



OFFICIAL NOTICE AND AGENDA
of a meeting of a City Board, Commission, Department
Committee, Agency, Corporation, Quasi-Municipal
Corporation, or Sub-unit thereof.

A Meeting of Wausau Water Works Commission will be held in the
Council Chambers, 1st Floor City Hall, Wausau, WI 54403 at 11:00 a.m. on
Tuesday, August 6, 2024.

Members: Doug Diny (President), Sarah Watson, Jim Force, Joe Gehin, John Robinson

AGENDA

1. Approve Minutes of June 25, 2024 Meeting.
2. Director's Report on Utility Operations
 - Committee of the Whole Meeting scheduled August 19th to Discuss LSL (Lead Service Line) Replacement Ordinance
 - Joint Water Commission and Finance Meeting scheduled August 14th to Discuss Utility Financial Status and Payment in Lieu of Taxes (PILOT)
 - Utility Ready to Move Forward with Advertising to Add Staff
 - Drinking Water Staffing Update
 - Wastewater Continues to Discharge a Quality Effluent
 - Wastewater Project Status Reports and Invoices- Donohue
 - Wastewater Staffing Update
 - Wastewater: Greenwood Hills Lift Station Update
 - Wastewater: Northwestern Lift Station Update
 - Wastewater: Delivery of new TV Van anticipated August 5th
 - Utility Financial Reports Through June 30, 2024
3. CIP's (Community Infrastructure Partners) Construction Update for 2024 LSL and 2025 Schedule.
4. Discussion and Possible Action on Water Tower Lease Agreement with Sprint Spectrum, L.P. (T-Mobile).
5. Discussion on Possible Improvements to the Consumer Confidence Report for Improved Communication with our Customers.

Adjourn.

Next meeting scheduled for **September 3rd 2024 @ 11:00 AM.*

Signed by: /s/ Doug Diny, Mayor
Presiding Officer or Designee

THIS NOTICE POSTED AT CITY HALL AND EMAILED TO CITY PAGES AND DAILY HERALD: August 2nd, 2024 at 12:30 p.m.

This meeting is being held in person. Members of the public who do not wish to appear in person may view the meeting live over the internet, cable TV, Channel 981, and a video is available in its entirety and can be accessed at <https://tinyurl.com/wausaucitycouncil>. Any person wishing to offer public comment not appearing in person may e-mail gina.vang@ci.wausau.wi.us with "Water Commission Public Comment" in the subject line prior to the meeting start. All public comment, either by email or in person, will be limited to items on the agenda at this time. The messages related to agenda items received prior to the start of the meeting will be provided to the Chair.

In accordance with the requirements of Title II of the Americans with Disabilities Act of 1990 (ADA), the City of Wausau will not discriminate against qualified individuals with disabilities on the basis of disability in its services, programs or activities. If you need assistance or reasonable accommodations in participating in this meeting or event due to a disability as defined under the ADA, please call the ADA Coordinator at (715) 261-6622 or ADAServices@ci.wausau.wi.us to discuss your accessibility needs. We ask your request be provided a minimum of 72 hours before the scheduled event or meeting. If a request is made less than 72 hours before the event the City of Wausau will make a good faith effort to accommodate your request.



Minutes of June 25, 2024

A meeting of the Wausau Water Works Commission was called to order at 10:00 a.m. in City Hall on Tuesday, June 25, 2024. In compliance with Wisconsin Statutes, this meeting was posted and receipted for by the Wausau Daily Herald on June 21, 2024.

Members Present: President Diny, Commissioners Robinson, Gehin, Watson

Excused Member: Force

Others Present: Scott Boers, Eric Lindman, Ben Brooks, Anne Jacobson, Tegan Troutner, MaryAnne Groat

1) Approve Minutes of June 4, 2024 Meetings.

Watson motioned to approve minutes. Seconded by Robinson.

Motion Carried 4-0.

2) Director's Report on Utility Operations.

Lindman highlighted the updates on the Lead Service Line Replacement with the current project and the funding application for 2025 and for the loan closing this year. Department of Natural Resources (DNR) wasn't ready to close on the loan earlier so we went through with CIP and started uploading our documents. We are up to the point now where we only need our financials uploaded. The quickest we could close might be in August but it may get pushed to September. Goal is to make the August City Council meeting with the financial assistance agreement for approval. Installations for the lead service line replacements began this week starting on the southeast side then will proceed to the other 2 census tracks with the plan to replace about 700 this year. Anyone have any questions?

Director's Report Placed on File.

3) Discussion and Possible Action Approving a Lead Service Line Replacement Ordinance.

Diny advised this had several iterations and the approach is to keep it as general as possible to give us flexibility moving forward not knowing all the details on grants, or timelines for funding moving forward. We are required as part of the grant application process and given points that allow us these grants to make it easier for the city to complete this task. I'd like to see us move this to council for consideration.

Gehin questioned if we could amend the draft to state meter instead of customer's meter? it was in the previous draft but didn't see it in this one. There should be verbiage explaining the lead service line to be replaced is from the curb box to the water meter and not the internal plumbing of the home, this should be made clear.

Robinson questioned if we wanted to have verbiage subject to council approval if we don't have funds on the private side and need to do special assessment, does the commission have permission to enforce special assessments? Looking at financing 13.66.080- page 6- Financing replacement, is there opportunities or special assessments?

Lindman replied, that's a special charge because it's the private side but the next paragraph says the city may establish a program to provide financial assistance to the property owners

which leaves that ability open and would need to be approved by council to set up a loan repayment or special charge. That would be a recommendation by the commission to council who would make the decision when it comes to financials just like other assessments and projects. If there's a program in place, the council will establish that program that includes the payback and terms associated with the cost.

Troutner reiterated that it would be the council who made the final decision if the city establishes a program to apply for financial assistance so it's not set in place right now because the city may or may not establish it.

Diny replied, it is the homeowner's responsibility. If you look at this year, we are looking at 2/3, 1/3, if we were charging, it would be \$1,500 over 5 years pay back, roughly \$300 year. But because we can't predict the next 3-5 years and funding availability and variables, this is the best language.

Lindman reiterated that the commission sets the priority for the projects but the council establishes the funding for it, if the commission wanted to do a project, like in our capital projects, and the council is not supportive for funding it, those projects don't happen, so ultimately the council determines the financial decisions during the budget process and any special projects.

Robinson stated he didn't see that in the ordinance.

Troutner advised while its not written in the statutes, that's how the procedures go. If you keep reading, ordinance refers to the council. Do you want subject to public funding added to the 2nd paragraph, city may establish a program to provide financial assistance?

Lindman replied, the language we chose saying the city may establish a program refers this back to the Council. The council is the decision maker for the financial portion. From legal standpoint, the city council makes the decision and changes for the special assessments. I have spoken with CIP at length and there will be the start of a broader public outreach campaign for the lead service lines to include health risks and education about the equiflow program and its association with the city. We were on tight deadlines so we focused on the first couple of census tracks but we need to reach out to the rest of the city. From year to year there will be potential complaints that some residences get their replacement for free and others may have to pay, this is in part to how the federal funding is being dispersed.

Gehin moved to approve lead service line replacement ordinance amending the customer's meter to generic water meter if that's still in this draft and a statement that this doesn't apply to internal plumbing, just the line from the curb to the water meter and not beyond that. Seconded by Watson.

Motion carried 4-0.

4) Discussion and Possible Action on the 2023 Public Service Commission (PSC) Report.

Lindman began Groat is here in case of any financial questions but over the last few years there have been items added by the PSC such as age of our water mains and inventory of service lines. The inventory continues to be a living document and will be updated as we go through the lead service line replacement projects. We have return on rate computation in the report and outline sale of water and calculated water loss. There is a lot of information in here.

Groat highlighted this is the first year of workday so there were many challenges to complete the report in the order the PSC wants to see it, next year will be better. Every year PSC adds additional information they want. Revenues were \$10.1 million vs the \$7.5 million the previous year so \$2.6 million increase in revenues. Operating expenses \$1.2 million increase, chemicals were a big part of that. Net income \$2.9 million vs \$1.4 million. You could see down on the report, misc. non-operating income \$1.1 million; this is contributions from the city for the projects so its not real cash. Page F7 is the balance sheet, cash continues to be a

struggle for the water utility. Operating cash was a deficit of \$147k, compared to \$923k at end of 2022. Investment in assets about \$800k worth of meters. Debt increased as the utility took out interim financing of \$17.5 million for GAC with loan closing this Thursday. There is a rate of return in here, page F23- 4.23% vs 3.02% of last year, hopefully, a full year this year of rate will help us gain our cash position back to a positive rate. We postponed payment back to the sewer utility to help with cash. The sewer's income is based on water usage so they need to pay for meter costs as well. The PSC governs the process to allocate meter costs to the sewer utility, they are paying a depreciation rate over a 20-year period and not looking at those upfront costs.

Lindman stated in 2018, we changed over meters from Neptune to Sensus, our goal was to increase meter exchanges throughout the city, we had old meters not reading so meter readings and usage are not accurate, we are losing revenue on an annual basis. When we started ordering those meters, they became hard to get, manufacturers shut down. We had about 8,000 meters on order and those orders just carried over year to year. Last year and going into this year we started getting those meters and that is why there is such a large cash outlay instead of over 5–6-year period.

Groat referred to W-07 for tax equivalent that the water utility pays the city based on an average plant and tax rates, the calculation came out to \$1.8 million, the city defrayed and allocated \$1.5 million. In August, Ehler's will go through financial projections to look at ways we could decrease that. I have my hands in both the Utility and City's pockets, if you take from one the other pocket is lighter. All parts of government are being affected by inflation.

Gehin questioned if there was a typo on the number of employees. Page1 of Schedule F06 says 31 employees. This report should not include the sewer.

Groat replied it could include sewer utility and the front counter.

Lindman replied 21 is not accurate either. Dvorak advised she had made a correction but not sure which part she corrected.

Gehin questioned the 17% water loss. Last year was under 10%.

Lindman replied that a lot of it had to do with the meters. One was just changed out from 1968. We have a lot of meters in the 2000s that are no longer reading. This year is the first year we are shutting off water to force residents to allow us to make meter changes. When the new meters go in, we'll start getting complaints because they haven't really been paying their appropriate water bills.

Boers stated, we've been working on trying to be more accurate in our water facility. Water meters at the new plant was tested after the first year and remain accurate. We started using more metering at our process water, so if we had running water line for freezing, we are putting a meter and getting more accurate reading. Our reporting has gotten better, there are only a couple of variables left and water meters were one of them. We have a lot of meters that were put in 2012-2013 that are reaching that 10-year lifespan. Last couple of months, we've been looking at the failure rates, there's a large failure rate meters that we are going through. We couldn't get meters for a couple of years, then we had the switch of meters, then covid, so we couldn't get into the homes. 2 years ago, we ordered 8,000 meters and last year and first part this year we finally got 2,500. We are holding onto those too because we don't want to go into people's homes for the lead service lines and not replace those meters. If they are getting a new service, we are changing out their meters at that time. Couplings and elbows are getting hard to find and we have those ordered too but just haven't received them. We are suspecting more loss through the meters and residence/homeowners than the distribution lines.

Robinson questioned if we should put the rain barrels under the water conservation program.

Boers referred to Lindman as he asked the PSC and they advised not to put it in the report.

Gehin questioned what the standard was and if it were 15% water loss?

Diny stated we'll have to weigh those out for the replacements, because if we asked the homeowners to bring their meters out of a pit, then later we go in and change their water service lines they may be paying twice, we want to make this as equitable as possible for the homeowners. We need to make every effort to get our water loss under 15%.

No Action Needed.

5) Update from Regulatory Affairs Seminar and Upcoming Regulations.

Lindman stated he attended the seminar and this year they focused on lead service line replacements. There's a lot of agencies we don't hear from that speak and attend this conference. Like the Association of State Drinking Water Administrators (ASDWA), they tell the DNR what to do. Hearing about what regulations might be coming down. There's going to be no shortage of additional regulations coming down which all deals with economics. The big push right now is Cyber Security and that would be additional costs to the utility both Water and Wastewater, those are happening and will be coming in the next 12-18 months, there could be requirements. The DNR/EPA is going to continue to look at the regulations whether it's the lead and copper rule, disinfection byproducts rule, or other emerging contaminants, all the municipalities that were there were pushing back stating this continued push is inundating users with costs that we can't keep up with.

Robinson questioned the pinch points relative to cyber security because we are automated.

Lindman replied, it's the remote access. The operators on call could remote access in with a tablet, some consultants provide updates remotely to our SCADA system and programming. A Cyber Security assessment will eventually be required, then a cyber security plan. The DNR says the EPA wants to regulate cyber security directly to utilities and they are not happy with that because the DNR regulates the utilities, there's friction there with the Feds and the State. DNR says they don't want to house these documents and it's an open record, so they don't want them to be accessed. They are not sure how they are going to regulate it, that's one of the holdups. As we know more, I will provide updates.

No Action Needed.

6) Discussion and Possible Action Establishing a Day and Time for the Monthly Wausau Water Works Commission Meeting.

Diny questioned what the commissioner's thoughts on dates/times were after sharing the availability of the Council Chambers and could do like 11 to 12:30 to be more accommodating.

Gehin preferred earlier in the week. Watson preferred around lunch hour.

Consensus reached to schedule meetings in the AM starting with August 6th to move from 1:30pm to 11:00am. 1st Tuesdays 11:00AM to 12:30PM.

All present agrees, no formal Action Taken.

7) Adjourn.

Watson motioned to adjourn. Seconded by Gehin.

Link to view meeting in its entirety: <https://tinyurl.com/wausaucitycouncil>

Gina Vang, Recording Secretary

S:\WaterWorks\Common\WaterCommission\2024\August\WWWC_20240625_Minutes.doc.



MEMORANDUM

TO: President Diny
Commissioner Watson
Commissioner Force
Commissioner Gehin
Commissioner Robinson

FROM: Eric Lindman, P.E.
Director of Public Works & Utilities

SUBJECT: Director's Report – August 2024

- The city council has scheduled a Committee of the Whole meeting to discuss the LSL Replacement Ordinance. This meeting will be held on August 19 at 6:45 pm. A presentation by Horsley Witten will be given to the council, similar to what was presented to the commission. The agenda will also allow for public comment and public comment is allowed via email. This meeting was advertised through the city website and a press release was sent to media outlets and also sent out via social media.
- There will be a joint meeting of the WWW Commission and Finance Committee on August 14 to discuss the utility financial status and the Payment in Lieu of tax (PILOT). Ehlers will be presenting the utility financial status and provide information on the status of the utility borrowing capacity related to future projects.
- The utility is ready to move forward with advertising to add additional staff at both water and wastewater. The additional staffing request is proposed to be brought to the August 14 city council meeting for final approval. This would add two FTE's to wastewater and one FTE to water.

WATER DIVISION

1. Water Department Staffing Update:
 - a. We have two accepted offers for the Position of Water Distribution Maintainer. One to start 8/5, the other 8/19.

- b. We had an internal recruitment for our Senior Water Distribution Maintainer Position. We received one applicant.
- c. Morgan Parker, Water Distribution Maintainer, has given her two-week notice. We wish her well on future endeavors.

WASTEWATER DIVISION

1. The Wastewater Treatment Plant continues to discharge a quality effluent.
 2. Donohue Wastewater Project Status Reports and Invoices: See Attached.
 3. Staffing Update: Wastewater is ready to move forward with the advertising for 2 additional FTE's, one FTE for the Wastewater Crew and one FTE for the Collections Crew.
 4. Greenwood Hills lift station is currently in service and working well. Project completion anticipated soon.
 5. Northwestern Lift Station is currently in service and working well. Emergency generator installed and awaiting start-up services. Project completion anticipated soon.
 6. Delivery of the new TV van with lateral launch is anticipated the week of August 5, 2024. The existing TV van recently experienced mechanical issues with the motor that may require substantial repair cost. Repair quote will be reviewed once received and a decision will be made if it is feasible to proceed with the repair. If repairs aren't made, it may affect the trade-in value of \$27,000. Awaiting on repair cost quote from Baer Repair of Wausau to make this decision.
- Utility Financial Reports Through June 30, 2024- See Attached.

Project Status Report



Wastewater Treatment Facility Improvements Project – Engineer During Construction

City of Wausau, Wisconsin

Donohue Project Number 13229

Period | May 12, 2024 – June 8, 2024

Invoice 84

Engineer Activities This Period

- Warranty Items continue to be addressed by the Contractor.
- The Engineer's application engineering staff continues to make SCADA edits for various systems as unit process systems are being operated.

Engineer Near-Term Activities

- Continue to assist with Warranty Items List.
- Witness concrete pavement panel replacement along east side of Soilds Building (Structure 770).
- Deliver Hard Copies and Electronic version of Record Drawings.
- Provide final zero dollar pay application and closeout letter to Owner once Warranty Item list is completed.
- Assist Owner with WDNR Class A biosolids approval. Currently, waiting upon WDNR response to latest set of Dryer Trends submitted.
- Submit CWF final disbursement request(s).

Project Status Report

Wastewater Treatment Facility Improvements Project – Engineer During Construction

City of Wausau, Wisconsin

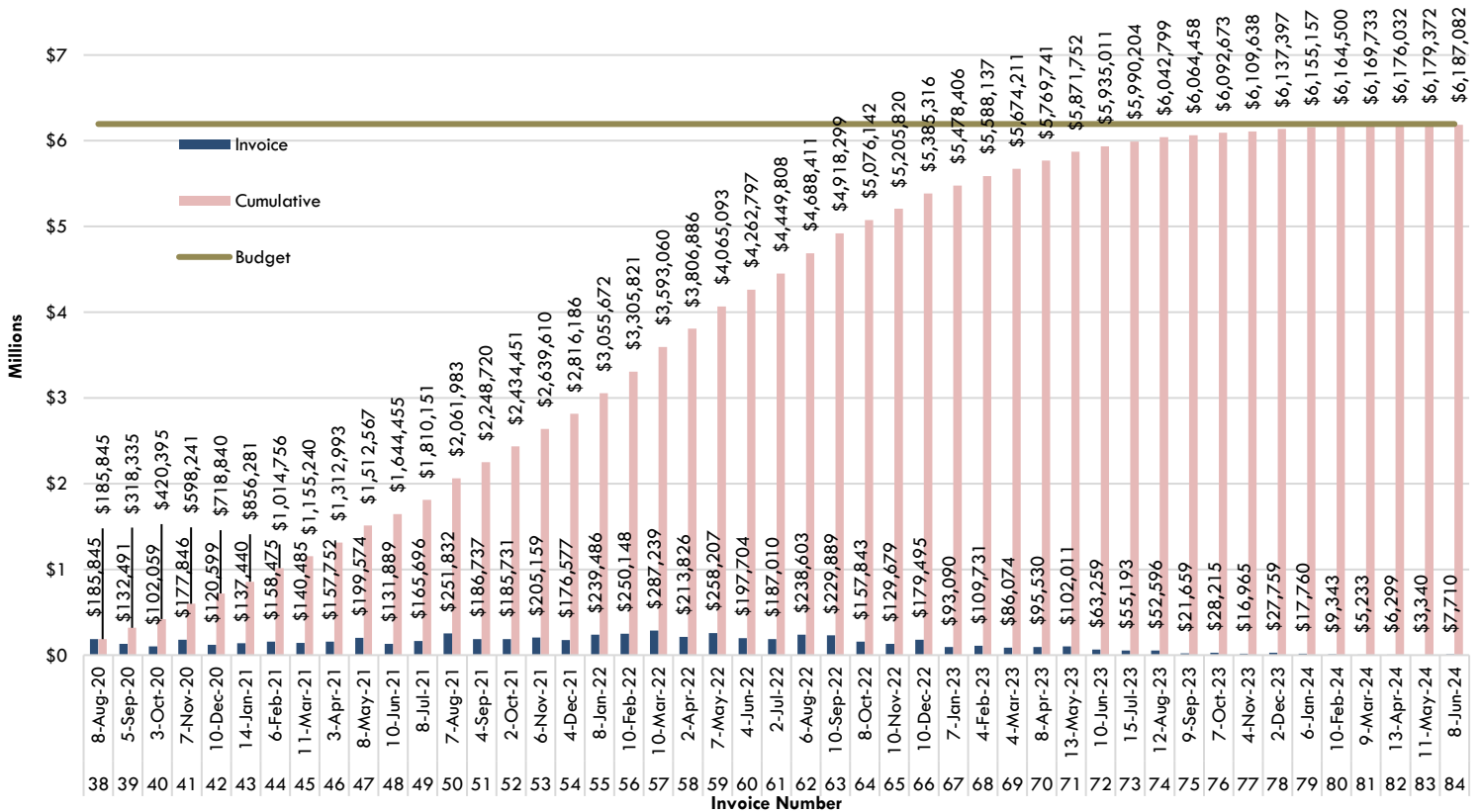
Donohue Project Number 13229

Period | May 12, 2024 – June 8, 2024

Invoice 84

Project Related Budget Snapshot

Construction Engineering Budget



Project Status Report



Wastewater Treatment Facility Improvements Project – Engineer During Construction

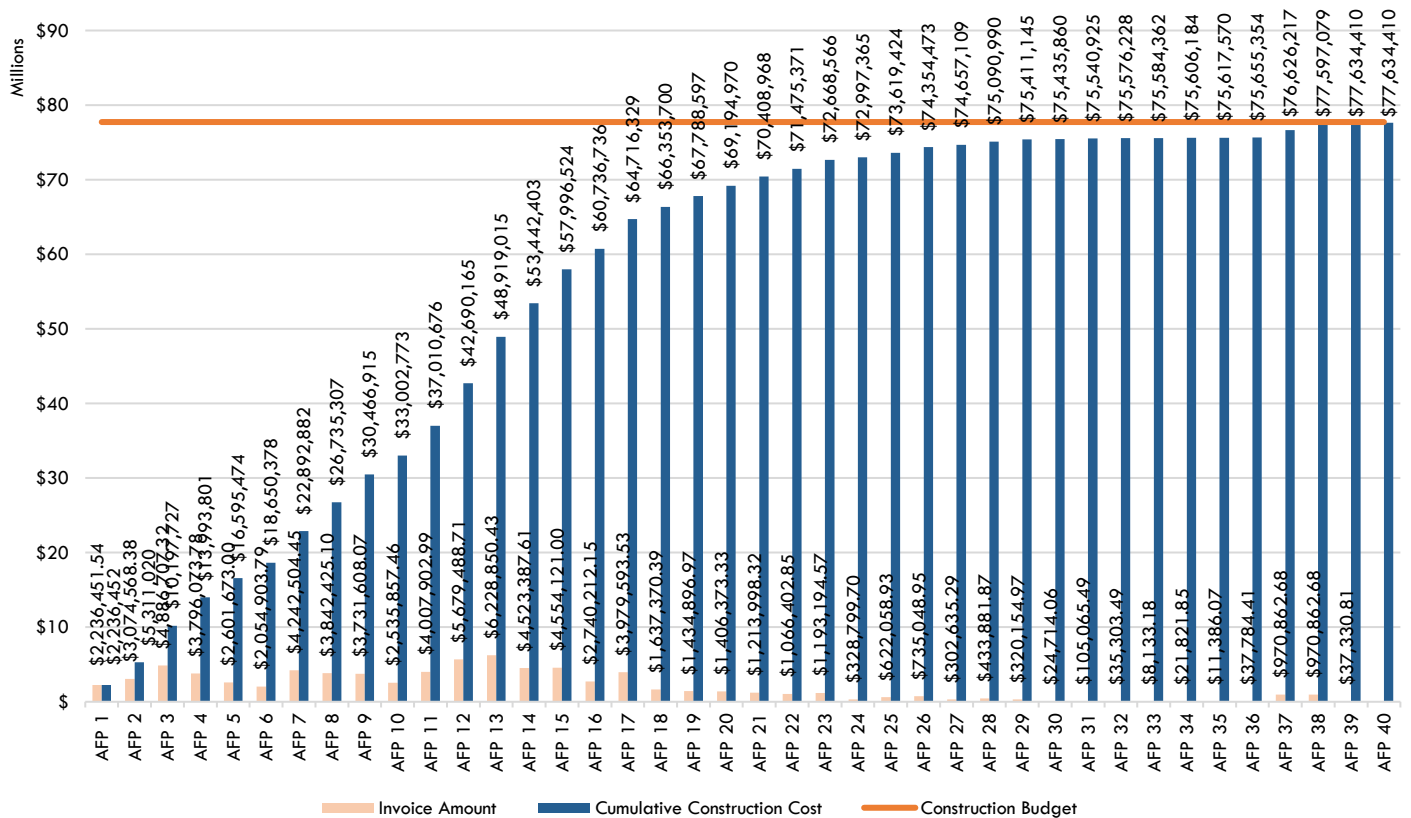
City of Wausau, Wisconsin

Donohue Project Number 13229

Period | May 12, 2024 – June 8, 2024

Invoice 84

Construction Budget: Pay Applications Approved by Engineer



Project Status Report

Wastewater Treatment Facility Improvements Project – Engineer During Construction

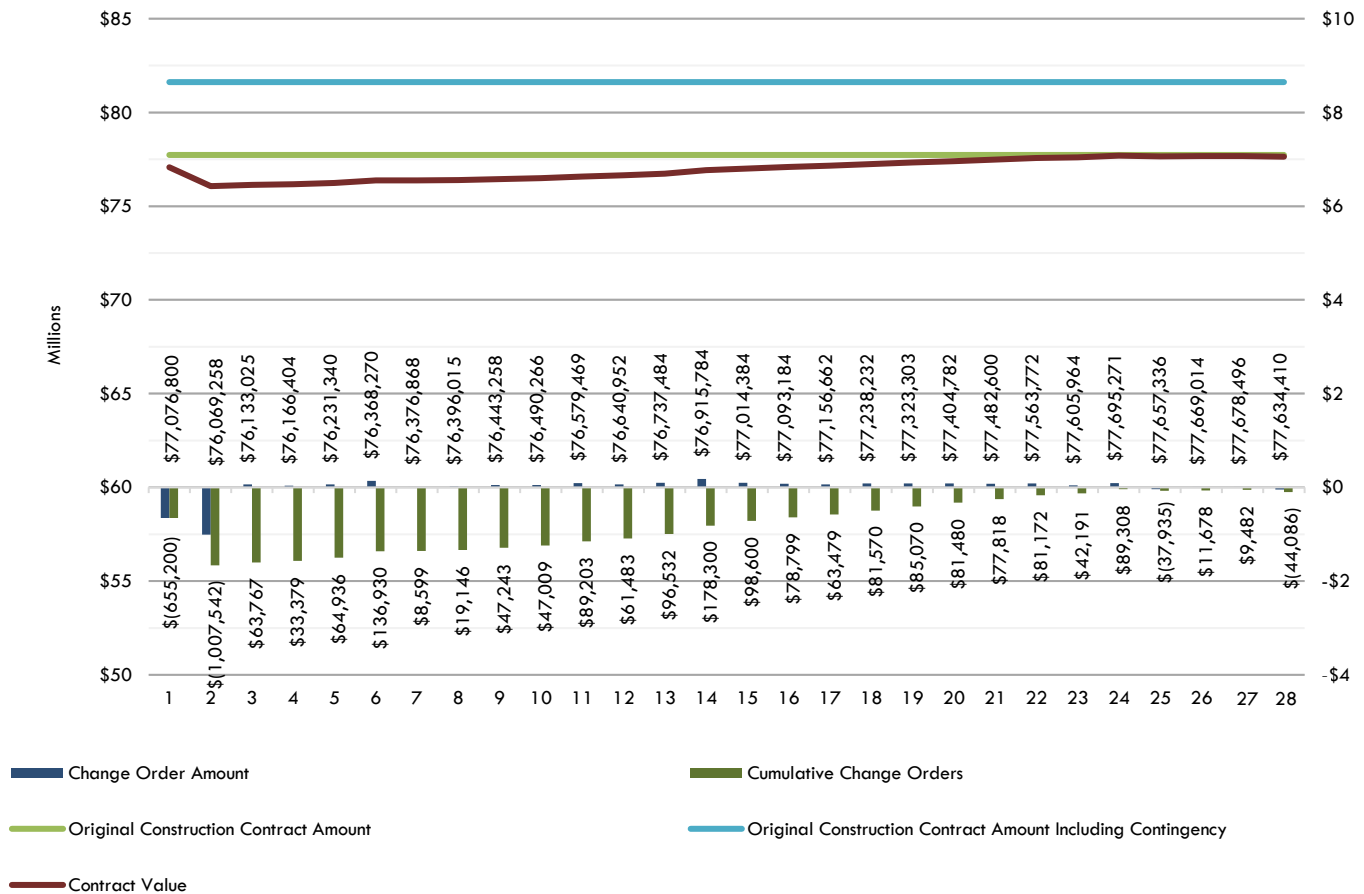
City of Wausau, Wisconsin

Donohue Project Number 13229

Period | May 12, 2024 – June 8, 2024

Invoice 84

Overall Project Budget



Budget Notes:

1. No budget issues at this time.

Remarks

1. Construction is complete except for punch list corrective work; therefore, construction photographs are no longer beneficial to document project progress.

INVOICE



3311 Weeden Creek Road
Sheboygan, WI 53081
Phone: 920-208-0296
www.donohue-associates.com

Invoice To:

City of Wausau
Attn: Ben Brooks
407 Grant Street
Wausau, WI 54403

Invoice Date:

June 13, 2024

Donohue Project No.:

13229

Invoice No:

13229-84

Project Manager:

Mike Gerbitz

Terms:

Net 30 Days

Billing Period:

05/12/24 - 06/08/24

Project Description:

Wastewater Facilities Plan & Design

Your Authorization:

Engineering Services Agreement, Signed 03/29/17
Amendment No. 1, Signed 06/28/18
Amendment No. 2, Signed 03/05/19
Amendment No. 3, Signed 01/27/20
Amendment No. 4, Signed 05/07/20
Permit Review Fees Payment Request, 02/27/20

Compensation:

Time and Expense	\$	129,220.00
Time and Expense	\$	984,565.00
Time and Expense	\$	3,323,900.00
Time and Expense	\$	4,351,831.00
Time and Expense	\$	1,843,325.00
Permit Review Fees	\$	12,534.50
Total	\$	10,645,375.50

Billing Summary:

Total Charges to Date	\$	10,638,317.01
Charges Previously Billed	\$	10,630,606.81
Current Charges	\$	7,710.20

Summary of Current Charges

Labor (19.5 hours)	\$	3,840.00
Reimbursable Expenses	\$	140.20
Permit Review Fees	\$	-
Subconsultants	\$	3,730.00
Total	\$	7,710.20

Current Charges Due	\$	7,710.20
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Please Remit to:

Donohue & Associates, Inc.
3311 Weeden Creek Road
Sheboygan, WI 53081
Phone: 920-208-0296
Fax: 920-208-0402

Aged Receivables

<u>Current</u>	<u>31 - 60 Days</u>	<u>61 - 90 Days</u>	<u>91 - 120 days</u>	<u>>120 days</u>
\$7,710.20	\$3,340.05	\$204.62	\$0.00	\$0.00

Project Status Report



Wastewater Treatment Facility Improvements Project – Engineer During Construction

City of Wausau, Wisconsin

Donohue Project Number 13229

Period | June 9 – July 6, 2024

Invoice 85

Final Invoice

- This is the final invoice for the project.
- Engineer will forward, under separate cover, CWF final disbursement request and request to WDNR to modify CWF budget for final payment.

Engineer Activities This Period

- Warranty Items continue to be addressed by the Contractor.
- The Engineer's application engineering staff continues to make SCADA edits for various systems as unit process systems are being operated.

Engineer Near-Term Activities

- Continue to assist with Warranty Items List.
- Deliver Hard Copies and Electronic version of Record Drawings.
- Provide final zero dollar pay application and closeout letter to Owner once Warranty Item list is completed.
- Assist Owner with WDNR Class A biosolids approval. Currently, waiting upon WDNR response to latest set of Dryer Trends submitted.
- Submit CWF final disbursement request(s).

Project Status Report

Wastewater Treatment Facility Improvements Project – Engineer During Construction

City of Wausau, Wisconsin

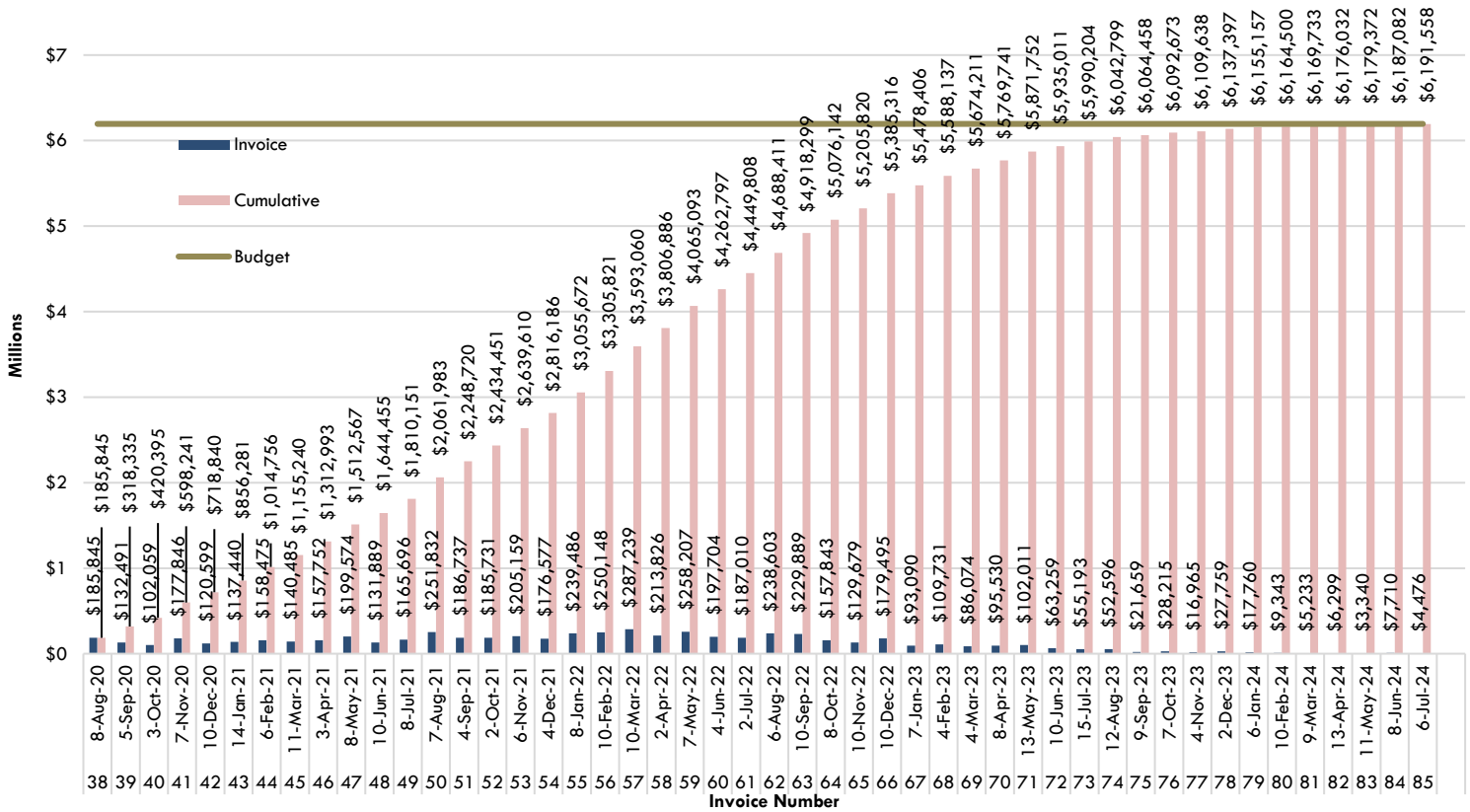
Donohue Project Number 13229

Period | June 9 – July 6, 2024

Invoice 85

Project Related Budget Snapshot

Construction Engineering Budget



Project Status Report

Wastewater Treatment Facility Improvements Project – Engineer During Construction

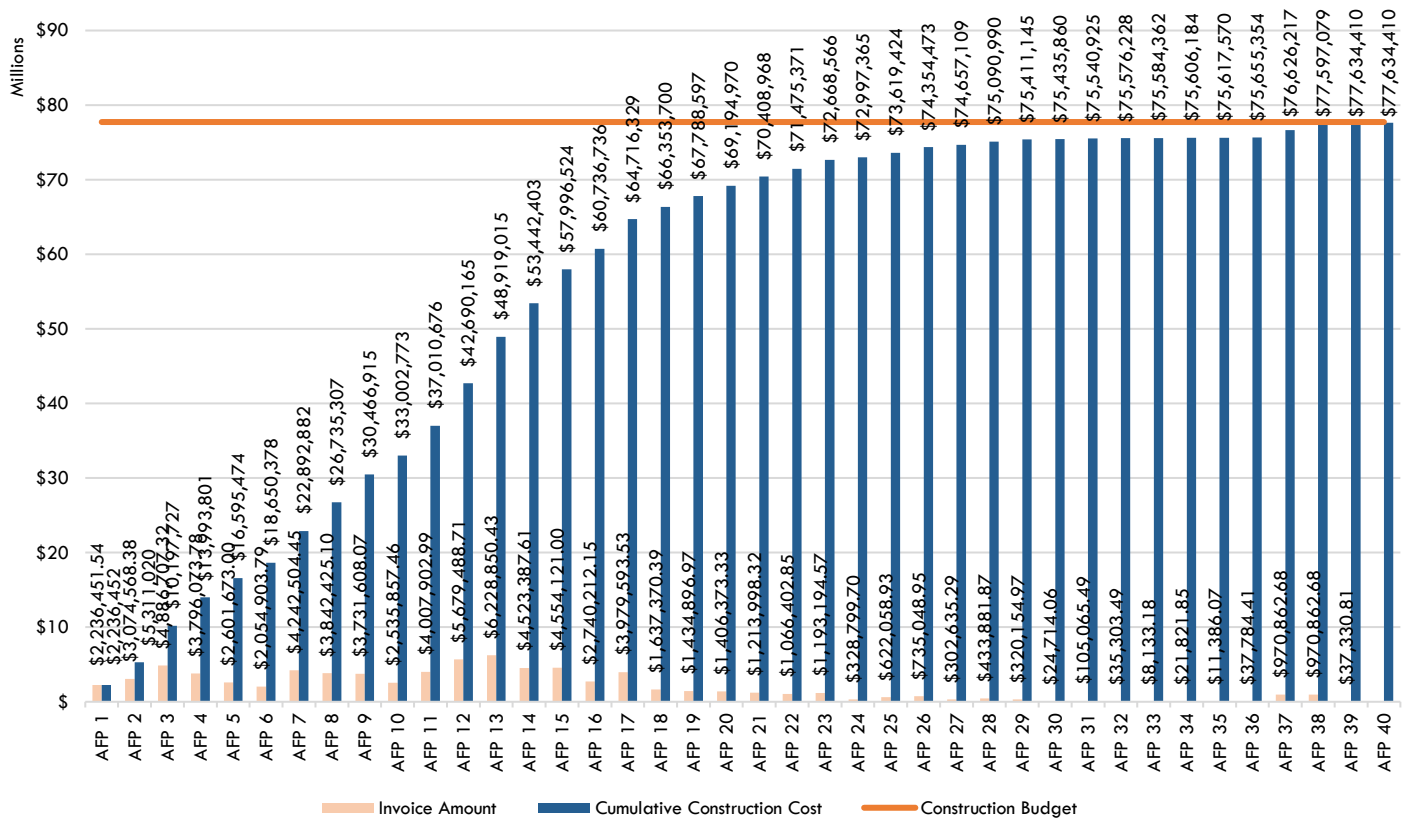
City of Wausau, Wisconsin

Donohue Project Number 13229

Period | June 9 – July 6, 2024

Invoice 85

Construction Budget: Pay Applications Approved by Engineer



Project Status Report



Wastewater Treatment Facility Improvements Project – Engineer During Construction

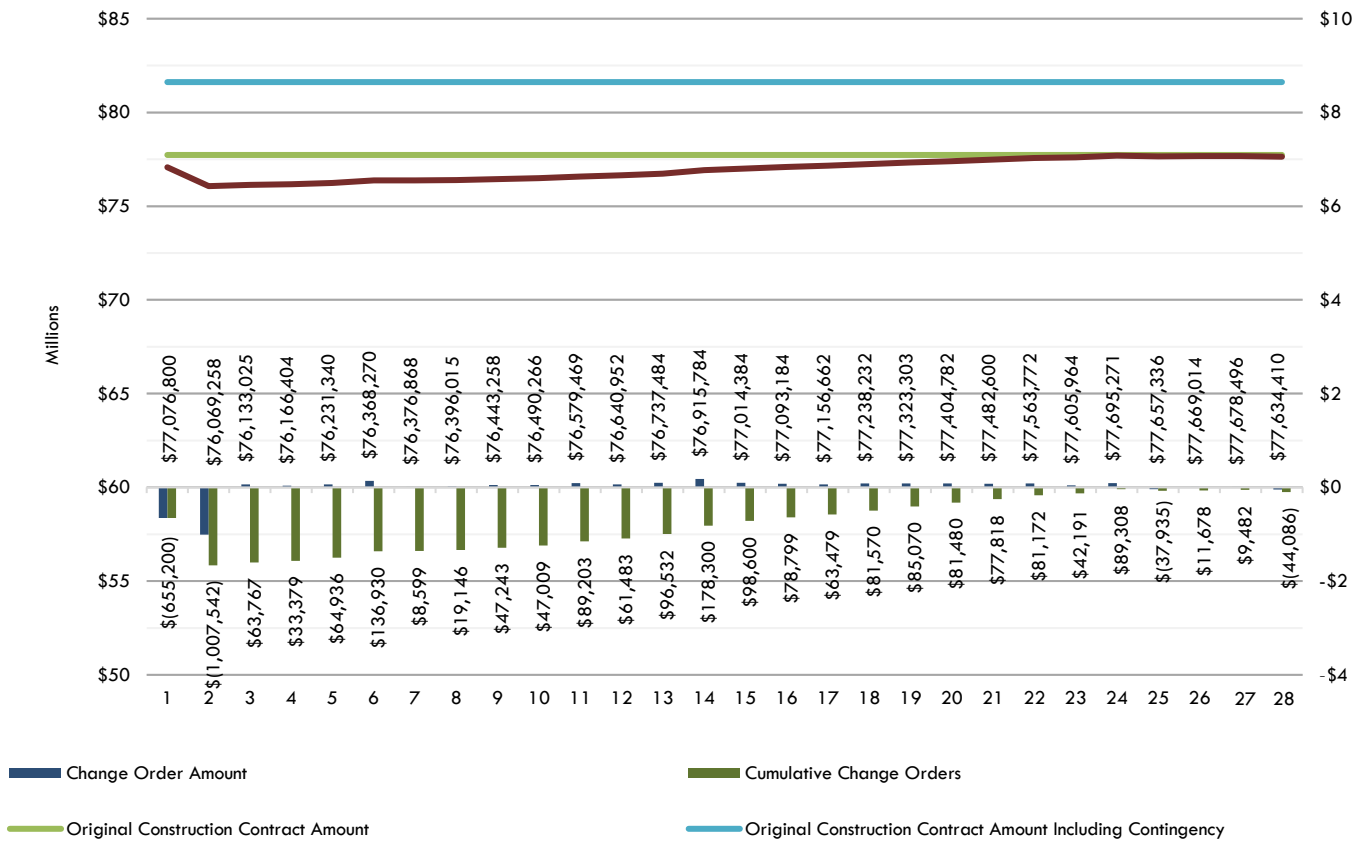
City of Wausau, Wisconsin

Donohue Project Number 13229

Period | June 9 – July 6, 2024

Invoice 85

Overall Project Budget



Budget Notes:

1. None.

Remarks

1. None.

INVOICE



3311 Weeden Creek Road
Sheboygan, WI 53081
Phone: 920-208-0296
www.donohue-associates.com

Invoice To:

City of Wausau
Attn: Ben Brooks
407 Grant Street
Wausau, WI 54403

Invoice Date:

July 11, 2024

Donohue Project No.:

13229

Invoice No:

13229-85

Project Manager:

Mike Gerbitz

Terms:

Net 30 Days

Billing Period:

06/09/24 - 07/06/24

Project Description: Wastewater Facilities Plan & Design

Your Authorization:

Engineering Services Agreement, Signed 03/29/17
Amendment No. 1, Signed 06/28/18
Amendment No. 2, Signed 03/05/19
Amendment No. 3, Signed 01/27/20
Amendment No. 4, Signed 05/07/20
Permit Review Fees Payment Request, 02/27/20

Compensation:

Time and Expense	\$	129,220.00
Time and Expense	\$	984,565.00
Time and Expense	\$	3,323,900.00
Time and Expense	\$	4,351,831.00
Time and Expense	\$	1,843,325.00
Permit Review Fees	\$	12,534.50
Total	\$	10,645,375.50

Billing Summary:

Total Charges to Date	\$	10,642,792.73
Charges Previously Billed	\$	10,638,317.01
Current Charges	\$	4,475.72

Summary of Current Charges

Labor (18.0 hours)	\$	3,155.00
Reimbursable Expenses	\$	-
Permit Review Fees	\$	-
Subconsultants	\$	1,320.72
Total	\$	4,475.72

Current Charges Due	\$	4,475.72
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Please Remit to:

Donohue & Associates, Inc.
3311 Weeden Creek Road
Sheboygan, WI 53081
Phone: 920-208-0296
Fax: 920-208-0402

Aged Receivables

<u>Current</u>	<u>31 - 60 Days</u>	<u>61 - 90 Days</u>	<u>91 - 120 days</u>	<u>>120 days</u>
\$4,475.72	\$7,710.20	\$3,340.05	\$204.43	\$0.00

WATER UTILITY FUND

30-Jun-24

	City FY24 Amended Budget Detail	Operations	Refinancing	GAC	Treatment Plant	EauClaire Blvd	Solar Project	Water Meters	Transportation Equipment	Miscellaneous Equipment	Booster Generator	Total
Revenues												
Public Charges for Services	12,299,100	5,502,992										5,502,992
Miscellaneous Revenue	15,000	52,188										52,188
Interest on Investments		65,986	384,915									450,901
State Grants				1,527,878								1,527,878
Proceeds from Long Term Debt	500,000			6,471,133								6,471,133
Other Financing Sources												
Revenues	12,814,100	5,621,166	384,915	7,999,011	-	-	-	-	-	-	-	14,005,092
Expenses												
Salaries and Wages	1,595,741	660,181										660,181
Benefits	629,973	215,502										215,502
210 Professional Services	251,800	70,855		112,110	244,067		44,438				1,766	473,236
220 Utility Services	534,600	250,850										250,850
230 Repair and Maintenance Services-Streets and Related Facilities	250,000	40,893										40,893
240 Repair and Maintenance Services-Other	147,000	30,008										30,008
250 Special Services	197,000	74,930										74,930
290 Other Contractual Services	17,100	9,554										9,554
310 Office Supplies	52,300	22,240										22,240
320 Publications, Subscriptions and Dues	13,000	370										370
330 Travel	21,500	18,708										18,708
340 Operating Supplies	49,700	21,843										21,843
350 Repair and Maintenance Supplies	-	17,282										17,282
360 Other Repairs and Maintenance Supplies	560,500	26,969										26,969
390 Other Supplies and Expense	642,800	38,292										38,292
410 Concrete and Clay Products	-	12										12
420 Metal Products	-	146										146
430 Wood Products	-	45										45
440 Plastic Products	-	1,530										1,530
450 Raw Materials - Chemicals	874,000	361,488										361,488
480 Fabricated Materials	104,300	-										-
510 Insurance	12,000	57,190										57,190
520 Other Permits and Regulatory Fees	600	2,220										2,220
530 Rents and Leases	400	14,163										14,163
540 Meter Allocation	-	-										-
590: Other Fixed Charges	-	-										-
610 Principal Redemption	2,647,120	2,664,241	17,550,000									20,214,241
620 Interest	863,926	448,874	795,834									1,244,708
690 Other Debt Service	10,000	2,800										2,800
Payment In Lieu of Tax	1,590,000	-										-
740 Losses	5,000	-										-
60000:Capital Outlay	1,709,000			4,102,797	240	364,739		696,052		49,533		5,213,361
Expenses	12,779,360	5,051,186	18,345,834	4,214,907	244,307	364,739	44,438	696,052	-	49,533	1,766	29,012,762
Revenues Over/(Under) Expenses	34,740	569,980	(17,960,919)	3,784,104	(244,307)	(364,739)	(44,438)	(696,052)	-	(49,533)	(1,766)	(15,007,670)

SEWER UTILITY FUND

30-Jun-24

	City FY24 Amended Budget Detail	Operations	EauClaire Blvd Mains and Accessories	Transportation Equipment	Metering and Monitoring	Pumping Equipment	Greenwood Northwestern Lift Station	Treatment Plant	Total
Revenues									
Intergovernmental Revenue	-	-							
Public Charges for Services	9,789,738	5,128,806							5,128,806
Miscellaneous Revenue	4,007	13							13
Interest on Investments	-	87,834							87,834
Capital Contributions									-
Proceeds From Long Term Debt	-							66,190	66,190
Revenues	9,793,745	5,216,653	-	-	-	-	-	66,190	5,282,843
Expenses									
Salaries and Wages	1,018,841	573,850							573,850
Benefits	488,828	244,515							244,515
210 Professional Services	258,000	25,897						20,671	46,568
220 Utility Services	1,251,500	295,619							295,619
230 Repair and Maintenance Services-Streets and Related Facilities	2,000								-
240 Repair and Maintenance Services-Other	254,000	72,848							72,848
250 Special Services	83,500	80,683							80,683
290 Other Contractual Services	14,000	11,199							11,199
310 Office Supplies	14,700	9,994							9,994
320 Publications, Subscriptions and Dues	25,800	12,973							12,973
330 Travel	36,700	14,811							14,811
340 Operating Supplies	21,600	15,138							15,138
350 Repair and Maintenance Supplies	77,200	25,180							25,180
360 Other Repairs and Maintenance Supplies	215,100	75,345							75,345
390 Other Supplies and Expense	128,000	23,965							23,965
410 Concrete and Clay Products	-	1,333							1,333
420 Metal Products	-	9,684							9,684
440 Plastic Products	-	-							-
450 Raw Materials - Chemicals	659,000	197,046							197,046
480 Fabricated Materials	5,000	-							-
510 Insurance	34,000	83,608							83,608
520 Other Permits and Regulatory Fees	42,000	32,088							32,088
530 Rents and Leases		45							45
540 Meter Allocation									-
590 Other Fixed Charges		-							-
610 Principal Redemption	3,246,679	3,305,216							3,305,216
620 Interest	1,755,240	915,528							915,528
690 Other Debt Service	-	800							800
740 Losses	-								-
60000:Capital Outlay	-		133,630	17,000			753,230		903,860
50920:Transfers to Other Funds	-								-
Expenses	9,631,688	6,027,365	133,630	17,000	-	-	753,230	20,671	6,951,896
Revenues Over/(Under) Expenses	162,057	(810,712)	(133,630)	(17,000)	-	-	(753,230)	45,519	(1,669,053)

Market: Milwaukee
Site Number: ML83232A
Site Name: ML15AL341

WATER TOWER LEASE AGREEMENT

This Water Tower Lease agreement ("Agreement") is entered into this ____ day of _____, 2023, between Sprint Spectrum, L.P., a Delaware limited partnership, having a mailing address of 6391 Sprint Parkway, Overland Park, KS 66251-2650 ("Lessee") and the Wausau Water Works, a sewer and water utility organized under the laws of the state of Wisconsin having a mailing address of 407 Grant Street, Wausau, WI 54403 ("Lessor").

WHEREAS, Lessor and Lessee's predecessor in interest, Alamosa (Wisconsin) Properties, LLC, entered into a Water Tower Lease Agreement dated December 15, 2004, whereby Lessor leased to Lessee certain leased Premises, therein described, that are a portion of the Property located at 2700 West Wausau Avenue, Wausau, WI 54403 ("**Agreement**"); and

WHEREAS, the term of the Agreement expired on December 31, 2019 and Lessee has been operating as a holdover tenant to the present day;

WHEREAS Lessor and Lessee agree to continue the holdover period until the full execution of the Agreement;

WHEREAS Lessor and Lessee, in their mutual interest, enter into this Agreement asset forth below accordingly.

1. Leased Premises.

- a. Subject to the terms and conditions of the Agreement, Lessor hereby leases to Lessee and Lessee leases from Lessor the following:
 - i. A portion of Lessor's real property, located at 2700 W. Wausau Avenue of the City of Wausau, legally described in the attached Exhibit A ("Lessor's Property"), subject to any and all existing easements;
 - ii. A portion of the Lessor's water tower ("Structure"), as more particularly shown in Exhibit D attached hereto, on which telecommunications equipment, connecting cables and appurtenances are, or will be, attached and located, the exact location of each to be reasonably approved by Lessor's Director of Utilities, or his designee;
 - iii. A portion of the Structure's interior wall surface reasonably necessary to connect equipment installed on Lessor's Property at or near the base of the Structure to the equipment installed on the Structure's interior and exterior (collectively, the "Leased Premises"); and
 - iv. Notwithstanding any other provision of the Agreement, if, at any time, Lessee seeks to increase the amount or size of the Leased Premises, Lessor reserves the right to renegotiate the terms of this Agreement.

- b. Lessor also grants to Lessee a non-exclusive license for ingress and egress across Lessor's Property to the Leased Premises, and a non-exclusive license for installing and using underground utility lines in the location(s) shown on Exhibit ____ (Antenna Site Application).

2. **Term and Renewal.** The Initial Term of the Lease shall be five (5) years commencing on the first day of the month following full execution of this Agreement by all parties (the "**Commencement Date**"), and ending on the day immediately preceding the fifth (5th) anniversary of the Commencement Date (the "**Initial Term**"). The Initial Term, together with any Renewal Terms and Extended Periods are referred to collectively as the "**Term.**" The Term of the Agreement is extended for two (2) additional successive five (5) year periods ("Renewal Terms") on the same terms of the Agreement and successive Amendments. The Agreement, as amended hereby shall be automatically renewed for each successive Renewal Term unless Tenant sends written notice of non-renewal to Landlord no later than 180 days prior to the expiration of any Renewal Term, such notice to be provided in accordance with the Agreement, as amended hereby. In the event of a non-renewal by Lessor, Lessor grants Lessee the permission to erect and maintain a portable, temporary Antenna Facilities for a period of 120 days after termination, provided a suitable site for such temporary Facility is available, as determined by Lessor. The rental fee for such temporary facility shall be at 50 percent of the Annual Rent amount for the period that temporary facilities are required.

3. **Annual Rent**

- a. **Initial Annual Rent Amount, Adjustments.** Lessee will pay the Initial Annual Rent in equal annual installments for the Initial Term of thirty six thousand and no/100 Dollars (\$36,000). Annual Rent for any partial years will be prorated.
- b. The Rent for each successive Renewal Term shall increase by \$4,000 and be paid in equal annual installments.
- c. **Sublease.** The Lessee shall not be allowed to sublease space on the Structure to additional telecommunications providers. Separate lease agreements for additional ground and antenna space shall be with the Lessor, not the Lessee.
- d. **Site Restoration Escrow.** Per Section 13(d) of this Agreement the Lessee shall, upon the commencement of this Agreement, deposit with Lessor the sum of Ten Thousand and No/100 Dollars (\$10,000.00), which shall be fully refunded to Lessee upon the timely removal of the equipment shelter, all antennas, facilities, and related equipment, and the repair and restoration of the Leased Premises to the reasonable satisfaction of the Lessor.
- e. All charges payable under the Agreement such as utilities and taxes shall be billed by Lessor within one (1) year from the end of the calendar year in which the charges were incurred; any charges beyond such period shall not be billed by Lessor, and shall not be payable by Lessee. The foregoing shall not apply to Annual Rent which is due and payable without a requirement that it be billed by Lessor.

The provisions of this subsection shall survive the termination or expiration of this Agreement.

4. **Governmental Approval Contingency.**

- a. **Lessee Application.** Lessee's right to continue to use the Leased Premises is expressly made contingent upon its obtaining or maintaining all the certificates, permits, zoning and other approvals that may be required by any federal, state, or local authority. This shall include the engineering studies specified in subparagraphs 4(b) and 4(c) below. Lessor shall cooperate with Lessee in its efforts to obtain and retain such approvals and shall take no action that would adversely affect the status of the Leased Premises with respect to the Lessee's proposed use thereof. Lessee shall not consider this Agreement, or the negotiations to enter into a lease, as alleviating the Lessee from any and all requirements for Lessee to obtain needed certificates, permits, zoning, and other approvals including conditional use permits or other special approvals required by City, County, State or Federal Governments.
- b. **Interference Study.** Before obtaining a building permit, and upon request of Lessor, Lessee must provide a radio frequency interference study, carried out by an independent and qualified professional selected by the Lessee and approved by the Lessor, which approval shall not be unreasonably withheld, conditioned, or delayed, showing that Lessee's intended use will not interfere with any communications facilities existing prior to the date of the Agreement, as long as such existing radio frequency user(s) operate and continue to operate within their respective frequencies and in accordance with all applicable laws and regulations ("Pre-Existing Tenant").
- c. **Structural Engineering Certification.** Before obtaining a building permit, Lessee must provide an engineering study carried out by a qualified engineer showing that the Structure, as shown in Exhibit ___, is able to support the Lessee's Antenna Facilities. If the study finds that the proposed structure is inadequate to support the proposed load, Lessor may deny Lessee a building permit and Lessee shall have one hundred fifty-five (155) days to submit structural reinforcement plans and apply for a new permit.
- d. **Non-Approval.** In the event that any application necessary under subparagraph in 4(a) above is finally rejected or any certificate, permit, license, or approval issued to Lessee is canceled, expires, lapses, or is otherwise withdrawn or terminated by government authority so that Lessee, in its sole discretion, will be unable to use the Leased Premises for its intended purposes, or if an interference or engineering study, whether conducted pursuant to subparagraph 4(b) and 4(c) above or otherwise, should indicate, in Lessee's sole discretion, that the Leased Premises are unsatisfactory for Lessee's intended use, Lessee shall have the right to terminate the Agreement, with 180 days prior notice, and be reimbursed for any prepaid Annual Rent, covering the period subsequent to the date of effective termination. Notice of Lessee's exercise of its right to terminate pursuant to this subparagraph shall be given to Lessor in writing as provided in accordance with paragraph 22, Notices, of Agreement termination. Except as required under subparagraph 13(d) below, upon such termination, this Agreement termination shall become null and void and the parties shall have no final obligation to each other.

5. **Lessee Use.**

- a. **User Priority.** Lessee agrees that the following priorities of use, in descending order, shall apply in the event of radio frequency communication interference or other conflict while the Agreement is in effect, and Lessee's use shall be subordinate accordingly:
 - i. Lessor;
 - ii. Public safety agencies, including law enforcement, fire, and ambulance services that are not part of the Lessor;
 - iii. Other governmental agencies where use is not related to public safety; and
 - iv. Lessee and other government-regulated entities whose antenna offer a service to the general public for a fee in a manner similar to public utility, such as long distance and cellular telephone, not including radio or television broadcasters and Pre-Existing Tenants.
- b. **Purposes.** Lessee shall use the Leased Premises only for the purpose of installing, maintaining, repairing, replacing and operating Lessor-approved (which approval shall not be unreasonably withheld, conditioned, or delayed) communications Antenna Facilities (as hereinafter defined), equipment, cabinets and an accessory building, and uses incidental thereto for providing wireless telecommunications services which Lessee is legally authorized to provide to the public. Lessor grants Lessee the right to enter upon Lessor's Property to conduct Lessee's engineering/technical feasibility studies prior to installation and/or modification of Lessee's Antenna Facilities (as hereinafter defined) on the Leased Premises. This use shall be non-exclusive, and Lessor specifically reserves the right to allow the Lessor's Property, except the Leased Premises, to be used by other parties and to make additions, deletions, or modifications to its own facilities on the Leased Premises, subject to Lessee's rights under the Agreement. Lessee's communications antenna facility shall consist of antennas, radio heads and related equipment at a Lessor-approved location on or within the Structure (which approval shall not be unreasonably withheld, conditioned, or delayed), along with cables and appurtenances connected to an accessory building or cabinet located on the Leased Premises ("Antenna Facilities"). Lessee's installation, maintenance and operation of the Antenna Facilities shall at all times comply with all applicable ordinances, statutes and regulations of local, state and federal governmental agencies. Lessee shall have exclusive use of its Antenna Facilities.
- c. **Construction.** Lessee may erect and operate its Antenna Facilities in accordance with its submitted application (Exhibit ____ (Antenna Site Application)) and its plans and specifications (Exhibit ____). Lessee agrees that it will install only equipment that Lessee knows will not interfere with equipment of Pre-Existing Tenants or with equipment with higher operating priority and continuing to operate within their respective frequencies and in accordance with all applicable laws and regulations. Except for removal and replacements as described in 5(i), the installation of any new or altered equipment other than as set forth in Exhibits ____ and ____ require Lessor's written authorization, which Lessor may not unreasonably withhold, condition, or delay.

- d. Construction Plans. For the initial installation of all Antenna Facilities and for any and all subsequent revisions and/or modifications or additions thereto, Lessee shall provide Lessor and Lessor's Water Tower Construction Engineer ("Construction Engineer") each with two sets of proposed drawings ("Construction Plans") of the equipment and improvements installed on the Leased Premises consisting of the following:

- 1) line or CAD drawings showing the actual physical location of all planned installations plus materials and construction methods;
- 2) specifications for all planned installations;
- 3) diagrams of proposed Antenna Facilities;
- 4) a complete and detailed inventory of all equipment and personal property of Lessee to be placed on the Leased Premises. Lessor retains the right to survey the installed equipment.

Proposed drawings shall be easily readable and subject to prior written approval by the Construction Engineer, which shall not be withheld, conditioned or delayed without cause. Lessor shall have 30 business days to review the Construction Plans. If Lessor fails to either approve the Construction Plans or provide written request for changes of said Construction Plans to Lessee within the 30-day period, the Construction Plans will be deemed approved.

Lessee shall be solely responsible for all costs associated with said review and approval of Construction Plans by Construction Engineer.

Lessee shall provide Lessor, within 30 days after Lessee activates the Antenna Facilities or completes its modifications, with drawings in electronic file format compatible to the City's record file system as Exhibit ____ consisting of as-built drawings of the Antenna Facilities and the improvements installed on the Property, which show the actual location of all equipment and improvements. Said drawings shall be accompanied by a complete and detailed inventory of all equipment, personal property, and Antenna Facilities. A site survey shall be required if Lessee expands its ground equipment footprint or makes utility modifications outside of its existing conduit path/or easements.

- e. Contractor Approval. Any Contractor chosen by Lessee to carry out construction, installation, maintenance or any other work on the Structure must be pre-approved by Lessor prior to the pre-construction meeting. Contractor shall provide to Lessor, the following minimum information:

- Name and contact information
- Experience (with water storage tank installations)
- OSHA violations within the previous three years.

The Lessor retains sole discretion and reserves the right to reject any and all contractors the Lessee may choose for the installation work as determined to be in the best interests of the Lessor and to waive any informalities.

- f. Inspection. Consulting engineering inspection will be provided beginning with the pre-construction conference and continuing through installation/construction/punch-list

and verification of as-builts at project completion as determined solely, but reasonably, by Lessor, at Lessee's expense. Lessor will not arbitrarily require more inspection than is reasonably necessary to insure the continued delivery of service and security of Lessor's property. Lessee shall pay for all reasonable, actually incurred costs of Lessor's inspections/installation project management costs for this or any other project within 30 days after Lessor sends a sufficiently detailed invoice for such fees to Lessee. In addition to consulting and engineering inspection costs, Lessee shall reimburse Lessor, for all reasonable, actually incurred costs associated with reviewing this Agreement and approving Lessee's application, including but not limited to all attorney's fees, and third-party consultant fees and expenses. All fees and invoices must be paid within 30 days after Lessor sends Lessee a sufficiently detailed invoice for the same. Prior to energizing Lessee's system (start-up), all punch list items related to installation must be substantially complete (the exception may be weather related finish painting, etc., as reasonably determined by Lessor).

- g. Operation. Lessee shall have the right, at its sole expense, to operate and maintain the Antenna Facilities on the Leased Premises in accordance with good engineering practices with all applicable FCC rules and regulations. Lessee's installation of all Antenna Facilities shall be done according to plans approved by Lessor, which approval shall not be unreasonably withheld, conditioned, or delayed. To the extent any damage is done by Lessee, its employees or agents, to the Leased Premises or other Lessor Property, including the Structure, during installation or during operations, the Lessee shall make repairs at Lessee's expense within 30 days after notification of damage. The Antenna Facilities shall remain the exclusive property of the Lessee, unless otherwise provided in the Lease.
- h. Maintenance, Improvement Expenses. All modifications to the Leased Premises and all improvements made for Lessee's benefit shall be at the Lessee's expense and such improvements, including antenna, facilities and equipment, shall be maintained in a good state of repair, at least equal to the standard of maintenance of the Lessor's facilities on or adjacent to the Leased Premises, and secured by Lessee. If Lessee's Antenna Facilities are mounted on the Structure they shall, at all times, be painted, at Lessee's expense, the same color as the Structure. The Lessor reserves the right to require or waive this requirement as it pertains to feed line, jumpers, brackets, connectors, and other ancillary equipment on a case by case basis depending on the installation configuration.
- i. Improvements or Replacements. A replacement is considered the direct replacement of items of the same equipment, with the same size, weight, and location as the equipment originally approved and documented in Exhibit B (Antenna Site Application). Replacement with different equipment type, configuration, size, weight, location or technology will require technical review and a new amendment request and approval, which approval shall not be unreasonably withheld, conditioned, or delayed. Before the Lessee may improve or replace the Antenna Facilities, Lessee must notify and provide a detailed proposal to Lessor. Lessee shall submit a new application for any such facilities and any other information reasonably requested by Lessor of such requested update or

replacement, including but not limited to a an interference or structural capacity study, carried out at Lessee's expense.

- j. No Physical Interference. Lessee shall, at its own expense, maintain any equipment on or attached to the Leased Premises and owned by Lessee in a safe condition, in good repair in accordance with industry standards and applicable laws, so as not to conflict with the use of the surrounding Lessor's Property by Lessor. Lessee shall not unreasonably interfere with the operations of any prior Lessee using the Structure and shall not interfere with the working use of the water storage facilities thereon or to be placed thereon by Lessor.
 - k. Access. Lessee, at all times during the Agreement shall have exclusive access to its Antenna Facilities located on the Lease Premises in order to install, replace, improve, operate, repair, and maintain its Antenna Facilities once properly approved by Lessor as provided herein. Lessee shall request access to the Structure twenty-four (24) hours in advance, except in an emergency, from the Water Utility office located at 1801 Burek Avenue, Wausau, WI 54401. Access to equipment on the Structure shall be granted with prior notice, Lessee's employee's identification and in the presence of a utility employee. Both the Lessor and the Lessee shall maintain a written record of all site visits, including the name of all personnel. In the event it is necessary for Lessee to have emergency access to the Structure at some time other than the normal working hours of Lessor, Lessor will charge Lessee for employees' wages that Lessor may incur in providing such access to Lessee.
 - l. Payment of utilities. Lessor makes no representations that utilities adequate for Lessee's use of the Leased Premises are available. Lessee shall separately meter charges for the consumption of electricity and other utilities associated with its use of the Leased Premises and shall be responsible to promptly pay all costs associated therewith. Lessor will cooperate with Lessee in Lessee's efforts to obtain utilities from any location provided by the servicing utility.
 - m. Quiet Enjoyment. Lessee, upon paying the Annual Rent shall peaceably and quietly have, hold and enjoy the Leased Premises and shall not be disturbed in its possession, use and enjoyment of the Leased Premises. Lessor shall not cause or permit any use of the Lessor's Property that interferes with or impairs (a) the integrity of the Structure to which the Antenna Facilities are attached or (b) the quality of the communication services being rendered by Lessee from the Leased Premises. Except in cases of emergency, Lessor shall not have access to the Antenna Facilities ground level equipment building on the Leased Premises unless accompanied by Lessee's personnel.
6. Emergency Facilities. In the event of a natural or manmade disaster that renders Lessee's Antenna Facilities inoperable, in order to protect the health, welfare, and safety of the community, Lessee may erect additional Antenna Facilities and install additional equipment, including a cell on wheels and generator on a temporary basis on the Leased Premises to assure continuation of service. Such temporary operation shall not exceed 90 days, or 90 days from the date that the facilities become operable, unless Lessee obtains written approval from the Lessor. Annual Rent shall be abated at 50% of the

prorated annualized amount for the period of usage that temporary facilities are required.

7. **Additional Maintenance Expenses.** Upon notice from Lessor, Lessee shall promptly pay to Lessor all reasonable additional Lessor expenses incurred in maintaining the Leased Premises, including painting of the Leased Premises, which are directly caused by Lessee's occupancy of the Leased Premises.
8. **Structure Reconditioning and Repairs.** Lessee shall remove its Antenna Facilities at Lessee's cost, upon reasonable notice, to allow maintenance, repair, repainting, restoration or other activity as required by Lessor. There may be scheduled interruptions in use of the Antenna facilities. Except in the case of an emergency, Lessor shall give Lessee 180 days' notice of repair, repainting or restoration. In case of emergency, Lessor may remove Lessee's Antenna Facilities but shall notify Lessee by telephone within a reasonable time. An "emergency" shall be deemed to exist only in those situations which constitute an immediate threat to the health or safety of the public or immediate danger to the Property. In the event the use of Lessee's Antenna Facilities is interrupted, Lessee shall have the right to maintain mobile cellular equipment, including a cell on wheels and generator, on the facility property. Oldest tenants will have priority if space is limited. If site will not accommodate mobile equipment, it is Lessee's responsibility to locate auxiliary sites.
9. **Defenses and Indemnification.**
 - a. **General.** To the extent allowed by law, Lessor and Lessee each indemnify the other against and hold the other harmless from any and all costs (including reasonable attorneys' fees and expenses) and claims, actions, damages, obligations, liabilities and liens to the extent same arise out of (i) the breach of the Lease by the indemnifying party; and (ii) the use and or occupancy of the Lessor's Property, except for any claims, actions, damage, obligations, liabilities and liens arising from any negligent or intentional misconduct of the indemnified party. This provision shall survive the termination of the Agreement.
 - b. **Hazardous Materials.** Without limiting the scope of subparagraph 9(a) above, Lessee will be solely responsible for and will defend, indemnify, and hold Lessor, its agents, and employees harmless from and against any and all claims, cost, and liabilities, including reasonable attorneys' fees and costs, to the extent same arise out of or in connection with the cleanup or restoration of the Leased Premises associated with the Lessee's use of Hazardous Material. This defense and indemnification shall not apply to claims, costs, and liabilities to the extent same arise from Lessor's negligence or willful misconduct. For the purposes of the Agreement "Hazardous Materials" shall be interpreted broadly and specifically includes, without limitation, asbestos, fuel, batteries or any hazardous substance, waste, or material as defined in any federal, state or local environmental or safety laws or regulation including, but not limited to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

- c. Lessee's Warranty. Lessee represents and warrants that the use of the Leased Premises will not generate, and Lessee will not store or dispose of on the Lease Premises, nor transport to or over the Leased Premises, any Hazardous Materials in violation of applicable laws, unless Lessee specifically informs Lessor thereof in writing twenty-four (24) hours prior to such storage, disposal or transport, or otherwise as soon as Lessee becomes aware of the existence of Hazardous Material on the Leased Premises. Lessee shall provide initial and annual updates of Material Safety Datasheets (MSD) on all hazardous materials that are part of, or necessary to, the operation of the Antenna Facilities and maintenance thereof. Lessee warrants that no hazardous material supplies used in routine maintenance and or repair will be stored on the Leased Premises. The obligations of this paragraph 9(c) shall survive the expiration or other termination of the Agreement.
- d. Lessor's Warranty. Lessor represents and warrants that it is not aware of the existence of any other Hazardous Material on the Leased Premises, the Structure, or the real estate upon which the Structure is situated. The obligations of the Paragraph 9(d) shall survive the expiration or other termination of the Agreement.

10. Insurance.

- a. Workers' Compensation. The Lessee must maintain Workers' Compensation insurance in compliance with all applicable statutes. The policy shall also provide Employer's Liability coverage with limits of one million dollars (\$1,000,000) Bodily Injury each accident, one million dollars (\$1,000,000) bodily injury by disease, policy limit, and one million dollars (\$1,000,000) Bodily Injury by disease, each employee.
- b. General Liability. The Lessee must maintain an occurrence form Commercial General Liability Coverage per ISO form CG 00 01 or its equivalent. Such coverage shall provide for third party bodily injury and property damage arising out of Lessee's use, maintenance or operation of the Lease Premises and Antenna Facilities. The Lessee must maintain aforementioned Commercial General Liability Coverage with limits of Liability of one million dollars (\$1,000,000) each occurrence; one million dollars (\$1,000,000) personal and advertising injury, two million dollars (\$2,000,000) general aggregate, and, two million dollars (\$2,000,000) products and completed operations aggregate. These limits may be satisfied by the Commercial General Liability Coverage or in combination with an Umbrella or Excess Liability Policy, provided coverage afforded by the Umbrella or Excess Policy is no less than the underlying Commercial General Liability Coverages.
- c. Automobile Liability. The Lessee must carry Commercial Automobile Liability coverage. Coverage shall afford total combined single limits in the amount of one million dollars (\$1,000,000) per accident. The liability limits may be afforded under the Commercial Automobile Liability Policy, or in combination with an Umbrella or Excess Liability Policy provided coverage afforded by the Umbrella or Excess Policy is no less than the underlying Commercial Automobile Liability Coverage. Coverage shall be provided for third party bodily injury and property damage arising out of the ownership, use, maintenance or operation of all owned, non-owned and hired automobiles. Unless subject to rejection by State law, the Commercial Automobile

Policy shall include statutory personal injury protection, uninsured motorists and under-insured motorist coverages.

- d. Lessee Property Insurance. The Lessee must keep in force for the duration of the Lease a policy covering damages to its property at the Leased Premises, which risk may be self-insured. The amount of coverage shall be sufficient to replace Lessee's damaged property, loss of use and comply with any ordinance or statutory requirements.
 - e. Lessor's Insurance. Lessor shall maintain Commercial General Liability insurance insuring Lessor against liability for personal injury, death or damage arising out of Lessor's ownership, use or management of the Leased Premises or Structure by Lessor, its employees or agents, with combined single limits of, two million dollars (\$2,000,000). Lessor shall also maintain fire and extended coverage insurance insuring the Structure for its full insurable value (subject to reasonable deductibles).
 - f. Adjustment of Insurance Coverage Limits. Notwithstanding the foregoing insurance requirements of Lessee, Lessee agrees to periodically review and adjust insurance coverage limits in accordance with then-current market and industry standards during the Initial Term and Renewal Terms.
 - g. Additional Insured - Certificate of Insurance. The Lessee shall provide, prior to tenancy, evidence of the required insurance in the form of a Certificate of Insurance or Lessee's form for self-insurance. The required insurance will be issued by a company or companies with an A.M. Best rating of at least A-VII eligible to do business in the State of Wisconsin. Lessee will include Lessor as an Additional Insured on the Commercial General Liability and Commercial Automobile Liability Policies. Lessee shall provide at least thirty (30) days prior written notice to Lessor of cancellation of any required coverage that is not replaced.
 - h. Notwithstanding the foregoing, Lessee may, in its sole discretion, self-insure any of the required insurance under the same terms as required by this Agreement.
11. **Damage or Destruction.** Lessee's installation of the Antenna Facilities shall be done according to plans approved by Lessor. Any damage done to the Leased Premises or other Lessor property including the Structure during installation or during operations shall be repaired at Lessee's expense within thirty (30) days after notification of damage and to Lessor's reasonable satisfaction. The Antenna Facilities shall remain the exclusive property of the Lessee, unless otherwise provided in the Agreement. Lessor waives any and all lien rights it may have, statutory or otherwise, concerning the Antenna Facilities or any portion thereof. The Antenna Facilities shall be deemed personal property for purposes of the Agreement regardless of whether any portion is deemed real or personal property under applicable law.
12. **Reimbursement of Expenses by the Lessee.** If Lessee fails to reimburse Lessor for its expenses within thirty (30) days after receipt of an invoice from Lessor, or if Lessee fails to provide the information required within thirty (30) days after activation of the Antenna Facilities, Lessee shall be deemed to be in default under the Agreement. In

addition to being in default hereunder, Lessee shall pay a penalty to Lessor of a 1.5% the monthly outstanding balance per month for each month that Lessee fails to pay the invoice submitted by Lessor and/or provide the documents required as the case may be. The terms of this paragraph shall survive the termination or expiration of the Agreement.

13. Lease Termination.

- a. Events of Termination. Except as otherwise provided herein, the Agreement, may be terminated as follows:
 - i. By either party upon a default of any covenant or term hereof by the other party, which default is not cured within thirty (90) days of receipt of written notice of default to the other party (without, however, limiting any other rights of the parties pursuant to any other provision hereof); or
 - ii. By Lessee for cause, upon sixty (60) days' written notice to Lessor, if Lessee is unable to obtain or maintain any license, permit or other governmental approval necessary for the construction and/or operation of the Antenna Facilities or Lessee's business; or
 - iii. By Lessee, for any reason, or not reason, upon 60 days written notice and payment of an early termination fee as described in 13(c) below.
 - iv. By Lessee if Lessee's transmission is interfered with by Lessor or its other tenants' equipment. Such right to terminate shall become void if Lessor cures such interference within thirty (30) days of receipt of written notice; or
 - v. By Lessor, upon sixty (60) days' written notice to Lessee, if an independent engineer engaged by Lessor determines that the Structure is structurally unsound, including, but not limited to, consideration of age of Structure, damage or destruction of all or part of the structure on the Leased Premises from any source or factors relating to condition of the Leased Premises; or
 - vi. Upon 120 day's prior written notice by the Lessor to Lessee if its Council decides, for any reason, to redevelop the Leased Premises in a manner inconsistent with continued use of the Leased Premises by Lessee and/or discontinue use of the Leased Premises for this purpose; or
 - vii. By Lessor, upon sixty (60) days' written notice to Lessee, if it determines that a potential user with a higher priority under subparagraph 5(a) above cannot find another adequate location, or the Antenna Facilities unreasonably interfere with another user with a higher priority, regardless of whether such an interference was predicted in the initial interference study that was part of the application process; or
 - viii. By Lessor if it determines that Lessee has failed to comply with applicable ordinances or state or federal law, or any conditions attached to

government approvals granted thereunder after a thirty (90) day cure period.

- b. Notice of termination. In accordance with paragraph 24, Notices, the parties shall give notice of termination in writing by certified mail, return receipt requested. Such notice shall be effective upon receipt as evidenced by the return receipt. Except as set forth herein, all Annual Rent paid under the Agreement prior to said termination date shall be retained by Lessor.
- c. Lessee's Liability for Early Termination. If Lessee terminates the Agreement pursuant to section 13(a)(iii) , Lessee shall pay to Lessor a termination fee equal to one hundred and fifty (150%) percent of the then current annual rent , unless Lessee terminates during the last year of any Term and Lessee has paid the Annual Rent for that year.
- d. Site Restoration. In the event that the Agreement is terminated or not renewed, Lessee shall have sixty (60) days from the termination or expiration date to remove its Antenna Facilities and related equipment from the Leased Premises, repair the site and restore the surface of the Structure. Should this situation occur during the winter season, the sixty (60) day period shall commence at the start of weather permissible to the quality of workmanship required by Lessor. Such time period shall be agreeable to Lessor and Lessee. In the event that Lessee's Antenna Facilities and related equipment are not removed to the reasonable satisfaction of the Lessor, they shall be deemed abandoned and become the property of the Lessor, and Lessee shall have no further rights thereto. Upon the Commencement Date, Lessee shall deposit with Lessor the Site Restoration Escrow fee in the sum of Ten Thousand and No/100 Dollars (\$10,000.00), which shall be fully refunded to Lessee upon the timely removal of the Antenna Facilities and related equipment, and the repair of the site to the reasonable satisfaction of the Lessor. In the event that Lessee is in default under the Agreement beyond all applicable notice, cure, and grace periods, this deposit may be utilized by Lessor to recover unpaid rent. In the event that Lessee's Antenna Facilities and related equipment are not removed to the reasonable satisfaction of the Lessor in accordance with the terms of the Agreement, the Lessor shall have the option to take the following actions:
 - 1.Utilize the Site Restoration Escrow funds to fully decommission the Antenna Facilities, have the Antenna Facilities removed, and to repair the site and restore the property. In the event the deposited funds are insufficient to complete said work, Lessee shall be responsible for and shall pay for the cost of such work within thirty (30) days of being invoiced. If Lessor removes the Antenna Facilities or related equipment, Lessor must give written notice to any mortgagee of Lessee at the addresses provided, informing them that Antenna Facilities or related property have been removed and will be deemed abandoned if not claimed and the storage fees and other reasonable costs paid within 30 days; or,
 - 2.Take full ownership of the Antenna Facilities and continue their operations at the expense and benefit of the City and return to Lessee the Site Restoration Escrow fee within 30 days of taking full ownership

- e. If Lessor elects to terminate the Agreement in order to demolish or otherwise remove from service the Structure on Leased Premises and construct a new Structure on or in the vicinity of the Leased Premises that can accommodate Lessee's existing equipment, then:
 - i. If requested by Lessee, subject to compliance with all requirements of Section 4 of this Agreement, Lessor shall make a good faith effort to accommodate the relocation of Lessee's equipment to the new elevated tank at Lessee's sole cost and expense upon completion of the new elevated tank; and
 - ii. Lessee may continue to occupy the existing Structure until thirty (30) days after Lessor notifies Lessee that the new elevated tank is complete and that Lessee may relocate their equipment to the new tank; and
 - iii. Upon relocation of Lessee's equipment on the new tank, the Agreement shall be deemed a lease of the space to be occupied by Lessee on the New Tank and the parties shall amend the Lease Exhibits in order to identify the New Tank Site and Lessee's equipment locations thereon.

14. **Limitation of Lessor's Liability.** If Lessor terminates the Agreement other than for cause as of right as provided in the Agreement or Lessor causes interruption of the business of Lessee, or for any other Lessor breach of the Agreement, Lessor's liability for damages to Lessee shall be limited to the actual and direct costs of the replacement of this site in Lessee's network including, without limitation, equipment removal, relocation or repair, and all costs associated with the identification of a new site for Lessee's replacement Antenna Facilities, the negotiation of its purchase or lease, applying for any necessary governmental approvals, and the cost of constructing a new antenna support structure, including without limitation, surveys, designs, foundation, steel, and erection of the structure and supporting facilities, but not including the Lessee's own communications equipment, and shall specifically exclude any recovery for value of the business of Lessee as a going concern, future expectation of profits, loss of business or profit or related damage to Lessee.

15. **Temporary Interruptions of Service.** If Lessor determines, in accordance with radio frequency emission standards adopted by the federal government pertaining to radio frequency emissions or such other applicable standards concerning public health and safety as governed by the Federal Communications Commission or such other government entity having jurisdiction, that continued operation of the Antenna Facilities would cause or contribute to an immediate threat to public health and/or safety (except for any issues associated with human exposure to radio frequency emissions, which is regulated by the federal government), Lessor may order Lessee to immediately discontinue service with the existing facility before a temporary facility is erected. Lessee shall immediately comply with such order. Lessee shall have the right to construct a temporary facility for use during the period of discontinued service by the existing facility. Service shall be discontinued only for the period that the immediate threat exists. If Lessor does not give prior notice to Lessee, Lessor shall notify Lessee as soon as possible after its action and give its reason for taking the action. Lessor shall not be liable to Lessee or any other party for any interruption in Lessee's

service or interference with Lessee's operation of its Antenna Facilities except to the extent same may be caused by the negligence or willful misconduct of the Lessor, its employees or agents. Notwithstanding the above, Lessee may seek immediate judicial review of Lessee's request to immediately cease service.

16. Lessee Interference.

- a. With Structure. In the performance of its approved use, Lessee shall at its own expense maintain its equipment on or attached to the Leased Premises in a safe condition, in good repair and in accordance with applicable laws and industry standards, so as not to conflict with the use of the surrounding premises by Lessor. Lessee shall not interfere with Lessor's use of the Structure and agrees to cease all such actions that unreasonably and materially interfere with Lessor's use thereof no later than five (5) business days after receipt of written notice of the interference from Lessor. In the event that Lessee's cessation of action is material to Lessee's use of the Leased Premises and such cessation frustrates Lessee's use of the Leased Premises, within Lessee's sole discretion, Lessee shall have the immediate right to terminate this Agreement for cause and without payment of a termination fee. Further, Lessee shall be entitled to a reimbursement of prepaid Annual Rent covering the period to the effective date of termination.
- b. With Higher Priority Users. If Lessee's Antenna Facilities cause impermissible interference with higher priority users as set forth under subparagraph 5(a) above or with Pre-Existing Tenants, Lessee shall take all measures necessary to correct and eliminate the interference. If the interference cannot be eliminated within 48 hours after receiving Lessor's written notice of the interference, Lessee shall immediately cease operating its Antenna Facilities and shall not reactivate operation, except intermittent operation for the purpose of testing, until the interference has been eliminated. If the interference cannot be eliminated within thirty (30) days after Lessee received Lessor's written notice, Lessee may power down (except for intermittent testing) or remove the interfering equipment until it finds a cure, or Lessee may at its option terminate the Agreement.
- c. Interference Study - New Occupants. Upon written notice by Lessor that it has a bona fide request from any other party to lease an area in close proximity to the Leased Premises ("Leased Premises Area"), Lessee shall provide to Lessor within sixty (60) days the radio frequencies currently in operation or anticipated by Lessee to be operated in the future of each transmitter and receiver installed and operational on the Leased Premises at the time of such request. Lessor may then have an independent, registered professional engineer of Lessor's choosing perform the necessary interference studies to determine if the new applicant's frequencies will cause harmful radio interference to Lessee. Lessor shall require the new applicant to pay for such interference studies.
- d. Interference - New Occupants. Lessor agrees that it will not grant a future lease in the Leased Premises Area to any party who is of equal or lower priority to Lessee, if such party's use is reasonably anticipated to interfere with Lessee's operation of its Antenna Facilities. Lessor agrees further that any future lease of the Leased Premises

Area will prohibit a user of equal or lower priority from interfering with Lessee's Antenna Facilities. Lessor agrees that it will require any subsequent occupants of the Leased Premises Area of equal or lower priority to Lessee to provide Lessee these same assurances against interference. Lessor shall have the obligation to eliminate any interference with the operation of Lessee caused by such subsequent occupants. If such interference is not eliminated, Lessee shall have the right to terminate the Agreement or seek injunctive relief against the interfering occupant, at Lessee's expense.

17. **Noise.** All wireless service facilities shall be constructed and operated in such a manner as to minimize the amount of noise impacts to residents of nearby homes and the users of recreational areas, such as public parks and trails. Noise attenuation measures shall be required for all air-conditioning units. Backup generators shall only be operated during power outages and for testing and maintenance purposes. At any time, noise attenuation measures may be required by the City of Wausau when deemed necessary. Testing and maintenance activities of wireless service facilities that generate audible noise shall occur between the hours of eight o'clock (8:00) A.M. and five o'clock (5:00) P.M., weekdays (Monday through Friday, non-holiday) excluding emergency repairs, unless allowed at other times by the City of Wausau. Testing and maintenance activities that do not generate audible noise may occur at any time, unless otherwise restricted by the City of Wausau.
18. **Installation of a Generator.** Lessee shall not install or replace any generator on the Property without Lessor's prior written approval, which approval shall not be unreasonably withheld, conditioned, or delayed. Notwithstanding the foregoing, Lessee shall be permitted to place an emergency generator within its Leased Premises for a period up to seven (7) days in the event of a power failure to the Antenna Facilities. In the event that Lessor grants approval for the placement of a generator on the Property, or Lessee is permitted to place a generator within its Leased Premises due to an emergency power failure, Lessee agrees to maintain or repair any such generator within its Leased Premises, as located on Exhibit ____ (Antenna Site Application). Lessee further agrees that Lessor may limit the noise level at the Property that may prohibit the use of the generator if required to comply with applicable regulations and that the installation of any generator must fall within the noise level limits to comply with applicable regulations. In the event that Lessee exceeds the applicable mandated noise level, Lessee shall take all such steps requested by Lessor to reduce the sound levels to the mandated level, including, but not limited to, installing additional mufflers, or any other requirements that may be requested or required, including but not limited to ceasing all operations of the generator. All sound reduction measures shall be performed at Lessee's sole cost and expense. If Lessee fails to comply with Lessor's proposed sound reduction measures within 60 days, Lessee shall be deemed in default hereunder and Lessor may take any and all measures to stop the use of the generator. Lessee shall further repair any and all damage caused by the use of the generator upon the Property. All reasonable expenses incurred by Lessor hereunder, including attorneys' fees, shall be paid by Lessee to Lessor upon demand.

19. **Assignment.** The Agreement, or rights there under, may not be sold, assigned, or transferred at any time by Lessee except to Lessee's affiliates without the written consent of the Lessor, such consent not to be unreasonably withheld, conditioned, or delayed. For purposes of this paragraph, an "affiliate" means an entity that controls, is controlled by or under common control with Lessee. Lessor hereby consents to the assignment by Lessee of its rights under the Agreement as collateral to any entity that provides financing for the purchase of equipment used by Lessee in connection with the provision of wireless telecommunication services.
20. **Disputes.** Except for injunctive relief requests by either party, any claim, controversy or dispute arising out of the Agreement not resolved within ten (10) days following notice of the dispute shall be submitted first and promptly to mediation. Each party shall bear its own cost of mediation. If mediation does not result in settlement within forty-five (45) days after the matter was submitted to mediation, either party may commence suit in the county where the Leased Premises are located.
21. **Enforcement and Attorneys' Fees.** In the event that either party to this Agreement shall bring a claim to enforce any rights hereunder, the prevailing party shall be entitled to recover cost and reasonable attorneys' fees and other reasonable enforcement costs and expenses incurred as a result of such claim, as allowed by law.
22. **Notices.** All notices hereunder must be in writing and shall be deemed validly given if sent by certified mail, return receipt requested, or by courier services, addressed as follows (or any other address that the party to be notified may have designated to the sender by like notice):

If to Lessor:

Director of Public Works
407 Grant Street
Wausau WI, 54403

With a copies to:

City Clerk
407 Grant Street
Wausau, WI 54403

City Attorney
407 Grant Street
Wausau, WI 54403

If to Lessee:

T-Mobile USA, Inc.
12929 SE 38th Street
Bellevue, WA 98006
ATTN: Lease Compliance / ML83232A

23. **Authority**. Each of the individuals executing this Agreement on behalf of the Lessee or the Lessor represents to the other party that such individual is authorized to do so by requisite action of the party to this Agreement.
24. **Binding Effect**. The Agreement shall run with the Leased Premises. The Agreement shall extend to and bind the heirs, personal representatives, successors and assigns of the parties hereto.
25. **Complete Lease; Amendments**. The Agreement constitutes the entire agreement and understanding of the parties and supersedes all offers, negotiation, and other agreements of any kind. There are no representations or understandings of any kind not set forth herein. Any modification of or amendment to the Agreement must be in writing and executed by both parties hereto. Exhibits _____ are incorporated into the Agreement by reference.
26. **Other Terms and Conditions Remain**. All capitalized terms used but not defined herein shall have the same meanings as defined in the Agreement.
27. **Governing Law**. The Agreement shall be construed in accordance with the laws of the State of Wisconsin.
28. **Severability**. If any term of the Agreement is found to be void or invalid, such invalidity shall not affect the remaining terms of the Agreement which shall continue in full force and effect.
29. **Memorandum**. Upon request by either party, the parties agree to promptly execute and deliver a recordable Memorandum of the Agreement in a form acceptable to both parties, which may be recorded by the party requesting the Memorandum of Lease.
30. **Counterparts**. This Agreement may be signed in counterpart by the parties hereto, each of which shall be deemed an original, but all of which when taken together, shall constitute a single instrument.
31. **Cooperation**. The parties hereby agree to cooperate with each other and their authorized representatives regarding any reasonable request made subsequent to execution of this Agreement, to correct any clerical errors contained in this Agreement and to provide any and all additional documentation deemed necessary by either party to effectuate the transaction contemplated by this Agreement. The parties further agree that "to cooperate" as used in this Agreement includes but is not limited to, the agreement by the parties to execute or re-execute any documents that either party reasonably deems necessary and desirable to carry out the intent to the Agreement.

IN WITNESS WHEREOF, the parties have caused their properly authorized representatives to execute and seal this Agreement on the dates set forth below.

“LESSOR”

Wausau Water Works
A sewer and water utility

By: _____
Print Name: Katie Rosenberg
Its: Mayor
Date: _____

ATTEST:

By: _____
Print Name: Kaitlyn A. Bernarde
Its: City Clerk
Date: _____

“LESSEE”

Sprint Spectrum, LP
a Delaware limited partnership

By:
Its:

By: _____
Print Name: _____
Its: _____
Date: _____

[ACKNOWLEDGEMENTS APPEAR ON NEXT PAGE]

LESSOR ACKNOWLEDGEMENT

STATE OF WISCONSIN)
) ss:
COUNTY OF MARATHON)

BE IT REMEMBERED, that on this ____ day of _____, 20__ before me, the subscriber, a person authorized to take oaths in the State of Wisconsin, personally appeared Katie Rosenberg as Mayor of the City of Wausau who, being duly sworn on his/her/their oath, deposed and made proof to my satisfaction that he/she/they is/are the person(s) named in the within instrument; and I, having first made known to him/her/them the contents thereof, he/she/they did acknowledge that he/she/they signed, sealed and delivered the same as his/her/their voluntary act and deed for the purposes therein contained.

Notary Public: _____
My Commission Expires: _____

STATE OF WISCONSIN)
) ss:
COUNTY OF MARATHON)

BE IT REMEMBERED, that on this ____ day of _____, 20__ before me, the subscriber, a person authorized to take oaths in the State of Wisconsin, personally appeared Kaitlyn A. Bernarde as City Clerk of the City of Wausau who, being duly sworn on his/her/their oath, deposed and made proof to my satisfaction that he/she/they is/are the person(s) named in the within instrument; and I, having first made known to him/her/them the contents thereof, he/she/they did acknowledge that he/she/they signed, sealed and delivered the same as his/her/their voluntary act and deed for the purposes therein contained.

Notary Public: _____
My Commission Expires: _____

LESSEE ACKNOWLEDGEMENT

STATE OF)
) ss:
COUNTY OF)

On the ____ day of _____ in the year 20__ before me, the undersigned, a notary public in and for said state, personally appeared, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s) or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary public: _____
My Commission Expires: _____

LIST OF EXHIBITS

Exhibit ____ – Legal Description of the Property

Exhibit ____ – Antenna Site Application

Exhibit ____ – Site Survey

Exhibit ____ – Plans and Specifications

Exhibit ____ – Paint Analysis

EXHIBIT ____

LEGAL DESCRIPTION OF THE PROPERTY

EXHIBIT ____

LEGAL DESCRIPTION OF THE PROPERTY

PARENT PARCEL DESCRIPTION

LOT (1) OF CSM #11573, RECORDED IN VOL. 49, PAGES 55 & 56, AS DOC. #1219391,
CITY OF WAUSAU, MARATHON COUNTY, WISCONSIN

ALAMOSA LEASE PARCEL DESCRIPTION

A PART OF LOT (1) CSM #11573, VOL. 49, PAGES 55 & 56, DOC. #1219391, LOCATED IN
THE SW 1/4 OF THE SW 1/4, SECTION 22, T29N, R07E, CITY OF WAUSAU, MARATHON
COUNTY, WISCONSIN,
DESCRIBED AS FOLLOWS:

COMMENCING AT THE SW CORNER OF SAID SECTION 22; THENCE N00°05'42"W,
ALONG THE WEST LINE OF THE SW 1/4 OF SAID SECTION 22, 36.63 FEET; THENCE
S89°23'14"E, 332.80 FEET TO THE SW CORNER OF CSM #11573; THENCE S89°23'14"E,
87.70 FEET; THENCE N02°19'10"W, 203.18 FEET; THENCE N89°45'04"W, 118.79 FEET;
THENCE N02°28'15"W, 90.30 FEET TO THE POINT OF BEGINNING; THENCE
S86°48'31"W, 7.50 FEET; THENCE N03°11'28"W, 20.00 FEET; THENCE N86°48'31"E, 15.00
FEET; THENCE S03°11'28"E, 20.00 FEET; THENCE S86°48'31"W, 7.50 FEET TO THE
POINT OF BEGINNING. PARCEL CONTAINS 300.00 SQ. FEET MORE OR LESS.
PARCEL IS SUBJECT TO ANY AND ALL EASEMENTS AND RESTRICTIONS OF
RECORD.

ALAMOSA 20' ACCESS EASEMENT DESCRIPTION

A PART OF LOT (1) CSM #11573, VOL. 49, PAGES 55 & 56, DOC. #1219391, LOCATED IN THE SW 1/4 OF THE SW 1/4, SECTION 22, T29N, R07E, CITY OF WAUSAU, MARATHON COUNTY, WISCONSIN, WHOSE CENTERLINE IS DESCRIBED AS FOLLOWS:

COMMENCING AT THE SW CORNER OF SAID SECTION 22; THENCE N00°05'42"W, ALONG THE WEST LINE OF THE SW 1/4 OF SAID SECTION 22, 36.63 FEET TO A POINT IN THE NORTH LINE OF WEST WAUSAU AVENUE; THENCE S89°23'14"E, 332.80 FEET TO THE SW CORNER OF CSM #11573; THENCE S89°23'14"E, 87.70 FEET; TO THE POINT OF BEGINNING; THENCE N02°19'10"W, 203.18 FEET; THENCE N89°45'04"W, 118.79 FEET; THENCE N02°28'15"W, 90.30 FEET TO THE POINT OF TERMINATION. PARCEL IS SUBJECT TO ANY AND ALL EASEMENTS AND RESTRICTIONS OF RECORD.

ALAMOSA 5' UTILITY EASEMENT DESCRIPTION

A PART OF LOT (1) CSM #11573, VOL. 49, PAGES 55 & 56, DOC. #1219391, LOCATED IN THE SW 1/4 OF THE SW 1/4, SECTION 22, T29N, R07E, CITY OF WAUSAU, MARATHON COUNTY, WISCONSIN, WHOSE CENTERLINE IS DESCRIBED AS FOLLOWS:

COMMENCING AT THE SW CORNER OF SAID SECTION 22; THENCE N00°05'42"W, ALONG THE WEST LINE OF THE SW 1/4 OF SAID SECTION 22, 36.63 FEET; THENCE S89°23'14"E, 332.80 FEET TO THE SW CORNER OF CSM #11573; THENCE S89°23'14"E, 87.70 FEET; THENCE N02°19'10"W, 203.18 FEET; THENCE N89°45'04"W, 118.79 FEET; THENCE N02°28'15"W, 90.30 FEET; THENCE N86°48'31"E, 7.50 FEET; THENCE N03°11'28"W, 7.00 FEET TO THE POINT OF BEGINNING; THENCE N87°31'45"E, 121.35 FEET; THENCE S02°28'15"E, 18.46 FEET TO THE POINT OF TERMINATION. PARCEL IS SUBJECT TO ANY AND ALL EASEMENTS AND RESTRICTIONS OF RECORD.

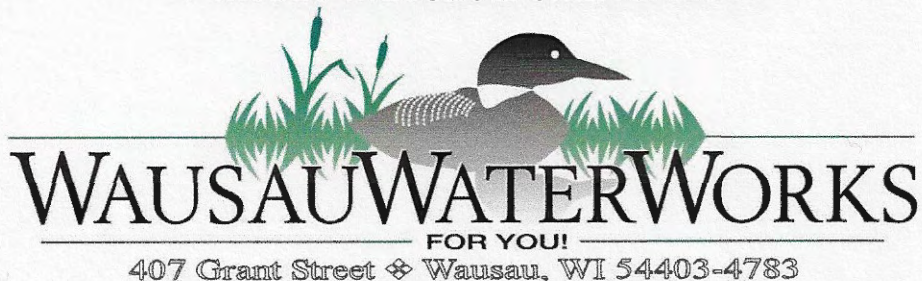
ALAMOSA 5' COAX EASEMENT DESCRIPTION

A PART OF LOT (1) CSM #11573, VOL. 49, PAGES 55 & 56, DOC. #1219391, LOCATED IN THE SW 1/4 OF THE SW 1/4, SECTION 22, T29N, R07E, CITY OF WAUSAU, MARATHON COUNTY, WISCONSIN, WHOSE CENTERLINE IS DESCRIBED AS FOLLOWS:

COMMENCING AT THE SW CORNER OF SAID SECTION 22; THENCE N00°05'42"W, ALONG THE WEST LINE OF THE SW 1/4 OF SAID SECTION 22, 36.63 FEET; THENCE S89°23'14"E, 332.80 FEET TO THE SW CORNER OF CSM #11573; THENCE S89°23'14"E, 87.70 FEET; THENCE N02°19'10"W, 203.18 FEET; THENCE N89°45'04"W, 118.79 FEET; THENCE N02°28'15"W, 90.30 FEET; THENCE S86°48'31"W, 7.50 FEET TO THE POINT OF BEGINNING; THENCE N20°09'34"E, 12.87 FEET TO THE POINT OF TERMINATION. PARCEL IS SUBJECT TO ANY AND ALL EASEMENTS AND RESTRICTIONS OF RECORD.

EXHIBIT ____
ANTENNA SITE APPLICATION

T-Mobile ML83232A/ML15AL341



ANTENNA SITE APPLICATION

Water Tower Site Name & Address: (existing site or proposed new site build) 2700 W. Wausau Ave,
Wausau, WI 54401

Wireless Carrier: T-Mobile
(Complete corporate name of Lessee)

Wireless Carrier Corporate Designation: Telecommunication

1. Name of Applicant: T-Mobile c/o Haley Law Firm, PLC.
2. Address of Applicant: 10059 Bergin Rd, Howell, MI 48843
3. Contact person for Applicant: David Schott Telephone: 517-518-8623
Mobile: 248-978-1562 Email: dschott@haleywirelessgroup.com
4. Technical Advisor (A&E firm): Concordia Telephone: 847 981 0801
Mobile: Contact Applicant Email: Contact applicant
5. Proposed Radio Band: N1900, N2100, L1900, L2100, N600, L600, L700, N2500
6. Propose Radio Frequency(s): see attached list
(Specify or attach a separate list)
7. Type of Service (SMR, ESMR, PCS, Cellular, Two-Way Paging, Microwave, Wi-Fi, WiMAX, etc.)
Cellular

8. Unlicensed spectrum? N *(Circle One)*

If yes, identify in detail the portions of the project to use an unlicensed spectrum. Designate this as an Attachment.

Initial here to indicate Attachment has been included.

If utilizing a Distributed Antenna System (DAS), provide Radio Frequency Coverage Maps prepared by the FCC Licensee(s).

9. Request for Small Cell Site in Utility Row of Way N *(Circle One)*

If yes, include the provided requirements:

Coverage study to show gap in present system coverage.

- A. The study should include:
- 1) Present coverage.
 - 2) Proposed coverage.
 - 3) The frequency band used for the analysis.
 - 4) Latitude/longitude and center of radiation for all of the sites used in the coverage analysis.
 - 5) The effective radiated power for each site.
 - 6) The values of the signal levels for each of the coverage levels used in the study.
- B. For loading sites, include all of the above and the following:
- 1) The area and distance the design is proposing to provide service.
 - 2) Any data to support the loading need.
- C. The level of RF exposure predicted to occur for the general public.
10. Will this site be interconnected via radio frequency transmissions to any other site or sites now constructed, proposed or anticipated N (Circle One)
 Interconnection includes one or more radio frequency links for the purpose to provide for "back-haul" from this site to a switching center or centralized node location.
 If yes, what will the method of interconnection be? _____
 If yes, attach details and specifications.
11. Antenna equipment – Attach applicable specifications.
- A. Number of antennas 6
 - B. Number of zones N/A
 - C. Antenna dimensions FFVV: 25.197"x95.945"x9.252" AEHC: 35.4"x21"x8.3"
 - D. Antenna type, manufacture & model no. Commscope FFVV-65C-R3-V1 (octo) Nokia AEHC (Massive MIMO)
 - E. Number of Radio Units 6
 - F. Radio Unit dimensions AHFIG: 27.6"x13.4"x5.6" AHLOA: 22"x12"x7.4"
 - G. Radio Unit type, manufacture & model no. Nokia AHFIG Radio Nokia AHLOA Radio
 - H. Transmission line or cable manufacture & model no. 275' HCS 2.0 Trunk - 12#4AWG 24 Sm Fiber PR
 - I. Size of cables 1.79" Number of cables 2
 - J. Antenna location on the tower: 1 FFVV and 1 AEHC at the following azimuths: 90, 190, 270 *See sheet A-2A
 (N, S, E, W, NE etc. or specify the exact antenna azimuths)
 - K. GPS Antenna Y (Circle One)
 If yes, provide size, Dimensions and Weight: N/A - GPS on new H-Frame with ground equipment. Page A-4E of drawings for GPS mounting specifics
12. Dish equipment – Attach applicable specifications
- A. Number of dishes 3 Dish dimension 15"x15" Microwave? Y (Circle One) Satellite? N (Circle One)
 - B. Dish type, manufacture & model no. Axist MW Antenna
 - C. Transmission line or cable manufacture & model no. 275' HCS 2.0 Trunk-12#4AWG 24 SM fiber PR
 - D. Size of cables N/A Number of cables N/A
 - E. Dish location on tower: See sheet A-2A
 Initial here DS to indicate specifications are attached.
13. Ground equipment – Attach applicable specifications
- A. Square feet required No change all ground equipment inside the original leased area.
 - B. Inside Tower? N (Circle One) Inside Lessee building? N (Circle One) Outside? Y (Circle One)
 - C. Number of cabinets 2 Cabinet dimensions 72" H x 35" W x 30" D and 75" x 30" x 37"
 - D. Number of air conditioners N/A Air conditioner description N/A
 - E. Generator on site? N (Circle One) If yes, provide type, size and where to be located. _____
 - F. Isolator manufacturer & model no. N/A
 - G. Duplexer manufacture & model no. N/A

H. Filters manufacture & model no. N/A

I. Controls used in addition to the transmitter/receiver cabinet(s)? N (Circle One) If
yes, how many? _____ manufacture & model no. _____
Initial here _____ to indicate specifications are attached.

14. Desired date of operation: TBD based on approval of permit.

15. Description of scope of Work

(Example: _Install 3 new radio units, relocate 3 antenna, add new power plant)

T-Mobile intends to upgrade the existing telecommunication equipment in the existing leased space on the water tower.

This will include swapping out antennas on the tower as well as upgrading the ground equipment. For further
details on the project, please see submitted site plans or contact applicant at 248-978-1562 or by email
at dschott@haleywirelessgroup.com

READ CAREFULLY BEFORE SIGNING

The undersigned agrees and acknowledges that in addition to the Antenna Site Application Fee, the applicant is responsible for all costs associated with the applicant's proposed system that is to be installed on Wausau Water Works property, whether or not the application results in a lease.

Costs may include, but are not limited to the following:

1. Interference analysis and inter-modulation study by the Engineering/Communications Consultant of Wausau Water Works.
2. Review of construction plans by the Engineering/Communications Consultant of Wausau Water Works.
3. Review of lease agreement by the City's Attorney.
4. Inspection time by the Engineering/Communications Consultant of Wausau Water Works.
5. Site Coordination of any items (examples: antennas or utilities) performed by Wausau Water Works or its Engineering/Communications Consultant.
6. Surveying, if required.
7. Utility Service by local utilities to bring or upgrade electrical or telephone service to the property for the use by the applicant.
8. All required permitting and licensing fees.

All projects, agreements and agreement amendments require approval from the Wausau Water Works Commission prior to the commencement of any work.

A certified check in the amount of \$15,000.00 will be required at the time of submittal of the installation plans. These escrow funds will be utilized by the landlord to pay expenses related to professional services necessary for the review of the installation plans and construction (Items 1-6 of the list above) by the Engineering/ Communications Consultant of the City. Unused escrow funds will be returned to tenant at the completion of the antenna installation.

A certified check in the amount of \$ 3000.00 will be required at the time a completed application form is submitted for City administrative service fees.

Signature of Wireless Carrier:  Date: 8-23-23
(Future Lessee, not Applicant)

Name and Title of Signer: Haley Law Firm, PLC
Name: David Schott on behalf of T-Mobile Title: Site Acquisition
(Please Print Clearly)

Checks are to be made payable to:

Wausau Water Works
407 Grant Street
Wausau, WI 54403-4783
(715) 261-6530

THIS APPLICATION AND SUPPORTING DOCUMENTS WILL BE REFERENCED
AS EXHIBITS TO THE SITE LEASE AGREEMENT.

EXHIBIT ____

SITE SURVEY

JSD

Jenkins Survey & Design, Inc.

245 Horizon Drive, Suite 108
Verona, Wisconsin 53593
608-848-5060

THESE DRAWINGS ARE THE PROPERTY OF
GEM ENGINEERING. THEY ARE FOR THE
EXCLUSIVE USE OF THIS PROJECT. ANY
RE-USE OF THESE PLANS (DRAWINGS)
WITHOUT THE EXPRESSED WRITTEN
CONSENT OF GEM ENGINEERING IS
PROHIBITED.

SITE NUMBER

ML15AL348

SITE NAME

CELLCOM/
CHURCH GROUNDS

DATE

DRAWN BY

CHECKED BY

REV DESCRIPTION

ALAMOSA
PERSONAL COMMUNICATIONS SERVICE

4403 BROWNFIELD HIGHWAY
LUBBOCK, TEXAS 79407
PHONE: (806) 722-1135
FAX: (806) 722-1120

CONSULTANT:

APPROVALS

SPRINT PROJECT MGR	DATE
RF ENGINEER	DATE
REAL ESTATE	DATE
SPRINT IMPLEMENTATION MGR	DATE
PROPERTY OWNER/ OWNERS REP/LESSOR	DATE
ADDITIONAL APPROVAL	DATE
ADDITIONAL APPROVAL	DATE

SHEET TITLE

SITE
SURVEY

SHEET NUMBER

C-1

LEGAL DESCRIPTION

EMPHASIS - EGRESS EASEMENT

A 16-foot wide strip of land being part of Lot One (1) of Certified Survey Map No. 11573, recorded in Volume 48, Page 0053 on Document No. 1218301 of the Marathon County Register of Deeds Office, located in the Southwest 1/4 of the Southwest 1/4, Section 22, Town 29 North, Range 7 East, City of Wausau, Marathon County, Wisconsin, the centerline of which is more particularly described as follows:

Commencing at the southwest corner of said Section 22; thence along the west line of said southwest 1/4 of Section 22, N 01°05'42" W, 36.63 feet to the northerly right-of-way line of West Wausau Avenue; thence along said northerly right-of-way line S 89°23'14" E, 332.80 feet to the southwest corner of said Certified Survey Map No. 11573; thence continuing along said northerly right-of-way line of West Wausau Avenue, also being the southerly line of said Certified Survey Map No. 11573 S 89°23'14" E, 88.00 feet to the point of beginning; thence N 02°19'18" W, 286.87 feet to the point of termination of this description.

LEASE PARCEL

A parcel of land being part of Lot One (1) of Certified Survey Map No. 11573, recorded in Volume 48, Page 0053 on Document No. 1218301 of the Marathon County Register of Deeds Office, located in the Southwest 1/4 of the Southwest 1/4, Section 22, Town 29 North, Range 7 East, City of Wausau, Marathon County, Wisconsin, the centerline of which is more particularly described as follows:

Commencing at the southwest corner of said Section 22; thence along the west line of said southwest 1/4 of Section 22, N 01°05'42" W, 36.63 feet to the northerly right-of-way line of West Wausau Avenue; thence along said northerly right-of-way line S 89°23'14" E, 332.80 feet to the southwest corner of said Certified Survey Map No. 11573; thence continuing along said northerly right-of-way line of West Wausau Avenue, also being the southerly line of said Certified Survey Map No. 11573 S 89°23'14" E, 88.00 feet; thence N 02°19'18" W, 286.87 feet to the point of beginning; thence S 89°23'14" E, 22.00 feet; thence N 01°07'30" W, 40.00 feet; thence N 89°53'40" E, 40.00 feet; thence S 01°07'30" E, 40.00 feet; thence S 89°53'40" W, 18.00 feet to the point of beginning.

Said parcel contains 1,600 square feet or 0.037 acres.

SURVEYOR'S CERTIFICATE

I, Dave M. Jenkins, Registered Land Surveyor, hereby certify that this is a true, complete and correct topographic survey of the lands shown, with information provided, situated in the City of Wausau, Marathon County, Wisconsin, to the best of my knowledge and belief.

Date

Dave M. Jenkins, S-2255
Registered Land Surveyor

LEGEND

- ◆ Section Corner
- Property Corner Found
- Property Corner Set (3/4" Dia. Rebar)
- ⊙ BM-1 Bench Mark Location & Number
- ⊙ CP-1 Horizontal Control Point Location & Number
- ⊙ Power Pole
- ⊙ Hydrant
- Gravel Edge
- Property Line
- Platted Lot Line
- Section Line
- Easement Line
- Lease Parcel Line
- Centerline
- Right-of-Way Line
- Fence Line
- Underground Electrical Power
- Overhead Electrical Power
- Underground Fiber Optic
- Underground Telephone
- Overhead Telephone
- Underground Cable
- Overhead Cable
- Gas Main
- Index Contour
- Intermediate Contour
- Building
- Tree Line

NOTES

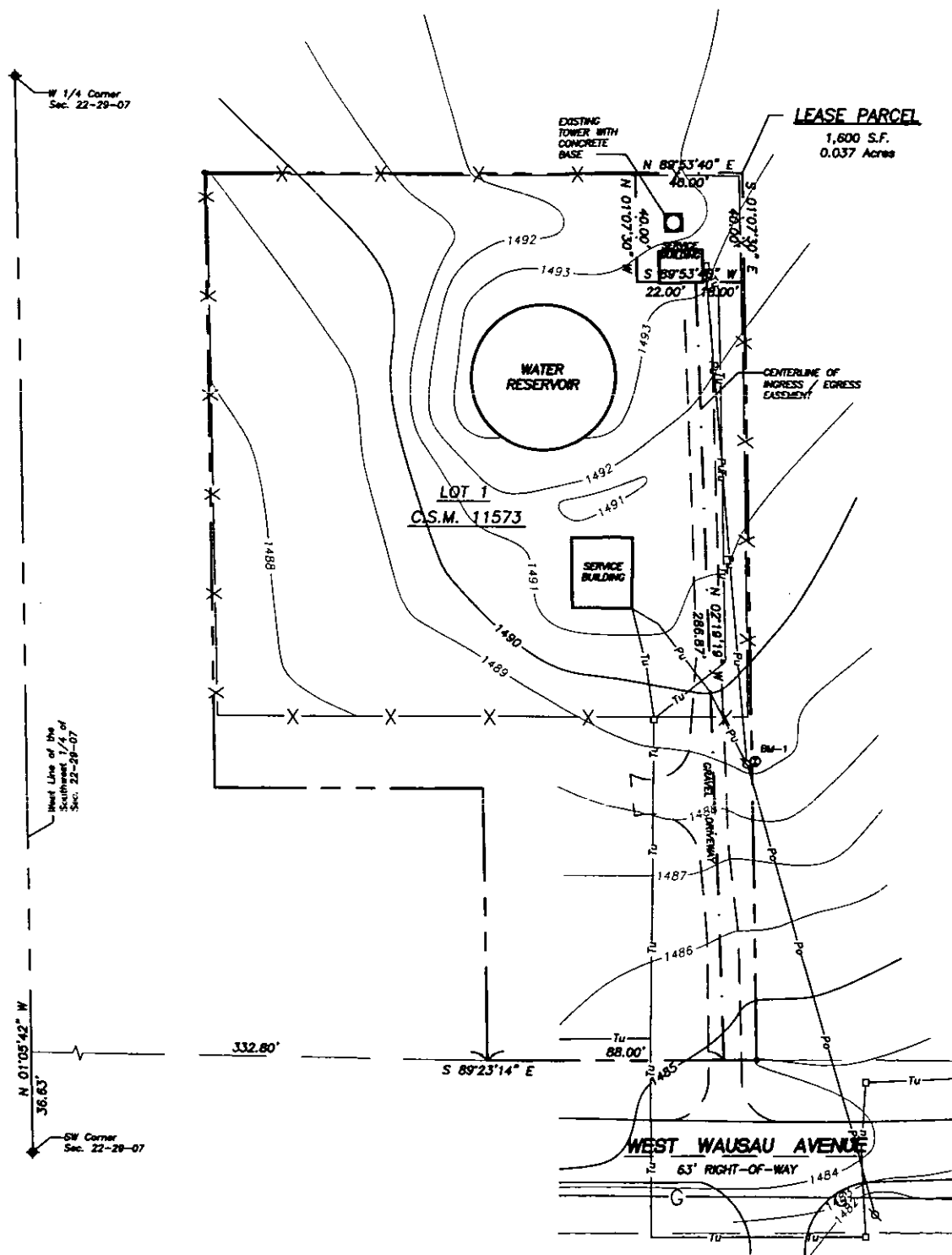
1. Elevations for this survey and map are referenced to NGVD 29.
2. Project Benchmarks:
800 Spikes in Power Pole. Deviation = 1480.31
3. Contour interval is one (1) foot.
4. Bearings for this survey and map are referenced to the north-south quarter line of Section 15-29-12 which bears N 01° 07' 40" E based upon the Wisconsin State Plane Coordinate System, Central Zone, NAD 1983(91).
5. Jenkins Survey & Design, Inc. does not warrant the location of any underground utilities. Subsurface utilities and features shown on this map have been approximated by locating surface features and appearances, locating Digper's Hotline field markings and by reference to utility records and maps.
6. Before excavation, appropriate utility companies should be contacted. For exact location of underground utilities, contact Digper's Hotline, 1-800-242-8511.

THIS SITE SURVEY WAS REPRODUCED FROM
AN EXISTING SURVEY PERFORMED BY
(JENKINS SURVEY & DESIGN, INC.). GEM ENGINEERING
CLAIMS NO RESPONSIBILITY FOR THE CONTENTS
OF THIS SURVEY AND ITS LEGAL DESCRIPTION. SEE
ORIGINAL SIGNED & SEALED SURVEY FOR MORE
INFORMATION.

SURVEYED FOR:

GEM Engineering Company
2500 Wilmet, Suite 100
Houston, Texas 77042
(713) 338-1590

SITE NAME: CHURCH / W.T.
SITE NO.: ML15AL348



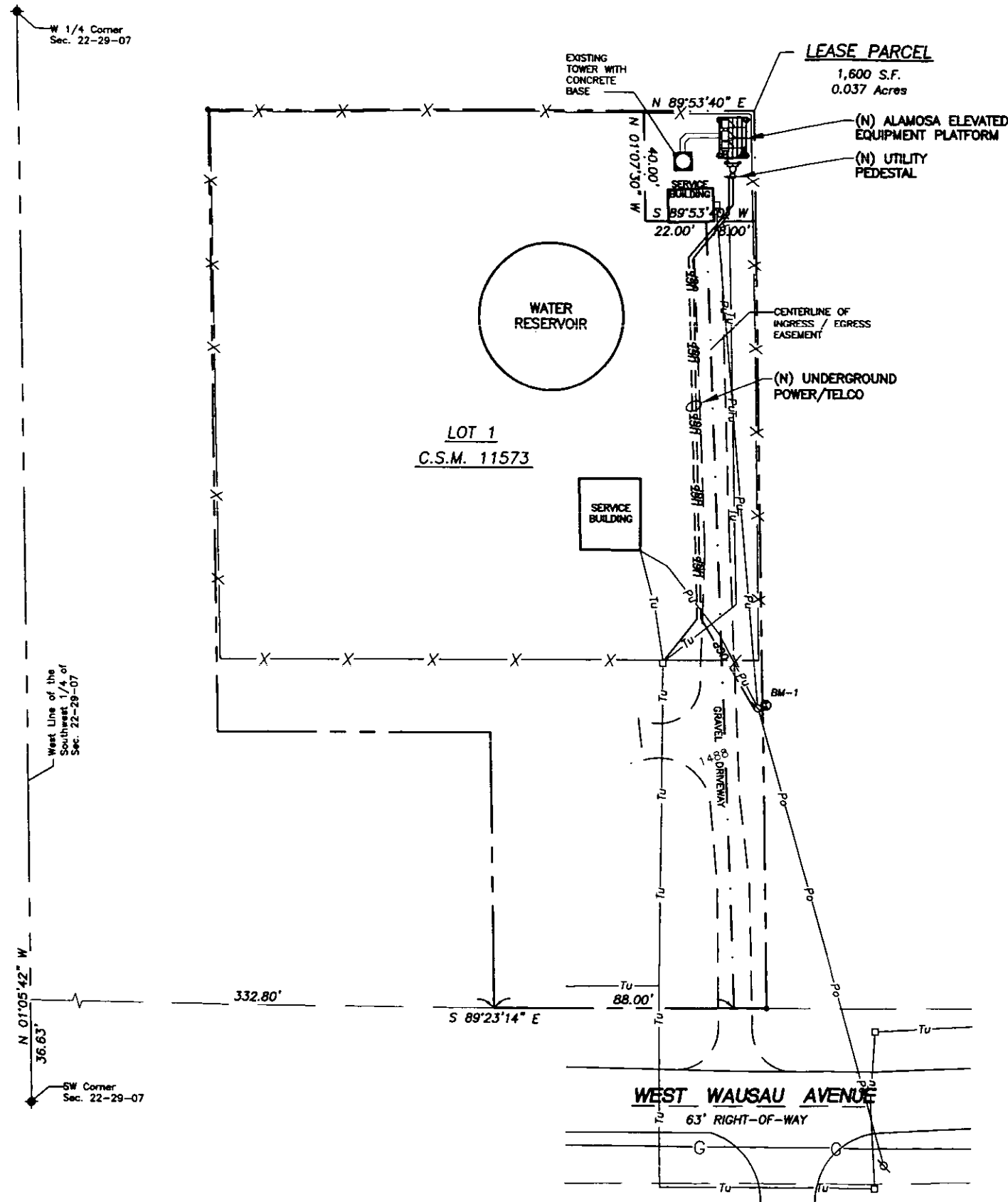
CENTER OF TOWER	
NAD 83 (1991) - Wisconsin Central Zone	
N. Latitude:	44°58'28.1"
W. Longitude:	89°40'10.4"
Northing (Y):	416,187
Easting (X):	2,054,010
Elevation (Z): NGVD 29	1492.7



CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE
BE SURE TO IDENTIFY
YOURSELF AS A
DIGGERS HOTLINE USER

THE INFORMATION SHOWN ON THIS DRAWING
CONCERNING TYPE AND LOCATION OF UNDER-
GROUND UTILITIES IS NOT GUARANTEED TO BE
ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS
RESPONSIBLE FOR MAKING HIS OWN DETERMINA-
TIONS AS TO THE TYPE AND LOCATION OF UNDER-
GROUND UTILITIES AS MAY BE NECESSARY TO
AVOID DAMAGE THEREOF.

File Info: T:\Lead\Sprint - Alamosa Wisconsin\Monopoles\ML15AL348 - WAUSAU 10A\3-23-01 FINAL CONSTRUCTION\10A\3-23-01 14:48 RHardy PS



LEGEND

◆	Section Corner
●	Property Corner Found
○	Property Corner Set (3/4" Dia. Rebar)
⊙	Bench Mark Location & Number
△	Horizontal Control Point Location & Number
⊗	Power Pole
⊙	Hydrant
---	Gravel Edge
---	Property Line
---	Platted Lot Line
---	Section Line
---	Easement Line
---	Lease Parcel Line
---	Centerline
---	Right-of-Way Line
---	Fence Line
---	Underground Electrical Power
---	Overhead Electrical Power
---	Underground Fiber Optic
---	Underground Telephone
---	Overhead Telephone
---	Underground Cable
---	Overhead Cable
---	Gas Main
---	Index Contour
---	Intermediate Contour
---	Buildings
---	Tree Line

CENTER OF TOWER

NAD 83 (1991) - Wisconsin Central Zone	
N. Latitude:	44°58'28.1"
W. Longitude:	89°40'10.4"
Northing (Y):	416,187
Easting (X):	2,054,010
Elevation (Z): NGVD 29	1492.7

1 ENLARGED SITE PLAN
C-1A SCALE: 1"=50'-0"

GEM Engineering
2500 Wilcrest Suite 100
Houston TX 77042-2252
Phone: 713-339-1550
Fax: 713-339-9922

THESE DRAWINGS ARE THE PROPERTY OF GEM ENGINEERING. THEY ARE FOR THE EXCLUSIVE USE OF THIS PROJECT. ANY RE-USE OF THESE PLANS (DRAWINGS) WITHOUT THE EXPRESSED WRITTEN CONSENT OF GEM ENGINEERING IS PROHIBITED.

SITE NUMBER

ML15AL348

SITE NAME

CELLCOM/
CHURCH GROUNDS

DATE 3/23/01

DRAWN BY RPC

CHECKED BY TA/CDG

REV	DESCRIPTION
0	Construction Final

ALAMOSA
PERSONAL COMMUNICATIONS SERVICE

4403 BROWNFIELD HIGHWAY
LUBBOCK, TEXAS 79424

CONSULTANT:
BEJUN N. ANKLESARIA
006-0026406
HOUSTON, TX.

3/23/01

SPRINT PROJECT MGR	DATE
RF ENGINEER	DATE
REAL ESTATE	DATE
SPRINT IMPLEMENTATION MGR	DATE
PROPERTY OWNER/ OWNERS REP/LESSOR	DATE
ADDITIONAL APPROVAL	DATE
ADDITIONAL APPROVAL	DATE

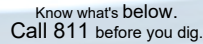
SHEET TITLE

ENLARGED
SITE
PLAN

SHEET NUMBER

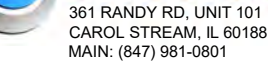
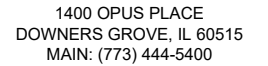
C-1A

EXHIBIT ____
PLANS AND SPECIFICATIONS



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

GC SHALL CONTACT THE A&E FIRM PRIOR TO BID WALK AND CONSTRUCTION START TO CONFIRM THAT DRAWINGS ARE THE MOST RECENT SET.

**ML83232A****ML15AL341****WAUSAU, WI 54401**

PROFESSIONAL DESIGN
FIRM LICENSE # 184-004952

CHECKED BY: RH	CHECKED BY: GMS
----------------	-----------------

REV	DESCRIPTION	DATE	INITIALS
1	PCD'S	07/27/23	ED
2	FCD'S	08/14/23	EM

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

1. INTERNATIONAL BUILDING CODE 2015
2. NATIONAL ELECTRIC CODE (NEC) 2017
3. INTERNATIONAL MECHANICAL CODE 2015
4. INTERNATIONAL FUEL GAS CODE 2015
5. INTERNATIONAL ENERGY CONSERVATION CODE 2015
6. STATE OF WISCONSIN PLUMBING CODE 2018
7. INTERNATIONAL FIRE CODE 2015
8. AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
9. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION
10. TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL TOWER AND ANTENNA SUPPORTING STRUCTURES
11. TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

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

FOR SITES WHERE A CRANE IS NECESSARY, THE CONTRACTOR SHALL CONFIRM AN UNOBSTRUCTED ROUTE FOR THE CRANE FROM PUBLIC ROAD TO TOWER SITE PRIOR TO CONSTRUCTION. NO AERIAL OBSTRUCTIONS UNDER FIFTEEN FEET ABOVE GRADE, INCLUDING AERIAL UTILITY LINES, ARE ALLOWED ALONG SAID CRANE ROUTE.

GC SHALL CONTACT THE A&E FIRM PRIOR TO BIDWALK AND CONSTRUCTION START TO CONFIRM THAT DRAWINGS ARE THE MOST RECENT SET.

ANTENNA LEVEL:

1. REPLACEMENT OF (3) EXISTING ANTENNAS W/ (6) NEW ANTENNAS
2. REPLACEMENT OF (6) EXISTING RF RADIOS W/ (3) NEW AHFIG'S, (3) NEW AHLOA'S AND NEW RF JUMPERS
3. INSTALLATION OF (2) NEW HYBRID BREAKOUT BOXES, (2) NEW HYBRID TRUNK CABLES & (9) NEW FIBER JUMPERS
4. INSTALLATION OF (6) NEW ANTENNA MOUNTS

GROUND LEVEL:

1. INSTALLATION OF NEW ICE BRIDGE CANOPY
2. INSTALLATION OF (1) NEW HP LARGE 3 SSC
3. INSTALLATION OF (1) NEW BATTERY CABINET 3
4. INSTALLATION OF (1) NEW PPC, (1) NEW CIENA
5. INSTALLATION OF (2) NEW TOWER OVPS & (1) NEW FIBER AND POWER PULL BOX
6. INSTALLATION OF (1) NEW AIRSCALE SM INDOOR AMIA W/ (1) NEW ASIA, (1) NEW ABIA AND (1) NEW AIRSCALE SM INDOOR AMIA W/ (1) NEW ASIL W/ (1) NEW ABIO AND (1) NEW ASIL W/ (3) NEW ABIL
7. INSTALLATION OF (1) NEW GPS ANTENNA, (1) NEW FSEE ALARM BOX
8. INSTALLATION OF (2) NEW LIGHTS, NEW L4X4X3/8 AND NEW L4X4X1/4 ANGLES
9. REMOVAL OF (1) EXISTING MBBS CABINET, (1) EXISTING BBU CABINET, (1) EXISTING PPC, (1) EXISTING TELCO CABINET, (1) EXISTING RAC24 AND (1) EXISTING GPS ANTENNA

DRIVING DIRECTIONS FROM T-MOBILE OFFICE AT
1400 OPUS PLACE, DOWNERS GROVE, IL:

1. HEAD WEST 0.2 MI
2. TURN RIGHT TO MERGE ONTO I-88 W 0.2 MI
3. MERGE ONTO I-88 W 0.1 MI
4. TAKE EXIT 131B TO MERGE ONTO I-355 N TOWARD NW SUBURBS 10.0 MI
5. KEEP LEFT TO STAY ON I-355 N 0.5 MI
6. MERGE ONTO I-290 W 5.7 MI
7. USE THE RIGHT 2 LANES TO TAKE THE IL-53 N/I-90 EXIT TOWARD IL-62/ALGONQUIN RD 0.6 MI
8. KEEP LEFT AT THE FORK TO CONTINUE TOWARD I-90 W 0.3 MI
9. TAKE THE EXIT ONTO I-90 W 14.5 MI
10. KEEP LEFT AT THE FORK TO STAY ON I-90 W 98.8 MI
11. KEEP LEFT TO CONTINUE ON I-39 N/I-90 W 10.2 MI
12. KEEP LEFT TO CONTINUE ON I-39 N/I-90 W/I-94 W 23.5 MI
13. TAKE EXIT 108 A-B FOR I-39 N TOWARD US-51/PORTAGE/WAUSAU 0.9 MI
14. CONTINUE ONTO I-39 N 103 MI
15. CONTINUE ONTO US-51 N 4.0 MI
16. TAKE EXIT 192 FOR WI-52 W 0.6 MI
17. USE ANY LANE TO TURN LEFT ONTO WI-52 W 0.5 MI
18. TURN RIGHT ONTO S 28TH AVE 1.0 MI

DESTINATION WILL BE ON THE RIGHT

TOTAL TRAVEL ESTIMATE: 274 MI, 3 HR 55 MINS

SHEET	DESCRIPTION
T-1	TITLE SHEET
A-1	COMPOUND PLAN
A-1A	EXISTING & PROPOSED ENLARGED EQUIPMENT LAYOUT
A-2	ELEVATION & DETAILS
A-2A	EXISTING & PROPOSED ANTENNA PLANS
A-2B	ANTENNA MOUNTING DETAILS
A-3C	ANTENNA MOUNTING DETAILS
A-3	ANTENNA & CABLE SCHEDULE
A-3A	RFDS DIAGRAM
A-4	NEW EQUIPMENT SPECIFICATIONS
A-4A	NEW EQUIPMENT SPECIFICATIONS
A-4B	NEW EQUIPMENT SPECIFICATIONS
A-4C	NEW EQUIPMENT SPECIFICATIONS
A-4D	NEW EQUIPMENT SPECIFICATIONS
A-4E	NEW EQUIPMENT SPECIFICATIONS
A-4F	NEW EQUIPMENT SPECIFICATIONS
A-4G	NEW EQUIPMENT SPECIFICATIONS
A-4H	NEW EQUIPMENT SPECIFICATIONS
A-4I	NEW EQUIPMENT SPECIFICATIONS
S-1A	NEW WEATHER CANOPY SPECIFICATIONS
S-1B	NEW WEATHER CANOPY SPECIFICATIONS
S-1C	STRUCTURAL DETAILS
PS-1	PAINT SPECIFICATIONS
E-1	PROPOSED UTILITY PLAN
E-2	UTILITY DETAILS
E-2A	UTILITY DETAILS
EG-1	PROPOSED SITE GROUNDING DIAGRAM
SP-1	GENERAL NOTES & SPECIFICATIONS
	OMNI ANTENNA MOUNT DESIGN BY PRAMIRA, DATED 08/05/21 FOR REFERENCE ONLY

N 28th Ave

N 28th Ave

N 28th Ave

N 28th Ave

Whitaker Writings

Highland Community Church Wausau Campus

SITE LOCATION

W Wausau Ave

W Wausau Ave

W Wausau Ave

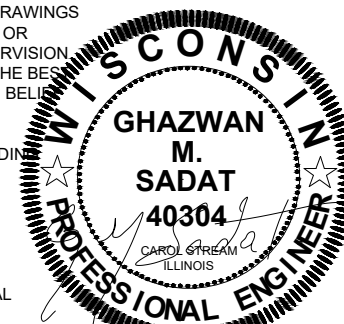
N 28th Ave

LATITUDE:	N 44° 58' 27.80" / N 44.974389 (NAD 83)
LONGITUDE:	W 89° 40' 12.30" / W 89.670083 (NAD 83)
SITE TYPE:	WATER TANK
JURISDICTION:	CITY OF WAUSAU
COUNTY:	MARATHON COUNTY

APPLICANT: T- MOBILE 1400 OPUS PLACE DOWNERS GROVE, IL 60515 PHONE: (773) 444-5400	PROPERTY OWNER CITY OF WAUSAU 2700 WEST WAUSAU AVE. WAUSAU, WI 54401
ENGINEERING CONTACT: CONCORDIA WIRELESS, INC. GM SADAT, PE PHONE: (847) 981-0801 FAX: (847) 981-0803	



I CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL AND TO THE BEST OF MY KNOWLEDGE AND BELIEF THEY COMPLY WITH THE REQUIREMENTS OF THE GOVERNING LOCAL BUILDING CODE.



LICENSED PROFESSIONAL
STATE OF WISCONSIN
LICENSE #

EXPIRES: 07/30/24

SIGNED: 08/14/23

PROJECT #: ML83232A
ML15AL341
 2700 W WAUSAU AVE
 WAUSAU, WI 54401

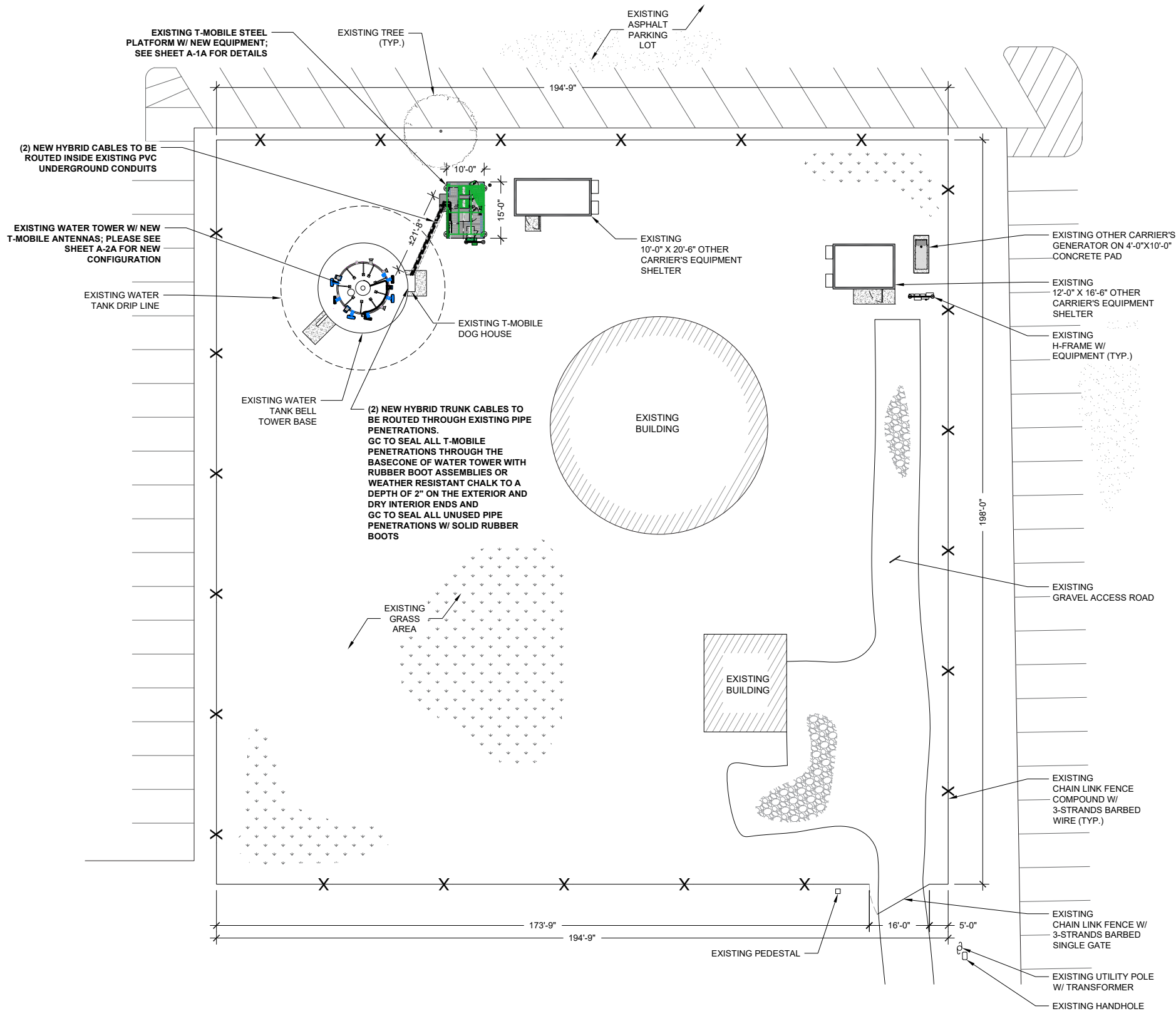
SHEET TITLE:
TITLE SHEET

SHEET NUMBER:

T-1

LEGEND & SYMBOLS

- UTILITY POLE
SIGN
TELCO PEDESTAL
FIRE HYDRANT
LIGHT STANDARD
INLET
CATCH BASIN
MANHOLE
TRAFFIC SIGNAL
ROW MARKER
IRON PIPE SET
IRON PIPE FOUND
BUFFALO BOX
VALVE BOX
HORIZONTAL CONTROL POINT
HANDICAPPED PARKING SPACE
DT100
DECIDUOUS TREE W/SIZE
CT100
CONIFEROUS TREE W/SIZE
BRUSH
TREE LINE
CONTOUR W/ELEVATION
EXISTING GUARDRAIL
CHAIN LINK FENCE
IRON FENCE
WOOD FENCE
OVERHEAD WIRES
LOT LINE
PROPERTY LINE
LEASE AREA LINE
UTILITY EASEMENT LINE
CENTER LINE
UNDERGROUND ELECTRIC LINE
UNDERGROUND GAS LINE
UNDERGROUND FIBER LINE
UNDERGROUND TELCO LINE
UNDERGROUND STORM/SANITARY SEWER LINE
UNDERGROUND WATER LINE
UNDERGROUND COMMUNICATION/MONITORING LINE
CONCRETE
ASPHALT
GRAVEL
CULTIVATED FIELD
GRASS AREA
ICE BRIDGE
STEEL PLATFORM



1400 OPUS PLACE
DOWNERS GROVE, IL 60515
MAIN: (773) 444-5400



361 RANDY RD, UNIT 101
CAROL STREAM, IL 60188
MAIN: (847) 981-0801

PROFESSIONAL DESIGN
FIRM LICENSE # 184-004952

CHECKED BY: RH

CHECKED BY: GMS

PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

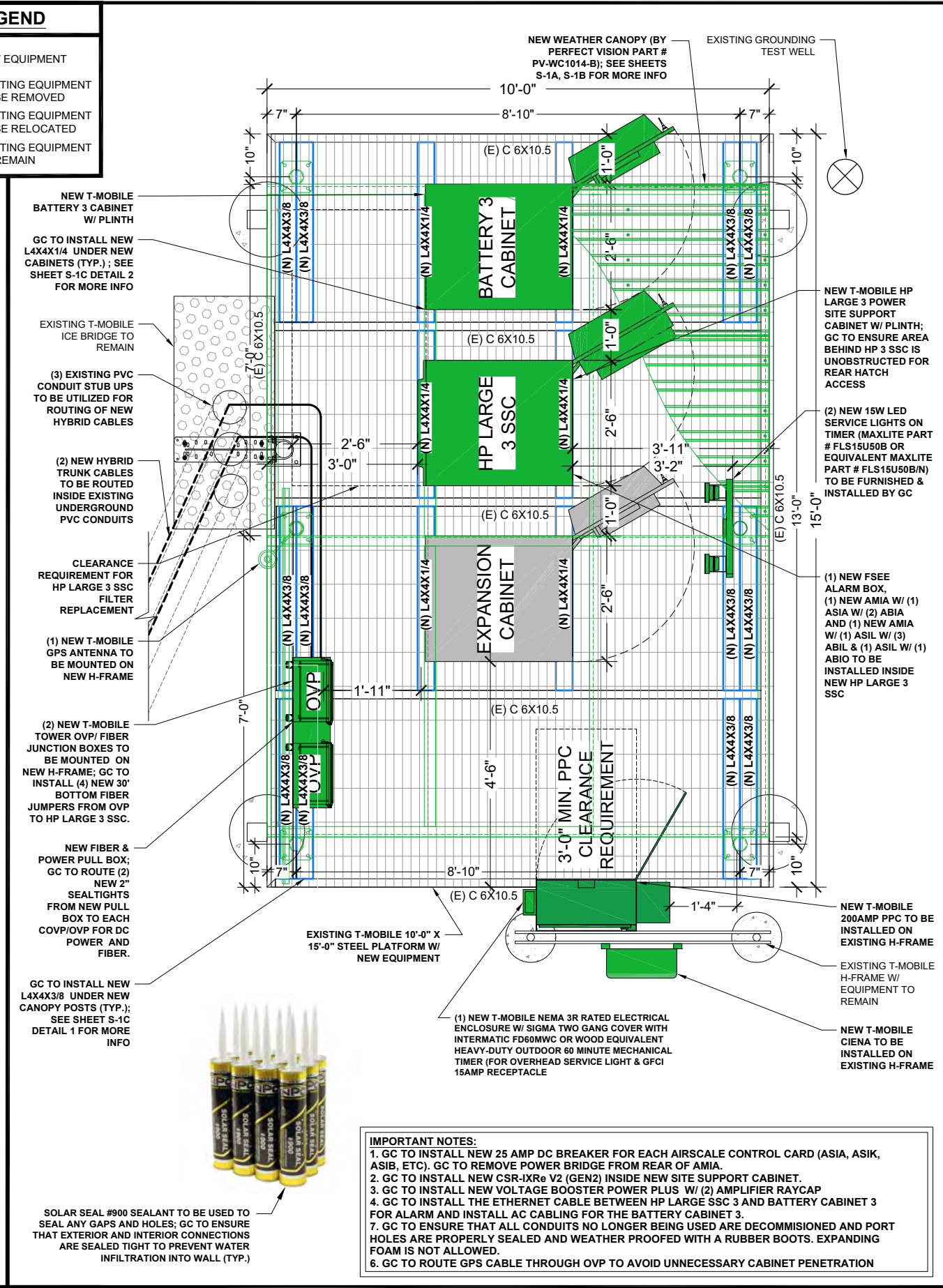
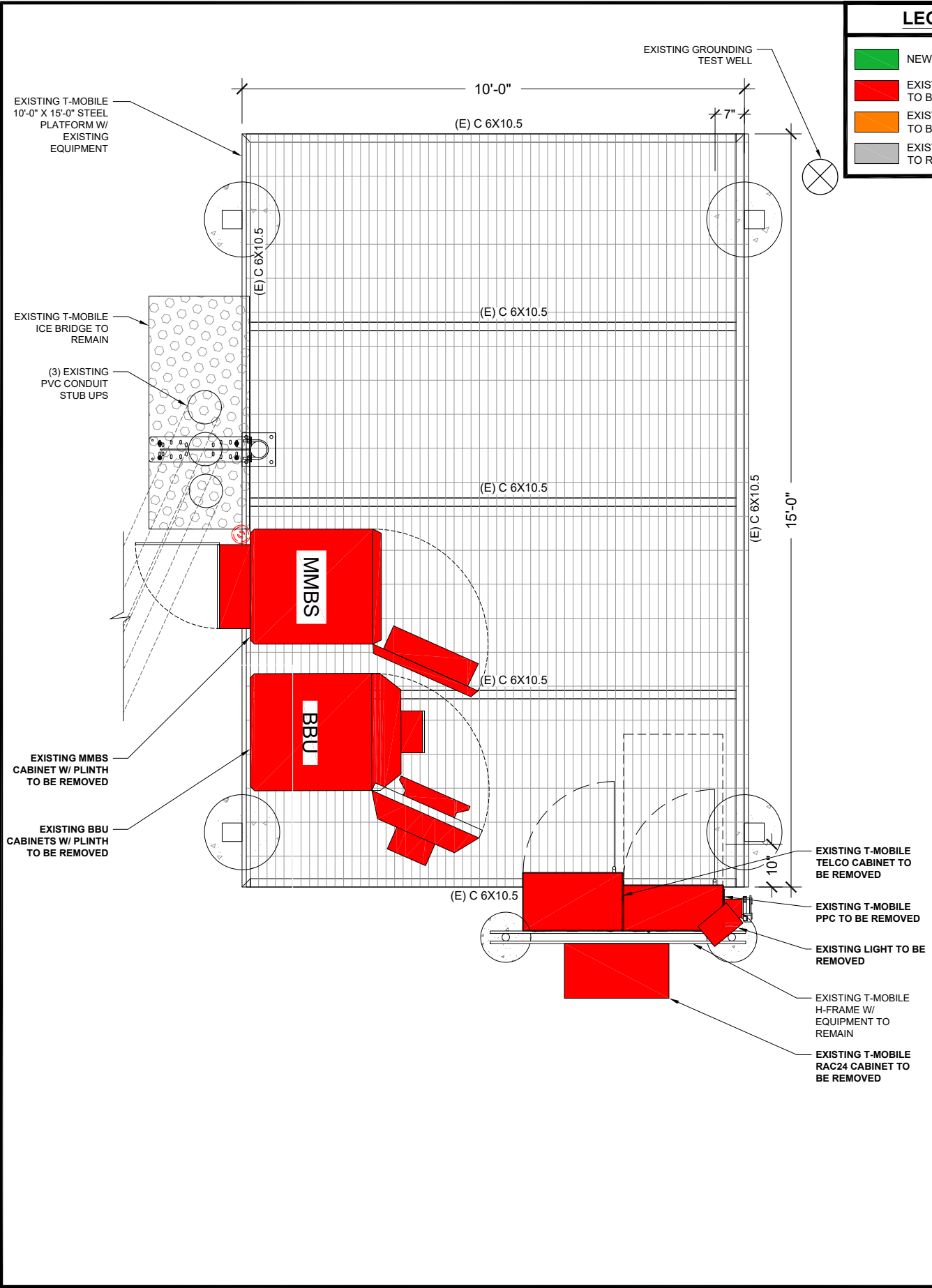
SHEET TITLE:
COMPOUND PLAN

SHEET NUMBER:
A-1

COMPOUND PLAN

SCALE: 1/16"=1'-0" (1/16"=2'-0" IF 11 X 17 SHEET SIZE)







1400 OPUS PLACE
DOWNERS GROVE, IL 60515
MAIN: (773) 444-5400



361 RANDY RD, UNIT 101
CAROL STREAM, IL 60188
MAIN: (847) 981-0801

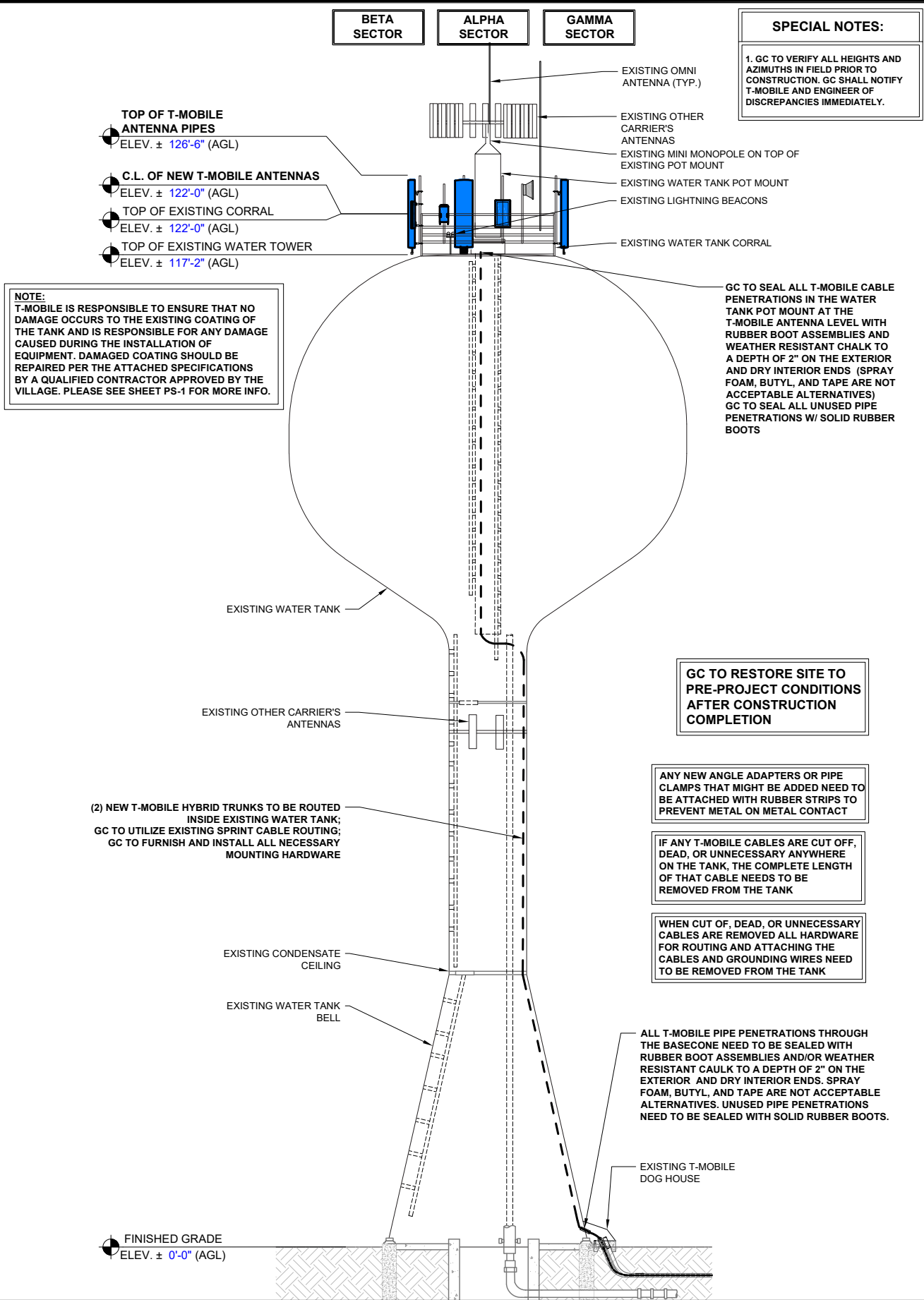
PROFESSIONAL DESIGN
FIRM LICENSE # 184-004952

CHECKED BY: RH CHECKED BY: GMS

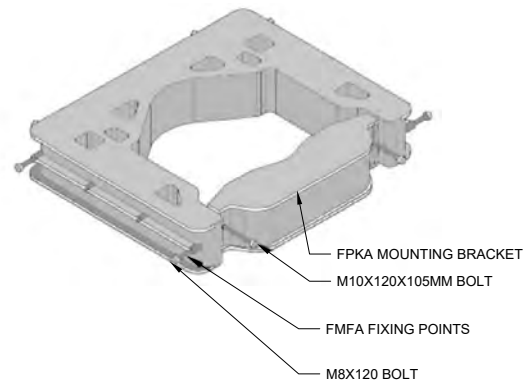
PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:
EXISTING & PROPOSED
ENLARGED EQUIPMENT
LAYOUT

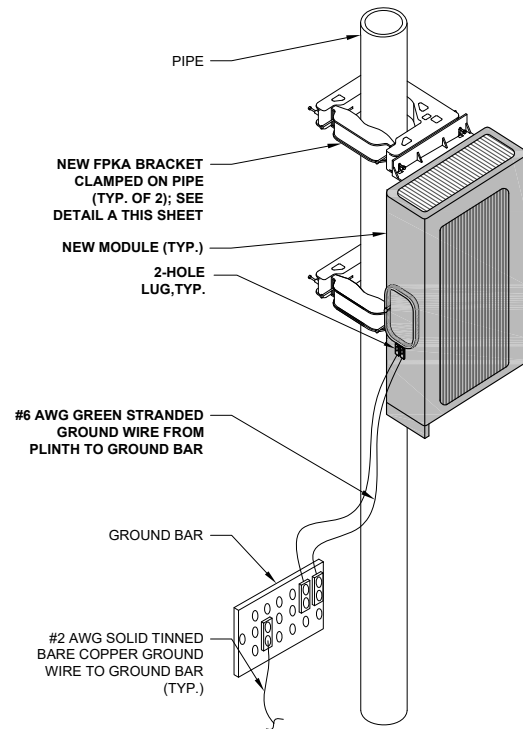
SHEET NUMBER:
A-1A



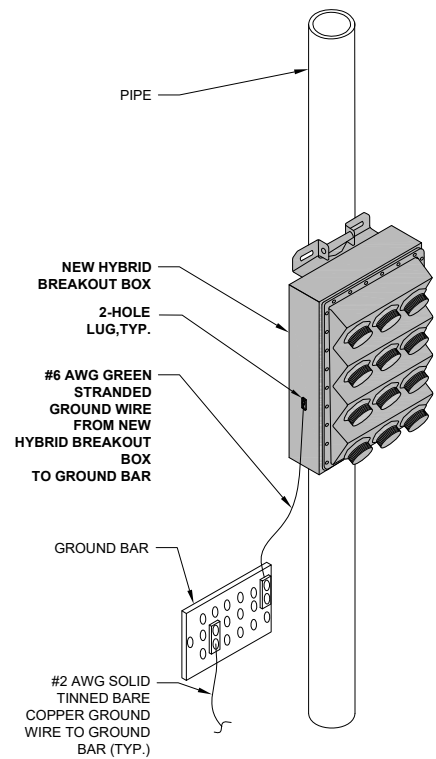
1 EXISTING WATER TOWER ELEVATION
SCALE: 1/8"=1'-0" (1/8"=2'-0" IF 11 X 17 SHEET SIZE)



2 FPKA BRACKET DETAIL
N.T.S.



3 TYPICAL RF UNIT MOUNTING DETAIL
N.T.S.



4 TYPICAL MOUNTING DETAILS
N.T.S.



T-Mobile

1400 OPUS PLACE
DOWNERS GROVE, IL 60515
MAIN: (773) 444-5400

Concordia

361 RANDY RD, UNIT 101
CAROL STREAM, IL 60188
MAIN: (847) 981-0801

PROFESSIONAL DESIGN
FIRM LICENSE # 184-004952

CHECKED BY: RH

CHECKED BY: GMS

PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:
ELEVATION & DETAILS

SHEET NUMBER:

A-2

LEGEND



ANTENNA
TO BE REMOVED



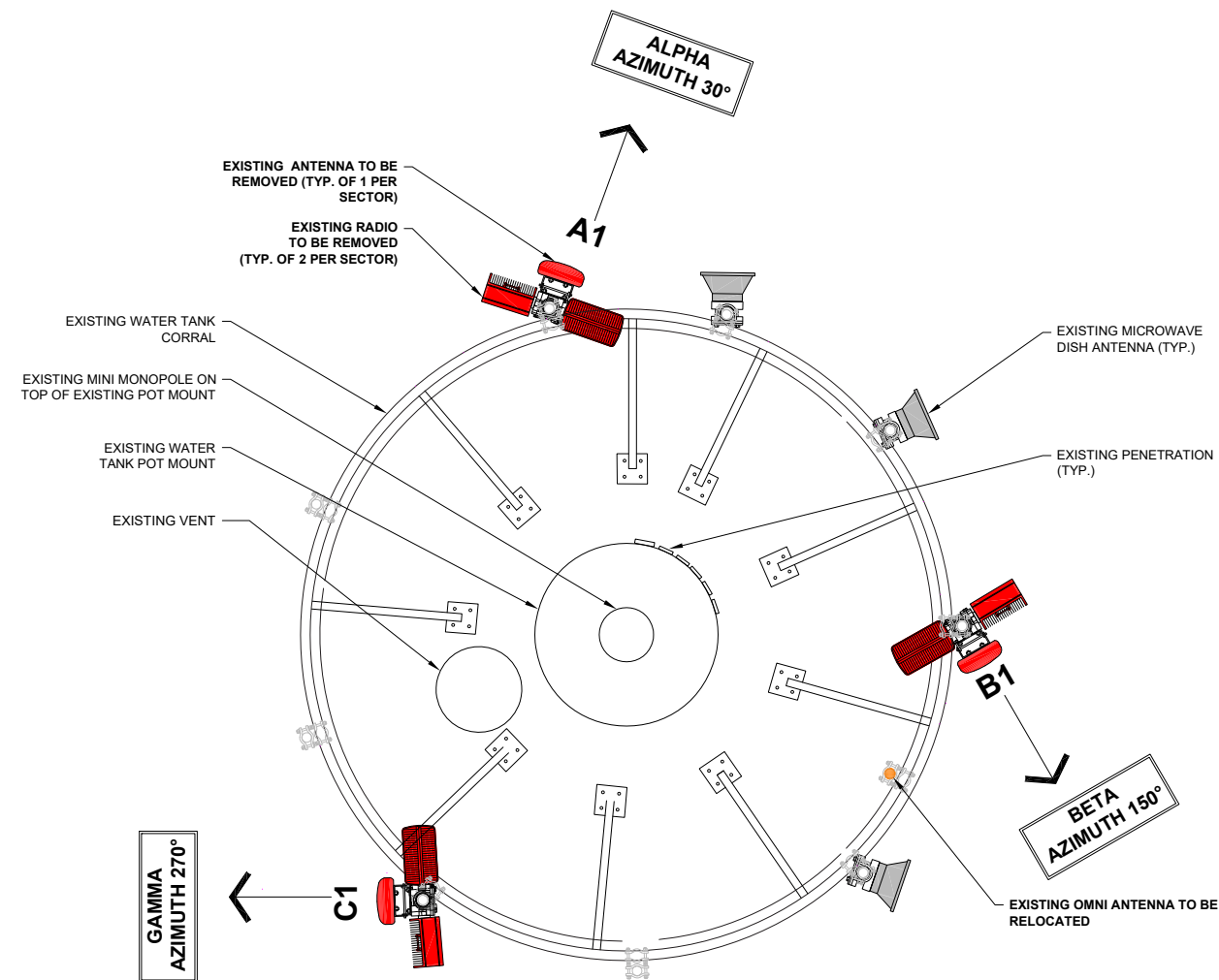
MODULE TO BE
REMOVED



MODULE TO BE
REMOVED



DISH ANTENNA
TO REMAIN



LEGEND



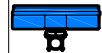
NEW HYBRID CABLE BREAKOUT BOX



NEW AHFIG



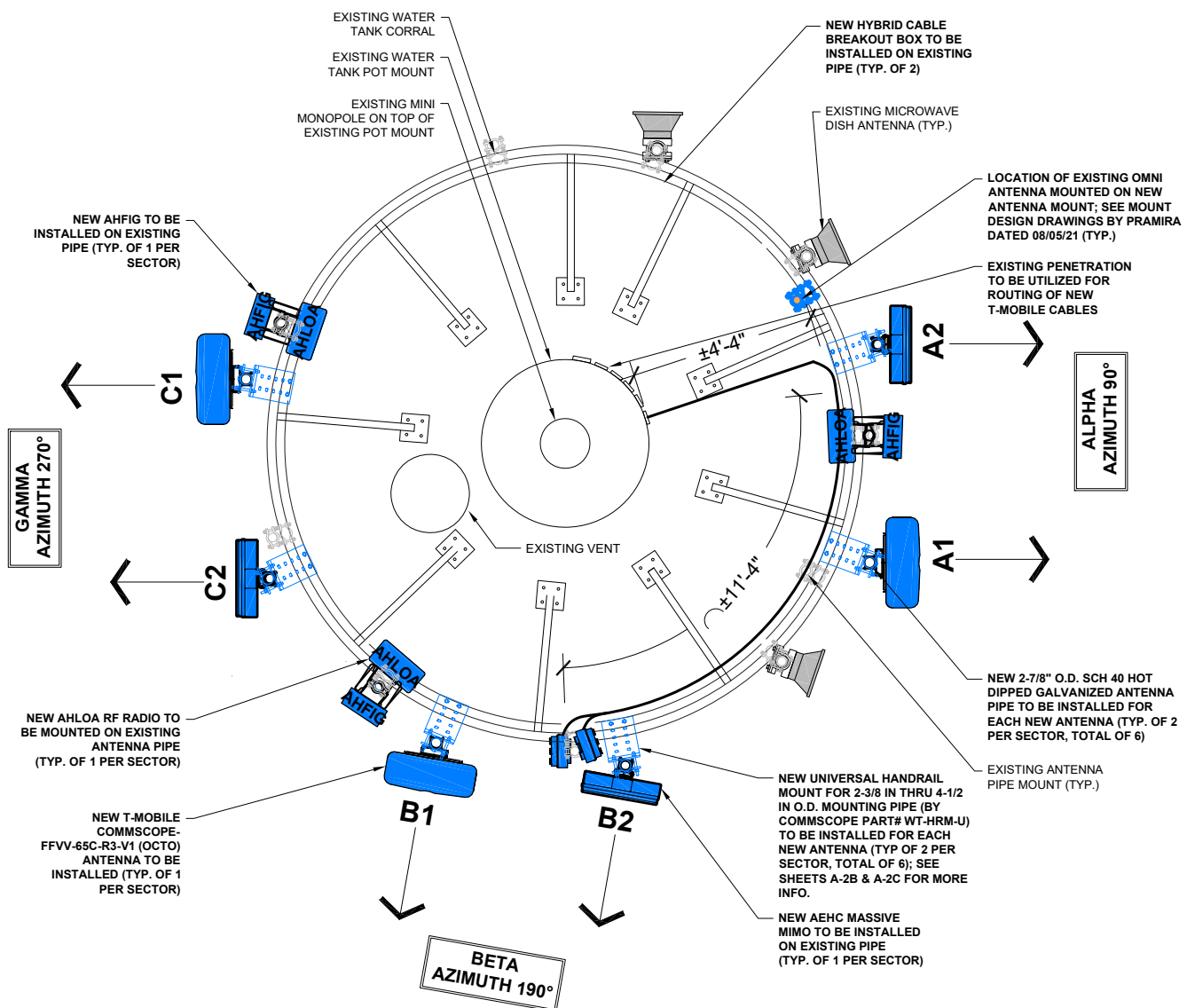
NEW AHLOA

NEW AEHC
MASSIVE MIMO

NEW ANTENNA



DISH ANTENNA
TO REMAIN



NOTE:
GC TO REFER TO FINAL RFDS FOR AZIMUTHS.

NOTE:

NOTHING IS PERMITTED TO BE WELDED TO THE TANK;

ALL CLAMPS MUST HAVE A RUBBER GASKET MATERIAL INSTALLED BETWEEN THE CLAMP AND THE STEEL OF THE TANK OR HANDRAIL.

GC TO SEAL ALL T-MOBILE CABLE PENETRATIONS IN THE WATER TANK POT MOUNT AT THE T-MOBILE ANTENNA LEVEL WITH RUBBER BOOT ASSEMBLIES AND WEATHER RESISTANT CHALK TO A DEPTH OF 2" ON THE EXTERIOR AND DRY INTERIOR ENDS (SPRAY FOAM, BUTYL, AND TAPE ARE NOT ACCEPTABLE ALTERNATIVES)
GC TO SEAL ALL UNUSED PIPE PENETRATIONS W/ SOLID RUBBER BOOTS



1400 OPUS PLACE
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MAIN: (847) 981-0801

PROFESSIONAL DESIGN
FIRM LICENSE # 184-004952

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1

EXISTING T-MOBILE ANTENNA CONFIGURATION

SCALE: 1/2"=1'-0" (1/2"=2'-0" IF 11 X 17 SHEET SIZE)



2

PROPOSED T-MOBILE ANTENNA CONFIGURATION

SCALE: 1/2"=1'-0" (1/2"=2'-0" IF 11 X 17 SHEET SIZE)



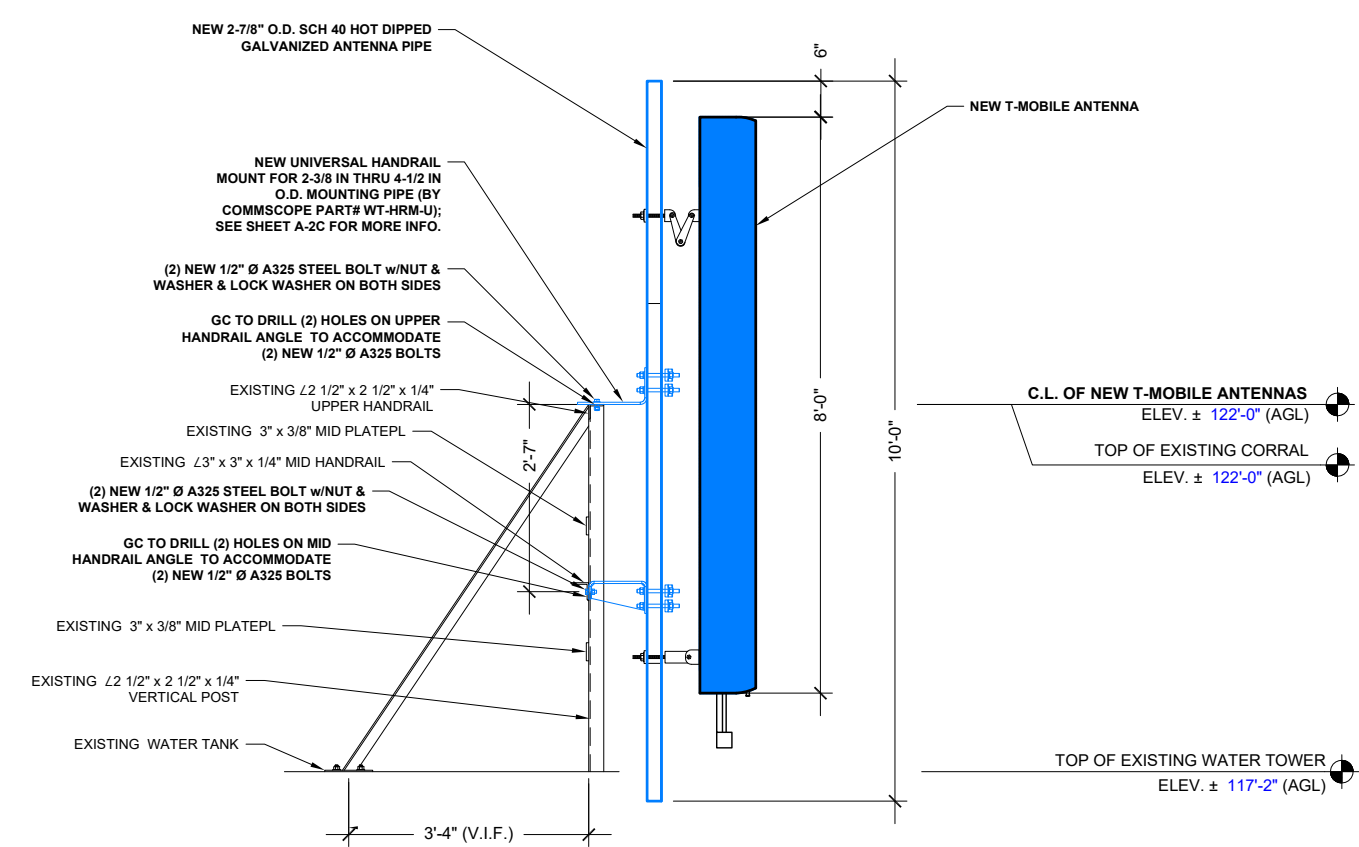
PROJECT #: ML83232A
ML15AL341
 2700 W WAUSAU AVE
 WAUSAU, WI 54401

SHEET TITLE:
EXISTING & PROPOSED
ANTENNA PLANS

SHEET NUMBER:

A-2A

NOTE:
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ALL CLAMPS MUST HAVE A RUBBER GASKET MATERIAL INSTALLED BETWEEN THE CLAMP AND THE STEEL OF THE TANK OR HANDRAIL.



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PROFESSIONAL DESIGN
FIRM LICENSE # 184-004952

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PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:
ANTENNA MOUNTING
DETAILS

SHEET NUMBER:
A-2B

1 ANTENNA MOUNTING DETAILS ELEVATION
SCALE: 3/4"=1'-0" (3/4"=2'-0" IF 11 X 17 SHEET SIZE)



PRODUCT CLASSIFICATION

PRODUCT TYPE WATER TOWER MOUNT

GENERAL SPECIFICATIONS

MOUNTING Handrail | Toe board

PIPE, QUANTITY 0

SECTORS, QUANTITY 1

DIMENSIONS

HEIGHT 889 mm | 35 in

WIDTH 203.2 mm | 8 in

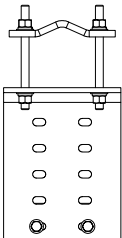
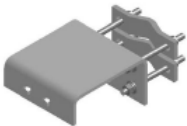
LENGTH 609.6 mm | 24 in

STAND-OFF DISTANCE 228.6 mm | 9 in

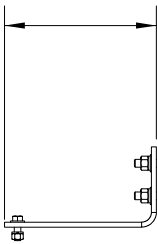
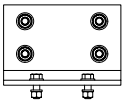
MATERIAL SPECIFICATIONS

MATERIAL TYPE Hot dip galvanized steel

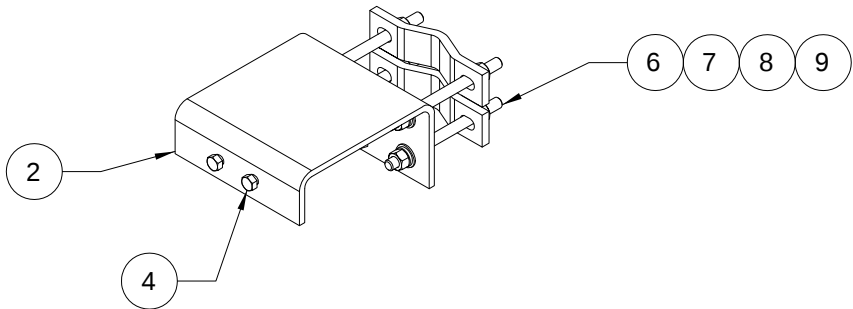
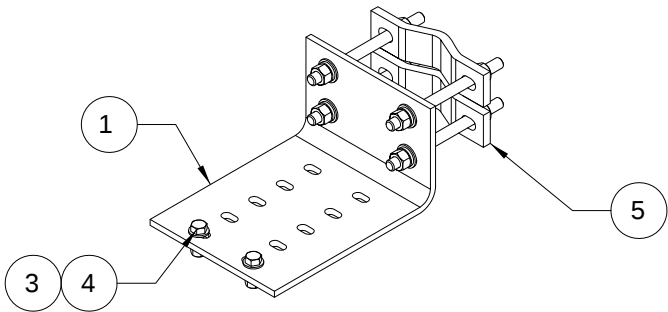
ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT
1	MTC995501	Upper Bracket	1	15.41 LBS
2	MTC995502	Lower Bracket	1	18.92 LBS
3	GWFO4A	1/2" GALV FLAT WASHER (A325)	2	0.02 LBS
4	GB-0414A	1/2" X 1-1/2" GALV BOLT KIT (A325)	4	0.13 LBS
5	DCP10	SMALL CLAMP HALF	4	2.21 LBS
6	MT-381-8	5/8" X 8" GALV THREADED ROD	8	0.64 LBS
7	GWFO5	5/8" GALV FLAT WASHER	16	0.00 LBS
8	GWL-05	5/8" GALV LOCK WASHER	16	0.00 LBS
9	GN-05	5/8" GALV HEX NUT	16	0.01 LBS



9.0 [228.6]



11.6 [295.8]



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PROFESSIONAL DESIGN
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PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:
ANTENNA MOUNTING
DETAILS

SHEET NUMBER:

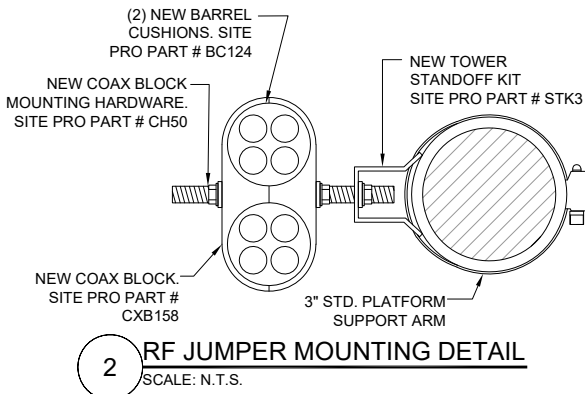
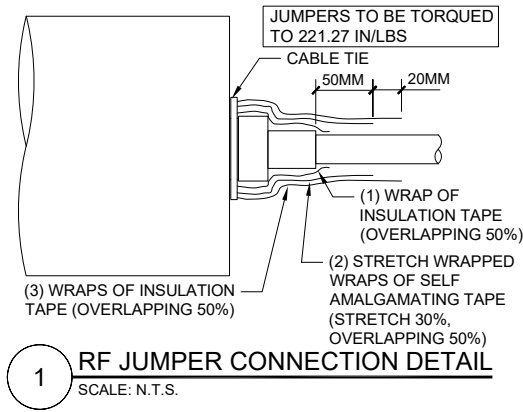
A-2C

1

UNIVERSAL HANDRAIL MOUNT FOR 2-3/8 IN THRU 4-1/2 IN O.D. MOUNTING PIPE (BY COMMScope PART# WT-HRM-U)

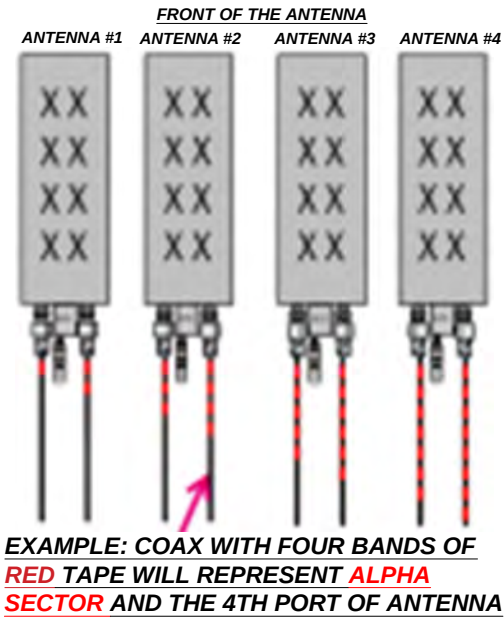
SCALE: N.T.S.

FINAL ANTENNA AND CABLE SCHEDULE																	
SECTOR	POS.	AZIMUTH	RAD CENTER	TECHNOLOGY	MECHANICAL TILT	ELECTRICAL TILT	ANTENNA	STATUS	RRU TYPE	JUMPER LENGTHS	OVP/ BREAKOUT BOX	CABLE STATUS	BASE FIBER JUNCTION BOXES	FIBER JUMPERS FACTORY LENGTH			
ALPHA	A2	90°	122'-0"	N2500	0°	T.B.D.	AEHC (ACTIVE ANTENNA - MASSIVE MIMO)	NEW	-	-	(*) (2) NEW BREAKOUT BOXES TO BE INSTALLED	(*) (2) 275' NEW HCS. 2.0 HYBRID TRUNK CABLES TO BE INSTALLED	(*) (2) NEW TOWER OVP'S TO BE INSTALLED	30'			
	A1	90°	122'-0"	L600/ N600/ L2100/ L1900/ N2100/ N1900	0°	T.B.D.	COMMSCOPE - FFVV-65C-R3-V1	NEW	(1) NEW AHLOA & (1) NEW AHFIG	≤ 15'-0"				(2) 15'			
BETA	B2	190°	122'-0"	N2500	0°	T.B.D.	AEHC (ACTIVE ANTENNA - MASSIVE MIMO)	NEW	-	-				15'			
	B1	190°	122'-0"	L600/ N600/ L2100/ L1900/ N2100/ N1900	0°	T.B.D.	COMMSCOPE - FFVV-65C-R3-V1	NEW	(1) NEW AHLOA & (1) NEW AHFIG	≤ 15'-0"				(2) 15'			
GAMMA	C2	270°	122'-0"	N2500	0°	T.B.D.	AEHC (ACTIVE ANTENNA - MASSIVE MIMO)	NEW	-	-				15'			
	C1	270°	122'-0"	L600/ N600/ L2100/ L1900/ N2100/ N1900	0°	T.B.D.	COMMSCOPE - FFVV-65C-R3-V1	NEW	(1) NEW AHLOA & (1) NEW AHFIG	≤ 15'-0"				(2) 30'			
(*) SHARED WITH ALL SECTORS																	
IMPORTANT NOTE: PLEASE REFER TO LATEST RFDS SHEET FOR NSN CONFIGURATION. GC TO CAP ALL UNUSED PORTS.																	



COAX COLOR CODING	
• ANTENNAS WILL BE LABELED (BACK OF ANTENNA VIEW) RIGHT TO LEFT 1-X PORTS	
• COAX/JUMPER LINES WILL BE IDENTIFIED BY SECTOR COLOR AND BY NUMBER OF BANDS AROUND THE COAX/JUMPER	
SECTOR A	RED
SECTOR B	GREEN
SECTOR C	BLUE
SECTOR D	YELLOW
SECTOR E	WHITE
SECTOR F	PURPLE
LMU	BROWN + SECTOR COLOR BANDS (1 & 2)
FIBER ID	GRAY
UNUSED COAX	PINK
MICROWAVE	ORANGE
DWE T-1'S + GPS DOWNLINK CABLE	ID W/LABEL MAKER

- ANTENNA AND COAXIAL CABLE SCHEDULE
- ALL ANTENNAS SHALL BE FURNISHED WITH DOWNTILT BRACKETS. CONTRACTOR SHALL COORDINATE REQUIRED MECHANICAL DOWNTILT FOR EACH ANTENNA WITH RF ENGINEER. ANTENNA DOWNTILT SHALL BE SET AND VERIFIED BY A SMART LEVEL.
 - CONTRACTOR SHALL INSTALL COLOR CODE RINGS ON EACH OF THE HYBRID CABLES AND JUMPER CABLES WITH UV RESISTANT TAPE. ALL CABLE SHALL BE MARKED AT TOP AND BOTTOM WITH 2" COLOR TAPE OR STENCIL TAG. COLOR TAPE MAY BE OBTAINED FROM GRAYBAR ELECTRONICS.



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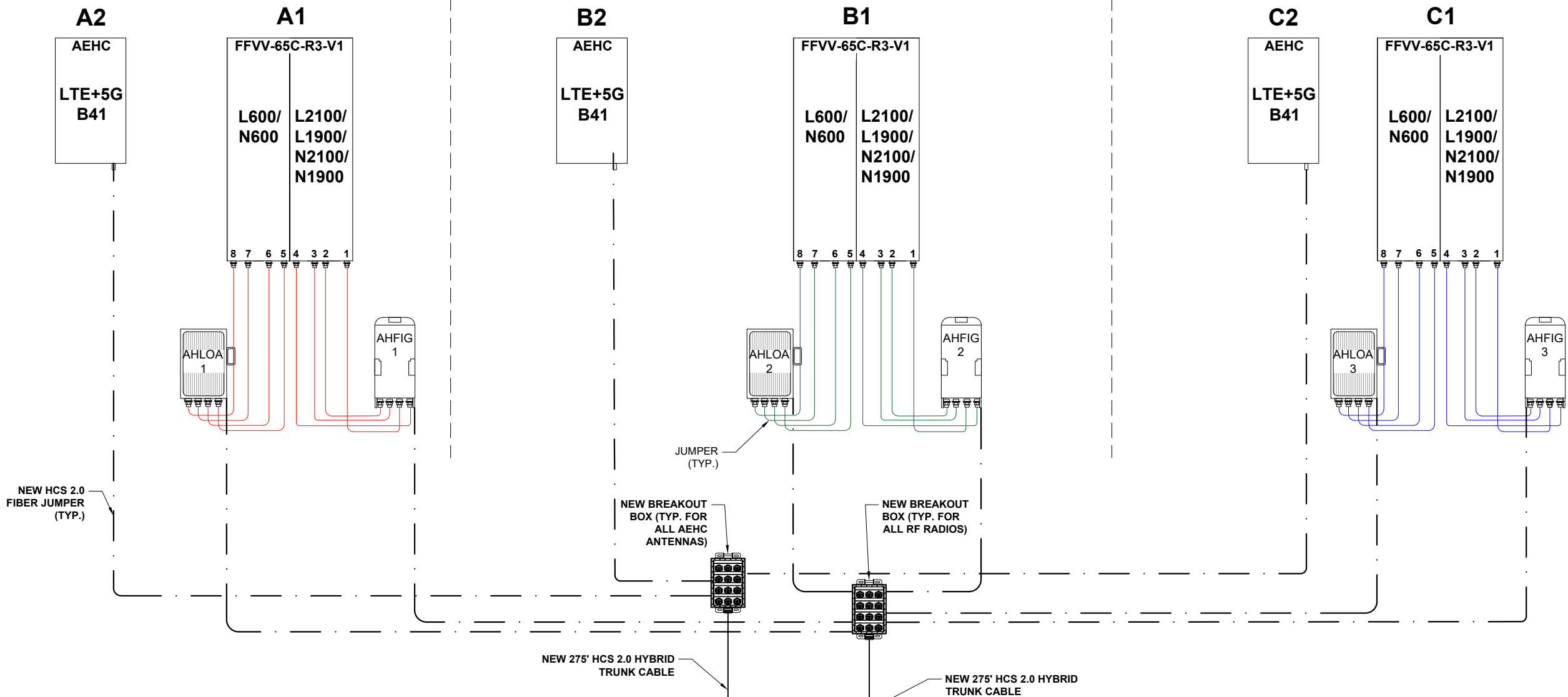
SHEET TITLE:
**ANTENNA &
CABLE SCHEDULE**

SHEET NUMBER:
A-3

ALPHA SECTOR

BETA SECTOR

GAMMA SECTOR



ANTENNA LOCATION

EQUIPMENT LOCATION

NEW 275' HCS 2.0 HYBRID TRUNK CABLE

NEW 275' HCS 2.0 HYBRID TRUNK CABLE

NEW TOWER OVP

NEW TOWER OVP

NEW T-MOBILE GPS ANTENNA

NEW FIBER & POWER PULL BOX

HP LARGE SSC3

BREAKERS RECTIFIERS POWER BOOSTERS

CSR- IXRE V2 (GEN 2)

(2) AIR SCALE
LTE FDD/TDD AIRSCALE 1
(1) ASIA + (2) ABIA
5G AIRSCALE 2
(1) ASIL + (1) ABIO
(1) ASIL + (3) ABIL

FSEE

REFER TO CURRENT RFDS

GC TO REFER TO THE ANTENNAS AND RADIO INSTALLATION MOPS FOR PLUMBING DIAGRAMS.

NOTE TO GC:

-REFER TO UPDATED RFDS W/ LATEST CONFIGURATION DRAWING FOR RF CABLING. CAP OFF UNUSED RF/RET PORTS
-GC TO REQUIRE THE LATEST PORT MATRIX DIAGRAM FROM RF FOR THIS SITE. GC TO REFER TO ANTENNA PLAN FOR ANTENNA LOCATIONS
-GC TO CAP ALL UNUSED PORTS
-ALL EXISTING TMA'S TO BE REMOVED AND ANY UNUSED RF/RET PORTS ARE TO BE CAPPED



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PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:

RFDS DIAGRAM

SHEET NUMBER:

A-3A

1 RFDS DIAGRAM
SCALE: N.T.S.

FSEE-FLEXI SYSTEM EXTERNAL ALARM 473751A.101

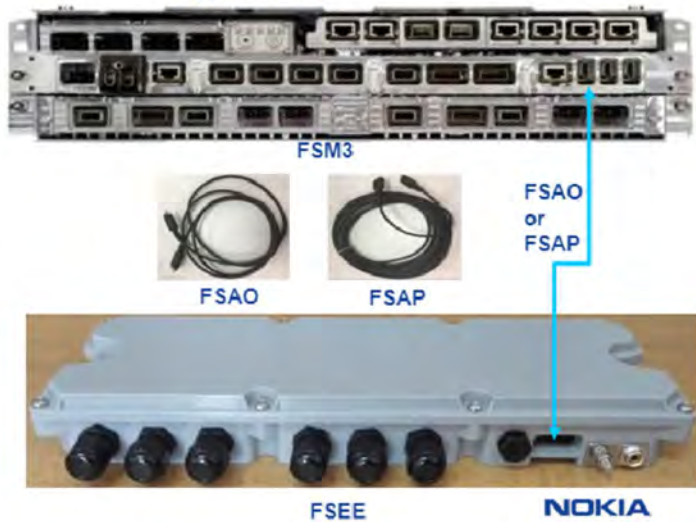
FSEE: 473751A-FLEXI SYSTEM EXTERNAL ALARM
Optional Items
FMAB: 474062A-19 inch mounting bracket
FSAO: 474117A-HDMI to HDMI EAC cable
2.5m
FSAP: 474118A-HDMI to HDMI EAC
cable 15m



Operation temperature: -40°C~60°C
Humidity: 8%~100%
Outdoor, IP65
ESD and Surge Protection
Dimension: H 42 x W 348 x D 110 (mm)
Weight: 520g
Installation: Wall, Floor, Pole, Stack, 19 inch rack

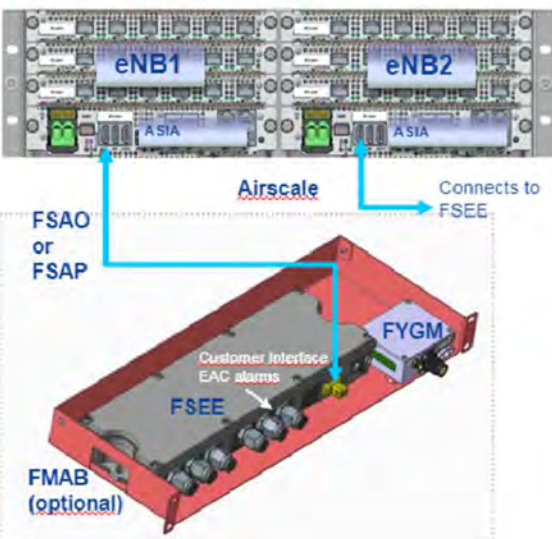
FSEE with FSM3: Support 24 EAC

Configuration 1: with FSM3
support 24 EAC

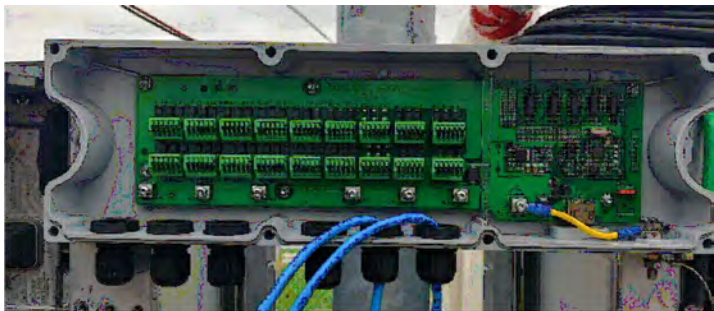
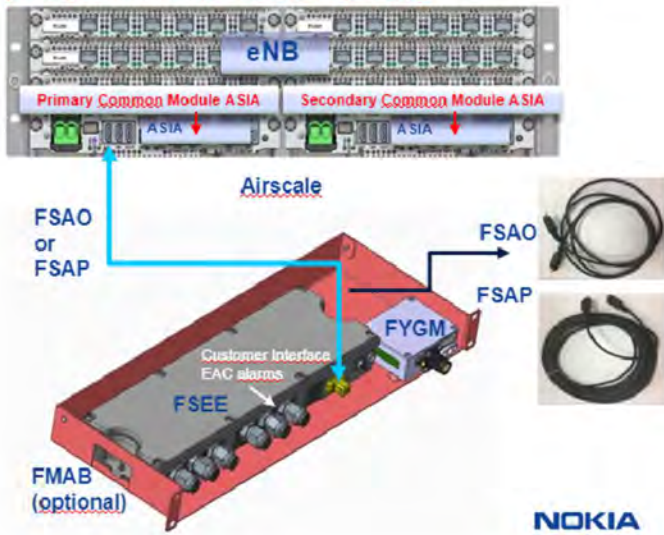


FSEE-FLEXI SYSTEM EXTERNAL ALARM 473751A.101 FSEE with Airscale: support 24EAC

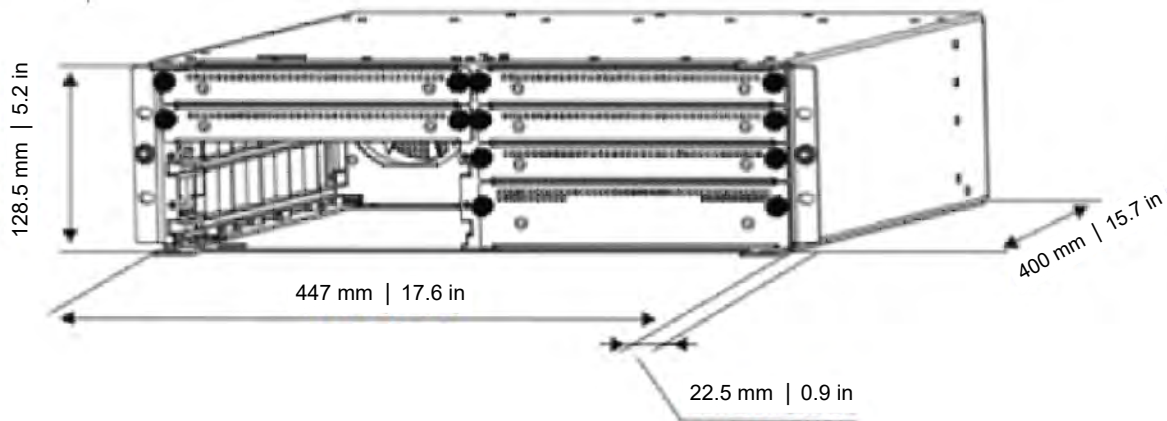
Configuration 2: with Airscale
support 24 EAC
One FSEE connects to one eNB



Configuration 3: with Airscale
support 24 EAC
When Airscale is config as one eNB, FSEE can connect to
primary common Module ASIA EAC port **only**



FSEE (ALARM BOX)



Nokia AirScale SM Indoor Technical Datasheet

AirScale SM indoor general specifications	
Capacity	Per Capacity plug-in unit in LTE16A: 8 LTE cells (FDD)
Multi-RAT capable platform	
Minimum configuration	1 Common PIU (transport and control), 1 Capacity PIU (baseband processing)
Maximum configuration	2 Common PIU, 6 Capacity PIU
Installation options	19 inch standard rack, pole and wall (with mounting plinth), inside Outdoor Enclosure
AirScale SM indoor mechanical specifications	
Dimensions	(3U) H 128 mm x W 447 mm x D 400 mm (H 5.04"xW17.60"xD 15.75")
Installation Depth	400mm + cooling air space 50mm (1.97")
Weight	Minimum (Common PIU + Capacity PIU): 10.1kg (22.27 lbs) Maximum (2 Common PIU + 6 Capacity PIU): 23.5kg (51.81 lbs)
Ingress protection	IP20
Operational Temperature Range	-5°C to 55°C
AirScale SM indoor electrical specifications	
Supply Voltage / Voltage Range	Nominal: -48V DC / -40.5V to -57V
Power consumption	1 Common PIU & 1 Capacity PIU: typ 210W 1 Common PIU & 3 Capacity PIU: typ 420W 2 Common PIU & 6 Capacity PIU: typ 840W

AIRSCALE SM INDOOR AMIA



Minimum configuration (1x BTS)



Minimum configuration (2x BTS, 1 BTS per half subrack)



Maximum AirScale SM Indoor configuration (FL16A: 1 BTS per half subrack)

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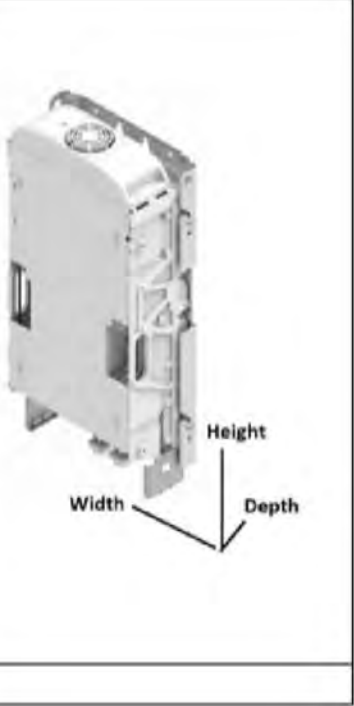
PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:
NEW EQUIPMENT
SPECIFICATIONS

SHEET NUMBER:

A-4

PRODUCT DESCRIPTION

Band	B25 + B66	
Instantaneous BW (DL/UL)	65MHz on Band 25, 80MHz on Band 66	
Supported Modulation schemes	up to 64QAM (UL) and up to 256QAM (DL)	
Supported bandwidths	LTE 1.4,3,5,10,15,20 MHz	
No. of ports	4T4R	
Output Power	80 W for Band 25 and 40 W for Band 66 (Total Power is 480W)	
DC connector	Terminal block	
Optical Fiber connector	2 x 9.8Gbps CPRI, R2CT IP seal	
RF Connector	4.3-10+	
AISG	AISG on all ports, DC on ANT1 and ANT3	
Dimensions (H x W x D) in	27.3 x 12.1 x 5.2	
Weight lbs	70.5 without cover	
HW/SW Availability	Available now – SRAN19A	
5G NR Support	YES	
NB-IoT Support	YES (in band, guardband, standalone)	

AHFIG



FFVV-65C-R3-V1

8-port sector antenna, 4x 617-894 and 4x 1695–2690 MHz, 65° HPBW, 3x RET

General Specifications

Operating Frequency Band	1695 – 2690 MHz 617 – 894 MHz
Antenna Type	Sector
Band	Multiband
Performance Note	Outdoor usage
Total Input Power, maximum	900 W @ 50 °C

Dimensions

Length	2437.0 mm 95.9 in
Width	640.0 mm 25.2 in
Depth	235.0 mm 9.3 in
Net Weight, without mounting kit	56.5 kg 124.6 lb

NEW ANTENNA (COMMSCOPE- FFVV-65C-R3-V1)



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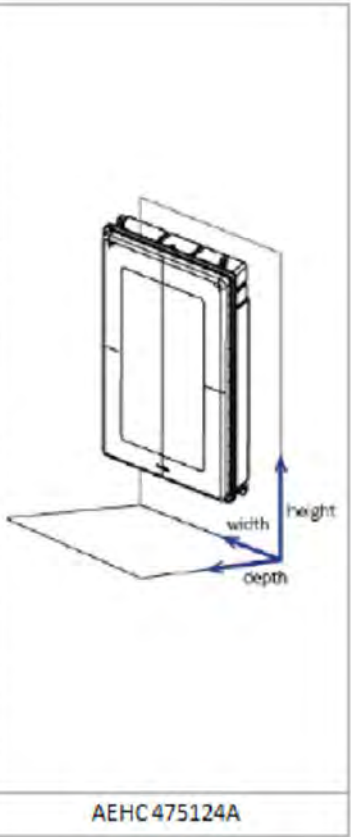
CHECKED BY: GMS

AIRSCALE DUAL RRH 4T4R B12/71 240W AHLOA	
SUPPORTED FREQUENCY BANDS	3GPP BAND 12/71
FREQUENCIES	BAND 12 ADJUSTED: RX 698 – 715 MHz, TX 728 – 745 MHz BAND 71: RX 663 MHz – 698 MHz, TX 617 MHz – 652 MHz
NUMBER OF TX/RX PATHS/PIPES	4 PIPES; 2T2R, 2T4R, 4T4R FOR BOTH BANDS
INSTANTANEOUS BANDWIDTH IBW	16 MHz FOR B12 AND 35MHz FOR B71 1 MHz BELOW B12 NB IOT FUTURE USE
OCCUPIED BANDWIDTH OBW	52 MHz TOTAL ACROSS BANDS
OUTPUT POWER	60W PER TX SHARED BETWEEN BANDS
SUPPLY VOLTAGE/RANGE	DC-48 V / -36 V TO -60 V
TYPICAL POWER CONSUMPTION	664W [ETSI BUSY HOUR LOAD AT 4TX@60W (BOTH BANDS ACTIVE)] 395W [ETSI BUSY HOUR LOAD AT 4TX@30W (ONE BAND ACTIVE)]
ANTENNA PORTS	4 PORTS; 4.3-10+
OPTICAL PORTS	2x CPRI 9.8 Gbps
ALD CONTROL INTERFACES	AISG3.0 FROM ANT1,2,3,4 & RET (DC ON ANT1 & ANT3)
OTHER INTERFACES	EXTERNAL ALARM MDR-26 SERIAL CONNECTOR (4 INPUTS, 1 OUTPUT) DC CIRCULAR POWER CONNECTOR
PHYSICAL	560MM/22.04INCHESx308MM/12.126INCHESx189MM/7.44INCHES, 38KG/ 83.8 LBS WITHOUT COVER AND BRACKETS
OPERATING TEMPERATURE RANGE	-40°C TO 55°C (WITH NO SOLAR LOAD)
SURGE PROTECTION	CLASS II 5A
INSTALLATION OPTIONS	VERTICAL & HORIZONTAL BOOK MOUNT, POLE & WALL MOUNT



AIRSCALE DUAL RRH 4T4R B12/71 240W AHLOA

PRODUCT DESCRIPTION

Band	B41 – 2496-2690 MHz	
Supported Modulation schemes	(DL) BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM (UL) BPSK, QPSK, 16 QAM, 64 QAM	
No. of TX/RX	64TX64RX	
MIMO Streams	16	
Instantaneous IBW	194 MHz	
Occupied Bandwidth OBW	190 MHz	
Total Avg EIRP	74.8 dBm	
Supported bandwidths	LTE: 3x20 MHz 5G: 40/60/80/100MHz	
Output Power	5 W / TRX (320 W total, 2 W/MHz up to 160 MHz)	
Power Consumption	≤1330 W typical (75% DL duty cycle, 30% RF load) ≤1827 W max (75% DL duty cycle, 100% RF load)	
Optical Ports	4 x SFP28 (OCTIS), 25 Gbps, eCPRI	
Connector Type	APPG DC Pole connector	
Dimensions (H x W x D)	38.2 in x 21.5 in x 5.9 in	
Weight lbs	108.0 lb	
HW/SW Availability	SRAN20C/5G20B	
5G NR Support	Yes	
Material Description	Nokia AirScale MAA 64T64R 192AE B41 320W AEHC	
		AEHC475124A

NOKIA AIRSCALE MAA 64T64R 192AE B41 320W AEHC ANTENNA

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SHEET TITLE:
NEW EQUIPMENT
SPECIFICATIONS

SHEET NUMBER:

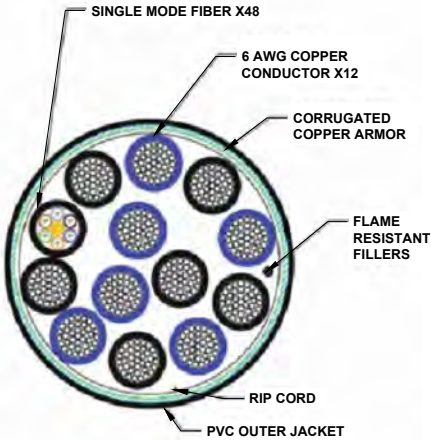
A-4A

HybridConnect

NWS-HCS2-HC4-XXX
HCS 2.0 Trunk HiCap 12 RRU 12X4AWG



General Specifications		
Nominal OD	1.790 in (45.21 mm)	
Cable Weight	2480 lb/mft (3690 kg/km)	
Jacket Color	Black	
Minimum Bend Radius: Installed	16.25"	
DC Cable Specifications		
DC Pairs	6	
DC Conductor Size	4 AWG	
DC Resistance: Maximum	0.264 Ohms / 1000 ft.	
Breakout Length: End 1	31 in (775 mm)	
Breakout Length: End 2	Molded Enclosure	
Product Ordering		
Part Number	Description	T-Mobile SKU
NWS-HCS2-HC4-250	HCS 2.0 Trunk HiCap 12 RRU 12x4AWG 250 FT	TBD
NWS-HCS2-HC4-275	HCS 2.0 Trunk HiCap 12 RRU 12x4AWG 275 FT	TBD
NWS-HCS2-HC4-300	HCS 2.0 Trunk HiCap 12 RRU 12x4AWG 300 FT	TBD
NWS-HCS2-HC4-325	HCS 2.0 Trunk HiCap 12 RRU 12x4AWG 325 FT	TBD
NWS-HCS2-HC4-350	HCS 2.0 Trunk HiCap 12 RRU 12x4AWG 350 FT	TBD
NWS-HCS2-HC4-375	HCS 2.0 Trunk HiCap 12 RRU 12x4AWG 375 FT	TBD
NWS-HCS2-HC4-400	HCS 2.0 Trunk HiCap 12 RRU 12x4AWG 400 FT	TBD
NWS-HCS2-HC4-425	HCS 2.0 Trunk HiCap 12 RRU 12x4AWG 425 FT	TBD
NWS-HCS2-HC4-450	HCS 2.0 Trunk HiCap 12 RRU 12x4AWG 450 FT	TBD



NEW HCS 2.0 TRUNK

COMMScope®

HFT410-ASNOK2-150
HELIAX® FiberFeed®
Hybrid Cable Assembly, HQLC

End 1: 4 fibers terminated DLC for Nokia RRU with flush cut power cord (red/black conductors). End 2: 4 fibers terminated LC and 4X10 AWG conductors terminated at hybrid trunk connector. 15 ft



Dimensions

Property	Value
Cord Length	4.57m (14.993 ft)
Diameter Over Jacket	18.31mm (0.721 in)
Center Conductor Gauge	10 AWG
Minimum Bend Radius	221mm (8.701 in)

COMMScope®

HTC-4SM-410-APVA
HELIAX® FiberFeed®
Hybrid Cable, UL Type TC-OF-ER



Properties

Description	Value
Buffer Tube/Subunit Diameter	3.556 mm (0.14 in)
Diameter Over Jacket	18.288 mm (0.72 in)
Center Conductor Gauge	10 AWG
Minimum Bend Radius, multiple bends loaded	365.76 mm (14.4 in)
Minimum Bend Radius, multiple bends loaded	220.98 mm (8.7 in)
Minimum Bend Radius, multiple bends loaded	127 mm (5 in)
Cable weight	456.122kg/km (306.5/kft)

NEW HYBRID JUMPER

T-Mobile

1400 OPUS PLACE
DOWNERS GROVE, IL 60515
MAIN: (773) 444-5400

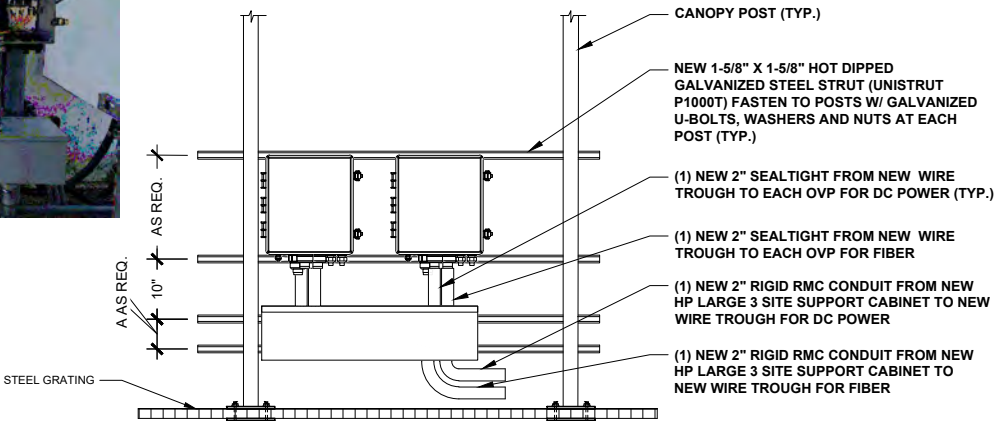
Concordia

361 RANDY RD, UNIT 101
CAROL STREAM, IL 60188
MAIN: (847) 981-0801

PROFESSIONAL DESIGN
FIRM LICENSE # 184-004952

CHECKED BY: RH

CHECKED BY: GMS



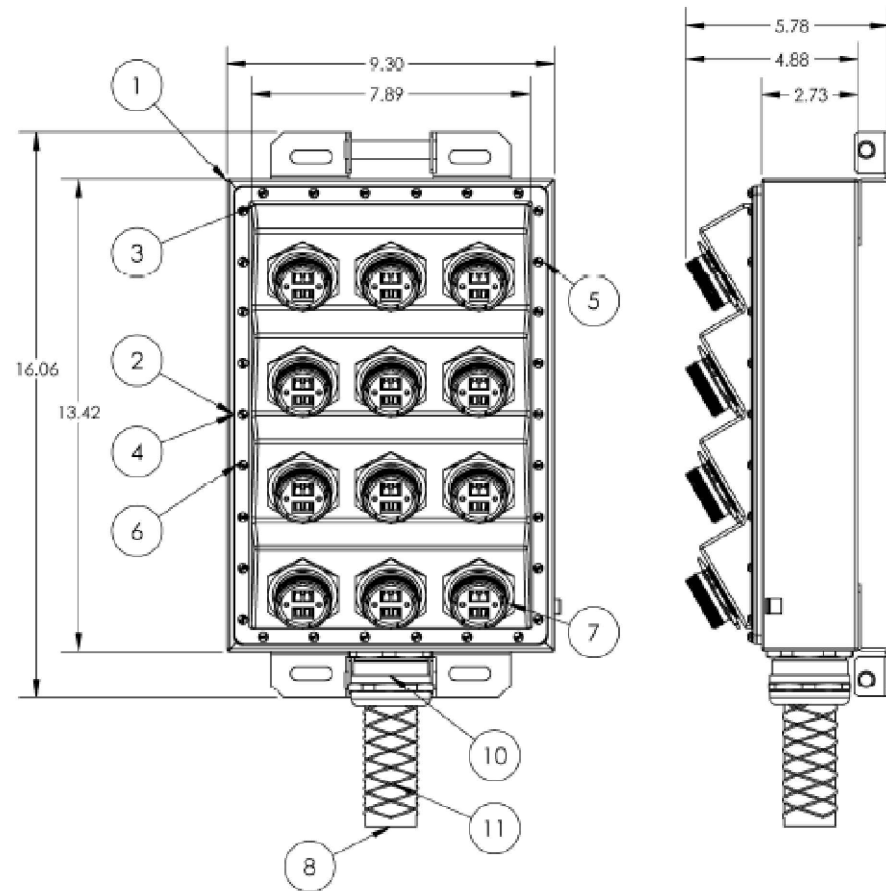
COVP/OVP UNISTRUTS FRAME ELEVATION DETAIL

PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:
NEW EQUIPMENT
SPECIFICATIONS

SHEET NUMBER:

A-4B

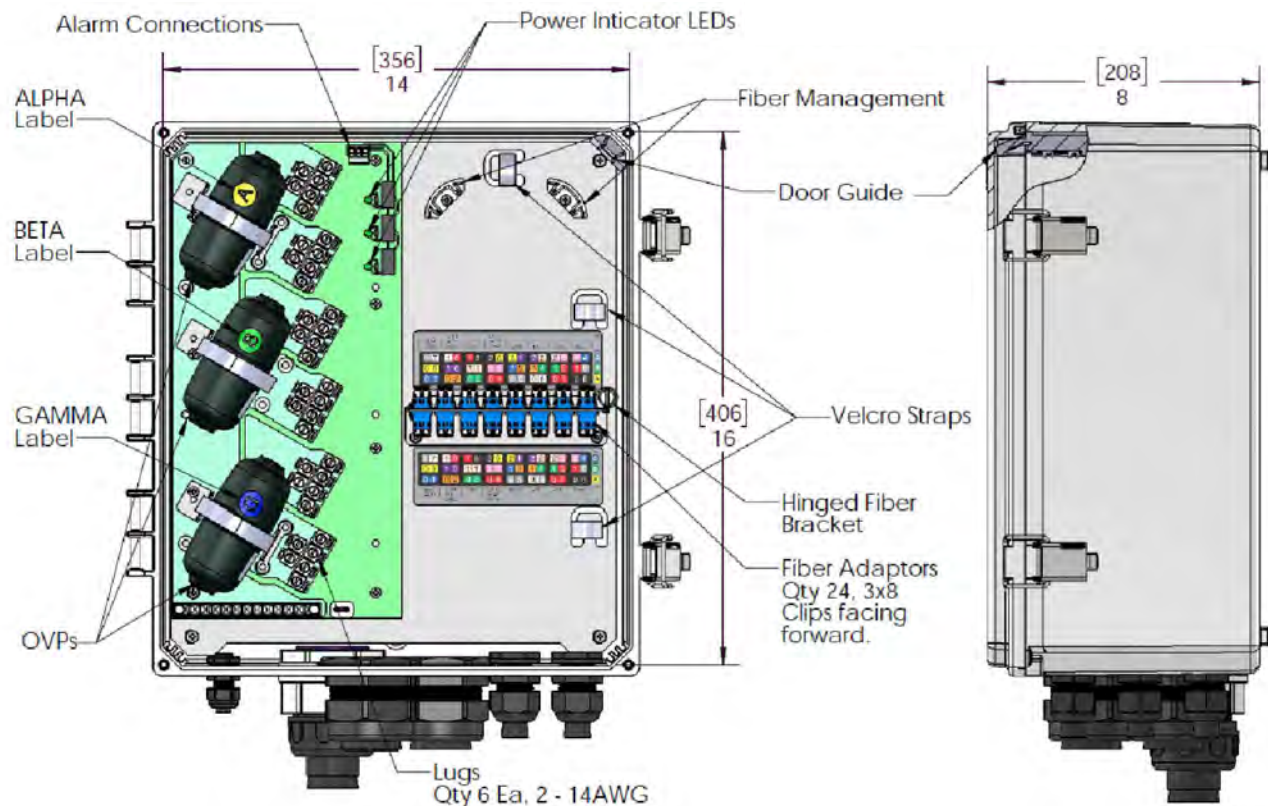


NOTE:
1. TOTAL VOLUME IS Max 480.6 CUBIC INCH.

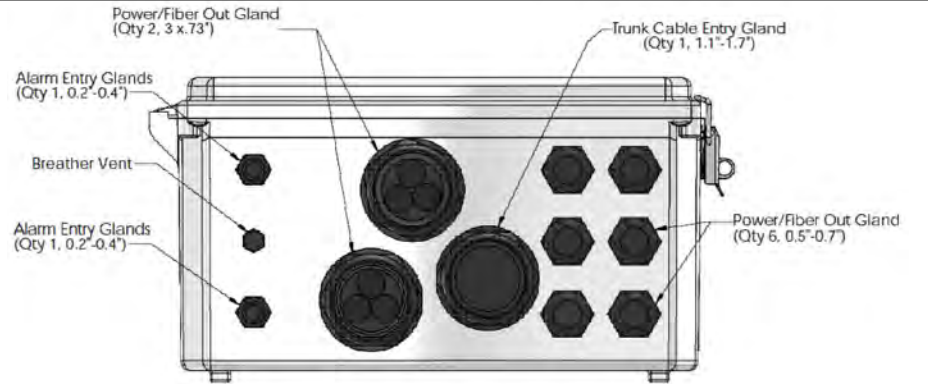
ITEM NO.	PART NUMBER	DESCRIPTION	AC-DIST08-6IP-SHIR/ QTY.
1	AC-DIST05-24IP-DC	IP SHEETMETAL BOX	1
2	AC-GKT05-FB-HICAP	GASKET EPDM	1
3	AC-FB-FRONT-4STEP-3CON	HYBRID MODULE INCLINE MOUNT THERMO SHELL	1
4	AC-STR05-HICAP	METAL O-RING	1
5	Regular LW 0.125	WASHER	30
6	3GMRB06058	TAMPERED PROOF #6-32 SCREW	30
7	CF-970850-101_106_W/LC	JAM NUT RECEPTACLE	12
8	ASU9325TYP02	HYBRID CABLE HI-CAP	1
9	6000428	LOCKNUT FOR CABLE GLAND	1
10	4220342	CABLE GLAND	1
11	HOIST GRIP	CABLE HOIST GRIP	1



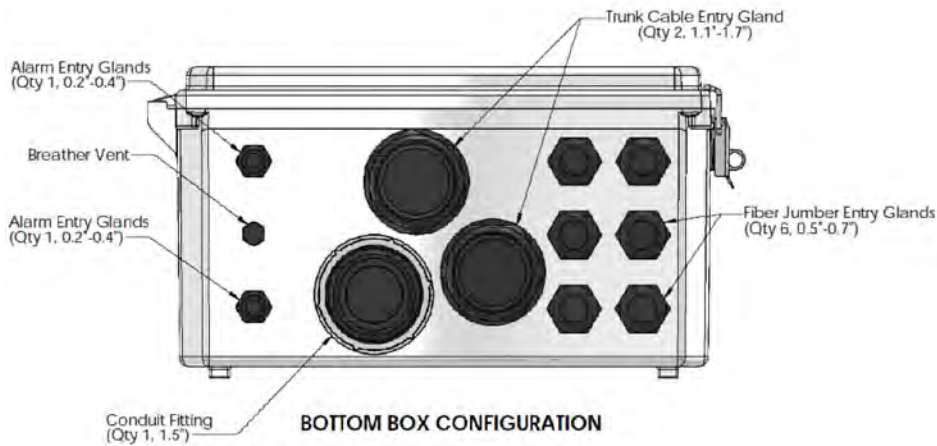
HYBRID CABLE HIGH-CAP BREAKOUT BOX



RTMDC-5634-PF-48 TOWER JUNCTION BOX



ALTERNATE TOP BOX CONFIGURATION



BOTTOM BOX CONFIGURATION



1400 OPUS PLACE
DOWNERS GROVE, IL 60515
MAIN: (773) 444-5400



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CAROL STREAM, IL 60188
MAIN: (847) 981-0801

PROFESSIONAL DESIGN
FIRM LICENSE # 184-004952

CHECKED BY: RH

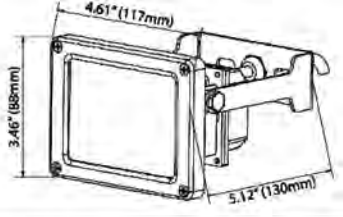
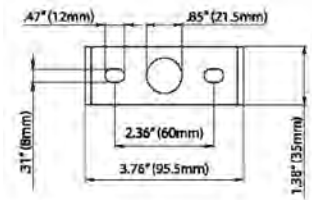
CHECKED BY: GMS

PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:
NEW EQUIPMENT
SPECIFICATIONS

SHEET NUMBER:

A-4C



OUTDOOR LIGHT SPECS:

- (1) SIGMA TWO GANG CLEAR COVER, EXTRA DUTY WITH LOCKABLE ENCLOSURE.
 - (1) INTERMATIC 60 MINUTE MECHANICAL TIMER, FD60MWC OR WOODS EQUIVALENT.
 - (1) CAST ALUMINUM, 2 GANG WEATHERPROOF FS BOX, NO LUGS, DEEP BOX. APPLETON FS-2-75A OR HUBBELL-KILLARK 2FS-1.
 - USE BACK OF GANG BOX FOR ENTRY INTO PPC, SEAL FLUSH AGAINST PPC WITH GASKETING MATERIAL, AND/OR SEAL EXTERIOR PERIMETER WITH SILICONE BEAD TO PREVENT WATER INTRUSION.
 - (1) GFCI 15 AMP LEVITON MT759-T, 2-POLE, 3-WIRE, 15 AMP, 125 VOLT, 5-15R NEMA, WALL BOX MOUNT, LIGHT ALMOND, HEAVY DUTY, COMMERCIAL GRADE. \\NOTE: NO RESIDENTIAL GRADE GFCI ALLOWED.//
 - (2) OUTDOOR FLOOD LIGHTS, RATED INITIAL LUMENS >1,260 EACH HTTP://WWW.MAXLITE.COM/PRODUCTS/SMALL-FLOOD-LIGHTS/FLS15U50B OR EQUIVALENT MAXLITE MODEL FLS15U50B/N, @ 1,235 LUMENS.
- TYPICAL INSTALLATION, REGARDLESS OF PPC STYLE OR TYPE OR EXISTING OUTLETS.
 - LIGHT TIMER ON 15A CIRCUIT, LIGHT CONTROLLED BY COUNTDOWN TIMER. GFCI ON SEPARATE 15A CIRCUIT.
 - IF PPC HAS EXISTING INTERIOR MOUNTED GFCI, IT TOO SHALL BE WIRED FOR SERVICE.
 - EQUIVALENT MEETING SERVICE REQUIREMENTS, OR BETTER, EQUIPMENT MAY BE SUBSTITUTED AND INSTALLED WITH PRIOR T-MOBILE PM OR CM APPROVAL.



LEVITON
MT759-T 5-15R TAMPER RESISTANT LEV-LOK
SMARTLOCKPRO GFCI RECEPTACLE COMMERCIAL - LIGHT
ALMOND

MFG CATALOG #: MT759-T
UPC #: 07847741391

PRODUCT FEATURES

AMPERAGE:	15 AMP
BODY MATERIAL:	NYLON
COLOR:	LIGHT ALMOND
FEATURE:	GFCI TAMPER-RESISTANT
GRADE:	COMMERCIAL
GROUNDING:	SELF GROUNDING
NEMA	5-15R
NEMA RATING:	5-15
POLE:	2
STANDARDS AND CERTIFICATIONS:	CULUS
STRAP MATERIAL:	STEEL
TERMINATION:	MODULAR TERMINALS
VOLTAGE:	125 VOLT
WARRANTY:	10 YEAR LIMITED
WIRW:	3



1400 OPUS PLACE
DOWNERS GROVE, IL 60515
MAIN: (773) 444-5400



PROFESSIONAL DESIGN
FIRM LICENSE # 184-004952

CHECKED BY: RH

CHECKED BY: GMS

1

LIGHT INSTALLATION DETAILS (MAXLITE PART # FLS15U50B)
SCALE: N.T.S.

3

GFCI 15 AMP LEVITON MT759-T, 2-POLE, 3-WIRE, 15 AMP, 125 VOLT, 5-15R NEMA,
SCALE: N.T.S.



INTERMATIC SPRING-WOUND TIMER: 0 TO 60 MIN,
WHITE, 20 A MAX. AMPS @ 125VAC, 1 GANGS, SPST

ITEM 38D060MFR.

MODEL FD60MWC

PRODUCT DETAILS

TIMING RANGE
CONTACT FORM
HP @ 120V
HP @ 240V
MAX. AMPS @ 125VAC
MAX. AMPS @ 250VAC
MAX. AMPS @ 277VAC
NUMBER OF GANGS
HOLD FEATURE
FACEPLATE COLOR
KNOB
STANDARDS

0 TO 60 MIN
SPST
1 HP
2 HP
20 A
10 A
10 A
1
NO
WHITE
PLASTIC
UL



APPLETON
FS DEVICE BOX, 2-GANG, FEED-THRU, TYPE FS, 3/4",
ALUMINUM
ITEM #: 0172437 CAT #: APPFS275A
UPC: 781381341851

2-GANG, FS TYPE, ALUMINUM RIDGE TOP, CAST BOX.
HUB SIZE: 3/4". BOX DEPTH: 2.00" INCLUDES: INTERNAL
GROUND SCREW. FOR USE WITH THREADED RIGID
METAL CONDUIT.



HUBBELL-KILLARK

DEVICE BOX 2GANG SHLW AL 1/2"
ITEM #: 0459004 CAT #: 2FS-1 UPC: 783936190044

2-GANG, FS TYPE, ALUMINUM
FS / FD SERIES FITTINGS
CAST DEVICE BOXES
STANDARD AND HOSTILE

2

INTERMATIC 60 MINUTE MECHANICAL TIMER, FD60MWC
SCALE: N.T.S.

4

CAST ALUMINUM 2 GANG WEAHTERPROOF FS BOX
SCALE: N.T.S.

PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:
NEW EQUIPMENT
SPECIFICATIONS

SHEET NUMBER:

A-4D



SIGMA ELECTRIC 14425 2-GANG PLASTIC WHILE IN USE COVER

TECHNICAL DETAILS

SWITCH TYPE	TOGGLE
MATERIAL	PLASTIC
BRAND	SIGMA ELECTRIC
COLOR	GRAY
ITEM DIMENSIONS LXWXH	5 X 5 X 7.25 INCHES
FINISH TYPE	POLISHED
CONFIGURATION	DOUBLE
INSTALLATION TYPE	SCREW IN
MANUFACTURER	SIGMA ELECTRIC
PART NUMBER	14425
ITEM WEIGHT	8 OUNCES
ITEM MODEL NUMBER	14425

SIGMA TWO GANG CLEAR COVER

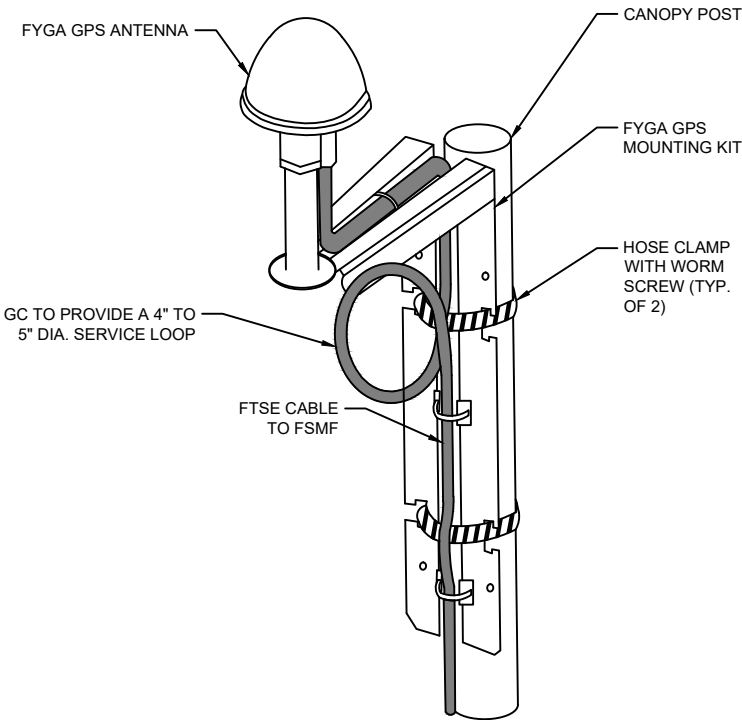
NOTES:

1. THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1-1/4" DIA. SCH. 40 GALVANIZED OR STAINLESS STEEL PIPE. THE PIPE MUST BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH (MIN. OF 18") USING A WAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH PERPENDICULAR CUT. THE CUT PIPE END SHALL BE DEBURRED AND SMOOTH IN ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNAS MOUNT.

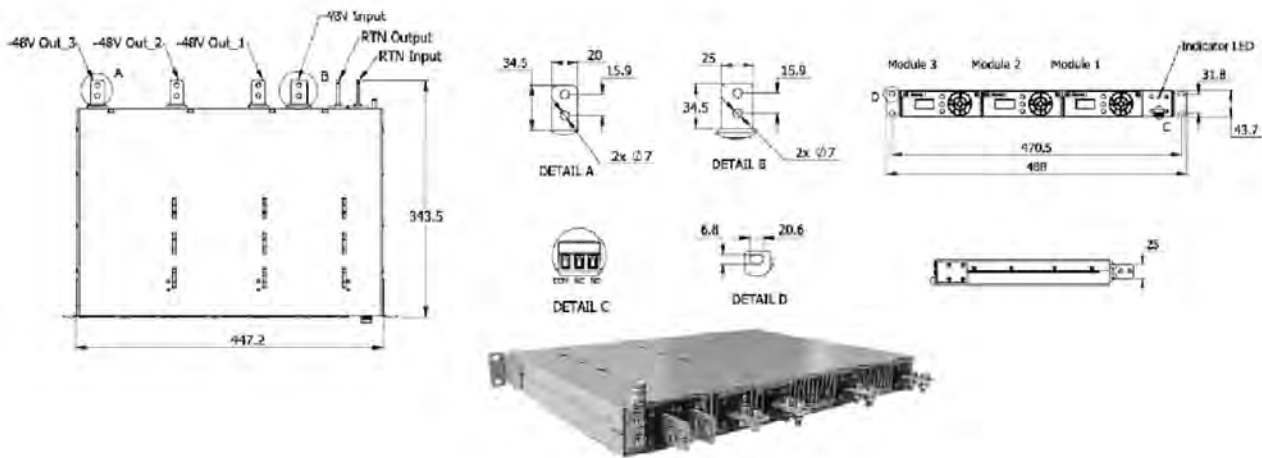
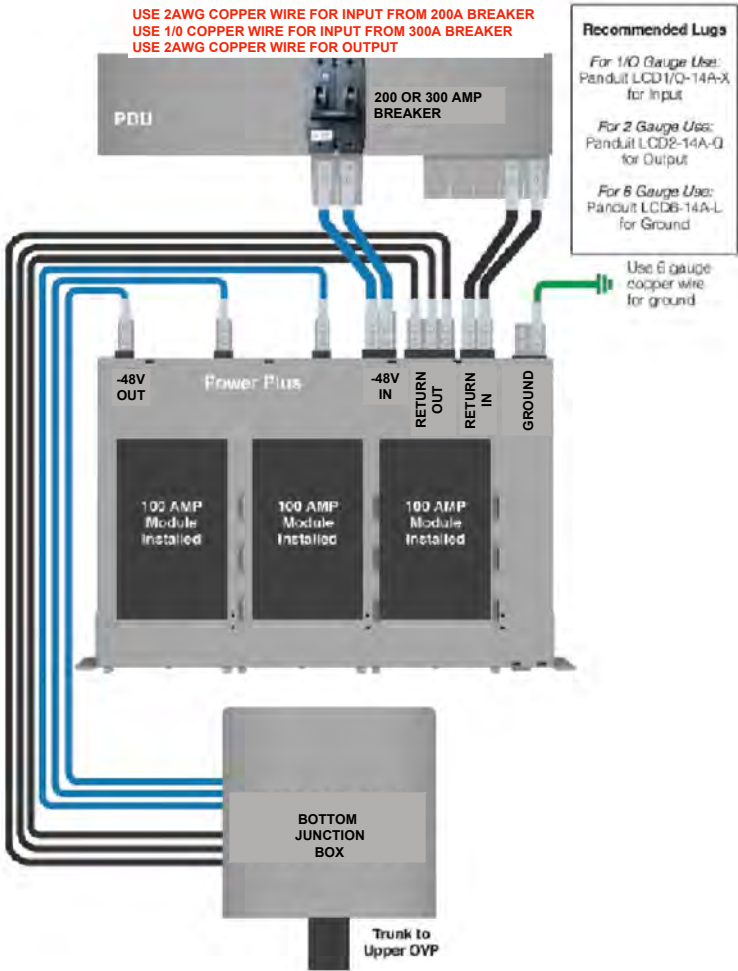
2. THE MOUNTING PLATE SHALL BE FABRICATED AS SHOWN AND ATTACHED TO THE APPROPRIATE SUPPORT STRUCTURE USING U-BOLTS. THE SUPPORT PIPE FOR THE GPS SHALL BE MOUNTED USING OVERSIZED U-BOLTS TO ALLOW ADJUSTMENT. IT IS CRITICAL THAT THE GPS ANTENNA IS MOUNTED WITHIN 2" OF VERTICAL AND THE BASE OF THE ANTENNA IS WITHIN 2" LEVEL.

3. INSTALL GPS ANTENNA AS SPECIFIED ON SITE PLAN. IF INSTALLING ON ICE/CABLE BRIDGE ENSURE THAT GPS IS A MINIMUM OS 10" ABOVE GRADE, ON THE FURTHEST POST FROM THE TOWER TO ATTAIN MAXIMUM COVERAGE.

4. IF GPS IS INSTALLED ON EQUIPMENT STEEL PLATFORM ON GROUND, GC TO ENSURE THAT GPS ANTENNA IS EXTENDED ABOVE CANOPY.



FYGA GPS ANTENNA DETAIL



NEW POWER BOOSTER



1400 OPUS PLACE
DOWNERS GROVE, IL 60515
MAIN: (773) 444-5400



361 RANDY RD, UNIT 101
CAROL STREAM, IL 60188
MAIN: (847) 981-0801

PROFESSIONAL DESIGN
FIRM LICENSE # 184-004952

CHECKED BY: RH

CHECKED BY: GMS

PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:
NEW EQUIPMENT
SPECIFICATIONS

SHEET NUMBER:

A-4E

HP-Large 3 Power Cabinet



Product Features

Compact design for equipment, power and battery:

- 30RU supports 3 radios and transport equipment
- 600A @ -48V power system
- Slimline high efficiency rectifier
- ORION Touch screen Controller
- Rear Access Hatch

Direct air cooling solution, 6000W capacity, 5°C delta T
Easy slide-in filter replacement for Merv-13 or Gore filter Mates with:

- New 2 string Slim Battery cabinet
- Large-2 battery cabinet
- V2 Equipment and battery cabinet

Designed to GR-487 specification

Specifications

Model HP-Large 3 Power Cabinet

1. General

Construction	Aluminum enclosure
Dimensions (W x H x D)	30 x 72 x 37 in. Depth with Door: 43 in.
Weight	approx. 595 lbs. (rectifiers excluded)
Internal rack dimension	Total Equipment space, 30RU: Horizontal rack: 19" x 27RU Vertical rack: 19" x 3RU
Mounting options	Power System space: 23" x 12RU
Finish	Pad-mount, plinth option
Finish	Polyester Powder Paint (Tan)
Safety	UL Listed , IEC / EN 60950
Operating temperature	-40°C to +50°C (-40°F to +122°F) with solar load. IP 55
Protection class	designed to GR-487
Acoustics	5°C delta T: 70 dBA @ 6000W, 65dBA @5000W heat load
Humidity (relative)	95%, non-condensing (Max.)

2. Environment

3. Thermal management

Cooling Equipment: Direct Air Cooling 6000W, 5°C delta T
(6) centrifugal redundant fans,
(3) Merv-13 or optional GORE filters front door
(3) Merv-13 filters rear hatch

Heating Equipment: Forced air heating (2) 1000W AC heaters

4. Equipment

Cable Entry Knock-out plate on each upper side wall
Additional knockouts each side
(1) 3" conduit hole with hole plug

Door latch 3 point latching, 5/16 nut driver tool, pad-locking capability

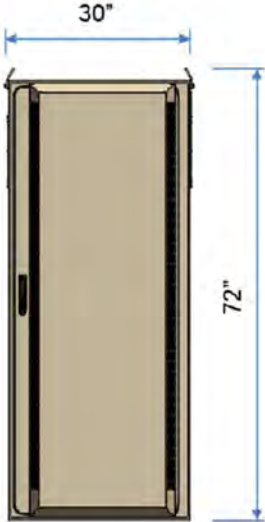
Primary ground 10 double-hole ¼"-20 threaded holes on 5/8" center ground bar

Lifting Ears 4 Lifting Tabs

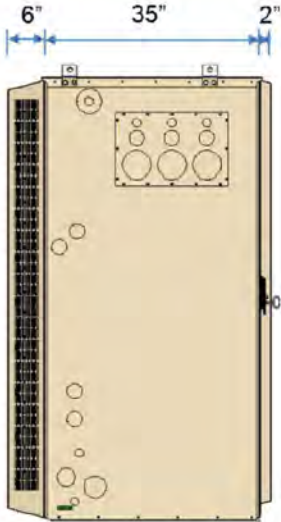
Standard equipment AC Load Center: 240V dual feed / (1) 200A + (1)100A
208V single feed / (1) 200A
AC Surge Protection for each breaker feed
GFCI Receptacle 120V
(6 form-C) Alarm Termination block
(1) Thermal Probe
605A/ 54V (336kW) redundant Power System with DIN rail distribution:
12 rectifier positions (qty 3x55A DPR3000 rectifiers included)
52 poles for load (qty 1x150A, 3x10A load circuit breakers included) 16
poles for battery (qty 2x200A battery circuit breakers included) (2)
SB350 generator connector
LVD over-ride switch
(2) SB175 Battery connections
(2) SB350 Battery connections

Front Door: (6) DC powered centrifugal fans with (3) MERV-13 filters, (GORE option)
Clogged Filter alarm pressure switch
Door intrusion alarm
(2) 1000W AC powered heaters
LED interior cabinet light

Rear Hatch: Exhaust vent with (3) MERV-13 filters



FRONT



RIGHT

1 DELTA HP-LARGE 3 POWER CABINET
N.T.S.

T-Mobile

1400 OPUS PLACE
DOWNERS GROVE, IL 60515
MAIN: (773) 444-5400

Concordia
361 RANDY RD, UNIT 101
CAROL STREAM, IL 60188
MAIN: (847) 981-0801

PROFESSIONAL DESIGN
FIRM LICENSE # 184-004952

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Large Battery 3 Cabinet

LB3 Site Support Enclosure

Product Feature

- Direct air cooling solution with optional Gore filter
- Supports four strings of -48V VRLA batteries up to 210Ah
- 600A bus bar with individual 200A breakers per string
- Bulk Input / Output with ability to daisy chain cabinets
- Connection kit includes cables with disconnects
- Rear hatch access
- Corrosion resistant aluminum construction
- Powder coated high gloss finish • Designed to meet GR-487

Specification

Model

General

Construction	Aluminum enclosure
Dimensions (W x H x D)	30 x 72 x 35 in. (766 x 1829x 889mm), Depth with door: 41 in. (1045mm)
Weight	~540 lbs (245kg) (without batteries)
Internal rack dimension	4 battery trays to support up to 210Ah batteries
Mounting options	Pad-mount, plinth option
Finish	Polyester Power Paint (Tan)
Safety	UL Listed, IEC / EN 60950

Environment

Operating temperature	-40C to +50C (-40F to +122F) with solar load.
Protection class	IP 55 designed to GR-487
Acoustics	65 dBA
Humidity (relative)	95%, non-condensing (Max.)

Large 3 Battery (LB3) Cabinet

Thermal management

Cooling Direct Air Cooling: (4) Axial Fans. Filters: F6 front and rear

Heating Forced air heating (2) 1000W AC heaters

Equipment

Cable Entry Knock-out plate on each upper side wall
Additional knockouts each side
3 point latching, 5/16 Nut driver tool, pad-locking capability
4 eye bolts

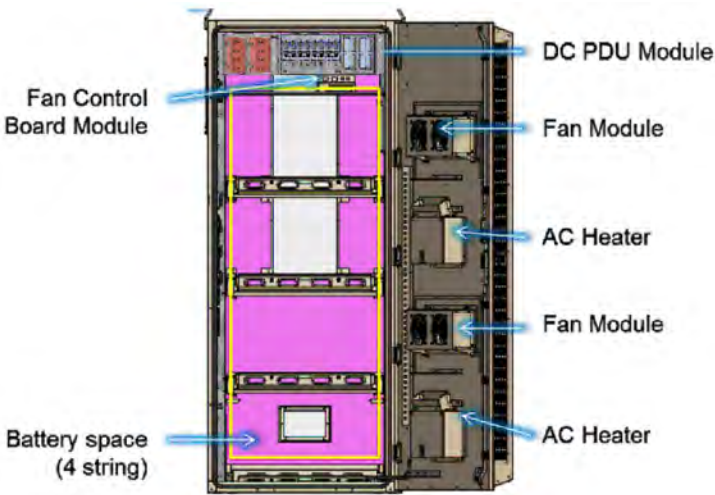
Door latch

Lifting Ears

Standard equipment AC Load Center with AC Surge protection and GFCI outlet
Left or Right side AC entry options
(2) 1000W AC powered heater

DC Load Center 600A bulk feed bus bar
(4) 20050A DIN rail battery breakers (4) 2-hole lug landings
(2) Anderson SB350 input connectors to daisy chain 2nd battery cabinet
2AWG battery cables from breakers to trays

Configurable trays for (4) strings of up to 210Ah batteries
Door intrusion switch
LED interior cabinet light
Fan Control Board, factory wired alarms via RJ45 output (fan & breaker alarms)
Cabinet Connection kit
(2) 4/0 cables with SB350 disconnects to connect to power cabinet



2 DELTA BATTERY CABINET
N.T.S.

PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:
NEW EQUIPMENT
SPECIFICATIONS

SHEET NUMBER:

A-4F

LEFT SIDE KNOCK OUT ASSIGNMENTS

***In Chicago, a single 3" may be used. Alt Config - See next page.

This panel of knockouts is intended for running DC cables to the COVP in individual 2" conduit.

- * Use the correct sized Meyers Hub for your knockouts!
- * Do NOT punch out the middle of a knockout!
- * Do not drill out the middle of a knockout.
- * Do not screw directly into cabs for any reason!
- * Secure all connections properly. When Meyers Hubs are installed with proper gasket, caulk is not needed.

2" Fiber & GPS
Cable route

Microwave entry point (if needed)

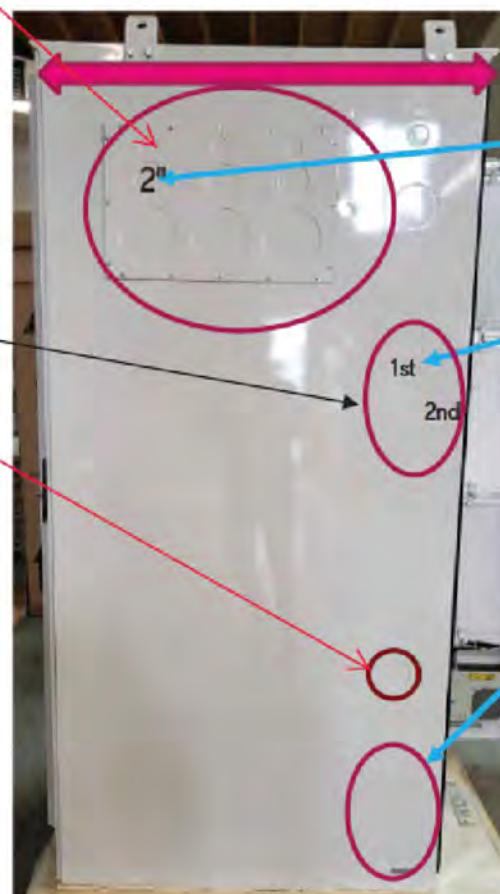
NOTE:
Fiber must be installed INSIDE flexible conduit (no more than 6' flexible allowed total per path) to prevent animal/insect damage from chewing on the soy-based fiber jackets.

Use the correct sized Meyers Hub for your knockouts! Do NOT punch out the middle of a knockout! Do not drill out the middle of a knockout.

Left Side View

Back

Front



A 2" LR or LB is used here (LR preferred for rear port) for the DC cables running from the DC rectifier to the COVP Pull Box and into COVP. For HCS 2.0, there are 3 pairs, for A, B & G to allow proper space in conduit

In Chicago, you may use a single 3" for Power and a single 3" (knockout) for Fiber, if all conduits are supported properly. See next page.

A 2" LL is used here for the bottom fiber and GPS cable to and from the COVP. Use inner knockout 1st, then outer 2nd, based on capacity.

Use of LR and LL is recommended. Housing cover must be field serviceable! Covers should be facing front or back of cabs and accessible.



1" Bottom Left side knockouts intended for LB Connection of:

1. PPC - LOCP Alarming
2. Fiber/Ethernet for AAV
3. AAV/Ciena DC Power

All Conduit Housings must be labeled properly



RIGHT SIDE KNOCK OUT ASSIGNMENT

Right Side View

Front

Battery cable route knockout: With the fixed length of Battery Cable provided, this is the preferred knockout to be used.

The Maximum distance between the SSC and Batt. Cab that the cable can support is 12 inches.

Intended for AC input cables from the PPC. The rear 3" knockout is used for a 3" Meyers Hub with reducer to 2" Rigid LL, to run the (3) 3/0 & (1) #4 to the PPC for 200A service. The 2.5" Port for 100A Service will not be used at this time. Make sure to leave 12" between the HPL3 & LB3 / SB3 only.

- * Use the correct sized Meyers Hub for your knockouts!
- * Do NOT punch out the middle of a knockout!
- * Do not drill out the middle of a knockout.
- * Do not screw directly into cabs for any reason!
- * Secure all connections properly. When Meyers Hubs are installed with proper gasket, caulk is not needed.

Back

Middle 2" knockout is used for DC and Alarm cabling to the Battery cabinet.

This 2" knockout is used for the AC cable LR connection, to wrap down and around rear of LB3 / SB3, to the same port on the Battery cabinet.



CABINET LAYOUT - EQUIPMENT

HPL3 Front

Voltage Boosters (Up to 3 shelves)

Airscale

Legacy RAN - FSMF/ESMX

If using FSEB, unit will be mounted to original bracket and set on top of uppermost Flexi Module

If using new FSEE, mount on FMAB chassis below FSMF. Must have sufficient cable / grounding slack, to allow for alarm adjustment in future.

Voltage Boosters (Up to 3 shelves)

SFC4 location only when needed. (1) RU space for each cable management bracket

AAV/Ciena Location When needed or required

CSR - SAS/IXRe (in farthest left position)

Airscale

Space for FutureBBU Expansion

Legacy Baseband

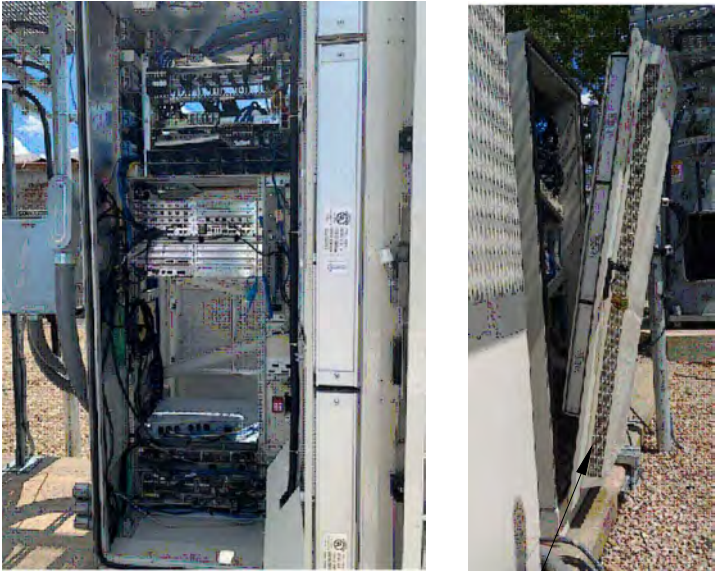
FSEB & Bracket

If using FSEB, unit will be mounted to original bracket and set on top of uppermost Flexi Module

If using new FSEE, mount on FMAB chassis below FSMF. Must have sufficient cable / grounding slack, to allow for alarm adjustment in future.

Future Equipment place holder

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27



HP LARGE 3 POWER SITE
SUPPORT CABINET REAR ACCESS
DOOR USED FOR FILTER
REPLACEMENT

DELTA HP-LARGE 3 POWER CABINET LAYOUT

PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:
NEW EQUIPMENT
SPECIFICATIONS

SHEET NUMBER:
A-4H

Microwave Connection:

When there is a need to utilize a microwave at the site, only use the material and routing path designated below, in order to run the Coax / Ethernet out of the cab. No other penetration will be allowed. Hole will need to drilled in plate and grommet installed in metal cover on left side of HPL3 (remove cover to drill to prevent shavings inside cab).

External Cab Penetration



UTILIZE 2" THREADED LB WITH MEYER HUB FOR INITIAL CABINET PENETRATION

UTILIZE ROXTECH 2" THREADED ADAPTER FOR TRANSITION TO M63 CABLE GLAND

ROXTECH M63 CABLE ENTRY GLAND

LMR 400/500 OUT TO M/W ODU AT ANTENNA CL

UTILIZE EXISTING LMR CONNECTION - DO NOT CUT AND RE TERMINATE LINE

Drill Hole and add grommet to protect cable.
Remove cover to drill hole

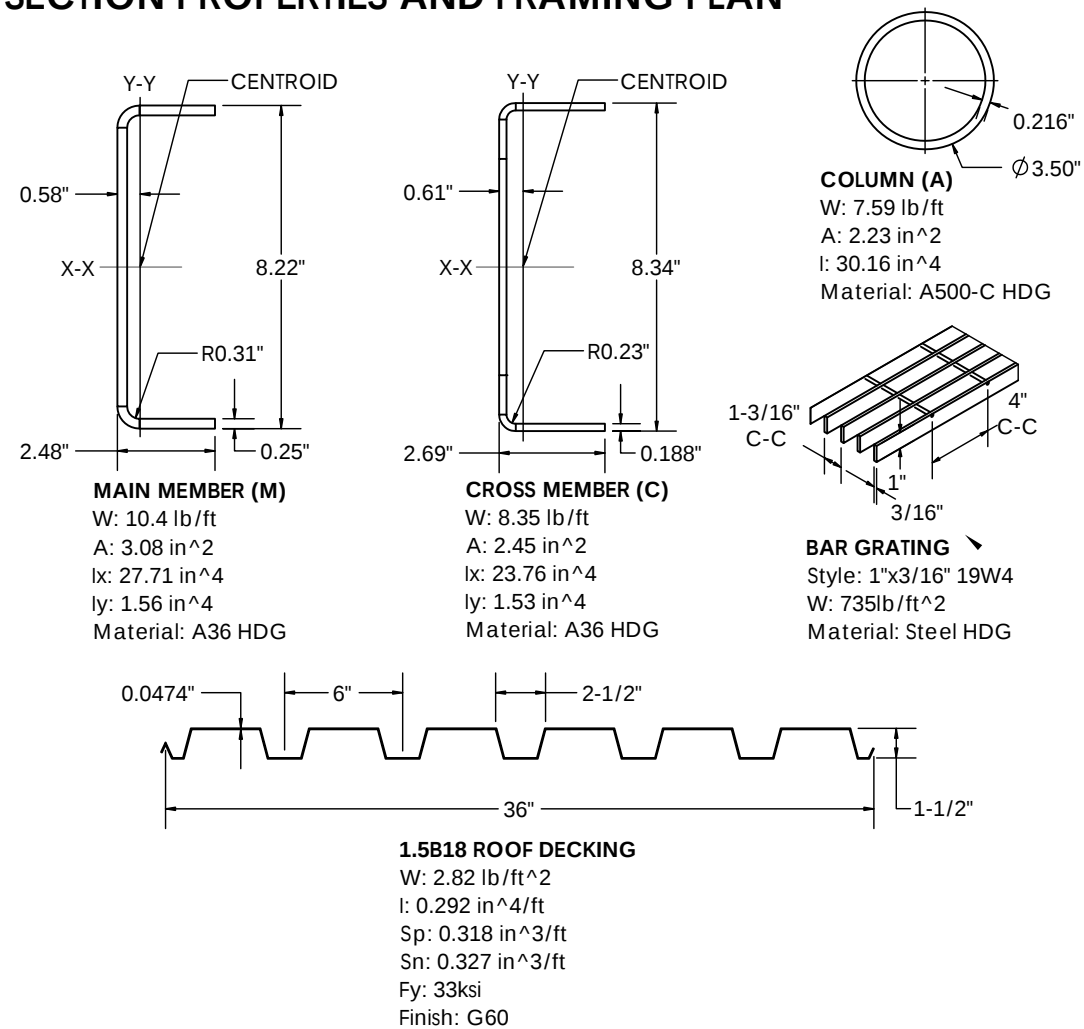


PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

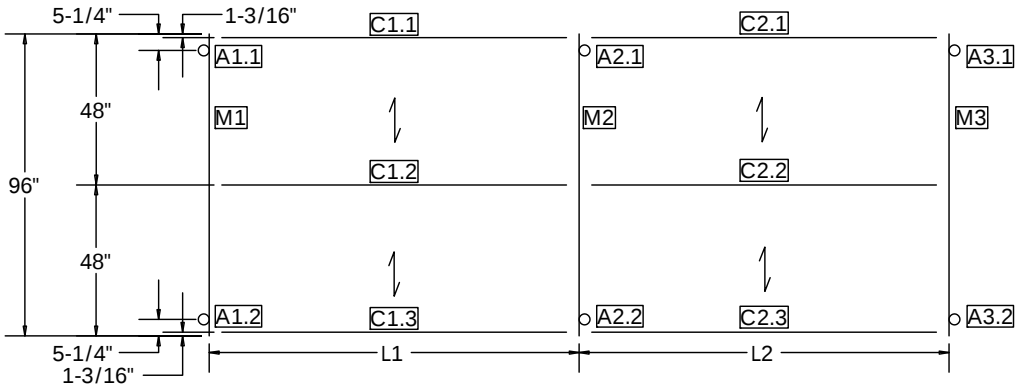
SHEET TITLE:
NEW EQUIPMENT
SPECIFICATIONS

SHEET NUMBER:
A-4I

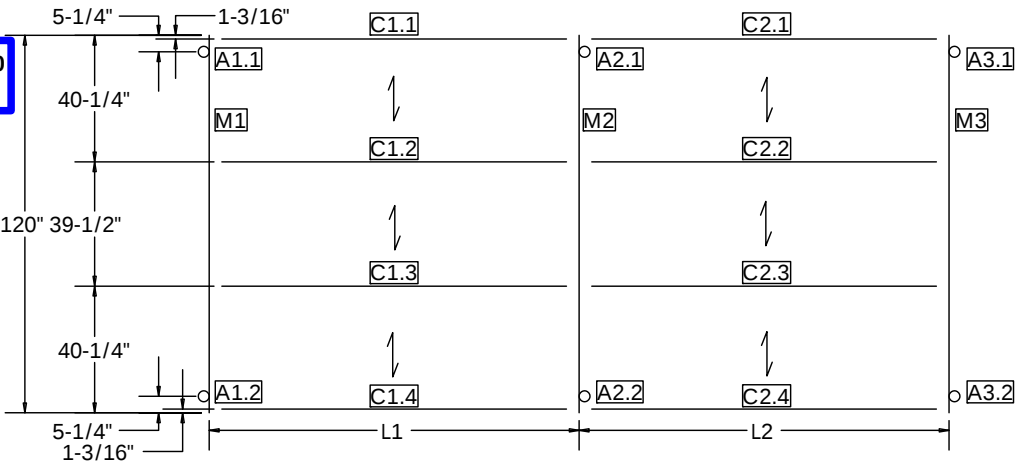
SECTION PROPERTIES AND FRAMING PLAN



PV-WC08 / PV-EQ08
SERIES:

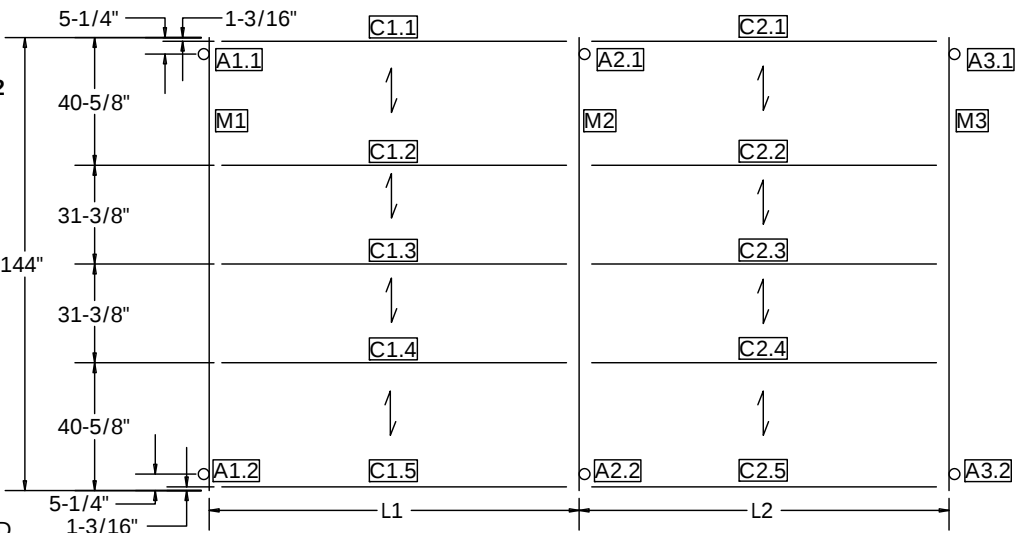


PV-WC10 / PV-EQ10
SERIES:



GC TO MODIFY LOCATION OF ICE
BRIDGE POSTS TO FOLLOW
DIMENSION ON PLAN.

PV-WC12 / PV-EQ12
SERIES:



Canopy	L1	L2	Canopy	L1	L2	Canopy	L1	L2
PV-WC0807-B	6'	-	PV-WC1007-B	6'	-	PV-WC1207-B	6'	-
PV-WC0808-B	7'	-	PV-WC1008-B	7'	-	PV-WC1208-B	7'	-
PV-WC0809-B	8'	-	PV-WC1009-B	8'	-	PV-WC1209-B	8'	-
PV-WC0810-B	9'	-	PV-WC1010-B	9'	-	PV-WC1210-B	9'	-
PV-WC0811-B	10'	-	PV-WC1011-B	10'	-	PV-WC1211-B	10'	-
PV-WC0812-B	11'	-	PV-WC1012-B	11'	-	PV-WC1212-B	11'	-
PV-WC0813-B	6'	6'	PV-WC1013-B	6'	6'	PV-WC1213-B	6'	6'
PV-WC0814-B	7'	6'	PV-WC1014-B	7'	6'	PV-WC1214-B	7'	6'
PV-WC0815-B	7'	7'	PV-WC1015-B	7'	7'	PV-WC1215-B	7'	7'
PV-WC0816-B	8'	7'	PV-WC1016-B	8'	7'	PV-WC1216-B	8'	7'
PV-WC0817-B	8'	8'	PV-WC1017-B	8'	8'	PV-WC1217-B	8'	8'
PV-WC0818-B	9'	8'	PV-WC1018-B	9'	8'	PV-WC1218-B	9'	8'
PV-WC0819-B	9'	9'	PV-WC1019-B	9'	9'	PV-WC1219-B	9'	9'
PV-WC0820-B	10'	9'	PV-WC1020-B	10'	9'	PV-WC1220-B	10'	9'
PV-WC0821-B	10'	10'	PV-WC1021-B	10'	10'	PV-WC1221-B	10'	10'
PV-WC0822-B	11'	10'	PV-WC1022-B	11'	10'	PV-WC1222-B	11'	10'
PV-WC0823-B	11'	11'	PV-WC1023-B	11'	11'	PV-WC1223-B	11'	11'

- STANDARD POST PLATFORM CAPACITY:
- 4 POST PLATFORMS DESIGNED TO SUPPORT 8,000LB TOTAL EQUIPMENT LOAD.
 - 6 POST PLATFORMS DESIGNED TO SUPPORT 12,000LB TOTAL EQUIPMENT LOAD.
 - EACH ADDITIONAL POST ADDS 2,000LB TOTAL DISTRIBUTED LOAD CAPACITY.
- PV-EQ-JACK-B:
- CAPACITY
 - 3000LB LIFT
 - 5000LB STATIC
 - IF JACKS ARE TO BE USED, (1) PER COLUMN IS REQUIRED. ADDITIONAL JACKS MAY BE MOUNTED TO THE OUTSIDE OF THE PLATFORM FRAMING AS REQUIRED

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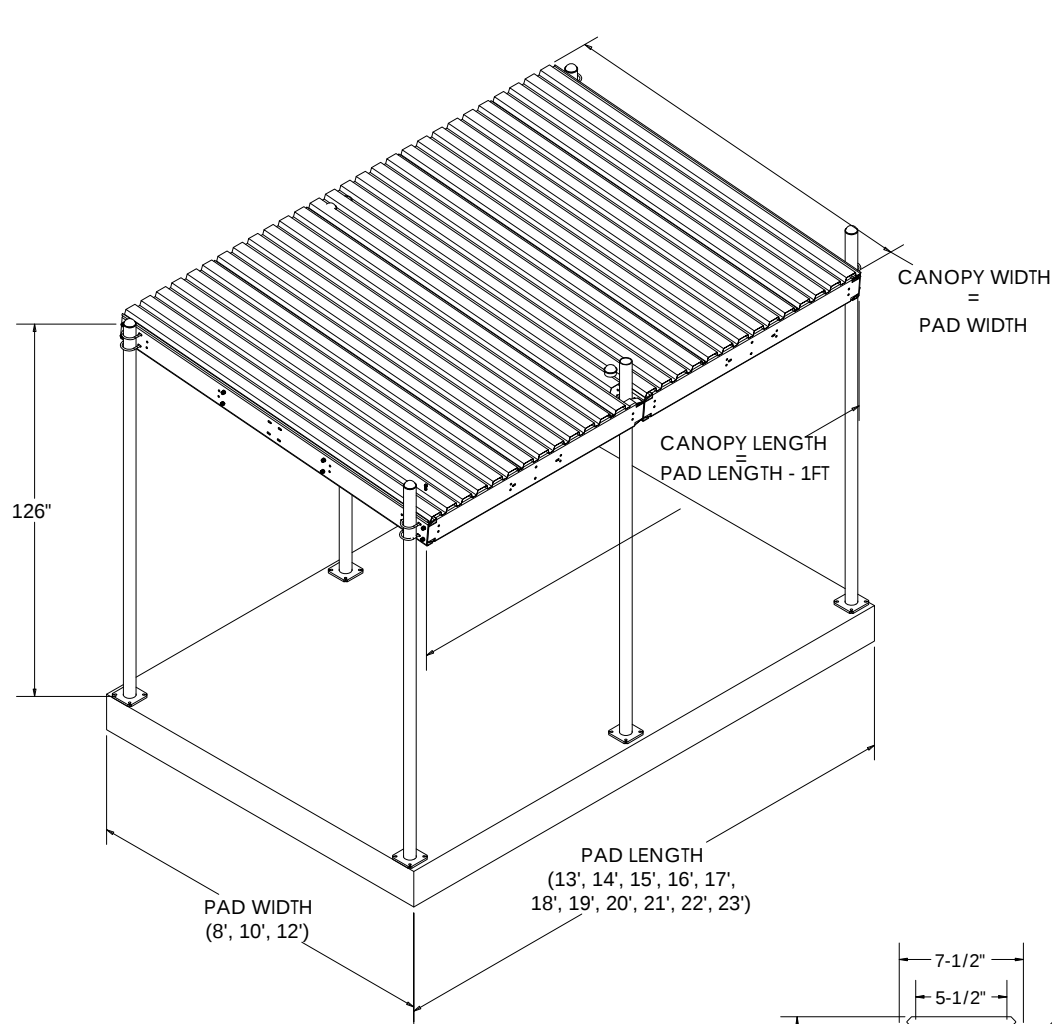
PROFESSIONAL DESIGN
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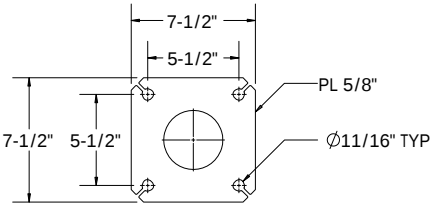
PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:
NEW WEATHER CANOPY
SPECIFICATIONS

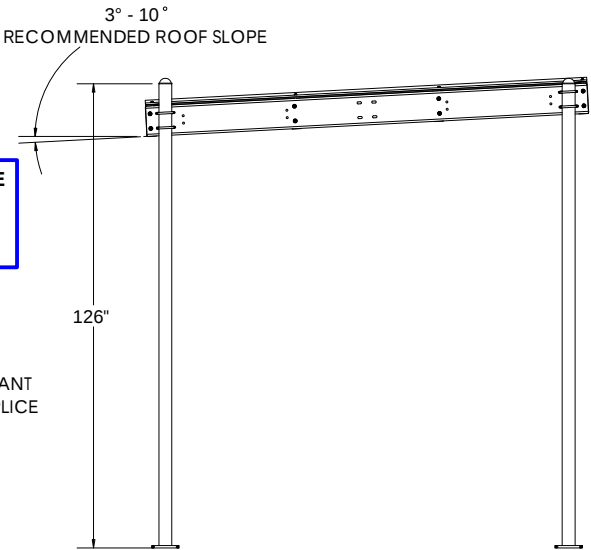
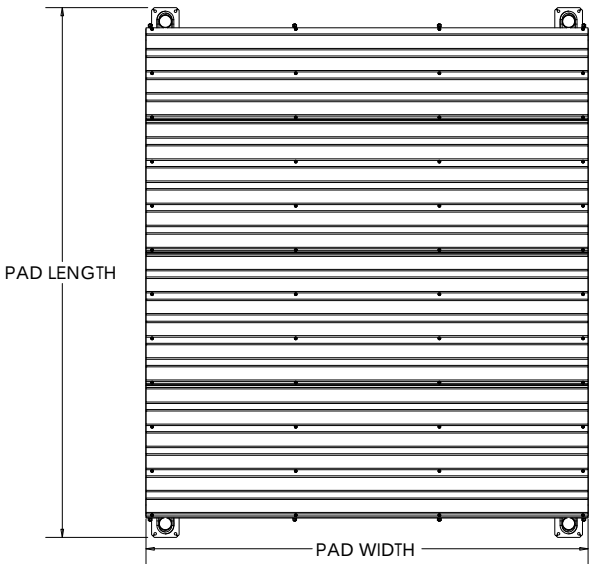
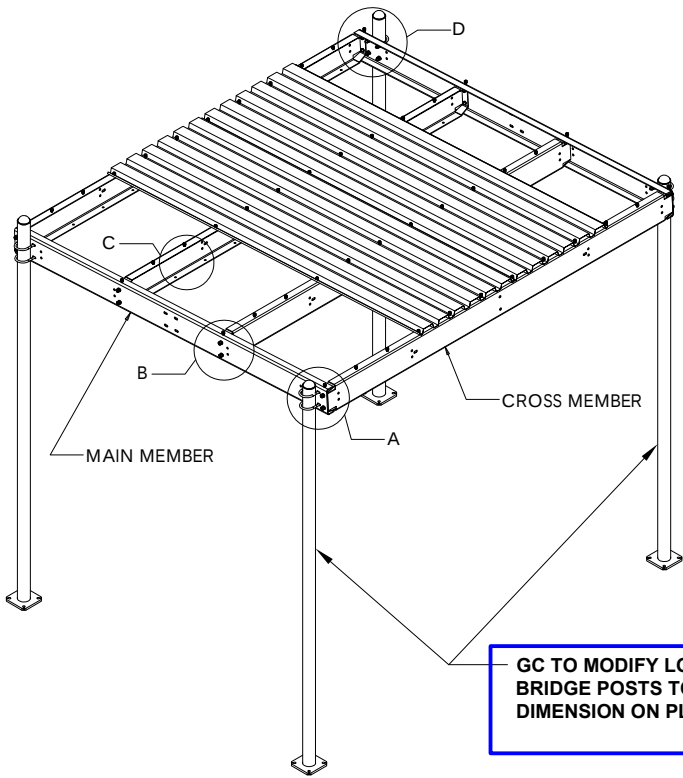
SHEET NUMBER:
S-1A



6 POST WEATHER CANOPY

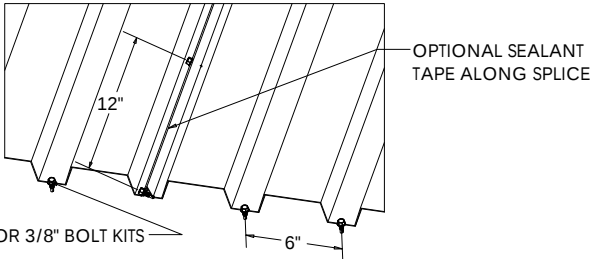


BASEPLATE DETAILS



ELEVATION VIEW

GC TO MODIFY LOCATION OF ICE BRIDGE POSTS TO FOLLOW DIMENSION ON PLAN.

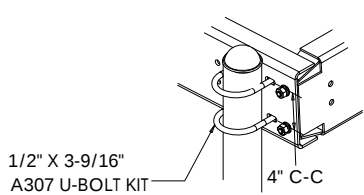


FIELD DRILL 7/16" FOR 3/8" BOLT KITS

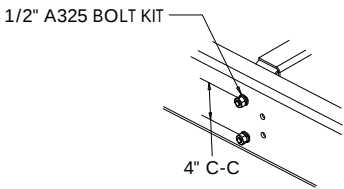
- 6" C-C MAX SPACING ALONG ALL CROSS MEMBERS
- 12" C-C MAX SPACING ALONG EXTERIOR MAIN MEMBERS
- 12" C-C MAX SPACING ALONG SPLICES

ROOF DECKING DETAIL

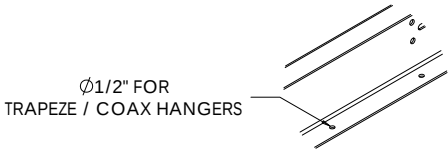
Weather Canopy Size Options							
		Pad Width (Roof Slope Direction)					
		8'		10'		12'	
Pad Length	7 '	PV-WC0807-B	655 lbs	PV-WC1007-B	830 lbs	PV-WC1207-B	1005 lbs
	8 '	PV-WC0808-B	735 lbs	PV-WC1008-B	930 lbs	PV-WC1208-B	1125 lbs
	9 '	PV-WC0809-B	815 lbs	PV-WC1009-B	1035 lbs	PV-WC1209-B	1255 lbs
	10 '	PV-WC0810-B	895 lbs	PV-WC1010-B	1135 lbs	PV-WC1210-B	1375 lbs
	11 '	PV-WC0811-B	975 lbs	PV-WC1011-B	1235 lbs	PV-WC1211-B	1495 lbs
	12 '	PV-WC0812-B	1055 lbs	PV-WC1012-B	1340 lbs	PV-WC1212-B	1625 lbs
	13 '	PV-WC0813-B	1221 lbs	PV-WC1013-B	1549 lbs	PV-WC1213-B	1878 lbs
	14 '	PV-WC0814-B	1229 lbs	PV-WC1014-B	1649 lbs	PV-WC1214-B	1999 lbs
	15 '	PV-WC0815-B	1382 lbs	PV-WC1015-B	1755 lbs	PV-WC1215-B	2128 lbs
	16 '	PV-WC0816-B	1460 lbs	PV-WC1016-B	1854 lbs	PV-WC1216-B	2249 lbs
	17 '	PV-WC0817-B	1538 lbs	PV-WC1017-B	1954 lbs	PV-WC1217-B	2370 lbs
	18 '	PV-WC0818-B	1620 lbs	PV-WC1018-B	2059 lbs	PV-WC1218-B	2499 lbs
	19 '	PV-WC0819-B	1698 lbs	PV-WC1019-B	2159 lbs	PV-WC1219-B	2619 lbs
	20 '	PV-WC0820-B	1776 lbs	PV-WC1020-B	2258 lbs	PV-WC1220-B	2741 lbs
	21 '	PV-WC0821-B	1859 lbs	PV-WC1021-B	2364 lbs	PV-WC1221-B	2869 lbs
22 '	PV-WC0822-B	1937 lbs	PV-WC1022-B	2464 lbs	PV-WC1222-B	2991 lbs	
23 '	PV-WC0823-B	2016 lbs	PV-WC1023-B	2564 lbs	PV-WC1223-B	3113 lbs	



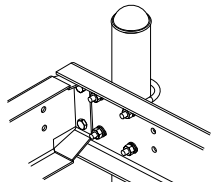
DETAIL A



DETAIL B



DETAIL C



DETAIL D

1 NEW WEATHER CANOPY (BY PERFECT VISION PART # PV-WC1013-B)
SCALE: N.T.S.



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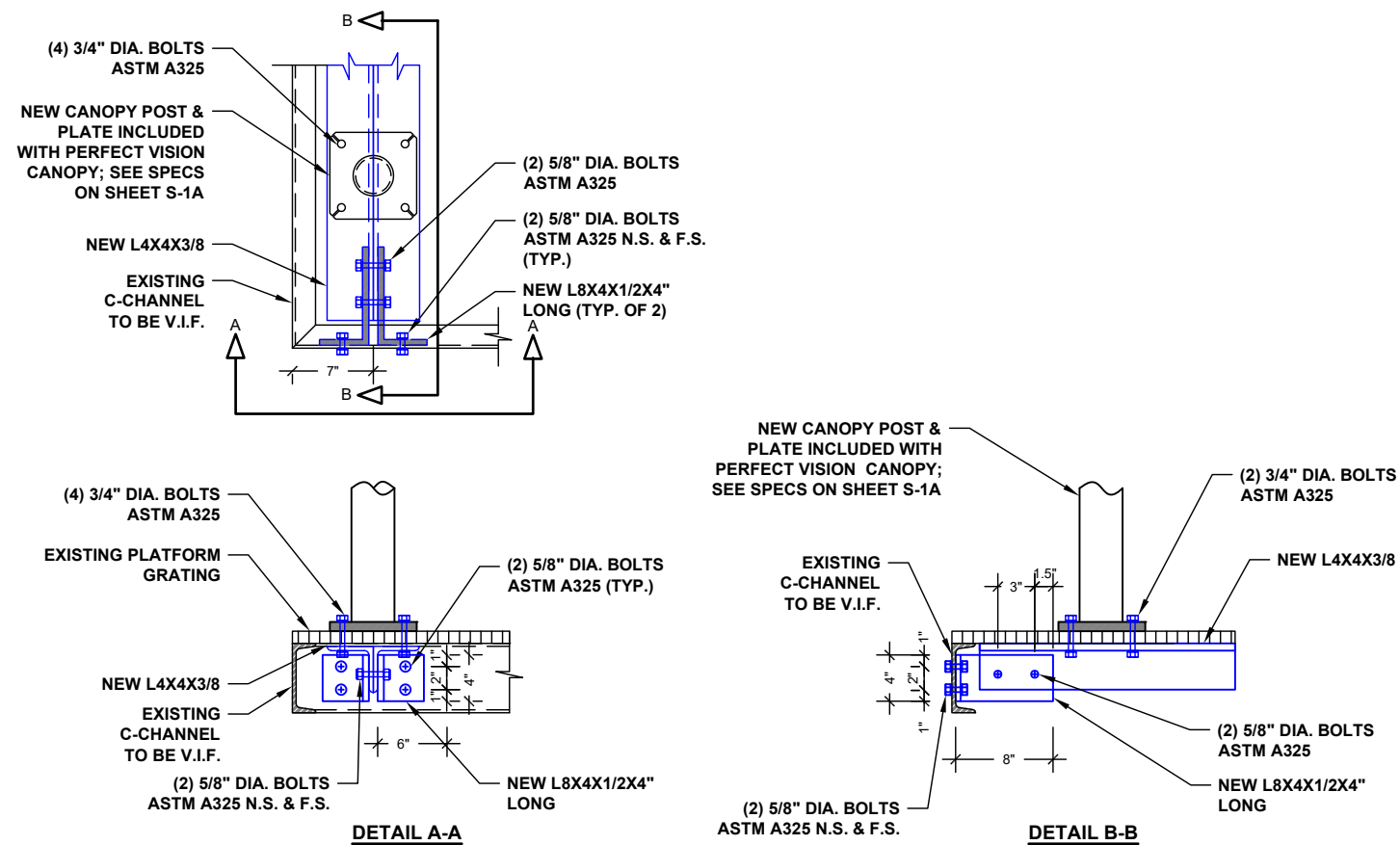
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PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:
NEW WEATHER CANOPY
SPECIFICATIONS

SHEET NUMBER:

S-1B



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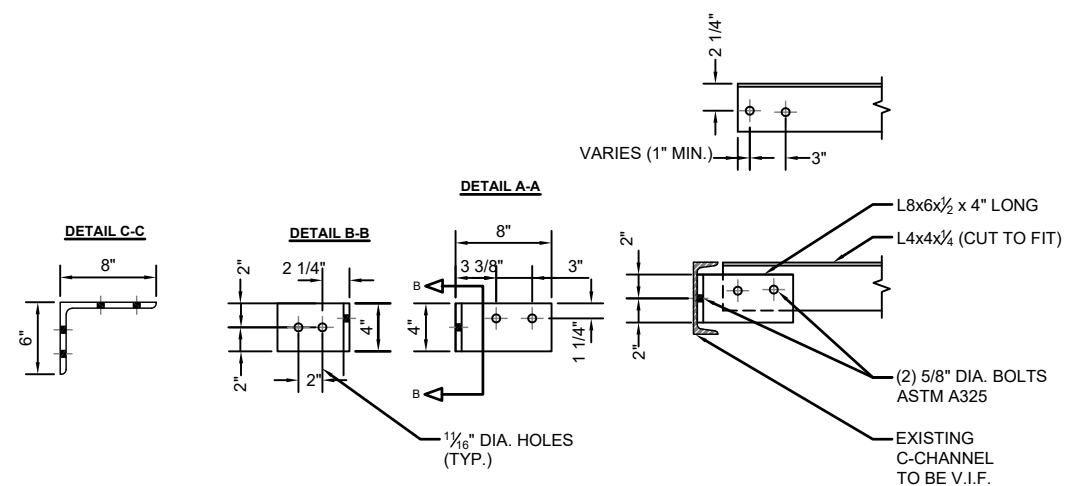
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1 (2) NEW ANGLE TO C-CHANNEL & CANOPY POST INSTALLATION DETAILS
SCALE: N.T.S.



2 NEW ANGLE TO C-CHANNEL BELOW CABINETS INSTALLATION DETAILS

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SHEET TITLE:
STRUCTURAL DETAILS

SHEET NUMBER:

S-1C

GENERAL PAINT NOTES:
WET, DRY, INTERIOR & EXTERIOR

SURFACE PREPARATION (EXTERIOR & DRY INTERIOR):

- ABRASIVE BLAST CLEAN ALL NEW STEEL COMPONENTS TO AN SSPC-SP6 “COMMERCIAL BLAST CLEANING” CONDITION PRIOR TO APPLICATION OF PRIMER COAT.
- AFTER WELDING OR CUTTING, CLEAN ALL DAMAGED SURFACES IN ACCORDANCE WITH SSPC-SP3 “POWER TOOL CLEANING” CONDITION PRIOR TO APPLICATION OF PRIME COAT.

COATING (EXTERIOR):

- THE EXTERIOR PAINT REPAIR SYSTEM WILL BE ONE PRIME COAT OF TNEMEC SERIES N69, ONE INTERMEDIATE COAT OF TNEMEC SERIES N69, AND ONE TOPCOAT OF TNEMEC SERIES 1074 (OR LOW VOC EQUIVALENT). PAINT THE EXTERIOR TO MATCH THE EXISTING TOPCOAT COLOR.
- THE THREE-COAT SYSTEM WILL BE APPLIED AT 3.0 - 4.0 MILS PER COAT, TO A THICKNESS OF 9.0 -12.0 MILS.

COATING (DRY INTERIOR):

- THE DRY INTERIOR PAINT REPAIR SYSTEM WILL BE TWO COATS OF TNEMEC SERIES N69. PAINT THE DRY INTERIOR TO MATCH THE EXISTING TOPCOAT COLOR.
- THE TWO-COAT SYSTEM WILL BE APPLIED AT 3.0 - 4.0 MILS PER COAT, TO A THICKNESS OF 6.0 - 8.0 MILS.

SURFACE PREPARATION (WET INTERIOR):

- IN THE WET INTERIOR CLEAN ALL DAMAGED SURFACES IN ACCORDANCE WITH SSPC-SP3 “POWER TOOL CLEANING” CONDITION PRIOR TO APPLICATION OF AQUATAPOXY. BEFORE PERFORMING ANY WET INTERIOR REPAIRS NOTIFY THE VILLAGE.
- THE WET INTERIOR REPAIRS USUALLY CAN BE COMPLETED FROM A POTABLE WATER SPECIFIC RAFT WITH THE WATER LEVEL AT MAXIMUM CAPACITY. COLLECT THE MAJORITY OF THE PARTICLES AS THEY ARE REMOVED.
- THE VILLAGE WILL DRAIN A TANK OF WATER UPON COMPLETION OF THE WET INTERIOR REPAIRS. THE COST OF THE WATER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE TANK WILL NEED TO BE CHLORINATED PER AWWA C652.

COATING (WET INTERIOR):

- THE WET INTERIOR PAINT REPAIR SYSTEM WILL BE TWO COATS OF AQUATAPOXY (RAVENS LININGS). AQUATAPOXY CAN BE APPLIED WITH WATER IN THE TANK.
- THE TWO-COAT SYSTEM WILL BE APPLIED AT 4.0 - 6.0 MILS PER COAT, TO A THICKNESS OF 8.0 - 12.0 MILS.

NOTES:

- ALL STEEL ANTENNA INSTALLATION COMPONENTS MUST BE PAINTED TO MATCH THE EXISTING PAINT SYSTEMS ON THE EXTERIOR AND DRY INTERIOR.
- NO COMPONENTS CAN REMAIN GALVANIZED OR STAINLESS STEEL. THE SPECIFIED PAINT SYSTEMS WILL NOT HAVE GOOD ADHESION ON GALVANIZED OR STAINLESS STEEL SURFACES.
- CONTACT TNEMEC TO OBTAIN A SUITABLE SURFACE PREPARATION SYSTEM FOR GALVANIZED AND STAINLESS STEEL SURFACES. THE SYSTEM MUST MAKE PREVIOUSLY GALVANIZED AND STAINLESS STEEL SURFACES COMPATIBLE WITH THE SPECIFIED PAINT SYSTEMS THAT WILL BE APPLIED.
- IF APPLICABLE, PAINT ALL NEW STEEL IN A SHOP SETTING, PRIOR TO DELIVERY TO THE SITE.
- WELDING ON ONE SIDE OF A STEEL SHEET MAY RESULT IN BURNED PAINT ON THE OPPOSITE SIDE. IF THIS OCCURS, THE BURNED PAINT ON THE OPPOSITE SIDE WILL NEED TO BE PAINT REPAIRED.
- FOLLOW ALL PAINT MANUFACTURERS' RECOMMENDATIONS WHEN USING THEIR PRODUCTS.

WE RECOMMEND ALL EXTERIOR ITEMS SHALL BE BLASTED TO A SSPC-SP6 IF COMPLETED AFTER THE REPAINT.



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FIRM LICENSE # 184-004952

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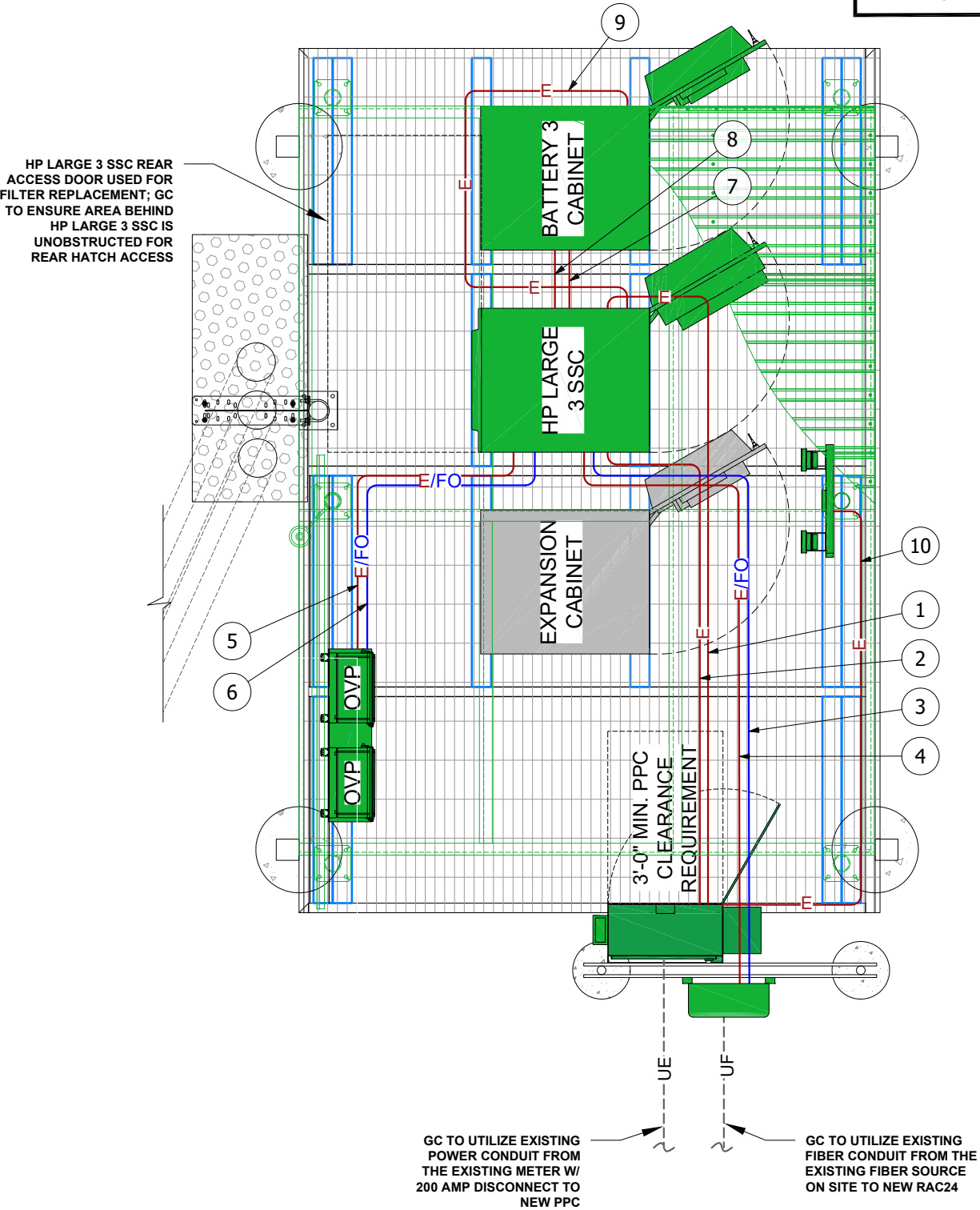
PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:
PAINT SPECIFICATIONS

SHEET NUMBER:
PS-1

CONDUIT LEGEND	
--UF--	UNDERGROUND FIBER OPTIC CONDUIT
—FO—	FIBER OPTIC CONDUIT
--UE--	UNDERGROUND ELECTRIC CONDUIT
—E—	ELECTRIC CONDUIT

EQUIPMENT LEGEND	
	NEW EQUIPMENT
	EXISTING EQUIPMENT TO BE REMOVED
	EXISTING EQUIPMENT TO BE RELOCATED
	EXISTING EQUIPMENT TO REMAIN



UTILITY LEGEND							
NO.	FROM	TO	WIRE QTY. & TYPE	GROUND	CONDUIT SIZE	FUNCTION	APPROXIMATE CONDUIT LENGTH
1	PPC	HP LARGE 3 SSC	(3) 3/0 & (2) #12	(1) #4 & (1) #12	2" RIGID RMC (ABOVE GROUND), UNDERGROUND SCH. 40 GREY PVC (TRENCHING) W/ 2" THREADED LL TYPE RIGID CONDUIT BODY TO BE CONNECTED TO SIDE 3" KNOCKOUT OF SSC VIA REDUCER & MYERS HUB	POWER FOR SSC & FOR GFI OUTLET	±18'
2	PPC	HP LARGE 3 SSC (FOR FSEE)	1 PAIR OF BELDEN 27916A #18 AWG	N/A	1" RIGID RMC (ABOVE GROUND), UNDERGROUND SCH. 40 GREY PVC (TRENCHING)	ALARM	±15'
3	CIENA	HP LARGE 3 SSC	(1) CAT-6 CABLE	N/A	1" RIGID RMC (ABOVE GROUND), UNDERGROUND SCH. 40 GREY PVC (TRENCHING)	TELCO	±18'
4	CIENA	HP LARGE 3 SSC	(2) #12	(1) #6	1" RIGID RMC (ABOVE GROUND), UNDERGROUND SCH. 40 GREY PVC (TRENCHING)	POWER	±18'
5	HP LARGE 3 SSC	FIBER & POWER PULL BOX	3 PAIRS OF #2 FOR EACH OVP	N/A	2" RIGID RMC	POWER	±15'
6	HP LARGE 3 SSC	FIBER & POWER PULL BOX	GPS CABLE, OVP ALARM WIRE & FIBER	N/A	2" RIGID RMC	TELCO	±15'
7	HP LARGE 3 SSC	BATTERY 3 CABINET	(2) CAT-5 CABLE & (2) #12	N/A	2" RIGID RMC	DC POWER & BATTERY ALARM	±3'
8	HP LARGE 3 SSC	BATTERY 3 CABINET	2 PAIRS OF 4/0 TELCO FLEX POWER CABLES	N/A	3" RIGID RMC	DC POWER	±3'
9	HP LARGE 3 SSC	BATTERY 3 CABINET	(3) #10	(1) #10	1" RIGID RMC TO BE CONNECTED TO SIDE 2" KNOCKOUT OF SSC VIA REDUCER & MYERS HUB	AC POWER	±15'
10	PPC	(2) NEW LED SERVICE LIGHTS	(6) #12	(2) #12	3/4" RIGID RMC	POWER & TIMER	±15'
NOTE: * THE CONDUIT LENGTH GIVEN IS BASED ON THE DRAWING +15%. THE EXACT LENGTH TO BE VERIFIED IN FIELD. GC TO VERIFY LENGTHS AFTER COORDINATING W/ SERVICE UTILITY COMPANIES.							

IMPORTANT NOTE:

ALL UNISTRUT, FASTENERS, HARDWARE, ETC; ARE TO BE EITHER HOT-DIPPED GALVANIZED OR STAINLESS STEEL. GENERAL CONTRACTOR SHALL NOT USE ZINC-PLATED OR PRE-GALVANIZED

FIBER & POWER ROUTES TO BE CONFIRMED WITH T-MOBILE PRIOR TO CONSTRUCTION START

BIDDING & CONSTRUCTION NOTE:

WIRE SIZES SHOWN ARE ESTIMATED MINIMUMS. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND COMPLY WITH THE APPLICABLE LOCAL ELECTRICAL AND BUILDING CODES IN ADDITION TO NEC 2011 AND FOLLOW WHICHEVER IS MORE CONSERVATIVE. CONTRACTOR SHALL ESTIMATE PHASE CONDUCTOR SIZE & UTILIZE THE APPROPRIATE WIRE SIZE AND TYPE ASSUMING A 2% VOLTAGE DROP. CONTRACTOR TO CONFIRM WITH LOCAL ELECTRICAL INSPECTOR PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF DISCREPANCIES PRIOR TO CONSTRUCTION START.

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PROFESSIONAL DESIGN
FIRM LICENSE # 184-004952

CHECKED BY: RH

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PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:
PROPOSED UTILITY PLAN

SHEET NUMBER:

E-1





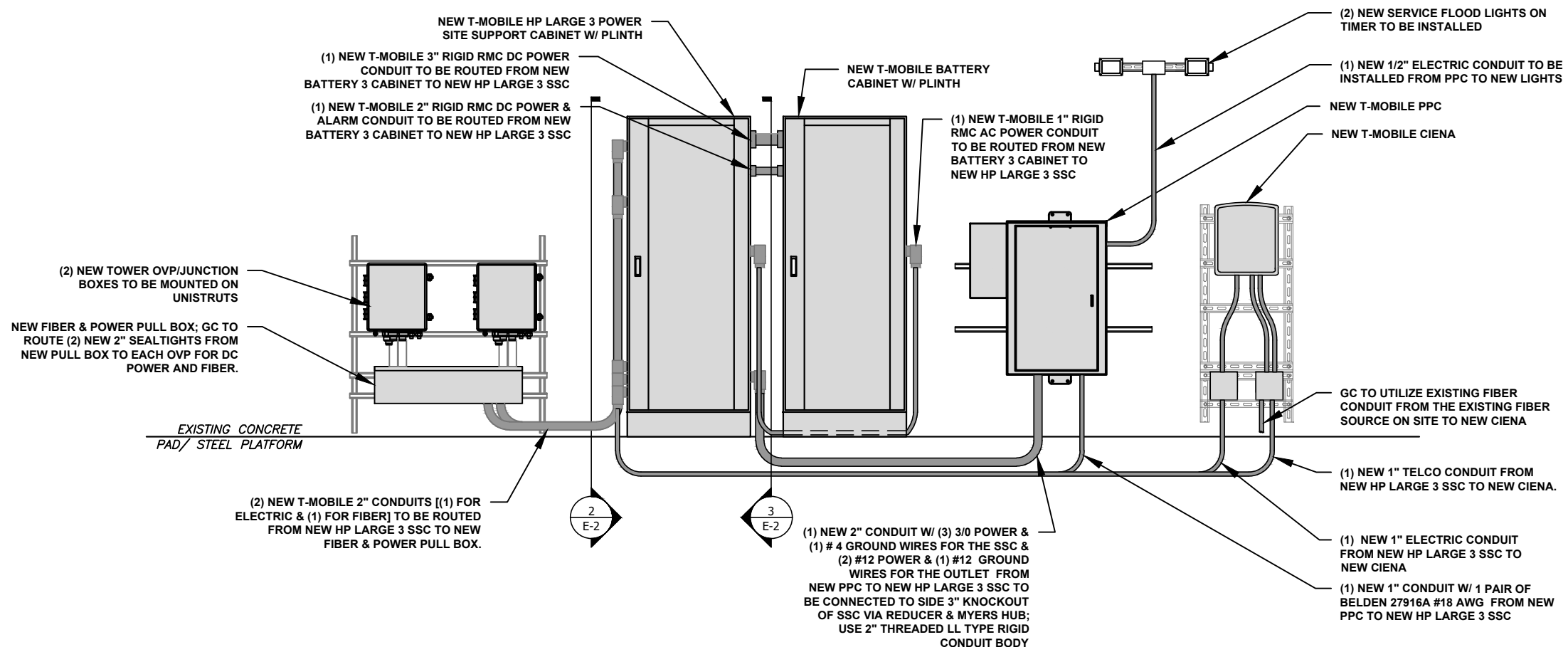
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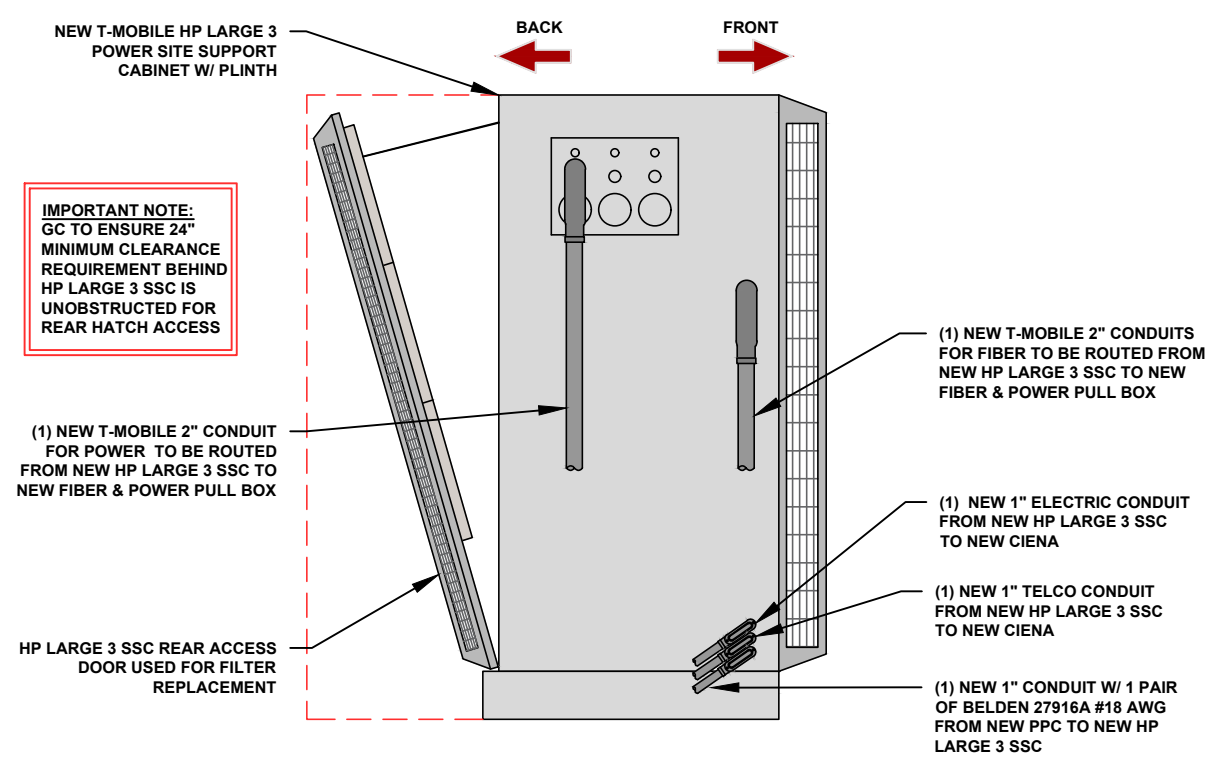
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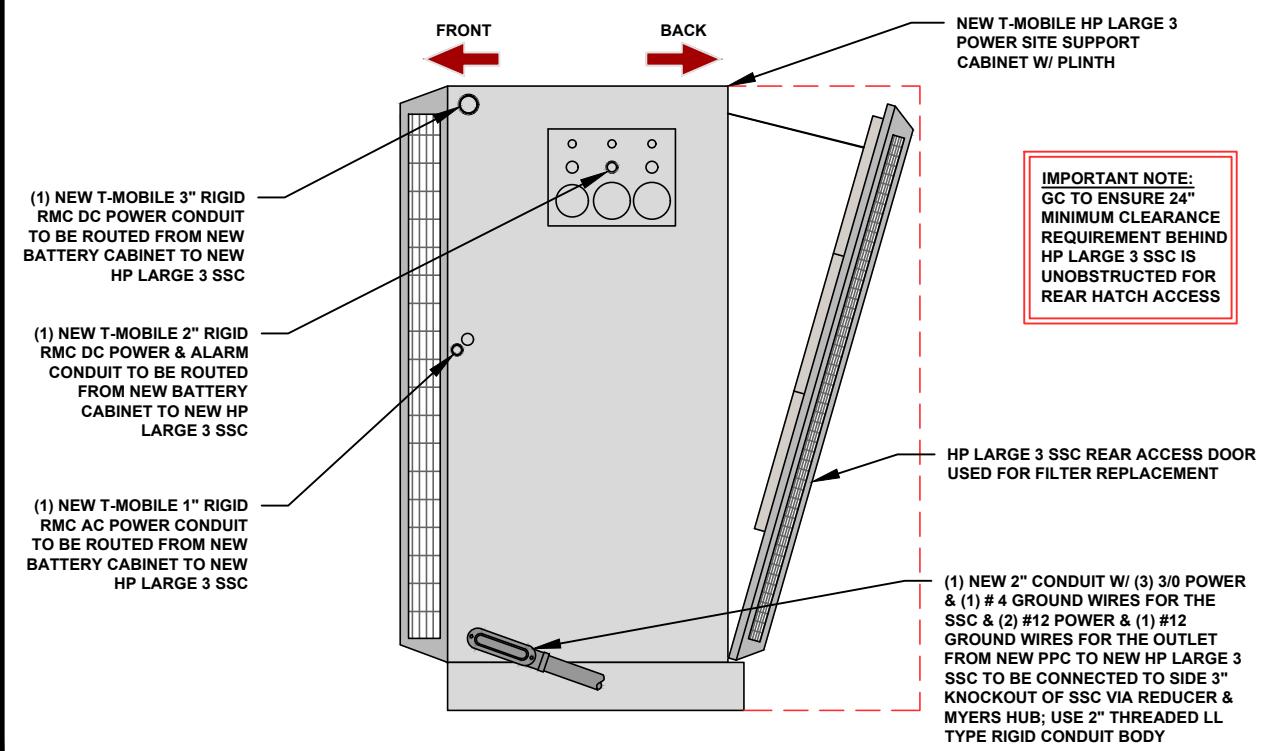
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1 UTILITY CONDUIT DIAGRAM
SCALE: N.T.S.



2 HP LARGE 3 SSC UTILITY ROUTING (LEFT SIDE)
SCALE: N.T.S.



3 HP LARGE 3 SSC UTILITY ROUTING (RIGHT SIDE)
SCALE: N.T.S.

PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:
UTILITY DETAILS

SHEET NUMBER:

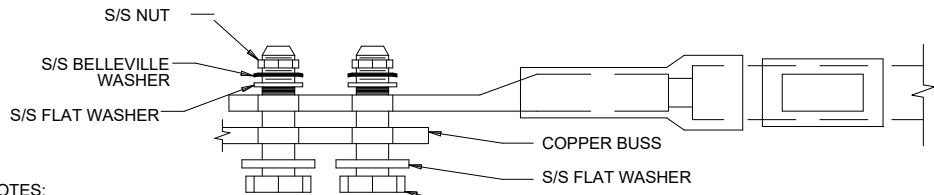
E-2

CADWELD CONNECTIONS OR APPROVED EQUAL		BURNDY CONNECTIONS OR APPROVED EQUAL
PARALLEL HORIZONTAL CONDUCTORS PARALLEL THROUGH CONNECTION OF HORIZONTAL CABLES TYPE PT	HORIZONTAL STEEL SURFACE TO FLAT STEEL SURFACE OR HORIZONTAL PIPE TYPE HS	"C" CONNECTOR HYPRESS TYPE YGHC
THROUGH CABLE TO GROUND ROD THROUGH CABLE TO TOP OF GROUND ROD TYPE GT	VERTICAL STEEL SURFACE CABLE DOWN AT 45° TO VERTICAL STEEL SURFACE INCLUDING PIPE TYPE VS	BOND JUMPER FIELD FABRICATED GREEN STRANDED INSULATED TYPE 2-YA-2
HORIZONTAL SPLICE SPLICE OF HORIZONTAL CABLES	VERTICAL PIPE CABLE DOWN AT 45° TO RANGE OF VERTICAL PIPES TYPE VS	COPPER LUGS TWO HOLE - LONG BARREL LENGTH TYPE YA-2

CADWELD DETAILS

GROUNDING NOTES:

- 1.) UNDERGROUND AND OVERHEAD UTILITY LENGTHS TO BE DETERMINED FROM SITE PLAN.
- 2.) SEE ELECTRICAL SPECIFICATIONS SECTION 16000 FOR ALL ELECTRICAL AND GROUNDING INSTALLATION REQUIREMENTS.
- 3.) FOR ORIENTATION OF SITE LAYOUT SEE SITE PLAN, DRAWING.
- 4.) UDA CABINET FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.
- 5.) GROUND KITS PROVIDED BY OWNER SHALL BE RETROFITTED TO ACCOMMODATE 2 HOLE LUG CONNECTION AND APPROPRIATE LENGTH.
- 6.) CONTRACTOR RESPONSIBLE TO PROVIDE OWNER CERTIFICATION OF RESISTIVITY TESTING.
- 7.) GROUND RODS TO BE INSTALLED AT 10' CENTERS.
- 8.) ALL GROUND LEADS TO BE SLEEVED IN $\frac{3}{4}$ " Ø SCHEDULE 40 PVC CONDUIT AND SEALED W/ SILICON.
- 9.) GROUND BARS SUPPLIED BY OWNER AND INSTALLED BY CONTRACTOR.
- 10.) ALL BENDS IN GROUNDING SYSTEM MUST BE SMOOTH AND WELL ROUNDED AND MAINTAIN BENDING RADIUS.
- 11.) SEE SITE PLAN FOR COAXIAL ROUTING THIS SHEET IS INTENDED FOR GROUNDING CLARITY ONLY AND IS SCHEMATIC IN DETAIL.
- 12.) GROUND KITS SHALL BE INSTALLED BETWEEN 8"-18" OF ALL CONNECTORS.
- 13.) TOWER FOUNDATION DESIGN BY OWNER, INSTALLED BY CONTRACTOR.
- 14.) ADDITIONAL GROUND KITS TO BE PLACED AT 100' WHEN ANTENNA CENTERLINE IS 200' OR ABOVE.
- 15.) ALL CONDUITS TO BE SEALED W/ SILICONE TO PROVIDE A WATER TIGHT SEAL.



NOTES:

1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING BELLEVILLES. COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL. COAT ALL SURFACES WITH KOPR-SHIELD.

2

STANDARD LUG CONNECTION OF GROUND LEADS TO GROUND BAR DETAIL

SCALE: N.T.S.

KEY NOTES:

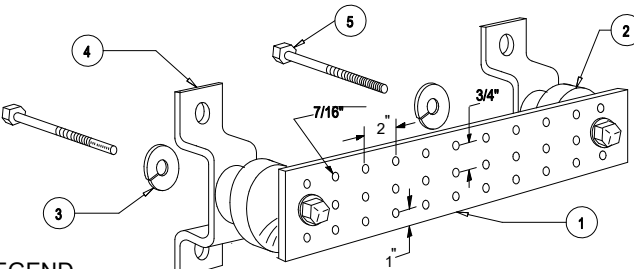
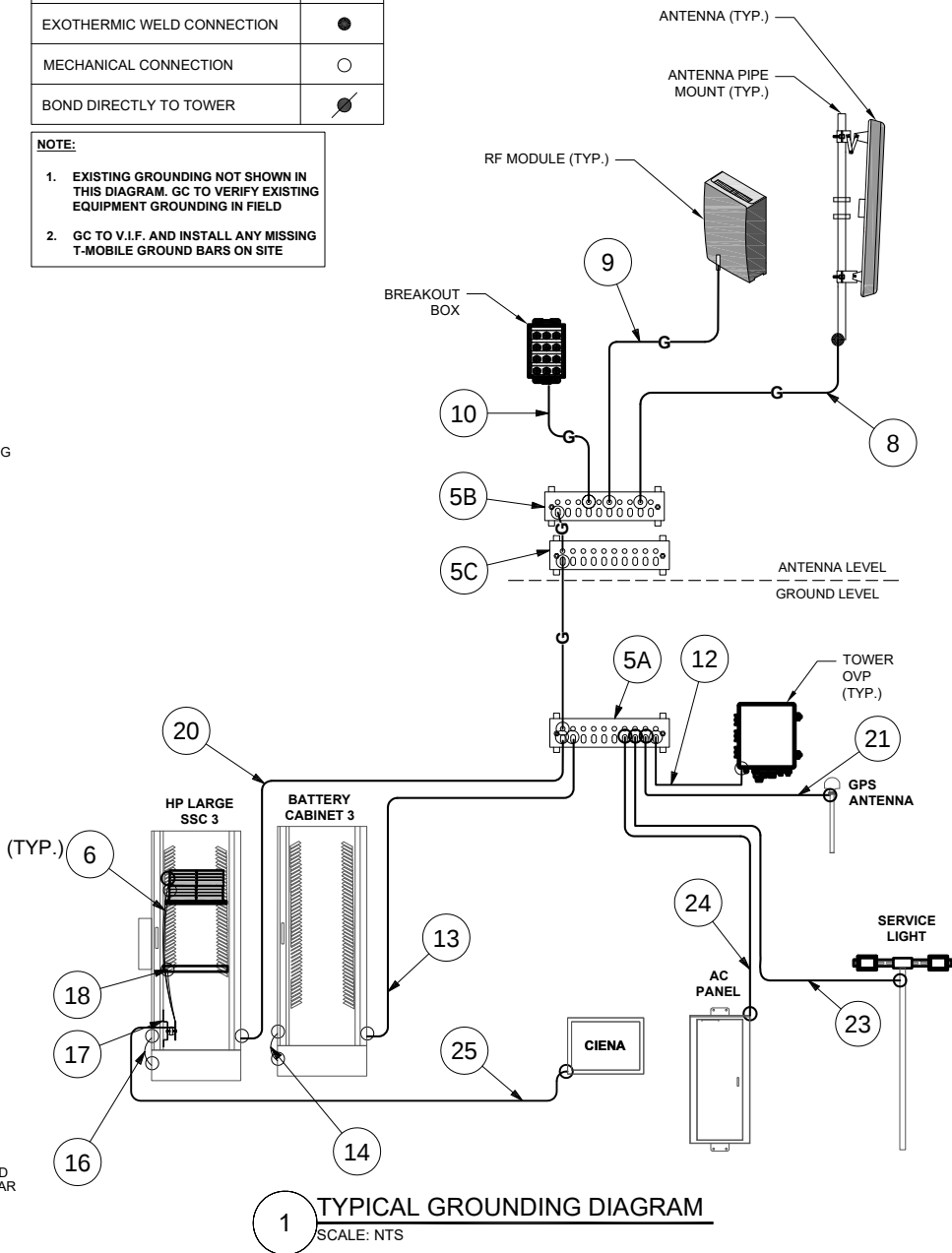
- 1) #2 SOLID, TINNED BARE COPPER GROUND WIRE FROM GROUND BAR TO GROUND RING (2 REQUIRED).
- 2) #2 AWG GREEN STRANDED CU GROUND WIRE FROM ICE BRIDGE/ FENCE/ H-FRAME POST TO MASTER GROUND BAR
- 2A) #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM NEW ICE BRIDGE /FENCE/ H-FRAME POST TO GROUND RING
- 3) #2 AWG GREEN STRANDED COPPER GROUND WIRE FROM ICE BRIDGE/CANOPY TO POST
- 4) #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM METER SOCKET TO ISOLATED GROUND ROD
- 5) GROUND BAR
- 5A) MASTER GROUND BAR
- 5B) SECTOR GROUND BAR
- 5C) MASTER GROUND BAR ON TOWER/ ROOFTOP
- 6) #6 AWG GREEN STRANDED CU GROUND WIRE FROM NEW SYSTEM MODULES/ AMIA'S TO GROUND BAR
- 7) #2 AWG GREEN STRANDED GROUND CU WIRE FROM GROUND BAR TO MASTER GROUND BAR
- 8) #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM NEW ANTENNA PIPE TO SECTOR GROUND BAR
- 9) #6 AWG GREEN STRANDED GROUND CU WIRE FROM NEW RF RADIO PLINTH TO NEW SECTOR GROUND BAR
- 10) #6 AWG GREEN STRANDED GROUND CU WIRE FROM TOP COVP/ BREAKOUT BOX TO NEW SECTOR GROUND BAR
- 11) #2 AWG GREEN STRANDED GROUND CU WIRE FROM TMA/ DIPLEXER TO SECTOR GROUND BAR/ MASTER GROUND RING
- 12) #2 AWG GREEN STRANDED CU GROUND WIRE FROM BASE COVP/OVP TO GROUND BAR
- 13) #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM BATTERY CABINET TO MASTER GROUND BAR
- 13A) #2 AWG SOLID TINNED BARE GROUND CU WIRE FROM BATTERY CABINET TO GROUND RING
- 14) #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW BATTERY CABINET TO BATTERY CABINET PLINTH
- 15) #2 AWG GREEN STRANDED GROUND CU WIRE FROM RACK TO GROUND BAR
- 16) #2 AWG GREEN STRANDED GROUND CU WIRE FROM SSC TO SSC PLINTH
- 17) CABINET GROUND BAR
- 18) #2 AWG GREEN STRANDED COPPER GROUND WIRE FROM ALARM BOX TO CABINET GROUND BAR/ MASTER GROUND BAR
- 19) #2 AWG GREEN STRANDED CU GROUND WIRE FROM UNISTRUT TO MASTER GROUND BAR
- 19A) #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM UNISTRUT TO GROUND RING
- 20) #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM SSC TO MASTER GROUND BAR
- 20A) #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM SSC TO GROUND RING
- 21) #6 AWG GREEN STRANDED GROUND CU WIRE FROM GPS ANTENNA TO MASTER GROUND BAR
- 21A) #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM GPS ANTENNA TO MASTER GROUND BAR
- 23) #2 AWG GREEN STRANDED GROUND CU WIRE FROM LIGHT TO MASTER GROUND BAR
- 23A) #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM LIGHT TO GROUND RING
- 24) #6 AWG GREEN STRANDED GROUND CU WIRE FROM PPC TO MASTER GROUND BAR
- 24A) #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM PPC TO GROUND RING
- 25) #6 AWG GREEN STRANDED GROUND CU WIRE FROM NEW SSC GROUND BAR TO CIENA INSIDE 1" ELECTRIC CONDUIT
- 26) #2 AWG GREEN STRANDED CU GROUND WIRE FROM JUNCTION BOX TO MASTER GROUND BAR
- 26A) #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM JUNCTION BOX TO GROUND RING
- 27) #6 AWG GREEN STRANDED GROUND CU WIRE FROM HYBRID CABLE & MICROWAVE COAX CABLE TO MASTER GROUND BAR

SYMBOLS LEGEND:

GROUND BAR	
EXOTHERMIC WELD CONNECTION	
MECHANICAL CONNECTION	
BOND DIRECTLY TO TOWER	

NOTE:

1. EXISTING GROUNDING NOT SHOWN IN THIS DIAGRAM. GC TO VERIFY EXISTING EQUIPMENT GROUNDING IN FIELD
2. GC TO V.I.F. AND INSTALL ANY MISSING T-MOBILE GROUND BARS ON SITE



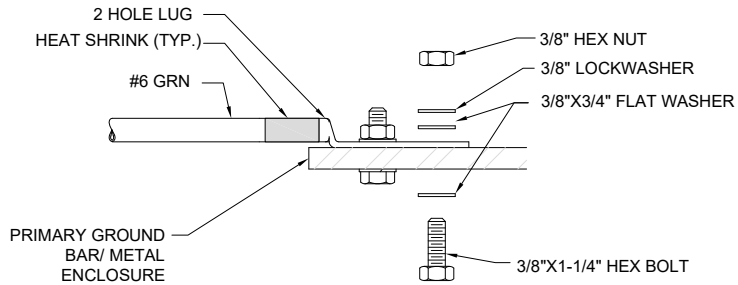
LEGEND

- 1- GROUND BAR, 4"x 20"x1/4", CONFIRM w/T-MOBILE PROJECT MANAGER THE APPROVED BUSS MFR. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
- 2- INSULATORS. CONFIRM THE APPROVED BUSS MFR. w/T-MOBILE
- 3- 5/8" LOCKWASHERS. CONFIRM w/T-MOBILE THE APPROVED BUSS MFR. (NEWTON INSTRUMENT CO. CAT. NO. 3015-8 OR EQUIVALENT)
- 4- WALL MOUNTING BRACKET. NEWTON INSTRUMENT CO. CAT NO. A-6056 OR APPROVED EQUIVALENT (CONFIRM w/T-MOBILE THE APPROVED BUSS MFR.)
- 5- 5/8-11 X 1" H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1 OR APPROVED EQUIVALENT (CONFIRM w/T-MOBILE THE APPROVED BUSS MFR.)

3

GROUNDING - STANDARD GROUND BAR DETAIL

SCALE: N.T.S.



INSTALLATION NOTES:

1. SELECT BOLT LENGTH TO PROVIDE A MINIMUM OF TWO EXPOSED THREADS.
2. BURNISH MOUNTING SURFACE TO REMOVE PAINT IN THE AREA OF LUG CONTACT AND REMOVE OXIDATION FROM OUTDOOR WEATHERED BARS.
3. APPLY ANTI-OXIDANT COMPOUND TO MATING SURFACE OF LUG AND WIPE CLEAN EXCESS COMPOUND.
4. USE SOLID COPPER WIRE AND MECHANICAL 2-HOLE LUG FOR ALL EXTERIOR GROUNDING.

4

MECHANICAL GROUND CONNECTION

SCALE: N.T.S.

T-Mobile

1400 OPUS PLACE
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PROFESSIONAL DESIGN
FIRM LICENSE # 184-004952

CHECKED BY: RH

CHECKED BY: GMS

PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54401

SHEET TITLE:
**PROPOSED SITE
GROUNDING DIAGRAM**

SHEET NUMBER:

EG-1

GENERAL NOTES:

1. OWNER FURNISHED MATERIALS, T-MOBILE "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL:
- A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)

B. AC/TELCO INTERFACE BOX(PPC)

C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)

D. TOWERS, MONOPOLE

E. TOWER LIGHTING

F. GENERATORS & LIQUID PROPANE TANK

G. ANTENNA STANDARD BRACKETS, FRAMES, AND PIPES FOR MOUNTING.

H. ANTENNAS (INSTALLED BY OTHERS)

I. TRANSMISSION LINE

J. TRANSMISSION LINE JUMPERS

K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS

L. TRANSMISSION LINE GROUND KITS

M. HANGERS

N. HOISTING GRIPS

O. BTS EQUIPMENT

2. CONTRACTOR TO FURNISH AND INSTALL THE FOLLOWING:

THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS.

IT IS THE POSITION OF T-MOBILE TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.

3. T-MOBILE FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE T-MOBILE WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATED, PROTECTED AND INSTALLED BY THE
- CONTRACTOR WITH ALL APPURTENCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING UP.
4. ALL EQUIPMENT FURNISHED AND WORK PERFORMED UNDER THE CONTRACT DOCUMENTS SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIALS OR WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE, UNLESS NOTED OTHERWISE. ANY FAILURE OF EQUIPMENT OR WORK DUE TO DEFECTS IN MATERIALS OR WORKMANSHIP SHALL BE CORRECTED BY THE CONTRACTOR AT NO COST TO THE OWNER.
5. ALL WORK, MATERIAL, AND EQUIPMENT SHALL COMPLY WITH ALL REQUIREMENTS OF THE LATEST EDITIONS AND INTERIM AMENDMENTS OF THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL ELECTRICAL SAFETY CODE, OSHA, AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES. ALL ELECTRICAL EQUIPMENT PROVIDED UNDER THIS CONTRACT SHALL BE NEW (EXCEPT WHERE OTHERWISE NOTED) AND SHALL COMPLY WITH THE REQUIREMENTS OF THE UNDERWRITERS' LABORATORIES (U.L.) AND BEAR THE U.L. LABEL.
6. T-MOBILE OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO THE OWNER OR HIS ARCHITECT/ENGINEER.
7. THE CONTRACTOR SHALL SUPPORT, BRACE AND SECURE EXISTING STRUCTURE AS REQUIRED. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PROTECTION OF ANY EXISTING STRUCTURES DURING CONSTRUCTION. FIELD VERIFY ALL EXISTING DIMENSIONS WHICH AFFECT THE NEW CONSTRUCTION.
8. THE CONTRACTOR SHALL NOT ALLOW OR CAUSE ANY OF THE WORK TO BE COVERED UP OR ENCLOSED UNTIL IT HAS BEEN INSPECTED BY THE GOVERNING AUTHORITIES. ANY WORK THAT IS ENCLOSED OR COVERED UP BEFORE SUCH INSPECTION AND TEST SHALL BE UNCOVERED AT THE CONTRACTOR'S EXPENSE; AFTER IT HAS BEEN INSPECTED, THE CONTRACTOR SHALL RESTORE THE WORK TO ITS ORIGINAL CONDITION AT HIS OWN EXPENSE.
9. ALL EXISTING UTILITIES, FACILITIES, CONDITIONS, AND THEIR DIMENSIONS SHOWN ON PLANS HAVE BEEN PLOTTED FROM AVAILABLE RECORDS. THE ARCHITECT/ENGINEER AND OWNER (T-MOBILE) ASSUME NO RESPONSIBILITY WHATEVER AS TO THE SFOFICIENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS OR THE MANNER OF THEIR REMOVAL OR ADJUSTMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL SAID UTILITIES AND FACILITIES PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL ALSO OBTAIN FROM EACH UTILITY COMPANY DETAILED INFORMATION RELATIVE TO WORKING SCHEDULES AND METHODS OF REMOVING OR ADJUSTING AFFECTED UTILITIES.

GENERAL NOTES (CONT'D):

10. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES BOTH HORIZONTALLY AND VERTICALLY PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES OR DOUBTS AS TO THE INTERPRETATION OF PLANS SHOULD BE IMMEDIATELY REPORTED TO THE PROJECT MANAGER FOR RESOLUTION AND INSTRUCTION, AND NO FURTHER WORK SHALL BE PERFORMED UNTIL DISCREPANCY IS CHECKED AND CORRECTED BY THE ARCHITECT/ENGINEER. FAILURE TO SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT HIS OWN RISK AND EXPENSE.
11. CONTRACTORS SHALL CLEAN ENTIRE SITE AFTER EACH DAY OF CONSTRUCTION SUCH THAT NO PAPERS, TRASH, DEBRIS, WEEDS, BRUSH, OR ANY OTHER DEPOSITS REMAIN. ALL MATERIALS COLLECTED DURING CLEANING OPERATIONS SHALL BE PROPERLY DISPOSED OF OFF-SITE BY THE CONTRACTOR.
12. ALL SITE WORK SHALL BE CAREFULLY COORDINATED BY THE CONTRACTOR WITH LOCAL GAS, ELECTRIC, TELEPHONE, AND ANY OTHER UTILITY COMPANIES HAVING JURISDICTION OVER THIS LOCATION.
13. DURING CONSTRUCTION, THE CONTRACTOR SHALL AT ALL TIMES MAINTAIN THE UTILITIES OF THE BUILDING/SITE WITHOUT INTERRUPTION. SHOULD IT BE NECESSARY TO INTERRUPT ANY SERVICE OR UTILITY, THE CONTRACTOR SHALL SECURE PERMISSION IN WRITING FROM THE BUILDING/PROPERTY OWNER FOR SUCH INTERRUPTION, AT LEAST 72 HOURS IN ADVANCE. ANY INTERRUPTION SHALL BE MADE WITH A MINIMUM AMOUNT OF INCONVENIENCE TO THE BUILDING/PROPERTY OWNER AND ANY SUCH SHUTDOWN TIME SHALL BE COORDINATED WITH THE BUILDING/PROPERTY OWNER.
14. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION.
15. CONTRACTOR SHALL SUBMIT AT THE END OF THE PROJECT A COMPLETE SET OF AS BUILT DRAWINGS TO T-MOBILE'S PROJECT ENGINEER.
16. GC WILL NOT START THE CONSTRUCTION UNTIL AFTER THEY RECEIVE THE PRE CON PACKAGE AND HAVE A PRE CON WALK WITH THE PROJECT MANAGER.

DIVISION 2 - SITE WORK:

1. THE CONTRACTOR SHALL CALL UTILITIES PRIOR TO THE START OF CONSTRUCTION. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE PROJECT MANAGER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT LIMITED TO:
- A. FALL PROTECTION

B. CONFINED SPACE

C. ELECTRICAL SAFETY

D. TRENCHING AND EXCAVATION
2. REMOVE FROM SITE/OWNER'S PROPERTY ALL WASTE MATERIALS, UNUSED EXCAVATED MATERIAL INCLUDING MATERIAL CLASSIFIED UNSATISFACTORY, CONTAMINATED OR DANGEROUS TRASH AND DEBRIS, AND DISPOSE OF IN A LEGAL MANNER.
3. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING.
4. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE BUILDING OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEEDED, AND COVERED WITH MULCH
5. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, AS REQUIRED DURING CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR LAYOUT AND CONSTRUCTION STAKING. CONTRACTOR SHALL ESTABLISH GRADE AND LINE STAKES PRIOR TO CONSTRUCTION.

CONCORDIA DOES NOT GUARANTEE OR WARRANT THAT THE AFOREMENTIONED EASEMENTS ARE SUFFICIENT FOR CONSTRUCTION TRAFFIC. GC SHALL CONSULT WITH A T-MOBILE REPRESENTATIVE AND LANDLORD WITH EXACT LOGISTICS TO FACILITATE CONTRACTIBILITY OF THE SITE AND DELIVERY OF CRITICAL MATERIALS SUCH AS THE TOWER, STEEL, CONCRETE AND CRANES TO THE PROPOSED LEASE AREA. GC SHALL RESTORE SITE TO ORIGINAL CONDITIONS AND REPLACE ANY AND ALL DISTURBED TREES OR LANDSCAPING.

CONCORDIA IS NOT RESPONSIBLE FOR THE MAINTENANCE AND/OR OPERATIONAL FEASIBILITY.

SCOPE OF WORK FOR THESE PLANS DOES NOT INVOLVE VALUE ENGINEERING AS WELL AS MAINTAINABILITY OPERATIONS OF THE SITE, ACCESS OR UTILITIES.

DIVISION 3 - CONCRETE:

1. MINIMUM ALLOWABLE CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI AT 28 DAYS WHEN TESTED IN ACCORDANCE WITH THE AMERICAN SOCIETY FOR TESTING AND MATERIALS METHODS STANDARDS ASTM C172, ASTM C31 AND ASTM C39 UNLESS OTHERWISE NOTED.
2. CONCRETE FOR ALL FOUNDATIONS: 540 LBS PER CUBIC YARD OF CONCRETE MINIMUM CEMENT CONTENT FOR 1-INCH MAXIMUM SIZE AGGREGATE, SLUMP RANGE 3 INCHES TO 5 INCHES, TOTAL AIR CONTENT 4 PERCENT TO 7 PERCENT BY VOLUME. AIR ENTRAINING ADMIXTURE REQUIRED TO CONTROL TOTAL AIR CONTENT, WATER REDUCING ADMIXTURE PERMITTED TO OBTAIN SLUMP OVER 3-INCHES.
3. ALL CONCRETE CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE (ACI 318) BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AND (ACI 301) STANDARD SPECIFICATION FOR STRUCTURAL CONCRETE.
4. REBARS SHALL BE ASTM A-615 DEFORMED TYPE WITH MINIMUM YIELD STRENGTH OF 60,000 PSI (40,000 PSI GRADE MAY BE USED FOR TIES & STIRRUPS).
- WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185.
5. DETAILING SHALL BE IN ACCORDANCE WITH MANUAL OF STANDARD PRACTICE OF DETAILING REINFORCED CONCRETE STRUCTURES (ACI STD-315 LATEST EDITION).
6. CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4".UNLESS OTHERWISE NOTED.
7. REINFORCING STEEL SHALL BE ACCURATELY PLACED AND ADEQUATELY SECURED IN POSITION. LOCATION OF REINFORCEMENT SHALL BE INDICATED ON THE DRAWINGS. THE FOLLOWING MINIMUM COVER (INCHES) FOR REINFORCEMENT SHALL BE PROVIDED, EXCEPT AS NOTED ON DRAWINGS.
- MINIMUM COVER (INCHES)
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH ... 3"
EXPOSED TO EARTH OR WEATHER:
#6 THROUGH #18 ... 2"
#5 BAR AND SMALLER ... 1-1/2"
8. TESTS
CONCRETE MATERIALS AND OPERATIONS SHALL BE TESTED AND INSPECTED BY THE ENGINEER AS THE WORK PROGRESSES. FAILURE TO DETECT ANY DEFECTIVE WORK OR MATERIAL SHALL NOT IN ANY WAY PREVENT LATER REJECTION WHEN SUCH DEFECT IS DISCOVERED NOR SHALL IT OBLIGATE THE ENGINEER FOR FINAL ACCEPTANCE.
- A. FIVE CONCRETE TEST CYLINDERS SHALL BE TAKEN OF THE TOWER PIER FOUNDATION. TWO SHALL BE TESTED @ THREE DAYS, TWO @ TWENTY- EIGHT DAYS. THE FIFTH CYLINDER SHALL BE KEPT SEPARATELY, IF REQUIRED TO BE USED IN THE FUTURE.
- B. ONE ADDITIONAL TEST CYLINDER SHALL BE TAKEN DURING COLD WEATHER AND CURED ON SITE UNDER SAME CONDITIONS AS CONCRETE IT REPRESENTS.
- C. ONE SLUMP TEST SHALL BE TAKEN FOR EACH SET OF TEST CYLINDERS TAKEN.
9. PLACING CONCRETE
A. THE ENGINEER SHALL BE NOTIFIED NOT LESS THAT 24 HOURS IN ADVANCE OF CONCRETE PLACEMENT, UNLESS INSPECTION IS WAIVED IN EACH CASE, PLACING OF CONCRETE SHALL BE PERFORMED ONLY IN THE PRESENCE OF THE ENGINEER. CONCRETE SHALL NOT BE PLACED UNTIL ALL FORMWORK, EMBEDDED PARTS, STEEL REINFORCEMENT, FOUNDATION SURFACES AND JOINTS INVOLVED IN THE PLACING HAVE BEEN APPROVED, AND UNTIL FACILITIES ACCEPTABLE TO THE T-MOBILE REPRESENTATIVE HAVE BEEN PROVIDED AND MADE READY FOR ACCOMPLISHMENT OF THE WORK AS SPECIFIED. CONCRETE MAY NOT BE ORDERED FOR PLACEMENT UNTIL ALL ITEMS HAVE BEEN APPROVED AND T-MOBILE HAS PERFORMED A FINAL INSPECTION AND GIVEN APPROVAL TO START PLACEMENT IN WRITING.
- B. PLACEMENT OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 301.
10. PROTECTION
A. IMMEDIATELY AFTER PLACEMENT, THE CONTRACTOR SHALL PROTECT THE CONCRETE FROM PREMATURE DRYING, EXCESSIVELY HOT OR COLD TEMPERATURES, AND MECHANICAL INJURY. FINISHED WORK SHALL BE PROTECTED.
- B. CONCRETE SHALL BE MAINTAINED WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR A PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.
- C. ALL CONCRETE SHALL BE WATER CURED BY CONTINUOUS (NOT PERIODIC) FINE MIST SPRAYING OR SPRINKLING ALL EXPOSED SURFACES. WATER SHALL BE CLEAN AND FREE FROM ACID, ALKALI, SALTS, OIL SEDIMENT, AND ORGANIC MATTER. SUCCESSFUL CURING SHALL BE OBTAINED BY USE OF AN AMPLE WATER SUPPLY UNDER PRESSURE IN PIPES, WITH ALL NECESSARY APPLIANCES OF SPRINKLERS, AND SPRAYING DEVICES.

ELECTRICAL NOTES:

1. ELECTRICAL DESIGN SHALL BE PERFORMED BY ELECTRICAL CONTRACTOR. STRUCTURAL DESIGN VERIFICATION SHALL BE PERFORMED BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL ENSURE THAT ALL WORK COMPLIES WITH ALL APPLICABLE LOCAL AND STATE CODES AND NATIONAL ELECTRICAL CODE.
2. ALL SUGGESTED ELECTRICAL ELEMENTS (SUCH AS BREAKER SIZES, WIRE SIZES, CONDUITS SIZES ARE FOR ZONING PURPOSES ONLY. IT IS THE RESPONSIBILITY TO OF THE ELECTRICAL CONTRACTOR TO CONFIRM COMPLIANCE WITH LOCAL ELECTRICAL CODES AND PASS ALL APPLICABLE AND NECESSARY INSPECTIONS. IN SOME EVENTS, IT MAY BE NECESSARY TO PERFORM AN ELECTRICAL LOAD STUDY TO VERIFY THE CAPACITY OF THE EXISTING SERVICE. THIS IS NOT THE RESPONSIBILITY OF CONCORDIA. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3. CONTRACTOR SHALL FIELD LOCATE ALL BELOW GRADE GROUND LINES AND UTILITY LINES PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR RELOCATION OF ALL UTILITIES AND GROUND LINES THAT MAY BECOME DISTURBED OR CONFLICTING IN THE COURSE OF CONSTRUCTION.

DIVISION 5 - STRUCTURAL STEEL:

1. DETAIL, FABRICATE AND ERECT STRUCTURAL STEEL IN ACCORDANCE WITH THE LATEST AISC MANUAL OF STEEL CONSTRUCTION (ASD), AWS D1.1, AND THE BASIC BUILDING CODE. STRUCTURAL STEEL SHALL BE AS FOLLOWS:
- A. ASTM A36, GRADE 36; ROLLED STEEL, RODS, PLATES, U-BOLTS AND ANCHOR BOLTS.

B. ASTM A325 BOLTS, BEARING TYPE

C. ALL STEEL SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.
2. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE REQUIRED DURING CONSTRUCTION UNTIL ALL CONNECTIONS ARE COMPLETE.
3. ANY FIELD CHANGES OR SUBSTITUTIONS SHALL HAVE PRIOR APPROVAL FROM THE ENGINEER, AND T- MOBILE PROJECT MANAGER IN WRITING
4. TIGHTEN HIGH STRENGTH BOLTS TO A SNUG TIGHT CONDITION WHERE ALL PLIES IN A JOINT ARE IN FIRM CONTACT BY EITHER
- A. A FEW IMPACTS OF A IMPACT WRENCH

B. THE FULL EFFORT OF A PERSON USING A SPUD WRENCH.
5. WELDING
A. ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS. CERTIFICATION DOCUMENTS SHALL BE MADE AVAILABLE FOR ENGINEER'S AND/OR OWNER'S REVIEW IF REQUESTED.
- B. WELDING ELECTRODES FOR MANUAL SHIELDED METAL ARC WELDING SHALL CONFORM TO ASTM A-233, E70 SERIES. BARE ELECTRODES AND GRANULAR FLUX USED IN THE SUBMERGED ARC PROCESS SHALL CONFORM TO AISC SPECIFICATIONS.
- C. FIELD WELDING SHALL BE DONE AS PER AWS D1.1 REQUIREMENTS VISUAL INSPECTION IS ACCEPTABLE.
6. PROTECTION
A. UPON COMPLETION OF ERECTION INSPECT ALL GALVANIZED STEEL AND PAINT ANY FIELD CUTS, WELDS, OR GALVANIZED BREAKS WITH ZINC BASED PAINT. COLOR TO MATCH THE GALVANIZING PROCESS.

DIVISION 13 - SPECIAL CONSTRUCTION
ANTENNA INSTALLATION

1. WORK INCLUDED:
- A. ANTENNAS AND COAXIAL CABLES ARE FURNISHED BY T-MOBILE UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUB- CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL AND PROPERTY.
- B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND T-MOBILE SPECIFICATIONS.
- C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
- D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE AND PROVIDE PRINTOUT OF THAT TEST.
- E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU- PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.
- F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANFOACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTORS BETWEEN THE ANTENNA AND EQUIPMENT PER MANFOACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
- G. ANTENNA AND COAXIAL CABLE GROUNDING:
1. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTOR/SPlice WEATHERPROOFING KIT #Z21213 OR EQUAL.
2. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS).



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PROFESSIONAL DESIGN
FIRM LICENSE # 184-004952

CHECKED BY: RH

CHECKED BY: GMS

PROJECT #: ML83232A
ML15AL341
2700 W WAUSAU AVE
WAUSAU, WI 54403

SHEET TITLE:
**GENERAL NOTES
& SPECIFICATIONS**

SHEET NUMBER:

SP-1

GENERAL NOTES

1.

ALL MODIFICATIONS MUST BE INSTALLED TO BRING THE TOWER INTO CONFORMANCE WITH ALL APPLICABLE CODES.

GOVERNING CODES

TIA-222-H

WIND SPEED

115 MPH ULTIMATE

WIND SPEED W/ICE

50 MPH

RADIAL ICE THICKNESS

1.0 IN

RISK CATEGORY

II

EXPOSURE CATEGORY

C

TOPOGRAPHIC FACTOR

1.0
2.

ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE OR APPROVED BY THE EOR. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE PERFORMING WORK SIMILAR TO THAT DESCRIBED WITHIN THESE DRAWINGS. BY ACCEPTANCE OF THIS PROJECT, THE CONTRACTOR IS ATTESTING THAT HE HAS SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED, AND THAT HE IS PROPERLY LICENSED AND REGISTERED TO PERFORM THE WORK IN THE PROJECT JURISDICTION.
3.

WORK SHALL ONLY BE PERFORMED DURING CALM, DRY DAYS (WINDS LESS THAN 10-MPH). IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE INSTALLATION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE-DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
4.

ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATIONS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND EOR. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE EOR SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES AND PROCEDURES.
5.

THE DESIGN WITHIN THESE DRAWINGS ASSUMES THE TOWER AND ITS FOUNDATIONS HAVE BEEN WELL MAINTAINED, IN GOOD CONDITION AND ARE WITHOUT DEFECT. BENT MEMBERS, CORRODED MEMBERS, LOOSE BOLTS, CRACKED WELDS, AND OTHER STRUCTURAL DEFECTS HAVE NOT BEEN CONSIDERED UNLESS SPECIFICALLY NOTED. THE TOWER IS ASSUMED TO BE PLUMB AND THE SITE IS ASSUMED LEVEL. THE OWNER AND/OR EOR SHALL BE NOTIFIED IMMEDIATELY IF ANY VARIANCES ARE FOUND.
6.

THE CONTRACTOR SHALL ONLY WORK WITHIN THE LIMITS OF THE TOWER OWNER'S PROPERTY, LEASE AREA OR APPROVED EASEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WORK IS PERFORMED WITHIN THESE BOUNDARIES. CONSTRUCTION STAKING AND BOUNDARY MARKING IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL EMPLOY A SURVEYOR AS REQUIRED. ANY WORK OUTSIDE THESE BOUNDARIES SHALL BE APPROVED IN WRITING BY THE OWNER.
7.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL WORK PERFORMED COMPLIES WITH ALL APPLICABLE SAFETY CODES AND GOVERNING REGULATIONS.
8.

ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULES AND MATERIAL DELIVERIES, WITH THE OWNER/RESIDENT LEASING AGENT FOR APPROVAL.
9.

THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNING AGENCIES. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
10.

ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDED BUT NOT LIMITED TO ALTERED SIZES AND/OR STRENGTHS, MUST BE APPROVED BY THE EOR.
11.

UNLESS NOTED OTHERWISE, ALL NEW MEMBERS SHALL MAINTAIN THE EXISTING MEMBER WORKING LINES AND NOT INTRODUCE ECCENTRICITIES INTO THE STRUCTURE.
12.

ALL DIMENSIONS AND QUANTITIES LISTED WITHIN THESE DRAWINGS ARE INTENDED TO AID THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND QUANTITIES PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
13.

ALL MANUFACTURERS' INSTRUCTIONS SHALL BE FOLLOWED EXACTLY. ANY DEVIATION REQUIRES WRITTEN APPROVAL FROM THE EOR.
14.

THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARILY REMOVING COAX, BRACKETS, ANTENNAS, MOUNTS AND ANY OTHER TOWER APPURTENANCE THAT MAY INTERFERE WITH THE INSTALLATION OF THE TOWER MODIFICATIONS. ALL TOWER APPURTENANCES MUST BE REPLACED AND/OR RESTORED TO THEIR ORIGINAL LOCATIONS. SOME MOUNTS OR ATTACHMENTS MAY REQUIRE CUSTOM MODIFICATION TO PROPERLY FIT THE MODIFIED REGION OF THE STRUCTURE. THESE CUSTOM MOUNTS OR ATTACHMENTS ARE DESIGNED BY OTHERS AND MUST BE APPROVED BY THE OWNER/EOR PRIOR TO REMOVAL. ANY CARRIER DOWNTIME MUST BE COORDINATED WITH THE OWNER IN WRITING.
15.

ENGINEERING REVIEW FEE WILL COVER THE BASIC SHOP REVIEW, MINOR FIELD QUESTIONS, ASSISTANCE DURING CONSTRUCTION AND EOR APPROVAL DURING INSPECTION PROCESS. HOWEVER, IF THE MODIFICATION IS EXTENSIVE THE FEE IS SUBJECTED TO CHANGE AND SGS TOWERS WILL COMMUNICATE THE REVISED AMOUNT TO THE CONTRACTOR PRIOR TO PROCEEDING WITH THE REVIEW. A PO WILL BE SENT TO THE GENERAL CONTRACTOR AND ONCE SGS TOWERS RECEIVES THE PO, WE WILL SUBMIT THE REVIEWED DRAWINGS IN 5 BUSINESS DAYS. WE REQUEST THAT ALL INQUIRIES AND QUESTIONS RELATED TO SHOP AND ASSEMBLY DRAWINGS BE SENT TO ENGINEERING@SGSTOWERS.COM.

STRUCTURAL STEEL NOTES

1.

ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS, LATEST EDITION.
2.

ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATIONS, LATEST EDITION.
3.

CAULKING SHALL BE PROVIDED AROUND PERIMETER OF ANY AND ALL MODIFICATION MEMBERS TO ENSURE COMPLETE SEAL BETWEEN EXISTING STRUCTURE AND REINFORCING MEMBERS IN FULL CONTACT WITH EXISTING STEEL. SEALANT IS TO BE EXTERIOR GRADE, PAINTABLE SILICONE CAULKING AS MANUFACTURED BY DOW AND ACCEPTABLE TO EOR.
4.

HOLES SHALL NOT BE FLAME CUT THROUGH STEEL UNLESS APPROVED BY THE EOR.
5.

ALL EXPOSED STEEL SHALL BE HOT-DIPPED GALVANIZED PER ASTM A123, ASTM A153/A153M, OR ASTM A653 G90, AS APPLICABLE FOR FULL WEATHER PROTECTION. FOR HIGH STRENGTH STEEL FASTENERS WHERE HOT-DIPPED GALVANIZING IS NOT PERMITTED DACROMET F1136 GRADE 3 COATING SHALL BE USED. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING TOWER STEEL. CONTRACTOR SHALL OBTAIN EOR APPROVAL FOR STEEL PROTECTION BY ANY OTHER MEANS.
6.

SHOP OR FIELD-WELDED CONNECTIONS SHALL CONFORM TO THE LATEST REVISED CODE OF THE AMERICAN WELDING SOCIETY AWS D1.1 USING E70XX ELECTRODES.
7.

REPAIR DAMAGED PAINTED/GALVANIZED SURFACES WITH TWO COATS OF BRUSH OR ROLL ON ZRC COLD GALVANIZING COMPOUND OR EOR APPROVED COATING. SURFACES MUST BE WIRE BRUSHED AND SOLVENT CLEANED PRIOR TO APPLICATION OF GALVANIZING COMPOUND.
8.

ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES (SPLIT WASHER/PAL NUT) TO BE INSTALLED IN ACCORDANCE WITH TIA/EIA-222 REQUIREMENTS.
9.

ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
10.

FIELD DRILLED OR CUT MATERIAL OR ANY GALVANIZED SURFACE THAT IS SCRATCHED OR DAMAGED DUE TO THE CONTRACTOR'S EFFORTS IS TO BE COATED WITH TWO BRUSH COATS OF COLD GALVANIZATION.
11.

PAINTING OF ALL NEW ITEMS, AND REPAIR OF ALL DAMAGED AREA OF THE TOWER WILL BE REQUIRED. SURFACE PREPARATION AND PAINTING REQUIREMENTS ARE AS FOLLOWS
12.

REMOVE ALL SURFACE CONTAMINANTS IN ACCORDANCE WITH SSPC-SP-1 SOLVENT CLEANING. DO NOT USE HYDROCARBON SOLVENTS ON SURFACES TO BE COATED WITH WATER BASED COATING
13.

BEFORE ANY PRIMER OR COATING IS APPLIED, METAL SURFACES SHALL BE COMPLETELY DRY, DUST FREE, INSPECTED AND APPROVED BY THE ENGINEER
14.

NO COATING SHALL BE PERMITTED WHEN THE RELATIVE HUMIDITY IS EXPECTED TO EXCEED 85% OR TEMPERATURE IS EXPECTED TO DROP BELOW 40 DEGREES WITHIN 8 HOURS AFTER THE APPLICATION OF THE COATING. PROCEED WITH SURFACE PREPARATION AND COATING APPLICATION ONLY WHEN AIR AND SURFACE TEMPERATURES ARE ABOVE THE MANUFACTURER'S RECOMMENDED MINIMUM TEMPERATURE AND BELOW 100 DEGREES F, AND SURFACE TEMPERATURE IS AT LEAST 5 DEGREES ABOVE WET BULB AIR TEMPERATURE READING. COATING SHALL NOT BE APPLIED TO DUSTY, WET, OR DAMP SURFACES, AND SHALL NOT BE APPLIED IN RAIN, SNOW, FOG, OR MIST. IF WORKING CONDITIONS ARE QUESTIONABLE, THE ENGINEER SHALL MAKE THE DECISION AND THE CONTRACTOR SHALL ACCEPT THE ENGINEER'S INTERPRETATION AS FINAL AND BINDING.
15.

PRIME COAT MUST BE APPLIED WITHIN 8 HOURS OF ABRASIVE BLASTING.
16.

APPLY BY BRUSH ONE (1) ADDITIONAL COAT OF PRIMER TO ENSURE A UNIFORM COAT OF PRIMER THOROUGHLY WORKED INTO AND AROUND ALL SEAMS, WELDS, BOLT ASSEMBLIES, PLATE OVERLAP SEAMS, AND OTHER IRREGULARITIES IN THE SURFACE.
17.

FINISH COAT SHALL BE UNIFORM IN COLOR AND SHEEN WITHOUT STREAKS, LAPS, RUNS, SAGS OR MISSING AREAS, AND SHALL MATCH EXISTING TANK COATING SYSTEM AND COLOR.
18.

IF GALVANIZED MATERIALS USED, THE GALVANIZED SURFACES MUST BE SOLVENT WIPED AND BRUSH-BLASTING PRIOR TO COATING.
19.

SPECIFICATIONS APPLY TO BOTH SHOP AND FIELD COATING.
20.

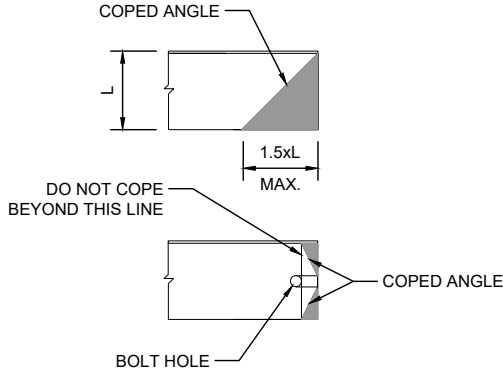
ALL CONNECTIONS TO HAVE ASSOCIATED LOCK WASHER, ETC . . . UNLESS NOTED OTHERWISE.

MATERIAL SPECIFICATIONS

ALL STRUCTURAL STEEL SHALL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.

ANGLES	ASTM A36 (36 KSI YIELD STRENGTH)
PIPES	ASTM A53 GR.B (35 KSI YIELD STRENGTH)
BOLTS	ASTM A325N
NUTS	ASTM A563
WASHER	ASTM F436
PLATE	ASTM A36 (36 KSI YIELD STRENGTH)
U-BOLTS	ASTM A307
WELDS	E-70XX ELECTRODES

ALLOWABLE ANGLE COPE



1.

ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
2.

THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENT.

COLOR OF MEMBERS

- EXISTING MEMBER
- PROPOSED MEMBER



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REVISIONS

REV.	DATE	DESCRIPTION	BY
A	08/03/21	MDD REVIEW 90%	ITM
0	08/05/21	FINAL MDD 100%	ITM

T-MOBILE SITE NUMBER:
ML83232A

ML15AL341

2700 W WAUSAU AVE
WAUSAU, WI 54403

EXISTING 117.2'
WATER TANK

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-1

REVISION

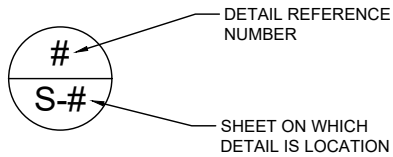
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BASEPLATE GROUT REMOVAL NOTES

1. THE GC SHALL BEGIN THIS PROCEDURE AS EARLY AS POSSIBLE DURING THE MODIFICATION PROCESS SO THAT IF ISSUE ARISES, THEY CAN BE RESOLVED WITHIN THE ANTICIPATED MODIFICATION TIMELINE.
2. IF ANY DETERIORATED GROUT EXIST, BEGIN AT THIS LOCATION. REMOVE DETERIORATED GROUT AND THE GROUT NEAREST ONE OR TWO ANCHOR RODS TO FULLY EXPOSE THE LEVELING NUT. IF THE GC DISCOVERS THAT A HALF NUT OR JAM NIT WAS USED AS A LEVELING NUT OR NOT LEVELING NUT IS PRESENT, IMMEDIATELY CONTACT EOR. DO NOT REMOVE ANY ADDITIONAL GROUT UNTIL DIRECTED BY THE EOR.
3. OTHERWISE, CHECK THE LEVELING NUT FOR TIGHTNESS. IF SEVERE CORROSION / MATERIAL LOSS IS FOUND OR CORROSION EXIST TO THE POINT WHERE THE LEVELING NUT IS UNABLE TO BE TIGHTENED WHEN OBVIOUSLY LOOSE, IMMEDIATELY NOTIFY THE EOR. DO NOT REMOVE ANY ADDITIONAL GROUT UNTIL DIRECTED BY THE EOR.
4. IN THE EVENT THAT SEVERE CORROSION IS NOT ENCOUNTERED, AND BEING SURE TO CHECK EACH ANCHOR ROD FOR CORROSION, REMOVE ALL EXISTING BASEPLATE GROUT WHILE CHECKING LEVELING NUT FOR TIGHTNESS.
5. HAND TOOL CLEAN TO SSPC-SP2 AND SOLVENT CLEAN TO SSPC-SS1, ALL EXPOSED STRUCTURAL STEEL ELEMENTS, INCLUDING ANCHOR RODS, LEVELING NUTS, AND UNDERSIDE OF BASE PLATE TO THE GREATEST EXTENT POSSIBLE. ENSURE THAT ALL OLD GROUT IS REMOVED TO ALLOW COLD GALVANIZING TO ADHERE TO THE STEEL.
6. APPLY BY BRUSH TWO (2) COATS OF A EOR APPROVED COLD-GALVANIZING COMPOUND TO ALL EXPOSED STRUCTURAL STEEL ELEMENTS BENEATH THE BASE PLATE, AND ALLOW CURING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION
7. THE GC SHALL PROVIDE PHOTOGRAPHS OF EACH ANCHOR ROD WITH LEVELING NUT AFTER CLEANING BUT BEFORE COLD GALVANIZATION, AND AGAIN AFTER COLD GALVANIZATION, FOR INCLUSION IN THE MI REPORT.

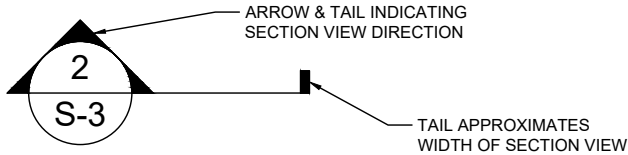
SYMBOLS & CALL-OUTS

TYPICAL DETAIL CALL-OUT



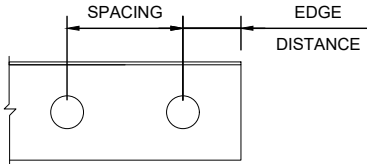
NOTE:
DETAIL CALL-OUT
INFORMATION IS THE SAME
FOR SECTION CALL-OUTS

TYPICAL SECTION CALL-OUT



BOLT SCHEDULE

BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2"	9/16"	9/16"x1 1/16"	7/8"	1 1/2"
5/8"	1 1/16"	1 1/16"x7/8"	1 1/8"	1 7/8"
3/4"	13/16"	13/16"x1"	1 1/4"	2 1/4"
7/8"	15/16"	15/16"x1 1/8"	1 1/2"	2 5/8"
1"	1 1/16"	1 1/16"x1 5/16"	1 3/4"	3"



- DIMENSIONS GIVEN IN INCHES.

- SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED ON THE PLANS.

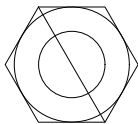
BOLT TIGHTENING PROCEDURE

1. TIGHTEN BOLTS BY AISC "TURN OF THE NUT" METHOD ACCORDING TO THE FOLLOWING CHART:

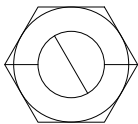
BOLT LENGTHS UP TO AND INCLUDING FOUR DIAMETERS:
+1/3 TURN BEYOND SNUG TIGHT

BOLT LENGTHS OVER FOUR AND UP TO EIGHT DIAMETERS:
+1/2 TURN BEYOND SNUG TIGHT

BOLT LENGTHS OVER EIGHT AND UP TO TWELVE DIAMETERS:
+2/3 TURN BEYOND SNUG TIGHT
2. SPLICE BOLTS UNDER DIRECT TENSION SHALL BE INSTALLED AND TIGHTENED PER SECTION 8(d)(1) OF THE AISC MANUAL OF STEEL CONSTRUCTION



BEFORE 1/3 TURN



AFTER 1/3 TURN

WELDING NOTES

1. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH AWS D1.1/D1.1M, "STRUCTURAL WELDING CODE-STEEL" (LATEST EDITION).
2. CONTRACTOR IS RESPONSIBLE FOR COMMISSIONING A THIRD-PARTY CERTIFIED WELD INSPECTOR (CWI) THROUGHOUT THE ENTIRETY OF THE PROJECT. A PASSING CWI REPORT SHALL BE PROVIDED TO THE ENGINEER UPON COMPLETION OF THE PROJECT.
3. OXY FUEL GAS WELDING OR BRAZING IS STRICTLY PROHIBITED. SPECIFICALLY, NO TORCH CUTTING IS PERMITTED ON SITE. ALL HOLES SHALL BE CUT WITH A GRINDER.
4. INSTALL 3000° (NFPA 701) FIRE BLANKET AROUND ALL COAX AT AND BELOW EACH WELDING PROCEDURE AND ELEVATION. COAX IS FLAMMABLE AND CAN CATCH FIRE IF PROPER PRECAUTIONS ARE NOT MADE TO SHIELD COAX FROM ALL WELDING PROCEDURES. IN ADDITION, COAX SHALL BE PUSHED AWAY FROM TOWER FACE WHERE WELDING IS BEING PERFORMED.
5. CONTRACTOR SHALL EXERCISE CAUTION WHEN WELDING ON A GALVANIZED SURFACE. ADDITIONAL SPLATTER AND SPARKS SHALL BE ANTICIPATED GIVEN THE PREVIOUSLY GALV. SURFACE. IF THE WELD MATERIAL IS CONTAMINATED WITH ZINC IT DOES NOT PROVIDE A STRUCTURAL WELD. FUMES CREATED FROM WELDING ON A PREVIOUSLY GALV. SURFACE CAN BE HAZARDOUS. PRIOR TO WELDING, ALL SURFACES SHALL BE PROPERLY GROUND TO REMOVE GALVANIZING, SCALE, SLAG, RUST OR ANY OTHER MATERIAL TO PREVENT PROPER WELDING.
6. ALL FIELDS SHALL BE TOUCHED UP WITH TWO COATS OF COLD GALVANIZED PAINT (ZRC OR APPROVED EQUIVALENT), INCLUDING THE INTERIOR OF MONOPOLE SHAFTS, WHERE ACCESS PERMITS. IN ANY AREAS AFFECTED BY ANY WELDING, PHOTO DOCUMENTATION IS REQUIRED TO BE SUBMITTED TO THE PMI INSPECTOR.
7. WATER SHALL BE ON SITE, OF ADEQUATE AMOUNT, AND AVAILABLE AT SHORT NOTICE AT ALL TIMES DURING WELDING ACTIVITY. A MINIMUM OF 500 GAL. OF WATER SHALL BE PROVIDED. WATER SHALL BE CAPABLE OF REACHING HEIGHT WHERE WELDING IS BEING PERFORMED. IN ADDITION, A MINIMUM OF SIX (6) 10 LB. CLASS ABC MULTIPURPOSE FIRE EXTINGUISHERS FULLY CHARGED AND CAPABLE OF DISCHARGE WITHIN 30 SECONDS OF DETECTING A FIRE SHALL BE PROVIDED. FIRE EXTINGUISHERS SHALL BE STRATEGICALLY LOCATED AROUND COMPOUND AND IN THE AIR (I.E. ON THE MAN LIFT WHERE WELDING IS BEING PERFORMED).
8. CLEAN OUT ALL DEBRIS THROUGHOUT TOWER AND STRUCTURE BASE PRIOR TO WELDING.
9. THE CONTRACTOR SHALL TAKE COOLING EFFECTS OF THE WELDING MATERIAL INTO CONSIDERATION (I.E. EXPANSION OF HOT MATERIAL AND CONTRACTION OF COOLED MATERIAL).

STUD WELDING NOTES

1. STUDS SHALL COMPLY WITH AWS D1.1/D1.1M.
2. THE CONTRACTOR SHALL HAVE EXPERIENCE WITH STUD WELDING AND BE FAMILIAR WITH THE TECHNIQUE GUIDANCE PROVIDED IN AWS C5.4, RECOMMENDED PRACTICES FOR STUD WELDING, AND THE MANUFACTURER SPECIFICATIONS.
3. FINISHED STUDS SHALL BE OF UNIFORM QUALITY AND CONDITION, FREE OF DEFECTS THAT MAY AFFECT THE WELDING QUALITY.
4. THE CONTRACTOR SHALL FURNISH THE STUD MANUFACTURER'S STUD CERTIFICATIONS, TEST REPORTS, AND MATERIAL TEST REPORTS TO THE MODIFICATION INSPECTOR AND ENGINEER OF RECORD (EOR).
5. AT THE TIME OF WELDING, THE STUDS SHALL BE FREE OF RUST, SCALE, OIL, MOISTURE OR ANY OTHER MATTER THAT MAY ADVERSELY AFFECT THE WELDING OPERATION.
6. THE BASE METAL BEING WELDED TO SHALL NOT BE PAINTED OR GALVANIZED PRIOR TO WELDING. PAINT OR GALVANIZATION SHALL BE REMOVED BY WIRE BRUSH OR GRINDING.
7. THE CONTRACTOR SHALL FIELD VERIFY THAT THE BASE METAL IS NO THINNER THAN 1/3 THE STUD DIAMETER PRIOR TO WELDING.
8. AFTER WELDING, THE STUDS SHALL BE FREE OF ANY DISCONTINUITIES OR SUBSTANCES THAT WOULD INTERFERE WITH THEIR INTENDED FUNCTION AND HAVE A FULL 360° FLASH.
9. THE CONTRACTOR SHALL FURNISH THE EOR AND MODIFICATION INSPECTOR WITH PHOTOS OF THE STUD WELDS FOR VISUAL INSPECTION. THE PHOTOS SHALL BE TAKEN 360° AROUND THE WELD PRIOR TO INSTALLING THE FLANGES SO THAT ALL AREAS OF THE WELD CAN BE INSPECTED (SEE NOTE 10 BELOW).
10. IT IS HIGHLY RECOMMENDED THAT THE MODIFICATION INSPECTOR BE ONSITE WITH THE CONTRACTOR TO TEST A REASONABLE QUANTITY OF STUDS BEFORE COMPLETION OF THE PRODUCTION STUD WELDING OPERATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPLACE ANY STUDS THAT DO NOT CONFORM WITH THE DESIGN OR MODIFICATION INSPECTION. THE CONTRACTOR SHALL REVISE THE WELDING PROCEDURE AS NECESSARY TO ENSURE THAT SUBSEQUENT WELDING WILL MEET REQUIREMENTS.



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REVISIONS

REV.	DATE	DESCRIPTION	BY
A	08/03/21	MDD REVIEW 90%	ITM
0	08/05/21	FINAL MDD 100%	ITM

T-MOBILE SITE NUMBER:
ML83232A

ML15AL341

2700 W WAUSAU AVE
WAUSAU, WI 54403

EXISTING 117.2'
WATER TANK

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-2

REVISION

0

MODIFICATION INSPECTION CHECKLIST					
BEFORE CONSTRUCTION		DURING CONSTRUCTION		AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTION AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM	CONSTRUCTION/INSTALLATION INSPECTION AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM	CONSTRUCTION/INSTALLATION INSPECTION AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
X	MODIFICATION INSPECTION CHECKLIST DWG	X	CONSTRUCTION INSPECTION	X	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWING(S)
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS	N/A	FOUNDATION INSPECTION	N/A	POST INSTALLED ANCHOR ROD PULL-OUT TESTING
N/A	FABRICATION INSPECTION	N/A	CONCRETE COMP. STRENGTH AND SLUMP TEST	X	PHOTOGRAPHS
N/A	MATERIAL TEST REPORT	N/A	POST INSTALLED ANCHOR ROD VERIFICATION	N/A	ADDITIONAL TESTING AND INSPECTION
N/A	FABRICATOR CERTIFIED WELD INSPECTION	N/A	BASE PLATE GROUT VERIFICATION		
N/A	NDE REPORT OF TOWER BASE PLATES (AS REQUIRED)	N/A	THIRD PARTY CERTIFIED WELD INSPECTION		
X	PACKING SLIP	N/A	ON SITE COLD GALVANIZING VERIFICATION		
N/A	ADDITIONAL TESTING AND INSPECTION	N/A	GUY WIRE TENSION REPORT		
		X	GC AS-BUILT DOCUMENTS		
		N/A	ADDITIONAL TESTING AND INSPECTION		

HOT WORKING INCLUDED	
N/A	BASE GRINDING ONLY
N/A	BASE WELDING & GRINDING
N/A	AERIAL GRINDING
N/A	AERIAL WELDING & GRINDING

GENERAL
1. THE MODIFICATION INSPECTION IS A VISUAL INSPECTION OF TOWER MODIFICATION AND A REVIEW OF CONSTRUCTION INSPECTION AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS; NAMELY, THE MODIFICATION DRAWINGS AS DESIGNED BY THE ENGINEER OF RECORD.
2. THE MODIFICATION INSPECTION IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AN IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF. NOR DOES THE MODIFICATION INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTENT RESIDES WITH THE ENGINEER OF RECORD AT ALL TIMES.
3. TO ENSURE THAT THE REQUIREMENT OF THE MODIFICATION INSPECTION ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MODIFICATION INSPECTOR BEGIN COMMUNICATION AND COORDINATING AS SOON AS A PO OR PAYMENT IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY.

GENERAL CONTRACTOR
1. THE GC IS REQUIRED TO CONTACT THE MODIFICATION INSPECTOR AS SOON AS RECEIVING A PO OR PAYMENT FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO: - REVIEW THE REQUIREMENT OF THE MODIFICATION INSPECTION CHECKLIST - WORK WITH THE MI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MODIFICATION INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS - BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS
2. THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MODIFICATION INSPECTION CHECKLIST.

CANCELLATION OR DELAYS IN SCHEDULED MODIFICATION INSPECTION
IF THE GC AND MODIFICATION INSPECTOR AGREE TO A DATE ON WHICH THE MODIFICATION INSPECTION WILL BE CONDUCTED, AND EITHER PARTY CANCELS OR DELAYS, THE TOWER OWNER SHALL NOT BE RESPONSIBLE FOR ANY COSTS, FEES, LOSS OR DEPOSITS AND/OR OTHER PENALTIES RELATE TO THE CANCELLATION OR DELAY INCURRED BY EITHER PARTY FOR ANY TIME. EXCEPTIONS MAY BE MADE IN THE DELAY/ CANCELLATION IS CAUSED BY WEATHER OR OTHER CONDITIONS THAT MAY COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

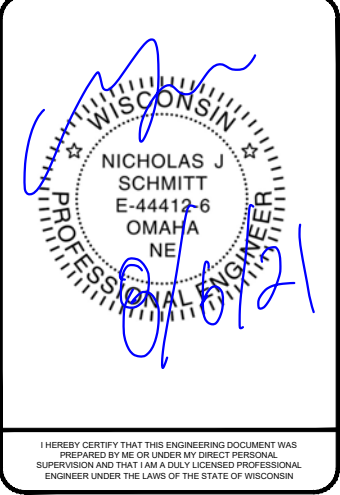
VERIFICATION INSPECTIONS
1. TOWER OWNER RESERVES THE RIGHT TO CONDUCT A VERIFICATION INSPECTION TO VERIFY THE ACCURACY AND COMPLETENESS OF PREVIOUSLY COMPLETED MODIFICATION AND INSPECTION(S) ON TOWER MODIFICATION PRODUCTS.
2. VERIFICATION INSPECTION MAY BE CONDUCTED BY AN INDEPENDENT FIRM AFTER A MODIFICATION PROJECT IS COMPLETED, AS MARKED BY THE DATE OF AN ACCEPTED "PASSING MODIFICATION INSPECTION" REPORT FOR THE ORIGINAL PROJECT.

CORRECTION OF FAILING MODIFICATION INSPECTION
1. IF THE MODIFICATION INSTALLATION WOULD FAIL THE MODIFICATION INSPECTION ("FAILED MODIFICATION INSPECTION"), THE GC SHALL WORK WITH MODIFICATION INSPECTOR TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS: - CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MODIFICATION INSPECTION. - WITH TOWER OWNER'S APPROVAL, THE GC MAY WORK WITH THE ENGINEER OF RECORD TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING AS-BUILT CONDITION.

MODIFICATION INSPECTOR
1. THE MODIFICATION INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO OR PAYMENT FOR THE MODIFICATION INSPECTION TO: - REVIEW THE REQUIREMENT OF THE MODIFICATION INSPECTION CHECKLIST - WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS - DISCUSS ANY SITE SPECIFIC INSPECTIONS OR CONCERNS
2. THE MODIFICATION INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS. REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MODIFICATION INSPECTION REPORT.

RECOMMENDATIONS
1. IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, TO THE MODIFICATION INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR HE MODIFICATION INSPECTION TO BE CONDUCTED.
2. THE GC AND MODIFICATION INSPECTION COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
3. WHEN POSSIBLE IT IS PREFERRED TO HAVE THE MODIFICATION INSPECTOR AND GC ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RE-TENSIONING OPERATIONS.
4. IT MAY BE BENEFICIAL TO INSTALL ALL TOWER MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTION TO ALLOW FOUNDATION AND MODIFICATION INSPECTION(S) DONE IN ONE SITE VISIT.
5. WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MODIFICATION INSPECTOR ON-SITE DURING THE MODIFICATION INSPECTION. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MODIFICATION INSPECTION CAREFULLY INSPECTOR IS ON SITE.

REQUIRED PHOTOS
1. BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS ARE TO BE TAKEN AND INCLUDED IN THE MODIFICATION INSPECTION REPORT: - PRE-CONSTRUCTION GENERAL SITE CONDITION - PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION & INSPECTION - RAW MATERIALS - PHOTOS OF ALL CRITICAL DETAILS - WELD PREPARATION - FOUNDATION MODIFICATION - BOLT INSTALLATION & TORQUE - FINAL INSTALLED CONDITION - SURFACE COATING REPAIR - POST CONDITION PHOTOGRAPHS - FINAL INFIELD CONDITION AND ANY OTHER PHOTOS DEEMED RELEVANT TO SHOW COMPLETE DETAILS OF MODIFICATIONS
2. PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.



REVISIONS			
REV.	DATE	DESCRIPTION	BY
A	08/03/21	MDD REVIEW 90%	ITM
0	08/05/21	FINAL MDD 100%	ITM

T-MOBILE SITE NUMBER: ML83232A
 ML15AL341
2700 W WAUSAU AVE WAUSAU, WI 54403
 EXISTING 117.2' WATER TANK

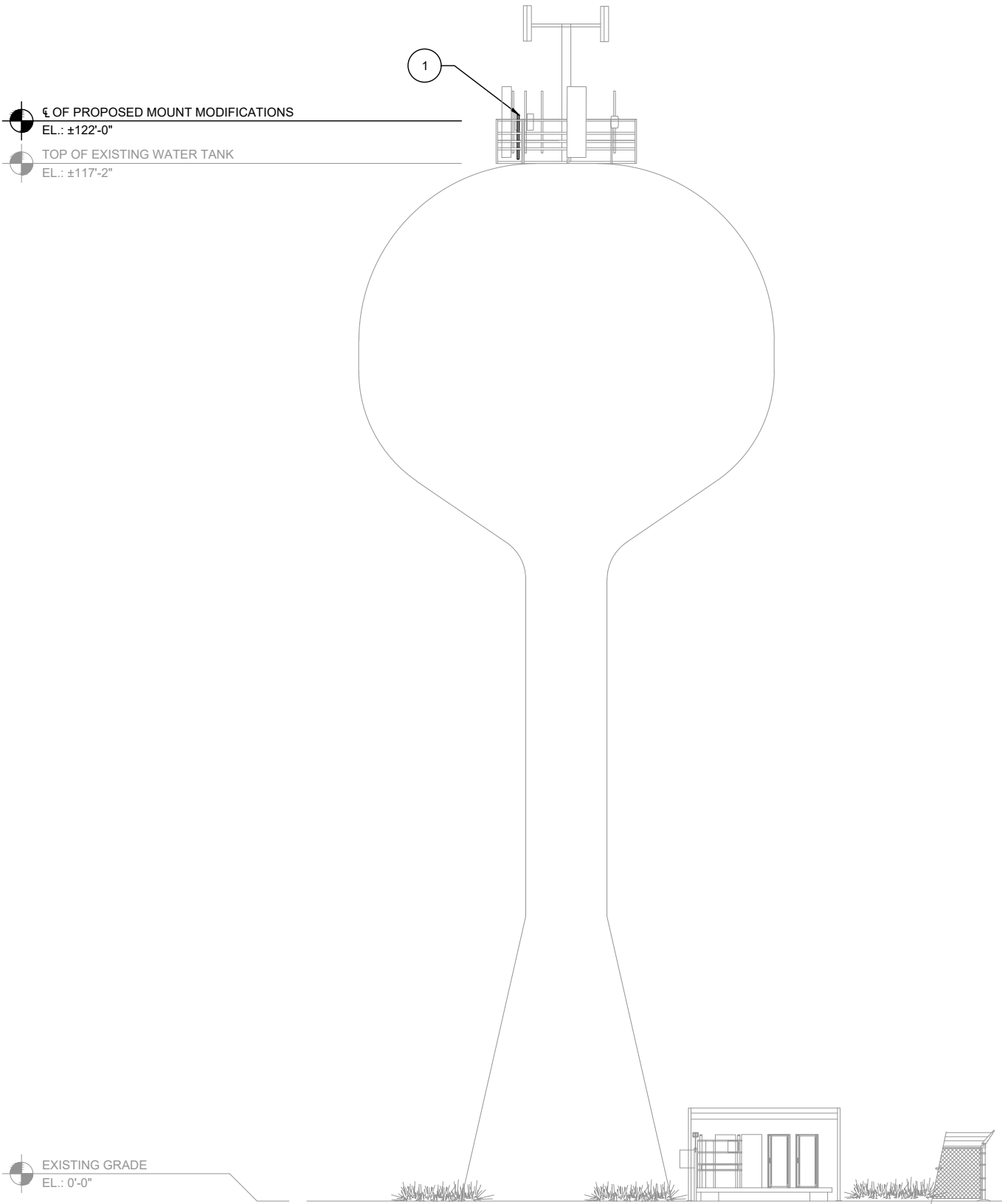
SHEET TITLE
INSPECTION NOTES & CHECKLIST

SHEET NUMBER
IN-1

REVISION
0

MODIFICATION SCHEDULE

LABEL	SCOPE	NOTES
1	REMOVE (1) EXISTING OMNI SUPPORT PIPE AND REPLACE WITH (1) NEW PIPE 2 STD x 5'-0", CONNECTED TO EXISTING HANDRAIL WITH (1) NEW PIPE CLAMP KIT (SITEPRO1 SCP10K OR EQUIVALENT)	S1-S3



PROPOSED MOUNT - ELEVATION VIEW

SCALE: N.T.S.

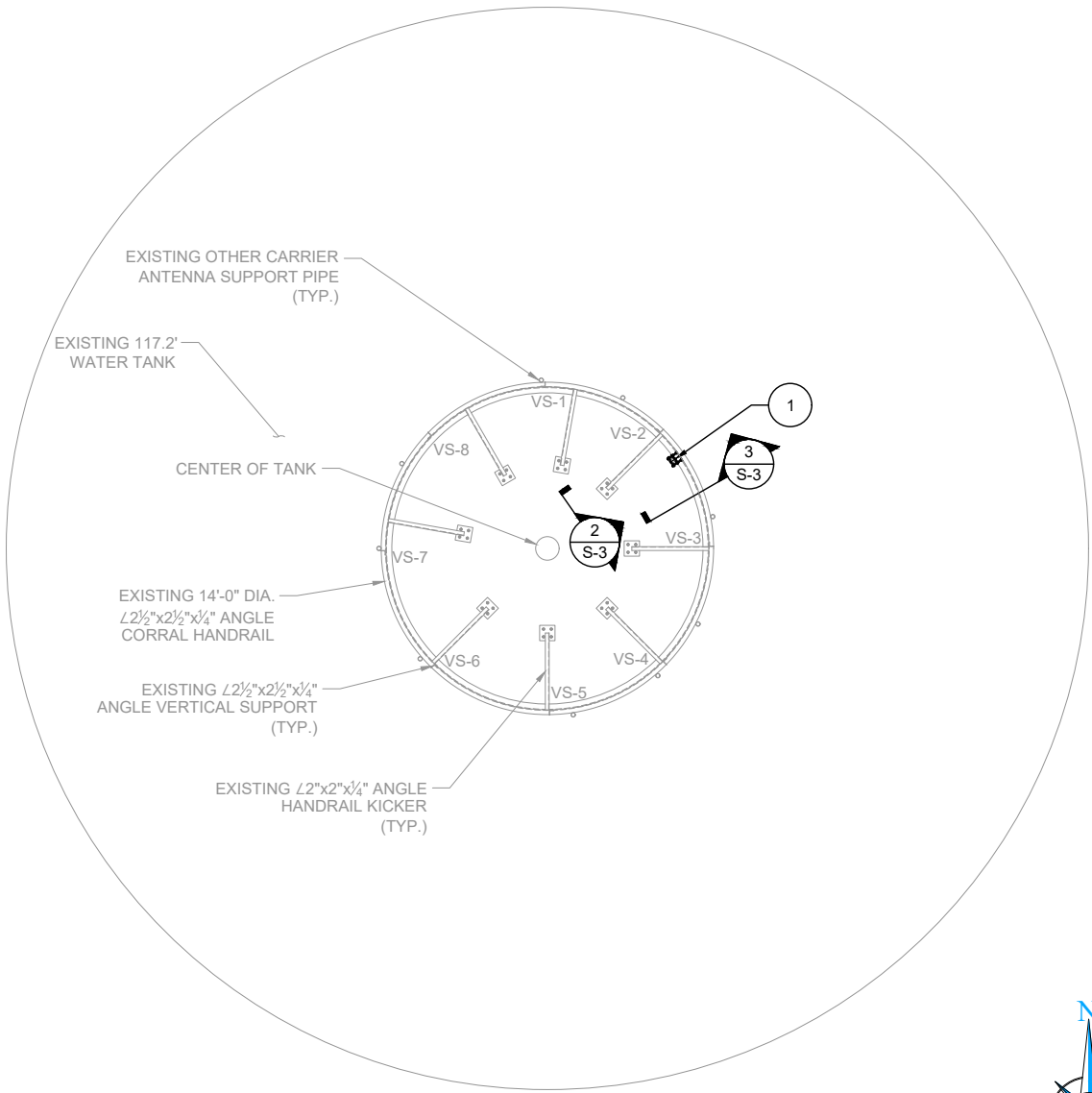
1

CONSTRUCTION NOTES

- SCOPE OF WORK MUST BE COMPLETED AT WIND SPEEDS < 20 MPH. CONSULT WITH QUALIFIED ENGINEER IF RIGGING TO MOUNT.
- ALL DIMENSIONS ARE APPROXIMATE, CONTRACTOR SHOULD FIELD VERIFY ALL DIMENSIONS BEFORE FABRICATION OF STEEL AND COMMENCEMENT OF WORK. FIELD CUT MEMBERS AS REQUIRED.
- FIELD DRILLING IS REQUIRED. TOUCH UP FIELD DRILLED AREA WITH MATCHING PAINT.
- GAGE LINE FOR HOLES TO BE DRILLED AT MIDPOINT OF ANGLE.
- FOR ADDITIONAL PREPARATION AND PAINTING REQUIREMENTS, REFER TO SHEET GN-1, "STRUCTURAL STEEL NOTES".
- CONTRACTOR SHALL BUDGET \$900.00 TOWARDS ENGINEERING REVIEW. REFER TO GENERAL NOTES 15 FOR ADDITIONAL DETAILS.
- PAINT ALL MODIFICATIONS TO MATCH EXISTING COLOR.

PLEASE CONTACT SGS FOR BIDS FOR THE FOLLOWING SERVICES:

- MODIFICATION INSPECTIONS → Inspections@SGSTowers.com
- CLASS IV MODIFICATIONS → Engineering@SGSTowers.com



NOTE:

ANTENNAS AND EQUIPMENT NOT SHOWN FOR CLARITY.

PROPOSED MOUNT - PLAN VIEW @ ELEV. 122'-0"

SCALE: N.T.S.

2



10834 OLD MILL RD, SUITE 8
OMAHA, NE 68154
(402)575-8885
SGS# : 2105328



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN

REVISIONS

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A	08/03/21	MDD REVIEW 90%	ITM
0	08/05/21	FINAL MDD 100%	ITM

T-MOBILE SITE NUMBER:
ML83232A

ML15AL341

2700 W WAUSAU AVE
WAUSAU, WI 54403

EXISTING 117.2'
WATER TANK

SHEET TITLE

MOUNT
MODIFICATION
SCHEDULE

SHEET NUMBER

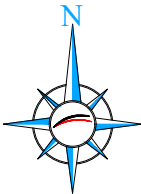
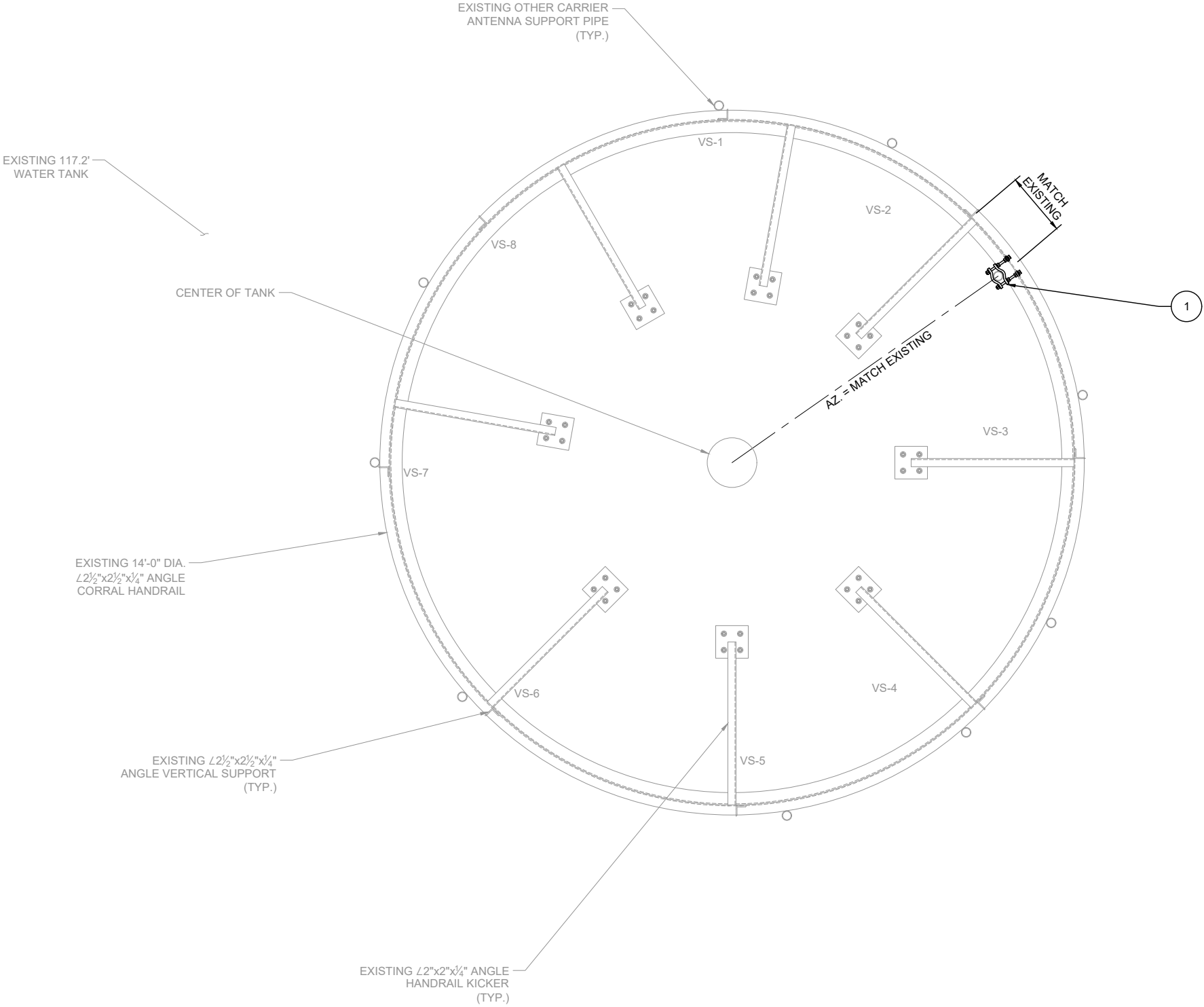
S-1

REVISION

0

NOTES

- 1. ANTENNAS AND EQUIPMENT NOT SHOWN FOR CLARITY.
- 2. FIELD VERIFY ALL AZIMUTHS LISTED ON THIS PAGE PRIOR TO INSTALLATION OF MODIFICATIONS. IF OBSTRUCTIONS EXIST, PLEASE CONTACT SGS AT ENGINEERING@SGSTOWERS.COM



10834 OLD MILL RD, SUITE 8
OMAHA, NE 68154
(402)575-8885
SGS# : 2105328



8/6/21

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ML15AL341

2700 W WAUSAU AVE
WAUSAU, WI 54403

EXISTING 117.2'
WATER TANK

SHEET TITLE

CONFIGURATION
PLAN VIEW

SHEET NUMBER

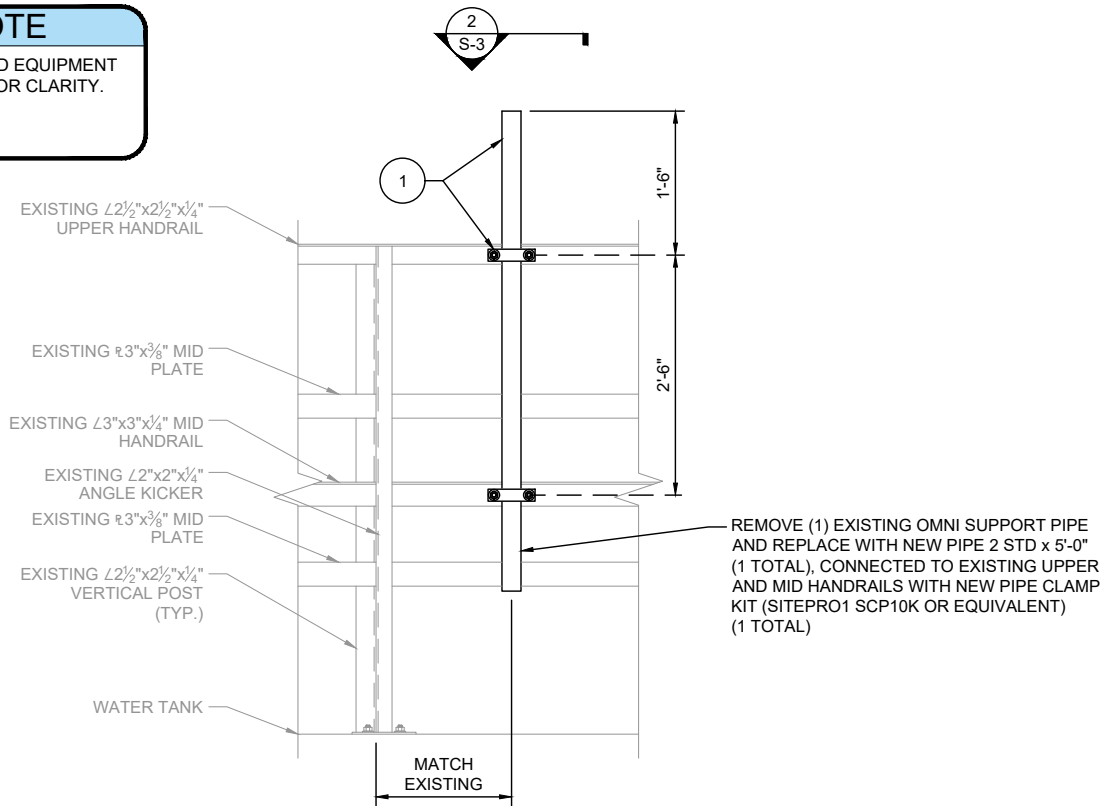
S-2

REVISION

0

NOTE

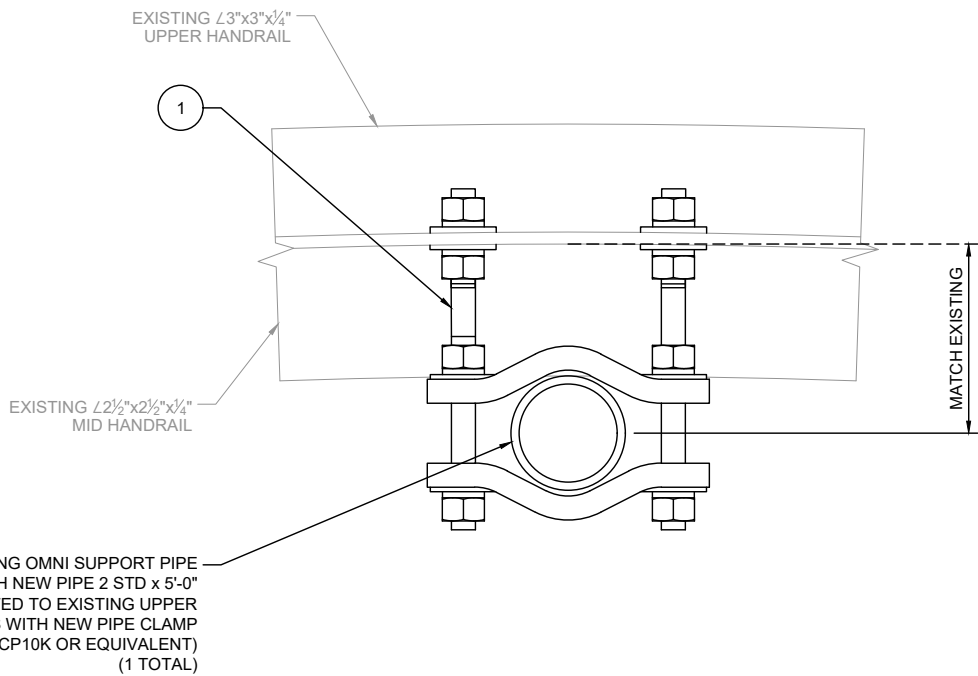
ANTENNAS AND EQUIPMENT
NOT SHOWN FOR CLARITY.



SECTION DETAIL

SCALE: N.T.S.

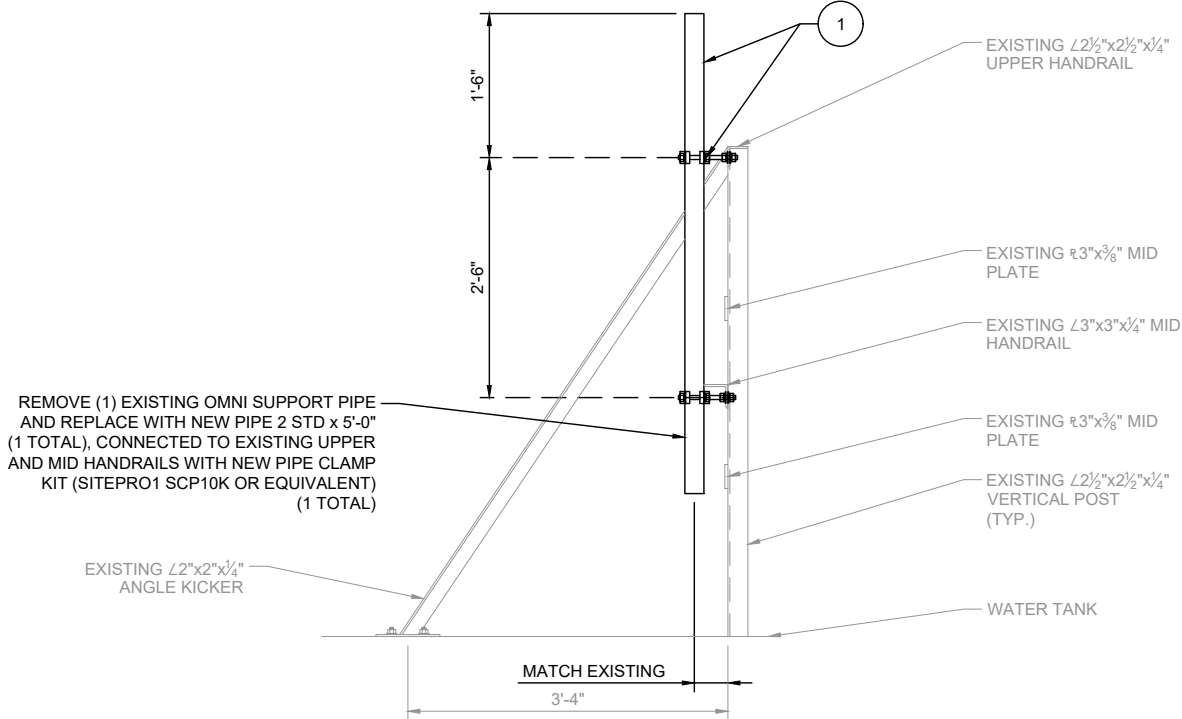
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SECTION DETAIL

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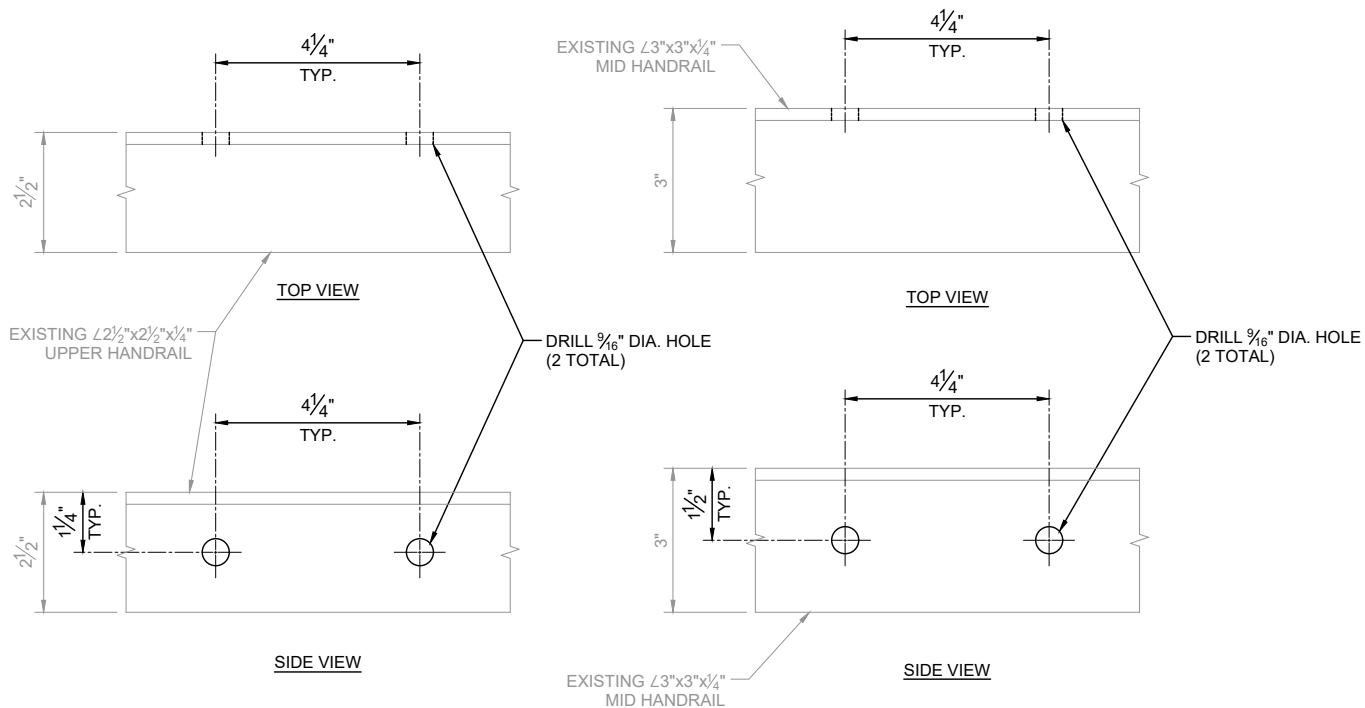
2



SECTION DETAIL

SCALE: N.T.S.

3



TYPICAL BOLT HOLE DETAILS

SCALE: N.T.S.

4



10834 OLD MILL RD, SUITE 8
OMAHA, NE 68154
(402)575-8885
SGS# : 2105328



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REVISIONS

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T-MOBILE SITE NUMBER:
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ML15AL341

2700 W WAUSAU AVE
WAUSAU, WI 54403

EXISTING 117.2'
WATER TANK

SHEET TITLE

SECTION
DETAILS

SHEET NUMBER

S-3

REVISION

0

REVISIONS			
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0	08/05/21	FINAL MDD 100%	ITM

T-MOBILE SITE NUMBER:
ML83232A

ML15AL341

2700 W WAUSAU AVE
WAUSAU, WI 54403

EXISTING 117.2'
WATER TANK

SHEET TITLE

**EQUIPMENT
DETAILS**

SHEET NUMBER

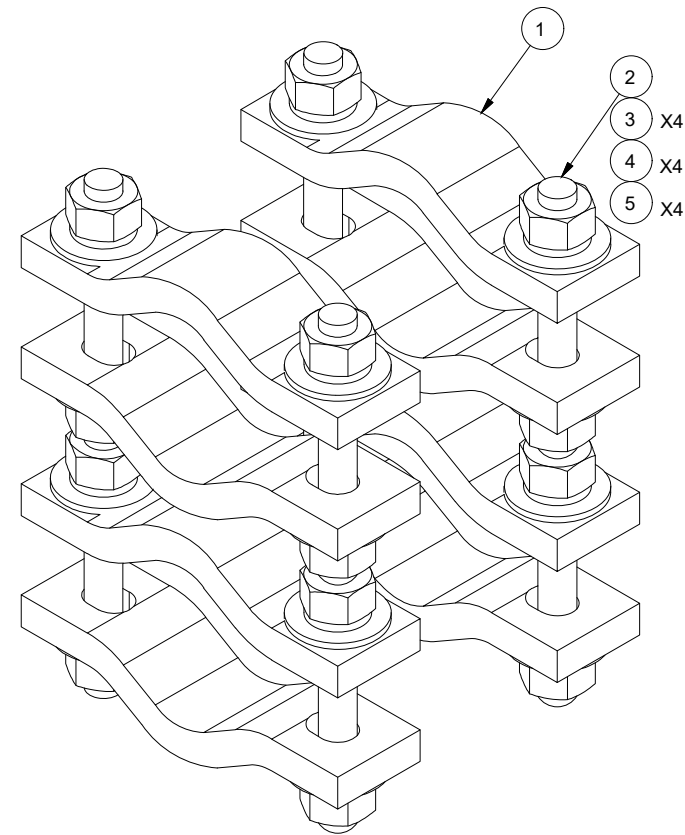
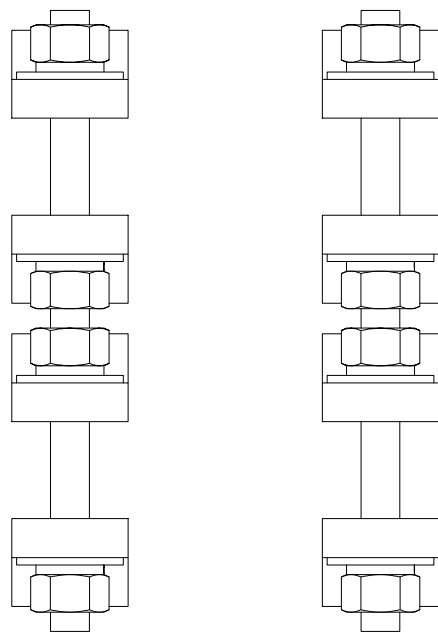
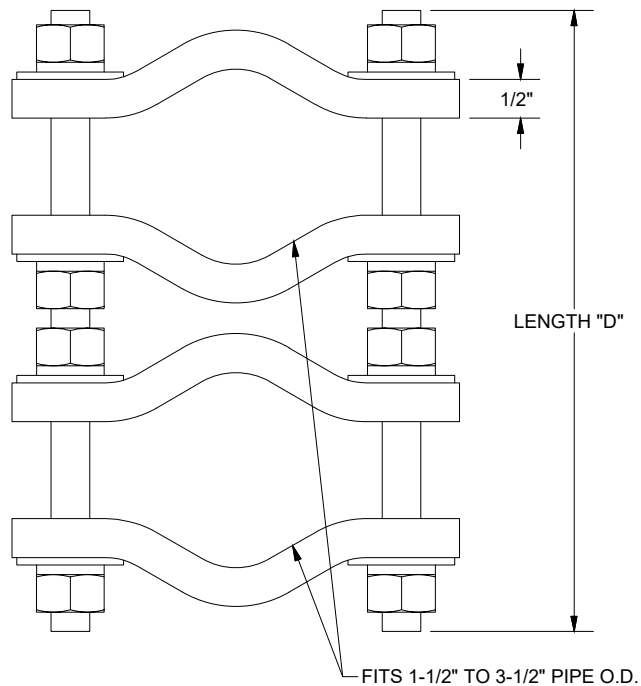
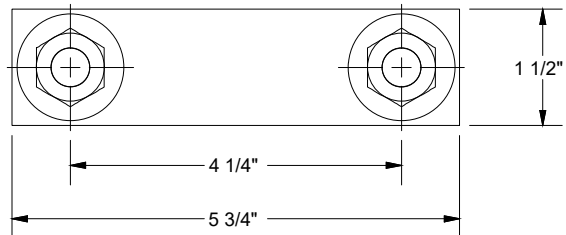
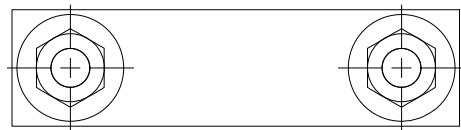
S-4

REVISION

0

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	8	SCP	CLAMP HALF, 1/2" THICK, 5-7/8"		1.29	10.34
2	B	C	1/2" THREADED ROD	D	E	F
3	16	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	1.15
4	16	G12LW	1/2" HDG LOCKWASHER		0.01	0.22
5	16	G12FW	1/2" HDG USS FLATWASHER		0.03	0.55

VARIABLE PARTS TABLE						
ASSEMBLY "A"	QTY "B"	PART "C"	LENGTH "D"	UNIT WT. "E"	NET WT. "F"	TOTAL WEIGHT
SCP08K	4	G12R-8	8"	.45	1.78	13.23
SCP10K	4	G12R-10	10"	.56	2.23	13.68



TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES (± 0.030 ")
DRILLED AND GAS CUT HOLES (± 0.030 ") - NO CONING OF HOLES
LASER CUT EDGES AND HOLES (± 0.010 ") - NO CONING OF HOLES
BENDS ARE $\pm 1/2$ DEGREE
ALL OTHER MACHINING (± 0.030 ")
ALL OTHER ASSEMBLY (± 0.060 ")

PROPRIETARY NOTE:
THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION			
PIPE TO PIPE CLAMP SET 1-1/2" TO 3-1/2" PIPE 1/2" THICK CLAMP			
CPD NO.	DRAWN BY KC8 8/21/2012	ENG. APPROVAL	PART NO. SEE ASSEMBLY "A"
CLASS 81	SUB 01	CHECKED BY CEK 2/18/2013	DWG. NO. SCPxxK



A valmont COMPANY

Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Salem, OR
Dallas, TX

Engineering
Support Team:
1-888-753-7446

PAGE
1 OF 1

EXHIBIT ____

PAINT ANALYSIS

CITY OF Wausau WORKS FOR YOU



SUMMER 2024



Dear Residents,

I want to speak candidly about what is going on at city hall because residents whose doors I knocked on are smart and deserve no less. With sixty days on the job as of writing this, I am pleased to say that we are making progress.

DEVELOPMENT: On May 30th, we had the ground-breaking for the Foundry on 3rd project. At last, we are putting shovels in the ground to redevelop the site of the former Wausau Center Mall. Added touches from Wausau Opportunity Zone (WOZ), LLC, the current owner of the mall site, includes the Children's Imaginarium and a beautiful new

north facing façade and entrance to HOM Furnishing, a stalwart partner for the last 5 years on that site. We're looking at this project as a catalyst for WOZ to attract additional developers for the rest of the site.

STREET MAINTENANCE: Whether shopping for a new home or a business looking to expand, the condition of our roadways plays a key in role in making that first impression, and it is not always a favorable one. We also had a stroke of luck. From January to April, we had a very mild winter. That has left money budgeted for snow plowing and salting unspent. I asked staff to put together a plan to use those funds to reduce the backlog of resurfacing & sealing roads. It makes sense to use unspent money from one type of roadwork for another type of roadwork and make more use of recent investments in city owned paving equipment for in-house hot mix applications. This, on top of the council funding of about \$500,000 in ARPA funds should make some visible headway.

WATER BILLS: I'm asking City Council and our water commission to look at utility finances to find ways to reduce costs for water and wastewater treatment. Wisconsin law allows municipalities to collect a Payment in Lieu of [Property] Taxes or PILOT payment from local utilities, but it does not require it. We should consider a mock rate case study internally before involving the PSC. Reducing that tax will necessitate some belt-tightening at city hall, but I know we can do it. The public expects 100% of the money they pay for water bills to go toward the cost of operating the utilities and not have one-in-eight dollars siphoned-off to other things.

BUDGET: I plan to put forward a bare-bones budget for 2025. The citywide revaluation triggered at the end of 2023 by WI State Statute has made double-digit property tax increases unavoidable for many residents. So, it is imperative that we do all we can to cut costs in the 2025 budget.

That is a taste of what is going on at city hall. I invite you to weigh in on these topics as the council takes them up.

Doug Ding

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City Hall

407 Grant St.
Wausau, WI 54403
715-261-6500
General Hours: M-F, 8-4:30

Economic Development



May 30th saw the groundbreaking ceremony marking the beginning of a transformative endeavor that will uplift downtown Wausau and be a catalyst for future housing and business development.



Foundry on 3rd will be a five-story mixed-use development containing 153 units with a mix of studios, one bedroom, two-bedroom, and three-bedroom apartments. Foundry on 3rd will have retail and commercial space fronting 3rd Street and Washington Street for potential businesses such as a salon, financial firm, café/coffee shop, health spa, clothing store, boutique shop, etc. The development will also have climate-controlled underground parking and supplementary parking in the Forest Street parking structure (parking structure can be directly accessed via a skywalk from Foundry on 3rd). Foundry on 3rd will have an onsite leasing office and a beautifully landscaped courtyard, which will include fire pits, grilling areas, cabanas, and a resident bar area. The amenity-rich development will also include a fitness center, game room, clubroom with full kitchen, library, dog wash station, electric vehicle charging stations, and more.



The City of Wausau and Foundry on 3rd will be working in parallel with each other to complete site excavation, contaminated soil removal, utilities, building construction, and street construction. Infrastructure and street construction around the development will be ongoing through 2026. Jackson Street will be constructed to a temporary state in 2025 and the permanent Jackson Street will be completed as surrounding development is completed.

Mayor of Wausau, Doug Diny, says, “Wausau is pleased to renew streets and utilities to this area of the city as a catalyst for a great development. We are proud of our partnership with T.Wall and WOZ to bring this vision to life.”

Community Development

Request for Community Input: 2024-2029 Consolidated Plan for CDBG Funding



Dear Community Members,

We are seeking your valuable input for the 2024-2029 Consolidated Plan for Community Development Block Grant (CDBG) funding. Your feedback will help shape the priorities and projects that will enhance our community over the next five years. The Consolidated Plan aims to address housing, economic development, and public services, ensuring that our community's needs are met effectively.

Please take a few moments to complete our survey and share your thoughts on how we can best allocate resources to improve our city.

You can access the survey using the QR code, visiting the city website (www.wausauwi.gov), or by contacting Community Development at 715-261-6800 to request a hard copy. Your participation is crucial in making informed decisions that reflect the aspirations and needs of all residents.

Thank you for your time and contribution to building a better future for Wausau.

Community Development Department, City of Wausau



Fire Department

Melted snow, budding trees, longer days: they're all signs that the warmer months are here. For many of us, these seasonal hallmarks are reminders to start spring cleaning in and around our homes.

As people power up their lawnmowers, rake up debris, touch up chipped paint, and take on myriad projects to get their homes and yards ready for the months ahead, following are six key practices and supporting recommendations to help minimize the risk of fires and associated hazards:

Properly use and store gasoline

- Use gasoline only as motor fuel, never as a cleaner or to break down grease.
- Only store gasoline in a container that is sold for that purpose and never bring it indoors, even in small amounts.
- Never store gasoline containers in a basement or in the occupied space of a building. Keep them in a detached garage or an outdoor shed.
- Make sure the container is tightly capped when not in use.

Carefully dispose of rags with paint and stain

The oils commonly used in oil-based paints and stains release heat as they dry. If the heat is not released in the air as the rags dry, the heat is trapped, builds up and can cause a fire.

- Never leave cleaning rags in a pile. When you're finished using the rags, take them outside to dry, keeping them well away from the home and other structures.
- Hang rags outside or spread them on the ground and weigh them down so that they don't blow away.
- Put dried rags in a metal container, making sure the container is tightly covered. Fill the container with a water and detergent solution, which will break down the oils.
- Keep containers of oily rags in a cool place out of direct sunlight and away from other heat sources. Check with your town for information on how to properly dispose of them.

Use/store flammable and combustible liquids with care

- Flammable and combustible liquids should not be used near an open flame.
- Never smoke when working with these liquids.
- If you spill liquids on your clothing, remove your clothing and place it outside to dry. Once dry, clothing can be laundered.
- Keep liquids in their original containers. Keep them tightly capped or sealed. Never store the liquids in glass containers.



Inspect grills to ensure they're in good working order

- Inspect your grill carefully and make sure it's free of grease or fat buildup. Clean out any nests, spider webs, or other debris you may find.
- For propane grills, check the gas tank hose for leaks before using it for the first time each year.

Keep debris well away from your home

Every year, wildfires burn across the U.S., with more and more people living in communities where wildfires are a real risk.

- Dispose of branches, weeds, leaves, pine needles, and grass clippings to reduce fuel for fire.
- Remove leaves, pine needles, and other flammable material from the roof, gutters, and on or under the deck to help prevent embers from igniting your home.
- Remove dead vegetation and other flammable materials, especially within the first five feet of the home.
- Move construction material, trash, and woodpiles at least 30 feet away from the home and other outbuildings.

Clean out your clothes dryer

- Make sure the air exhaust vent pipe for your dryer is not restricted and that the outdoor vent flap will open when the dryer is operating. This includes making sure the outdoor vent flap is not covered by snow.
- Move things that can burn, such as boxes, cleaning supplies and clothing, away from the dryer.
- Clothes that have come in contact with flammable substances like gasoline, paint thinner, or similar solvents should be laid outside to dry, then can be washed and dried as usual.



Emergency Management

Preparing for the Summer Heat Marathon County/City of Wausau Emergency Management



As we kick off the summer season, it is important to be prepared for the heat that comes with it. Extreme heat can put everyone at risk of heat-related illnesses, but those risks are increased for older adults, infants, and children. Those who are pregnant, work in the heat, exercise in the heat, and those with chronic medical conditions such as breathing difficulties, heart conditions, diabetes, kidney disease, and obesity are also at an increased risk of heat-related illness.

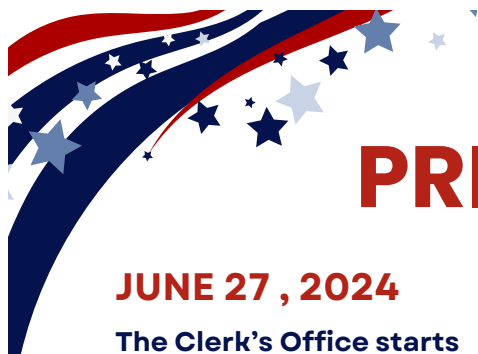
Before the heat wave hits, there are ways to prepare: install window air conditioners and insulate around them, do not rely on a fan as your primary cooling device (fans create airflow but do not reduce body temperatures or prevent heat-related illnesses), cover windows with drapes or shades, weather-strip doors and windows, and identify places in the community where you can get cool. During the heat wave, it is important to drink plenty of water, limit alcohol consumption, cover windows to keep the sun from shining in, take frequent breaks if working in the heat, cut down on exercise, wear sunscreen (sunburn affects your body's ability to cool down), wear a wide-brimmed hat and check on your neighbors and loved ones.

During periods of extreme heat, the National Weather Service will issue heat-related alerts as conditions warrant. An excessive heat warning is issued when the maximum heat index temperature is expected to be 105°F or higher and not go below 75°F for a heat index the morning before or after. A warning may also be issued if the maximum heat index will be between 100-104°F for four days in a row. Heat watches are issued with conditions favorable for an excessive heat event in the next one to three days. A heat advisory is issued when the heat index is expected to be 100°F or higher. It may also be issued if the heat index will be between 95-99°F for four days in a row.

For more information or tips, please visit [ReadyWisconsin.gov](https://www.readywisconsin.gov)

Kelly Bremer, Emergency Management Coordinator





August 13th is PRIMARY ELECTION DAY!

JUNE 27 , 2024

The Clerk's Office starts mailing absentee ballots daily to voters with active absentee applications.

Voters can track their ballots at myvote.wi.gov.

JULY 24 , 2024

Last day for electors to register to vote by mail or online in the Partisan Primary. After this date, electors must register in person.

AUGUST 13, 2024

Partisan Primary Election.

This includes U.S. Senator, Representative in Congress District 7, County Clerk, and County Treasurer.

POLLING LOCATIONS FOR 2024

District	Location
1 & 2*	Lakeview Conference Center, 1000 Lakeview Dr
3 & 10	Marathon Park East Gate Hall, 801 Garfield Ave
4 & 5	Thrive Church, 400 Grand Ave
6*	Good Shepherd Lutheran Church, 930 Edgewood Rd
7 & 8	St. Mark's Lutheran Church, 600 Stevens Dr
9 & 11	National Guard Armory I, 833 S 17th Ave

*New Poll Site in 2024! Visit myvote.wi.gov to see which district you live in.

ABSENTEE VOTING BY MAIL

Absentee ballots are being mailed to voters. Eligible voters can request a ballot be mailed to them until August 8 at 5:00pm :

- Online at myvote.wi.gov
- By mail, email, or fax

Ballots need to be returned to City Hall by 8:00pm on Election Day!

IN PERSON ABSENTEE VOTING

In person absentee voting allows electors to vote in person before election day. It will be held at City Hall:

- July 30 - August 2
- August 5 - August 10

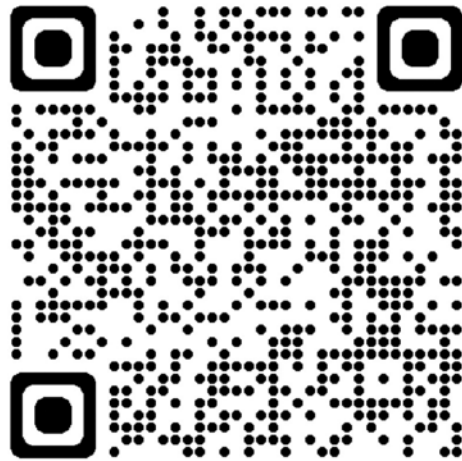
Scan the code to discover:

- In person absentee voting dates and times
- How to register to vote
- More information on Badger Book e-pollbooks



REMINDERS FOR VOTERS

- ☒ All poll sites are open from 7:00am - 8:00pm
- ☒ All voters will need to show a valid photo ID to receive a ballot



Pay Online

-  VIEW USAGE HISTORY
-  VIEW PAYMENT HISTORY
-  SET UP RECURRING PAYMENTS
-  SIGN UP FOR PAPERLESS BILLING

SAVE **TIME.** SKIP THE **LINE.** PAY **ONLINE.**

Service Fee of 3% or \$2.95 minimum.

City of Wausau
407 Grant Street
Wausau, WI 54403-4783



CSO

The Community Service Officers (CSOs) are non-sworn officers who are seasonally employed by the Wausau Police Department. CSOs can handle complaints and take non-criminal enforcement action. They can issue municipal and parking citations, direct traffic, and assist sworn officers as necessary. CSOs are often seen walking or biking on the streets or parks throughout their shift. This year, the police department hired 19 CSOs! Be sure to wave and say hi when you cross paths with them!



Do I Need a Liquor License for my Summer Event?

A retail alcohol beverage license is required any time alcohol beverages are sold to consumers. Temporary Class "B" beer and Temporary Class "B" wine licenses are options for qualified applicants for a limited duration picnic, meetings, races, or other special events. These licenses can only be issued to bona fide clubs, chambers of commerce, churches, lodges, societies, or veteran organizations.

For more information please contact the Clerk's Office at 715-261-6620 or email clerk@wausauwi.gov.

DO YOU HAVE A PET?



Pet license fees start as low as \$12!



Puppies and kittens (less than 6 months old) are half price after July 1!

3 Reasons to License your Cat or Dog:

-  Your animal has a better chance of being returned to you if lost.
-  It proves your animal is properly vaccinated.
-  It's the law! Fines can reach up to \$187.50 for unlicensed or unvaccinated pets.



Learn more about licensing your pet, find local dog parks, and license your pet by scanning the QR code

Slow YOUR MOW



Flowers LEAVE THEM BEE

Flowers that grow within your lawn also provide forage for insects and bees.



Clippings LEAVE THEM THERE

When you mow, mulch the grass and spread it on the lawn. This will help the lawn retain moisture and returns nutrients to the soil.

Grass LEAVE IT LONG

Keep your grass between 2-6" tall

Conserve water, become more resilient to dry spells, save water and money



Consider Planting

Native Plants

Reduce your carbon footprint & support long-term ecosystem health

Diverse Species

Provide blooms and food to pollinators and wildlife throughout the entire season (spring & fall)

Pesticide-free Plants

Ask the suppliers if pesticides were used. Local nurseries tend to be the best source of pesticide-free plants.

Bee Lawns

Turn your turf into food for pollinators. Bee lawns attract over 50 species of native bees.

Avoid Chemicals

Pesticides (including herbicides) become incorporated into the soil and our water supply, harming both wildlife and people.

Newcomer's Corner

If you are new to Wausau, here are some things that are handy to know, before you learn the hard way...

- Wausau has a limit of 2 dogs and/or 3 cats per household. A permit can be obtained if you have more. All cats and dogs must be licensed. Chickens can be kept with a permit.
- Building permits are required for most home improvements—call before you start a project!
- Garbage and recycling pick up is included in the property taxes. All residences are issued bins. Consult the schedule on our website to find out your pick up day.
- Backyard fires are allowed only by permit, which can be applied for at City Hall.
- Overnight parking follows an even/odd date schedule all year long. See the police dept section of the website for details.
- Sidewalks need to be cleared of snow and ice within 24 hours. There are blue barrels for sand throughout the city that you can help yourself to for your slippery sidewalks. Snow is not to be shoveled into the street.
- During a major snowfall, a snow emergency may be declared, which means absolutely no parking on the street, even if you don't have driveway space.
- Water bills are sent quarterly, so it can take some time to get your first one (homeowners.)
- There is a curfew for those under the age of 16 between midnight and 6 am.
- You can view city meetings on our public access station, and on YouTube.



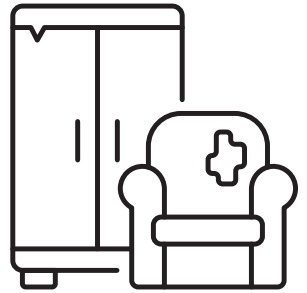
Public Works

City Of Wausau

Clean It Up, Wausau! Large Item Drop-Off

Friday & Saturday,
September 20-21 • 9am – 5pm

Location: east end of E. Chellis Street - Near the Yard Waste site



FRIDAY AND SATURDAY ONLY	
September 20th, September 21st	9:00 A.M. TO 5:00 P.M.
CITY OF WAUSAU RESIDENTS ONLY - (*proof of residency required*)	

ACCEPTABLE ITEMS
Bathroom plumbing fixtures
Cabinets
Carpeting
Chairs
Concrete chunks (small amount)
Countertops
Furniture
Gasoline engine equipment - gas and oil removed
Grills (propane tanks removed)
Hot tubs
Lawn mowers - gas and oil removed
Long boards (that do not fit in a garbage container)
Mattresses
Metal
Plastic childrens toys (too large to fit in garbage dumpster)
Pool tables
Remodeling waste - Insulation, Fiberglass (small amount)
Sinks
Snow blowers - gas and oil removed
Sofas / Couches
Tables
Toilets
Vacuum cleaners
Wash tubs
Water heater
Weed eater - if the unit is gas, gas and oil removed

ITEMS ACCEPTED
Appliances (examples):
FEE TO DISPOSE OF \$25.00 PER ITEM THAT CONTAINS FREON Air Conditioner, Dehumidifier, Refrigerator, Freezer
* NO CHARGE ITEMS* - Microwave, Dishwasher, Dryer, Humidifier, Stove, Washer
If your appliance is gently used and in working condition - it can be donated to Habitat for Humanity's Recycled Building Materials Facility
OR if in NON working order - Contact: Alter Metals, Wellers Salvage, Yaeger's or other salvage scrap vendors

Electronics (examples):
*FEE TO DISPOSE OF - *based on weight* TV's, Computer monitors, Computers, Laptops, Keyboards, Cameras & Recorders with video display, DVD & VCRs, Printers, Scanners, Fax machines, Cell phones with video display Contact Good News Project, Helping Hands Recycling or Wellers Salvage

TIRES - (CASH ONLY) No credit cards accepted
Under 22" - \$5.00 22" and Over - \$10.00

The City of Wausau Department of Public Works facility is monitored by video surveillance, a citation will be issued to those who intentionally dispose of unacceptable items at their facility

ITEMS THAT ARE NOT ACCEPTED AT THE CITY'S DROP OFF SITE
NO HOUSEHOLD GARBAGE and/or items in an enclosed bag
PAINT - can be dried by opening the cover to let dry, or use cat litter and place within your normal garbage container provided by Harters.
Cardboard, Plastic containers - can be placed bi-weekly in a container provided by Harters

Marathon County Hazardous Waste Facility - Located at the Marathon County Landfill
NOTE - you need to make an appointment at least 1 day in advance there may be fees associated with specific items 715-446-3101 ext. 100
Aerosol Paint cans with paint in it (empties can be recycled)
Antifreeze
Ballasts, Fluorescent bulbs, Tubes
Cleaning Solvents, Degreasers, Drain Cleaners, Oven Cleaners
Dry Cleaning Fluids
Ether, Fuel
Floor / Furniture Polish
Fungicides, Herbicides, Insecticides
Gun Cleaners
Hobby materials / chemicals
Metal Cleaners
Mildew Cleaners
Oil / or any gas mixtures exceeding 5 gallons
Paint (Oil based), Thinners, Turpentine, Varnish
Photography chemicals

SHARPS ARE ACCEPTED AT THE LANDFILL
- Put them in a commercial sharps disposal container, or in a heavy plastic detergent or bleach bottle with a screw-on cap for sealing tightly.
NO MILK JUGS OR OTHER THIN PLASTIC.
- Do no separate the needle from the syringe- LABEL THE CONTAINER WITH 'BIOHAZARD', INFECTIOUS WASTE / SHARPS & DO NOT RECYCLE.

Look for acceptable and non-acceptable items via City's website:
www.wausauwi.gov

City of Wausau Yard Waste Site

The City of Wausau Yard Waste Site is located at the east end of East Chellis Street.

2024 Hours of Operation

The Yard Waste Site will be open from April 3rd through November 24th during the following hours:

Monday	CLOSED
Tuesday	CLOSED
Wednesday	9 a.m. to 8 p.m.
Thursday	CLOSED
Friday	9 a.m. to 5 p.m.
Saturday	9 a.m. to 5 p.m.
Sunday	9 a.m. to 5 p.m.

***NOTE*- Schedule times may vary in the fall, call D.P.W. at 715-261-6960 to confirm scheduled hours.**

The site will be locked and gated during non-operating hours. The site is monitored by video surveillance. Citations will be issued to those who leave yard waste outside the gate of the facility.

Materials Accepted:

Garden & flower debris, Grass, Leaves, Tree branches/brush

The City of Wausau appreciates your cooperation. The site is for City of Wausau residents only.

Call The Department of Public Works at 715-261-6960, if you have any questions. Office hours are: Monday thru Friday 7:00 a.m. – 3:00 p.m.



Inspections



The Division of Inspection, Zoning and Electrical Systems provides inspection services and direction for construction of all new residential, commercial, and industrial buildings within the city, as well as existing residential additions and alterations.

A building permit serves as formal and legal permission to begin construction on a project. Once issued, the permit confirms that project plans for a new structure, addition, renovation, foundation, plumbing, air flow system, fireplace, deck, electrical, and other building components have been approved by the City and that plans comply with all mandated state and local building codes and zoning laws.

A complete list of permit requirements is available on-line at:
www.ci.wausau.wi.us/Departments/Inspections

To submit your permit application, please visit <https://evolveportal.ci.wausau.wi.us/>. Through the portal you can submit applications and manage your permits. All applications submitted will be evaluated for completeness before being reviewed and approved by an inspector(s), so please be sure to look over each application carefully.

If you require an in-person meeting with an inspector or have questions regarding permits, please email inspections@ci.wausau.wi.us or call 715-261-6780 to schedule an appointment. Walk-ins are not advised.
As of 04/01/2024 Inspectors are available by appointment only.

Have you recently had your furnace or water heater replaced but never scheduled an inspection? Please call 715-261-6780 and we can get that scheduled for you.

TRASH CONTAINERS, RECYCLABLE CONTAINERS AND TRASH:

- Trash containers and recyclable containers shall not be set out for collection any sooner than 3:00 p.m. of the day before pickup, and all containers shall be removed from the curbside/boulevard area by 11:00 a.m. of the day after pickup.
- Between pickups, trash and recyclable carts should be stored in a garage, shed, or kept behind or on the side of the house. Containers cannot be stored at the front of the house or on a corner lot side yard.

Keeping a safe & healthy community!

City residents take great pride in maintaining their property. Lawn care is an essential task in keeping in compliance with city ordinances.

- Lawns shall be maintained to a height not to exceed 12 inches. Landscaping shall be maintained so as not to present hazards to adjoining properties or to persons or vehicles traveling on public ways. Property owner maintenance responsibilities include the boulevards and along alleyways.
- Exterior areas shall be maintained in a clean and sanitary condition, free from any accumulation of items, garbage, debris, yard waste.
- Yard waste, including grass clippings, cannot be placed on the streets, the alleys, boulevards, gutters, or right-of-way.
- Dog/animal excreta must be picked up in a timely manner, to minimize health hazards.
- Furniture, not intended for outdoor use, is not allowed on yards or open porches.



Check out the following link for more property maintenance reminders:

<https://www.wausauwi.gov/your-government/inspections/property-maintenance>

Public Works

Proper trimming of Alleyways

Property owners are responsible for trimming tree branches and shrubbery that hang in the alley adjacent to their property. Their property goes to the center point of the alley. Trees and brush should be trimmed to a height of 8'. When WPS has large trucks that need to access the Alley, they need to have a clearance up to 10' for pole and powerline repair. Any questions please feel free to contact the Department of Public Works.



JoJos's Jungle Landscape Rejuvenation Project

Volunteers from the Transformational Leadership program, sponsored by The Greater Wausau Chamber of Commerce, chose to give back to the community through an environmental project. They contacted and partnered with the Wausau/Marathon County Parks Department to design, plant and rejuvenate portions of the landscaping at JoJo's Jungle.

JoJo's Jungle is a very popular children's playground at Brockmeyer Park. It has diverse play equipment with planting beds spread throughout – including a pollinator garden at the center. It is a tough growing environment, and many plants have failed and trails have been made through the beds. The team of volunteers helped design then implement improvements to the landscape.

We addressed the trodden paths by placing tree cookies from removed city trees for the children to follow. Three new trees were planted to replace poorly growing specimens. Dozens of new flowering shrubs and hundreds of perennials were placed throughout the garden beds giving the playground a fresh new look. Finally, the team mulched all the beds, protecting the new plants and making it look fantastic!

We at the Parks Department truly appreciate the time and effort put forth by the Transformational Leadership team! They put so much effort into every facet, from drawing design plans to pushing wheelbarrows full of mulch.

We invite everyone to stop by and enjoy the updated landscaping at the playground!

John Kahon



Suckers and Watersprouts on Boulevard Trees

Have you ever noticed how certain species of trees can't seem to decide if they want to be a tree or a shrub? No, I'm not referring to a hybrid or some other genetic variation where different plants are exhibited from the same root stock. I am speaking of the dreaded SUCKER.

Suckers, originating from the base of a tree and watersprouts, originating from a latent bud in the trunk can be quite a nuisance or even a hazard if allowed to grow too large. These adventitious branches are prolific growers and not only become difficult to mow around, but can become a visual obstruction while exiting driveways or approaching stop signs.

Although pruning of boulevard trees is prohibited by Chapter 12.56 of the Wausau Municipal Code, removal of suckers is permitted and even encouraged. Some species (linden/crabapple/pear) often produce suckers annually, and removing the new shoots can be a quick and easy way to prevent issues in the future. These new shoots are often about the size of a pencil and can be removed with a pruning shear.

Please refer to the picture to understand the distinction between suckers (originating at the base), watersprouts (small shoots from the trunk), and low branches. Low branches are off limits for residents to prune.

If these suckers have gotten too large and need to be addressed by our staff please don't hesitate to contact us at parkforestry@co.marathon.wi.us or (715) 261-1550.





CITY OF WAUSAU

407 Grant Street
Wausau, WI 54403

Mayor

Doug Diny
407 Grant St
doug.diny@ci.wausau.wi.us



City Council Representatives

All mail for Alderpersons
can be sent to:
City Hall
407 Grant Street
Wausau, WI 54403

District 1

Carol Lukens
715-261-6831
carol.lukens@ci.wausau.wi.us



District 2

Michael Martens
michael.martens@ci.wausau.wi.us



District 3

Terry Kilian
terry.kilian@ci.wausau.wi.us



District 4

Tom Neal
tom.neal2@ci.wausau.wi.us



District 5

Gary Gisselman
715-848-5160
gary.gisselman3@ci.wausau.wi.us



District 6

Rebecca McElhaney
715-261-6830
becky.mcelhaney@ci.wausau.wi.us



District 7

Lisa Rasmussen
715-261-6832
lisa.rasmussen2@ci.wausau.wi.us



District 8

Sarah Watson
sarah.watson@ci.wausau.wi.us



District 9

Victoria Tierney
715-261-6834
victoria.tierney@ci.wausau.wi.us



District 10

Louis Larson
715-261-6840
lou.larson@ci.wausau.wi.us



District 11

Chad Henke
715-261-6841
chad.henke@ci.wausau.wi.us



Vision Statement... Wausau is a fun, vibrant, and highly connected community providing diverse and accessible social, arts, cultural and outdoor recreational experiences and a thriving economy where everyone has the opportunity to achieve success and happiness.

Wausau Area Events

Wausau Area Events

Wausau Events
Creating Community Through Events

Wausau Wisconsin

RIB MOUNTAIN

Rothschild

CONCERTS ON THE SQUARE
400 BLOCK - DOWNTOWN WAUSAU
6 PM TO 8 PM EVERY WEDNESDAY





2023 Consumer Confidence Report Data

PWS ID: 73701023

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

Daaim ntawv tshaabzu nuav muaj lug tseemceeb heev nyob rua huv kws has txug cov dlej mej haus. Kuas ib tug paab txhais rua koj, los nrug ib tug kws paub lug thaam.

Water System Information

If you would like to know more about the information contained in this report, please contact Scott Boers at 715-261-7286.

Opportunity for input on decisions affecting your water quality

Council Chambers, City Hall, 407 Grant St. Wausau Wi. 54403. Meetings are held at 1:30 PM, First Tuesday of the month.

Health Information

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's safe drinking water hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune systems disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Environmental Protection Agency's safe drinking water hotline (800-426-4791).

Source(s) of Water

Source ID	Source	Depth (in feet)	Status
3	Groundwater	95	Active
6	Groundwater	100	Active
7	Groundwater	100	Active
9	Groundwater	100	Active
10	Groundwater	160	Active
11	Groundwater	155	Active

To obtain a summary of the source water assessment please contact, Scott Boers/Wausau Water Operations Superintendent at (715) 261-7286.

Educational Information

The sources of drinking water, both tap water and bottled water, include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally- occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Disinfection Byproducts

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2022)	Violation	Typical Source of Contaminant
HAA5 (ppb)	D-16	60	60	10	10		No	By-product of drinking water chlorination
TTHM (ppb)	D-16	80	0	26.2	26.2		No	By-product of drinking water chlorination
HAA5 (ppb)	D-7	60	60	10	10		No	By-product of drinking water chlorination
TTHM (ppb)	D-7	80	0	18.3	18.3		No	By-product of drinking water chlorination

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.003	0.002 - 0.003		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.6	0.6 - 0.6		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (NO3-N) (ppm)		10	10	0.45	0.36 - 0.45		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	26.00	22.00 - 26.00		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2022)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.0110	0 of 30 results were above the action level.	7/13/2020	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	5.80	0 of 30 results were above the action level.	7/2/2020	No	Corrosion of household plumbing systems; Erosion of natural deposits

PFAS Contaminants with a Recommended Health Advisory Level

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of human-made chemicals that have been used in industry and consumer products worldwide since the 1950. The following table list PFAS contaminants which were detected in your water and that have a Recommended Public Health Groundwater Standard (RPHGS) or Health Advisory Level (HAL). There are no violations for detections of contaminants that exceed the RPHGS or HAL. The RPHGS are levels at which concentrations of the contaminant present a health risk and are based on guidance provided by the Wisconsin Department of Health Services.

Typical Source of Contamination		Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.					
Contaminant (units)	Site	RPHGS or HAL (PPT)	Level Found	Range	Sample Date (if prior to 2023)		
NETFOSAA (ppt)		20	4.76	0.52 - 8.40			
PFBS (ppt)		450000	0.23	0.00 - 0.56			

PFAS Contaminants with a Recommended Health Advisory Level (*Continued*)

PFHXS (ppt)		40	0.22	0.00 - 0.54	
PFHXA (ppt)		150000	3.55	1.60 - 5.00	
PFNA (ppt)		30	0.22	0.00 - 0.67	
PFOS (ppt)		20	1.22	0.00 - 2.30	
PFOA (ppt)		20	6.53	1.00 - 12.00	
PFOA AND PFOS TOTAL (ppt)		20	7.74	1.00 - 14.30	

Contaminants with a Public Health Groundwater Standard, Health Advisory Level, or a Secondary Maximum Contaminant Level

The following table lists contaminants which were detected in your water and that have either a Public Health Groundwater Standard (PHGS), Health Advisory Level (HAL), or a Secondary Maximum Contaminant Level (SMCL), or both. There are no violations for detections of contaminants that exceed Health Advisory Levels, Public Health Groundwater Standards or Secondary Maximum Contaminant Levels. Secondary Maximum Contaminant Levels are levels that do not present health concerns but may pose aesthetic problems such as objectionable taste, odor, or color. Public Health Groundwater Standards and Health Advisory Levels are levels at which concentrations of the contaminant present a health risk.

Contaminant	Site	SMCL (ppm)	PHGS or HAL (ppm)	Level Found	Range	Sample Date (if prior to 2023)	Typical Source of Contaminant
SULFATE (ppm)		250		5.20	3.70 - 5.20		Runoff/leaching from natural deposits, industrial wastes

Unregulated Contaminants

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. EPA required us to participate in this monitoring.

Contaminant (units)	Level Found	Range	Sample Date (if prior to 2023)
BROMIDE (ppb)	29.7615	29.344 - 30.179	1/8/2018 & 7/23/2018
HAA5 (ppb)	12.92975	9.049 - 18.562	1/8/2018 & 7/23/2018
HAA6Br (ppb)	.44375	0 - .697	1/8/2018 & 7/23/2018
HAA9 (ppb)	13.3735	9.049 - 19.191	1/8/2018 & 7/23/2018
MANGANESE (ppb)	17.00525	1.616 - 35.742	1/8/2018, 1/9/2018 & 7/23/2018
TOTAL ORGANIC CARBON (ppb)	5086.05	3956.1-6191.7	1/8/2018 & 7/23/2018



Additional Health Information

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Wausau Waterworks is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Definitions

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
HA and HAL	HA: Health Advisory. An estimate of acceptable drinking water levels for a chemical substance based on health effects information. HAL: Health Advisory Level is a concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice. Health Advisories are determined by US EPA.
HI	HI: Hazard Index: A Hazard Index is used to assess the potential health impacts associated with mixtures of contaminants. Hazard Index guidance for a class of contaminants or mixture of contaminants may be determined by the US EPA or Wisconsin Department of Health Services. If a Health Index is exceeded a system may be required to post a public notice.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine, if possible, why an E. coli MCL violation has occurred or why total coliform bacteria have been found in our water system, or both, on multiple occasions.
MCL	Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MCLG	Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MFL	million fibers per liter
MRDL	Maximum residual disinfectant level: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG	Maximum residual disinfectant level goal: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ppt	parts per trillion, or nanograms per liter (ng/l)
ppq	parts per quadrillion, or picograms per liter
PHGS	PHGS: Public Health Groundwater Standards are found in NR 140 Groundwater Quality. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
RPHGS	RPHGS: Recommended Public Health Groundwater Standards: Groundwater standards proposed by the Wisconsin Department of Health Services. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
SMCL	Secondary drinking water standards or Secondary Maximum Contaminant Levels for contaminants that affect taste, odor, or appearance of the drinking water. The SMCLs do not represent health standards.
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.