAY WIDTHS.



CABLE MOUNTING DETAIL

CABLEWAVE COAXIAL CABLE	NOMINAL CABLE	HANG CABLE\

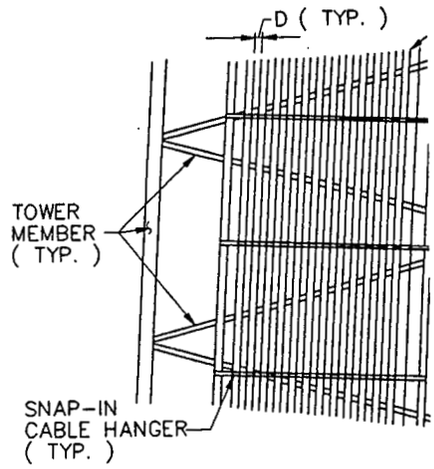


464
–

RACEWAY – CABLE TRAY MOL

NOTE:

1. MAX. SPACING 6'–0" BETWEEN SUPF
2. SEE SITE PLAN FOR REQUIRED CABL TRAY WIDTHS.



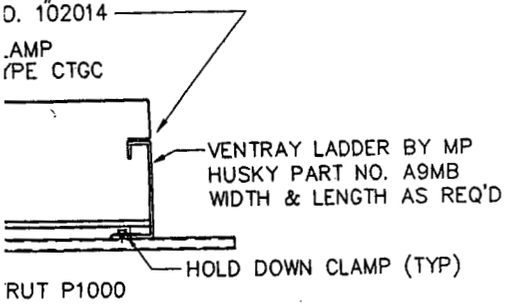
CABLE MOUNTING DETAIL

CABLEWAVE COAXIAL CABLE CAT. No.	NOMINAL CABLE SIZE	HA CAB CA
810918–001	1/2"	91
810921–001	7/8"	91
810920–001	1 5/8"	91

590W
–

CABLES SUPP

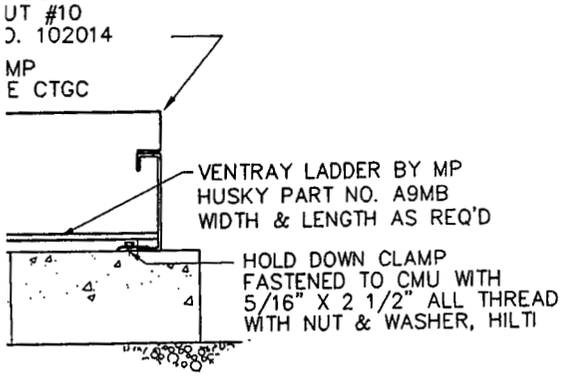
) BE COVERED
UT #10
D. 102014
.AMP
/PE CTGC



RUT P1000

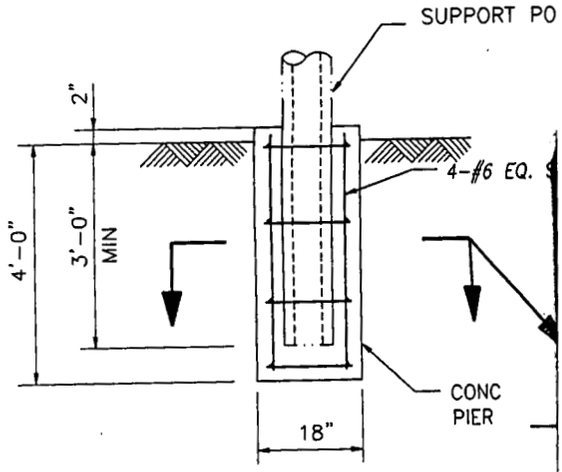
TRAY TO UNISTRUT W/ GALVANIZED BOLTS
13 X 1 1/2" LONG, SPRING NUTS P1010 AND
S.

) BE COVERED
UT #10
D. 102014
MP
E CTGC



"x8"x16" SOLID CMU FOR 18" OR 24" CABLE TRAY
"x8"x16" SOLID CMU FOR 12" CABLE TRAY

CABLE TRAY MOUNTING
NTS

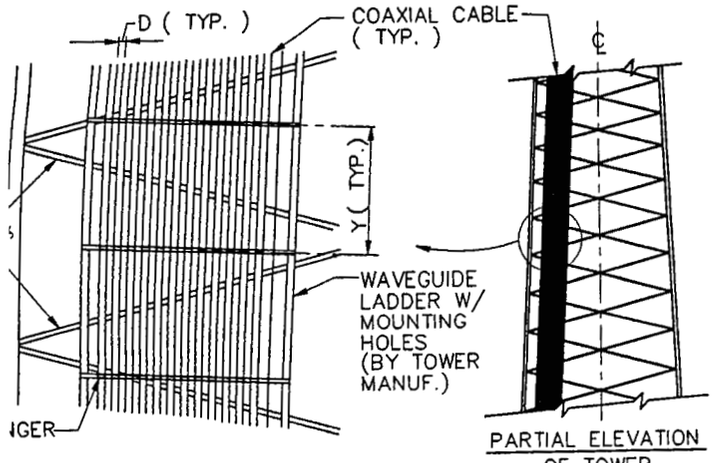


492 | –

SUPPORT POST FOOTING
NTS

ACING 6'-0" BETWEEN SUPPORTS.

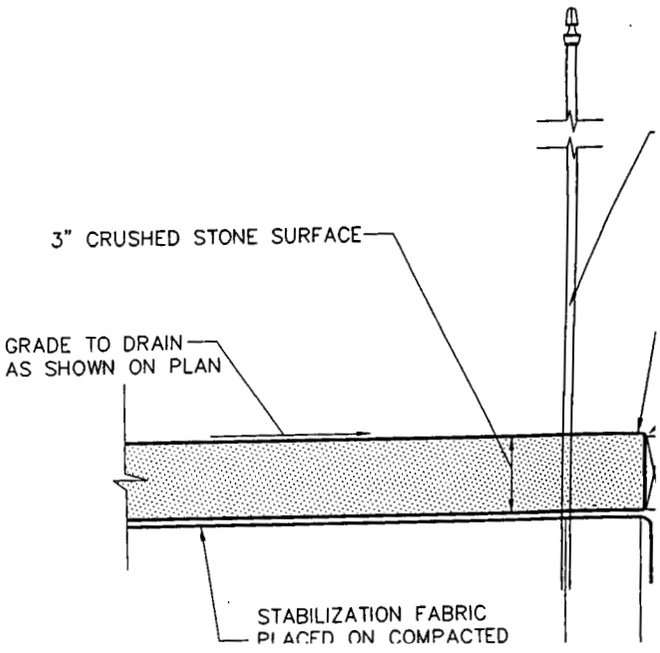
PLAN FOR REQUIRED CABLE
THS.

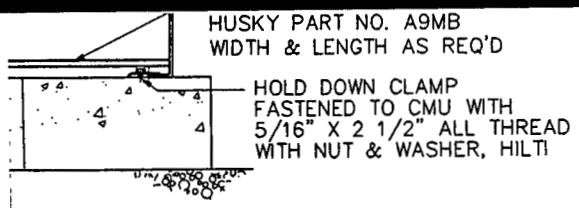


CABLE MOUNTING DETAIL

PARTIAL ELEVATION
OF TOWER
(TYPICAL FOR OPPOSITE SIDE)

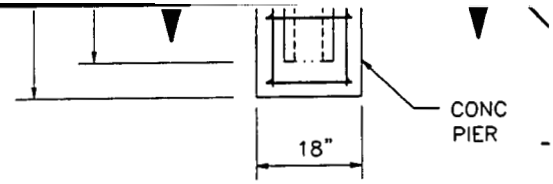
BLEWAVE XIAL CABLE	NOMINAL CABLE	HANGER CABLEWAVE	CABLE TO CABLE SPACING	MAXIMUM HANGER SPACING





4"x8"x16" SOLID CMU FOR 18" OR 24" CABLE TRAY
4"x8"x16" SOLID CMU FOR 12" CABLE TRAY

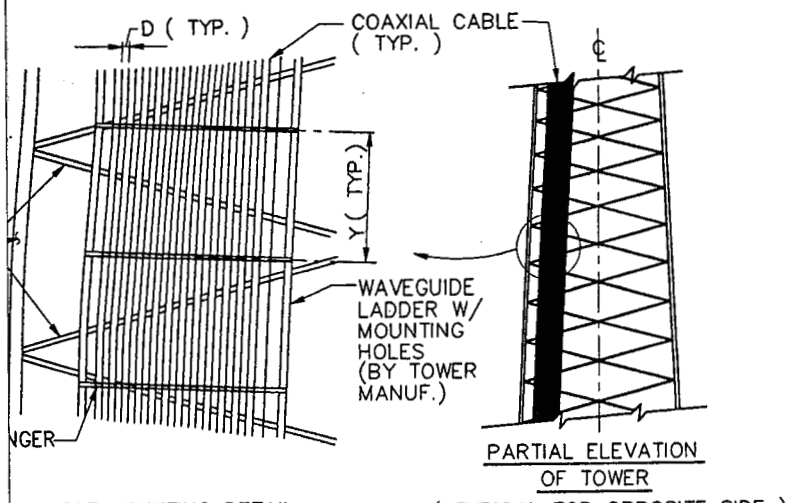
CABLE TRAY MOUNTING
NTS



492 – SUPPORT POST FOOTING
NTS

ACING 6'-0" BETWEEN SUPPORTS.

E PLAN FOR REQUIRED CABLE
DTHS.

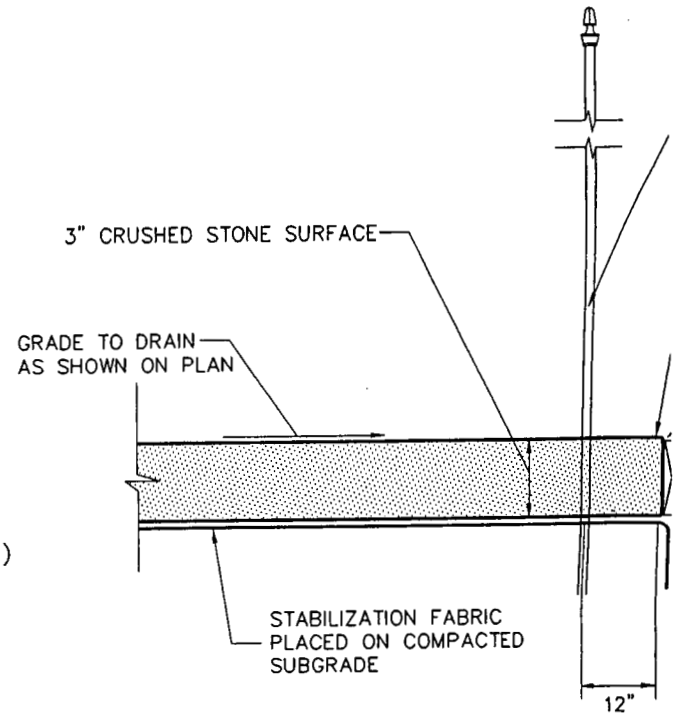


CABLE MOUNTING DETAIL

PARTIAL ELEVATION
OF TOWER
(TYPICAL FOR OPPOSITE SIDE)

ABLEWAVE XIAL CABLE CAT. No.	NOMINAL CABLE SIZE	HANGER CABLEWAVE CAT. No.	CABLE TO CABLE SPACING (D)	MAXIMUM HANGER SPACING (Y)
10918-001	1/2"	915659	1/2"	3'-0"
10921-001	7/8"	915660	1/2"	3'-0"
10920-001	1 5/8"	915661	1/2"	3'-0"

CABLES SUPPORT ON ANTENNA TOWER
NTS



012 – SECTION THROUGH
NO SC.

ISSUE 1

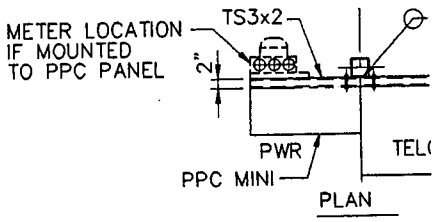
ANY PERSON,
ER THE DIRECTION
ENGINEER, TO

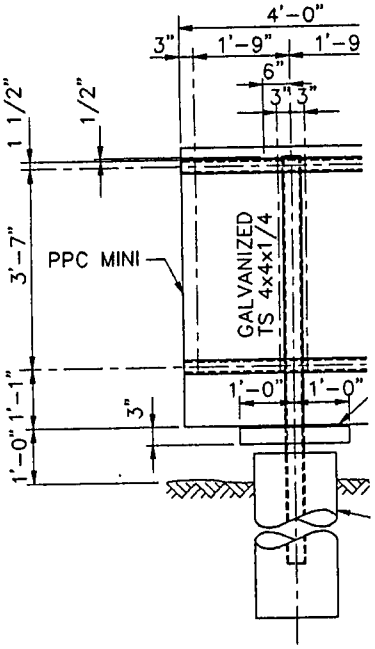
Sprint Com Inc.
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GA 30004

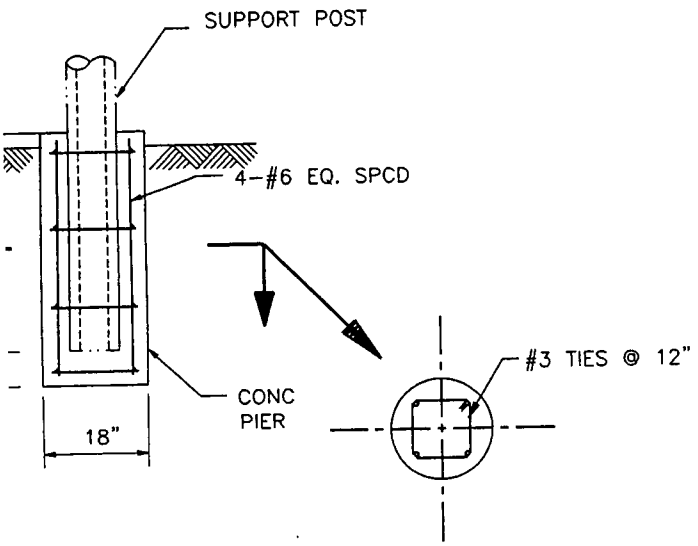
NO.	DATE	REVISIONS	BY	CHK	APP'D
1	7/12/99	ISSUED FOR CONSTRUCTION	BHA	KSP	SB
0	5/28/99	ISSUED FOR QA\QC	RJS	KSP	SB

SCALE: AS NOTED | DESIGNED KSP | DRAWN RJS

DRA
1080
BUIL

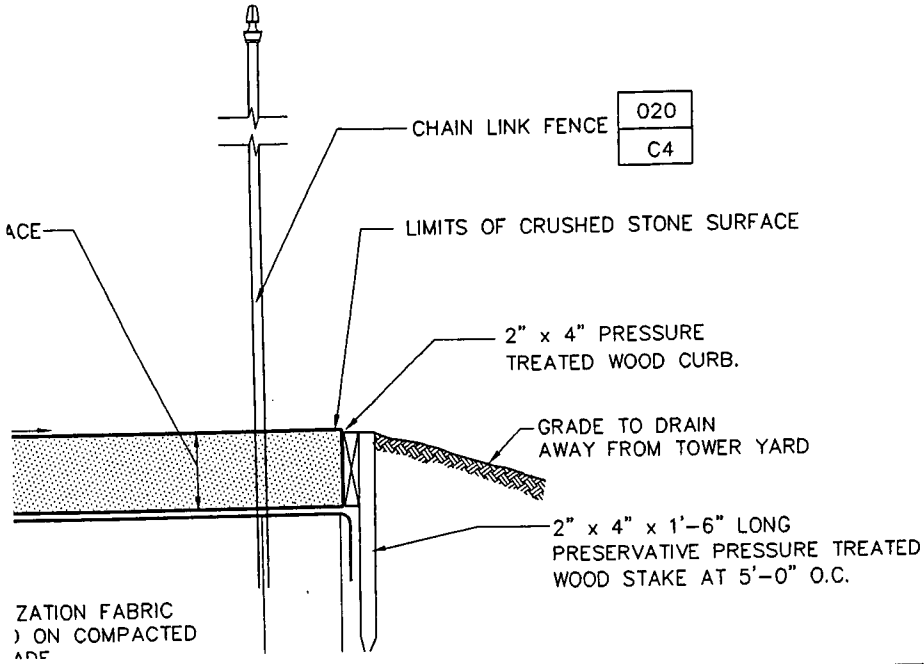


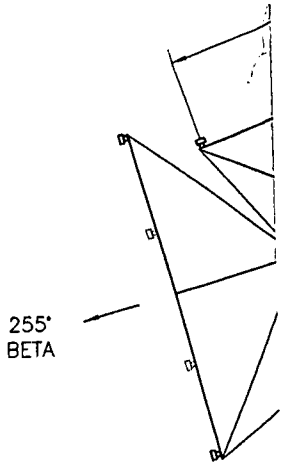


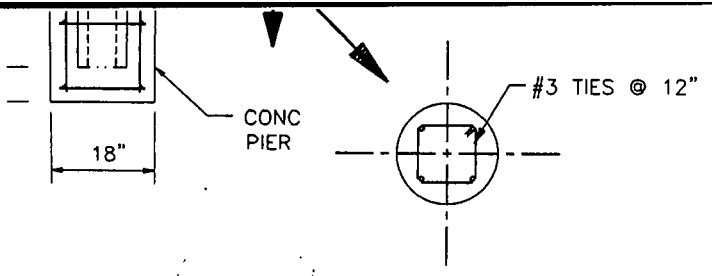


PORT POST FOOTING
NTS

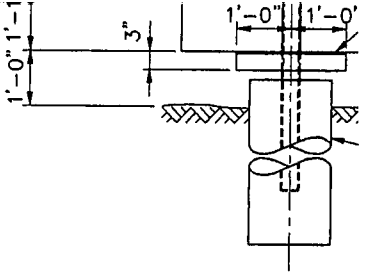
493	PPC M
-	ISSUE 2



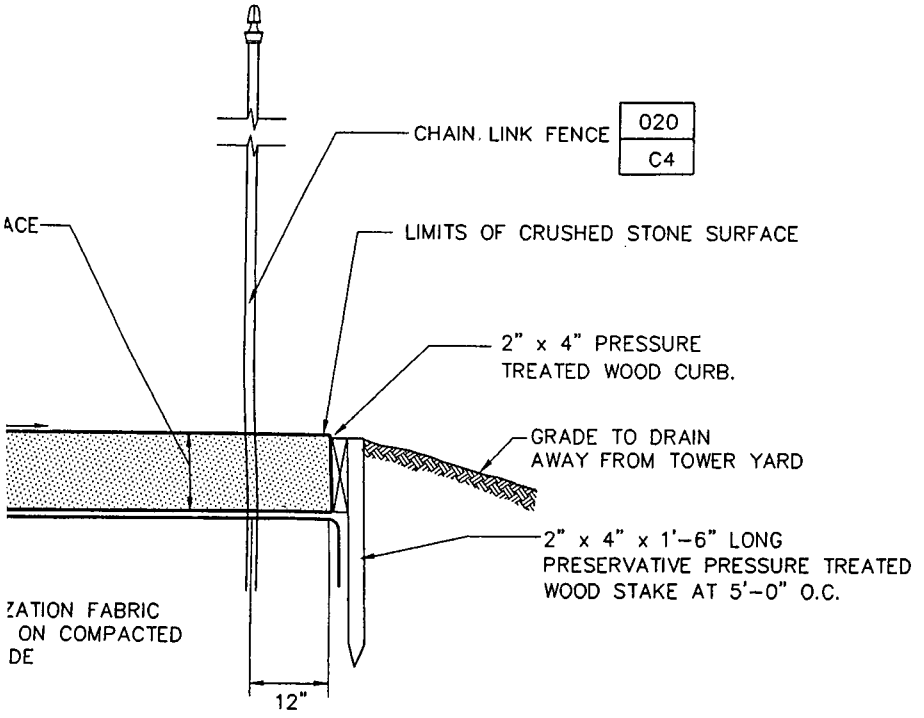




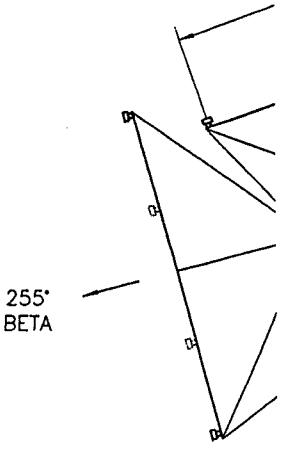
PORT POST FOOTING
NTS



493	PPC
–	ISSUE 2



SECTION THROUGH TOWER YARD
NO SCALE



600	ANTI
–	SELF

NOTE: NUMBE
BE PR

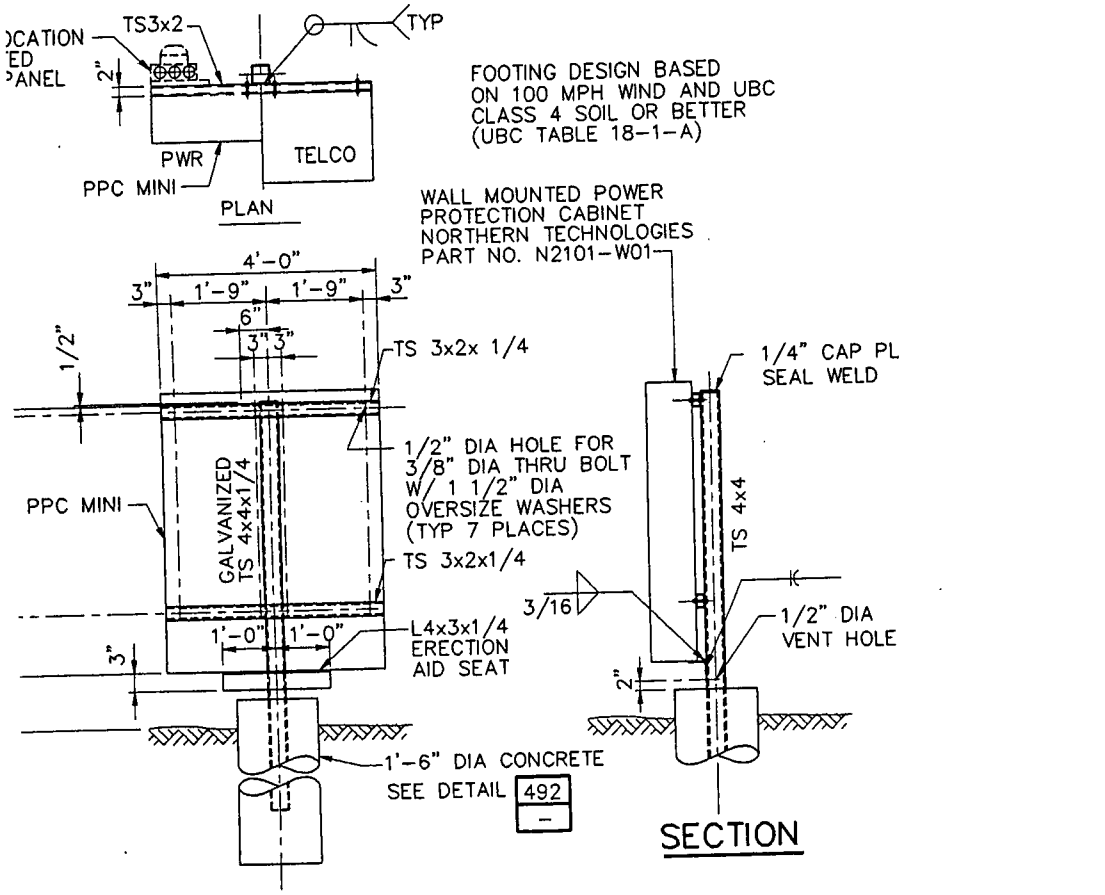
UCTION	BHA	KSP	SB
OC	RJS	KSP	SB
	BY	CHK	APP'D
KSP	DRAWN	RJS	

CHA
DRAWING COPYRIGHT © 1999
CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
1080 HOLCOMB BRIDGE ROAD-ROSWELL, GEORGIA - 30076
BUILDING 200 – SUITE 330 770-992-2332

MARSHALL

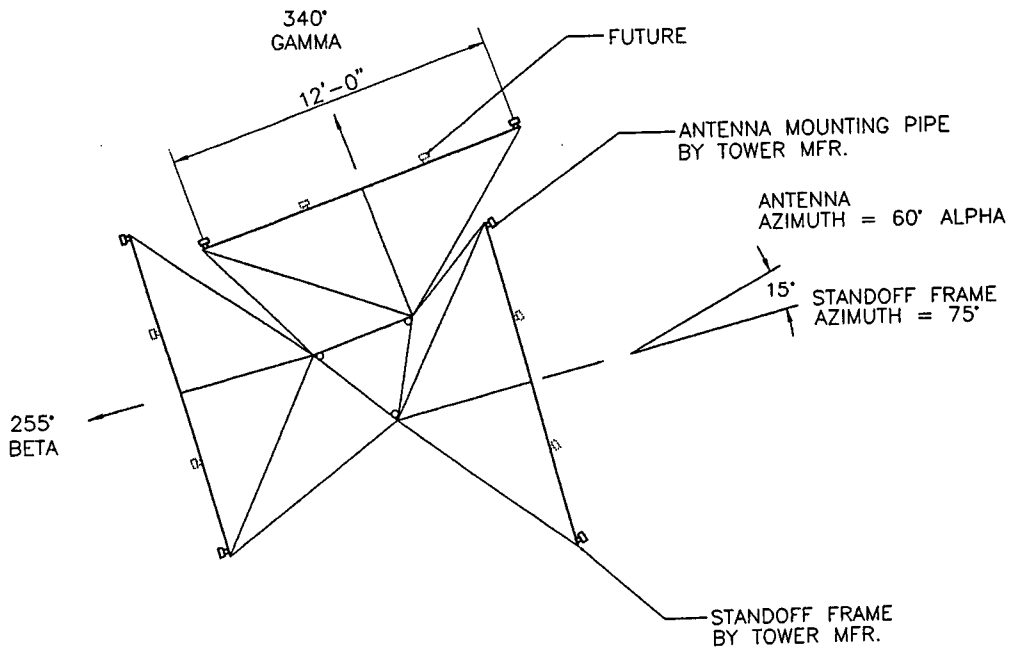
MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

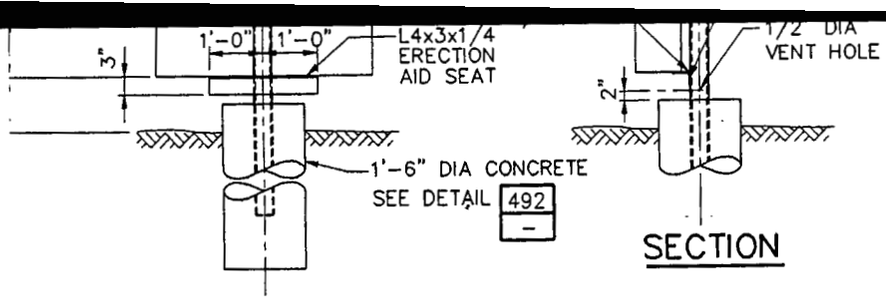
LOUISVILLE BTA



493 — PPC MINI MOUNTING FRAME
NTS

– ISSUE 2

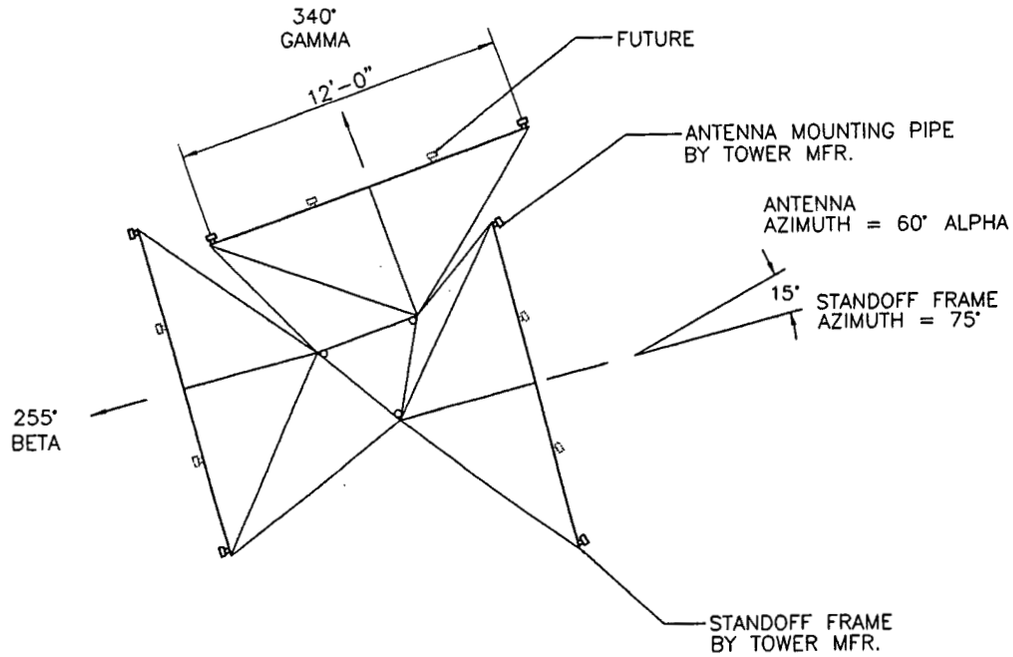




SECTION

493 – PPC MINI MOUNTING FRAME NTS

ISSUE 2



600 – ANTENNA MOUNTING LAYOUT FOR SELF-SUPPORTING TOWERS NTS

NOTE: NUMBER OF ANTENNAS & ANTENNA ORIENTATION SHALL BE PROVIDED BY/ RF ENGINEER PRIOR TO INSTALLATION

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA

SITE NO.: LV33XC001A

STRUCTURAL DETAILS

DATE:	SPRINT JOB NO.	A\E JOB NO.	DRAWING NUMBER	REV
06/28/99	LV33XC001A	8113.55.05	KCA001C6	1

GENERAL NOTES

1. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCT AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR ' DISCREPANCIES REPORTED TO THE ENGINEER.
2. DO NOT CHANGE SIZE NOR SPACING OF STRUCTURAL ELEMENTS.
3. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONC UNLESS OTHERWISE NOTED.
4. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONS'
5. BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STA INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, AN(
6. DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, D VENTS, ETC. BEFORE COMMENCING WORK.
7. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NON MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE OWNER PRIOR OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE APPROVAL.
8. EACH CONTRACTOR SHALL COOPERATE WITH THE OWNER'S REPRESENTAT AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.

DESIGN DATA

1. LIVE LOADS
   MINIMUM UNIFORM LOADS:

	FLOOR	ROOF
	40 PSF	20 PSF

   WIND LOADS: PER EIA/TIA F-222
   ICE LOADS: 1/2" RADIAL ON ALL COMPONENTS & CABLE
   SNOW LOAD: PER KENTUCKY BUILDING CODE
   SEISMIC LOADS: PER KENTUCKY BUILDING CODE
2. DEAD LOADS

DE/DEI	1250#
RE	1600#
EBE	2500#

ANTENNA SUPPORT BRACKET NOTES

1. DESIGN RESPONSIBILITY OF ANTENNA MOUNTING BRACKETS AND POLES AI COMPONENTS THERE OF AND ATTACHMENT THERE TO SHALL BE THE RES OF THE MANUFACTURER. MFR SHALL PROVIDE TO THE ENGINEER FOR AI DRAWINGS DETAILING ALL COMPONENTS OF THE ASSEMBLY, INCLUDING CC DESIGN LOADS, AND ALL OTHER PERTINENT DATA. ALL SUBMISSIONS SH THE STAMP AND SIGNATURE OF A PROFESSIONAL ENGINEER REGISTERED THE WORK IS BEING PERFORMED.
2. BRACKETS SHALL BE DESIGNED TO SUPPORT CURRENT AND FUTURE PAN ANTENNAS COAXIAL CABLES AS SHOWN.

STRUCTURAL STEEL NOTES

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AI "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUC STEEL FOR BUILDINGS".
2. ALL INTERIOR STRUCTURAL STEEL USED SHALL BE, WHEN DELIVERED, FI WITH ONE COAT FABRICATOR'S NON-LEAD, RED OXIDE PRIMER. PRIMIN(PERFORMED AFTER SHOP FABRICATION TO THE GREATEST EXTENT POSS ALL DINGS, SCRAPES, MARS, AND WELDS IN THE PRIMED AREAS SHALL BY FIELD TOUCH-UP PRIOR TO COMPLETION OF THE WORK.
3. ALL EXTERIOR STEEL WORK SHALL BE GALVANIZED IN ACCORDANCE WIT ASTM A36 UNLESS OTHERWISE NOTED. GALVANIZING SHALL BE PERFORM FABRICATION TO THE GREATEST EXTENT POSSIBLE. ALL DINGS, SCRAPE WELDS IN THE GALVANIZED AREAS SHALL BE REPAIRED BY FIELD TOUC COMPLETION OF THE WORK.
4. DO NOT PLACE HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
5. CONNECTIONS:
   A. ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDI CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE N PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL CONSTRUCTION ", 9TH EDITION. AT THE COMPLETION OF WELDING, .

ICE LOADS: 1/2" RADIAL ON ALL COMPONENTS & CABLE
SNOW LOAD: PER KENTUCKY BUILDING CODE
SEISMIC LOADS: PER KENTUCKY BUILDING CODE

2. DEAD LOADS

DE/DEI	1250#
RE	1600#
EBE	2500#

ANTENNA SUPPORT BRACKET NOTES

1. DESIGN RESPONSIBILITY OF ANTENNA MOUNTING BRACKETS AND POLES COMPONENTS THERE OF AND ATTACHMENT THERE TO SHALL BE THE OF THE MANUFACTURER. MFR SHALL PROVIDE TO THE ENGINEER FOR DRAWINGS DETAILING ALL COMPONENTS OF THE ASSEMBLY, INCLUDING DESIGN LOADS, AND ALL OTHER PERTINENT DATA. ALL SUBMISSIONS THE STAMP AND SIGNATURE OF A PROFESSIONAL ENGINEER REGISTERI THE WORK IS BEING PERFORMED.
2. BRACKETS SHALL BE DESIGNED TO SUPPORT CURRENT AND FUTURE F ANTENNAS COAXIAL CABLES AS SHOWN.

STRUCTURAL STEEL NOTES

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STR STEEL FOR BUILDINGS".
2. ALL INTERIOR STRUCTURAL STEEL USED SHALL BE, WHEN DELIVERED, WITH ONE COAT FABRICATOR'S NON-LEAD, RED OXIDE PRIMER. PRIMI PERFORMED AFTER SHOP FABRICATION TO THE GREATEST EXTENT POS ALL DINGS, SCRAPES, MARS, AND WELDS IN THE PRIMED AREAS SHAL BY FIELD TOUCH-UP PRIOR TO COMPLETION OF THE WORK.
3. ALL EXTERIOR STEEL WORK SHALL BE GALVANIZED IN ACCORDANCE WI ASTM A36 UNLESS OTHERWISE NOTED. GALVANIZING SHALL BE PERFOF FABRICATION TO THE GREATEST EXTENT POSSIBLE. ALL DINGS, SCRAF WELDS IN THE GALVANIZED AREAS SHALL BE REPAIRED BY FIELD TOU COMPLETION OF THE WORK.
4. DO NOT PLACE HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEP1 SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
5. CONNECTIONS:
   A. ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELI CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL CONSTRUCTION ", 9TH EDITION. AT THE COMPLETION OF WELDING, TO GALVANIZED COATING SHALL BE REPAIRED.
   B. BOLTED CONNECTIONS SHALL USE BEARING TYPE GALVANIZED ASTM (3/4" DIA) AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTI

JUL 26 1999

STATE OF KENTUCKY
PETER A. McTYGUE
20886
LICENSED
PROFESSIONAL ENGINEER

PAMcTyg

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.

S
113
SUIT
ALPH

ILDINGS, DRAINAGE STRUCTURES,
IN FIELD BY CONTRACTOR WITH ALL

CTURAL ELEMENTS.

.S APPLY TO SIMILAR CONDITIONS

Y COMPONENTS FOR CONSTRUCTION SAFETY.
ELEMENTS NEEDED FOR STABILITY ARE
WS: LATERAL BRACING, ANCHOR BOLTS, ETC.

.ITIES, GROUNDS DRAINS, DRAIN PIPES,

ERWISE MISFITTING OR NONCONFORMING
'ED TO THE OWNER PRIOR TO REMEDIAL
SHALL REQUIRE APPROVAL.
THE OWNER'S REPRESENTATIVE,
OF OTHERS.

:OOF
) PSF

TS & CABLE

'DE

NG BRACKETS AND POLES AND ALL
'HERE TO SHALL BE THE RESPONSIBILITY
DE TO THE ENGINEER FOR APPROVAL,
THE ASSEMBLY, INCLUDING CONNECTIONS,
DATA. ALL SUBMISSIONS SHALL BEAR
ONAL ENGINEER REGISTERED IN THE STATE

CURRENT AND FUTURE PANEL

: LATEST EDITION OF THE AISC
ON AND ERECTION OF STRUCTURAL

LL BE, WHEN DELIVERED, FINISHED
RED OXIDE PRIMER. PRIMING SHALL BE
HE GREATEST EXTENT POSSIBLE.
THE PRIMED AREAS SHALL BE REPAIRED
OF THE WORK.
ANIZED IN ACCORDANCE WITH SPECIFICATION
'ANIZING SHALL BE PERFORMED AFTER SHOP
SSIBLE. ALL DINGS, SCRAPES, MARS, AND
E REPAIRED BY FIELD TOUCH-UP PRIOR TO

L STEEL MEMBERS EXCEPT AS
WINGS.

XX ELECTRODES AND WELDING SHALL
: FILLET WELD SIZES ARE NOT SHOWN,
2.4 IN THE AISC "MANUAL OF STEEL
COMPLETION OF WELDING. ALL DAMAGE

C. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE
GALVANIZED ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.

D. CONNECTION DESIGN BY FABRICATOR WILL BE SUBJECT TO REVIE
APPROVAL BY ENGINEER.

CONCRETE NOTES

1. DESIGN AND CONSTRUCTION OF ALL CONCRETE ELEMENTS SHALL CO
TO THE LATEST EDITIONS OF THE FOLLOWING APPLICABLE CODES:
"SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS";
"BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE";

2. MIX DESIGN SHALL BE APPROVED BY OWNER'S REPRESENTATIVE PF
TO PLACING CONCRETE.

3. CONCRETE SHALL BE NORMAL WEIGHT, 6% AIR ENTRAINED (±1.5%) W
A MAXIMUM 4" SLUMP, AND HAVE A MINIMUM 28-DAY COMPRESSIV
STRENGTH OF 3000 PSI UNLESS OTHERWISE NOTED.

4. MAXIMUM AGGREGATE SIZE SHALL BE 1".

5. THE FOLLOWING MATERIALS SHALL BE USED:

PORTLAND CEMENT:	ASTM C 150
REINFORCEMENT:	ASTM A 185
NORMAL WEIGHT AGGREGATE:	ASTM C 33
WATER:	DRINKABLE
ADMIXTURES:	NON-CHLORI

6. REINFORCING DETAILS SHALL BE IN ACCORDANCE WITH THE LATEST I
OF ACI 315.

7. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DE
UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM
WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES S
AND ALL HOOKS SHALL BE STANDARD, UNO.

8. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR
STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

CONCRETE CAST AGAINST EARTH.....3 IN.

CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER .....2 IN.
#5 AND SMALLER & WWF .....1 1/2 IN.

CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST
SLAB AND WALL .....3/4 IN.
BEAMS AND COLUMNS .....1 1/2 IN.

9. A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF
IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

10. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE
MANUFACTURES WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR
ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR
OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITH
APPROVAL WHEN DRILLING HOLES IN CONCRETE.

11. CURING COMPOUNDS SHALL CONFORM TO ASTM C-309.

12. ADMIXTURES SHALL CONFORM TO THE APPROPRIATE ASTM STANDA
IN ACI-301.

13. DO NOT WELD OR TACKWELD REINFORCING STEEL.

14. ALL DOWELS, ANCHOR BOLTS, EMBEDDED STEEL, ELECTRICAL CONI
GROUNDS AND ALL OTHER EMBEDDED ITEMS AND FORMED DETAIL
BEFORE START OF CONCRETE PLACEMENT.

15. LOCATE ADDITIONAL CONSTRUCTION JOINTS REQUIRED TO FACILITAT
AS ACCEPTABLE TO ENGINEER. PLACE REINFORCEMENT CONTINUC

16. REINFORCEMENT SHALL BE COLD BENT WHENEVER BENDING IS REQ

17. PLACE CONCRETE IN A UNIFORM MANNER TO PREVENT THE FORMA

IS & CABLE

DE

NG BRACKETS AND POLES AND ALL
HERE TO SHALL BE THE RESPONSIBILITY
DE TO THE ENGINEER FOR APPROVAL,
HE ASSEMBLY, INCLUDING CONNECTIONS,
DATA. ALL SUBMISSIONS SHALL BEAR
ONAL ENGINEER REGISTERED IN THE STATE

CURRENT AND FUTURE PANEL

LATEST EDITION OF THE AISC
ON AND ERECTION OF STRUCTURAL

LL BE, WHEN DELIVERED, FINISHED
RED OXIDE PRIMER. PRIMING SHALL BE
HE GREATEST EXTENT POSSIBLE.
THE PRIMED AREAS SHALL BE REPAIRED
OF THE WORK.

NIZED IN ACCORDANCE WITH SPECIFICATION
ANIZING SHALL BE PERFORMED AFTER SHOP
SIBLE. ALL DINGS, SCRAPES, MARS, AND
REPAIRED BY FIELD TOUCH-UP PRIOR TO

L STEEL MEMBERS EXCEPT AS
WINGS.

XX ELECTRODES AND WELDING SHALL
FILLET WELD SIZES ARE NOT SHOWN,
12.4 IN THE AISC "MANUAL OF STEEL
COMPLETION OF WELDING, ALL DAMAGE
IRED.

IG TYPE GALVANIZED ASTM A325 BOLTS
F TWO BOLTS UNLESS NOTED OTHERWISE.

6. REINFORCING DETAILS SHALL BE IN ACCORDANCE WITH THE LATEST
OF ACI 315.

7. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, D
UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM
WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES S
AND ALL HOOKS SHALL BE STANDARD, UNO.

8. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR
STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

CONCRETE CAST AGAINST EARTH.....3 IN.

CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER .....2 IN.
#5 AND SMALLER & WWF .....1 1/2 IN.

CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST
SLAB AND WALL .....3/4 IN.
BEAMS AND COLUMNS .....1 1/2 IN.

9. A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF
IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

10. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE
MANUFACTURES WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR
ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR
OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHO
APPROVAL WHEN DRILLING HOLES IN CONCRETE.

11. CURING COMPOUNDS SHALL CONFORM TO ASTM C-309.

12. ADMIXTURES SHALL CONFORM TO THE APPROPRIATE ASTM STANDAR
IN ACI-301.

13. DO NOT WELD OR TACKWELD REINFORCING STEEL.

14. ALL DOWELS, ANCHOR BOLTS, EMBEDDED STEEL, ELECTRICAL CONDU
GROUNDS AND ALL OTHER EMBEDDED ITEMS AND FORMED DETAILS
BEFORE START OF CONCRETE PLACEMENT.

15. LOCATE ADDITIONAL CONSTRUCTION JOINTS REQUIRED TO FACILITAT
AS ACCEPTABLE TO ENGINEER. PLACE REINFORCEMENT CONTINUO

16. REINFORCEMENT SHALL BE COLD BENT WHENEVER BENDING IS REQU

17. PLACE CONCRETE IN A UNIFORM MANNER TO PREVENT THE FORMA
AND OTHER PLANES OF WEAKNESS. VIBRATE THE CONCRETE TO FU
DO NOT USE VIBRATORS TO TRANSPORT CONCRETE THROUGH CHU

18. DO NOT PLACE CONCRETE IN WATER, ICE, OR ON FROZEN GROUND

19. DO NOT ALLOW CONCRETE SUBBASE TO FREEZE DURING CONCRETE
PERIOD, OR FOR A MINIMUM OF 14 DAYS AFTER PLACEMENT.

20. FOR COLD-WEATHER AND HOT-WEATHER CONCRETE PLACEMENT, C
ACI CODES AND RECOMMENDATIONS. IN EITHER CASE, MATERIALS
CALCIUM, SALTS, ETC. SHALL NOT BE USED. PROTECT FRESH CON
FOR 7 DAYS MINIMUM.

ANY PERSON,
ER THE DIRECTION
ENGINEER, TO

Sprint Com Inc.
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GA 30004

NO.	DATE	REVISIONS	BY	CHK	APP'D
4	7/20/99	FAA LIGHTING ADDED	BHA	SB	MJK
3	7/12/99	ISSUED FOR CONSTRUCTION	BHA	SB	MJK
2	6/28/99	ISSUED FOR QA\QC	PM	SB	MJK
1	/ /				

SCALE: AS NOTED | DESIGNED KSP | DRAWN RJS

FOR STEEL GRATING MAY USE 5/8" DIA.
UNLESS NOTED OTHERWISE.

.TOR WILL BE SUBJECT TO REVIEW AND

CONCRETE ELEMENTS SHALL CONFORM
)LLOWING APPLICABLE CODES: ACI 301
CONCRETE FOR BUILDINGS"; ACI 318,
REINFORCED CONCRETE";

(OWNER'S REPRESENTATIVE PRIOR

T, 6% AIR ENTRAINED (±1.5%) WITH
\ MINIMUM 28-DAY COMPRESSIVE
HERWISE NOTED.

1".

: USED:

ASTM C 150, TYPE I
ASTM A 185
ASTM C 33
DRINKABLE
NON-CHLORIDE CONTAINING

\CCORDANCE WITH THE LATEST EDITION

TO ASTM A 615, GRADE 60, DEFORMED
) WIRE FABRIC SHALL CONFORM TO ASTM A 185
NOTED OTHERWISE. SPLICES SHALL BE CLASS "B"
RD, UNO.

COVER SHALL BE PROVIDED FOR REINFORCING
N DRAWINGS:

..3 IN.

NEATHER:
...2 IN.
...1 1/2 IN.

OR WEATHER OR NOT CAST AGAINST THE GROUND:
...3/4 IN.
...1 1/2 IN.

:D AT ALL EXPOSED EDGES OF CONCRETE, UNO,
ION 4.2.4.

ION/WEDGE ANCHOR, SHALL BE PER
DED PROCEDURE. THE ANCHOR BOLT, DOWEL OR
TURER'S RECOMMENDATION FOR EMBEDMENT DEPTH
NO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING
I CONCRETE.

M TO ASTM C-309.

E APPROPRIATE ASTM STANDARD AS REFERENCED

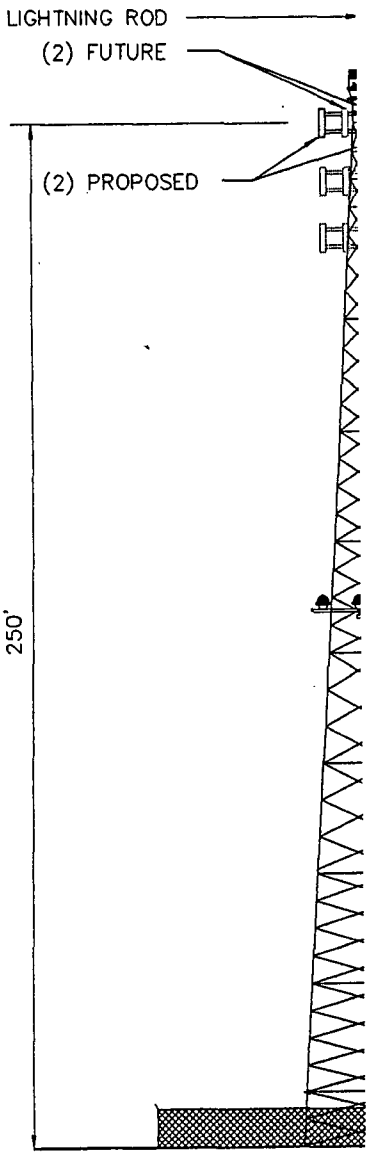
RCING STEEL.

DDED STEEL, ELECTRICAL CONDUITS, PIPE SLEEVES,
D ITEMS AND FORMED DETAILS SHALL BE IN PLACE
MENT.

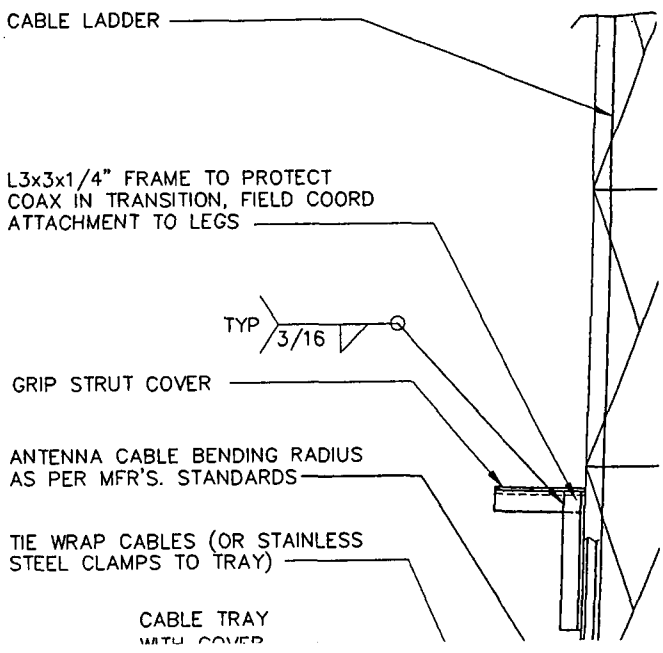
OINTS REQUIRED TO FACILITATE CONSTRUCTION
CE REINFORCEMENT CONTINUOUSLY THROUGH JOINT.

T WHENEVER BENDING IS REQUIRED.

INER TO PREVENT THE FORMATION OF COLD JOINTS
VIBRATE THE CONCRETE TO FULLY EMBED REINFORCING.



1 TOWER S
– NTS



CCORDANCE WITH THE LATEST EDITION

TO ASTM A 615, GRADE 60, DEFORMED
WIRE FABRIC SHALL CONFORM TO ASTM A 185
NOTED OTHERWISE. SPLICES SHALL BE CLASS "B"
D, UNO.

COVER SHALL BE PROVIDED FOR REINFORCING
J DRAWINGS:

.3 IN.

EATHER:
..2 IN.
..1 1/2 IN.

OR WEATHER OR NOT CAST AGAINST THE GROUND:
.3/4 IN.
..1 1/2 IN.

D AT ALL EXPOSED EDGES OF CONCRETE, UNO,
ON 4.2.4.

ON/WEDGE ANCHOR, SHALL BE PER
)ED PROCEDURE. THE ANCHOR BOLT, DOWEL OR
URER'S RECOMMENDATION FOR EMBEDMENT DEPTH
IO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING
CONCRETE.

TO ASTM C-309.

E APPROPRIATE ASTM STANDARD AS REFERENCED

RCING STEEL.

DDED STEEL, ELECTRICAL CONDUITS, PIPE SLEEVES,
) ITEMS AND FORMED DETAILS SHALL BE IN PLACE
MENT.

'OINTS REQUIRED TO FACILITATE CONSTRUCTION
CE REINFORCEMENT CONTINUOUSLY THROUGH JOINT.

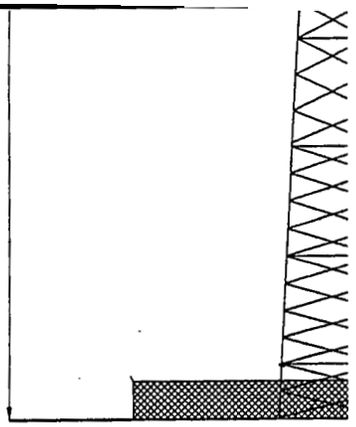
T WHENEVER BENDING IS REQUIRED.

INER TO PREVENT THE FORMATION OF COLD JOINTS
VIBRATE THE CONCRETE TO FULLY EMBED REINFORCING.
)RT CONCRETE THROUGH CHUTES OR FORMWORK.

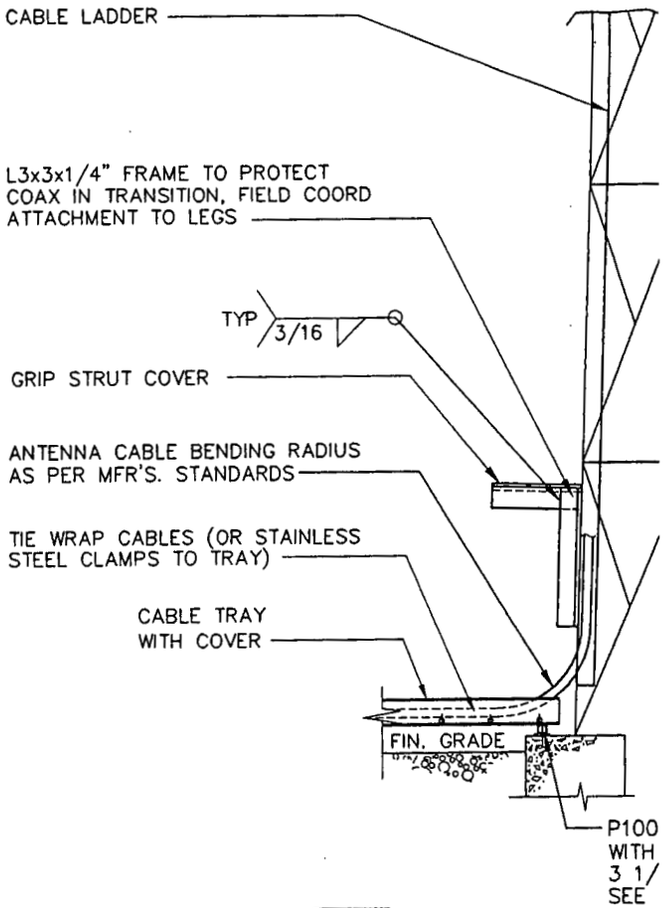
ICE, OR ON FROZEN GROUND.

TO FREEZE DURING CONCRETE CURING AND SETTING
)AYS AFTER PLACEMENT.

HER CONCRETE PLACEMENT, CONFORM TO APPLICABLE
IN EITHER CASE, MATERIALS CONTAINING CHLORIDE,
E USED. PROTECT FRESH CONCRETE FROM WEATHER



1 TOWER S
– NTS



591N RACEWAY – A
– ISSUE 2

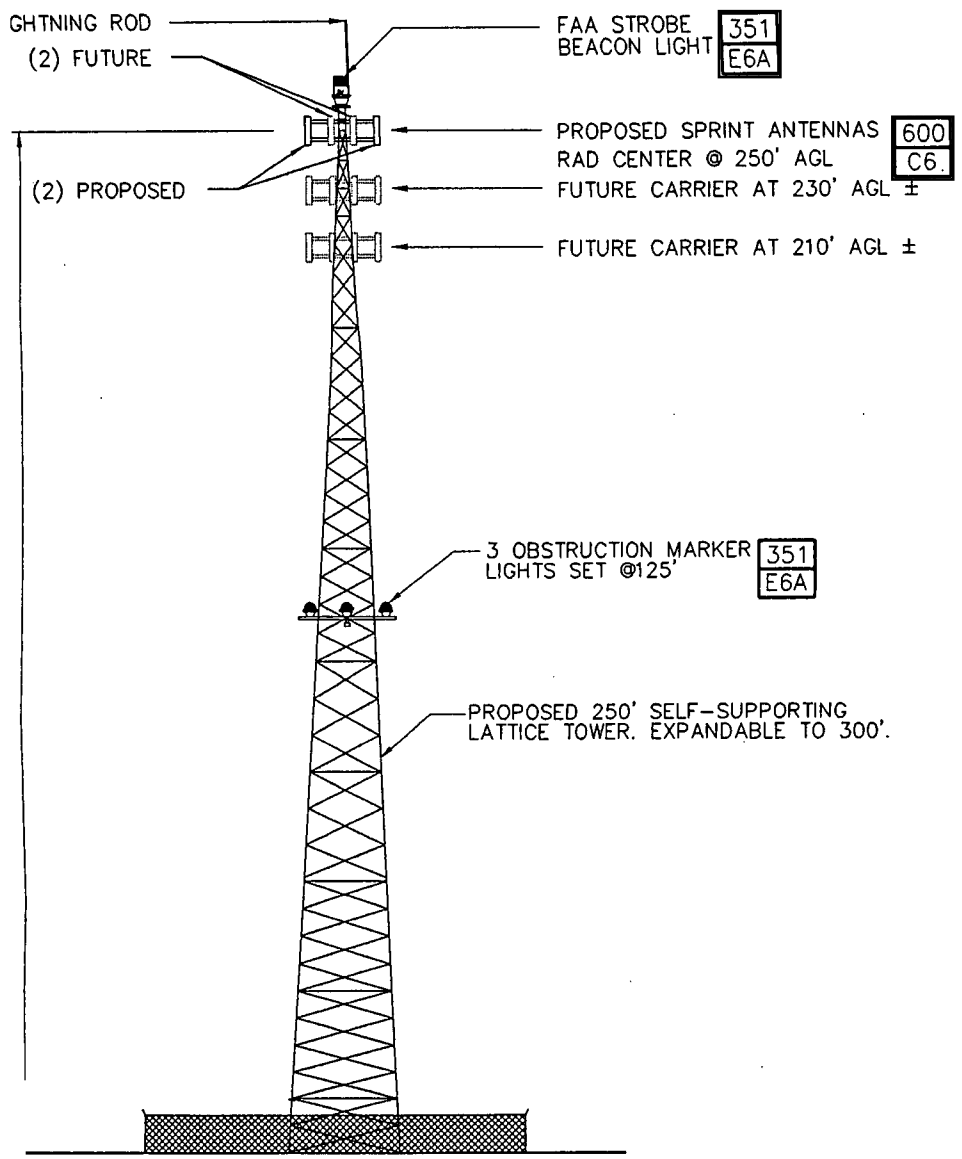
)DED	BHA	SB	MJK
RUCTION	BHA	SB	MJK
\QC	PM	SB	MJK
S	BY	CHK	APP'D
KSP	DRAWN	RJS	

CHA
DRAWING COPYRIGHT © 1999
CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
1080 HOLCOMB BRIDGE ROAD-ROSWELL, GEORGIA - 30076
BUILDING 200 – SUITE 330 770-992-2332

MARSHALL

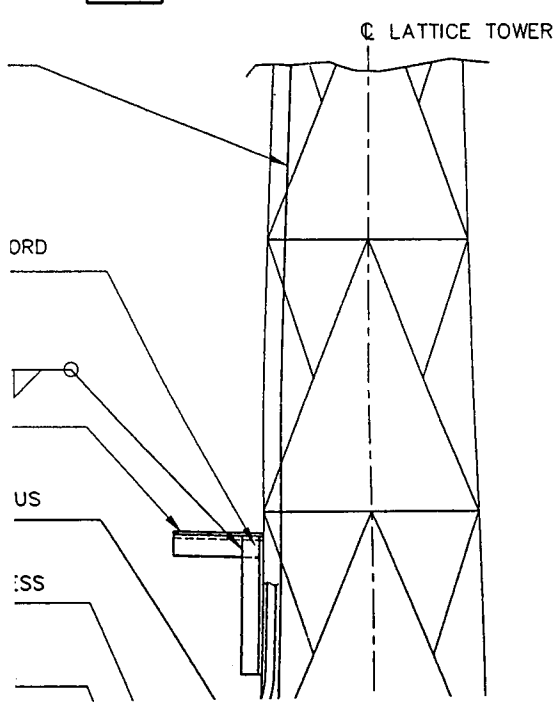
MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

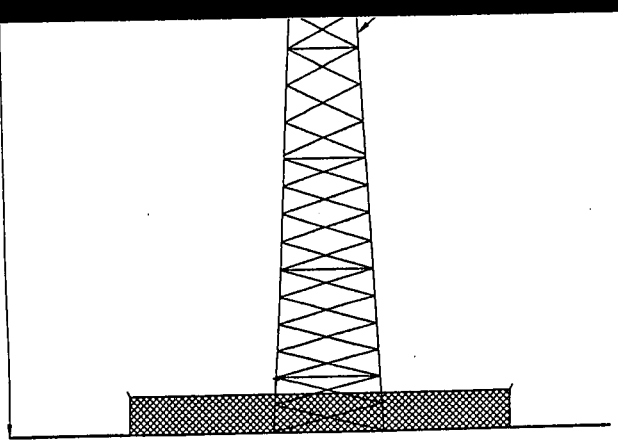
LOUISVILLE BTA



1 TOWER SCHEMATIC

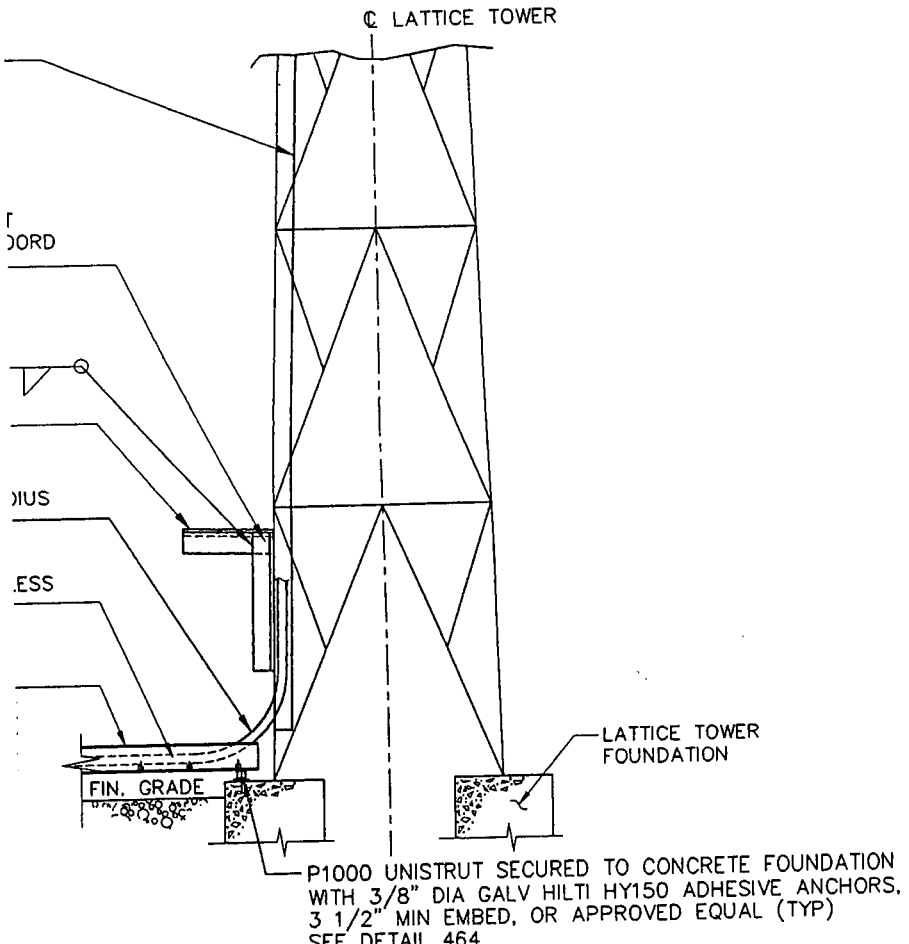
– NTS





1 – TOWER SCHEMATIC

NTS



591N – RACEWAY – ANTENNA CABLE ROUTING

NTS

ISSUE 2

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

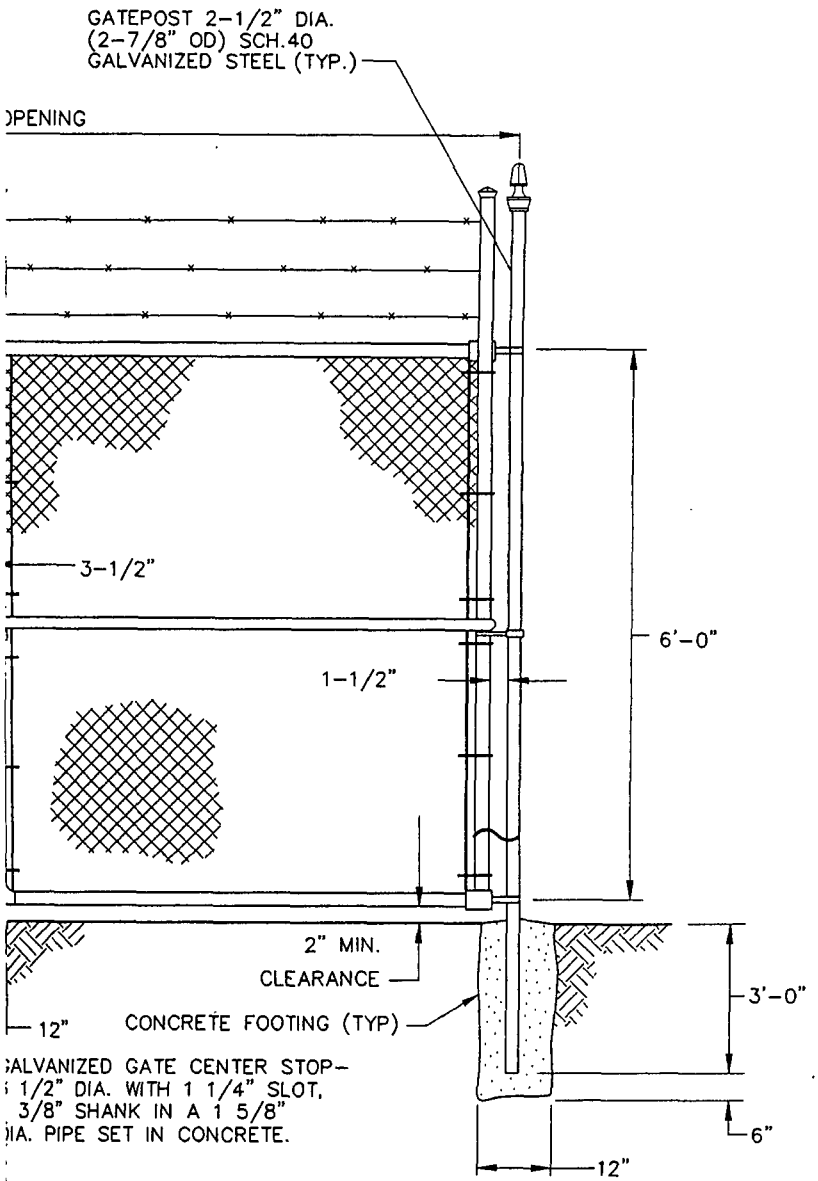
LOUISVILLE BTA

SITE NO.: LV33XC001A

NOTES & ELEVATION

DATE:	SPRINT JOB NO.	A\E JOB NO.	DRAWING NUMBER	REV
06/28/99	LV33XC001A	8113.55.05	KCA001C5	2

. FENCING PER ASTM F-567, SWING GATES PER ASTM F- 900)



SITE NO.: LV33XC001A				
SITE DETAILS				
DATE:	SPRINT JOB NO.	A\E JOB NO.	DRAWING NUMBER	REV
06/28/99	LV33XC001A	8113.55.05	KCA001C4	1

)RNER, TERMINAL OR PULL POST 2 1/2"ø (2 7/8"OD) SCHEDULE 40
'HS UP THRU 6 FEET OR 12 FEET FOR DOUBLE SWING
1–F1083.

) (2 3/8" OD) SCHEDULE 40 PIPE PER ASTM–F1083.

1/2"ø (1 7/8" OD) SCHEDULE 40 PIPE PER ASTM–F1083.

RACE RAIL: 1 1/2"ø (1 7/8" OD) SCHEDULE 40 PIPE PER ASTM–F1083.

. CORE WIRE SIZE 2" MESH, CONFORMING TO ASTM–A392.

IUM 11 GA. GALVANIZED STEEL AT POSTS AND RAILS
) OF FABRIC TIE AND AT TENSION WIRE BY HOG
MAX 24" INTERVALS.

7 GA. GALVANIZED STEEL.

DOUBLE STRAND 12–1/2" O.D. TWISTED WIRE TO MATCH
GA., 4 PT. BARBS SPACED ON APPROXIMATELY 4" CENTERS.

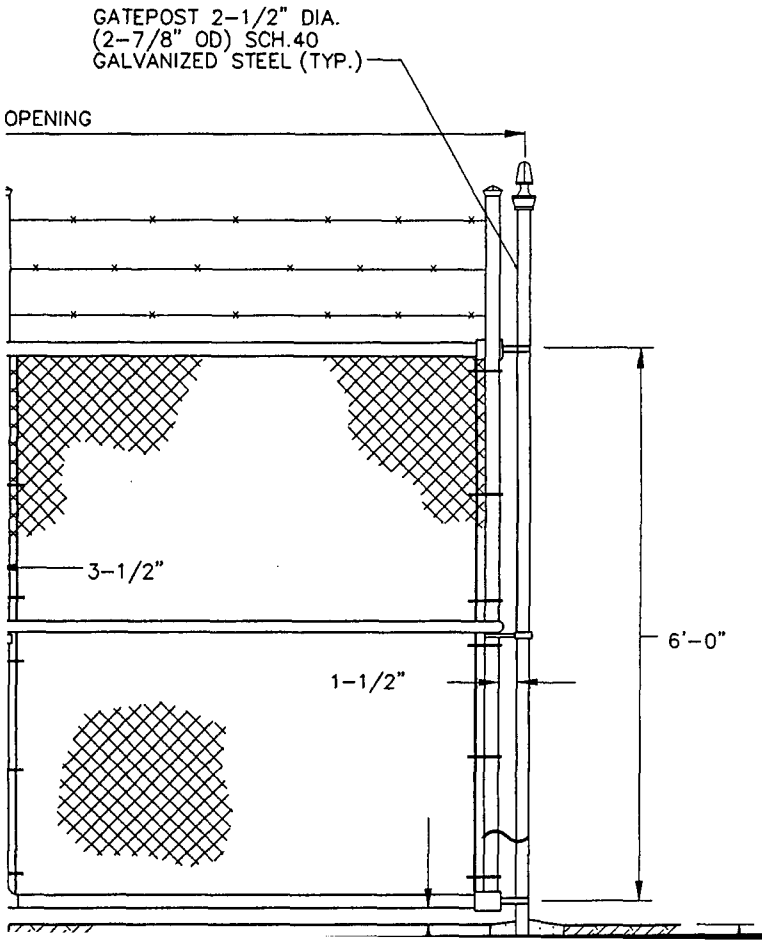
1–3/8" O.D. PLUNGER ROD W/ MUSHROOM TYPE CATCH
'ED ALIKE FOR ALL SITES IN A GIVEN MTA.

ICE OF BARBED WIRE PERMIT REQUIREMENT SHALL BE
EQUIRED.

ERTICAL + 1' BARBED WIRE VERTICAL DIMENSION.

\L WOVEN WIRE FENCING NOTES

L FENCING PER ASTM F–567, SWING GATES PER ASTM F– 900)



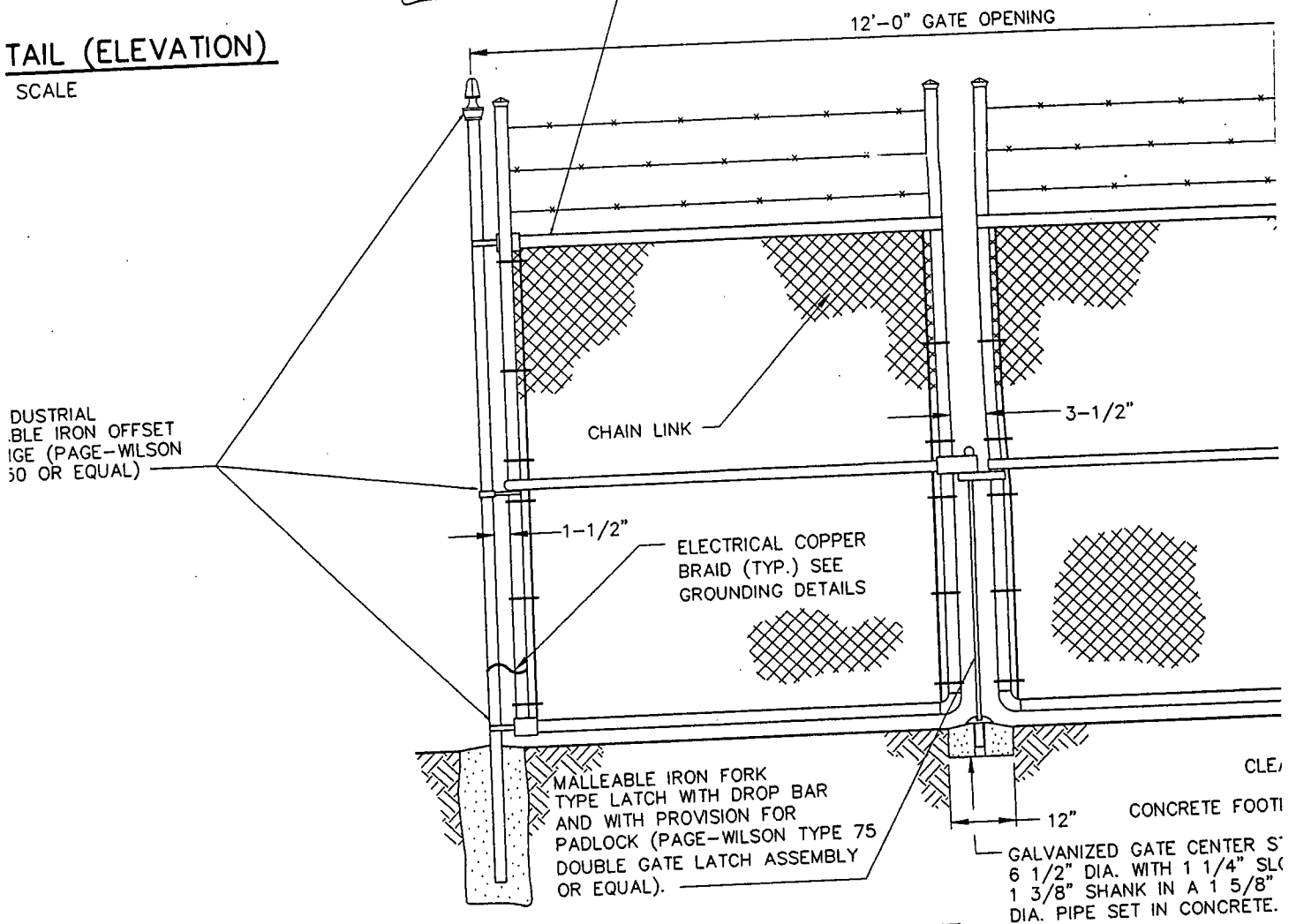
028 TYPICAL WOVEN WIRE FEN
— (INSTALL FENCING PER ASTM F-567, S
ISSUE 2

LASS B
G
2 7/8" OD)SCH 40 (TYP.)

GATE FRAME 1-1/2" DIA.
(1 7/8" OD)SCH 40 (TYP.)

GATEPOST 2-1/2" DIA.
(2-7/8" OD) SCH.40
GALVANIZED STEEL (TYF

TAIL (ELEVATION)
SCALE



DUSTRIAL
BLE IRON OFFSET
IGE (PAGE-WILSON
50 OR EQUAL)

CLE/

024 12' WIDE DOUBLE SWING GATE
NO SCALE
ISSUE 4

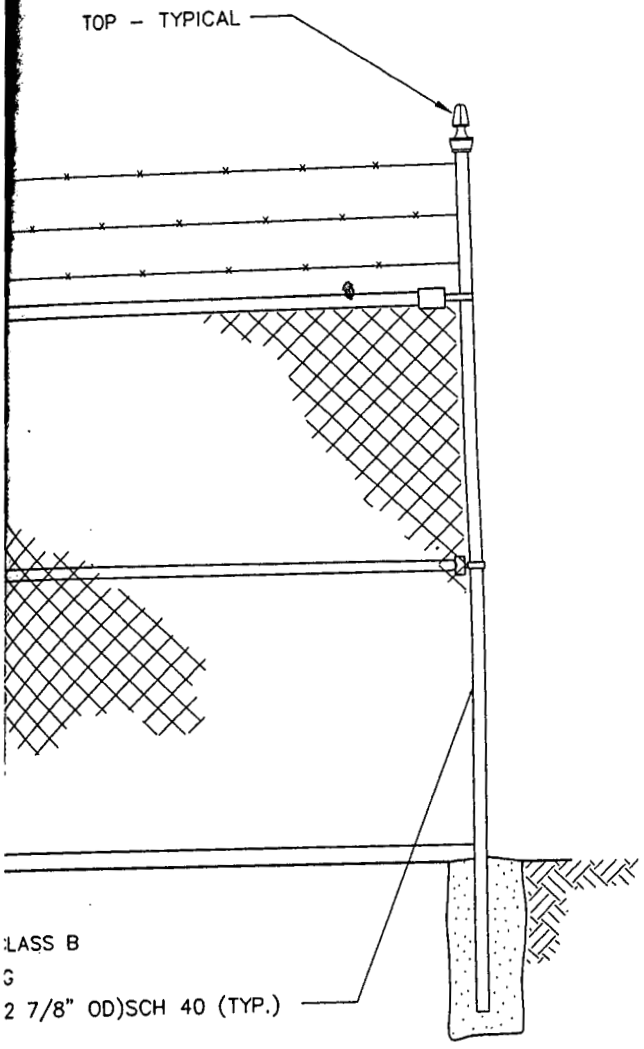
CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
30 HOLCOMB BRIDGE ROAD-ROSWELL, GEORGIA - 30076
ILDING 200 - SUITE 330
770-992-2332

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA

DATE:
06/28/9



1. GATE POST, CORNER, TERMINAL OR PULL POST 2 FOR GATE WIDTHS UP THRU 6 FEET OR 12 FEET GATE PER ASTM–F1083.
2. LINE POST: 2"ø (2 3/8" OD) SCHEDULE 40 PIPE
3. GATE FRAME: 1 1/2"ø (1 7/8" OD) SCHEDULE
4. TOP RAIL & BRACE RAIL: 1 1/2"ø (1 7/8" OD
5. FABRIC: 12 GA. CORE WIRE SIZE 2" MESH, CONF
6. TIE WIRE: MINIMUM 11 GA. GALVANIZED STEEL AT A SINGLE WRAP OF FABRIC TIE AND AT TENSION RINGS SPACED MAX 24" INTERVALS.
7. TENSION WIRE: 7 GA. GALVANIZED STEEL.
8. BARBED WIRE: DOUBLE STRAND 12–1/2" O.D. W/ FABRIC 14 GA., 4 PT. BARBS SPACED ON A
9. GATE LATCH: 1–3/8" O.D. PLUNGER ROD W/ AND LOCK, KEYED ALIKE FOR ALL SITES IN A G
10. LOCAL ORDINANCE OF BARBED WIRE PERMIT RE COMPLIED IF REQUIRED.
11. HEIGHT = 6' VERTICAL + 1' BARBED WIRE VER

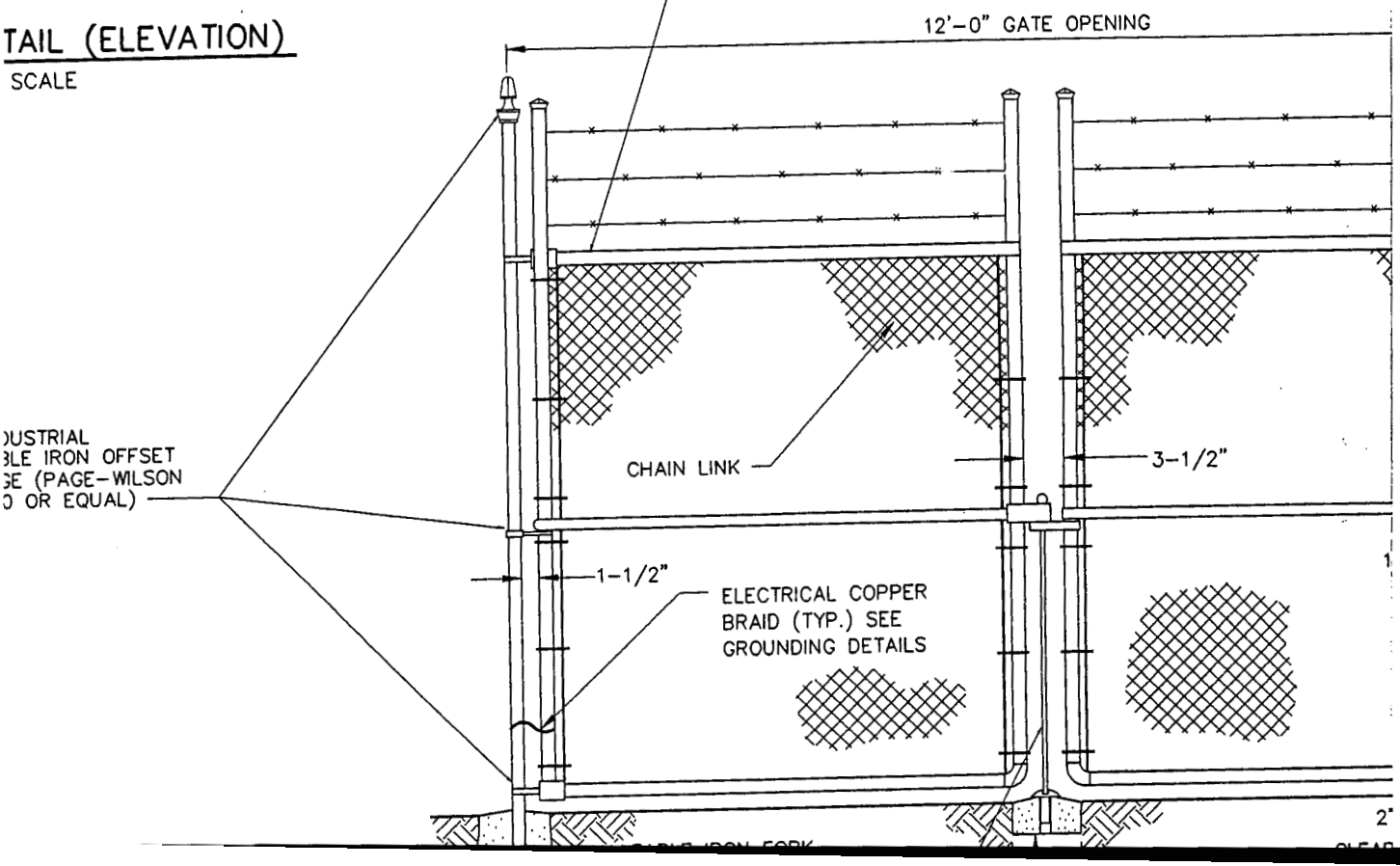
028 – TYPICAL WOVEN WIRE FEN

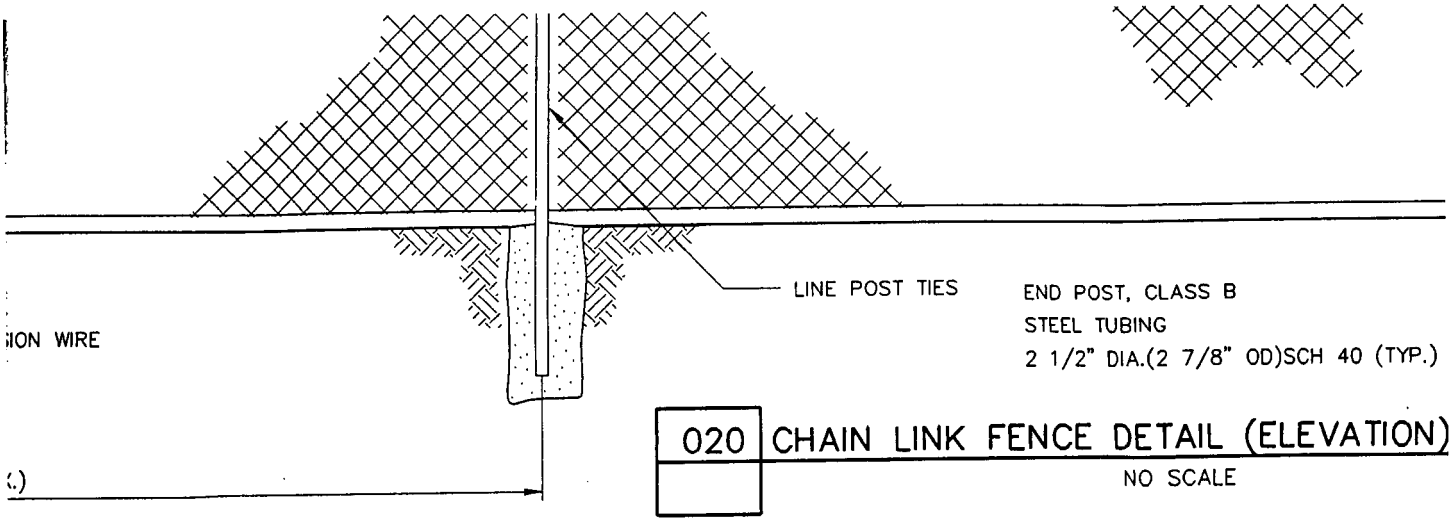
(INSTALL FENCING PER ASTM F–567, S

ISSUE 2

TAIL (ELEVATION)

SCALE

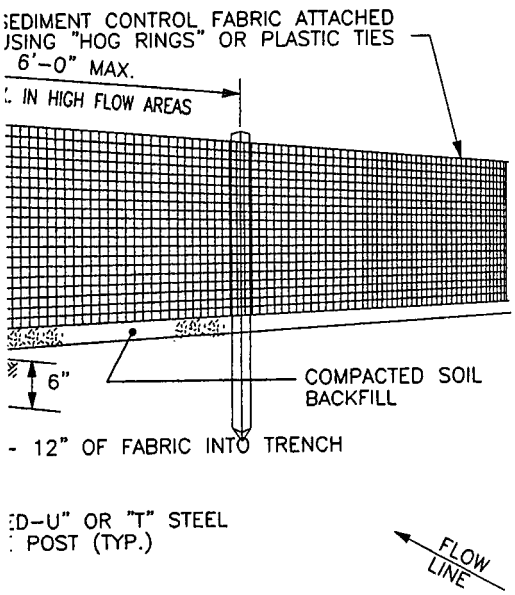




020 CHAIN LINK FENCE DETAIL (ELEVATION)

NO SCALE

ISSUE 4



PAIR INDUSTRIAL
MALLEABLE IRON OFFSET
PIN HINGE (PAGE-WILSON
M-61250 OR EQUAL)

SILT FENCE DETAIL

NO SCALE

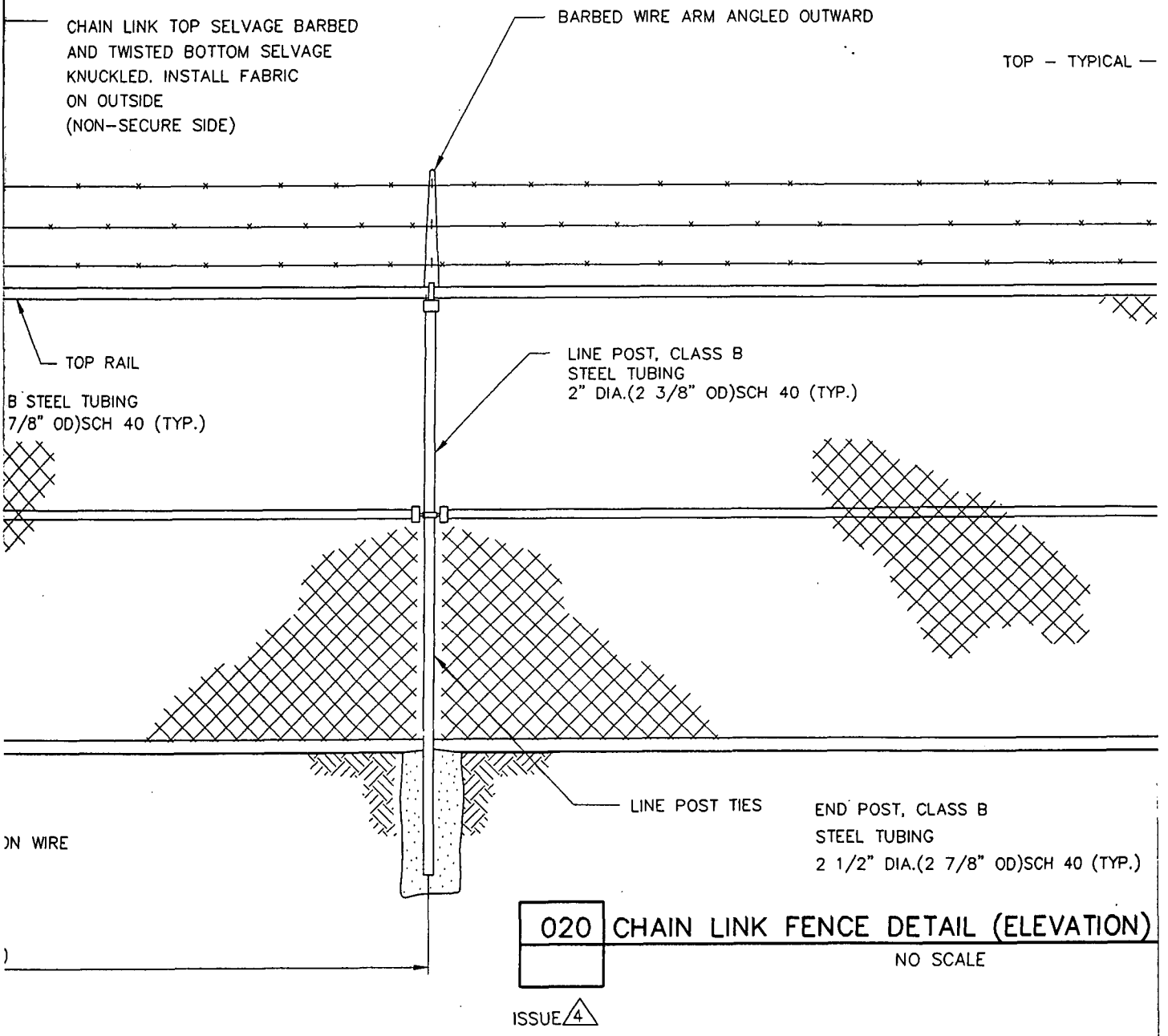
rint Com Inc.

OLD ROSWELL ROAD
100
ETTA, GA 30004

NO.	DATE	REVISIONS	BY	CHK	APP'D
3	6/28/99	ISSUED FOR QA\QC	RJT	JPS	PM
2	4/29/99	ISSUED FOR CONSTRUCTION	RJT	JPS	PM
1	//				
0	//				

SCALE: AS NOTED | DESIGNED RJT | DRAWN RJT

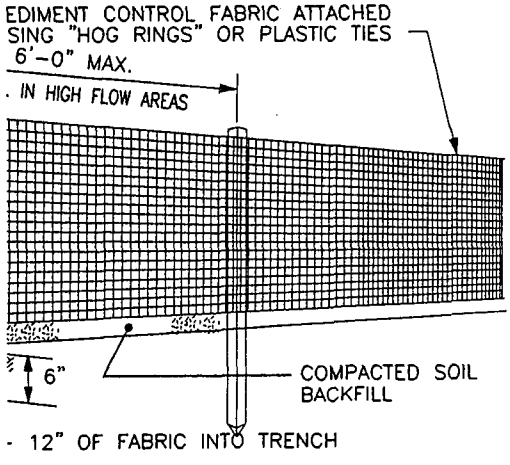
CLOUGH, H & ASSOC
ENGINEERS, SURV & LANDS
1080 HOLCOMB BRIDGE ROAD-ROSWI
BUILDING 200 - SUITE 330

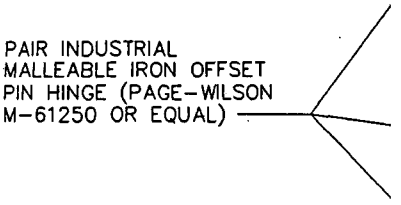


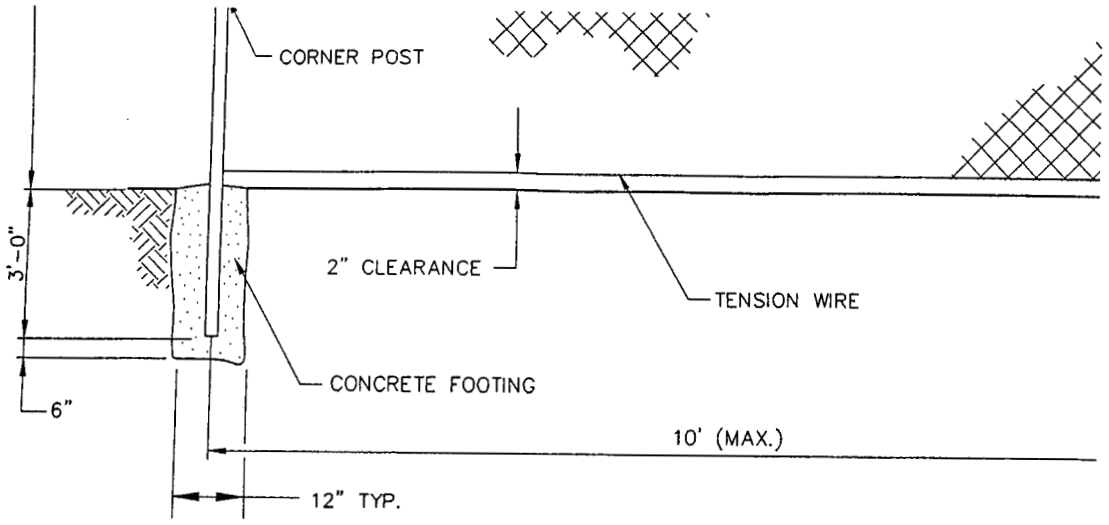
020 CHAIN LINK FENCE DETAIL (ELEVATION)

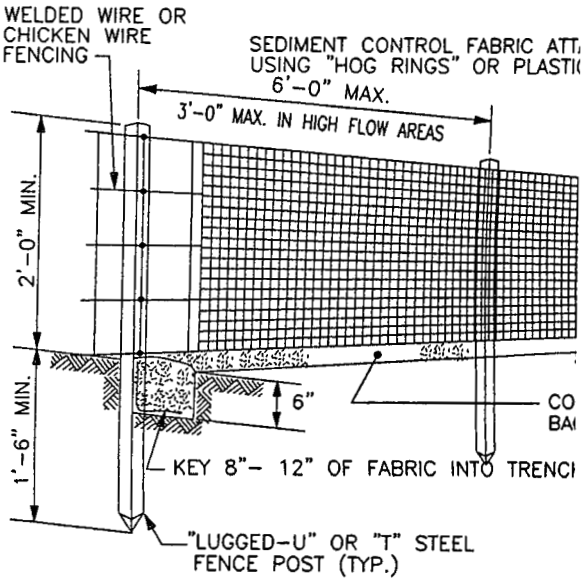
NO SCALE

ISSUE 4







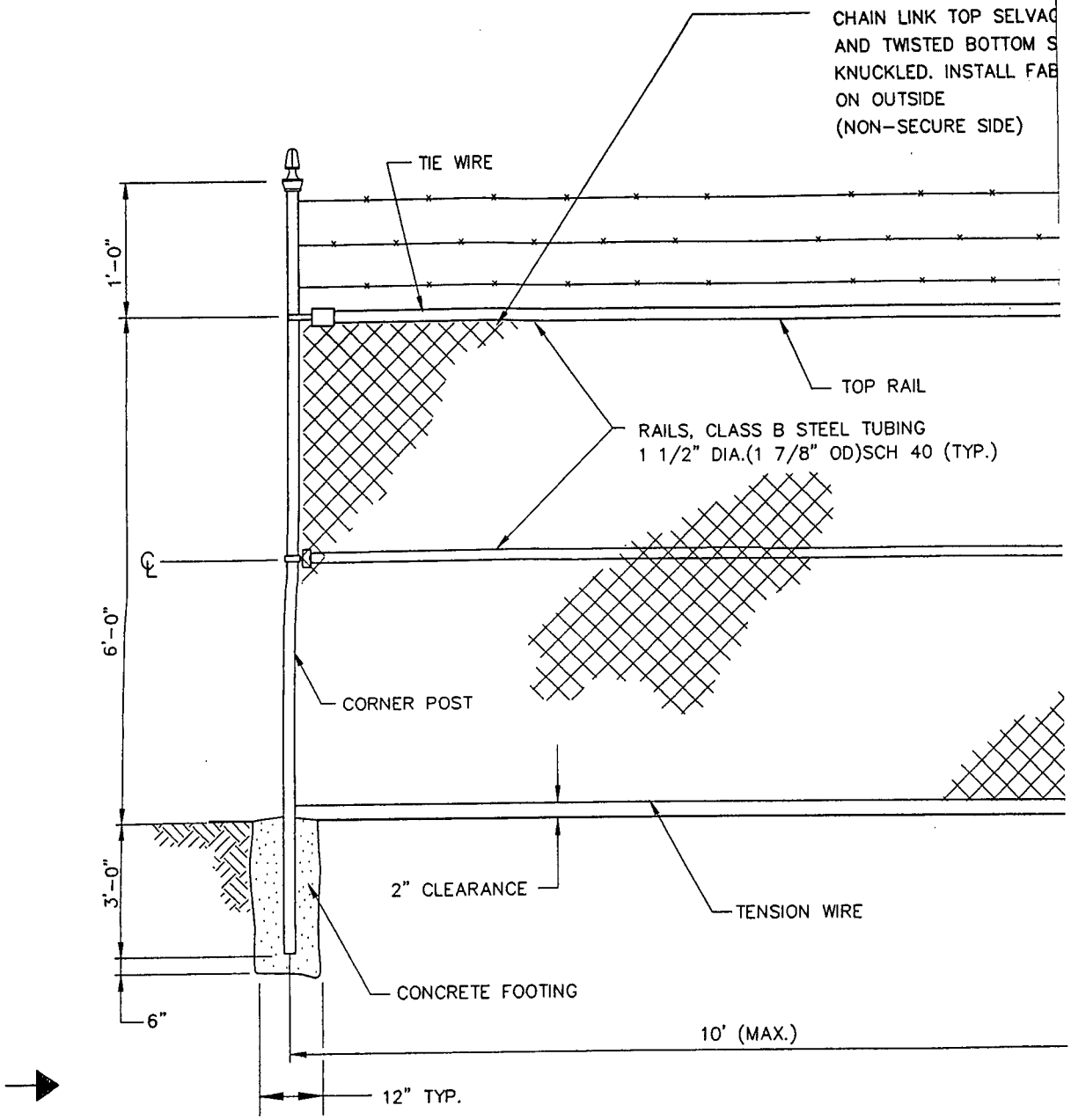


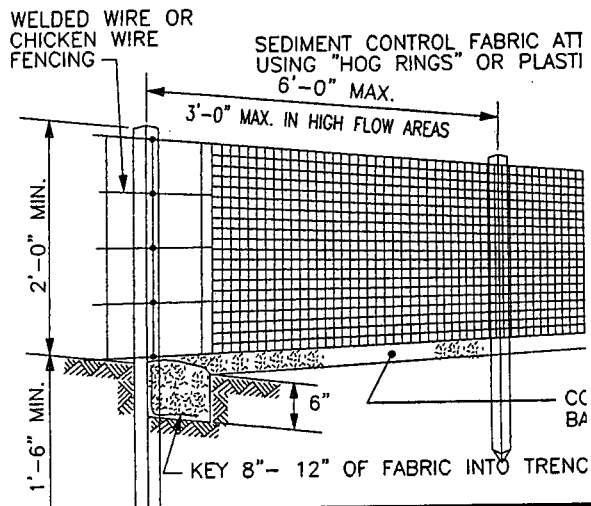
901 SILT FENCE DETAIL
NO SCALE

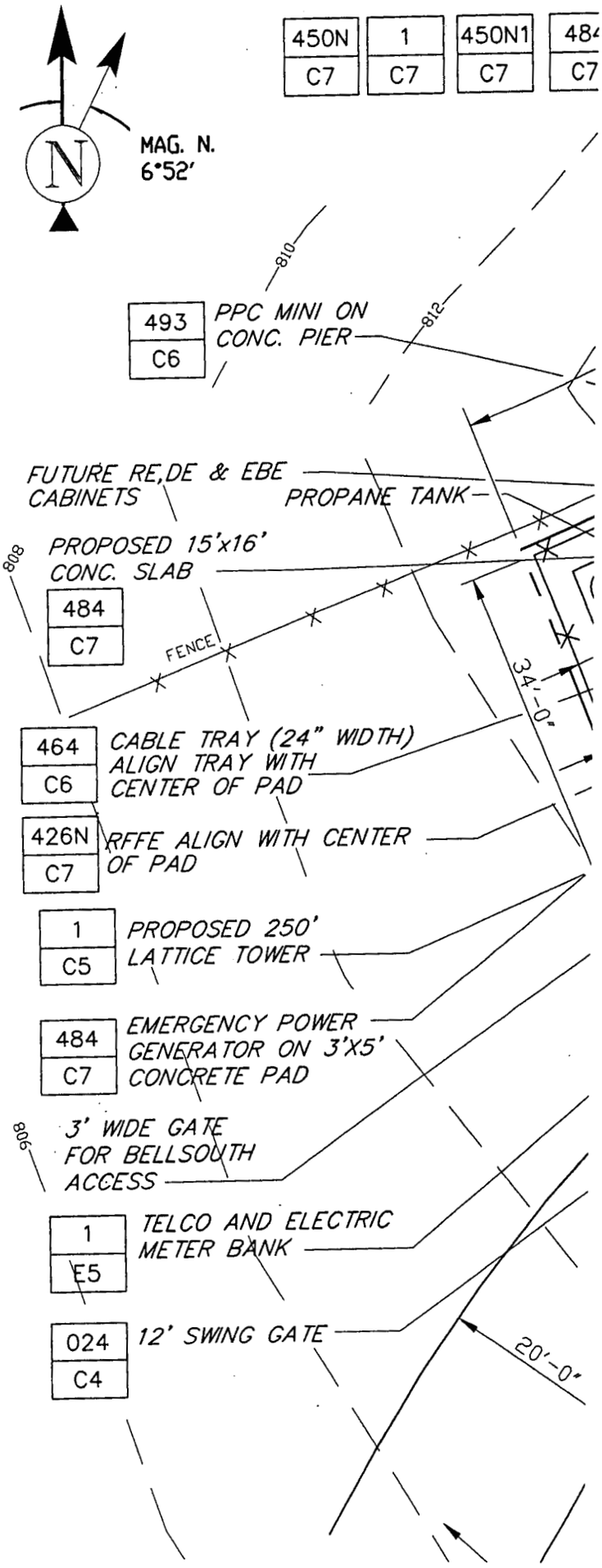
STATE OF KENTUCKY
PETER A. McTYGUE
20886
LICENSED PROFESSIONAL ENGINEER
JUL 26 999

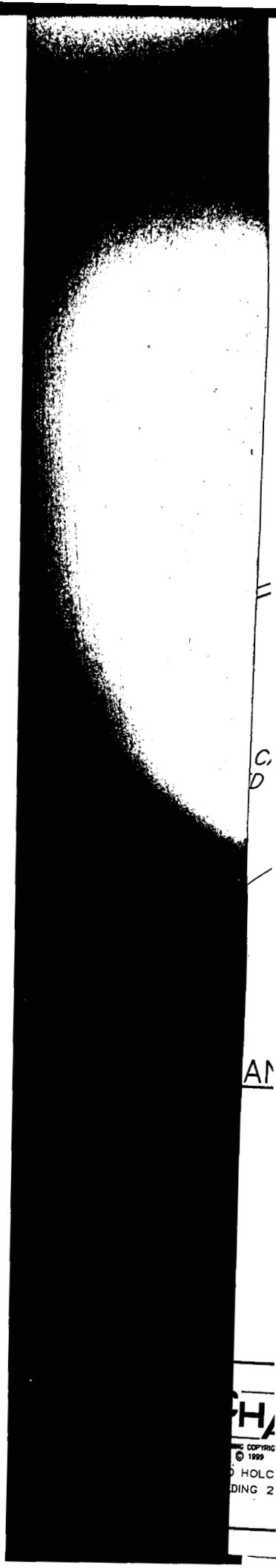
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

Sprint Com
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GA 30004


CHAIN LINK TOP SELVAG
AND TWISTED BOTTOM S
KNUCKLED. INSTALL FAB
ON OUTSIDE
(NON-SECURE SIDE)
TIE WIRE
1'-0"
TOP RAIL
RAILS, CLASS B STEEL TUBING
1 1/2" DIA.(1 7/8" OD)SCH 40 (TYP.)
6'-0"
CORNER POST
3'-0"
2" CLEARANCE
TENSION WIRE
CONCRETE FOOTING
6"
10' (MAX.)
12" TYP.


WELDED WIRE OR
CHICKEN WIRE
FENCING
SEDIMENT CONTROL FABRIC ATT
USING "HOG RINGS" OR PLASTI
6'-0" MAX.
3'-0" MAX. IN HIGH FLOW AREAS
2'-0" MIN.
1'-6" MIN.
6"
KEY 8"- 12" OF FABRIC INTO TRENC


450N
C7
1
C7
450N1
C7
484
C7
MAG. N.
6°52'
810
812
493
C6
PPC MINI ON
CONC. PIER
FUTURE RE,DE & EBE
CABINETS
PROPANE TANK
PROPOSED 15'x16'
CONC. SLAB
808
484
C7
FENCE
34'-0"
464
C6
CABLE TRAY (24" WIDTH)
ALIGN TRAY WITH
CENTER OF PAD
426N
C7
RFFE ALIGN WITH CENTER
OF PAD
1
C5
PROPOSED 250'
LATTICE TOWER
484
C7
EMERGENCY POWER
GENERATOR ON 3'X5'
CONCRETE PAD
806
3' WIDE GATE
FOR BELLSOUTH
ACCESS
1
E5
TELCO AND ELECTRIC
METER BANK
024
C4
12' SWING GATE
20'-0"



CONC. SLAB

484
C7

FENCE

34'-0"

464
C6
CABLE TRAY (24" WIDTH) ALIGN TRAY WITH CENTER OF PAD

426N
C7
RFFE ALIGN WITH CENTER OF PAD

1
C5
PROPOSED 250' LATTICE TOWER

484
C7
EMERGENCY POWER GENERATOR ON 3'X5' CONCRETE PAD

806
3' WIDE GATE FOR BELLSOUTH ACCESS

1
E5
TELCO AND ELECTRIC METER BANK

024
C4
12' SWING GATE

20'-0"

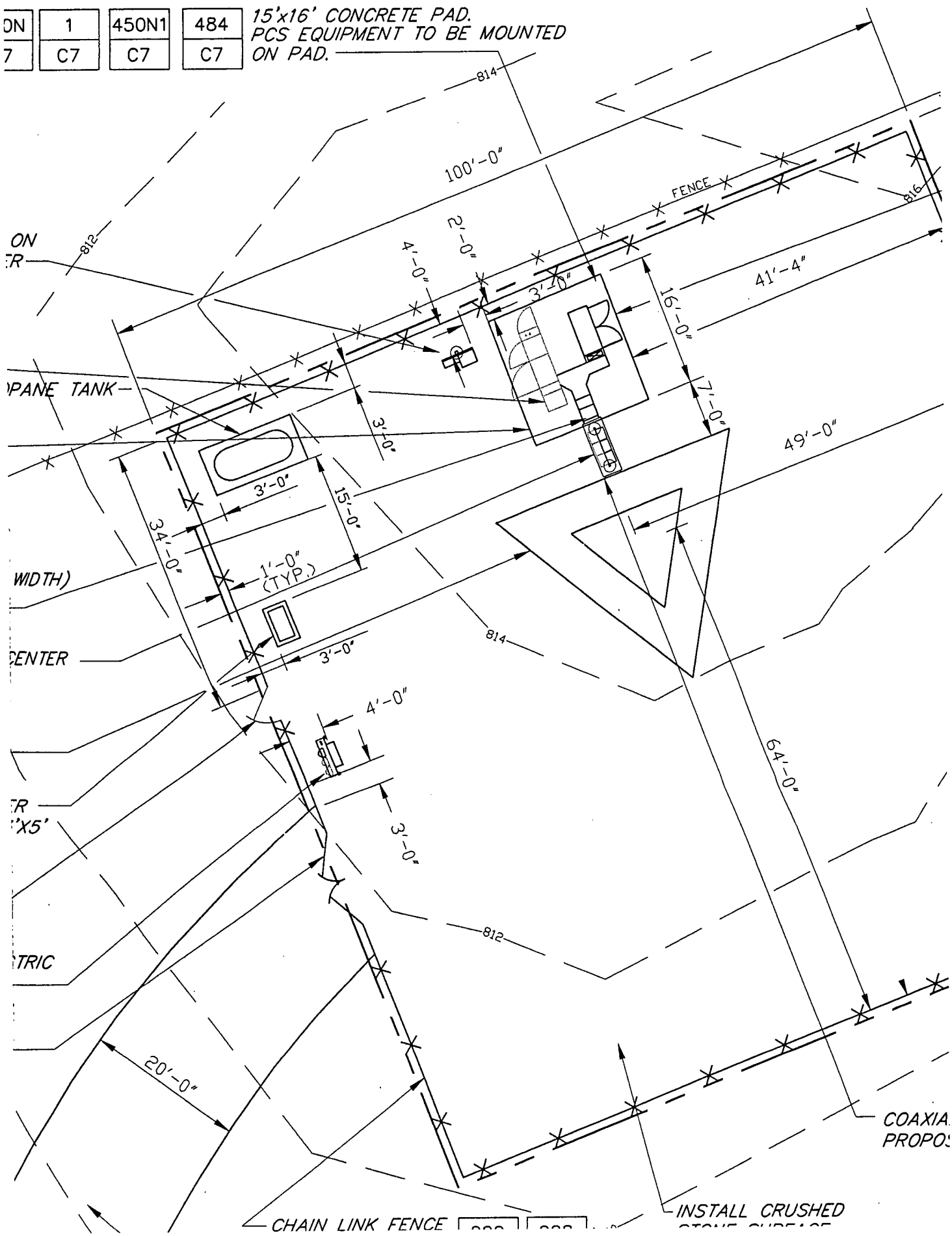
STATE OF KENTUCKY
PETER A. McTYGUE
20886
LICENSED PROFESSIONAL ENGINEER

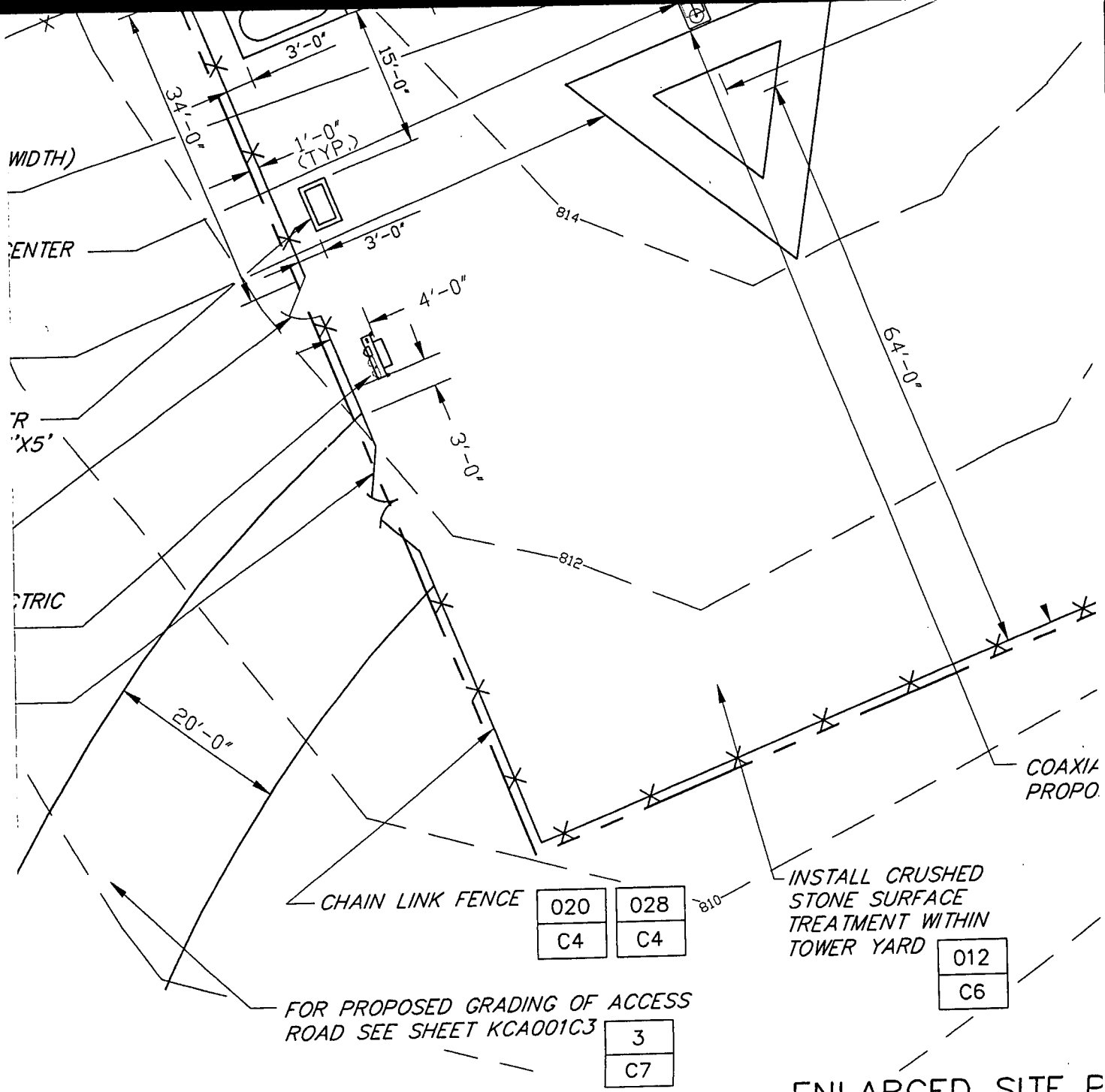
JUL 2 6 1999

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.

ON	1	450N1	484
7	C7	C7	C7

15'x16' CONCRETE PAD.
PCS EQUIPMENT TO BE MOUNTED
ON PAD.





ENLARGED SITE P

SCALE 1"=10'

FOR ANY PERSON, UNDER THE DIRECTION AL ENGINEER, TO

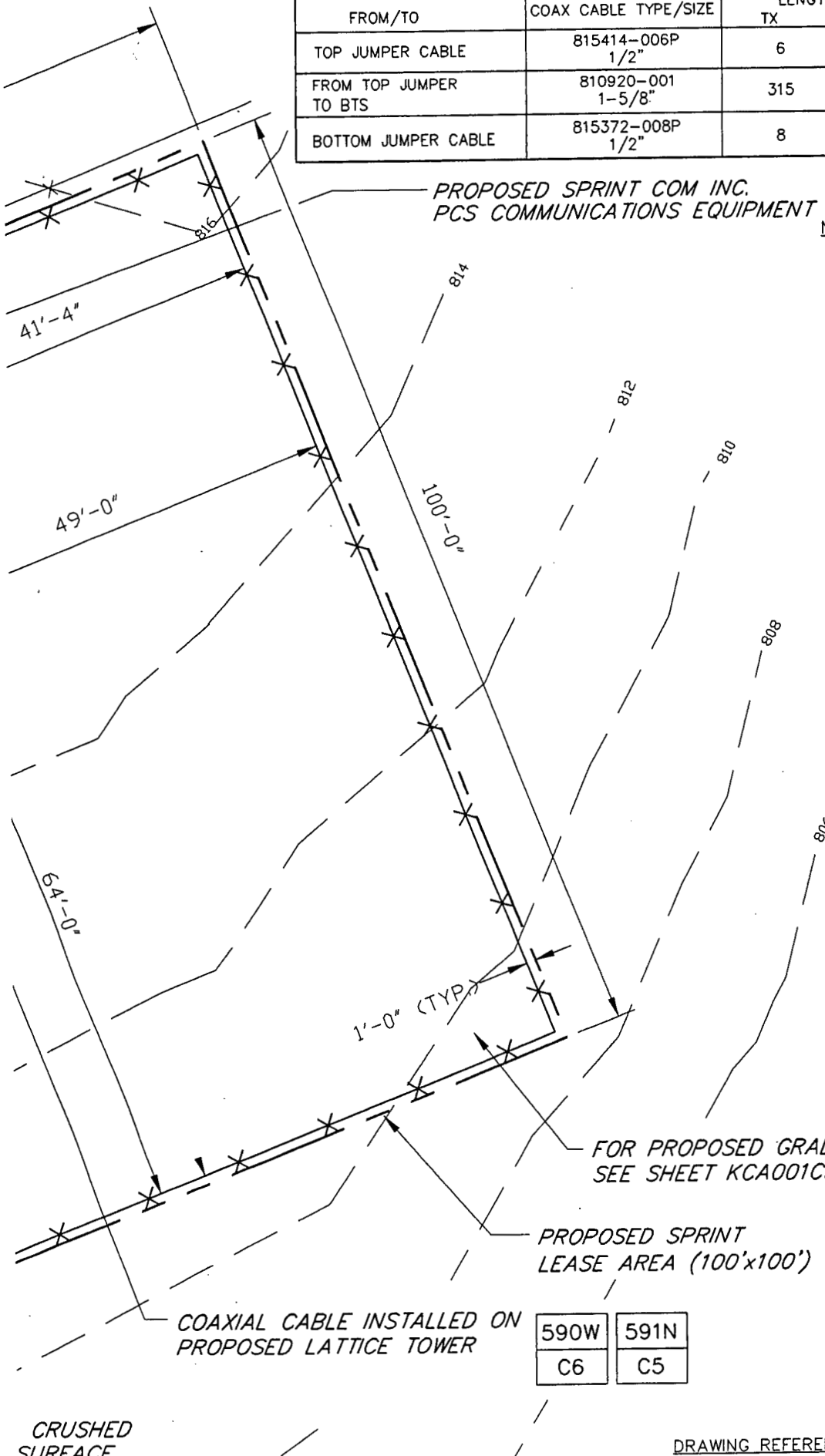
Sprint Com Inc.

11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GA 30004

NO.	DATE	REVISIONS	BY	CHK	APP'D
5	7/22/99	BTS ADDED	DWH	TM	JPS
4	7/20/99	FAA LIGHTING ADDED	DWH	TM	PM
3	7/12/99	ISSUED FOR CONSTRUCTION	TLH	JPS	PM
0	6/23/99	ISSUED FOR QA\QC	RJT	JPS	PM

SCALE: AS NOTED | DESIGNED RJT | DRAWN RJT

FROM/TO	SECTOR 1 / ALPHA SECTOR			SECTC
	COAX CABLE TYPE/SIZE	LENGTH (FT.) TX	RX	COAX CABLE TYPE/
TOP JUMPER CABLE	815414-006P 1/2"	6	6	815414-006P 1/2"
FROM TOP JUMPER TO BTS	810920-001 1-5/8"	315	315	810920-001 1-5/8"
BOTTOM JUMPER CABLE	815372-008P 1/2"	8	8	815372-008P 1/2"



NOTES:

1. TYPE AND SIZES OF THE A PRIOR TO ORDERING CABLE CONSTRUCTION LAYOUT ANI ESTIMATED LENGTHS.
2. AS-BUILT DRAWINGS TO BE
3. AZIMUTHS ARE ORIENTED C
4. UPON SUCCESSFUL COMPLE SHALL PROVIDE A WEATHEF

OWNER SUPPLIED CONTRACTOI

1. RADIO ANTENNAS (6) WITH
2. JUMPER CABLES FOR CONN
3. COAX CABLE FOR RADIO AI
4. GROUNDING KITS FOR COAX
5. PPC MINI.
6. CONNECTOR WEATHERPROOF
7. JUMPER CABLES FOR CONN
8. LATTICE TOWER

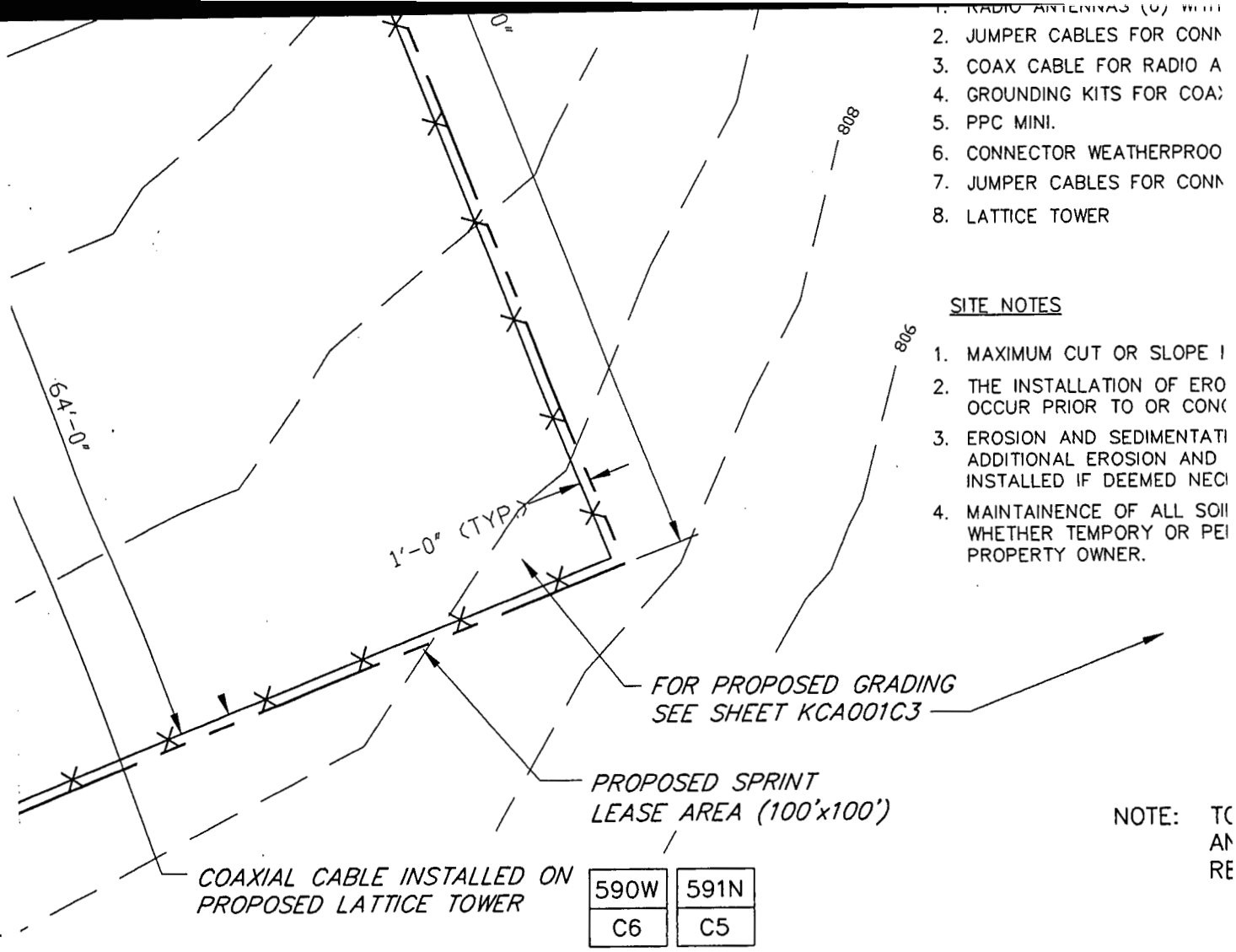
SITE NOTES

1. MAXIMUM CUT OR SLOPE I
2. THE INSTALLATION OF ERO OCCUR PRIOR TO OR CONC
3. EROSION AND SEDIMENTATI ADDITIONAL EROSION AND INSTALLED IF DEEMED NEC
4. MAINTAINENCE OF ALL SOI WHETHER TEMPORY OR PE PROPERTY OWNER.

NOTE: TC AN RE

DRAWING REFERENCE:

DRAWINGS ARE BASED ON INFORMATION FROM DRA



1. RADIO ANTENNAS (6) WITH
2. JUMPER CABLES FOR CONN
3. COAX CABLE FOR RADIO A
4. GROUNDING KITS FOR COAX
5. PPC MINI.
6. CONNECTOR WEATHERPROO
7. JUMPER CABLES FOR CONN
8. LATTICE TOWER

SITE NOTES

1. MAXIMUM CUT OR SLOPE I
2. THE INSTALLATION OF ERO OCCUR PRIOR TO OR CONC
3. EROSION AND SEDIMENTATI ADDITIONAL EROSION AND INSTALLED IF DEEMED NEC
4. MAINTAINENCE OF ALL SOI WHETHER TEMPORY OR PE PROPERTY OWNER.

NOTE: TC AN RE

DRAWING REFERENCE:

DRAWINGS ARE BASED ON INFORMATION FROM DRA "SITE SURVEY-7881 HWY 36 SANDERS KY. 41183" 07/16/99 PREPARED BY JAMES M. OVERFELT PLS 300 HOLLAND RIDGE DR. LAVERGNE, TN 37086.

RGED SITE PLAN

SCALE 1"=10'

	DWH	TM	JPS
DED	DWH	TM	PM
RUCTION	TLH	JPS	PM
\QC	RJT	JPS	PM
S	BY	CHK	APP'D
RJT	DRAWN	RJT	

CHA
DRAWING COPYRIGHT © 1999
CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
1080 HOLCOMB BRIDGE ROAD-ROSWELL, GEORGIA - 30076
BUILDING 200 - SUITE 330 770-992-2332

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA

	SECTOR 2 / BETA SECTOR			SECTOR 3 / GAMMA SECTOR		
T.) RX	COAX CABLE TYPE/SIZE	LENGTH (FT.) TX	RX	COAX CABLE TYPE/SIZE	LENGTH (FT.) TX	RX
6	815414-006P 1/2"	6	6	815414-006P 1/2"	6	6
315	810920-001 1-5/8"	315	315	810920-001 1-5/8"	315	315
8	815372-008P 1/2"	8	8	815372-008P 1/2"	8	8

ES:

TYPE AND SIZES OF THE ANTENNA CABLES ARE BASED ON ESTIMATED LENGTH. PRIOR TO ORDERING CABLE, CONTRACTOR TO VERIFY ACTUAL LENGTH BASED ON CONSTRUCTION LAYOUT AND NOTIFY ENGINEER IF ACTUAL LENGTH EXCEEDS ESTIMATED LENGTHS.

AS-BUILT DRAWINGS TO BE COMPLETED BY FIELD ENGINEER WITH ACTUAL LENGTHS.

AZIMUTHS ARE ORIENTED CLOCKWISE FROM TRUE NORTH.

UPON SUCCESSFUL COMPLETION OF THE SWEEP TEST, THE CONTRACTOR SHALL PROVIDE A WEATHERTIGHT SEAL ON THE COAX CABLES.

WNER SUPPLIED CONTRACTOR INSTALLED ITEMS

RADIO ANTENNAS (6) WITH MOUNTING HARDWARE.

JUMPER CABLES FOR CONNECTION BETWEEN THE ANTENNAS AND COAX CABLE.

COAX CABLE FOR RADIO ANTENNAS AND GPS ANTENNA.

GROUNDING KITS FOR COAX CABLE.

PPC MINI.

CONNECTOR WEATHERPROOFING KITS.

JUMPER CABLES FOR CONNECTION BETWEEN COAX CABLE AND METRO-CELL.

LATTICE TOWER

SITE NOTES

MAXIMUM CUT OR SLOPE IS 2H:1V

THE INSTALLATION OF EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL OCCUR PRIOR TO OR CONCURRENT WITH LAND-DISTURBING ACTIVITIES.

EROSION AND SEDIMENTATION CONTRL SHALL BE MAINTAINED AT ALL TIMES. ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON- SITE INSPECTION.

MAINTAINENCE OF ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES WHETHER TEMPORY OR PERMANENT, SHALL BE AT ALL TIMES THE RESPONSIBILITY OF THE PROPERTY OWNER.

NOTE: TOWER LEG SPACING ASSUMED TO BE 31'-0". ANY SIGNIFICANT DIFFERENCE IN SPACING MAY REQUIRE REDESIGN OF EQUIPMENT LAYOUT.

ON INFORMATION FROM DRAWINGS ENTITLED

RADIO ANTENNAS (6) WITH MOUNTING HARDWARE.

JUMPER CABLES FOR CONNECTION BETWEEN THE ANTENNAS AND COAX CABLE.

COAX CABLE FOR RADIO ANTENNAS AND GPS ANTENNA.

GROUNDING KITS FOR COAX CABLE.

. PPC MINI.

. CONNECTOR WEATHERPROOFING KITS.

. JUMPER CABLES FOR CONNECTION BETWEEN COAX CABLE AND METRO-CELL.

. LATTICE TOWER

SITE NOTES

. MAXIMUM CUT OR SLOPE IS 2H:1V

. THE INSTALLATION OF EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL OCCUR PRIOR TO OR CONCURRENT WITH LAND-DISTURBING ACTIVITIES.

. EROSION AND SEDIMENTATION CONTRL SHALL BE MAINTAINED AT ALL TIMES. ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON- SITE INSPECTION.

. MAINTAINENCE OF ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES WHETHER TEMPORY OR PERMANENT, SHALL BE AT ALL TIMES THE RESPONSIBILITY OF THE PROPERTY OWNER.

NOTE: TOWER LEG SPACING ASSUMED TO BE 31'-0". ANY SIGNIFICANT DIFFERENCE IN SPACING MAY REQUIRE REDESIGN OF EQUIPMENT LAYOUT.

ON INFORMATION FROM DRAWINGS ENTITLED
WY 36 SANDERS KY. 41183" LAST DATED
BY JAMES M. OVERFELT PLS #3196
R. LAVERGNE, TN 37086.

GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.

MARSHALL

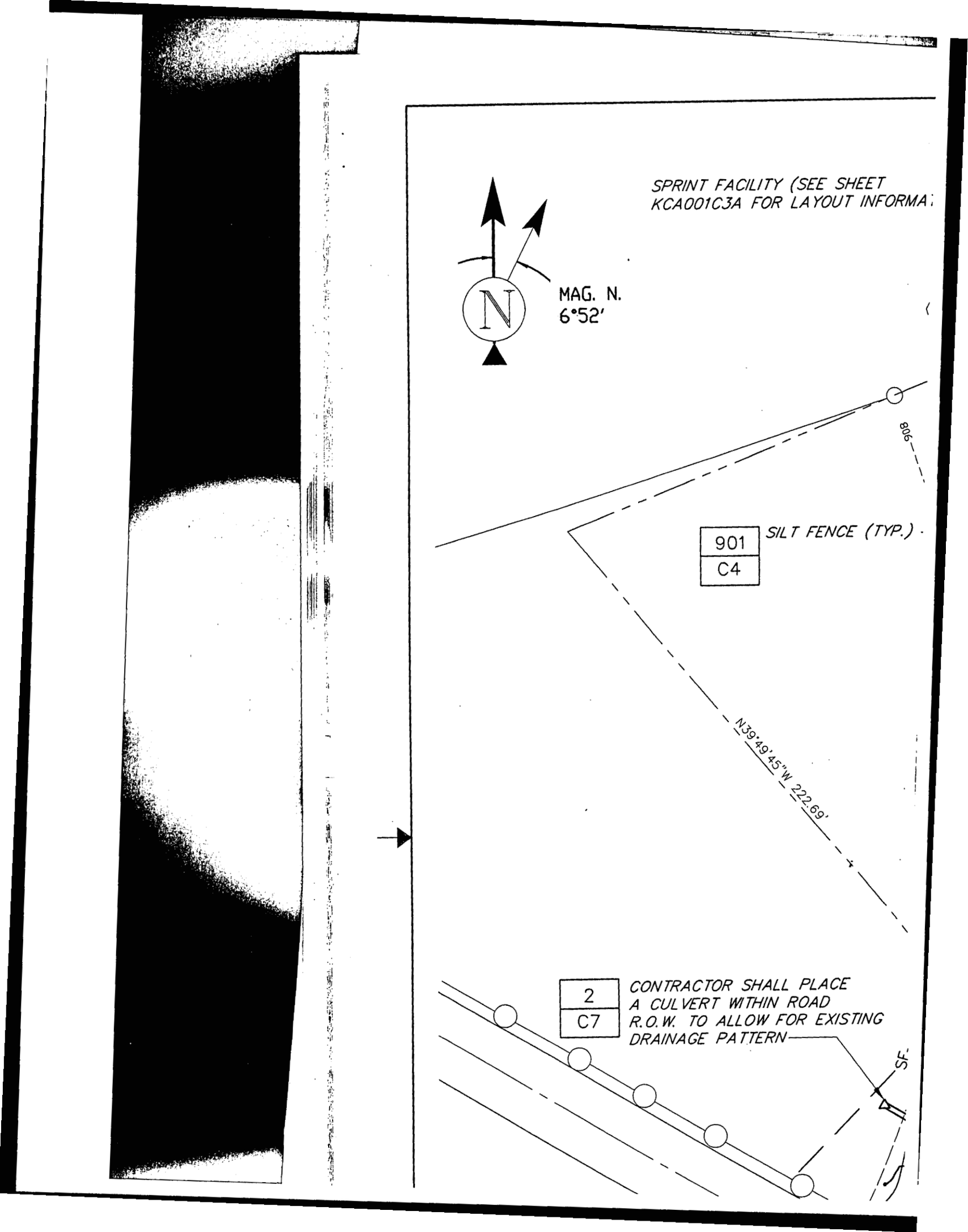
MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA

SITE NO.: LV33XC001A

SITE PLAN

DATE:	SPRINT JOB NO.	A\E JOB NO.	DRAWING NUMBER	REV
06/28/99	LV33XC001A	8113.55.05	KCA00103A	3

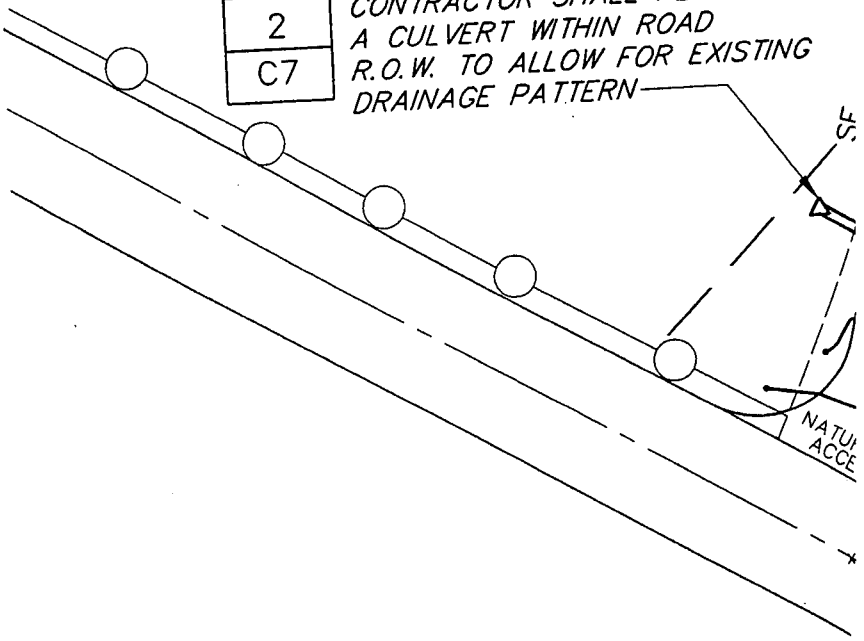

SPRINT FACILITY (SEE SHEET
KCA001C3A FOR LAYOUT INFORMA
N
MAG. N.
6°52'
806
901
C4
SILT FENCE (TYP.)
N39°49'45"W 222.69'
2
C7
CONTRACTOR SHALL PLACE
A CULVERT WITHIN ROAD
R.O.W. TO ALLOW FOR EXISTING
DRAINAGE PATTERN
SF.

901
C4

N39°49'45"W 222.69'

2
C7

CONTRACTOR SHALL PLACE A CULVERT WITHIN ROAD R.O.W. TO ALLOW FOR EXISTING DRAINAGE PATTERN



SI1

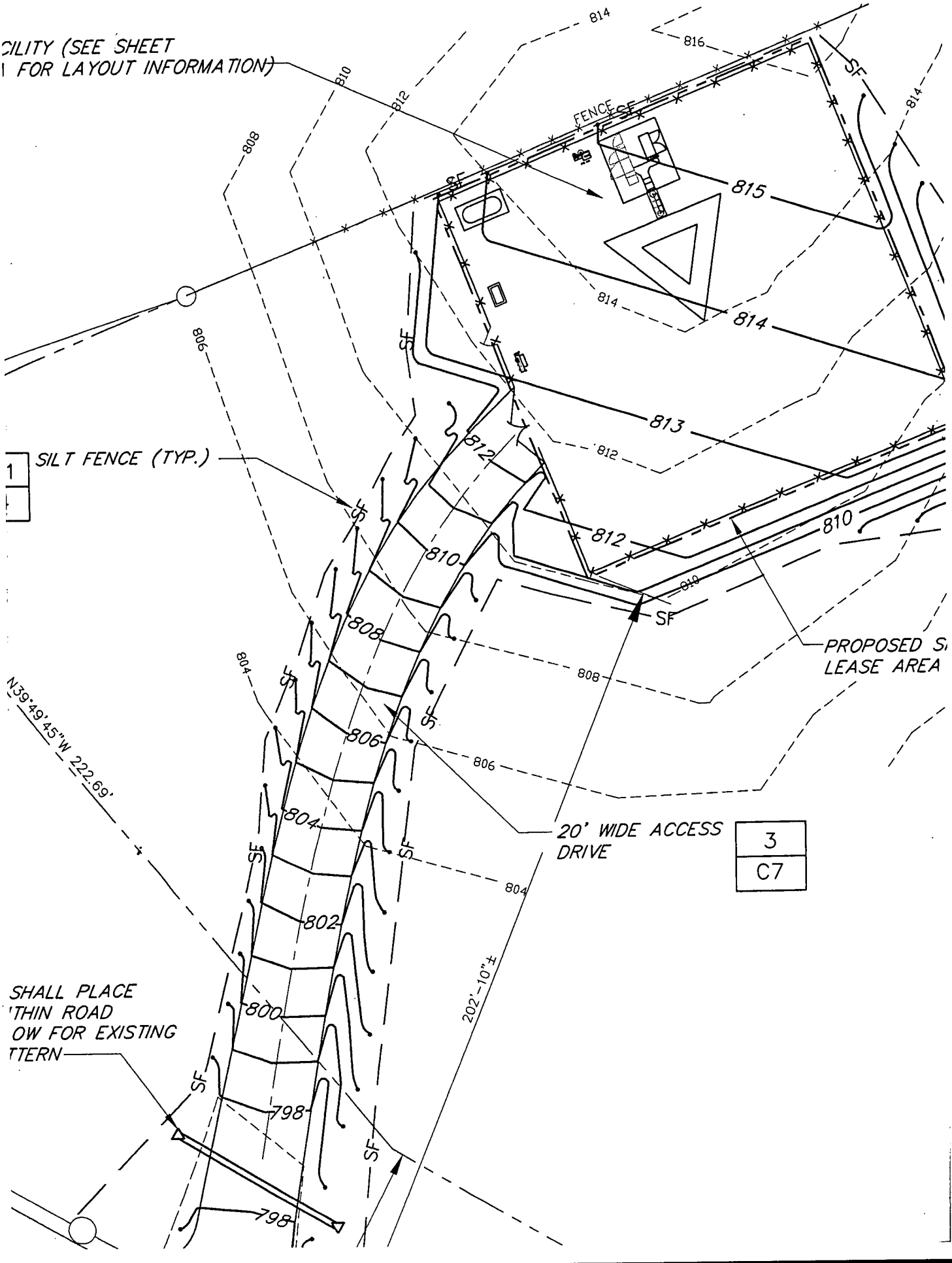
080 HOLCC
UILDING 2C

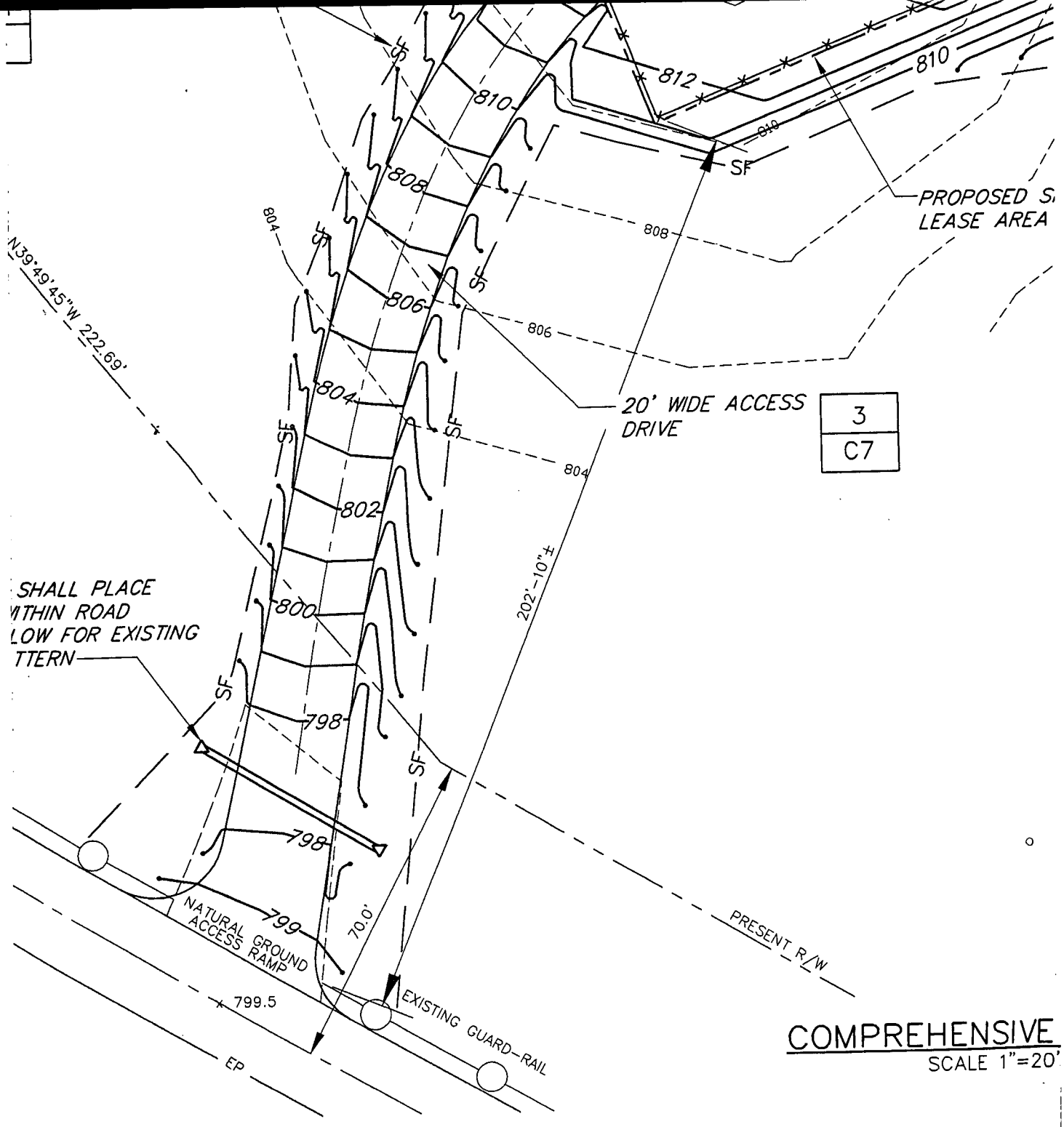
STATE OF KENTUCKY
PETER A. McTYGUE
20886
LICENSED PROFESSIONAL ENGINEER

PETER McTYGUE

APR 26 1999

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.


CILITY (SEE SHEET
I FOR LAYOUT INFORMATION)
SILT FENCE (TYP.)
1
SHALL PLACE
THIN ROAD
OW FOR EXISTING
TTERN
N39°49'45"W 222.69'
202'-10"±
20' WIDE ACCESS
DRIVE
3
C7
PROPOSED S
LEASE AREA
FENCE
SF
814
816
810
812
808
815
814
813
812
810
808
806
804
802
800
798



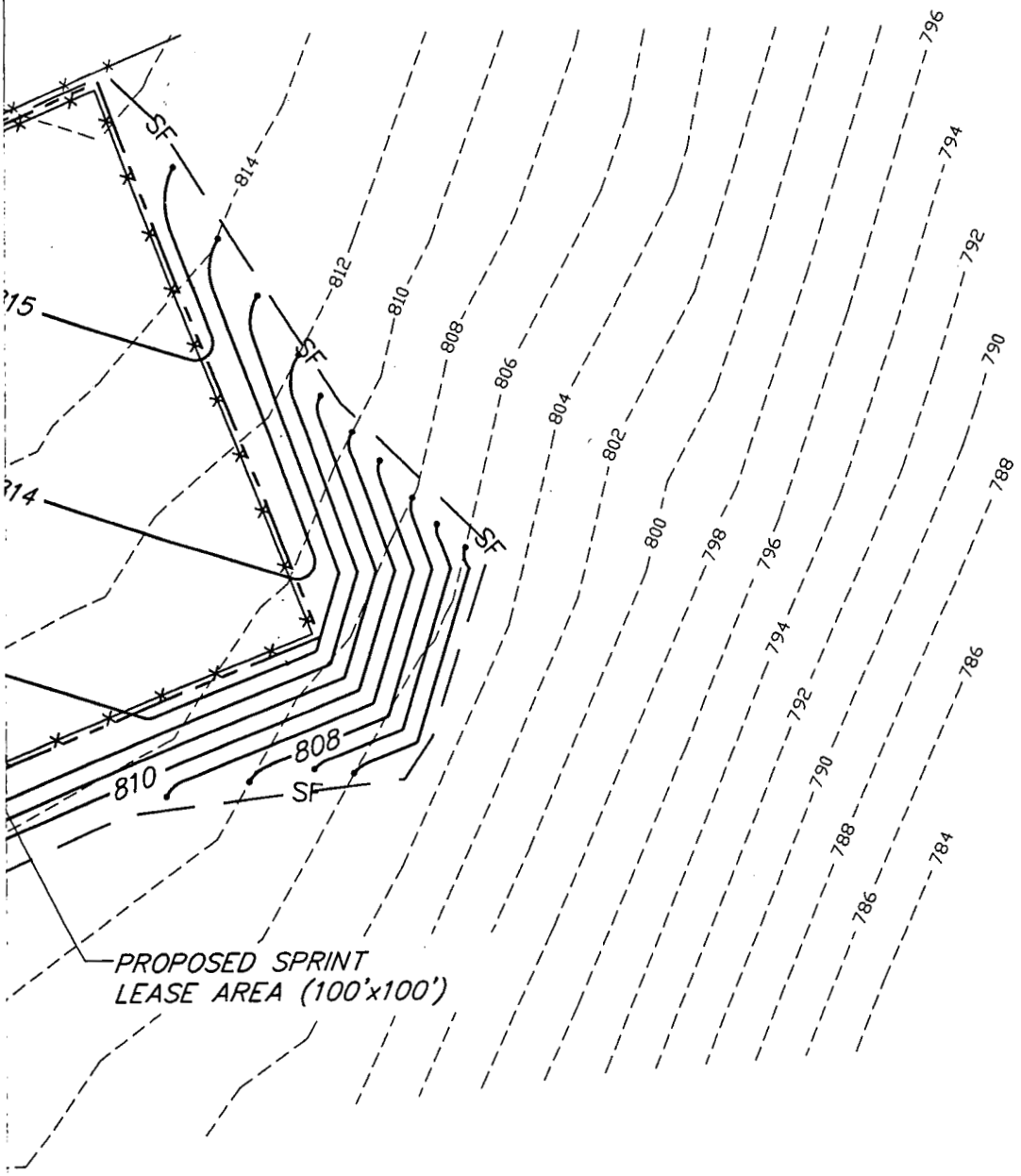
COMPREHENSIVE
SCALE 1"=20'

W FOR ANY PERSON,
IG UNDER THE DIRECTION
SIONAL ENGINEER, TO

Sprint Com Inc.
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GA 30004

NO.	DATE	REVISIONS	BY	CHK	APP'D
3	7/22/99	BTS ADDED	DWH	TM	JPS
2	7/20/99	FAA LIGHTING ADDED	DWH	TM	PM
1	7/2/99	ISSUED FOR CONSTRUCTION	TLH	JPS	PM
0	6/28/99	ISSUED FOR QA\QC	RJT	JPS	PM

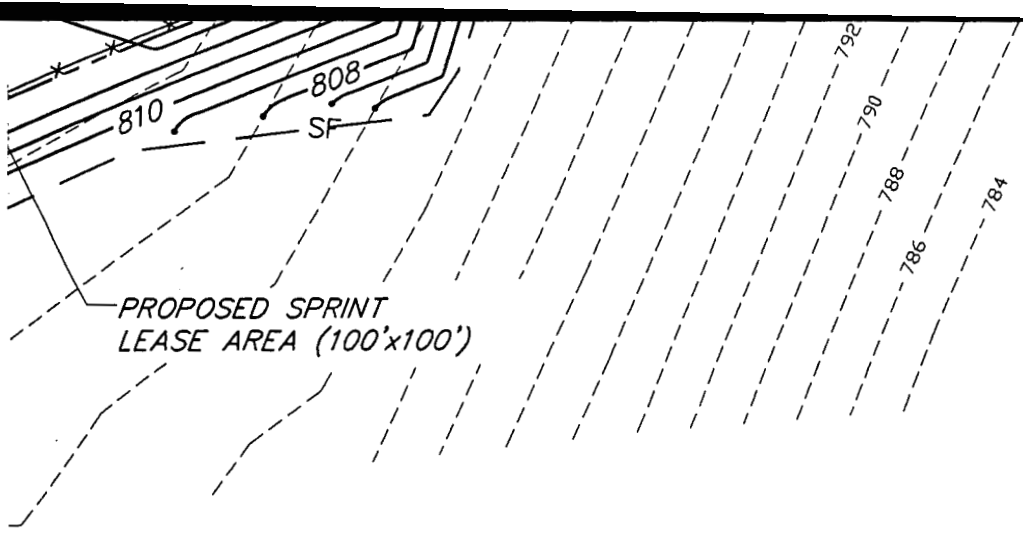
SCALE: 1"=20' | DESIGNED RJT | DRAWN RJT



3
C7

DRAWING REFERENCE:

DRAWINGS ARE BASED ON INFORMATION FROM DRAWINGS ENTITLED "SITE SURVEY–7881 HWY 36 SANDERS KY. 41183" LAST DATED 07/16/99 PREPARED BY JAMES M. OVERFELT PLS #3196 300 HOLLAND RIDGE DR. LAVERGNE, TN 37086.



3
C7

DRAWING REFERENCE:

DRAWINGS ARE BASED ON INFORMATION FROM DRAWINGS ENTITLED "SITE SURVEY–7881 HWY 36 SANDERS KY. 41183" LAST DATED 07/16/99 PREPARED BY JAMES M. OVERFELT PLS #3196 300 HOLLAND RIDGE DR. LAVERGNE, TN 37086.

IPREHENSIVE SITE PLAN

SCALE 1"=20'

D	DWH	TM	JPS
ADDED	DWH	TM	PM
STRUCTION	TLH	JPS	PM
DA\QC	RJT	JPS	PM
NS	BY	CHK	APP'D
D RJT	DRAWN RJT		

CHA
DRAWING COPYRIGHT © 1999
CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
1080 HOLCOMB BRIDGE ROAD–ROSWELL, GEORGIA – 30076
BUILDING 200 – SUITE 330 770–992–2332

MARSHALL

MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

LOUISVILLE BTA

)RAWINGS ENTITLED
33" LAST DATED
'LS #3196

RAWINGS ENTITLED
3" LAST DATED
LS #3196

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

MARSHALL

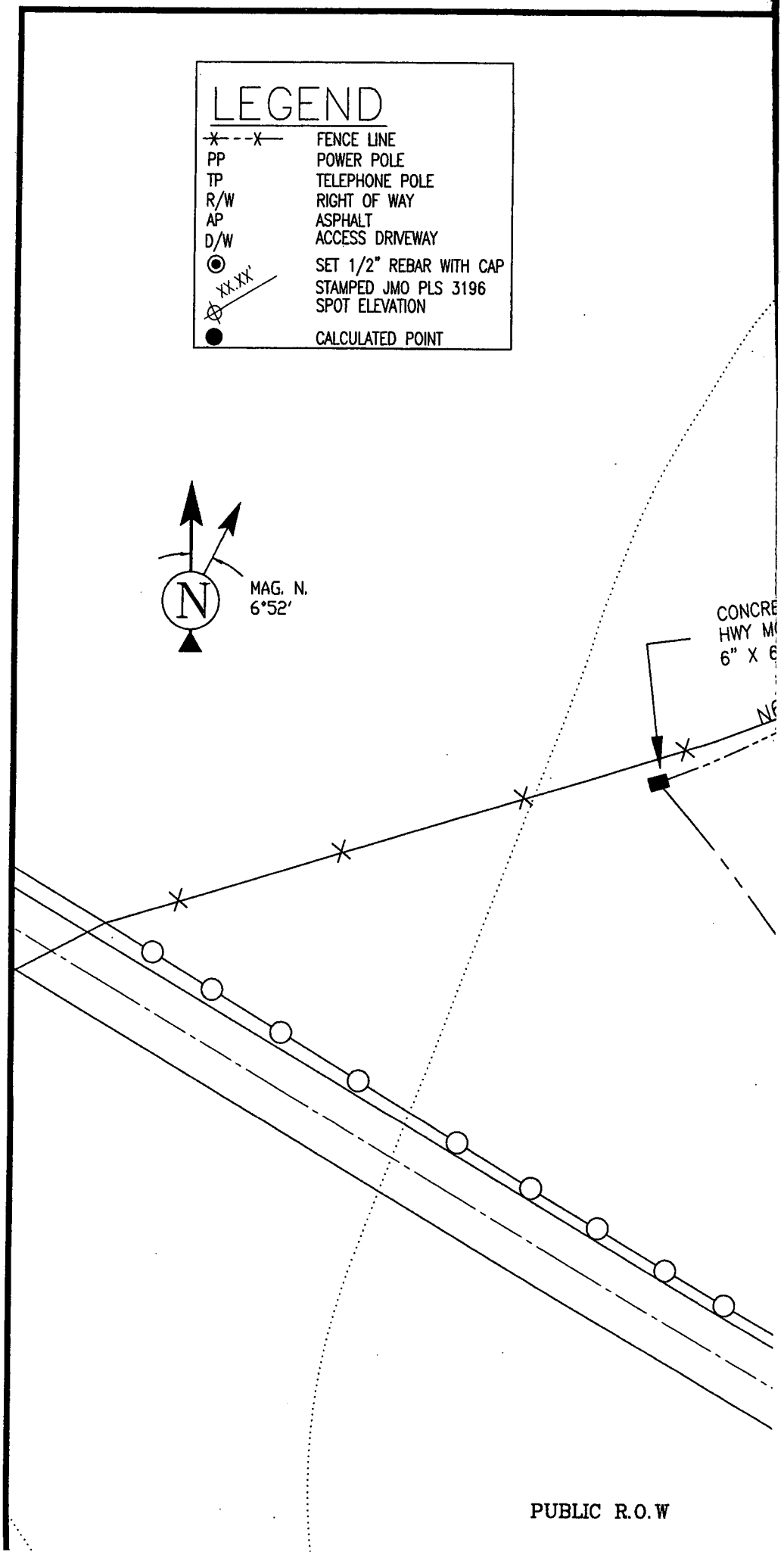
MARSHALL
7881 HWY 36
SANDERS, KENTUCKY

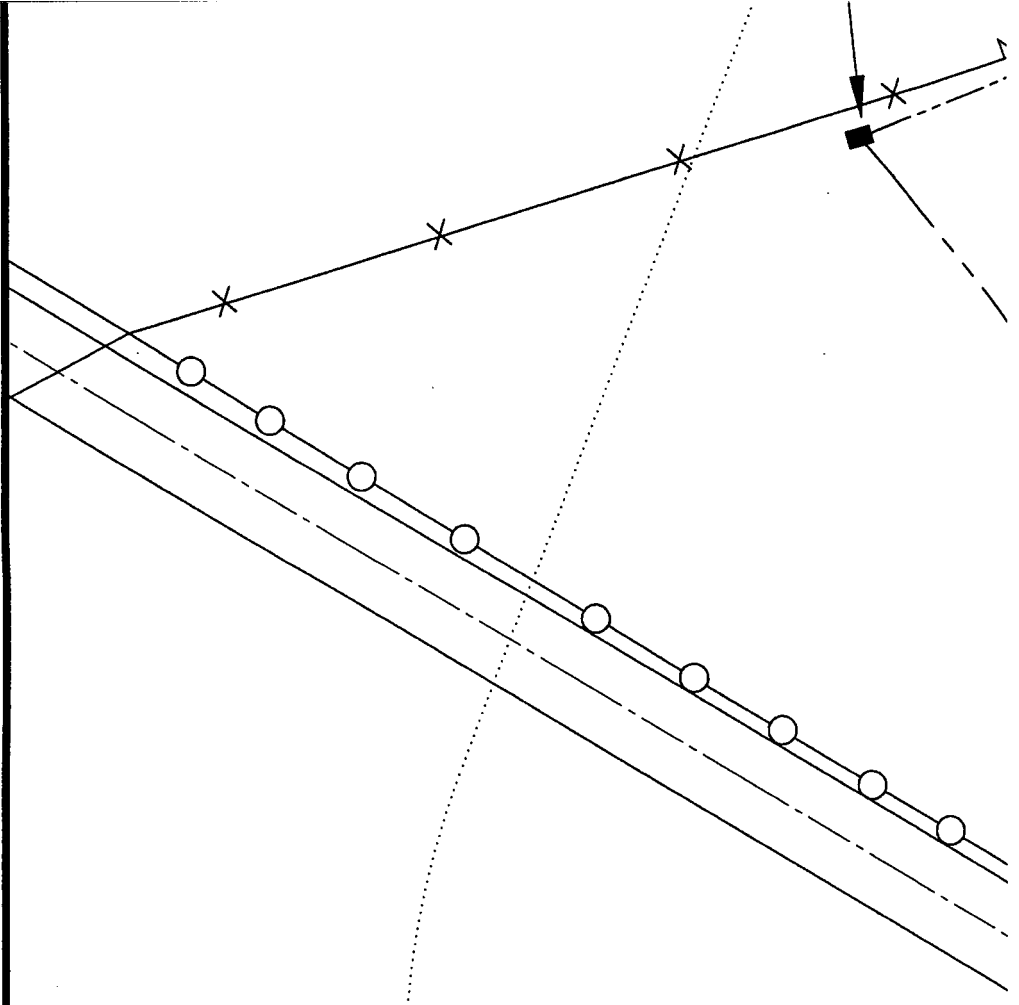
LOUISVILLE BTA

SITE NO.: LV33XC001A

COMPREHENSIVE SITE PLAN

DATE:	SPRINT JOB NO.	A\E JOB NO.	DRAWING NUMBER	REV
06/28/99	LV33XC001A	8113.55.05	KCA001C3	3


LEGEND
FENCE LINE
PP POWER POLE
TP TELEPHONE POLE
R/W RIGHT OF WAY
AP ASPHALT
D/W ACCESS DRIVEWAY
SET 1/2" REBAR WITH CAP STAMPED JMO PLS 3196
XX.XX' SPOT ELEVATION
CALCULATED POINT
N
MAG. N.
6°52'
CONCRE
HWY M
6" X 6
PUBLIC R.O.W

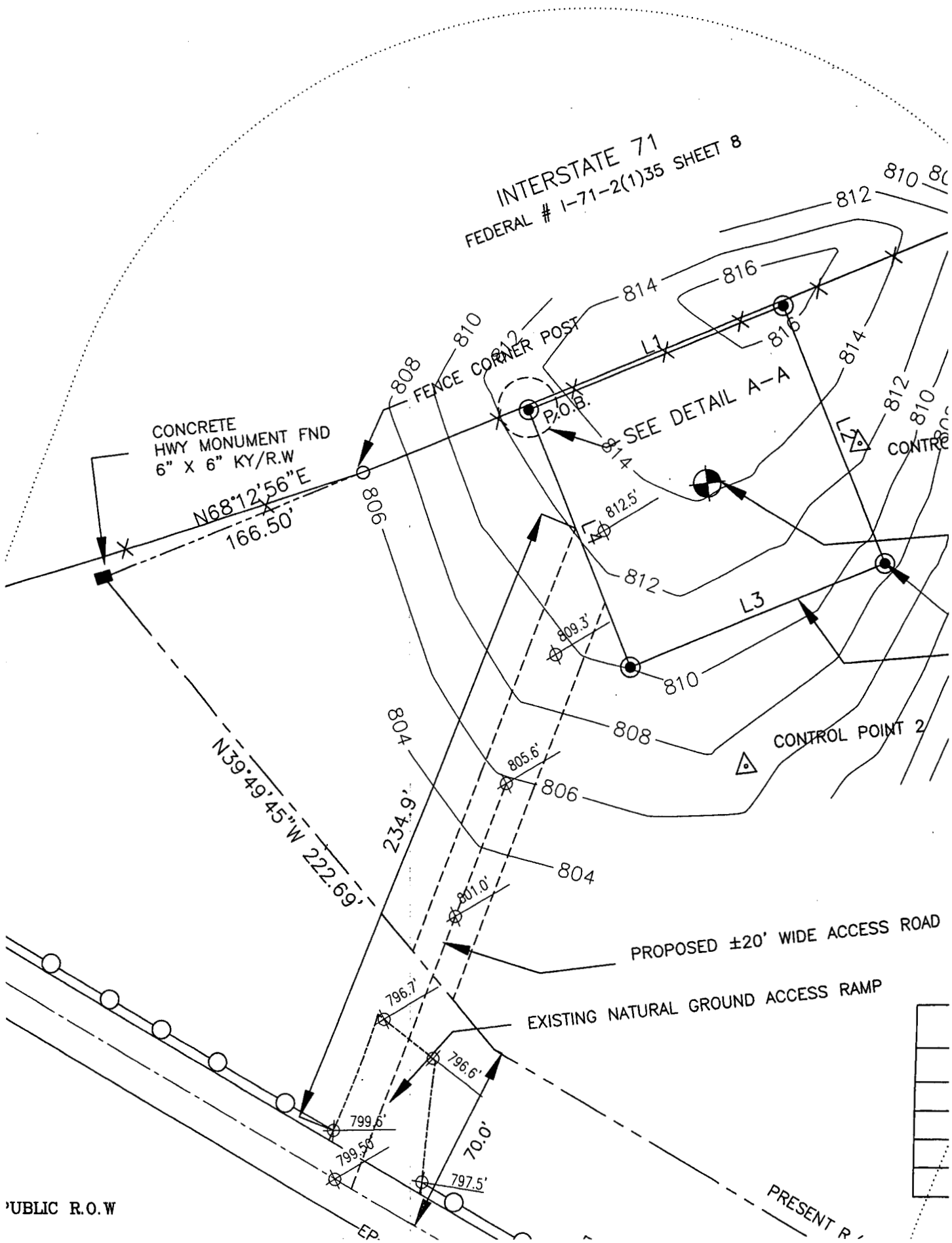


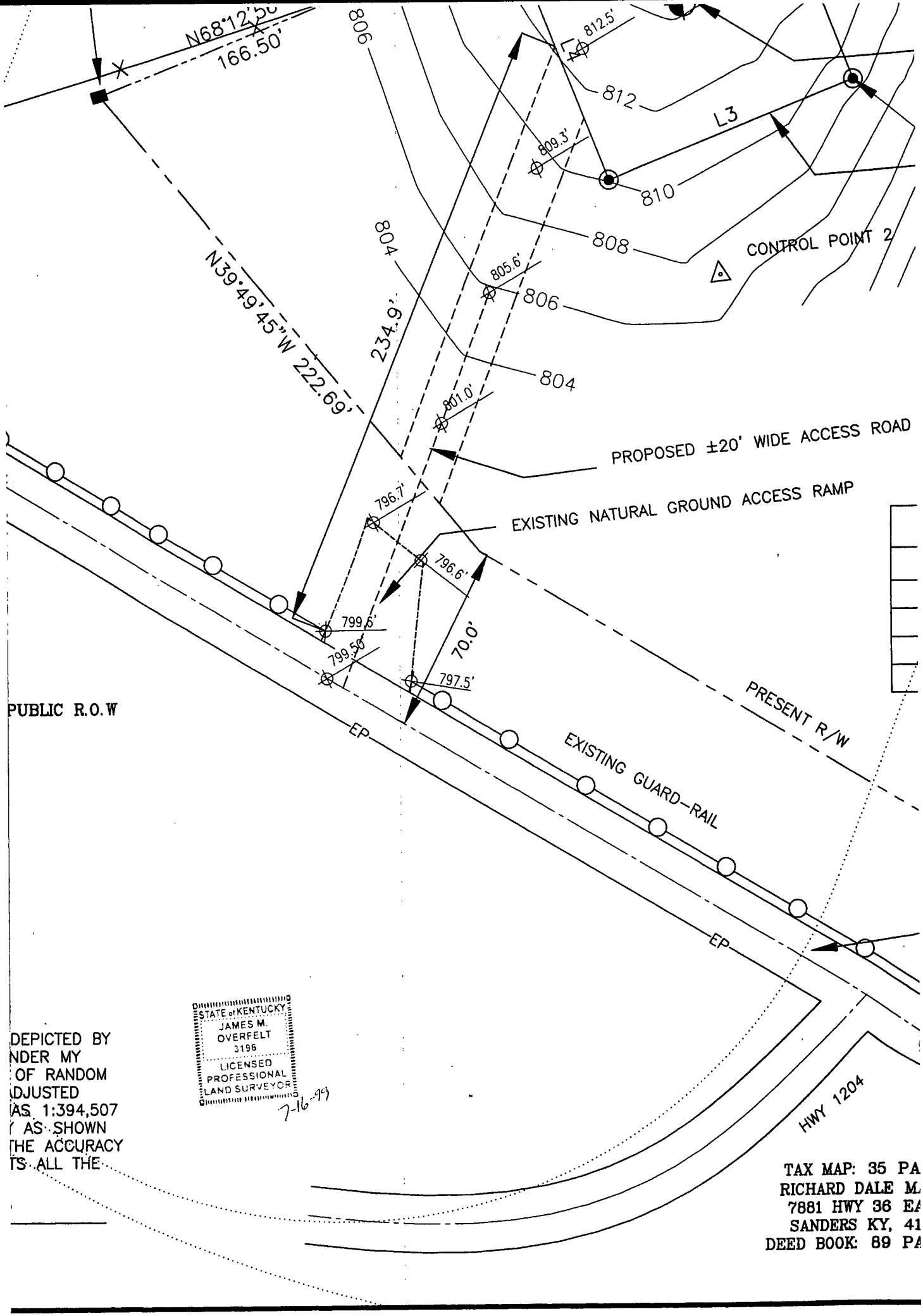
PUBLIC R.O.W

CERTIFICATION:
I HEREBY CERTIFY THAT THE SURVEY DEPICTED BY THIS PLAT WAS DONE BY PERSONS UNDER MY DIRECT SUPERVISION BY THE METHOD OF RANDOM TRAVERSE WITH SIDESHOTS. THE UNADJUSTED PRECISION RATIO OF THE TRAVERSE WAS 1:394,507 AND WAS NOT ADJUSTED. THE SURVEY AS SHOWN HEREON IS A CLASS B SURVEY AND THE ACCURACY AND PRECISION OF SAID SURVEY MEETS ALL THE SPECIFICATIONS OF THIS CLASS.

James M. Overfelt

JAMES M. OVERFELT PLS #3196
300 HOLLAND RIDGE DRIVE
LAVERGNE, TN 37086


INTERSTATE 71
FEDERAL # I-71-2(1)35 SHEET 8
CONCRETE
HWY MONUMENT FND
6" X 6" KY/R.W
N68°12'56"E
166.50'
FENCE CORNER POST
P.O.B.
SEE DETAIL A-A
L1
L2
L3
CONTROL POINT 2
N39°49'45"W 222.69'
234.9'
PROPOSED ±20' WIDE ACCESS ROAD
EXISTING NATURAL GROUND ACCESS RAMP
70.0'
812.5'
809.3'
805.6'
801.0'
796.7'
796.6'
799.6'
799.50'
797.5'
PRESENT R
'UBLIC R.O.W

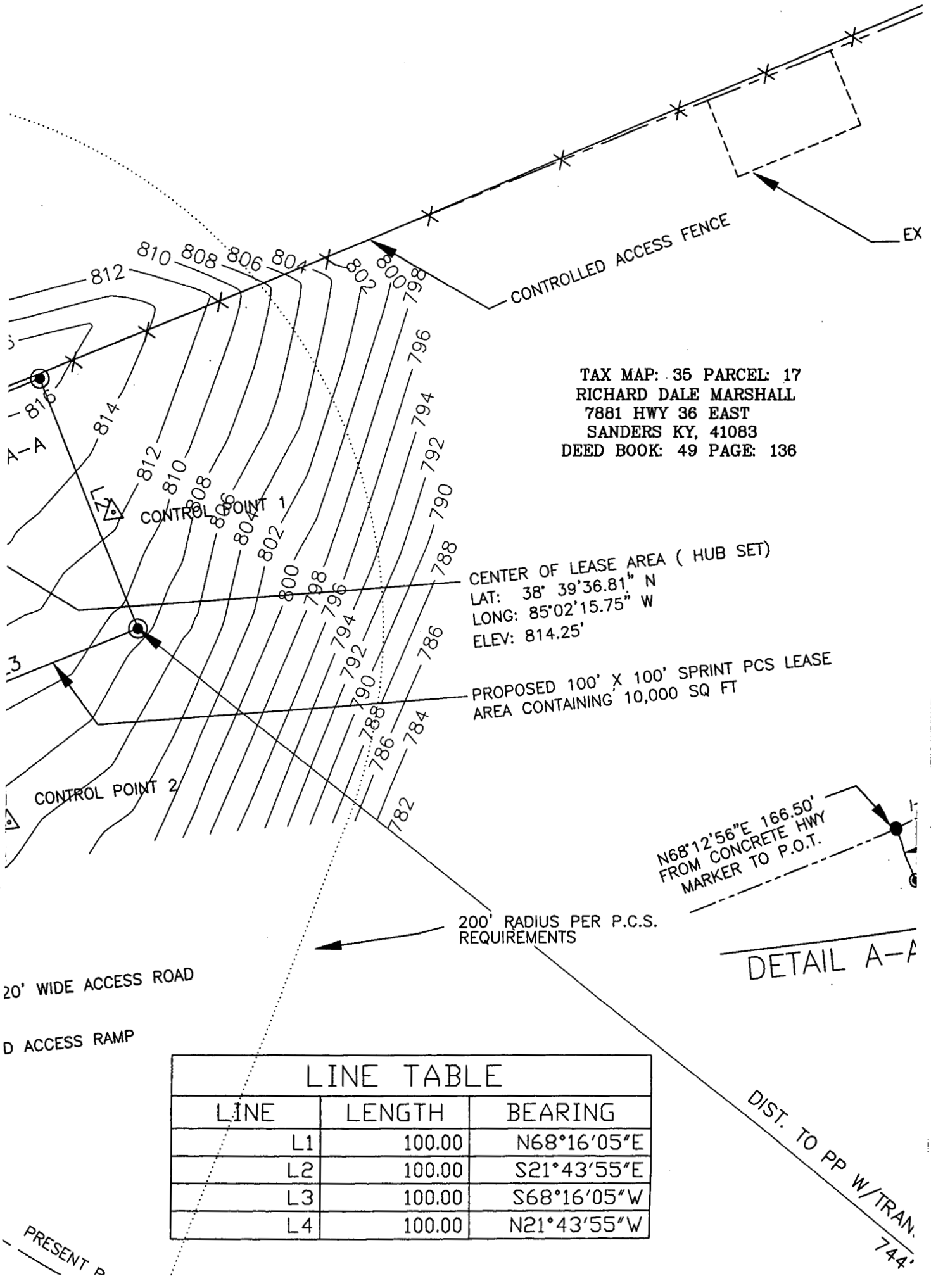


DEPICTED BY
NDER MY
OF RANDOM
DJUSTED
AS 1:394,507
AS SHOWN
THE ACCURACY
TS ALL THE

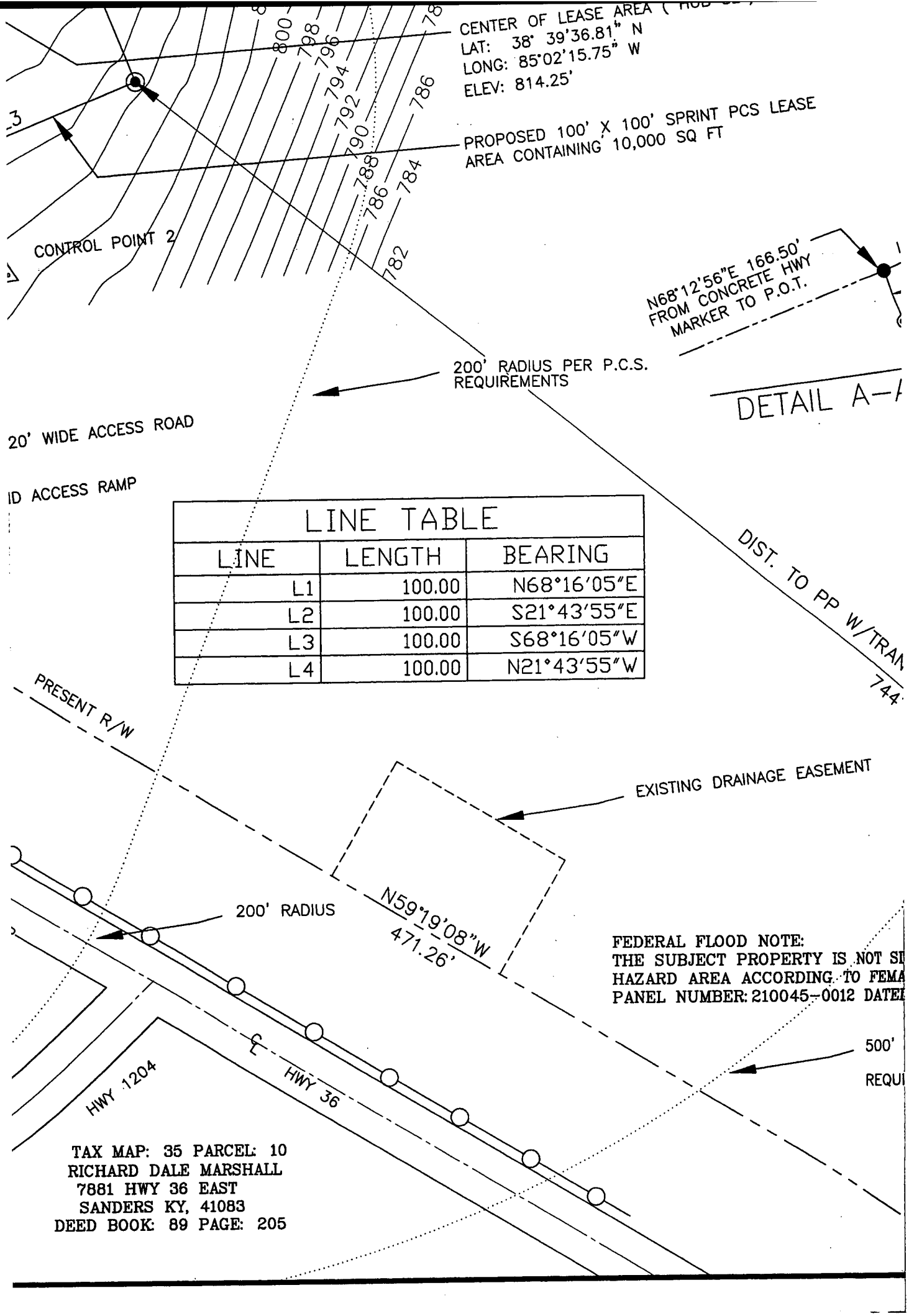
STATE of KENTUCKY
JAMES M.
OVERFELT
3196
LICENSED
PROFESSIONAL
LAND SURVEYOR

7-16-99

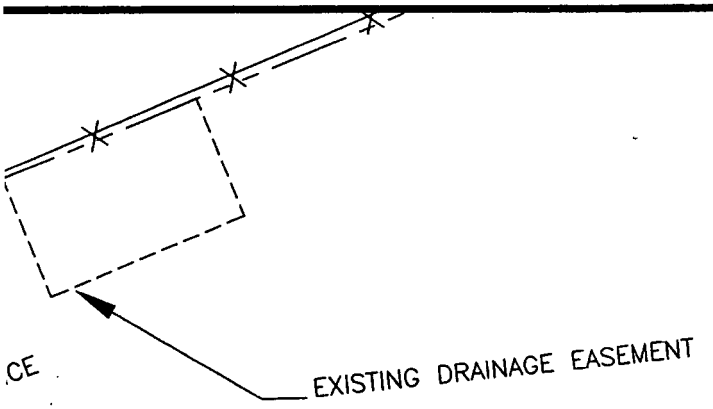
TAX MAP: 35 PA
RICHARD DALE M
7881 HWY 36 EA
SANDERS KY, 41
DEED BOOK: 89 PA



LINE TABLE		
LINE	LENGTH	BEARING
L1	100.00	N68°16'05"E
L2	100.00	S21°43'55"E
L3	100.00	S68°16'05"W
L4	100.00	N21°43'55"W



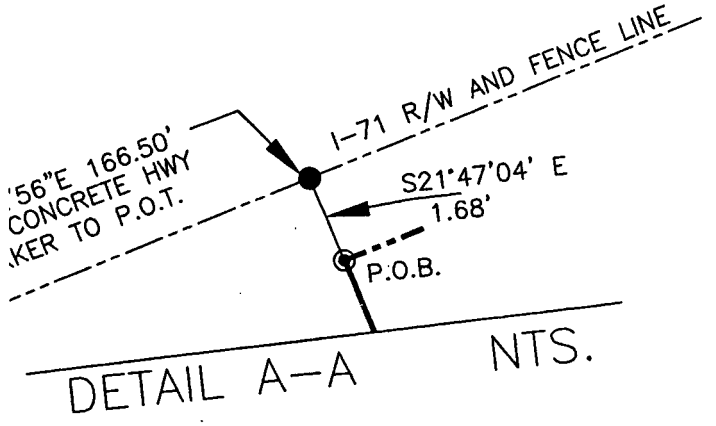
LINE TABLE		
LINE	LENGTH	BEARING
L1	100.00	N68°16'05"E
L2	100.00	S21°43'55"E
L3	100.00	S68°16'05"W
L4	100.00	N21°43'55"W



'ARCEL: 17
MARSHALL
EAST
41083
PAGE: 136

)B SET)

INT PCS LEASE
FT



DIST. TO PP W/TRANSFORMER
744'

Sprint®
Sprint PCS℠
11390 OLD ROSWELL RD, SUITE 100
ALPHARETTA, GA 30004

SCHMIDT CONSULTING INC.
2442 NORTH MT. JULIET ROAD
MT. JULIET, TENNESSEE
OFFICE- (615) 773-2381
FAX/MOD:- (615) 773-2384

phoenix design group
limited liability company
10245 e. via linda suite 105
scottsdale, az 85258 602/451-9773
fax 602-451-9608

CURRENT ISSUE DATE

06/15/99

NO.	DATE	DESCRIPTION	REVISION
1	06/09/99	SUBMITAL	
2	06/16/99	FINAL	
3	07/07/99		ADD SPOT ELEV'S
4	07/16/99	P.C.S. REQUIREMENTS	

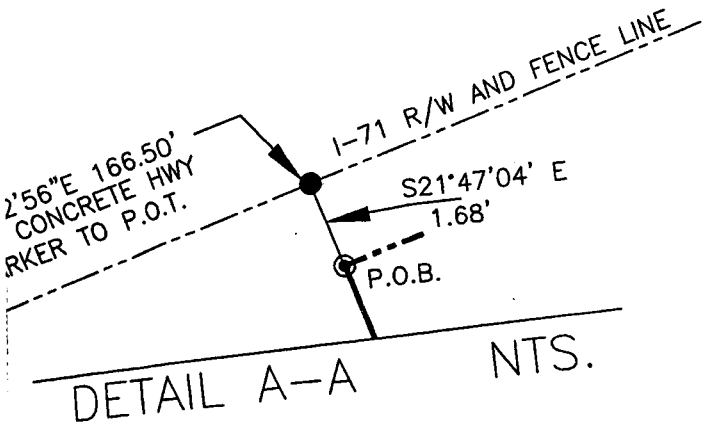
SITE NUMBER

LV33XC001A

SITE NAME

MARSHALL

RINT PCS LEASE
) FT



DETAIL A-A NTS.

DIST. TO PP W/TRANSFORMER #190-0186
744'

DRAINAGE EASEMENT

LOOD NOTE:
CT PROPERTY IS NOT SITUATED IN A SPECIAL FLOOD
REA ACCORDING TO FEMA MAP COMMUNITY
MBER: 210045-0012 DATED SEPTEMBER 1'ST,1998

500' RADIUS PER P.C.S.
REQUIREMENTS

phoenix design group
limited liability company
10245 e. via linda suite 105
scottsdale, az 85258 602/451-9773
fax 602-451-9608

NO.	DATE	DESCRIPTION	REVISION
1	06/09/99	SUBMITAL	
2	06/16/99	FINAL	
3	07/07/99		ADD SPOT ELEV'S
4	07/16/99	P.C.S. REQUIREMENTS	

SITE NUMBER

LV33XC001A

SITE NAME

MARSHALL

SITE ADDRESS

7881 HWY 36
SANDERS KY.41183

SHEET TITLE

SITE DETAIL SURVEY

SHEET NUMBER

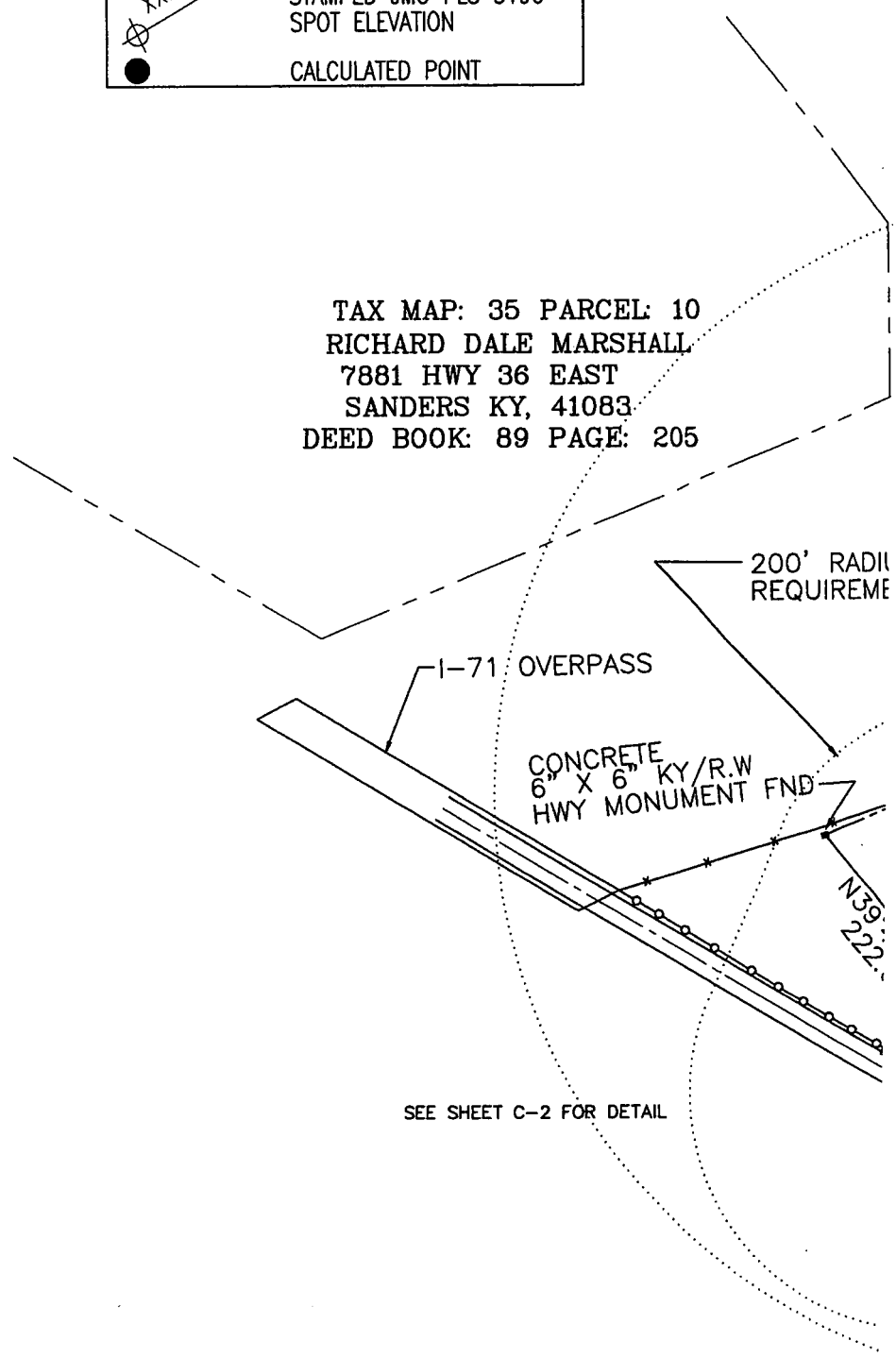
C2

CAD #: 99456C2 | PLOT SCALE: 1"= 30'

LEGEND

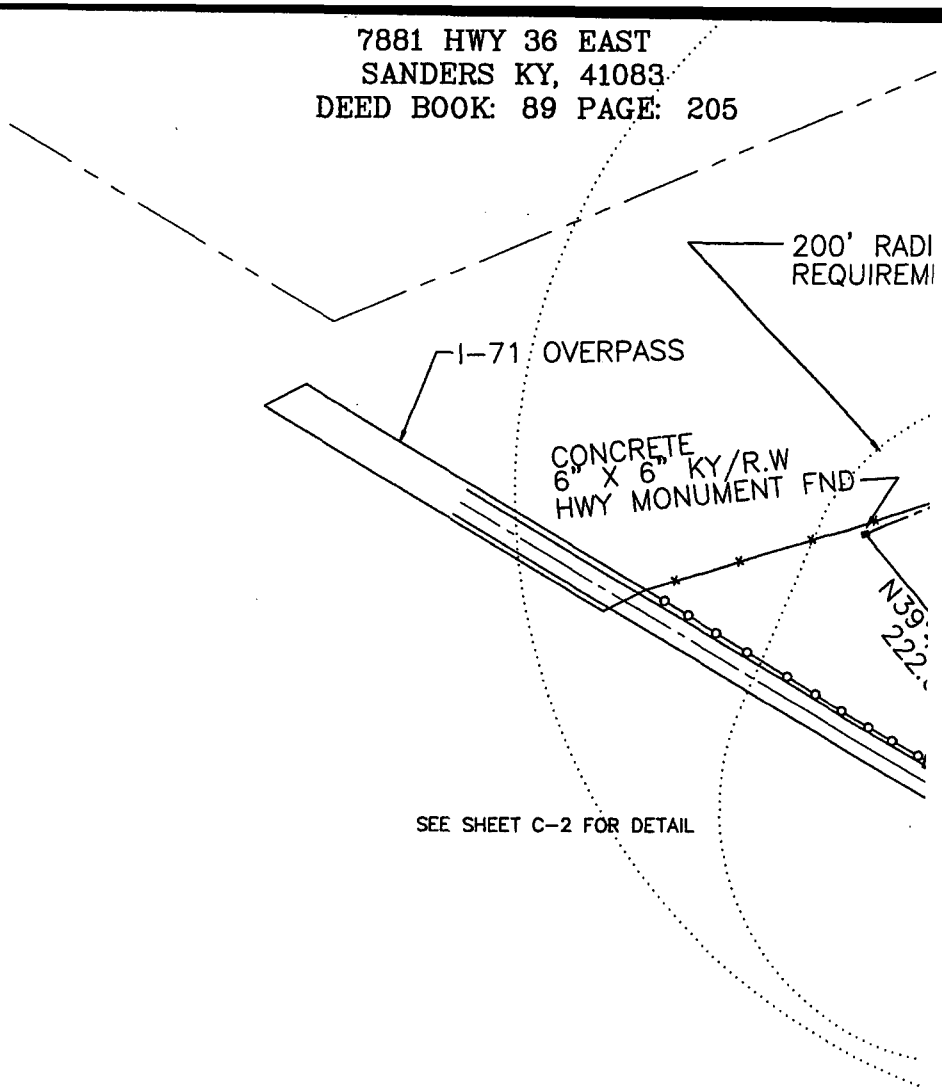
-X---X-	FENCE LINE
PP	POWER POLE
TP	TELEPHONE POLE
R/W	RIGHT OF WAY
AP	ASPHALT
D/W	ACCESS DRIVEWAY
◉	SET 1/2" REBAR WITH CAP STAMPED JMO PLS 3196
XX.XX'	SPOT ELEVATION
●	CALCULATED POINT

TAX MAP: 35 PARCEL: 10
RICHARD DALE MARSHALL
7881 HWY 36 EAST
SANDERS KY, 41083
DEED BOOK: 89 PAGE: 205



SEE SHEET C-2 FOR DETAIL

7881 HWY 36 EAST
SANDERS KY, 41083
DEED BOOK: 89 PAGE: 205



LESSOR'S LEGAL DESCRIPTION:

A CERTAIN TRACT OR PARCEL OF LAND SITUATED IN CARROLL COUNTY, KENTUCKY, BE PARTICULARLY DESCRIBED AS FOLLOWS:

BEING THE SAME PROPERTY CONVEYED TO RICHARD MARSHALL FROM VICTOR ELLIS, AN ELLIS AND WIFE, ADA ELLIS, AND RILEY MADIN ELLIS AND WIFE, RUTH ELLIS, AS RECO DEED BOOK 49, PAGE 136, IN THE RECORDS OF CARROLL COUNTY, KENTUCKY

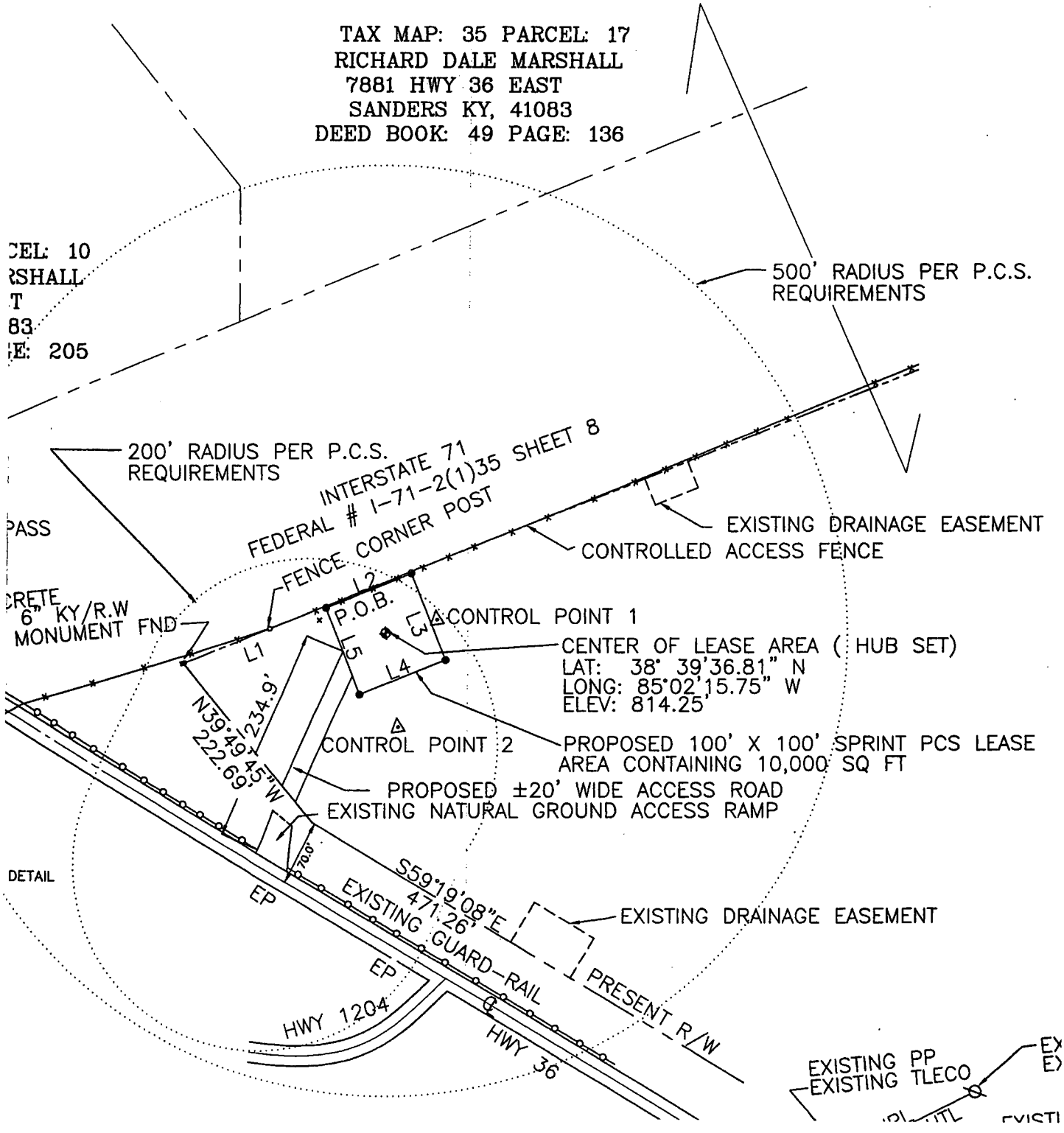
LEASE AREA LEGAL DESCRIPTION:

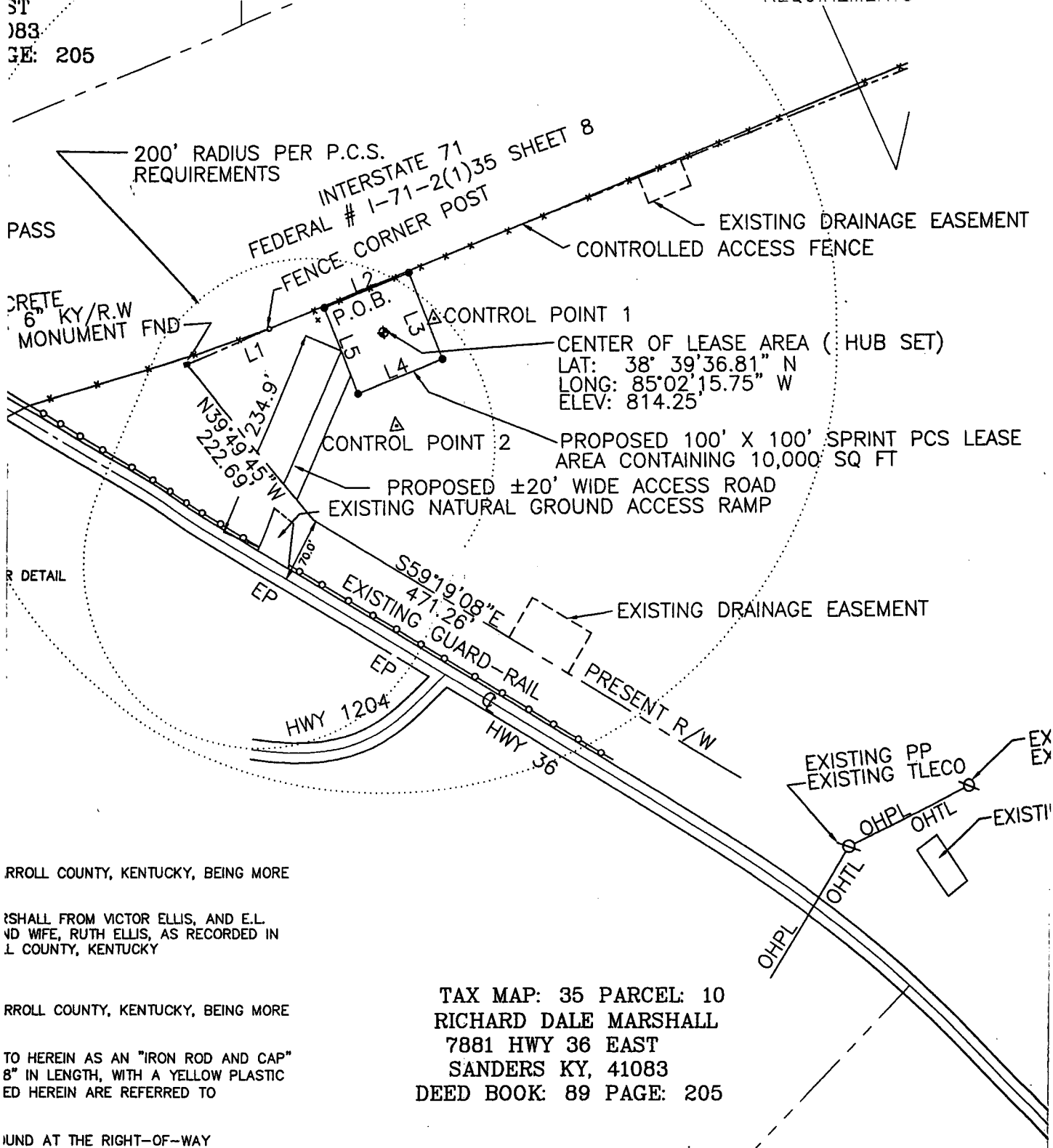
A CERTAIN TRACT OR PARCEL OF LAND SITUATED IN CARROLL COUNTY, KENTUCKY, BE PARTICULARLY DESCRIBED AS FOLLOWS:

UNLESS STATED OTHERWISE, ANY MONUMENT REFERRED TO HEREIN AS AN "IRON ROD IS A SET 1/2" DIAMETER STEEL REENFORCEMENT BAR, 18" IN LENGTH, WITH A YELLOW CAP STAMPED "J.M.O. PLS 3196". ALL BEARINGS STATED HEREIN ARE REFERRED TO KENTUCKY STATE PLANE GRID NORTH (NAD 83).

COMMENCING FROM A CONCRETE HIGHWAY MONUMENT FOUND AT THE RIGHT-OF-WAY INTERSECTION OF INTERSTATE 71 (SOUTHERLY MARGIN) AND HIGHWAY 35 (NORTHERLY I SOUTHEASTERLY QUADRANT; SAME BEING A COMMON CORNER WITH RICHARD MARSHAL RECORD IN DEED BOOK 49, PAGE 136 AND ALSO BEING ADJACENT TO MILE MARKER 4 INTERSTATE 71 EAST; THENCE WITH THE SOUTHERLY RIGHT-OF-WAY OF SAID INTERSTA NORTH 68°12'56" EAST A DISTANCE OF 166.50 FEET; THENCE LEAVING SAID SOUTHER RIGHT-OF-WAY SOUTH 21°47'04" EAST, A DISTANCE OF 1.68 FEET TO AN IRON ROD, S BEING THE NORTHWEST CORNER OF THE HEREIN DESCRIBED LEASE AREA AND THE TRU OF BEGINNING; THENCE NORTH 68°16'05" EAST, A DISTANCE OF 100.00' TO AN IRON R THENCE SOUTH 21°43'55" EAST, A DISTANCE OF 100.00' TO AN IRON ROD SET; THENC 68°16'05" WEST, A DISTANCE OF 100.00' TO AN IRON ROD SET; THENCE NORTH 21°4 WEST, A DISTANCE OF 100.00' TO THE TRUE POINT OF BEGINNING AND CONTAINING 0. OR 10,000 SQUARE FEET, MORE OR LESS ACCORDING TO A SURVEY BY JAMES M. OVE P.L.S. #3196, ON MAY 26TH, 1999.

BEING A PORTION OF THE LANDS CONVEYED TO RICHARD MARSHALL FROM VICTOR ELL E.L. ELLIS AND WIFE, ADA ELLIS, AND RILEY MADIN ELLIS AND WIFE, RUTH ELLIS, AS R IN DEED BOOK 49, PAGE 136, IN THE RECORDS OF CARROLL COUNTY, KENTUCKY


TAX MAP: 35 PARCEL: 17
RICHARD DALE MARSHALL
7881 HWY 36 EAST
SANDERS KY, 41083
DEED BOOK: 49 PAGE: 136
500' RADIUS PER P.C.S. REQUIREMENTS
200' RADIUS PER P.C.S. REQUIREMENTS
INTERSTATE 71
FEDERAL # I-71-2(1)35 SHEET 8
FENCE CORNER POST
EXISTING DRAINAGE EASEMENT
CONTROLLED ACCESS FENCE
6" KY/R.W MONUMENT FND
P.O.B.
CONTROL POINT 1
CENTER OF LEASE AREA (HUB SET)
LAT: 38° 39'36.81" N
LONG: 85°02'15.75" W
ELEV: 814.25'
L1
L2
L3
L4
N39°49'45"W 234.9'
222.69'
CONTROL POINT 2
PROPOSED 100' X 100' SPRINT PCS LEASE AREA CONTAINING 10,000 SQ FT
PROPOSED ±20' WIDE ACCESS ROAD
EXISTING NATURAL GROUND ACCESS RAMP
70.6'
S59°19'08"E 471.26'
EXISTING DRAINAGE EASEMENT
EP
EXISTING GUARD-RAIL
PRESENT R/W
HWY 1204
HWY 36
EXISTING PP
EXISTING TLECO



RROLL COUNTY, KENTUCKY, BEING MORE

SHALL FROM VICTOR ELLIS, AND E.L. ND WIFE, RUTH ELLIS, AS RECORDED IN L COUNTY, KENTUCKY

RROLL COUNTY, KENTUCKY, BEING MORE

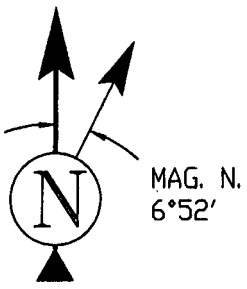
TO HEREIN AS AN "IRON ROD AND CAP" 8" IN LENGTH, WITH A YELLOW PLASTIC ED HEREIN ARE REFERRED TO

UND AT THE RIGHT-OF-WAY AND HIGHWAY 35 (NORTHERLY MARGIN), ORNER WITH RICHARD MARSHALL AS OF ADJACENT TO MILE MARKER 49 OF HT-OF-WAY OF SAID INTERSTATE 71 HENCE LEAVING SAID SOUTHERLY 1.68 FEET TO AN IRON ROD, SAME ED LEASE AREA AND THE TRUE POINT NCE OF 100.00' TO AN IRON ROD SET; TO AN IRON ROD SET; THENCE SOUTH D SET; THENCE NORTH 21°43'55" EGINNING AND CONTAINING 0.23 ACRE A SURVEY BY JAMES M. OVERFELT,

MARSHALL FROM VICTOR ELLIS, AND S AND WIFE, RUTH ELLIS, AS RECORDED ROLL COUNTY, KENTUCKY

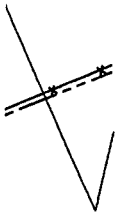
TAX MAP: 35 PARCEL: 10
RICHARD DALE MARSHALL
7881 HWY 36 EAST
SANDERS KY, 41083
DEED BOOK: 89 PAGE: 205

CT



SEE

RADIUS PER P.C.S.
REMENTS



DRAINAGE EASEMENT
ENCE

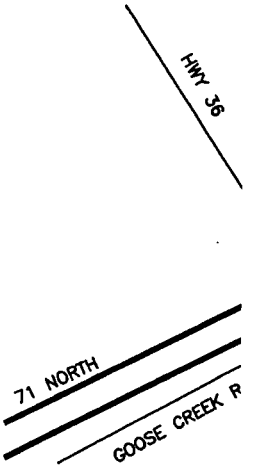
(HUB SET)

SPRINT PCS LEASE
SQ FT

EASEMENT

TAX MAP: 35 PARCEL: 17
RICHARD DALE MARSHALL
7881 HWY 36 EAST
SANDERS KY, 41083
DEED BOOK: 49 PAGE: 136

LEGAL DESC



DIRECTIONS TO
FROM AIRPORT , I-264 E
EAST ON TO 227 FOR 4,
ON 1122 FOR 4.2 MILES
36 FOR 3.1 MILES, CROSS
ON THE NORTH SIDE.

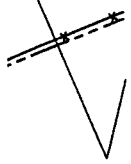
VICINITY MA

BENCHMARK
BASED ON RE-ESTABLISH
I-71 T-24RM1 AND I-71

EXISTING PP
EXISTING TRANSFORMER # 190-0186
EXISTING PP
EXISTING TLECO
OHPL OHTL
EXISTING HOME

STATE of KENTUCKY
JAMES M.
OVERFELT

REMENTS



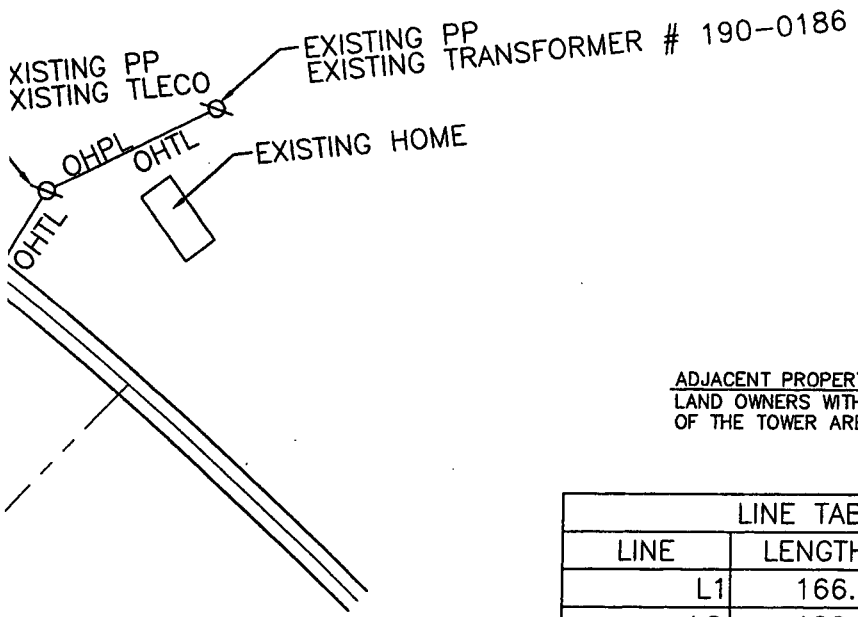
DRAINAGE EASEMENT
ENCE

(HUB SET)

SPRINT PCS LEASE
SQ FT

TAX MAP: 35 PARCEL: 17
RICHARD DALE MARSHALL
7881 HWY 36 EAST
SANDERS KY, 41083
DEED BOOK: 49 PAGE: 136

EASEMENT



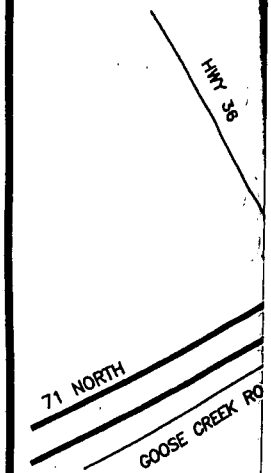
STATE of KENTUCKY
JAMES M. OVERFELT
3196
LICENSED PROFESSIONAL LAND SURVEYOR
7/16/99

ADJACENT PROPERTY OWNER STATEMENT:
LAND OWNERS WITHIN A 500 FOOT RADIUS OF THE TOWER ARE SHOWN HEREON

LINE TABLE		
LINE	LENGTH	BEARING
L1	166.50	S68°12'56"W
L2	100.00	N68°16'05"E
L3	100.00	S21°43'55"E
L4	100.00	S68°16'05"W
L5	100.00	N21°43'55"W

CONTROL POINT COORDINATES				
NO.	NORTHING	EASTING	ELEV	SET MON.
1	423484.539	1415544.743	812.46'	IR
2	423368.832	1415503.175	808.16'	IR
CTR/LSE	423480.664	1415487.084	814.25'	HUB

LEGAL DESC



DIRECTIONS TO S
FROM AIRPORT , I-264 EAS
EAST ON TO 227 FOR 4/
ON 1122 FOR 4.2 MILES T
36 FOR 3.1 MILES, CROSS
ON THE NORTH SIDE.

VICINITY MAP

BENCHMARK
BASED ON RE-ESTABLISHE
I-71 T-24RM1 AND I-71
FROM I-71 L-62.
NAVD-88

BASIS OF BEARI
BEARINGS SHOWN HEREON
NORTH,NAD-83 WHICH WA
FROM GPS OBSERVATION.

SURVEY DATE
05/26/99

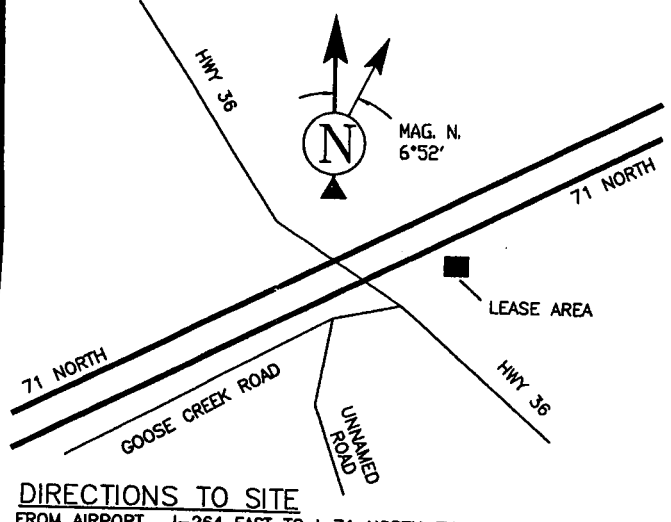
SURVEYOR'S NO
REFERENCE IS MADE TO
BY TILFORD,DOBBINS,ALEX
MAY 11TH, 1999.
ALL EASEMENTS CONTAINE
AFFECTING THE IMMEDIATE
HAVE BEEN PLOTTED. SUF
SEARCH OF PUBLIC RECO
TITLE ISSUED.
THE BOUNDARY SHOWN H
INFORMATION AND DOES
SURVEY OF THE PROPERT

UTILITY NOTES
SURVEYOR DOES NOT GU
SHOWN OR THEIR LOCATI
THE CONTRACTOR AND D
AGENCIES TO LOCATE ALL
REMOVAL, RELOCATION AN
RESPONSIBILITY OF THE

PROJECT INF

SEE BELOW

LEGAL DESCRIPTIONS



DIRECTIONS TO SITE

FROM AIRPORT , I-264 EAST TO I-71 NORTH EXIT 44 EAST ON TO 227 FOR 4/10'THS OF A MILE THEN NORTH ON 1122 FOR 4.2 MILES TO A STOP SIGN. THEN EAST ON 36 FOR 3.1 MILES, CROSS OVER 71, ITS THE FIRST LOT ON THE NORTH SIDE.

VICINITY MAP – N.T.S.

BENCHMARK

BASED ON RE-ESTABLISHED DISK STAMPED I-71 T-24 FROM I-71 T-24RM1 AND I-71 T-24RM2 WITH VERTICAL CHECKS

Sprint®

Sprint PCS℠

11390 OLD ROSWELL RD, SUITE 100
ALPHARETTA, GA 30004

SCHMIDT CONSULTING INC.
2442 NORTH MT.JULIET ROAD
MT. JULIET,TENNESSEE
OFFICE- (615) 773-2381
FAX/MOD:- (615) 773-2384

CURRENT ISSUE DATE

06/16/99

phoenix design group
limited liability company
10245 e. via linda suite 105
scottsdale, az 85258 602/451-9773
fax 602-451-9608

REVISIONS

NO.	DATE	DESCRIPTION
1	06/09/99	SUBMITAL
2	06/16/99	FINAL
3	07/07/99	REVISED ADD SPOT ELEV'S SEE C-2
4	07/16/99	P.C.S. REQUIREMENTS

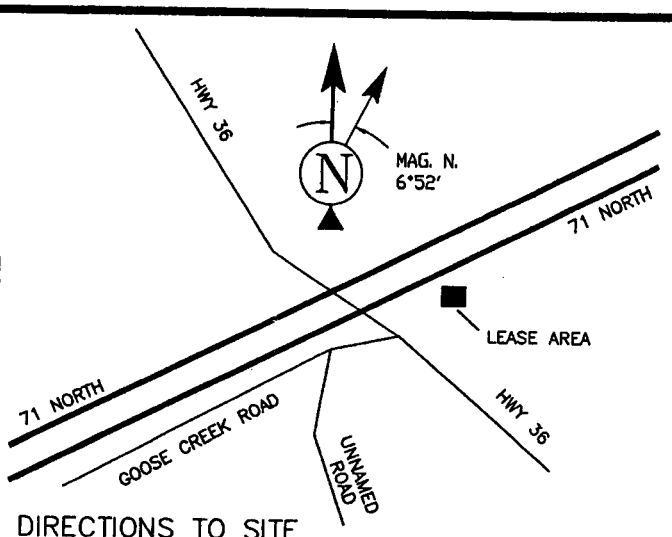
SITE NUMBER

LV33XC001A

SITE NAME

MARSHALL

LEGAL DESCRIPTIONS



DIRECTIONS TO SITE

FROM AIRPORT , I-264 EAST TO I-71 NORTH EXIT 44 EAST ON TO 227 FOR 4/10'THS OF A MILE THEN NORTH ON 1122 FOR 4.2 MILES TO A STOP SIGN. THEN EAST ON 36 FOR 3.1 MILES, CROSS OVER 71, ITS THE FIRST LOT ON THE NORTH SIDE.

VICINITY MAP – N.T.S.

BENCHMARK

BASED ON RE-ESTABLISHED DISK STAMPED I-71 T-24 FROM I-71 T-24RM1 AND I-71 T-24RM2 WITH VERTICAL CHECKS FROM I-71 L-62.
NAVD-88

BASIS OF BEARING

BEARINGS SHOWN HEREON ARE BASED ON GRID NORTH,NAD-83 WHICH WAS DETERMINED FROM A CONVERSION FROM GPS OBSERVATION.

SURVEY DATE

05/26/99

SURVEYOR'S NOTES

REFERENCE IS MADE TO THE TITLE REPORT ORDER ISSUED BY TILFORD,DOBBINS,ALEXANDER,BUCKWAY & BLACK, DATED MAY 11'TH, 1999.
ALL EASEMENTS CONTAINED WITHIN SAID TITLE REPORT AFFECTING THE IMMEDIATE AREA SURROUNDING THE LEASE HAVE BEEN PLOTTED. SURVEYOR HAS NOT PERFORMED A SEARCH OF PUBLIC RECORDS TO DETERMINE ANY DEFECT IN TITLE ISSUED.
THE BOUNDARY SHOWN HEREON IS PLOTTED FROM RECORD INFORMATION AND DOES NOT CONSTITUTE A BOUNDARY SURVEY OF THE PROPERTY.

UTILITY NOTES

SURVEYOR DOES NOT GUARANTEE THAT ALL UTILITIES ARE SHOWN OR THEIR LOCATIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND DEVELOPER TO CONTACT ANY INVOLVED AGENCIES TO LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION. REMOVAL, RELOCATION AND/ OR REPLACEMENT IS THE RESPONSIBILITY OF THE CONTRACTOR.

PROJECT INFORMATION

phoenix design group
limited liability company
10245 e. via linda suite 105
scottsdale, az 85258 602/451-9773
fax 602-451-9608

REVISIONS		
NO.	DATE	DESCRIPTION
1	06/09/99	SUBMITAL
2	06/16/99	FINAL
3	07/07/99	REVISED ADD SPOT ELEV'S SEE C-2
4	07/16/99	P.C.S. REQUIREMENTS

SITE NUMBER

LV33XC001A

SITE NAME

MARSHALL

SITE ADDRESS

7881 HWY 36
SANDERS KY.41183

SHEET TITLE

SITE SURVEY

SHEET NUMBER

C1

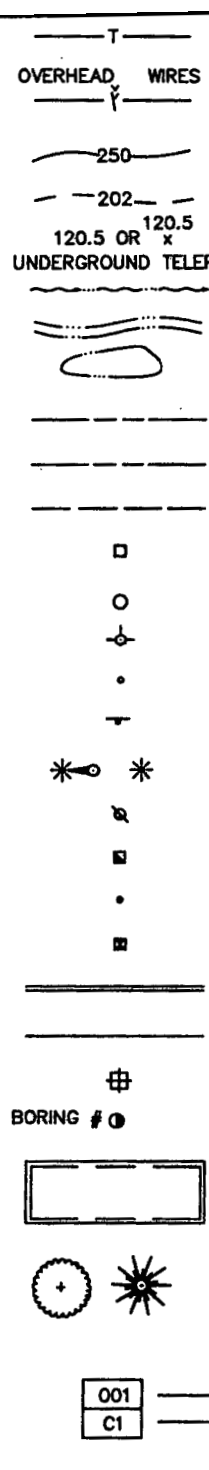
CAD #: 99456C1 | PLOT SCALE: 1"= 100'

LEGEND

EXISTING		PROPOSE
	FENCE	
(TYPE) STORM SEWER	STORM SEWER	ST
(TYPE) SANITARY SEWER	SANITARY SEWER	S
(TYPE) WATER LINE W	WATER LINE	W
(TYPE) GAS LINE G	GAS LINE	G
UNDERGROUND ELECTRIC E	UNDERGROUND ELECTRIC	E
T	UNDERGROUND TELEPHONE	T
OVERHEAD WIRES T	OVERHEAD TELEPHONE	T
	OVERHEAD ELECTRIC	E
250	5' OR 10' CONTOUR LINE	250
202	1' OR 2' CONTOUR LINE	202
120.5 OR x UNDERGROUND TELEPHONE	SPOT ELEVATION	120.5 OR x
	DITCH OR SWALE	
	STREAM OR RIVER	
	LAKE OR POND	
	PRIMARY PROPERTY OR R.O.W.	
	PROPERTY LINE	
	EASEMENT	
	CATCH BASIN	
	MANHOLE	
	HYDRANT	
	WATER VALVE	
	UTILITY POLE	

G 06/23/99 RJT PLOT: 1=1

SPRINT COM. INC.– ALTANTA, GA – W:\8113\05\KCA001T1.DWG 06/23/99 RJT PLOT: 1



UNDERGROUND TELEPHONE
OVERHEAD TELEPHONE
OVERHEAD ELECTRIC
5' OR 10' CONTOUR LINE
1' OR 2' CONTOUR LINE
SPOT ELEVATION
DITCH OR SWALE
STREAM OR RIVER
LAKE OR POND
PRIMARY PROPERTY OR R.O.W.
PROPERTY LINE
EASEMENT
CATCH BASIN
MANHOLE
HYDRANT
WATER VALVE
UTILITY POLE
LIGHT POLE, LAMP POST
SIGN
TELEPHONE PEDESTAL
IRON ROD, PIN, OR PIPE
CONCRETE MONUMENT
CURB
ASPHALT PAVEMENT
TEST PIT
SOIL BORING
BUILDING
TREES, SHRUBS, BUSHES
MATCH LINE
DETAIL IDENTIFICATION
SHEET NO. WHERE DETAIL IS LOC/
OR THE DWG. IT IS CALLED OUT.

Spri

SITE I

LEGEND

EXISTING		PROPOSED
	FENCE	
(TYPE) STORM SEWER	STORM SEWER	ST
(TYPE) SANITARY SEWER	SANITARY SEWER	S
(TYPE) WATER LINE W	WATER LINE	W
(TYPE) GAS LINE G	GAS LINE	G
UNDERGROUND ELECTRIC E	UNDERGROUND ELECTRIC	E
T	UNDERGROUND TELEPHONE	T
OVERHEAD WIRES	OVERHEAD TELEPHONE	T
	OVERHEAD ELECTRIC	E
250	5' OR 10' CONTOUR LINE	250
202	1' OR 2' CONTOUR LINE	202
120.5 OR 120.5 x	SPOT ELEVATION	120.5 OR x 120.5
UNDERGROUND TELEPHONE	DITCH OR SWALE	
	STREAM OR RIVER	
	LAKE OR POND	
	PRIMARY PROPERTY OR R.O.W.	
	PROPERTY LINE	
	EASEMENT	
	CATCH BASIN	
	MANHOLE	
	HYDRANT	
	WATER VALVE	
	UTILITY POLE	
	LIGHT POLE, LAMP POST	
	SIGN	
	TELEPHONE PEDESTAL	
	IRON ROD, PIN, OR PIPE	
	CONCRETE MONUMENT	
	CURB	

DATE
DATE

\05\KCA001T1.DWG 06/23/99 RJT PLOT: 1=1

LEGEND

EXISTING		PROPOSED
	FENCE	
(TYPE) STORM SEWER	STORM SEWER	ST
(TYPE) SANITARY SEWER	SANITARY SEWER	S
(TYPE) WATER LINE W	WATER LINE	W
(TYPE) GAS LINE G	GAS LINE	G
UNDERGROUND ELECTRIC E	UNDERGROUND ELECTRIC	E
T	UNDERGROUND TELEPHONE	T
OVERHEAD WIRES	OVERHEAD TELEPHONE	T
	OVERHEAD ELECTRIC	E
250	5' OR 10' CONTOUR LINE	250
202	1' OR 2' CONTOUR LINE	202
120.5 OR x 120.5 UNDERGROUND TELEPHONE	SPOT ELEVATION	120.5 OR x 120.5
	DITCH OR SWALE	
	STREAM OR RIVER	
	LAKE OR POND	
	PRIMARY PROPERTY OR R.O.W.	
	PROPERTY LINE	
	EASEMENT	
	CATCH BASIN	
	MANHOLE	
	HYDRANT	
	WATER VALVE	
	UTILITY POLE	
	LIGHT POLE, LAMP POST	
	SIGN	
	TELEPHONE PEDESTAL	
	IRON ROD, PIN, OR PIPE	
	CONCRETE MONUMENT	
	CURB	
	ASPHALT PAVEMENT	
	TEST PIT	
BORING #	SOIL BORING	
	BUILDING	
	TREES, SHRUBS, BUSHES	
	MATCH LINE	

001 / C1 — DETAIL IDENTIFICATION
SHEET NO. WHERE DETAIL IS LOCATED OR THE DWG. IT IS CALLED OUT.

DATE
DATE

FROM AIRPOR
4/10 MILE TH
36 FOR 3.1 M

DRAWING C
©

1080 H
BLDG 2

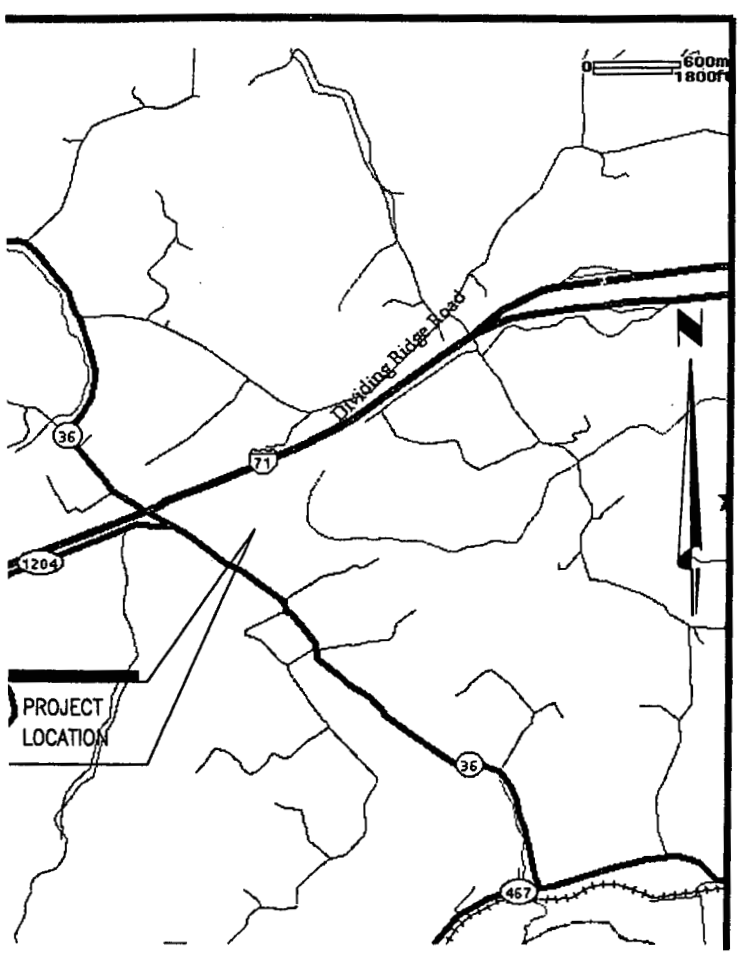
SPRINT COM. INC.- ALTANTA, GA - W:\8113\05\KCA001T1.DWG 06/23/99 RJT . PLOT: 1=1

t Com. Inc.

D.# LV33XC001A

MARSHALL

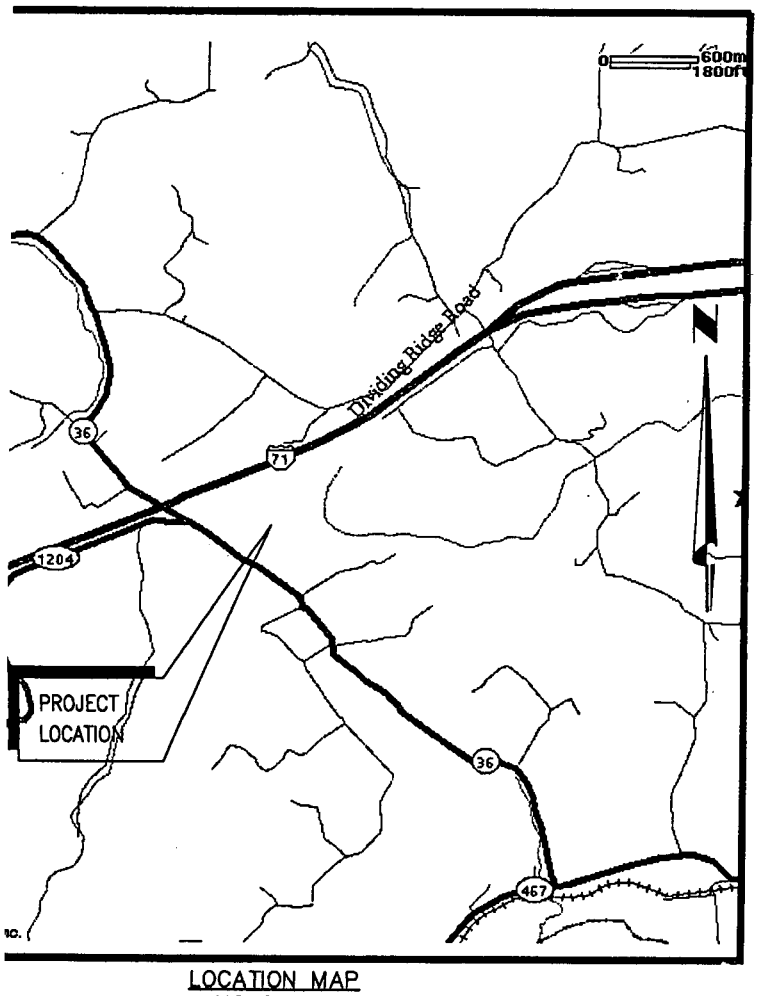
SSUED: JUNE 28, 1999
EVISED: JULY 22, 1999



GENERAL NOTES

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXAMIN AND SPECIFICATIONS AND COORDINATE HIS WORK WI OTHER CONTRACTORS TO ENSURE THAT WORK PROG INTERRUPTED.
2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ORDERLY SITE, YARD AND GROUNDS, REMOVE AND D ALL RUBBISH, WASTE MATERIALS, LITTER, AND ALL F REMOVE PETRO-CHEMICAL SPILLS, STAINS AND OTHE DEPOSITS. RAKE GROUNDS TO A SMOOTH EVEN-TEX
3. THE PLANS SHOW SOME KNOWN SUBSURFACE STRUC GROUND STRUCTURES AND/OR UTILITIES BELIEVED T THE WORKING AREA, EXACT LOCATION OF WHICH MA THE LOCATIONS INDICATED. IN PARTICULAR, THE CO IS WARNED THAT THE EXACT OR EVEN APPROXIMATE SUCH PIPELINES, SUBSURFACE STRUCTURES AND/OR IN THE AREA MAY BE SHOWN OR MAY NOT BE SHOW SHALL BE HIS RESPONSIBILITY TO PROCEED WITH GR EXECUTING ANY WORK. 48 HOURS BEFORE YOU DIG BLAST, CALL KENTUCKY UNDERGROUND PROTECTION
4. THE OWNER OR OWNER'S REPRESENTATIVE SHALL BE OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN THE CONTRACTOR'S WORK SHALL NOT VARY FROM T THE EXPRESSED APPROVAL OF THE OWNER OR OWNE
5. THE CONTRACTOR IS INSTRUCTED TO COOPERATE WIT ALL OTHER CONTRACTORS PERFORMING WORK ON TH DURING THE PERFORMANCE OF THIS CONTRACT.
6. THE CONTRACTOR SHALL RESTORE ALL PUBLIC OR P DAMAGED OR REMOVED TO AT LEAST AS GOOD OF BEFORE DISTURBED AS DETERMINED BY THE OWNER REPRESENTATIVE.
7. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRE
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTA INCURRING THE COST OF ALL REQUIRED PERMITS, IN CERTIFICATES, ETC.
9. THE CONTRACTOR SHALL PROTECT EXISTING PROPER MONUMENTATION. ANY MONUMENTATION DISTURBED AS JUDGED BY THE OWNER OR OWNER'S REPRESENTA SHALL BE REPLACED AT THE CONTRACTOR'S EXPENS SUPERVISION OF A LICENSED LAND SURVEYOR.
10. ALL TRENCH EXCAVATION AND ANY REQUIRED SHEETI SHALL BE DONE IN ACCORDANCE OSHA REGULATIONS

SUED: JUNE 28, 1999
EVISED: JULY 22, 1999



LOCATION MAP
NO SCALE

DIRECTIONS

-264 EAST TO I-71 N EXIT 44 EAST ON TO 227 FOR
NORTH ON 1122 FOR 4.2 MILES TO STOP SIGN. THEN EAST ON
S - CROSS OVER I-71 AND SITE IS FIRST LOT ON NORTH SIDE.

CLOUGH, HARBOUR & ASSOCIATES LLP
IGHT
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
COMB BRIDGE RD - ROSEWELL, GEORGIA - 30076
, SUITE 330 770-992-2332

EXHIBIT
B 99-262

GENERAL NOTES

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXAMI AND SPECIFICATIONS AND COORDINATE HIS WORK WI OTHER CONTRACTORS TO ENSURE THAT WORK PROG INTERRUPTED.
2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ORDERLY SITE, YARD AND GROUNDS, REMOVE AND ALL RUBBISH, WASTE MATERIALS, LITTER, AND ALL REMOVE PETRO-CHEMICAL SPILLS, STAINS AND OTH DEPOSITS. RAKE GROUNDS TO A SMOOTH EVEN-TE
3. THE PLANS SHOW SOME KNOWN SUBSURFACE STRU GROUND STRUCTURES AND/OR UTILITIES BELIEVED T THE WORKING AREA, EXACT LOCATION OF WHICH MA THE LOCATIONS INDICATED. IN PARTICULAR, THE C IS WARNED THAT THE EXACT OR EVEN APPROXIMAT SUCH PIPELINES, SUBSURFACE STRUCTURES AND/O IN THE AREA MAY BE SHOWN OR MAY NOT BE SHC SHALL BE HIS RESPONSIBILITY TO PROCEED WITH GI EXECUTING ANY WORK. 48 HOURS BEFORE YOU DI BLAST, CALL KENTUCKY UNDERGROUND PROTECTION
4. THE OWNER OR OWNER'S REPRESENTATIVE SHALL BI OF ANY CONDITIONS THAT VARY FROM THOSE SHOW THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE EXPRESSED APPROVAL OF THE OWNER OR OWN
5. THE CONTRACTOR IS INSTRUCTED TO COOPERATE WI ALL OTHER CONTRACTORS PERFORMING WORK ON T DURING THE PERFORMANCE OF THIS CONTRACT.
6. THE CONTRACTOR SHALL RESTORE ALL PUBLIC OR P DAMAGED OR REMOVED TO AT LEAST AS GOOD OF BEFORE DISTURBED AS DETERMINED BY THE OWNER REPRESENTATIVE.
7. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRE
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBT INCURRING THE COST OF ALL REQUIRED PERMITS, IN CERTIFICATES, ETC.
9. THE CONTRACTOR SHALL PROTECT EXISTING PROPER MONUMENTATION. ANY MONUMENTATION DISTURBED AS JUDGED BY THE OWNER OR OWNER'S REPRESENT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENS SUPERVISION OF A LICENSED LAND SURVEYOR.
10. ALL TRENCH EXCAVATION AND ANY REQUIRED SHEET SHALL BE DONE IN ACCORDANCE OSHA REGULATION
11. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERI OF SURFACE DRAINAGE DURING THE COURSE OF WO
12. ALL UTILITY WORK INVOLVING CONNECTIONS TO EXIST COORDINATED WITH THE OWNER OR OWNER'S REPRES OWNER. NOTIFY THE OWNER OR OWNER'S REPRESENT OWNER BEFORE EACH AND EVERY CONNECTION TO E
13. MAINTAIN FLOW FOR ALL EXISTING UTILITIES.
14. ALL SITE FILL SHALL MEET SELECTED FILL STANDARD THE OWNER OR OWNER'S REPRESENTATIVE ON THE
15. CONTRACTOR TO GRADE ALL AREAS ON THE SITE TO DRAINAGE AWAY FROM THE BUILDING OR EQUIPMENT
16. PROPOSED TOWER FOOTING/FOUNDATION DIMENSIONS FOR GENERAL INFORMATION PURPOSES ONLY. CONT RESPONSIBLE FOR COORDINATING ACTUAL FOUNDATI FINAL TOWER DESIGN AND FOUNDATION DESIGN AS MANUFACTURER.

ES

AMINE ALL PLAN SHEETS
K WITH THE WORK OF ALL
'ROGRESSION IS NOT

NING A NEAT AND
ND DISPOSE OFF SITE
LL FOREIGN SUBSTANCES.
OTHER FOREIGN
-TEXTURED SURFACE.

TRUCTURES, ABOVE-
:D TO EXIST IN
MAY VARY FROM
E CONTRACTOR
MATE LOCATION OF
)/OR UTILITIES
SHOWN; AND IT
H GREAT CARE IN
DIG, DRILL OR
TION AT: 1-800-752-6007.

. BE NOTIFIED IN WRITING
HOWN ON THE PLANS.
M THE PLANS WITHOUT
)WNER'S REPRESENTATIVE.

WITH ANY AND
H THIS JOB SITE

R PRIVATE PROPERTY
OF CONDITION AS
IER OR OWNER'S

)IRED PERMITS.

)BTAINING, AND
, INSPECTIONS,

PERTY LINE
3ED OR DESTROYED,
ENTATIVE
'ENSE UNDER THE

HEETING AND SHORING
TIONS FOR CONSTRUCTION.

TERING AND THE MAINTENANCE

PROJECT INFORMATION

TAX MAP DATA: MAP 35 PARCEL 10

SITE NAME: MARSHALL
SITE ADDRESS: 7881 HWY 36
SANDERS, KY 41183

COUNTY: CARROLL

LATITUDE: N38° 39' 36.81"
LONGITUDE: W85° 02' 15.75"

ZONING CLASSIFICATION: AGRICULTURAL

ZONING JURISDICTION: CARROLL COUNTY
OCCUPANCY CLASSIFICATION: N/A
AREA OF CONSTRUCTION (SQ FT): 14,000±

PROJECT DIRECTORY

LAND OWNER: RICHARD & MILDRED MARSHALL
7881 HWY 36
SANDERS, KY. 41183
CONTACT: RICHARD MARSHALL (502) 347-5584

TOWER OWNER /DEVELOPER: SPRINT
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GEORGIA 30004
(770)-360-8400

APPLICANT: SPRINT
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GEORGIA 30004
(770)-360-8400

ENGINEER: CHA CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
CONTACT: PETE McTYGUE (770) 992-2332

TELEPHONE CO: BELL SOUTH CORP.
CONTACT: DAVE BANISTER (502) 875-5365

POWER CO: OWENS ELECTRIC
CHUCK GILL
(800) 372-7612

DRAWING INDEX

DRWG. #	TITLE	REV	DATE
KCA001T1	TITLE SHEET	3	07/22/99
KCA001C3	COMPREHENSIVE SITE PLAN	3	07/22/99
KCA001C3A	SITE PLAN	3	07/22/99
KCA001C4	SITE DETAILS	1	07/12/99
KCA001C5	NOTES & ELEVATION	2	07/20/99
KCA001C6	STRUCTURAL DETAILS	1	07/12/99
	MISCELLANEOUS DETAILS	2	07/22/99

ES

XAMINE ALL PLAN SHEETS
!K WITH THE WORK OF ALL
PROGRESSION IS NOT

!NING A NEAT AND
ND DISPOSE OFF SITE
ALL FOREIGN SUBSTANCES.
OTHER FOREIGN
-TEXTURED SURFACE.

TRUCTURES, ABOVE-
:D TO EXIST IN
I MAY VARY FROM
E CONTRACTOR
MATE LOCATION OF
)/OR UTILITIES
SHOWN; AND IT
H GREAT CARE IN
I DIG, DRILL OR
TION AT: 1-800-752-6007.

L BE NOTIFIED IN WRITING
HOWN ON THE PLANS.
)M THE PLANS WITHOUT
)WNER'S REPRESENTATIVE.

: WITH ANY AND
N THIS JOB SITE

)R PRIVATE PROPERTY
OF CONDITION AS
NER OR OWNER'S

)IRED PERMITS.

)BTAINING, AND
:, INSPECTIONS,

PERTY LINE
)ED OR DESTROYED,
ENTATIVE
ENSE UNDER THE

EETING AND SHORING
IONS FOR CONSTRUCTION.

TERING AND THE MAINTENANCE
WORK.

XISTING SYSTEMS SHALL BE
PRESENTATIVE AND THE UTILITY
SENTATIVE AND THE UTILITY
'O EXISTING SYSTEMS IS MADE.

)ARDS AS DEFINED BY
HE DRAWINGS.

: TO PROVIDE POSITIVE
!ENT PAD AND THE TOWER.

ONS (IF ANY) ARE SHOWN
:ONTRACTOR SHALL BE
ATION DIMENSIONS WITH
AS PROVIDED BY TOWER

SANDERS, KY. 41183
CONTACT: RICHARD MARSHALL (502) 347-5584

TOWER OWNER /DEVELOPER: SPRINT
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GEORGIA 30004
(770)-360-8400

APPLICANT: SPRINT
11390 OLD ROSWELL ROAD
SUITE 100
ALPHARETTA, GEORGIA 30004
(770)-360-8400

ENGINEER: CHA CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
CONTACT: PETE McTYGUE (770) 992-2332

TELEPHONE CO: BELL SOUTH CORP.
CONTACT: DAVE BANISTER (502) 875-5365

POWER CO: OWENS ELECTRIC
CHUCK GILL
(800) 372-7612

DRAWING INDEX

DRWG. #	TITLE	REV	DATE
KCA001T1	TITLE SHEET	3	07/22/99
KCA001C3	COMPREHENSIVE SITE PLAN	3	07/22/99
KCA001C3A	SITE PLAN	3	07/22/99
KCA001C4	SITE DETAILS	1	07/12/99
KCA001C5	NOTES & ELEVATION	2	07/20/99
KCA001C6	STRUCTURAL DETAILS	1	07/12/99
KCA001C7	MISCELLANEOUS DETAILS	2	07/22/99
KCA001E1	ELECTRICAL SITE PLAN	3	07/23/99
KCA001E2	GROUNDING PLAN	3	07/23/99
KCA001E3	GROUNDING DIAGRAM	3	07/23/99
KCA001E4	ELECTRICAL DETAILS	2	07/23/99
KCA001E5	ELECTRICAL DETAILS	1	07/12/99
KCA001E6	ELECTRICAL DETAILS	1	07/12/99
KCA001E6A	FAA LIGHTING	0	07/20/99
KCA001E7	ELECTRICAL SPECIFICATIONS	1	07/12/99
KCA001E8	ELECTRICAL SPECIFICATIONS	1	07/12/99
KCA001E9	ELECTRICAL SPECIFICATIONS	1	07/12/99
KCA001E10	ELECTRICAL SPECIFICATIONS	1	07/12/99