

PROJECT INFORMATION:

TOWER INFORMATION

LAT: 35° 13' 55.4988" N
LONG: -97° 23' 35.6994" W
ELEV: ±1133'
SITE TYPE: MONOPOLE
COUNTY: CLEVELAND COUNTY
JURISDICTION: CLEVELAND COUNTY OK
LANDLORD SITE ID #: N/A

EQUIPMENT LIST

(3) RRUS-82
(3) RRUS-11
(3) ETCR-654L12H6 PANEL ANTENNAS
(3) 2-7/8" X 10' PIPE
(1) .644" FIBER ONLY CABLE

GENERAL CONTRACTOR NEEDS TO SUPPLY MATERIAL LISTED BUT NOT LIMITED TO THESE ITEMS BELOW:
-UL APPROVED BONDING CLAMPS WHERE NEEDED WHEN GROUNDING NEW RF EQUIPMENT
-CONDUITS & FITTINGS
-ANTENNA MOUNTING PIPES

APPLICANT

SPRINT
6580 SPRINT PARKWAY
OVERLAND PARK, KANSAS 66251
PHONE:

LANDLORD

NORMAN UTILITIES AUTHORITY
UTILITIES ADMINISTRATION
201-C W GRAY ST
NORMAN, OK 73069
(405) 366-5443

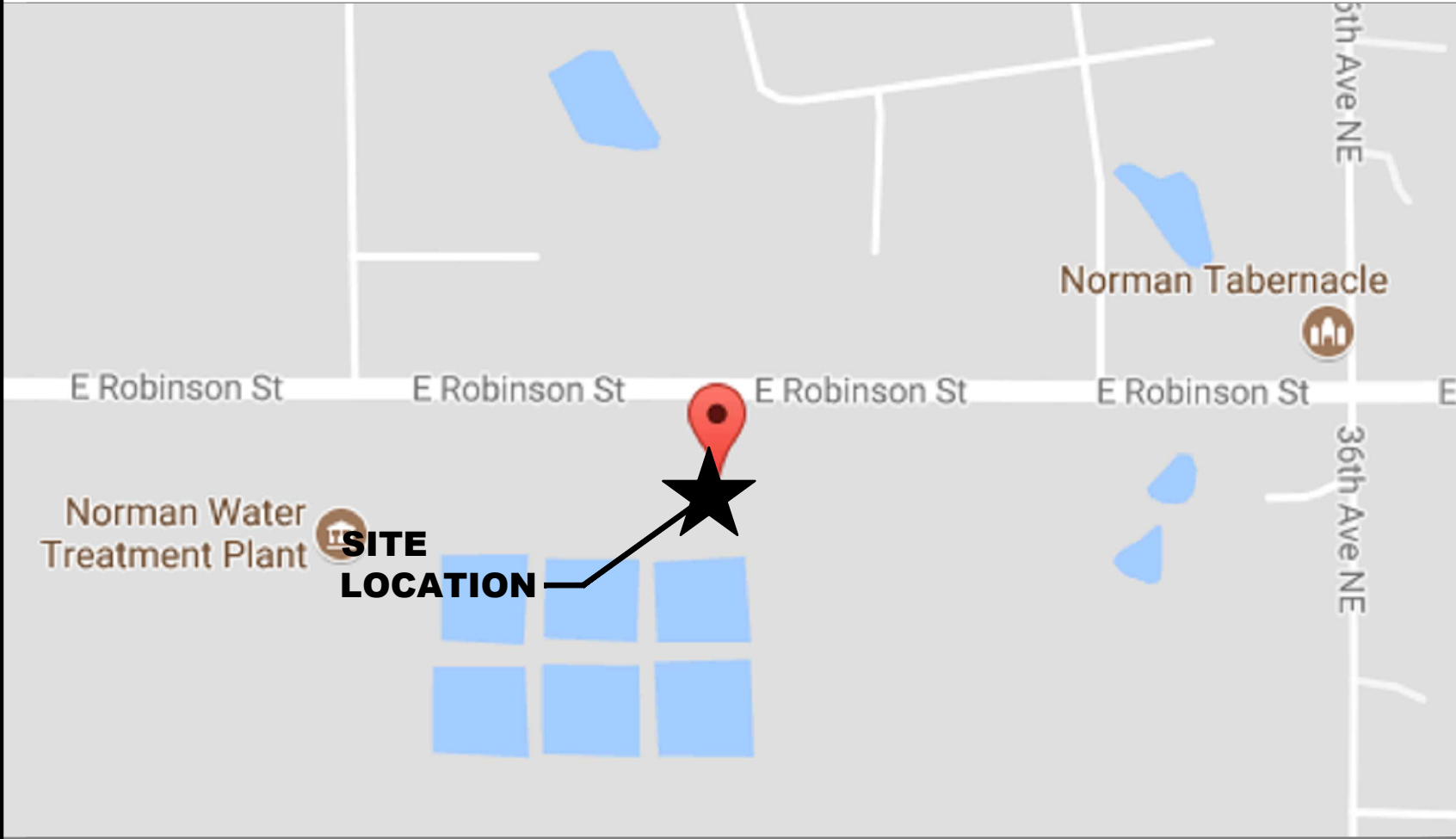
A&E FIRM

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

NOTE: MODIFICATION DRAWINGS BY CLS GROUP,
DATED MARCH 19, 2018

CONSTRUCTION MANAGER
WILL SCOTT
PHONE: 918-360-2534

VICINITY MAP:



AERIAL MAP:



SHEET INDEX:

SHEET NUMBER	SHEET DESCRIPTION	REVISION
T-1	COVER SHEET & SITE PLAN	0
AE-1	TOWER ELEVATION & EQUIPMENT DETAILS	0

CODE COMPLIANCE:

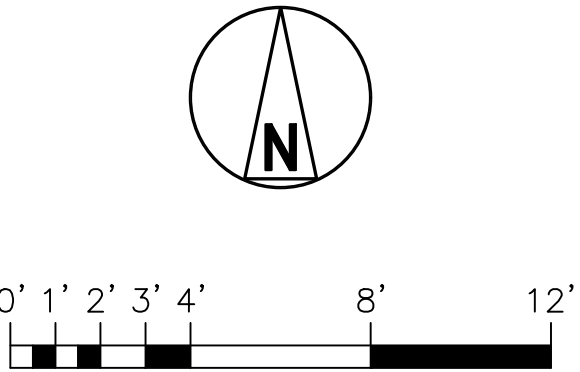
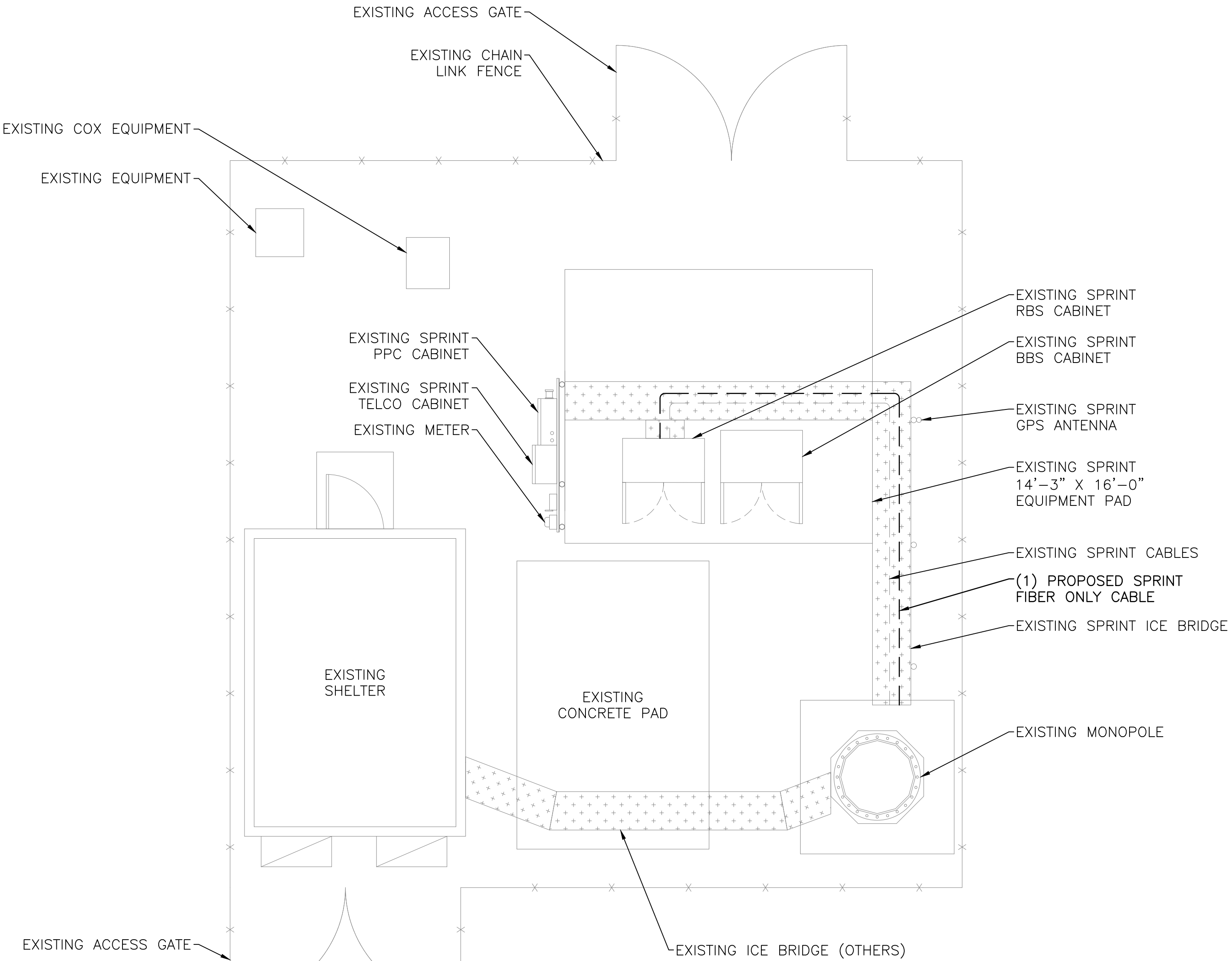
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. INTERNATIONAL BUILDING CODE
2. INTERNATIONAL MECHANICAL CODE
3. ANSI/TIA-222 STRUCTURAL STANDARD
4. NEPA 780 - LIGHTNING PROTECTION CODE
5. UNIFORM PLUMBING CODE
6. NATIONAL ELECTRICAL CODE

Know what's below.
Call before you dig.
www.call811.com

DO MACRO UPGRADE

SITE CASCADE:
OK60XC078



OVERALL SITE PLAN

1/4" = 1'-0"

A

PLANS PREPARED FOR:

PLANS PREPARED BY:

ARIA SERVICES, INC.
(281) 797-4387
www.aria-corp.com
TX FIRM REG# F-13104

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
A	09-01-17	PRELIMINARY ISSUE	SB
B	06-28-18	PRELIMINARY ISSUE	TH
0	06-29-18	FINAL ISSUE	TH

NOT FOR CONSTRUCTION UNLESS
LABELED AS CONSTRUCTION SET

06/29/18

SITE CASCADE:

OK60XC078

SITE ADDRESS:

3000 E. ROBINSON
NORMAN, OK 73071

PROJECT:

DO MACRO UPGRADE

SHEET DESCRIPTION:

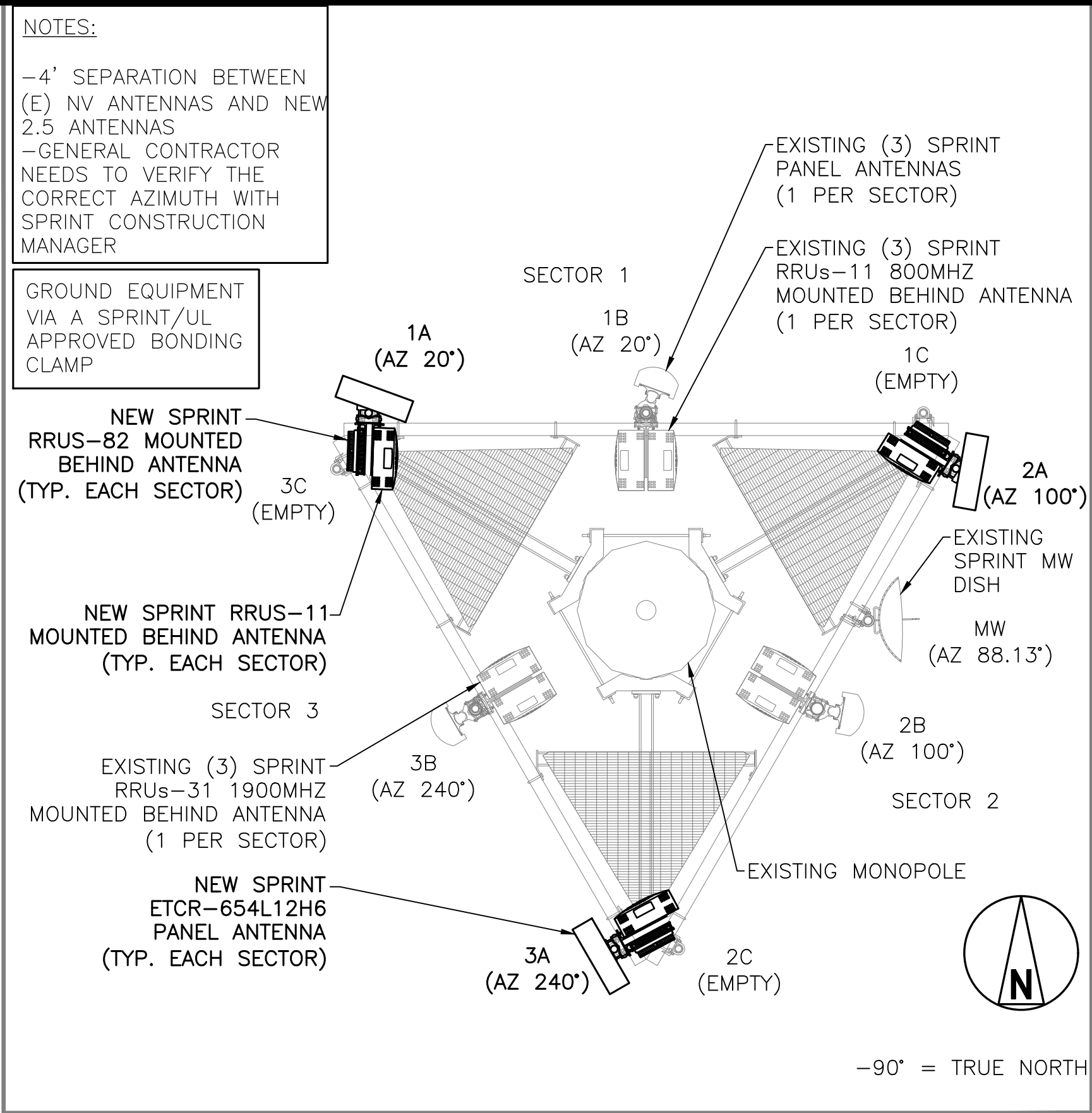
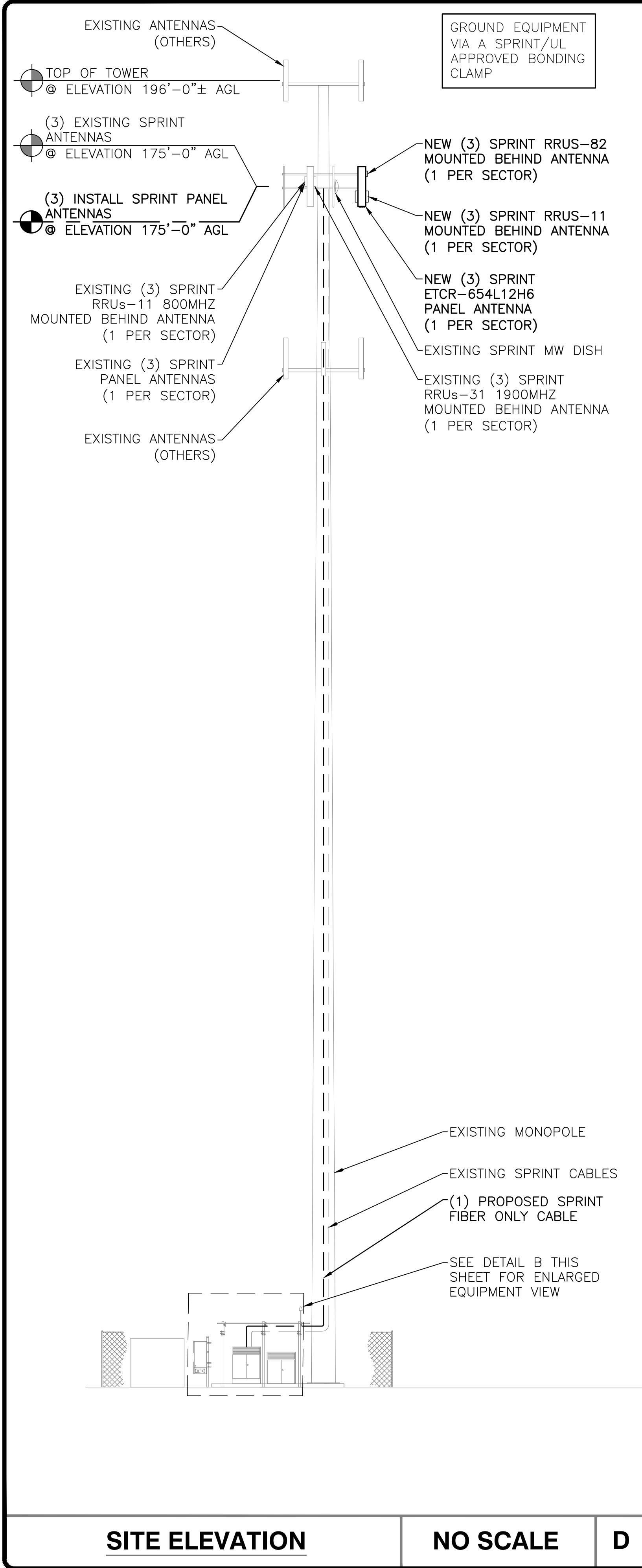
COVER SHEET

DWG INFORMATION:

DRAWN BY:	RS
CHECKED BY:	SB

SHEET NUMBER:

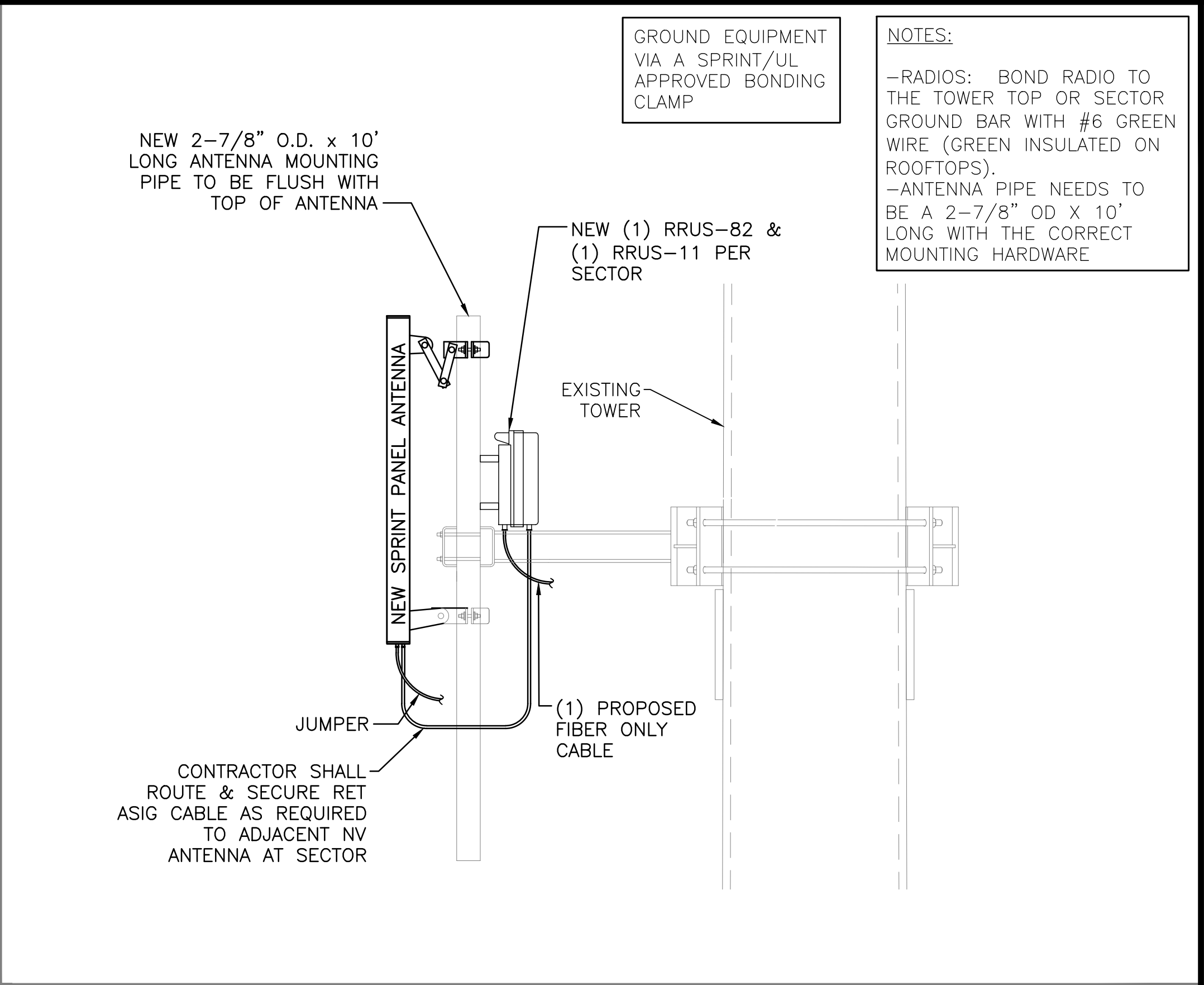
T1



ANTENNA & EQUIPMENT PLAN - SPRINT LEASED RAD CENTER

NO SCALE

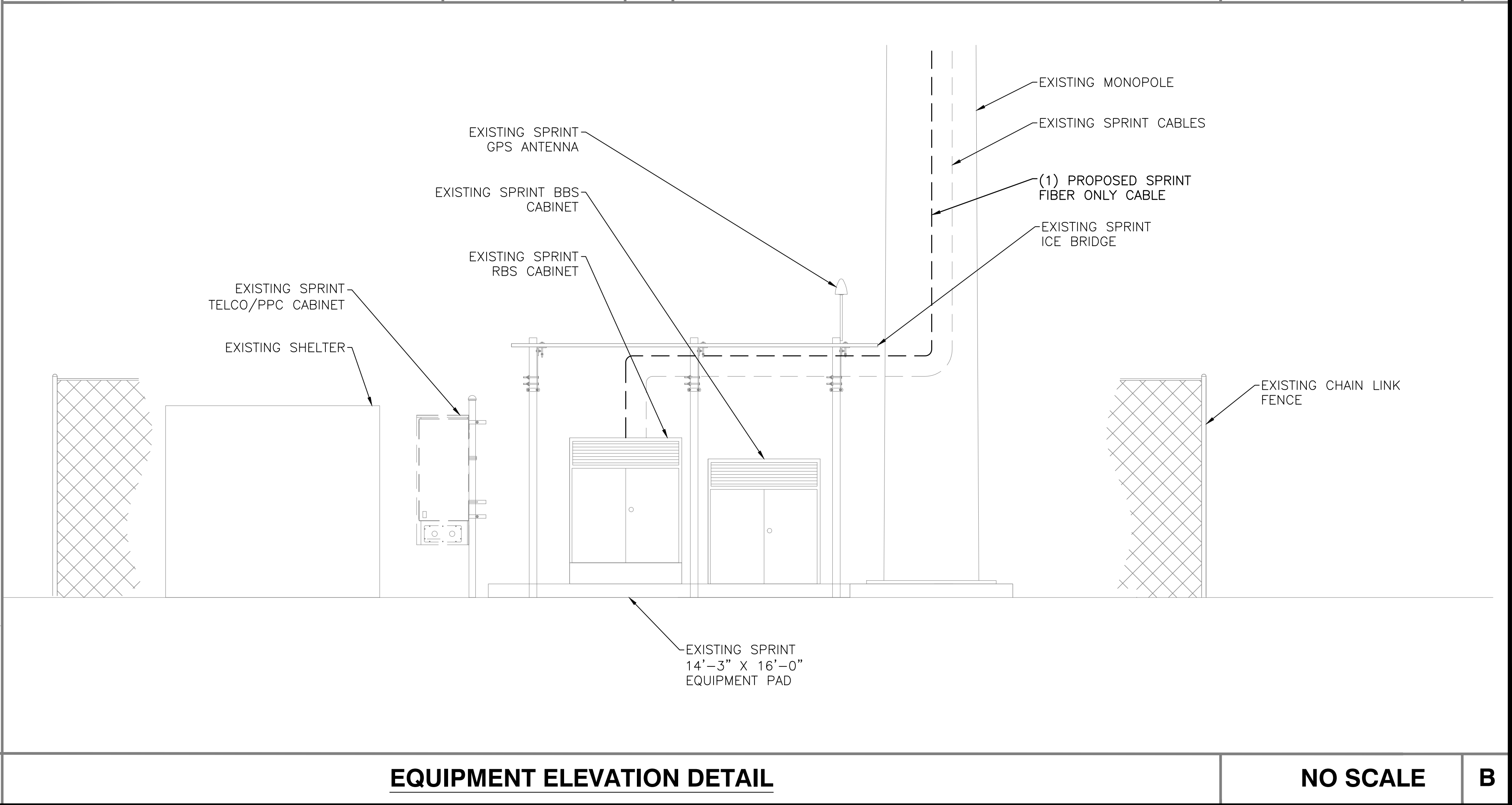
C



ANTENNA MOUNTING ELEVATION

NO SCALE

A



EQUIPMENT ELEVATION DETAIL

NO SCALE

B

PLANS PREPARED FOR:

PLANS PREPARED BY:

ARIA SERVICES, INC.
(281) 797-4387
www.aria-corp.com
TX FIRM REG# F-13104

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
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06/29/18

SITE CASCADE:
OK60XC078

SITE ADDRESS:
3000 E. ROBINSON
NORMAN, OK 73071

PROJECT:
DO MACRO UPGRADE

SHEET DESCRIPTION:
TOWER ELEVATION & CABLE PLAN

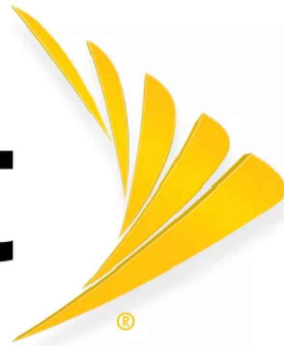
DWG INFORMATION:

DRAWN BY:	RS
CHECKED BY:	SB

SHEET NUMBER:
AE-1

Sprint

6580 SPRINT PARKWAY
OVERLAND PARK, KS 66251



SITE NAME:

CITY TOWER HALL PARK

SITE ID:

OK60XC078

PROJECT TYPE:

DO MACRO UPGRADE

STRUCTURE TYPE:

197'-0" MONOPOLE

PROJECT SCOPE:

TOWER STRUCTURAL
MODIFICATION



6580 SPRINT PARKWAY
OVERLAND PARK, KS 66251



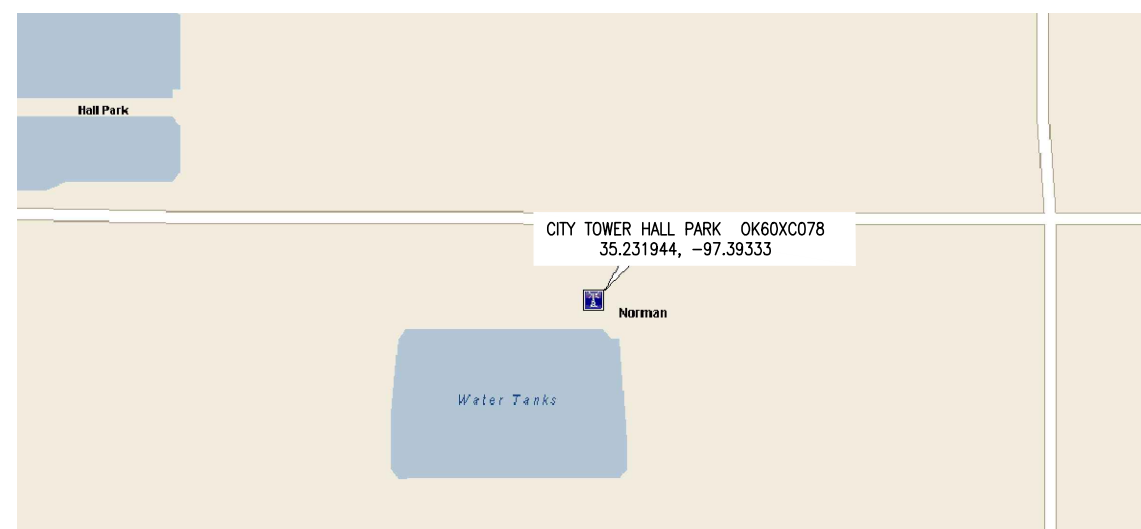
609 S. KELLY AVENUE, STE. D
EDMOND, OK 73003
PH: (405) 348-5460 FAX: (405) 341-4625

COA# 6087 EXP. 06/30/2018

STRUCTURE ELEVATION PHOTO



LOCATION MAP



DRAWING INDEX

SHEET #	SHEET DESCRIPTION	REV #
T-1	TITLE SHEET & DRAWING INDEX	0
IN-1	MODIFICATION INSPECTION NOTES	0
GN-1	GENERAL NOTES	0
GN-2	AJAX BOLT INSTALLATION DETAILS	0
S-1	TOWER ELEVATION & MODIFICATION SCHEDULE	0
S-2	MONOPOLE REINFORCEMENT DETAILS I	0
S-3	MONOPOLE REINFORCEMENT DETAILS II	0
S-4	MONOPOLE REINFORCEMENT SCHEDULE	0

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
A	03/22/18	PRELIMINARY ISSUE	CWD
0	03/23/18	FOR CONSTRUCTION	CWD

NOT FOR CONSTRUCTION UNLESS
LABELED AS CONSTRUCTION SET

SCOPE OF WORK

- THIS MODIFICATION PLAN HAS BEEN DESIGNED UTILIZING THE STRUCTURAL ANALYSIS BY CLS GROUP, REPORT #65000-OK60XC078-02-MOD-STR, DATED MARCH 19, 2018.
- FULL MODIFICATION SCHEDULE CAN BE FOUND ON S-1.
- CONTRACTOR SHALL SCHEDULE A SITE VISIT TO CONFIRM ALL EXISTING STRUCTURE DIMENSIONS, SITE CONSTRAINTS, PROPOSED REINFORCING DIMENSIONS, THE CLEARANCES OF THE PROPOSED REINFORCING, EXISTING FOUNDATION INFORMATION, EXISTING SITE UTILITIES, AND ALL OTHER INFORMATION NECESSARY TO PERFORM THE WORK ON THESE DRAWINGS IN ORDER TO ELIMINATE THE RISK OF RFIS ONCE CONSTRUCTION AND FABRICATION HAVE BEGUN. THE CONTRACTOR SHALL NOT BEGIN FABRICATION OR CONSTRUCTION PRIOR TO PERFORMING THIS SITE VISIT AND VALIDATING THE INFORMATION ON THESE DRAWINGS AND ANY ADDITIONAL INFORMATION THE CONTRACTOR NEEDS TO PERFORM THE WORK.
- THE CONTRACTOR SHALL PERFORM THIS PRE-CONSTRUCTION WORK AND REPORT ALL DISCREPANCIES TO THE CUSTOMER AND THE ENGINEER OF RECORD OR BE LIABLE FOR THE LABOR & MATERIALS FOR DISCREPANCIES NOT CAUGHT BY THE CONTRACTOR'S DUE DILIGENCE SITE VISIT.



Tyler M. Barker
CLS - Director of Engineering
PE # 29223 Exp. 8/31/2019
COA # 6087 Exp. 6/30/2018

PE# 29223 EXP: 08/31/2019

OK60XC078

CITY TOWER HALL PARK

3000 E. ROBINSON STREET
NORMAN, OK 73071

SHEET TITLE

TITLE SHEET
DRAWING INDEX

SHEET NUMBER

T-1

DO NOT SCALE DRAWINGS

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

PROJECT TEAM

ENGINEER/ARCHITECT:
CLS GROUP, INC.
1250 BENSON RD.
GARNER, NC 27529
(405) 348-5460

STRUCTURE OWNER:
NORMAN UTILITY AUTHORITY
201 W. GRAY ST # C
NORMAN, OK 73069

CUSTOMER/APPLICANT:
SPRINT
6580 SPRINT PARKWAY
OVERLAND PARK, KS 66251

OWNER SITE NAME:
CITY TOWER - HALL PARK

OWNER SITE NUMBER:
OK60XC078

ONE CALL



PROJECT INFORMATION

STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	197'-0"
LATITUDE:	35.231944 (NAD 83)
LONGITUDE:	-97.39333 (NAD 83)
ADDRESS:	OK60XC078 - CITY TOWER HALL PARK 3000 E. ROBINSON STREET NORMAN, OK 73071
COUNTY:	CLEVELAND
CODE JURISDICTION:	CITY OF NORMAN
GROUND ELEVATION:	1140' AMSL

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MODIFICATION INSPECTION NOTES:

MI CHECKLIST

CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY EOR)	REPORT ITEM
PRE-CONSTRUCTION	
X	MI CHECKLIST DRAWING
X	EOR APPROVED SHOP DRAWINGS
NA	FABRICATION INSPECTION
NA	FABRICATOR CERTIFIED WELD INSPECTION
X	MATERIAL TEST REPORT (MTR)
NA	FABRICATOR NDE INSPECTION
NA	NDE REPORT OF MONOPOLE BASE PLATE (AS REQUIRED)
X	PACKING SLIPS
ADDITIONAL TESTING AND INSPECTIONS:	
CONSTRUCTION	
X	CONSTRUCTION INSPECTIONS
NA	FOUNDATION INSPECTIONS
NA	CONCRETE COMP. STRENGTH AND SLUMP TESTS
NA	POST INSTALLED ANCHOR ROD VERIFICATION
NA	BASE PLATE GROUT VERIFICATION
NA	CONTRACTOR'S CERTIFIED WELD INSPECTION
NA	EARTHWORK: LIFT AND DENSITY
X	ON SITE COLD GALVANIZING VERIFICATION
NA	GUY WIRE TENSION REPORT
X	GC AS-BUILT DOCUMENTS
ADDITIONAL TESTING AND INSPECTIONS:	
POST-CONSTRUCTION	
X	MI INSPECTOR REDLINE OR RECORD DRAWING(S)
NA	POST INSTALLED ANCHOR ROD PULL-OT TESTING
X	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS	

NOTE: X DENOTES A DOCUMENT NEEDED FOR THE PMI REPORT.
NA DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE PMI REPORT.

GENERAL

1. THE MODIFICATION INSPECTION (MI) IS A VISUAL INSPECTION OF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).

2. THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF, NOR DOES THE MI INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.

3. ALL MI'S SHALL BE CONDUCTED BY AN OWNER APPROVED ENGINEERING VENDOR THAT IS APPROVED TO PERFORM ELEVATED WORK FOR THE OWNER.

4. TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY, IF CONTACT INFORMATION IS NOT KNOWN, CONTACT THE PROJECT CONTACT LISTED ON SHEET T-1.

MI INSPECTOR

1. THE MI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE MI TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST.
- WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.

2. THE MI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MI REPORT TO THE OWNER.

GENERAL CONTRACTOR

1. THE GC IS REQUIRED TO CONTACT THE INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST.
- WORK WITH THE MI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS.

2. THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MI CHECKLIST.

RECOMMENDATIONS

THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO EHNACE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING A MI REPORT:

1. IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED.

2. THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.

3. WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RE-TENSIONING OPERATIONS.

4. IT MAY BE BENEFICIAL TO INSTALL ALL TOWER MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTIONS TO ALLOW FOUNDATION AND MI INSPECTION(S) TO COMMENCE WITH ONE SITE VISIT.

5. WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING THE MI TO HAVE AND DEFICIENCIES CORRECTED DURING THE INITIAL MI. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MI CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

CANCELLATION OR DELAYS IN SCHEDULING MI

IF THE GC AND MI INSPECTOR AGREE TO A DATE ON WHICH THE MI WILL BE CONDUCTED, AND EITHER PARTY CANCELS OR DELAYS, THE OWNER SHALL NOT BE RESPONSIBLE FOR ANY COSTS, FEES, LOSS OF DEPOSITS AND/OR OTHER PENALTIES RELATED TO THE CANCELLATION OR DELAY INCURRED BY EITHER PARTY FOR ANY TIME (E.G. TRAVEL AND LODGING, COSTS OF KEEPING EQUIPMENT ON-SITE, ETC.). IF THE OWNER CONTRACTS DIRECTLY FOR A THIRD PARTY MI, EXCEPTIONS MAY BE MADE IN THE EVENT THAT THE DELAY/CANCELLATION IS CAUSED BY THE EITHER OR OTHER CONDITIONS THAT MAY COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

CORRECTION OF FAILING MI'S

IF THE MODIFICATION INSTALLATION WOULD FAIL THE MI ("FAILED MI"), THE GC SHALL WORK WITH THE OWNER TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:

- CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MI.
- OR, WITH THE OWNERS APPROVAL, THE GC MAY WORK WITH THE EOR TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION.

MI VERIFICATION INSPECTIONS

1. THE OWNER RESERVES THE RIGHT TO CONDUCT A MI VERIFICATION INSPECTION TO VERIFY THE ACCURACY AND COMPLETENESS OF PREVIOUSLY COMPLETED MI INSPECTION(S) ON TOWER MODIFICATION PROJECTS.

2. ALL VERIFICATION INSPECTIONS SHALL BE HELD TO THE SAME SPECIFICATIONS AND REQUIREMENTS IN THE CONTRACT DOCUMENTS.

3. VERIFICATION INSPECTION MAY BE CONDUCTED BY AN INDEPENDENT INSPECTION FIRM AFTER A MODIFICATION PROJECT IS COMPLETED, AS MARKED BY THE DATE OF AN ACCEPTED "PASSING MI" OR "PASS AS NOTED MI" REPORT FOR THE ORIGINAL PROJECT.

REQUIRED PHOTOS

1. BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAGHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:

- PRE-CONSTRUCTION GENERAL SITE CONDITION.
- PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION:
 - RAW MATERIALS
 - PHOTOS OF ALL CRITICAL DETAILS
 - FOUNDATION OF MODIFICATION
 - WELD PREPARATION
 - BOLT INSTALLATION AND TORQUE
 - FINAL INSTALLED CONDITION
 - SURFACE COATING REPAIR
- POST CONSTRUCTION PHOTOGRAPHS
 - FINAL IN FIELD CONDITION

2. PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.



609 S. KELLY AVENUE, STE. D
EDMOND, OK 73003
PH: (405) 348-5460 FAX:(405) 341-4625

COA# 6087 EXP. 06/30/2018

REVISIONS			
REV.	DATE	DESCRIPTION	INITIALS
A	03/22/18	PRELIMINARY ISSUE	CWD
0	03/23/18	FOR CONSTRUCTION	CWD

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Tyler M. Barker
CLS - Director of Engineering
PE # 29223 Exp. 8/31/2019
COA # 6087 Exp. 6/30/2018

PE# 29223 EXP: 08/31/2019

OK60XC078

CIT TO ER ALL PARK

3000 E. ROBINSON STREET
NORMAN, OK 73071

SHEET TITLE

MODIFICATION
INSPECTION NOTES

SHEET NUMBER

IN-1

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GENERAL NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL PERMITS NECESSARY TO COMPLETE THE PROJECT AND ABIDE BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTUAL DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSION WHICH MAY BE FOUND SHALL BE SUBMITTED TO CLS GROUP FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK IN THE AFFECTED AREAS.
- INCORRECTLY FABRICATED, DAMAGED, OTHERWISE MISFITTING, OR NON-CONFORMING MATERIALS AND CONDITIONS SHALL BE REPORTED TO CLS GROUP PRIOR TO ANY REMEDIAL OR CORRECTIVE ACTION. ALL ACTIONS SHALL REQUIRE CLS GROUP APPROVAL.
- IS THE CONTRACTORS'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY, SUCH MATERIAL SHALL BE REMOVED AFTER THE COMPLETION OF THE PROJECT.
- CONTRACTOR SHALL PROMPTLY REMOVE ANY & ALL DEBRIS FROM SITE AND RESTORE AS BEST AS POSSIBLE TO PRECONSTRUCTION CONDITION.
- THE CLIMBING FACILITIES, SAFETY CLIMB AND ALL PARTS THEREOF SHALL NOT BE IMPEDED, MODIFIED OR ALTERED WITHOUT THE EXPRESS APPROVAL OF THE CROWN ENGINEERING GROUP (OR ENGINEER OF RECORD).

CONTRACTOR QUALIFICATION NOTES

- ALL REPAIRS SHALL BE PERFORMED BY A TOWER CONTRACTOR WITH A MINIMUM 5 YEARS EXPERIENCE IN TOWER ERECTION AND RETROFIT AND WITH WORKING KNOWLEDGE OF THE ANSI/ TIA-222-G "STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS".
- CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION MEANS AND METHODS. SHOULD THE CONTRACTOR REQUIRE DIRECT CONSULTATION, CLS GROUP IS WILLING TO OFFER SERVICES BASED UPON AN AGREED FEE FOR THE THE WORK REQUIRED.
- ALL SUBMITTAL INFORMATION MUST BE SENT TO CLS GROUP. 1250 BENSON RD. GARNER, NC 27529, TEL. (405) 348-546). ANY VARIATION OF THESE SPECIFICATIONS OR DRAWINGS WITHOUT CONSENT FROM CLS GROUP WILL VOID ANY RESPONSIBILITY OR LIABILITY FOR DAMAGE (MATERIAL OR PHYSICAL) TOWARDS CLS GROUP.
- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE TIA-1019-A STANDARD.

JOB SAFETY NOTES

- NEITHER THE PROFESSIONAL ACTIVITIES OF CLS GROUP NOR THE PRESENCE OF CLS GROUP OR EMPLOYEES AND SUB-CONSULTANTS AT THE CONSTRUCTION SITE, SHALL RELIEVE THE GENERAL CONTRACTOR AND OR SUBCONTRACTORS AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF THE CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. THE GENERAL CONTRACTOR AND OR SUBCONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SAFETY, AND WARRANTIES THAT THIS INTENT IS EVIDENT BY ACCEPTING THIS WORK.
- SCOPE OF WORK MUST BE COMPLETED AT WIND SPEEDS < 20 MPH.

STEEL

- ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST AISC CODE AND ASTM SPECIFICATIONS.
 - ALL FLAT PLATE STEEL SHALL BE ASTM A572-65 (Fy = 65KSI) UNLESS OTHERWISE SPECIFIED.
- ALL CONNECTIONS OD STRUCTURAL STEEL MEMBERS SHALL BE MADE USING SPECIFIED WELDS WITH WELDING ELECTRODES E-70XX OR SPECIFIED HIGH STRENGTH BOLTS TO BE ASTM A325N, THREAD INCLUDED WITH THE SHEAR PLANE (UNLESS OTHERWISE NOTED).
- ALL BOLTED CONNECTIONS TO BE INSTALLED TO A SNUG-TIGHTENED CONDITION IN ACCORDANCE WITH AISC 13 PART 16.2, "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", SECTION 8.1, UNLESS OTHERWISE SPECIFIED. WHEN "X" TYPE BOLTS ARE USED, CONTRACTOR MAY BE REQUIRED TO STACK ADDITIONAL WASHERS TO OBTAIN PROPER SNUG TIGHT INSTALLATION. ALL NUTS SHALL BE HEAVY HEX UNLESS OTHERWISE NOTED.
- ALL STEEL, AFTER FABRICATION, SHALL BE HOT DIPPED GALVANIZED PER ASTM A-123. ALL DAMAGED SURFACES, WELDED AREAS AND AUTHORIZED NON GALVANIZED MEMBERS OR PARTS (EXISTING OR NEW) SHALL BE PAINTED WITH MULTIPLE COATS OF ZRC COLD GALVANIZING COMPOUND ACHIEVING A MINIMUM OF 4 MILS DRY FILM PER ASTM A 780.
- ALL SHOP AND FIELD WELDING SHALL BE DONE BY WELDERS QUALIFIED AS DESCRIBED IN THE "AMERICAN WELDING SOCIETY'S STANDARD QUALIFICATION PROCEDURE" TO PERFORM THE TYPE OF WORK REQUIRED. CONTRACTOR IS REQUIRED TO PROVIDE CLS GROUP. WITH A PASSING CERTIFIED WELDING INSPECTION FOR ALL WELDS.
- STRUCTURAL STEEL MAY NOT BE TORCH CUT FOR FABRICATION. ALL STEEL FABRICATION MUST FOLLOW AISC STANDARDS.

MISC. NOTES

- ALL MODIFICATIONS ARE ASSUMED TO BE MADE ON AN EMPTY TOWER. CONTRACTOR IS RESPONSIBLE TO MAKE PROVISIONS TO SUPPORT OR WORK AROUND EXISTING ANTENNAS AND TRANSMISSION LINES. MODIFICATIONS MUST BE CONTINUOUS THROUGH ALL AREAS SHOWN.
- CONTRACTOR FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

FABRICATION NOTES

- ALL DIMENSIONS ARE PRELIMINARY UNTIL FIELD VERIFIED BY CONTRACTOR. ANY CHANGES MUST BE APPROVED BY ENGINEER OF RECORD IN WRITING PRIOR TO FABRICATION AND INSTALLATION.
- NEW STEEL MEMBERS MUST HAVE SINGLE DRILLED HOLES. SLOTTED AND DOUBLE DRILLED HOLES ARE NOT ACCEPTABLE MEANS OF FABRICATION.

SUBSTITUTES AND/OR EQUALS

- IF CONTRACTOR WISHES TO FURNISH OR USE A SUBSTITUTE ITEM OF MATERIAL OR EQUIPMENT, CONTRACTOR SHALL FIRST MAKE WRITTEN APPLICATION TO ENGINEER OF RECORD FOR ACCEPTANCE THEROF, CERTIFYING THAT THE PROPOSED SUBSTITUTE WILL PERFORM ADEQUATELY THE FUNCTIONS AND ACHIEVE THE RESULTS CALLED FOR BY THE GENERAL DESIGN, BE SIMILAR IN SUBSTANCE TO THAT SPECIFIED AND SUITED TO THE SAME USE AS THAT SPECIFIED. ALL VARIATIONS OF THE PROPOSED SUBSTITUTE FROM THAT SPECIFIED WILL BE IDENTIFIED IN THE APPLICATION AND AVAILABLE MAINTENANCE, REPAIR AND REPLACEMENT SERVICE WILL BE INDICATED. THE APPLICATION WILL ALSO CONTAIN AN ITEMIZED ESTIMATE OF ALL COSTS OR CREDITS THAT WILL RESULT DIRECTLY OR INDIRECTLY FROM ACCEPTANCE OF SUCH SUBSTITUTE INCLUDING COSTS OF REDESIGN AND CLAIMS OF OTHER CONTRACTORS AFFECTED BY THE RESULTING CHANGE, ALL OF WHICH WILL BE CONSIDERED BY ENGINEER OF RECORD IN EVALUATION OF THE PROPOSED SUBSTITUTE. ENGINEER OF RECORD MAY REQUIRE CONTRACTOR TO FURNISH ADDITIONAL DATA ABOUT THE PROPOSED SUBSTITUTE.

COLD GALVANIZATION/SURFACE PREPARATION NOTES

- CONTRACTOR TO USE ZINGA OR ZRC COLD GALVANIZATION COMPOUNDS OR APPROVED EQUIVALENT.
- PREPARE RUSTED/CORRODED SURFACE FOR TREATMENT ACCORDING TO MANUFACTURE'S RECOMMENDATIONS.
- CONTRACTOR TO APPLY (2) COATS OF COLD GALVANIZATION COMPOUND PER MANUFACTURE'S RECOMMENDATION. DRYING AND CURING TIMES MUST BE UTILIZED PER MANUFACTURES'S RECOMMENDATION.
- APPLY ALL COATINGS BY BRUSH IN CALM WIND CONDITIONS. THE USE OF AEROSOL IS NOT PERMITTED.
- IF THE TOWER IS PAINTED, BRUSH PAINT ALL TREATED AREAS TO MATCH TOWER AFTER COLD GALVANIZATION COMPOUND IS ALLOWED TO CURE.



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COA# 6087 EXP. 06/30/2018

REVISIONS

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A	03/22/18	PRELIMINARY ISSUE	CWD
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CLS - Director of Engineering
PE # 29223 Exp. 8/31/2019
COA # 6087 Exp. 6/30/2018

3/23/2018

PE# 29223 EXP: 08/31/2019

OK60XC078

CIT TO ER ALL PARK

3000 E. ROBINSON STREET
NORMAN, OK 73071

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-1

BOLTS AND COMPONENTS SPECIFICATIONS:

1. BOLT:
- AJAX M20 "ONE SIDE" BLIND BOLT
2. SHEAR SLEEVE:
- Fu = 120 KSI (MINIMUM)

•

29mm O.D. X 20mm I.D.

•

LENGTH = NOMINAL [GRIP-6mm] = [GRIP - 0.25"] (TOLERANCE: -0", +1/32")

•

SLEEVE SHALL BE ROUND, WITH ENDS CUT SQUARE AND DEBURRED.
3. SPECIAL WASHER:
- ASTM F959 SQUIRTER® DTI M20 (EQUIVALENT TO A325 BOLT)

•

MANUFACTURER:

•

APPLIED BOLTING TECHNOLOGY PRODUCTS, INC.

1413 ROCKINGHAM ROAD BELOW FALLS, VERMONT, USA 05101

PHONE: (800) 552-1999

WEBSITE: WWW.APPLIEDBOLTING.COM
4. DISTRIBUTORS OF SQUIRTER® DTI'S:
- HTTP://APPLIEDBOLTING.COM/APPLIED-BOLTING-DISTRIBUTORS.HTML
5. WASHER:
- ASTM F436 HARDENED FLAT WASHER M20
6. BOLT ASSEMBLY FINISHING:
- SHEAR SLEEVE: COLD GALVANIZED WITH MIN. 3 MIL OF ZRC COLD GALVANIZING COMPOUND

•

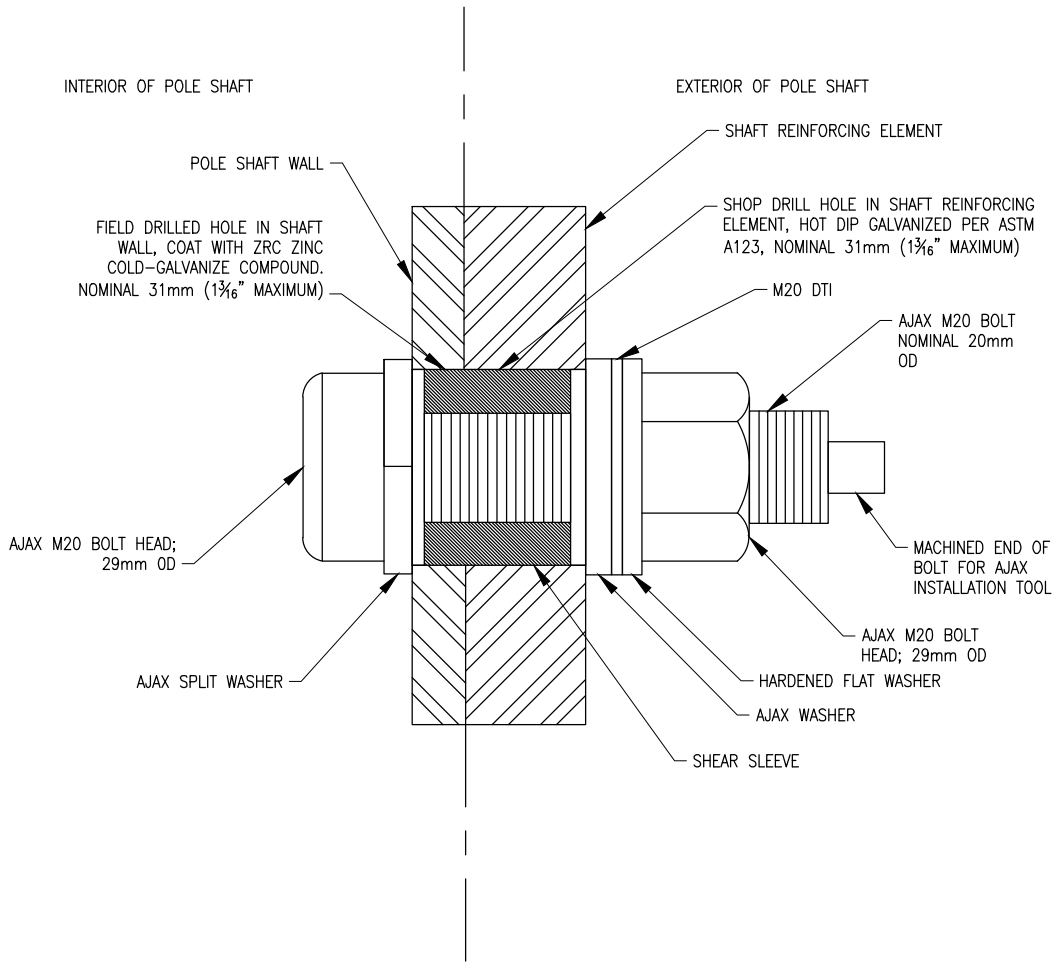
ALL OTHER PARTS: HOT DIP GALVANIZED
7. BOLT INSTALLATION ASSEMBLY:
- AS SHOWN ON THE DRAWING.
8. INSTALLATION NOTES
- DTI WASHERS MUST BE PLACED DIRECTLY AGAINST THE OTHER AJAX WASHER WITH THE BUMPS FACING AWAY FROM THE AJAX WASHER. PLACE A HARDENED WASHER BETWEEN THE DTI AND THE AJAX NUT. THE DTI BUMPS BEAR AGAINST THE UNDERSIDE OF A HARDENED FLAT WASHER, NEVER DIRECTLY AGAINST THE NUT.

•

TIGHTEN THE BOLT ASSEMBLY UNTIL THE ORANGE SILICONE APPEARS FROM UNDER THE DTI'S SQUIRT LOCATIONS, THEN STOP TIGHTENING.

•

FOLLOW DTI MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION, LUBRICATION, TIGHTENING, AND INSPECTION.
9. INSPECTION
- ALL AJAX BOLTS WITH DTI'S SHALL BE VISUALLY INSPECTED ACCORDING TO THE DTI MANUFACTURER'S INSTRUCTIONS BOLT INSPECTOR SHALL PROVIDE PHOTO DOCUMENTATION OF BOLTS AFTER TECHNICALLY CLEARLY SHOWING THE CONDITION OF THE DTI'S.



AJAX BOLT DETAILS
SCALE: N.T.S.



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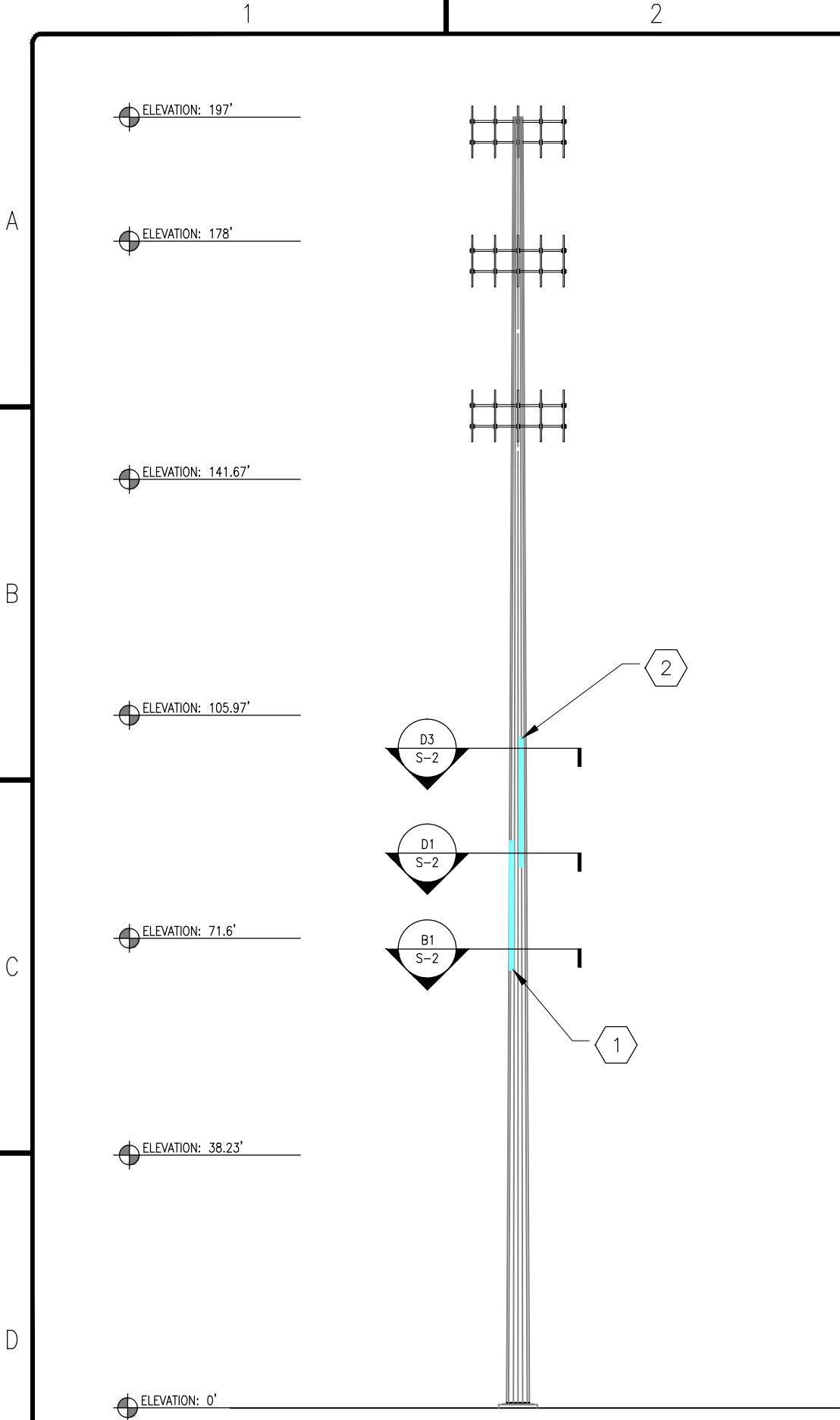
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SHEET TITLE
**AJAX BOLT INSTALLATION
DETAILS**

SHEET NUMBER

GN-2



D1 TOWER ELEVATION & EQUIPMENT
SCALE: N.T.S.

TOWER MODIFICATION SCHEDULE

LABEL	BOTTOM ELEVATION	TOP ELEVATION	SCOPE	MATERIAL	NOTES
1	±67'-0"	±87'-0"	INSTALL (3) MR-1 FLAT PLATES FROM 67'-0" TO 87'-0".	A572-65	S-2 S-3 S-4
2	±83'-0"	±103'-0"	INSTALL (3) MR-2 FLAT PLATES FROM 83'-0" TO 103'-0".	A572-65	S-2 S-3 S-4
TOWER FINISH: GALVANIZED					
REFER TO STRUCTURAL ANALYSIS FOR COAX INFORMATION					

NOTES

- CONTRACTOR SHALL VERIFY ALL APPURTENANCE CONDITIONS AND DIMENSIONS IN RELATIONSHIP TO THIS MODIFICATION. APPURTENANCES MAY NEED TO BE TEMPORARILY REMOVED OR MOVED DURING THE INSTALLATION OF THIS MODIFICATION. CONTRACTOR SHALL IMMEDIATELY REPORT ANY AND ALL DISCREPANCIES TO THE EOR PRIOR TO PROCEEDING WITH THE WORK.
- ALL MODIFICATIONS TO BE INSTALLED CONTINUOUSLY THROUGH EXISTING EQUIPMENT, ALL EXISTING EQUIPMENT NOT TO BE DAMAGED OR TAKEN OFF AIR DURING INSTALLATION.
- SEE STRUCTURAL ANALYSIS REPORT FOR EXISTING ANTENNA LOADING.
- CONTRACTOR TO FIELD VERIFY DIMENSIONS & LOCATIONS OF PROPOSED MODIFICATIONS PRIOR TO STEEL FABRICATION.



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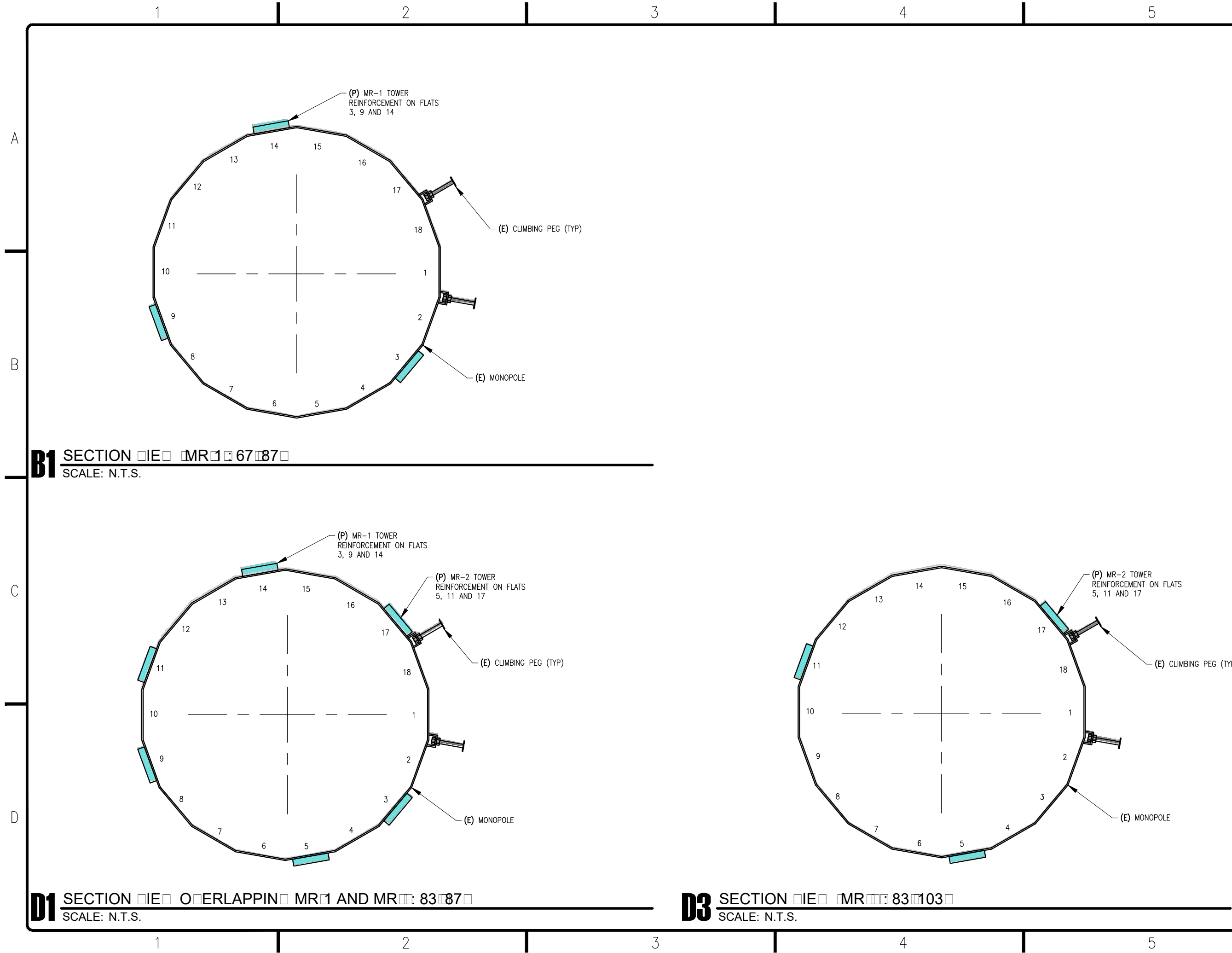
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SHEET TITLE

TOWER ELEVATION &
MODIFICATION SCHEDULE

SHEET NUMBER

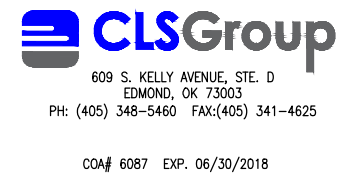
S-1



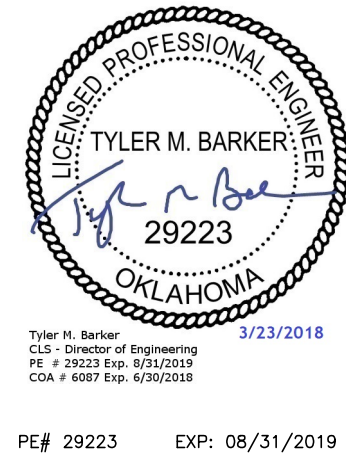
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SCALE: N.T.S.

D1 SECTION ☐ IE ☐ OVERLAPPING MR ☐ 1 AND MR ☐ 3 ☐ 83 ☐ 87 ☐
SCALE: N.T.S.

D3 SECTION ☐ IE ☐ MR ☐ 3 ☐ 83 ☐ 103 ☐
SCALE: N.T.S.



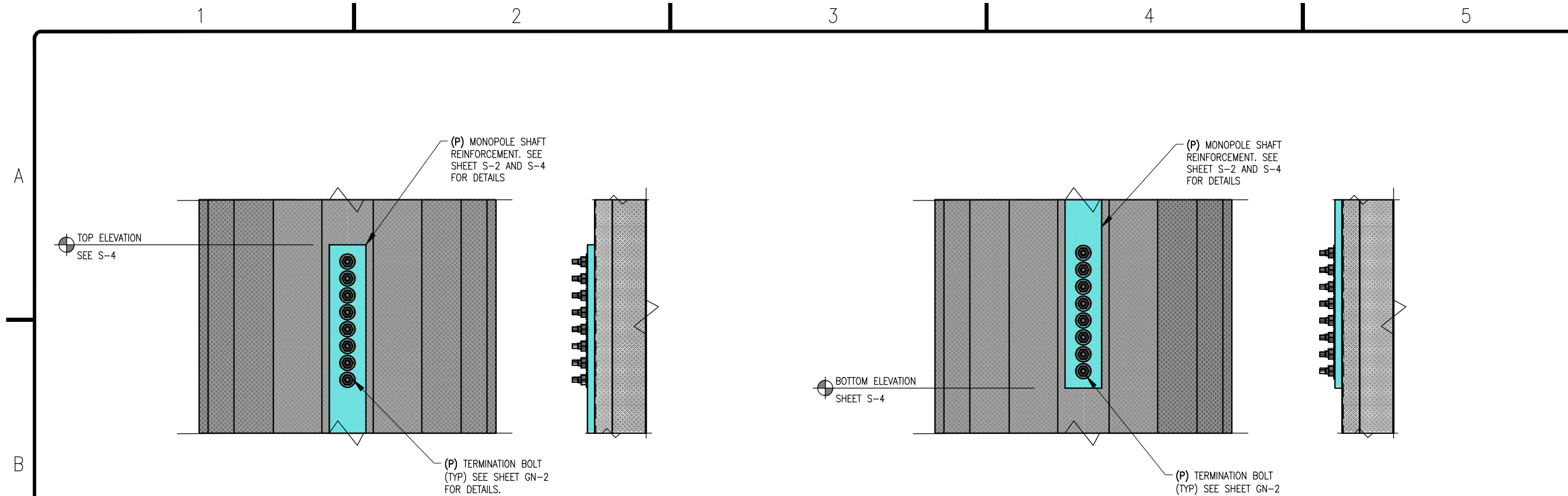
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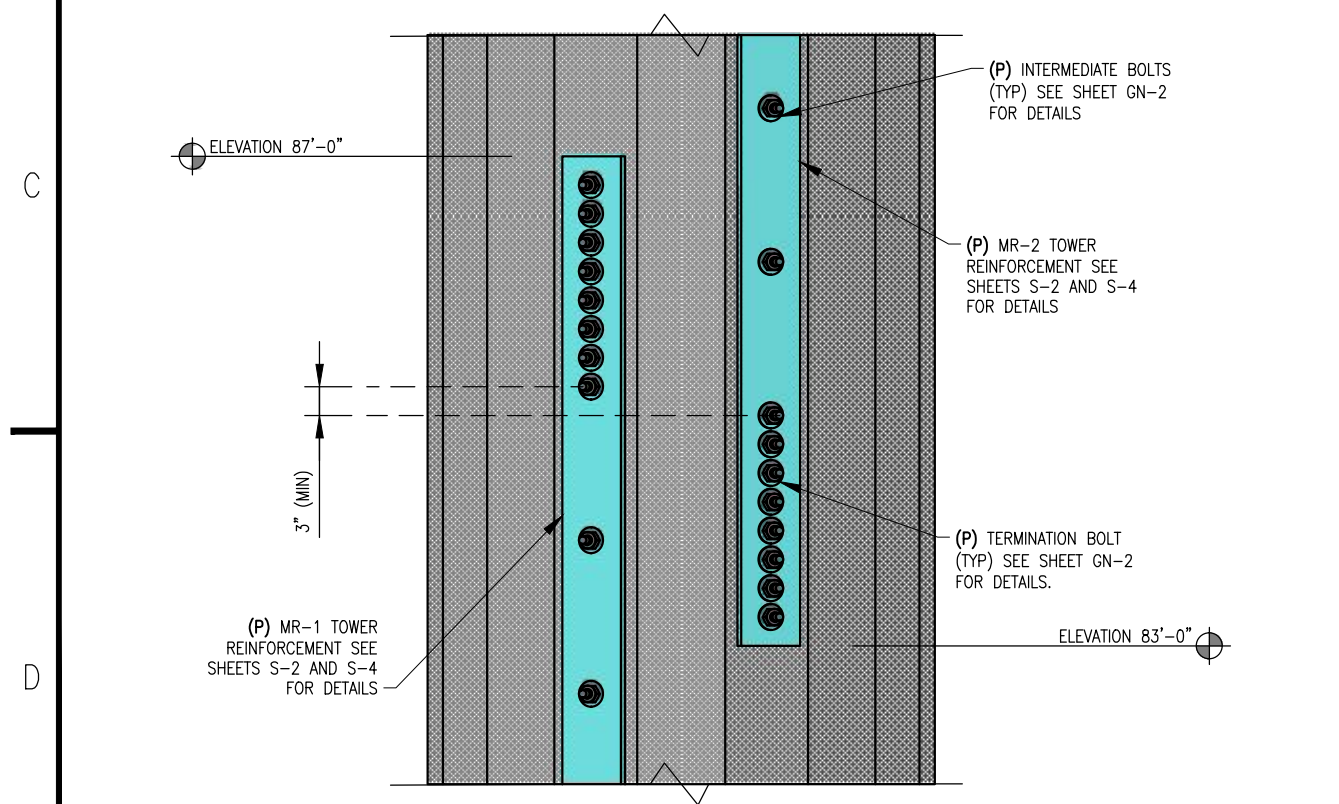
SHEET TITLE
**MONOPOLE
REINFORCEMENT DETAILS I**

SHEET NUMBER
S-2




B1 END TERMINATION DETAILS □TOP□
SCALE: N.T.S.


B3 END TERMINATION DETAILS □BOTTOM□
SCALE: N.T.S.




D1 OVERLAP SPLICE DETAILS
SCALE: N.T.S.



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SHEET TITLE

**MONOPOLE
REINFORCEMENT DETAILS II**

SHEET NUMBER

S-3

