



Mr. Anthony Clark MasTec Network Solutions 22236 68<sup>th</sup> Ave S Kent, WA 98032 (678) 526-3214

City of Puyallup Development & Permitting Service ISSUED PERMIT		
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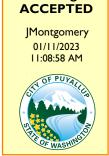


## MORRISON HERSHFIELD

Morrison Hershfield 1455 Lincoln Parkway, Suite 500 Atlanta, GA 30346 (770) 379-8500 City of Puyallup

THE APPROVED CONSTRUCTION PLANS, DOCUMENTS AND ALL ENGINEERING MUST BE POSTED ON THE JOB AT ALL INSPECTIONS IN A VISIBLE AND READILY ACCESSIBLE LOCATION.

FULL SIZED LEDGIBLE COLOR PLANS ARE REQUIRED TO BE PROVIDED BY THE PERMITEE ON SITE FOR INSPECTION



Building

Date: September 12, 2022

## Subject: Structural Modification Report

 AT&T Designation:

 Site USID:
 75042-A

 Site FA:
 10038029

 Site Name:
 ORBIT

Turf Vendor Number: WA6413

Site Address:3310 South Meridian, Puyallup, Pierce County, WA 98373Site Coordinates:Latitude: 47° 9' 35.06" N, Longitude: 122° 17' 47.76" WTower Description:70 ft – Monopole [Western Utility Telecom] w/ 10 ft Proposed Extension

Morrison Hershfield Project Number: MAS-532R2 / 2200078

Dear Mr. Clark,

Morrison Hershfield is pleased to submit this "**Structural Modification Report**" to determine the integrity of the above mentioned tower structure for the existing and proposed antenna and equipment noted.

This analysis has been performed in accordance with the 2018 International Building Code based upon an ultimate 3-second gust wind speed of 97 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

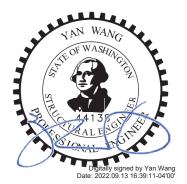
Our analysis demonstrates that the existing tower and foundation **ARE in conformance** with the requirements of the above noted standards under the effects of loading described, **provided the attached modifications are completed.** 

Summary of Results			
Tower Structure 74.0% Sufficient			
Base Foundation 52.3% Sufficient			

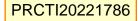
We at *Morrison Hershfield* appreciate the opportunity of providing our continuing professional services to you and MasTec Network Solutions. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by: Morrison Hershfield

Yan Wang, S.E. (WA License No. 44138) Senior Engineer



Morrison Hershfield



## **1.0 INTRODUCTION**

This tower is a 70 ft slimline monopole designed by Western Utility Telecom, Inc., in March of 2017. The tower was originally designed for a basic windspeed of 100 mph per ANSI/TIA 222-G. A proposed 10.5 ft tower extension has been considered in this analysis, bringing the total tower height to 80 ft.

## 2.0 ANALYSIS CRITERIA

The following design parameters have been used in our analysis:

Design Standard:	2018 International Building Code ANSI/TIA-222-H, Structural Standard for Antenna Supporting Structures and Antennas and Small Wind Turbine Support Structures ASCE 7-16, Minimum Design Loads and Associated Criteria for Buildings and Other Structures AISC 325-15, Manual of Steel Construction ACI 318-14, Building Code Requirements for Structural Concrete ANSI/AWS D1.1-11, Structural Welding Code - Steel
Design Wind Speed:	97 mph (Ultimate 3-sec gust) with no radial ice
Risk Category:	
Exposure Category:	С
Topographic Factor, K <sub>zt</sub> :	1.0
Design Ice Thickness:	1.0 in
Wind Speed with Ice:	30 mph (Nominal 3-sec gust) [Neglected]
Seismic Ss:	1.264
Seismic S <sub>1</sub> :	0.436
Service Wind Speed:	60 mph (Nominal 3-sec gust)

The structural analysis was based on the following documentation:

Table 1 – Documentation	Table '	1 – Documentatio	n
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Document	Description	Source
Geotechnical Report	Adapt Engineering, Project No. WA16-20588-GEO, dated 22/06/2016	Client
Tower & Foundation Design	Western Utility Telecom, Inc., Project No. 16-0539, dated 03/12/2017	Client
Tower Mapping Report	Tower Engineering Professionals, Inc., Project No. 312623.691483, dated 05/23/2022	
Design Review	MasTec Network Solutions, Site ID: WA6314, dated 07/22/2020	Client
Structural Analysis Report	Morrison Hershfield, Project No. MAS-532R1 / 2001765, dated 09/11/2020	МН
RF Data Sheet	AT&T Mobility, RFDS Name: WAL03046, dated 06/25/2020	Client
Structural Modification Drawings	Morrison Hershfield, Project No. MAS-532R2 / 2200078, dated 09/07/2022	МН



## 3.0 ANALYSIS LOADING

The existing and proposed antennas, transmission cables, antenna mounts and other equipment considered in this analysis were provided by the client and are noted in the attachments.

## 4.0 ANALYSIS PROCEDURE

tnxTower (Version 8.1.1.0), a commercially available analysis software package, was used to create a threedimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is attached at the end of this report.

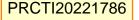
## 5.0 ASSUMPTIONS

The analysis provided by Morrison Hershfield is based on the theoretical capacity of the structure and is not a condition assessment of the tower. Morrison Hershfield has not performed an engineering inspection of the tower and the analysis was completed based on information supplied by the client. Morrison Hershfield has not made any independent determination of the accuracy of the information provided.

- 1) Tower and structures were built in accordance with the manufacturer's specifications and the applicable ANSI/TIA/EIA standard.
- 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
- 3) The tower is assumed to be in good condition and capable of supporting its full design capacity.
- 4) The foundation was properly designed and constructed for the original design loads.
- 5) The configuration of antennas, transmission cables, antenna mounts and other appurtenances are as specified in the attached Tower Analysis Summary Form and the referenced documents.
- 6) All existing/proposed antennas and antenna mounts are assumed to be adequate for the existing/proposed loads. Analysis of these antennas and antenna mounts is considered to be outside of the scope of this analysis. Morrison Hershfield has not performed an analysis of the existing/proposed antennas or antenna mounts.
- 7) The existing and proposed loading for AT&T Mobility is taken from their RF Data Sheet, RFDS Name: WAL03046, dated 11/18/2021, and from the structural analysis report completed by Morrison Hershfield, Project No. MAS-532R1 / 2001765, dated 09/11/2020, and is considered to be correct.
- 8) The remaining existing loading on the tower is taken from the structural analysis report completed by Morrison Hershfield, Project No. MAS-532R1 / 2001765, and is considered to be correct.

If any assumptions are not valid or have been made in error, this analysis is invalid. Morrison Hershfield should be notified to determine the effect on the structural integrity of the tower.





## 6.0 SUMMARY OF RESULTS

The following tables summarize the location and utilized percentage of available capacity for each component of the tower. With consideration to the appropriate safety factors, 100% represents the full capacity of the component. Percentages below 100% indicate available capacity and conformance of the component. Percentages between 100% and 105% indicate an acceptable capacity. Percentages above 105% indicate an overstressed situation requiring structural modification to ensure conformance with the applicable codes and standards.

The seismic base shear was determined to be more than 50% of base shear due to wind loading, so we performed a full seismic analysis per TIA-222-H. The analysis due to seismic loading is controlling for the overall tower capacity.

Based on our analysis results, the **tower and foundation ARE within capacity** to support the loads under the current loading scenario.

## 6.1) Wind Results

## Table 2 – Tower Section Capacity

Section No.	Elevation ft	Component Type	Size	% Capacity	Pass Fail
L1	80 - 70	Pole	Pipe 6.625 x 0.280 (6 STD)	9.3	Pass
L2	70 - 60	Pole	Pipe 8.625" x 0.500" (8 XS)	11.6	Pass
L3	60 - 48	Pole	Pipe 8.625" x 0.500" (8 XS)	27.7	Pass
L4	48 - 1	Pole	P36x0.375	10.9	Pass
				Summary	
			Pole (L3)	27.7	Pass
			RATING =	27.7	Pass

## Table 3 – Capacity of Additional Components

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Flange Connection	70	3.3	Pass
1	Flange Connection	60	15.3	Pass
1	Flange Connection	48	41.2	Pass
1	Anchor Rods	0	25.7	Pass
1	Base Plate	0	27.0	Pass
1	Base Foundation Soil	0	50.6	Pass
1	Base Foundation Structural	0	8.8	Pass

## 6.2) Seismic Results

## Table 4 – Tower Section Capacity

Member Label	Elevation ft	Size	% Capacity	Pass Fail
M1	80 - 70	Pipe 6.625 x 0.280 (6 STD)	36.1	Pass
M2	70 - 60	Pipe 8.625" x 0.500" (8 XS)	28.1	Pass
M3	60 - 48	Pipe 8.625" x 0.500" (8 XS)	49.3	Pass
M4	48 - 1	P36x0.375	15.0	Pass



## Table 5 – Capacity of Additional Components

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Flange Connection	70	18.5	Pass
1	Flange Connection	60	42.0	Pass
1	Flange Connection	48	74.0	Pass
1	Anchor Rods	0	50.8	Pass
1	Base Plate	0	53.3	Pass
1	Base Foundation Soil	0	52.3	Pass
1	Base Foundation Structural	0	12.0	Pass

Structure Rating (max from all components) =	74.0%*
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Notes:

1) See additional documentation in "Appendix C – Additional Calculations" & "Appendix D – Seismic Calculations" for calculations supporting the % capacity consumed.

2) \*Rating per TIA-222-H, Section 15.5.

## 7.0 RECOMMENDATIONS

- 1) All assumptions made in this analysis should be carefully reviewed. Morrison Hershfield should be contacted for any discrepancies so that a full assessment may be made to validate the results of this analysis.
- 2) A post modification inspection of these modifications are later required.

ATTACHMENTS: Tower Loading, Tower Profile, Program Output, Coax Sketch, Additional Calculations, RF Data Sheet and Modification Drawings



APPENDIX A TOWER LOADING

## **Tower Analysis Summary Form**

### General Info

Site Name	ORBIT
Site Number	75042-A
FA Number	10038029
Date of Analysis	09/12/2022
Company Performing Analysis	Morrison Hershfield

Tower Info	Description	Date
Tower Type (G, SST, MP)	MP	
Tower Height (top of steel AGL)	70' w/ 10' proposed extension	
Tower Manufacturer	Western Utility Telecom	
Tower Model	SlimLine Pole	
Tower Design	Western Utility Telecom, Inc., Project No. 16-0539	03/12/2017
Foundation Design	Western Utility Telecom, Inc., Project No. 16-0539	03/12/2017
Geotech Report	Adapt Engineering, Project No. WA16-20588-GEO	22/06/2016
Tower Mapping	Tower Engineering Professionals, Inc., Project No. 312623.691483	05/23/2022
Previous Structural Analysis	Morrison Hershfield, Project No. MAS-532R1 / 2001765	09/11/2020
Structural Calculations	N/A	
Foundation Mapping	N/A	

### Steel Yield Strength (ksi)

Pole	42/35
Flange Bolts	A325
Flange Plate/Base Plate	50
Anchor Rods	F1554-55

### Existing / Reserved Loading

### The information contained in this summary report is not to be used independently from the PE stamped tower analysis.

Design Parameters	
Design Code Used	ANSI/TIA-222-H
	2018 IBC / ASCE 7-16
Location of Tower (County, State)	Pierce, WA
Basic Wind Speed (mph)	97 (Ultimate 3-sec)
Ice Thickness (in)	1
Structure Classification (I, II, III)	I
Exposure Category (B, C, D)	С
Topographic Category (1 to 5)	1

Analysis Results (% Maximum	Usage)
Existing/Reserved + Proposed	Condition
Pole (%)	74.0%
Anchor Rods / Base Plate (%)	50.8% / 53.3%
Foundation (%)	52.3%

YES

Foundat

on Ade

<ol> <li>The existing and proposed loading for AT&amp;T Mobility is taken from their</li> </ol>
RF Data Sheet, RFDS Name: WAL03046, dated 11/18/2021, and from the
structural analysis report completed by Morrison Hershfield, Project No.
MAS-532R1 / 2001765, dated 09/11/2020, and is considered to be correct.
2) The remaining existing loading on the tower is taken from the structural
analysis report completed by Morrison Hershfield, Project No. MAS-532R1 /
2001765, and is considered to be correct.

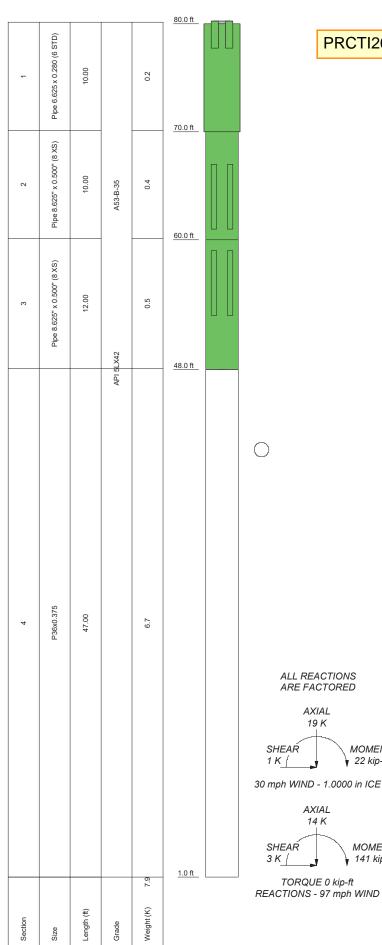
			Antenna							Mount		Transmi	ssion Line	
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Туре	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Туре	Quantity	Model	Size	Attachment Internal/External
AT&T Mobility	64	64	3*	Panel	KMW	800372991	80/200/285	-	-	Inside 36" x 10' Canister	12	Unknown	7/8"	Internal
AT&T Mobility	64	64	6	TMA	Kaelus	TMA2117F00V1-1		-	-	Inside 36" x 10' Canister				
AT&T Mobility	56	56	3*	Panel	KMW	800372991	80/200/285	-	-	Inside 36" x 12' Canister	12	Unknwon	7/8"	Internal
AT&T Mobility	56	56	6	TMA	Kathrein	78211273V02			-	Inside 36" x 12' Canister				
Unknown	25	25	2	Light	Unknown	Box Light	-	-	-	-	-	-	-	-
*Note: Existing loading shall be	reused.													

### Drangood Londin

			Antenna							Mount		Transmi	Transmission Line				
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Туре	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Туре	Quantity	Model	Size	Attachment Internal/External			
AT&T Mobility	79	79	3	Panel	Nokia	AEQK	80/200/285	1	Unknown	10' P6STD Antenna Mast	2	DC Power	3/4"	Internal			
AT&T Mobility	79	79	3	Panel	Nokia	AEQU	80/200/285	1	Unknown	Inside 40" x 10' Canister	1	Fiber	3/8"	Internal			
AT&T Mobility	79	79	3	Surge	Raycap	DC9-48-60-24-PC16-EV	-	-	-	-		-	-	-			

Note: Proposed loading is in addition to the remaining existing loading at the given elevation.

APPENDIX B tnxTower - WIND ANALYSIS



## DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
AEQK w/ Mount Pipe (P)	79	800372991_TIA w/ Mount Pipe (E)	64
AEQK w/ Mount Pipe (P)	79	(2) TMA2117F00V1-1 (E)	64
AEQK w/ Mount Pipe (P)	79	(2) TMA2117F00V1-1 (E)	64
AEQU w/ Mount Pipe (P)	79	(2) TMA2117F00V1-1 (E)	64
AEQU w/ Mount Pipe (P)	79	800372991_TIA w/ Mount Pipe (E)	56
AEQU w/ Mount Pipe (P)	79	(2) 78211273V02 (E)	56
DC9-48-60-24-PC16-EV (P)	79	(2) 78211273V02 (E)	56
DC9-48-60-24-PC16-EV (P)	79	(2) 78211273V02 (E)	56
DC9-48-60-24-PC16-EV (P)	79	800372991_TIA w/ Mount Pipe (E)	56
40"x10' Canister (P)	75	800372991_TIA w/ Mount Pipe (E)	56
36"x10' Canister (E)	65	36"x12' Canister (E)	54
800372991_TIA w/ Mount Pipe (E)	64	(2) Box Light (Unknown)	26.75
800372991_TIA w/ Mount Pipe (E)	64		

## **MATERIAL STRENGTH**

GRADE	Fv	Fu	GRADE	Fv	Fu
A53-B-35	35 ksi	63 ksi	API 5LX42	42 ksi	60 ksi

## **TOWER DESIGN NOTES**

 Tower is located in Pierce County, Washington.
 Tower designed for Exposure C to the TIA-222-H Standard.
 Tower designed for a 97 mph basic wind in accordance with the TIA-222-H Standard.
 Tower is also designed for a 30 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.

MOMENT 22 kip-ft

MOMENT

141 kip-ft

- Deflections are based upon a 60 mph wind.
   Tower Risk Category II.
   Topographic Category 1 with Crest Height of 0.00 ft
   TOWER RATING: 27.7%

Morrison Hershfield MAS-532R2 / 2200078 roject: 75042-A / ORBIT 1455 Lincoln Parkway, Suite 500 Client: MasTec Network Solutions Drawn by: VG App'd: Atlanta, GA 30346 Date: 09/07/22 Scale: NTS Code: TIA-222-H Phone: (770) 379-8500 Consulting Engineers Dwg No. E-1 FAX: (770) 379-8501 Path:

tnxTower	Job		Page
the I ower		MAS-532R2 / 2200078	1 of 5
Morrison Hershfield	Project		Date
1455 Lincoln Parkway, Suite 500		75042-A / ORBIT	19:05:48 09/07/22
Atlanta, GA 30346 Phone: (770) 379-8500 FAX: (770) 379-8501	Client	MasTec Network Solutions	Designed by VG

## **Tower Input Data**

The tower is a monopole.

This tower is designed using the TIA-222-H standard. The following design criteria apply: Tower is located in Pierce County, Washington. Tower base elevation above sea level: 438.00 ft. Basic wind speed of 97 mph. Risk Category II. Exposure Category C. Simplified Topographic Factor Procedure for wind speed-up calculations is used. Topographic Category: 1. Crest Height: 0.00 ft. Nominal ice thickness of 1.0000 in. Ice thickness is considered to increase with height. Ice density of 56 pcf. A wind speed of 30 mph is used in combination with ice. Temperature drop of 50 °F. Deflections calculated using a wind speed of 60 mph. A non-linear (P-delta) analysis was used. Pressures are calculated at each section. Stress ratio used in pole design is 1. Tower analysis based on target reliabilities in accordance with Annex S. Load Modification Factors used:  $K_{es}(F_w) = 0.95$ ,  $K_{es}(t_i) = 0.85$ . Maximum demand-capacity ratio is: 1.05.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

## Options

Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification Use Code Stress Ratios

✓ Use Code Safety Factors - Guys
 Escalate Ice
 Always Use Max Kz
 Use Special Wind Profile
 Include Bolts In Member Capacity

Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric Distribute Leg Loads As Uniform

- Assume Legs Pinned
- Assume Rigid Index Plate
   Use Clear Spans For Wind Area
   Use Clear Spans For KL/r
   Patencion Guya To Latital Territorial
- Retension Guys To Initial Tension
- ✓ Bypass Mast Stability Checks
   ✓ Use Azimuth Dish Coefficients
- ✓ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder

Ignore KL/ry For 60 Deg. Angle Legs

Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation

- ✓ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption Poles
- √ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known

Page Job *tnxTower* 2 of 5 MAS-532R2 / 2200078 Project Date Morrison Hershfield 75042-A / ORBIT 19:05:48 09/07/22 1455 Lincoln Parkway, Suite 500 Atlanta, GA 30346 Client Designed by Phone: (770) 379-8500 MasTec Network Solutions VG FAX: (770) 379-8501

# **Pole Section Geometry**

Section	Elevation	Section Length	Pole Size	Pole Grade	Socket Length
	ft	ft	5126	Oruue	ft
L1	80.00-70.00	10.00	Pipe 6.625 x 0.280	A53-B-35	
			(6 STD)	(35 ksi)	
L2	70.00-60.00	10.00	Pipe 8.625" x	A53-B-35	
			0.500" (8 XS)	(35 ksi)	
L3	60.00-48.00	12.00	Pipe 8.625" x	A53-B-35	
			0.500" (8 XS)	(35 ksi)	
L4	48.00-1.00	47.00	P36x0.375	API 5LX42	
				(42 ksi)	

# Feed Line/Linear Appurtenances - Entered As Area

Description	Face or	Allow Shield	Exclude From	Component Type	Placement	Total Number		$C_A A_A$	Weight
	Leg		Torque Calculation		ft			ft²/ft	plf
***AT&T***									
7/8"	Α	No	No	Inside Pole	64.00 - 1.00	12	No Ice	0.00	0.30
(E-In Conduit)							1/2" Ice	0.00	0.30
							1" Ice	0.00	0.30
6" Conduit	Α	No	No	Inside Pole	64.00 - 1.00	3	No Ice	0.00	0.02
(E)							1/2" Ice	0.00	0.02
							1" Ice	0.00	0.02
***									
7/8"	В	No	No	Inside Pole	56.00 - 1.00	12	No Ice	0.00	0.30
(E-In Conduit)							1/2" Ice	0.00	0.30
							1" Ice	0.00	0.30
6" Conduit	В	No	No	Inside Pole	56.00 - 1.00	3	No Ice	0.00	0.02
(E)							1/2" Ice	0.00	0.02
							1" Ice	0.00	0.02
***									
DC Power (3/4")	С	No	No	Inside Pole	79.00 - 1.00	2	No Ice	0.00	0.88
(P)							1/2" Ice	0.00	0.88
							1" Ice	0.00	0.88
Fiber (3/8")	С	No	No	Inside Pole	79.00 - 1.00	1	No Ice	0.00	0.12
(P)							1/2" Ice	0.00	0.12
							1" Ice	0.00	0.12
6" Conduit	С	No	No	Inside Pole	79.00 - 1.00	1	No Ice	0.00	0.02
(P)							1/2" Ice	0.00	0.02
***							1" Ice	0.00	0.02

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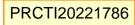
Discrete Tower Loads										
Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement		$C_A A_A$ Front	C <sub>A</sub> A <sub>A</sub> Side	Weight	
			ft ft ft	0	ft		ft <sup>2</sup>	ft <sup>2</sup>	K	
***Tower***										
40"x10' Canister (P)	С	None		0.0000	75.00	No Ice 1/2" Ice 1" Ice	17.04 24.46	17.04 24.46 25.22	0.60 0.89	
36"x10' Canister (E)	С	None		0.0000	65.00	No Ice 1/2" Ice	25.23 15.56 22.30	25.23 15.56 22.30	1.19 0.40 0.66	
36"x12' Canister (E)	С	None		0.0000	54.00	1" Ice No Ice 1/2" Ice	23.04 19.20 27.25	23.04 19.20 27.25	0.93 0.45 0.75	
						1" Ice	28.12	28.12	1.07	
***AT&T*** 00372991_TIA w/ Mount Pipe	А	From Leg	0.50 0.00	0.0000	64.00	No Ice 1/2" Ice	10.89 11.49	7.29 8.55	0.11 0.19	
(Ē)	-		0.00	0.0000	64.00	1" Ice	12.08	9.58	0.28	
00372991_TIA w/ Mount Pipe (E)	В	From Leg	0.50 0.00 0.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	10.89 11.49 12.08	7.29 8.55 9.58	0.11 0.19 0.28	
00372991_TIA w/ Mount Pipe	С	From Leg	0.50 0.00	0.0000	64.00	No Ice 1/2" Ice	10.89 11.49	7.29 8.55	0.11 0.19	
(E) (2) TMA2117F00V1-1 (E)	А	From Leg	0.00 0.50 0.00	0.0000	64.00	1" Ice No Ice 1/2" Ice	12.08 1.23 1.37	9.58 0.52 0.62	0.28 0.02 0.03	
(2) TMA2117F00V1-1	В	From Leg	0.00 0.50	0.0000	64.00	1" Ice No Ice	1.51 1.23	0.73 0.52	0.03	
(E)	C	Enour Loo	0.00 0.00	0.0000	(4.00	1/2" Ice 1" Ice No Ice	1.37 1.51 1.23	0.62 0.73	0.03 0.04	
(2) TMA2117F00V1-1 (E)	С	From Leg	0.50 0.00 0.00	0.0000	64.00	1/2" Ice 1" Ice	1.25 1.37 1.51	0.52 0.62 0.73	0.02 0.03 0.04	
*** 00372991_TIA w/ Mount Pipe	А	From Leg	0.50 0.00	0.0000	56.00	No Ice 1/2" Ice	10.89 11.49	7.29 8.55	0.11 0.19	
(Ê) 00372991_TIA w/ Mount	В	From Leg	0.00 0.50	0.0000	56.00	1" Ice No Ice	12.08 10.89	9.58 7.29	0.28 0.11	
Pipe (E) 00372991 TIA w/ Mount	С	From Leg	0.00 0.00 0.50	0.0000	56.00	1/2" Ice 1" Ice No Ice	11.49 12.08 10.89	8.55 9.58 7.29	0.19 0.28 0.11	
Pipe (E)	U	C	0.00	0.0000	50.00	1/2" Ice 1" Ice	11.49 12.08	8.55 9.58	0.19 0.28	
(2) 78211273V02 (E)	А	From Leg	0.50 0.00 0.00	0.0000	56.00	No Ice 1/2" Ice 1" Ice	0.62 0.72 0.83	0.24 0.31 0.38	0.02 0.02 0.03	
(2) 78211273V02 (E)	В	From Leg	0.50 0.00 0.00	0.0000	56.00	No Ice 1/2" Ice 1" Ice	0.62 0.72 0.83	0.24 0.31 0.38	0.03 0.02 0.02 0.03	
(2) 78211273V02 (E)	С	From Leg	0.50 0.00 0.00	0.0000	56.00	No Ice 1/2" Ice 1" Ice	0.62 0.72 0.83	0.24 0.31 0.38	0.02 0.02 0.03	
***		г т		0.0000	70.00					
AEQK w/ Mount Pipe (P)	А	From Leg	0.50 0.00	0.0000	79.00	No Ice 1/2" Ice	4.57 4.89	3.10 3.53	0.11 0.15	
			0.00			1" Ice	5.23	3.97	0.20	

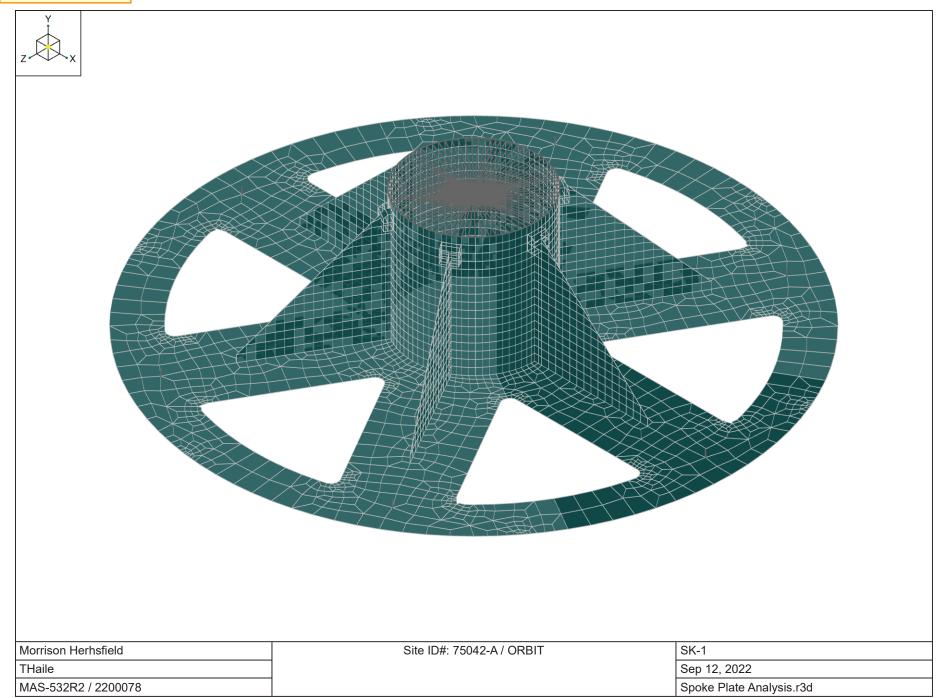
1	4	Job		Page
	tnxTower		MAS-532R2 / 2200078	4 of 5
	Morrison Hershfield	Project		Date
	1455 Lincoln Parkway, Suite 500		75042-A / ORBIT	19:05:48 09/07/22
	Atlanta, GA 30346 Phone: (770) 379-8500 FAX: (770) 379-8501	Client	MasTec Network Solutions	Designed by VG
L	FAX: (770) 379-8501			VG

Description	Face or Leg	Offset Type	Offsets: Horz Lateral	Azimuth Adjustment	Placement		$C_A A_A$ Front	C <sub>A</sub> A <sub>A</sub> Side	Weight
			Vert ft	o	ft		$ft^2$	$ft^2$	K
			ft ft						
AEQK w/ Mount Pipe	В	From Leg	0.50	0.0000	79.00	No Ice	4.57	3.10	0.11
(P)			0.00			1/2" Ice	4.89	3.53	0.15
			0.00			1" Ice	5.23	3.97	0.20
AEQK w/ Mount Pipe	С	From Leg	0.50	0.0000	79.00	No Ice	4.57	3.10	0.11
(P)			0.00			1/2" Ice	4.89	3.53	0.15
			0.00			1" Ice	5.23	3.97	0.20
AEQU w/ Mount Pipe	А	From Leg	0.50	0.0000	79.00	No Ice	4.56	3.09	0.11
(P)			0.00			1/2" Ice	4.88	3.52	0.15
			0.00			1" Ice	5.22	3.96	0.20
AEQU w/ Mount Pipe	В	From Leg	0.50	0.0000	79.00	No Ice	4.56	3.09	0.11
(P)			0.00			1/2" Ice	4.88	3.52	0.15
			0.00			1" Ice	5.22	3.96	0.20
AEQU w/ Mount Pipe	С	From Leg	0.50	0.0000	79.00	No Ice	4.56	3.09	0.11
(P)			0.00			1/2" Ice	4.88	3.52	0.15
			0.00			1" Ice	5.22	3.96	0.20
DC9-48-60-24-PC16-EV	А	From Leg	0.50	0.0000	79.00	No Ice	2.74	4.78	0.03
(P)			0.00			1/2" Ice	2.96	5.06	0.06
			0.00			1" Ice	3.20	5.35	0.10
DC9-48-60-24-PC16-EV	В	From Leg	0.50	0.0000	79.00	No Ice	2.74	4.78	0.03
(P)			0.00			1/2" Ice	2.96	5.06	0.06
			0.00			1" Ice	3.20	5.35	0.10
DC9-48-60-24-PC16-EV	С	From Leg	0.50	0.0000	79.00	No Ice	2.74	4.78	0.03
(P)			0.00			1/2" Ice	2.96	5.06	0.06
***			0.00			1" Ice	3.20	5.35	0.10
(2) Box Light	С	From Leg	1.00	0.0000	26.75	No Ice	4.00	4.00	0.04
(Unknown)		8	0.00			1/2" Ice	0.00	0.00	0.00
× /			0.00			1" Ice	0.00	0.00	0.00
***									

# Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	Р К	${{}^{ {                                $	% Capacity	Pass Fail
L1	80 - 70	Pole	Pipe 6.625 x 0.280 (6 STD)	1	-1.86	184.60	9.3	Pass
L2	70 - 60	Pole	Pipe 8.625" x 0.500" (8 XS)	2	-3.44	422.13	11.6	Pass
L3	60 - 48	Pole	Pipe 8.625" x 0.500" (8 XS)	3	-5.27	422.13	27.7	Pass
L4	48 - 1	Pole	P36x0.375	4	-13.95	1567.24	10.9	Pass
							Summary	
						Pole (L3)	27.7	Pass
						RATING =	27.7	Pass







Model Settings	
Solution	
Members	
Number of Reported Sections	5
Number of Internal Sections	100
Member Area Load Mesh Size (in <sup>2</sup> )	144
Consider Shear Deformation	Yes
Consider Torsional Warping	Yes
Wall Panels	
Approximate Mesh Size (in)	24
Transfer Forces Between Intersecting Wood Walls	Yes
Increase Wood Wall Nailing Capacity for Wind Loads	Yes
Include P-Delta for Walls	Yes
Optimize Masonry and Wood Walls	No
Maximum Number of Iterations	3
Processor Core Utilization	No
Single	
Multiple (Optimum)	Yes
Maximum	No
Axis Vertical Global Axis	
Global Axis corresponding to vertical direction	Y
Convert Existing Data	Yes
Default Member Orientation	
Default Global Plane for z-axis	XZ
Plate Axis	
Plate Local Axis Orientation	Nodal
Codes	
Hot Rolled Steel	AISC 3rd: LRFD
Stiffness Adjustment	Yes (Iterative)
Notional Annex	None
Connections	AISC 14th (360-10): ASD
Cold Formed Steel	None
Stiffness Adjustment	Yes (Iterative)
Wood	None
Temperature	< 100F
Concrete	None
Masonry	TMS 402-16: ASD
Aluminum	AA ADM1-15: ASD
Structure Type	Building
Stiffness Adjustment	Yes (Iterative)
Stainless	AISC 14th (360-10): ASD
Stiffness Adjustment	Yes (Iterative)

Concrete	
Compression Stress Block	Rectangular Stress Block
Analyze using Cracked Sections	Yes
Leave room for horizontal rebar splices (2*d bar spacing)	Yes



## Model Settings (Continued)

List forces which were ignored for design in the Detail Report	Yes
Rebar	
Column Min Steel	1
Column Max Steel	8
Rebar Material Spec	ASTM A615
Warn if beam-column framing arrangement is not understood	No

Shear Reinforcement	
Number of Shear Regions	4
Region 2 & 3 Spacing Increase Increment (in)	4

Seismic

**RISA-3D Seismic Load Options** 

Code	ASCE 7-16
Risk Category	l or ll
Drift Cat	Other
Base Elevation (ft)	0
Include the weight of the structure in base shear calcs	No

#### Site Parameters S<sub>1</sub> (g) 0.436 SD<sub>1</sub> (g) 0.542 SD<sub>s</sub> (g) 0.843 T₋ (sec) 6

## Structure Characteristics

T Z (sec)	
T X (sec)	
C <sub>1</sub> Z	0.02
C <sub>1</sub> X	0.02
C <sub>t</sub> Exp. Z	0.75
C <sub>t</sub> Exp. X	0.75
RZ	1.5
RX	1.5
$\Omega_0 Z$	1.5
$\Omega_{0}X$	1.5
C <sub>d</sub> Z	4
C₄X	4
ρΖ	1
ρΧ	1

## General Materials Properties

	General Materials I						
	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft <sup>3</sup> ]	Plate Methodology
1	gen Conc3NW	3155	1372	0.15	0.6	0.145	Isotropic
2 3	gen Conc4NW	3644	1584	0.15	0.6	0.145	Isotropic
3	gen Conc3LW	2085	906	0.15	0.6	0.11	Isotropic
1 5	gen Conc4LW	2408	1047	0.15	0.6	0.11	Isotropic
5	gen Alum	10100	4077	0.3	1.29	0.173	Isotropic
3	gen Steel	29000	11154	0.3	0.65	0.49	Isotropic
5 7	gen Plywood	1800	38	0	0.3	0.035	Isotropic
3	RIGID	1e+6		0.3	0	0	Isotropic
9	gen_Ortho	N/A	N/A	N/A	0.65	0.49	Orthotropic
	Node Loads and E	nforced Disp	lacements (E	BLC 1 : P - F	69 W)		
	Node Label	L, D, M	Direct	ion	Magnitude [(k, k-f	t), (in, rad), (k*s²/in	, k*s²*in)]
1	LOR	L	Y		<b>.</b>	-1.86	
1	Node Loads and En Node Label LOR	L, D, M L	Direct MZ	ion	Magnitude [(k, k-f	t), (in, rad), (k*s²/in 2.59	, k*s²*in)]
		nforced Dian	lacements (F	BLC 3 : V - I -	- F69 W)		
	Node Loads and E	norceu Disp					
					Magnitude [(k, k-f	t), (in, rad), (k*s²/in	, k*s²*in)]
1	Node Label	L, D, M L	Direct X	ion		t), (in, rad), (k*s²/in -0.5	k*s²*in)]
1	Node Label	L, D, M L	Direct X	ion BLC 4 : M - II	- F69 W)		
1	Node Label  Node Loads and El  Node Label  LOR  Node Loads and El	L, D, M L nforced Disp L, D, M L	Direct X Iacements (E Direct MX Iacements (E	ion BLC 4 : M - II ion BLC 5 : V - II	<i>- F69 W)</i> Magnitude [(k, k-fi - F69 W)	-0.5 :), (in, rad), (k*s²/in 2.59	, <u>k*s²*in)]</u>
1	Node Label  Node Loads and El  Node Label  LOR  Node Loads and El  Node Loads and El  Node Loads and El	L, D, M L nforced Disp L, D, M L	Direct X Iacements (E Direct MX Iacements (E Direct	ion BLC 4 : M - II ion BLC 5 : V - II	<i>- F69 W)</i> Magnitude [(k, k-fi - F69 W)	-0.5 i), (in, rad), (k*s²/in 2.59 i), (in, rad), (k*s²/in	, k*s²*in)]
1	Node Label  Node Loads and El  Node Label  LOR  Node Loads and El	L, D, M L nforced Disp L, D, M L	Direct X Iacements (E Direct MX Iacements (E	ion BLC 4 : M - II ion BLC 5 : V - II	<i>- F69 W)</i> Magnitude [(k, k-fi - F69 W)	-0.5 :), (in, rad), (k*s²/in 2.59	, k*s²*in)]
	Node Label       Node Loads and El       Node Label       LOR       Node Label       LOR       Node Label       LOR       Node Label       LOR       Node Label       Node Label       Node Label       Node Label       Node Label       Node Label	L, D, M L nforced Disp L, D, M L L, D, M L L	Direct X Iacements (E Direct MX Iacements (E Direct Z Iacements (E	ion <u>BLC 4 : M - II</u> ion <u>BLC 5 : V - II</u> ion <u>BLC 6 : P - F</u>	- F69 W) Magnitude [(k, k-fi - F69 W) Magnitude [(k, k-fi	-0.5 i), (in, rad), (k*s²/in 2.59 i), (in, rad), (k*s²/in 0.5	, k*s²*in)] , k*s²*in)]
1	Node Label LOR  Node Loads and El LOR  Node Loads and El LOR  Node Loads and El LOR  Node Label LOR	L, D, M L nforced Disp L, D, M L nforced Disp L, D, M L	Direct X Iacements (E Direct MX Iacements (E Direct Z	ion <u>BLC 4 : M - II</u> ion <u>BLC 5 : V - II</u> ion <u>BLC 6 : P - F</u>	- F69 W) Magnitude [(k, k-fi - F69 W) Magnitude [(k, k-fi	-0.5 i), (in, rad), (k*s²/in 2.59 i), (in, rad), (k*s²/in	, k*s²*in)] , k*s²*in)]
	Node Label LOR  Node Loads and Ei Node Label LOR	L, D, M L nforced Disp L, D, M L L, D, M L L nforced Disp L, D, M L	Direct X Iacements (E Direct MX Iacements (E Direct Z Iacements (E Direct Y	ion <u>BLC 4 : M - II</u> ion <u>BLC 5 : V - II</u> ion <u>BLC 6 : P - F</u> ion <u>BLC 7 : M - I</u>	<u>- F69 W)</u> Magnitude [(k, k-fi - F69 W) Magnitude [(k, k-fi 59 W) Magnitude [(k, k-fi	-0.5 t), (in, rad), (k*s²/in 2.59 t), (in, rad), (k*s²/in 0.5 t), (in, rad), (k*s²/in	, k*s²*in)] , k*s²*in)] , k*s²*in)]
	Node Label LOR Node Loads and El Node Label LOR Node Label LOR Node Label LOR Node Label Node Label Node Label Node Label Node Label	L, D, M L nforced Disp L, D, M L nforced Disp L, D, M L L nforced Disp L, D, M L	Direct	ion <u>BLC 4 : M - II</u> ion <u>BLC 5 : V - II</u> ion <u>BLC 6 : P - F</u> ion <u>BLC 7 : M - I</u>	- F69 W) Magnitude [(k, k-fi - F69 W) Magnitude [(k, k-fi - F59 W) Magnitude [(k, k-fi	-0.5 i), (in, rad), (k*s²/in 2.59 i), (in, rad), (k*s²/in 0.5 i), (in, rad), (k*s²/in -3.44 i), (in, rad), (k*s²/in	, k*s²*in)] , k*s²*in)] , k*s²*in)]
	Node Label LOR Node Loads and Ei Node Label LOR Node Label LOR Node Label LOR Node Label Node Label LOR Node Label LOR	L, D, M L nforced Disp L, D, M L nforced Disp L, D, M L L nforced Disp L, D, M L	Direct	ion <u>BLC 4 : M - II</u> ion <u>BLC 5 : V - II</u> ion <u>BLC 6 : P - F</u> ion <u>BLC 7 : M - I</u> ion <u>BLC 8 : V - I -</u>	- F69 W) Magnitude [(k, k-fi - F69 W) Magnitude [(k, k-fi - F59 W) Magnitude [(k, k-fi Magnitude [(k, k-fi	-0.5 i), (in, rad), (k*s²/in 2.59 i), (in, rad), (k*s²/in 0.5 i), (in, rad), (k*s²/in -3.44 i), (in, rad), (k*s²/in	, k*s <sup>2*</sup> in)] , k*s <sup>2*</sup> in)] , k*s <sup>2*</sup> in)]

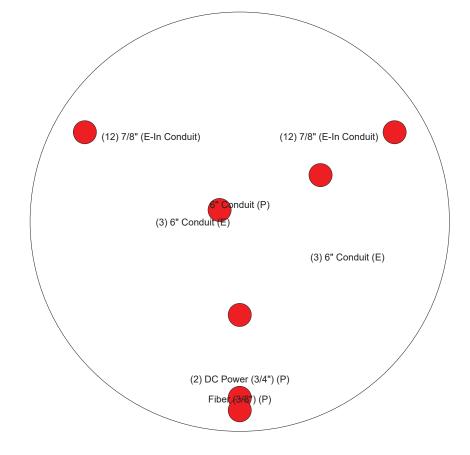
	Company	: Morrison Herhsfield
	Designer	: THaile
<b>IIRISA</b>	Job Number	: MAS-532R2 / 2200078
A NEMETSCHEK COMPANY	Model Name	: Site ID#: 75042-A / ORBIT

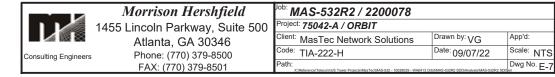
Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/in,	k*s²*in)]
LOR	L	MX	9.82	
		-		
Node Loads an	nd Enforced Displa	cements (BLC 10 : V - I	I - F59 W)	
Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/in,	k*s²*in)]
LOR	L	Z	0.94	
Nodo Loodo or	d Enforced Dicale	cements (BLC 11 : P - I	-47 140	
Node Loads an	L, D, M	Direction	- <b>47 W)</b> Magnitude [(k, k-ft), (in, rad), (k*s²/in,	k*s²*in)]
LOR	L	Y	-5.27	
		cements (BLC 12 : M - )		1.+-2+:-)1
Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/in,	K^S*^IN)]
LOR	L	MZ	24.04	
		<u>cements (BLC 13 : V - I</u>		1 + 2+. )]
Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/in,	K^S <sup>2</sup> ^IN)]
LOR	L	X	-1.42	
Node Loads ar	nd Enforced Displa	cements (BLC 14 : M -	II-F47 W)	
Node Label	nd Enforced Displa	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/in,	k*s²*in)]
				k*s²*in)]
Node Label LOR Node Loads an	L, D, M L Did Enforced Displa	Direction MX cements (BLC 15 : V - I	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04 I - F47 W)	
Node Label LOR Node Loads an Node Label	L, D, M	Direction MX cements (BLC 15 : V - I Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04 <b>I - F47 W)</b> Magnitude [(k, k-ft), (in, rad), (k*s²/in,	
Node Label LOR Node Loads an	L, D, M L Did Enforced Displa	Direction MX cements (BLC 15 : V - I	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04 I - F47 W)	
Node Label LOR Node Loads an Node Label LOR	L, D, M L Did Enforced Displa L, D, M L	Direction MX cements (BLC 15 : V - I Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04 <b>I - F47 W)</b> Magnitude [(k, k-ft), (in, rad), (k*s²/in,	
Node Label LOR Node Loads an Node Label LOR	L, D, M L Ind Enforced Display L, D, M L Ses	Direction MX cements (BLC 15 : V - I Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04 <b>I - F47 W)</b> Magnitude [(k, k-ft), (in, rad), (k*s²/in,	
Node Label LOR Node Loads an Node Label LOR	L, D, M L Ind Enforced Displat L, D, M L Ses BLC	Direction MX cements (BLC 15 : V - I Direction Z	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04 I - F47 W) Magnitude [(k, k-ft), (in, rad), (k*s²/in, 1.42	k*s²*in)]
Node Label LOR Node Loads an Node Label LOR	L, D, M L Did Enforced Displa L, D, M L Ses BLC F M	Direction MX <u>cements (BLC 15 : V - I</u> Direction Z Description - F69_W - I - F69_W	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04           I - F47 W)           Magnitude [(k, k-ft), (in, rad), (k*s²/in, 1.42           Category           Category           None           None	k*s²*in)] Nodal 1 1
Node Label LOR Node Loads an Node Label LOR	L, D, M L Did Enforced Displat L, D, M L Ses BLC F M V	Direction MX <u>cements (BLC 15 : V - I</u> Direction Z Description - F69_W - I - F69_W - I - F69_W	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04           I - F47 W)           Magnitude [(k, k-ft), (in, rad), (k*s²/in, 1.42           Category           Category           None           None           None           None	k*s²*in)] Nodal 1 1 1
Node Label LOR Node Loads an Node Label LOR	L, D, M L Dd Enforced Displa L, D, M L Ses BLC F M V M	Direction MX cements (BLC 15 : V - I Direction Z Description - F69 W - I - F69 W - I - F69 W - I - F69 W - I - F69 W	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04)           I - F47 W)           Magnitude [(k, k-ft), (in, rad), (k*s²/in, 1.42)           Category           Category           None           None           None           None           None           None           None	k*s²*in)] Nodal 1 1 1 1 1
Node Label LOR Node Loads an Node Label LOR	L, D, M L D Displation L, D, M L Ses BLC F M V M V	Direction MX <u>cements (BLC 15 : V - I</u> Direction Z Description - F69_W - I - F69_W - I - F69_W - I - F69_W - I - F69_W - II - F69_W - II - F69_W	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04           I - F47 W)           Magnitude [(k, k-ft), (in, rad), (k*s²/in, 1.42           Category           Category           None	k*s²*in)] Nodal 1 1 1 1 1 1 1
Node Label LOR Node Loads an Node Label LOR	L, D, M L, D, M L, D, M L, D, M BLC Ses BLC M V M V M V F	Direction MX Cements (BLC 15 : V - I Direction Z Description - F69 W - I - F69 W	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04           I - F47 W)           Magnitude [(k, k-ft), (in, rad), (k*s²/in, 1.42           Category           Category           None	k*s²*in)] Nodal 1 1 1 1 1 1 1 1 1
Node Label LOR Node Loads an Node Label LOR	L, D, M L Dd Enforced Displa L, D, M L, D, M L Ses BLC F M V V M V F M M	Direction MX cements (BLC 15 : V - I Direction 2 - F69 W - I - F59 W	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04           I - F47 W)           Magnitude [(k, k-ft), (in, rad), (k*s²/in, 1.42           Category           1.42           None	k*s²*in)] Nodal 1 1 1 1 1 1 1 1 1 1 1
Node Label LOR Node Loads an Node Label LOR	L, D, M L Dd Enforced Displa L, D, M L, D, M L Ses BLC F M V V M V F M V V V V	Direction MX cements (BLC 15 : V - I Direction Direction C Description - F69 W - I - F59 W - I - F59 W - I - F59 W	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04           I - F47 W)           Magnitude [(k, k-ft), (in, rad), (k*s²/in, 1.42           Category           Category           None	k*s²*in)] Nodal 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Node Label LOR Node Loads an Node Label LOR	L, D, M L, D, M L, D, M L, D, M L, D, M BLC Ses BLC F M V V M V C M V V M V V M V V M V V M V V M V M	Direction MX cements (BLC 15 : V - I Direction Direction C Description - F69 W - I - F59 W	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04           I - F47 W)           Magnitude [(k, k-ft), (in, rad), (k*s²/in, 1.42           Category           Category           None	k*s²*in)] Nodal 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Node Label LOR Node Loads an Node Label LOR	L, D, M L, D, M L, D, M L, D, M L Ses BLC F M V V M V V M V V M V V V V V V V V V	Direction MX <u>cements (BLC 15 : V - I</u> Direction <u>Z</u> Direction - F69 W - I - F59 W	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04           I - F47 W)           Magnitude [(k, k-ft), (in, rad), (k*s²/in, 1.42           Category           1.42           None	k*s²*in)] Nodal 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Node Label LOR Node Loads an Node Label LOR	L, D, M L, D, M L, D, M L, D, M L Ses BLC F M V V M V V M V V M V V C F M V V S F M V S C F M S C C F S S S S S S S S S S S S S S S S	Direction MX cements (BLC 15 : V - I Direction Direction C Description - F69 W - I - F59 W	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04           I - F47 W)           Magnitude [(k, k-ft), (in, rad), (k*s²/in, 1.42           Category           Category           None	k*s²*in)] Nodal 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Node Label LOR Node Loads an Node Label LOR	L, D, M L, D, M L, D, M L, D, M Ses BLC F M V M V M V M V M V M V M V M M V M M V M M M	Direction MX Cements (BLC 15 : V - I Direction Direction C Description - F69 W - I - F59 W	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04           I - F47 W)           Magnitude [(k, k-ft), (in, rad), (k*s²/in, 1.42           Category           Category           None	k*s²*in)] Nodal 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Node Label LOR Node Loads an Node Label	L, D, M L, D, M L, D, M L, D, M Ses BLC M V M M V M M V M M V M M V M M V M M V M M V M M V M M V M M V M M V M M V M V M M V M M V M M V M M V M M V M M V M M V M M V M M V M M V M N V M M V M N M V M N M V M N N N N N N N N N N N N N	Direction MX cements (BLC 15 : V - I Direction C Description - F69 W - I - F59 W	Magnitude [(k, k-ft), (in, rad), (k*s²/in, 24.04 I - F47 W) Magnitude [(k, k-ft), (in, rad), (k*s²/in, 1.42 Category Category None	k*s²*in)] Nodal 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1



## Load Combinations

Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor
1 Case I - F69 W	Yes	Y	1	1	2	1	3	1
2 Case II - F69 W	Yes	Y	1	1	4	1	5	1
3 Case I - F59 W	Yes	Y	6	1	7	1	8	1
4 Case II - F59 W	Yes	Y	6	1	9	1	10	1
5 Case I - F47 W	Yes	Y	11	1	12	1	13	1
6 Case II - F47 W	Yes	Y	11	1	14	1	15	1





APPENDIX C ADDITIONAL CALCUALTIONS

### **Monopole Flange Plate Connection** Elevation = 69 ft. Site ID: 75042-A **Applied Loads** Moment (kip-ft) Site Name: ORBIT 2.59 Project No: MAS-532R2 / 2200078 Axial Force (kips) 1.86 Shear Force (kips) 0.50 TIA-222 Revision Н \*TIA-222-H Section 15.5 Applied Top Plate - External **Bottom Plate - External** Ô Ø Ô Ô Ô Ô Ô Ô 0 Ô 0 Ô **Connection Properties** Bolt Data (6) 3/4" ø bolts (A325 X; Fy=92 ksi, Fu=120 ksi) on 30" BC **Top Plate Data Bottom Plate Data** 42" OD x 0.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi) 42" OD x 0.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi) **Top Stiffener Data Bottom Stiffener Data**

N/A

## Top Pole Data

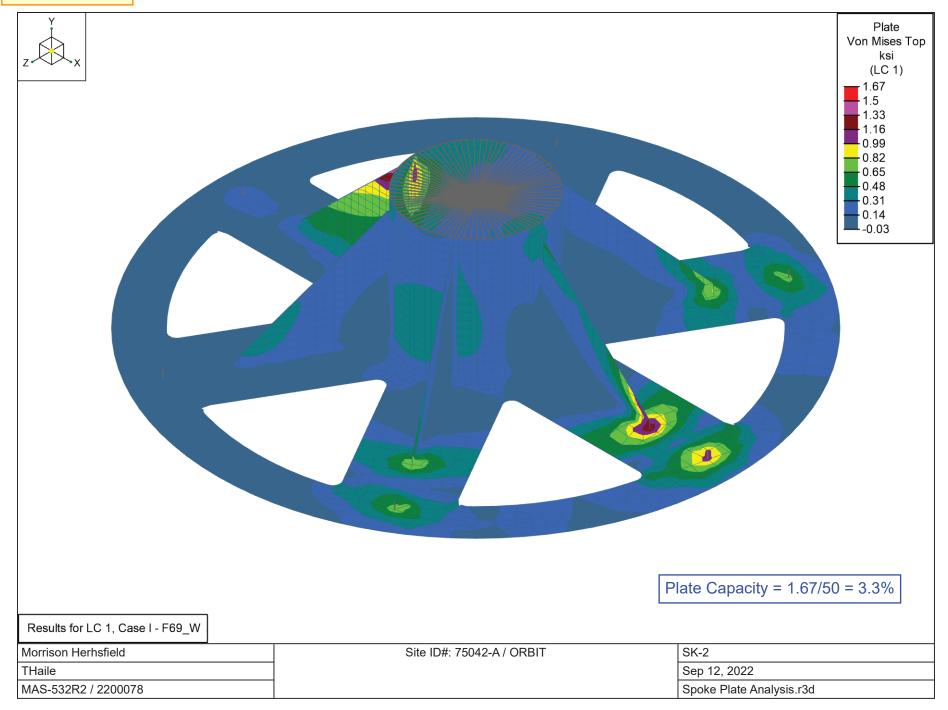
6.625" x 0.28" round pole (A53-B-35; Fy=35 ksi, Fu=60 ksi)

N/A

## Bottom Pole Data

8.625" x 0.5" round pole (A53-B-35; Fy=35 ksi, Fu=60 ksi)

Analysis Results				
Bolt Capacity				
Max Load (kips)	0.38			
Allowable (kips)	30.06			
Stress Rating:	1.2%	Pass		



### **Monopole Flange Plate Connection** Elevation = 59 ft. Site ID: 75042-A **Applied Loads** Moment (kip-ft) Site Name: ORBIT 9.82 Project No: MAS-532R2 / 2200078 Axial Force (kips) 3.44 Shear Force (kips) 0.94 TIA-222 Revision Н \*TIA-222-H Section 15.5 Applied Top Plate - External **Bottom Plate - External** Ô Ø Ô Ô Ô Ô Ô Ô Ô 0 Ô Ô **Connection Properties** Bolt Data (6) 3/4" ø bolts (A325 X; Fy=92 ksi, Fu=120 ksi) on 30" BC **Top Plate Data Bottom Plate Data** 42" OD x 0.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi) 42" OD x 0.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi) **Top Stiffener Data Bottom Stiffener Data**

N/A

## Top Pole Data

8.625" x 0.5" round pole (A53-B-35; Fy=35 ksi, Fu=60 ksi)

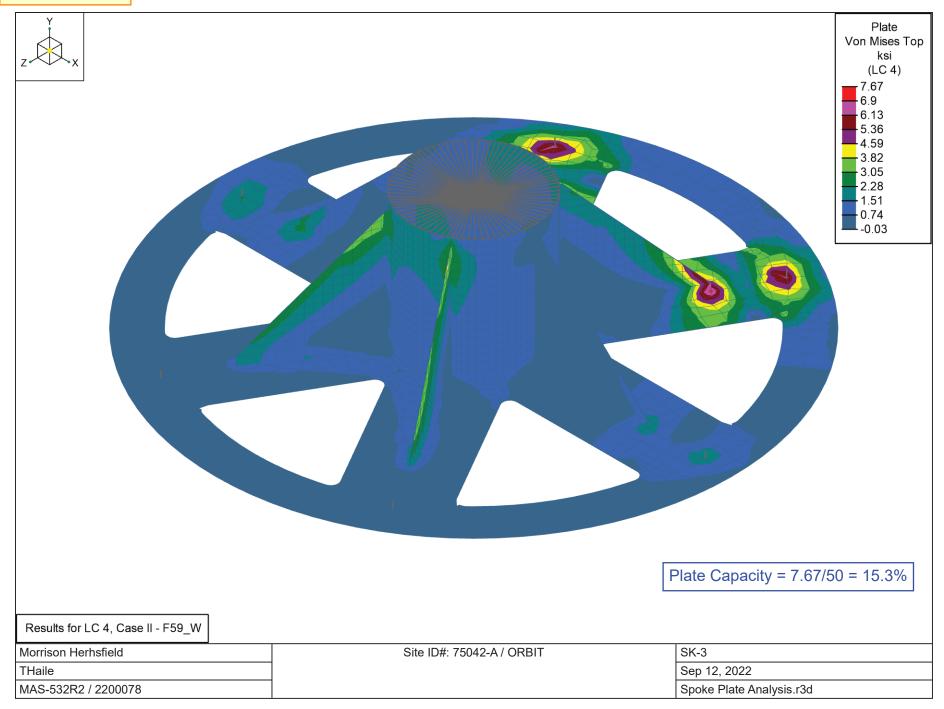
N/A

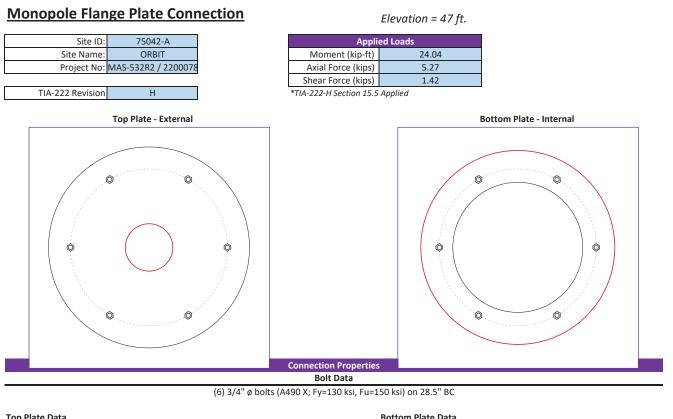
...,..

### **Bottom Pole Data**

8.625" x 0.5" round pole (A53-B-35; Fy=35 ksi, Fu=60 ksi)

Analysis Results				
Bolt Capacity				
Max Load (kips)	2.05			
Allowable (kips)	30.06			
Stress Rating:	6.5% Pass			





### **Top Plate Data**

36.5" OD x 0.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

### **Top Stiffener Data**

N/A

## **Top Pole Data**

8.625" x 0.5" round pole (A53-B-35; Fy=35 ksi, Fu=60 ksi)

### **Bottom Plate Data**

23.625" ID x 0.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

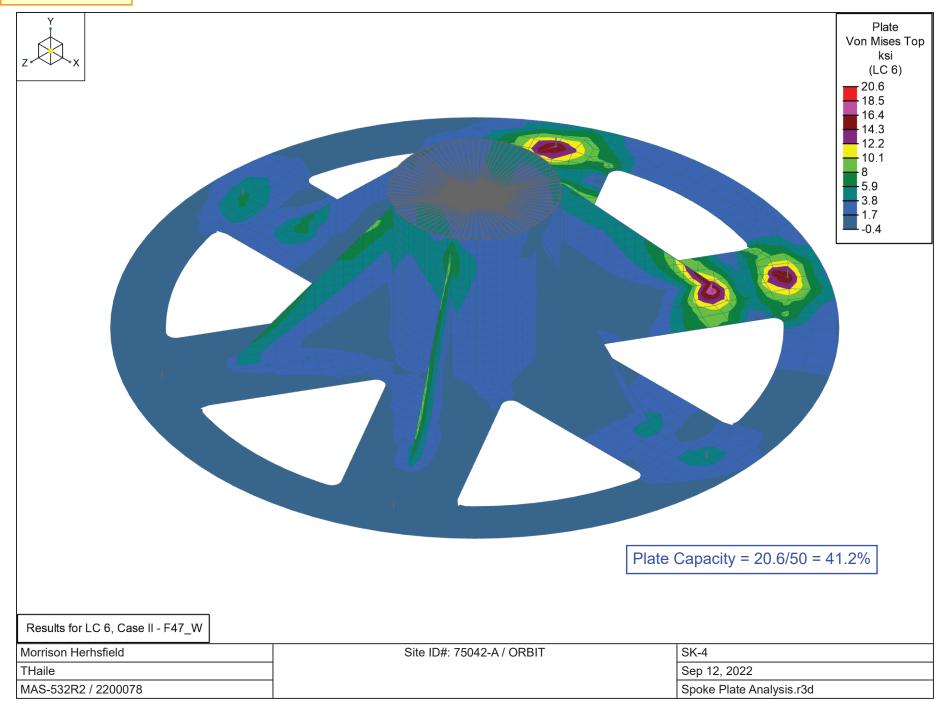
**Bottom Stiffener Data** 

N/A

## **Bottom Pole Data**

36" x 0.375" round pole (API 5LX42; Fy=42.1 ksi, Fu=60.2 ksi)

Analysis Results			
Bolt Capacity			
Max Load (kips)	10.20		
Allowable (kips)	37.57		
Stress Rating:	25.9%	Pass	



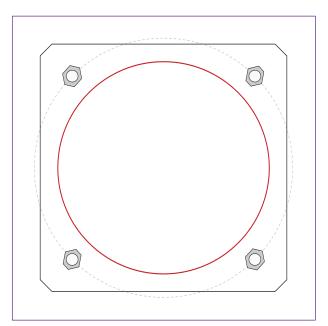
## Monopole Base Plate Connection

Site Info	
Site ID:	75042-A
Site Name:	ORBIT
Project No:	MAS-532R2 / 2200078

Analysis Considerations	
TIA-222 Revision	Н
Grout Considered:	No
l <sub>ar</sub> (in)	0

Applied Loads	
Moment (kip-ft)	141.39
Axial Force (kips)	13.95
Shear Force (kips)	3.45
*TIA 222 U Section 15 5 Apr	aliad

\*TIA-222-H Section 15.5 Applied



## **Connection Properties**

### Anchor Rod Data

(4) 2" ø bolts (F1554-55 N; Fy=55 ksi, Fu=75 ksi) on 44" BC

### Base Plate Data

42" W x 1.5" Plate (A572-50; Fy=50 ksi, Fu=65 ksi); Clip: 2 in

### Stiffener Data

N/A

Pole Data

36" x 0.375" round pole (API 5LX42; Fy=42.1 ksi, Fu=60.2 ksi)

## **Analysis Results**

Anchor Rod Summary	(ur	nits of kips, kip-in)
Pu_c = 42.02	φPn_c = 155.51	Stress Rating
Vu = 0.86	φVn = 69.98	25.7%
Mu = n/a	φMn = n/a	Pass
Base Plate Summary		
Base Plate Summary Max Stress (ksi):	12.77	(Flexural)
,	12.77 45	(Flexural)

## **Drilled Pier Foundation**

Site ID:	75042-A
Site Name:	ORBIT
Project No:	MAS-532R2 / 2200078
TIA-222 Revison:	Н
Tower Type:	Monopole

Applied Loads				
Comp. Uplift				
Moment (kip-ft)	141.39			
Axial Force (kips)	13.95			
Shear Force (kips)				

Material Properties				
Concrete Strength, f'c:	4	ksi		
Rebar Strength, Fy:	60	ksi		
Tie Yield Strength, Fyt:	40	ksi		

	Pier D	esign Data		Rebar & Pier O
	Depth	12.5	ft	
	Ext. Above Grade	0.5	ft	Embedded Pole
	Pier	Section 1		Belled Pier In
	From 0.5' above gra	ade to 12.5' below	grade	
	Pier Diameter	5	ft	
-	Rebar Quantity	12		
	Rebar Size	10		]
	Clear Cover to Ties	4	in	]
	Tie Size	3		]
_	Tie Spacing	4	in	]

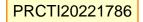
	Analysis	s Results	
	Soil Lateral Check	Compression	Uplift
	D <sub>v=0</sub> (ft from TOC)	4.11	-
	Soil Safety Factor	5.40	-
	Max Moment (kip-ft)	153.22	-
	Rating	24.6%	-
	Soil Vertical Check	Compression	Uplift
	Skin Friction (kips)	74.22	-
	End Bearing (kips)	44.18	-
	Weight of Concrete (kips)	45.95	-
	Total Capacity (kips)	118.40	-
	Axial (kips)	59.90	-
ptions	Rating	50.6%	-
	Reinforced Concrete Flexure	Compression	Uplift
Inputs	Critical Depth (ft from TOC)	4.16	-
puts	Critical Moment (kip-ft)	153.21	-
	Critical Moment Capacity	1739.01	-
	Rating	8.8%	-
	Reinforced Concrete Shear	Compression	Uplift
	Critical Depth (ft from TOC)	0.00	-
	Critical Shear (kip)	3.45	-
	Critical Shear Capacity	301.22	-
	Rating	1.1%	-

Check Limitation					
Apply TIA-222-H Section 15.5:					
N/A					
Additional Longitudinal Rebar					
Input Effective Depths (else Actual):	✓				
Shear Design Options					
Check Shear along Depth of Pier:					
N/A					
N/A					
Go to Soil Ca	alculations				

Structural Foundation Rating	8.8%
Soil Interaction Rating	50.6%

		_			Soil Pr	ofile				
Groundwater Depth	None			# of Layers	4					
						Calculated	Calculated	Ultimate Skin	Ult. Gross	

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ <sub>soil</sub> (pcf)	γ <sub>concrete</sub> (pcf)	Cohesion (ksf)	Angle of Friction (degrees)		Calculated Ultimate Skin Friction Uplift (ksf)	Friction Comp	I I II timato Skin	Bearing	SPT Blow Count	Soil Type
1	0	2	2	100	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	2	4	2	100	150	0	28	0.000	0.000	0.60	0.60			Cohesionless
3	4	9	5	110	150	0	32	0.000	0.000	0.60	0.60			Cohesionless
4	9	12.5	3.5	110	150	0	38	0.000	0.000	0.60	0.60	3		Cohesionless

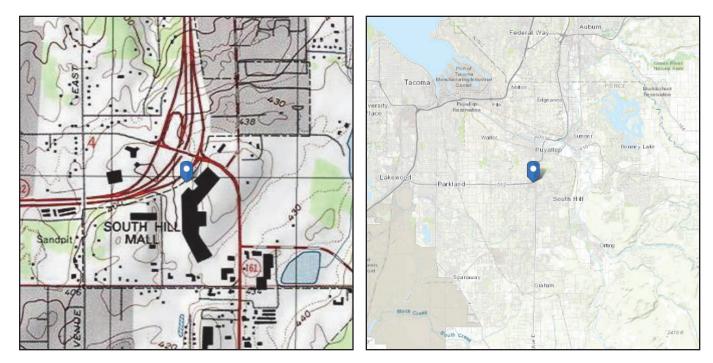




# ASCE 7 Hazards Report

Standard:ASCE/SEI 7-16Risk Category:IISoil Class:D - Stiff Soil

Elevation: 438.33 ft (NAVD 88) Latitude: 47.159739 Longitude: -122.2966



# Wind

## **Results:**

Wind Speed	97 Vmph
10-year MRI	67 Vmph
25-year MRI	73 Vmph
50-year MRI	78 Vmph
100-year MRI	83 Vmph

Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed:	Mon Sep 12 2022

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2.



## **Results:**

Ice Thickness:	1.00 in.
Concurrent Temperature:	25 F
Gust Speed	30 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Mon Sep 12 2022

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

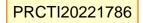
Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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APPENDIX D SEISMIC CALCUALTIONS

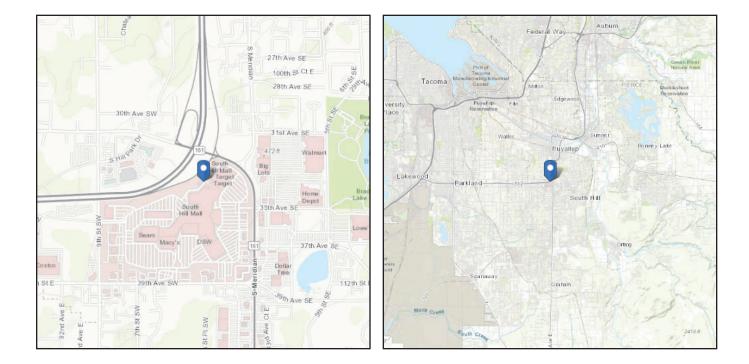




# ASCE 7 Hazards Report

Standard:ASCE/SEI 7-16Risk Category:IISoil Class:D - Stiff Soil

Elevation: 438.33 ft (NAVD 88) Latitude: 47.159739 Longitude: -122.2966





Site Soil Class:	D - Stiff Soil		
Results:			
S <sub>s</sub> :	1.264	S <sub>D1</sub> :	N/A
S <sub>1</sub> :	0.436	T <sub>L</sub> :	6
F <sub>a</sub> :	1	PGA :	0.5
F <sub>v</sub> :	N/A	PGA M :	0.55
S <sub>MS</sub> :	1.264	F <sub>PGA</sub> :	1.1
S <sub>M1</sub> :	N/A	l <sub>e</sub> :	1
S <sub>DS</sub> :	0.843	C <sub>v</sub> :	1.353
Ground motion hazard analys	is may be required. S	See ASCE/SEI 7-16 Se	ection 11.4.8.
Data Accessed:	Mon Sep 12 20	22	
Date Source:	USGS Seismic	<u>Design Maps</u>	



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z		
Morrison Hershfield	Site ID#: 75042-A / ORBIT	SK-8
thaile		Sep 12, 2022
MAS-532R2 / 2200078		MAS-532R2 SDD_Seismic.r3d



Model Settings	
Solution	
Members	
Number of Reported Sections	5
Number of Internal Sections	100
Member Area Load Mesh Size (in <sup>2</sup> )	144
Consider Shear Deformation	Yes
Consider Torsional Warping	Yes
Wall Panels	
Approximate Mesh Size (in)	24
Transfer Forces Between Intersecting Wood Walls	Yes
Increase Wood Wall Nailing Capacity for Wind Loads	Yes
Include P-Delta for Walls	Yes
Optimize Masonry and Wood Walls	No
Maximum Number of Iterations	3
· · · · · · · · · · · · · · · · · · ·	
Processor Core Utilization	
Single	No
Multiple (Optimum)	Yes
Maximum	No
Axis Vertical Global Axis Global Axis corresponding to vertical direction	Y Vor
Convert Existing Data	Yes
Default Member Orientation	V7
Default Global Plane for z-axis	XZ
Plate Axis	
Plate Local Axis Orientation	Nodal
Codes	
Hot Rolled Steel	AISC 3rd: LRFD
Stiffness Adjustment	Yes (Iterative)
Notional Annex	
Connections	AISC 14th (360-10): ASD
Cold Formed Steel	None
Stiffness Adjustment	Yes (Iterative)
Wood Temperature	None < 100F
	< 100F None
Concrete	TMS 402-16: ASD
Masonry Aluminum	AA ADM1-15: ASD
Structure Type	Building
Stiffness Adjustment	Yes (Iterative)
Stainless	AISC 14th (360-10): ASD
Stamess Stiffness Adjustment	Yes (Iterative)
Sumess Aujusument	TES (ILETALIVE)

Concrete

Compression Stress Block	Rectangular Stress Block
Analyze using Cracked Sections	Yes
Leave room for horizontal rebar splices (2*d bar spacing)	No
List forces which were ignored for design in the Detail Report	Yes

Rebar

10000	
Column Min Steel	1
Column Max Steel	8
Rebar Material Spec	ASTM A615



### Model Settings (Continued)

Warn if beam-column framing arrangement is not understood	No
Shear Reinforcement	
Number of Shear Regions	4
Region 2 & 3 Spacing Increase Increment (in)	4

### Seismic

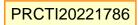
RISA-3D Seismic Load Options

Code	ASCE 7-16
Risk Category	l or ll
Drift Cat	Other
Base Elevation (ft)	0
Include the weight of the structure in base shear calcs	No

#### Site Parameters

$S_1$ (g)	1.43
SD <sub>1</sub> (g)	0.54
$SD_{s}(g)$	0.84
T <sub>L</sub> (sec)	6

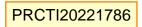
Structure Characteristics	
TZ (sec)	1.12
T X (sec)	1.12
C <sub>t</sub> X	0.02
C <sub>t</sub> Exp. Z	0.75
C <sub>t</sub> Exp. X	0.75
RZ	1.5
RX	1.5
Ω₀Z	1.5
$\Omega_{0}X$	1.5
C₄Z	4
C₄X	4
ρΖ	1
ρΧ	1





#### Dynamic Data

Number Of Modes	24
Load Combination Number	Seismic Weight
Acceleration of Gravity	32.2 (ft/sec^2)
Convergence Tolerance	0.0001





## Seismic Load Generator

Seismic Code: ASCE 7-16	Risk Category: 1	or II Seismic We	eight LC: LC 1: Seismic Weight
Base Elevation: 0 ft	S_: <b>0.54</b> g S	: <b>0.84</b> g S : <b>1.4</b>	<b>3</b> g T <sub>L</sub> : <b>6</b> sec
CZ-Direction Parameters	]	C X-Direction Par	ameters
C <sub>TZ</sub> : <b>0.02</b> T <sub>Z</sub>	: <b>1.12</b> sec	С <sub>тх</sub> : <b>0.02</b>	T <sub>x</sub> : <b>1.12</b> sec
C <sub>TZ_Exp</sub> : <b>0.75</b> R <sub>2</sub>	: 1.5	C <sub>TX_Exp</sub> : <b>0.75</b>	R <sub>x</sub> : <b>1.5</b>
SEISMIC GENERATION DETAIL RES	ULTS		
Importance Factor: 1 Design	Category: E		
Period Determination:			
Z - Direction		X - Direction	
T <sub>aZ</sub> : <b>0.53</b> s		T <sub>aX</sub> : <b>0.53</b> s	
T <sub>Z,LIMIT</sub> : <b>0.742</b> s		T <sub>X,LIMIT</sub> : <b>0.742</b> s	
<b>T</b> <sub>z</sub> : <b>1.12</b> s Use	er Input	<b>T</b> <sub>x</sub> : <b>1.12</b> s	User Input
Base Shear Determination			
C <sub>sz</sub> : <b>0.477</b> s		C <sub>SX</sub> : <b>0.477</b> s	
<b>V</b> <sub>z</sub> : <b>3.588 kips</b> AS	CE Eqn 12.8-6	V <sub>x</sub> : 3.588 kips	ASCE Eqn 12.8-6

### C SEISMIC GENERATION FORCE RESULTS

Floor Level	Height (ft)	Weight (kips)	Force Z (kips)	Force X (kips)	CG Z (ft)	CG X (ft)
Diaphragm : 1	79	1.435	0.937	0.937	0	0
Diaphragm : 2	64	1.456	0.721	0.721	0	0
Diaphragm : 3	56	4.636	1.929	1.929	0	0
	Total:	7.526	3.588	3.588		



### Frequencies and Participation

	Mode	Frequency (Hz)	Period (Sec)	SX Participation	SY Participation	SZ Participation
1	1	0.89	1.123	· · · · · ·	· · · · · · · · · · · · · · · · · · ·	37.26
2	2	0.89	1.123	37.26		
3	3	2.558	0.391	30.185		
4	4	2.558	0.391			30.185
5	5	6.541	0.153			1.404
6	6	6.541	0.153	1.404		
7	7	17.788	0.056	0.094		
8	8	17.788	0.056			0.094
9	9	34.798	0.029			
10	10	34.798	0.029			
11	11	43.968	0.023		63.212	
12	12	96.246	0.01		5.403	
13	13	130.95	0.008			
14	14	130.95	0.008			
15	15	161.927	0.006		0.332	
16	16	287.687	0.003			
17	17	395.386	0.003			
18	18	395.386	0.003			
19	19	415.741	0.002			
20	20	918.773	0.001			
21	21	3586.861	0			
22	22	1.64588e+10	0	31.046		
23	23	1.64588e+10	0		31.046	
24	24	1.64588e+10	0			31.046
25	Totals:			100	100	100



### Spectra Scaling Factor

Seismic Genera	tion Input					
Seismic Code:	ASCE 7-16					
C <sub>t</sub> Z:	0.02	T Z (sec):	1.12	R Z:	1.5	
C <sub>t</sub> X:	0.02	T X (sec):	1.12	R X:	1.5	
C <sub>t</sub> Exp. Z:	0.75	CtExp. X:	0.75	Seismic Weight L	.C: 0	
Risk Category:	l or ll	T <sub>L</sub> (sec):	6			
SD <sub>1</sub> (a):	0.54	SD <sub>s</sub> (g):	0.84	S <sub>1</sub> (a):	1.43	

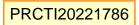
Seismic Generatio	n Detail Results		
T Z Used (sec):	0	T Z Method A: 0	T Z Upper Limit: 0
T X Used (sec):	0	T X Method A: 0	T X Upper Limit: 0
Importance Fac.:	0	Design Cat:	
V Z (k):	-1	Gov. Eqn.:	
V X (k):	-1	Gov. Eqn.:	

Total Seismic	-	
Weight (k): 0		
Static Base Shear Z (k): 3.59	Unscaled Base Shear Z (k): 0	Multiplier Z: 1
Static Base Shear X (k): 3.59	Unscaled Base Shear X (k): 0	Multiplier X: 1
Scaling Factor Z: 1	Scaling Factor X: 1	



#### Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	Seismic Weight			1	1								
2	ASCE Strength 6 (a)	Yes	Y	DL	1.2	Sds*DL	0.2	SX*SF	1	LL	0.5	LLS	1
3	ASCE Strength 6 (b)	Yes	Y	DL	1.2	Sds*DL	0.2	SZ*SF	1	LL	0.5	LLS	1
4	ASCE Strength 6 (c)	Yes	Y	DL	1.2	Sds*DL	0.2	SX*SF	-1	LL	0.5	LLS	1
5	ASCE Strength 6 (d)	Yes	Y	DL	1.2	Sds*DL	0.2	SZ*SF	-1	LL	0.5	LLS	1
6	ASCE Strength 7 (a)	Yes	Y	DL	0.9	Sds*DL	-0.2	SX*SF	1				
7	ASCE Strength 7 (b)	Yes	Y	DL	0.9	Sds*DL	-0.2	SZ*SF	1				
8	ASCE Strength 7 (c)	Yes	Y	DL	0.9	Sds*DL	-0.2	SX*SF	-1				
9	ASCE Strength 7 (d)	Yes	Y	DL	0.9	Sds*DL	-0.2	SZ*SF	-1				
10	ASCE Strength 6 (os-a)	Yes	Y	DL	1.2	Sds*DL	0.2	Om*SX*SF	1	LL	0.5	LLS	1
11	ASCE Strength 6 (os-b)	Yes	Y	DL	1.2	Sds*DL	0.2	Om*SZ*SF	1	LL	0.5	LLS	1
12	ASCE Strength 6 (os-c)	Yes	Y	DL	1.2	Sds*DL	0.2	Om*SX*SF	-1	LL	0.5	LLS	1
13	ASCE Strength 6 (os-d)	Yes	Y	DL	1.2	Sds*DL	0.2	Om*SZ*SF	-1	LL	0.5	LLS	1
14	ASCE Strength 7 (os-a)	Yes	Y	DL	0.9	Sds*DL	-0.2	Om*SX*SF	1				
15	ASCE Strength 7 (os-b)	Yes	Y	DL	0.9	Sds*DL	-0.2	Om*SZ*SF	1				
16	ASCE Strength 7 (os-c)	Yes	Y	DL	0.9	Sds*DL	-0.2	Om*SX*SF	-1				
17	ASCE Strength 7 (os-d)	Yes	Y	DL	0.9	Sds*DL	-0.2	Om*SZ*SF	-1				





### Member Detailing Data

	Label	I Cardinal Point	Ix Offset [in]	ly Offset [in]	Iz Offset [in]	J Cardinal Point	Jx Offset [in]	Jy Offset [in]	Jz Offset [in]
1	M1	10	0	0	0	10	0	0	0
2	M2	10	0	0	0	10	0	0	0
3	M3	10	0	0	0	10	0	0	0
4	M4	10	0	0	0	10	0	0	0



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### Envelope Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N5	max	3.814	8	15.921	5	3.814	5	193.018	9	0	9	192.958	8
2		min	-3.814	2	8.519	6	-3.814	7	-193.256	3	0	2	-193.37	2
3	Totals:	max	3.814	8	15.921	5	3.814	5						
4		min	-3.814	2	8.519	6	-3.814	7						

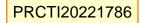
### Envelope Node Reactions - Overstrength or Capacity Limit

1	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N5	max	5.721	16*	15.921	13*	5.721	17*	289.569	17*	0	17*	289.508	16*
2		min	-5.721	10*	8.519	14*	-5.721	11*	-289.807	11*	0	10*	-289.921	10*
3	Totals:	max	5.721	16*	15.921	13*	5.721	17*						
4		min	-5.721	10*	8.519	14*	-5.721	11*						



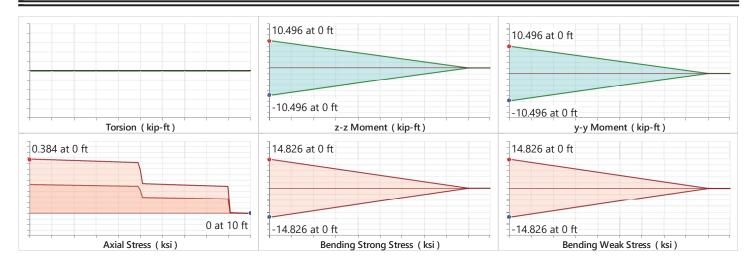
Company : Morrison Hershfield Designer : thaile Job Number : 75042-A / ORBIT Model Name : MAS-532R2 / 2200078 9/11/2022 10:10:01 PM Checked By : \_

Detail Report: M1		Unity Check: 0	.361 (LC 4)		Load Combination: Envelo
٧٨ ٧٨		nput Data:			
	x z	Shape: Member Type: Length (ft): Material Type: Design Rule: Number of Internal Sections	'ipe 6.625 x 0.280 (6 STD) Column 10 Hot Rolled Steel Typical 97	J Node: I Release: J Release: I Offset (in):	NZ N' Fixeo Fixeo N/A N/A
Material Properties:					
Material:	A53-B-35	Therm. Coeff. (1e⁵°F⁻¹):	0.65	R <sub>y</sub> :	1.5
E (ksi):	29000	Density (k/ft <sup>3</sup> ):	0.49	F <sub>u</sub> (ksi):	58
G (ksi):	11200	F <sub>v</sub> (ksi):	35	R <sub>t</sub> :	1.2
Nu:	0.29	y (101).	55	''t'	
Shape Properties:					
d (in):	6.62	Area (in <sup>2</sup> ):	5.58	l <sub>yy</sub> (in⁴):	28.14
t (in):	0.28	J (in <sup>4</sup> ):	56.28	$I_{zz}(in^4)$ :	28.1
Z (in <sup>3</sup> ):	11.28	2 ( ).	50.20	· ZZ (··· /·	20.1
Design Properties:					
L <sub>b y-y</sub> (ft):	1	К <sub>у-у</sub> :	N/A	Max Defl Ratio:	L/3
$L_{b z-z}$ (ft):	1	K <sub>z-z</sub> :	N/A	Max Defl Location	-
$L_{comp top}$ (ft):	1	y sway:	No	Span:	N//
L <sub>comp bot</sub> (ft):	1	z sway:	No		
C <sub>b</sub> :	1	Function:	Lateral		
	30.99	Seismic DR:	None		
C <sub>m y-y</sub> : C <sub>m z-z</sub> :	N/A	Seisinic Dit.	None		
m z-z'					
•		M	I		•
N2					N1
Diagrams:			9.829 at 10 ft		9.827 at 10 f
			-9.822 at 10 ft		-9.823 at 10
		y Deflectio		z [	Deflection ( in )
2.145 at 0 ft		1.165 at 0 ft		1.165 at 0 ft	
	0 at 10 ft	-1.165 at 0 ft		-1.165 at 0 ft	
Axial Force ( kip	s )	y Shear Force	e (kips)	z Sh	ear Force (kips)



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Company : Morrison Hershfield Designer : thaile Job Number : 75042-A / ORBIT Model Name : MAS-532R2 / 2200078



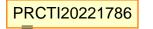
### AISC 3rd: LRFD Code Check

Gov Unity Eq:	HSS 7.1-2	Cb:	1	N	lax Defl Ratio:	L/30	
Max Bending Loc:	0 ft	KL/r (y-y):	0				
Max Shear Loc:	8.958 ft	KL/r (z-z):	0				
		L Comp Flange:	1 ft				
NonCompact							
Limit State			Gov. LC	Required	Available	Unity Check	Result
Applied Loading - E	Bending/Axial		4	-	-	-	-
Applied Loading - S	Shear + Torsion		4	-	-	-	-
Axial Tension Analy	vsis			-	175.813 k	-	-
Axial Compression	Analysis			-	166.045 k	-	-
Flexural Analysis				-	29.61 k-ft	-	-
Shear Analysis				-	52.744 k	0.022	Pass
Bending & Axial Int	eraction Check (UC	Bending Max)		-	-	0.361	Pass
Torsional Analysis				-	27.888 k-ft	-	-



Company : Morrison Hershfield Designer : thaile Job Number : 75042-A / ORBIT Model Name : MAS-532R2 / 2200078 9/11/2022 10:10:27 PM Checked By : \_

Detail Report: M2		Unity Check: 0.2	281 (LC 4)		Load Combination: Envelop
ty the		nput Data: Shape:	ipe 8.625" x 0.500" (8 XS)	l Node:	N3
	, z	Member Type: Length (ft): Material Type: Design Rule: Number of Internal Sections:	Fipe 0.02.5 X 0.500 (0 X3) Column 10 Hot Rolled Steel Typical 97	J Node: I Release: J Release: I Offset (in): J Offset (in):	N2 Fixed Fixed N/A N/A
Material Properties:					
Material:	A53-B-35	Therm. Coeff. (1e <sup>5</sup> °F <sup>-1</sup> ):	0.65	R <sub>y</sub> :	1.5
E (ksi):	29000	Density (k/ft³):	0.49	F <sub>u</sub> (ksi):	58
G (ksi):	11200	F <sub>y</sub> (ksi):	35	R <sub>t</sub> :	1.2
Nu:	0.29				
Shape Properties:					
d (in):	8.62	Area (in <sup>2</sup> ):	12.76	I <sub>yy</sub> (in⁴):	105.72
t(in):	0.5	J (in <sup>4</sup> ):	211.43	$I_{zz}^{\gamma}(in^4)$ :	105.72
Z (in <sup>3</sup> ):	33.05				
Design Properties:					
L <sub>by-y</sub> (ft):	1	K <sub>y-y</sub> :	N/A	Max Defl Ratio:	L/42
L <sub>b z-z</sub> (ft) :	1	K <sub>z-z</sub> :	N/A	Max Defl Location	
L <sub>comp top</sub> (ft):	1	y sway:	No	Span:	N/A
L <sub>comp bot</sub> (ft):	1	z sway:	No		
C <sub>b</sub> :	1	Function:	Lateral		
С <sub>т у-у</sub> :	90.73	Seismic DR:	None		
C <sub>m z-z</sub> :	N/A				
		M2			
N3					• N2
		<b>1</b>		7	
Diagrams:			5.912 at 10 ft		5.91 at 10 ft
			-5.906 at 10 ft		-5.907 at 10 ft
		y Deflection		z	Deflection ( in )
3.948 at 0 ft		1.537 at 0 ft		1.537 at 0 ft	
	1.148 at 10 ft_	-1.537 at 0 ft		-1.537 at 0 ft	
Axial Force (kip	s)	y Shear Force	(kips)	z Sh	ear Force (kips)



**IRISA** 

Company : Morrison Hershfield Designer : thaile Job Number : 75042-A / ORBIT Model Name : MAS-532R2 / 2200078

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	23.941 at 0 ft	23.941 at 0 ft
Torsion (kip-ft)	-23.941 at 0 ft z-z Moment (kip-ft)	-23.941 at 0 ft y-y Moment (kip-ft)
0.309 at 0 ft	11.72 at 0 ft	11.72 at 0 ft
0.09 at 10	) ft.	
Axial Stress ( ksi )	-11.72 at 0 ft Bending Strong Stress ( ksi )	-11.72 at 0 ft Bending Weak Stress (ksi)

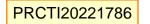
### AISC 3rd: LRFD Code Check

1 0	Ma	x Defl Ratio: L/	/42	
0			76	
•				
0				
1 ft				
Gov. LC	Required	Available	Unity Check	Result
4	-	-	-	-
4	-	-	-	-
	-	402.026 k	-	-
	-	379.691 k	-	-
	-	86.755 k-ft	-	-
	-	120.608 k	0.013	Pass
	-	-	0.281	Pas
	-	81.661 k-ft	-	-
	1 ft Gov. LC 4	I ft       Gov. LC     Required       4     -       4     -       -     -       -     -       -     -       -     -       -     -       -     -       -     -       -     -       -     -	Ift       Gov. LC     Required     Available       4     -     -       4     -     -       4     -     -       4     -     -       4     -     -       4     -     -       4     -     -       4     -     -       5     -     379.691 k       6     -     120.608 k       -     -     -	Ift         Gov. LC         Required         Available         Unity Check           4         -         -         -           4         -         -         -           4         -         -         -           4         -         -         -           4         -         -         -           4         -         -         -           4         -         -         -           4         -         -         -           -         402.026 k         -         -           -         379.691 k         -         -           -         86.755 k-ft         -         -           -         120.608 k         0.013         -           -         -         -         0.281         -



Company : Morrison Hershfield Designer : thaile Job Number : 75042-A / ORBIT Model Name : MAS-532R2 / 2200078 9/11/2022 10:23:29 PM Checked By : \_

Detail Report: M3		Unity Check: 0.493 (LC 4)			Load Combination: Envelop
		nput Data: Shape: Member Type:	ipe 8.625" x 0.500" (8 XS) Column	l Node: J Node:	N4 
		Length (ft): Material Type: Design Rule: Number of Internal Sections:	12 Hot Rolled Steel Typical 97	I Release: J Release: I Offset (in): J Offset (in):	Fixed Fixed N/A N/A
Material Properties:					
Material:	A53-B-35	Therm. Coeff. (1e <sup>5</sup> °F <sup>-1</sup> ):	0.65	R <sub>y</sub> :	1.5
E (ksi):	29000	Density (k/ft³):	0.49	F <sub>u</sub> (ksi):	58
G (ksi):	11200	F <sub>y</sub> (ksi):	35	R <sub>t</sub> :	1.2
Nu:	0.29				
Shape Properties:					
d (in):	8.62	Area (in <sup>2</sup> ):	12.76	l <sub>yy</sub> (in⁴):	105.72
t(in):	0.5	J (in <sup>4</sup> ):	211.43	$I_{zz}(in^4)$ :	105.72
Z (in <sup>3</sup> ):	33.05				
Design Properties:					
L <sub>b y-y</sub> (ft):	1	К <sub>у-у</sub> :	N/A	Max Defl Ratio:	L/85
L <sub>b z-z</sub> (ft) :	1	K <sub>z-z</sub> :	N/A	Max Defl Location	
L <sub>comp top</sub> (ft):	1	y sway:	No	Span:	N/A
L <sub>comp bot</sub> (ft):	1	z sway:	No		
C <sub>b</sub> :	1	Function:	Lateral		
С <sub>ту-у</sub> :	90.73	Seismic DR:	None		
C <sub>m z-z</sub> :	N/A				
		М3			
• N4					N3
Diagrams:			3.06 at 12 ft		3.059 at 12 ft
		y Deflection	-3.056 at 12 ft ( in )	z C	-3.057 at 12 ft Deflection ( in )
6.023 at 0 ft		1.883 at 0 ft		1.883 at 0 ft	
	2.113 at 12 ft			1.002 + 0.5	
-1.883 at 0 ft			-1.883 at 0 ft		
Axial Force (	kinc)	y Shear Force	(kins)	7 Sh	ear Force (kips)



**IRISA** 

Company : Morrison Hershfield Designer : thaile Job Number : 75042-A / ORBIT Model Name : MAS-532R2 / 2200078

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42.084 at 0 ft	42.084 at 0 ft
-42.085 at 0 ft z-z Moment ( kip-ft )	-42.084 at 0 ft y-y Moment ( kip-ft )
20.601 at 0 ft	20.601 at 0 ft
-20.601 at 0 ft	-20.601 at 0 ft Bending Weak Stress (ksi)
	-42.085 at 0 ft z-z Moment (kip-ft) 20.601 at 0 ft

### AISC 3rd: LRFD Code Check

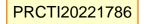
Gov Unity Eq:	HSS 7.1-2	Cb:	1	Ma	ax Defl Ratio:	L/85	
Max Bending Loc:	0 ft	KL/r (y-y):	0				
Max Shear Loc:	8 ft	KL/r (z-z):	0				
		L Comp Flange:	1 ft				
NonCompact							
Limit State			Gov. LC	Required	Available	Unity Check	Result
Applied Loading - I	Bending/Axial		4	-	-	-	-
Applied Loading - S	Shear + Torsion		4	-	-	-	-
Axial Tension Analy	vsis			-	402.026 k	-	-
Axial Compression	Analysis			-	379.691 k	-	-
Flexural Analysis				-	86.755 k-ft	-	-
Shear Analysis				-	120.608 k	0.016	Pass
Bending & Axial Int	eraction Check (UC	Bending Max)		-	-	0.493	Pass
Torsional Analysis				-	81.661 k-ft	-	-



Company : Morrison Hershfield Designer : thaile Job Number : 75042-A / ORBIT Model Name : MAS-532R2 / 2200078 9/11/2022 10:11:28 PM Checked By : \_

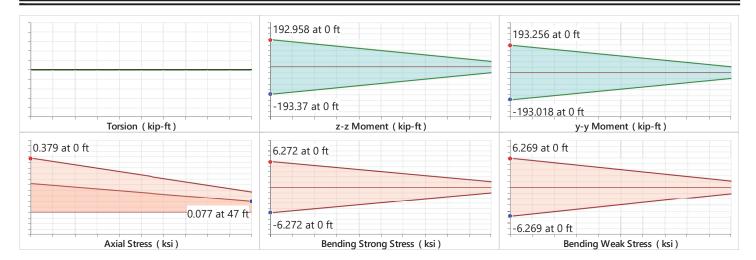
Detail Report: M4		Unity Check: 0.15 (LC 4)			
		nput Data: Shape: Member Type: Length (ft): Material Type: Design Rule: Number of Internal Sections:	P36x0.375 Columr 47 Hot Rolled Stee Typica 97	<ul> <li>J Node:</li> <li>I Release:</li> <li>J Release:</li> <li>I Offset (in):</li> </ul>	N5 N4 Fixed Fixed N/A N/A
Material Properties:					
Material:	API 5LX42	Therm. Coeff. (1e <sup>5</sup> °F <sup>−1</sup> ):	0.65	R <sub>y</sub> :	1.3
E(ksi):	29000	Density (k/ft <sup>3</sup> ):	0.49	F <sub>u</sub> (ksi):	58
G (ksi):	11600	F <sub>v</sub> (ksi):	42.1	R <sub>t</sub> :	1.1
Nu:	0.25	y. ,		ι	
Shape Properties:					
d (in):	36	Area (in <sup>2</sup> ):	41.97	l <sub>yy</sub> (in⁴):	6658.92
t (in):	0.38	$J(in^4)$ :	13317.84	$I_{zz}(in^4)$ :	6658.92
Z (in <sup>3</sup> ):	475.95		10011101	· ZZ (··· /·	
Design Properties:					
L <sub>b y-y</sub> (ft):	2.35	К <sub>у-у</sub> :	N/A	Max Defl Ratio:	L/41
$L_{b z-z}$ (ft):	2.35	к <sub>z-z</sub> :	N/A	Max Defl Location	
L <sub>comp top</sub> (ft):	2.35	y sway:	No	Span:	N/A
L <sub>comp bot</sub> (ft):	2.35	z sway:	No		
C <sub>b</sub> :	1	Function:	Lateral		
с <sub>b</sub> . С <sub>m y-y</sub> :	1573.67	Seismic DR:	None		
$C_{m z-z}$	N/A				
		M4			
• N5					N4
Diagrams:			1.373 at 47 ft		1.372 at 47 f
		y Deflection(	-1.37 at 47 ft in )	z [	-1.37 at 47 f
15.921 at 0 ft		3.616 at 0 ft		3.616 at 0 ft	
	3.223 at 47 ft	-3.616 at 0 ft		-3.616 at 0 ft	
Axial Force (kip	s)	y Shear Force(	kips )	z Sh	ear Force ( kips )

RISA-3D Version 19



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Company : Morrison Hershfield Designer : thaile Job Number : 75042-A / ORBIT Model Name : MAS-532R2 / 2200078



### AISC 3rd: LRFD Code Check

HSS 7.1-2	Cb:	1	Ma	ax Defl Ratio: L/4	110	
0 ft	KL/r (y-y):	0				
47 ft	KL/r (z-z):	0				
	L Comp Flange:	2.35 ft				
0.94)						
		Gov. LC	Required	Available	Unity Check	Result
Bending/Axial		4	-	-	-	-
hear + Torsion		4	-	-	-	-
sis			-	1590.232 k	-	-
Analysis			-	1410.025 k	-	-
			-	1341.582 k-ft	-	-
			-	477.07 k	0.008	Pass
eraction Check (UC	Bending Max)		-	-	0.15	Pas
				1416.301 k-ft		
	0 ft 47 ft 0.94) Bending/Axial Shear + Torsion rsis Analysis	0 ft KL/r (y-y): 47 ft KL/r (z-z): L Comp Flange: 0.94) Bending/Axial Shear + Torsion sis	0 ft KL/r (y-y): 0 47 ft KL/r (z-z): 0 L Comp Flange: 2.35 ft 0.94) Gov. LC Bending/Axial 4 Shear + Torsion 4 sis Analysis	0 ft 47 ft         KL/r (y-y): KL/r (z-z): 0 L Comp Flange:         0 2.35 ft           0.94)         Gov. LC         Required           Bending/Axial         4         -           Shear + Torsion         4         -           Analysis         -         -           -         -         -	0 ft 47 ft         KL/r (y-y): L Comp Flange:         0 2.35 ft         0           0.94)         Gov. LC         Required         Available           Bending/Axial         4         -         -           Shear + Torsion         4         -         -           siss         -         1590.232 k         -           Analysis         -         1410.025 k         -           eraction Check (UC Bending Max)         -         -         -	0 ft 47 ft       KL/r (y-y): L comp Flange:       0 2.35 ft         0.94)       KL/r (z-z): L comp Flange:       0 2.35 ft         0.94)       KL/r (z-z): L comp Flange:       0 2.35 ft         Sending/Axial       4       -       -         Shear + Torsion       4       -       -         Sis       -       1590.232 k       -         Analysis       -       1410.025 k       -         eraction Check (UC Bending Max)       -       -       0.008



Model Settings	
Colution	
Solution Members	
Number of Reported Sections	5
Number of Internal Sections	100
Member Area Load Mesh Size (in <sup>2</sup> )	144
Consider Shear Deformation	Yes
Consider Torsional Warping	Yes
	165
Wall Panels	04
Approximate Mesh Size (in)	24
Transfer Forces Between Intersecting Wood Walls	Yes
Increase Wood Wall Nailing Capacity for Wind Loads	Yes
Include P-Delta for Walls	Yes
Optimize Masonry and Wood Walls	No
Maximum Number of Iterations	3
Processor Core Utilization	
Single	No
Multiple (Optimum)	Yes
Maximum	No
Axis Vertical Global Axis	
Global Axis corresponding to vertical direction	Y
Convert Existing Data	Yes
Default Member Orientation	
Default Global Plane for z-axis	XZ
Plate Axis	
Plate Local Axis Orientation	Nodal
Codes	
Hot Rolled Steel	AISC 3rd: LRFD
Stiffness Adjustment	Yes (Iterative)
Notional Annex	None
Connections	AISC 14th (360-10): ASD
Cold Formed Steel	None
Stiffness Adjustment	Yes (Iterative)
Wood	None
Temperature	< 100F
Concrete	None
Masonry	TMS 402-16: ASD
Aluminum	AA ADM1-15: ASD
Structure Type	Building
Stiffness Adjustment	Yes (Iterative)
Stainless	AISC 14th (360-10): ASD
Stiffness Adjustment	Yes (Iterative)

Concrete	
Compression Stress Block	Rectangular Stress Block
Analyze using Cracked Sections	Yes
Leave room for horizontal rebar splices (2*d bar spacing)	Yes



### Model Settings (Continued)

List forces which were ignored for design in the Detail Report	Yes
Rebar	
Column Min Steel	1
Column Max Steel	8
Rebar Material Spec	ASTM A615
Warn if beam-column framing arrangement is not understood	No

Shear Reinforcement	
Number of Shear Regions	4
Region 2 & 3 Spacing Increase Increment (in)	4

Seismic

**RISA-3D Seismic Load Options** 

Code	ASCE 7-16
Risk Category	l or ll
Drift Cat	Other
Base Elevation (ft)	0
Include the weight of the structure in base shear calcs	No

#### Site Parameters S<sub>1</sub> (g) 0.436 SD<sub>1</sub> (g) 0.542 SD<sub>s</sub> (g) 0.843 T₋ (sec) 6

### Structure Characteristics

T Z (sec)	
T X (sec)	
C <sub>1</sub> Z	0.02
C <sub>1</sub> X	0.02
C <sub>t</sub> Exp. Z	0.75
C <sub>t</sub> Exp. X	0.75
RZ	1.5
RX	1.5
$\Omega_0 Z$	1.5
$\Omega_{0}X$	1.5
C <sub>d</sub> Z	4
C₄X	4
ρΖ	1
ρΧ	1

### General Materials Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft <sup>3</sup> ]	Plate Methodology		
ae	en Conc3NW	3155	1372	0.15	0.6	0.145	Isotropic		
	en Conc4NW	3644	1584	0.15	0.6	0.145	Isotropic		
	en Conc3LW	2085	906	0.15	0.6	0.11	Isotropic		
l ge	en Conc4LW	2408	1047	0.15	0.6	0.11	Isotropic		
	gen Alum	10100	4077	0.3	1.29	0.173	Isotropic		
5	gen Steel	29000	11154	0.3	0.65	0.49	Isotropic		
	jen Plywood	1800	38	0	0.3	0.035	Isotropic		
3	RIGID	1e+6		0.3	0	0	Isotropic		
	gen_Ortho	N/A	N/A	N/A	0.65	0.49	Orthotropic		
Noc	de Loads and Ei	nforced Disp	lacements (B	BLC 16 : P - I	=69 S)				
N	lode Label	L, D, M	Direction	ı	Magnitude [(k, k-ft),	(in, rad), (k*s²/in, l	(*s²*in)]		
	LOR	L	Y			-2.145	/ •		
N	LOR	L, D, M L	Direction		Magnitude [(k, k-ft),	(in, rad), (k*s²/in, ł 10.5	(*s²*in)]		
	da Laada and E	nforced Disn	lacements (E	<u> 8LC 18 : V - I</u>	- F69 S)				
Noc	ue Loads and El	noroca biop	Node Label L, D, M Direction Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]						
	lode Label	L, D, M	Directior	1	Magnitude [(k, k-ft),	(in, rad), (k*s²/in, l	(*s²*in)]		
N	lode Label	L, D, M L	X			(in, rad), (k*s²/in, k -1.17	(*s²*in)]		
N 000 N	lode Label LOR de Loads and El lode Label	L, D, M L	X Iacements (E	BLC 19 : M - 1		-1.17 (in, rad), (k*s²/in, ł			
Noc Noc	lode Label LOR de Loads and El lode Label LOR	L, D, M L nforced Disp L, D, M L	X Iacements (E Direction MX	BLC 19 : M - 1	<b>II - F69 S)</b> Magnitude [(k, k-ft),	-1.17			
Noc Noc	lode Label LOR de Loads and Er lode Label LOR de Loads and Er	L, D, M L nforced Disp L, D, M L	X Iacements (E Direction MX Iacements (E	BLC 19 : M - 1 BLC 20 : V - 1	<u>II - F69 S)</u> Magnitude [(k, k-ft), I - F69 S)	-1.17 (in, rad), (k*s²/in, ł 10.5	(*s²*in)]		
Noc Noc	lode Label LOR de Loads and El lode Label LOR	L, D, M L nforced Disp L, D, M L	X Iacements (E Direction MX	BLC 19 : M - 1 BLC 20 : V - 1	<b>II - F69 S)</b> Magnitude [(k, k-ft),	-1.17 (in, rad), (k*s²/in, ł 10.5	(*s²*in)]		
Noc Noc Noc	lode Label LOR de Loads and Ei lode Label LOR de Loads and Ei LOR de Loads and Ei	L, D, M L nforced Disp L, D, M L L, D, M L L nforced Disp	X Iacements (E Direction MX Iacements (E Direction Z Iacements (E	BLC 19 : M - 1 BLC 20 : V - 1 BLC 21 : P - 1	<u>II - F69 S)</u> Magnitude [(k, k-ft), I - F69 S) Magnitude [(k, k-ft),	-1.17 (in, rad), (k*s²/in, k 10.5 (in, rad), (k*s²/in, k 1.17	(*s²*in)] (*s²*in)]		
N N N N N N N N N N N N N N N N N N N	lode Label LOR de Loads and Er lode Label LOR de Loads and Er lode Label LOR de Loads and Er lode Label	L, D, M L nforced Disp L, D, M L nforced Disp L, D, M L	X Iacements (E Direction MX Iacements (E Direction Z	BLC 19 : M - 1 BLC 20 : V - 1 BLC 21 : P - 1	<u>II - F69 S)</u> Magnitude [(k, k-ft), I - F69 S) Magnitude [(k, k-ft),	-1.17 (in, rad), (k*s²/in, k 10.5 (in, rad), (k*s²/in, k 1.17 (in, rad), (k*s²/in, k	(*s²*in)] (*s²*in)]		
Noc Noc Noc	lode Label LOR de Loads and Ei lode Label LOR de Loads and Ei LOR de Loads and Ei	L, D, M L nforced Disp L, D, M L L, D, M L L nforced Disp	X Iacements (E Direction MX Iacements (E Direction Z Iacements (E	BLC 19 : M - 1 BLC 20 : V - 1 BLC 21 : P - 1	<u>II - F69 S)</u> Magnitude [(k, k-ft), I - F69 S) Magnitude [(k, k-ft),	-1.17 (in, rad), (k*s²/in, k 10.5 (in, rad), (k*s²/in, k 1.17	(*s²*in)] (*s²*in)]		
Noc Noc Noc Noc	lode Label LOR de Loads and Er lode Label LOR de Loads and Er lode Label LOR de Loads and Er lode Label	L, D, M L D, D, M L, D, M L D, M L, D, M L L, D, M L, D, M L mforced Disp	X Iacements (E Direction MX Iacements (E Direction Z Iacements (E Direction X Iacements (E Direction Y	<u>BLC 19 : M - 1</u> BLC 20 : V - 1 BLC 21 : P - 1	<u>II - F69 S)</u> Magnitude [(k, k-ft), <u>I - F69 S)</u> Magnitude [(k, k-ft), <u>F59 S)</u> Magnitude [(k, k-ft),	-1.17 (in, rad), (k*s²/in, k 10.5 (in, rad), (k*s²/in, k 1.17 (in, rad), (k*s²/in, k -3.95	(*s²*in)] (*s²*in)] (*s²*in)]		
Noc Noc Noc Noc	lode Label LOR de Loads and En lode Label LOR de Loads and En lode Label LOR de Loads and En lode Label LOR de Loads and En	L, D, M L nforced Disp L, D, M L, D, M L, D, M L L, D, M L, D, M	X Iacements (E Direction MX Iacements (E Direction Z Iacements (E Direction Y Iacements (E Direction Y Iacements (E Direction	BLC 19 : M - 1 BLC 20 : V - 1 BLC 21 : P - 1 BLC 22 : M - 1	<u>II - F69 S)</u> Magnitude [(k, k-ft), <u>I - F69 S)</u> Magnitude [(k, k-ft), <u>F59 S)</u> Magnitude [(k, k-ft),	-1.17 (in, rad), (k*s²/in, k 10.5 (in, rad), (k*s²/in, k 1.17 (in, rad), (k*s²/in, k -3.95	(*s²*in)] (*s²*in)] (*s²*in)]		
Noc Noc Noc Noc	lode Label LOR de Loads and En lode Label LOR de Loads and En lode Label LOR de Loads and En lode Label LOR	L, D, M L D, D, M L, D, M L D, M L, D, M L L, D, M L, D, M L mforced Disp	X Iacements (E Direction AX Iacements (E Direction Z Iacements (E Direction Y Iacements (E Direction Y	BLC 19 : M - 1 BLC 20 : V - 1 BLC 21 : P - 1 BLC 22 : M - 1	<u>II - F69 S)</u> Magnitude [(k, k-ft), <u>I - F69 S)</u> Magnitude [(k, k-ft), <u>F59 S)</u> <u>Magnitude [(k, k-ft),</u> <u>I - F59 S)</u>	-1.17 (in, rad), (k*s²/in, k 10.5 (in, rad), (k*s²/in, k 1.17 (in, rad), (k*s²/in, k -3.95	(*s²*in)] (*s²*in)] (*s²*in)]		
Noc Noc Noc Noc Noc	lode Label LOR de Loads and En lode Label LOR de Loads and En lode Label LOR de Loads and En lode Label LOR de Loads and En	L, D, M L, D, M L L, D, M L	X         Iacements (E         Direction         MX         Iacements (E         Direction         Z         Iacements (E         Direction         Y         Iacements (E         Direction         Y         Iacements (E         Direction         Y         Iacements (E         Direction         MZ	BLC 19 : M - 1 BLC 20 : V - 1 BLC 21 : P - 1 BLC 22 : M - 1	<u>II - F69 S)</u> Magnitude [(k, k-ft), <u>I - F69 S)</u> Magnitude [(k, k-ft), <u>I - F59 S)</u> Magnitude [(k, k-ft),	-1.17 (in, rad), (k*s²/in, k 10.5 (in, rad), (k*s²/in, k 1.17 (in, rad), (k*s²/in, k -3.95 (in, rad), (k*s²/in, k	(*s²*in)] (*s²*in)]		
Noc Noc Noc Noc Noc Noc	lode Label LOR de Loads and En lode Label LOR de Loads and En lode Label LOR de Loads and En lode Label LOR de Loads and En lode Label LOR	L, D, M L, D, M L L, D, M L	X         Iacements (E         Direction         MX         Iacements (E         Direction         Z         Iacements (E         Direction         Y         Iacements (E         Direction         Y         Iacements (E         Direction         Y         Iacements (E         Direction         MZ	<u>BLC 19 : M - 1</u> <u>BLC 20 : V - 1</u> <u>BLC 21 : P - 1</u> <u>BLC 22 : M - 1</u> <u>BLC 23 : V - 1</u>	<u>II - F69 S)</u> Magnitude [(k, k-ft), <u>I - F69 S)</u> Magnitude [(k, k-ft), <u>I - F59 S)</u> Magnitude [(k, k-ft),	-1.17 (in, rad), (k*s²/in, k 10.5 (in, rad), (k*s²/in, k 1.17 (in, rad), (k*s²/in, k -3.95 (in, rad), (k*s²/in, k 23.941	(*s <sup>2*</sup> in)] (*s <sup>2*</sup> in)] (*s <sup>2*</sup> in)]		

	Company	: Morrison Herhsfield
	Designer	: THaile
<b>HIRISA</b>	Job Number	: MAS-532R2 / 2200078
A NEMETSCHEK COMPANY	Model Name	: Site ID#: 75042-A / ORBIT

	<u>le Luaus anu</u>	Eniorcea Displ	acements (BLC 2	24 : M - II - F59 S)
Ne	ode Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]
1	LOR	L	MX	23.941
Nod	de Loads and	Enforced Displ	acements (BLC 2	25 : V - II - F59 S)
No	ode Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]
1	LOR	L	Z	1.537
Nod	de Loads and	Enforced Displ	acements (BLC 2	26 : P - F47 S)
N	ode Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]
1	LOR	L	Y	-6.023
	<b>de Loads and</b> ode Label	<u>Enforced Displ</u> L, D, M	acements (BLC 2	<b>27 : M - I - F47 S)</b> Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]
1	LOR	_, _,	MZ	42.085
			acements (BLC 2	
N	ode Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]
1	LOR	L	X	-1.88
	ode Loads and LOR	L, D, M	Direction	<b>29 : M - II - F47 S)</b> Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]
		L	MX	42.084
			acements (BLC 3	42.084 30 : V - II - F47 S)
	de Loads and ode Label LOR	L, D, M		42.084
No 1	ode Label	L, D, M	acements (BLC 3	42.084 30 : V - II - F47 S) Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)] 1.88
No 1 Bas	ode Label LOR	L, D, M L es	Direction Z C Description P - F69 S	42.084 30 : V - II - F47 S) Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)] 1.88
No 1 Bas	ode Label LOR	L, D, M L es Bl	Direction Z C Description P - F69 S M - I - F69 S	42.084       30 : V - II - F47 S)       Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]       1.88       Category Nodal       None       1       None     1       None     1
Bas 6 7 8	ode Label LOR	L, D, M L es Bl	Acements (BLC 3           Direction           Z           -C Description           P - F69 S           M - I - F69 S           V - I - F69 S	42.084       30 : V - II - F47 S)       Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]       1.88       Category Nodal       None     1       None     1       None     1
Bas 6 7 8 9	ode Label LOR	L, D, M L es Bl	Accements (BLC 3           Direction           Z           C Description           P - F69 S           M - I - F69 S           V - I - F69 S           A - II - F69 S	42.084       30 : V - II - F47 S)       Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]       1.88       Category Nodal       None       1       None     1       None     1       None     1       None     1
Bas 6 7 8 9 20	ode Label LOR	L, D, M L es Bl	Acements (BLC 3           Direction           Z           C Description           P - F69_S           M - I - F69_S           V - I - F69_S           A - II - F69_S           / - II - F69_S	42.084       30 : V - II - F47 S)       Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]       1.88       Category Nodal       None     1
Bas 6 7 8 9 20 21	ode Label LOR	L, D, M L es Bl	Acements (BLC 3           Direction           Z           C Description           P - F69 S           M - I - F69 S           V - I - F69 S           M - II - F69 S           V - II - F69 S           P - F59 S	42.084         30 : V - II - F47 S)         Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]         1.88         Category Nodal         None       1
Bas 6 7 8 9 9 20 21 22	ode Label LOR	L, D, M L es Bl	Accements (BLC 3)         Direction         Z         Direction         P - F69 S         M - I - F69 S         V - I - F69 S         M - II - F69 S         P - F59 S         M - I - F59 S	42.084         30 : V - II - F47 S)         Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]         1.88         Category Nodal         None       1
Bas Bas 6 7 8 9 20 21 22 23	ode Label LOR	L, D, M L es Bl	Accements (BLC 3)         Direction         Z         Direction         P - F69 S         M - I - F69 S         V - I - F69 S         J - II - F69 S         P - F59 S         M - I - F59 S         V - I - F59 S	42.084         30 : V - II - F47 S)         Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]         1.88         Category Nodal         None       1
No           Bas           16           17           18           19           20           21           22           23           24	ode Label LOR	L, D, M L es Bl	Accements (BLC 3)         Direction         Z         Direction         P - F69 S         M - I - F69 S         V - I - F69 S         M - II - F69 S         V - I - F69 S         M - II - F69 S         V - I - F59 S         M - I - F59 S         M - II - F59 S	42.084         30 : V - II - F47 S)         Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]         1.88         Category Nodal         None       1
No           Bas           16           17           18           19           20           21           22           23           24           25	ode Label LOR	L, D, M L es Bl	Accements (BLC 3)         Direction         Z         Direction         P - F69 S         M - I - F69 S         V - I - F69 S         J - II - F69 S         P - F59 S         M - I - F59 S         V - I - F59 S	42.084         30 : V - II - F47 S)         Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]         1.88         Category Nodal         None       1
No           Bas           16           17           18           19           20           21           22           23           24           25           26           27	ode Label LOR	L, D, M L es Bl	Accements (BLC 3)         Direction         Z         Direction         P - F69 S         M - I - F69 S         V - I - F69 S         M - II - F59 S         M - I - F59 S         M - I - F59 S         M - II - F59 S         M - I - F59 S	42.084         30 : V - II - F47 S)         Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]         1.88         Category Nodal         None       1
No           I         Image: Constraint of the second s	ode Label LOR	L, D, M L es Bl	Accements (BLC 3)         Direction         Z         Direction         P - F69         M - I - F69         V - I - F69         V - I - F69         M - II - F69         V - I - F69         M - II - F69         V - I - F69         M - II - F69         V - I - F59         M - II - F59         M - I - F47         S         M - I - F47	42.084         30 : V - II - F47 S)         Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]         1.88         Category Nodal         None       1         None       1
No           Bas           16           17           18           19           20           21           22           23           24           25           26           27	ode Label LOR	L, D, M L es Bl	Accements (BLC 3)         Direction         Z         Direction         P - F69 S         M - I - F69 S         V - I - F69 S         M - II - F59 S         M - I - F59 S         M - I - F59 S         M - II - F59 S         M - I - F59 S	42.084         30 : V - II - F47 S)         Magnitude [(k, k-ft), (in, rad), (k*s²/in, k*s²*in)]         1.88         Category Nodal         None       1



### Load Combinations

Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor
1 Case I - F69 S	Yes	Y	16	1	17	1	18	1
2 Case II - F69 S	Yes	Y	16	1	19	1	20	1
3 Case I - F59 S	Yes	Ý	21	1	22	1	23	1
4 Case II - F59 S	Yes	Y	21	1	24	1	25	1
5 Case I - F47 S	Yes	Ý	26	1	27	1	28	1
6 Case II - F47 S	Yes	Y	26	1	29	1	30	1

#### **Monopole Flange Plate Connection** Elevation = 69 ft. Site ID: 75042-A **Applied Loads** Site Name: ORBIT Moment (kip-ft) 10.50 Project No: MAS-532R2 / 2200078 Axial Force (kips) 2.15 Shear Force (kips) 1.17 TIA-222 Revision Н \*TIA-222-H Section 15.5 Applied Top Plate - External **Bottom Plate - External** Ô Ø Ô Ô Ô Ô Ô Ô 0 Ô 0 Ô **Connection Properties** Bolt Data (6) 3/4" ø bolts (A325 X; Fy=92 ksi, Fu=120 ksi) on 30" BC **Top Plate Data Bottom Plate Data** 42" OD x 0.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi) 42" OD x 0.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi) **Top Stiffener Data Bottom Stiffener Data**

N/A

### Top Pole Data

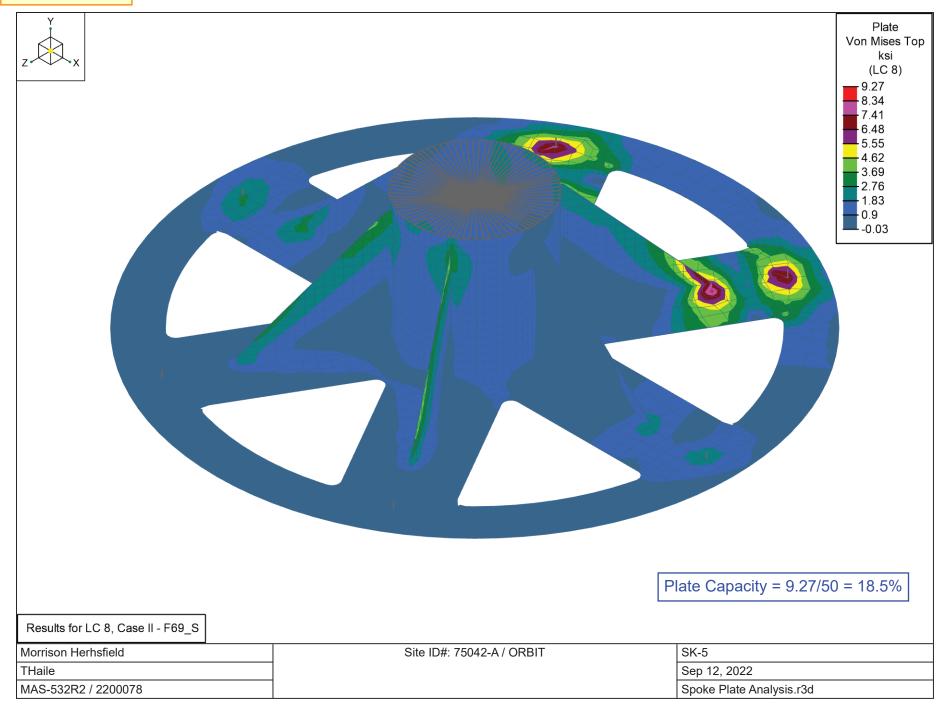
6.625" x 0.28" round pole (A53-B-35; Fy=35 ksi, Fu=60 ksi)

N/A

### **Bottom Pole Data**

8.625" x 0.5" round pole (A53-B-35; Fy=35 ksi, Fu=60 ksi)

Analysis Results					
Bolt Capacity					
Max Load (kips) 2.44					
Allowable (kips)	30.06	1			
Stress Rating:	7.7%	Pass			



#### **Monopole Flange Plate Connection** Elevation = 59 ft. Site ID: 75042-A **Applied Loads** Moment (kip-ft) Site Name: ORBIT 23.94 Axial Force (kips) Project No: MAS-532R2 / 2200078 3.95 Shear Force (kips) 1.54 TIA-222 Revision Н \*TIA-222-H Section 15.5 Applied Top Plate - External **Bottom Plate - External** Ô Ø Ô Ô Ô Ô Ô Ô 0 Ô Ô **Connection Properties** Bolt Data (6) 3/4" ø bolts (A325 X; Fy=92 ksi, Fu=120 ksi) on 30" BC **Top Plate Data Bottom Plate Data** 42" OD x 0.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi) 42" OD x 0.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi) **Top Stiffener Data Bottom Stiffener Data** N/A

N/A

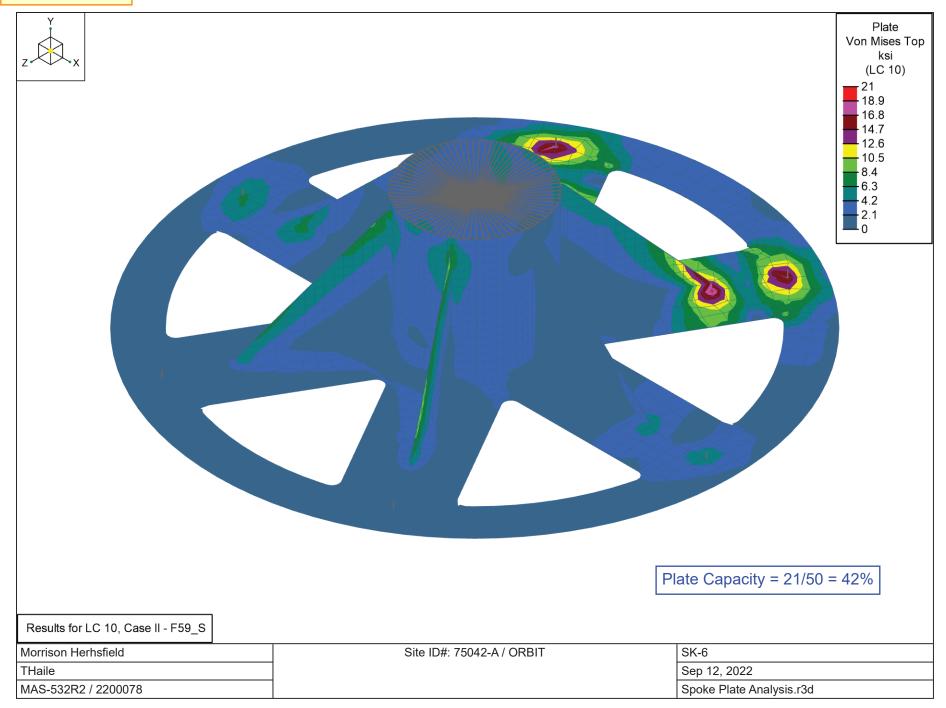
### Top Pole Data

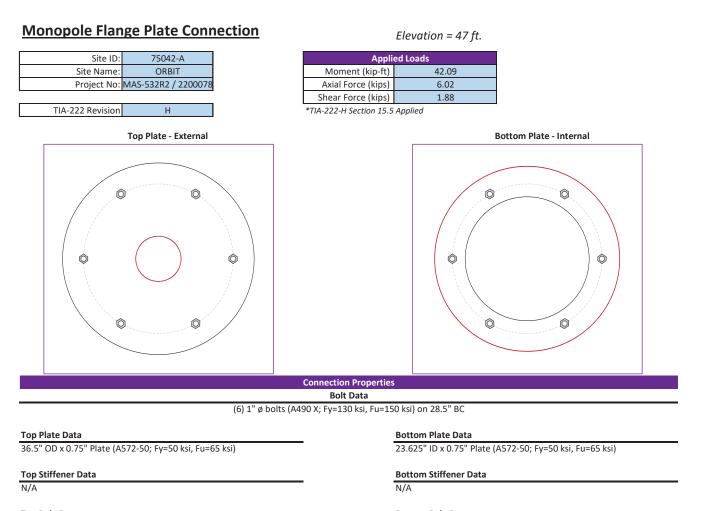
8.625" x 0.5" round pole (A53-B-35; Fy=35 ksi, Fu=60 ksi)

### **Bottom Pole Data**

8.625" x 0.5" round pole (A53-B-35; Fy=35 ksi, Fu=60 ksi)

Analysis Results					
Bolt Capacity					
Max Load (kips) 9.15					
Allowable (kips)	30.06				
Stress Rating:	29.0%	Pass			





### Top Pole Data

8.625" x 0.5" round pole (A53-B-35; Fy=35 ksi, Fu=60 ksi)

Bottom Pole Data 36" x 0.375" round pole (API 5LX42; Fy=42.1 ksi, Fu=60.2 ksi)

Analysis Results				
Bolt Capacity				
Max Load (kips) 25	25.20			
Allowable (kips) 68	58.17			
Stress Rating: 35	5.2% Pass			

		Plate Capacity = 37/50 = 74%
Results for LC 12, Case II - F47_S		
Morrison Herhsfield	Site ID#: 75042-A / ORBIT	SK-7
THaile		Sep 12, 2022
MAS-532R2 / 2200078		Spoke Plate Analysis.r3d

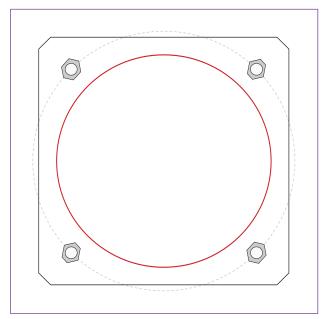
## Monopole Base Plate Connection - Seismic

Site Info					
Site ID:	75042-A				
Site Name:	ORBIT				
Project No:	MAS-532R2 / 2200078				

Analysis Considerations			
TIA-222 Revision	Н		
Grout Considered:	No		
I <sub>ar</sub> (in)	0		

Applied Loads			
289.81			
15.92			
5.72			

\*TIA-222-H Section 15.5 Applied \*\* Base Reactions include 1.50 overstrength factor



### **Connection Properties**

#### Anchor Rod Data

(4) 2" ø bolts (F1554-55 N; Fy=55 ksi, Fu=75 ksi) on 44" BC

#### Base Plate Data

42" W x 1.5" Plate (A572-50; Fy=50 ksi, Fu=65 ksi); Clip: 2 in

#### Stiffener Data

N/A

Pole Data

36" x 0.375" round pole (API 5LX42; Fy=42.1 ksi, Fu=60.2 ksi)

### **Analysis Results**

Anchor Rod Summary		(units of kips, kip-in)
Pu_c = 82.95	φPn_c = 155.51	Stress Rating
Vu = 1.43	φVn = 69.98	50.8%
Mu = n/a	φMn = n/a	Pass
Base Plate Summary		
Max Stress (ksi):	25.21	(Flexural)
Allowable Stress (ksi):	45	
Stress Rating:	53.4%	Pass

## **Drilled Pier Foundation**

Site Info	
Site ID:	75042-A
Site Name:	ORBIT
Project No:	MAS-532R2 / 2200078
TIA-222 Revison:	Н
Tower Type:	Monopole

Appli	ed Loads	
	Comp.	Uplift
Moment (kip-ft)	193.018	
Axial Force (kips)	15.921	
Shear Force (kips)	3.814	

Materia	I Properties	
Concrete Strength, f'c:	4	ksi
Rebar Strength, Fy:	60	ksi
Tie Yield Strength, Fyt:	40	ksi

1	Diar D	anian Data		1
	Pier Di	esign Data		Rebar & Pier Option
	Depth	12.5	ft	
	Ext. Above Grade	0.5	ft	Embedded Pole Inpu
	Pier	Section 1		Belled Pier Inputs
	From 0.5' above gra	ade to 12.5' below	grade	
	Pier Diameter	5	ft	
-	Rebar Quantity	12		
	Rebar Size	10		
	Clear Cover to Ties	4	in	
	Tie Size	3		
_	Tie Spacing	4	in	

Analysis	s Results	
Soil Lateral Check	Compression	Uplift
D <sub>v=0</sub> (ft from TOC)	3.89	-
Soil Safety Factor	4.07	-
Max Moment (kip-ft)	208.22	-
Rating	32.7%	-
Soil Vertical Check	Compression	Uplift
Skin Friction (kips)	74.22	-
End Bearing (kips)	44.18	-
Weight of Concrete (kips)	45.95	-
Total Capacity (kips)	118.40	-
Axial (kips)	61.87	-
Rating	52.3%	-
Reinforced Concrete Flexure	Compression	Uplift
Critical Depth (ft from TOC)	3.95	-
Critical Moment (kip-ft)	208.21	-
Critical Moment Capacity	1742.27	-
Rating	12.0%	-
Reinforced Concrete Shear	Compression	Uplift
Critical Depth (ft from TOC)	0.00	-
Critical Shear (kip)	3.81	-
Critical Shear Capacity	300.40	-
Rating	1.3%	-
Structural Foundation Rating	12	.0%
	Soil Lateral Check D <sub>v=0</sub> (ft from TOC) Soil Safety Factor Max Moment (kip-ft) Rating Soil Vertical Check Skin Friction (kips) End Bearing (kips) Weight of Concrete (kips) Total Capacity (kips) Axial (kips) Rating Reinforced Concrete Flexure Critical Depth (ft from TOC) Critical Moment Capacity Rating Reinforced Concrete Shear Critical Depth (ft from TOC) Critical Shear (kip) Critical Shear (kip) Critical Shear (kip) Critical Shear capacity Rating	D <sub>v=0</sub> (ft from TOC)       3.89         Soil Safety Factor       4.07         Max Moment (kip-ft)       208.22         Rating       32.7%         Soil Vertical Check       Compression         Soil Vertical Check       74.22         End Bearing (kips)       44.18         Weight of Concrete (kips)       45.95         Total Capacity (kips)       118.40         Axial (kips)       61.87         Rating       52.3%         Reinforced Concrete Flexure       Compression         Critical Depth (ft from TOC)       3.95         Critical Moment (kip-ft)       208.21         Critical Moment Capacity       1742.27         Reinforced Concrete Shear       Compression         Critical Depth (ft from TOC)       0.00         Critical Shear (kip)       3.81         Critical Shear Capacity       300.40         Rating       1.3%

Check Limitation	
Apply TIA-222-H Section 15.5:	
N/A	
Additional Longitudinal Ret	bar
Input Effective Depths (else Actual):	<ul> <li>✓</li> </ul>
Shear Design Options	
Check Shear along Depth of Pier:	
N/A	
N/A	
Go to Soil Ca	lculations

Structural Foundation Rating	12.0%
Soil Interaction Rating	52.3%
	-

						Soil Pr	ofile			
Groundwater Depth	None			# of Layers	4	4				
		-	-							

Lay	ver	Top (ft)	Bottom (ft)	Thickness (ft)	γ <sub>soil</sub> (pcf)	γ <sub>concrete</sub> (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)		Ultimate Skin Friction Comp Override (ksf)	I Illtimato Skin	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
	1	0	2	2	100	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
	2	2	4	2	100	150	0	28	0.000	0.000	0.60	0.60			Cohesionless
	3	4	9	5	110	150	0	32	0.000	0.000	0.60	0.60			Cohesionless
	4	9	12.5	3.5	110	150	0	38	0.000	0.000	0.60	0.60	3		Cohesionless

APPENDIX E RF DATA SHEET

				Section 1 - RFDS GENE	RAL INFORMATION					
RFDS NAME:	WAI 03046	DATE:	03/23/2021	RF DESIGN ENG	Gisele Lima	RF PERF ENG	Aldin Hajiric	RFDS PROGRAM TYPE	2022 5G NR Radio	
ISSUE:	11120040	Approved? (Y/N):		RF DESIGN PHONE		RF PERF PHONE		RFDS TECHNOLOGY		
REVISION	1	RF MANAGER:		RF DESIGN EMAIL			ah263n@us.att.com		As Built/In Progress	
	V: (11/18/2021) Updated BBU_CellID_Propose CF		) Initial RFDSExtend pole, We need 3' separation fro		01110	ADDITIONAL WORKFLOW NOTIFICATIONS			4431681	
			,			RFDS VERSION	1.00	Created By: ix615k	Updated By:	ix615k
						UMTS FREQUENCY	1	Date Created: 3/23/2021 2:27:53		-
								PM		РМ
						LTE FREQUENCY	9	Estimated SQIN: 11,312	Expiration :	
						5G FREQUENCY	CBAND, DoD	RER Initiative:	Calculation ID:	2021111821274411
INITIATIVE /PROJECT:										22
							WRRWOR-21-05275	IPLAN PRD GRP    SUB GRP #1		
						I-PLAN JOB # 2	WRRWOR-21-05271	IPLAN PRD GRP    SUB GRP #2	5G NR Software Ra Activation	dio    5G NR
						I-PLAN JOB #3	WRRWOR-21-05274	IPLAN PRD GRP    SUB GRP #3		IR 1SR CBand
							WRRWOR-21-05273	IPLAN PRD GRP    SUB GRP #4		
									Activation	
						I-PLAN JOB # 5	WRRWOR-21-05272	IPLAN PRD GRP    SUB GRP #5	LTE Software Carrie	r    LTE 6C
						I-PLAN JOB # 6	8	IPLAN PRD GRP    SUB GRP #6		
						I-PLAN JOB # 7	•	IPLAN PRD GRP    SUB GRP #7		
						I-PLAN JOB # 8	<b>k</b>	IPLAN PRD GRP    SUB GRP #8		
						I-PLAN JOB # 9	<b>:</b>	IPLAN PRD GRP    SUB GRP #8		
						I-PLAN JOB # 10	<b>:</b>	IPLAN PRD GRP    SUB GRP #8		
						I-PLAN JOB # 11	:	IPLAN PRD GRP    SUB GRP #8	:	
						I-PLAN JOB # 12	<mark>E</mark>	IPLAN PRD GRP    SUB GRP #8	:	
						I-PLAN JOB # 13	<mark>1:</mark>	IPLAN PRD GRP    SUB GRP #8	:	
						I-PLAN JOB # 14	<mark>l:</mark>	IPLAN PRD GRP    SUB GRP #8	:	
						I-PLAN JOB # 15	ic .	IPLAN PRD GRP    SUB GRP #8		
						I-PLAN JOB # 16	<b>e</b>	IPLAN PRD GRP    SUB GRP #8		
						<u> </u>	•	-		
				Section 2 - LOCATIO	N INFORMATION					
USID:	75042	FA LOCATION CODE:	10038029	LOCATION NAME	ORBIT	ORACLE PTN # 1	: 3801A11XCS	PACE JOB # 1	MRWOR060367	
REGION:	WEST	MARKET CLUSTER:	SEATTLE/OREGON/NO. ID	MARKET	WASHINGTON	ORACLE PTN # 2	<u>:</u>	PACE JOB # 2	MRWOR060301	
ADDRESS:	3310 SOUTH MERIDIAN	CITY:	PUYALLUP	STATE	WA	ORACLE PTN # 3	: 3801A11X2N	PACE JOB # 3	MRWOR060363	
ZIP CODE: 9	98373	COUNTY:	PIERCE	LONG (DEC. DEG.)	-122.2966000	ORACLE PTN # 4	t.	PACE JOB # 4	MRWOR060311	
LATITUDE (D-M-S):	47d 9m35.06004s	LONGITUDE (D-M-S):	-122d -17m-47.76s	LAT (DEC. DEG.)	47.1597389	ORACLE PTN # 5	3801A11Y45	PACE JOB # 5	MRWOR060361	
1	SOUTH BOUND TO PUYALLUP EXIT MERIDIAN	WHWY161 TOWARDS SOUTH	HILL MALL TURN RIGHT (SOUTH) INTO THE MAI	LL AND THEN TURN RIGHT HEADING BACK AR	OUND THE REAR OF THE TARGET	ORACLE PTN # 6	<b>e</b>	PACE JOB # 6		
DIRECTIONS, ACCESS AND	BUILDING ANTENNA IS LIGHT POLE NEAR GR	EEN MAINT BUILDING EQUIP	MENT IS IN THE WHITE BRICK WALLVALIDATED	EI6527 28 FEB 2019		ORACLE PTN # 7		PACE JOB # 7		
EQUIPMENT LOCATION:						ORACLE PTN # 8	<b>.</b>	PACE JOB # 8		
						ORACLE PTN # 9	<mark>1:</mark>	PACE JOB # 9	:	
						ORACLE PTN # 10	<mark>1:</mark>	PACE JOB # 10	:	
						ORACLE PTN # 11	:	PACE JOB # 11	:	
						ORACLE PTN # 12	<b>E</b>	PACE JOB # 12	:	
						ORACLE PTN # 13	k la	PACE JOB # 13		
						ORACLE PTN # 14	k.	PACE JOB # 14		
						ORACLE PTN # 15	<mark>к</mark>	PACE JOB # 15		
						ORACLE PTN # 16	<b>k</b>	PACE JOB # 16		
						BORDER CELL WITH CONTOUR COORD	<b>k</b>	SEARCH RING NAME		
						AM STUDY REQ'D (Y/N	: No	SEARCH_RING_ID		
						FREQ COORD	<mark>k:</mark>	BTA:	MSA / RSA:	
								LAC(UMTS)	42996	
						RF DISTRICT	17			
						RF ZONE	: A	RNC(UMTS)	TACNWADNCRAR1	0
								MME POOL ID(LTE)	:	
						PARENT NAME(UMTS)	TACOMA - ALU RNC 9370-10			
			Section							
			Sectio	on 3 - LICENSE COVERA	GE/FILING INFORM	ATION				
CGSA - NO FILING TRIGGERED (Yes/No): I	No	CGSA LOSS:		PCS REDUCED - UPS ZIP		-				
CGSA - MINOR FILING NEEDED (Yes/No):: 1	No	CGSA EXT AGMT NEEDED:		PCS POPS REDUCED		CGSA CALL SIGNS	:			
CGSA - MAJOR FILING NEEDED (Yes/No):	Yes	CGSA SCORECARD								
		UPDATED:	l							
				ction 4 - TOWER/REGUL	ATORY INFORMATI					

STRUCTURE AT&T OWNED?: No	GROUND ELEVATION (ft):	STRUCTURE TYPE: UTILITY	MARKET LOCATION 700 MHz Band:	
ADDITIONAL REGULATORY?: No	HEIGHT OVERALL (ft): 0.00	FCC ASR NUMBER:	MARKET LOCATION 850 MHz Band:	
SUB-LEASE RIGHTS?: No	STRUCTURE HEIGHT (ft): 70.00		MARKET LOCATION 1900 MHz Band:	
LIGHTING TYPE: NOT REQUIRED			MARKET LOCATION AWS Band:	
			MARKET LOCATION WCS Band:	
			MARKET LOCATION Future Band:	

				Section 5 - E-911 INFC	RMATION - existing				
	PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER:	LMU REQUIRED:	ESRN:	DATE LIVE PH1:	DATE LIVE PH2:	
SECTOR A E-911				INTRADO_LNGMONT		0			
SECTOR B				INTRADO_LNGMONT		0			
SECTOR C				INTRADO_LNGMONT		0			
SECTOR D									
SECTOR E									
SECTOR F									
OMNI									
				Section 5 - E-911 INF	ORMATION - final	- <u>J</u> L	1	1	
	PSAP NAME:	PSAP ID:	E911 PHASE:	Section 5 - E-911 INF	ORMATION - final	ESRN:	DATE LIVE PH1:	DATE LIVE PH2:	
SECTOR A E-911	PSAP NAME:	PSAP ID:	E911 PHASE:			ESRN:	DATE LIVE PH1:	DATE LIVE PH2:	
SECTOR A E-911 SECTOR B	PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER:		ESRN: 0 0	DATE LIVE PH1:	DATE LIVE PH2:	
	PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER:		ESRN: 0 0 0	DATE LIVE PH1:	DATE LIVE PH2:	
SECTOR B	PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER: INTRADO_LNGMONT INTRADO_LNGMONT		ESRN: 0 0 0	DATE LIVE PH1:	DATE LIVE PH2:	
SECTOR B SECTOR C	PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER: INTRADO_LNGMONT INTRADO_LNGMONT		ESRN: 0 0 0	DATE LIVE PH1:	DATE LIVE PH2:	
SECTOR B SECTOR C SECTOR D	PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER: INTRADO_LNGMONT INTRADO_LNGMONT		ESRN: 0 0 0	DATE LIVE PH1:	DATE LIVE PH2:	

			SECT	ION 6/7 - BBU INFORI	MATION - existing		
	BBU 1	BBU 2	BBU 3				
BBU RBS ID		372249	811476				
TECHNOLOGY		372249 LTE	8114/0				
			56				
	WATAU3046_2	WAL03046	WAWN003046				
BBU USID		75042	75042				
	WATAU3046_2	WAL03046	WAWN003046				
BTA/TID		413L	413				
4-9 DIGIT SITE ID		03046	03046				
COW OR TOY?		No	No				
CELL SITE TYPE		SECTORIZED	SECTORIZED				
	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL				
BTS LOCATION ID		GROUND	GROUND				
BASE STATION TYPE	OVERLAY	OVERLAY	OVERLAY				
EQUIPMENT NAME	ORBIT	ORBIT LTE	ORBIT				
DISASTER PRIORITY	<mark>:</mark> 3	3	0				
EQUIPMENT VENDOR	: ALU	NOKIA	NOKIA				
EQUIPMENT TYPE (Model)	MODULAR CELL OUTDOOR	FSM4 ASIA C1	5GNR ASIK C2				
BASEBAND CONFIGURATION	:	xxxxx / 1xAMIA / 3xABIA / 1xASIA	xxxxx / xxxxx / 1xABIL / 1xASIK				
MARKET STATE CODE		WA	WAW				
NODE B NUMBER		3046	3046				
SIDEHAUL SWITCH VENDOR							
SIDEHAUL SWITCH MODEL							
SIDEHAUL SWITCH NAME							
SIDEHAUL SWITCH ADDITIONAL CARDS							
CSS - CTS COMMON ID		WAL03046	WAWN003046				
CSS - CTS COMMON ID CSS - SECONDARY FUNCTION ID		WAL03046	VVAVVNUUJU46				
CSS - SECONDARY FUNCTION ID	<u>-</u>						
					•		
			SEC	TION 6/7 - BBU INFO	RMATION - final		
	RPI14	PDI 2		TION 6/7 - BBU INFO	RMATION - final		
	BBU 1	BBU 2	BBU 3	TION 6/7 - BBU INFO	RMATION - final		
BBU RBS ID	: 251947	372249		TION 6/7 - BBU INFO	RMATION - final		
TECHNOLOGY	: 251947 : UMTS	372249 LTE	BBU 3 811476 5G	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME	: 251947 : UMTS : WATAU3046_2	372249 LTE WAL03046	BBU 3 811476 5G WAWN003046	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME BBU USID	: 251947 : UMTS : WATAU3046_2 : 75042	372249 LTE WAL03046 75042	BBU 3 811476 5G WAWN003046 75042	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME BBU USID CELL ID / BCF	251947 2 UMTS 3 WATAU3046_2 3 75042 3 WATAU3046_2	372249 LTE WAL03046 75042 WAL03046	80 3 811476 5G WAWN003046 75042 WAWN003046	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME BBU USID CELL ID / BCF BTA/TID BTA/TID	251947 2 UMTS 2 WATAU3046_2 2 75042 3 WATAU3046_2 3 WATAU3046_2 4 113U	372249 LTE WAL03046 75042 WAL03046 413L	800 3 811476 5G WAWN003046 75042 WAWN003046 413	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME BBU USA BBU USA CELL ID / BCF CELL ID / BCF STATID 4-9 DIGIT SITE ID 4-9 DIGIT SITE ID	2 251947 3 UMTS 3 WATAU30046_2 7 5042 3 WATAU3046_2 4 13U 4 13U	372249 LTE WAL03046 75042 WAL03046 413L 03046	80 3 811476 5G WAWN003046 75042 WAWN003046	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME BBU USID CELL ID / BCF CELL ID / BCF BTATTIO 4-9 DIGIT SITE ID COW OR TOY?	251947 UMTS WATAU3046_2 75042 WATAU3046_2 413U 3046 No	372249 LTE WAL03046 75042 WAL03046 413L 03046 No	8003 811476 56 WAWN003046 75042 WAWN003046 413 03046 No	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME BBU USA BBU USA CELL ID / BCF CELL ID / BCF STATID 4-9 DIGIT SITE ID 4-9 DIGIT SITE ID	251947 UMTS WATAU3046_2 75042 WATAU3046_2 413U 3046 No	372249 LTE WAL03046 75042 WAL03046 413L 03046	800 3 811476 5G WAWN003046 75042 WAWN003046 413	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME BBU USIN CELL ID /BCF BTA/TID 4-9 DIGIT SITE ID COW OR TOY? CELL SITE TYPE SITE TYPE	251947 3 WATAU3046_2 5 75042 4 VATAU3046_2 4 13U 5 3046 5 No 5 ECTORIZED 4 MACRO-CONVENTIONAL	372249 LTE WAL03046 75042 WAL03046 413L 03046 03046 No SECTORIZED MACRO-CONVENTIONAL	8003 811476 56 WAWN003046 75042 WAWN003046 413 03046 No	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME BBU USID CELL ID RGT BTATID 4-9 DIGIT SITE ID COW OR TOY? CELL SITE TYPE SITE TYPE BTS LOCATION ID	2 51947 2 UMTS 3 WATS 4 75042 4 75042 4 4130 4 4130 5 3046 5 8046 6 805 8 805 8 805 9 MGR0-CONVENTIONAL 5 GROUND	372249 LTE WAL03046 75042 WAL03046 413L 03046 413L 03046 SECTORIZED MACRO-CONVENTIONAL GROUND	BBU 3           811476           SG           WAWN003046           75042           WAWN003046           413           03946           No           SECTORIZED           MACRO-CONVENTIONAL           GROUND	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME BBU USIN CELL ID /BCF BTA/TID 4-9 DIGIT SITE ID COW OR TOY? CELL SITE TYPE SITE TYPE	2 51947 2 UMTS 3 WATS 4 75042 4 75042 4 4130 4 4130 5 3046 5 8046 6 805 8 805 8 805 9 MGR0-CONVENTIONAL 5 GROUND	372249 LTE WAL03046 75042 WAL03046 413L 03046 03046 No SECTORIZED MACRO-CONVENTIONAL	BBU 3           811476           5G           WAWN003046           75642           WAWN003046           413           03046           No           SECTORIZED           MACRO-CONVENTIONAL	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME BBU USID CELL ID RGT BTATID 4-9 DIGIT SITE ID COW OR TOY? CELL SITE TYPE SITE TYPE BTS LOCATION ID	2 51947 3 UMTS 3 WATAU3046_2 7 5042 4 73042 4 7304 4 7304 4 7304 5 846 5 86CTORIZED 5 MACRO-CONVENTIONAL 6 GROUND 6 OVERLAY	372249 LTE WAL03046 75042 WAL03046 413L 03046 413L 03046 SECTORIZED MACRO-CONVENTIONAL GROUND	BBU 3           811476           SG           WAWN003046           75042           WAWN003046           413           03946           No           SECTORIZED           MACRO-CONVENTIONAL           GROUND	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME BBU UBU CELL ID / BCF STATID 4-9 DIGIT SITE ID COW OR TOY? CELL SITE TYPE SITE TYPE BTS LOCATION ID BASE STATION TYPE	251947 2 UMTS 2 WATAU3046_2 3 WATAU3046_2 3 WATAU3046_2 4 A13U 4 A3U 4 A3U 4 A3U 5 No 6 SECTORIZED 4 MACRO-CONVENTIONAL 4 GROUND 6 OVERLAY 4 OVERLAY	372249 LTE WAL03046 75042 WAL03046 413L 03046 413L 03046 SECTORIZED MACRO-CONVENTIONAL GROUND OVERLAY	BBU 3           811476           5G           WAWN003046           75042           WAWN03046           413           03046           No           SECTORIZED           MACRO-CONVENTIONAL           GROUND           OVERLAY	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME BBU USID CELL ID / BCF CELL ID / BCF CELL ID / BCF COW OR TOY? CELL SITE TYPE COW OR TOY? CELL SITE TYPE BTS LOCATION ID BASE STATION TYPE EQUIPMENT NAME	251947 UMTS WATAU3046_2 Yo642 WATAU3046_2 WATAU3046_2 413U 3046 No SECTORIZED MACRO-CONVENTIONAL GROUND OVERLAY ORBIT 3	372249 LTE WAL03046 75042 WAL03046 413L 03046 413L 03046 SECTORIZED MACRO-CONVENTIONAL GROUND OVERLAY	BBU 3           811476           5G           WAWN003046           75042           WAWN03046           413           03046           No           SECTORIZED           MACRO-CONVENTIONAL           GROUND           OVERLAY	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME BBU UBU CELL ID / BCF CELL ID / BCF CELL ID / BCF CELL STE TYPE COW OR TOY? CELL STE TYPE BTS LOCATION ID BASE STATION TYPE EQUIPMENT NAME DISASTER PRIORITY EQUIPMENT VENDOR	251947 UMTS WATAU3046_2 Yo642 WATAU3046_2 WATAU3046_2 413U 3046 No SECTORIZED MACRO-CONVENTIONAL GROUND OVERLAY ORBIT 3	372249 LTE WAL03046 75042 WAL03046 413L 03046 413L 03046 413L 03046 MACRO-CONVENTIONAL GROUND OVERLAY ORBIT LTE 3	BBU 3           811476           5G           WAWN003046           75642           WAWN003046           413           03046           No           SECTORIZED           MACRO-CONVENTIONAL           GROUND           OVERLAY           ORBIT           0	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU UNAME BBU UNAME CELL ID / BCF CELL ID / BCF CELL ID / BCF CELL STE TYPE OF TYPE BTS LOCATION ID BASE STATION TYPE EQUIPMENT NAME DISASTER PRIORITY EQUIPMENT VENDOR	251947     UMTS     WATAU3046_2     75042     WATAU3046_2     413U     413U     5046     Mon     56CTORIZED     MACRO-CONVENTIONAL     GROUND     OVERLAY     ORBIT     3     ALU     MODULAR CELL OUTDOOR	372249 LTE WAL03046 75042 WAL03046 413L 03046 413L 03046 No SECTORIZED MACRO-CONVENTIONAL GROUND OVERLAY OVERLAY ORBIT LTE 3 NOKIA	BBU 3           811476           5G           WANN003046           75042           WANN003046           413           03046           No           SECTORIZED           MACRO-CONVENTIONAL           GROUND           OVERLAY           ORBIT           0           NOKIA	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME BBU JAIN CELL ID JBC CELL DJ JBC CELL DJ JBC CELL DJ JBC COW OR TOY? CELL SITE TYPE BTS LOCATION ID BASE STATION TYPE EQUIPMENT NAME DISASTER PRIORITY EQUIPMENT YENDOR EQUIPMENT YPE (Mode)	251947           UMTS           WATAU3046_2           75042           WATAU3046_2           413U           SBECTORIZED           MACRO-CONVENTIONAL           GROUND           OVERLAY           ORBIT           ALU           MODULAR CELL OUTDOOR	372249 LTE WAL03046 75042 WAL03046 413L 03046 413L 03046 413L 03046 CONTRESS 00 SECTORIZED MACRO-CONVENTIONAL GROUND OVERLAY OVERLAY ORBIT LTE 3 3 NOKIA FSIM4 ASIA C1	BBU 3           811476         5G           SG         30000046           X04N0003046         413           03046         413           SSECTORIZED         SECTORIZED           MACRO-CONVENTIONAL         GROUND           OVERLAY         ORBIT           0         NKIA           FSM4 ASIL C2         C2	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME CELL ID / BCC CELL ID / BCC BTATID COW OR TOY? CELL SITE TYPE COW OR TOY? CELL SITE TYPE BTS LOCATION ID BASE STATION TYPE EQUIPMENT VENDOR EQUIPMENT TYPE (Model) BASEBAND CONFIGURATION	251947           UMTS           WATAU3046_2           75642           WATAU3046_2           413U           3046           No           SECTORIZED           MACRO-CONVENTIONAL           GROUND           OVERLAY           ALU           MODULAR CELL OUTDOOR	372249 LTE WAL03046 75042 WAL03046 413L 03046 413L 03046 413L 03046 No SECTORIZED MACRO-CONVENTIONAL GROUND OVERLAY ORBIT LTE 3 NOKIA FSM4 ASIA C1 xxxxx / 1xAMIA / 3xABIA / 1xASIA	BBU 3           811476         5G           5G         WAWN003046           75042         WAWN003046           413         03046           03046         SECTORIZED           MACRO-CONVENTIONAL         GROUND           OVERLAY         ORBIT           0         NOKIA           FSM4 ASIL C2         xxxxx / xxxxi / xxXii, / XXXIII, / XX	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME CELL ID / BC/ CELL ID / BC/ CELL ID / BC/ BB/ UBIG CELL ID / BC/ CELL ID / BC/ COW OR TOY? COL SITE TYPE COW OR TOY? COL SITE TYPE COU OR TOY? COL SITE TYPE COUPMENT ADDR EQUIPMENT ADDR EQUIPMENT VENDOR EQUIPMENT TYPE (Mode) BASEBAND CONFIGURATION BASEBAND CONFIGURATION MARKET STATE CODE NODE B NUMBER	251947           UMTS           WATAU3046_2           75042           WATAU3046_2           413U           3046           No           3 BECTORIZED           MACRO-CONVENTIONAL           GROUND           OVERLAY           OVERLY           ALU           MADULAR CELL OUTDOOR           2           0	372249 LTE WAL03046 75042 WAL03046 413L 03046 No SECTORIZED MACRO-CONVENTIONAL GROUND OVERLAY ORBIT LTE 3 NOKIA FSM4 ASIA C1 XXXXII VA	BBU 3           811476           5G           WAWN003046           75042           WAWN003046           413           03046           No           SECTORIZED           MACRO-CONVENTIONAL           GROUND           OVERLAY           O           NOKIA           ESMA ASIL C2           XXXXX / SXABIO / 1xASIL           WAW	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME CELL ID / BCC CELL SITE TYPE COUP OF CONTROL BASE STATION TYPE COUPMENT TYPE COUPMENT VENDOR EQUIPMENT VENDOR EQUIPMENT TYPE (Mode) BASEBAND CONFIGURATION MARKET STATE CODE NODE IN UMBER	251947           UMTS           WATAU3046_2           75042           WATAU3046_2           413U           3046           No           SECTORIZED           MACO-CONVENTIONAL           GROUND           OVERLAY           OVERLAY           ORBIT           3           ALU           MODULAR CELL OUTDOOR           0	372249 LTE WAL03046 75042 WAL03046 413L 03046 No SECTORIZED MACRO-CONVENTIONAL GROUND OVERLAY ORBIT LTE 3 NOKIA FSM4 ASIA C1 XXXXII VA	BBU 3           811476           5G           WAWN003046           75042           WAWN003046           413           03046           No           SECTORIZED           MACRO-CONVENTIONAL           GROUND           OVERLAY           O           NOKIA           ESMA ASIL C2           XXXXX / SXABIO / 1xASIL           WAW	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU UNAME BBU USIN CELL ID / BCF CELL ID / BCF CELL ID / BCF CELL ID / BCF CELL STE TYPE OF TO YT CELL STE TYPE BTS LOCATION ID BASE STATION TYPE CELL STE TYPE BTS LOCATION ID BASE STATION TYPE CELL STE TYPE BTS LOCATION ID BASE STATION TYPE CELL STE TYPE BASE STATION TYPE CELL STE TYPE BASE STATION TYPE BASE STATION TYPE BASE BAND CONFIGURATION MARKET STATE CODE NODE B NUMBER SIDEHAUL SWITCH VENDOR	251947           UMTS           WATAU3046_2           75042           WATAU3046_2           WATAU3046_2           413U           SECTORIZED           MACR0-CONVENTIONAL           GROUND           OVERLAY           3           ALU           MODULAR CELL OUTDOOR           0           1	372249 LTE WAL03046 75042 WAL03046 413L 03046 No SECTORIZED MACRO-CONVENTIONAL GROUND OVERLAY ORBIT LTE 3 NOKIA FSM4 ASIA C1 XXXXII VA	BBU 3           811476           5G           WAWN003046           75042           WAWN003046           413           03046           No           SECTORIZED           MACRO-CONVENTIONAL           GROUND           OVERLAY           O           NOKIA           ESMA ASIL C2           XXXXX / SXABIO / 1xASIL           WAW	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME CELL ID / BCF CELL ID / BCF STATED COW OR TOY? CELL SITE YPP CELL SITE YPP BTS LOCATION ID BASE STATION TYPE COUPMENT VAME COUPMENT VENDOR EQUIPMENT VENDOR EQUIPMENT TYPE (Mode) BASEBAND CONFIGURATION MARKET STATE CODE NODE B NUMBER SIDEHAUL SWITCH VENDOR SIDEHAUL SWITCH NAME	251947           UMTS           WATAU3046_2           75042           WATAU3046_2           413U           SBECTORIZED           MACRO-CONVENTIONAL           GROUND           OVERLAY           ALU           MODULAR CELL OUTDOOR           Image: Control of the second of	372249 LTE WAL03046 75042 WAL03046 413L 03046 No SECTORIZED MACRO-CONVENTIONAL GROUND OVERLAY ORBIT LTE 3 NOKIA FSM4 ASIA C1 XXXXII VA	BBU 3           811476           5G           WAWN003046           75042           WAWN003046           413           03046           No           SECTORIZED           MACRO-CONVENTIONAL           GROUND           OVERLAY           O           NOKIA           ESMA ASIL C2           XXXXX / SXABIO / 1xASIL           WAW	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME CELL ID / BCF CELL ID / BCF CELL ID / BCF CELL ID / BCF CELL ID / BCF COW OR TOY? COW OR TOY OR TOY OR TOY OW OR TOY OW	251947           UMTS           WATAU3046_2           75042           WATAU3046_2           413U           43U           8046           No           9046           9047           9048           9048           9049           9049           9049           9049           9049           9049           9049           9049           9049           9049           9049           9049           9049           9049           9049           90400	372249 LTE WAL03046 75042 WAL03046 413L 03046 413L 03046 No SECTORIZED MACRO-CONVENTIONAL GROUND OVERLAY ORBIT LTE 3 NOKIA FSM4 ASIA C1 2000X / 1xAMIA / 3xABIA / 1xASIA WA 3046	BBU 3           811476           SG           WAWN003046           75042           WAWN03046           413           03046           No           SECTORIZED           MACRO-CONVENTIONAL           GROUND           OVERLAY           ORBIT           0           NOKIA           FSMA ASIL C2           xxxxx/ 3xABIO / 1xASIL           WAW           3046	TION 6/7 - BBU INFOI	RMATION - final		
TECHNOLOGY BBU NAME CELL ID / BCF CELL ID / BCF STATED COW OR TOY? CELL SITE YPP CELL SITE YPP BTS LOCATION ID BASE STATION TYPE COUPMENT VENDOR EQUIPMENT VENDOR EQUIPMENT YPE (Mode) BASEBAND CONFIGURATION MARKET STATE CODE NODE B NUMBER SIDEHAUL SWITCH VENDOR SIDEHAUL SWITCH NAME	251947           UMTS           WATAU3046_2           75042           WATAU3046_2           MATAU3046_2           413U           3046           No           BECTORIZED           MACRO-CONVENTIONAL           GROUND           OVERLAY           OVERLAY           MODULAR CELL OUTDOOR           C           0           2           4LU           MODULAR CELL OUTDOOR           2           2           4           VATAU3046_2	372249 LTE WAL03046 75042 WAL03046 413L 03046 No SECTORIZED MACRO-CONVENTIONAL GROUND OVERLAY ORBIT LTE 3 NOKIA FSM4 ASIA C1 XXXXII VA	BBU 3           811476           5G           WAWN003046           75042           WAWN003046           413           03046           No           SECTORIZED           MACRO-CONVENTIONAL           GROUND           OVERLAY           O           NOKIA           ESMA ASIL C2           XXXXX / SXABIO / 1xASIL           WAW	TION 6/7 - BBU INFOI	RMATION - final		

			S	Section 8	- RBS/SECTOF	ASSOCIA	TION - ex	xisting								
BBU 1	BBU 2	BBU 3														
CTS Common ID WATAU3046_2	WAL03046	WAWN003046														
Soft Sector IDs WATAU3046X	WAL03046_2A_1	WAWN003046_N005A_1														
WATAU3046Y	WAL03046_2A_2	WAWN003046_N005B_1														
WATAU3046Z	WAL03046_2B_1	WAWN003046_N005C_1														
	WAL03046_2B_2															
	WAL03046_2C_1															
	WAL03046_2C_2															
	WAL03046_3A_1															
	WAL03046_3B_1															
	WAL03046_3C_1															
	WAL03046_7A_1 WAL03046_7A_2_F			+					-	+			+	1	+	
	WAL03046_7A_2_F WAL03046_7B_1															
	WAL03046_7B_2_F			1						1	1		1	1	1	
	WAL03046_7C_1									1						
	WAL03046_7C_2_F									1						
	WAL03046_9A_1															
	WAL03046_9B_1															
	WAL03046_9C_1															
				o		-		<i>c</i>								
			 	Section	8 - RBS/SECTO	R ASSOC	IATION -	final			 					
BBU 1	BBU 2	BBU 3														
		1											-			-
CTS Common ID WATAU3046_2	WAL03046	WAWN003046							_							
CTS Common ID Soft Sector IDs	WAL03046 WAL03046_2A_1	WAWN003046 WAWN003046_N002A_1														
	WAL03046 WAL03046_2A_1 WAL03046_2A_2	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1														
	WAL03046 WAL03046_2A_1 WAL03046_2A_2 WAL03046_2B_1	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1 WAWN003046_N002C_1														
	WAL03046 WAL03046_2A_1 WAL03046_2A_2 WAL03046_2B_1 WAL03046_2B_2	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1 WAWN003046_N002C_1 WAWN003046_N005A_1														
	WAL03046 WAL03046_2A_1 WAL03046_2A_2 WAL03046_2B_1 WAL03046_2B_2 WAL03046_2C_1	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1 WAWN003046_N002C_1 WAWN003046_N005A_1 WAWN003046_N005B_1														
	WAL03046           WAL03046_2A_1           WAL03046_2A_2           WAL03046_2B_1           WAL03046_2B_1           WAL03046_2C_1           WAL03046_2C_2	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1 WAWN003046_N002C_1 WAWN003046_N005A_1 WAWN003046_N005B_1 WAWN003046_N005C_1														
	WAL03046           WAL03046_2A_1           WAL03046_2A_2           WAL03046_2B_1           WAL03046_2B_2           WAL03046_2C_2           WAL03046_2C_2           WAL03046_3A_1	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1 WAWN003046_N005C_1 WAWN003046_N005B_1 WAWN003046_N005C_1 WAWN003046_N005C_1														
	WAL03046           WAL03046_2A_1           WAL03046_2A_2           WAL03046_2B_1           WAL03046_2B_2           WAL03046_2C_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_3A_1           WAL03046_3B_1	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1 WAWN003046_N002C_1 WAWN003046_N005A_1 WAWN003046_N005B_1 WAWN003046_N005C_1														
	WAL03046           WAL03046_2A_1           WAL03046_2A_2           WAL03046_2B_1           WAL03046_2B_2           WAL03046_2C_2           WAL03046_2C_2           WAL03046_3A_1	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1 WAWN003046_N005A_1 WAWN003046_N005A_1 WAWN003046_N005C_1 WAWN003046_N006A_1 WAWN003046_N066A_1														
	WAL03046           WAL03046_2A_1           WAL03046_2A_2           WAL03046_2B_1           WAL03046_2B_2           WAL03046_2C_1           WAL03046_2C_2           WAL03046_2A_2           WAL03046_2C_1           WAL03046_2A_2           WAL03046_2A_1           WAL03046_2A_1           WAL03046_2A_1           WAL03046_2A_1           WAL03046_2A_1           WAL03046_3A_1           WAL03046_3C_1	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1 WAWN003046_N005A_1 WAWN003046_N005B_1 WAWN003046_N005C_1 WAWN003046_N006B_1 WAWN003046_N066B_1 WAWN003046_N066B_1														
	WAL03046_2A_1           WAL03046_2A_1           WAL03046_2A_2           WAL03046_2B_1           WAL03046_2B_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_3A_1           WAL03046_3A_1           WAL03046_3B_1           WAL03046_3C_1           WAL03046_3A_1	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1 WAWN003046_N002C_1 WAWN003046_N005A_1 WAWN003046_N005C_1 WAWN003046_N006B_1 WAWN003046_N006B_1 WAWN003046_N066B_1 WAWN003046_N07A_1														
	WAL03046_2A_1           WAL03046_2A_1           WAL03046_2A_2           WAL03046_2B_1           WAL03046_2C_1           WAL03046_2C_2           WAL03046_2C_2           WAL03046_3A_1           WAL03046_3B_1           WAL03046_7A_1           WAL03046_7A_2F	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1 WAWN003046_N002C_1 WAWN003046_N005A_1 WAWN003046_N005C_1 WAWN003046_N005C_1 WAWN003046_N0056A_1 WAWN003046_N0056C_1 WAWN003046_N077A_1 WAWN003046_N077A_2														
	WAL03046           WAL03046_2A_1           WAL03046_2A_2           WAL03046_2B_1           WAL03046_2B_2           WAL03046_2C_2           WAL03046_2C_2           WAL03046_3A_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_3A_1           WAL03046_3A_1           WAL03046_3A_1           WAL03046_3A_1           WAL03046_3A_1           WAL03046_7A_1           WAL03046_7A_3_E	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1 WAWN003046_N005C_1 WAWN003046_N005C_1 WAWN003046_N005C_1 WAWN003046_N005C_1 WAWN003046_N066C_1 WAWN003046_N077A_1 WAWN003046_N077A_2 WAWN003046_N077A_1														
	WAL03046           WAL03046_2A_1           WAL03046_2A_2           WAL03046_2B_1           WAL03046_2B_2           WAL03046_2C_2           WAL03046_2C_2           WAL03046_3B_1           WAL03046_3C_1           WAL03046_3C_1           WAL03046_3C_1           WAL03046_3C_1           WAL03046_3C_1           WAL03046_3C_1           WAL03046_3C_1           WAL03046_3C_1           WAL03046_3C_1           WAL03046_7A_2_F           WAL03046_7B_1	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1 WAWN003046_N005A_1 WAWN003046_N005A_1 WAWN003046_N005B_1 WAWN003046_N065C_1 WAWN003046_N066B_1 WAWN003046_N067A_1 WAWN003046_N077A_1 WAWN003046_N077A_2 WAWN003046_N077B_2														
	WAL03046           WAL03046_2A_1           WAL03046_2A_2           WAL03046_2B_1           WAL03046_2B_2           WAL03046_2C_2           WAL03046_2C_2           WAL03046_2C_2           WAL03046_2C_2           WAL03046_2C_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_7A_1           WAL03046_7A_3_E           WAL03046_7B_1           WAL03046_7B_2_F	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1 WAWN003046_N005A_1 WAWN003046_N005A_1 WAWN003046_N005B_1 WAWN003046_N005B_1 WAWN003046_N005B_1 WAWN003046_N07B_1 WAWN003046_N077A_2 WAWN003046_N077B_1 WAWN003046_N077B_2 WAWN003046_N077B_1														
	WAL03046           WAL03046_2A_1           WAL03046_2A_1           WAL03046_2B_1           WAL03046_2B_2           WAL03046_2C_2           WAL03046_2C_2           WAL03046_2C_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_3A_1           WAL03046_7A_1           WAL03046_7A_1           WAL03046_7A_1           WAL03046_7A_3_E           WAL03046_7B_1           WAL03046_7B_2_F           WAL03046_7B_2_F           WAL03046_7B_2_F           WAL03046_7C_1           WAL03046_7C_1	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1 WAWN003046_N005A_1 WAWN003046_N005A_1 WAWN003046_N005B_1 WAWN003046_N005B_1 WAWN003046_N005B_1 WAWN003046_N07B_1 WAWN003046_N077A_2 WAWN003046_N077B_1 WAWN003046_N077B_2 WAWN003046_N077B_1														
	WAL03046           WAL03046_2A_1           WAL03046_2A_1           WAL03046_2B_1           WAL03046_2B_2           WAL03046_2B_2           WAL03046_2C_2           WAL03046_2C_2           WAL03046_2C_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_7A_1           WAL03046_7A_3_E           WAL03046_7B_2_F           WAL03046_7B_3_F           WAL03046_7B_3_F           WAL03046_7B_3_F           WAL03046_7C_1           WAL03046_7C_3_E	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1 WAWN003046_N005A_1 WAWN003046_N005A_1 WAWN003046_N005B_1 WAWN003046_N005B_1 WAWN003046_N005B_1 WAWN003046_N07B_1 WAWN003046_N077A_2 WAWN003046_N077B_1 WAWN003046_N077B_2 WAWN003046_N077B_1														
	WAL03046           WAL03046_2A_1           WAL03046_2A_1           WAL03046_2B_1           WAL03046_2B_2           WAL03046_2C_2           WAL03046_2C_2           WAL03046_2C_2           WAL03046_2C_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_7A_1           WAL03046_7A_3_E           WAL03046_7B_1           WAL03046_7B_2_F           WAL03046_7C_1           WAL03046_7C_3_E           WAL03046_7C_3_F           WAL03046_7C_3_F           WAL03046_7C_3_F           WAL03046_7C_3_F	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1 WAWN003046_N005A_1 WAWN003046_N005A_1 WAWN003046_N005B_1 WAWN003046_N005B_1 WAWN003046_N005B_1 WAWN003046_N07B_1 WAWN003046_N077A_2 WAWN003046_N077B_1 WAWN003046_N077B_2 WAWN003046_N077B_1														
	WAL03046           WAL03046_2A_1           WAL03046_2A_1           WAL03046_2B_1           WAL03046_2B_2           WAL03046_2B_2           WAL03046_2C_2           WAL03046_2C_2           WAL03046_2C_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_2C_1           WAL03046_7A_1           WAL03046_7A_3_E           WAL03046_7B_2_F           WAL03046_7B_3_F           WAL03046_7B_3_F           WAL03046_7B_3_F           WAL03046_7C_1           WAL03046_7C_3_E	WAWN003046 WAWN003046_N002A_1 WAWN003046_N002B_1 WAWN003046_N005A_1 WAWN003046_N005A_1 WAWN003046_N005B_1 WAWN003046_N005B_1 WAWN003046_N005B_1 WAWN003046_N07B_1 WAWN003046_N077A_2 WAWN003046_N077B_1 WAWN003046_N077B_2 WAWN003046_N077B_1														

										Section	9 - SOF	T SECT	OR ID -	existing						
	UMTS 1ST 850	LTE 1ST 700	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 700	LTE 2ND AWS	LTE 3RD 700	5G 1ST 850	5G 1ST 1900	5G 1ST AWS	5G 1ST CBAND	5G 2ND CBAND							
USEID (excluding Hard Sector)	75042.850.30 .1	3																		
SECTOR A SOFT SEC	OR ID WATAU3046	X WAL03046_7 A_1	WAL03046_9 A_1	WAL03046_2 A_1	WAL03046_3 A_1	WAL03046_7 A_2_F	WAL03046_2 A_2		WAWN00304 6_N005A_1											
SECTOR B	WATAU3046	Y WAL03046_7 B_1	WAL03046_9 B_1	WAL03046_2 B_1	WAL03046_3 B_1	WAL03046_7 B_2_F	WAL03046_2 B_2		WAWN00304 6_N005B_1											
SECTOR C	WATAU3046	Z WAL03046_7 C_1	WAL03046_9 C_1	WAL03046_2 C_1	WAL03046_3 C_1	WAL03046_7 C_2_F	WAL03046_2 C_2		WAWN00304 6_N005C_1											
SECTOR D																				
SECTOR E																				
SECTOR F																				
OMNI																				
										Sectio	on 9 - SC	OFT SE		- final						
	UMTS 1ST 850	LTE 1ST 700	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 700	LTE 2ND AWS	LTE 3RD 700	5G 1ST 850	5G 1ST 1900	5G 1ST AWS	5G 1ST CBAND	5G 2ND CBAND							
USEID (excluding Hard Sector)																				
SECTOR A SOFT SEC		WAL03046_7 A_1	WAL03046_9 A_1	WAL03046_2 A_1	WAL03046_3 A_1	WAL03046_7 A_2_F	WAL03046_2 A_2	WAL03046_7 A_3_E	WAWN00304 6_N005A_1	WAWN00304 6_N002A_1	WAWN00304 6_N066A_1	WAWN00304 6_N077A_1	WAWN00304 6_N077A_2							
SECTOR B		WAL03046_7 B_1	WAL03046_9 B_1	WAL03046_2 B_1	WAL03046_3 B_1	WAL03046_7 B_2_F	WAL03046_2 B_2	WAL03046_7 B_3_E	WAWN00304 6_N005B_1	WAWN00304 6_N002B_1	WAWN00304 6_N066B_1	WAWN00304 6_N077B_1	WAWN00304 6_N077B_2							
SECTOR C		WAL03046_7 C_1	WAL03046_9 C_1	WAL03046_2 C_1	WAL03046_3 C_1	WAL03046_7 C_2_F	WAL03046_2 C_2	WAL03046_7 C_3_E	WAWN00304 6_N005C_1	WAWN00304 6_N002C_1	WAWN00304 6_N066C_1	WAWN00304 6_N077C_1	WAWN00304 6_N077C_2							
SECTOR D																				
SECTOR E																				
SECTOR F															1					1
SECTORF																				

										Sect	ion 9 - (	Cell Num	ıber - exi	isting							
	UMTs         LTE         State         Sta																				
USEID (excluding Hard Sector)	75042.850.3G .1																				
SECTOR A CELL NUMBER																					
SECTOR B		16	9	23	150	172	217		49												
SECTOR C		17	10	24	151	173	218		73												
SECTOR D																					
SECTOR E																					
SECTOR F																					
OMNI		1																			
			I			1				Se	ction 9 -	- Cell Nu	mber - f	inal	I						
	UMTS 1ST 850	LTE 1ST 700	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 700	LTE 2ND AWS	LTE 3RD 700	5G 1ST 850	5G 1ST 1900	5G	Cell Nu	5G	inal							
USEID (excluding Hard Sector)										5G	5G	5G	5G	inal							
USEID (excluding							2ND AWS	3RD 700		5G	5G	5G	5G	inal							
USEID (excluding Hard Sector)		1ST 700		1ST AWS	1ST WCS	2ND 700	2ND AWS	3RD 700	1ST 850	5G	5G	5G	5G 2ND CBAND	inal							
USEID (excluding Hard Sector) SECTOR A CELL NUMBER		1ST 700		<b>1ST AWS</b> 22	<b>1ST WCS</b> 149	2ND 700	2ND AWS	<b>3RD 700</b> 189	<b>1ST 850</b> 25	5G	5G	5G	5G 2ND CBAND	inal							
USEID (excluding Hard Sector) SECTOR A CELL NUMBER SECTOR B		1ST 700		1ST AWS 22 23	1ST WCS 149 150	2ND 700 171 172	2ND AWS 216 217	<b>3RD 700</b> 189 190	<b>1ST 850</b> 25	5G	5G	5G	5G 2ND CBAND	inal							
USEID (excluding Hard Sector) SECTOR A CELL NUMBER SECTOR B SECTOR C		1ST 700		1ST AWS 22 23	1ST WCS 149 150	2ND 700 171 172	2ND AWS 216 217	<b>3RD 700</b> 189 190	<b>1ST 850</b> 25	5G	5G	5G	5G 2ND CBAND	inal							
USEID (excluding Hard Sector) SECTOR A CELL NUMBER SECTOR B SECTOR C SECTOR D		1ST 700		1ST AWS 22 23	1ST WCS 149 150	2ND 700 171 172	2ND AWS 216 217	<b>3RD 700</b> 189 190	<b>1ST 850</b> 25	5G	5G	5G	5G 2ND CBAND	inal							

												0 4'	40 01										
-			•		1							Section	10 - CII	J/SAC -	existing			1	 			•	
	UMTS         LTE         LTE         LTE         LTE         LTE         LTE         LTE         LTE         LTE         SG         SG																						
	1ST 850         1ST 700         1ST 1900         1ST AW         1ST WCS         2ND 700         2ND AWS         1ST 1900         1ST AWS         1ST CBAND         2ND CBAND         C <thc< th="">         C         C</thc<>																						
	A CIDISAR 30461 a a a a a a a a a a a a a a a a a a a																						
SECTOR B																							
SECTOR C	3	30463																					
SECTOR D																							
SECTOR E																							
SECTOR F																							
OMNU																							
OWIN																							
		l																					
												Sectio	n 10 - C	ID/SAC	- final								
		UMTS	LTE	LTE	LTE	LTE	LTE	LTE	LTE	5G	5G	5G	5G	5G	- final								
		UMTS 1ST 850	LTE 1ST 700	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 700	LTE 2ND AWS	LTE 3RD 700	5G 1ST 850	5G 1ST 1900	5G		5G	- final								
SECTOR A	CID/SAC											5G	5G	5G	- final								
SECTOR A SECTOR B												5G	5G	5G	- final								
												5G	5G	5G	- final								
SECTOR B												5G	5G	5G	- final								
SECTOR B SECTOR C												5G	5G	5G	- final								
SECTOR B SECTOR C SECTOR D												5G	5G	5G	- final								

					S	ection 15	A - CURR	ENT TOW	ER CON	IFIGUR/	TION -	SECTO	R A ( <u>OR</u> (	OMNI)									
ANTENNA POSITION is LEFT to RIGHT from BACK OF AN (unless otherwise specified		ANTENNA F	POSITION 1	A	NTENNA POSITION	2	AN	TENNA POSITION 3	3		ANTENNA PO	DSITION 4		ANTENNA	POSITION 5		AN	TENNA POSITI	ON 6		ANTENN	A POSITION 7	
ANTENNA MA													8003729	91		80	0372991						
	NNA VENDOR												Kathrein			Ka	threin						
ANTENNA SIZ													77.9X14	.9X6.5		77.	.9X14.9X6.5			_			
ANTEI	NNA WEIGHT												75			75				_			
	AZIMUTH												80			80							
MAGNETIC D																							
RADIATION C	CENTER (feet)												64			56				_			
MECHANICA													67.25			59	.25						
													4			4							
VERTICAL SEPARATION from ANTE													*			-							
VERTICAL SEPARATION from ANTE	(TIP to TIP)																						
	(TIP to TIP)																			_			
HORIZONTAL SEPARATION fro ANTENNA to LEFT (CENTERLINE to C HORIZONTAL SEPARATION fro	CENTERLINE)																						
ANTENNA to RIGHT (CENTERLINE to C	CENTERLINE)														1							-	
HORIZONTAL SEPARATION fro ANTENNA (which antenna #																							
Antenna RET Motor (																						-	
SURGE ARRESTOR (																							
DIPLEXER (													2		782 11458	2		782 10	0788V01				
DUPLEXER (													-										
Antenna RET CONTROL UNIT (																							
DC BLOCK (																							
TMA/LNA (	(QTY/MODEL)												2		78211273V02	2		TMA21	117F00V1-1				
CURRENT INJECTORS FOR TMA (	(QTY/MODEL)																						
PDU FOR TMAS (	(QTY/MODEL)																						
FILTER (	(QTY/MODEL)																			_			
	(QTY/MODEL)																			_		_	
FIBER TRUNK (																				_			
DC TRUNK (																				_			
REPEATER (															AIRSCALE TRI								
RRH - 700 band (													1		B12/14/29 370V			AirSca	ile RRH 4T4R B5				
RRH - 850 band (																1			AHCA	_		_	
RRH - 1900 band (													1		B25 RRH4X30-								
RRH - AWS band (													1		B66A RRH4X45	5-4R				_			
RRH - WCS band (																1		RRH4>	x25-WCS-4R				
Additional RRH #1 - any band ( Additional RRH #2 - any band (																						-	
	(QTY/MODEL)																						
	(QTY/MODEL)																						
RRH 7B 3 (	(QTY/MODEL)																						
Additional Component 1 (	(QTY/MODEL)												1		2nd FIBER for 7	00 RRH 1		2nd Fil	BER for 5G RRH				
Additional Component 2 (	(QTY/MODEL)												1		2nd FIBER for F	PCS RRH 1		2nd Fil	BER for AWS RF	кн			
Additional Component 3 (																2		DBC01	135F3V92-1				
		ELECTRICAL TILTS: L7(03)																					
Local	market Note 2	ANTENNA PORTS: L7(11c+	11d+11g+11h) , L7_PS(11	lc+11d+11g+11h) , Li	2(11a+11b+11e+11f)	, L2_1(11a+11b+1	11e+11f) , L9(11i+11	j+11k+11l) , U8(12c+	12d), N005(12c-	+12d+12g+12h)	, WCS(12a+12	b+12e+12f)											
Local	Market Note 3	SECTOR NAME: L7(WAL030	046 7A 1) 17 PS(WAL0	13046 7A 2 E) 120	VAL03046 2A 1) 12	2 1(WAI 03046 2	A 2) 19(WAL03046	5 9A 1) U8/WATAL	13046X) N005(V	VAWN003046 N	1005A 1) WC	S(WAI 03046 3A	1)										
		ocororrowne. cr(micos	010_17(_1), 21_1 0(17/20		///200040_2/(_1), E	L_1(1111200040_L	(), E0(11/1200010	5_31(_1), 00(111110	500403(),11000(1		1000/(_1), 110	0(11/1200010_01	')										
									1			RRH			1								
PORT SPECIFIC FIELDS PORT N	NUMBER	USEID (CSSng)	USEID (Atoli)	ATOLL TXID	ATOLL CELL ID	D TX/RX TECH	HNOLOGY/FREQ UENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	LOCATION	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLAT E POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
	PORT 1			VAL03046_7A_1, VAL03046_7A_2_F	WAL03046_7A_1, WAL03046_7A_2_I	,F		00372991_725MHz_ 25DT	13		2.5	Bottom	Comm 7/8_700	68						2856			
ANTENNA POSITION 5	PORT 2			VAL03046_7A_1,	WAL03046_7A_1,	LTE		00372991_725MHz_	13		2.5	Bottom	Comm 7/8_700	68						2856			
	PORT 3			VAL03046_7A_2_F	WAL03046_7A_2_1		0.	25DT	13		2.5	Bottom	Comm 7/8_700	69						2856			
	PORT 3		l V	VAL03046_7A_1,	WAL03046_7A_1,	LIE	100 81	00372991_725MHz_	13		2.0	BUttom	Comm //8_/00	08	1	I				2000			

		WAL03046_7A_2_F	WAL03046_7A_2_F		025DT										
	PORT 4	WAL03046_7A_1, WAL03046_7A_2_F	WAL03046_7A_1, WAL03046_7A_2_F	LTE 700	800372991_725MHz_ 025DT	13	2.5	Bottom	Comm 7/8_700	68			2856		
	PORT 5		WAL03046_2A_1, WAL03046_2A_2	LTE AWS	800372991_2130MHz _02DT	16	2	Bottom	Comm 7/8_2100	68			2012		
	PORT 6	WAL03046_2A_1	WAL03046_2A_1, WAL03046_2A_2	LTE AWS	800372991_2130MHz _02DT	16	2	Bottom	Comm 7/8_2100	68			2012		
	PORT 7	WAL03046_2A_1	WAL03046_2A_1, WAL03046_2A_2	LTE AWS	800372991_2130MHz _02DT	16	2	Bottom	Comm 7/8_2100	68			2012		
	PORT 8		WAL03046_2A_1, WAL03046_2A_2	LTE AWS	800372991_2130MHz _02DT	16	2	Bottom	Comm 7/8_2100	68			2012		
	PORT 9	WAL03046_9A_1	WAL03046_9A_1	LTE 1900	800372991_1930MHz _02DT	16	2	Bottom	Comm 7/8_1900	68			1422		
	PORT 10	WAL03046_9A_1	WAL03046_9A_1	LTE 1900	800372991_1930MHz _02DT	16	2	Bottom	Comm 7/8_1900	68			1422		
	PORT 11	 WAL03046_9A_1	WAL03046_9A_1	LTE 1900	800372991_1930MHz _02DT	16	2	Bottom	Comm 7/8_1900	68			1422		
	PORT 12	WAL03046_9A_1	WAL03046_9A_1	LTE 1900	800372991_1930MHz _02DT	16	2	Bottom	Comm 7/8_1900	68			1422		
	PORT 1	WATAU3046X, WAWN003046_N005 A_1	WATAU3046X, WAWN003046_N005 A_1	UMTS 850,5G 850	800372991_850MHz_ 025DT	15	2.5	Bottom	Comm 7/8_850	68			791		
	PORT 2	WATAU3046X, WAWN003046_N005 A_1	WATAU3046X, WAWN003046_N005 A_1	UMTS 850,5G 850	800372991_850MHz_ 025DT	15	2.5	Bottom	Comm 7/8_850	68			791		
	PORT 3	WAWN003046_N005 A_1	WAWN003046_N005 A_1	5G 850	800372991_850MHz_ 025DT	15	2.5	Bottom	Comm 7/8_850	68			306		
ANTENNA POSITION 6	PORT 4	WAWN003046_N005 A_1	WAWN003046_N005 A_1	5G 850	800372991_850MHz_ 025DT	15	2.5	Bottom	Comm 7/8_850	68			306		
	PORT 5	WAL03046_3A_1	WAL03046_3A_1	LTE WCS	800372991_2355MHz _02DT	15	2	Bottom	Comm 7/8_2300	68			40		
	PORT 6	WAL03046_3A_1	WAL03046_3A_1	LTE WCS	800372991_2355MHz _02DT	15	2	Bottom	Comm 7/8_2300	68			40		
	PORT 7	WAL03046_3A_1	WAL03046_3A_1	LTE WCS	800372991_2355MHz _02DT	15	2	Bottom	Comm 7/8_2300	68			40		
	PORT 8	WAL03046_3A_1	WAL03046_3A_1	LTE WCS	800372991_2355MHz _02DT	15	2	Bottom	Comm 7/8_2300	68			40		

						Sec	tion 15B - (	CURRENT	TOWER	R CONFI	IGURA	TION - S	ECTOR B										
ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTEN (unless otherwise specified)	INA	ANTENNA PO	OSITION 1	A	ITENNA POSITION 2		AN	TENNA POSITION 3	i		ANTENNA P	OSITION 4		ANTENNA	POSITION 5		AN	ITENNA POSITIO	ON 6		ANTENN	A POSITION 7	
ANTENNA MAKE													80037299	1		80	0372991						
ANTENNA													Kathrein				threin						
ANTENNA SIZE (H													77.9X14.9	9X6.5		77.	.9X14.9X6.5						
													200			20							
MAGNETIC DECL													200			201	0						
RADIATION CENT													64			56							
ANTENNA TIF	P HEIGHT												67.25			59.	.25						
MECHANICAL DO													0			0							
FEEDER													4			4							
VERTICAL SEPARATION from ANTENN	A ABOVE IP to TIP)																						
VERTICAL SEPARATION from ANTENNA																							
HORIZONTAL SEPARATION from C ANTENNA to LEFT (CENTERLINE to CENT	CLOSEST																						
HORIZONTAL SEPARATION from C ANTENNA to RIGHT (CENTERLINE to CENT																							
HORIZONTAL SEPARATION from A ANTENNA (which antenna # / # c	NOTHER																						
AN LENNA (Which antenna # / # c																						+	
SURGE ARRESTOR (QTY																							
DIPLEXER (QTY													2		782 11458	2		782 10	788V01				
DUPLEXER (QTY	(MODEL)																						
Antenna RET CONTROL UNIT (QTY	(MODEL)																						
DC BLOCK (QTY																							
TMA/LNA (QTY													2		78211273V02	2		TMA21	117F00V1-1				
CURRENT INJECTORS FOR TMA (QTY																							
PDU FOR TMAS (QTY FILTER (QTY																						+	
FILTER (QTY SQUID (QTY																						-	
FIBER TRUNK (QTY																							
DC TRUNK (QTY																							
REPEATER (QTY	(MODEL)																						
RRH - 700 band (QTY	(MODEL)												1		AIRSCALE TRI B12/14/29 370V								
RRH - 850 band (QTY																1		AirScal 160W /	le RRH 4T4R E AHCA	85			
RRH - 1900 band (QTY													1		B25 RRH4X30-								
RRH - AWS band (QTY													1		B66A RRH4X45	5-4R							
RRH - WCS band (QTY Additional RRH #1 - any band (QTY																1		RRH4x	25-WCS-4R				
Additional RRH #2 - any band (QTY							1																
RRH 7B 1 (QTY																							
RRH 7B 2 (QTY	(MODEL)																						
RRH 7B 3 (QTY	(MODEL)																						
Additional Component 1 (QTY													1		2nd FIBER for 7	00 RRH 1		2nd FIE	BER for 5G RR	н		_	
Additional Component 2 (QTY													1		2nd FIBER for F	PCS RRH 1			BER for AWS F	RH			]
Additional Component 3 (QTY Local Mark		. TILTS: L7(12) , I	L7_PS(12) , L2(03) , L2	1(03), L9(04), U8(08	), N005(08), WCS(03	) ERP: L7(141	2), L7 PS(1412), L2	(961), L2 1(961), L9	9(1422), U8(496	i), N005(314), V	VCS(872)					2		DBC01	135F3V92-1				
Local Mark	et Note 2 ANTENNA PO											3b+18e+18f)											
Local Mark	at Nata 2		46_7B_1) , L7_PS(WAL										B_1)										
PORT SPECIFIC FIELDS PORT NUM	IBER USEID (	CSSng)	USEID (Atoli)	ATOLL TXID	ATOLL CELL ID	TX/RX TEO	CHNOLOGY/FREQ UENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	Integrated/No	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLAT E POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
				WAL03046_7B_1, WAL03046_7B_2_F	WAL03046_7B_1, WAL03046_7B_2_F	LTE		00372991_725MHz_ 15DT	13		11.5	ne) Bottom	Comm 7/8_700	68						2824			
ANTENNA POSITION 5				WAL03046_7B_2_F	WAL03046_7B_2_F WAL03046_7B_1,			00372991_725MHz_							1								[
	PORT 2		,	WAL03046_7B_2_F	WAL03046_7B_2_F		1	15DT	13		11.5	Bottom	Comm 7/8_700	68						2824			<b>⊢</b> '
	PORT 3		,	WAL03046_7B_1,	WAL03046_7B_1,	LTE	700 8	00372991_725MHz_	13		11.5	Bottom	Comm 7/8_700	68						2824			

		,	WAL03046_7B_2_F	WAL03046_7B_2_F		115DT									
	PORT 4	,	WAL03046_7B_1,	WAL03046_7B_1, WAL03046_7B_2_F	LTE 700	800372991_725MHz_ 115DT	13	11.5	Bottom	Comm 7/8_700	68		2824		
	PORT 5	,	WAL03046_2B_1	WAL03046_2B_1, WAL03046_2B_2	LTE AWS	800372991_2130MHz _03DT	15	3	Bottom	Comm 7/8_2100	68		1922		
	PORT 6	,	WAL03046_2B_1	WAL03046_2B_1, WAL03046_2B_2	LTE AWS	800372991_2130MHz _03DT	15	3	Bottom	Comm 7/8_2100	68		1922		
	PORT 7	,	WAL03046_2B_1	WAL03046_2B_1, WAL03046_2B_2	LTE AWS	800372991_2130MHz _03DT	15	3	Bottom	Comm 7/8_2100	68		 1922		
	PORT 8	,	WAL03046_2B_1	WAL03046_2B_1, WAL03046_2B_2	LTE AWS	800372991_2130MHz _03DT	15	3	Bottom	Comm 7/8_2100	68		1922		
	PORT 9	,	WAL03046_9B_1	WAL03046_9B_1	LTE 1900	800372991_1930MHz _04DT	16	4	Bottom	Comm 7/8_1900	68		1422		
	PORT 10	,	WAL03046_9B_1	WAL03046_9B_1	LTE 1900	800372991_1930MHz _04DT	16	4	Bottom	Comm 7/8_1900	68		1422		
	PORT 11	 ,	WAL03046_9B_1	WAL03046_9B_1	LTE 1900	800372991_1930MHz _04DT	16	4	Bottom	Comm 7/8_1900	68		1422		
	PORT 12	,	WAL03046_9B_1	WAL03046_9B_1	LTE 1900	800372991_1930MHz _04DT	16	4	Bottom	Comm 7/8_1900	68		 1422		
	PORT 1		WATAU3046Y, WAWN003046_N005 B_1	WATAU3046Y, WAWN003046_N005 B_1	UMTS 850,5G 850	800372991_850MHz_ 08DT	15	8	Bottom	Comm 7/8_850	68		810		
	PORT 2			WATAU3046Y, WAWN003046_N005 B_1	UMTS 850,5G 850	800372991_850MHz_ 08DT	15	8	Bottom	Comm 7/8_850	68		810		
	PORT 3	,	WAWN003046_N005 B_1	WAWN003046_N005 B_1	5G 850	800372991_850MHz_ 08DT	15	8	Bottom	Comm 7/8_850	68		314		
ANTENNA POSITION 6	PORT 4	,	WAWN003046_N005 B_1	WAWN003046_N005 B_1	5G 850	800372991_850MHz_ 08DT	15	8	Bottom	Comm 7/8_850	68		314		
	PORT 5	,	WAL03046_3B_1	WAL03046_3B_1	LTE WCS	800372991_2355MHz _03DT	15	3	Bottom	Comm 7/8_2300	68		872		
	PORT 6	,	WAL03046_3B_1	WAL03046_3B_1	LTE WCS	800372991_2355MHz _03DT	15	3	Bottom	Comm 7/8_2300	68		872		
	PORT 7	,	WAL03046_3B_1	WAL03046_3B_1	LIE WGS	800372991_2355MHz _03DT	15	3	Bottom	Comm 7/8_2300	68		872		
	PORT 8	,	WAL03046_3B_1	WAL03046_3B_1	LTE WCS	800372991_2355MHz _03DT	15	3	Bottom	Comm 7/8_2300	68		872		

						Sect	tion 15C -	CURREN	T TOWE		IGURA	TION - S	ECTOR	)									
ANTENNA POSITI LEFT to RIGHT from BACK (unless otherwise sp	OF ANTENNA	ANTENNA F	POSITION 1	AN	TENNA POSITION	2		ANTENNA POSITION	13		ANTENNA P	OSITION 4		ANTENNA	POSITION 5		ANTE	NNA POSITI	ON 6		ANTENN	A POSITION 7	
	NNA MAKE - MODEL						1						800372	991		8	00372991						
	ANTENNA VENDOR												Kathreir	n		к	athrein						
ANTEN	INA SIZE (H x W x D)												77.9X14	4.9X6.5		7	7.9X14.9X6.5						
	ANTENNA WEIGHT												75			7	5						
	AZIMUTH												285			2	85						
MAGN	NETIC DECLINATION																						
RADIA	TION CENTER (feet)												64			5	6						
AN	NTENNA TIP HEIGHT												67.25			5	9.25						
MECH	HANICAL DOWNTILT												0			0							
	FEEDER AMOUNT												4			4							
VERTICAL SEPARATION from	m ANTENNA ABOVE (TIP to TIP)																						
VERTICAL SEPARATION from																							
HORIZONTAL SEPARAT ANTENNA to LEFT (CENTERLI	INE to CENTERLINE)																						
HORIZONTAL SEPARAT ANTENNA to RIGHT (CENTERLI																							
HORIZONTAL SEPARAT ANTENNA (which ant	TION from ANOTHER																						
	Motor (QTY/MODEL)	i i								1												+	
	STOR (QTY/MODEL)									1						+						+	
	EXER (QTY/MODEL)												2		782 11458	2		782 10	0788V01			+	
	EXER (QTY/MODEL)														102 11400	-		702 10				+	
Antenna RET CONTROL																							
	LOCK (QTY/MODEL)																						
	A/LNA (QTY/MODEL)												2		78211273V02	2		TMA21	117F00V1-1			1	
CURRENT INJECTORS FOR	R TMA (QTY/MODEL)																						
PDU FOR	TMAS (QTY/MODEL)																						
FI	ILTER (QTY/MODEL)																						
s	SQUID (QTY/MODEL)																						
FIBER T	RUNK (QTY/MODEL)																						
DC T	RUNK (QTY/MODEL)																						
REPE	ATER (QTY/MODEL)																						
RRH - 700	) band (QTY/MODEL)												1		AIRSCALE TRI RE B12/14/29 370W A							<u> </u>	
RRH - 850	band (QTY/MODEL)															1		AirSca 160W	le RRH 4T4R B AHCA	5			
RRH - 1900	band (QTY/MODEL)												1		B25 RRH4X30-4R								
RRH - AWS	band (QTY/MODEL)												1		B66A RRH4X45-4	ł							
RRH - WCS	band (QTY/MODEL)															1		RRH4>	x25-WCS-4R				
Additional RRH #1 - any																		_				<u> </u>	
Additional RRH #2 - any																						<u> </u>	
	H 7B 1 (QTY/MODEL)																					<u> </u>	
	H 7B 2 (QTY/MODEL)																					+	
	H 7B 3 (QTY/MODEL)														-			_		_		+	
Additional Compor													1		2nd FIBER for 700				BER for 5G RR			+	
Additional Compor													1		2nd FIBER for PC	KKH 1			BER for AWS R 135F3V92-1	IKH		+	
	Local Market Note 1	ELECTRICAL TILTS: L7(05)	, L7_PS(05) , L2(02) , L2	2_1(02) , L9(02) , U8(06)	, N005(06) , WCS(0	02) ERP: L7(1333	3), L7_PS(1333),	L2(1006), L2_1(1006	i) , L9(1422) , U8(4	196) , N005(314)	, WCS(151)					2		DBC01	135F3V92-1	ļ			
	Local Market Note 2																						
	Local Market Note 3	SECTOR NAME: L7(WAL03)	046_7C_1), L7_PS(WAL	L03046_7C_2_F), L2(W	AL03046_2C_1), L	2_1(WAL03046_2	2C_2) , L9(WAL03	046_9C_1), U8(WAT	AU3046Z) , N005(	WAWN003046_	N005C_1), W	CS(WAL03046_3	3C_1)										
																_							
PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoli)	ATOLL TXID	ATOLL CELL ID	TX/RX TEC	HNOLOGY/FREQ UENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAI TILT	RRH LOCATION L (Top/Bottom/ Integrated/No	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	RIPLEXER		CPA/MCPA MODULE?	HATCHPLAT E POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
	DODT 1				WAL03046_7C_1,	1.77	700	800372991_725MH	<sup>2</sup> - 12		5	ne)	Comm 7/9 700	69						2666			
ANTENNA POSITION 5	PORT 1			WAL03046_7C_2_F	WAL03046_7C_2_	r i i i i i i i i i i i i i i i i i i i	700	05DT 800372991_725MH	,		-	Bottom	Comm 7/8_700	00	+		+						
	PORT 2			WAL03046_7C_2_F	WAL03046_7C_2_	-	700	05DT	15		5	Bottom	Comm 7/8_700	68	+		+			2666			
	PORT 3			WAL03046_7C_1,	WAL03046_7C_1,	LTE	700	800372991_725MH	z_ 13		5	Bottom	Comm 7/8_700	68						2666			L

		WAL03046_7C_2_F	WAL03046_7C_2_F		05DT		1								I	
	PORT 4	WAL03046_7C_1, WAL03046_7C_2_F	WAL03046_7C_1, WAL03046_7C_2_F	LTE 700	800372991_725MHz_ 05DT	13		5	Bottom	Comm 7/8_700	68			2666		
	PORT 5	WAL03046_2C_1	WAL03046_2C_1, WAL03046_2C_2	LTE AWS	800372991_2130MHz _02DT	16		2	Bottom	Comm 7/8_2100	68			2012		
	PORT 6	WAL03046_2C_1	WAL03046_2C_1, WAL03046_2C_2	LTE AWS	800372991_2130MHz _02DT	16		2	Bottom	Comm 7/8_2100	68			2012		
	PORT 7	WAL03046_2C_1	WAL03046_2C_1, WAL03046_2C_2	LTE AWS	800372991_2130MHz _02DT	16		2	Bottom	Comm 7/8_2100	68			2012		
	PORT 8	WAL03046_2C_1	WAL03046_2C_1, WAL03046_2C_2	LTE AWS	800372991_2130MHz _02DT	16		2	Bottom	Comm 7/8_2100	68			2012		
	PORT 9	WAL03046_9C_1	WAL03046_9C_1	LTE 1900	800372991_1930MHz _02DT	16		2	Bottom	Comm 7/8_1900	68			1422		
	PORT 10	WAL03046_9C_1	WAL03046_9C_1	LTE 1900	800372991_1930MHz _02DT	16		2	Bottom	Comm 7/8_1900	68			1422		
	PORT 11	WAL03046_9C_1	WAL03046_9C_1	LTE 1900	800372991_1930MHz _02DT	16		2	Bottom	Comm 7/8_1900	68			1422		
	PORT 12	 WAL03046_9C_1	WAL03046_9C_1	LTE 1900	800372991_1930MHz _02DT	16		2	Bottom	Comm 7/8_1900	68			1422		
	PORT 1	WATAU3046Z, WAWN003046_N005 C_1	WATAU3046Z, WAWN003046_N005 C_1	UMTS 850,5G 850	800372991_850MHz_ 06DT	15		6	Bottom	Comm 7/8_850	68			810		
	PORT 2	WATAU3046Z, WAWN003046_N005 C_1	WATAU3046Z, WAWN003046_N005 C_1	UMTS 850,5G 850	800372991_850MHz_ 06DT	15		6	Bottom	Comm 7/8_850	68			810		
	PORT 3	WAWN003046_N005 C_1	WAWN003046_N005 C_1	5G 850	800372991_850MHz_ 06DT	15		6	Bottom	Comm 7/8_850	68			314		
ANTENNA POSITION 6	PORT 4	WAWN003046_N005 C_1	WAWN003046_N005 C_1	5G 850	800372991_850MHz_ 06DT	15		6	Bottom	Comm 7/8_850	68			314		
	PORT 5	WAL03046_3C_1	WAL03046_3C_1	LTE WCS	800372991_2355MHz _02DT	15		2	Bottom	Comm 7/8_2300	68			151		
	PORT 6	WAL03046_3C_1	WAL03046_3C_1	LTE WCS	800372991_2355MHz _02DT	15		2	Bottom	Comm 7/8_2300	68			151		
	PORT 7	WAL03046_3C_1	WAL03046_3C_1	LTE WCS	800372991_2355MHz _02DT	15		2	Bottom	Comm 7/8_2300	68			151		
	PORT 8	WAL03046_3C_1	WAL03046_3C_1	LTE WCS	800372991_2355MHz _02DT	15		2	Bottom	Comm 7/8_2300	68			151		

					Section 2	16A - I	PLANNED/F	ROPOSE	D TOWE	R CONF	IGURA	TION - SE	CTOR A	(OR OM	NI)								
ANTENNA POS LEFT to RIGHT from BAG (unless otherwise	CK OF ANTENNA	ANTENNA P	POSITION 1	AN	ITENNA POSITION 2	2	A	ITENNA POSITION	N 3		ANTENNA P	POSITION 4		ANTENNA	POSITION 5		AN	ITENNA POSITI	ION 6		ANTENN	A POSITION 7	
	Existing Antenna?																						
ANT	TENNA MAKE - MODEL									AEQK+AEQU S	STACKED											-	
	ANTENNA VENDOR									Nokia													
ANT	FENNA SIZE (H x W x D)																						
	ANTENNA WEIGHT																						
	AZIMUTH									80													
MA	AGNETIC DECLINATION																						
	DIATION CENTER (feet)									79													
	ANTENNA TIP HEIGHT																						
	ECHANICAL DOWNTILT																						
	FEEDER AMOUNT																						
VERTICAL SEPARATION F																							
	(TIP to TIP)																						
VERTICAL SEPARATION f	from ANTENNA BELOW (TIP to TIP)																						
HORIZONTAL SEPAR	RATION from CLOSEST RLINE to CENTERLINE)																						
HORIZONTAL SEPAR	RATION from CLOSEST RLINE to CENTERLINE)						_																
	RATION from ANOTHER antenna # / # of inches)																						
	antenna # / # of inches) ET Motor (QTY/MODEL)						-															+	
													-							-		+	
	RESTOR (QTY/MODEL)			-																		+	
				-									-										
	JPLEXER (QTY/MODEL)			-									-										
	ROL UNIT (QTY/MODEL)												-							_			
	C BLOCK (QTY/MODEL)			-									_							_			
	TMA/LNA (QTY/MODEL)												_							_		+	
CURRENT INJECTORS F				-									_							_		+	
	OR TMAS (QTY/MODEL)			-																_		+	
	FILTER (QTY/MODEL)			-																_			
	SQUID (QTY/MODEL)			-						1		DC9-48-60-24-8C-EV								_			
	R TRUNK (QTY/MODEL)									1										_			
	C TRUNK (QTY/MODEL)									2										_			
	EPEATER (QTY/MODEL)												_							_		+	
	700 band (QTY/MODEL)			_									_							_			
	850 band (QTY/MODEL)			-									_							_			
	900 band (QTY/MODEL)																			_			
	WS band (QTY/MODEL)			-																_			
RRH - W	CS band (QTY/MODEL)																			_			
Additional RRH #1 - a	any band (QTY/MODEL)									1	i I	integrated within: AirS MAA 64T64R 192AE 200W AEQK	ale 77										
				1								integrated within: AirS	ale									1	
Additional RRH #2 - a	any band (QTY/MODEL)									1		MAA 64T64R 192AE 200W AEQU	77										
R	RRH 7B 1 (QTY/MODEL)																						
R	RRH 7B 2 (QTY/MODEL)																						
R	RRH 7B 3 (QTY/MODEL)																						
Additional Com	ponent 1 (QTY/MODEL)																						
Additional Com	ponent 2 (QTY/MODEL)																						
Additional Com	ponent 3 (QTY/MODEL)																						
	Local Market Note 1																						
	Local Market Note 2																						
	Local Market Note 3																						
												RRH LOCATION		FEEDER			TRIPLEXER		HATCHPLAT				CABLE
PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQ UENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICA TILT	L (Top/Bottom/ Integrated/No	FEEDERS TYPE	LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	orlic	SCPA/MCPA MODULE?	E POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	ID (CSSNG)
												ne)											
ANTENNA POSITION 4	PORT 1						IG CBAND					+ $+$											$\vdash$
Althening Pool for 4	PORT 2						6G CBAND																

PORT 3			5G DoD								
PORT 4			5G DoD								

					Sec	ction	16B - PLANN	ED/PRO	POSED T	OWER	CONFI	GURATIO	N - SEC	TOR B									
ANTENNA POS LEFT to RIGHT from BA (unless otherwise	ACK OF ANTENNA	ANTENNA P	POSITION 1	AN	ITENNA POSITION 2		AN	ENNA POSITIO	N 3		ANTENNA P	OSITION 4		ANTENNA	POSITION 5		AN	ITENNA POS	ITION 6		ANTENNA	A POSITION 7	
	Existing Antenna?																						
AN	NTENNA MAKE - MODEL									AEQK+AEQU	STACKED												
	ANTENNA VENDOR									Nokia													
ANT	ITENNA SIZE (H x W x D)																						
	ANTENNA WEIGHT																						
	AZIMUTH									200													
	AGNETIC DECLINATION									200													
	ADIATION CENTER (feet)									70													
	ADIATION CENTER (feet)									79													
	IECHANICAL DOWNTILT																			_			
M																							
	FEEDER AMOUNT																			_			
VERTICAL SEPARATION	from ANTENNA ABOVE (TIP to TIP)																						
VERTICAL SEPARATION																							
VERTICAL SEPARATION	(TIP to TIP)																						
HORIZONTAL SEPA	ARATION from CLOSEST																						
	ARATION from CLOSEST																						
ANTENNA to RIGHT (CENTE	ERLINE to CENTERLINE)																						
	RATION from ANOTHER antenna # / # of inches)																						
	RET Motor (QTY/MODEL)																						
	RRESTOR (QTY/MODEL)																						
	DIPLEXER (QTY/MODEL)																						
	UPLEXER (QTY/MODEL)																						
	ROL UNIT (QTY/MODEL)																						
	C BLOCK (QTY/MODEL)																						
	TMA/LNA (QTY/MODEL)																						
CURRENT INJECTORS										1													
	OR TMAS (QTY/MODEL)																						
	FILTER (QTY/MODEL)																						
	SQUID (QTY/MODEL)																						
EIRE	ER TRUNK (QTY/MODEL)																						
	C TRUNK (QTY/MODEL)																						
	EPEATER (QTY/MODEL)																						
	700 band (QTY/MODEL)																						
	850 band (QTY/MODEL)																						
	1900 band (QTY/MODEL)																						
	AWS band (QTY/MODEL)																			-			
	WCS band (QTY/MODEL)																						
	(QTIMODEL)											integrated within: Air	Scale										
Additional RRH #1 -	any band (QTY/MODEL)									1		MAA 64T64R 192AE 200W AEQK	n77										
												integrated within: Air	Scale									1	
Additional RRH #2 -	any band (QTY/MODEL)									1		MAA 64T64R 192AE	n77										
												200W AEQU										+	
	RRH 7B 1 (QTY/MODEL)			-						1												+	
	RRH 7B 2 (QTY/MODEL)			-																		+	
	RRH 7B 3 (QTY/MODEL)			-						1												+	
	nponent 1 (QTY/MODEL) nponent 2 (QTY/MODEL)																						
	nponent 2 (QTY/MODEL) nponent 3 (QTY/MODEL)			+																		+	
Additional Com				1	1		1			I												1	
	Local Market Note 1																						
	Local Market Note 2																						
	Local Market Note 3																						
												RRH											
PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX	TECHNOLOGY/FREQ	ANTENNA	ANTENNA	ELECTRICAL		LOCATION L (Top/Bottom/	FEEDERS	FEEDER LENGTH		TRIPLEXER		SCPA/MCP		ERP	Antenna	CABLE	CABLE ID
TORT OF LOIFIC FIELDS	FORTROWDER	USEID (USBIIIg)	USEID (ALUII)	ATOLE THD	ATOLE CELL ID	?	UENCY	ATOLL	GAIN	AZIMUTH	TILT	Integrated/No	TYPE	(feet)	MODULE?	or LLC (QTY)	(MODEL)	MODULE?	(Watts)	(Watts)	RET Name	NUMBER	(CSSNG)
												ne)											
ANTENNA POSITION 4	PORT 1						5G CBAND					+		_									
ARTENNA POSITION 4	PORT 2						5G CBAND																

PORT 3			5G DoD								
PORT 4			5G DoD								

					Sec	ction	16C - PLANN	ED/PRO	POSED T	OWER	CONFI	GURATIO	N - SECT	FOR C									
ANTENNA POS LEFT to RIGHT from BA (unless otherwise	ACK OF ANTENNA	ANTENNA P	POSITION 1	AN	ITENNA POSITION 2		AN	ENNA POSITION	N 3		ANTENNA P	OSITION 4		ANTENNA	POSITION 5		AN	NTENNA PO	SITION 6		ANTENN	A POSITION 7	
(	Existing Antenna?																						
AN	ITENNA MAKE - MODEL									AEQK+AEQU	STACKED												
	ANTENNA VENDOR									Nokia													
ANT	TENNA SIZE (H x W x D)									HOND			_										
ANT																				-			
	ANTENNA WEIGHT																			_			
	AZIMUTH									285										_			
	AGNETIC DECLINATION																						
	DIATION CENTER (feet)									79													
	ANTENNA TIP HEIGHT																			_			
ME	ECHANICAL DOWNTILT																			_			
	FEEDER AMOUNT																						
VERTICAL SEPARATION																							
	(TIP to TIP)																			_			
VERTICAL SEPARATION f	from ANTENNA BELOW (TIP to TIP)																						
	RATION from CLOSEST																					-	-
ANTENNA to LEFT (CENTE																							
HORIZONTAL SEPAR	RATION from CLOSEST																					-	
ANTENNA to RIGHT (CENTE	RLINE to CENTERLINE)																			_			
	RATION from ANOTHER																						
	antenna # / # of inches)																			_			
	RET Motor (QTY/MODEL)																					+	
	RRESTOR (QTY/MODEL)																			_			
D	DIPLEXER (QTY/MODEL)																						
DU	UPLEXER (QTY/MODEL)																						
Antenna RET CONTR	ROL UNIT (QTY/MODEL)																						
DC	C BLOCK (QTY/MODEL)																						
1	TMA/LNA (QTY/MODEL)																						
CURRENT INJECTORS F	FOR TMA (QTY/MODEL)																						
PDU FC	OR TMAS (QTY/MODEL)																						
	FILTER (QTY/MODEL)																						
	SQUID (QTY/MODEL)																						
FIRE	R TRUNK (QTY/MODEL)																					-	
	C TRUNK (QTY/MODEL)																					-	
	EPEATER (QTY/MODEL)																						
	700 band (QTY/MODEL)																						
																				-		+	
	850 band (QTY/MODEL)			-																			
	900 band (QTY/MODEL)																						
	WS band (QTY/MODEL)																						
RRH - W	VCS band (QTY/MODEL)																			_		+	
Additional RRH #1 - a	any band (QTY/MODEL)									1	1	integrated within: Air MAA 64T64R 192AE 200W AEQK	Scale n77										
				1						1		integrated within: Air	Scale									+	
Additional RRH #2 - a	any band (QTY/MODEL)									1		MAA 64T64R 192AE 200W AEQU	n77										
,	RRH 7B 1 (QTY/MODEL)							1		1			İ		l			1		1		1	
	RRH 7B 2 (QTY/MODEL)									İ					İ			1		1		1	
	RRH 7B 3 (QTY/MODEL)									1										1		1	
	nponent 1 (QTY/MODEL)									1												1	
	nponent 2 (QTY/MODEL)									1												+	-
	nponent 3 (QTY/MODEL)			1						1												+	
Additional Com		I		1	1		1	I		1			1		1								
	Local Market Note 1																						
	Local Market Note 2																						
	Local Market Note 3																						
																						·	
												RRH											
PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX	TECHNOLOGY/FREQ	ANTENNA	ANTENNA	ELECTRICAL	ELECTRICA	LOCATION L (Top/Bottom/	FEEDERS	FEEDER LENGTH		TRIPLEXER		SCPA/MC		ERP	Antenna	CABLE	CABLE
						?	UENCY	ATOLL	GAIN	AZIMUTH	TILT	Integrated/No	TYPE	(feet)	MODULE?	or LLC (QTY)	) (MODEL)	MODULE	E? (Watts)	(Watts)	RET Name	NUMBER	(CSSNG)
												ne)											
ANTENNA POSITION 4	PORT 1						5G CBAND		_					_	1		-						
San Ellin Y Comort 4	PORT 2						5G CBAND																

PORT 3			5G DoD								
PORT 4			5G DoD								

				S	Section	17A - FINAL 1	OWER	CONFI	GURATI	ON - S	ECTOR A	(OR C	OMNI)										
ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA PO	OSITION 1	ANTEN	INA POSITION 2		ANTENNA	POSITION 3			ANTENNA PO	DSITION 4		ANT	ENNA P	OSITION 5		AN	TENNA POSIT	10N 6		ANTENN	A POSITION	,
ANTENNA MAKE - MO	DEL								AEQK+AEQU S	TACKED		8003	372991			80	0372991						
ANTENNA VEN	DOR								Nokia				hrein				threin						
ANTENNA SIZE (H x W	x D)								59X17.7X9.5			77.9	9X14.9X6.5			77	9X14.9X6.5						
ANTENNA WE	IGHT								198.4			75				75							
AZIM	итн								80			80				80							
MAGNETIC DECLINA	TION																						
RADIATION CENTER (	(feet)								79			64				56							
ANTENNA TIP HEI	IGHT								80.25			67.2	25			59	25						
MECHANICAL DOWN	ITILT											0				0							
FEEDER AMO									4			4				4							
VERTICAL SEPARATION from ANTENNA AB																							
(TIP to VERTICAL SEPARATION from ANTENNA BE	LOW								24														
(TIP to																							
HORIZONTAL SEPARATION from CLOS ANTENNA to LEFT (CENTERLINE to CENTERL HORIZONTAL SEPARATION from CLOS	INE)																						
ANTENNA to RIGHT (CENTERLINE to CENTERL	INE)						т —															<b>—</b>	
HORIZONTAL SEPARATION from ANOT ANTENNA (which antenna # / # of inc																							
Antenna RET Motor (QTY/MO																							
SURGE ARRESTOR (QTY/MO																							
DIPLEXER (QTY/MO												2		1	782 11458	2		782 1	1458				
DUPLEXER (QTY/MO																-							
Antenna RET CONTROL UNIT (QTY/MO																							
DC BLOCK (QTY/MO																							
TMA/LNA (QTY/MO												2			78211273V02	2		TMA	2117F00V1-1				
CURRENT INJECTORS FOR TMA (QTY/MO																							
PDU FOR TMAS (QTY/MO																							
FILTER (QTY/MO																							
SQUID (QTY/MO									1	r	)C9-48-60-24-8C-E\	,											
FIBER TRUNK (QTY/MO									1		000 40 00 24 00 21												
DC TRUNK (QTY/MO									2														
REPEATER (QTY/MO																							
														4	AIRSCALE TRI RI	RH 4T4R							
RRH - 700 band (QTY/MO												1		E	312/14/29 370W /	HLBBA		AirSc	ale RRH 4T4R E	15			
RRH - 850 band (QTY/MO																1			AHCA				
RRH - 1900 band (QTY/MO												1			325 RRH4X30-4F								
RRH - AWS band (QTY/MO RRH - WCS band (QTY/MO												1			500A KKH4X45-4	۲. ۱		DDL.	1x25-WCS-4R				
Kitt - Wes baild (et third)											ntegrated within: Air	Scale						TAX P	123-1100-411				
Additional RRH #1 - any band (QTY/MO	DEL)								1	N	AA 64T64R 192AE												
Additional RRH #2 - any band (QTY/MO	DEL)								1	N	ntegrated within: Air MAA 64T64R 192AE 200W AEQU												
RRH 7B 1 (QTY/MO	DEL		1																				
RRH 7B 2 (QTY/MO														-									
RRH 7B 3 (QTY/MO																						1	
Additional Component 1 (QTY/MO			1																				
Additional Component 2 (QTY/MO																							
Additional Component 3 (QTY/MO																							
Local Market N	ote 1 ELECTRICAL TILTS: N077(00 ERP: N077(34276), N077_1(3																						
Local Market N								1(11a+11b+11e	+11f) , N066(11a	+11b+11e+11	lf) , L9(11i+11j+11k+	-11I) , N002(	(11i+11j+11k+11	I), N005(	12c+12d+12g+12	h), WCS(12a	+12b+12e+12f)						
Local Market N	ote 3 SECTOR NAME: N077(WAWN	N003046_N077A_1), N07	7_1(WAWN003046_N07	7A_2) , L7(WAL030	146_7A_1), L7	_PS(WAL03046_7A_2_F),	L7_D(WAL030	46_7A_3_E), L	2(WAL03046_2A	(_1) , L2_1(W	AL03046_2A_2) , N	066(WAWNC	003046_N066A_	1), L9(W	AL03046_9A_1)	N002(WAW	1003046_N002A	_1) , N005(WA	WN003046_N00	5A_1), WCS(W	AL03046_3A_1)		
PORT SPECIFIC FIELDS PORT NUMBER	USEID (CSSng)	USEID (Atoli)	ATOLL TXID	ATOLL CELL ID	TX/RX TECH		TENNA	ANTENNA GAIN	ELECTRICAL	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/No ne)	FEEDEI	ERS LEN	EDER NGTH eet)	RXAIT KIT MODULE?	TRIPLEXER r LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLAT E POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 4 POR	T 1 75042.A.CBAND.5G.1	W/ A_	AWN003046_N077 WA _1 A_1	WN003046_N077	5G C	BAND		24	c	0	Integrated FI	BER	0							9999			

	PORT 2	75042.A.CBAND.5G.1	WAWN003046_N077 A_1	WAWN003046_N077 A_1		5G CBAND		24	0	Integrated	FIBER	0			9999		
	PORT 3	75042.A.CBAND.5G.2	WAWN003046_N077 A 2	WAWN003046_N077 A 2		5G DoD		24	0	Integrated	FIBER	0			9999		
	PORT 4	75042.A.CBAND.5G.2	WAWN003046_N077 A_2	WAWN003046_N077 A_2	-	5G DoD		24	0	Integrated	FIBER	0			9999		
	PORT 1	75042.A.700.4G.1, 75042.A.700.4G.3, 75042.A.700.4G.4	VVAL03046_7A_1,	WAL03046_7A_1, WAL03046_7A_2_F, WAL03046_7A_3_E			800372991_725MHz_ 025DT	13	 2.5	Bottom	Comm 7/8_700	68			4284		
	PORT 2	75042.A.700.4G.1, 75042.A.700.4G.3, 75042.A.700.4G.4	VVAL03046_7A_1,	WAL03046_7A_1, WAL03046_7A_2_F, WAL03046_7A_3_E			800372991_725MHz_ 025DT	13	2.5	Bottom	Comm 7/8_700	68			4284		
	PORT 3	75042.A.700.4G.1, 75042.A.700.4G.3		WAL03046_7A_1, WAL03046_7A_2_F	I		800372991_725MHz_ 025DT	13	2.5	Bottom	Comm 7/8_700	68			2856		
	PORT 4	75042.A.700.4G.1, 75042.A.700.4G.3		WAL03046_7A_1, WAL03046_7A_2_F	I		800372991_725MHz_ 025DT	13	2.5	Bottom	Comm 7/8_700	68			2856		
	PORT 5	75042.A.AWS.4G.1, 75042.A.AWS.4G.2, 75042.A.AWS.5G.1	WAL03046_2A_1, WAWN003046_N066	WAL03046_2A_1, WAL03046_2A_2, WAWN003046_N066 A_1		LTE AWS,5G AWS	800372991_2130MHz _02DT	16	2	Bottom	Comm 7/8_2100	68			2012		
	PORT 6	75042.A.AWS.4G.1, 75042.A.AWS.4G.2, 75042.A.AWS.5G.1	WAL03046_2A_1, WAWN003046_N066 A_1	WAL03046_2A_1, WAL03046_2A_2, WAWN003046_N066 A_1		LTE AWS,5G AWS	800372991_2130MHz _02DT	16	2	Bottom	Comm 7/8_2100	68			2012		
ANTENNA POSITION 5	PORT 7	75042.A.AWS.4G.1, 75042.A.AWS.4G.2, 75042.A.AWS.5G.1	WAL03040_2A_1,	WAL03046_2A_1, WAL03046_2A_2, WAWN003046_N066 A_1		LTE AWS,5G AWS	800372991_2130MHz _02DT	16	2	Bottom	Comm 7/8_2100	68			2012		
	PORT 8	75042.A.AWS.4G.1, 75042.A.AWS.4G.2, 75042.A.AWS.5G.1	WAL03046_2A_1, WAWN003046_N066 A_1	WAL03046_2A_1, WAL03046_2A_2, WAWN003046_N066 A_1		LTE AWS,5G AWS	800372991_2130MHz _02DT	16	2	Bottom	Comm 7/8_2100	68			2012		
	PORT 9	75042.A.1900.4G.1, 75042.A.1900.5G.1	WAL03046_9A_1, WAWN003046_N002 A_1	WAL03046_9A_1, WAWN003046_N002 A_1	1	LTE 1900,5G 1900	800372991_1930MHz _02DT	16	2	Bottom	Comm 7/8_1900	68			1455		
	PORT 10	75042.A.1900.4G.1, 75042.A.1900.5G.1	WAL03046_9A_1, WAWN003046_N002 A_1	WAL03046_9A_1, WAWN003046_N002 A_1		LTE 1900,5G 1900	800372991_1930MHz _02DT	16	2	Bottom	Comm 7/8_1900	68			1455		
	PORT 11	75042.A.1900.4G.1, 75042.A.1900.5G.1	WAL03046_9A_1, WAWN003046_N002 A_1	WAL03046_9A_1, WAWN003046_N002 A_1		LTE 1900,5G 1900	800372991_1930MHz _02DT	16	2	Bottom	Comm 7/8_1900	68			1455		
	PORT 12	75042.A.1900.4G.1, 75042.A.1900.5G.1	WAL03046_9A_1, WAWN003046_N002 A_1	WAL03046_9A_1, WAWN003046_N002 A_1	1	LTE 1900,5G 1900	800372991_1930MHz _02DT	16	2	Bottom	Comm 7/8_1900	68			1455		
	PORT 1	75042.A.850.5G.1	WAWN003046_N005	WAWN003046_N005			800372991_850MHz_ 025DT	15	2.5	Bottom	Comm 7/8_850	68			970		
	PORT 2	75042.A.850.5G.1				EC 850	800372991_850MHz_ 025DT	15	2.5	Bottom	Comm 7/8_850	68			970		
	PORT 3	75042.A.850.5G.1	WAWN003046_N005 A_1	WAWN003046_N005 A_1			800372991_850MHz_ 025DT	15	2.5	Bottom	Comm 7/8_850	68			970		
ANTENNA POSITION 6	PORT 4	75042.A.850.5G.1	WAWN003046_N005 A_1	WAWN003046_N005 A_1			800372991_850MHz_ 025DT	15	2.5	Bottom	Comm 7/8_850	68			970		
ANTENNA POSITION 6	PORT 5	75042.A.WCS.4G.1	WAL03046_3A_1	WAL03046_3A_1	1	LTE WCS	800372991_2355MHz _02DT	15	2	Bottom	Comm 7/8_2300	68			 872		
	PORT 6	75042.A.WCS.4G.1	WAL03046_3A_1	WAL03046_3A_1	1	LTE WCS	800372991_2355MHz _02DT	15	2	Bottom	Comm 7/8_2300	68			872		
	PORT 7	75042.A.WCS.4G.1	WAL03046_3A_1	WAL03046_3A_1	1	LIEWCS	800372991_2355MHz _02DT	15	 2	Bottom	Comm 7/8_2300	68			 872		
	PORT 8	75042.A.WCS.4G.1	WAL03046_3A_1	WAL03046_3A_1		LTE WCS	800372991_2355MHz _02DT	15	2	Bottom	Comm 7/8_2300	68			872		

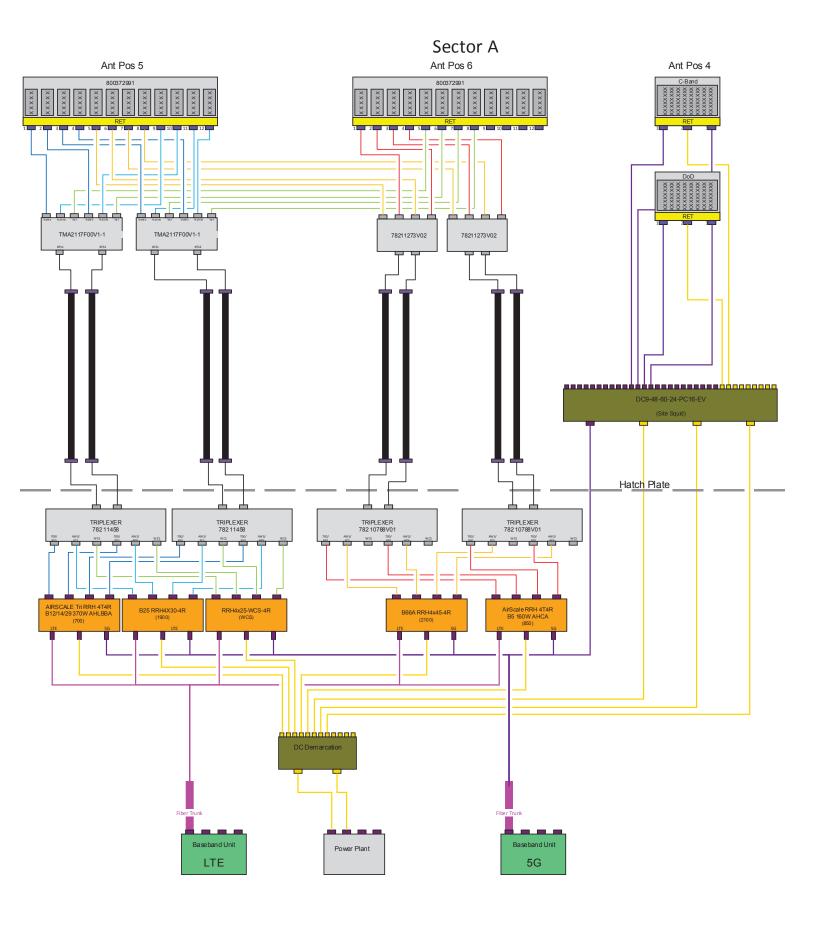
PORT SPECIFIC FIELDS PORT NUMBER USEID (CSSng) USEID (Atoli) ATOLL TXID ATOLL CELL ID JARX IECHNOLOGYPREC ANIENNA ALIENNA ALIENNA ALIENNA ELECTRICAL ELECT							S	ection 17B -	-INAL T	OWER	CONFIG	JRATI	ON - SECT	FOR B	3										
H <td< th=""><th>LEFT to RIGHT from BACK OF A</th><th>NTENNA</th><th>ANTENNA I</th><th>POSITION 1</th><th>AN</th><th>TENNA POSITION 2</th><th></th><th>ANTEN</th><th>NA POSITION</th><th>3</th><th></th><th>ANTENNA P</th><th>OSITION 4</th><th></th><th>ANTE</th><th>INA POS</th><th>SITION 5</th><th></th><th>AN</th><th>TENNA POSIT</th><th>10N 6</th><th></th><th>ANTENN</th><th>A POSITION</th><th>7</th></td<>	LEFT to RIGHT from BACK OF A	NTENNA	ANTENNA I	POSITION 1	AN	TENNA POSITION 2		ANTEN	NA POSITION	3		ANTENNA P	OSITION 4		ANTE	INA POS	SITION 5		AN	TENNA POSIT	10N 6		ANTENN	A POSITION	7
Image: Problem     Image: Problem     Image: Problem     Problem <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>AEQK+AEQU S</th> <th>TACKED</th> <th></th> <th>800</th> <th>0372991</th> <th></th> <th></th> <th>800</th> <th>372991</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>											AEQK+AEQU S	TACKED		800	0372991			800	372991						
	ANTE	NNA VENDOR									Nokia			Kath	hrein			Kath	rein						
Main Main	ANTENNA SI	IZE (H x W x D)									59X17.7X9.5			77.9	9X14.9X6.5			77.9	X14.9X6.5						
	ANTE	ENNA WEIGHT									198.4			75				75							
additional <th></th> <th>AZIMUTH</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>200</th> <th></th> <th></th> <th>200</th> <th>)</th> <th></th> <th></th> <th>200</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>		AZIMUTH									200			200	)			200							
Mathema in a sect of the sect o	MAGNETIC	DECLINATION																							
Horize to the set of t	RADIATION	CENTER (feet)									79			64				56							
	ANTENN	NA TIP HEIGHT									80.25			67.2	25			59.2	5						
Image: state	MECHANIC	AL DOWNTILT												0				0							
	FEE	DER AMOUNT									4			4				4							
Image: market in the section of th	VERTICAL SEPARATION from ANT										24														
Autom     Autom    <		(TIP to TIP)									24														
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Add water spressed in the spr	ANTENNA to RIGHT (CENTERLINE to	CENTERLINE)																							
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HE THOME WINDER       Image: Book CHANGE CONTROL       Image: Bo																									
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APPEAR DUPNOCL       Image: Dip Normal Dup Norm																								_	
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MBR       M	REPEATER	(QTY/MODEL)							_																
Additional References       Impaired Handbook       <	RRH - 700 band	I (QTY/MODEL)												1											
BR     ARE NOT SUNCE 1     Image: Sector 1     Image: Sect																		1				15			
BBI-VE DE DEFENDED     Image: Description of the set of the s														1										_	
Additional RBH 1 - any band (QTINDOR)       Image: marked bit is the indexinal marked bit is the inde	RRH - AWS band	I (QTY/MODEL)												1		B6	6A RRH4X45-4R								
Additional RRN F1 - any band (07140004)       Image: Control C	RRH - WCS band	I (QTY/MODEL)																1		RRH4	x25-WCS-4R			_	
Additional RRN E my tandi (QTVMODEL)       Image: Control Contect Contenter Control Control Control Control Control	Additional RRH #1 - any band	I (QTY/MODEL)									1		MAA 64T64R 192AE	Scale n77											
Additional RH RL - wy band (QTYNODE)       Image: Contro RH R - wy band (QTYNODE)       Image								1			1			Scale										+	
RRH 72 (317/MODE)       Image: Control of the control of	Additional RRH #2 - any band	I (QTY/MODEL)									1		MAA 64T64R 192AE	n77											
RNH 78 3 QTVMODEL       C	RRH 7B 1	(QTY/MODEL)																							
Additional Component 1 (GTV/MODEL)       Image: Component 1 (GTV/MODEL) <th>RRH 7B 2</th> <th>QTY/MODEL)</th> <th></th>	RRH 7B 2	QTY/MODEL)																							
Additional Component 2 (QTY/MODEL)       Image: Component 3 (QTY/MODEL) <th>RRH 7B 3</th> <th>(QTY/MODEL)</th> <th></th>	RRH 7B 3	(QTY/MODEL)																							
Additional Component 3 (QTY/MODEL)         Image: Component 3 (QTY/MODEL)         Ima	Additional Component 1	(QTY/MODEL)																							
Local Market Note 1 ERP: N077(00), N077_1(00), L7(12), L7_PS(12), L7_D(12), L2_1(03), N066(02), L9_1(04), N002(03), N005(08), WCS(03) ERP: N077_1(32/276), L7(1412), L7_D(1412), L7_D(17e+17d+17f+17h), L7_D(17e+17d+17f+17h), L2_1(17a+17b+17e+17h), L2_1(17a+17b+17e+17h), L2_1(17a+17b+17e+17h), L2_1(17a+17b+17e+17h), L2_1(17a+17b+17e+17h), L2_1(17a+17b+17e+17h), L9(17i+17h+17h+17h), N002(17h+17h+17h+17h), N002(17h+17h+	Additional Component 2	(QTY/MODEL)																							
EPP: N077 (14276), N077_1(14276), L7(1412), L7_P(1412), L7_	Additional Component 3	(QTY/MODEL)																							
Local Market Note2       ANTENNA PORTS: NOT7(166+16b), NOT_1(166+16b),	Local																								
PORT SPECIFIC FIELDS         PORT NUMBER         USEID (CSSng)         USEID (Atol)         ATOLL TXID         ATOLL CELLID         TXPRX ?         TECHNOLOGY/FREQ UENCY         ANTENNA ATOLL         ANTENNA GAIN         ANTENNA GAIN         ELECTRICAL TLT         RTH (Top/Bottom) reightod/freq (reightod/freq)         REAL KIT (Top/Bottom) reightod/freq (reightod/freq)         RXAIT KIT (rop/Bottom) reightod/freq (reightod/freq)         RAITCHILL         RAI	Local	Market Note 2								2_1(17a+17b+17	e+17f) , N066(17a	+17b+17e+1	7f) , L9(17i+17j+17k	+17I) , N002	2(17i+17j+17k+17l) ,	N005(18	3c+18d+18g+18h) , V	VCS(18a+	18b+18e+18f)						
PORT SPECIFIC FIELDS PORT NUMBER USEID (CSSng) USEID (Atom) ATOL TXID ATOL TXID ATOL TXID TXI T T T T T T T T T T T T T T T T T T	Local	I Market Note 3	SECTOR NAME: N077(WAV	VN003046_N077B_1), N0	77_1(WAWN003046_I	1077B_2) , L7(WAL03	3046_7B_1), L	.7_PS(WAL03046_7B_2_	), L7_D(WAL0	3046_7B_3_E),	L2(WAL03046_28	3_1) , L2_1(W	/AL03046_2B_2) , N	066(WAWN	1003046_N066B_1)	, L9(WAL	L03046_9B_1), N00	2(WAWN	003046_N002B	_1) , N005(WA	WN003046_N00	5B_1), WCS(W	AL03046_3B_1)		
PORT SPECIFIC FIELDS PORT NUMBER USEID (CSSng) USEID (Atom) ATOL TXID ATOL TXID ATOL CELL D 7X X ? TECHNOLOGY/FREQ UENCY ATOL ATOL 20 ATTENNA																									
PORT SPECIFIC FIELDS PORT NUMBER USEID (CSSng) USEID (Atoli) ATOLL TXID ATOLL TXID ATOLL CELL D I TXIRX I ECHNOLOGY/REQ UENCY ATOLL CELL D I TXIRX I ECHNOLOGY/REQ UENCY ATOLL CELL CITY I (Top/Bottom/ ATOLL CELL D I TXIRX I ECHNOLOGY/REQ ATIENNA ATOLL CELL D I TXIRX I ECHNOLOGY/REQ ATIENNA ATOLL CELL D I TXIRX I (Top/Bottom/ ATOLL CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLE ATOLI CELL D I TXIRX I ECHNOLOGY/REQ ATOLI C																									
	PORT SPECIFIC FIELDS PORT	NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX TEC						LOCATION L (Top/Bottom/		ERS LENG	тн			or LLC		E POWER				CABLE ID (CSSNG)
ANTENNA POSITION 4 PORT 1 75042.B. CBAND.5.G.1 B4.10003046_N077 B4.0 GCBAND 5G.1 B4.10003046_N077 5G CBAND 24 0 Integrated FIBER 0 9999																									
	ANTENNA POSITION 4	PORT 1 7	5042.B.CBAND.5G.1	W B	VAWN003046_N077	WAWN003046_N077 B_1	5G	CBAND		24		0	Integrated F	IBER	0							9999			

	PORT 2	75042.B.CBAND.5G.1	WAWN003046_N077 B_1	WAWN003046_N077 B_1		5G CBAND		24	0	Integrated	FIBER	0			9999		
	PORT 3	75042.B.CBAND.5G.2	WAWN003046_N077 B 2	WAWN003046_N077 B 2		5G DoD		24	0	Integrated	FIBER	0			9999		
	PORT 4	75042.B.CBAND.5G.2	WAWN003046_N077 B_2	WAWN003046_N077 B_2	-	5G DoD		24	0	Integrated	FIBER	0			9999		
	PORT 1	75042.B.700.4G.1, 75042.B.700.4G.3, 75042.B.700.4G.4	VVAL03046_7B_1,	WAL03046_7B_1, WAL03046_7B_2_F, WAL03046_7B_3_E		LTE 700	800372991_725MHz_ 115DT	13	11.5	Bottom	Comm 7/8_700	68			4236		
	PORT 2	75042.B.700.4G.1, 75042.B.700.4G.3, 75042.B.700.4G.4	WAL03040_7B_1,	WAL03046_7B_1, WAL03046_7B_2_F, WAL03046_7B_3_E		LTE 700	800372991_725MHz_ 115DT	13	11.5	Bottom	Comm 7/8_700	68			4236		
	PORT 3	75042.B.700.4G.1, 75042.B.700.4G.3		WAL03046_7B_1, WAL03046_7B_2_F	I	LTE 700	800372991_725MHz_ 115DT	13	11.5	Bottom	Comm 7/8_700	68			2824		
	PORT 4	75042.B.700.4G.1, 75042.B.700.4G.3		WAL03046_7B_1, WAL03046_7B_2_F		LTE 700	800372991_725MHz_ 115DT	13	11.5	Bottom	Comm 7/8_700	68			2824		
	PORT 5	75042.B.AWS.4G.1, 75042.B.AWS.4G.2, 75042.B.AWS.5G.1	WAL03046_2B_1,	WAL03046_2B_1, WAL03046_2B_2, WAWN003046_N066 B_1	1	LTE AWS,5G AWS	800372991_2130MHz _02DT	16	2	Bottom	Comm 7/8_2100	68			1922		
	PORT 6	75042.B.AWS.4G.1, 75042.B.AWS.4G.2, 75042.B.AWS.5G.1		WAL03046_2B_1, WAL03046_2B_2, WAWN003046_N066 B_1		LTE AWS,5G AWS	800372991_2130MHz _02DT	16	2	Bottom	Comm 7/8_2100	68			1922		
ANTENNA POSITION 5	PORT 7	75042.B.AWS.4G.1, 75042.B.AWS.4G.2, 75042.B.AWS.5G.1	WAL03040_2B_1,	WAL03046_2B_1, WAL03046_2B_2, WAWN003046_N066 B_1		LTE AWS,5G AWS	800372991_2130MHz _02DT	16	2	Bottom	Comm 7/8_2100	68			1922		
	PORT 8	75042.B.AWS.4G.1, 75042.B.AWS.4G.2, 75042.B.AWS.5G.1	VVAL03046_2B_1,	WAL03046_2B_1, WAL03046_2B_2, WAWN003046_N066 B_1		LTE AWS,5G AWS	800372991_2130MHz _02DT	16	2	Bottom	Comm 7/8_2100	68			1922		
	PORT 9	75042.B.1900.4G.1, 75042.B.1900.5G.1	WAL03046_9B_1, WAWN003046_N002 B_1	WAL03046_9B_1, WAWN003046_N002 B_1	1	LTE 1900,5G 1900	800372991_1930MHz _03DT	16	3	Bottom	Comm 7/8_1900	68			1455		
	PORT 10	75042.B.1900.4G.1, 75042.B.1900.5G.1	WAL03046_9B_1, WAWN003046_N002 B_1	WAL03046_9B_1, WAWN003046_N002 B_1	1	LTE 1900,5G 1900	800372991_1930MHz _03DT	16	3	Bottom	Comm 7/8_1900	68			1455		
	PORT 11	75042.B.1900.4G.1, 75042.B.1900.5G.1	WAL03046_9B_1, WAWN003046_N002 B_1	WAL03046_9B_1, WAWN003046_N002 B_1		LTE 1900,5G 1900	800372991_1930MHz _03DT	16	3	Bottom	Comm 7/8_1900	68			1455		
	PORT 12	75042.B.1900.4G.1, 75042.B.1900.5G.1	WAL03046_9B_1, WAWN003046_N002 B_1	WAL03046_9B_1, WAWN003046_N002 B_1	1	LTE 1900,5G 1900	800372991_1930MHz _03DT	16	3	Bottom	Comm 7/8_1900	68			1455		
	PORT 1	75042.B.850.5G.1	WAWN003046_N005	WAWN003046_N005	:		800372991_850MHz_ 08DT	15	8	Bottom	Comm 7/8_850	68			993		
	PORT 2	75042.B.850.5G.1	WAWN003046_N005 B_1	WAWN003046_N005 B_1	-		800372991_850MHz_ 08DT	15	8	Bottom	Comm 7/8_850	68			993		
	PORT 3	75042.B.850.5G.1	WAWN003046_N005 B_1	WAWN003046_N005 B_1	-		800372991_850MHz_ 08DT	15	8	Bottom	Comm 7/8_850	68			993		
ANTENNA POSITION 6	PORT 4	75042.B.850.5G.1	WAWN003046_N005 B_1	WAWN003046_N005 B_1			800372991_850MHz_ 08DT	15	8	Bottom	Comm 7/8_850	68			993		
ANTENNA POSITION 6	PORT 5	75042.B.WCS.4G.1	WAL03046_3B_1	WAL03046_3B_1	1	LTE WCS	800372991_2355MHz _03DT	15	3	Bottom	Comm 7/8_2300	68			 872		
	PORT 6	75042.B.WCS.4G.1	WAL03046_3B_1	WAL03046_3B_1		LIE WCS	800372991_2355MHz _03DT	15	3	Bottom	Comm 7/8_2300	68			872		
	PORT 7	75042.B.WCS.4G.1	WAL03046_3B_1	WAL03046_3B_1	1	LIEWCS	800372991_2355MHz _03DT	15	 3	Bottom	Comm 7/8_2300	68			 872		
	PORT 8	75042.B.WCS.4G.1	WAL03046_3B_1	WAL03046_3B_1		LTE WCS	800372991_2355MHz _03DT	15	3	Bottom	Comm 7/8_2300	68			872		

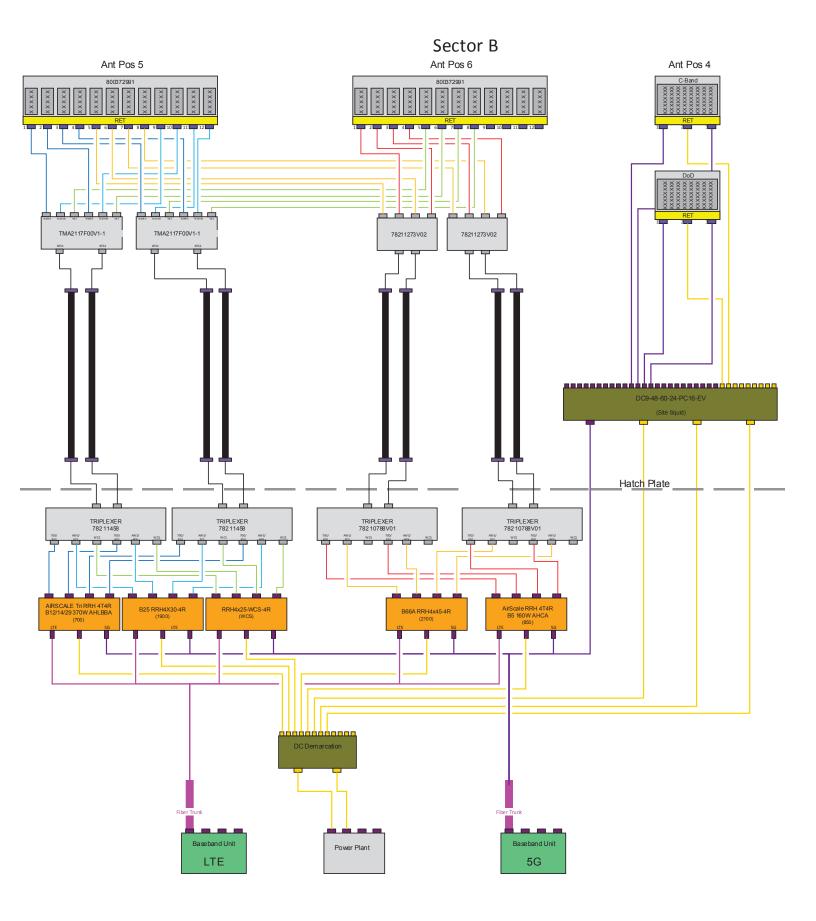
						Sec	tion 17C - Fl	INAL TC	WER C	ONFIGU	JRATI	ON - SECTO	R C										
ANTENNA POSIT LEFT to RIGHT from BACH (unless otherwise s	K OF ANTENNA	ANTENNA F	POSITION 1	ANTE	ENNA POSITION 2		ANTENNA	A POSITION 3			ANTENNA P	DSITION 4		ANTENNA	POSITION 5		AN	ITENNA POSIT	TON 6		ANTENN	A POSITION 7	
	ENNA MAKE - MODE	L								AEQK+AEQU S	TACKED		800372991			80	0372991						
	ANTENNA VENDO	R								Nokia			Kathrein			Ka	threin						
ANTEI	ENNA SIZE (H x W x D	<mark>))</mark>								59X17.7X9.5			77.9X14.9X6.5	5		77	9X14.9X6.5						
	ANTENNA WEIGH	т								198.4			75			75							
	AZIMUT	H								285			285			28	5						
MAG	GNETIC DECLINATIO	N																					
RADI	IATION CENTER (fee	t)								79			64			56							
A	ANTENNA TIP HEIGH	T								80.25			67.25			59	.25						
MEC	CHANICAL DOWNTIL	T											0			0							
	FEEDER AMOUN									4			4			4							
VERTICAL SEPARATION fro	om ANTENNA ABOV (TIP to TIF	E								24													
VERTICAL SEPARATION fro										24													
HORIZONTAL SEPARA	ATION from CLOSES	т																					
HORIZONTAL SEPARA ANTENNA to RIGHT (CENTERL	ATION from CLOSES	т																					
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ANTENNA (which an			ļ										_										
	T Motor (QTY/MODEL																						
	ESTOR (QTY/MODEL	·																		_		-	
	PLEXER (QTY/MODEL												2		782 11458	2		782 1	1458			-	
	PLEXER (QTY/MODEL																					_	
Antenna RET CONTRO													-									-	
	BLOCK (QTY/MODEL	1											-			-							
CURRENT INJECTORS FO	MA/LNA (QTY/MODEL												2		78211273V02	2		IMA	2117F00V1-1			-	
	R TMAS (QTY/MODEL																						
	FILTER (QTY/MODEL																					-	
	SQUID (QTY/MODEL																						
	TRUNK (QTY/MODEL																						
	TRUNK (QTY/MODEL																						
	PEATER (QTY/MODEL																						
															AIRSCALE TRI RE	H 4T4R							
RRH - 70	00 band (QTY/MODEL	-)											1		B12/14/29 370W A								
	50 band (QTY/MODEL	J														1			ale RRH 4T4R E / AHCA	15			
	00 band (QTY/MODEL												1		B25 RRH4X30-4R							_	
	S band (QTY/MODEL												1		B66A RRH4X45-4	२							
RRH - WC	S band (QTY/MODEL	-)											_			1		RRH	4x25-WCS-4R				
Additional RRH #1 - an	ny band (QTY/MODEL	.)								1		ntegrated within: AirSca MAA 64T64R 192AE n7 200W AEQK	e 7										
Additional RRH #2 - an	ny band (QTY/MODEL	.)								1		ntegrated within: AirScal	e 7										
	RH 7B 1 (QTY/MODEL							-				00W AEQU										-	
	RH 7B 1 (QTY/MODEL RH 7B 2 (QTY/MODEL																						
	RH 7B 2 (QTY/MODEL							1							1							1	
	onent 1 (QTY/MODEL							1															
	onent 2 (QTY/MODEL							1															
	onent 3 (QTY/MODEL							1															
		ELECTRICAL TILTS: N077(0									1				•								
	Local Market Note	ERP: N077(34276), N077_1 ANTENNA PORTS: N077(4a							(5a+5b+5e+5f)	, L9(5i+5j+5k+5l)	), N002(5i+5j	+5k+5I), N005(6c+6d+6	g+6h), WCS(6a+6	3b+6e+6f)									
	Local Market Note	3 SECTOR NAME: N077(WAV													(WAL03046_9C_1)	, N002(WAW	N003046_N002	C_1) , N005(W	AWN003046_N0	05C_1), WCS(	WAL03046_3C_1	)	
												RRH											
PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID			NTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAI TILT	Integrated/No	FEEDERS TYPE	FEEDER LENGTH (feet)		RIPLEXER r LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLAT E POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 4	PORT 1	75042.C.CBAND.5G.1		WAWN003046_N077 W	/AWN003046_N077	5G CBA	ND		24		0	ne) Integrated FIBE	۹ ا	0						9999			
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	PORT 2	75042.C.CBAND.5G.1	WAWN003046_N077 C_1	WAWN003046_N077 C_1	:	5G CBAND		24	0	Integrated	FIBER	0			9999		
	PORT 3	75042.C.CBAND.5G.2	WAWN003046_N077 C 2	WAWN003046_N077 C 2		5G DoD		24	0	Integrated	FIBER	0			9999		
	PORT 4	75042.C.CBAND.5G.2	WAWN003046_N077 C_2			5G DoD		24	0	Integrated	FIBER	0			9999		
	PORT 1	75042.C.700.4G.1, 75042.C.700.4G.3, 75042.C.700.4G.4	WAL03046_7C_1,	WAL03046_7C_1, WAL03046_7C_2_F, WAL03046_7C_3_E		LTE 700	800372991_725MHz_ 05DT	13	5	Bottom	Comm 7/8_700	68			3999		
	PORT 2	75042.C.700.4G.1, 75042.C.700.4G.3, 75042.C.700.4G.4	WAL03040_7C_1,	WAL03046_7C_1, WAL03046_7C_2_F, WAL03046_7C_3_E		LTE 700	800372991_725MHz_ 05DT	13	5	Bottom	Comm 7/8_700	68			3999		
	PORT 3	75042.C.700.4G.1, 75042.C.700.4G.3		WAL03046_7C_1, WAL03046_7C_2_F	I	LTE 700	800372991_725MHz_ 05DT	13	5	Bottom	Comm 7/8_700	68			2666		
	PORT 4	75042.C.700.4G.1, 75042.C.700.4G.3		WAL03046_7C_1, WAL03046_7C_2_F		LTE 700	800372991_725MHz_ 05DT	13	5	Bottom	Comm 7/8_700	68			2666		
	PORT 5	75042.C.AWS.4G.1, 75042.C.AWS.4G.2, 75042.C.AWS.5G.1	WAL03046_2C_1, WAWN003046_N066 C_1	WAL03046_2C_1, WAL03046_2C_2, WAWN003046_N066 C_1	1	LTE AWS,5G AWS	800372991_2130MHz _02DT	16	2	Bottom	Comm 7/8_2100	68			2012		
	PORT 6	75042.C.AWS.4G.1, 75042.C.AWS.4G.2, 75042.C.AWS.5G.1	WAL03046_2C_1, WAWN003046_N066 C_1	WAL03046_2C_1, WAL03046_2C_2, WAWN003046_N066 C_1		LTE AWS,5G AWS	800372991_2130MHz _02DT	16	2	Bottom	Comm 7/8_2100	68			2012		
ANTENNA POSITION 5	PORT 7	75042.C.AWS.4G.1, 75042.C.AWS.4G.2, 75042.C.AWS.5G.1		WAL03046_2C_1, WAL03046_2C_2, WAWN003046_N066 C_1		LTE AWS,5G AWS	800372991_2130MHz _02DT	16	2	Bottom	Comm 7/8_2100	68			2012		
	PORT 8	75042.C.AWS.4G.1, 75042.C.AWS.4G.2, 75042.C.AWS.5G.1	WAL03046_2C_1, WAWN003046_N066 C_1	WAL03046_2C_1, WAL03046_2C_2, WAWN003046_N066 C_1		LTE AWS,5G AWS	800372991_2130MHz _02DT	16	2	Bottom	Comm 7/8_2100	68			2012		
	PORT 9	75042.C.1900.4G.1, 75042.C.1900.5G.1	WAL03046_9C_1, WAWN003046_N002 C_1	WAL03046_9C_1, WAWN003046_N002 C_1	1	LTE 1900,5G 1900	800372991_1930MHz _02DT	16	2	Bottom	Comm 7/8_1900	68			1455		
	PORT 10	75042.C.1900.4G.1, 75042.C.1900.5G.1	WAL03046_9C_1, WAWN003046_N002 C_1	WAL03046_9C_1, WAWN003046_N002 C_1	1	LTE 1900,5G 1900	800372991_1930MHz _02DT	16	2	Bottom	Comm 7/8_1900	68			1455		
	PORT 11	75042.C.1900.4G.1, 75042.C.1900.5G.1	WAL03046_9C_1, WAWN003046_N002 C_1	WAL03046_9C_1, WAWN003046_N002 C_1	1	LTE 1900,5G 1900	800372991_1930MHz _02DT	16	2	Bottom	Comm 7/8_1900	68			1455		
	PORT 12	75042.C.1900.4G.1, 75042.C.1900.5G.1	WAL03046_9C_1, WAWN003046_N002 C_1	WAL03046_9C_1, WAWN003046_N002 C_1		LTE 1900,5G 1900	800372991_1930MHz _02DT	16	2	Bottom	Comm 7/8_1900	68			1455		
	PORT 1	75042.C.850.5G.1	WAWN003046_N005	WAWN003046_N005	:		800372991_850MHz_ 06DT	15	 6	Bottom	Comm 7/8_850	68			993		
	PORT 2	75042.C.850.5G.1	WAWN003046_N005	WAWN003046_N005 C 1	:	56 850	800372991_850MHz_ 06DT	15	6	Bottom	Comm 7/8_850	68			993		
	PORT 3	75042.C.850.5G.1	WAWN003046_N005 C 1	WAWN003046_N005 C 1	1		800372991_850MHz_ 06DT	15	6	Bottom	Comm 7/8_850	68			993		
	PORT 4	75042.C.850.5G.1	WAWN003046_N005 C_1	WAWN003046_N005 C_1	1		800372991_850MHz_ 06DT	15	6	Bottom	Comm 7/8_850	68			993	_	
ANTENNA POSITION 6	PORT 5	75042.C.WCS.4G.1	WAL03046_3C_1	WAL03046_3C_1	1	LTE WCS	800372991_2355MHz _02DT	15	2	Bottom	Comm 7/8_2300	68			872		
	PORT 6	75042.C.WCS.4G.1	WAL03046_3C_1	WAL03046_3C_1	1	LTE WCS	800372991_2355MHz _02DT	15	2	Bottom	Comm 7/8_2300	68			872		
	PORT 7	75042.C.WCS.4G.1	WAL03046_3C_1	WAL03046_3C_1	1	LIEWCS	800372991_2355MHz _02DT	15	 2	Bottom	Comm 7/8_2300	68			872		
	PORT 8	75042.C.WCS.4G.1	WAL03046_3C_1	WAL03046_3C_1		LTE WCS	800372991_2355MHz _02DT	15	2	Bottom	Comm 7/8_2300	68			872		

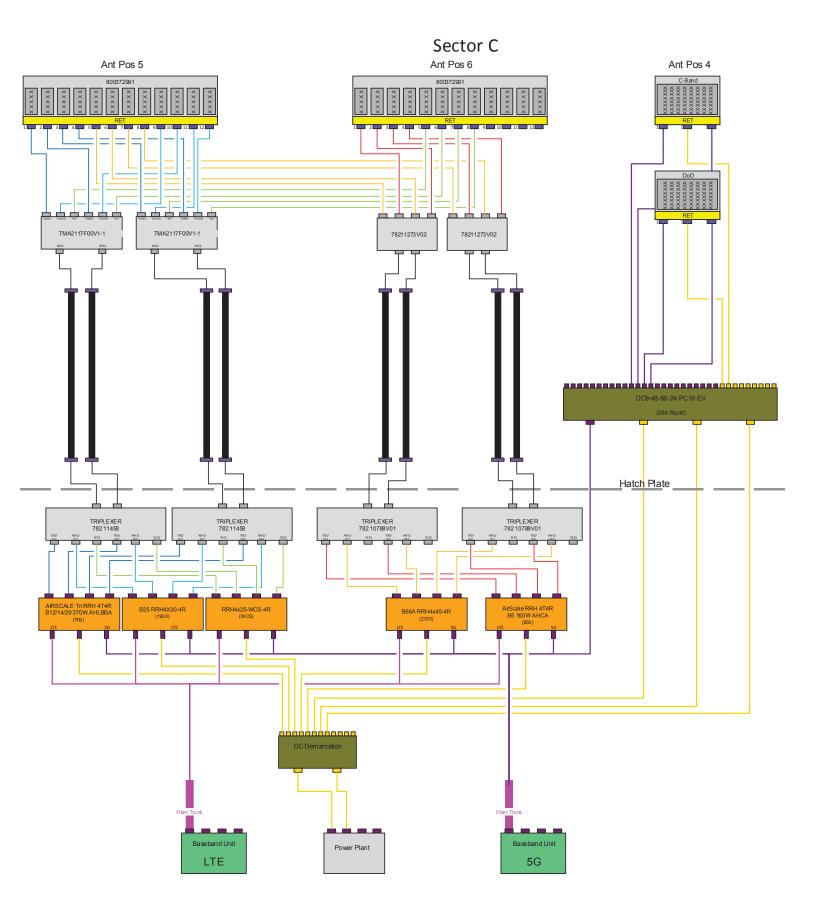












			WC	ORKFLOW	SUMMARY	(	
Date	FROM State / Status	FROM ATTUID	TO State / Status	TO ATTUID	Operation	Comments	PACE Status
09/14/2021	Preliminary In Progress	jx615k	Preliminary Submitted for Approval	ml738x	Promote	C-Band RFDS	WRRWOR-21-05275 PENDING 09/14/2021 7:23:22 PM WRRWOR-21-05271 PENDING 09/14/2021 7:23:22 PM WRRWOR-21-05274 PENDING 09/14/2021 7:23:22 PM WRRWOR-21-05273 PENDING 09/14/2021 7:23:22 PM WRRWOR-21-05272 PENDING 09/14/2021 7:23:22 PM
11/03/2021	Preliminary Submitted for Approval	ml738x	Preliminary Approved	CD846V	Promote		
11/15/2021	Preliminary Approved	CD846V	Final RF Approval	JX615K	Promote		
11/18/2021	Final RF Approval	JX615K	Final Approved	CD846V	Promote	C-Band RFDS	WRRWOR-21-05275 MRWOR060367 SUCCESS 11/18/2021 9:30:08 PM WRRWOR-21-05271 PENDING 11/18/2021 9:30:08 PM WRRWOR-21-05274 MRWOR060363 SUCCESS 11/18/2021 9:30:08 PM WRRWOR-21-05273 PENDING 11/18/2021 9:30:08 PM WRRWOR-21-05272 PENDING 11/18/2021 9:30:08 PM
04/13/2022	Final Approved	CD846V	Final Approved	SR749X	Reassign		
05/19/2022	Final Approved	SR749X	Final Approved	RP2134	Reassign	Successfully Reassigned	
05/19/2022	Final Approved	RP2134	As Built In Progress	SR749X	Promote		WRRWOR-21-05275 PENDING 05/19/2022 3:36:04 PM WRRWOR-21-05271 PENDING 05/19/2022 3:36:04 PM WRRWOR-21-05274 MRWOR060363 SUCCESS 05/19/2022 3:36:04 PM WRRWOR-21-05273 MRWOR060311 SUCCESS 05/19/2022 3:36:04 PM WRRWOR-21-05272 MRWOR060361 SUCCESS 05/19/2022 3:36:04 PM

APPENDIX F MODIFICATION DRAWINGS



# ORBIT **SITE USID: 75042-A** SITE FA: 10038029

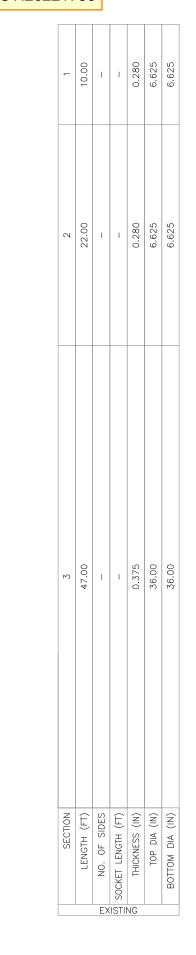
**3310 SOUTH MERIDIAN PUYALLUP, WA 98373** 

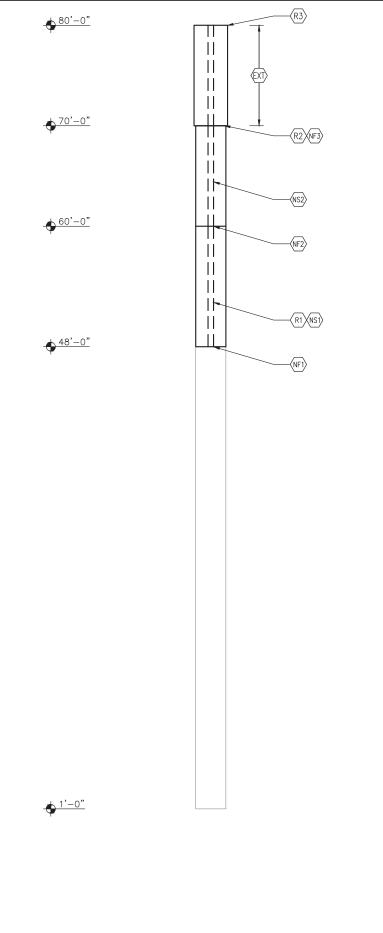
SITE LOCATION **PROJECT CONTACTS PROJECT DATA** LIST OF DRAWINGS TOWER HEIGHT: 70' MONOPOLE W/ 10' EXTENSION MHC PROJECT ENGINEER TITLE NO. TOWER MAPPING: TOWER ENGINEERING PROFESSIONALS, INC. Senior Engineer Yan Wang T1 COVER SHEE ANALYSIS REPORT: MH PROJECT NO. 2200078: MAS-532R2 (954) 577-4655 S1 TOWER ELEV DATED: 09/12/2022 ywang@morrisonhershfield.com S2 NEW CANISTE S3 NEW CANISTE S4 Alex Crotty Project Manager SECTIONS & CODE COMPLIANCE (770) 379-8500 S5 SECTIONS & acrotty@morrisonhershfield.com N1 REINFORCING THIS MODIFICATION DESIGN HAS BEEN PERFORMED IN ACCORDANCE WITH THE FOLLOWING CRITERIA PROJECT CLIENT CONTACT DESIGN STANDARD: 2018 INTERNATIONAL BUILDING CODE SITE 2018 INTERNATIONAL BUILDING CODE ANSI/TIA-222-H, STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS AND SMALL WIND TURBINE SUPPORT STRUCTURES ASCE 7-16 MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES AISC 325-15, MANUAL OF STEEL CONSTRUCTION ACI 318-14, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE Anthony Clark Sr. Operations Director (678) 526-3214 35th Ave Si 00 ANSI/AWS D1.1-11, STRUCTURAL WELDING CODE - STEEL DIRECTIONS WIND DESIGN: SEATTLE-TACOMA INTERNATIONAL AIRPORT: 97 MPH (ULTIMATE 3-SEC GUST) WITH NO RADIAL ICE WIND SPEED: FOLLOW WA-518 E TO I-405 N IN TUKWILA. HEAD SOUTHEAST ON WA-518 E RISK CATEGORY CONTINUE STRAIGHT TO STAY ON WA-518 E. TAKE WA-167 S TO WA-161 EXPOSURE CATEGORY: S/31ST AVE SW S IN PUYALLUP. TAKE THE WA-161 S EXIT FROM WA-161 TOPO. FACTOR, K<sub>ZT</sub>: DESIGN ICE THICKNESS:  $\text{S/WA}{-}512$  W. SLIGHT LEFT ONTO  $\text{I}{-}405$  N. TAKE EXIT 2 TO MERGE WITH WA-167 S TOWARD AUBURN. USE THE RIGHT 2 LANES TO TAKE THE WA-512 1.0 1.0 In W EXIT TOWARD WA-161 S/PUYALLUP/OLYMPIA. CONTINUE ONTO WA-161 EARTHQUAKE DESIGN: SEISMIC DESIGN CATEGORY: S/WA-512 W. TAKE THE WA-161 S EXIT TOWARD EATONVILLE. CONTINUE ON n WA-161 S TO YOUR DESTINATION. TURN LEFT ONTO WA-161 S/31ST AVE SW S. TURN RIGHT ONTO 35TH AVE SE. TURN RIGHT. DESTINATION WILL BE ON RISK CATEGORY: SITE CLASS: D - STIFF SOIL THE RIGHT. 1.264g 0.436g

#### MASTEC NETWORK SOLUTIONS 22236 68TH AVE S **KENT, WA 98032**



	REVISION
T	0
ATION AND MODIFICATION SCHEDULE	0
ER ELEVATION AND WELDMENT DETAIL	.S 0
ER ELEVATION AND WELDMENT DETAIL	S 0
DETAILS	0
DETAILS	0
S NOTES	0





TOWER ELEVATION

SCALE: N.T.S.

S1

#### TOWER MODIFICATION NOTES

- 1. WORK TO BE PERFORMED ONLY DURING CALM DAYS (WINDS LESS THAN 15 MPH).
- 2. THE CONTRACTOR SHALL VISIT THE SITE; ANY PROBLEMS WITH ACCESS, INTERFERENCE, ANTENNA FITMENT ISSUES, ETC. SHALL BE RESOLVED WITH EOR PRIOR TO BIDDING.
- 3. ALL DIMENSIONS SHOWN SHALL BE FIELD VERIFIED AND ANY DISCREPANCIES RESOLVED WITH THE ENGINEER PRIOR TO BIDDING
- 4. CONTRACTOR TO VERIFY THAT EXISTING SHAFT IS SEATED COMPLETELY AT THE JOINTS PRIOR TO ANY CONSTRUCTION MODIFICATIONS.
- 5. BOLT HOLES SHALL BE DRILLED STRAIGHT WITHOUT ANY DRIFT AND SHALL BE CLEANED AND COLD GALVANIZED PER NOTES ON SHEET N1.
- 6. REMOVE ALL EXTERNAL FEEDLINE CABLE BANDS (IF PRESENT) AND RE-INSTALL OVER NEW MODIFICATIONS.
- 7. CONTRACTOR TO VERIFY IF PORTHOLES ARE TO BE ENCOUNTERED. IF PORTHOLES ARE BELIEVED TO BE ENCOUNTERED, CONTACT STRUCTURAL ENGINEER IMMEDIATELY FOR PORTHOLE WORK-AROUND DESIGN.
- 8. ALL PREVIOUS TOWER MODIFICATIONS ARE ASSUMED TO BE INSTALLED PROPERLY IN ORDER FOR THIS MODIFICATION DESIGN TO BE VALID.
- 9. REFER TO SHEET N1 FOR GENERAL NOTES.

#### TOWER PLUMB REQUIREMENTS

CHECK VERTICAL ALIGNMENT AND LEVEL OF BASE TOWER AND CANISTER ASSEMBLY SECTIONS FOR CONFORMANCE TO A PLUMB CONDITION IN ACCORDANCE WITH ANSI/TIA-222H. PLUMB CONDITION IS TO BE DOCUMENTED WITH PROPER NOTES AND PICTURES TO PROVE, AT A MINIMUM, THE FOLLOWING:

- 1. DEFLECTION CALCULATIONS PER ANSI/TIA-222H
- 2. MINIMUM AND MAXIMUM (I.E. HOT AND COLD) SURFACE TEMPERATURE READINGS ON BASE MONOPOLE
- 3. TIME OF DAY MEASUREMENT WAS TAKEN (E.G. DAWN, NOON, DUSK)

4. PICTURES OF A LEVEL OR DIGITAL INCLINOMETER MEASURED AT A MINIMUM OF (3) EQUIDISTANT LOCATIONS AROUND THE BASEPLATE TO PROVE LEVEL CONDITION 5. AZIMUTH OR MONOPOLE FLAT NUMBER OF THE DIRECTION OF THE OUT-OF-PLUMB DEFLECTION

#### TOWER MODIFICATION SCHEDULE

- R1 REMOVAL OF TOWER SPINE: ELEV.48'-0"± TO 70'-0"± REMOVE EXISTING TOWER SPINE AND CANISTER R2 REMOVAL OF RAIN CAP: ELEV.70'-0"± REMOVE EXISTING RAIN CAP ON TOP OF TOWER. (NSI) INSTALLATION OF NEW TOWER SPINE: ELEV. 48'-0"± TO 60'-0"± INSTALL NEW 8SCH60 TOWER SPINE. W/ NEW 12'-0" LONG, 36"Ø O.D. CANISTER (DESIGNED BY OTHERS) RÉFER SHEET S2 FOR DETAILS.
- (NS2) INSTALLATION OF NEW TOWER SPINE: ELEV.60'-0"± TO 70'-0"± INSTALL NEW 8SCH60 TOWER SPINE. W/ NEW 10'-0" LONG, 36"¢ O.D. CANISTER (DESIGNED BY OTHERS) RÉFER SHEET S2 FOR DETAILS.
- (NFI) INSTALLATION OF NEW FLANGE PLATE: ELEV.48'-0"± INSTALL NEW FLANGE PLATE

- (NF2) INSTALLATION OF NEW FLANGE PLATE: ELEV.60'-0"± INSTALL NEW FLANGE PLATE
- (NF3) INSTALLATION OF NEW FLANGE PATE: ELEV. 70'-0"±
- (EXT) CANISTER EXTENSION: ELEV. 70'-0" TO 80'-0"± REFER SHEETS S3 FOR DETAILS.
- $\langle R3 \rangle$  installation of new top cap: ELEV. 80'-0"± INSTALL NEW TOP CAP

#### CONTRACTOR SUBMITTALS

- THE CONTRACTOR SHALL SUBMIT THE FOLLOWING SUBMITTALS TO THE ENGINEER FOR REVIEW AND APPROVAL · 1. BILL OF MATERIAL AND MATERIAL TEST RESULTS. 2. SHOP DRAWINGS 3. RIGGING PLAN. 4. WELDERS WPQ'S.
- 5. ALL APPLICABLE WELDING WPS OR PWPS AND OR POR.
- 6. CONTRACTOR'S CWI WELD INSPECTION.
- 7. TOWER PLUMB REPORT

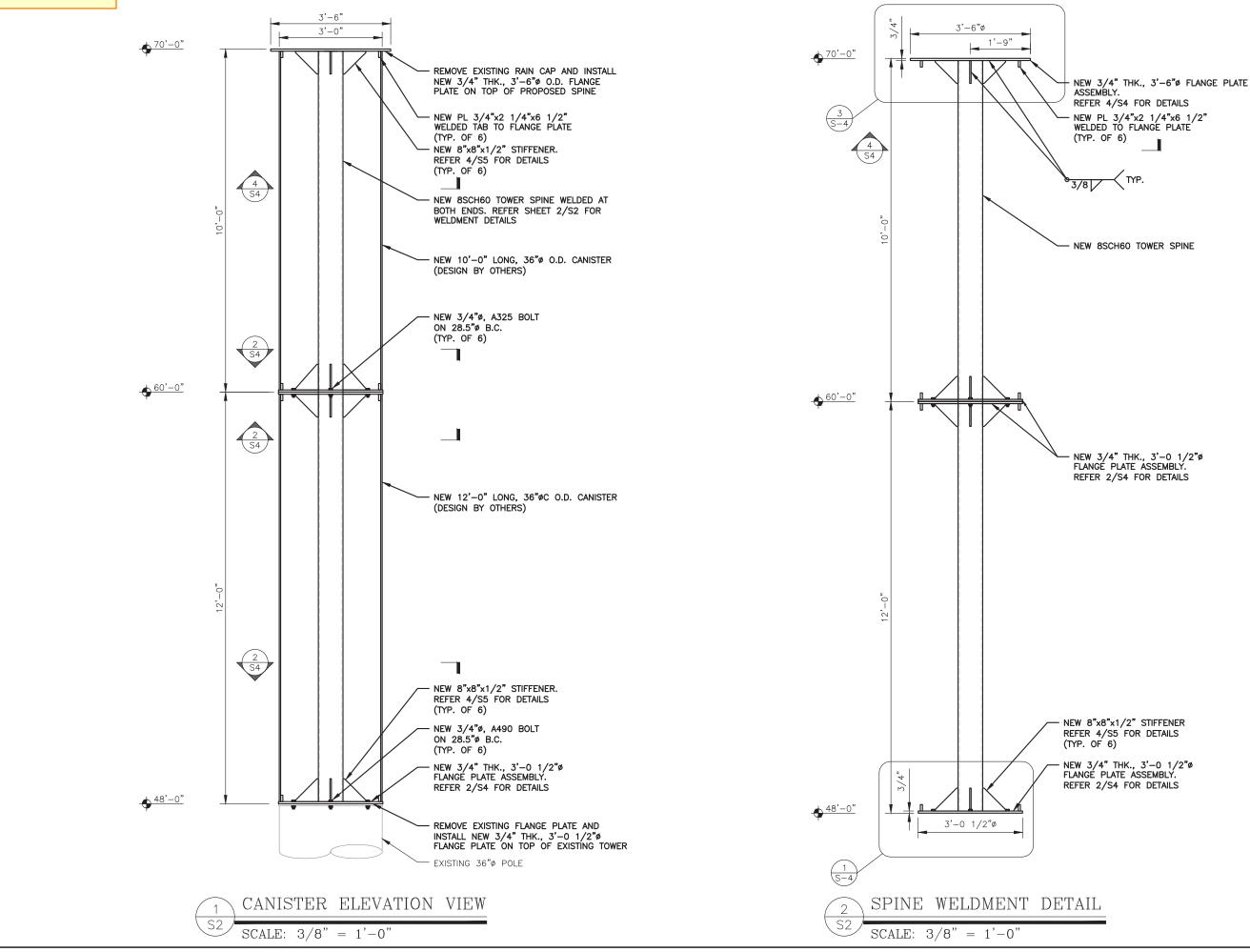
INSTALL NEW FLANGE PLATE ON TOP OF TOWER.

INSTALL NEW 6SCH40 TOWER SPINE WELDED AT BOTH ENDS W/ NEW 10'-0" LONG, 40"Ø O.D. CANISTER (DESIGNED BY OTHERS) INSTALLED ON TOP OF PROPOSED TOWER.

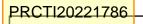
TO MATCH EXISTING.

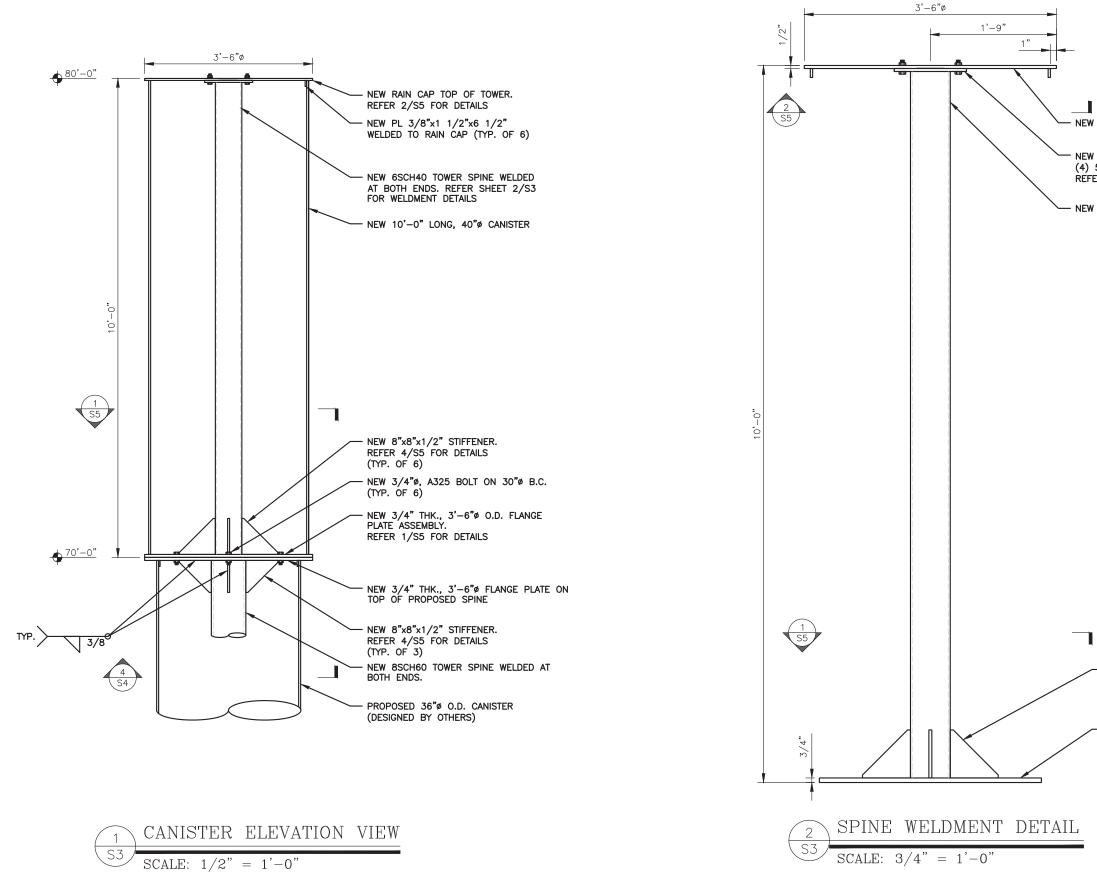














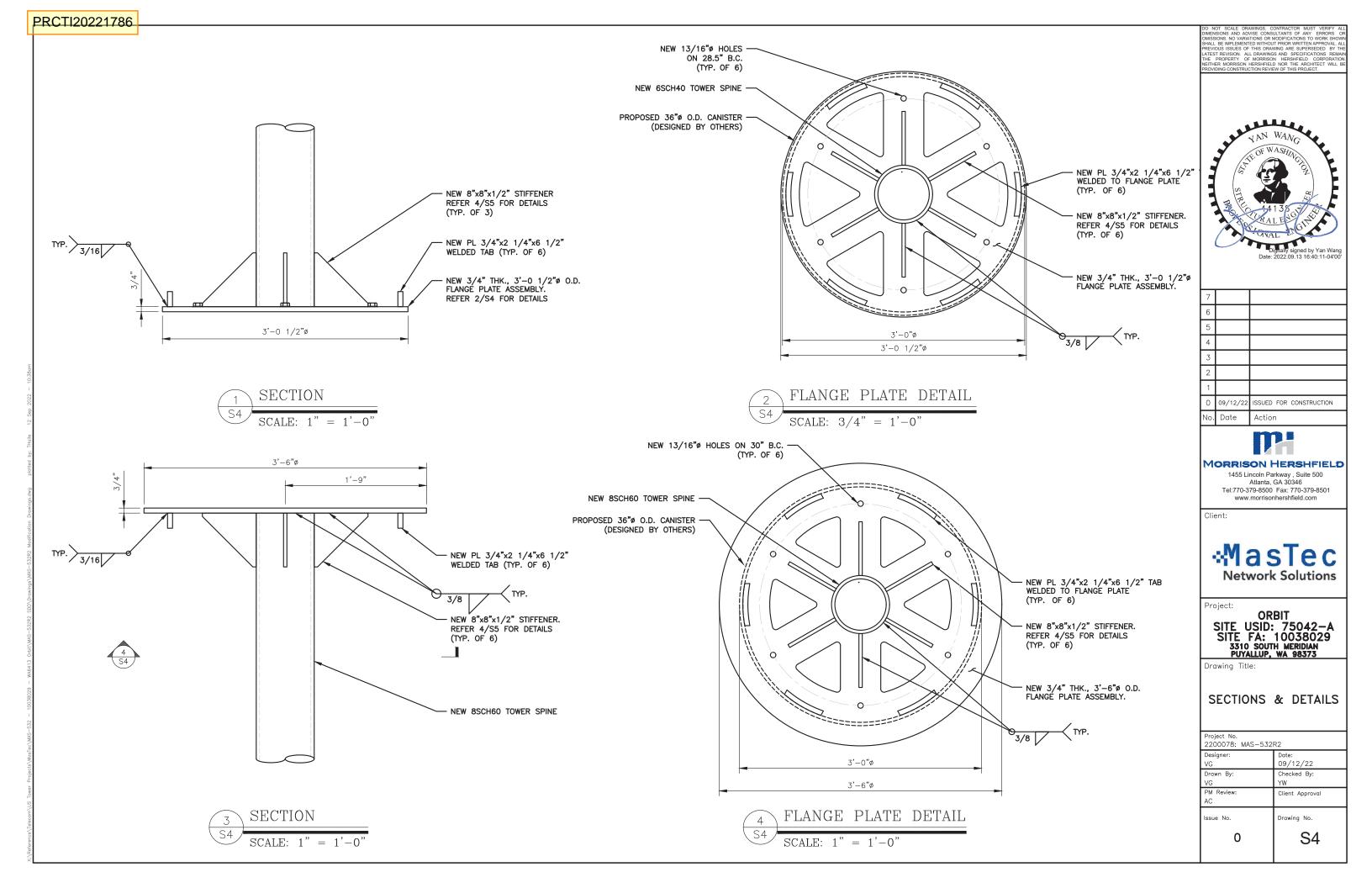
NEW 1/2" THK. RAIN CAP

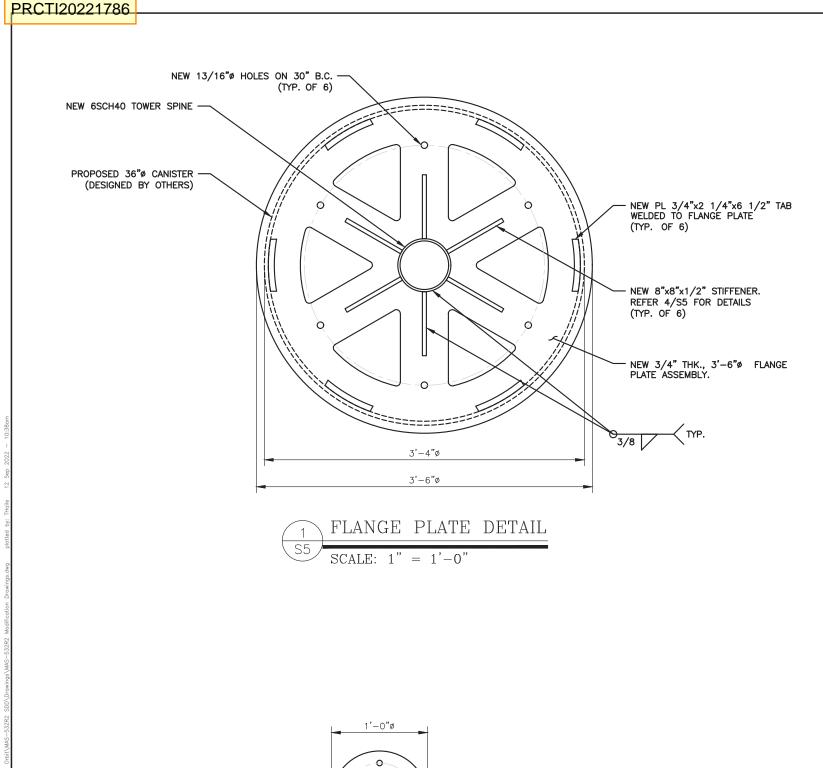
NEW PL 12"Ø TOP PLATE W/ (4) 5/8"Ø BOLTS REFER 3/S5 FOR DETAILS

- NEW 6SCH40 TOWER SPINE

NEW 8"x8"x1/2" STIFFENER REFER 4/S5 FOR DETAILS (TYP. OF 6)

NEW 3/4" THK., 3'-6"Ø O.D. FLANGE PLATE





1 1/2"

0

TOP PLATE DETAIL

SCALE: 1'' = 1' - 0''

NEW 11/16"ø BOLT HOLES

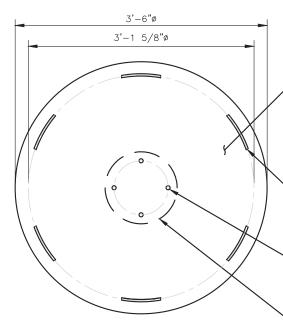
NEW PL 12"Ø TOP PLATE W/ (4) 5/8"ø BOLTS

ON 9" B.C.

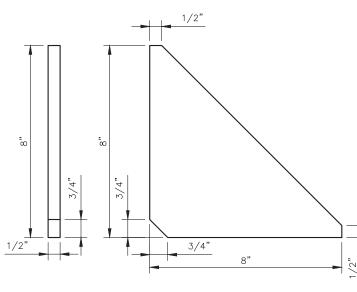
(TYP. OF 4)

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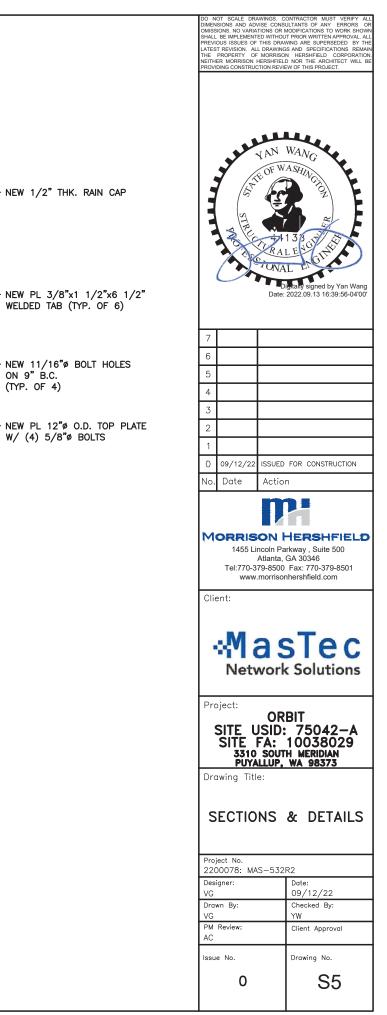
S5











- NEW PL 3/8"x1 1/2"x6 1/2" WELDED TAB (TYP. OF 6)
- NEW 11/16"ø BOLT HOLES ON 9" B.C. (TYP. OF 4)
- NEW PL 12"¢ O.D. TOP PLATE W/ (4) 5/8"ø BOLTS

#### GENERAL:

OWNER

OEM

- 1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY: CONTRACTOR
  - MASTEC NETWORK SOLUTIONS SUBCONTRACTOR GENERAL CONTRACTOR (CONSTRUCTION) AT&T\_MOBILITY
    - ORIGINAL EQUIPMENT MANUFACTURER
- 2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR
- 3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK
- 4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- 5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER OF RECORD PRIOR TO FABRICATION OR THE START OF ANY WORK
- 6. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- 7. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS. EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- 8. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- 9. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR
- 10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PACEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- 11. THE SUBCONTRACTOR SHALL LEACE PREMISES IN CLEAN CONDITION.
- 12. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS
- 13. THE SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. THE SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- 14. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY THE SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH THE CONTRACTOR. ALSO, WORK MAY NEED TO BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- 15. SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
- 16. THE SUBCONTRACTOR SHALL NOT USE OR INSTALL ANY MATERIAL CONTAINING ASBESTOS OR LEAD PAINT CONTENT. THE USE OF SUCH MATERIAL IS STRICTLY PROHIBITED

#### **INSTALLER:**

- ALL CONTRACTORS MUST ADHERE TO ALL SITE AND TOWER SAFETY PROCEDURES AND PROVIDE THIS DOCUMENTATION IN WRITING IF REQUESTED TO TOWER OWNER
- 2. TOWER OWNER SHALL BE CONTACTED IMMEDIATELY TO EVALUATE ANY EXISTING CONDITIONS THAT WILL AFFECT THE SAFETY AND SCOPE OF WORK.
- CONTRACTOR TO PROVIDE THE NECESSARY CERTIFICATIONS OF ALL WORKERS ON THE TOWER TO OWNER UPON REQUEST
- THE CONTRACTOR SHALL SUPERVISE ALL SAFETY PROGRAMS AND PRECAUTIONS IN 4. CONNECTION WITH THIS WORK AND MUST PROVIDE WRITTEN DOCUMENTS OF THESE PROCEDURES.
- THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING: NO SITE VISIT HAS BEEN PERFORMED BY MORRISON HERSHFIELD. ALL INFORMATION PROVIDED ABOUT THE TOWER HAS BEEN TAKEN FROM OTHER SOURCES AND HAS BEEN ASSUMED TO BE RELIABLE
- 6. EVERY ATTEMPT IS TO BE MADE TO ACOID CARRIER DOWNTIME. ALL COAX AND ITEMS CURRENTLY ON TOWER MUST BE RETURNED TO EQUAL OR BETTER THAN ORIGINAL CONDITION PRIOR TO COMPLETION. ANY DOWNTIME OR CHANGES ARE TO BE COORDINATED IN WRITING WITH TOWER OWNER.
- WORK IS TO BE CONTAINED TO THE SITE COMPOUND AREA ONLY. ANY OUTSIDE OR ADJACENT PROPERTY NEEDED TO PERFORM ACCESS OR SCOPE OF WORK TO BE REQUESTED IN WRITING TO TOWER OWNER.

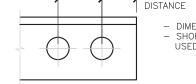
#### STRUCTURAL STEEL:

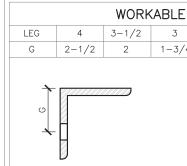
- 1. DESIGN, FABRICATION AND ERECTION SHALL CONFORM TO TIA-222-H "STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS AND SMALL WIND TURBINE SUPPORT STRUCTURES" AND AISC STEEL MANUAL OF STEEL CONSTRUCTION, UNO.
- 2. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES AND CONTRACT SPECIFICATIONS.
- 3. ALL STRUCTURAL STEEL IS TO BE NEW AND CONFORM TO THE FOLLOWING (UNLESS NOTED OTHERWISE ON THE DRAWINGS):
  - ALL PLATE STEEL SHALL BE A572 GR 50 (Fy = 50 KSI) UNLESS NOTED OTHERWISE.
  - ALL ANGLE STEEL SHALL BE A36 (Fy = 36 KSI) UNLESS NOTED OTHERWISE.
  - ALL PIPE STEEL SHALL BE A53-35 (Fy = 35 KSI) UNLESS NOTED OTHERWISE.
  - ALL OTHER STEEL SHALL BE A36 (Fy = 36 KSI) UNLESS NOTED OTHERWISE.
  - ANY STEEL THAT DOES NOT MEET THE MINIMUM SPECIFIED YIELD STRESS (Fy) SHOWN WILL BE REJECTED
- 4. TOWER GEOMETRY AND MEMBER PROPERTIES WERE OBTAINED FROM THE TOWER MAPPING REPORT BY TOWER ENGINEERING PROFESSIONALS, JOB NO. 312623.691483, DATED: 05/23/2022
- 5. ALL THRU BOLTS AND U-BOLTS SHALL BE A325. ALL BOLTS SHALL BE HOT DIP GALVANIZED AND HACE LOCK WASHERS OR LOCKING DEVICES. DO NOT RE-USE BOLTS. ALL U-BOLTS SHALL BE SNUG TIGHT.
- 6. WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS. SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH SPECIFICATIONS. DRAWINGS SHALL BE SEALED BY THE FABRICATOR'S LICENSED ENGINEER.
- 7. PROVIDE ALL REQUIRED GUSSETS, SPACERS, FILLERS AND BATTEN PLATES.
- 8. MAKE NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBER OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE WRITTEN APPROVAL BY THE ENGINEER
- 9. ALL EXPOSED EXTERIOR STRUCTURAL STEEL (INCLUDING BOLTS, PACK WASHERS, PINS, ETC.) TO BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A153 AND A123. FOR ALL WELDED CONNECTIONS TO BE GALVANIZED, PROVIDE WELDS ALL AROUND OR ADD SEAL WELDS WHERE STRUCTURAL WELDS ARE NOT SPECIFIED.
- 10. ANY SUBSTITUTES IN MATERIAL OR SCOPE OF WORK PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY MORRISON HERSHFIELD ENGINEER.
- 11. CONTRACTORS SHALL COORDINATE W/ MORRISON HERSHFIELD WITHIN 72 HOURS AFTER 100% COMPLETION OF THE MOUNT MODIFICATION INSTALLATION. PROPOSED LOADING WITHOUT ENGINEER APPROVAL IS PROHIBITED.
- 12. NO FIELD WELDING PERMITTED. EXCEPT WHERE SPECIFICALLY SHOWN.

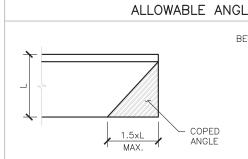
#### FIELD WELDING NOTES

- 1. ALL WELDING SHALL BE PERFORMED IN COMPLIANCE WITH THE LATEST EDITION OF AWS D1.1 STRUCTURAL WELDING CODE - STEEL AS WELL AS CROWN ENGINEERING BULLETIN ENG-PLN-10015
- 2. ALL WELDS SHALL BE 3/16" FILLET MINIMUM UNLESS NOTED OTHERWISE.
- 3. ALL ELECTRODES SHALL BE E70XX MINIMUM UNLESS NOTED OTHERWISE.
- 4. ADEQUATE PREHEAT OF ALL MEMBERS SHALL BE PERFORMED AS REQUIRED BY AWS D1.1 OR BY THE APPLICABLE WELDING PROCEDURE (PWPS AND/OR WPS). PHOTOGRAPHIC EVIDENCE OF PROPER PRE-HEAT SHALL BE SUBMITTED IN THE PMI REPORT.
- 5. WELDING SHALL BE DONE ONLY WHERE INDICATED ON THE DRAWINGS OR SPECIFICALLY APPROVED BY THE ENGINEER
- 6. ALL CUT OR DAMAGED GALVANIZED AREAS AND WELD-AFFECTED AREAS SHALL BE REPAIRED WITH A BRUSHED ON COLD APPLIED GALVANIZING (NO SPRAY ON PRODUCTS SHALL BE PERMITTED) IN ACCORDANCE WITH CROWN ENGINEERING BULLETIN ENG-BUL-10149.
- 7. THE PWPS (PREQUALIFIED WELDING PROCEDURE SPECIFICATION) AND/OR WPS (WELDING PROCEDURE SPECIFICATION) SHALL BE FURNISHED TO MH FOR APPROVAL PRIOR TO MOBILIZATION OR INSTALLATION.
- 8. ALL WELDERS SHALL BE QUALIFIED PER AWS D1.1 FOR THE POSITIONS AND ELECTRODE SPECIFICATION ON THE PWPS AND WPS.
- EACH WELDER'S WPQ (WELDER PERFORMANCE QUALIFICATION) FOR THE POSITIONS AND 9. WELDING PROCEDURE (PWPS OR WPS) SHALL BE FURNISHED TO MH PRIOR TO MOBILIZATION OR INSTALLATION
- 10. IF A WPS IS FURNISHED, IT SHALL REFER TO A SUPPORTING PQR (PERFORMANCE QUALIFICATION RECORD)
- 11. PER AWS D1.1 SECTION 6.6. "THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISUAL INSPECTION AND NECESSARY CORRECTION OF ALL DEFICIENCIES IN MATERIAL AND WORKMANSHIP IN CONFORMANCE WITH THE REQUIREMENTS OF THIS CODE.
- 12. ALL INSPECTORS SHALL BE QUALIFIED PER AWS D1.1, SECTION 6.4. INSPECTOR QUALIFICATIONS SHALL BE SUBMITTED TO MH PRIOR TO FINAL INSPECTION
- 13. A VISUAL INSPECTION REPORT PERFORMED BY A CERTIFIED WELD INSPECTIOR SHALL BE SUBMITTED TO MH FOR APPROVAL PRIOR TO FINAL PMI INSPECTION

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