LICENSE AGREEMENT

This LICENSE AGREEMENT ("License") is entered into by and between SprintCom, Inc., a Kansas corporation ("Licensee") and the City of League City ("City"), a municipal corporation, on the date set forth below.

Terms:

1. **Definitions:** In this License:

   1.1. *Antenna Facility* means a communications facility consisting of antennae and associated cabling located on the Licensed Premises

   1.2. *Authorized Personnel* means employees, engineers, technicians or agents of Licensee (or persons or entities under direct supervision thereof) who either: (1) carry an identification badge identifying them as employees or agents of Licensee; or (2) are employees, engineers or technicians acting on Licensee behalf.

   1.3. *City* means the City of League City, a municipal corporation.

   1.4. *Commencement Date* means April 15, 2019.

   1.5. *Effective Date* (of this License) means the date that this License is fully executed.

   1.6. *License* means this License Agreement.

   1.7. *Licensee* means SprintCom, Inc., a Kansas corporation.

   1.8. *Licensed Premises* means the land consisting of approximately 384 square feet upon which Licensee will maintain its equipment base station (the "Ground Space")_ and antenna structure and as further described in Exhibit A (the "Pod"), attached and incorporated to this License by reference, together with any utility easement and the space on the Water Tower being licensed to Licensee by the City.

   1.9. *Water Tower* means the City's potable water storage tank located on the Licensed Premises.

2. **Grant of License by the City:**

   2.1. The License Premises, as indicated in Exhibit A, are hereby licensed to Licensee as a site for Licensee to erect, construct, operate, maintain, repair, and replace the Antenna Facility.

   2.2. Licensee will comply with any reasonable rules and regulations relate to the City's compliance with Federal Aviation Administration (FAA) Laws and regulations.

2.3. If Licensee places any item on the Licensed Premises that is not authorized under this License and does not remove such item after 30 days written notice to Licensee, then the City may remove the item without liability to Licensee for damage caused by the City's removal.

2.4. Licensee and its Authorized Personnel may access the Licensed Premises for maintenance, repair, replacement, and removal of the Antenna Facility at any time, subject to the following:

2.4.1. The City's reasonable security requirements;

2.4.2. Licensee will conduct its normal maintenance activities on the Licensed Premises during the City's normal business hours;

2.4.3. Licensee will use its reasonable efforts to contact the City no less than two (2) hours prior to accessing the Licensed Premises;

2.4.4. In case of emergency or unscheduled repairs, Licensee requires access outside of the City's normal business hours, Licensee will provide the City with reasonable notice under the circumstances (at least 1 hour in advance of visit, if possible), Licensee will pay the City the reasonable costs it incurs in providing such access; and

2.4.5. Licensee will furnish the City with a key or the combination or any lock securing the site of Licensee's equipment, so the City may inspect Licensee's equipment at any time; provided, however, that in no event will the City, its employees, officers, or agents remove, relocate, modify, alter or otherwise tamper with Licensee's equipment.

2.5. All facilities Licensee provides and installs on the Licensed Premises remain the property of the Licensee and Licensee may remove the same at any time during or within 90 days after the termination of this License (the "Removal Period"). Licensee will continue to pay the City license fees until Licensee removes its property from the Licensed Premises after the Removal Period.

2.6. Licensee will abide by all federal, state and local rules and regulations in the operation of the Antenna Facility, including acquiring required licenses and permits.

2.7. The City's grant to Licensee is a non-exclusive license. The City may use the Licensed Premises or allow any other person to use such area for any purpose that does not interfere with Licensee's rights granted under this License, except the Ground Space and the exterior space on the Pod, for both of which Licensee is conveyed exclusive use by Licensor.

2.8. Licensee may erect and operate the Antennae Facility on the Licensed Premises. Prior to the installation and/or Material Alteration (as defined below) of the Antenna Facility, Licensee will submit plans to the City ("Licensee's Plans") for the City's prior written approval, which approval will not be unreasonably withheld, conditioned or delayed. The City will have ten (10) days following receipt of Licensee's Plans to review the same and to provide written notice to Licensee of the approval or disapproval of the same. If Licensee's Plans are not approved, the disapproval must be accompanied by specific written reasons from the City for disapproval. If the City does not notify Licensee within that ten (10) day period that Licensee's Plans have been disapproved, then Licensee's Plans will be conclusively deemed approved in all respects by the City. If the City timely objects to or disapproves of Licensee's Plans, then Licensee may resubmit Licensee's Plans which the City must approve or disapprove in writing within five (5) days following the City's receipt. If the City fails to timely respond after receipt of the amended Licensee's Plans, then Licensee's Plans will be conclusively deemed approved. The City will not be entitled to any type of administrative fees for its review or approval of such Material Alteration. For purposes of this License, a "Material

Modification" is anything NOT within the following actions: maintenance, repairs, like-kind, like for less, or similar replacements or upgrades of the Antenna Facility and modifications made within the interior of any shelters, base station equipment or leased entitlements. The City consent or approval is not required for any modifications that are not Material Modifications. If Licensee seeks to increase the number of antennae beyond the number authorized herein, it must first pay for an evaluation to be carried out by a qualified professional demonstrating that (i) each additional antenna will not interfere with the existing antennas and that (ii) the City's Water Tower can structurally support the additional antennas. The cost of the evaluations required by this section must be paid by Licensee within thirty (30) days after receiving written notice of the costs. The parties acknowledge and agree that pursuant to the Previous Agreement (as defined in Section 35 hereof), the initial installation of the Antenna Facility has already occurred and thus the City's prior consent is not needed.

2.9. Licensee shall be required to obtain the City's prior written approval for all Material Modification to the Licensed Premises, which approval will not be unreasonably withheld, conditioned or delayed. All modifications or improvements to the Licensed Premises for Licensee's benefit shall be at Licensee's expense and such modifications or improvements shall be maintained in a good state of repair. Licensee's Antenna Facility shall, at all times, be painted, at Licensee's expense, the same color as the Water Tower.

2.10. If Licensee interferes with the City's use of the Water Tower, Licensee agrees to cease all such actions that interfere with the City's use thereof no later than five (5) days after receiving written notice of the interreference from the City; provided, however, Licensee may conduct intermittent testing of Antenna Facility in order to resolve such interference.

2.11. Upon the City's written request, Licensee shall remove or relocate all or part of the Antenna Facility from the License Premises as may be reasonably necessary for the City to repair, rehabilitate, replace, relocate, or maintain the Water Tower. Notwithstanding anything to the contrary contained herein, the parties agree and acknowledge that, due to cost considerations, Licensee will not be required to remove all or part of the Antenna Facility if it can reasonably screen or partially shut down on a temporary basis its Antenna Facility (in whole or in part) while the City repairs, rehabilitates or maintains all or part of the Water Tower. The parties will reasonably coordinate (and cause its contractors to do the same) with each other in order to facilitate same. The City will schedule regular, non-emergency maintenance, repair, or repainting as far in advance as is reasonably possible and give Licensee at least 180 days advance written notice prior to the maintenance, repair, or repainting to allow Licensee to temporarily remove or relocate one or more of its antennae and equipment. The City will use reasonable efforts to enable Licensee to install and operate a temporary site on the License Premises which is suitable as a temporary site for Licensee until the antenna(e) and equipment affected by the temporary relocation can be reinstalled at the original location. The City will cause all work on the Water Tower that requires Licensee to remove or move all or part of its Antenna Facility to be completed in a reasonably prompt manner in order to minimize to the extent reasonably possible the time during which Licensee's Antenna Facility is not located and operating on the Water Tower. In the case of emergency repairs by the City, the City shall provide Licensee with as much notice as possible so that Licensee will remove its equipment at Licensee's own expense so that the emergency repairs may be completed.

2.12. If the City removes the Water Tower, the City will schedule the removal as far in advance as possible and give Licensee at least 180 days advance written notice to remove its antennae and equipment. The City will use reasonable efforts to allow Licensee to relocate the antennae and equipment to other City property under a new license, with the same terms and conditions as set forth herein, if the parties agree the new location is a suitable site. Upon Licensee's removal of its antennae and equipment from the Water Tower being removed, this License will terminate.

2.13. Licensee shall provide mounting details for the antennae array, cabling, and all appurtenances and equipment to be attached to the Licensed Premises. Such mounting details shall be subject to the reasonable approval of the City.

2.14. Licensee shall provide the City with an inspection report certifying the structural integrity of the antenna and appurtenances as mounted and noting any deficiencies of the Water Tower's structural integrity or paint system related to the antenna, cabling or, appurtenances mounted on the Water Tower after the two-year anniversary of the Commencement Date and i) every five years thereafter in the event no Material Modifications have been performed on the Water Tower since the last such inspection and ii) every two years otherwise.

2.15. The City agrees that future maintenance contracts with the City for painting the Water Tower shall include a bid item for work-around on the antennae, cabling and appurtenances mounted on the Water Tower according to the specifications Licensee shall supply. Licensee shall reimburse the City for the portion of the Water Tower maintenance project costs attributable to the antennae, cabling, and appurtenances mounted on the Water Tower. Alternatively, Licensee may, at its sole option, remove its equipment during the maintenance project and reinstall it after project completion.

3. **License Term:** The term of this License shall be for five (5) years commencing on the Commencement Date. This License with automatically renew for two (2) successive five (5) year terms as long as Licensee remains in full compliance with all provisions of this License unless (a) Licensee gives the City written notice of its intent not to renew at least thirty (30) days prior to the commencement of the next renewal term, or (b) this License is terminated in accordance with the terms of this License.

4. **License Fee:**

4.1. Licensee will pay the City a monthly license fee of **Two Thousand Six Hundred and 00/100 Dollars ($2,600.00)** for the use of the Licensed Premises, which will be due of the 15th of each month in advance. The monthly license fee will automatically increase by three percent (3%), effective on each anniversary date of the Commencement Date.

4.2. Licensee will send or tender all license fee payments to the City at the City's address specified in this License or to any other place as the City may designate upon advance written notice to Licensee at least 30 days prior to the date that the next monthly licensee fees is due.

4.3. After termination of the License and expiration of the Removal Period (and provided Licensee does not continue to operate the Licensed Premises (which is governed by Section 4.4 hereof)), Licensee will continue to pay to the City a license fee until all of Licensee's personal property is removed and the Water Tower returned to the condition as existing as of the Commencement Date. The above level and quality of restoration shall be confirmed by third party tank inspection selected by City at the expense of Licensee. Normal wear and tear and damage as a result of casualty is excepted.

4.4. If Licensee continues to operate the Licensed Premises after the expiration of the term, the license fee shall be adjusted to equal to one hundred twenty-five percent (125%) of the previous license fee amount

5. **Utilities:** Licensee will, at its own expense, contract with a third-party provider for any electric, telephone, telecommunications, or similar utility services, and will be responsive for the installation of any meters or associated equipment needed to serve its Antenna Facility on the Licensed Premises. Licensee will obtain the City's prior approval in writing of the location of any meters, lines, or associated electrical or utility equipment to be located on the Licensed Premises that is not shown on Exhibit A. By

approving the location of any third-party meters, lines or associated equipment, the City grants an easement, at no additional cost to Licensee across the Licensed Premises for that purpose.

6. **Insurance:** Licensee shall maintain Comprehensive General Liability insurance coverage of $1,000,000 per occurrence throughout the entire term of this License. Licensee shall also maintain the following insurance: (i) Worker's Compensation coverage with statutory limits for the State of Texas, including Employers Liability coverage of $500,000 per accident; (ii) Automobile Liability coverage of $1,000,000 Combined Single Limit. In the event the City also maintains insurance, all policies of both parties must contain a waiver of subrogation against the other party. Comprehensive General Liability and Automobile Liability policies must include the City as Additional Insured. Licensee shall provide City Certificates of Insurance evidencing these insurance requirements prior to the start of work.

7. **Termination without Default:**

   7.1. Licensee may terminate this License for any reason at any time by giving sixty (60) days written notice to the City.

   7.2. The City may terminate this License at any time by giving Licensee at least 180 days prior written notice of termination, if the City decides to abandon, remove, relocate, or discontinue use the Water Tower, or replaces the Water Tower with another Water Tower. If the existing Water Tower is destroyed by fire, tornado, hurricane, flood, wind, or other natural causes, and the City decides not to replace the Water Tower, this License will terminate on the date of the destruction and the City may retain any license fees paid prior to the date of destruction. If the City chooses to replace the Water Tower, the City will notify Licensee of the estimated date of replacement. If Licensee does not terminate this License by giving notice to the City prior to the date the Water Tower is replaced, this License will remain in effect, but the next License Fee payments will be abated to account for the time the Water Tower was not available for use by Licensee.

   7.3. Any provision of this License that imposes an obligation upon Licensee that extends beyond the termination of this License, survives the termination of this License.

8. **Termination for Default**

   8.1. Either party may terminate this License as provided for in this section if the other party fails to comply with a provision of this License. The party claiming a default by the other party will give written notice specifying the default and what must be done to correct the default. If the party receiving the notice fails to correct the default within 30 days of receiving the notice of default, the other party may terminate this License by providing notice of termination to the other party.

   8.2. If a claimed default cannot be reasonably cured within 30 days, the other party will not be deemed to be in default if the other party promptly attempts to cure the default upon receiving notice and thereafter cures the default within 120 days from receipt of the notice.

   8.3. Notwithstanding anything to the contrary in this License, Licensee's cure period for any monetary default will be 30 days after its receipt of written notice of such default from the City.

9. **Relationship to the City:** Licensee is an independent contractor and is not an employee, partner, joint venture, or agent of the City. Licensee shall be responsible for all expenses necessary to carry out the services under this License and shall not be reimbursed by the City for such expenses except as otherwise provided in this License.

10. **Notices:** All notices pertaining to this License are considered as delivered when mailed to the following address, either (a) registered, certified or regular mail or (b) overnight reputable national courier (e.g., FedEx, UPS, etc.). Either party may from time to time designate a different address by written notice to the other party.

City:	City of League City 300 West Walker Street League City, Texas 77573 Attn: Director of Public Works
Licensee:	Sprint Property Services Site ID: HO58XC335 Mailstop KSOPHT0101-Z2650 6391 Sprint PCS Parkway Overland Park, Kansas 66251-2650
Mandatory Copy To:	Sprint Law Department Sprint Site ID: HO58XC335 Attn.: Real Estate Attorney Mailstop: KSOPHT0101-Z2020 6391 Sprint Parkway Overland Park, Kansas 66251-2020

11. **Warranties and Representations:** Licensee warrants and agrees that Licensee shall perform its obligations and conduct all operations in conformity with all applicable federal, state, and local laws, rules, regulations, and ordinances. For any obligation performed on premises owned or controlled by the City, Licensee warrants and agrees that Licensee will perform the obligations hereunder in compliance with all City rules (of which Licensee has been provided written notice), including but not limited to, prohibitions related to tobacco use, alcohol, and other drugs.

12. **Licenses/Certifications:** Licensee represents and warrants that it will obtain and maintain in effect, and pay the cost of all licenses, permits or certifications that may be necessary for Licensee's performance of the obligations under this License. If Licensee is a business entity, Licensee warrants, represents, covenants, and agrees that it is duly organized, validly existing and in good standing under the laws of the state of its incorporation; and is duly authorized and in good standing to conduct business in the State of Texas, that it has all necessary power and has received all necessary approvals to execute and deliver this License and is authorized to execute this License according to its terms on behalf of Licensee.

13. **Performance/Qualifications:** Licensee agrees and represents that Licensee has the personnel, experience, and knowledge necessary to qualify Licensee for the particular duties to be performed under this License. Licensee warrants that all services performed under this License shall be performed consistent with generally prevailing professional or industry standards.

14. **Conflict of Interest:** Licensee warrants, represents, and agrees that Licensee presently has no interest and shall not acquire any interest, direct or indirect, that would conflict in any manner or degree with Licensee's performance of its obligations hereunder. Licensee further warrants and affirms that no relationship or affiliation exists between Licensee and the City that could be construed as a conflict of interest with regard to this License.

15. **INDEMNIFICATION: EXCEPT WITH RESPECT TO ANY CLAIMS (AS DEFINED BELOW) ARISING FROM THE NEGLIGENCE OR INTENTIONAL MISCONDUCT OF THE INDEMNIFIED PARTY, ITS EMPLOYEES, AGENTS OR CONTRACTORS, LICENSEE SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS THE CITY , AND EACH OF ITS DIRECTORS, OFFICERS, AGENTS AND EMPLOYEES FROM AND AGAINST ALL CLAIMS, ACTIONS, SUITS, DEMANDS, PROCEEDINGS, COSTS, DAMAGES AND LIABILITIES, INCLUDING WITHOUT LIMITATION ATTORNEYS' FEES AND REASONABLE LITIGATION COSTS ("CLAIMS"), ARISING OUT OF, CONNECTED WITH, OR RESULTING FROM ANY ACTS OR OMISSIONS OF LICENSEE OR ANY AGENT, EMPLOYEE, SUBLICENSEE, OR SUPPLIER OF LICENSEE IN THE EXECUTION OR PERFORMANCE OF THIS CONTRACT, TO THE EXTENT THE CLAIM ARISES FROM NEGLIGENCE, WILLFUL ACT, BREACH OF CONTRACT OR VIOLATION OF LAW.**

16. **Force Majeure:** Neither the City nor Licensee shall be liable for any delay in the performance of this License, nor for any other breach, nor for any loss or damage arising from uncontrollable forces such as fire, theft, storm, war, or any other force majeure that could not have been reasonably avoided by exercise of due diligence.

17. **Notices:** Any notice given under this contract by either party to the other may be affected either by personal delivery in writing or by mail, registered or certified postage prepaid with return receipt requested. Mailed notices shall be addressed to the addresses of the parties as they appear in the contract. Notices delivered personally shall be deemed communicated at the time of actual receipt. Mailed notice shall be deemed communicated three (3) days after mailing; notices sent via overnight reputable national courier shall be deemed communicated one (1) day after sending.

18. **Compliance with Laws:** Licensee will, at its expense, conduct all operations on the Licensed Premises in compliance with all laws, ordinances, rules, regulations, orders or directives of any government authority, and will not commit or allow to be committe4d any public or private nuisance thereon.

19. **State Auditor:** Licensee understands that acceptance of funds under this License constitutes acceptance of the authority of the Texas State Auditor's Office, or any successor agency (collectively, "Auditor"), to conduct an audit or investigation in connection with those funds. Licensee agrees to cooperate with the Auditor in the conduct of the audit or investigation, including without limitation providing all records requested. Licensee will use good faith efforts to include this provision in all contracts with permitted subcontractors.

20. **Jurisdiction:** Any disputes under this License shall be brought in a court of competent jurisdiction in Galveston, Texas and governed by Texas law.

21. **Alternative Dispute Resolution:** To the extent that Chapter 2260, Texas Government Code, is applicable to this Contract and is not preempted by other applicable law, the dispute resolution process provided for in Chapter 2260 and the related rules adopted by the Texas Attorney General Pursuant to Chapter 2260, shall be used by the City and the Licensee to attempt to resolve any claim for breach of contract made by Licensee that cannot be resolved in the ordinary course of business. The Director of Finance of the City shall examine Licensee's claim and any counterclaim and negotiate with Licensee in an effort to resolve such claims. The parties hereto specifically agree that (i) neither the occurrence of an

event giving rise to a breach of contract claim nor the pendency of a claim constitute grounds for the suspension of performance by Licensee, (ii) neither the issuance of this Contract by the City nor any other conduct, action or inaction of any representative of the City relating to this contract constitutes or is intended to constitute a waiver of the City's or the state's sovereign immunity to suit; and (iii) the City has not waived its right to seek redress in the courts.

22. **[Reserved]:**

23. **Risk of Loss:** If applicable, all work performed by Licensee pursuant to this License will be at Licensee's exclusive risk until final and complete acceptance of the work by City. In the case of any loss or damage to the work prior to City's acceptance, such loss or damage will be Licensee's responsibility.

24. **Publicity:** Neither party shall use the other's name, logo or likeness in any press release, marketing materials or other public announcement without receiving the other party's prior written approval.

25. **Legal Construction/Severability:** In the event that any one or more of the provisions contained in this License shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision, and this License shall be construed as if such invalid, illegal or unenforceable provisions had never been contained in it. To this end, the provisions of this License are declared to be severable. The parties may mutually agree to renegotiate this License to cure such illegality/invalidity or unconstitutionality if such may be reasonably accomplished.

26. **Limitations:** The Parties are aware that there are constitutional and statutory limitations on the authority of City to enter into certain terms and conditions of this License, including, but not limited to, those terms and conditions relating to liens on City's property; disclaimers and limitations of warranties; disclaimers and limitations of liability for damages; waivers, disclaimers and limitations of legal rights, remedies, requirements and processes; limitations of periods to bring legal action; granting control of litigation or settlement to another party; liability for acts or omissions of third parties; payment of attorneys' fees; dispute resolution; indemnities; and confidentiality (collectively, the "Limitations"), and terms and conditions related to the Limitations will not be binding on City except to the extent authorized by the laws and Constitution of the State of Texas.

27. **Sovereign Immunity:** Except as otherwise provided by Texas law, neither the execution of this License by City nor any other conduct, action or inaction of any City representative relating to this License is a waiver of sovereign immunity by City.

28. **Authority:** Each party warrants and represents to the other that said party has full power and authority to enter into and perform this License and to make the grant of rights contained herein.

29. **Non-Waiver:** No covenant or condition of this License may be waived except by written consent of the waiving party. Forbearance or indulgence by one party in any regard whatsoever shall not constitute a waiver of the covenant or condition to be performed by the other party.

30. **Assignability**: Licensee may not assign or sublet all or any portion of the Licensed Premises without the prior written consent of the City, which consent will not be unreasonably withheld, conditioned or delayed. Licensee shall have the right to sublease or assign its rights under this License to any of its subsidiaries, affiliates, or successor legal entities, to any entity acquiring substantially all of the assets of Licensee or to any subsidiary or affiliate Licensee without the consent of the City.

31. **Prohibition on Boycotting Israel:** Pursuant to Section 2270.002, Texas Government Code, by executing this License Licensee verifies that Licensee: (1) does not boycott Israel; and (2) will not boycott Israel during the term of this License.

32. **Prohibition Against Business with Iran, Sudan or Foreign Terrorists Organizations:** Licensee warrants, covenants, and represents that Licensee is not engaged in business with Iran, Sudan, or any company identified on the list referenced in Section 2252.152, Texas Government Code.

33. **Hazardous Substances**. City represents that it has no knowledge of any substance, chemical or waste (collectively, substance) on the Licensed Premises that is identified as hazardous, toxic or dangerous in any applicable federal, state or local law or regulation. Licensee will not introduce or use any such substance on the Licensed Premises in violation of any applicable law.

34. **Entire Agreement:** This License contains the entire agreement between the parties and supersedes all prior agreements, arrangements, and understanding, oral or written between the parties relating to this License. This License may not be modified except by mutual written agreement of the parties executed subsequent to this License.

35. **Previous Agreement:** The parties acknowledge that the Leased Premises were governed by that certain PCS Site Agreement dated April 2, 2004 by and between the parties (the "Previous Agreement") and that the installation of the Antenna Facility at the Leased Premises was permitted thereunder and, therefore, is currently in compliance with the terms of this License.

36. **Memorandum of Agreement.** The parties shall execute concurrently with this License a recordable Memorandum of Agreement attached to this License as Exhibit B, which Licensee may record at its own expense in the real property records where the Licensed Premises is located.

Executed this _____ day of _____, 2018. *(date to be filled in by the City Secretary)*

SPRINTCOM, INC. - "Licensee"

Silvia Jolin 2/25/2019

Silvia J. Lin, Manager – Real Estate

CITY OF LEAGUE CITY – "City"

_____

John Baumgartner, City Manager

Attest:

_____

Diana Stapp, City Secretary

Approved as to Form:

_____

office of the City Attorney

EXHIBIT "A"

LICENSED PREMISES AND ANTENNA FACILITY

(SEE ATTACHED)

Sprint®

PROJECT NAME:	CWE-SUBSTANTIAL SERVICES 5-15 Mhz-MM on Macro
SITE NAME:	LEAGUE CITY COUNTRYSIDE WT
SITE NUMBER:	HO58XC335
STRUCTURE TYPE:	WATER TANK
MARKET:	HOUSTON
JURISDICTION:	CITY OF LEAGUE CITY

PREPARED FOR:

Sprint

6391 SPRINT PARKWAY
OVERLAND PARK, KANSAS 66251

PREPARED FOR:

VERTICOM
IDEAS. SOLUTIONS. RESULTS.
7901 AMBASSADOR ROW
DALLAS, TX 75247
214-741-6898

PREPARED BY:

ARIA SERVICES, INC.
(281) 797-4387
WWW.ARIA-CORP.COM

PROJECT SUMMARY

SITE NAME:	LEAGUE CITY COUNTRYSIDE WT
SITE NUMBER:	HO58XC335
SITE ADDRESS:	5123 1/2 CANDLEWOOD LEAGUE CITY, TX 77573
LATTITUDE:	29.48275'
LONGITUDE:	-95.1423444'
GROUND ELEVATION:	28' AMSL

SCOPE OF WORK

1) THE WIRELESS COMMUNICATIONS FACILITY IS NOT INTENDED FOR HUMAN OCCUPANCY
2) THIS FACILITY DOES NOT REQUIRE POTABLE WATER AND WILL NOT PRODUCE ANY SEWAGE.
3) THE SCOPE OF WORK CONSISTS OF MODIFYING THE EXISTING WIRELESS INSTALLATION:
   A. INSTALL (3) SPRINT ANTENNAS
   B. INSTALL (3) SPRINT MINI MACRO RADIOS
   C. INSTALL (3) 500W POWER CABLE
   D. INSTALL (3) 1" CORRUGATED PVC CONDUIT FOR FIBER & ETHERNET CABLES

APPLICABLE CODES & STANDARDS

- 2012 INTERNATIONAL BUILDING CODE
- 2012 INTERNATIONAL MECHANICAL CODE
- 2012 INTERNATIONAL PLUMBING CODE
- 2012 INTERNATIONAL FIRE CODE
- 2012 INTERNATIONAL FUEL GAS CODE
- 2011 NATIONAL ELECTRICAL CODE

ONE CALL

CALL OKIE
ONE CALL
(800) 522-6543
CALL 3 WORKING DAYS
BEFORE YOU DIG!

DRIVING DIRECTIONS

DEPART 77061 ON WILLIAM P. HOBBY AIRPORT, HOUSTON,
HEAD EAST ON HOBBY AIRPORT LOOP 0.2 MI, KEEP LEFT TO STAY ON HOBBY AIRPORT LOOP 0.1 MI, SLIGHT RIGHT TOWARDS AIRPORT BLVD 243 FT, SLIGHT RIGHT ONTO AIRPORT BLVD 1.6 MI, TURN RIGHT ONTO GULF FWY 0.6 MI, USE THE LEFT LANE TO TAKE THE INTERSTATE 45 S SLIP ROAD 0.3 MI, MERGE ONTO I-45 S 11.2 MI, TAKE EXIT 23 TOWARDS FARM TO MARKET 518/LEAGUE CITY 0.2 MI, MERGE ONTO GULF FWY 1.0 MI, USE THE RIGHT 2 LANES TO TURN RIGHT ONTO W MAIN ST 1.6 MI, TURN LEFT ONTO SPRING LANDING 0.3 MI, TURN RIGHT ONTO CANYON CREST DR 0.4 MI, CANYON CREST DR TURNS LEFT AND BECOMES WAVERLY CANYON LN 407 FT, TURN RIGHT ONTO CAREFREE DR 453 FT, TURN LEFT ONTO CANDLEWOOD DR 0.2 MI, TURN LEFT DESTINATION WILL BE ON THE LEFT 0.1 MI, ARRIVE SA03AL006

CONTACTS

APPLICANT:
SPRINT PCS
6391 SPRINT PARKWAY
OVERLAND PARK, KANSAS 66251
NOC: 800-400-6040

TOWER OWNER:
LEAGUE CITY PUBLIC WORKS
PHONE: 28-554-1390

CONSTRUCTION MANAGER:
EDDIE SMITH
1-501-217-1502

ARCHITECT/ENGINEER:
ARIA SERVICES, INC.
10006 LYNBROOK DR.
HOUSTON, TX 77042
CONTACT: IRSAN TISNABUDI
PHONE: 281-797-4387

TELEPHONE COMPANY:
VERIZON

POWER COMPANY:
TXU

VICINITY MAP

APPROVALS

PROJECT MANAGER	DATE
RF ENGINEERING	DATE
SITE OWNER	DATE
CONSTRUCTION MANAGER	DATE
ERICSSON	DATE

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

SITE ACCESS PROCEDURES

COMPOUND: NO LOCK
BTS: 0335

MUST CALL WATER DEPARTMENT AT 281-332-2566 OR 281-808-6717 FOR SITE ACCESS.

LIST OF DRAWINGS

SITE GENERAL ARRANGEMENT PLANS	
T-1	TITLE SHEET
T-2	GENERAL NOTES
T-3	GENERAL NOTES
ARCHITECTURAL / CIVIL PLANS	
A-1	OVERALL SITE PLAN
A-2	EQUIPMENT PLAN
A-3	SITE ELEVATION & ANTENNA LAYOUT
A-4	EQUIPMENT DETAILS
A-5	EQUIPMENT DETAILS
ELECTRICAL PLANS	
E-1	GROUNDING & ELECTRICAL PLAN
E-2	GROUNDING DETAILS
E-3	DC POWER & DISTRIBUTION
E-4	AC POWER & DISTRIBUTION

NOTE: DRAWING SCALES ARE FOR 24"X36" SHEETS UNLESS OTHERWISE NOTED.

SPECIAL NOTES

1. ALL WORK SHALL BE INSTALLED IN CONFORMANCE WITH CURRENT SPRINT CONSTRUCTION INSTALLATION GUIDE.
2. EXISTING CONDITIONS WILL BE CHANGED & VERIFIED IN FIELD. IF SIGNIFICANT DEVIATIONS OR DETERIORATION ARE ENCOUNTERED AT THE TIME OF CONSTRUCTION, A REPAIR PERMIT WILL BE OBTAINED & CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY.
3. CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
4. THESE DRAWINGS ARE FULL SIZE & SCALEABLE ON 22"X34" SHEET SIZE & ARE NOT REDUCED IN SIZE.

SITE NAME:
LEAGUE CITY COUNTRYSIDE WT
SITE NUMBER:
HO58XC335
SITE ADDRESS:
5123 1/2 CANDLEWOOD LEAGUE CITY, TX 77573
GALVESTON COUNTY

STAMP:

I CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION & CONTROL & TO THE BEST OF MY KNOWLEDGE & BELIEF TO COMPLY WITH THE REQUIRED CODES.

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THESE OUTLINE SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT STANDARD CONSTRUCTION SPECIFICATIONS, INCLUDING CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

SECTION 01 100 – SCOPE OF WORK

THE WORK:
SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF. SPRINT METHOD OF PROCEDURE (MOP) AND SPRINT STANDARDS AT THE TIME OF CONSTRUCTION START.

PRECEDENCE:
SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES INCLUDING THE STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE, ALONG WITH SPRINT CONSTRUCTION MANAGER APPROVAL

SITE FAMILIARITY:
CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION.

ON-SITE SUPERVISION:
THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE:
THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.

A. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. PROVIDE ALL MATERIALS AND LABOR AS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.

B. CONTRACTOR SHALL NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY VARIATIONS PRIOR TO PROCEEDING WITH THE WORK. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.

C. MARK THE FIELD SET OF DRAWINGS IN RED, DOCUMENTING ANY CHANGES FROM THE CONSTRUCTION DOCUMENTS.

METHODS OF PROCEDURE (MOPS) FOR CONSTRUCTION:
CONTRACTOR SHALL PERFORM WORK AS DESCRIBED IN THE FOLLOWING INSTALLATION AND COMMISSIONING MOPS. CONTRACTOR IS RESPONSIBLE FOR DISTRIBUTION OF LATEST MOPS.

A. TOP HAT
B. HOW TO INSTALL A NEW CABINET
C. BASE BAND UNIT IN EXISTING UNIT
D. INSTALLATION OF BATTERIES
E. INSTALLATION OF FIBER CABLE
F. INSTALLATION OF RRU'S
G. CABLING
H. TS-0200 REV 5 – ANTENNA LINE ACCEPTANCE STANDARDS
I. SPRINT CELL SITE ENGINEERING NOTICE – EN 2012-001, REV 1.
J. COMMISSIONING MOPS

SECTION 01 200 – COMPANY FURNISHED MATERIAL AND EQUIPMENT

COMPANY FURNISHED MATERIAL AND EQUIPMENT IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DRAWINGS.

CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT TO ENSURE IT IS PROTECTED AND HANDLED PROPERLY THROUGHOUT THE CONSTRUCTION DURATION.

CONTRACTOR RESPONSIBLE FOR RECEIPT OF SPRINT FURNISHED EQUIPMENT AT CELL SITE OR CONTRACTORS LOCATION. CONTRACTOR TO COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE. CONTRACTOR MAY BE REQUIRED TO PICK UP MATERIAL AT LOCATION PRESCRIBED BY SPRINT.

SECTION 01 300 – CELL SITE CONSTRUCTION CO.

NOTICE TO PROCEED:
NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE ISSUANCE OF WORK ORDER.

SITE CLEANLINESS:
CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.

SECTION 01 400 – SUBMITTALS & TESTS

ALTERNATES:
AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINTS CONSTRUCTION MANAGER FOR APPROVAL. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED.

TESTS AND INSPECTIONS:

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.

B. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. COAX SWEEPS AND FIBER TESTS PER TS-0200 REV 5 ANTENNA LINE ACCEPTANCE STANDARDS.
2. AGL, AZIMUTH AND DOWNTILT PROVIDE AN AUTOMATED REPORT UPLOADED TO SITERRA USING A COMMERCIAL MADE-FOR THE PURPOSE ELECTRONIC ANTENNA ALIGNMENT TOOL (MT). INSTALLED AZIMUTH, CENTERLINE AND DOWNTILT MUST CONFORM WITH RF CONFIGURATION DATA
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.
4. ALL TESTING REQUIRED BY APPLICABLE INSTALLATION MOPS.

C. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

1. AZIMUTH, DOWNTILT, AGL FROM SUNSIGHT INSTRUMENTS OR 3Z – ANTENNA ALIGNMENT TOOL (AAT)
2. SWEEP AND FIBER TESTS
3. SCANABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
4. ALL AVAILABLE JURISDICTIONAL INFORMATION
5. PDF SCAN OF REDLINES PRODUCED IN FIELD
6. A PDF SCAN OF REDLINE MARK-UPS SUITABLE FOR USE IN ELECTRONIC AS-BUILT DRAWING PRODUCTION
7. LIEN WAIVERS
8. FINAL PAYMENT APPLICATION
9. REQUIRED FINAL CONSTRUCTION PHOTOS
10. CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
11. ALL POST NTP TASKS INCLUDING DOCUMENT UPLOADS COMPLETED IN SITERRA (SPRINTS DOCUMENT REPOSITORY OF RECORD).
12. CLOSEOUT PHOTOGRAPHS:
    a. PROVIDE PHOTOGRAPHS OF FINAL PROJECT PER THE FOLLOWING LIST. ADDITIONAL PHOTOGRAPHS MAY BE REQUIRED TO SUPPORT ACCEPTANCE PROCESSES
    (i) BACK MAIN FIBER CABLE ROUTE (MINIMUM TWO PHOTOS)
    (ii) OF EACH ANTENNA AND RRU
    (iii) MANUFACTURERS NAME TAG FOR ALL SERIALIZED EQUIPMENT
    (iv) PULL AND DISTRIBUTION BOXES INTERMEDIATE BETWEEN RRU'S AND RBS (DOOR OPEN)
    (v) RBS CABINET WITH DOOR OPEN SHOWING MODIFICATIONS
    (vi) POWER CABINET, DOORS OPEN, BATTERIES INSTALLED
    (vii) BREAK OUT CYLINDERS
    (viii) ASR SIGNAGE FOR SPRINT OWNED TOWERS
    (ix) RADIATION EXPOSURE WARNING SIGNS
    (x) PHOTOGRAPH FROM EACH SECTOR FROM APPROXIMATE RAD CENTER OF ANY NEW ANTENNA AT HORIZON.
    b. LOAD PHOTOS TO SITERRA PROJECT LIBRARY 15. IN 15 CREATE NEW CATEGORY; 2.5 DEPLOYMENT, AND SECTION; PERMANENT CONSTRUCTION. LABEL PHOTOS WITH SITE CASCADE AND VIEW BEING DEPICTED. CAMERAS USED TO TAKE PHOTOGRAPHS SHALL HAVE GPS ENABLED SUCH THAT THE GPS COORDINATES ARE INCLUDED IN THE PHOTO MEDIA-FILE INFORMATION.

COMMISSIONING:
PERFORM ALL COMMISSIONING AS REQUIRED BY APPLICABLE MOPS

INTEGRATION:
PERFORM ALL INTEGRATION ACTIVITIES AS REQUIRED BY APPLICABLE MOPS

SECTION 11 700 – ANTENNA ASSEMBLY, REMOTE RADIO UNITS AND CABLE INSTALLATION

SUMMARY:
THIS SECTION SPECIFIES INSTALLATION OF ANTENNAS, RRU'S, AND CABLE EQUIPMENT, INSTALLATION, AND TESTING OF COAXIAL FIBER CABLE.

ANTENNAS AND RRU'S:
THE NUMBER AND TYPE OF ANTENNAS AND RRU'S TO BE INSTALLED IS DETAILED ON THE CONSTRUCTION DRAWINGS.

FIBER CABLE:
FIBER CABLE WILL BE DC/FIBER AND FURNISHED FOR INSTALLATION AT EACH SITE. CABLE SHALL BE INSTALLED PER THE CONSTRUCTION DRAWINGS AND THE APPLICABLE MANUFACTURER'S REQUIREMENTS.

JUMPERS AND CONNECTORS:
FURNISH AND INSTALL 1/2" COAX JUMPER CABLES BETWEEN THE RRU'S AND ANTENNAS. JUMPERS SHALL BE TYPE LDF 4, FLC 12-50, CR 540, OR FXL 540. SUPER-FLEX CABLES ARE NOT ACCEPTABLE. JUMPERS BETWEEN THE RRU'S AND ANTENNAS OR TOWER TOP AMPLIFIERS SHALL CONSIST OF 1/2 INCH FOAM DIELECTRIC, OUTDOOR RATED COAXIAL CABLE, MIN LENGTH FOR JUMPER SHALL BE SO AS TO ALLOW FOR THE PROPER BEND RADIUS PER MANUFACTURER OR SPRINT SPECIFICATIONS.

MISCELLANEOUS:
INSTALL SPLINTERS, COMBINERS, FILTERS PER RF DATA SHEET, FURNISHED BY SPRINT.

ANTENNA INSTALLATION:
THE CONTRACTOR SHALL ASSEMBLE ALL ANTENNAS ONSITE IN ACCORDANCE WITH THE INSTRUCTIONS SUPPLIED BY THE MANUFACTURER. ANTENNA HEIGHT, AZIMUTH, AND FEED ORIENTATION INFORMATION SHALL BE AS DESIGNATED ON THE CONSTRUCTION DRAWINGS.

A. THE CONTRACTOR SHALL POSITION THE ANTENNA ON TOWER PIPE MOUNTS SO THAT THE BOTTOM STRUT IS LEVEL. THE PIPE MOUNTS SHALL BE PLUMB TO WITHIN 1 DEGREE.
B. ANTENNA MOUNTING REQUIREMENTS; PROVIDE ANTENNA MOUNTING HARDWARE AS INDICATED ON THE DRAWINGS.

HYBRID CABLES INSTALLATION:

A. THE CONTRACTOR SHALL ROUTE, TEST, AND INSTALL ALL CABLES AS INDICATED ON THE CONSTRUCTION DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
B. THE INSTALLED RADIUS OF THE CABLES SHALL NOT BE LESS THAN THE MANUFACTURER'S SPECIFICATIONS FOR BENDING RADII.
C. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE CABLES DURING HANDLING AND INSTALLATION.

1. FASTENING MAIN FIBER CABLES:
   a. LATTICE AND GUYED TOWERS:
      ALL CABLES SHALL BE PERMANENTLY FASTENED TO THE COAX LADDER AT 4'-0" OC USING NON-MAGNETIC STAINLESS STEEL CLIPS. HOISTING GRIPS SHOULD BE INSTALLED AT MID-POINT IF CABLE RUN EXCEEDS 200' AS WELL AS TOP SIDE.
   b. MONOPOLE:
      ALL CABLES SHALL BE PERMANENTLY SUPPORTED WITH HOISTING GRIPS AT INTERVALS OF NO MORE THAN 200' (ONE HOISTING GRIP PER COAX).
2. FASTENING INDIVIDUAL FIBER AND DC CABLES ABOVE BREAKOUT ENCLOSURE (MEDUSA), WITHIN THE RBS CABINET AND ANY INTERMEDIATE DISTRIBUTION BOXES:
   a. FIBER: SUPPORT FIBER BUNDLES USING ½" VELCRO STRAPS OF THE REQUIRED LENGTH @ 18" OC. STRAPS SHALL BE UV, OIL AND WATER RESISTANT AND SUITABLE FOR INDUSTRIAL INSTALLATIONS AS MANUFACTURED BY TEXTOL OR APPROVED EQUAL.
   b. DC: SUPPORT DC BUNDLES WITH ZIP TIES OF THE ADEQUATE LENGTH. ZIP TIES TO BE UV STABILIZED, BLACK NYLON, WITH TENSILE STRENGTH AT 12,000 PSI AS MANUFACTURED BY NELCO PRODUCTS OR EQUAL.
3. FASTENING OR SECURING JUMPERS SHOULD CONSIST OF STAINLESS STEEL CLIPS, 18" FROM REAR OF CONNECTOR AND 24" THEREAFTER AND AT NO TIME SHALL THEY CONTACT TOWER OR STRUCTURAL STEEL.
4. CABLE INSTALLATION:
   a. INSPECT CABLE PRIOR TO USE FOR SHIPPING DAMAGE, NOTIFY THE CONSTRUCTION MANAGER.
   b. CABLE ROUTING; CABLE INSTALLATION SHALL BE PLANNED TO ENSURE THAT THE LINES WILL BE PROPERLY ROUTED IN THE CABLE ENVELOP AS INDICATED ON THE DRAWINGS. AVOID TWISTING AND CROSSOVERS.
   c. HOIST CABLE USING PROPER HOISTING GRIPS. DO NOT EXCEED MANUFACTURES RECOMMENDED MAXIMUM BEND RADIUS.
5. GROUNDING OF TRANSMISSION LINES: ALL TRANSMISSION LINES SHALL BE GROUNDED AS INDICATED ON DRAWINGS.
6. FIBER CABLE COLOR CODING: ALL COLOR CODING SHALL BE AS REQUIRED IN TS 0200 REV 5.
7. FIBER CABLE LABELING: INDIVIDUAL FIBER AND DC BUNDLES SHALL BE LABELED ALPHA-NUMERICALLY ACCORDING TO SPRINT CELL SITE ENGINEERING NOTICE – EN 2012-001, REV 1

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6391 SPRINT PARKWAY
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SITE NAME:
LEAGUE CITY COUNTRYSIDE WT

SITE NUMBER:
HO58XC335

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5123 1/2 CANDLEWOOD LEAGUE CITY, TX 77573
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WEATHERPROOFING EXTERIOR CONNECTORS AND FIBER CABLE GROUND KITS:

A. ALL FIBER & COAX CONNECTORS AND GROUND KITS SHALL BE WEATHERPROOFED.

B. WEATHERPROOFED USING ONE OF THE FOLLOWING METHODS. ALL INSTALLATIONS MUST BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INDUSTRY BEST PRACTICES.

1. NOT APPLICABLE.
2. 3M MINI DIN ENCLOSURE OR AMPHENOL JUMPER WITH A BOOT (CONTACT LOCAL SPRINT CM FOR APPROVED ENCLOSURES).
3. JMA-WPS SERIES ENCLOSURE.
4. NOT APPLICABLE.
5. OPEN FLAME ON JOB SITE IS NOT ACCEPTABLE

SECTION 11 800 – INSTALLATION OF MULTIMODAL BASE STATIONS (RBS) AND RELATED EQUIPMENT

SUMMARY:

A. THIS SECTION SPECIFIES RBS CABINETS, POWER CABINETS, AND INTERNAL EQUIPMENT INCLUDING BY NOT LIMITED TO RECTIFIERS, POWER DISTRIBUTION UNITS, BASE BAND UNITS, SURGE ARRESTORS, BATTERIES, AND SIMILAR EQUIPMENT FURNISHED BY THE COMPANY FOR INSTALLATION BY THE CONTRACTOR (OFCI).

B. CONTRACTOR SHALL PROVIDE AND INSTALL ALL MISCELLANEOUS MATERIALS AND PROVIDE ALL LABOR REQUIRED FOR INSTALLATION EQUIPMENT IN EXISTING CABINET OR NEW CABINET AS SHOWN ON DRAWINGS AND AS REQUIRE BY THE APPLICABLE INSTALLATION MOPS.

C. COMPLY WITH MANUFACTURERS INSTALLATION AND START-UP REQUIREMENTS.

DC CIRCUIT BREAKER LABELING

A. LABEL CIRCUIT BREAKERS ACCORDING TO SPRINT CELL SITE ENGINEERING NOTICE – EN 2012-001, REV 1.

SECTION 26 1 00 – BASIC ELECTRICAL REQUIREMENTS

SUMMARY:
THIS SECTION SPECIFIES BASIC ELECTRICAL REQUIREMENTS FOR SYSTEMS AND COMPONENTS.

QUALITY ASSURANCE:

A. ALL EQUIPMENT FURNISHED UNDER DIVISION 26 SHALL CARRY UL LABELS AND LISTINGS WHERE SUCH LABELS AND LISTINGS ARE AVAILABLE IN THE INDUSTRY.

B. MANUFACTURERS OF EQUIPMENT SHALL HAVE A MINIMUM OF THREE YEARS EXPERIENCE WITH THEIR EQUIPMENT INSTALLED AND OPERATING IN THE FIELD IN A USE SIMILAR TO THE PROPOSED USE FOR THIS PROJECT.

C. MATERIALS AND EQUIPMENT: ALL MATERIALS AND EQUIPMENT SPECIFIED IN DIVISION 26 OF THE SAME TYPE SHALL BE OF THE SAME MANUFACTURER AND SHALL BE NEW, OF THE BEST QUALITY AND DESIGN, AND FREE FROM DEFECTS.

SUPPORTING DEVICES:

A. MANUFACTURED STRUCTURAL SUPPORT MATERIALS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE FOLLOWING:

1. ALLIED TUBE AND CONDUIT
2. B-LINE SYSTEM
3. SUNISTRUT DIVERSIFIED PRODUCTS
4. THOMAS & BETTS

B. FASTENERS: TYPES, MATERIALS, AND CONSTRUCTION FEATURES AS FOLLOWS:

1. EXPANSION ANCHORS: CARBON STEEL WEDGE OR SLEEVE TYPE.
2. POWER-DRIVEN THREADED STUDS: HEAT-TREATED STEEL, DESIGNED SPECIFICALLY FOR THE INTENDED SERVICE.
3. FASTEN BY MEANS OF WOOD SCREWS ON WOOD.
4. TOGGLE BOLTS ON HOLLOW MASONRY UNITS.
5. CONCRETE INSERTS OR EXPANSION BOLTS ON CONCRETE OR SOLID MASONRY.
6. MACHINE SCREWS, WELDED THREADED STUDS, OR SPRING-TENSION CLAMPS ON STEEL.
7. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE SHALL NOT BE PERMITTED.
8. DO NOT WELD CONDUIT, PIPE STRAPS, OR ITEMS OTHER THAN THREADED STUDS TO STEEL STRUCTURES.
9. IN PARTITIONS OF LIGHT STEEL CONSTRUCTION, USE SHEET METAL SCREWS.

SUPPORTING DEVICES:

A. INSTALL SUPPORTING DEVICES TO FASTEN ELECTRICAL COMPONENTS SECURELY AND PERMANENTLY IN ACCORDANCE WITH NEC.

B. COORDINATE WITH THE BUILDING STRUCTURAL SYSTEM AND WITH OTHER TRADES.

C. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, FASTEN ELECTRICAL ITEMS AND THEIR SUPPORTING HARDWARE SECURELY TO THE STRUCTURE IN ACCORDANCE WITH THE FOLLOWING:

D. ENSURE THAT THE LOAD APPLIED BY ANY FASTENER DOES NOT EXCEED 25 PERCENT OF THE PROOF TEST LOAD.

E. USE VIBRATION AND SHOCK-RESISTANT FASTENERS FOR ATTACHMENTS TO CONCRETE SLABS.

ELECTRICAL IDENTIFICATION:

A. UPDATE AND PROVIDE TYPED CIRCUIT BREAKER SCHEDULES IN THE MOUNTING BRACKET, INSIDE DOORS OF AC PANEL BOARDS WITH ANY CHANGES MADE TO THE AC SYSTEM.

B. BRANCH CIRCUITS FEEDING AVIATION OBSTRUCTION LIGHTING EQUIPMENT SHALL BE CLEARLY IDENTIFIED AS SUCH AT THE BRANCH CIRCUIT PANELBOARD.

SECTION 26 200 – ELECTRICAL MATERIALS AND EQUIPMENT

CONDUIT:

A. RIGID GALVANIZED STEEL (RGS) CONDUIT SHALL BE USED FOR EXTERIOR LOCATIONS ABOVE GROUND AND IN UNFINISHED INTERIOR LOCATIONS AND FOR ENCASED RUNS IN CONCRETE. RIGID CONDUIT AND FITTINGS SHALL BE STEEL, COATED WITH ZINC EXTERIOR AND INTERIOR BY THE HOT DIP GALVANIZING PROCESS. CONDUIT SHALL BE PRODUCED TO ANSI SPECIFICATIONS C80. 1, FEDERAL SPECIFICATION WW-C-581 AND SHALL BE LISTED WITH THE UNDERWRITERS' LABORATORIES. FITTINGS SHALL BE THREADED – SET SCREW OR COMPRESSION FITTINGS WILL NOT BE ACCEPTABLE. RGS CONDUITS SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND.

B. UNDERGROUND CONDUIT IN CONCRETE SHALL BE POLYVINYLCHLORIDE (PVC) SUITABLE FOR DIRECT BURIAL AS APPLICABLE. JOINTS SHALL BE BELLED, AND FLUSH SOLVENT WELDED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL BE CARLON ELECTRICAL PRODUCTS OR APPROVED EQUAL.

C. TRANSITIONS BETWEEN PVC AND RIGID (RGS) SHALL BE MADE WITH PVC COATED METALLIC LONG SWEEP RADIUS ELBOWS.

D. ALL UNDERGROUND CONDUIT OR CONDUIT IN CONCRETE SHOULD BE PVC. EMT OR RIGID GALVANIZED STEEL CONDUIT MAY BE USED IN FINISHED SPACES CONCEALED IN WALLS AND CEILINGS. EMT SHALL BE MILD STEEL, ELECTRICALLY WELDED, ELECTRO-GALVANIZED OR HOT-DIPPED GALVANIZED AND PRODUCED TO ANSI SPECIFICATION C80.3, FEDERAL SPECIFICATION WW-C-563, AND SHALL BE UL LISTED. EMT SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND, OR APPROVED EQUAL. FITTINGS SHALL BE METALLIC COMPRESSION. SET SCREW CONNECTIONS SHALL NOT BE ACCEPTABLE.

E. LIQUID TIGHT FLEXIBLE METALLIC CONDUIT SHALL BE USED FOR FINAL CONNECTION TO EQUIPMENT. FITTINGS SHALL BE METALLIC GLAND TYPE COMPRESSION FITTINGS, MAINTAINING THE INTEGRITY OF CONDUIT SYSTEM. SET SCREW CONNECTIONS SHALL NOT BE ACCEPTABLE. MAXIMUM LENGTH OF FLEXIBLE CONDUIT SHALL NOT EXCEED 6-FEET. LFMC SHALL BE PROTECTED AND SUPPORTED AS REQUIRE BY NEC. MANUFACTURERS OF FLEXIBLE CONDUITS SHALL BE CAROL, ANACONDA METAL HOSE OR UNIVERSAL METAL HOSE, OR APPROVED EQUAL.

F. MINIMUM SIZE CONDUIT SHALL BE 3/4 INCH (21MM).

HUBS AND BOXES:

A. AT ENTRANCES TO CABINETS OR OTHER EQUIPMENT NOT HAVING INTEGRAL THREADED HUBS PROVIDE METALLIC THREADED HUBS OF THE SIZE AND CONFIGURATION REQUIRED. HUB SHALL INCLUDE LOCKNUT AND NEOPRENE O-RING SEAL. PROVIDE IMPACT RESISTANT 105 DEGREE C PLASTIC BUSHINGS TO PROTECT CABLE INSULATION.

B. CABLE TERMINATION FITTINGS FOR CONDUIT

1. CABLE TERMINATORS FOR RGS CONDUITS SHALL BE TYPE CRC BY O-Z/GEDNEY OR EQUAL.
2. CABLE TERMINATORS FOR LFMC SHALL BE ETCO – CL2075; OR MADE FOR THE PURPOSE PRODUCTS BY ROXTEC.

C. EXTERIOR PULL BOXES AND PULL BOXES IN INTERIOR INDUSTRIAL AREAS SHALL BE PLATED CAST ALLOY, HEAVY DUTY, WEATHERPROOF, DUST PROOF, WITH GASKET, PLATED IRON ALLOY COVER AND STAINLESS STEEL COVER SCREWS, CROUSE-HINDS WAB SERIES OR EQUAL.

D. CONDUIT OUTLET BODIES SHALL BE PLATED CAST ALLOY WITH SIMILAR GASKETED COVERS. OUTLET BODIES SHALL BE OF THE CONFIGURATION AND SIZE SUITABLE FOR THE APPLICATION. PROVIDE CROUSE-HINDS FORM 8 OR EQUAL.

E. MANUFACTURER FOR BOXES AND COVERS SHALL BE HOFFMAN, SQUARE "D", CROUSE-HINDS, COOPER, ADALET, APPLETON, O-Z GEDNEY, RACO, OR APPROVED EQUAL.

SUPPLEMENTAL GROUNDING SYSTEM

A. FURNISH AND INSTALL A SUPPLEMENTAL GROUNDING SYSTEM AS INDICATED ON THE DRAWINGS. SUPPORT SYSTEM WITH NON-MAGNETIC STAINLESS STEEL CLIPS WITH RUBBER GROMMETS. GROUNDING CONNECTORS SHALL BE TINNED COPPER WIRE, SIZES AS INDICATED ON THE DRAWINGS. PROVIDE STRANDED OR SOLID BARE OR INSULATED CONDUCTORS AS INDICATED.

B. SUPPLEMENTAL GROUNDING SYSTEM: ALL CONNECTIONS TO BE MADE WITH CAD WELDS, EXCEPT AT EQUIPMENT USE LUGS OR OTHER AVAILABLE GROUNDING MEANS AS REQUIRED BY MANUFACTURER; AT GROUND BARS USE TWO HOLE SPADES WITH NO OX.

C. STOLEN GROUND-BARS: IN THE EVENT OF STOLEN GROUND BARS, CONTACT SPRINT CM FOR REPLACEMENT INSTRUCTION USING THREADED ROD KITS.

EXISTING STRUCTURE:

A. EXISTING EXPOSED WIRING AND ALL EXPOSED OUTLETS, RECEPTACLES, SWITCHES, DEVICES, BOXES, AND OTHER EQUIPMENT THAT ARE NOT TO BE UTILIZED IN THE COMPLETED PROJECT SHALL BE REMOVED OR DE-ENERGIZED AND CAPPED IN THE WALL, CEILING, OR FLOOR SO THAT THEY ARE CONCEALED AND SAFE. WALL, CEILING, OR FLOOR SHALL BE PATCHED TO MATCH THE ADJACENT CONSTRUCTION.

CONDUIT AND CONDUCTOR INSTALLATION:

A. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.

B. CONDUCTORS SHALL BE PULLED IN ACCORDANCE WITH ACCEPTED GOOD PRACTICE.

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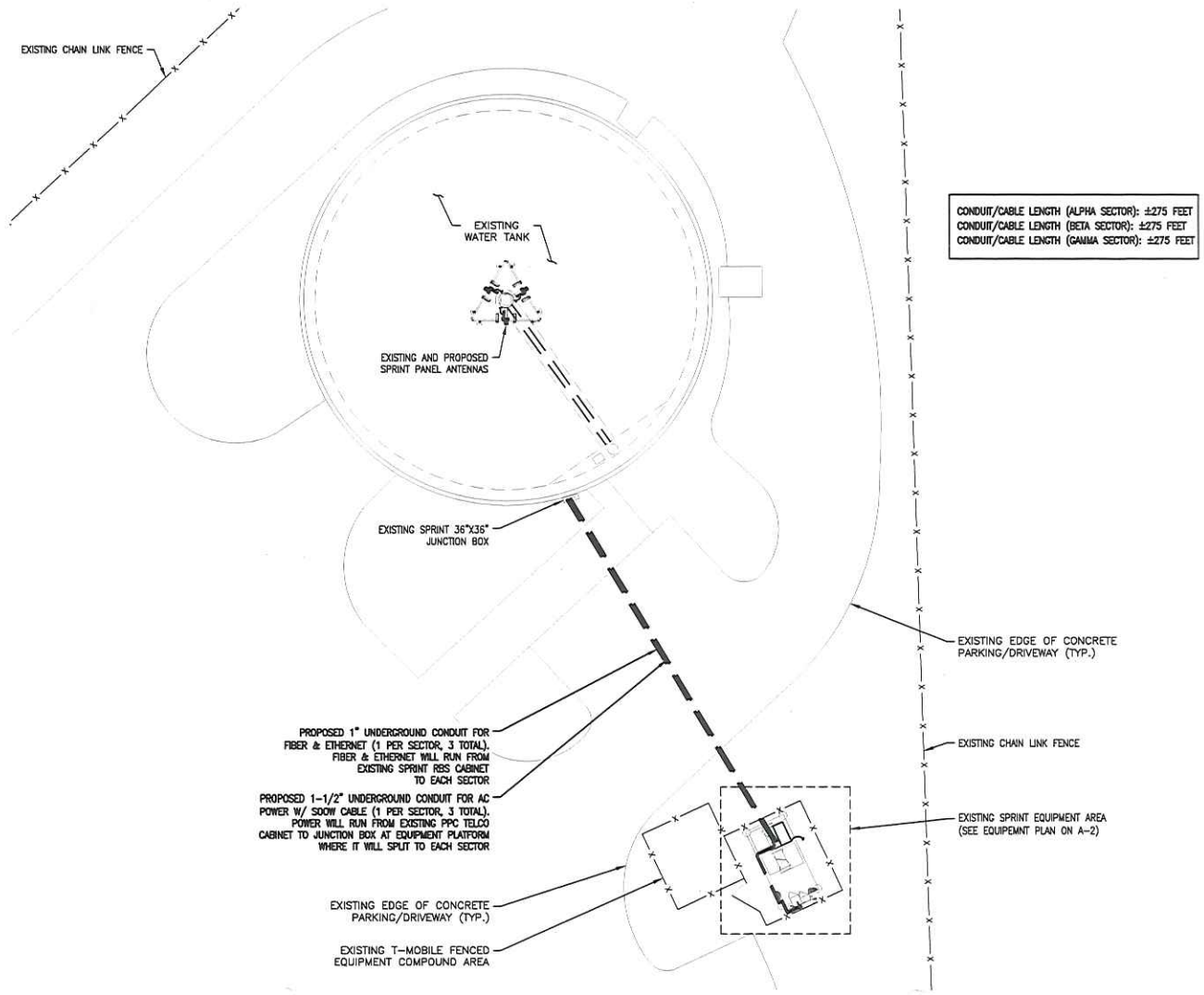
SHEET NUMBER:
T-3



TRUE NORTH

1 OVERALL SITE PLAN

FULL SIZE PLOT: SCALE: 3/32" = 1'-0"
HALF SIZE PLOT: SCALE: 3/64" = 1'-0"

0 4' 8' 16'

PREPARED FOR:

Sprint

6391 SPRINT PARKWAY
OVERLAND PARK, KANSAS 66251

PREPARED FOR:

VERTICOM
IDEAS. SOLUTIONS. RESULTS.
7901 AMBASSADOR ROW
DALLAS, TX 75247
214-741-6898

PREPARED BY:

ARIA SERVICES, INC.
(281) 797-4387
WWW.ARIA-CORP.COM

SITE NAME:
LEAGUE CITY COUNTRYSIDE WT

SITE NUMBER:
HO58XC335

SITE ADDRESS:
5123 1/2 CANDLEWOOD LEAGUE
CITY, TX 77573
GALVESTON COUNTY

STAMP:

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REVISION HISTORY

NO	DESCRIPTION	BY	DATE
1	SUBMISSION: 90% CD	SB	11/03/16

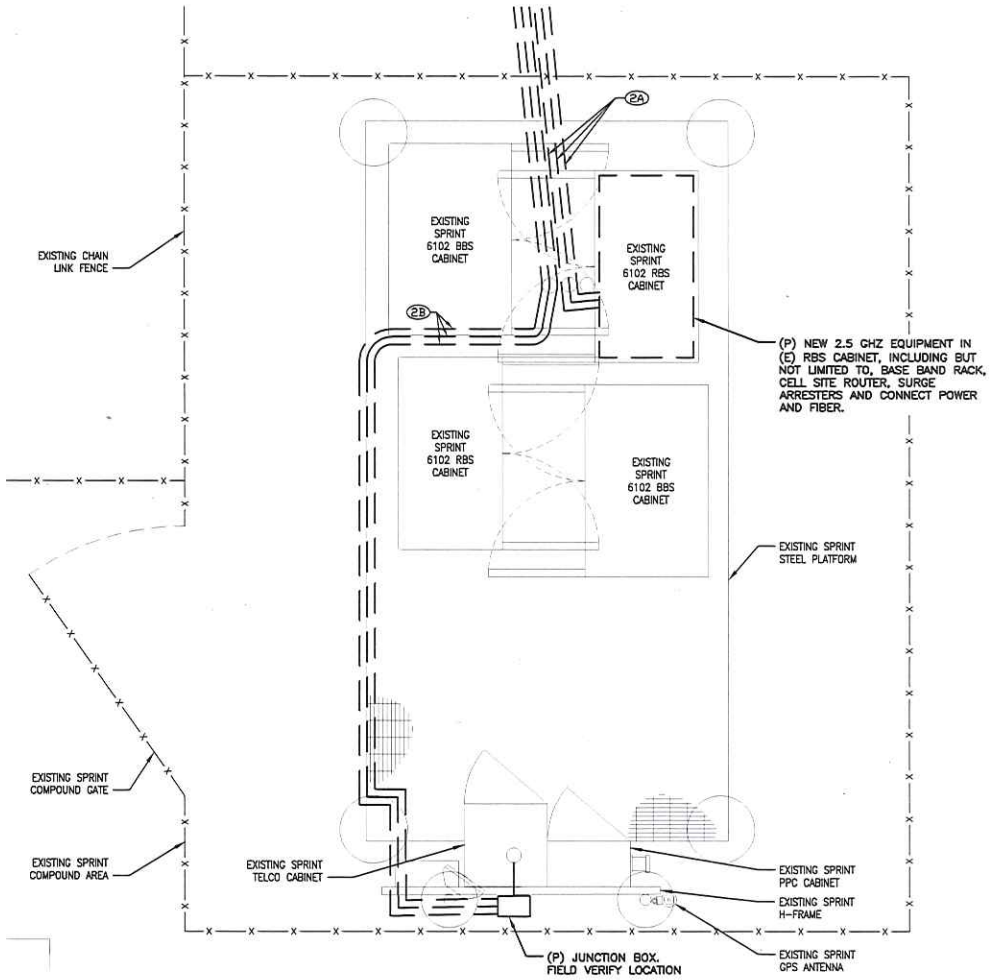
SHEET TITLE:
OVERALL SITE PLAN

SHEET NUMBER:
A-1

KEYED CONDUIT CALL OUTS:

(2A) PROPOSED 1" CONDUIT FOR FIBER & ETHERNET (1 PER SECTOR, 3 TOTAL). FIBER & ETHERNET WILL RUN FROM EXISTING SPRINT RBS CABINET TO EACH SECTOR

(2B) PROPOSED 1-1/2" CONDUIT FOR AC POWER W/ 500W CABLE (1 PER SECTOR, 3 TOTAL). POWER WILL RUN FROM EXISTING PPC TELCO CABINET TO JUNCTION BOX AT EQUIPMENT PLATFORM WHERE IT WILL SPLIT TO EACH SECTOR



TRUE NORTH

1 EQUIPMENT PLAN (PROPOSED)

FULL SIZE PLOT: SCALE: 3/4" = 1'-0"
HALF SIZE PLOT: SCALE: 3/8" = 1'-0"

0 6" 1' 2'

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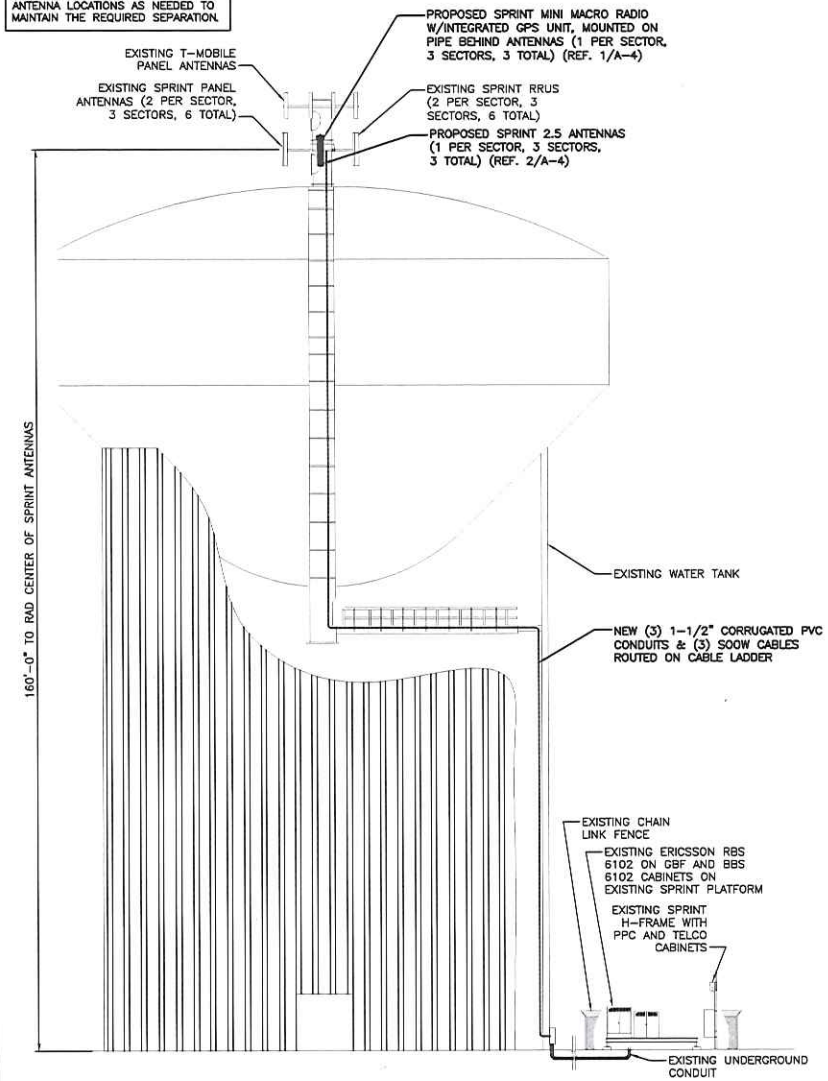
REVISION HISTORY

NO	DESCRIPTION	BY	DATE
1	SUBMISSION: 90% CD	SB	11/03/16

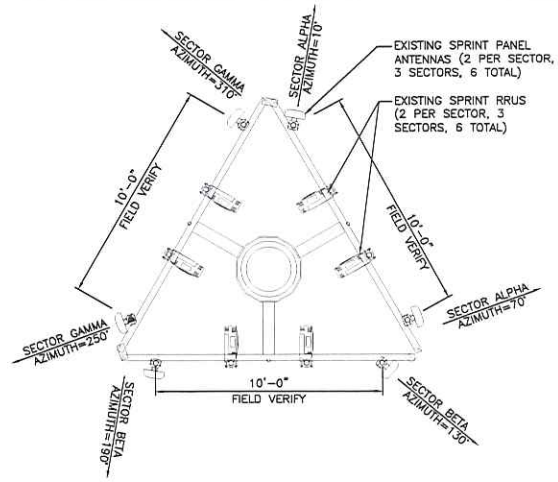
SHEET TITLE:
EQUIPMENT PLAN

SHEET NUMBER:
A-2

NOTE:
THE NEW 2.5 ANTENNA MUST MAINTAIN 4 FEET OF SEPARATION FROM THE NETWORK VISION ANTENNA. CONTRACTOR TO RECONFIGURE ANTENNA LOCATIONS AS NEEDED TO MAINTAIN THE REQUIRED SEPARATION.

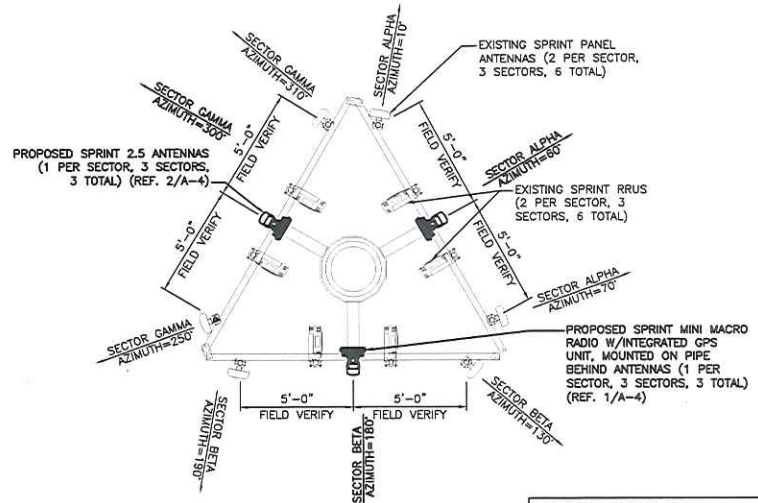


1 SITE ELEVATION
SCALE: N.T.S.



TRUE NORTH

2 EXISTING ANTENNA PLAN
FULL SIZE PLOT: SCALE: 3/8" = 1'-0"
HALF SIZE PLOT: SCALE: 3/16" = 1'-0"
0 1' 2' 4'



TRUE NORTH

3 PROPOSED ANTENNA PLAN
FULL SIZE PLOT: SCALE: 3/8" = 1'-0"
HALF SIZE PLOT: SCALE: 3/16" = 1'-0"
0 1' 2' 4'

EQUIPMENT LOCATION NOTICE:
RADIO SHALL BE PLACED IN A MANNER TO ENSURE CLEAR SKY TO THE SOUTH IS VISIBLE FROM THE GPS ANTENNA LOCATION ON THE RADIO.

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DALLAS, TX 75247
214-741-6898

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WWW.ARIA-CORP.COM

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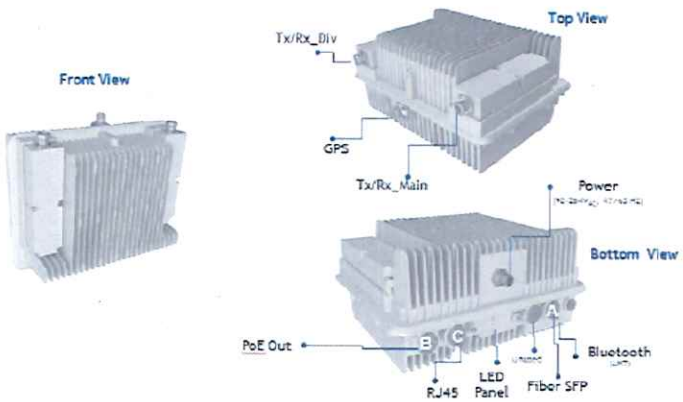
REVISION HISTORY

NO	DESCRIPTION	BY	DATE
1	SUBMISSION: 90% CD	SB	11/03/16

SHEET TITLE:
SITE ELEVATION & ANTENNA LAYOUT
SHEET NUMBER:
A-3

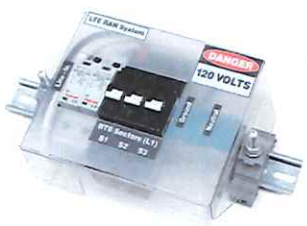


NOKIA FWHR 2500 MHZ 2 X 20W MICRO BTS	
PHYSICAL DIMENSIONS	9.72" (H) x 12.87" (W) x 6.29" (D)
WEIGHT	24.69 lbs

1 MINI MACRO RADIO DETAIL
SCALE: N.T.S.

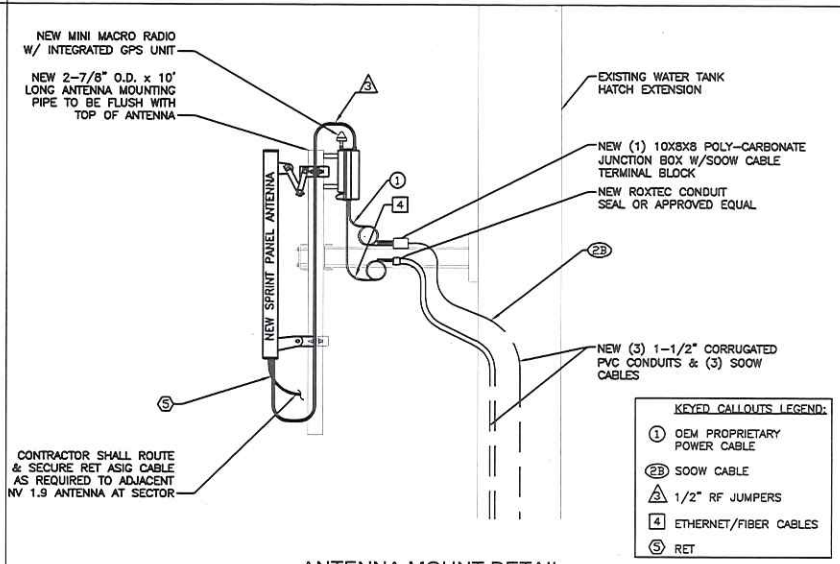
ALPHA WIRELESS AW3286	
PHYSICAL DIMENSIONS	51.18" (H) x 6.29" (W) x 3.34" (D)
WEIGHT	17.63 lbs
RADOME	UV-STABILISED PVC
VET OPTIONS	MANUAL ADJUST OR RCU
MOUNTING KIT	CL-V-102

2 ANTENNA DETAIL
SCALE: N.T.S.



Electrical	RSTAC-4569-P-120
Operating AC Voltage	120 1 phase 2W+G
Load Center	3 Position
Surge Suppression	
Maximum Continuous Operating AC Voltage (MCOV)	150V
Nominal Discharge Current (I)	20kA
Maximum Surge Current Capacity (I_{max})	50kA
Voltage Protection Rating (VPR) at 3kA 8/20 µs	700V
Suppression Technology	MOV
Protection Modes	L-N and N-G
Mechanical	
Operating Temperature (°C)	-40° C to +75° C
Dimension (H x W x D)	10.44" x 5.18" x 2.71"
Weight	2.5 lbs
Approvals, Certifications & Certifications	
AC Surge Protection Compliance:	UL 1449-4th Edition

3 DIN-RAIL W/ CORD WHIP & SPD SPECS
SCALE: N.T.S.



4 ANTENNA MOUNT DETAIL
SCALE: N.T.S.

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REVISION HISTORY

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0	SUBMISSION: 90% CD	SB	11/03/16

SHEET TITLE:
EQUIPMENT DETAILS

SHEET NUMBER:
A-4

3-9 SOOW ROYAL® MULTI-CONDUCTOR SOOW

Royal® 90°C Rubber Cord. 600 Volts.
Flexible Stranding. Flame and Ozone Resistant.
Black Jacket. Rated -40°C to 90°C.
RoHS Compliant. UL Listed and CSA Certified for Indoor and Outdoor Use.
Provides Premium Oil Resistance, Water Resistant and High Flexibility.
Excellent Abrasion Resistance. Rated Extra-Hard Usage.

APPLICATIONS

Southwire Type SOOW Multi-Conductor Flexible Cords are permitted for use as specified by Article 400 and related articles of circuits, tools, heavy industrial, processing and construction equipment.

SPECIFICATIONS

Southwire Type SOOW Multi-Conductor Flexible Cords comply with:

- UL 62
- CSA Standard 22.2 No. 49
- MSHA Listed - P07-KA070018-MSHA
- Federal and Military Specification J-C-580B
- NEC Article 400
- OSHA acceptable
- RoHS/REACH
- Hazardous Locations: Class I Div.1 and 2 and Class II Div. 1 and 2 per NFPA 70, 501.140

CONSTRUCTION

Southwire Type SOOW Multi-Conductor Flexible Cords are manufactured using bare flexible stranded Class K copper conductors, and heat, moisture and oil resistant EPDM rubber insulation. The insulated conductors are cabled with non-wicking wax paper fillers, with a tissue-paper separator wrapped around the assembly to promote easier removal of the jacket. A heat, moisture and oil resistant flexible CPE jacket is extruded over the assembly to complete the construction. Sizes 18 AWG through 10 AWG fully annealed stranded bare copper per ASTM B-174. Some sizes may be subject to minimum order quantity.

1 POWER CABLE DETAIL
SCALE: N.T.S.

FREEDM® Fan-Out Tight-Buffered Cable, Riser

4 F, Single-mode (OS2)

CORNING

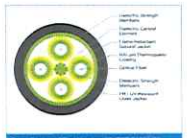
Corning FREEDM® fan-out cables are designed for routing inside and outside buildings into riser spaces, to security, surveillance or monitoring cameras, and within telecommunications rooms and workstations. With no need for transition spaces when entering a building, this cable provides low fiber-count connections within building backbone riser and horizontal spaces. The indoor/outdoor temperature and water-resistant performance provides superior protection for applications, like traffic control, with optical feeds in rugged environments.

Ideal for providing direct optical connections from indoor and outdoor surveillance cameras to security control locations, these cables can also provide a secure link for surveillance or data. The flame-retardant, 900 µm Tight Buffered Fibers are available in single-mode and multi-mode and enable easy, consistent stripping while the 2.0 mm subunits enable easy field terminations.

The fibers are surrounded by water-resistant, dielectric strength members and protected by a flexible, flame-retardant outer jacket. These cables meet the application requirements of the National Electrical Code (NEC Article 770) and are OFNR and FT-4 listed and comply with the ICEA S-104-696 tests. The all-dielectric cable construction requires no grounding or bonding, and the small diameter and bend radius allow easy installation in space-constrained areas. FREEDM fan-out cables are also available with approval for TEMPEST applications.

Note: This cable is available in 12 different jacket colors - blue, orange, green, brown, slate, white, red, black, yellow, violet, rose and aqua. The colored jacket allows for easy visual identification of the cables while still providing all of the required environmental protection of an indoor/outdoor cable jacket. Black is the standard jacket color using the part numbers shown here. Contact Customer Care at 1-800-743-2670 to order other color options.

Part Number: 004E8F-31331-29



Cross Section of Part Number: 004E8F-31331-29

Features and Benefits

900 µm Buffered Fibers
Easy, consistent stripping

2.0 mm subunits
Easy field terminations

Flame-retardant jacket
Rugged and durable

Temperature- and water-resistant
Superior protection

All-dielectric construction
Requires no grounding or bonding

Detailed Specifications & Technical Data

BELDEN

ENGLISH MEASUREMENT VERSION

7919A Multi-Conductor - Category 5e DataTuff® Twisted Pair Cable

For more information please call
1-800-Belden1

Description:
24 AWG solid bare copper conductors, twisted pairs, polyolefin insulation, overall Beldfoil shield (100% coverage), 24 AWG stranded TC drain wire, industrial grade sunlight- and oil-resistant PVC jacket, rip cord. Sequential marking at two foot intervals.

Usage (Overall)

Suitable Applications: Industrial Ethernet Cable, Harsh Environments, 100MHz Category 5e, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, TIA/ATM, IEEE/ATM, NTSC/PAL Component or Composite Video, AES/EBU Digital Audio, RS-422, CMX Outdoor, RJ-45 Compatible, Noisy Environments

Physical Characteristics (Overall)

Conductor

AWG:

# Pairs	AWG	Stranding	Conductor Material
4	24	Solid	Bc - Bare Copper

Insulation

Insulation Material:

Insulation Material	Wall Thickness (in)
PO - Polyolefin	010

Outer Shield

Outer Shield Material:

Group Shield	Trade Name	Type	Outer Shield Material	Coverage (%)
Beldfoil		Tape	Aluminum Foil/Polyester Tape	100

Outer Shield Drain Wire AWG.

DWT	Stranding	Drain Wire Conductor Material
24	Solid	TC - Tinned Copper

Outer Jacket

Outer Jacket Material:

Outer Jacket Material
Industrial Grade PVC - Polyvinyl Chloride

Outer Jacket Ripcord: No

Overall Cable

Overall Nominal Diameter: 0.265 in.

Pair

Pair Color Code Chart:

Number	Color
1	White/Blue Stripe & Blue
2	White/Orange Stripe & Orange
3	White/Green Stripe & Green
4	White/Brown Stripe & Brown

Mechanical Characteristics (Overall)

Installation Temperature Range: -20°C To +75°C

2 FIBER AND ETHERNET CABLE DETAILS
SCALE: N.T.S.

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DALLAS, TX 75247
214-741-6898

PREPARED BY:

ARIA SERVICES, INC.
(281) 797-4387
WWW.ARIA-CORP.COM

SITE NAME:
LEAGUE CITY COUNTRYSIDE WT

SITE NUMBER:
HO58XC335

SITE ADDRESS:
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CITY, TX 77573
GALVESTON COUNTY

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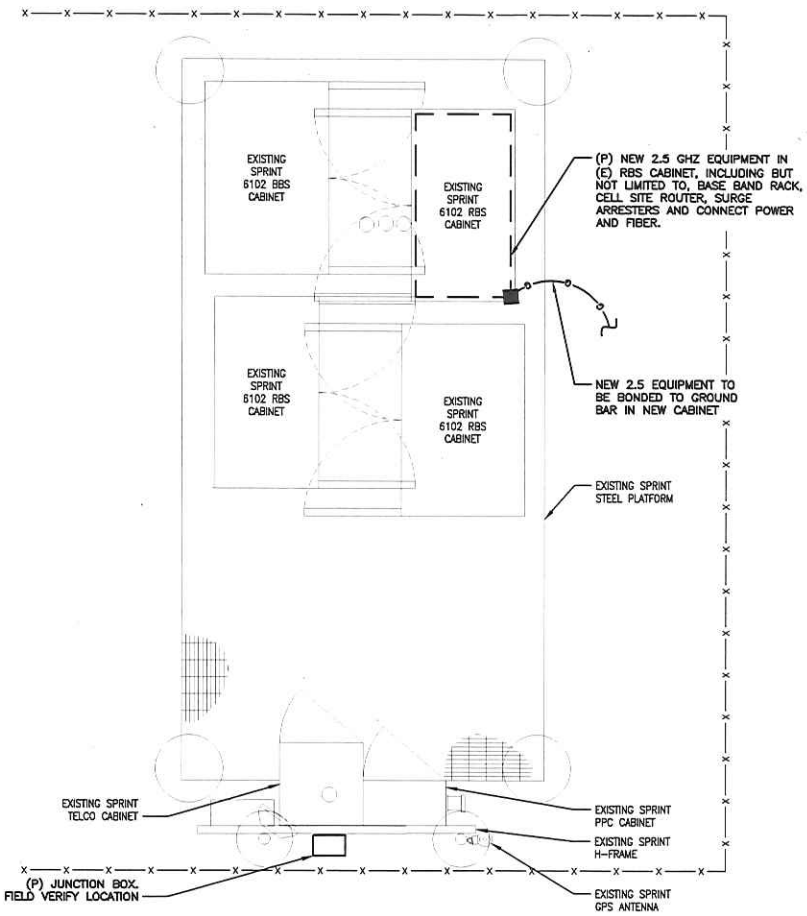
REVISION HISTORY

NO	DESCRIPTION	BY	DATE
1	SUBMISSION: 90% CD	SB	11/03/16

SHEET TITLE:
EQUIPMENT DETAILS

SHEET NUMBER:
A-5

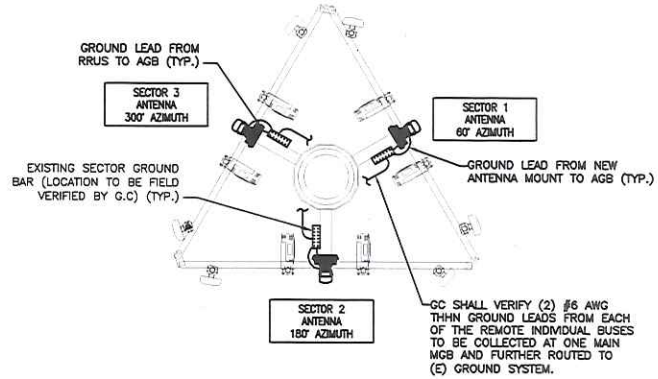


TRUE NORTH

1 EQUIPMENT GROUNDING PLAN

FULL SIZE PLOT: SCALE: 3/4" = 1'-0"
HALF SIZE PLOT: SCALE: 3/8" = 1'-0"

0 6" 1' 2'



TRUE NORTH

2 ANTENNA GROUNDING PLAN (TYP.)

FULL SIZE PLOT: SCALE: 3/8" = 1'-0"
HALF SIZE PLOT: SCALE: 3/16" = 1'-0"

0 1' 2' 4'

3 NOT USED

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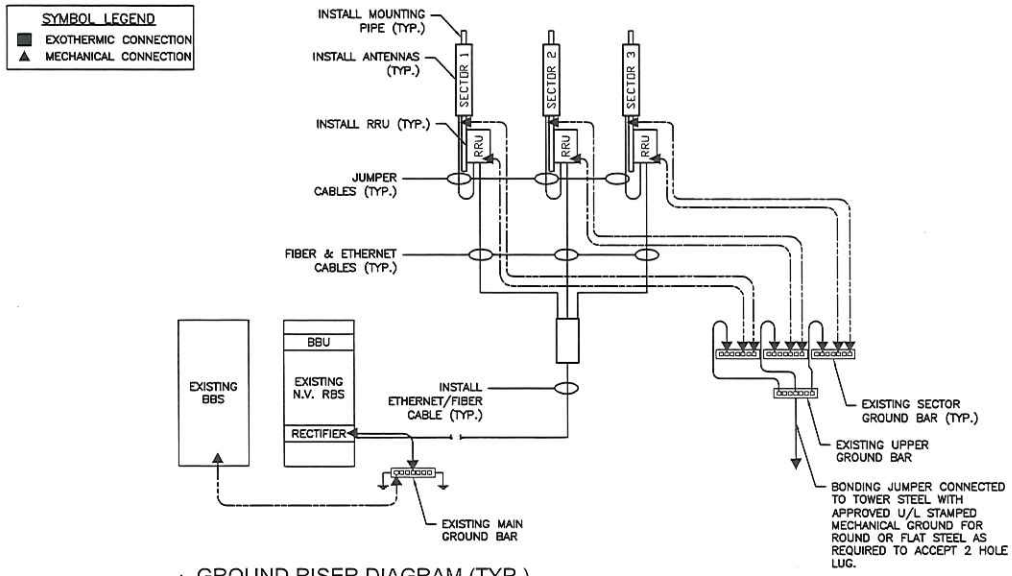
NO	DESCRIPTION	BY	DATE
1	SUBMISSION: 90% CD	SB	11/03/16

SHEET TITLE:
GROUNDING & ELECTRICAL PLAN

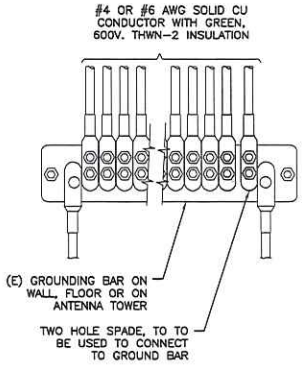
SHEET NUMBER:
E-1



1 GROUND RISER DIAGRAM (TYP.)
SCALE: N.T.S.

NOTES:

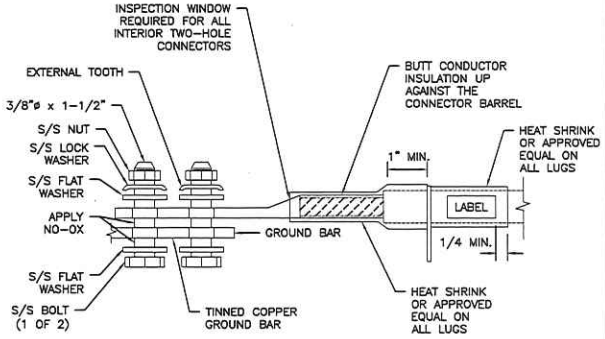
1. APPLY NO-OX TO LUG AND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG
2. IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.



2 INSTALLATION OF GROUNDING CONDUCTOR TO GROUND BAR
SCALE: N.T.S.

3 NOT USED

4 NOT USED



5 TWO HOLE LUG
SCALE: N.T.S.

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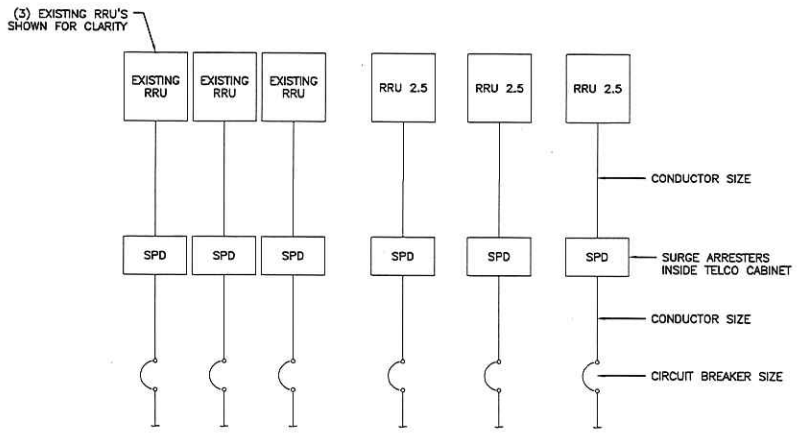
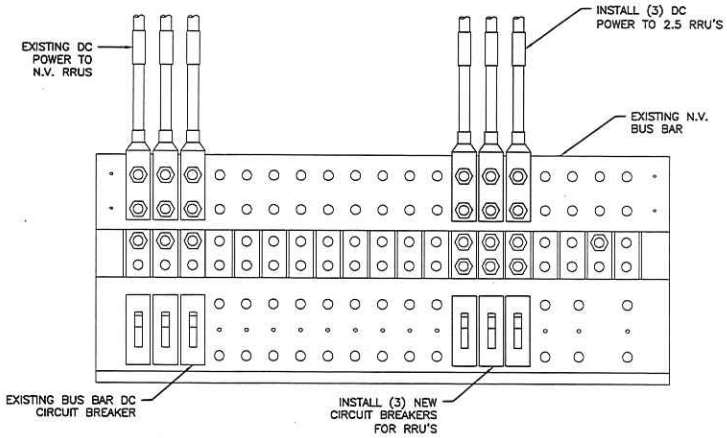
SHEET TITLE:
GROUNDING DETAILS

SHEET NUMBER:
E-2



1 DC ONE LINE DIAGRAM
SCALE: N.T.S.



2 DC POWER DISTRIBUTION
SCALE: N.T.S.

3 NOT USED

4 NOT USED

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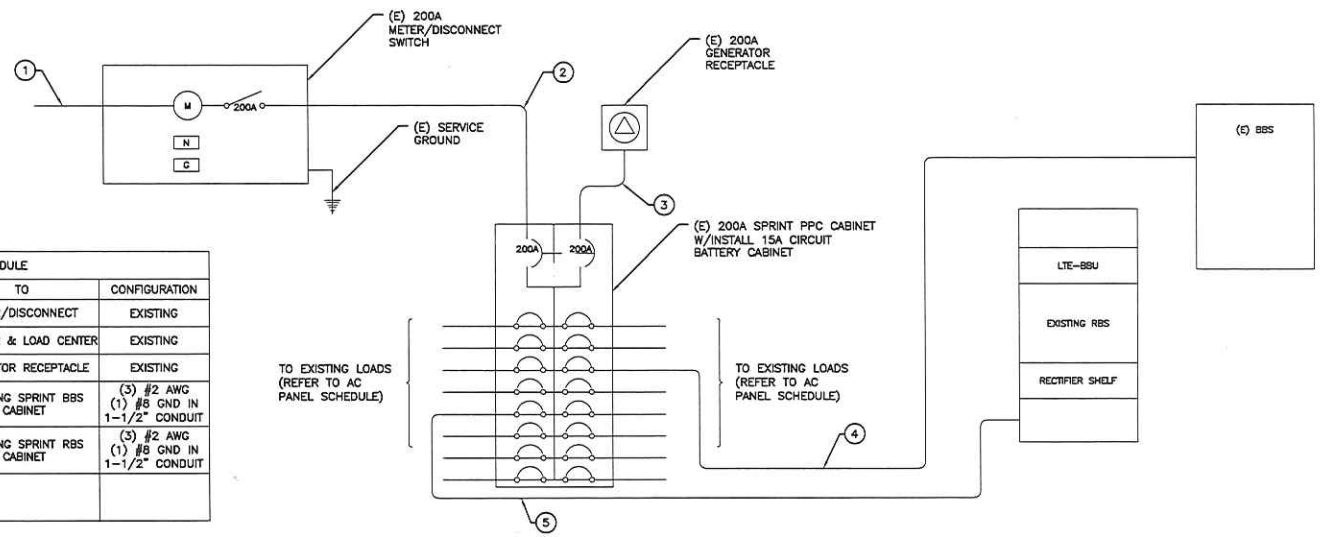
SHEET TITLE:
DC POWER & DISTRIBUTION

SHEET NUMBER:
E-3

NOTE:
CG SHALL REFERENCE ALL SPECS FOR "CONNECTING THE POWER SUPPLY" OF THE NEW INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.



CIRCUIT SCHEDULE			
NO	FROM	TO	CONFIGURATION
1	UTILITY SERVICE	METER/DISCONNECT	EXISTING
2	METER/DISCONNECT	TRANSFER & LOAD CENTER	EXISTING
3	TRANSFER & LOAD CENTER	GENERATOR RECEPTACLE	EXISTING
4	TRANSFER & LOAD CENTER	EXISTING SPRINT BBS CABINET	(3) #2 AWG (1) #8 GND IN 1-1/2" CONDUIT
5	TRANSFER & LOAD CENTER	EXISTING SPRINT RBS CABINET	(3) #2 AWG (1) #8 GND IN 1-1/2" CONDUIT

1 ELECTRICAL ONE LINE DIAGRAM
SCALE: N.T.S.

2 NOT USED

3 NOT USED

PREPARED FOR:
Sprint
6391 SPRINT PARKWAY
OVERLAND PARK, KANSAS 66251

PREPARED FOR:
VERTICOM
IDEAS. SOLUTIONS. RESULTS.
7901 AMBASSADOR ROW
DALLAS, TX 75247
214-741-6898

PREPARED BY:
ARIA SERVICES, INC.
(281) 797-4387
WWW.ARIA-CORP.COM

SITE NAME:
LEAGUE CITY COUNTRYSIDE WT
SITE NUMBER:
HO58XC335
SITE ADDRESS:
5123 1/2 CANDLEWOOD LEAGUE CITY, TX 77573
GALVESTON COUNTY

STAMP:
I CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION & CONTROL & TO THE BEST OF MY KNOWLEDGE & BELIEF TO COMPLY WITH THE REQUIRED CODES.

REVISION HISTORY

NO	DESCRIPTION	BY	DATE
1	SUBMISSION: 90% CD	SB	11/03/16

SHEET TITLE:
AC POWER & DISTRIBUTION
SHEET NUMBER:
E-4

ABBREVIATIONS WHERE APPLICABLE

ADJ	ADJUSTABLE	MIN	MINIMUM
APPROX.	APPROXIMATE	MTL	METAL
CAB	CABINET	NIC	NOT IN CONTRACT
CLG	CEILING	NTS	NOT TO SCALE
CONC	CONCRETE	OC	ON CENTER
CONT	CONTINUOUS	OPP	OPPOSITE
CJ	CONSTRUCTION JOINT	SF	SQUARE FOOT
DIA	DIAMETER	SHT	SHEET
DWG	DRAWING	SIM	SIMILAR
EGB	EQUIPMENT GROUND BAR	SS	STAINLESS STEEL
EA	EACH	STL	STEEL
ELEC	ELECTRICAL	TOC	TOP OF CONCRETE
EL	ELEVATION	TOM	TOP OF MASONRY
EQ	EQUAL	TYP	TYPICAL
EQUIP	EQUIPMENT	VIF	VERIFY IN FIELD
EXT	EXTERIOR	UON	UNLESS OTHERWISE NOTED
FF	FINISHED FLOOR	WWF	WELDED WIRE FABRIC
GA	GAUGE	℄	CENTERLINE
GALV	GALVANIZED	ℙ	PLATE
GC	GENERAL CONTRACTOR	ASL	ABOVE GRADE LEVEL
GRND	GROUND	AMSL	ABOVE MEAN SEA LEVEL
LG	LONG		
MAX	MAXIMUM		
MECH	MECHANICAL		
MFR	MANUFACTURER		
MISB	MASTER ISOLATED GROUND BAR		

SYMBOLS AND MATERIALS WHERE APPLICABLE

NEW ANTENNA
EXISTING ANTENNA
ASPHALT
ELECTRIC BOX
LIGHT POLE
FND MONUMENT
XXXX.XX SPOT ELEVATION
SET ELEVATION
REVISION
GRID REFERENCE
DETAIL REFERENCE
ELEVATION
SECTIONS AND DETAILS

GROUT OR PLASTER
BRICK
MASONRY
CONCRETE
EARTH
GRAVEL
PLYWOOD
SAND
WOOD CONT.
WOOD BLOCKING
STEEL
CENTER LINE
PROPERTY LINE
STEPPED FOOTING
MATCH LINE
WORK POINT
COAXIAL CABLE
GROUND WIRE # 2 AWG

CONTRACTOR SHALL REFER TO SPRINT PCS DETAILED SPECIFICATIONS FOR CELL SITES FOR ANY ITEMS OR WORK NOT LISTED OR DETAILED HEREON. STANDARD SPECIFICATIONS SHALL SUPERSEDE WHERE CONFLICTS OCCUR.

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

Sprint.

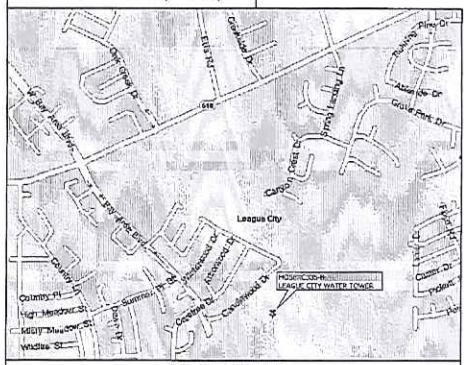
Sprint PCS℠ -HOUSTON

CASCADE # HO58XC335
LEAGUE CITY WATER TOWER

5123 1/2 CANDLEWOOD DRIVE
LEAGUE CITY, TEXAS 77573
COUNTY OF GALVESTON, TEXAS
EXISTING WATER TOWER COMMUNICATION SITE

LATITUDE: N 29° 28' 57.25" NAD 83
LONGITUDE: W 95° 08' 33.68" NAD 83
ELEVATION: 24.9' AMSL (NAVD88)

COUNTY CLERK FILE NO.: 8704058



VICINITY MAP

SITE MAP

SITE NUMBER:	HO58XC335
SITE NAME:	LEAGUE CITY WATER TOWER
SITE ADDRESS:	5123 1/2 CANDLEWOOD DRIVE LEAGUE CITY, TX 77573
PROPERTY OWNER:	CITY OF LEAGUE CITY, TX 300 W WALKER LEAGUE CITY, TX 77573-3848 CONTACT: JIM BOYLE - (281) 338-4880 CHRIS PEIFER, PUBLIC WORKS DIRECTOR (281) 316-3428
ZONING JURISDICTION:	CITY OF LEAGUE CITY
ZONING CLASSIFICATION:	CITY EXEMPT
APPLICANT:	SPRINT PCS 5030 RIVERSIDE DRIVE SUITE 300 IRVING, TEXAS 75039
CONTACT PERSON:	ED LASKOWSKI
CONTACT NO.:	(210) 771-7309

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION THEREFORE HANDICAP ACCESS IS NOT REQUIRED. NO PLUMBING ON SITE

PROJECT SUMMARY

CONTRACTOR TO UTILIZE INDEPENDENT UNDERGROUND UTILITY LOCATOR ON ALL SITES 48 HRS PRIOR TO DIGGING. TEXAS ONE CALL NUMBER IS (800) 245-4545

TEXAS ONE CALL

ENTERGY
BUSINESS DEVELOPMENT

SOUTHWESTERN BELL TELEPHONE
BUSINESS DEVELOPMENT
(800) 499-7928

UTILITIES

FROM I-45 (NORTH FREEWAY) OUT OF DOWNTOWN HOUSTON APPROX 25 MILES TO FM 518/LEAGUE CITY EXIT (EXIT #23). RIGHT (WEST) ON FM 518 APPROX 0.8 MILES TO BAY AREA BLVD. TAKE A RIGHT ON BAY AREA BLVD TO CANDLEWOOD DRIVE. LEFT (EAST) ON CANDLEWOOD AND GO APPROX 0.2 MILE TO RIGHTHAND DRIVE AND FOLLOW WATER TOWER.

DRIVING DIRECTIONS

PAGE	DESCRIPTION
T1	TITLE SHEET
SV-1	LAND SURVEY (BY OTHERS)
C1	OVERALL SITE PLAN
C2	ENLARGED SITE PLAN
C3	ELEVATIONS
C4	CONSTRUCTION DETAILS
C5	CONSTRUCTION DETAILS
C6	CONSTRUCTION DETAILS
C7	CONSTRUCTION DETAILS
C8	COAX RUN DETAILS
E1	ELECTRICAL SITE PLAN
E2	ELECTRIC/TELCO RISER AND DETAILS
G1	GROUNDING PLAN
G2	GROUNDING RISER DIAGRAM
G3	SITE GROUNDING DETAILS
G4	COAX CABLE GROUNDING DETAILS
D1	UTILITY RACK
D2	SKID MOUNT LAYOUT
D3	FOUNDATION DETAILS
WTFC1	ELEVATIONS & SECTIONS
WTFC2	ANTENNA POD DETAILS
WTFC3	ANTENNA POD DETAILS
WTFC4	ANTENNA POD DETAILS
WTFC5	TANK PENETRATIONS AND DETAILS

SHEET INDEX

SURVEYOR: WEBB SURVEYING, INC.
STRUCTURAL: BOWTECK
ELECTRICAL: W-T COMMUNICATION DESIGN GROUP
TOWER SUPPLIER: SABRE COMMUNICATION

ENGINEERS AND SUPPLIERS

LANDLORD
SPRINT MGR.
SPRINT ENG
SPRINT R.F.
ZONING
CONSTRUCTION
PROPERTY
NETWORK

APPROVALS

Sprint PCS
5030 RIVERSIDE DRIVE
SUITE 300
IRVING, TEXAS 75039

1	05/20/04	FOR CONSTRUCTION
A	05/03/04	PRELIMINARY

W-T
W-T COMMUNICATION DESIGN GROUP LLC
3001 LBJ FREEWAY, SUITE 129
DALLAS, TEXAS 75234
ph. (972) 739-0761
fax. (972) 739-0782

STATE OF TEXAS
SCOTT R. TRIPHAHN
85282
LICENSED PROFESSIONAL ENGINEER
DATE: 05/20/04 EXPIRES: 03/31/05

PROJECT NO: T04277
DRAWN BY: TMC
CHECKED BY: KWM

CASCADE # HO58XC335
LEAGUE CITY WATER TOWER
5123 1/2 CANDLEWOOD
LEAGUE CITY, TX 77573
GALVESTON COUNTY

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

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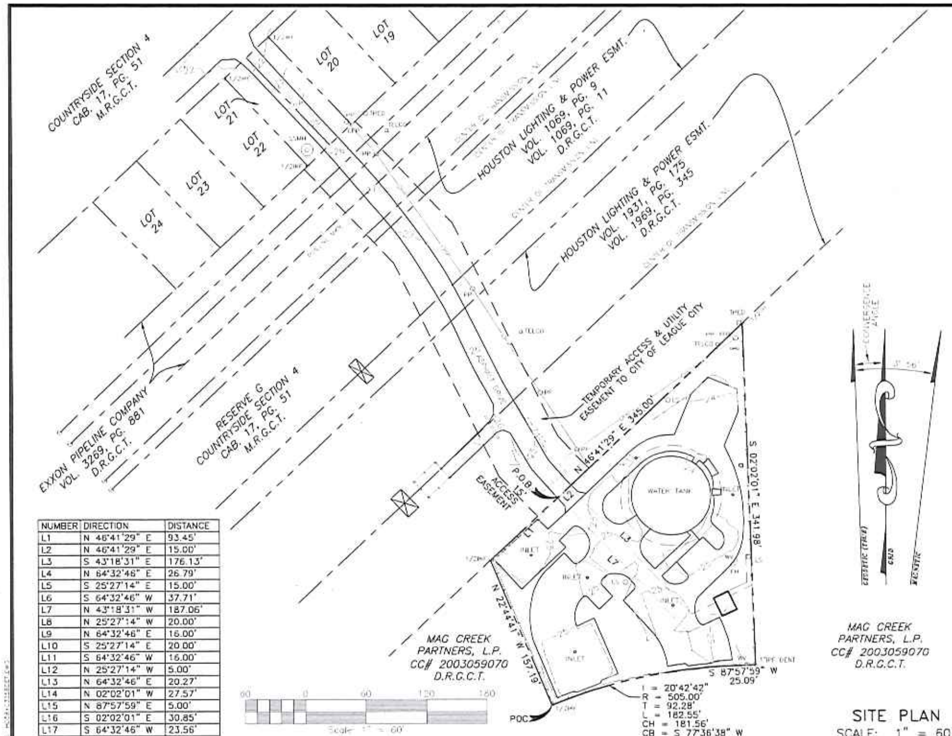
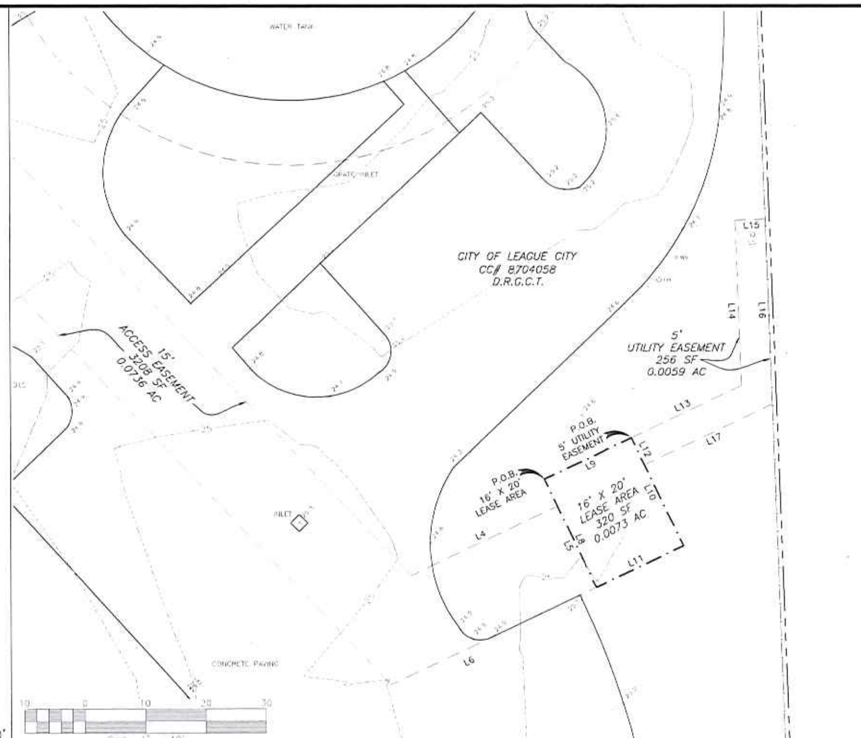


NUMBER	DIRECTION	DISTANCE
L1	N 46°41'29" E	93.45'
L2	N 46°41'29" E	15.00'
L3	S 43°18'31" E	176.13'
L4	N 64°32'46" E	26.79'
L5	S 25°27'14" E	15.00'
L6	S 64°32'46" W	37.71'
L7	N 43°18'31" W	187.06'
L8	N 25°27'14" W	20.00'
L9	N 64°32'46" E	16.00'
L10	S 25°27'14" E	20.00'
L11	S 64°32'46" W	16.00'
L12	N 25°27'14" W	5.00'
L13	N 64°32'46" E	20.27'
L14	N 02°02'01" W	27.57'
L15	N 87°57'59" E	5.00'
L16	S 02°02'01" E	30.85'
L17	S 64°32'46" W	23.56'

SITE PLAN

SCALE: 1" = 60'



ENLARGED SITE PLAN

SCALE: 1" = 10'

LEASE AREA

BEING a tract of land situated in the John Dickinson League, Abstract No. 9, League City, Galveston County, Texas, also being situated in that certain tract of land conveyed to the City of League City by Warranty Deed dated December 18, 1986, and recorded in County Clerk File No. 8704058, Deed Records, Galveston County, Texas, and being more particularly described by metes and bounds as follows:

COMMENCING at a 1/2" iron rod found for the southwest corner of said League City tract, same being an interior corner of that certain tract of land conveyed to Mag Creek Partners, L.P. by County Clerk File No. 2003059070, Deed Records, Galveston County, Texas;

THENCE along the west and northwest lines of said League City tract the following two courses:

1. North 22 degrees 44 minutes 41 seconds West, a distance of 157.19 feet to a Point, from which a 1/2" iron rod found bears North 13 degrees 44 minutes 24 seconds East, a distance of 0.68 feet;

2. North 46 degrees 41 minutes 29 seconds East, a distance of 108.45 feet to a Point;

THENCE through the interior of said League City tract the following three (3) courses:

1. South 43 degrees 18 minutes 31 seconds East, a distance of 176.13 feet to a Point;

2. North 64 degrees 32 minutes 46 seconds East, a distance of 26.79 feet to a Point;

3. North 25 degrees 27 minutes 14 seconds West, a distance of 5.00 feet to a 5/8" iron rod set with cap marked "WEBB-4125" for the POINT OF BEGINNING hereof;

THENCE continuing through the interior of said League City tract the following four (4) courses:

1. North 64 degrees 32 minutes 46 seconds East, a distance of 16.00 feet to a 5/8" iron rod set with cap marked "WEBB-4125";

2. South 25 degrees 27 minutes 14 seconds East, a distance of 20.00 feet to a 5/8" iron rod set with cap marked "WEBB-4125";

3. South 64 degrees 32 minutes 46 seconds West, a distance of 16.00 feet to a Point;

4. North 25 degrees 27 minutes 14 seconds West, a distance of 20.00 feet to the POINT OF BEGINNING hereof and containing 0.0073 acres or 320 square feet of land, more or less.

5' UTILITY EASEMENT

BEING a tract of land situated in the John Dickinson League, Abstract No. 9, League City, Galveston County, Texas, also being situated in that certain tract of land conveyed to the City of League City by Warranty Deed dated December 18, 1986, and recorded in County Clerk File No. 8704058, Deed Records, Galveston County, Texas, and being more particularly described by metes and bounds as follows:

COMMENCING at a 1/2" iron rod found for the southwest corner of said League City tract, same being an interior corner of that certain tract of land conveyed to Mag Creek Partners, L.P. by County Clerk File No. 2003059070, Deed Records, Galveston County, Texas;

THENCE along the west and northwest lines of said League City tract the following two courses:

1. North 22 degrees 44 minutes 41 seconds West, a distance of 157.19 feet to a Point, from which a 1/2" iron rod found bears North 13 degrees 44 minutes 24 seconds East, a distance of 0.68 feet;

2. North 46 degrees 41 minutes 29 seconds East, a distance of 108.45 feet to a Point;

THENCE through the interior of said League City tract the following four (4) courses:

1. South 43 degrees 18 minutes 31 seconds East, a distance of 176.13 feet to a Point;

2. North 64 degrees 32 minutes 46 seconds East, a distance of 26.79 feet to a Point;

3. North 25 degrees 27 minutes 14 seconds West, a distance of 5.00 feet to a 5/8" iron rod set with cap marked "WEBB-4125" for the northwest corner of the lease area described herein;

4. Along the north line of said lease area, North 64 degrees 32 minutes 46 seconds East, a distance of 16.00 feet to a 5/8" iron rod set with cap marked "WEBB-4125" for the northeast corner of said lease area and the POINT OF BEGINNING hereof;

THENCE continuing through the interior of said League City tract the following six (6) courses:

1. North 64 degrees 32 minutes 46 seconds East, a distance of 20.27 feet to a Point;

2. North 02 degrees 02 minutes 01 seconds West, a distance of 27.57 feet to a Point;

3. North 87 degrees 57 minutes 59 seconds East, a distance of 5.00 feet to a Point;

4. South 02 degrees 02 minutes 01 seconds East, a distance of 30.85 feet to a Point;

5' UTILITY EASEMENT (continued)

5. South 64 degrees 32 minutes 46 seconds West, a distance of 23.56 feet to a Point;

6. North 25 degrees 27 minutes 14 seconds West, a distance of 5.00 feet to the POINT OF BEGINNING hereof and containing 0.0059 acres or 256 square feet of land, more or less.

15' ACCESS EASEMENT

BEING a tract of land situated in the John Dickinson League, Abstract No. 9, League City, Galveston County, Texas, also being situated in that certain tract of land conveyed to the City of League City by Warranty Deed dated December 18, 1986, and recorded in County Clerk File No. 8704058, Deed Records, Galveston County, Texas, and being more particularly described by metes and bounds as follows:

COMMENCING at a 1/2" iron rod found for the southwest corner of said League City tract, same being an interior corner of that certain tract of land conveyed to Mag Creek Partners, L.P. by County Clerk File No. 2003059070, Deed Records, Galveston County, Texas;

THENCE along the west and northwest lines of said League City tract the following two courses:

1. North 22 degrees 44 minutes 41 seconds West, a distance of 157.19 feet to a Point, from which a 1/2" iron rod found bears North 13 degrees 44 minutes 24 seconds East, a distance of 0.68 feet;

2. North 46 degrees 41 minutes 29 seconds East, a distance of 93.45 feet to the POINT OF BEGINNING hereof;

THENCE continuing along the northwest line of said League City tract, North 46 degrees 41 minutes 29 seconds East, a distance of 15.00 feet to a Point;

THENCE through the interior of said League City tract the following five (5) courses:

1. South 43 degrees 18 minutes 31 seconds East, a distance of 176.13 feet to a Point;

2. North 64 degrees 32 minutes 46 seconds East, a distance of 26.79 feet to a Point, same being on the west line of lease area described herein;

3. Along the west line of said lease area, South 25 degrees 27 minutes 14 seconds East, a distance of 15.00 feet to a 5/8" iron rod set with cap marked "WEBB-4125" for the southwest corner of the lease area described herein;

4. South 64 degrees 32 minutes 46 seconds West, a distance of 37.71 feet to a Point;

5. North 43 degrees 18 minutes 31 seconds West, a distance of 187.06 feet to the POINT OF BEGINNING hereof and containing 0.0736 acres or 3208 square feet of land, more or less.

PROJECT INFORMATION

CENTER OF WATER TOWER COORDINATES:

NAD27:
LAT 29° 28' 57.07"
LONG 95° 08' 31.68"
ELEV. 24.9 (AMSL NGVD29)

NAD83:
LAT 29° 28' 57.90"
LONG 95° 08' 32.44"
ELEV. 24.9 (AMSL NAVD88)
TANK BASE: 107.1' AGL
BOTTOM RIM: 117.5' AGL
TOP OF RIM: 140.0' AGL
TOP OF BEACON: 155.9' AGL

NOTES:

INGRESS/EGRESS IN COMMON WITH LESSOR.

LATITUDE AND LONGITUDE SHOWN HEREON ARE BASED ON NAD83 AND ELEVATIONS NAVD 1988.

MAGNETIC DECLINATION INFORMATION TAKEN FROM NOAA WEB SITE AND IS APPROXIMATE.

LATITUDE AND LONGITUDE FROM GPS OBSERVATIONS PERFORMED COINCIDENT WITH SURVEY, 1983 NORTH AMERICAN DATUM.

BASIS OF ELEVATION: GPS OBSERVATIONS PERFORMED COINCIDENT WITH SURVEY.

BASIS OF BEARINGS: GRID BEARINGS BASED ON GPS OBSERVATIONS PERFORMED COINCIDENT WITH SURVEY.

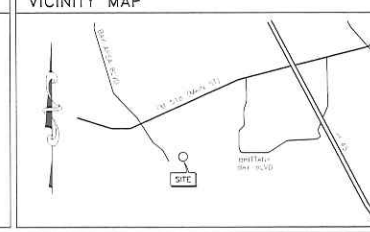
CONVERGENCE ANGLE: 01° 53' 23.7"

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS WITHIN ZONE "X", AREAS OUTSIDE OF A 100 YR. FLOOD PLAIN AS SHOWN BY FIRM MAP COMMUNITY-PANEL NUMBER 4854880025D, DATED 09/22/1999. NO SURVEYING WAS DONE TO DETERMINE THIS FLOOD ZONE.

LEGEND

Symbol	Description
	POWER POLE
	GUY ANCHOR
	TELEPHONE RISER
	WATER VALVE
	FIRE HYDRANT
	TOWER CENTROID
	LIGHT POLE
IRS	IRON ROD SET
TBM	BENCH MARK
	BUILDING LINES
	ACCESS EASEMENT
	UTILITY EASEMENT
	AZIMUTH LINE
	FENCE LINE
	POWER LINE
	LEASE AREA
	SETBACK LINE

VICINITY MAP



SURVEYOR'S CERTIFICATE:

The undersigned does hereby certify that a survey was made on the ground of the property legally described hereon prepared by the undersigned and is true and correct to the best of my knowledge; the survey correctly shows the location of all buildings, structures and other improvements situated on the property; that there are no visible discrepancies, conflicts, shortages in area, boundary line conflicts, encroachments, overlapping of improvements, easements or rights-of-way except as shown on the plat hereon; that subject property has access to a public roadway; and the plat hereon is a true, correct and accurate representation of the property described hereinabove. This survey reflects the Title Report prepared by Courthouse Specialists dated March 26, 2004, and, as stated in the legal description hereon, the Sprint lease area, access easement and utility easement lie within the parent tract. Furthermore, the undersigned hereby certifies that he has calculated the quantity of land or acreage contained within the tract shown on this plat of survey and described hereon and certifies that the quantity of land shown hereon is correct. This survey meets the applicable requirements for land surveys as defined by the "Texas Society of Professional Surveyors Manual of Practice for Land Surveying in Texas".

Kurtis R. Webb
R.P.L.S. #4125

Webb Surveying Inc.
Land Surveyors

SURVEY

SITE NAME: LEAGUE CITY WATER TOWER
SITE NUMBER: HO58XC335B
FM 518/BAY AREA BLVD
LEAGUE CITY, TX 77573

Sprint
Sprint PCS
Sprint Personal Communications Services

STATE OF TEXAS
REGISTERED PROFESSIONAL LAND SURVEYOR
KURTIS R. WEBB
4125

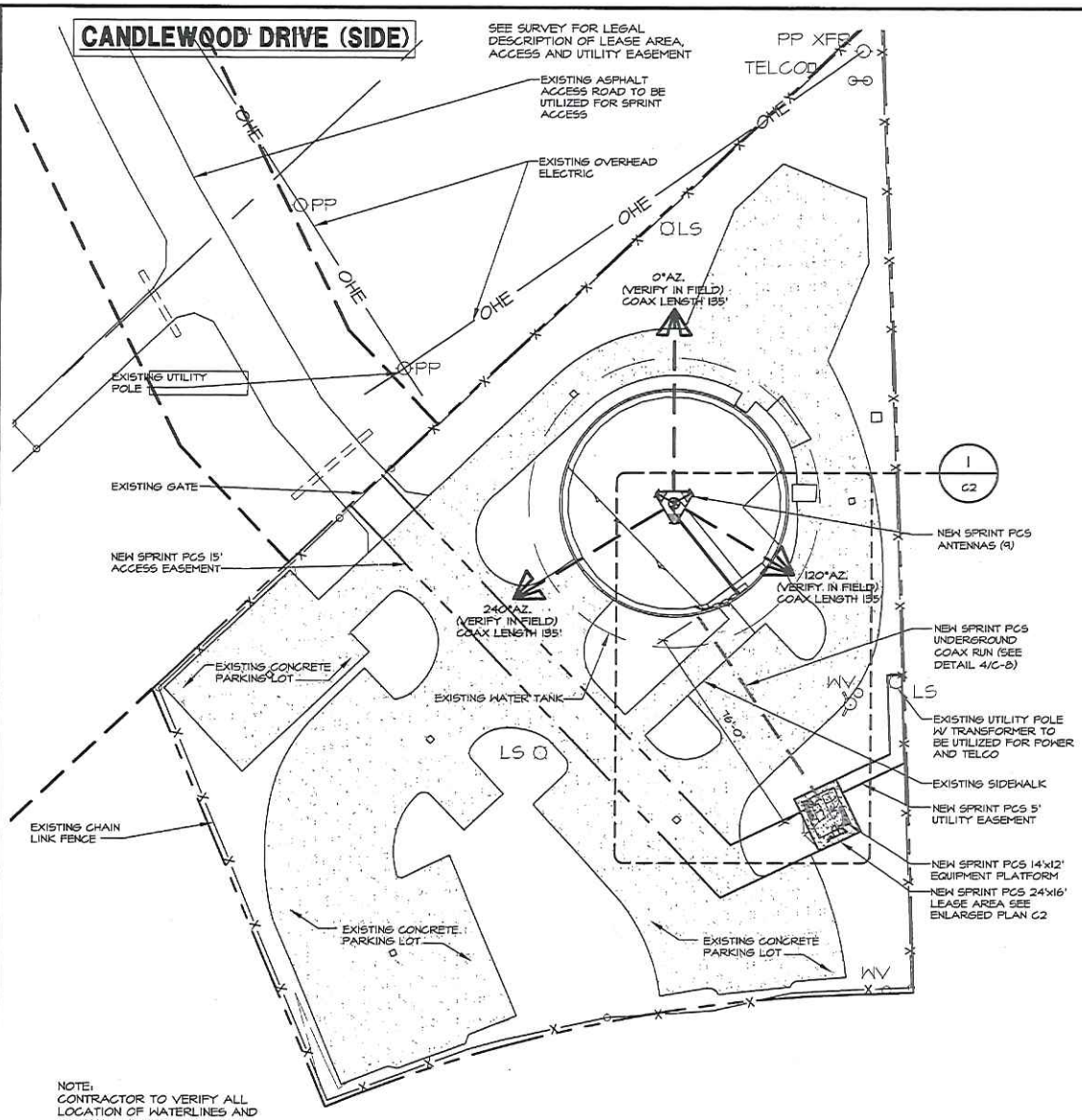
DRWN KRW
CK KRW

NO:	DATE:	DESCRIPTION:
1		DATE OF SURVEY
2		ISSUED
3		REVISED LEASE AREA
4		
5		
6		
7		

SV-1

GENERAL NOTES:

1. CONTRACTOR SHALL COMPLY WITH ALL BUILDING CODES OF THE AUTHORITIES HAVING JURISDICTION
2. NOTIFY THE SITE OWNER AND SITE MANAGER OF THE CONSTRUCTION START WELL IN ADVANCE OF THE CONSTRUCTION START DATE
3. COORDINATE THE CONSTRUCTION STAGING AREA WITH THE SITE OWNER AND SITE MANAGER WELL IN ADVANCE OF THE CONSTRUCTION START DATE.
4. PROTECT THE EXISTING FACILITIES AT ALL TIMES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED BY CONSTRUCTION OPERATIONS
5. THE CONTRACT LIMITS ARE AS NOTED ON THE DRAWINGS. CONFINE OPERATION TO AREAS WITHIN THE LIMITS INDICATED
6. PROVIDE FOR COMPLETE TELEPHONE AND ELECTRICAL SERVICE AS INDICATED ON THE DRAWINGS. COORDINATE WITH SITE OWNER AND AUTHORITIES HAVING JURISDICTION.
7. CONTRACTOR IS TO VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES AND COORDINATE THE INSTALLATION OF NEW UTILITIES.
8. CONTRACTOR IS TO FIELD VERIFY ALL EXISTING CONDITIONS AND PLAN DIMENSIONS AND NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES. DO NOT SCALE DRAWING.
9. THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
10. THE EQUIPMENT LOCATIONS SHOWN SHALL NOT BE VARIED WITHOUT THE REVIEW AND APPROVAL OF THE ENGINEER
11. EQUIPMENT PLATFORM AND ANTENNAS ARE DESIGNED TO MEET LOCAL BUILDING CODES, AND ANSI/EIA/TIA-222-E STRUCTURAL STANDARDS FOR STEEL ANTENNA SUPPORTING STRUCTURES. THE DESIGN WIND SPEED IS 70 MPH AND 1/2" ICE
12. CONTRACT COMPANIES AND THEIR EMPLOYEES SHALL OBSERVE AND PRACTICE ALL O S H A. SAFETY GUIDELINES WHILE PERFORMING SERVICES
13. WHERE A TOWER DOES NOT HAVE A PERMANENT FALL PROTECTIONS. SYSTEM, THE CONTRACT COMPANY IS RESPONSIBLE FOR PROVIDING A SUITABLE SYSTEM FOR ITS EMPLOYEES.
14. CONTRACTOR SHALL PERFORM A SAFETY INSPECTION PRIOR TO COMMENCING ALL WORK ACTIVITIES AT A LEASED OR OWNED SITE. OWNER SHOULD BE IMMEDIATELY NOTIFIED OF SAFETY HAZARD(S) FOUND DURING THE INSPECTION THAT COULD CAUSE BODILY HARM OR ENDANGERMENT TO LIFE OR THAT COULD CAUSE DAMAGE TO PROPERTY. ALL WORK SHALL BE HALTED UNTIL SUCH TIME THE POSSIBLE, SHOULD REPORTED SAFETY HAZARD CORRECTED. THE SAFETY HAZARD, IF BE CORRECTED BY THE CONTRACTOR WHILE ON SITE, AFTER THE CONTRACTOR HAS NOTIFIED OWNER OF THE HAZARD AND HAS RECEIVED APPROVAL FROM OWNER TO PERFORM THE CORRECTION.
15. MONOPOLE / TOWER FOUNDATION DESIGN IS UNDER SEPARATE CONTRACT BY OTHERS AND IS EXCLUDED FROM THESE DESIGN DRAWINGS, REFER TO OWNER PROVIDED DRAWINGS FOR SPECIFIC DETAILS REGARDING FOUNDATION SYSTEM.
16. VERIFY WITH SPRINT PCS ENGINEER THE AZIMUTH AND ORIENTATION OF PLATFORM PRIOR TO INSTALLATION
17. CONTRACTOR TO VERIFY ALL MOUNTING HEIGHTS AND AZIMUTHS OF ANTENNAS PRIOR TO INSTALLATION
18. CONTRACTOR TO RESTORE ALL DAMAGED AREAS CAUSED BY CONSTRUCTION TO ORIGINAL CONDITION UPON COMPLETION OF CONSTRUCTION
19. CONTRACTOR SHALL OBSERVE AND OBEY ALL WARNING SIGNS POSTED AT THIS SITE
20. CONTRACTOR SHALL SUPPLY AT ALL TIMES DURING SITE PREPARATION, CONSTRUCTION, INSPECTION, AND TESTING ALL EQUIPMENT, MATERIALS, AND SAFETY MANUALS PERTAINING TO OSHA. THESE REQUIRMENTS ARE IONCLUDING BUT NOT LIMTED TO PORTABLE REST ROOMS, SUN SHADES AND DRINKING WATER.



NOTE:
CONTRACTOR TO VERIFY ALL LOCATION OF WATERLINES AND TO HAND DIG IN THAT AREA.

NOTE:
DURING CONSTRUCTION CONTRACTOR TO MAINTAIN A ORANGE FENCE PERIMETER AROUND THE SITE AT ALL TIMES FOLLOWING CLOSE OF EVERY BUSINESS DAY

OVERALL SITE PLAN

SCALE: 1" = 40'-0"

1

NORTH

NOTE:
CONTRACTOR SHALL PAINT TO MATCH ALL MATERIALS TO BE ATTACHED TO EXISTING TOWER

Sprint PCS
5030 RIVERSIDE DRIVE
SUITE 300
IRVING, TEXAS 75039

1	05/20/04	FOR CONSTRUCTION
A	05/03/04	PRELIMINARY

W-T
W-T COMMUNICATION DESIGN GROUP LLC
3001 LBJ FREEWAY, SUITE 129
DALLAS, TEXAS 75234
ph. (972) 739-0761
fax. (972) 739-0762

STATE OF TEXAS
SCOTT R. TRIPHAHN
85282
LICENSED
PROFESSIONAL ENGINEER

DATE: 05/20/04 EXPIRES: 03/31/05

PROJECT NO: T04277

DRAWN BY: TMC

CHECKED BY: KWM

CASCADE # HO58XC335
LEAGUE CITY WATER TOWER

5123 1/2 CANDLEWOOD
LEAGUE CITY, TX 77573
GALVESTON COUNTY

SHEET TITLE
OVERALL SITE PLAN

SHEET NUMBER
C-1

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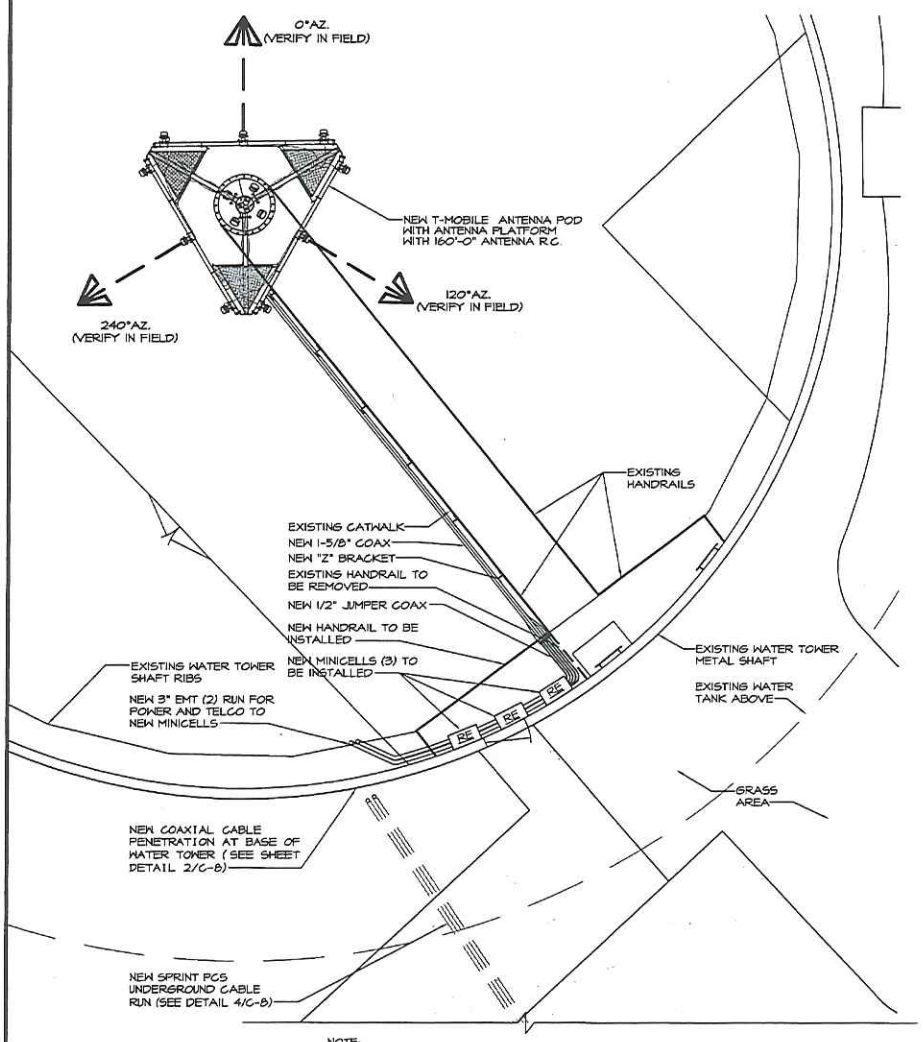
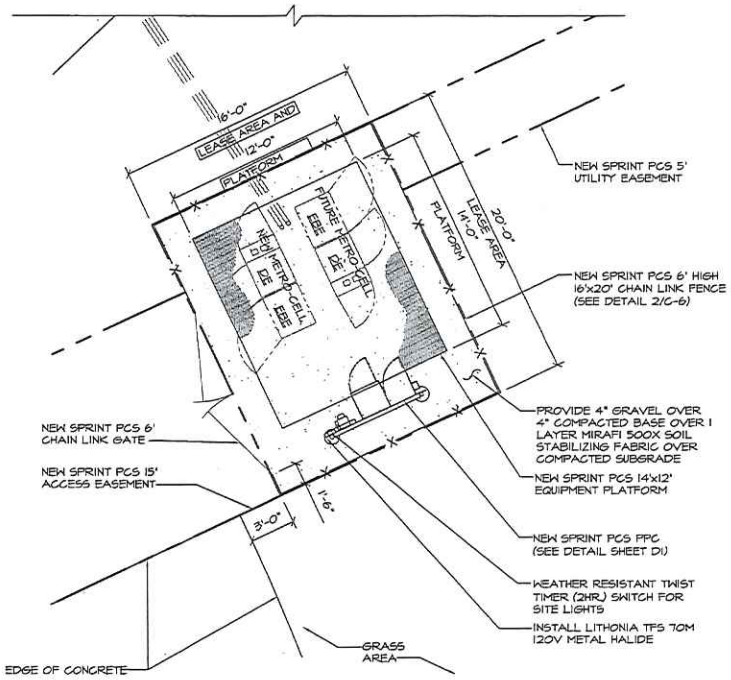


NOTE:
CONTRACTOR SHALL PAINT TO MATCH ALL MATERIALS TO BE ATTACHED TO EXISTING TOWER

NOTE:
CONTRACTOR TO VERIFY ALL LOCATION OF WATERLINES AND TO HAND DIG IN THAT AREA.

SEE TOWER ELEVATION SHEET C-3



ENLARGED SITE PLAN (1)

SCALE: 1/8" = 1'-0"

NORTH

Sprint PCS
5030 RIVERSIDE DRIVE
SUITE 300
IRVING, TEXAS 75039

1	05/20/04	FOR CONSTRUCTION
A	05/03/04	PRELIMINARY

W-T
W-T COMMUNICATION DESIGN GROUP LLC
3001 LBJ FREEWAY, SUITE 129
DALLAS, TEXAS 75234
ph (972) 739-0761
fax (972) 739-0762

STATE OF TEXAS
SCOTT R. TRIPHAHN
83052
LICENSED
PROFESSIONAL ENGINEER
DATE: 05/20/04 EXPIRES: 03/31/05

PROJECT NO: T04277

DRAWN BY: TMC

CHECKED BY: KWM

CASCADE # HO58XC335
LEAGUE CITY WATER TOWER
5123 1/2 CANDLEWOOD
LEAGUE CITY, TX 77573
GALVESTON COUNTY

SHEET TITLE
ENLARGED SITE PLAN

SHEET NUMBER
C-2

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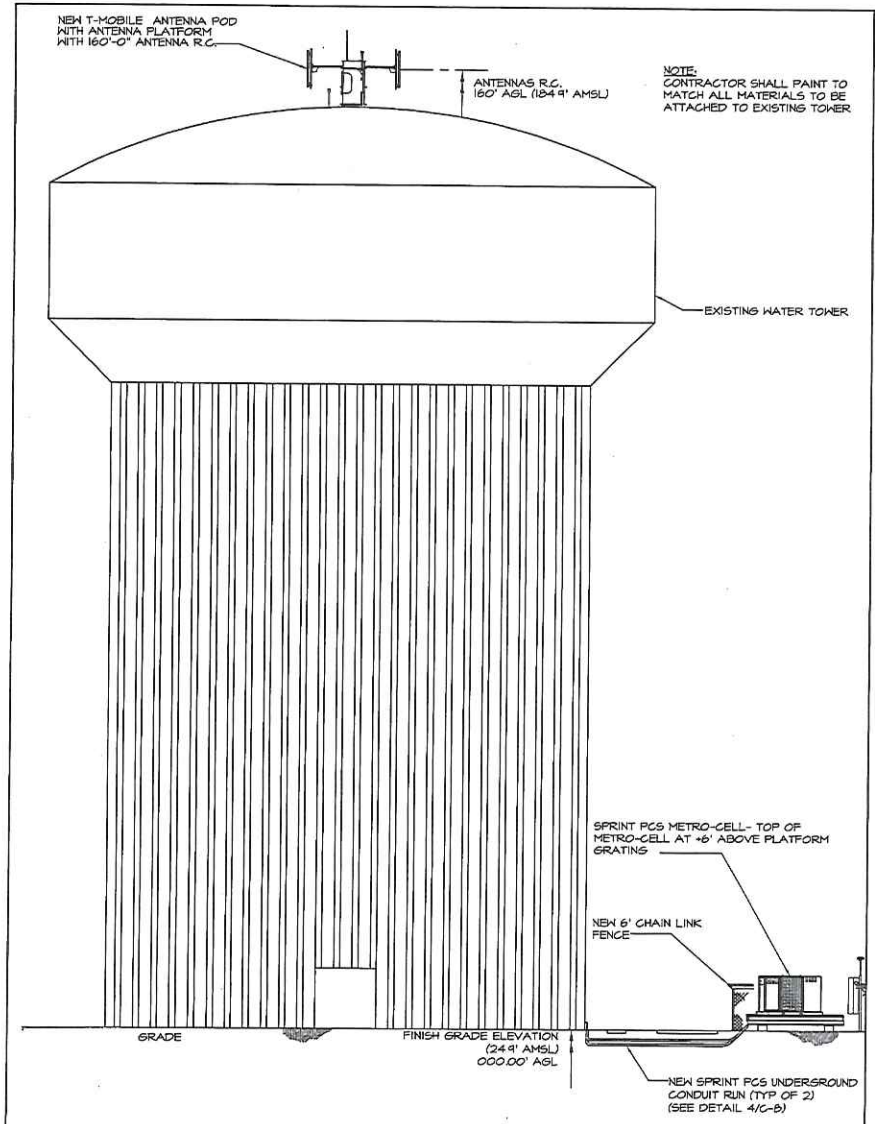
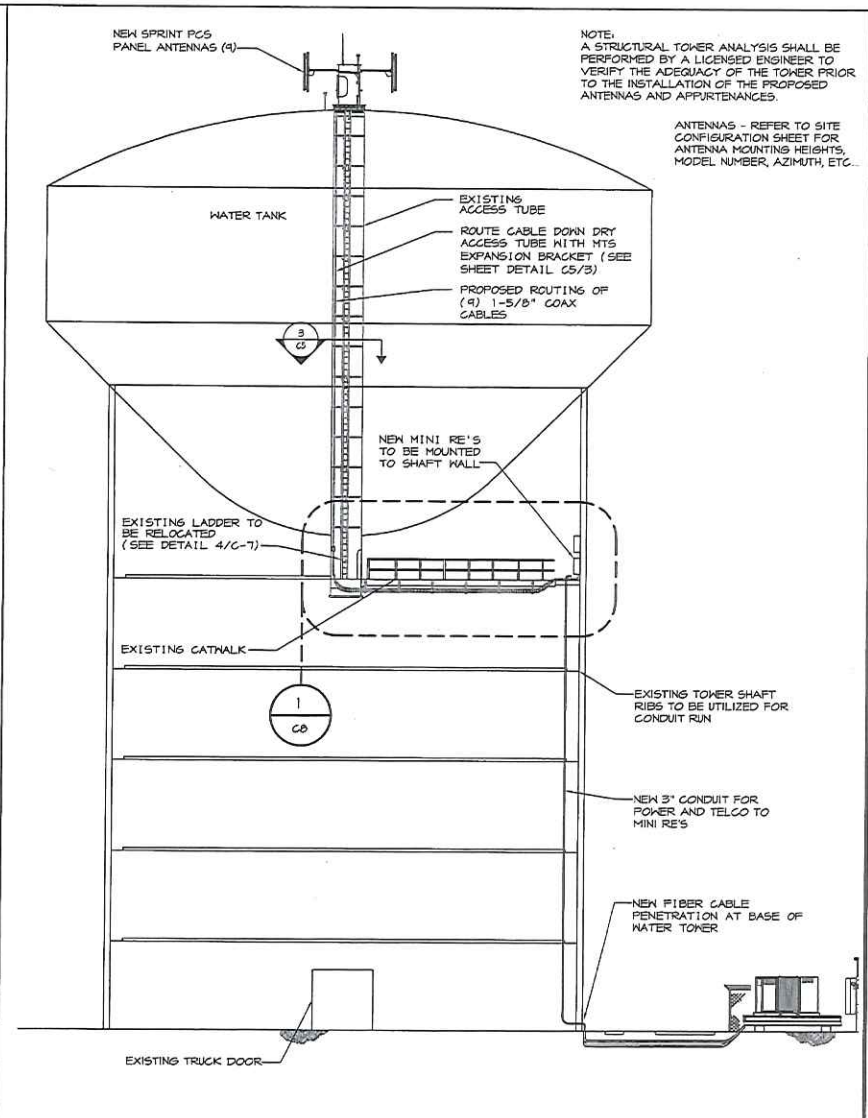


EXTERIOR ELEVATION 1

SCALE: 1" = 20'-0"



INTERIOR ELEVATION 2

SCALE: 1" = 20'-0"

Sprint PCS
5030 RIVERSIDE DRIVE
SUITE 300
IRVING, TEXAS 75039

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SCOTT R. TRIPHAHN
85282
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PROFESSIONAL ENGINEER
DATE: 05/20/04 EXPIRES: 03/31/05

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CASCADE # HO58XC335
LEAGUE CITY WATER TOWER
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SHEET TITLE
ELEVATIONS

SHEET NUMBER
C-3

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ANTENNA AND CABLE COLOR CODING CHART

GROUP	ANTENNA	1ST RING	2ND RING	3RD RING
ALPHA	TX0/RX0	YELLOW	BROWN	WHITE
	RX1	YELLOW	WHITE	WHITE
	FUTURE	YELLOW		
BETA	TX0/RX0	RED	BROWN	WHITE
	RX1	RED	WHITE	WHITE
	FUTURE	RED		
GAMMA	TX0/RX0	GREEN	BROWN	WHITE
	RX1	GREEN	WHITE	WHITE
	FUTURE	GREEN		

COLOR CODE ALL ANTENNA AND COAX CABLES WITH 2" WIDE BANDS OF COLORED TAPE WITH 1" SEPARATION BETWEEN BANDS AT 3 LOCATIONS.

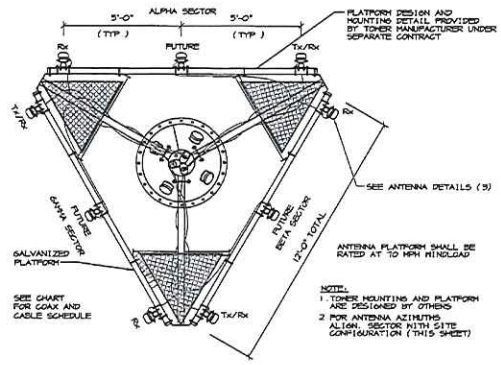
COLOR CODE ALL TOP AND BOTTOM GROUND KITS WITH 1" WIDE BANDS OF COLORED TAPE WITH 1/2" SEPARATION BETWEEN BANDS

START COLOR BANDS 2" BEYOND WEATHERPROOFING.

START SECTOR COLOR NEXT TO END CONNECTOR.

ALL TOP JUMPERS WILL BE MAX. 10' IN LENGTH AND MIN. OF 3' IN LENGTH.

ALL CABLES SHALL BE MARKED AT TOP AND BOTTOM WITH 2" COLORED TAPE AND STENCIL TAG PER THE FOLLOWING TABLES.



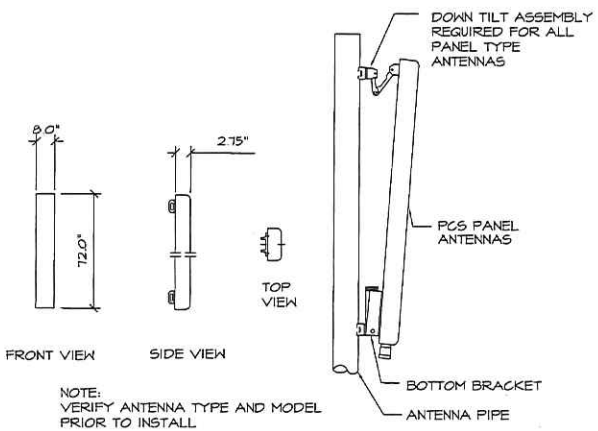
COAX AND CABLE TRAY CHART

LONGEST RUN BETWEEN BTS AND ANTENNA	COAX SIZE	CABLE TRAY SIZE	CABLE TRAY MIN. TURN RADIUS
< 100'	7/8" LDF5-50A	12"	12"
100' - 150'	1-1/4" LDF6-50	12"	24"
> 150'	1-5/8" LDF7-50A	18"	24"

VERIFY SIZE OF COAX TO BE USED WITH SPRINT PCS

EQUIPMENT NOTES:

1. ALL CABLE TRAY SHALL HAVE A DIAMOND PLATE COVER
2. CONTRACTOR SHALL VERIFY EXACT DIMENSION BETWEEN ANTENNA MOUNTING BRACKETS WITH SPRINT PCS BEFORE INSTALLATION.
3. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF SPRINT PCS STANDARD CONSTRUCTION SPECIFICATIONS.
4. ALL TIE WRAPS SHALL BE THOMAS AND BETTS TY 512-2800 MULTI-LOK STAINLESS STEEL SELF-LOCKING CABLE TIES COATED WITH NYLON 11.
5. PROVIDE COMPLETE CABLE TRAY SYSTEM (B-LINE 34Axx-18-144 OR EQUAL). WIDTHS SHOWN ON DRAWINGS. GRAY FINISH UNLESS NOTED OTHERWISE.



NOTE:
VERIFY ANTENNA TYPE AND MODEL PRIOR TO INSTALL

ALL HARDWARE SHALL BE COMPATIBLE WITH ANTENNA TYPE

ENLARGED ANTENNA DETAIL

SCALE: NTS

1

RF Config Sheet

Date: 6/20/04

BTA:	Houston
Site Name:	League City Countryside Water Tower
Address:	Bay Area Blvd @ Candelwood Dr., Leagues City TX 77573
Candidate:	B
Site RF Number:	635 Standard BSC 5
Cascade #	HO58XC335
	Source: GPS
NAD 83 Latitude	29-25-57.25
NAD 83 Longitude	95-05-33.68
Ground Elevation	

Sector Summary

	Alpha Sector	Beta Sector	Gamma Sector
Orientation - Degrees True North	60	180	300
Antenna Centerline:	165	165	165
PN ID's			
Manufacturer	EMS	EMS	EMS
Model	RV65-1902DP	RV65-1902DP	RV65-1902DP
Gain (dbi)	18.5	18.5	18.5
Electrical Downtilt	2	2	2
Mech. Downtilt:	0	0	0
# of Carriers:	2	2	2
# of Antennas:	2	2	2
Cable Type	Andrews 1 5/8	Andrews 1 5/8	Andrews 1 5/8
Connector type	7/16 DIN	7/16 DIN	7/16 DIN

Sprint PCS
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CASCADE # HO58XC335
LEAGUE CITY WATER TOWER

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LEAGUE CITY, TX 77573
GALVESTON COUNTY

SHEET TITLE
CONSTRUCTION DETAILS

SHEET NUMBER
C-4

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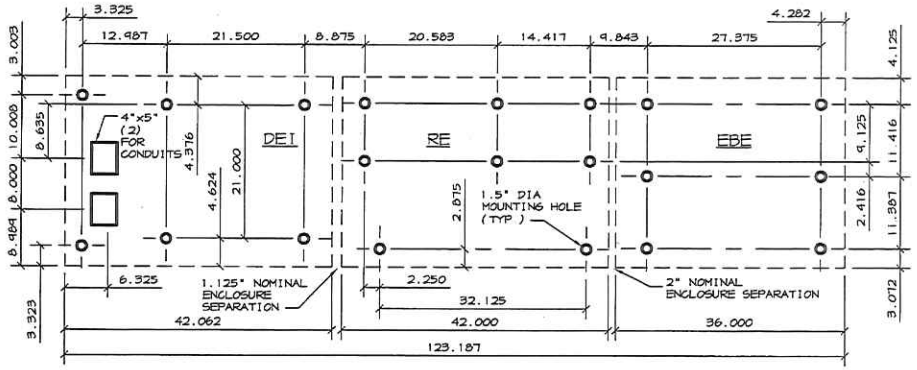
SITEWORK NOTES:

1. EXISTING GROUND SURFACE UNDER DRIVEWAY AND LEASE AREA SHALL BE STRIPPED OF VEGETATION, TOPSOIL, AND ROOTS TO A MINIMUM DEPTH OF TWELVE INCHES TO REACH FIRM UNDISTURBED SOIL. THE EXPOSED SUBGRADE SHALL BE PROOFROLLED TO AID IN IDENTIFYING SOFT OR WEAK ISOLATED AREAS. ALL DEPRESSION AND WEAK AREAS SHALL BE THOROUGHLY CLEANED OUT TO THE SURFACE OF FIRM SOIL AND BACK FILLED WITH SELECT FILL. ALL CLEARING OPERATIONS SHALL BE ACCOMPLISHED DURING PERIODS OF DRY WEATHER ONLY.
2. ALL FILLING AND BACK FILLING WILL CONSIST OF SELECT GRANULAR MATERIAL, SUCH AS LOCALLY AVAILABLE SAND OR CLAYEY SAND. SAND FILL SHALL BE A NON-PLASTIC MATERIAL FREE OF ALL ROOTS, WOOD, CLAY LUMPS AND OTHER DELETERIOUS MATERIALS WITH NOT MORE THAN 10% (BY WEIGHT) OF MATERIAL PASSING A U.S. STANDARD NO. 200 SIEVE. IF CLAYEY SAND IS USED, MATERIAL SHALL HAVE A LIQUID LIMIT NO GREATER THAN 25 AND A PLASTICITY INDEX NO GREATER THAN 6.
3. ALL FILL SHOULD BE SPREAD IN LOOSE LIFTS OF 6 TO 8 INCHES AND COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY NEAR OPTIMUM WATER CONTENT IN ACCORDANCE WITH ASTM D 698.
4. GEOTEXTILE FABRIC SHALL CONFORM TO SPECIFICATIONS CONTAINED THE "TEXAS STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAY, STREETS AND BRIDGES", LATEST EDITION, FOR CLASS C GEOTEXTILES. THE FABRIC SHOULD BE EXTENDED AT LEAST TWO FEET BEYOND THE EDGE OF THE AGGREGATE AND BE LAPPED AS PER MANUFACTURER'S RECOMMENDATIONS.
5. CRUSHED STONE SURFACED COURSE SHALL COMPLY WITH THE MATERIAL REQUIREMENTS OF LATED EDITION OF THE TSSCHSB. STONE SHALL BE COMPACTED TO 95% OF ITS RELATIVE DENSITY IN ACCORDANCE WITH ASTM D 698 (STANDARD PROCTOR) WITH MOISTURE CONTENT AT OPTIMUM OR WITHIN 3 PERCENT ABOVE THE OPTIMUM.



METRO-CELL ANCHOR TEMPLATE (1)

SCALE: N.T.S.

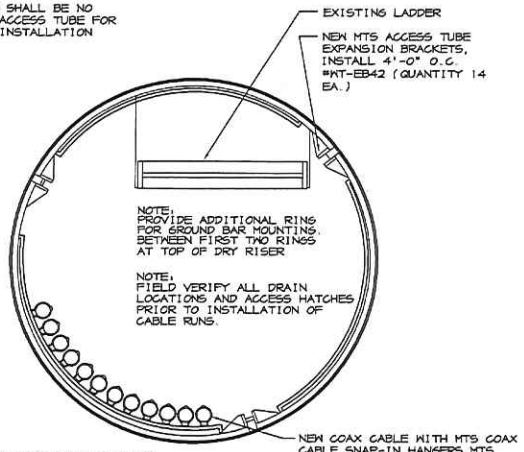
NOT USED (2)

SCALE: N.T.S

NOTE: CONTRACTOR SHALL PROVIDE (1) HOISTING GRIP AT POD LEVEL FOR EACH COAX MTS #HG-15B.

NOTE: THERE SHALL BE NO WELDING IN ACCESS TUBE FOR COAX CABLE INSTALLATION

OSHA REQUIRED CLEARANCE ARE MET



NOTE: ORIENTATED PLACEMENT OF MOUNTING BRACKET ANGLED HARDWARE IN TANK DRY RISER TO ACHIEVE ALLOWED CLEARANCE BETWEEN LADDER.

COAX MOUNT TROUGH ACCESS TUBE (3)

SCALE: N.T.S.

CAST IN PLACE CONCRETE NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
3. ALL REINFORCING STEEL SHALL BE NEW DOMESTIC DEFORMED BILLET STEEL CONFORMING TO ASTM A615, GRADE 60 OR NEW DOMESTIC RAIL STEEL CONFORMING TO ASTM A616, GRADE 60
4. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH LATEST BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE ACI 318.
5. ALL REINFORCING DETAILS SHALL CONFORM TO THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, ACI-315, UNLESS DETAILED OTHERWISE ON THE STRUCTURAL DRAWINGS.
6. CONTRACTOR SHALL PROVIDE SPACERS, CHAIRS, BOLSTERS, ETC., NECESSARY TO SUPPORT REINFORCING STEEL. SUPPORT ITEMS WHICH BEAR ON EXPOSED EARTH SHALL HAVE ENDS WHICH ARE PLASTIC OR STAINLESS STEEL
7. MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT AS PER ACI-318.
8. CONCRETE WORK FOR FOUNDATION PIERS SHALL CONFORM TO THE REQUIREMENT OF SECTION 3A, CAST-IN-PLACE CONCRETE, AND TO THESE ADDITIONAL REQUIREMENTS, UNLESS OTHERWISE PERMITTED BY THE COMPANY, CONCRETE SHALL BE PLACED IN THE PIER HOLES THE SAME DAY THE SHAFTS ARE DRILLED.
9. CONCRETE SHALL NOT BE ALLOWED TO DROP FREELY MORE THAN 3 FEET. TREMIE TUBES OR OTHER DEVICES SHALL BE USED. THE USE OF ALUMINUM ALLOY PIPE IS FORBIDDEN. CONCRETE SHALL NOT FLOW MORE THAN 5 FEET TO REACH ITS FINAL POSITION.

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STATE OF TEXAS
SCOTT R. TRIPHAHN
85282
LICENSED PROFESSIONAL ENGINEER
DATE: 05/20/04 EXPIRES: 03/31/05

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LEAGUE CITY WATER TOWER
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LEAGUE CITY, TX 77573
GALVESTON COUNTY

SHEET TITLE
CONSTRUCTION DETAILS

SHEET NUMBER
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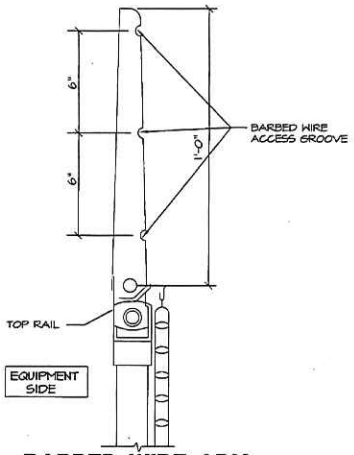
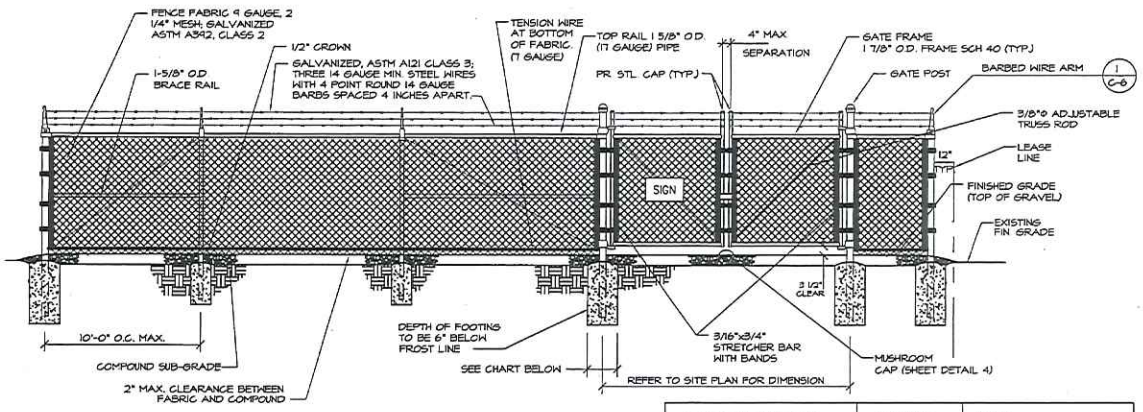


BARBED WIRE ARM DETAIL (ARM OUT)

SCALE: N.T.S

1



6' HIGH GATE AND FENCE	FOOTINGS	NOTES:
LINE POST -2 1/2" 16 GAUGE	12" X 36"	1 ALL MATERIALS TO BE HOT DIP GALVANIZED, ESPECIALLY GATE FRAME
CORNER POST -2 7/8" (SCH 40)	18" X 36"	
GATE POST -2 7/8" (SCH 40)	18" X 36"	

TYPICAL FENCE AND DOUBLE GATE DETAIL (W/BARBED WIRE)

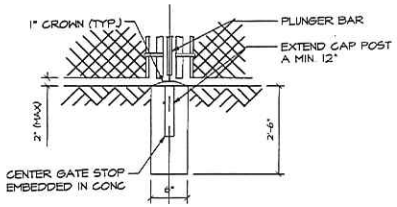
SCALE: N.T.S.

2

NOT USED

SCALE: N.T.S.

3



MUSHROOM CAP DETAIL

SCALE: N.T.S.

4

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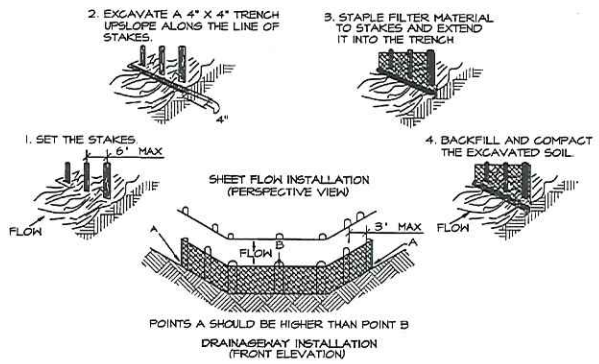
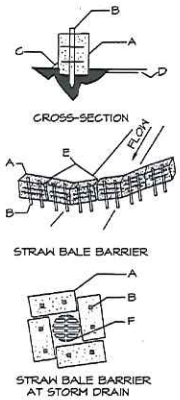


SILT FENCE

SCALE: N.T.S.

1



CONSTRUCTION NOTES:

A. STRAW BALES, SEE NOTE 2.
B 2" X 2" HARDWOOD STAKES OR 3' LONG REBAR
C. COMPACTED BACKFILL
D 4" MIN. DEPTH OF TRENCH
E. PACKED STRAW
F. STORM DRAIN GRATE

GENERAL NOTES:

1. STRAW BALES SHALL BE PLACED IN A SINGLE ROW AND STAKED WITH MIN. 2 STAKES PER BALE. GAPS BETWEEN BALES SHALL BE CHINKED WITH STRAW. BACKFILL SOIL SHALL BE BUILT UP TO 4" AGAINST UPHILL SIDE OF BARRIER.

2 OTHER ACCEPTABLE EROSION CONTROL MEASURES ARE THE USE OF BERMS, SEDIMENT BASINS, FIBER MATES, NETTING, ETC. AS APPROVED BY MUNICIPAL ENGINEER.

3 EROSION CONTROL MEASURES SHALL BE CONTINUOUSLY MAINTAINED UNTIL PERMANENT EROSION CONTROL FEATURES ARE COMPLETED

4 IF AFTER REPEATED FAILURE ON THE PART OF THE CONTRACTOR TO PROPERLY CONTROL EROSION, POLLUTION, AND/OR SILTATION, THE MUNCIPALITY RESERVES THE RIGHT TO EFFECT NECESSARY CORRECTIVE MEASURES AND CHARGE ANY COSTS TO THE CONTRACTOR.

EROSION HAY BALES

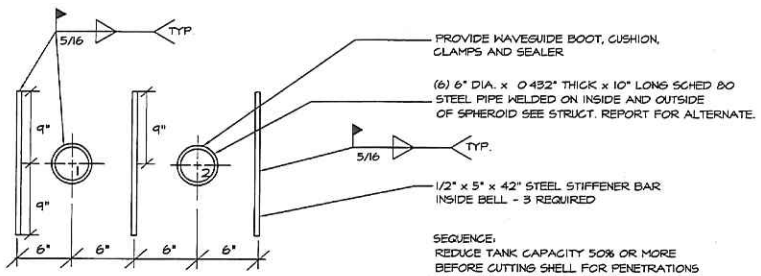
SCALE: N.T.S.

2

NOTE:
FOR ADDITIONAL NOTES & DETAILS SEE STRUCTURAL REPORT.

NOTE: BEFORE CUTTING SHELL FOR PENETRATIONS, INSPECT FOR LEAD PAINT AND TAKE APPROPRIATE SAFETY MEASURES

NOTE: CONTRACTOR SHALL SPOT REPAINT TO REPAIR INTERIOR AND EXTERIOR COATINGS DAMAGED AS A RESULT OF THE PROPOSED WORK.



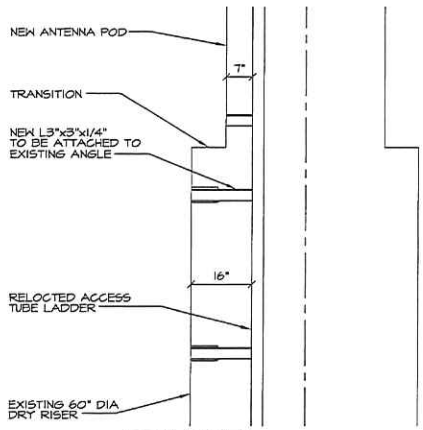
SEQUENCE:
REDUCE TANK CAPACITY 50% OR MORE BEFORE CUTTING SHELL FOR PENETRATIONS
WELD IN PLACE 1/2" X 5" BARS
CUT HOLE 1. WELD IN PIPE NECK.
CUT HOLE 2. WELD IN PIPE NECK.

STIFFENER DETAIL

SCALE: N.T.S.

3

NOTE:
CONTRACTOR SHALL CUT LADDER OFF AT SUPPORT STUBS AND BUTT WELD L3"x3"x1/4" EXTENSIONS TO OFFSET LADDER TO 16" FROM DRY RISER SHAFT. NEW LADDER LOCATION TO LINE UP WITH NEW LADDER EXTENSION IN ANTENNA POD.



DRY RISER LADDER TRANSITION

SCALE: N.T.S.

4

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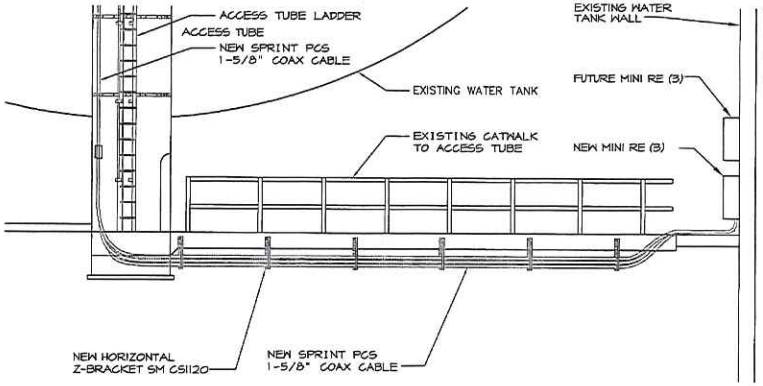


PROFILE AT TOP PLATFORM (1)

SCALE: N.T.S

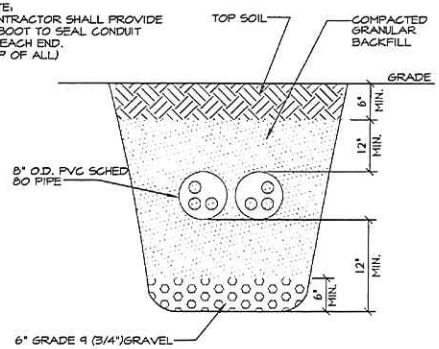
NOT USED (2)

SCALE: N.T.S.

NOT USED (3)

SCALE: N.T.S

NOTE:
CONTRACTOR SHALL PROVIDE
8" BOOT TO SEAL CONDUIT
AT EACH END.
(TYP OF ALL)



CONDUIT TRENCH (4)

SCALE: N.T.S.

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LEAGUE CITY
WATER TOWER

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GALVESTON COUNTY

SHEET TITLE
COAX RUN
DETAILS

SHEET NUMBER
C-8

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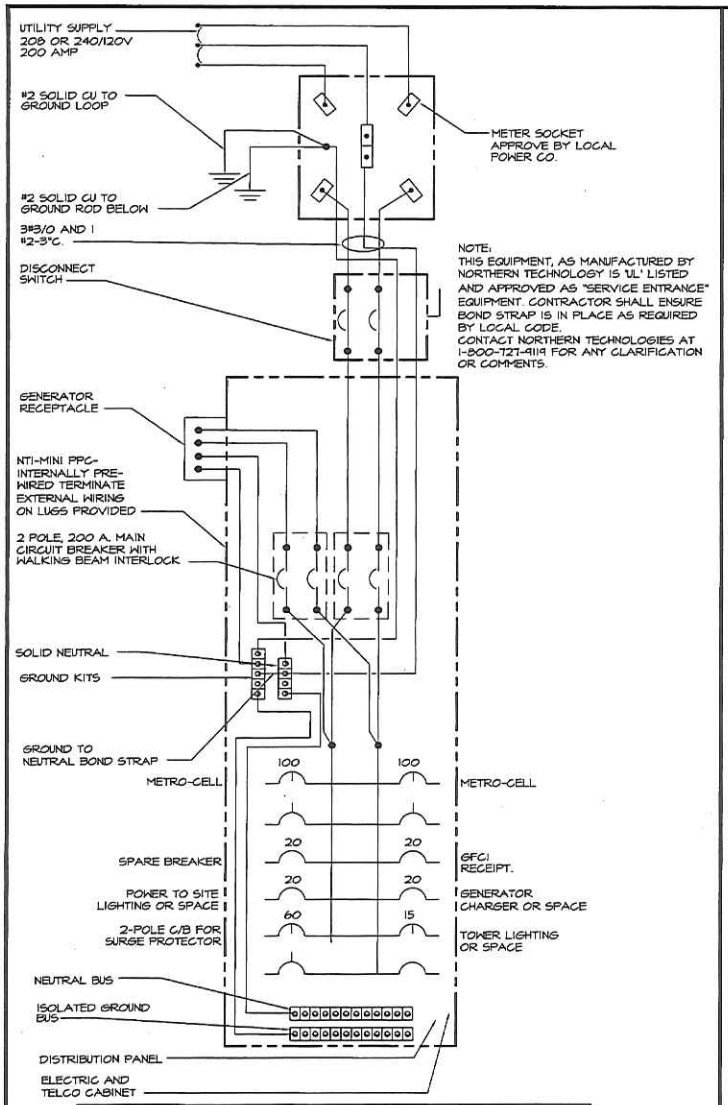
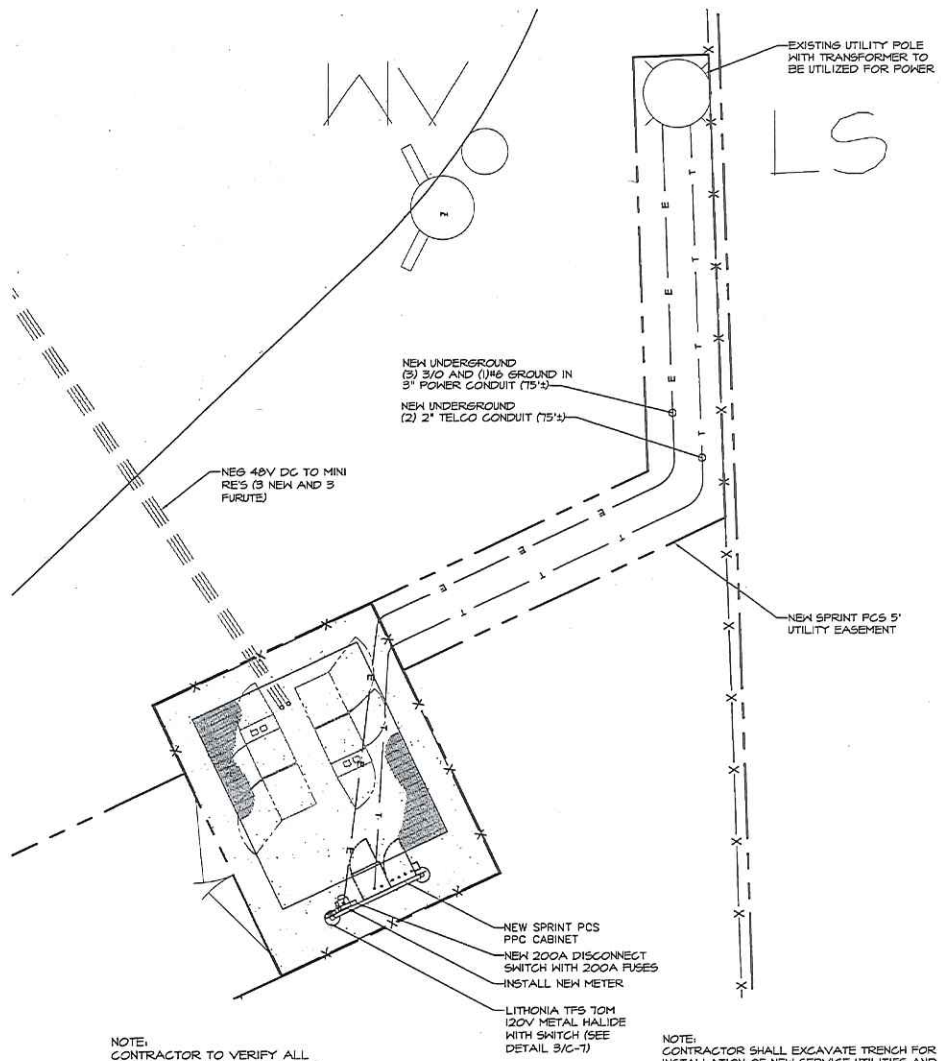


WIRE SIZE	CABLE LENGTH	VOLTAGE DROP %
3/0	75'	1.32%

POWER DIAGRAM

SCALE: N.T.S.

1



NOTE:
CONTRACTOR TO VERIFY ALL LOCATION OF WATERLINES AND TO HAND DIG IN THAT AREA.

NOTE:
CONTRACTOR SHALL EXCAVATE TRENCH FOR INSTALLATION OF NEW SERVICE UTILITIES AND SHALL RESTORE TO ORIGINAL CONDITION

NOTE:
CONTRACTOR SHALL VERIFY ALL UTILITY CONNECTIONS WITH RESPECTIVE UTILITY COMPANIES PRIOR TO INSTALLATION

ELECTRICAL SITE PLAN

SCALE: 1" = 10'-0"

2

NORTH

NOTE:
DISCONNECT IS THE RESPONSIBILITY OF THE CONTRACTOR

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5030 RIVERSIDE DRIVE
SUITE 300
IRVING, TEXAS 75039

1	05/20/04	FOR CONSTRUCTION
A	05/03/04	PRELIMINARY

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STATE OF TEXAS
SCOTT R. TRIPHAHN
85282
LICENSED
PROFESSIONAL ENGINEER
DATE: 05/20/04 EXPIRES: 03/31/05

PROJECT NO: T04277

DRAWN BY: TMC

CHECKED BY: KWM

CASCADE # HO58XC335
LEAGUE CITY WATER TOWER
5123 1/2 CANDLEWOOD
LEAGUE CITY, TX 77573
GALVESTON COUNTY

SHEET TITLE
ELECTRICAL SITE PLAN

SHEET NUMBER
E-1

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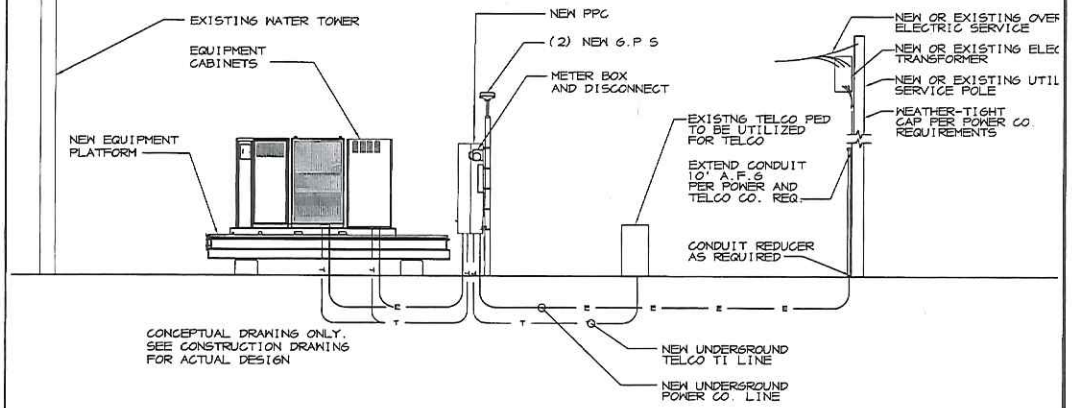
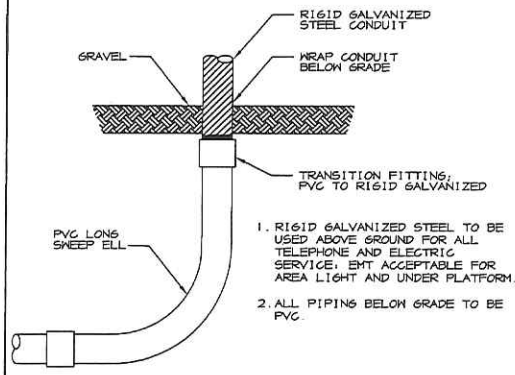
COORDINATION WITH UTILITY COMPANY

THE ELECTRICAL CONTRACTOR SHALL COORDINATE COMPLETE ELECTRICAL SERVICE WITH LOCAL UTILITY COMPANIES FOR A COMPLETE OPERATIONS SYSTEM, INCLUDING TRANSFORMER CONNECTIONS, CONCRETE TRANSFORMER PADS PRIOR TO SUBMITTING BID TO INCLUDE ALL LABOR AND MATERIALS



ELECTRIC AND TELEPHONE RISER (1)

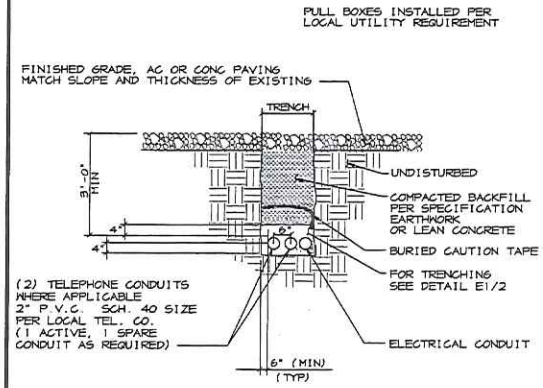
SCALE: N.T.S



1. RIGID GALVANIZED STEEL TO BE USED ABOVE GROUND FOR ALL TELEPHONE AND ELECTRIC SERVICE; EMT ACCEPTABLE FOR AREA LIGHT AND UNDER PLATFORM.
2. ALL PIPING BELOW GRADE TO BE PVC.

CONDUIT DETAIL (2)

SCALE: N.T.S.



ELEC/TELCO TRENCH (3)

SCALE: N.T.S

ELECTRICAL NOTES:

1. ALL ELECTRICAL WORK SHALL BE IN STRICT CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE.
2. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE U.L. APPROVED.
3. ALL WIRING SHALL BE COPPER
4. MINIMUM WIRE SIZE SHALL BE # 12 AWG.
5. ALL CONDUCTORS SHALL BE IDENTIFIED AT ALL TERMINATIONS, JUNCTION BOXES AND FITTINGS.
6. COORDINATE LOCATION AND POWER REQUIREMENTS OF ALL EQUIPMENT WITH EQUIPMENT SUPPLIERS PRIOR TO INSTALLATION
7. ALL POWER WIRING SHALL BE TYPE "THHN" RATED 90° C
8. TWO FLOOD LIGHT CIRCUITS SHALL BE (2) #12 AND #12 GND IN MINIMUM 3/4" CONDUIT. CONDUIT SHALL BE RIGID CONDUIT ABOVE GRADE OR PVC BELOW GRADE. CONNECT BOTH LIGHTS ON SAME 20A CIRCUIT BREAKER IN PPC. CONDUIT SHALL BE RUN UNDER EQUIPMENT PLATFORM OR UNDERGROUND IF IT MAY BE A TRIPPING HAZARD.
9. CONTRACTOR TO OBTAIN ALL PERMITS, PAY PERMIT FEES, AND BE RESPONSIBLE FOR SCHEDULING INSPECTIONS.
10. CONTRACTOR TO OBTAIN LOCAL POWER AND TELEPHONE COMPANY APPROVAL AND COORDINATE WITH UTILITY COMPANIES SERVICE ENTRANCE REQUIREMENTS.
11. PROVIDE ALL LABOR AND MATERIAL DESCRIBED ON THIS DRAWING, AND ALL ITEMS INCIDENTAL TO COMPLETING AND PRESENTING THIS PROJECT AS FULLY OPERATIONAL.
12. CONTRACTOR TO PROVIDE TELEPHONE CONDUIT AS SHOWN ON PLANS
13. CONTRACTOR TO PROVIDE ELECTRIC CONDUIT AS SHOWN ON PLANS
14. NOTIFY LOCAL UTILITY SERVICE PRIOR TO ANY INSTALLATION.
15. ALL EQUIPMENT FURNISHED BY OTHERS SHALL BE PROVIDED WITH PROPER MOTOR STARTERS, DISCONNECTS, CONTROLS, ETC. BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE. THE ELECTRICAL CONTRACTOR SHALL INSTALL AND COMPLETELY WIRE ALL ASSOCIATED EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S WIRE DIAGRAMS AND AS REQUIRED FOR A COMPLETE OPERATING INSTALLATION. ELECT. CONTRACTOR SHALL VERIFY AND COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF EQUIPMENT PRIOR TO ROUGH-IN OF CONDUIT AND WIRING TO AVOID CONFLICTS. WHERE APPLICABLE
16. UTILITY COMPANY COORDINATION: ELECTRICAL CONTRACTOR SHALL CONFIRM THAT ALL WORK IS IN ACCORDANCE WITH THE RULES OF THE LOCAL UTILITY COMPANY BEFORE SUBMITTING HIS BID, THE CONTRACTOR SHALL CHECK WITH THE UTILITY COMPANIES SUPPLYING SERVICE TO THIS PROJECT AND SHALL DETERMINE FROM THEM ALL EQUIPMENT AND CHARGES WHICH THEY WILL REQUIRE AND SHALL INCLUDE THE COST IN HIS BID

CONDUITS AND WIRING:

1. WIRING OF EVERY KIND MUST BE INSTALLED IN CONDUIT, UNLESS NOTED OTHERWISE, OR AS APPROVED BY THE ENGINEER
2. WIRES AND CABLES FOR POWER SHALL BE INSTALLED IN GALVANIZED RIGID STEEL CONDUIT OR FLEXIBLE LIQUID TIGHT CONDUIT AS INDICATED ON DRAWING.
3. RACEWAYS SHALL BE GALVANIZED STEEL, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, UNLESS OTHERWISE NOTED. ALL RACEWAYS SHALL BE APPROVED FOR THE INSTALLATION
4. PULL OR JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO FACILITATE INSTALLATION OF RACEWAYS AND WIRING
5. PROVIDE A COMPLETE RACEWAY AND WIRING INSTALLATION, PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE AND LOCAL CODES
6. CONTRACTOR SHALL INSTALL CONDUIT AND WIRE TO THE EQUIPMENT, COIL WIRES, SEAL CONDUIT AND WIRE ENDS FROM MOISTURE INFILTRATION. LEAVE ENOUGH WIRE TO TERMINATE AT EQUIPMENT. (MINIMUM OF 10 FEET)
7. CONDUIT ENTRIES INTO OUTDOOR EQUIPMENT SHALL BE FROM BOTTOM.

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SCOTT R. TRIPHAHN
85282
LICENSED PROFESSIONAL ENGINEER
DATE: 05/20/04 EXPIRES: 03/31/05

PROJECT NO: T04277

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CHECKED BY: KWM

CASCADE # HO58XC335
LEAGUE CITY WATER TOWER
5123 1/2 CANDLEWOOD
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GALVESTON COUNTY

SHEET TITLE
ELECTRIC/TELCO RISER AND DETAILS

SHEET NUMBER
E-2

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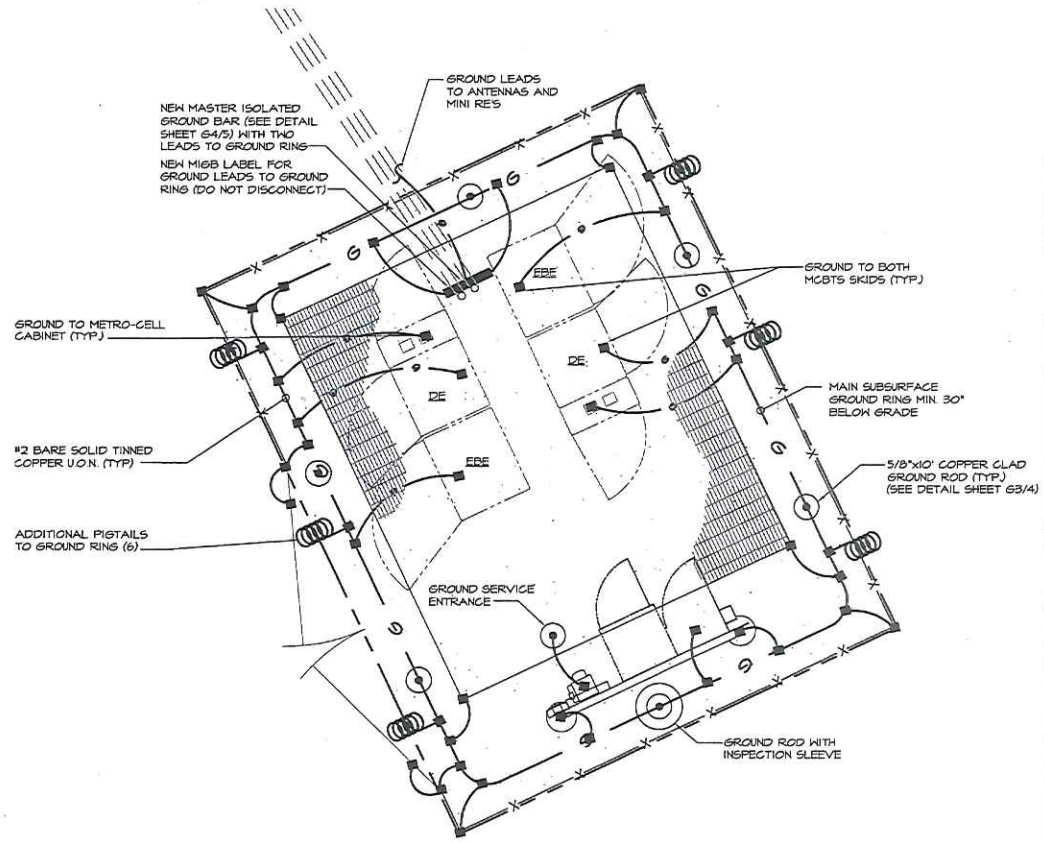
GROUNDING NOTES:

1. GROUNDINGS CONNECTIONS SHALL BE EXOTHERMIC WELDS TO ANTENNA MASTS, AND THE GROUND BARS. REMAINING GROUNDING CONNECTIONS SHALL BE COMPRESSION FITTINGS
2. GROUND CONNECTIONS TO EQUIPMENT SHALL BE MADE USING TWO-HOLE CONNECTIONS PROVIDE STAINLESS STEEL BOLTS AND LOCK WASHERS ON ALL MECHANICAL GROUND CONDUCTORS USE LONG-BARREL LUG TYPE OR EQUIVALENT
3. EQUIPMENT SURFACES TO BE BONDED TO GROUNDING SYSTEM SHALL BE STRIPPED OF ALL PAINT AND DIRT
4. EXTERIOR GROUND CONNECTIONS SHALL BE FURNISHED WITH A LIBERAL PROTECTIVE COATING OF ANTI-OXIDE COMPOUND.
5. ALL EXOTHERMIC WELDS SHALL BE CADWELD OR APPROVED EQUAL
6. ALL CABLE TRAY AND WAVEGUIDE SECTIONS TO BE GROUNDED TOGETHER BY JUMPERS. BOND EACH SECTION OF CABLE TRAY AND WAVEGUIDE TO THE GROUNDING CONDUCTOR WITH JUMPERS.
7. GROUNDING CONDUCTOR SHALL BE BURIED 30" BELOW GRADE UNTIL AN ABOVE GRADE CONNECTION IS MADE
8. GROUND BAR SHALL BE NEWTON INSTRUMENT CAT. #3061-4 OR EQUAL. MOUNTING BRACKETS SHALL BE NEWTON INSTRUMENT CAT #A-6056 OR EQUAL.
9. GROUND BAR SHALL BE MOUNTED VERTICALLY WHERE POSSIBLE.
10. ADD LABEL "DO NOT REMOVE GROUND LEADS" AT EACH GROUND BAR.
11. INSTALL ALL ABOVE GRADE GROUND LEADS IN NONMETALLIC FLEXIBLE CONDUIT.
12. GROUNDINGS SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
13. GROUND COAXIAL CABLE SHIELDS AT BOTH ENDS WITH COAX CABLE GROUNDING KITS AND INSTALL GROUND KIT AT EACH CONNECTION
14. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE, ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 8" RADIUS WHEN NECESSARY.
15. CONTRACTOR TO PROVIDE GROUND RING AS SHOWN ON GROUNDING SITE PLAN AND GROUNDING RISER DIAGRAM. CONTRACTOR SHALL TEST AND VERIFY THAT THE IMPEDANCE DOES NOT EXCEED 5 OHMS TO GROUND BY MEANS OF A BIDDLE-MEGGER TESTER. GROUNDING AND OTHER OPERATIONAL TESTING SHALL BE WITNESSED BY THE OWNER'S REPRESENTATIVE.
16. GROUNDING CONDUCTORS SHALL BE COPPER ONLY. ABOVE GROUND EITHER SOLID OR STRANDED CONDUCTORS ARE PERMITTED. IGR AND ALL EXTERNAL CONDUCTORS (WITH THE EXCEPTION FOR GROUND WIRE BETWEEN THE TOP AND THE BOTTOM OF THE ANTENNA TOWER) MUST BE BARE. EQUIPMENT GROUND LEADS IN CABLE TRAYS MUST BE GREEN INSULATED.
17. ALL EXOTHERMIC WELDS ABOVE FINISHED GRADE SHALL BE PAINTED WITH COLD GALVANIZED ZINC ENRICHED PAINT TO MATCH COLOR OBJECT BONDED TO.
18. THE FENCE GATE JUMPER SHALL BE A 4/0 WELDING CABLE OR A FLEXIBLE 1 INCH COPPER BRAIDED JUMPER WITH SLEEVES ON EACH END DESIGNED FOR EXOTHERMIC WELDING.



GROUNDING PLAN 1

SCALE: 1/4" = 1'-0"

NORTH

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GALVESTON COUNTY

SHEET TITLE
GROUNDING PLAN

SHEET NUMBER
G-1

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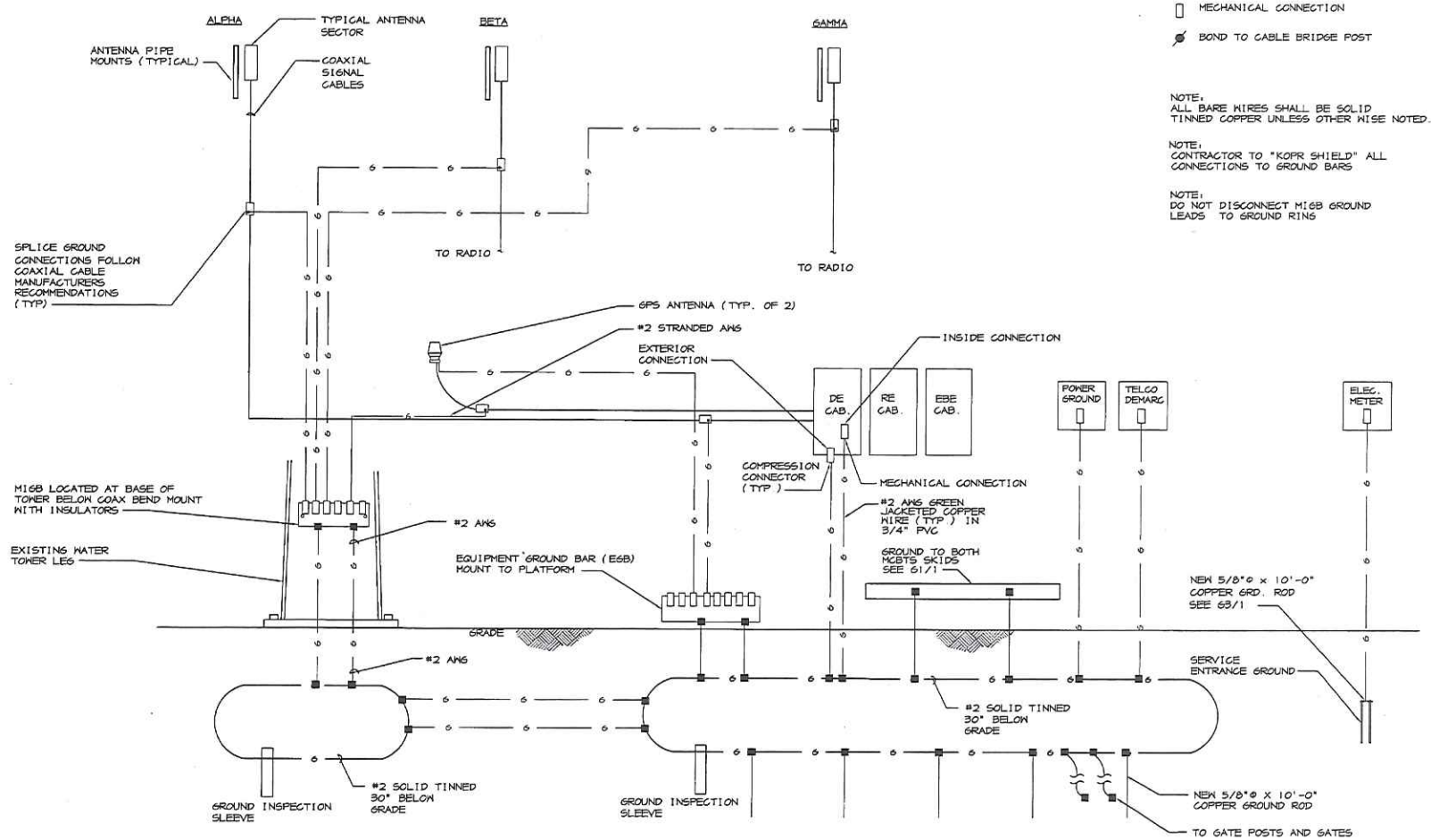

NOTE:
ALL BARE WIRES SHALL BE SOLID TINNED COPPER UNLESS OTHER WISE NOTED.

NOTE:
CONTRACTOR TO "KOPR SHIELD" ALL CONNECTIONS TO GROUND BARS

NOTE:
DO NOT DISCONNECT MIGB GROUND LEADS TO GROUND RINGS

GROUNDING RISER DIAGRAM (1)

SCALE: NTS

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GROUNDING RISER DIAGRAM

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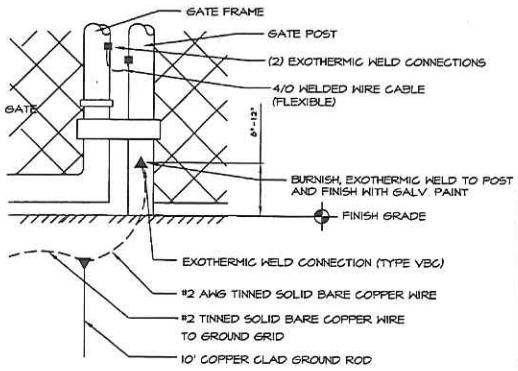
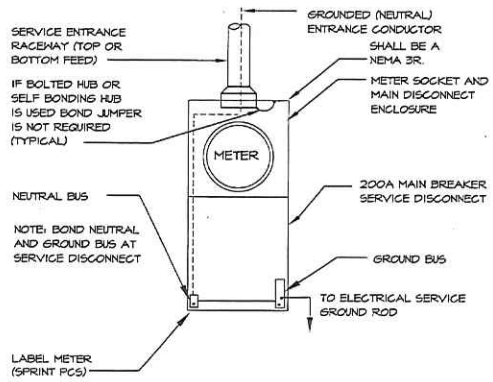


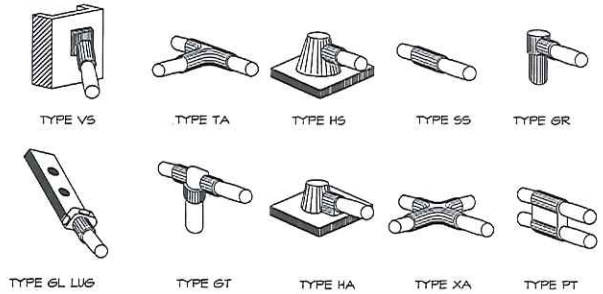
GATE GROUNDING DETAIL 1

SCALE: N.T.S.



SERVICE ENTRANCE GROUNDING 2

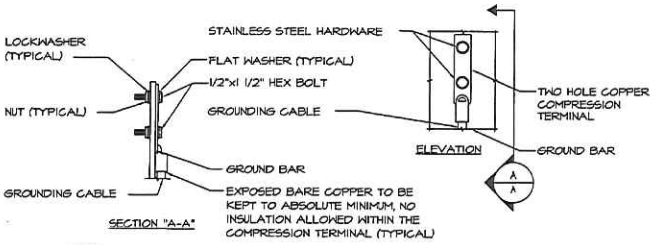
SCALE: NONE



NOTE: CADWELD "TYPES" SHOWN ABOVE ARE EXAMPLES CONSULT WITH PROJECT MANAGER FOR SPECIFIC TYPES OF CADWELDS TO BE USED FOR THIS PROJECT.

CADWELD TYPES 3

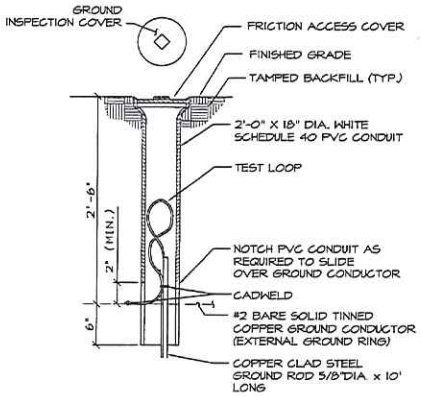
SCALE: N.T.S.



NOTE:
1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

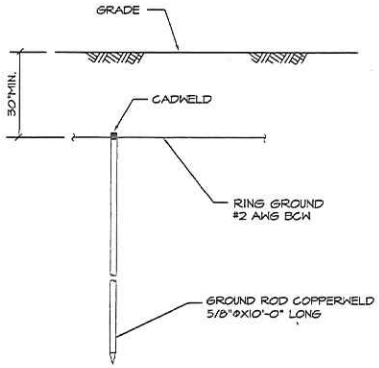
TYPICAL GROUND BAR CONNECTIONS DETAIL 4

SCALE: N.T.S.



INSPECTION WELL DETAIL 5

SCALE: N.T.S.



GROUND ROD 6

SCALE: N.T.S.

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SHEET TITLE
SITE GROUNDING DETAILS

SHEET NUMBER
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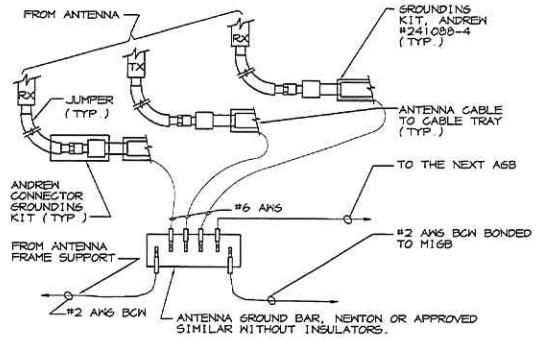
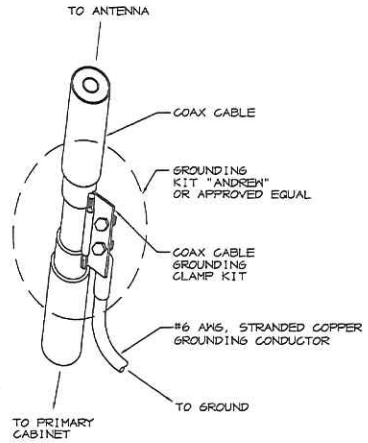
NOT USED
SCALE: N.T.S.

1



GROUND WIRE CONNECTION TO GROUND BAR AT 3 ANTENNAS
SCALE: N.T.S.

2

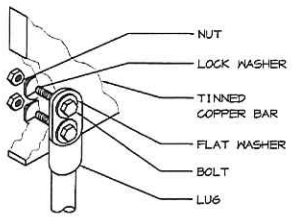


COAX CABLE GROUNDING DETAIL
SCALE: N.T.S.

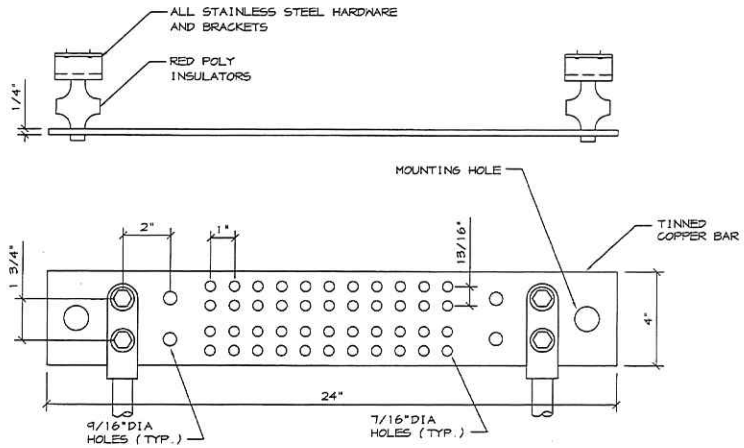
3

NOT USED
SCALE: N.T.S

4



NOTE:
ALL GROUNDING CONNECTION INTERFACES TO BE "KOPR-SHIELD"



GROUND BAR DETAIL
SCALE: N.T.S

5

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SHEET TITLE
COAX CABLE GROUNDING DETAILS

SHEET NUMBER
G-4

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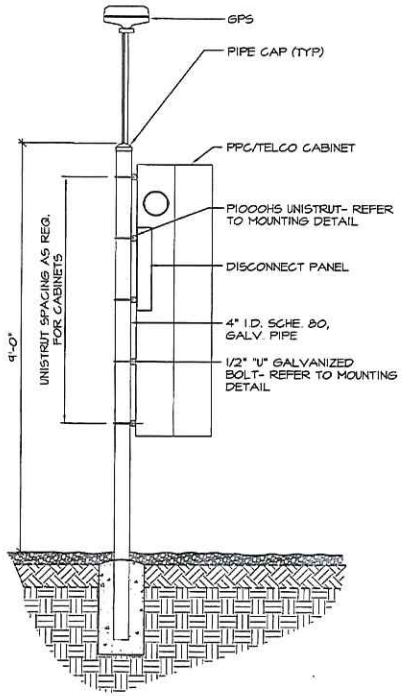
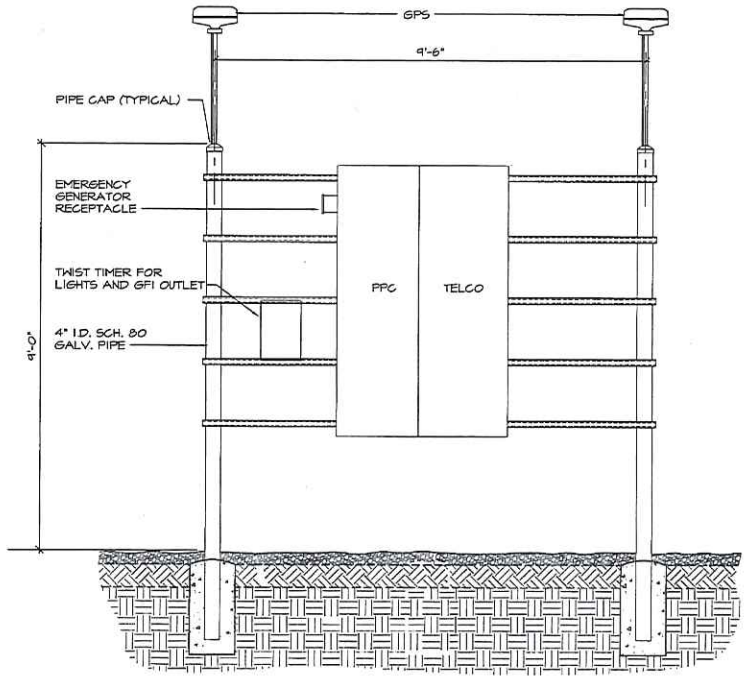


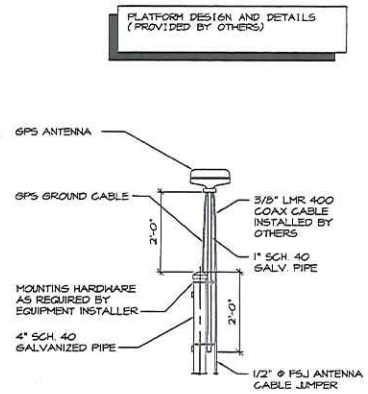
UTILITY FRAME ELEVATION (SIDE) 1

SCALE: 3/8" = 1'-0"



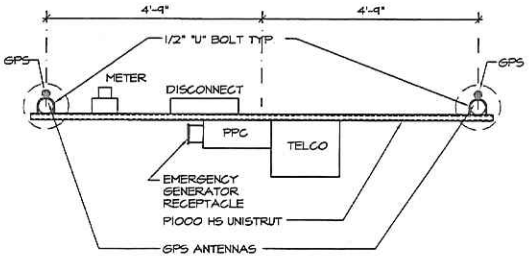
UTILITY FRAME ELEVATION (FRONT) 2

SCALE: 3/8" = 1'-0"



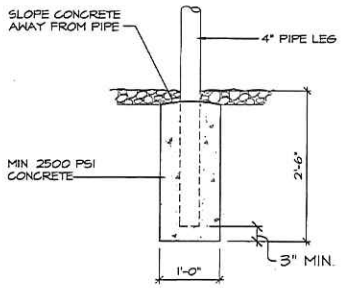
GPS ANTENNA MOUNTING DETAIL 3

SCALE: N.T.S.



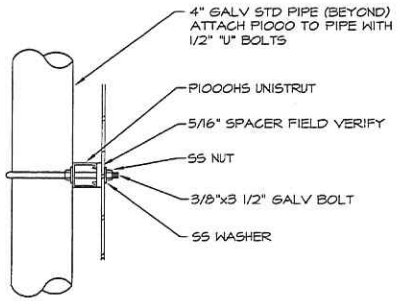
UTILITY FRAME PLAN 3

SCALE: 3/8" = 1'-0"



UTILITY FRAME- PIER DETAIL 4

SCALE: 1/2" = 1'-0"



UTILITY FRAME-MOUNTING DETAIL 5

SCALE: 1/2" = 1'-0"

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UTILITY RACK

SHEET NUMBER
D-1

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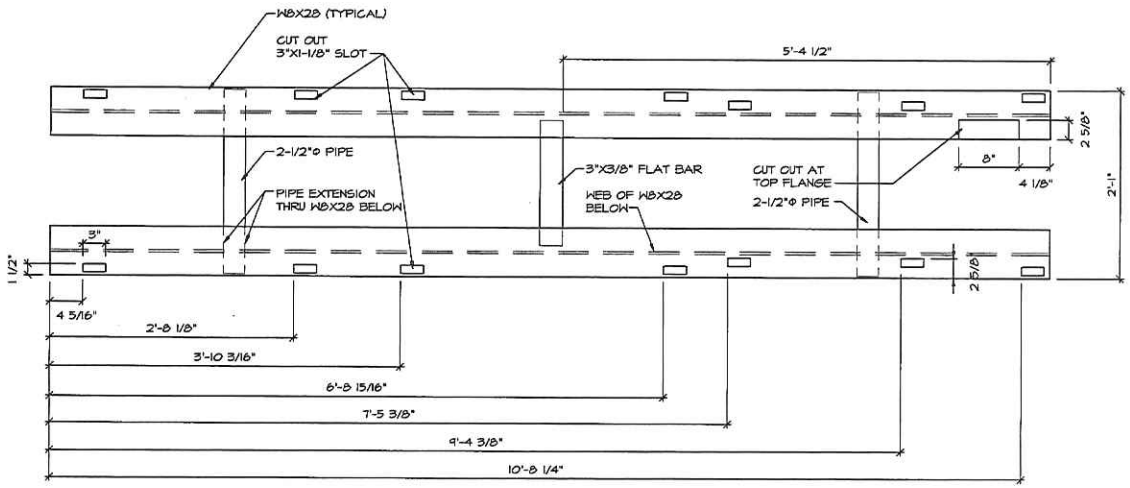
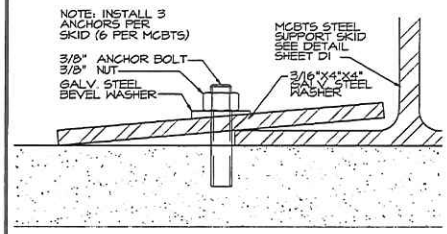


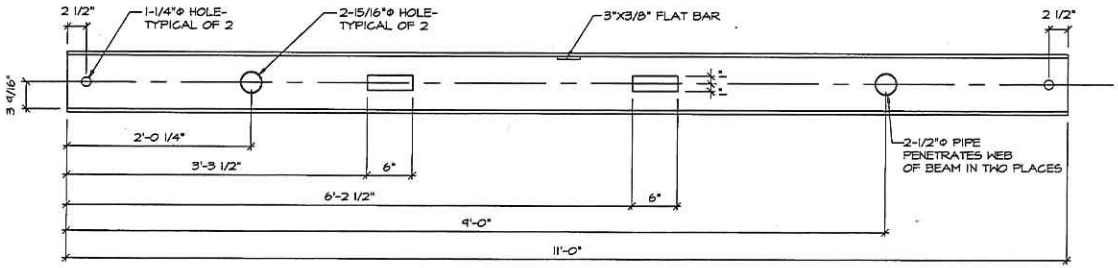
TOP VIEW (1)

SCALE: 3/4" = 1'-0"



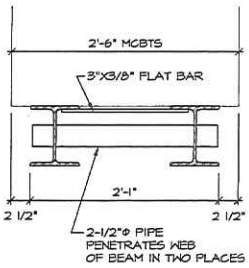
ANCHOR DETAIL (2)

SCALE: N.T.S.



SECTION (3)

SCALE: 3/4" = 1'-0"



END VIEW (4)

SCALE: 3/4" = 1'-0"

Sprint PCS
5030 RIVERSIDE DRIVE
SUITE 300
IRVING, TEXAS 75039

1	05/20/04	FOR CONSTRUCTION
A	05/03/04	PRELIMINARY

W-T
W-T COMMUNICATION DESIGN GROUP LLC
3001 LBJ FREEWAY, SUITE 129
DALLAS, TEXAS 75234
ph. (972) 739-0761
fax. (972) 739-0762

STATE OF TEXAS
SCOTT R. TRIPPLAIN
85282
LICENSED
PROFESSIONAL ENGINEER

DATE: 05/20/04 EXPIRES: 03/31/05

PROJECT NO: T04277

DRAWN BY: TMC

CHECKED BY: KWM

CASCADE # HO58XC335
LEAGUE CITY
WATER TOWER

5123 1/2 CANDLEWOOD
LEAGUE CITY, TX 77573
GALVESTON COUNTY

SHEET TITLE
SKID MOUNT LAYOUT

SHEET NUMBER
D-2

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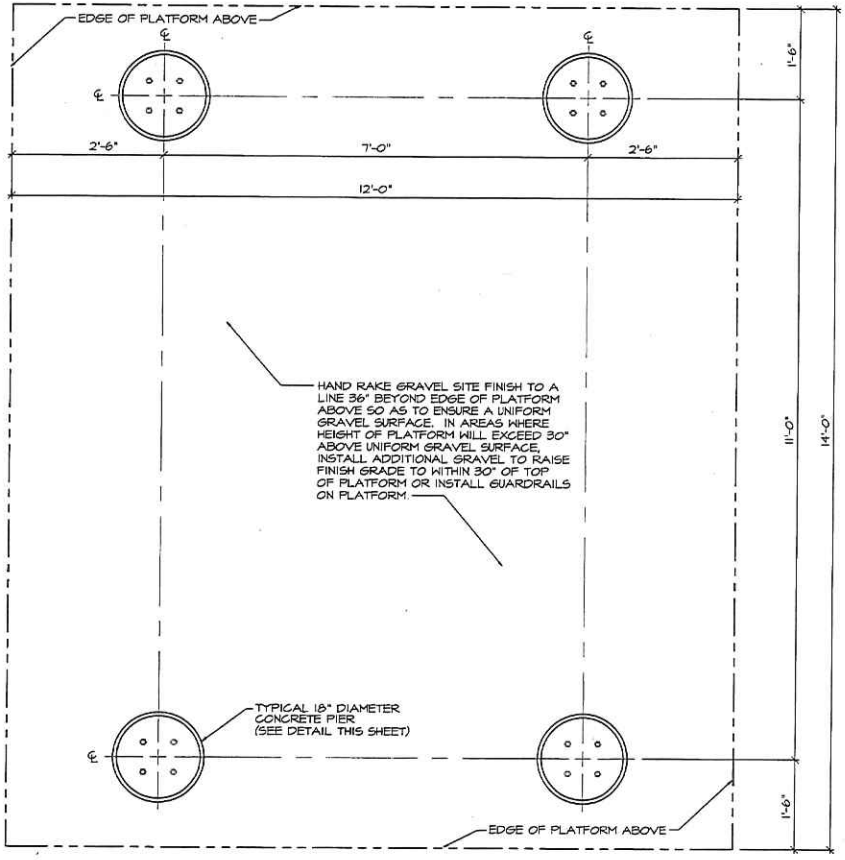
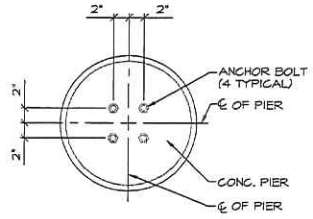


PLATFORM LAYOUT (1)

SCALE: 1/2" = 1'-0"

NOTES:

1. ALL STRUCTURAL STEEL SHAPES AND PLATES SHALL BE ASTM A-36 UNLESS NOTED OTHERWISE CONNECTIONS SHALL BE BOLTED USING 3/4" DIAMETER ASTM A325 BOLTS
2. ALL STEEL SHAPES SHALL BE FABRICATED AND THEN HOT DIP GALVANIZED
3. GRATING SHALL BE 1" DEEP RECTANGULAR WELDED BAR GRATING WITH 3/16" WIDE BEARING BARS FABRICATED IN ACCORDANCE WITH NAAMM. GALVANIZED.
4. REFER TO SITE PLAN FOR PIER LOCATION AND ORIENTATION.
5. ELEVATION OF PLATFORM WILL BE SITE SPECIFIC, HOWEVER, IN NO CASE SHALL THE DISTANCE BETWEEN TOP OF GRATING AND TOP OF GRADE EXCEED 2'-6" WITHOUT THE ADDITION OF GUARDRAILS.
6. PLATFORM AND PIERS HAVE NOT BEEN DESIGNED FOR SEISMIC LOADS. ENGINEERING MODIFICATIONS TO PLATFORM AND FOUNDATION SHALL BE REQUIRED IN AREAS WHERE SEISMIC LOADING IS REQUIRED



ANCHOR BOLT PLACEMENT (2)

SCALE: 3/4" = 1'-0"

PLATFORM DESIGN AND DETAILS (PROVIDED BY OTHERS)

Sprint PCS
5030 RIVERSIDE DRIVE
SUITE 300
IRVING, TEXAS 75039

1	05/20/04	FOR CONSTRUCTION
A	05/03/04	PRELIMINARY

W-T
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STATE OF TEXAS
SCOTT R. TRIPMAHN
85282
LICENSED
PROFESSIONAL ENGINEER
DATE: 05/20/04 EXPIRES: 03/31/05

PROJECT NO: T04277

DRAWN BY: TMC

CHECKED BY: KWM

CASCADE # HO58XC335
LEAGUE CITY WATER TOWER

5123 1/2 CANDLEWOOD
LEAGUE CITY, TX 77573
GALVESTON COUNTY

SHEET TITLE
FOUNDATION DETAILS

SHEET NUMBER
D-3

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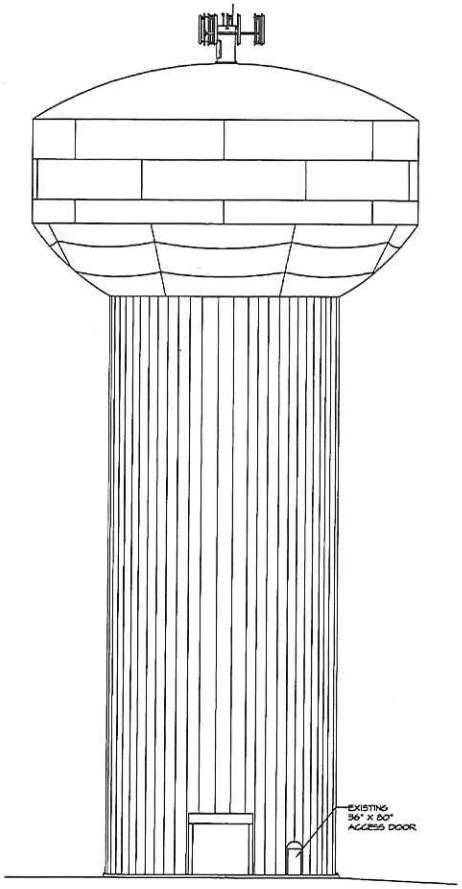
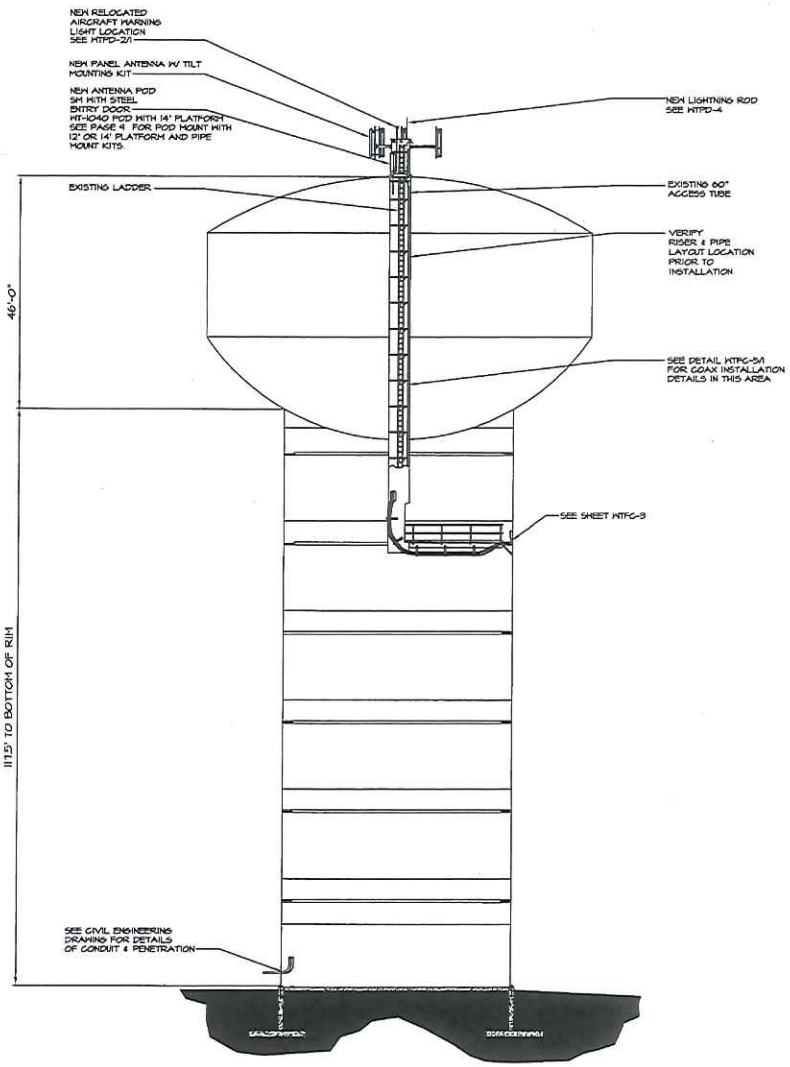


EAST SECTION (2)

SCALE: 3/32"=1'-0"



NOTE: ROUTE OF COAX CABLE MESSENGER PIPE SHALL BE LOCATED AT A POINT WHERE MULTIPLE STIFFNER RINGS LINE UP AND THE MESSENGER PIPE CAN BE ROUTED SECURELY

INSIDE TANK COAX CABLE ROUTING (1)

SCALE: 3/32"=1'-0"

PROJECT NO:	T04277
DRAWN BY:	TMC
CHECKED BY:	KWM

1	05/05/04	FOR CONSTRUCTION
0	03/30/04	PRELIMINARY

W-T

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LICENSED PROFESSIONAL ENGINEER-STATE OF

SCOTT R. TRIPMAN PE, PLS
SIGNED: 05/30/04
EXPIRES: 09/30/05

CASCADE#HO58XC335
LEAGUE CITY WATER TOWER
5123 1/2 CANDLEWOOD
LEAGUE CITY, TX 77573
GALVESTON COUNTY

SHEET TITLE
ELEVATIONS & SECTIONS

SHEET NUMBER
WTFC-1

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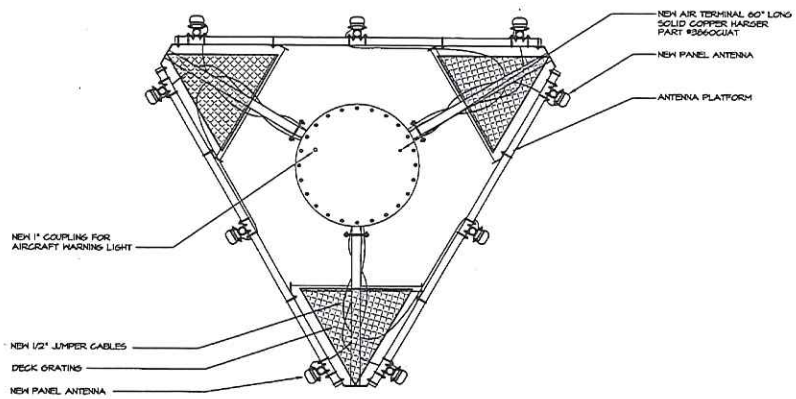
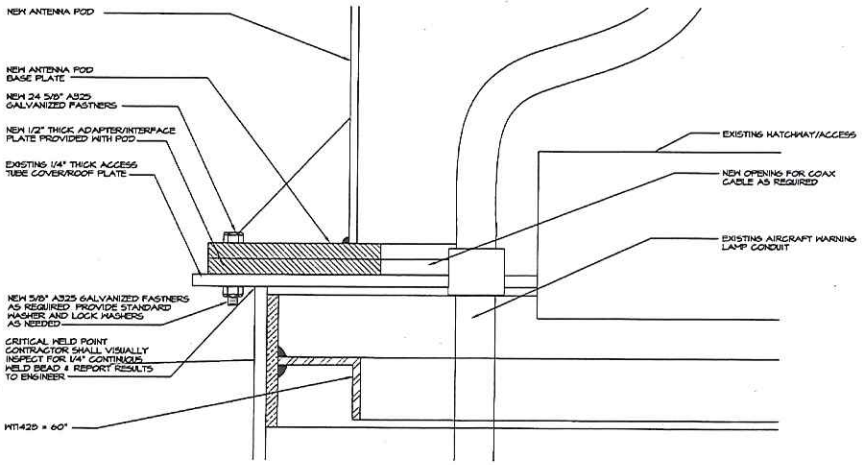


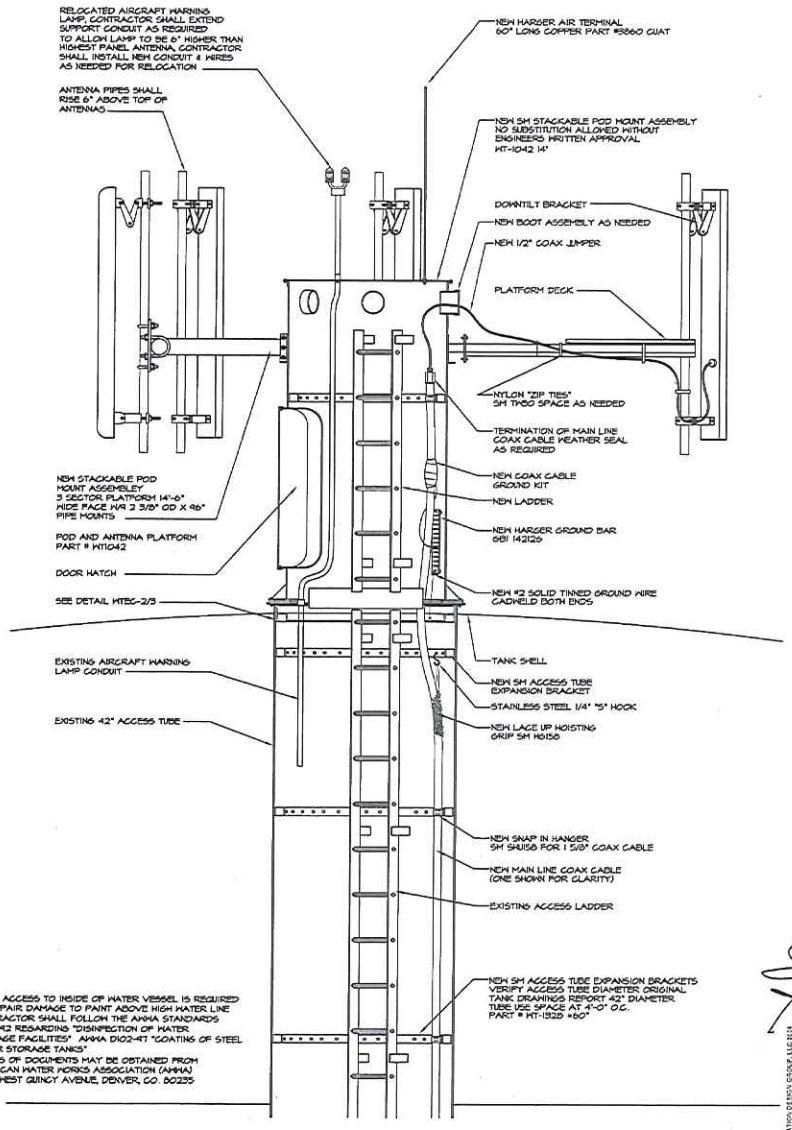
ANTENNA PLAN (2)

SCALE: NONE



POD ATTACHMENT SECTION (3)

SCALE: NONE



NOTE: ACCESS TO INSIDE OF WATER VESSEL IS REQUIRED TO REPAIR DAMAGE TO PAINT ABOVE HIGH WATER LINE CONTRACTOR SHALL FOLLOW THE AWWA STANDARDS G602-92 REGARDING "DISINFECTION OF WATER STORAGE FACILITIES" AWWA D102-97 "COATING OF STEEL WATER STORAGE TANKS"
COPIES OF DOCUMENTS MAY BE OBTAINED FROM AMERICAN WATER WORKS ASSOCIATION (AWWA) 6666 WEST QUINCY AVENUE, DENVER, CO. 80235

POD ATTACHMENT ELEVATION (1)

SCALE: NONE

PROJECT NO:	T94277
DRAWN BY:	TMC
CHECKED BY:	KWM

1	10/20/04	FOR CONSTRUCTION
A	10/14/04	PRELIMINARY

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LICENSED PROFESSIONAL ENGINEER-STATE OF TEXAS

SCOTT R. SCHIPMANN PE, PLS
SIGNED: 05/20/04
EXPIRES: 05/31/05

CASCADE#H058XC335

LEAGUE CITY WATER TOWER
5123 1/2 CANDLEWOOD
LEAGUE CITY, TX 77573
GALVESTON COUNTY

SHEET TITLE
ANTENNA POD DETAILS

SHEET NUMBER
WTFC-2

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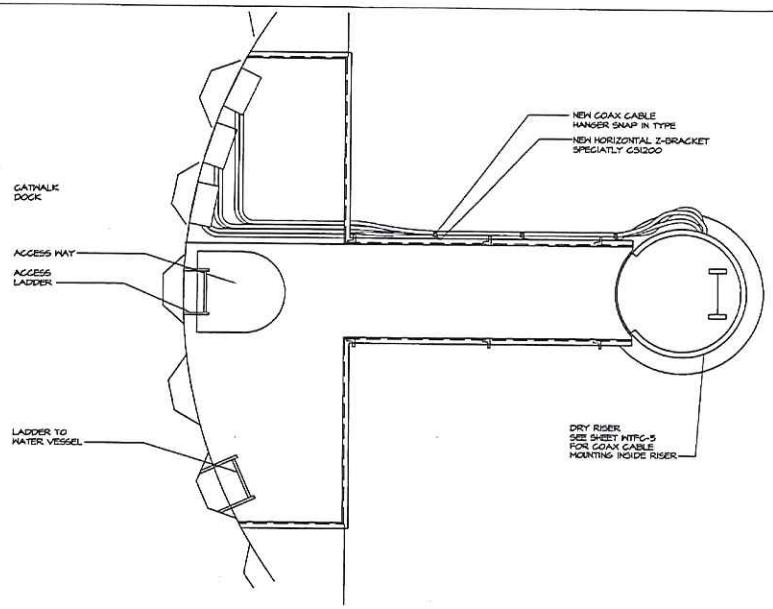
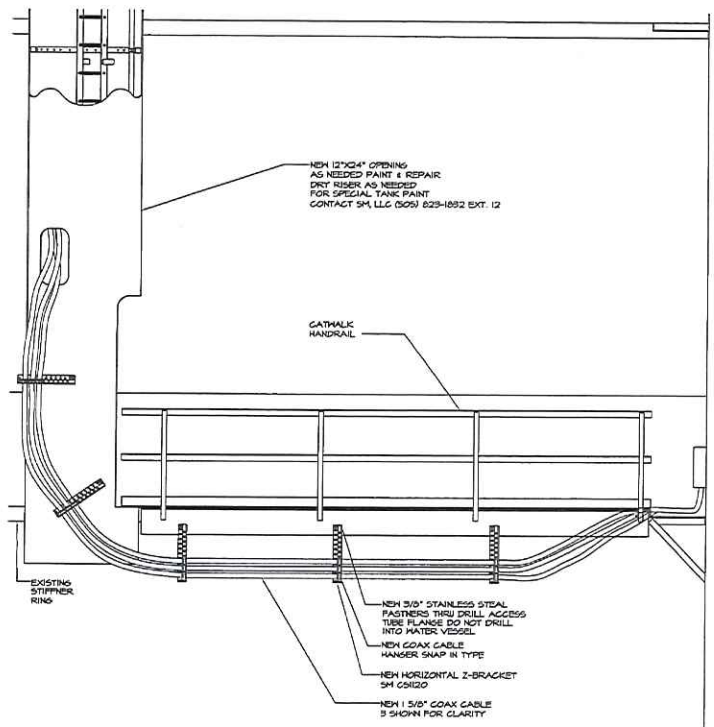


ANTENNA PLAN (3)
SCALE: NONE

NOT USED (4)
SCALE: NONE



TANK NECK SECTION (1)
SCALE: NONE

PROJECT NO:	T04277
DRAWN BY:	TMC
CHECKED BY:	KWM

1	05/05/04	FOR CONSTRUCTION
A	03/03/04	PRELIMINARY

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LICENSED PROFESSIONAL ENGINEER STATE OF

SCOTT R. TRUMBAUR PE, PLS
SIGNED: 05/20/04
EXPIRES: 05/31/05

CASCADE/HOS8XC335
LEAGUE CITY WATER TOWER
5123 1/2 CANDLEWOOD
LEAGUE CITY TX 77573
GALVESTON COUNTY

SHEET TITLE
ANTENNA POD DETAILS

SHEET NUMBER
WTFC-3

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GENERAL WELDING

1 ALL WELDING SHALL BE BY AN AWS CERTIFIED WELDER.

2 COMPLY WITH THE AWS STRUCTURAL WELDING CODES, INCLUDING ANSI/AWWA D100-96 "AWWA STANDARD FOR WELDED STEEL TANKS FOR WATER STORAGE" AS MODIFIED TO DATE

3 MAKE ALL WELDS TO THE TANK WALL WITH E7018 LOW HYDROGEN ROD. WELD SMOOTH AND AVOID UNDERCUTS AND BURRS. GRIND SMOOTH ALL WELDS SO THAT NO SHARP PROTRUSIONS REMAIN. SMOOTH IS DEFINED AS NO CUTS OR ABRASIONS OCCUR WHEN RUBBING YOUR HAND OVER THE WELD.

4 DO NOT WELD WHEN THE AMBIENT TEMPERATURE IS BELOW 32°F UNLESS THE REQUIREMENTS OF AWWA D100, SEC 10.2.1 ARE FOLLOWED

5 BEFORE WELDING, REMOVE ALL COATINGS WITHIN 6" OF THE AREA TO BE WELDED. PREPARE EXISTING STRUCTURAL COMPONENTS SURFACES WHERE WELDING IS TO BE PERFORMED IN ACCORDANCE WITH SSPC AND API CODES.

6 WELDING MAY CAUSE BLISTERING OF THE PAINT NEXT TO THE WELD. EXTERIOR PAINT DAMAGE SHALL BE REPAIRED AFTER COMPLETION OF THE ANTENNA INSTALLATION, AND SHALL BE COMPATIBLE WITH THE EXISTING PAINT SYSTEMS (TNEMEC URETHANE - EXTERIOR)

7 DO NOT WELD GALVANIZED COMPONENTS DIRECTLY TO THE TANK SURFACE. GRIND GALVANIZED SURFACES FREE OF GALVANIZING PRIOR TO WELDING. PREPARE EXISTING STRUCTURAL COMPONENT SURFACES WHERE WELDING IS TO BE PERFORMED IN ACCORDANCE WITH AWS CODES.

8 USE ASTM A-36 CARBON STEEL FOR ALL STRUCTURAL STEEL; USE A-307 BOLTS UNLESS OTHERWISE SPECIFIED.

9 COMPLY WITH APPLICABLE AWWA D-100, ASNI, ASTM STANDARDS, THE ACI, AISC, AND FEDERAL STATE AND LOCAL CODES, DURING CONSTRUCTION DESIGN AND FABRICATION.

10 VERIFY FIELD CONDITIONS. FIELD FIT UP PROBLEMS OR CHANGES TO THE PLAN SHEETS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER

11 CONTRACTOR SHALL CONTACT WELDING INSPECTOR 48 HOURS PRIOR TO ACTUAL WELDING (LARRY SMITANA GMI SERVICES) 630-878-9502 OR SPRINT APPROVED OTHER

12 WELD CERTIFICATION SHALL BE PROVIDED TO WELDING INSPECTOR PRIOR TO WORK COMMENCEMENT

12 WELD CERTIFICATION SHALL BE PROVIDED TO WELDING INSPECTOR PRIOR TO WORK COMMENCEMENT

WATER TANK CLEANING AND PAINTING REQUIREMENTS

ALL SURFACES:	AFTER WELDING, CLEAN ALL DAMAGED SURFACES IN ACCORDANCE WITH SSPC-SP3 POWER TOOL CLEANING REQUIREMENTS
INTERIOR WET: BLASTING:	SPOT BLAST SSPC-SP10 NEAR-WHITE FINISH ALL RUSTED, ABRADED, LOOSE PAINT, AND POWER TOOL CLEANED AREAS.
PRIME COAT:	SPOT PRIME ONE COAT OF TNEMEC SERIES 91 H20 HYDRO-ZINC TO ALL BARE STEEL WITHIN 12 HRS. AFTER BLASTING. DRY FILM THICKNESS = 2.5-3.5 MILS.
INTERMEDIATE COAT:	ONE COAT TNEMEC SERIES 20-1255 CHICAGO BEIGE POTA POX DRY FILM THICKNESS = 4.0-6.0 MILS.
FINISH COAT:	ONE COAT TNEMEC SERIES 20-WH02 TANK WHITE POTA-POX. DRY FILM THICKNESS = 5.0-6.0 MILS.
INTERIOR DRY: BLASTING:	SPOT BLAST SSPC-SP6 COMMERCIAL BLAST ALL RUSTED, ABRADED, LOOSE PAINT, AND POWER TOOL CLEANED AREAS
PRIME COAT:	SPOT PRIME ONE COAT OF TNEMEC SERIES 91 H20 HYDRO-ZINC TO ALL BARE STEEL WITHIN 12 HRS. AFTER BLASTING DRY FILM THICKNESS = 2.5-3.5 MILS.
FINISH COAT:	ONE COAT TNEMEC SERIES 20-WH02 TANK WHITE POTA POX DRY FILM THICKNESS = 5.0-6.0 MILS
EXTERIOR: BLASTING:	SPOT BLAST SSPC-SP6 COMMERCIAL ALL RUSTED, ABRADED, LOOSE PAINT, AND POWER TOOL CLEANED AREAS.
PRIME COAT:	SPOT PRIME ONE COAT OF TNEMEC SERIES 136 - 1255 CHICAGO BEIGE PRIMER TO ALL BARE STEEL WITHIN 12 HRS. AFTER BLASTING. DRY FILM THICKNESS = 3.0-4.0 MILS.
INTERMEDIATE COAT:	ONE COAT OF TNEMEC SERIES 30 SPRA-SAF EN (***) DRY FILM THICKNESS = 2.0-3.0 MILS
FINISH COAT:	ONE COAT OF TNEMEC SERIES 80 SPRA-SAF EN (***) MATCH EXISTING COLOR) DRY FILM THICKNESS = 2.0-3.0 MILS.

NOTE: CONTRACTOR TO VERIFY THAT ABOVE SPEC'S ARE APPROVED BY THE VILLAGE PRIOR TO ORDERING AND PAINTING

*** CONTRACTOR SHALL ENSURE COLOR MATCH EXISTING PAINT ON TANK. MEET WITH VILLAGE

4 PROVIDE COLOR SAMPLE FOR APPROVAL PRIOR TO PAINTING.

> NOTE:
> THIS PAINT MAY NOT BE RF TRANSPARENT AND SHALL NOT BE USED TO PAINT THE ANTENNAS OR COAXIAL CABLE.

II. GENERAL PAINTING INSTRUCTIONS

1 AFTER WELDING, SPOT REPAIR ALL ABRADED AND WELDED AREAS BY POWER TOOL CLEANING TO A SSPC-SP11 GREY METAL FINISH. EXTERIOR, APPLY PRIME COAT OF TNEMEC SERIES 20FC, INTERMEDIATE COAT OF TNEMEC SERIES 20FC, AND A FINAL COAT OF TNEMEC SERIES 74, TO A DFT OF 6 MILS, COLOR SHALL MATCH EXISTING EXTERIOR TOPCOAT COLOR

2 SHOP ABRASIVE BLAST CLEAN TO A COMMERCIAL GRADE (SSPC-SP6) AND PRIME COAT NEW STEEL WITH A PRIME COAT OF TNEMEC SERIES 20FC EPOXY, AN INTERMEDIATE COAT OF TNEMEC SERIES 20FC EPOXY, AND A TOP COAT ON TNEMEC SERIES 74 - URETHANE TO MATCH EXISTING COATING SYSTEM, TO A DFT OF 6 MILS. EDGES TO BE WELDED ARE NOT TO BE PRIMED.

3 PREPARE AND COAT ALL GALVANIZED ITEMS SPOT DAMAGED IN ACCORDANCE WITH ITEM 1 ABOVE; USING SERIES 27 PRIMER. ON GALVANIZED SURFACES NOT DAMAGED; NO PAINTING IS REQUIRED.

4 FOLLOW THE PAINT MANUFACTURERS RECOMMENDATIONS FOR AMBIENT CONDITIONS, FOR APPLICATION, WET AND DRY FILM THICKNESS AND CURE TIME

INSTALLATION PROCEDURE FOR ANTENNA POD MOUNT

1 THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION. CONTRACTOR IS REQUIRED TO FOLLOW ALL APPLICABLE CODES INCLUDING BUT LIMITED LOCAL OR STATE BUILDING CODES, O.S.H.A. AND ANY LOCAL SAFETY CODES AND THOSE SAFETY ISSUES REQUIRED BY CUSTOMER AND LANDLORD. THE FOLLOWING STEPS ARE PROVIDED FOR REFERENCE AND EXPLANATION OF WORK SCOPE.

2 NO WORK SHALL COMMENCE ON STRUCTURE UNTIL A STRUCTURAL ANALYSIS IS PREPARED AND APPROVED BY A LICENSED STRUCTURAL ENGINEER. THE CONTRACTOR SHALL REVIEW AND MAKE A PART OF HIS BID ALL WORK DESCRIBED IN THE ANALYSIS. WORK DESCRIBED IN THE ANALYSIS SHALL TAKE PRIORITY TO THE DRAWINGS SHOWN BELOW.

3 THE POD SHOULD BE COMPLETELY ASSEMBLED ON THE GROUND AT A STRATEGIC LOCATION FOR CRANE ACCESS TO THE ASSEMBLED POD AND THE CENTER OF THE TANK. ASSEMBLY COULD ALSO INCLUDE THE INSTALLATION OF THE ANTENNAS AND JUMPERS. THE WEIGHT OF THE POD IS ROUGHLY 5700 POUNDS. IT IS EXTREMELY IMPORTANT THAT THE CRANE CAN REACH THE CENTER OF THE TANK WITH ENOUGH STICK TO CLEAR THE ROOF COMPLETELY. IF THE TANK IS IN SERVICE OR HAS WATER IN IT IT IS CONSIDERED ACTIVE AND THUS THE SHELL PLATES ARE STRESSED. THE ROOF OF MOST TANKS ARE DESIGNED FOR 200 POUNDS OF LOCAL LOADS AND CANNOT SUPPORT THE POD

4 PRIOR TO LIFTING THE POD, THE TOP OF THE TANK SHOULD BE PREPARED FOR THE NEW POD. THE MANHOLE COVER TO THE ACCESS TUBE SHOULD BE REMOVED FROM THE TOP OF THE ACCESS TUBE. IF OTHER ITEMS LIKE AIRCRAFT WARNING LIGHTS OR ANTENNAS ARE LOCATED ON THE ACCESS COVER, THEY SHOULD BE REMOVED AS WELL. THE CONTRACTOR SHALL PROVIDE TEMPORARY AIRCRAFT WARNING LIGHTS DURING CONSTRUCTION.

5 CONTRACTOR SHALL INSPECT THE STRUCTURAL INTEGRITY OF THE WELD ATTACHMENT OF THE TOP PLATE OF THE ACCESS TUBE. THIS IS A CRITICAL CONNECTION THAT CANNOT BE INSPECTED UNTIL CONSTRUCTION COMMENSES. CONTRACTOR SHALL NOTIFY ENGINEER AT ONCE IF A SUBSTANDARD WELD IS FOUND

6 ON THE MTS POD, THE ANTENNA PLATFORM CAN BE LOOSENED AND INFINITELY ADJUSTED FOR PROPER ANTENNA AZIMUTH ORIENTATION.

7 ALL COAX CABLE CONNECTIONS SHOULD BE MADE AND ANY PART OF THE POD SHOULD BE WEATHERSEALED APPROPRIATELY.

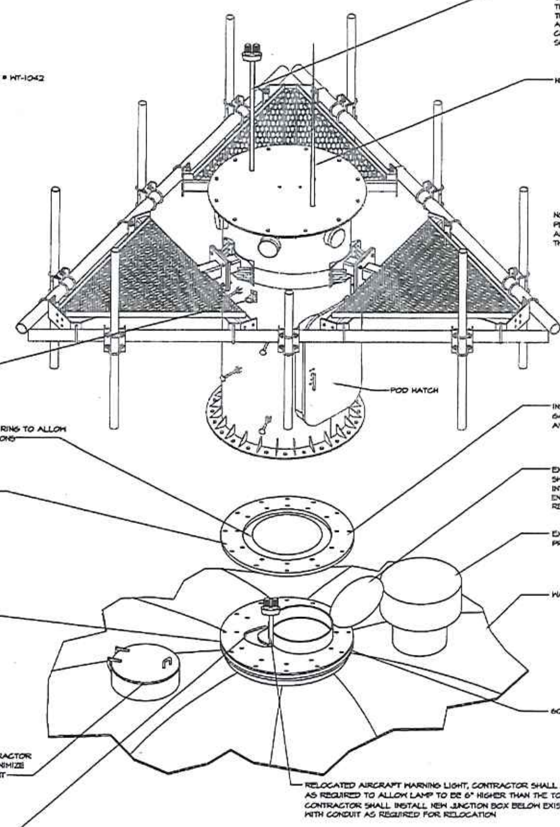
8 THE CONTRACTOR SHALL MAKE A TEMPLATE OF THE TOP OF THE ACCESS TUBE IDENTIFYING ALL PERTINAL INFORMATION INCLUDING THE LOCATION OF THE MANHOLE, LOCATION OF THE PROPOSED COAX CABLE CUT OUT AND THE WARNING LIGHT CONDUIT IF REQUIRED. THE CONTRACTOR SHALL THEN TRANSFER THIS INFORMATION TO THE ADAPTER PLATE ON THE GROUND AND FIELD CUT THE PLATE AS NEEDED. MANY MANHOLES ARE NOT CENTERED ABOVE THE ACCESS TUBE BUT ARE LOCATED OFF-CENTER ABOVE THE LADDER SIDE OF THE ACCESS TUBE. IT IS IMPORTANT THAT THE LOAD OF THE POD BE CENTERED ABOVE THE ACCESS TUBE. THE TEMPLATE SHOULD BE CUT TO FIT FLUSH TO THE SURFACE OF THE ACCESS TUBE. IF THE MANHOLE IS 24 INCHES IN DIAMETER THE TEMPLATE SHOULD BE CUT SLIGHTLY LARGER THAN THAT SO THE FILLET WELD TO THE MANHOLE CURB DOES NOT INTERFERE WITH THE FLUSH MOUNTING TO THE ACCESS TUBE

9 THE ADAPTER PLATE WILL NEED TO BE RECOATED PER THE ORIGINAL TANK MANUFACTURES SPECIFICATIONS. THE PLATE MAY NOW BE INSTALLED ON THE TOP OF THE ACCESS TUBE PLATE. THE ACCESS TUBE PLATE WILL NEED TO BE FIELD DRILLED TO MATCH THE PRE-DRILLED HOLES IN THE ADAPTER PLATE. ALL FASTENERS SHALL BE 5/8" A-325 GALVANIZED. ON SOME TANKS THE WIRE SCREEN MESH WILL NEED TO BE REMOVED FOR ACCESS TO THE UNDERSIDE OF THE PLATE AND BOLTS. SOME TANKS WILL REQUIRE THE INSTALLATION OF SQUARE SHIMS BETWEEN THE DRY RISER AND THE ROOF CURB. THE ACCESS TUBE IS FIELD DRILLED AND THE SHIMS INSTALLED

10 THE STIFFENER RING SHOULD NOW BE WELDED IN PLACE AT A LEVEL EQUAL TO THE TOP ROOF PLATES.

11 THE INSECT SCREENS SHOULD BE REINSTALLED AS REQUIRED

12 THE POD CAN NOW BE LIFTED INTO PLACE THE POD DOOR SHOULD BE LOCATED TO ALLOW ACCESS TO THE TOP ACCESS HATCH WITHOUT INTERFERING WITH OTHER ROOF TOP VENTS OR ACCESS MANHOLES. THE POD DOOR SHOULD ALSO BE LOCATED LEFT OR RIGHT OF THE CLIMBING LADDER FOR EASIER ACCESS TO THE ROOF TOP. THE POD ADAPTER PLATE ALLOWS FOR POD ROTATION IN 30 DEGREE INCREMENTS FOR ADJUSTMENTS MADE ON TOP OF THE TANK



POD ATTACHMENT (2)
SCALE: NONE

PROJECT NO:	T04277
DRAWN BY:	TMC
CHECKED BY:	KWM

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LICENSED PROFESSIONAL ENGINEER-STATE OF
SCOTT R. TRIPMAN PE, PLS
SIGNED 05/20/04
EXPIRES 03/31/05

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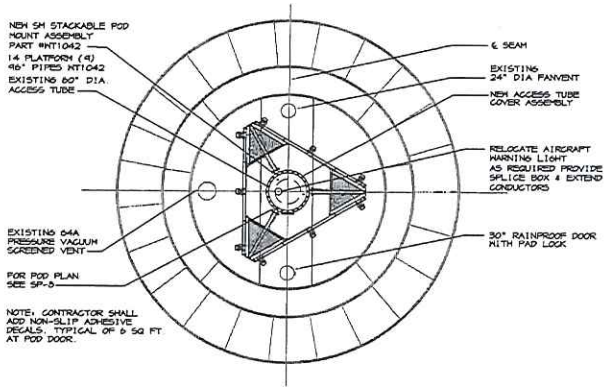
CASCADE#HO58XC335
LEAGUE CITY WATER TOWER
5133 1/2 CANDLEWOOD
LEAGUE CITY, TX 77573
GALVESTON COUNTY

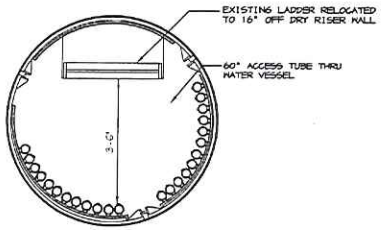
SHEET TITLE
ANTENNA POD DETAILS

SHEET NUMBER
WTFC-4



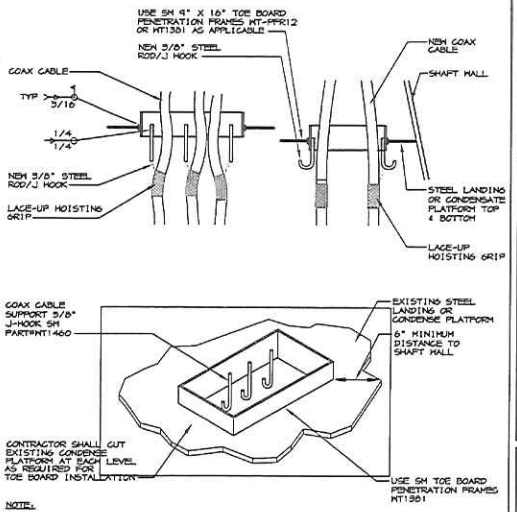
TANK ROOF PLAN (7)

SCALE: N.T.S



OSHA REQUIRED CLEARANCES (8)

SCALE: N.T.S



NOTE:

COAX CABLES HAVE BEEN OMITTED FOR CLARITY. CONTRACTOR SHALL HANG UP TO THREE (3) COAX CABLES PER "J" HOOK.

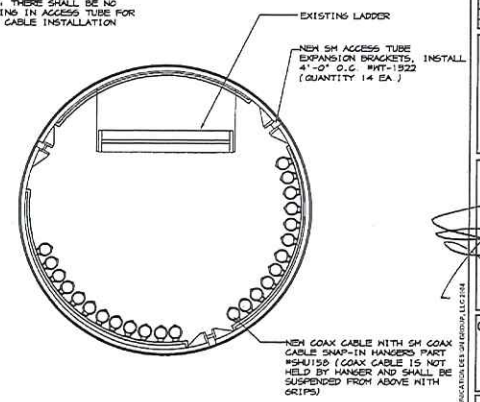
ALL PARTS PREFIXED WITH "SM" SHALL BE MANUFACTURED BY SPECIALTY MANUFACTURING, LLC, 6001 SAN FRANCISCO DR. NE ALBUQUERQUE, NM 87109 505-825-1052 FAX 505-8250186

TOE BOARD SUPPORT (4)

SCALE: N.T.S

NOTE: CONTRACTOR SHALL PROVIDE (1) HOISTING GRIP AT POD LEVEL FOR EACH COAX SM H6158, SEE POD DETAIL SP-11

NOTE: THERE SHALL BE NO WELDING IN ACCESS TUBE FOR COAX CABLE INSTALLATION



COAX MOUNT TROUGH ACCESS TUBE (1)

SCALE: N.T.S

NOT USED (3)

SCALE: N.T.S

NOT USED (-)

SCALE: N.T.S

PROJECT NO:	T04277
DRAWN BY:	TMC
CHECKED BY:	KWM

1	05/05/04	FOR CONTRACTOR
A	03/31/05	PRELIMINARY

W-T COMMUNICATION DESIGN GROUP, LLC.
34 EAST GOALLY DRIVE
SCHAUMBURG, ILLINOIS 60193
ph. (847) 895-3940
fax (847) 895-9985

LICENSED PROFESSIONAL ENGINEER-STATE OF

SCOTT R. TRUMANN PE, PLS
SIGNED: 05/20/04
EXPIRES: 03/31/05

CASCADE/HOS8XC335
LEAGUE CITY WATER TOWER
6123 1/2 CANDLEWOOD
LEAGUE CITY TX 77573
GALVESTON COUNTY

SHEET TITLE: TANK PENETRATIONS AND DETAILS

SHEET NUMBER: WTFC-5

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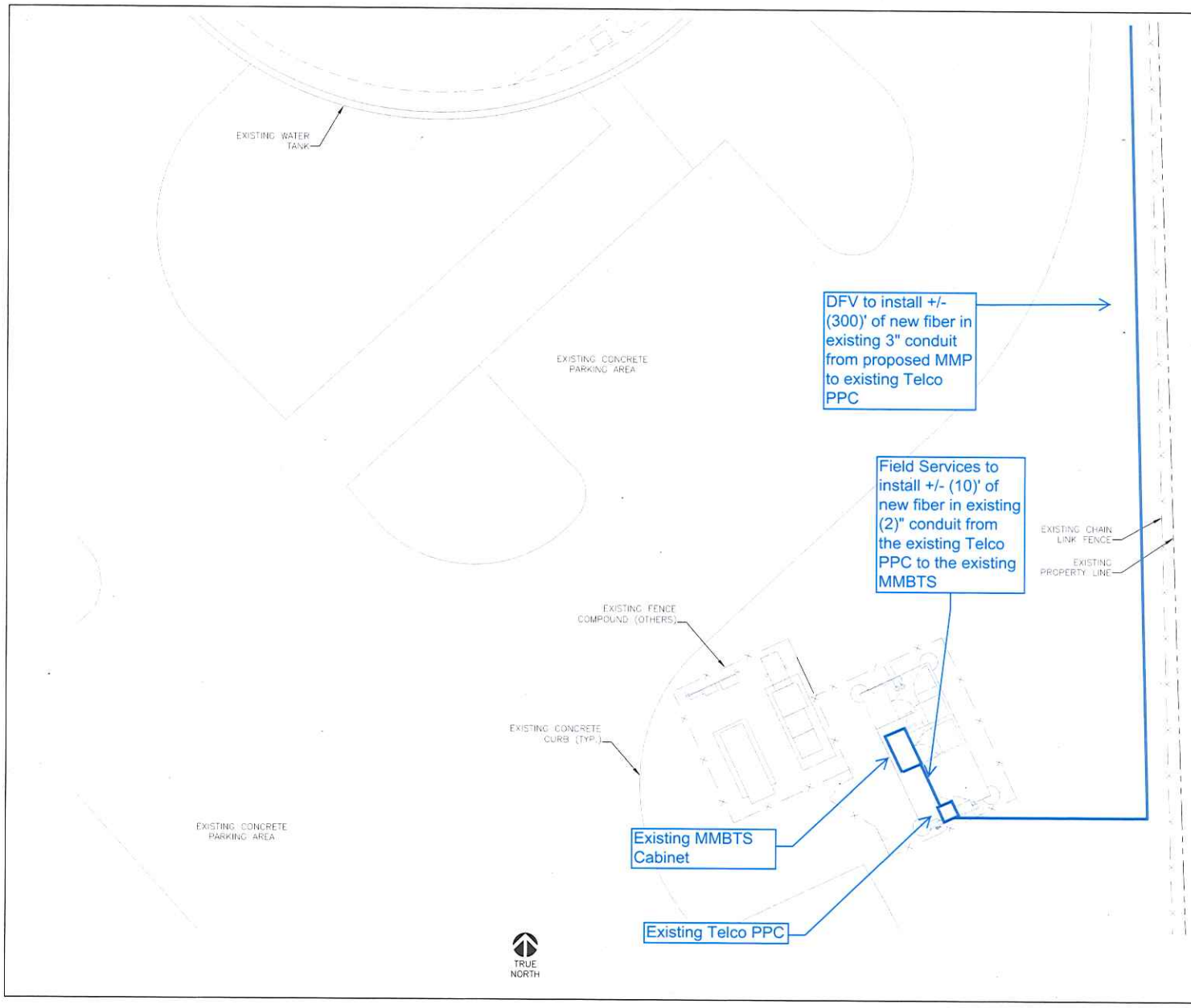
Site
DFV to install +/- (300)' of new fiber in existing 3" conduit from proposed MMP to existing Telco - PPC.
DFV to drop into the existing conduit on the pole. Proposed MMP to be utility pole at (29° 28'59.5"N 95°08'31.7"W)
© 2018 Google
Google Earth
1944
29°28'58.75" N 95°08'33.22" W elev 18 ft eye alt 315 ft



PREPARED FOR:

Sprint

6391 SPRINT PARKWAY
OVERLAND PARK, KS 66251-2650

SITE NAME:
LEAGUE CITY COUNTRYSIDE WT

SITE NUMBER:
HO58XC335

SITE ADDRESS:
5123 1/2 CANDLEWOOD
LEAGUE CITY, TX 77573
GALVESTON COUNTY

ROLES & RESPONSIBILITIES:
Light Scope

SPRINT:

- None

FIELD SERVICES:

- Field Services to install FDP in existing Telco PPC

- Field Services to remove old/legacy equipment from existing Telco PPC

-Field Services to install +/- 10' of new fiber in existing x" conduit from the (existing Telco PPC to the existing MMBTS

DARK FIBER VENDOR:

- DFV to drop into the existing conduit on the pole. Proposed MMP to be utility pole at (29° 28'59.5"N 95°08'31.7"W)

- DFV to install +/- (300)' of new fiber in existing 3" conduit from proposed MMP to existing Telco PPC.

CONDUIT OWNERSHIP NOTE:
- Per Sprint direction, because existing conduit is running directly from Sprint equipment to CMMP and Sprint is currently using existing conduit, Sprint retains continued rights to use the existing conduit

Proposed MMP | SCALE N.T.S. | 1

Telco PPC | SCALE N.T.S. | 2

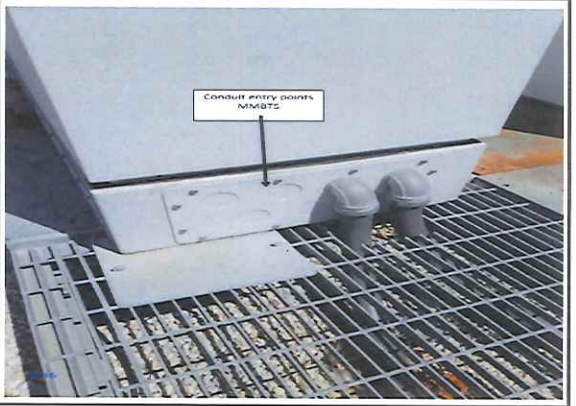
MMBTS Cabinet | SCALE N.T.S. | 3

Sprint

H-Frame | SCALE N.T.S. | 4

N/A

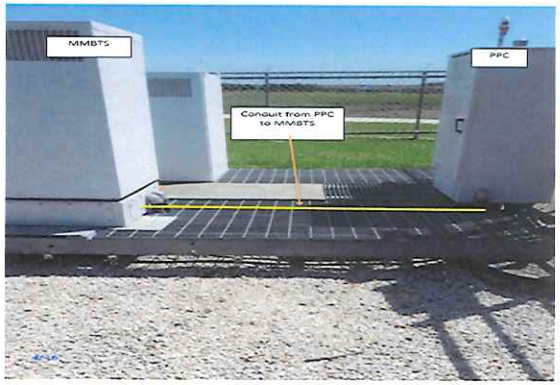
| SCALE N.T.S. | 5



Conduit Entry Point to MMBTS | SCALE N.T.S. | 6

MMP in Relation to Site | SCALE N.T.S. | 7

Site Overview | SCALE N.T.S. | 8



Conduit Path from Telco PPC to MMBTS | SCALE N.T.S. | 9

EXHIBIT "B"

MEMORANDUM OF AGREEMENT

(SEE ATTACHED)

RECORDING REQUESTED BY AND WHEN RECORDED MAIL TO:
Sprint Contracts & Performance
Mailstop KSOPHT0101-Z2650
6391 Sprint Parkway
Overland Park, Kansas 66251-2650

[space above this line for Recorder's use]

MEMORANDUM OF LICENSE AGREEMENT

THIS MEMORANDUM OF LICENSE AGREEMENT ("Memorandum"), by and between the City of League City, Texas, a Texas home-rule city ("Owner") and SprintCom, Inc., a Kansas corporation ("SprintCom"), evidences the License Agreement made and entered into between Owner and SprintCom dated _____ (the "Agreement").

The Agreement provides in part that Owner leases to SprintCom certain real property owned by Owner and located at 5123 1/2 Candlewood, City of League City, County of Galveston, State of Texas ("Property") for the purpose of installing, operating and maintaining a communications facility and other improvements. The Property is legally described in Exhibit A attached hereto. The portion of the Property leased to SprintCom together with non-exclusive utility and access easements (the "Site") is further described in the Agreement.

The new term of SprintCom's lease and tenancy under the Agreement is sixty (60) months, commencing on April 15, 2019, and is subject to two (2) renewal terms of sixty (60) months each that may be exercised by SprintCom.

IN WITNESS WHEREOF, the parties have executed this Amended Memorandum as of the day and year indicated below.

Owner:
City of League City, Texas, a Texas home-rule city

By: _____
(please use blue ink)
Printed Name: _____
Title: _____
Date: _____

SprintCom:
SprintCom, Inc., a Kansas corporation

By: _____
Printed Name: Silvia J. Lin
Title: Manager, Real Estate
Date: _____

NOT FOR EXECUTION

OWNER NOTARY BLOCK: **(please use blue ink)**

STATE OF _____

COUNTY OF _____

The foregoing instrument was *(choose one)* ☐attested or ☐acknowledged before me this _____ day of _____, 201___, by ☒_____, as _____ of the **City of League City, Texas, a Texas home-rule city**, on behalf of the city.

(AFFIX NOTARIAL SEAL)

_____
(OFFICIAL NOTARY SIGNATURE)
NOTARY PUBLIC STATE OF

My commission expires:

_____
(PRINTED, TYPED OR STAMPED NAME OF NOTARY)
COMMISSION NUMBER:

NOT FOR EXECUTION

SPRINTCOM NOTARY BLOCK:

STATE OF KANSAS)
) ss.
COUNTY OF JOHNSON)

Acknowledgment by Corporation
Pursuant to Uniform Acknowledgment Act

The foregoing instrument was acknowledged before me this _____ day of _____, 201__, by _ _____on behalf of SprintCom, Inc., a Kansas corporation.

(AFFIX NOTARIAL SEAL)

_____
(OFFICIAL NOTARY SIGNATURE)
NOTARY PUBLIC STATE OF

My commission expires:

_____
(PRINTED, TYPED OR STAMPED NAME OF NOTARY)

NOT FOR EXECUTION

EXHIBIT A
TO MEMORANDUM OF LICENSE AGREEMENT

A parcel of land for the PCS within that certain 1.3501 acre tract of land known as Tract "A", or the "Elevated Storage Tank Site", owned by the City of League City, Texas and acquired through Eminent Domain Proceeding, in Galveston County, Texas;

Also known as a Abstract 9, Page 7 & 8, a portion of Lot 12 (12-1) Jensen Colony Subdivision, which has an address of 5123 1/2 Candlewood, League City, Texas.

NOT FOR EXECUTION