

City of Aurora
Building Division
15151 E Alameda Pkwy
Aurora, CO 80012
(303) 739-7420



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City of Aurora Public Works Department

BUILDING PERMIT APPLICATION

Building Division • 15151 E. Alameda Parkway Ste 2400 • Aurora CO 80012 • 303-739-7420 • Fax: 303-739-7412
Email: permitcounter@auroragov.org

Project Address	15301 E. I Lift Ave		Unit #
Project Name:	SPRINT Network Vision Upgrade		
Contractor Company Name	MASTEC NETWORK SOLUTIONS	Phone	720-341-8608
Contact Person	ANDY MCCABE	Phone	720-341-8608
Email	ANDREW.MCCABE@MASTEC.COM		Fax
Architect and/or Engineer Contact information for correction items KDC			
Architect or Engineer name			Email
Phone	303-750-6999	Fax	303-750-0236
Owner (Required for Certificate of Occupancy) only			
Owner address			
Email			
Valuation / FDA:\$	20,000.00		Materials Cost: \$
FDA = Fee Determination Assessment. (Also known as the value of project) has no relationship to the construction costs for the building which can vary greatly. Rather, The assessment is used only to determine the appropriate level of fees to fund our code compliance activities.			
Describe The Work You Will Be Doing: Remove Existing BTS Cabinets, Lines, And Antennas And install new cabinets, Hybrid cables, And Antennas			

I declare under penalty that this application has been examined by me and that the statements made herein are made in good faith pursuant to City of Aurora tax and licensing regulations; and to the best of my knowledge and belief are true, correct and complete.

Print Name ANDREW MCCABE Signature [Signature] Date 10/8/2013

BOARD OF APPEALS: Contractor's Appeals and Standards Board. Applicants have the right to have the board hear appeals of orders, decisions or determinations made by the building official relative to the application and interpretation of the building code. Any application for appeal to the board shall be based on a claim that the true intent of the code or the rules legally adopted there under have been incorrectly interpreted, the provisions of the building code do not fully apply or an equally good or better form of construction is proposed.

THIS SPACE FOR OFFICE USE ONLY

Fee Determination Assessment: \$ 20,000.00

Change of occupancy/use: ☐ Yes ☐ No

REVIEWS

- ☐ Structural
- ☐ Mechanical
- ☐ Plumbing
- ☒ Electrical
- ☐ Fire-Life Safety
- ☐ Building Life Safety

INSPECTIONS

- ☐ Structural
- ☐ Mechanical
- ☐ Plumbing
- ☒ Electrical
- ☐ Life Safety
- ☐ Gate/Hazard

Intake Date: 10-8-2013

Balance Due: \$ _____

PRE APPROVAL Initial _____ ☐ Zoning ☐ Water

Exterior changes? ☐ Yes ☐ No

Homeowner verified: ☐ Yes ☐ No

Permit Type: LT

Mid roof / Ave Bldg Height: _____

Parent Permit RSN: _____

Plans Examiner: Jim

Subtype: Electrical

RSN: 847295

Plans Picked Up By: _____

Company Name: _____

Phone Number: _____

ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL ELECTRICAL CODES AND ALL LOCAL AND STATE CODE, LAWS, AND ORDINANCES. PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC STANDARDS.
2. CONTRACTOR SHALL COORDINATE WITH LOCAL POWER COMPANY FOR REQUIREMENTS OF POWER SERVICE LINE TO THE METER BASE, WHEN REQUIRED. POWER SERVICE REQUIREMENT IS COMMERCIAL AC NOMINAL 120/208 VOLT OR 120/240 VOLT, SINGLE PHASE WITH 200 AMP RATING.
3. CONTRACTOR SHALL COORDINATE WITH LOCAL TELEPHONE COMPANY FOR SERVICE LINE REQUIREMENTS TO TERMINATE AT THE PPC CABINET.
4. CONTRACTOR SHALL FURNISH AND INSTALL ELECTRIC METER BASE AND 200A DISCONNECT SWITCH PER SITE PLAN DETAIL DRAWINGS AND PER LOCAL UTILITY COMPANIES SPECIFICATION, WHEN REQUIRED. THE METER BASE SHOULD BE LOCATED IN A MANNER WHERE ACCESSIBLE BY THE LOCAL POWER COMPANY.
5. LOCAL POWER COMPANY SHALL PROVIDE 200 AMP ELECTRIC METER. CONTRACTOR SHALL COORDINATE INSTALLATION OF METER WITH LOCAL POWER COMPANY.
6. UNDERGROUND POWER AND TELCO SERVICE LINES SHALL BE ROUTED IN A COMMON TRENCH. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40 AND CONDUIT EXPOSED ABOVE GROUND SHALL BE GALVANIZED RIGID STEEL TUBING UNLESS OTHERWISE INDICATED.
7. ALL TELCO CONDUIT LINES SHALL BE 4" SCH. 40 PVC CONDUIT UNLESS OTHERWISE INDICATED. THE TELCO CONDUIT FROM THE PPC SHALL BE ROUTED AND TERMINATED AT DESIGNATED TELCO DEMARCATION OR 2-FOOT OUTSIDE FENCED AREA, NEAR UTILITY POLE (IN FENCED AREA), OR END CAP OFF AND PROVIDE MARKER STAKE PAINTED BRIGHT ORANGE WITH DESIGNATION FOR TELCO SERVICE.
8. CONDUITS INSTALLED AT PCS EQUIPMENT ENDS PRIOR TO THE EQUIPMENT INSTALLATION SHALL BE STUBBED AND CAPPED AT 6" ABOVE GRADE OR PLATFORM. IF SERVICE LINES CAN'T BE INSTALLED INITIALLY, PROVIDE NYLON PULL CORD IN CONDUITS.
9. THE SPRINT CABINET, INCLUDING 200 AMP LOAD PANEL AND TELCO PANEL, SHALL BE PROVIDED BY OWNER AND INSTALLED BY THE CONTRACTOR. CONTRACTOR IS TO INSTALL BREAKER(S) NOT PROVIDED BY MANUFACTURER. SEE PANEL SCHEDULE ON THIS SHEET FOR BREAKER REQUIREMENTS.
10. LOCATION OF ELECTRIC METER AND DISCONNECT SWITCH TO BE PROVIDED BY GENERAL CONTRACTOR.
11. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTORS FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
12. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO ROUGH-IN.
13. THE CONDUIT RUNS AS SHOWN ON THE PLANS ARE APPROXIMATE. EXACT LOCATION AND ROUTING SHALL BE PER EXISTING FIELD CONDITIONS.
14. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR REQUIRED BY NEC.
15. ALL CONDUITS SHALL BE MET WITH BENDS MADE IN ACCORDANCE WITH NEC TABLE 346-10. NO RIGHT ANGLE DEVICE OTHER THAN STANDARD CONDUIT ELBOWS WITH 12" MINIMUM INSIDE SWEEPS FOR ALL CONDUITS 2" OR LARGER.
16. ALL CONDUIT TERMINATIONS SHALL BE PROVIDED WITH PLASTIC THROAT INSULATING GROUNDING BUSHINGS.
17. ALL WIRE SHALL BE TYPE THWN, SOLID, ANNEALED COPPER UP TO SIZE 1/10 AWG (18 AND LARGER SHALL BE CONCENTRIC STRANDED) 75 DEGREE C, (167 DEGREES F), 98" CONDUCTIVITY, MINIMUM #12.
18. ALL WIRES SHALL BE TAGGED AT ALL PULL BOXES, J-BOXES, EQUIPMENT BOXES AND CABINETS WITH APPROVED PLASTIC TAGS, ACTION CRAFT, BRADY, OR APPROVED EQUAL.
19. ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
20. CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION TO CONFLICTS. VERIFY WITH MECHANICAL CONTRACTOR AND COMPLY AS REQUIRED.
21. ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN NOT HAND WRITTEN.
22. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULLBOXES, AND ALL DISCONNECT SWITCHES, STARTERS, AND EQUIPMENT CABINETS.
23. THE CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS. DOCUMENT ANY AND ALL WIRING AND EQUIPMENT CONDITIONS AND CHANGES WHILE COMPLETING THIS CONTRACT. SUBMIT AT SUBSTANTIAL COMPLETION.
24. ALL DISCONNECT SWITCHES AND OTHER CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED PHENOLIC NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL FIELD LOCATIONS FED FROM (NO EXCEPTIONS.) PROVIDE SAMPLE FOR CONSTRUCTION MANAGER'S APPROVAL.
25. ALL ELECTRICAL DEVICES AND INSTALLATIONS OF THE DEVICES SHALL COMPLY WITH (ADA) AMERICANS WITH DISABILITIES ACT AS ADOPTED BY THE APPLICABLE STATE.
26. PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS OR RISERS THROUGH BUILDING. DO NOT PENETRATE STRUCTURAL MEMBERS WITHOUT CONSTRUCTION MANAGERS APPROVAL. SLEEVES AND/OR PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE PACKED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING OF THE WALL OR STRUCTURE. FILL FOR FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE, FIRE AND FUMES. ALL MATERIAL SHALL BE UL APPROVED FOR THIS PURPOSE.
27. ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT (NEW AND EXISTING) SHALL BE FIELD VERIFIED WITH THE OWNER'S REPRESENTATIVE AND EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN OF CONDUIT AND WIRE. ALL EQUIPMENT SHALL BE PROPERLY CONNECTED ACCORDING TO THE NAMEPLATE DATA FURNISHED ON THE EQUIPMENT (THE DESIGN OF THESE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AT THE TIME OF DESIGN AND SOME EQUIPMENT CHARACTERISTICS MAY VARY FROM DESIGN AS SHOWN ON THESE DRAWINGS).
28. LOCATION OF ALL OUTLET, BOXES, ETC., AND THE TYPE OF CONNECTION (PLUG OR DIRECT) SHALL BE CONFIRMED WITH THE OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.

EXISTING									
200 A. BUS 200 A. MAIN CIRCUIT BREAKER									
208 / 120 VOLT, 1 PHASE, 3 WIRE									
10000 AMPERE PANEL SHORT CIRCUIT RATING									
PANEL TYPE: SQUARE D									
PANEL MOUNTING: SURFACE									
NOTE: NEMA 3R ENCLOSURE PANELBOARD IS EXISTING									
DESCRIPTION	TOTAL (VA)	BREAKER A / P	CCT	PH	CCT	BREAKER A / P	TOTAL (VA)	DESCRIPTION	
SURGE ARRESTOR(E)		60 / 2	1	A	2	60 / 2		SPARE(E)	
RECEPT(E)	180	15 / 1	5	A	6	70 / 2		SPARE(E)	
BTS EQUIPMENT(E)	6200	100 / 2	7	B	8	100 / 2		SAMSUNG MMBS(N)	
SPARE(E)	6200	20 / 1	11	B	12	20 / 1		SPARE(E)	
SPACE(E)		20 / 1	13	A	14	20 / 1		SPACE(E)	
SPACE(E)			15	B	16			SPACE(E)	
SPACE(E)			17	A	18			SPACE(E)	
SPACE(E)			19	B	20			SPACE(E)	
SPACE(E)			21	A	22			SPACE(E)	
SPACE(E)			23	B	24			SPACE(E)	
LOAD TYPE									
CONNECTED LOAD		POWER FACTOR		KVA		LOAD FACTOR		NEC CALCULATED LOAD	
LIGHTING		0.0 KW @		100% =		0.0 @ 100% =		0.0 KVA	
INCANDESCENT		0.0 KW @		95% =		0.0 @ 100% =		0.0 KVA	
FLUORESCENT									
RECEPTACLES		0.2 KW @		100% =		0.2 @ 100% =		0.2 KVA	
FIRST 10 KW		0.0 KW @		100% =		0.0 @ 50% =		0.0 KVA	
REMAINDER									
MOTORS		0.0 KW @		80% =		0.0 @ 125% =		0.0 KVA	
LARGEST		0.0 KW @		80% =		0.0 @ 100% =		0.0 KVA	
REMAINDER									
OTHER		12.4 KW @		100% =		12.4 @ 100% =		12.4 KVA	
TOTAL		12.6 KW				12.6 KVA		12.6 KVA	
PHASE "A"		6.4 KW		PANEL		A-B		97% PHASE	
PHASE "B"		6.2 KW		POWER				BALANCE	
				FACTOR		100%			

LEGEND			
---	UNDERGROUND RACEWAY	---	GROUND CONDUCTOR
⎓	FUSED DISCONNECT	⎓	PANELBOARD
⎓	TRANSFORMER	⎓	FUSED DISCONNECT
⎓	FEEDER KEY	⎓	LOCAL DISCONNECT
⎓	GROUND	⎓	CIRCUIT BREAKER
⎓	PANELBOARD	⎓	GENERATOR RECEPTACLE
⎓	METER	⎓	AUTOMATIC/MANUAL TRANSFER SWITCH
⎓	ELECTRICAL EQUIPMENT ENCLOSURE	⎓	STAND-BY GENERATOR
⎓	ELECTRICAL SERVICE WEATHERHEAD	⎓	WP NEMA 3R ENCLOSURE

FEEDER SCHEDULE	
①	(3 #3/0) 2" C - EXISTING
②	(3 #3/0 & 1#6G) 2" C - EXISTING
③	(3 #2 & 1#6G) 1" C - NEW
④	(3 #12 & 1#12G) 1/2" C - NEW

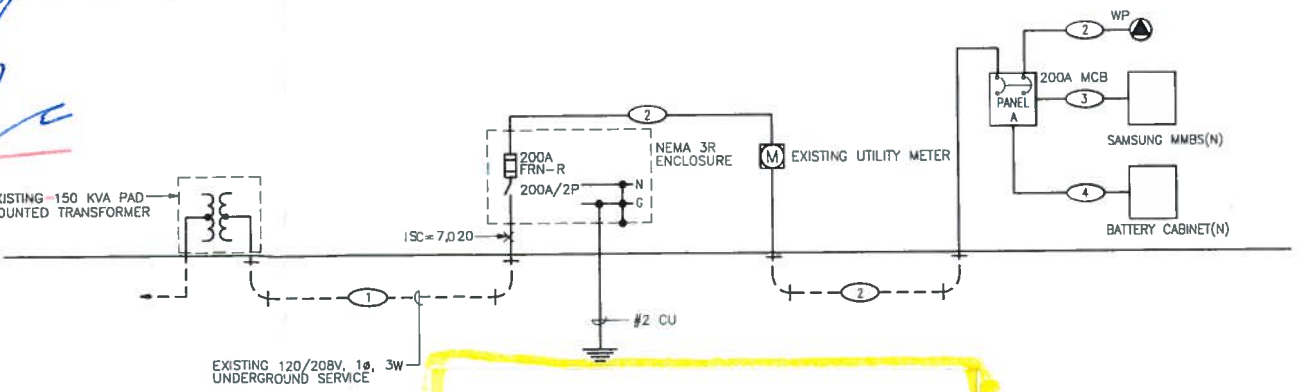
ALL NEW CONDUCTORS SHALL BE COPPER
COPPER 600V, RATED WITH THIN INSULATION

SCOPE OF WORK	
THE SCOPE OF WORK FOR THE PROJECT IS TO INSTALL A NEW SAMSUNG MMBS POWER CABINET AND A NEW SAMSUNG BATTERY CABINET. THE POWER SUPPLY FOR THE NEW EQUIPMENT WILL BE DERIVED FROM THE EXISTING PANELBOARD. THE EXISTING PANELBOARD WILL HAVE THE NEW 100A/2P BRANCH CIRCUIT BREAKER AND FEEDER TO THE NEW EQUIPMENT BUT THE BREAKER WILL BE IN THE "OFF" POSITION. ONCE THE NEW EQUIPMENT HAS BEEN INSTALLED CONTRACTOR WILL REMOVE THE EXISTING EQUIPMENT AND BRANCH CIRCUIT WIRING AND BREAKER AS SHOWN ON THE FINAL PANELBOARD SCHEDULE.	

FAULT CURRENT CALCULATION	
$I = \frac{2 \times 150 \times 25,000}{13923 \times 208} = 2.70$ $M = \frac{1}{1 + 2.70} = 0.27$ $0.27 \times 25,000 = 7,020 \text{ A SYM AVAILABLE}$	
NOTE: ALL EQUIPMENT SHOWN IS EXISTING UNLESS NOTED AS NEW(N).	
ELECTRICAL LOAD ADDED THIS CONTRACT 7.2KVA OR 34.6 AMPS @ 208V.	

NOTE: ALL EQUIPMENT SHOWN IS EXISTING UNLESS NOTED AS NEW(N).

ELECTRICAL LOAD ADDED THIS CONTRACT 7.2KVA OR 34.6 AMPS @ 208V.



Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation 2009 IBC 105.4

CTRICAL ONE-LINE DIAGRAM 2

Sprint

SAMSUNG

MasTec Network Solutions

KDC ARCHITECTS, ENGINEERS, P.C.
5600 S. QUEBEC ST., SUITE 1000
GREENWOOD VILLAGE, CO 80111
PHONE: 303.750.6999
FAX: 303.750.0236

PROJECT INFORMATION:
NETWORK VISION MMBS LAUNCH
WALGREENS
DN63XC021
15301 EAST ILIFF AVENUE
AURORA, CO 80013
ARAPAHOE COUNTY

ISSUE DATE: 08/08/13

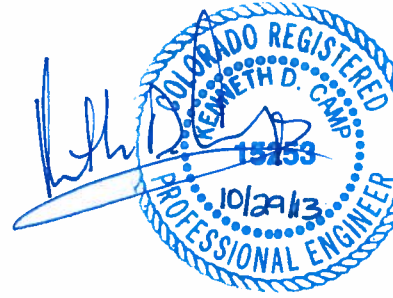
ISSUED FOR: CONSTRUCTION DWGS

REVISIONS				
REV.	DATE	DESCRIPTION	INITIALS	
A	01/16/13	ISSUED FOR CONSTRUCTABILITY REVIEW	PK	
B	04/02/13	ISSUED FOR 100% CD REVIEW	PK	
O	05/03/13	ISSUED FOR CONSTRUCTION	CP	
1	08/08/13	REVISED PER RF COMMENTS	ET	

Legibly identify each breaker or switch for its use or purpose on the circuit directory in the panel/switchboard per 2011 NEC 408.4.

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

LICENSURE:



SHEET TITLE:
ONE-LINE DIAGRAM & POWER PANEL SCHED.

SHEET NUMBER: E-1
REVISION: 1
248062