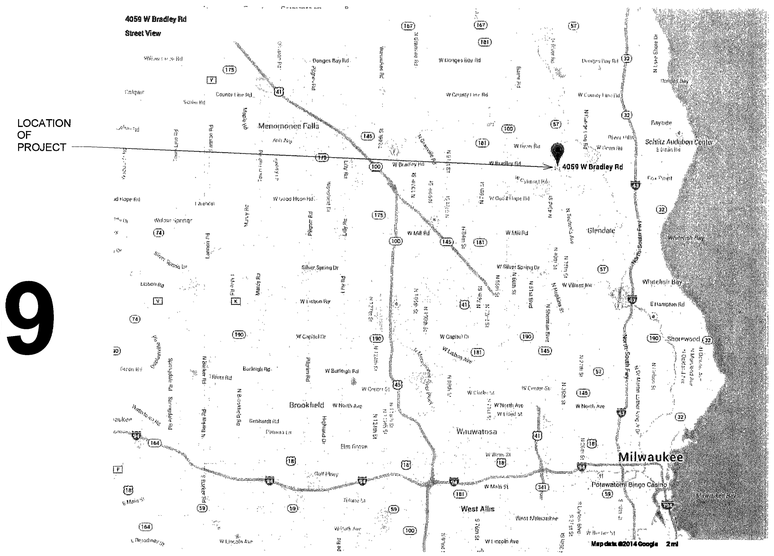
METRO STORAGE
4059 W. BRADLEY ROAD
BROWN DEER, WISCONSIN 53209

NOTE: LICENSED SPRINKLER CONTRACTOR TO PROVIDE DRAWINGS FOR CHANGING HEIGHT AND LOCATION OF SPRINKLER HEADS ON BOTH FLOORS OF OFFICE BUILDING AND TO INSPECT ENTIRE EXISTING SYSTEM AND MAKE ANY NECESSARY REPAIRS/CHANGES TO BRING THE SYSTEM TO CODE

Building
Conditionally
APPROVED
DEPT. OF SAFETY AND PROFESSIONAL SERVICES
DIVISION OF INDUSTRY SERVICES
Warren D. Emler
SEE CORRESPONDENCE

APPLICABLE CODES:
2009 International Building Code
2009 International Energy Conservation Coc
2009 International Existing Building Code
2009 International Fuel Gas Code
2009 International Mechanical Code



SITE LOCATION

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A1.3	EXTERIOR SIGNAGE
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A4.0	OFFICE WALL SECTIONS
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M7.1	MECHANICAL SPECIFICATIONS AND NOTES
M9.1	MECHANICAL SPECIFICATIONS AND NOTES
M9.2	MECHANICAL NOTES AND SPECIFICATIONS
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P2.2	1ST FLOOR PLUMBING PLAN
SE-1	ELECTRICAL SITE PLAN

BUILDING A
1) OCCUPANCY CLASSIFICATION: CLASS S-1 MODERATE-HAZARD STORAGE
2) CONSTRUCTION TYPE: TYPE II B
3) BUILDING HEIGHT: 3 STORIES ALLOWED, 1 STORY PROPOSED
4) BUILDING AREA: 17,500 SQ. FT. ALLOWED, PROPOSED BLDG. A-4,000 SQ. FT.
5) EGRESS TRAVEL DISTANCE: NOT APPLICABLE
6) FIRE RESISTIVE CONSTRUCTION REQUIREMENTS: EXTERIOR WALLS: NO FIRE RATING ON EXTERIOR WALLS REQUIRED.
7) BUILDING IS NOT SPRINKLED
8) OCCUPANT LOAD: NOT OCCUPIED

BUILDING B
1) OCCUPANCY CLASSIFICATION: CLASS S-1 MODERATE-HAZARD STORAGE
2) CONSTRUCTION TYPE: TYPE II B
3) BUILDING HEIGHT: 3 STORIES ALLOWED, 1 STORY PROPOSED
4) BUILDING AREA: 17,500 SQ. FT. ALLOWED, PROPOSED BLDG. A-7,650 SQ. FT.
5) EGRESS TRAVEL DISTANCE: NOT APPLICABLE
6) FIRE RESISTIVE CONSTRUCTION REQUIREMENTS: EXTERIOR WALLS: NO FIRE RATING ON EXTERIOR WALLS REQUIRED.
7) BUILDING IS NOT SPRINKLED
8) OCCUPANT LOAD: NOT OCCUPIED

BUILDING C
1) OCCUPANCY CLASSIFICATION: CLASS S-1 MODERATE-HAZARD STORAGE
2) CONSTRUCTION TYPE: TYPE II B
3) BUILDING HEIGHT: 3 STORIES ALLOWED, 1 STORY PROPOSED
4) BUILDING AREA: 17,500 SQ. FT. ALLOWED, PROPOSED BLDG. A-10,000 SQ. FT.
5) EGRESS TRAVEL DISTANCE: NOT APPLICABLE
6) FIRE RESISTIVE CONSTRUCTION REQUIREMENTS: EXTERIOR WALLS: NO FIRE RATING ON EXTERIOR WALLS REQUIRED.
7) BUILDING IS NOT SPRINKLED
8) OCCUPANT LOAD: NOT OCCUPIED

BUILDING CODE DATA BUILDING #1
FULLY SPRINKLED

APPLICABLE BUILDING CODE - INTERNAIONAL BUILDING CODE 2009 W/WISCONSIN AMMENDMENTS

NO.	SECTION	ISSUE	CODE REQUIREMENT	ACTUAL
311.2	USE OR OCCUPANCY	USE GROUP S-1 MODERATE HAZARD STORAGE		
TABLE 601	CONSTRUCTION CLASSIFICATION	CONSTRUCTION TYPE 2B		
TABLE 503	HEIGHT LIMITATION	BUILDING HEIGHT	STORIES: 3 MAX.	
504.1		HEIGHT INCREASE	NOT NEEDED	
TABLE 503	AREA LIMITATION	CONSTRUCTION TYPE 2B	17,500 SQ. FT.	
506.1		AREA INCREASE - FRONTAGE	150%	
506.1		AREA INCREASE - SPRINKLERS	200%	
		CONVERSION FACTOR	64,662.5 sq. ft	52,800 sq. ft. BUILDING 19,280 sq. ft. SEPARATED INTO 2,900 sq. ft. 4 AREAS W/12" 5,350 sq. ft. CMU WALLS
TABLE 601	REQ'D FIRE-RESISITANCE RATINGS	EXTERIOR WALLS -LOAD BEARING (HRS.) EXTERIOR WALLS -NON LOAD BEARING (HRS.)	0' TO 5' 2 HRS, <5' TO <10' 1 HRS, <10 TO 30 0 HR. FIRE SEPARATION DISTANCE. >10 TABLE 602	0
		FIRE BARRIER WALLS	3	3
		FIRE ENCLOSURE OF EXISTS	1	1
		INTERIOR LOAD BEARING STRUCTURE	0	0
		FLOOR CONSTRUCTION	0	0
		ROOF CONSTRUCTION	0	0
TABLE 1003.2.2.2	OCCUPANT LOAD	STORAGE AREAS 300 SQ. FT./CCUPANT	37,508 SQ. FT. APPLICABLE /300=125 PEOPLE < 500	0
TABLE 1006.5	EXIT ACCESS TRAVEL DISTANCE	STORAGE AREAS 300 SQ. FT./CCUPANT	250'	LESS THEN 250'
1011.2	DEAD ENDS		25'	20'
TABLE 1006.5	MINIMUM NUMBER OF EXITS	STORAGE AREAS 300 SQ. FT./CCUPANT	125 PEOPLE < 500 2 EXITS	2 EXITS

3

(C402.4.1, C402.4.2) BUILDING ENVELOPE CONTAINS A CONTINUOUS AIR BARRIER THAT IS SEALED IN AN APPROVED MANNER AND EITHER CONSTRUCTED OR TESTED IN AN APPROVED MANNER.

(C402.4.3, C402.4.4) FACTORY BUILT FENESTRATION AND DOORS ARE LABELED AS MEETING AIR LEAKAGE REQUIREMENTS.

(C402.4.1.1) ALL SOURCES OF AIR LEAKAGE IN THE BUILDING ENVELOPE ARE SEALED, CAULKED, GASKETED, WEATHER STRIPPED WITH MOISTURE VAPOR-PERMEABLE WRAPPING MATERIAL TO MINIMIZE AIR LEAKAGE.

(C303.1.3) FENESTRATION PRODUCTS RATED IN ACCORDANCE WITH NRFC.

(C303.1.3) FENESTRATION PRODUCTS ARE CERTIFIED AS TO PERFORMANCE LABELS OR CERTIFICATES PROVIDED.

(C403.2.7, C408.2.8, C404.5) EXTERIOT INSTULATION PROTECTED AGAINST DAMAGE, SUNLIGHT, MOISTURE, WIND, LANDSCAOING AND EQUIPMENT MAINTANANCE ACTIVITIES.

(C303.2) ABOVE GRADE INSULATION INSTALLED PER MANUFACTURER'S INSTRUCTIONS.

(C303.1) BUILDING ENVELOPE INSULATION IS LABELED WITH R-VALUE OR INSULATION CERTIFICATE PROVIDING R-VALUE AND OTHER RELEVANT DATA.

(C303.2.1) EXTERIOR INSULATION IS PROTECTED FROM DAMAGE WITH A PRTECTIVE MATERIAL.

(103.2) PLANS AND /OR SPECIFICATIONS PROVIDE ALL INFORMATION WITH WHICH COMPLIANCE CAN BE DETERMINED FOR THE BUILDING ENVELOPE AND DOCUMENT WHERE EXCEPTIONS TO THE STANDARD ARE CLAIMED.

(C402.3.1) VERTICAL FENESTRATION AREA <= 30 PERCENT OF GROSS AREA.

(C402.3.1) SKYLIGHT AREA ,=3 PERCENT OF THE GROSS ROOF AREA.

GENERAL NOTES

ALL WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS

EACH CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND CONDITIONS W/ ARCHITECTURAL, MECHANICAL AND ELECTRICAL PLANS AND ASSUME FULL RESPONSIBILITY FOR SAME

- ANY DISCREPANCY IN PLANS TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH WORK. CONDUITS, DEPRESSED AREAS, FLOOR FINISHES, FILLS, ANCHORS, MASONRY DETAILS, HANGERS, CURBS AND OTHER MISC

-CONDUITS, DEPRESSED AREAS, FLOOR FINISHES, FILLS, ANCHORS, MASONRY DETAILS, HANGERS, CURBS AND OTHER MISC. ITEMS CONNECTED W/ CONCRETE CONSTRUCTION BEFORE PLACING CONCRETE

- ALL TRENCH BOTTOMS TO BEAR ON UNDISTURBED AND ORIGINAL SOIL CAPACITY 2500 PSF

AREA INCREASE:

$$A_a = A_t + \left[\frac{A_t I_f}{100}\right] + \left[\frac{A_t I_s}{100}\right]$$

$$I_f = \left[\frac{F}{P} - 0.25\right] \frac{W}{30} = 100 \left[\frac{1283}{1283} - 0.25\right] \frac{27.8}{30} = 0.695$$

$$A_a = A_t + \left[\frac{A_t I_f}{}\right] + \left[\frac{A_t I_s}{}\right]$$

$$A_a = 17{,}500 + \left[\frac{17{,}500 \times 0.695}{}\right] + \left[\frac{17{,}500 \times 200}{}\right]$$

$$A_a = 17{,}500 + 12{,}162 + 35{,}000 = 64{,}662.5 \text{ sq. ft}$$

FILE COPY
BUILDING PLANS
CONDITIONALLY
APPROVED
VILLAGE OF BROWN DEER
OK KR 10/21/14

ABBREVIATIONS

M.C.J.	MASONRY CONTROL JOINT
STL.	STEEL
T.O.M.	TOP OF MASONRY
T.O.S.	TOP OF STEEL
T.O.C.	TOP OF CONCRETE
T.O.W.	TOP OF WALL
TBD.	TO BE DETERMINED
O.C. OR O/C	ON CENTER
℄	CENTER LINE
F.G.	FINISH GRADE
F.F.	FINISH FLOOR
A.F.F.	ABOVE FINISH FLOOR
U.N.O.	UNLESS NOTED OTHERWISE
SIM.	SIMILAR
OPP.	OPPOSITE
N.I.C.	NOT IN CONTRACT

BY	REVISIONS	DATE
A	REVISED	4.22.14
2	REVISED	4.8.14
1	ISSUED FOR BID	3.11.14
MK	ISSUED FOR PERMIT	8.11.14

URBAN & ASSOCIATES ARCHITECTS, INC.
2529 ILLINOIS ROAD, NORTHBROOK, ILLINOIS 60062
WWW.URBANASSOCIATES.NET (847) 291-9570

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SHEET TITLE: TITLE SHEET
Drawn BY: MJ/KR | Job #: 2012 | Scale: 1/128" = 1'-0" | Checked By: CMU | Date: 8.12.14

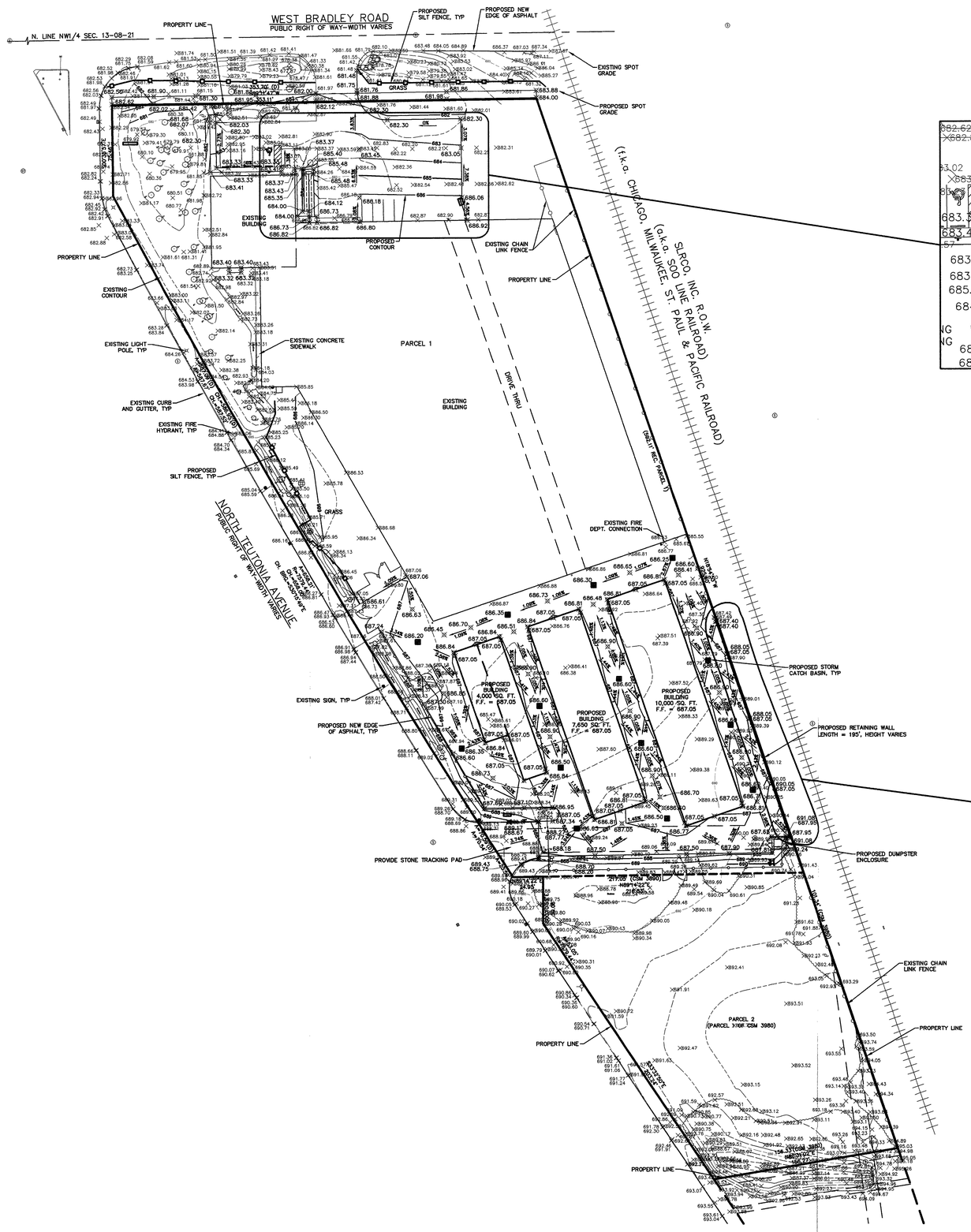
PROJECT NAME: METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

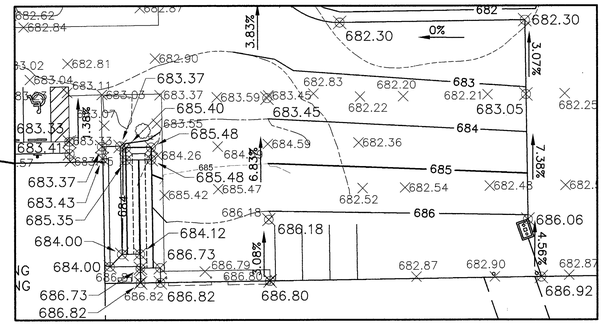
CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES 1/31/2015

WISCONSIN CHRISTOPHER URBANCZYK 928A-005 NORTHBROOK IL ARCHITECT

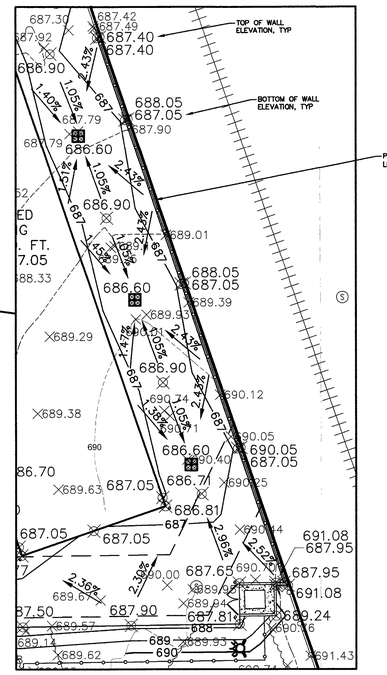
8.12.14

A1.0





DETAIL 2
1" = 20'



DETAIL 1
1" = 20'

NOTES:

1.) ALL EROSION CONTROL DEVICES SHALL BE IN PLACE PRIOR TO ANY LAND DISTURBANCE ACTIVITIES. DEVICES SHALL BE INSTALLED AND MAINTAINED PER WISCONSIN DEPARTMENT OF NATURAL RESOURCES BEST MANAGEMENT PRACTICES (BMPs), TECHNICAL STANDARDS.

2.) CONTRACTOR SHALL VERIFY ALL ELEVATIONS IN FIELD PRIOR TO START OF CONSTRUCTION.

3.) ALL WORK WITHIN PUBLIC RIGHT OF WAY SHALL BE COORDINATED WITH THE VILLAGE OF BROWN DEER.

4.) CONTRACTOR SHALL COORDINATE ALL UTILITY WORK WITH APPROPRIATE PUBLIC UTILITY COMPANIES.

5.) CONTRACTOR TO PROVIDE ALL NECESSARY TRAFFIC CONTROL DURING CONSTRUCTION.

CONSTRUCTION SEQUENCE:

1.) INSTALL ALL EROSION CONTROL DEVICES.

2.) ROUGH GRADING.

4.) CONSTRUCTION OF FOUNDATIONS AND BUILDINGS.

5.) INSTALLATION OF UNDERGROUND UTILITIES.

6.) FINAL GRADING.

7.) CONSTRUCT CURB AND GUTTER.

8.) INSTALL LANDSCAPING.

9.) INSTALL ASPHALT PAVING AND STRIPING.

10.) REMOVAL OF EROSION CONTROL DEVICES UPON SITE STABILIZATION.

SCALE IN FEET
40' 0 40'

TO OBTAIN LOCATIONS OF PARTICIPANTS UNDERGROUND FACILITIES IN WISCONSIN, DIAL 1-800-242-8511
MEMBER
ONE CALL SYSTEMS INTERNATIONAL
CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE
WIS STATUTE 182.0175(1974) REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE
MILW. AREA 259-1181

WISCONSIN
SCOTT ODYA
39857
WAUKESHA
REGISTERED PROFESSIONAL ENGINEER

REVISION NO.	DESCRIPTION	DATE	BY

DESIGNED BY	RCM	DATE	03/11/14
DRAWN BY	RCM	DATE	03/11/14
APPROVED BY	SAO	DATE	03/11/14

CADFILE G:\Projects\2402010 - Metro Storage\C-3.dwg
XREF
LMAN

GRADING AND EROSION CONTROL PLAN
4059 WEST BRADLEY ROAD
METRO STORAGE LLC
BROWN DEER, WISCONSIN

"THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO."

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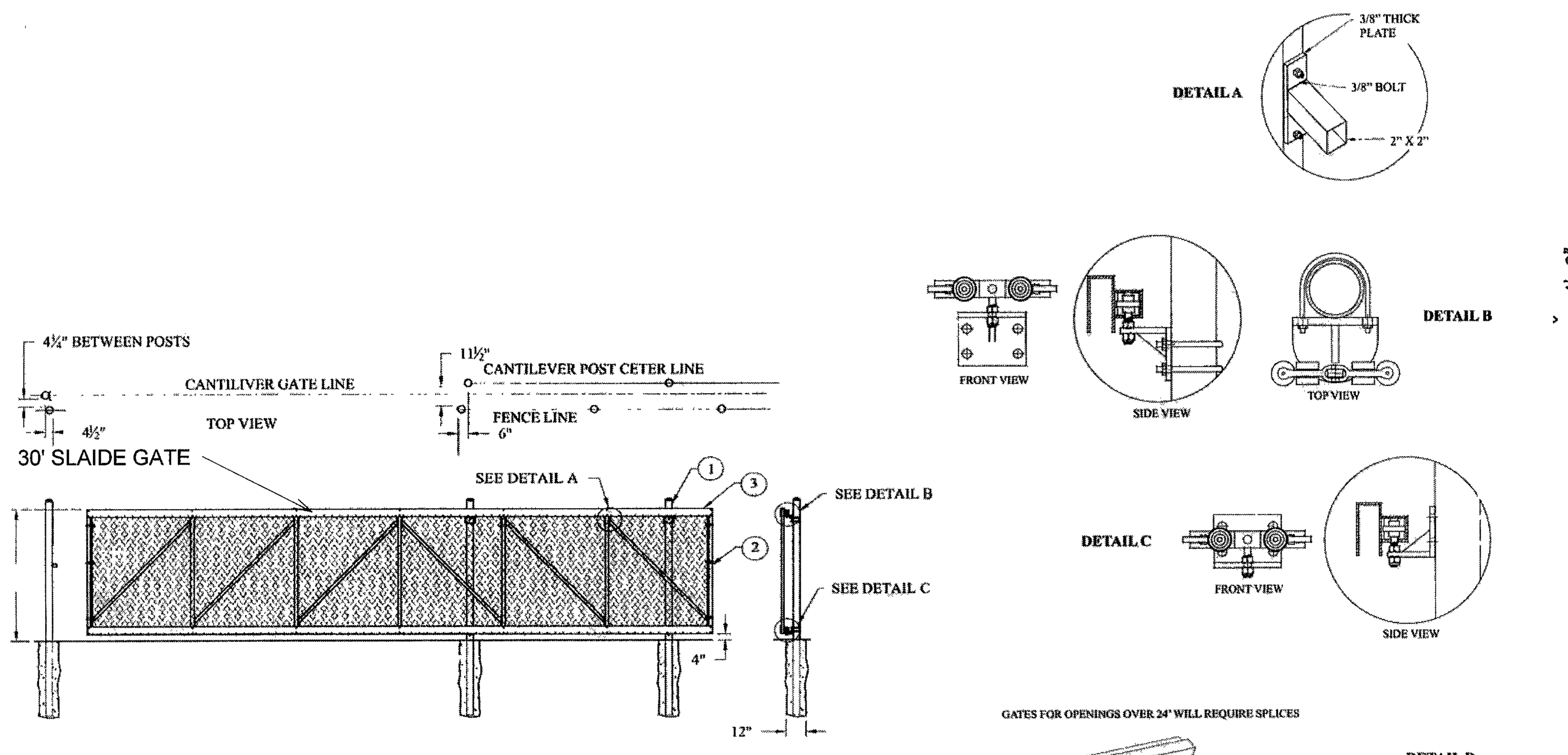
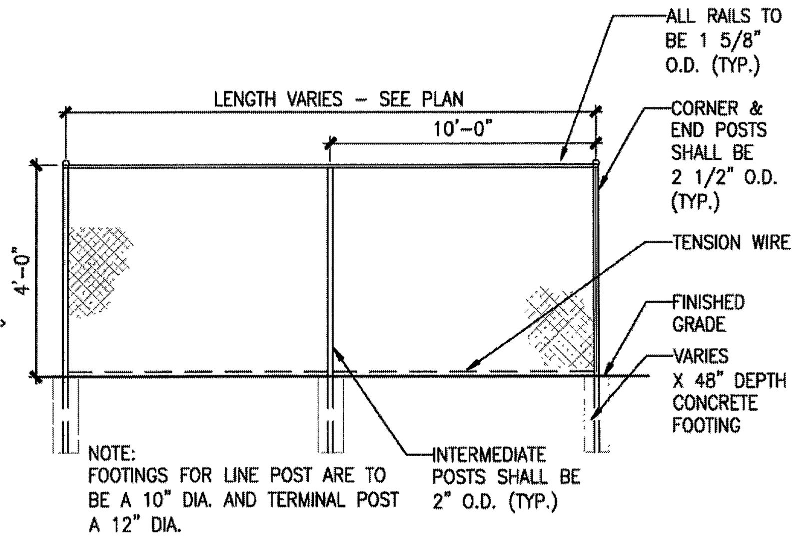
KEY ENGINEERING GROUP LTD.
735 NORTH WATER STREET, SUITE 510
MILWAUKEE, WI 53202
414.224.8300 (tel) - 414.224.8383 (fax)

KEY PROJECT NUMBER	2402010
PROJECT SCALE	1" = 40'
SHEET NUMBER	C-3

Aug 27, 2014 - 8:57am - G:\Projects\2402010 - Metro Storage\C-3.dwg



2 SLIDING GATE DETAIL



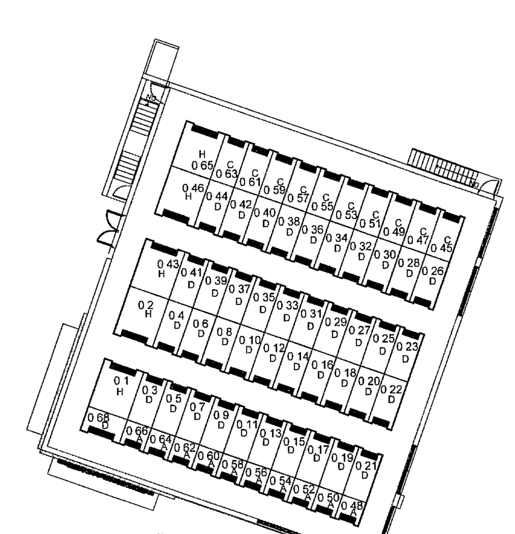
3 CHAIN LINK FENCE DETAIL

Project:	Metro	Brown Deer									
Architect:	C. Urbanczyk										
Date:	8/23/14										
			BLDG								
		Unit Size	climate contr. office	CC bldg	bldg C	bldg B	bldg A			Total Units	Leasable SF
A	5 x 5	25	30	74	0	0	0			104	2600
B	5 x 7	35	0	1	0	0	0			1	35
C	5 x 9.5	47.5	11	6	0	0	0			17	807.5
D	5 x 10	50	41	27	0	18	0			86	4300
E	5 x 12	60	2	1	0	0	0			3	180
F	5 x 15	75	2	7	0	0	0			9	675
G	10 x 7.5	75	1	0	0	0	0			1	75
H	10 x 10	100	5	157	10	0	0			172	17200
J	10 x 11	110	0	1	0	0	0			1	110
K	10 x 12	120	0	7	0	0	0			7	840
L	10 x 15	150	8	16	0	0	0			24	3600
M	10 x 20	200	1	48	18	15	20			102	20400
N	10 x 22	220	0	8	0	0	0			8	1760
P	10 x 25	250	0	41	0	15	0			56	14000
R	10 x 30	300	0	16	18	0	0			34	10200
S	10 x 35	350	0	1						1	350
V	10 x 17	170	0	4						4	680
X	10 x 15	150	0	1						1	150
Y	10 x 17	170	0	2						2	340
Z	13 x 13.75	178.75	0	1						1	178.75
AA	7 x 13	91	0	1						1	91
BB	20 x 13	260	0	1						1	260
GD Unit Count			101	421	46	48	20			625	
		Net Rentable	5,568	49,565	10,000	7,650	4,000				76,783

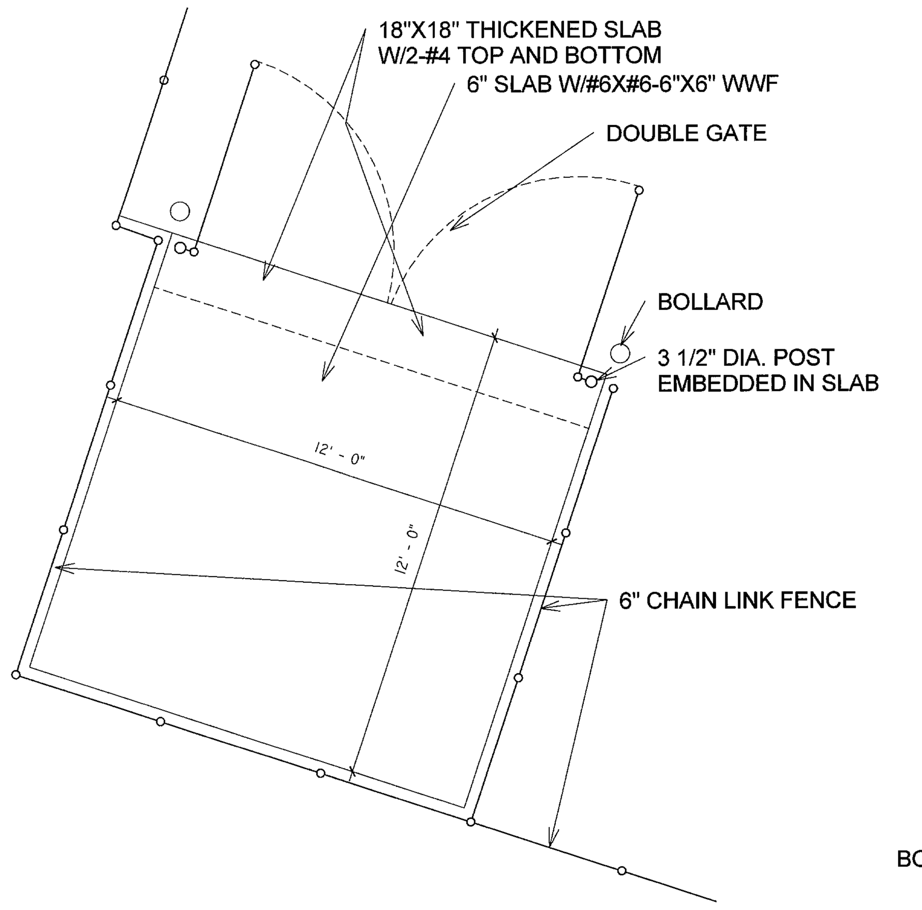
	office	CC bldg	bldg 1	bldg 2	bldg 3		
Floor Efficiency	52.3%	65.8%	100.0%	100.3%	100.0%		#DIV/0!

Gross Area Office	climate	10,639	Average Unit Size:		55.12	SF
Gross Area CC Bldg	climate	75,337	Average Unit Size:		117.73	SF
Gross Area Bldg #1	no-climate	10,000	Average Unit Size:		217.39	SF
Gross Area Bldg #2	no-climate	7,625	Average Unit Size:		159.38	SF
Gross Area Bldg #3	no-climate	4,000	Average Unit Size:		200.00	SF
	no-climate	0	Average Unit Size:			SF
	no-climate	0	Average Unit Size:			SF
All BLDG Gross SF		107,601				
(Loading Area of ~1190 sf incl)						
(Office Area of ~620 sf incl)						
Total Gross Area:		107,601				

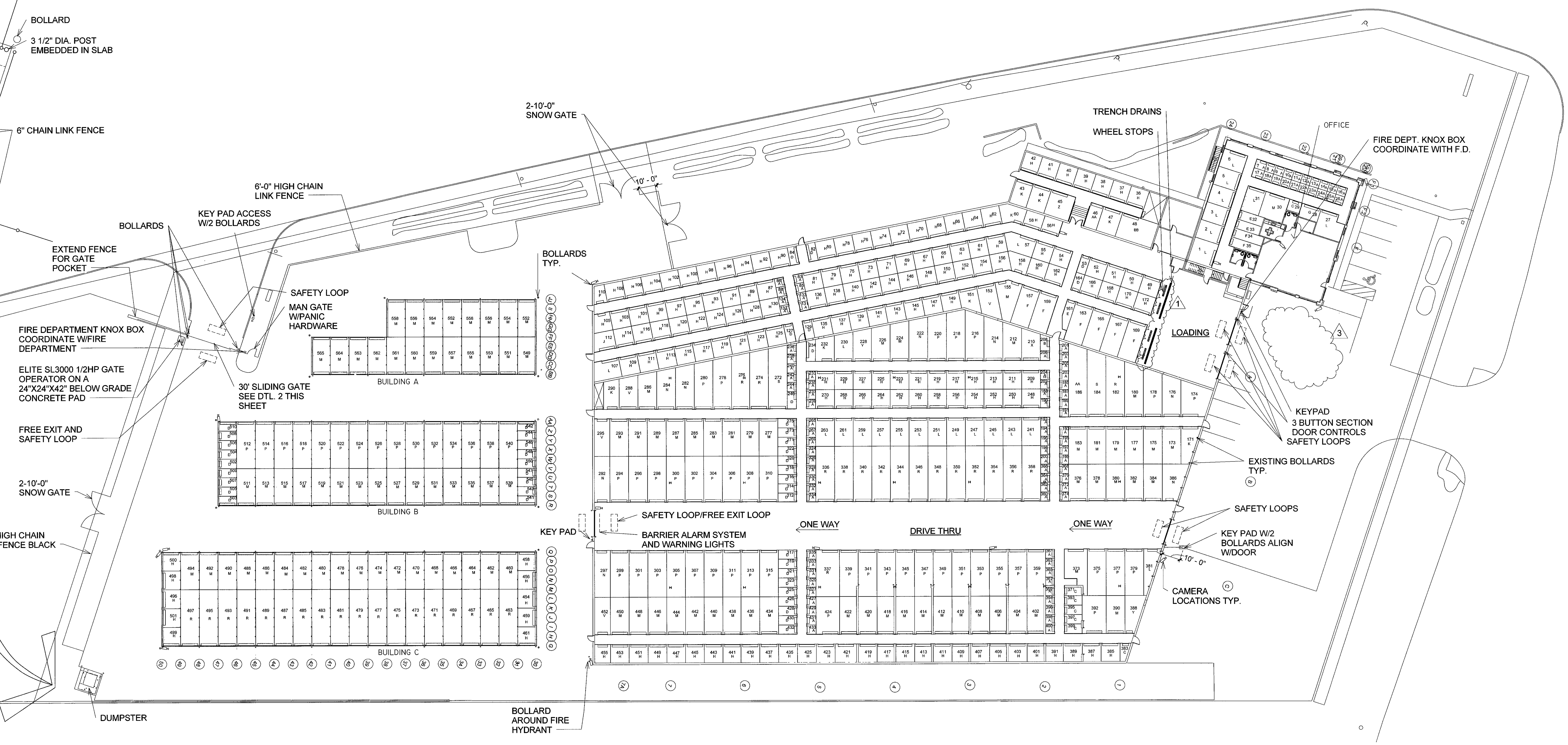
Total ALL Net Rentable SF:	76,783 SF
Building Efficiency:	71.4%
ALL Average Unit Size:	122.85 SF



2ND FLOOR OFFICE



2 TRASH PAD PLAN
A1.1 1/4" = 1'-0"



1 Overall Site plan/Unit Mix
A1.1 1" = 30'-0"

MK	DATE	REVISIONS	BY
3	9.22.14	REVISED	
2	9.8.14	REVISED	
1	8.17.14	ISSUED FOR BID	
	8.11.14	ISSUED FOR PERMIT	

URBAN & ASSOCIATES ARCHITECTS, INC.
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SHEET TITLE
SITE PLAN/UNIT MIX

DRAWN BY | AUTHOR | DATE 3.10.14 | SCALE AS INDICATED
CHECKED BY | CHECKER | PROJECT NUMBER 1428

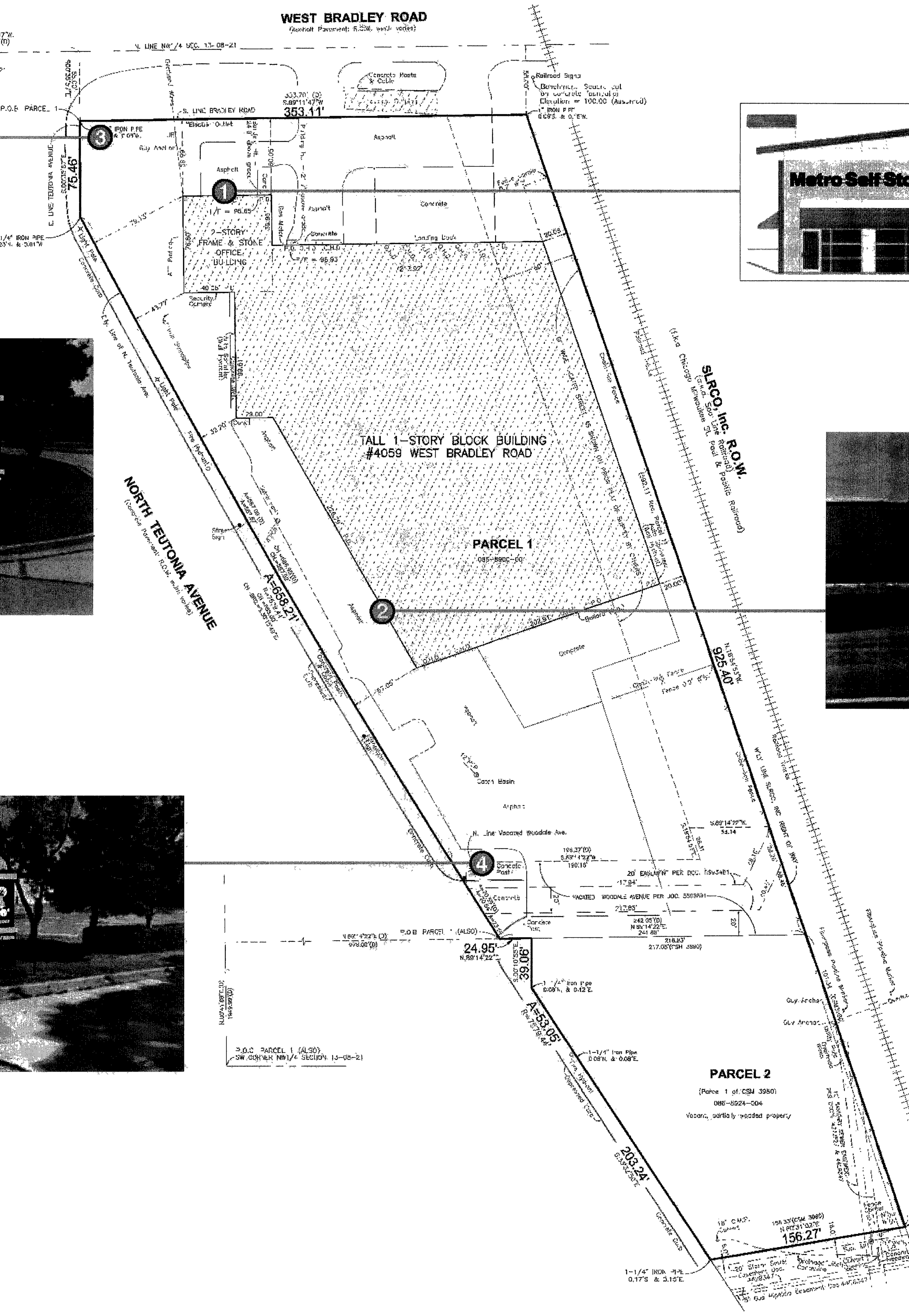
PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

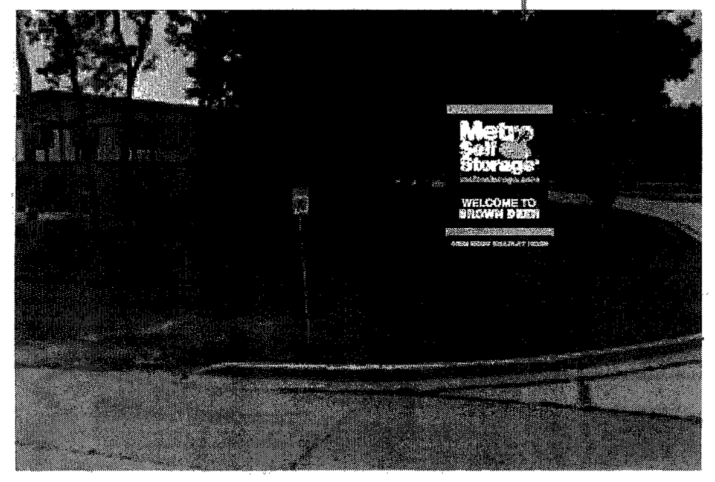
CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES 7/31/2016

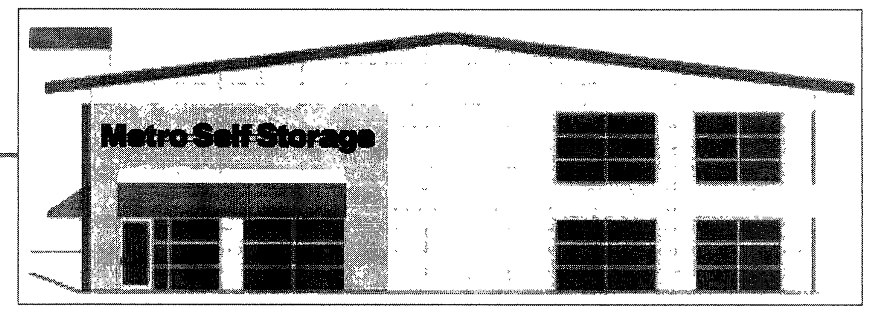
WISCONSIN CHRISTOPHER URBANCZYK 9284-005 NORTHBROOK IL ARCHITECT

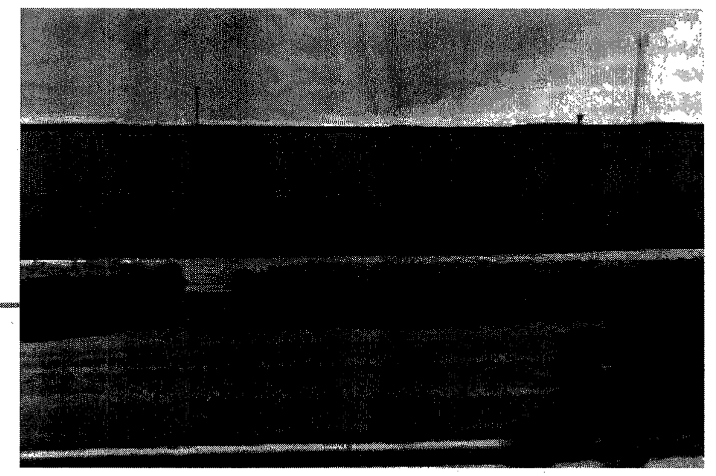
8.12.14

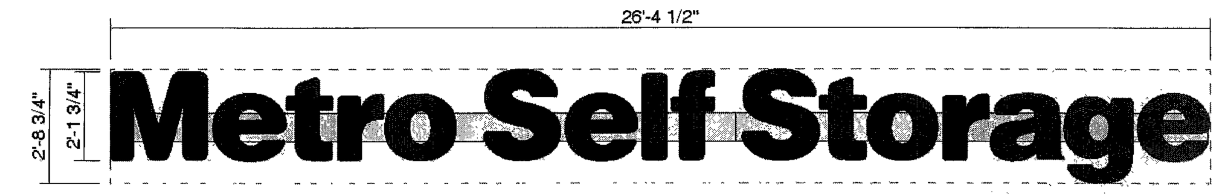
A1.1

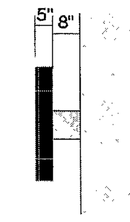












1 FACE-LIT INTERNALLY ILLUMINATED CHANNEL LETTERS – RACEWAY MOUNTED 72 SQ. FT.

(1 of 2) REQUIRED

LETTER CONSTRUCTION
BACKS: .040" WHITE / WHITE ALUMINUM
BAFFLE: N/A
RETURNS: 5" DEEP, .040" ALUMINUM, BLACK
TRIM CAP: 1" BLACK
RETAINER: N/A
SELF-CONTAINED: N/A
REMOTE: N/A
RACEWAY: YES

FACE DETAILS
PLEX: 3/16" TRANSLUCENT WHITE #2447
LEXAN: N/A
FIRST SURFACE VINYLS: YES

ILLUMINATION
LED: WHITE LED
VOLTAGE: 120V

REQUIREMENTS FOR ELECTRICAL ILLUMINATION
PRIMARY ELECTRICAL LOCATION IS PROVIDED BY OTHERS. A DEDICATED CIRCUIT WITH NO SHARED NEUTRALS AND A GROUND RETURNING TO THE PANEL IS REQUIRED FOR ALL INSTALLATIONS

REQUIRED BY UL STANDARD #2161 AND IMAGE WORKS, ALL TRANSFORMERS SHALL BE (GFI) GROUND FAULT INTERRUPTED TRANSFORMERS

ALL SIGNS HAVE:
- -DEDICATED BRANCH CIRCUITS
- -THREE WIRES: LINE, NEUTRAL & GROUND
- -WIRE SIZE: MINIMUM 12 GAUGE THN COPPER

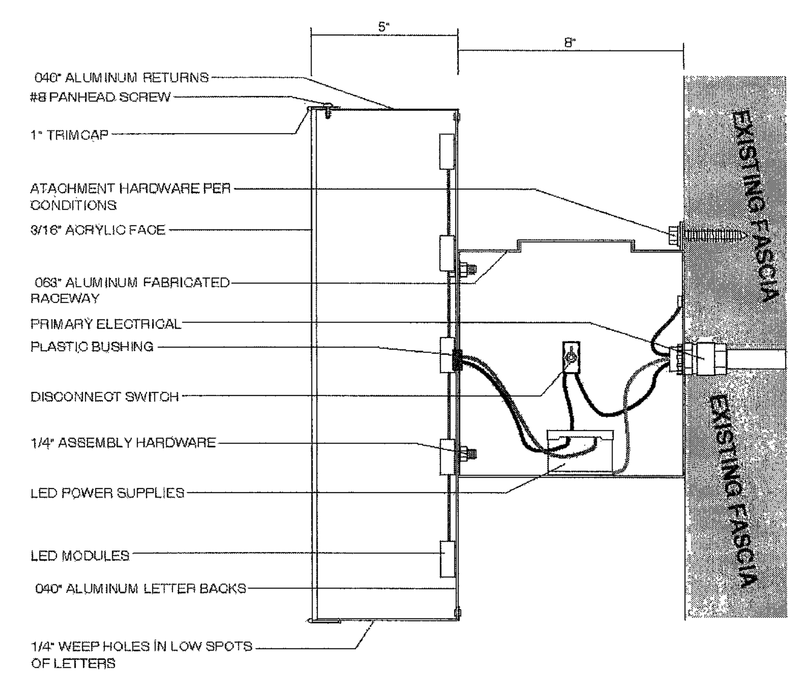
ALSO NOTE; GAUGE OF COPPER IS DETERMINED BY THE LENGTH OF RUN & AMPERAGE AS PER NEC ARTICLE 300.
- GROUND WIRE MUST BE CONTINUOUS AND GO FROM THE SIGN TO THE PANEL BOARD GROUND BUS
- -VOLTAGE SHOULD READ NO MORE THAN (3) VOLTS BETWEEN GROUND AND NEUTRAL
- CONDUIT CAN NOT BE USED AS A GROUND PATH.

COLOR KEY

VINYL
- 3M 3635-222 DUAL COLOR FILM PAINT PMS 357C GREEN TO MATCH 3M 3630-76 HOLLY GREEN

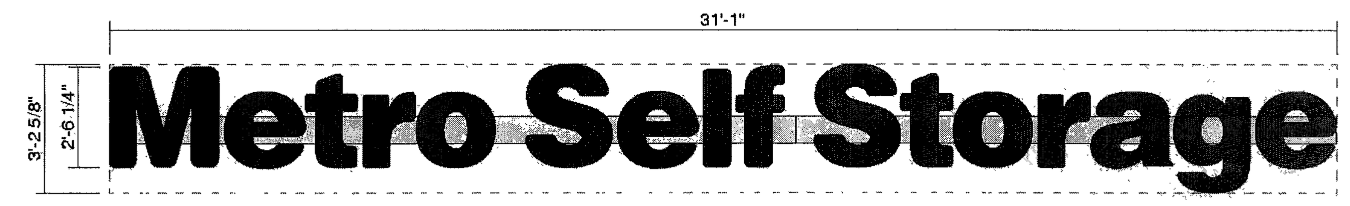
PAINT
- SATIN FINISH BLACK
- RACEWAY COLOR T.B.D.

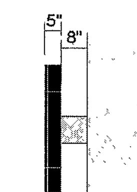
END VIEW



CHANNEL LETTER SECTION DETAIL N.T.S

NORTH ELEVATION - PROPOSED SIGNAGE
SCALE: 1/8" = 1'-0"





2 FACE-LIT INTERNALLY ILLUMINATED CHANNEL LETTERS – RACEWAY MOUNTED 100 SQ. FT.

(2 of 2) REQUIRED

LETTER CONSTRUCTION
BACKS: .040" WHITE / WHITE ALUMINUM
BAFFLE: N/A
RETURNS: 5" DEEP, .040" ALUMINUM, BLACK
TRIM CAP: 1" BLACK
RETAINER: N/A
SELF-CONTAINED: N/A
REMOTE: N/A
RACEWAY: YES

FACE DETAILS
PLEX: 3/16" TRANSLUCENT WHITE #2447
LEXAN: N/A
FIRST SURFACE VINYLS: YES

ILLUMINATION
LED: WHITE LED
VOLTAGE: 120V

REQUIREMENTS FOR ELECTRICAL ILLUMINATION
PRIMARY ELECTRICAL LOCATION IS PROVIDED BY OTHERS. A DEDICATED CIRCUIT WITH NO SHARED NEUTRALS AND A GROUND RETURNING TO THE PANEL IS REQUIRED FOR ALL INSTALLATIONS

REQUIRED BY UL STANDARD #2161 AND IMAGE WORKS, ALL TRANSFORMERS SHALL BE (GFI) GROUND FAULT INTERRUPTED TRANSFORMERS

ALL SIGNS HAVE:
- -DEDICATED BRANCH CIRCUITS
- -THREE WIRES: LINE, NEUTRAL & GROUND
- -WIRE SIZE: MINIMUM 12 GAUGE THN COPPER

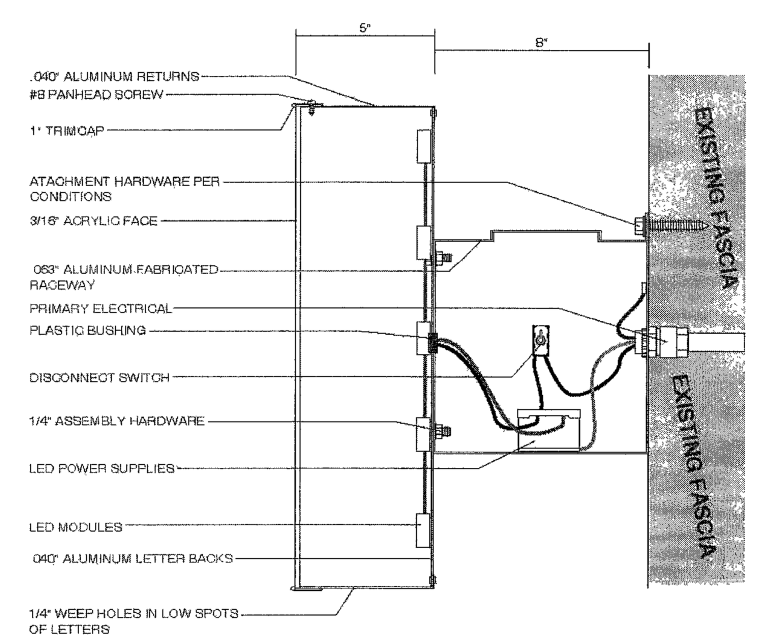
ALSO NOTE; GAUGE OF COPPER IS DETERMINED BY THE LENGTH OF RUN & AMPERAGE AS PER NEC ARTICLE 300.
- GROUND WIRE MUST BE CONTINUOUS AND GO FROM THE SIGN TO THE PANEL BOARD GROUND BUS
- -VOLTAGE SHOULD READ NO MORE THAN (3) VOLTS BETWEEN GROUND AND NEUTRAL
- CONDUIT CAN NOT BE USED AS A GROUND PATH.

COLOR KEY

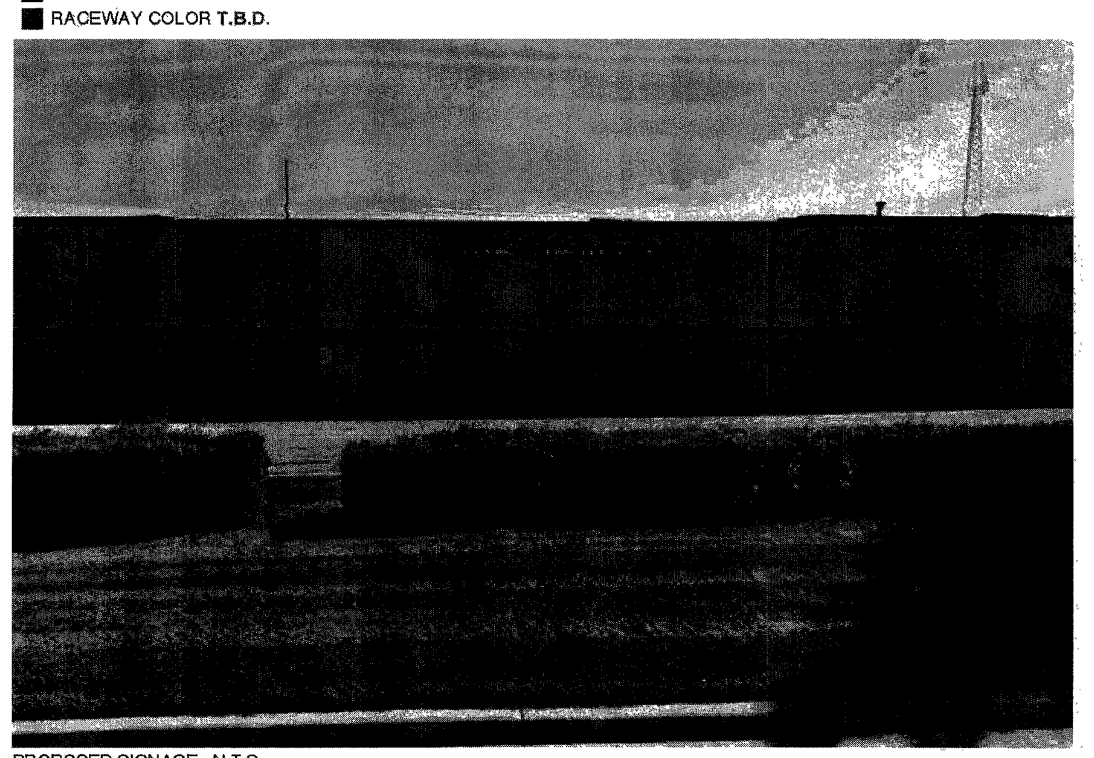
VINYL
- 3M 3635-222 DUAL COLOR FILM PAINT PMS 357C GREEN TO MATCH 3M 3630-76 HOLLY GREEN

PAINT
- SATIN FINISH BLACK
- RACEWAY COLOR T.B.D.

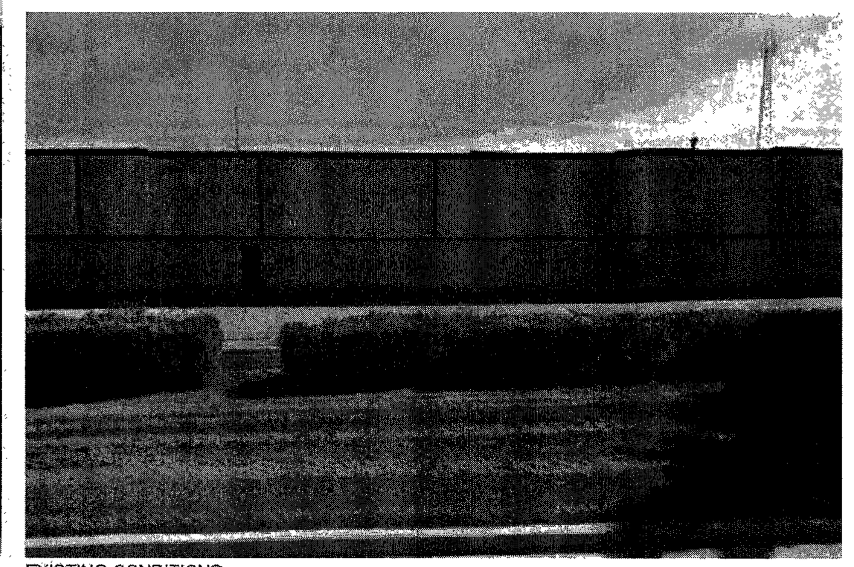
END VIEW



CHANNEL LETTER SECTION DETAIL N.T.S



PROPOSED SIGNAGE - N.T.S.



EXISTING CONDITIONS

MK	DATE	REVISIONS	BY
3	9.22.14	REVISED	
2	9.8.14	REVISED	
1	8.17.14	ISSUED FOR BID	
	8.11.14	ISSUED FOR PERMIT	

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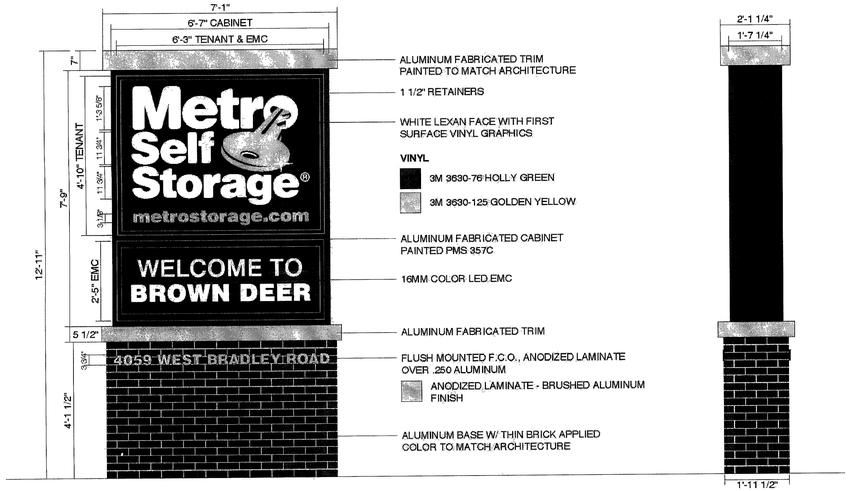
SHEET TITLE
EXTERIOR SIGNAGE

DRAWN BY	AUTHOR	DATE	3.10.14	SCALE	
CHECKED BY	CHECKER			PROJECT NUMBER	1428

PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

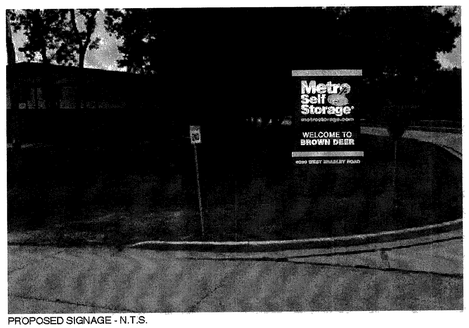
CHRISTOPHER M. URBANCZYK
REG ARCHITECT
COMMISSION EXPIRES 7/31/2016

AI.2

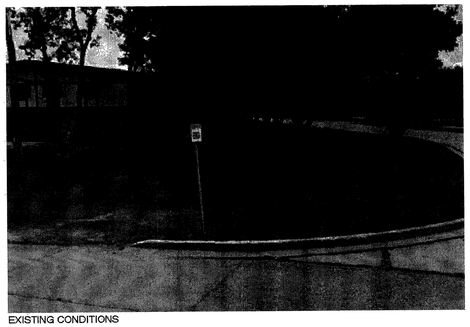


END VIEW

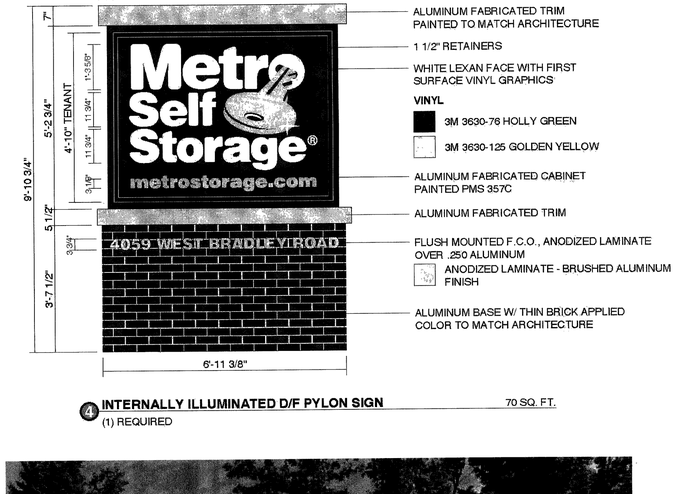
3 INTERNALLY ILLUMINATED D/F PYLON SIGN W/ EMC 70 SQ. FT.
(1) REQUIRED



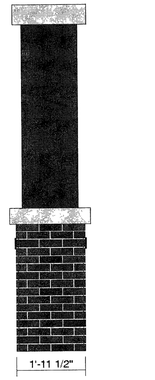
PROPOSED SIGNAGE - N.T.S.



EXISTING CONDITIONS

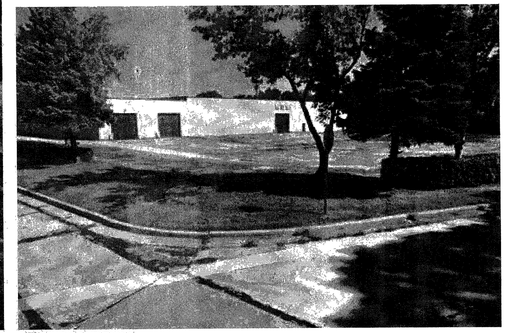


4 INTERNALLY ILLUMINATED D/F PYLON SIGN 70 SQ. FT.
(1) REQUIRED



END VIEW

PROPOSED SIGNAGE - N.T.S.



EXISTING CONDITIONS

BY	REVISIONS	DATE
	ISSUED FOR PERMIT	6.11.14
	REVISED FOR BID	6.5.14
	REVISED	4.22.14

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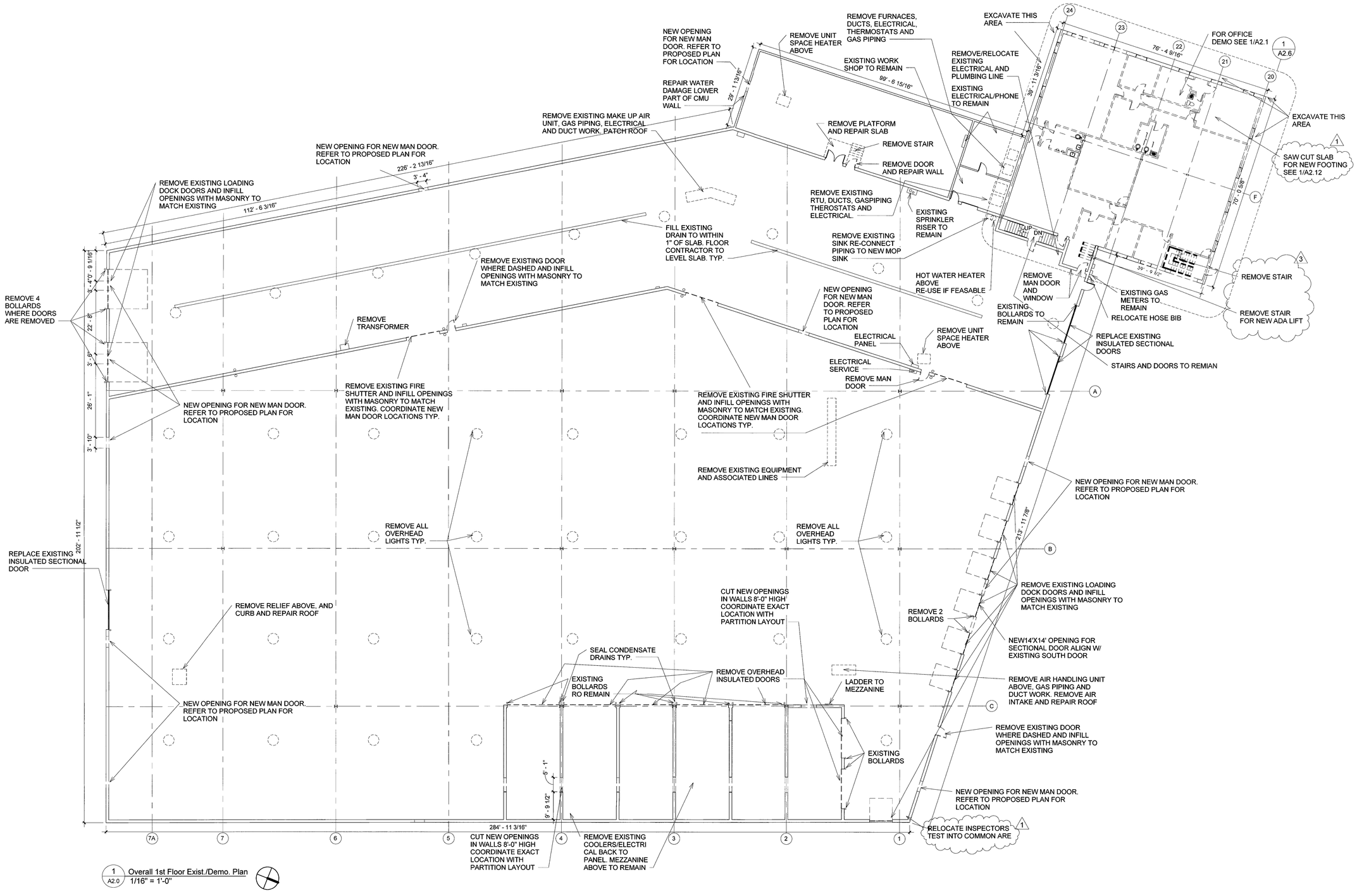
SHEET TITLE
EXTERIOR SIGNAGE

Drawn BY: | Checked BY: | DATE: 3.13.14 | SCALE: | PROJECT NUMBER: | 1429

PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES 7/31/2015

AI.3



1 A2.0 Overall 1st Floor Exist./Demo. Plan
1/16" = 1'-0"

MK	DATE	REVISIONS	BY
1	4.22.14	REVISED	
2	4.30.14	REVISED	
3	5.11.14	ISSUED FOR BID	
	5.11.14	ISSUED FOR PERMIT	

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SHEET TITLE
OVERALL EXISTING/DEMO FLOOR PLAN

Drawn By:	Journal	Date:	Scale:	1/8" = 1'-0"
Checked By:	CHECKER	5.10.14.	Project Number	CJB

PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN
DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES
7/31/2015

WISCONSIN CHRISTOPHER URBANCZYK 9284-005 NORTHBROOK IL ARCHITECT

8.12.14

A2.0

EXCAVATE FOR NEW FOUNDATION 3/A2.9

REMOVE WALL FOR NEW STOREFRONT

REMOVE ALL EXISTING WINDOWS AND REPAIR WALLS WHERE REQUIRED

REMOVE ALL INTERIOR NON LOAD BEARING WALLS WHERE DASHED

NOTE: REMOVE ALL NON LOAD BEARING PARTITIONS, CEILINGS AND ALL FINISHES BOTH FLOORS

REMOVE STAIR AND INFILL SLAB MATCH EXISTING CONCRETE AND METAL DECK

REMOVE PLUMBING FIXTURES AND CAP LINES

REMOVE ALL EXISTING WINDOWS AND REPAIR WALL WHERE REQUIRED

REMOVE STAIR

REPLACE DOOR 3

RELOCATE HOSE BIB LINE

SAW CUT SLAB FOR 3" DEPRESSED LIFT PIT. COORDINATED SIZE AND LOCATION WITH LIFT SHOP DRAWINGS

REPLACE DOORS 3

EXISTING STAIR AND WALLS TO REMAIN

SAW CUT SLAB FOR 3" DEPRESSED LIFT PIT BELOW OFFICE FLOOR. COORDINATED SIZE AND LOCATION WITH LIFT SHOP DRAWINGS

EXCAVATE FOR NEW FOUNDATION FOR STAIR SEE 1/A2.9 & 3/A2.9

1 A2.1 Office 1st Floor Exist./Demo. Plan
1/8" = 1'-0"

REMOVE WALL FOR NEW STOREFRONT

REMOVE ALL EXISTING WINDOWS AND REPAIR WALL WHERE REQUIRED

NOTE: REMOVE ALL PARTITIONS, CEILINGS AND FINISHES BOTH FLOORS

REMOVE STAIR AND INFILL SLAB MATCH EXISTING CONCRETE AND METAL DECK

RE-USE EXISTING DOOR IF POSSIBLE

REMOVE EXISTING RAILING

REMOVE MECHANICAL EQUIPMENT

NEW DOOR OPENING

2 A2.1 Office 2nd FloorExist./Demo. Plan
1/8" = 1'-0"

REMOVE ALL EXISTING LIGHT FIXTURES

REMOVE GUTTERS AND DOWNSPOUTS

REMOVE STONE VENEER ON 1ST FLOOR EXTERIOR TYP. THAT WILL BE EXPOSED AFTER INSTALLATION OF NEW WALLS

NEW OPENING FOR NEW MAN DOOR. REFER TO PROPOSED PLAN FOR LOCATION

REMOVE EXISTING DOOR AND INFILL OPENINGS WITH MASONRY TO MATCH EXISTING

NEW14'X14' OPENING FOR SECTIONAL DOOR ALIGN W/ EXISTING SOUTH DOOR REFER TO PROPOSED PLAN FOR LOCATION

REMOVE EXISTING LOADING DOCK DOORS AND INFILL OPENINGS WITH MASONRY TO MATCH EXISTING

NEW OPENING FOR NEW MAN DOOR. REFER TO PROPOSED PLAN FOR LOCATION

REPLACE EXISTING INSULATED SECTIONAL DOORS

REPLACE MAN DOOR

REMOVE WALL FOR NEW STOREFRONT

REMOVE ALL EXISTING TRIM & WINDOWS AND REPAIR WALLS WHERE REQUIRED

3 A2.1 Overall Exist./Demo North Elevation
1/16" = 1'-0"

REMOVE SOFFIT FOR NEW CLOCK TOWER

REMOVE GUTTERS AND DOWNSPOUTS

REMOVING ALL EXTERIOR LIGHT FIXTURES

REMOVE WALL FOR NEW STOREFRONT

REMOVE ALL EXISTING WINDOWS AND REPAIR WALLS WHERE REQUIRED

4 A2.1 Overall Exist./Demo. West Elevation
3/64" = 1'-0"

PAINT ALL COPING

REMOVE DOORS AND CLOSE OPENING MATCH EXISTING

NEW OPENING FOR NEW MAN DOOR. REFER TO PROPOSED PLAN FOR LOCATION

REPLACE DOOR

CUT NEW OPENINGS FOR MAN DOORS

REMOVE DOORS AND CLOSE OPENING MATCH EXISTING

5 A2.1 Overall Exist./Demo.South Elevation
3/64" = 1'-0"

REMOVE ALL EXISTING LIGHT FIXTURES

PAINT ALL COPING

REMOVE EXISTING LOADING DOCK DOORS AND INFILL OPENINGS WITH MASONRY TO MATCH EXISTING

REMOVE WALL FOR NEW STOREFRONT

6 A2.1 Overall East Elevation
1/16" = 1'-0"

BY	REVISIONS	DATE	ISSUED FOR PERMIT	ISSUED FOR BID	REVISED	REVISED
MK		8.11.14		8.11.14	8.11.14	4.22.14

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SHEET TITLE: OVERALL EXIST./DEMO. ELEVATIONS AND ENLARGED OFFICE EXISTING/DEMO PLANS

Drawn By: MK | Checked By: | Scale: 1/8" = 1'-0" | Date: 8.11.14 | Job No. | Project Number | Sheet: A2.1 | As Indicated

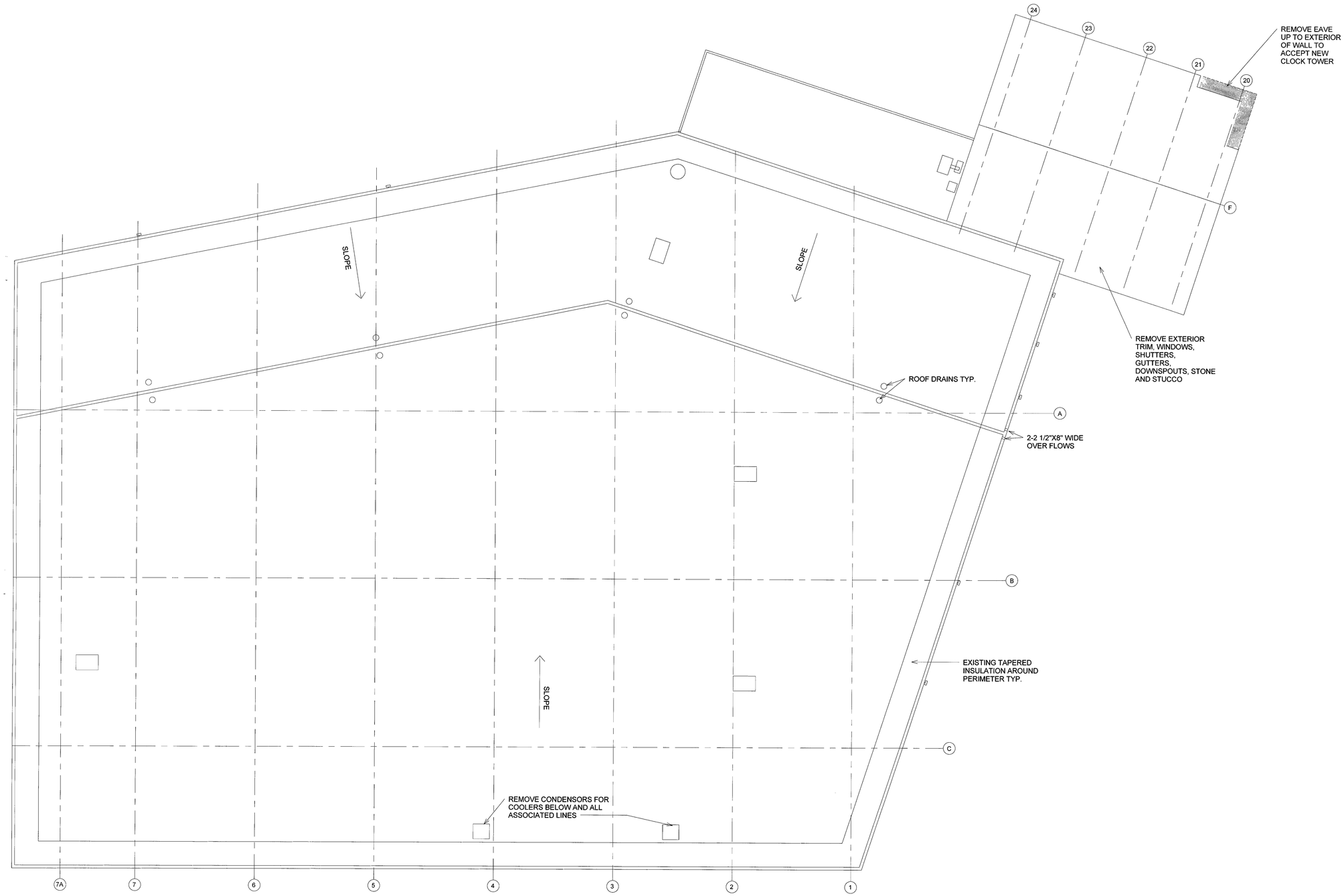
PROJECT NAME: METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
EXPIRES 7/31/2015

WISCONSIN CHRISTOPHER URBANCZYK 9281-005 NORTHBROOK IL ARCHITECT

8.12.14

A2.1



1 / A2.2 Overall Existing/Demo Roof Plan
1/16" = 1'-0"

BY	REVISIONS	DATE	MK
	REVISED	4.22.14	A
	REVISED	6.6.14	A
	REVISED PER BLD	6.11.14	A
	ISSUED FOR PERMIT	6.11.14	

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SHEET TITLE
OVERALL EXISTING/DEMO ROOF PLAN

Drawn By:	JH/CW	SCALE	1/16" = 1'-0"
Checked By:	CMU	3.5 %	PROJECT NUMBER 1425

PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN
DEER, WISCONSIN

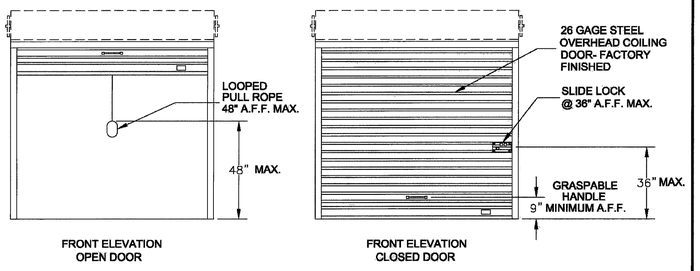
CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES
7/31/2015

WISCONSIN
CHRISTOPHER URBANCZYK
9284-005
NORTHBROOK, IL
ARCHITECT

8.12.14

A2.2

REV	DATE	ECN No.	DESCRIPTION	BY
–				



FRONT ELEVATION
OPEN DOOR

FRONT ELEVATION
CLOSED DOOR

ROLL-UP DOOR SHALL REQUIRE A MAXIMUM OF 5 POUNDS OF FORCE TO OPEN AND CLOSE.

Janus International Corporation
134 East Lake Road Temple, GA. 30179 770.562.2850 Janusintl.com

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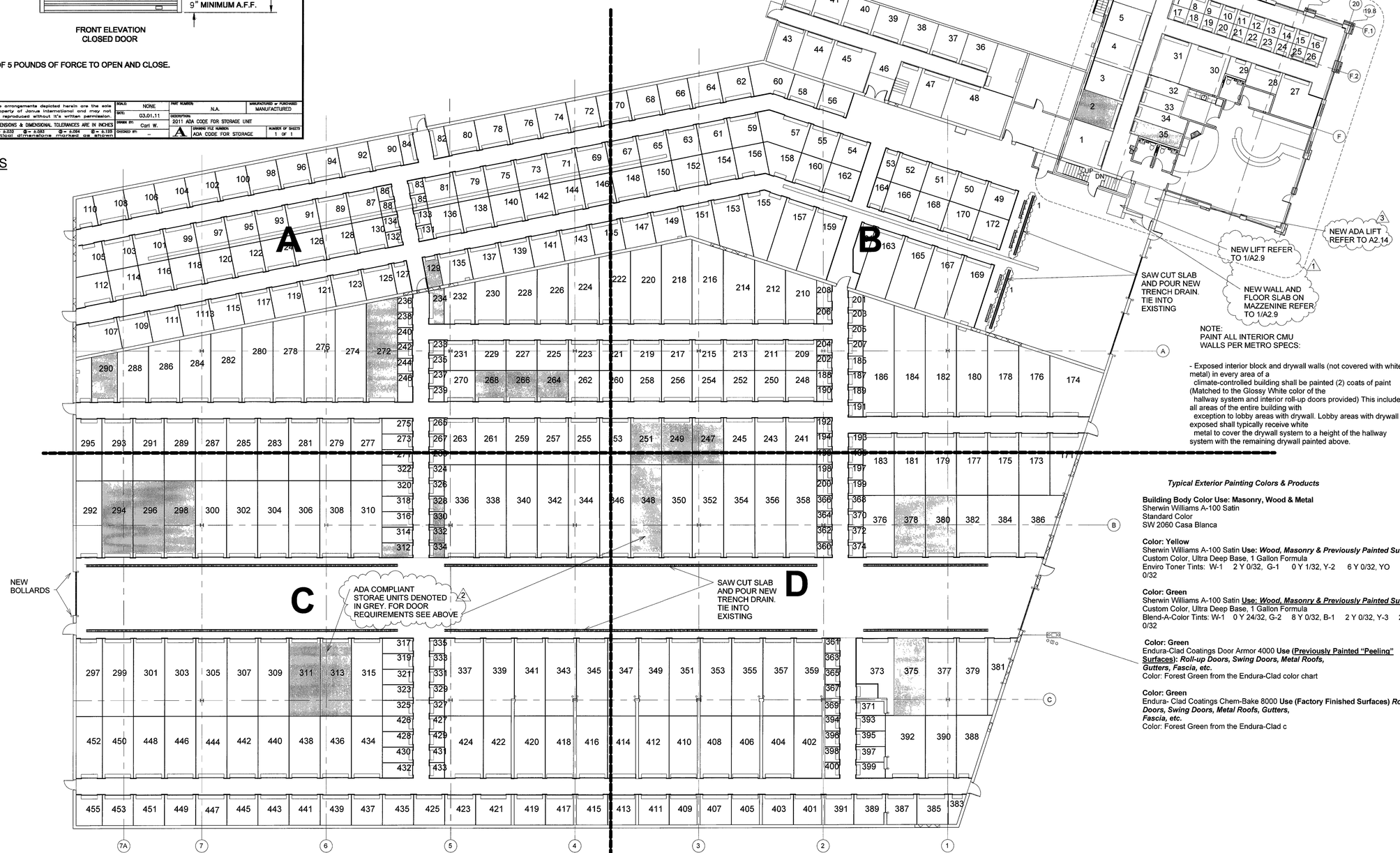
DIMENSIONS & DIMENSIONAL TOLERANCES ARE IN INCHES
② ± .032 ③ ± .063 ④ ± .094 ⑤ ± .125
critical dimensions marked as shown

SCALE:	NONE
DATE:	03.01.11
DRAWN BY:	Carl W.
CHECKED BY:	–
PART NUMBER:	N.A.
MANUFACTURED or PURCHASED:	MANUFACTURED
DESCRIPTION:	2011 ADA CODE FOR STORAGE UNIT
DRAWING YES' NUMBER:	A ADA CODE FOR STORAGE
NUMBER OF SHEETS:	1 OF 1

ADA DOOR SPECIFICATIONS



1 / A2.3 Proposed Overall 1st Floor Plan
1/16" = 1'-0"

NOTE:
PAINT ALL INTERIOR CMU
WALLS PER METRO SPECS:

- Exposed interior block and drywall walls (not covered with white metal) in every area of a climate-controlled building shall be painted (2) coats of paint (Matched to the Glossy White color of the hallway system and interior roll-up doors provided) This includes all areas of the entire building with exception to lobby areas with drywall. Lobby areas with drywall exposed shall typically receive white metal to cover the drywall system to a height of the hallway system with the remaining drywall painted above.

Typical Exterior Painting Colors & Products

Building Body Color Use: Masonry, Wood & Metal
Sherwin Williams A-100 Satin
Standard Color
SW 2060 Casa Blanca

Color: Yellow
Sherwin Williams A-100 Satin **Use:** ***Wood, Masonry & Previously Painted Surfaces***
Custom Color, Ultra Deep Base, 1 Gallon Formula
Enviro Toner Tints: W-1 2 Y 0/32, G-1 0 Y 1/32, Y-2 6 Y 0/32, YO 2 Y 0/32

Color: Green
Sherwin Williams A-100 Satin **Use: *Wood, Masonry & Previously Painted Surfaces***
Custom Color, Ultra Deep Base, 1 Gallon Formula
Blend-A-Color Tints: W-1 0 Y 24/32, G-2 8 Y 0/32, B-1 2 Y 0/32, Y-3 2 Y 0/32

Color: Green
Endura-Clad Coatings Door Armor 4000 **Use (Previously Painted "Peeling" Surfaces): *Roll-up Doors, Swing Doors, Metal Roofs, Gutters, Fascia, etc.***
Color: Forest Green from the Endura-Clad color chart

Color: Green
Endura- Clad Coatings Chem-Bake 8000 **Use (Factory Finished Surfaces) *Roll-up Doors, Swing Doors, Metal Roofs, Gutters, Fascia, etc.***
Color: Forest Green from the Endura-Clad c

MK	DATE	REVISIONS	BY
		REVISED	
A	9.22.14	REVISED	
A	9.30.14	REVISED	
A	9.11.14	REVISED FOR BID	
	8.11.14	ISSUED FOR PERMIT	

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SHEET TITLE: OVERALL PROPOSED FLOOR PLAN
Drawn By: | Scale: 1/16" = 1'-0" | Checked By: | Date: 9.15.14 | Project Number:

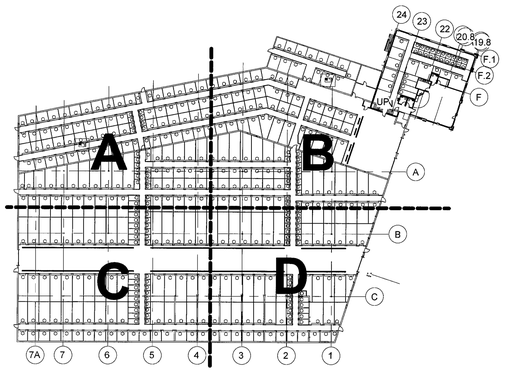
PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
EXPIRATION DATE: 7/31/2015

WISCONSIN
CHRISTOPHER URBANCZYK
928A-005
NORTHBROOK, IL
ARCHITECT

8.12.14

A2.3

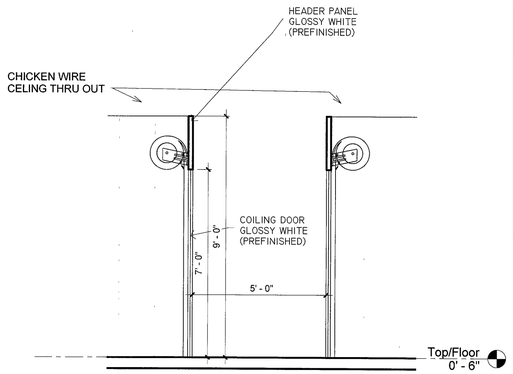


2 A2.4 Proposed Overall Floor Key Plan 1
1/64" = 1'-0"

WALL LEGEND

1. EXISTING 12" CMU WALL
2. EXISTING CMU AND STONE WALL
3. NEW 5/8" DRYWALL BOTH SIDES ON 3 5/8" 25 GA.METAL STUD @ 16" O.C
4. NEW 5/8" DRYWALL BOTH SIDES ON 6" 25 GA.METAL STUD @ 16" O.C
5. 2" CORRIDOR METAL WALL PANEL
6. 26 GA. METAL PARTITION PANEL
7. EXTERIOR PBR METAL PANEL
8. NEW 8"X8"X16" SPLIT FACE CMU WALL

1 A2.4 Proposed Floor Plan Quadrant A
1/8" = 1'-0"



3 A2.4 Corridor Section
3/8" = 1'-0"

- ***Buildings Concrete Floor Sealer***
- - Typical buildings shall receive 2 complete coats of floor sealer in the all of the common areas, units,
- utility rooms, stairwells and loading areas with (1) coat of clear sealer upon completion.
- - Standard Product: Benjamin Moore 100% Acrylic Epoxy Fortified Concrete Stain (072) 71 Deck Gray
- OR
- - H & C Silicone Acrylic Concrete Sealer, HC124 Silver Gray.
- - An Industrial sealer is required for the loading dock, drive through and lobby areas. Prime Coat PC **TerrazzoRock 326-03**
- - Clear sealer for concrete floors: Zep Shield Product #1971. Slip resistant water based sealer with a
- dry bright finish look for high durability and low maintenance.
- - Prior to the installation of the floor sealer on new or existing concrete the floor area shall be cleaned, shot blasted, grinded,
- sanded and/or etched completely per the manufactures instructions and/or recommendations for the product being used.
- - Oil and Grease spots shall be cleaned and removed per the manufactures recommendations.
- - All clean areas should be thoroughly rinsed and allowed to dry a minimum of 24 hours or until all dampness
- has evaporated from the floor area.
- - Surfaces should be inspected prior to coating to ensure that the cleaning and concrete etching process was successful.
- - Surfaces should be cleaned thoroughly again to remove any dust remaining after grinding, sanding or etching.
- - Any 3/16" or larger stress cracks shall be caulked with a clear paintable silicone caulk prior to the application
- of the floor sealer. (Excludes the caulking of the saw cut expansion joints).
- - Sealer should be mixed thoroughly in larger containers prior to use and smaller containers should be boxed
- together for large areas to ensure an even color and finish.
- - Protect existing walls and other surfaces as necessary to avoid getting paint on these areas walls when cutting
- in areas.
- - Note: the depressed edge or apron at exterior door openings will remain as unfinished concrete "protect these
- areas as necessary".
- - The sealer should be applied with a roller in liberal amounts, evenly roll out the entire floor until completed.
- - The product should dry a minimum of 12 hours before a recoat or per manufactures recommendations.

BY	REVISIONS	DATE	MK
	REVISED	4.23.14	
	REVISED	5.8.14	
	ISSUED FOR BID	5.11.14	
	ISSUED FOR PERMIT	5.11.14	

URBAN & ASSOCIATES ARCHITECTS, INC.
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SHEET TITLE: PROPOSED PLAN QUADRANT A

Drawn By: | Scale: 1/8x2 | Date: | Project Number: 1429
Checked By: | Scale: | Date: 5.9.14 | As Indicated

PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN
DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES 7/31/2014

WISCONSIN CHRISTOPHER URBANCZYK 5284-005 NORTHBROOK IL ARCHITECT

8.12.14

A2.4

WALL LEGEND

1. EXISTING 12" CMU WALL
2. EXISTING CMU AND STONE WALL
3. NEW 5/8" DRYWALL BOTH SIDES ON 3 5/8" 25 GA.METAL STUD @ 16" O.C
4. NEW 5/8" DRYWALL BOTH SIDES ON 6" 25 GA.METAL STUD @ 16" O.C
5. 2" CORRIDOR METAL WALL PANEL
6. 26 GA. METAL PARTITION PANEL
7. EXTERIOR PBR METAL PANEL
8. NEW 8"X8"X16" SPLIT FACE CMU WALL

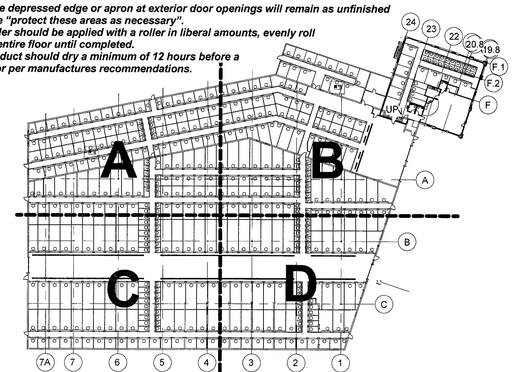
EXISTING MAIN FLOOR
1 1/2" STEEL PIPE POST TO CONCRETE STAIR AND SLAB
1 1/2" STEEL PIPE HANDRAIL
WALL OF STORAGE UNIT
3'-0"
3'-0"
3'-4"
3'-0"
#4x16"@12 O.C. DOWEL EMBED 8"
4'-4 1/4"
1'-0"
1'-0"
1'-0"
1'-0"
1'-0"
1'-11"
STRUCTURAL FILL
5" CONCRETE SLAB REINFORCE W/#4@ 12" O.C.
#4@12" O.C.
EXISTING SLAB
3 A2.5 STAIR 1/2" = 1'-0"

NOTE: RE-KEY ALL EXISTING REMAINING DOORS TO OWNERS REQUIREMENTS

CONCRETE STOOP TYP.
NEW CONCRETE STAIR
EXISTING-NO WORK
ELECTRIC PANEL
ELECTRICAL/ PHONE 106
MAINTENANCE 107
STORAGE 108
SPRINKLER RISER
MOP BASIN
INTERIOR COILING DOORS PREFINISHED GLOSS WHITE
WALL 9'-0" HIGH W/ 3 5/8" @ 16" O.C. MTL. STUD CEILING COVERED W/5/8" DRYWALL
JANITOR'S CLOSET 105
LOADING AREA 104
NOTE: PROVIDE DIAMOND PLATE CORNER GUARDS FULL HEIGHT 45D AT ALL CORNERS IN STORAGE AREA. TYP.
NEW LIFT
SAW CUT SLAB AND POUR NEW TRENCH DRAIN. TIE INTO EXISTING
REMOVE COVER. FILL EXISTING DRAIN TO WITHIN 1" OF SLAB. FLOOR CONTRACTOR TO LEVEL SLAB. TYP.
INFILL BLOCK WALL WHERE DOOR WAS REMOVED
EXISTING BOLLARDS
SAFETY LOOPS
NOTE: PROVIDE DIAMOND PLATE CORNER GUARDS 48" HIGH AT ALL CORNERS IN STORAGE AREA
ALL STORAGE UNIT CORRIDOR AND PARTITION WALLS TO BE 8'-0" 1ST AND 2ND FLOOR WITH WIRE MESH CEILING TYP.
STORAGE
BREAK ROOM
OFFICE 100
NEW WALL
NEW ADA LIFT REFER TO A2.14
NEW WALL AND FLOOR SLAB TO MAZZENINE
THIS DOOR CONTROLLED BY KEY PAD
KEY PAD
3 BUTTON SECTION DOOR CONTROLS
MATCH LINE
GLOSS WHITE PREFINISHED INTERIOR CORRIDOR AND HEADER PANELS
INTERIOR COILING DOORS PREFINISHED GLOSS WHITE
NEW 3'-6"X7'-0" METAL DOOR
DIAMOND PLATE CORNER GUARDS 48" HIGH AT ALL CORNERS IN STORAGE AREA
GLOSS WHITE PREFINISHED INTERIOR CORRIDOR AND HEADER PANELS
INTERIOR COILING DOORS PREFINISHED GLOSS WHITE
MATCH LINE

1 A2.5 Proposed Floor Plan Quadrant B 1/8" = 1'-0"

Buildings Concrete Floor Sealer
- *Typical buildings shall receive 2 complete coats of floor sealer in the all of the common areas, units, utility rooms, stairwells and loading areas with (1) coat of clear sealer upon completion.*
- *Standard Product: Benjamin Moore 100% Acrylic Epoxy Fortified Concrete Stain (072) 71 Deck Gray*
  OR
- *H & C Silicone Acrylic Concrete Sealer, HC124 Silver Gray.*
- *An* Industrial sealer is required for the loading dock, drive through and lobby areas. *Prime Coat PC* TerrazzoRock 326-03
- *Clear sealer for concrete floors: Zep Shield Product #1971. Slip resistant water based sealer with a dry bright finish look for high durability and low maintenance.*
- *Prior to the installation of the floor sealer on new or existing concrete the floor area shall be cleaned, shot blasted, grinded, sanded and/or etched completely per the manufactures instructions and/or recommendations for the product being used.*
- *Oil and Grease spots shall be cleaned and removed per the manufactures recommendations.*
- *All clean areas should be thoroughly rinsed and allowed to dry a minimum of 24 hours or until all dampness has evaporated from the floor area.*
- *Surfaces should be inspected prior to coating to ensure that the cleaning and concrete etching process was successful.*
- *Surfaces should be cleaned thoroughly again to remove any dust remaining after grinding, sanding or etching.*
- *Any 3/16" or larger stress cracks shall be caulked with a clear paintable silicone caulk prior to the application of the floor sealer. (Excludes the caulking of the saw cut expansion joints).*
- *Sealer should be mixed thoroughly in larger containers prior to use and smaller containers should be boxed together for large areas to ensure an even color and finish.*
- *Protect existing walls and other surfaces as necessary to avoid getting paint on these areas walls when cutting in areas.*
- *Note: the depressed edge or apron at exterior door openings will remain as unfinished concrete "protect these areas as necessary".*
- *The sealer should be applied with a roller in liberal amounts, evenly roll out the entire floor until completed.*
- *The product should dry a minimum of 12 hours before a recoat or per manufactures recommendations.*



2 A2.5 Proposed Overall Floor Key Plan 2 1/64" = 1'-0"

NO	DATE	REVISIONS	BY
	4.22.14	REVISED	
2	4.8.14	REVISED	
1	5.11.14	ISSUED FOR BID	
	5.11.14	ISSUED FOR PERMIT	

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SHEET TITLE: PROPOSED PLAN QUADRANT B

Date	Issue	Sheet
4.22.14	For Review	1st Revision
5.11.14	Issued for Permit	A2.5

Drawn By: [illegible]
Checked By: [illegible]

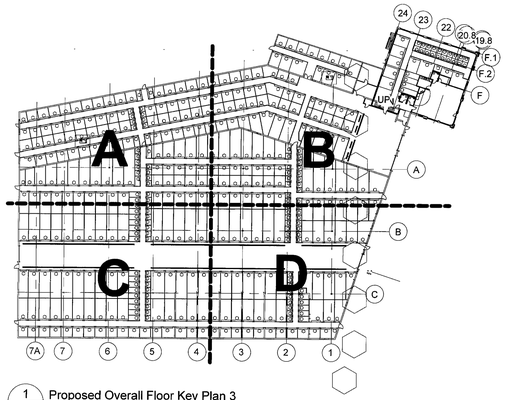
PROJECT NAME: METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES 7/31/2014

WISCONSIN CHRISTOPHER URBANCZYK 9284-005 NORTHBROOK IL ARCHITECT

8.12.14

A2.5



1 / A2.6 Proposed Overall Floor Key Plan 3
1/64" = 1'-0"

8/8/2014

Neenah Foundry

NEENAH FOUNDRY

R-4995 & R-4996

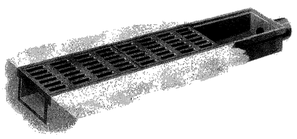
Type M Trench Frame with Solid or Grated Cover

Cast iron trench assemblies—light or heavy duty—for use in sidewalks, driveways, garages, loading docks, etc.

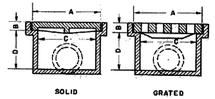
Read Carefully Before Ordering

Specify:

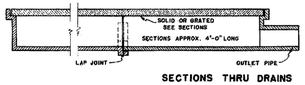
- Complete catalog number.
- Light or heavy duty.
- Overall length of cover required.
- Lid solid, flat grated, or diagonally barred convex grate.
- Location of outlet, side, bottom or end (give dimensional location and pipe size).
- Whether one end or both ends are able to be open or closed.



Illustrating Type M frame with grated cover. Standard with 4-inch outside caulk outlet. Can be equipped for inside caulk if specified.



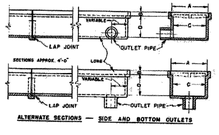
Trench covers are used over areas requiring long drainage assemblies. Can be supplied in a variety of sizes and lengths to meet special needs. For trenches of irregular pattern, arrangements can be made to furnish cover to fit.



SECTIONS THRU DRAINS

Standard 4-inch outlet at end of drain. Special size outlets are available on special order. Side and bottom outlets optional and furnished only when specified.

Sections: Thru Drains, Type M

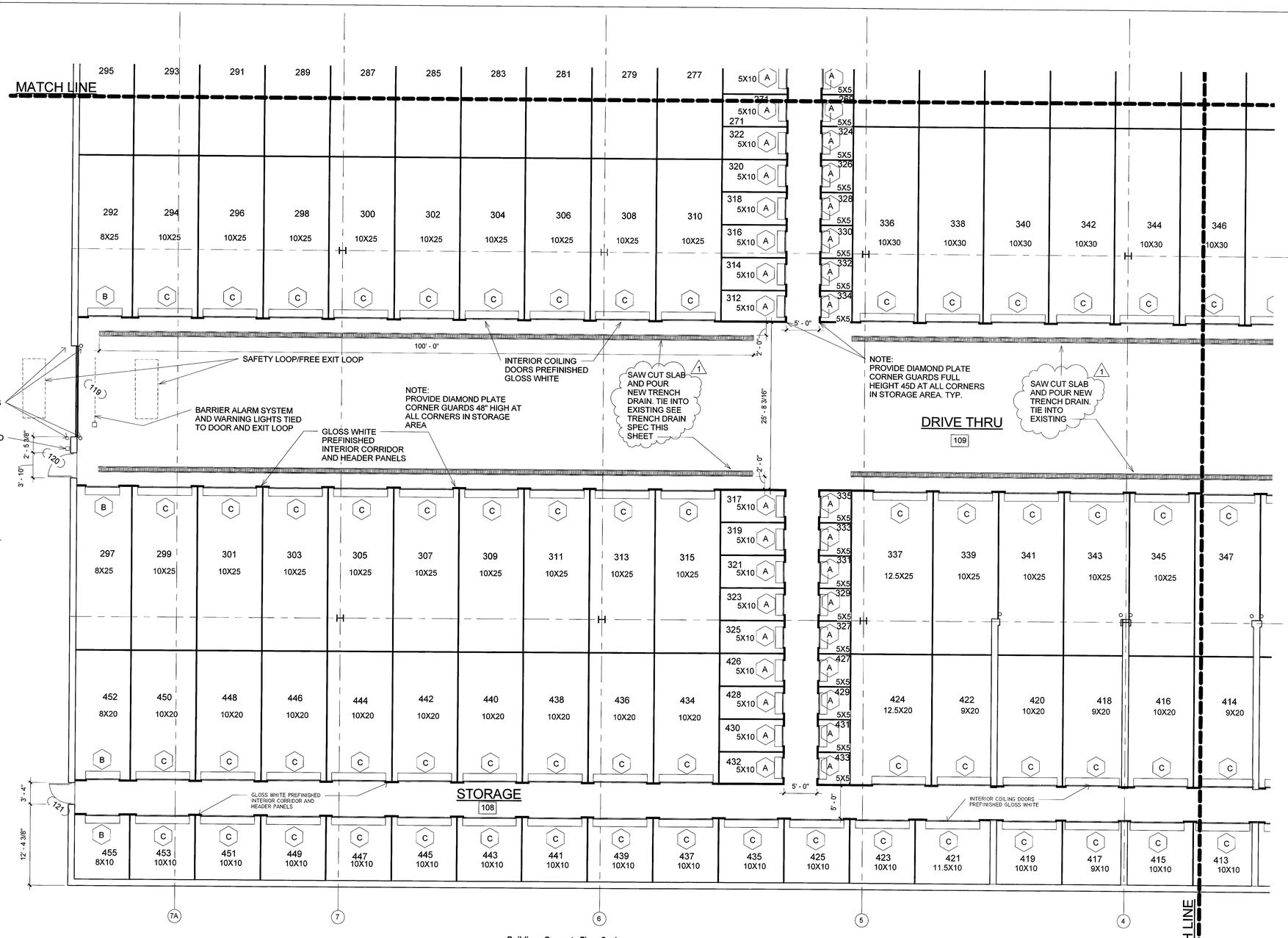


Standard Sizes—Light Duty					
11-1/2	3/4	10	6-3/4	as ordered	
7	3/4	5	4-3/4	as ordered	

http://www.nfco.com/municipal/products/print-hshl/ 1/2

USE THIS ONE

TRENCH DRAIN SPECIFICATION



2 / A2.6 Proposed Floor Plan Quadrant C
1/8" = 1'-0"

- ***Buildings Concrete Floor Sealer***
- ***- Typical buildings shall receive 2 complete coats of floor sealer in the all of the common areas, units, utility rooms, stairwells and loading areas with (1) coat of clear sealer upon completion.***
- ***- Standard Product: Benjamin Moore 100% Acrylic Epoxy Fortified Concrete Stain (072) 71 Deck Gray OR***
- ***- H & C Silicone Acrylic Concrete Sealer, HC124 Silver Gray.***
- ***- An Industrial sealer is required for the loading dock, drive through and lobby areas. Prime Coat PC TerrazzoRock 326-03***
- ***- Clear sealer for concrete floors: Zep Shield Product #1971. Silp resistant water based sealer with a dry bright finish look for high durability and low maintenance.***
- ***- Prior to the installation of the floor sealer on new or existing concrete the floor area shall be cleaned, shot blasted, grinded, sanded and/or etched completely per the manufactures instructions and/or recommendations for the product being used.***
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- ***- Sealer should be mixed thoroughly in larger containers prior to use and smaller containers should be boxed together for large areas to ensure an even color and finish.***
- ***- Protect existing walls and other surfaces as necessary to avoid getting paint on these areas walls when cutting in areas.***
- ***- Note: the depressed edge or apron at exterior door openings will remain as unfinished concrete "protect these areas as necessary".***
- ***- The sealer should be applied with a roller in liberal amounts, evenly roll out the entire floor until completed.***
- ***- The product should dry a minimum of 12 hours before a recoat or per manufactures recommendations.***

WALL LEGEND

1. EXISTING 12" CMU WALL
2. EXISTING CMU AND STONE WALL
3. NEW 5/8" DRYWALL BOTH SIDES ON 3 5/8" 25 GA.METAL STUD @ 16" O.C
4. NEW 5/8" DRYWALL BOTH SIDES ON 6" 25 GA.METAL STUD @ 16" O.C
5. 2" CORRIDOR METAL WALL PANEL
6. 26 GA. METAL PARTITION PANEL
7. EXTERIOR PBR METAL PANEL
8. NEW 8"X8"X16" SPLIT FACE CMU WALL

BY	MK	DATE	REVISIONS
	4	9.11.14	ISSUED FOR PERMIT
	3	8.19.14	ISSUED FOR BID
	2	4.23.14	REVISED
	1	4.9.14	REVISED

URBAN & ASSOCIATES ARCHITECTS, INC.
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WWW.URBANASSOCIATES.NET (847) 291-9570

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SHEET TITLE: PROPOSED PLAN QUADRANT C

Drawn By: | Date: | As Noted
Checked By: | Checked: | Project Number: 3.31.14

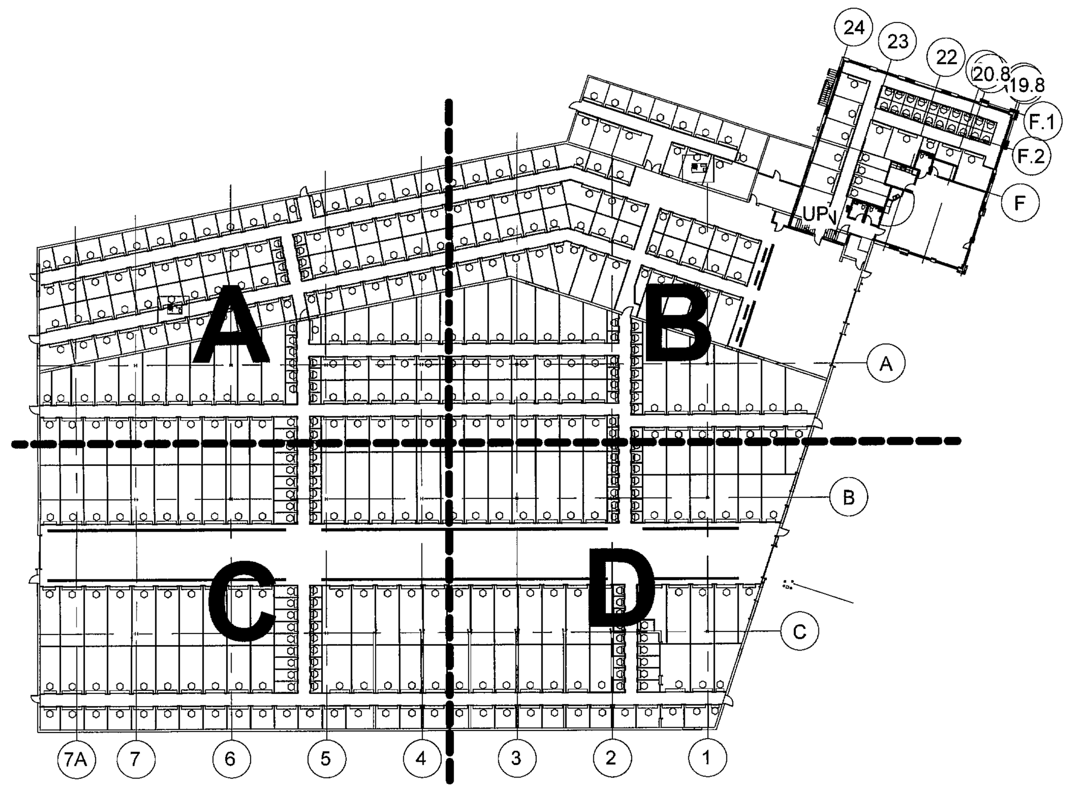
PROJECT NAME: METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES 7/31/2015

WISCONSIN CHRISTOPHER URBANCZYK 5260-005 NORTHBROOK IL ARCHITECT

8.12.14

A2.6



2 A2.7 Proposed Overall Floor Key Plan 4
1/64" = 1'-0"

- ***Buildings Concrete Floor Sealer***
- ***- Typical buildings shall receive 2 complete coats of floor sealer in the all of the common areas, units, utility rooms, stairwells and loading areas with (1) coat of clear sealer upon completion.***
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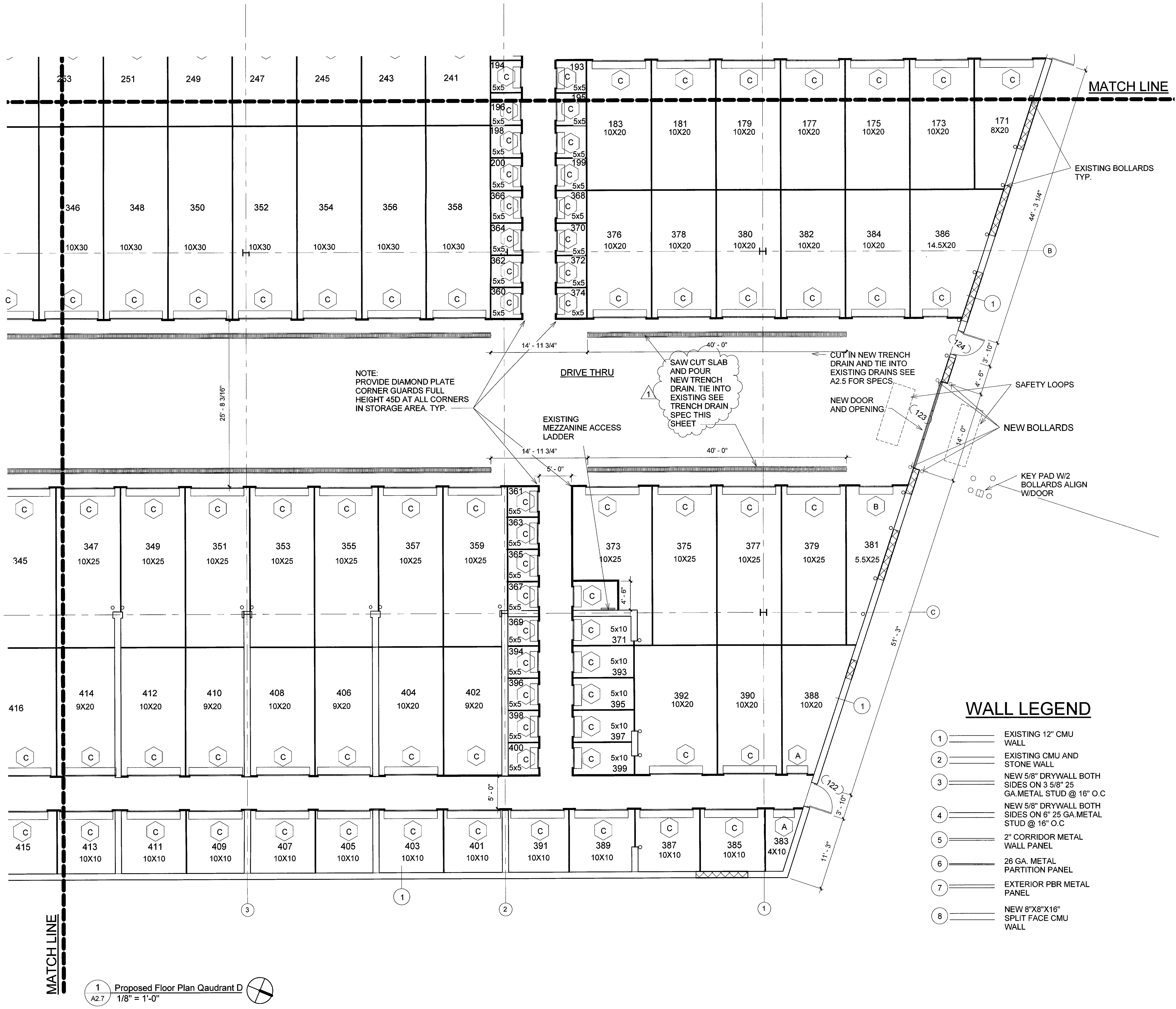

1 A2.7 Proposed Floor Plan Qaudrant D
1/8" = 1'-0"

WALL LEGEND

1	EXISTING 12" CMU WALL
2	EXISTING CMU AND STONE WALL
3	NEW 5/8" DRYWALL BOTH SIDES ON 3 5/8" 25 GA.METAL STUD @ 16" O.C
4	NEW 5/8" DRYWALL BOTH SIDES ON 6" 25 GA.METAL STUD @ 16" O.C
5	2" CORRIDOR METAL WALL PANEL
6	26 GA. METAL PARTITION PANEL
7	EXTERIOR PBR METAL PANEL
8	NEW 8"X8"X16" SPLIT FACE CMU WALL

MK	DATE	REVISIONS	BY
3	9.22.14	REVISED	
2	9.8.14	REVISED	
1	8.17.14	ISSUED FOR BID	
	8.11.14	ISSUED FOR PERMIT	

URBAN & ASSOCIATES ARCHITECTS, INC.
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WWW.URBANASSOCIATES.NET (847) 291.9570

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SHEET TITLE
PROPOSED PLAN QUADRANT D

DRAWN BY	AUTHOR	DATE	3.10.14	SCALE	AS INDICATED
CHECKED BY	CHECKER			PROJECT NUMBER	1428

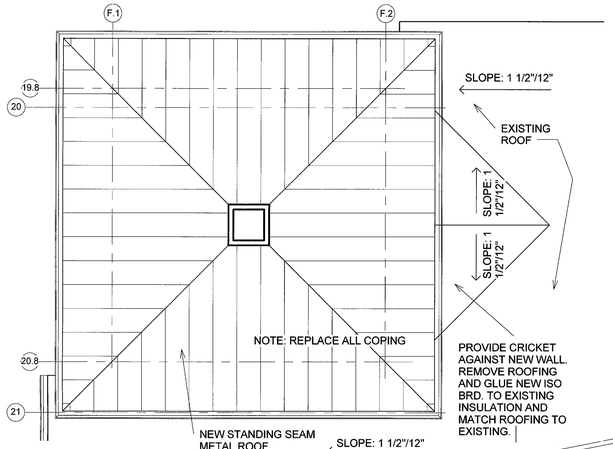
PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES 7/31/2016

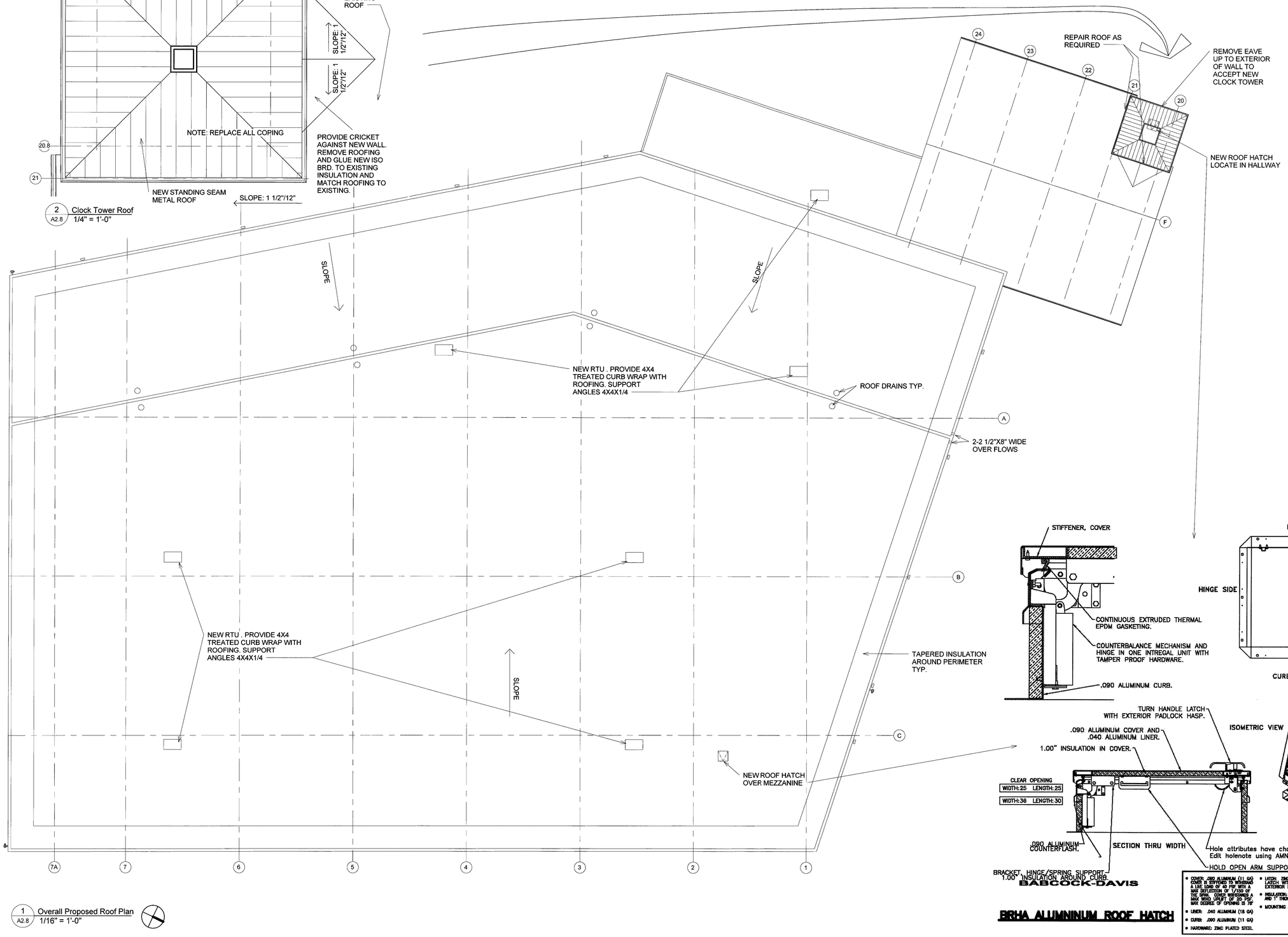
WISCONSIN
CHRISTOPHER URBANCZYK
9284-005
NORTHBROOK IL
ARCHITECT

8.12.14

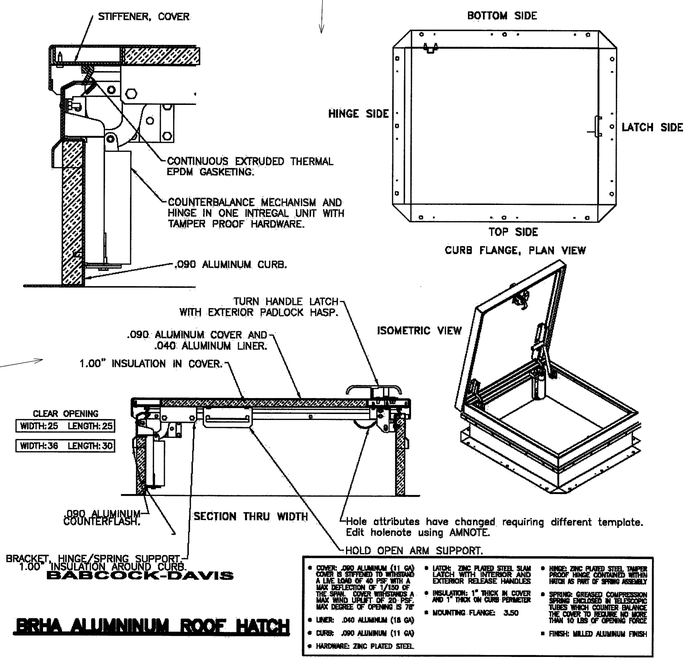
A2.7



2 / A2.8 Clock Tower Roof
1/4" = 1'-0"



1 / A2.8 Overall Proposed Roof Plan
1/16" = 1'-0"



NK	DATE	REVISIONS	BY
A	1.22.14	REVISED	
2	4.01.14	REVISED FOR BID	
1	8.11.14	ISSUED FOR PERMIT	

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2529 ILLINOIS ROAD, NORTHBROOK, ILLINOIS 60062
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SHEET TITLE
PROPOSED ROOF PLAN

Drawn By:	Journal:	Entry:	Entry:	As Noted
Checked By:	CATCH	3.18.14	PROJECT NUMBER	1428

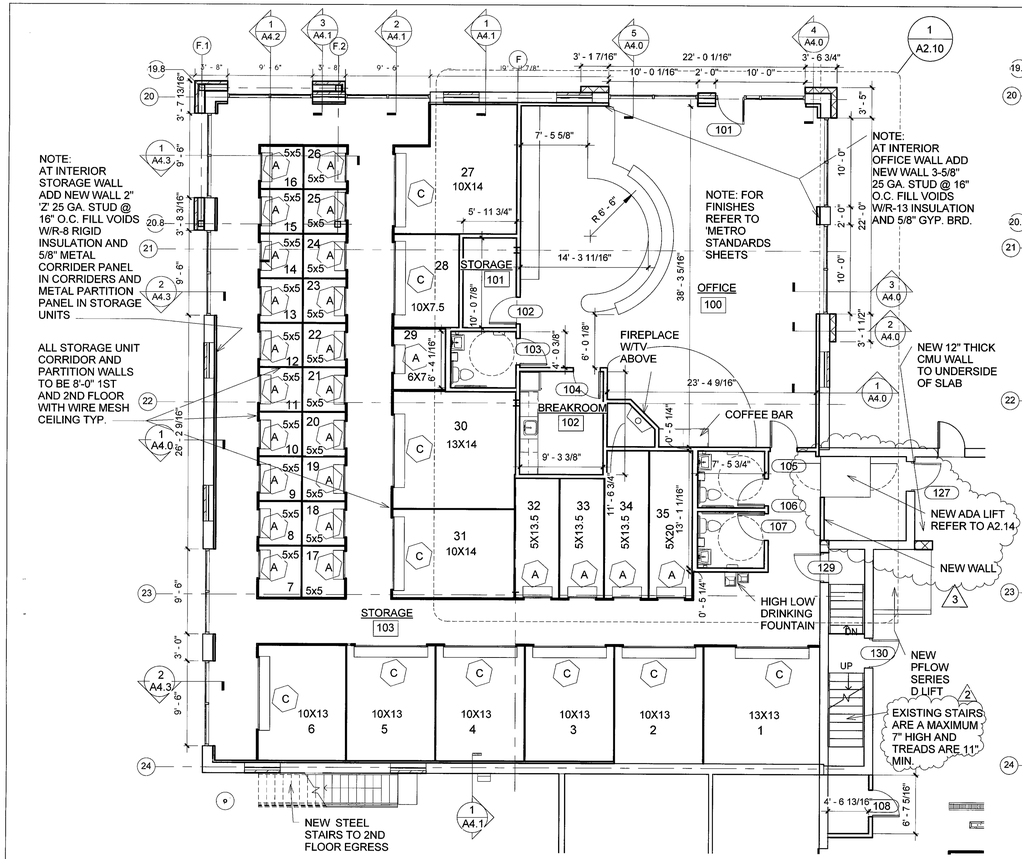
PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
EXPIRATION DATE 7.31.2015

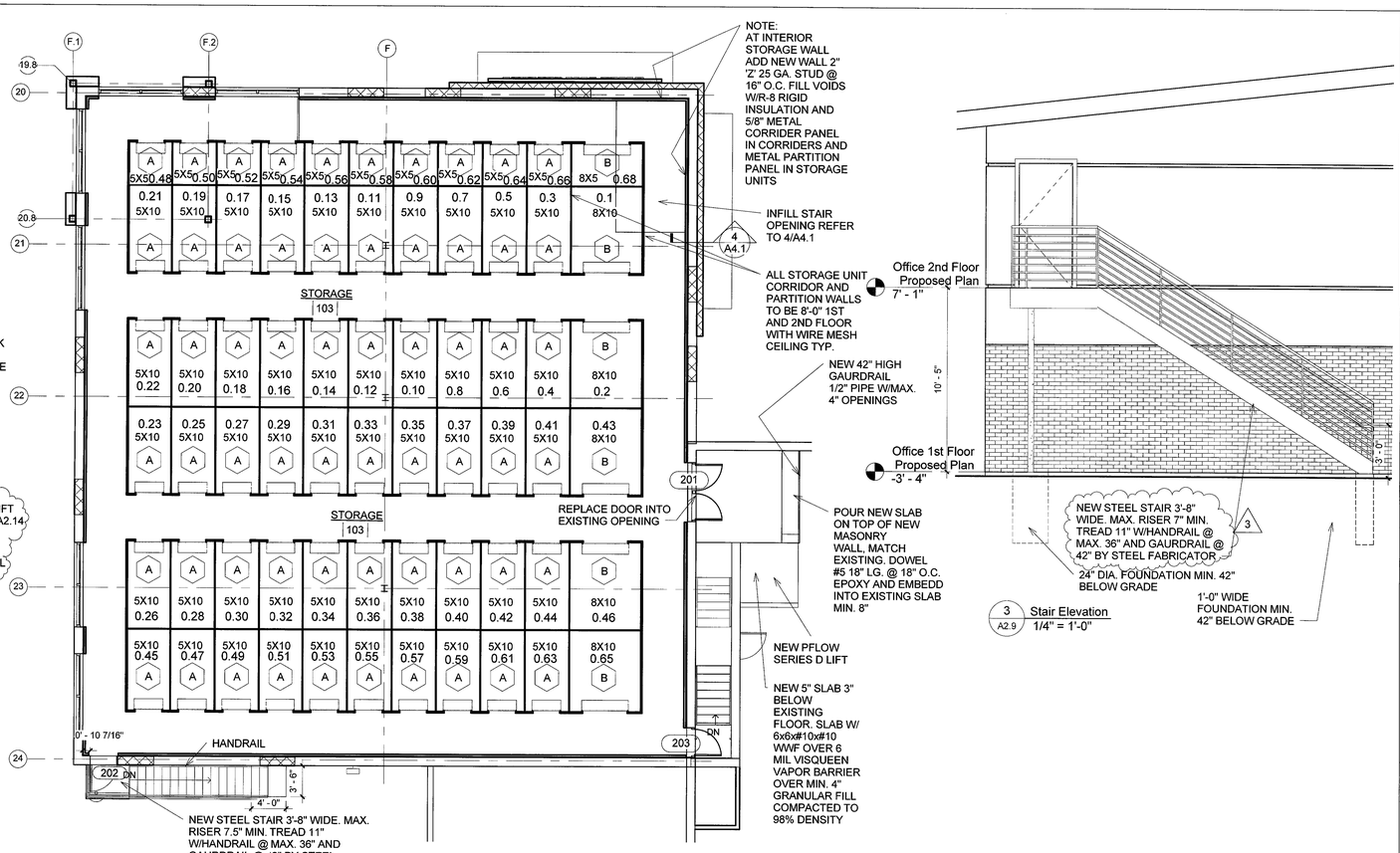
WISCONSIN CHRISTOPHER URBANCZYK 9284-005 NORTHBROOK IL ARCHITECT

8.12.14

A2.8



1 A2.9 Office 1st Floor Proposed Plan
1/8" = 1'-0"



2 A2.9 Office 2nd Floor Proposed Plan
1/8" = 1'-0"

3 A2.9 Stair Elevation
1/4" = 1'-0"

URBAN & ASSOCIATES ARCHITECTS, INC.
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MK	DATE	REVISIONS	BY
A	8.11.14	ISSUED FOR PERMIT	
1	8.17.14	ISSUED FOR BID	
2	9.8.14	REVISED	
3	9.22.14	REVISED	

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SHEET TITLE: PROPOSED OFFICE PLANS
Drawn BY: JB | Approved: JB | Checked: JB | Scale: AS INDICATED | Project Number: 1406

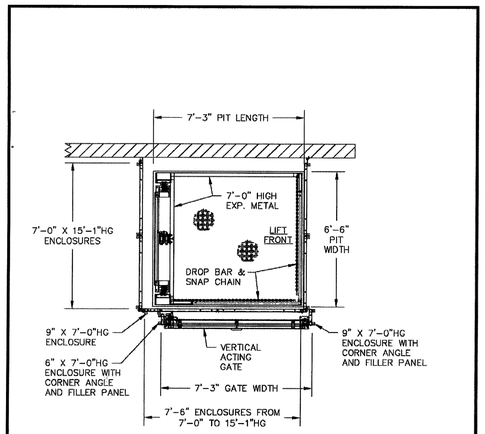
PROJECT NAME: METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
EXPIRATION DATES
7/31/2015

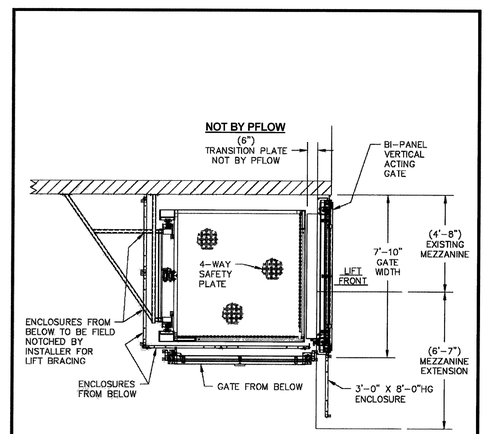
WISCONSIN CHRISTOPHER URBANCZYK 9284-005 NORTHBROOK ILLINOIS REGISTERED ARCHITECT

8.12.14

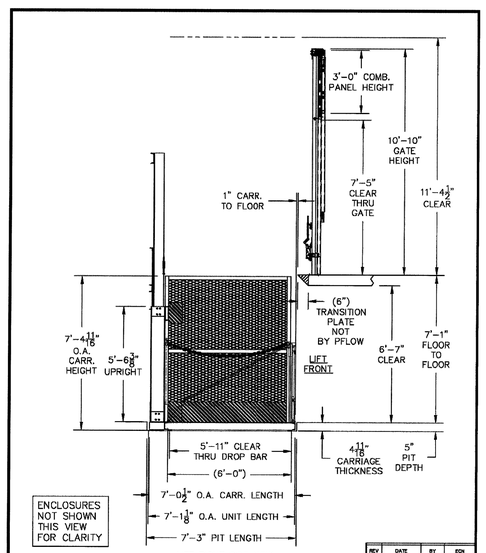
A2.9



PLAN VIEW – 1ST FLOOR

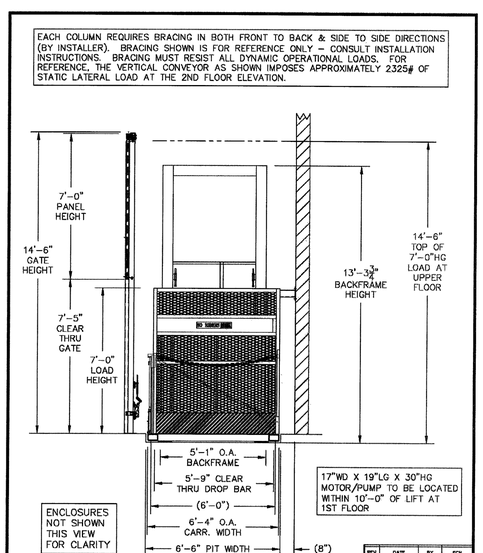


PLAN VIEW – 2ND FLOOR



LIFT RIGHT SIDE VIEW

EACH COLUMN REQUIRES BRACING IN BOTH FRONT TO BACK & SIDE TO SIDE DIRECTIONS (BY INSTALLER). BRACING SHOWN IS FOR REFERENCE ONLY – CONSULT INSTALLATION INSTRUCTIONS. BRACING MUST RESIST ALL DYNAMIC OPERATIONAL LOADS. FOR REFERENCE, THE VERTICAL CONVEYOR AS SHOWN IMPOSES APPROXIMATELY 2325# OF STATIC LATERAL LOAD AT THE 2ND FLOOR ELEVATION.



LIFT FRONT VIEW

REV	DATE	BY	ECN
REVISIONS			

PFLOW INDUSTRIES, INC. 6720 North Teutonia Ave. Milwaukee, WI 53209 (414) 352-9000 (414) 352-9002 FAX Info@pflow.com

TITLE: METRO SELF STORAGE BROWN DEER, WI.

DATE	SCALE	DRAWING NUMBER	SHT	REV
7/28/14	N.T.S.	J16058-GA	1 of 4	—
DRAWN: TEK	CHECKED: JB			

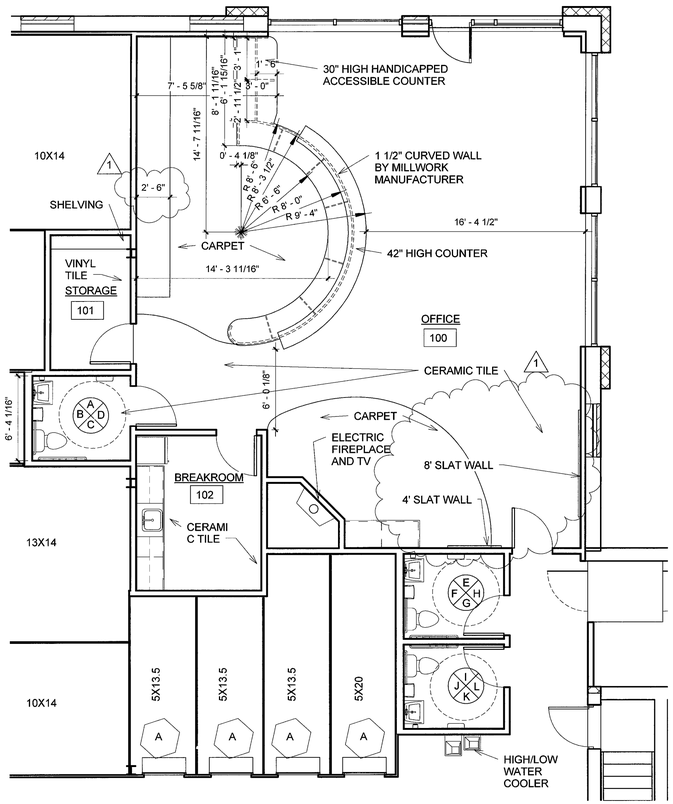
☐ APPROVED
☐ APPROVED AS NOTED
☐ REVISE & RESUBMIT
BY: _____
DATE: _____

DATE	SCALE	DRAWING NUMBER	SHT	REV
7/28/14	N.T.S.	J16058-GA	2 of 4	—
DRAWN: TEK	CHECKED: JB			

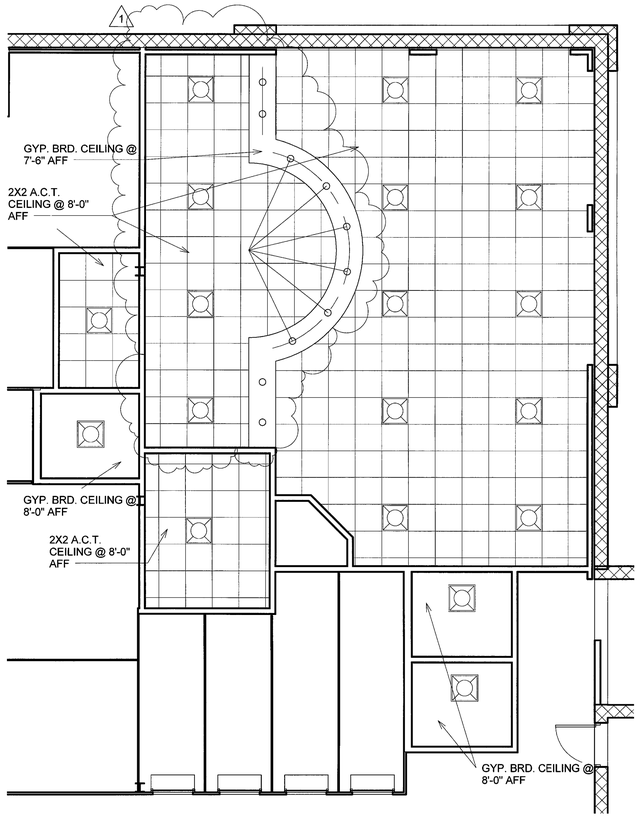
DATE	SCALE	DRAWING NUMBER	SHT	REV
7/28/14	N.T.S.	J16058-GA	3 of 4	—
DRAWN: TEK	CHECKED: JB			

DATE	SCALE	DRAWING NUMBER	SHT	REV
7/28/14	N.T.S.	J16058-GA	4 of 4	—
DRAWN: TEK	CHECKED: JB			

LIFT DRAWINGS

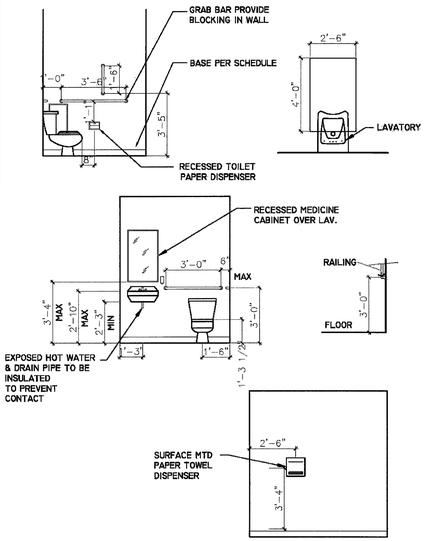


1 A2.10 Enlarged Office Floor Plan
3/16" = 1'-0"



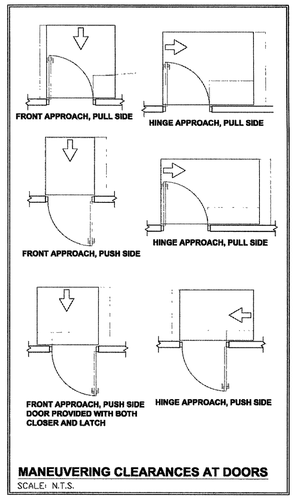
2 A2.10 Enlarged Office Ceiling Plan
3/16" = 1'-0"

THE TOILET ROOM SHALL BE INDENTIFIED WITH AN INTERNATIONAL SYMBOL OF COMPLIANCE AND A TACTILE SIGN WHICH IS IN COMPLIANCE WITH ADA SECTION 4.30 AND WHICH HAS A MINIMUM LETTER HEIGHT OF 5/8" AND A MAXIMUM HEIGHT OF 2". THE SYMBOLS OF COMPLIANCE SHALL BE PLACED NOT LESS THAN 60" AND NO MOTE THAN 96" ABOVE THE FLOOR. TACTILE SIGNS SHALL BE MOUNTED 60" TO THE CENTERLINE ABOVE THE FLOOR ADJACENT TO THE LATCH SIDE OF THE DOOR.



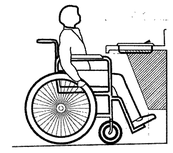
TYPICAL ADA CLEARANCES

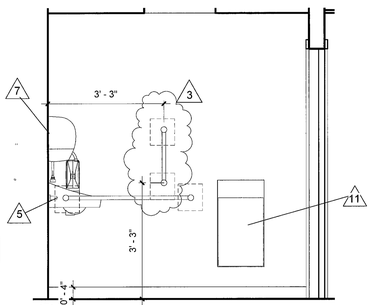
SCALE: N.T.S.



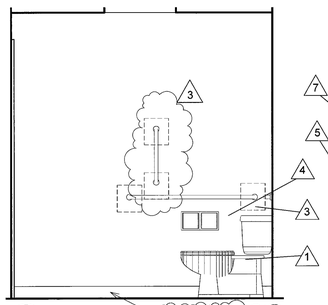
MANEUVERING CLEARANCES AT DOORS

SCALE: N.T.S.



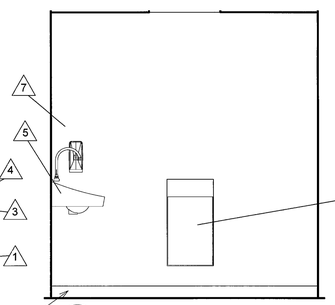


3 A2.10 Elevation A
1/2" = 1'-0"

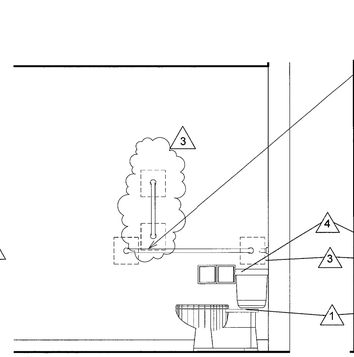


5 A2.10 Elevation C
1/2" = 1'-0"

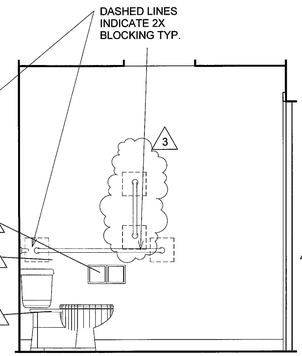
CERAMIC TILE AND 4" CERAMIC TILE BASE ALL BATHROOMS



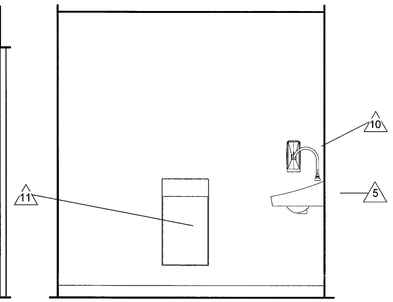
7 A2.10 Elevation E
1/2" = 1'-0"



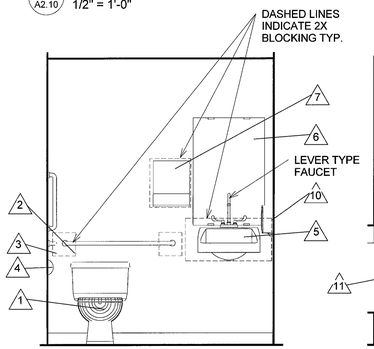
9 A2.10 Elevation G
1/2" = 1'-0"



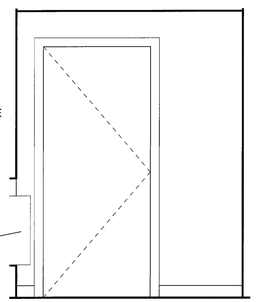
11 A2.10 Elevation I
1/2" = 1'-0"



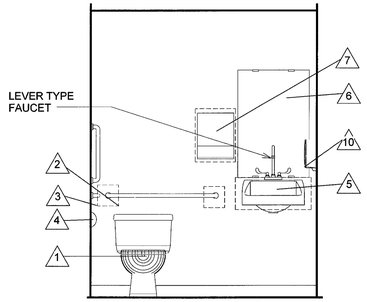
13 A2.10 Elevation K
1/2" = 1'-0"



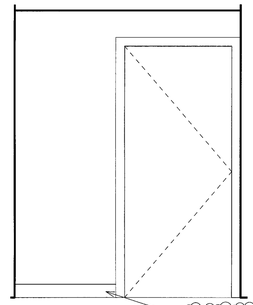
4 A2.10 Elevation B
1/2" = 1'-0"



6 A2.10 Elevation D
1/2" = 1'-0"

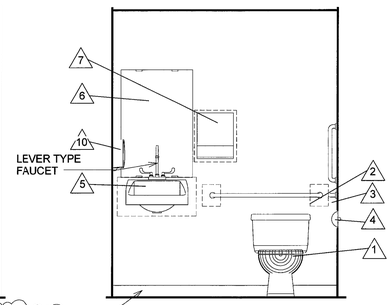


8 A2.10 Elevation F
1/2" = 1'-0"

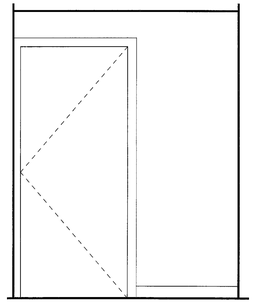


CERAMIC TILE AND 4" CERAMIC TILE BASE ALL BATHROOMS

10 A2.10 Elevation H
1/2" = 1'-0"



12 A2.10 Elevation J
1/2" = 1'-0"



15 A2.10 Elevation L
1/2" = 1'-0"

BATHROOM FIXTURE LEGEND

1. AMERICAN STANDARD CADET 17"H EL 1.6/PA BP
2. 36" BRADLEY #812 GRAB BARS OR EQUAL
3. 42" GRAB BAR BRADLEY #812 OR EQUAL
4. TOILET PAPER DISPENSER BRADLEY #237 OR EQUAL
5. AMERICAN STANDARD LUCERNE LAV WALL HUNG
6. SURFACE MIRROR BRADLEY #720 W/ SS SHELF OR EQUAL
7. PAPER TOWEL DISPENSER BRADLEY #250-15 OR EQUAL
8. CERAMIC TILE - MONOCIBEL OLIMPO 6" X 6", COLOR:
9. BIANCO STATUARY, GROUT: PLAIN
10. SOAP DISPENSER BRADLEY #6562 OR EQUAL
11. WASTE RECEPTACLE BRADLEY #344 OR EQUAL

NO	DATE	REVISIONS	BY
3	11.22.14	REVISED	MK
2	4.15.14	REVISED	MK
1	3.17.14	ISSUED FOR BID	MK
	2.3.14	ISSUED FOR PERMIT	MK

URBAN & ASSOCIATES ARCHITECTS, INC.
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SHEET TITLE
ENLARGED OFFICE PLANS & BATHROOM ELEVATIONS

Drawn By	MK	Scale	3/16"
Checked By	MK	Project Number	1305

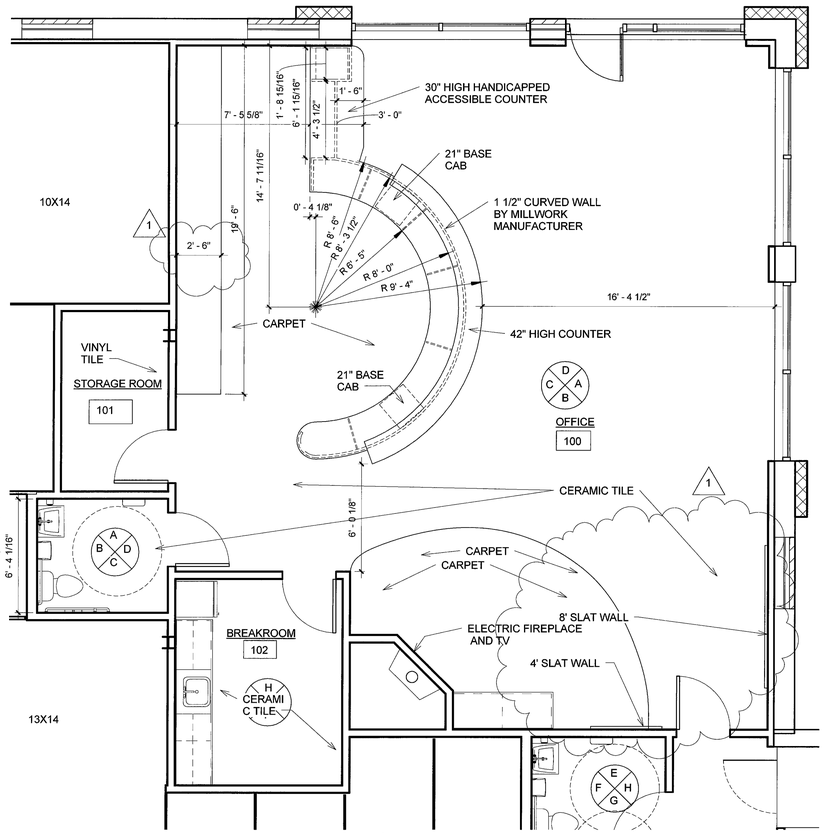
PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES 7/31/2016

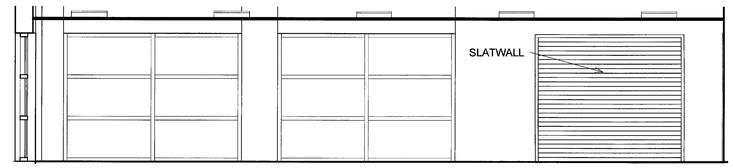
WISCONSIN CHRISTOPHER URBANCZYK 9284-005 NORTHBROOK IL ARCHITECT

8.12.14

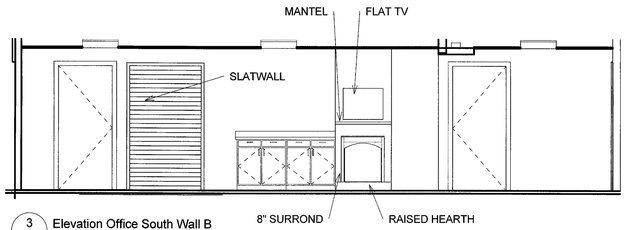
A2.10



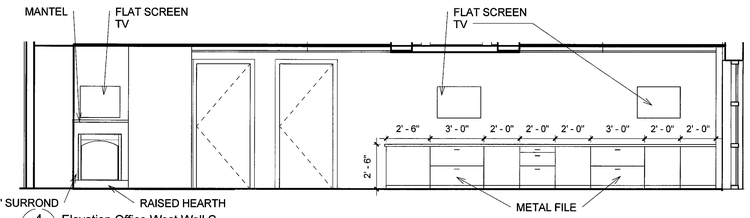
1 A2.11 Partial Enlarged Office Floor Plan
1/4" = 1'-0"



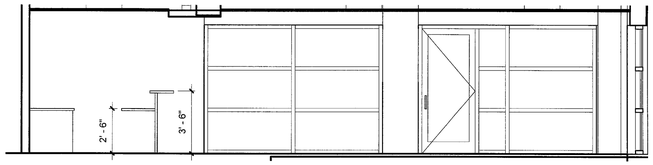
2 A2.11 Elevation Office East Wall A
1/4" = 1'-0"



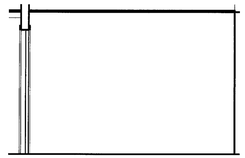
3 A2.11 Elevation Office South Wall B
1/4" = 1'-0"



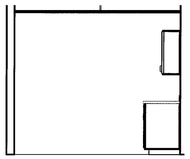
4 A2.11 Elevation Office West Wall C
1/4" = 1'-0"



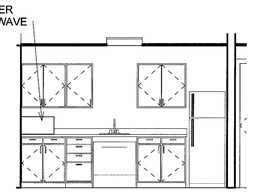
5 A2.11 Elevation Office North Wall D
1/4" = 1'-0"



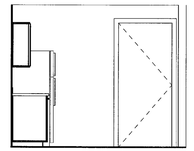
6 A2.11 Elevation Breakroom East Wall E
1/4" = 1'-0"



7 A2.11 Elevation Breakroom South Wall F
1/4" = 1'-0"



8 A2.11 Elevation Breakroom West Wall G
1/4" = 1'-0"



9 A2.11 Elevation Breakroom North Wall H
1/4" = 1'-0"

1

FINISH SCHEDULE

NO.	ROOM	FLOOR	WALLS	CEILING	COMMENTS
100	OFFICE	Shaw Floors, Queen Commercial Carpets, Chain Reaction j0115 pattern, Color: 00301 Stone's Throw Typical Office vinyl base in carpet areas: Roppe Vinyl Base color #93 black/brown Typical Office and sales area ceramic tile: Daltile DM92 Tatiann Nole 20" x 20" with a 4" ceramic base to match in all tile areas. Typical Office ceramic tile grout: #9 Natural Gray	Walls: Latex "Eggshell Finish" Sherwin Williams #SW6120 Believable Buff	2'X2' ACT W/1/4" REVEAL	
101	STORAGE ROOM	Typical Break room / bathrooms ceramic tile: Daltile DM92 Tatiann Nole 13" x 13" with 4" ceramic base to match in all areas.Typical Break room / bathrooms ceramic tile grout: #9 Natural Gray	Walls: Latex "Eggshell Finish" Sherwin Williams #SW6120 Believable Buff	2'X2' ACT W/1/4" REVEAL	
102	BREAKROOM	Typical Break room / bathrooms ceramic tile: Daltile DM92 Tatiann Nole 13" x 13" with 4" ceramic base to match in all areas.Typical Break room / bathrooms ceramic tile grout: #9 Natural Gray	Walls: Latex "Eggshell Finish" Sherwin Williams #SW6120 Believable Buff	2'X2' ACT W/1/4" REVEAL	
	BATHROOMS	Typical Break room / bathrooms ceramic tile: Daltile DM92 Tatiann Nole 13" x 13" with 4" ceramic base to match in all areas.Typical Break room / bathrooms ceramic tile grout: #9 Natural Gray	Walls: Latex "Eggshell Finish" Sherwin Williams #SW6120 Believable Buff	DRYWALL PAINTED LATEX EGGSHELL FINISH WHITE	
103	STORAGE	Typical buildings shall receive 2 complete coats of floor sealer in the all of the common areas, units, utility rooms, stairwells and loading areas with (1) coat of clear sealer upon completion. - Standard Product: Benjamin Moore 100% Acrylic Epoxy Fortified Concrete Stain (072) 71 Deck Gray	Cover drywall to height of partition w/ white glossy metal panel including storage units. Paint all exposed drywall and masonry white	Paint exposed exposed ceiling white	
104	LOADING AREA	- An Industrial sealer is required for the loading dock, drive through and lobby areas. Prime Coat PC **TerrazzoRock 326-03** - Clear sealer for concrete floors: Zep Shield Product #1971.	Cover drywall to height of partition w/ white glossy metal panel including storage units. Paint all exposed drywall and masonry white	Exposed ceiling	BASE: GREY VINYL
105	JANITOR'S CLOSET	Typical buildings shall receive 2 complete coats of floor sealer in the all of the common areas, units, utility rooms, stairwells and loading areas with (1) coat of clear sealer upon completion. - Standard Product: Benjamin Moore 100% Acrylic Epoxy Fortified Concrete Stain (072) 71 Deck Gray	Paint drywall walls and ceiling white	Paint drywall walls and ceiling white	BASE: GREY VINYL
106	ELECTRICAL/PHONE	Typical buildings shall receive 2 complete coats of floor sealer in the all of the common areas, units, utility rooms, stairwells and loading areas with (1) coat of clear sealer upon completion. - Standard Product: Benjamin Moore 100% Acrylic Epoxy Fortified Concrete Stain (072) 71 Deck Gray	Paint and masonry drywall walls and ceiling white	Exposed ceiling	BASE: GREY VINYL
107	MAINTENANCE	Typical buildings shall receive 2 complete coats of floor sealer in the all of the common areas, units, utility rooms, stairwells and loading areas with (1) coat of clear sealer upon completion. - Standard Product: Benjamin Moore 100% Acrylic Epoxy Fortified Concrete Stain (072) 71 Deck Gray	Paint drywall walls and ceiling white	Exposed ceiling	BASE: GREY VINYL
108	STORAGE	Typical buildings shall receive 2 complete coats of floor sealer in the all of the common areas, units, utility rooms, stairwells and loading areas with (1) coat of clear sealer upon completion. - Standard Product: Benjamin Moore 100% Acrylic Epoxy Fortified Concrete Stain (072) 71 Deck Gray	Cover drywall to height of partition w/ white glossy metal panel including storage units. Paint all exposed drywall and masonry white	Exposed ceiling	
109	DRIVE THRU	- An Industrial sealer is required for the loading dock, drive through and lobby areas. Prime Coat PC **TerrazzoRock 326-03** - Clear sealer for concrete floors: Zep Shield Product #1971.	Cover drywall to height of partition w/ white glossy metal panel including storage units. Paint all exposed drywall and masonry white	Exposed ceiling	

10 A2.11 Finish schedulle
1/4" = 1'-0"

NOTE:
ALL INTERIOR WALLS AND FLOORS ARE TO BE PAINTED OR COVERED W/HALLWAY SYSTEM PANELS

DOOR FINISHES
- Paint for the Hollow Metal Doors & Frames in the Office shall be oil base enamel finish Color to match the wall colors selected above. "White".
- Office interior wood doors shall receive stain and sealer in all areas. Standard stain color shall be Pratt & Lambert "Tonetic ". Color shall be: Eastern Red Cedar, on Oak
- Exterior hollow metal doors: Green
- Interior hollow metal doors: White to match glossy white hallway systems

BY	REVISIONS	DATE	MK
	REVISED	4.22.14	
	REVISED	8.6.14	
	ISSUED FOR BID	8.11.14	
	ISSUED FOR PERMIT	8.11.14	

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2529 ILLINOIS ROAD, NORTHBROOK, ILLINOIS 60062
WWW.URBANASSOCIATES.NET (847) 291-9270

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SHEET TITLE
OFFICE WALL ELEVATIONS AND ROOM FINISH SCHEDULE

Drawn By: | Approved: | Date: | Scale: 1/4" = 1'-0"
Checked By: | Checked: | 3.10.14 | Project Number: 1425

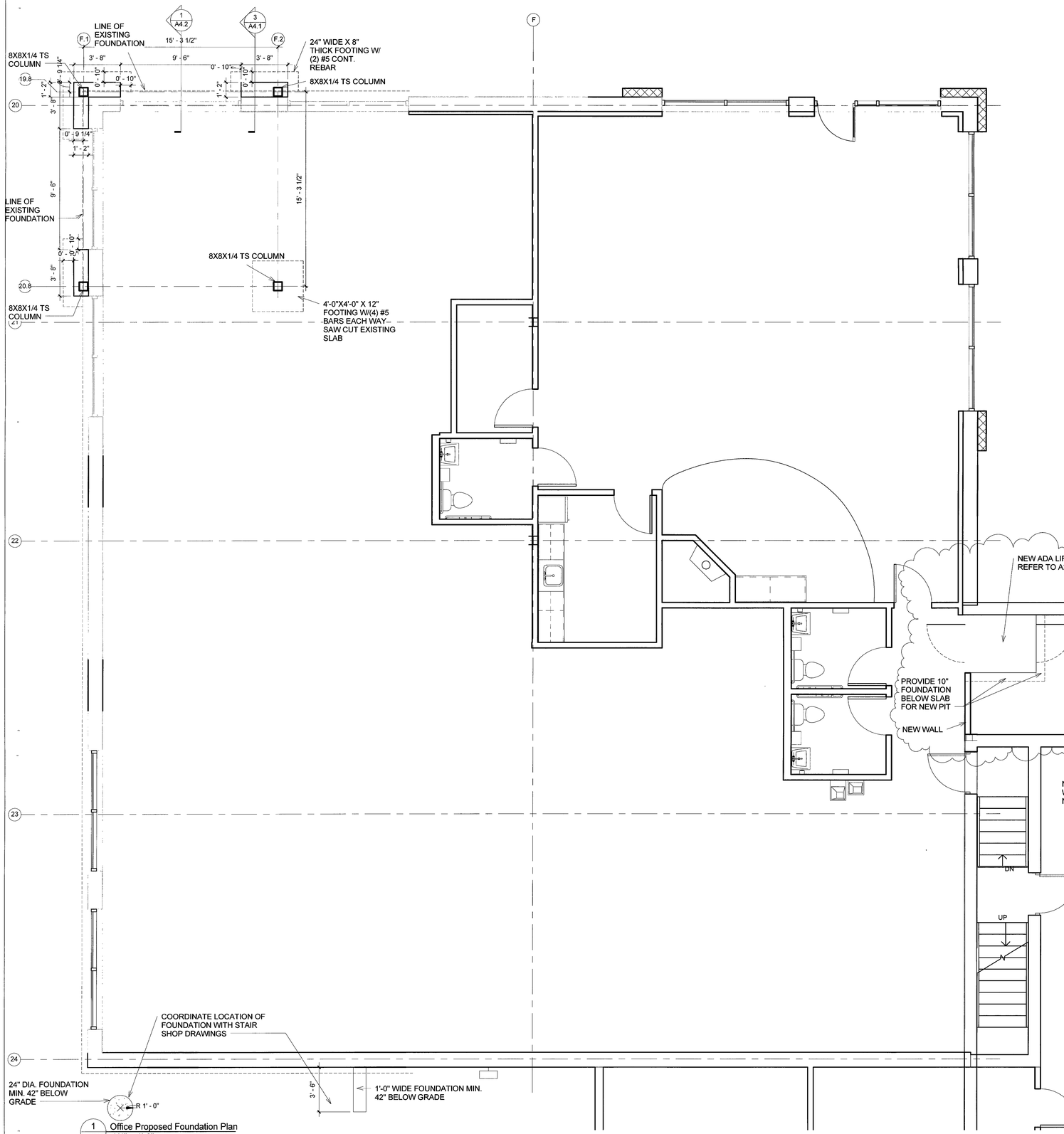
PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REGISTERED ARCHITECT
COMMISSION EXPIRES 7/31/2015

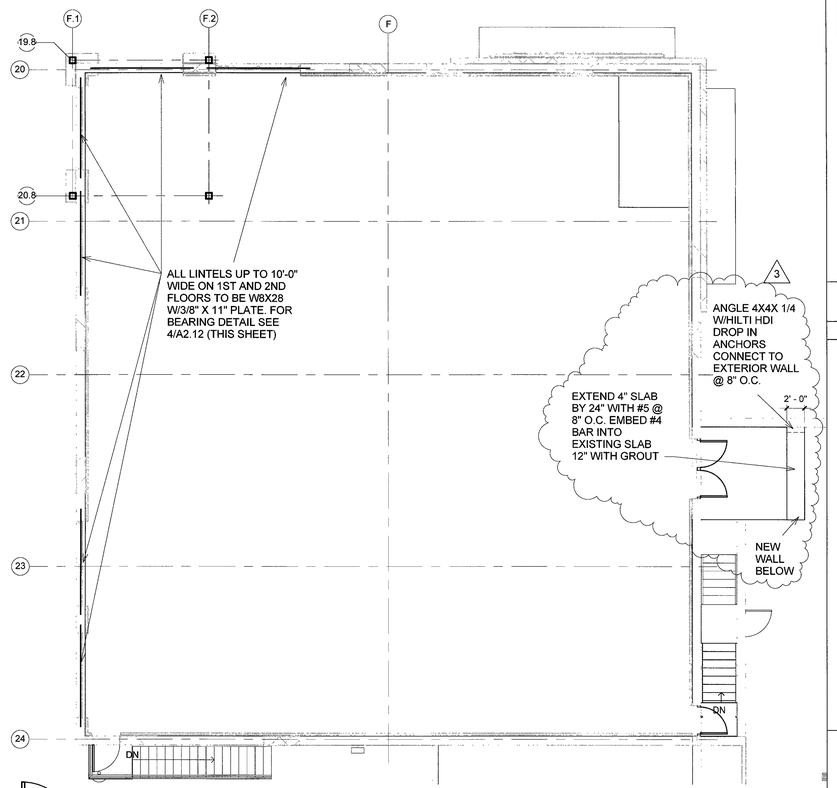
WISCONSIN CHRISTOPHER URBANCZYK 9284-005 NORTHBROOK IL REGISTERED ARCHITECT

8.12.14

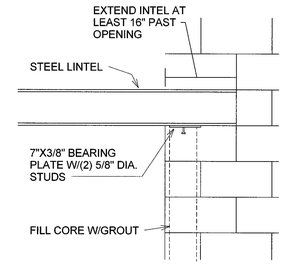
A2.11



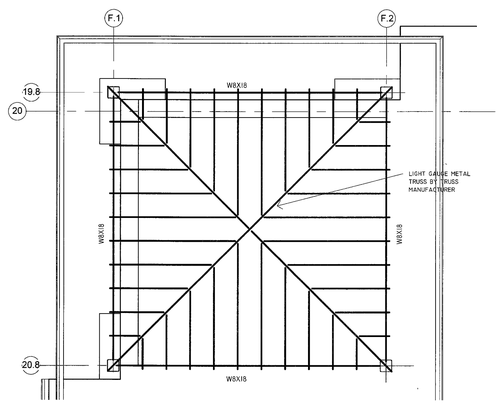
1 A2.12 Office Proposed Foundation Plan
1/4" = 1'-0"



3 A2.12 Office Lintel Plan
1/8" = 1'-0"



4 A2.12 WALL DETAIL
3/4" = 1'-0"



2 A2.12 Clock Tower Framing Plan
1/4" = 1'-0"

BY	REVISIONS	DATE
MK	REVISED	9.22.14
MK	REVISED	9.8.14
MK	ISSUED FOR BID	8.17.14
MK	ISSUED FOR PERMIT	8.11.14

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WWW.URBANASSOCIATES.NET (847) 291-9570

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SHEET TITLE
OFFICE FOUNDATION AND STRUCTURAL DETAILS

Drawn By: | Scale: AS INDICATED | Date: 3.10.14 | Checked By: | Job No. | Project Number

PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
CERTIFICATION EXPIRES
2015

WISCONSIN
CHRISTOPHER URBANCZYK
9284-008
NORTHBROOK
IL
ARCHITECT

8.12.14

A2.12

STRUCTURAL NOTES:

1. DESIGN AND CONSTRUCTION OF THE SITE SHALL CONFORM TO THE 2009 INTERNATIONAL BUILDING CODE.

2. DESIGN CRITERIA:
MAX. WIND PRESSURE: 15.5 PSF
MAX. WIND UPLIFT PRESSURE: 13 PSF
ROOF LIVE LOAD: 20 PSF
ROOF BALANCED SNOW LOAD: 30 PSF

EARTHWORK AND FOUNDATIONS

1. ALL FOUNDATIONS SHALL BEAR ON UNDISTURBED, NATURAL SUB GRADE WITH A MINIMUM BEARING CAPACITY OF 2500 PSF AS INDICATED AND APPROVED BY THE OWNER'S SOIL TESTING LABORATORY.

2. ALL FOOTING SUB GRADES AND ALL SLABS AND PAD SUB GRADES SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT BASED ON LABORATORY DESIGNATION ASTM D1557.

3. ALL ORGANIC AND/ OR OTHER UNSUITABLE MATERIALS SHALL BE REMOVED FROM SUB GRADE AND BACKFILL AREAS AND BACKFILLED WITH ACCEPTABLE GRANULAR FILL COMPACTED TO 95% OF MAXIMUM DENSITY. FILL SHALL BE PLACED IN LIFTS NOT TO EXCEED 6 INCHES IN LOOSE THICKNESS

4. THE CONCRETE FOR EACH ISOLATED FOOTING OR PAD SHALL BE PLACED IN ONE CONTINUOUS POUR.

5. NO FOOTINGS, SLAB OR PADS SHALL BE PLACED ONTO OR AGAINST SUB GRADE CONTAINING FREE WATER, FROST OR ICE.

6. ALL EXCAVATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH OSHA REGULATIONS.

7. THE SOILS AND FOUNDATION ENGINEERING REPORT IS FOR INFORMATIONAL PURPOSES ONLY AND SHALL NOT BE CONSIDERED PART OF THE CONTRACT DOCUMENTS. FURTHERMORE, NO WARRANTY IS MADE BY THE OWNER WITH REGARD SOIL TEST DATA, OR STATEMENTS AND INTERPRETATIONS GIVEN IN THE REPORT.

8. WATER LEVELS INDICATED ON THE BORING LOGS MAY BE SUBJECT TO SEASONAL AND/OR ANNUAL VARIATIONS. A DEWATERING SYSTEM OF SUFFICIENT CAPACITY SHALL BE INSTALLED AND OPERATED TO MAINTAIN THE CONSTRUCTION AREA FREE OF WATER AT ALL TIMES.

9. NOTIFY THE OWNER'S REPRESENTATIVE WHEN ADDITIONAL EXCAVATION IS REQUIRED TO REACH SUITABLE BEARING MATERIAL.

CONCRETE

1. EXCEPT WHERE OTHERWISE INDICATED, CONCRETE SHALL BE NORMAL WEIGHT AND WITH MINIMUM 28-DAY COMPRESSIVE STRENGTHS OF fc = 4000 PSI. ALL EXTERIOR EXPOSED CONCRETE SHALL BE AIR ENTRAINED WITH 6% AIR CONTENT.

2. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF ACI 318 AND ACI 301.

3. CEMENT SHALL CONFORM TO ASTM C150 TYPE 1. AGGREGATES SHALL CONFORM TO ASTM C33. (REGULAR WEIGHT).

4. NO CALCIUM CHLORIDE SHALL BE USED IN CONCRETE.

5. CONCRETE MIX DESIGN SHALL BE SUBMITTED TO ENGINEER FOR REVIEW.

6. REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.

7. ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITION OF THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315. BAR SUPPORTS IN CONTACT WITH EXPOSED SURFACES SHALL BE PLASTIC TIPPED. PROVIDE CORNER BARS FOR ALL HORIZONTAL REINFORCEMENT AT CORNERS AND INTERSECTIONS.

8. ALL REINFORCING SPLICES SHALL CONFORM TO THE REQUIREMENTS OF ACI 318, LATEST EDITION, BUT IN NO CASE SHALL BE LESS THAN 40 BAR DIAMETERS, UNLESS NOTED OTHERWISE. WHERE REQUIRED, DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING.

9. TOP BARS SHALL BE HOOKED AT END SPANS.

10. WELDING OF REINFORCEMENT IS NOT PERMITTED.

11. ALL EXPOSED EDGES OF CONCRETE SLABS SHALL BE ROUNDED OVER OR CHAMFERED 3/4".

12. CONSTRUCTION SHALL BE IN ACCORDANCE WITH GENERALLY ACCEPTED INSTALLATION PRACTICES.

13. CONCRETE SHALL BE PLACED IN A MANNER THAT WILL PREVENT SEGREGATION OF CONCRETE MATERIALS, AND FROM INFILTRATION OF WATER, SOIL, AND OTHER OCCURRENCES WHICH MAY DECREASE THE STRENGTH AND DURABILITY OF THE CONCRETE. CONCRETE SHALL BE VIBRATED IN FORMS WHILE PLACING, WITHOUT OVER-VIBRATING.

14. MINIMUM COVER FOR REINFORCING STEEL UNLESS INCREASED COVER IS NECESSARY TO MEET FIRE RATING INDICATED:
CAST AGAINST AND EXPOSED TO EARTH: 3"
EXPOSED TO WEATHER: 2"
INTERIOR EXPOSURE: 1 1/2"
SLAB ON GRADE: CENTER OF SLAB

15. SLAB ON GRADE SHALL BE PLACED IN CONTINUOUS STRIPS WITH A MAXIMUM POUR OF 36,000 SF.

16. SLAB ON GRADE SHALL BE SEALED AND DUST PROOFED.

17. CONCRETE SLUMP SHALL BE 4" MAX.

18. THE MAXIMUM AGGREGATE SIZE SHALL BE 3/4".

19. COORDINATE CONCRETE WORK WITH THAT OF OTHER TRADES TO ALLOW FOR SETTING OF LEEVES, ACCESSORIES, ETC.

20. ALL ANCHOR BOLTS SHALL BE IN PLACE PRIOR TO POURING OF CONCRETE.

REINFORCED MASONRY
1. PRODUCTION AND CONSTRUCTION OF CONCRETE MASONRY SHALL BE IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURE, ACI 530.1, LATEST EDITION, AND THE NCMA TECHNICAL GUIDE.

2. COLD WEATHER CONSTRUCTION SHALL BE IN COMPLIANCE WITH NCMA "RECOMMENDED PRACTICES AND GUIDE SPECIFICATIONS FOR COLD WEATHER MASONRY AND CONSTRUCTION."

3. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, GRADE N, NORMAL WEIGHT, HOLLOW LOAD BEARING MODULAR MASONRY UNITS. ALL LOAD BEARING CONCRETE MASONRY UNITS SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRESS OF 3,000 PSI OR PROVIDE F'm GREATER THAN OR EQUAL TO 1,775 PSI BY THE PRISM STRENGTH TEST METHOD.

4. STRENGTH OF CONCRETE MASONRY SHOWN IS BASED ON NET AREA OF UNIT.

5. MORTAR FOR MASONRY SHALL BE AS FOLLOWS:.
TYPE 'M' MORTAR FOR BEARING WALLS BELOW GRADE
TYPE 'S' MORTAR FOR BEARING WALLS ABOVE GRADE
TYPE 'N' MORTAR FOR NON-LOAD BEARING WALLS

6. GROUT FOR MASONRY SHALL CONFORM TO ASTM C 476, SLUMP OF 8 INCHES AT THE TIME OF PLACEMENT AND ULTIMATE COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. ALL GROUT SHALL BE PUDDLED OR VIBRATED IN PLACE.

7. GROUT SHALL BE POURED IN LAYERS NOT TO EXCEED 4 FEET AND SHALL BE STOPPED 1.5 INCHES BELOW THE TOP OF COURSE TO FORM SHEAR KEY.

8. VERTICAL REINFORCED CELLS AND BOND BEAMS SHALL BE FILLED SOLID WITH GROUT (NOT MORTAR).

9. MORTAR DROPPINGS SHALL BE KEPT OUT OF THE GROUT SPACE.

10. REINFORCING BARS SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED. REINFORCING STEEL SHALL BE SECURED IN PLACE AND INSPECTED BEFORE GROUTING STARTS.

11. CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL NOT BE USED.

12. MASONRY WALLS SHALL BE ADEQUATELY BRACED TO RESIST WIND FORCES UNTIL PERMANENT DESIGN SUPPORTS ARE IN PLACE AND FUNCTIONAL. BRACING SHALL BE DESIGNED BY THE CONTRACTOR.

13. HORIZONTAL REINFORCEMENT SHALL BE 9 GAGE TRUSS TYPE JOINT REINFORCEMENT, PLACED 16" VERTICALLY. LAP SPLICE REINFORCEMENT AT EVERY CORNER.

14. VERTICAL BARS SHOWN ON THE DESIGN DRAWINGS SHALL BE PLACED IN CONTINUOUS UNOBSTRUCTED CELL OF NOT LESS THAN 3"X4".

15. SPACING OF VERTICAL BARS SHALL BE AS SHOWN ON PLANS. UNLESS OTHERWISE NOTED, AT LEAST ONE VERTICAL BAR SHALL BE PLACED AT EACH CORNER OF THE WALL OR PIER MAINTAINING MAXIMUM SPACING LIMIT SHOWN ON THE PLANS.

16. ALL SPLICES OF VERTICAL REINFORCING BARS SHALL BE STAGGERED AND LAPPED A MIN. OF 50 X BAR DIAMETER. IF STAGGERING OF SPLICE LOCATIONS IS NOT FEASIBLE, THEN THE LENGTH OF LAP SHALL BE INCREASED BY 20 PERCENT.

17. ALL BOND BEAMS SHALL BE REINFORCED AS SHOWN ON THE DESIGN DRAWINGS AND FILLED WITH CONCRETE GROUT.

18. ALL CELLS AROUND DOOR AND LOUVER JAMBS SHALL BE GROUTED SOLID 8 INCHES WIDE AND REINFORCED WITH #5 VERTICAL BAR, UNLESS SHOWN OTHERWISE.

19. WHERE NOT SHOWN OTHERWISE, MINIMUM SOLID GROUTED MASONRY BELOW BEAM REACTIONS SHALL BE 16 INCHES DEEP BY 32 INCHES LONG.

20. WHERE NOT SHOWN OTHERWISE, MINIMUM SOLID GROUTED MASONRY BELOW LINTEL REACTIONS SHALL BE 16 INCHES DEEP BY 16 INCHES LONG.

21. SEE ARCHITECTURAL PLANS FOR LOCATION AND DETAIL OF CONTROL JOINTS AND EXPANSION JOINTS.

22. INSPECTED WORKMANSHIP STRESS VALUES WERE USED IN DESIGN. APPROPRIATE INSPECTION SHALL BE REQUIRED. AN INDEPENDENT INSPECTOR, WHO IS QUALIFIED AND COMPETENT FOR INSPECTION OF THE PARTICULAR WORK REQUIRING SPECIAL INSPECTION, SHALL BE EMPLOYED DURING THE PREPARATION OF MASONRY WALL PRISM, SAMPLING AND PLACING OF ALL MASONRY UNITS, PLACEMENT OF REINFORCING STEEL, INSPECTION OF GROUT SPACE IMMEDIATELY PRIOR TO CLOSING OF CLEANOUTS AND DURING ALL GROUTING OPERATIONS. THE INSPECTOR SHALL OBSERVE THE WORK TO BE CERTAIN THAT IT CONFORMS TO THE DESIGN DRAWINGS AND SPECIFICATIONS. INSPECTION REPORTS SHALL BE FURNISHED TO THE ENGINEER OF RECORD, THE BUILDING OFFICIAL, AND THE CONTRACTOR. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR, THEN, IF UNCORRECTED, THE ENGINEER OF RECORD AND TO THE BUILDING OFFICIAL. THE INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK WAS IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.

STRUCTURAL STEEL

1. STRUCTURAL STEEL DESIGN AND FABRICATION SHALL CONFORM TO THE AISC MANUAL FOR STEEL CONSTRUCTION, ALLOWABLE STRESS DESIGN, THIRTEENTH EDITION.

2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS, UNLESS OTHERWISE NOTED:

A. STRUCTURAL W-SHAPES - A992, GR. 50
B. HOLLOW STRUCTURAL SECTIONS - A500 GR. B
C. STRUCTURAL M, S, C, MC AND L SHAPES - A36
D. STRUCTURAL HP SHAPES - A572 GR. 50
E. STRUCTURAL PIPES - A53 GR. B
F. STRUCTURAL BOLTS-3/4" A325 -X

3. CONN. DESIGN SHALL BE IN ACCORDANCE WITH PART 9 OF AISC MANUAL OF STEEL CONSTRUCTION. UNLESS BEAM END REACTIONS ARE GIVEN ON THE PLANS, CONNECTIONS SHALL BE DESIGNED FOR ONE-HALF THE TOTAL UNIFORM LOAD CAPACITY SHOWN IN THE ALLOWABLE UNIFORM LOAD TABLES, PART 3 OF AISC MANUAL OF STEEL CONSTRUCTION. BOLTS SHALL BE A325-X WITH HARDENED STEEL WASHERS PER ASTM F436. UNLESS NOTED ALL BOLT HOLES SHALL BE STANDARD DIA. USE MIN. 2 BOLTS PER CONN., MIN. ANGLE LEG THICKNESS OF 5/16" AND MIN. GUSSET PL. THICKNESS OF 3/8".

4. ALL MATERIALS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION, PER ASTM A123 AND A153. TOUCH UP DAMAGED GALVANIZING DURING CONSTRUCTION WITH ZINC RICH PAINT.

5. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) D1.1 STRUCTURAL WELDING CODE, LATEST EDITION. WELDING ELECTRODE SHALL BE E70XX.

STEEL JOIST

1. STEEL JOIST SHALL BE DESIGNED, AND FABRICATED BY MFR., AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITION OF THE STEEL JOIST INSTITUTE "STANDARD SPECIFICATION FOR OPEN WEB STEEL JOISTS".

2. WHERE NON-UNIFORM LOADS OR CONCENTRATED LOADS (SUCH AS HVAC LOADS) ARE CALLED OUT ON THE PLANS, JOIST MFR. SHALL DESIGN JOISTS TO CARRY SUCH LOADS. CALCULATIONS SHALL BE PREPARED UNDER THE SUPERVISION OF A LICENSED ILLINOIS PROFESSIONAL ENGINEER.

3. ALL EQUIPMENT HANGERS SHALL BE SUPPORTED FROM THE TOP CHORD AT PANEL POINTS. IF A HANGER MUST BE LOCATED BETWEEN PANEL POINTS, SECONDARY FRAMING IS REQUIRED TO TRANSFER THE LOAD TO THE NEAREST PANEL POINT.

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METAL DECK

1. METAL DECK SHALL BE DESIGNED, AND FABRICATED BY MFR., AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITION OF THE STEEL DECK INSTITUTE SPECIFICATIONS.

2. ROOF DECK SHALL BE AS SPECIFIED ON THE ROOF PLAN, CONTINUOUS OVER THREE OR MORE SUPPORTS UNLESS NOTED OTHERWISE.

3. METAL DECK SHALL BE ATTACHED TO THE ROOF STRUCTURE AS SPECIFIED ON THE ROOF PLAN.

BY	REVISIONS	DATE
MK	ISSUED FOR PERMIT	8.11.14
MK	ISSUED FOR BID	8.11.14
MK	REVISED	8.13.14
MK	REVISED	8.22.14

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ARCHITECTS, INC.
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SHEET TITLE: STRUCTURAL NOTES

Drawn By: BJ/MJ | Scale: 1/16" = 1'-0" | Checked By: CU/CU/MK | Project Number: 3.13.14 | 1/16

PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN
DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES
7/31/2015

WISCONSIN
CHRISTOPHER URBANCZYK
9284-005
NORTHBROOK, IL
ARCHITECT

8.12.14

A2.13

GENESIS VERTICAL PLATFORM LIFT:

Code Reference: ASME A17.1 "Safety Code for Elevators and Escalators", Part XX (Commercial Public Buildings) or ASME A18.1 "Safety Standard for Platforms Lifts and Stairway Chairlifts"

General:
Color – Standard (Anodized aluminium extrusions champagne finished with 16 ga. galvanized steel panels powder coated Satin Grey, and 3/16" clear plexi panels)
Indoor Unit – Pit Mount
ANSI Z97.1 Plexiglass Etching
Number of Stops – Two stop kit

Drive Mast:
Model – GVL–EN–42
Lead Screw drive system c/w Manual Platform Emergency Lowering Handwheel
Motor – 1.5 kW, (2.00 HP), 120/240 VAC
Travel Speed – 340 kg @ 3.0 m/min [750 lb @ 10 ft/min]
Power Supply – 120 VAC, single phase, 60 Hz, on a dedicated 20 amp. circuit

Controls:
Platform Controls – Push–Button (Tactile) Type c/w Illuminated Directional Buttons, Courtesy Lighting, Illuminated Round (push/pull) Emergency Stop Switch & Audible Alarm
Lower Landing Call Station – Push–Button (Tactile) Frame Mount
Upper Landing Call Station – Push–Button (Tactile) Frame Mount

Platform:
Size – Standard c/w grab rail, anti–skid deck and 1100mm [43 1/4"] high walls
Configuration – Straight Through (180) Exit/Entry
Capacity – Maximum 340 kg [750 lb] operating load

Door/Gates:
Lower – 36" wide Clear Plexiglass Door c/w Mechanical Interlock
Upper – 36" wide Clear Plexiglass Gate c/w Mechanical Interlock

Enclosure:
Panels – Clear Plexiglass & Steel
Total Unit Weight – Approximately 374 kg [825 lb]
Lifting Ht. (H1) – 1016mm [40"] floor to floor plus 76mm [3"] deep pit
Equipped with – Anchor & Shim Kit, Service Bypass Key Kit, Black Panel Molding Through out

A	INITIAL RELEASE			UNITS: INCHES	9/18/14	AU	
REV.	SCALE: 1:40	TOLERANCES: DIMENSIONAL ±1/32	ANGULAR ±0.5°	PROJECTION:	DATE	DRN.BY	CHK.BY

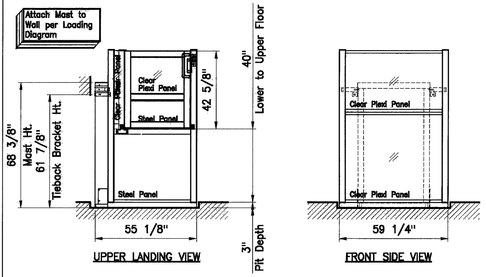
GARAVENTA LIFT
7505 – 134A STREET
SURREY,BC,CANADA V3W 7B3
PH: ++1 604 594 0422
FAX: ++1 604 594 9915
http://www.garaventalift.com

GENESIS ENCLOSURE – iGOLDD DRAWING
Metro Storage
4059 W Bradley Rd
Brown Deer PAGE 1 OF 5
Garaventa USA – IL

18896–IG–A

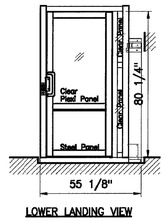
DEDICATED CIRCUIT SUPPLIED BY OTHERS:
120 VAC / 1 PHASE – 60 Hz.
Conduit and devices to suit local codes and a recommended 20 amp. dedicated circuit.

LIFT HEIGHT
H1=43"
(H1=Lower to Upper Floor+Pit Depth)

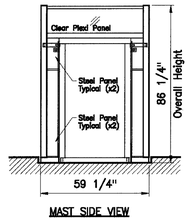


UPPER LANDING VIEW

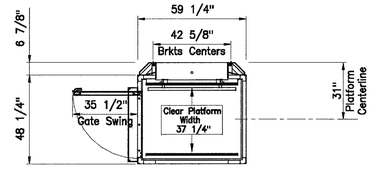
FRONT SIDE VIEW



LOWER LANDING VIEW

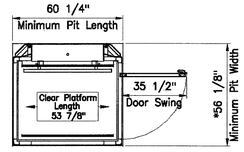


MAST SIDE VIEW



UPPER LANDING PLAN VIEW

* NOTE: If a tie back rail (spreader bar) is to be used to attach the mast to a wall, the pit width dimension must be increased by 38mm [1 1/2"].



LOWER LANDING PLAN VIEW

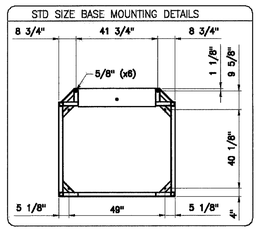
SYM.	DESCRIPTION	VALUE (MAX.)
F1 = 1000 lb	PAYLOAD (MAX.)	3335 N [750 lb]
	CAR (PLATFORM) WEIGHT	1110 N [250 lb]
F2	MAST WEIGHT	779 N [175 lb]
F3	FLOOR REACTION	5649 N [1270 lb]
F4	FLOOR REACTION	1379 N [310 lb]
F5	TIEBACK REACTION	2028 N [456 lb]
F6	ENCLOSURE WEIGHT	1779 N [400 lb]

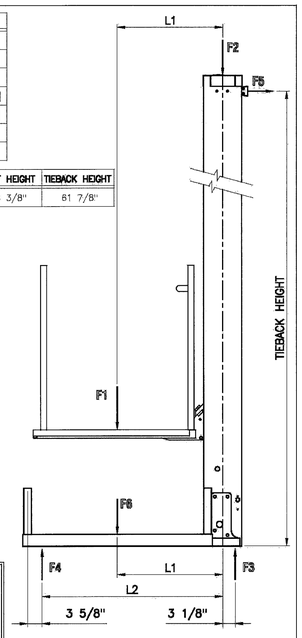
L1	L2	PLATFORM SIZE
26 7/8"	46 1/8"	STANDARD

MODEL	MAST HEIGHT	TIEBACK HEIGHT
42"	68 3/8"	61 7/8"

SPECIAL NOTE:
These are reaction forces generated by the lift. Adhere to local building codes, regulations, and safety factors for supporting structures. Consult a structural engineer or architect in your jurisdiction. Wind loading effects are not considered in these calculations. Consult manufacturer.

STD SIZE BASE MOUNTING DETAILS





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DETAIL 1 – ENCLOSURE MODEL LOADING DIAGRAM

A	INITIAL RELEASE			UNITS: INCHES	9/18/14	AU	
REV.	SCALE: 1:40	TOLERANCES: DIMENSIONAL ±1/32	ANGULAR ±0.5°	PROJECTION:	DATE	DRN.BY	CHK.BY

GARAVENTA LIFT
7505 – 134A STREET
SURREY,BC,CANADA V3W 7B3
PH: ++1 604 594 0422
FAX: ++1 604 594 9915
http://www.garaventalift.com

GENESIS ENCLOSURE – iGOLDD DRAWING
Metro Storage
4059 W Bradley Rd
Brown Deer PAGE 5 OF 5
Garaventa USA – IL

18896–IG–A

BY	DATE	REVISIONS
	6.22.14	REVISED
	5.8.14	REVISED FOR BID
	3.11.14	ISSUED FOR PERMIT

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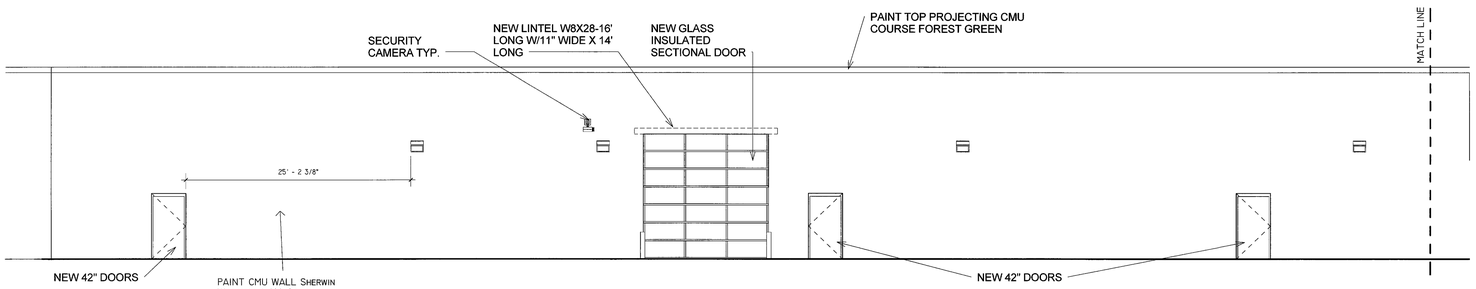
SHEET TITLE: ADA LIFT

PROJECT NAME: METRO STORAGE
4059 W. BRADLEY ROAD BROWN
DEER, WISCONSIN

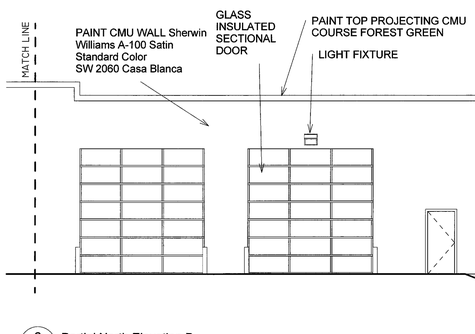
CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES 7/2/2016

A2.14

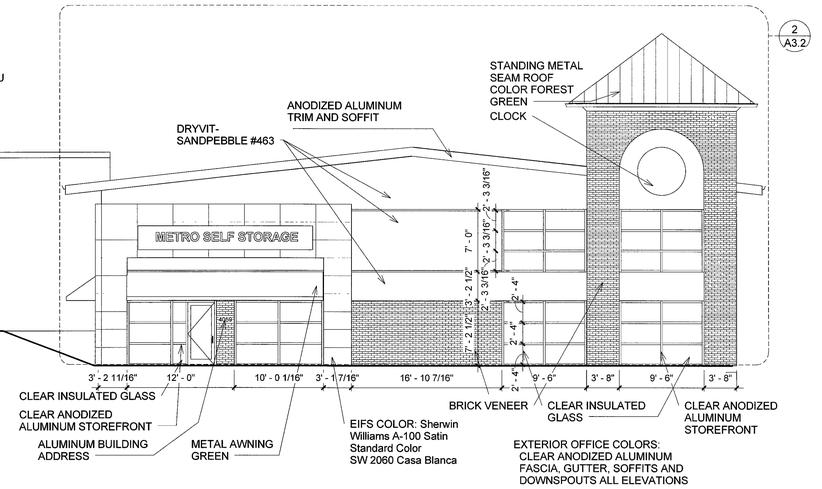


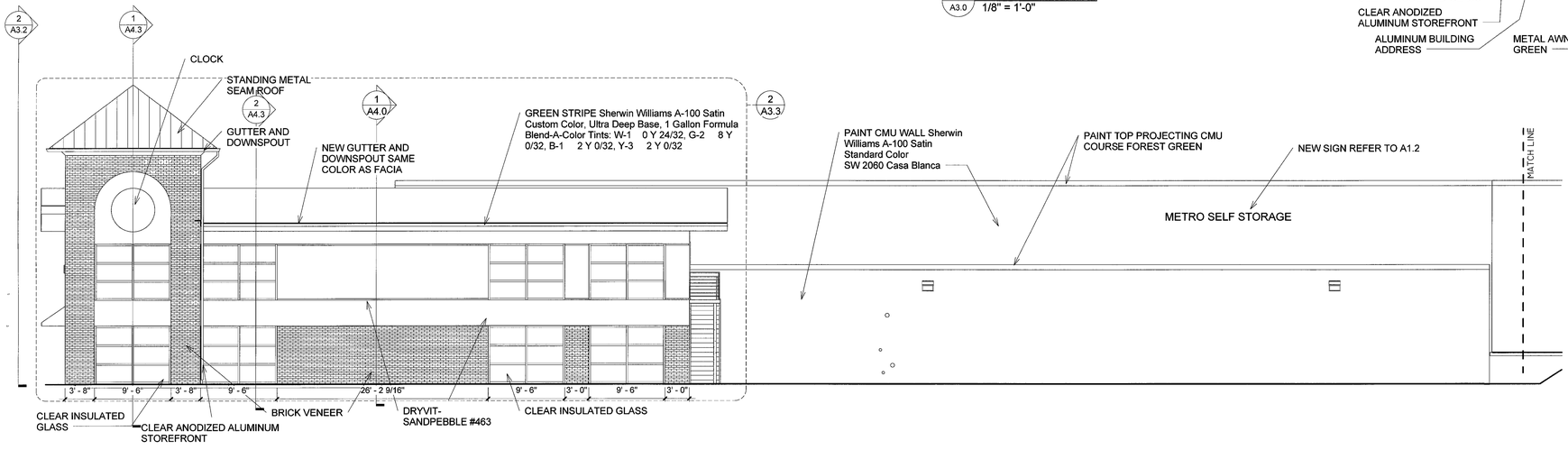
1 A3.0 Partiall North Elevation A
1/8" = 1'-0"

NOTE:
1. ALL NEW MAN DOOR OPNINGS UP TO 3'-10" WIDE USE ANGLE 5X5X1/4.
2. REPAIR EXISTING EXTERIOR CMU WALL AFTER REMOVING TRIM

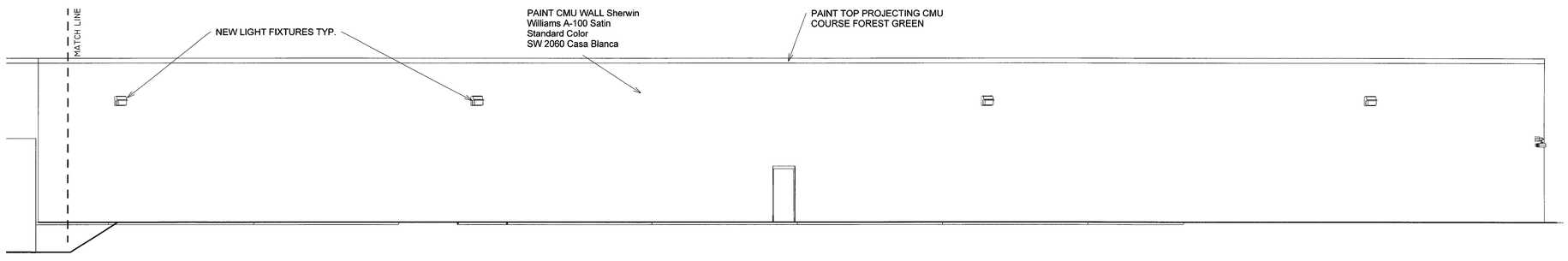


2 A3.0 Partial North Elevation B
1/8" = 1'-0"





3 A3.0 Partial West Elevation A
1/8" = 1'-0"



4 A3.0 Partial West Elevation B
1/8" = 1'-0"

BY	REVISIONS	DATE	MK
	REVISED	4.22.14	JS
	REVISED	4.30.14	JS
	ISSUED FOR BID	5.17.14	JS
	ISSUED FOR PERMIT	6.11.14	JS

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SHEET TITLE
PROPOSED OVERALL ELEVATIONS

Drawn By: JS/KS | Scale: 1/8" = 1'-0"
Checked By: JS | Date: 5.29.14 | Project Number: 528

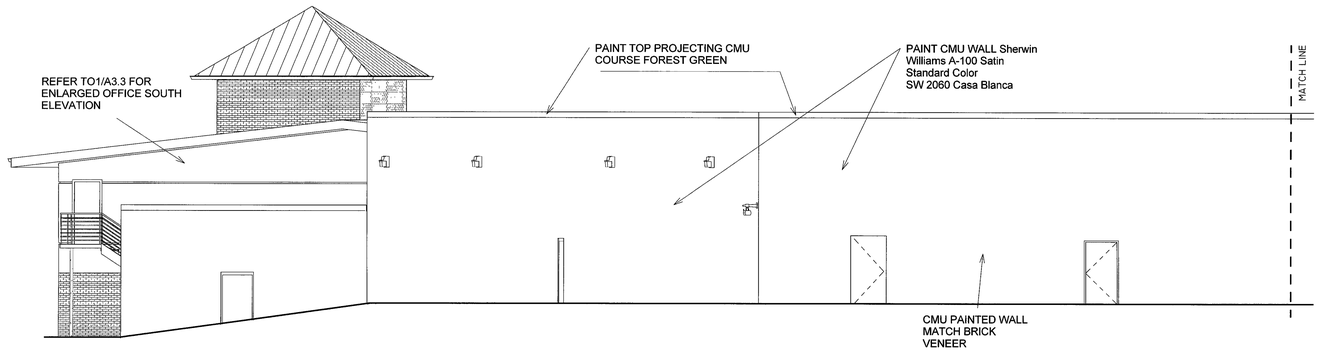
PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES 7/31/2015

WISCONSIN
CHRISTOPHER URBANCZYK
9284-005
NORTHBROOK IL
REGISTERED ARCHITECT

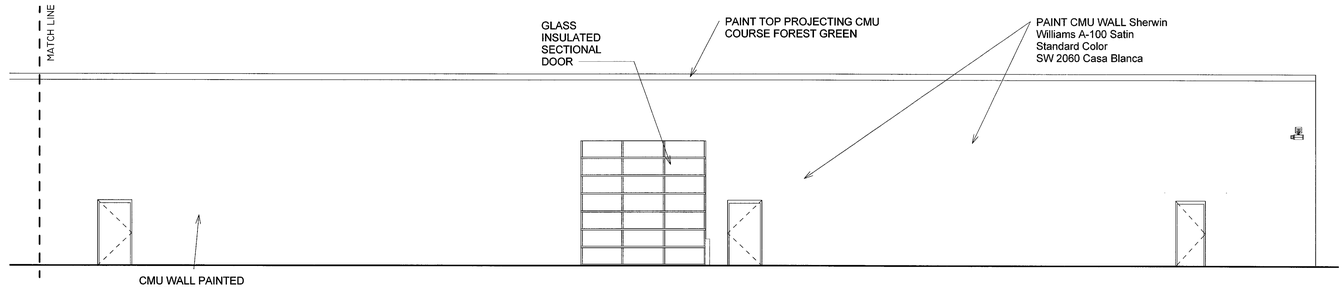
8.12.14

A3.0

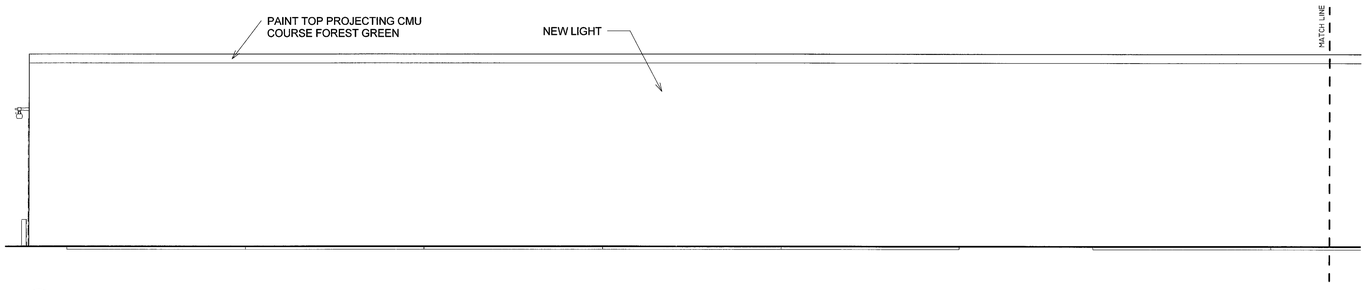


1 A3.1 Partial South Elevation A
1/8" = 1'-0"

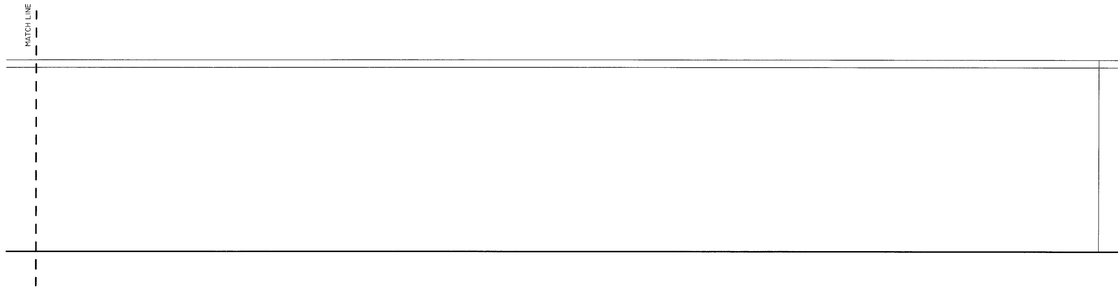
NOTE:
ALL NEW MAN DOOR
OPENINGS UP TO 3'-10" WIDE
USE ANGLE 5X5X1/4



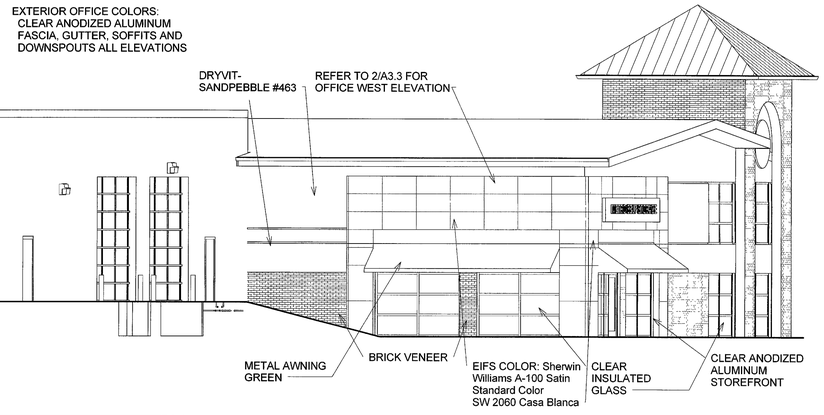
2 A3.1 Partial South Elevation B
1/8" = 1'-0"



3 A3.1 Partiall East Elevation A
1/8" = 1'-0"



4 A3.1 Partial East Elevation B
1/8" = 1'-0"



BY	REVISIONS	DATE	MK
	RE-ISSD	4.23.14	
	REVISED	4.8.14	
	ISSUED FOR BID	3.11.14	
	ISSUED FOR PERMIT	3.11.14	

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SHEET TITLE
PROPOSED OVERALL
ELEVATIONS

Drawn By: Author | Scale: 1/8" = 1'-0"
Checked By: Checker | Project Number: 1428

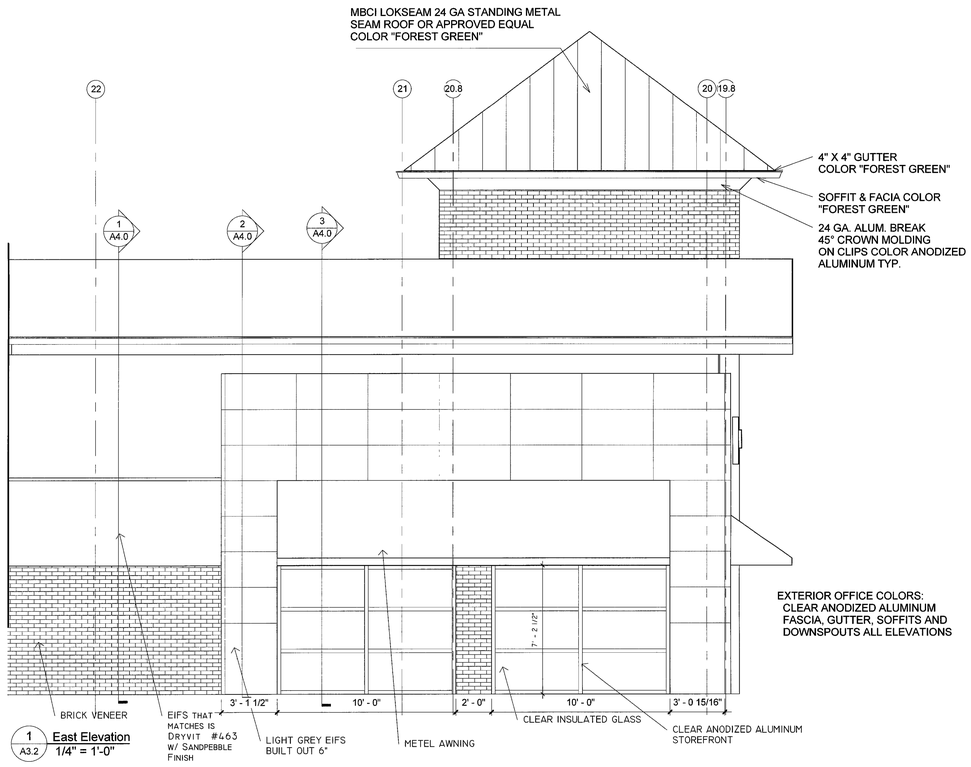
PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN
DEER, WISCONSIN

CHRISTOPHER M.
URBANCZYK
REG. ARCHITECT
EXPIRATION DATE
7/31/2016

WISCONSIN
CHRISTOPHER URBANCZYK
9284-005
NORTHBROOK, IL
ARCHITECT

8.12.14

A3.1

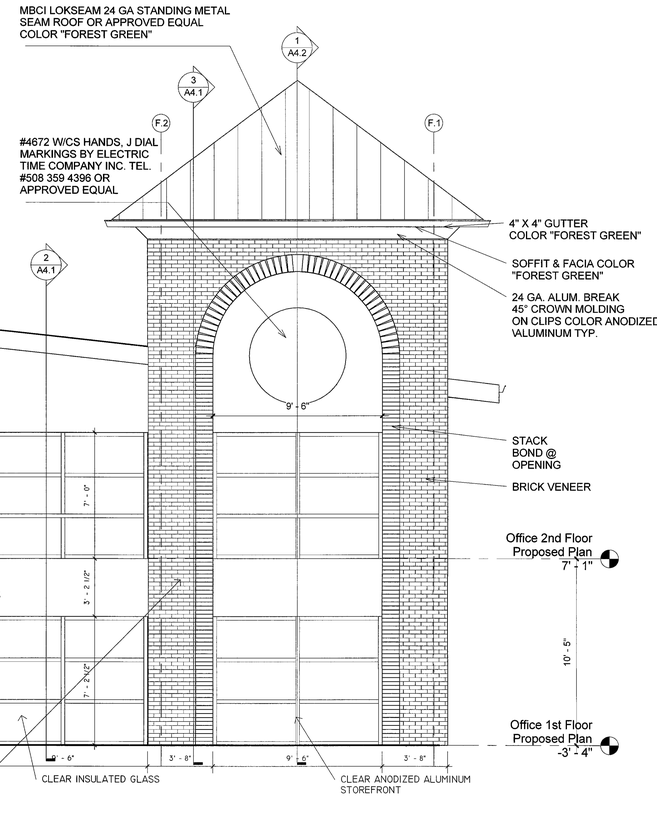


1 A3.2 **East Elevation** 1/4" = 1'-0"

NOTE:
Gutters, eave trim and roof trims for the Storage Buildings shall match Janus Forest Green (20), MBCI Signature 300 Classic Green, DBCI Forest Green 10, or US Door Hunter Green 11, 26 gauge minimum.

NOTE:
ALL NEW MAN DOOR OPNINGS UP TO 3'-10" WIDE USE ANGLE 5X5X14

EXTERIOR OFFICE COLORS:
CLEAR ANODIZED ALUMINUM
FASCIA, GUTTER, SOFFITS AND
DOWNSPOUTS ALL ELEVATIONS



2 A3.2 **North Elevation** 1/4" = 1'-0"

BY	REVISIONS	DATE
	ISSUED FOR PERMIT	8.11.14
	ISSUED FOR BID	8.11.14
	REVISED	4.22.14
	REVISED	1.24.14

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SHEET TITLE: OFFICE ELEVATIONS

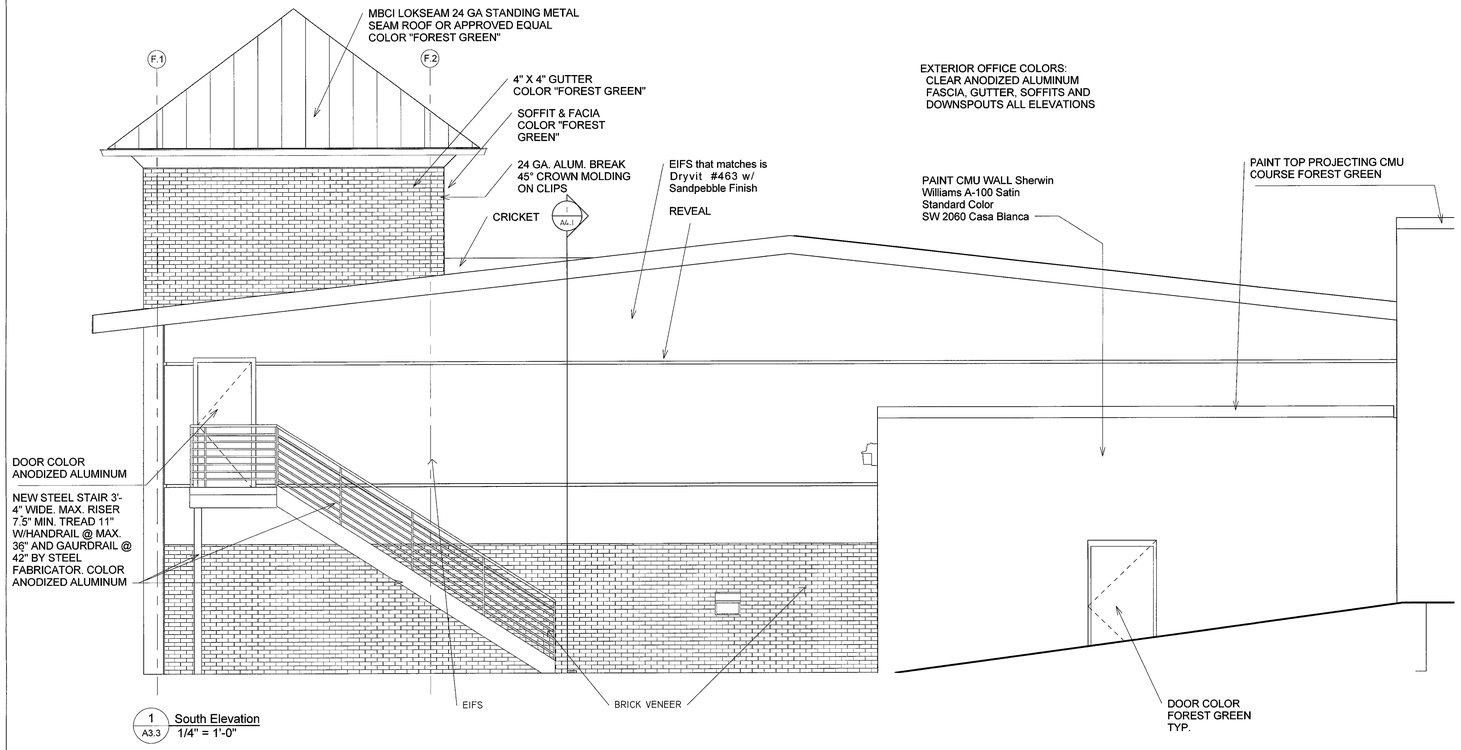
Drawn By: | Job No.: | Date: 8.11.14 | Project Number: | Scale: 1/4" = 1'-0"

PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES 7/31/2015
WISCONSIN CHRISTOPHER URBANCZYK 9251-005 NORTHBROOK IL ARCHITECT

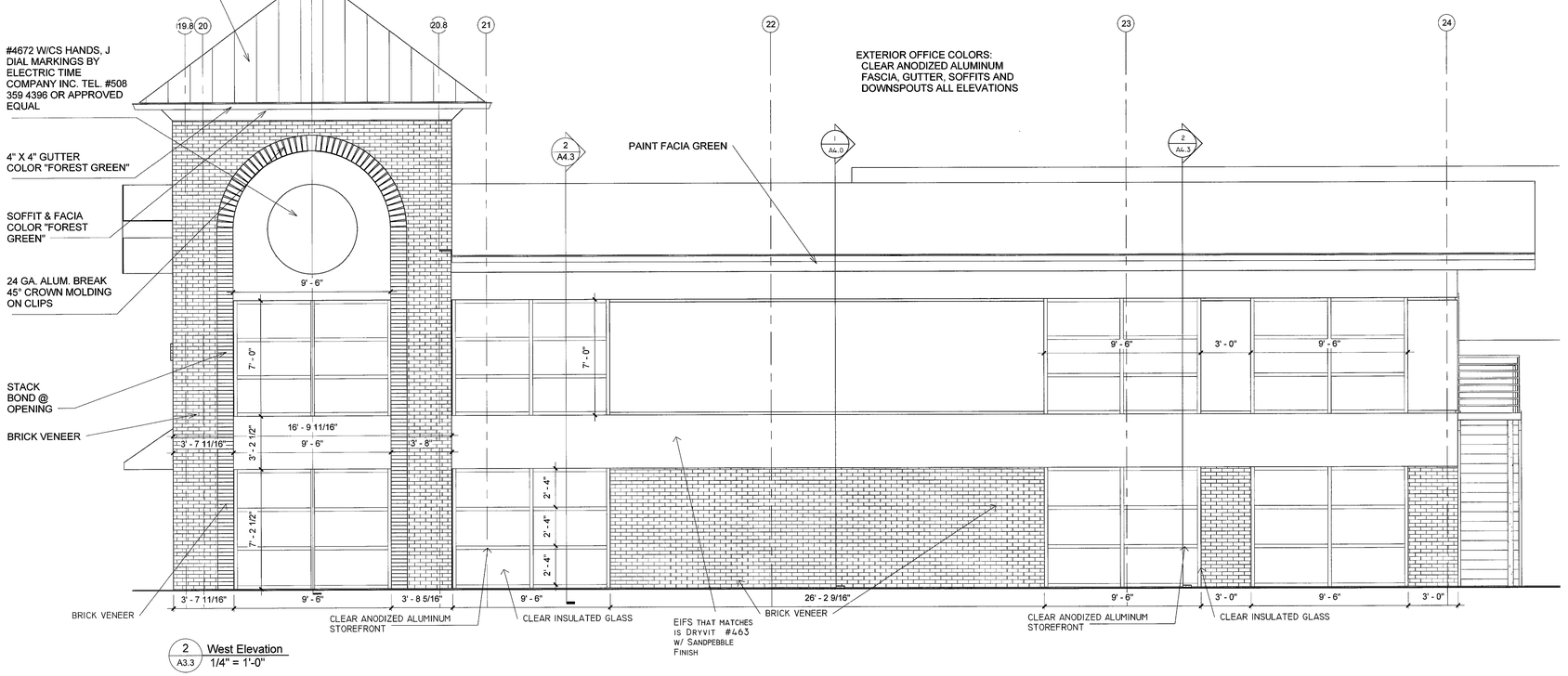
8.12.14

A3.2



1 A3.3 South Elevation
1/4" = 1'-0"

NOTE:
ALL NEW MAN DOOR OPNINGS UP TO 3'-10" WIDE USE ANGLE 5X5X14



2 A3.3 West Elevation
1/4" = 1'-0"

MK	DATE	REVISIONS	BY
A	4.22.14	REVISED	
2	4.4.14	REVISED	
1	6.11.14	ISSUED FOR BID	
	8.11.14	ISSUED FOR PERMIT	

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SHEET TITLE: OFFICE ELEVATIONS

Issued for: PERMIT
Checked by: JU
Job no.: 14-07
Scale: 1/4" = 1'-0"
Product Drawings
Drawn by: MK
Date: 8.12.14

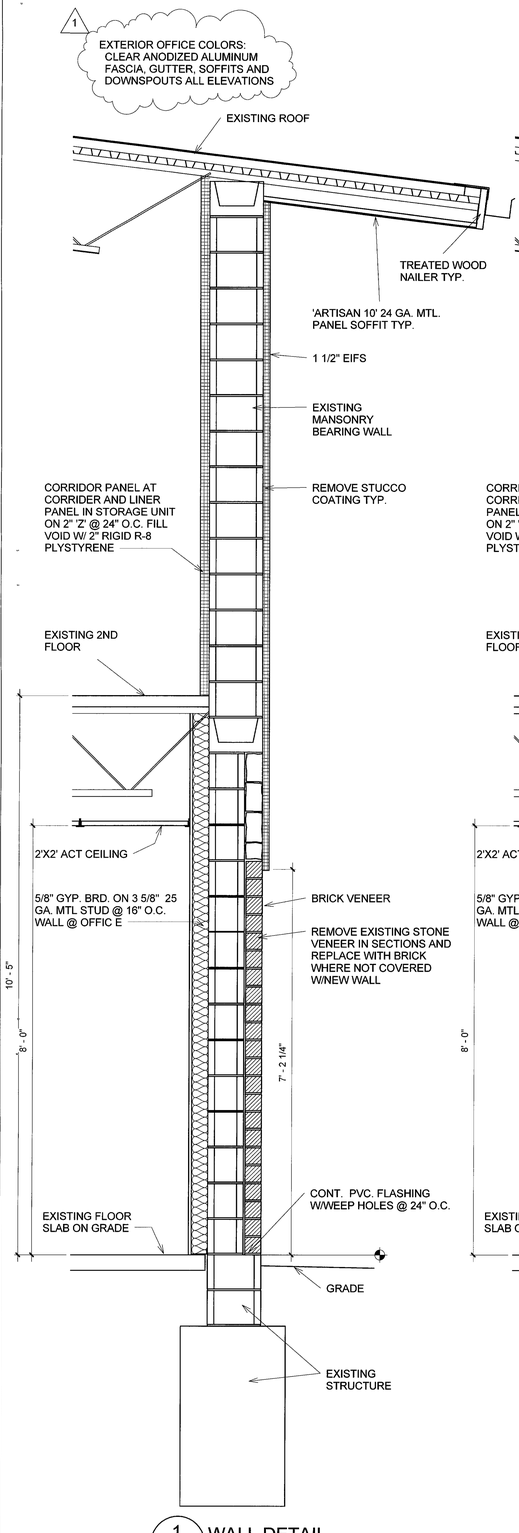
PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN
DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
EXPIRATION EXPIRES
1/31/2015

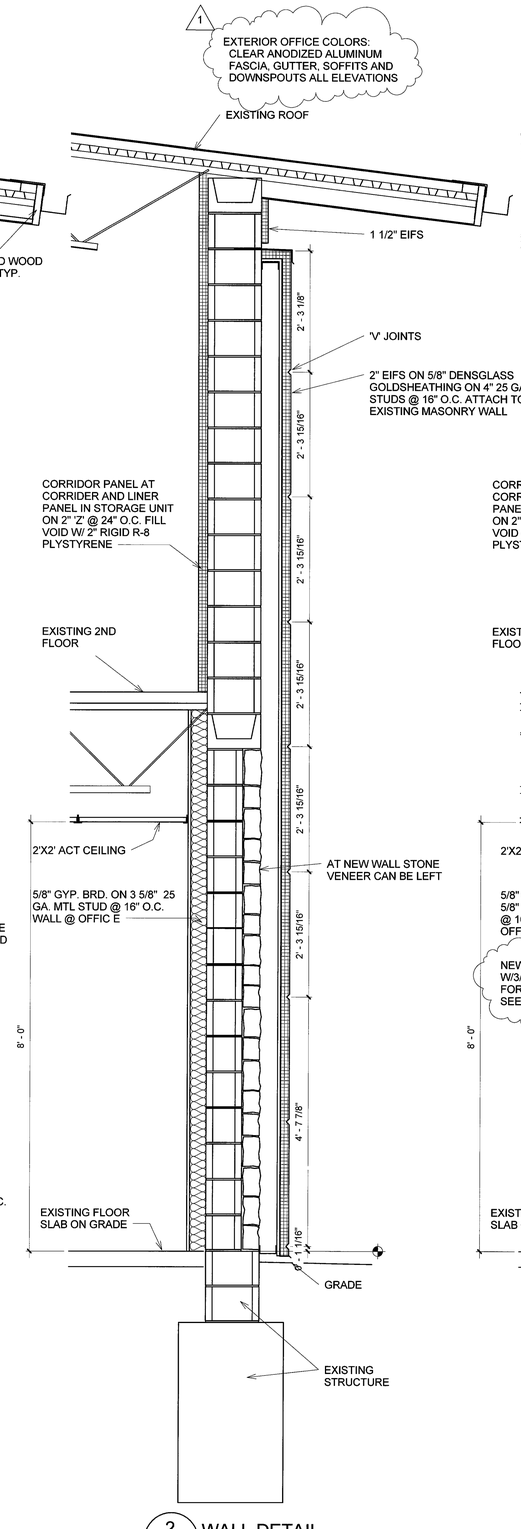
WISCONSIN CHRISTOPHER URBANCZYK 9284-005 NORTHBROOK IL ARCHITECT

8.12.14

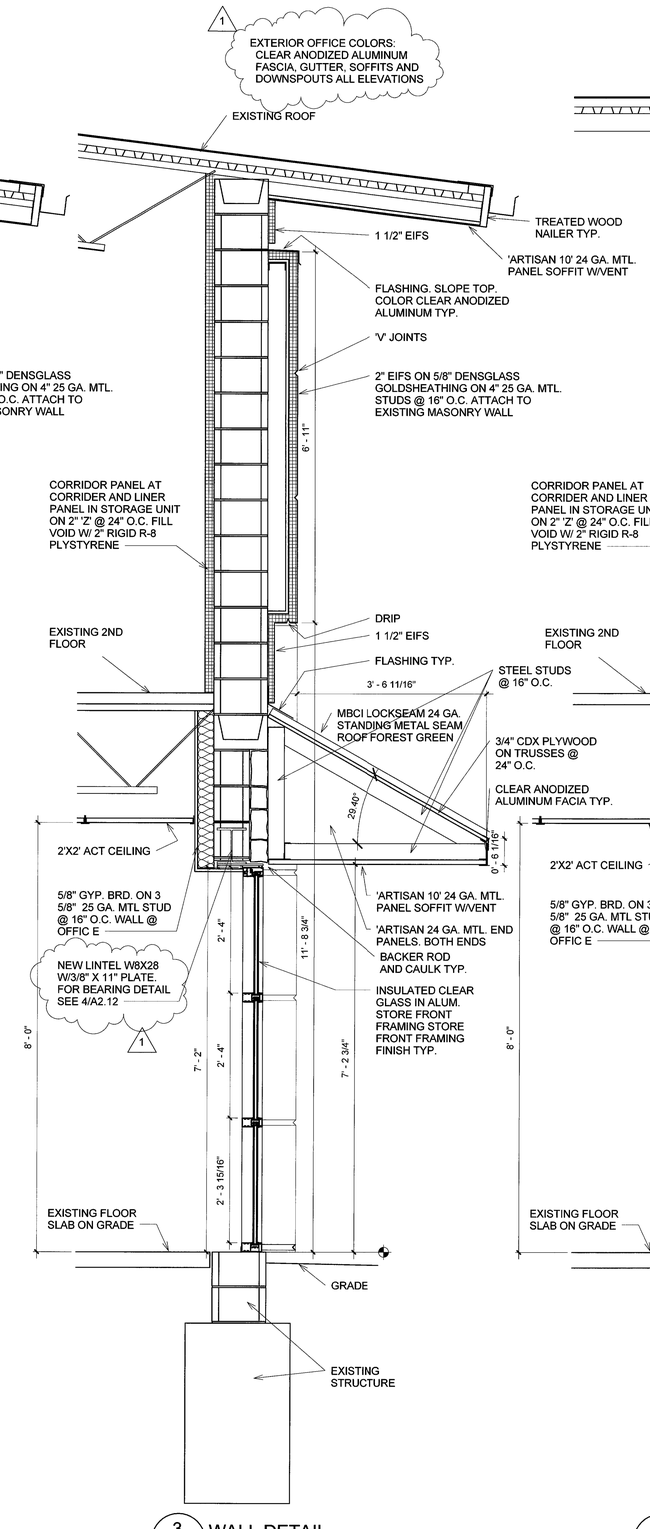
A3.3



1 WALL DETAIL
A4.0 3/4" = 1'-0"



2 WALL DETAIL
A4.0 3/4" = 1'-0"



3 WALL DETAIL
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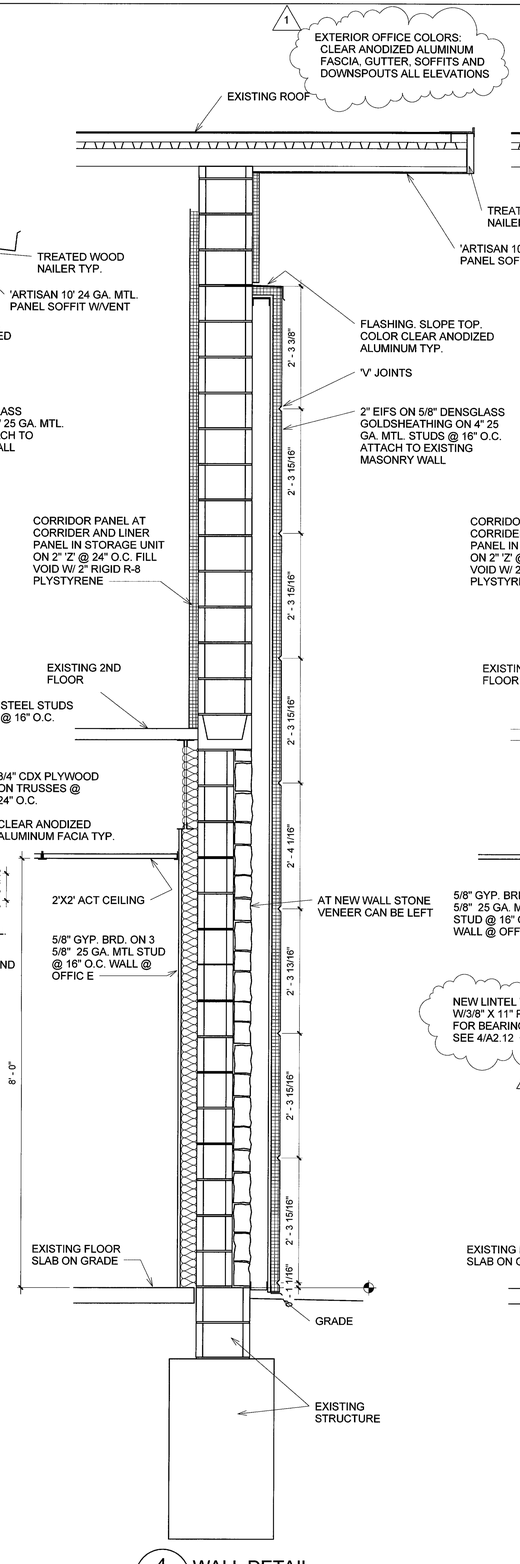
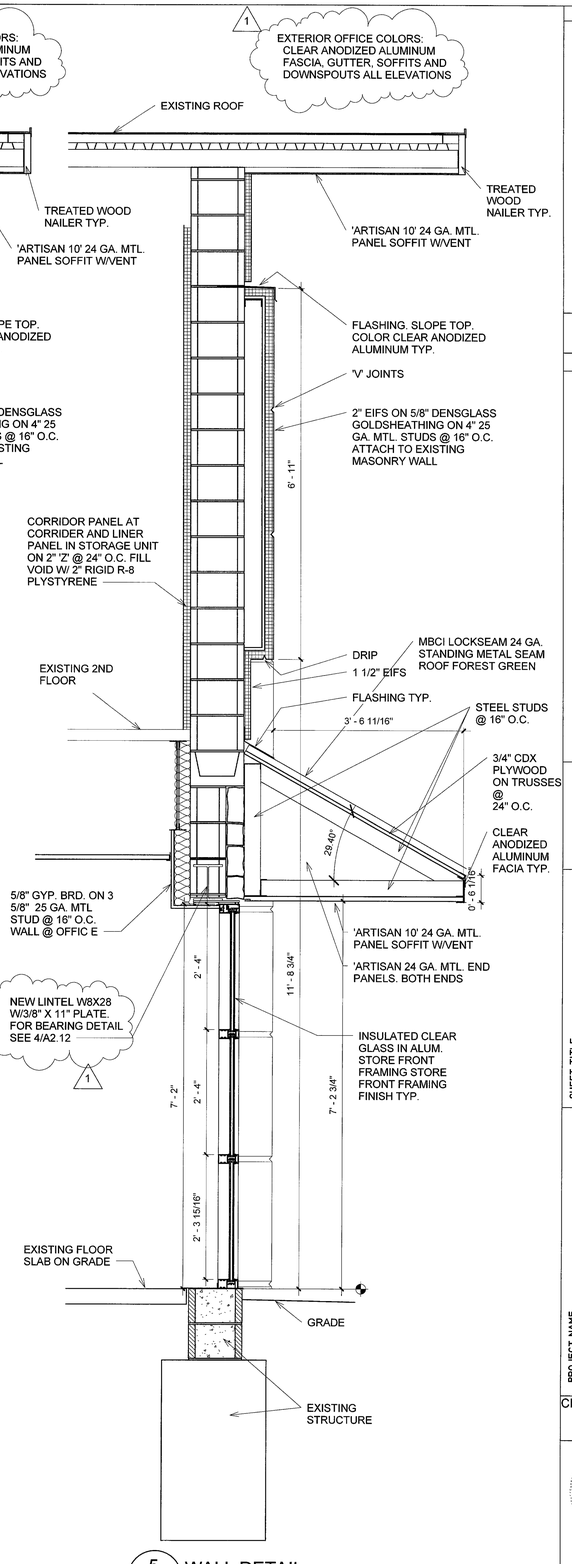


4 WALL DETAIL
A4.0 3/4" = 1'-0"



5 WALL DETAIL
A4.0 3/4" = 1'-0"

NO.	DATE	REVISIONS	BY
2	4.22.14	REVISED	
1	6.6.14	REVISED	
0	8.11.14	ISSUED FOR BID	
	8.11.14	ISSUED FOR PERMIT	

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SHEET TITLE
OFFICE WALL SECTIONS

Drawn By: AUTHOR | Check: CHECKER | Date: DATE | Project Number: 3.15.14 | As Noted: SCALE

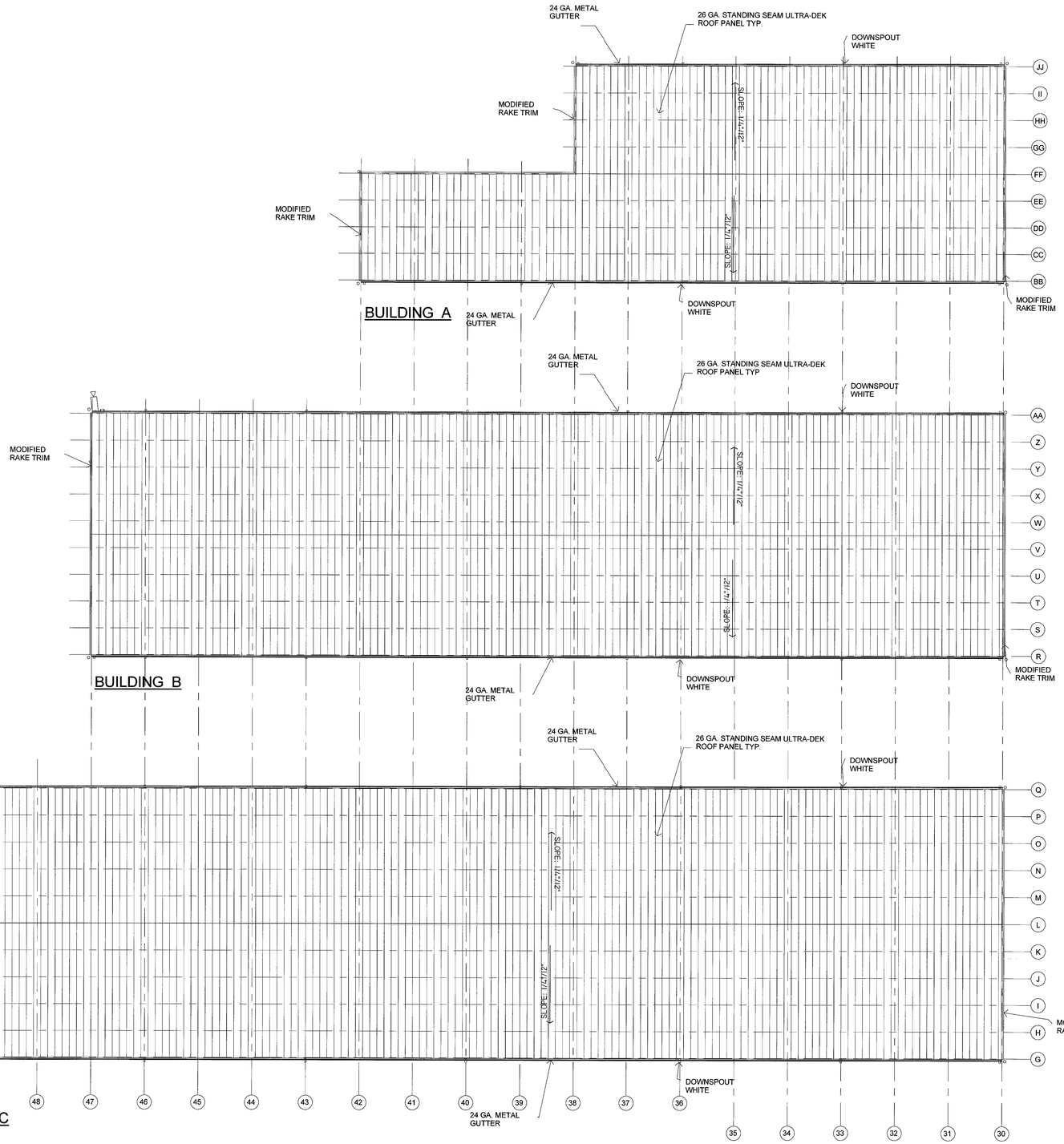
PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
EXPIRATION DATE: 7/31/2015

WISCONSIN CHRISTOPHER URBANCZYK 9284-005 NORTHBROOK IL REGISTERED ARCHITECT

8.12.14

A4.0



1 / A5.1 Proposed Bldg. A, B & C Roof Plans
3/32" = 1'-0"

MK	DATE	REVISIONS	BY
3	8.22.14	REVISED	
2	8.8.14	REVISED	
1	8.11.14	ISSUED FOR BID	
	8.11.14	ISSUED FOR PERMIT	

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SHEET TITLE
PROPOSED BLDG. A, B & C ROOF PLANS

Drawn By: JH/HI | Scale: 3/32" = 1'-0"
Checked By: S.S.H. | Project Number: 1428

PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES 7/31/2015

WISCONSIN CHRISTOPHER URBANCZYK 9284-005 NORTHBROOK IL ARCHITECT

8.12.14

A5.1

GENERAL CONCRETE NOTES:

REINFORCEMENT:

A. BARS: MEETING ASTM A615, DEFORMED TYPE FOR #3 AND LARGER BARS. ALL OTHER BARS: GRADE 60, UNLESS OTHERWIE
NOTED. ALL BARS TO BE OF DOMESTIC MANUFACTURE.
B. WELDED WIRE FABRIC: MEETING ASTM A185, COLD-DRAWN, RESISTANCE WELDED.
C. TIE WIRE: 16 GAUGE ANNEALED STEEL WIRE.

SLAB ON GRADE:

SLAB CONSTRUCTION: 4" THICK SLAB REINFORCED W/ 6X6-W1.4XW1.4 ON 6" COMPACTED GRANULAR FILL W/ LESS THEN 3% FINES, 6 MIL VAPOR BARRIER. CONCRETE: f'c=4000 PSI @ 28 DAYS NORMAL WEIGHT CONCRETE. MISC. FILL SOILS ARE NOT SUITABLE FOR SUPPORT OF FLOOR SLAB. UNSUITABLE SOILS MUST BE REMOVED AND REPLACED WITH AN ACCEPTABLE INORGANIC LOW PLASTICITY, SILTY CLAY OR NON-EXPANSIVE GRANULAR MATERIAL. NEW FILL SHALL BE PLACED IN 9" LOOSE LIFTS AND COMPACTED TO ATTAIN 90% ASTMD-1507 (QUALITY CRITERIA3 MIX DENSITY). 90% ASTMD-1507 (MODIFIED PROCTOR MIX DENSITY). SAW CUT CONCRETE SLAB 12-16 HOURS AFTER POUR, FLUSH JOINT W/ WATER. SAW CUT 1/8"X1 1/4" DEEP.

A. ADHERE TO THE FOLLOWING INDUSTRY STANDARDS, LATEST EDITION.
1. AMERICAN CONCRETE INSTITUTE (ACI) STANDARDS:
A. ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".
B. ACI 316, "BUILDING REQUIREMENTS FOR REINFORCED CONCRETE.
B. ALLOWABLE TOLERANCES IN FINISHD, EXPOSED WORK.
1. IN LINEAR BUILDING LINES, ELEVATIONS AND CONSPICUOUS LINES AND ARISES:
MAXIMUM +/- 3/16" IN LENGTH OF 20 FEET 0 INCHES MAXIMUM +/- 3/8" IN
LENGTH OF 40 FEET 0 INCHES OR MORE.
2. IN CROSS-SECTIONAL DIMENSION: +/- 3/16"
3. IN SURFACE PLANE, PLUMB, AND LEVEL: +/-1/8" IN 10 FEET 0 INCHES IN ANY DIRECTION WHEN MEASURED WITH A
CONCRETE MATERIALS: STRAIGHT EDGE.

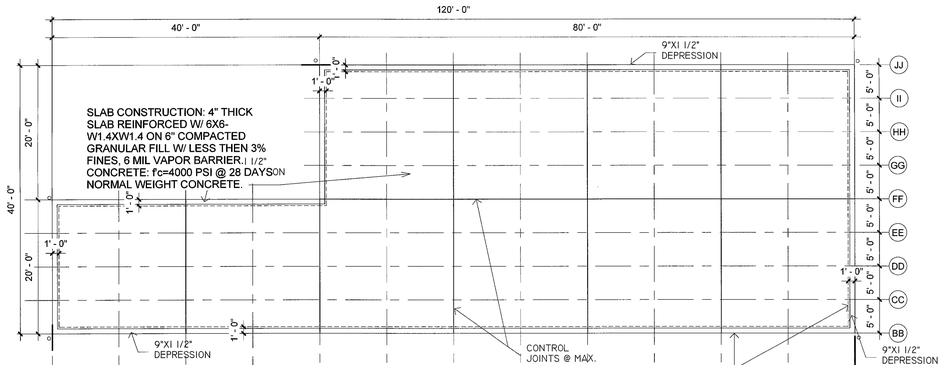
SOIL PRESSURE: NET ALLOWABLE SOIL BEARING PRESSURE=2500 PSF. PROJECT SOIL TESTING AGENCY TO VERIFY

A. PORTLAND CEMENT: MEETING ASTM C150, TYPE I OR III, NATURAL COLOR, DOMESTIC MANUFATCURE. ONLY ONE BRAND OF CEMENT
SHALL BE USED FOR EXPOSED ARCHITECTURAL CONCRETE THROUGHOUT.
B. NORMAL WEIGHT AGGREGATE: FINE AND COARSE AGGREGATE MEETING ASTM C33.
C. AIR-ENTRAINED ADMIXTURE: ASTM C260. ADD TO PRODUCE AIR ENTRAINMENT IN ACCORDACNE WITH ACI318.
D. WATER REDUCING ADMIXTURE: MEETING ASTM C494.
E. CHEMICAL RETARDERS AND ACCELERATORS: MEETING ASTM C494. ADD AS REQUIRED FOR WEATHER CONDITIONS ENCOUNTERED.
F. WATER: CLEAN, POTABLE AND FREE OF DELETERIOUS AMOUNTS OF ACID.
G. EXPANSION JOINT FILLER STRIPS: NON-EXTRUDING, NON-ASPHALT CORK OR CANE FIBER.
H. CALCIUM CHLORIDE OR MIXTURES CONTAINING CALCIUM CHLORIDE OR FLY ASH SHALL NOT BE USED IN CONCRETE WITHOUT
ARCHITECT'S APPROVAL.

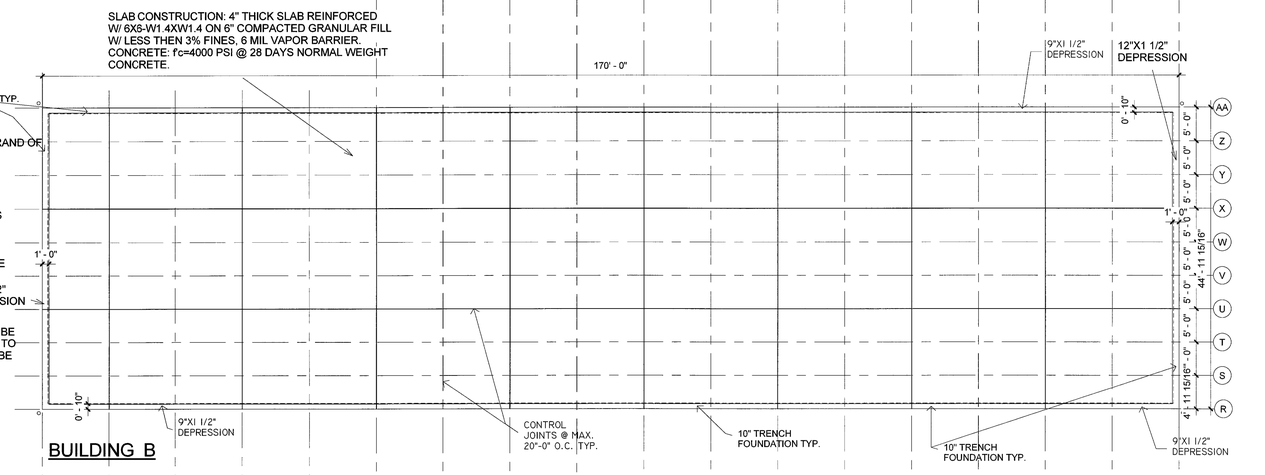
TESTING:

A. TESTING OF CONCRETE MATERIALS, PROPOSED MIX DESIGNS AND RESULTING CONCRETE. TESTING AGENCY WILL BE SELECTED BY THE OWNER AND PAID FOR BY THE OWNER. ADDITIONTESTING REQUIRED BECAUSE OF DEFICIENCIES, OR TO VERIFY THE ADEQUACY OF A CONDITIONALLEGEDLY NOT BUILT IN ACCORDANCE WITH CONTRACT DOCUMENTS, SHALL BE PERFORMED AT THE EXPENSE OF THE CONTRACTOR UNDER THE DIRECTION OF THE ARCHITECT.

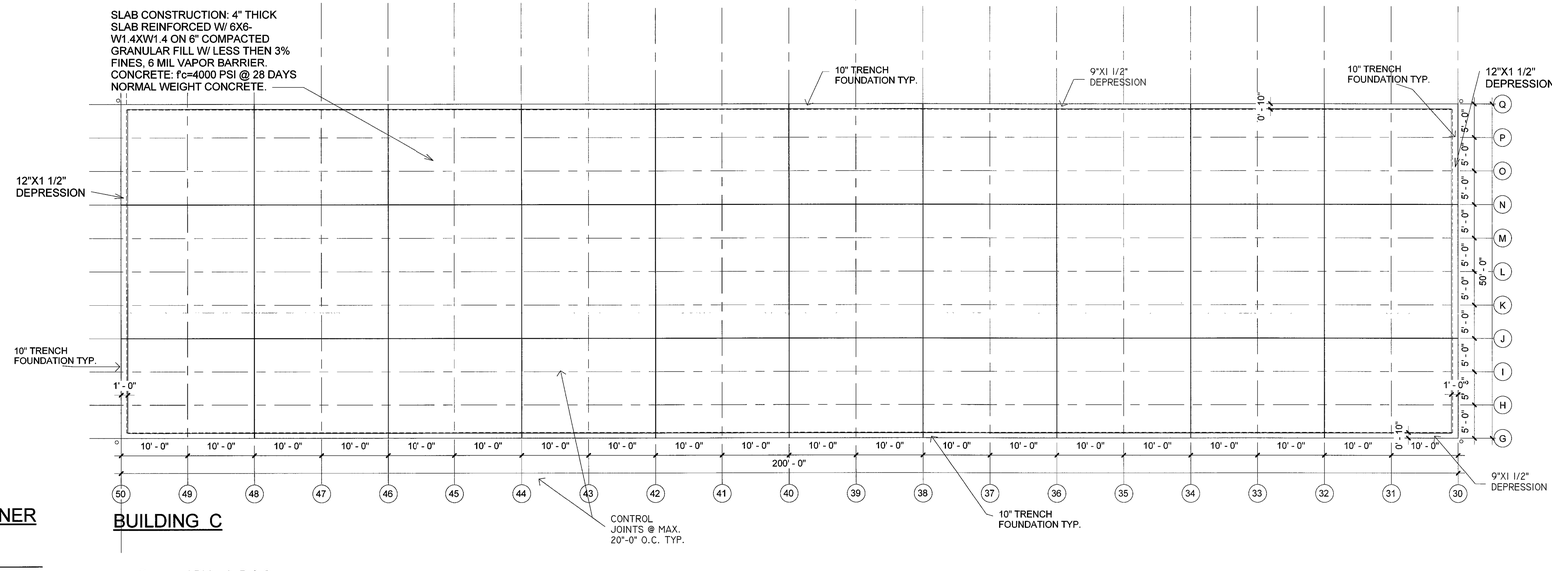
B. TEST AND EVALUATION IN ACCORDANCE WITH CHAPTERS 16, 17, AND 18 OF ACI 301-95, ENTITLED "SPECIFICATIONS FOR
STRUCTURAL CONCRETE FOR BUILDINGS".



BUILDING A

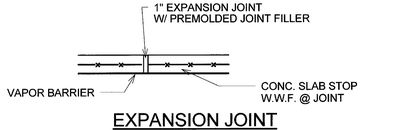


BUILDING B

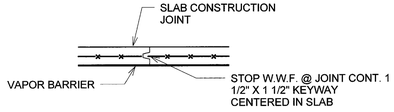


BUILDING C

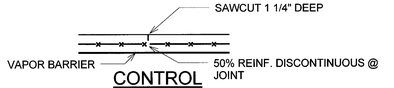
1 / A5.2 Proposed Bldg. A, B & C Foundation Plans
3/32" = 1'-0"



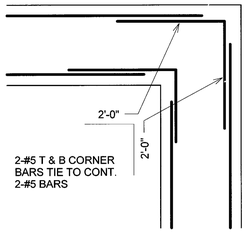
EXPANSION JOINT



CONSTRUCTION JOINT



CONTROL JOINT



REINFORCING LAP JOINT @ CORNER

2 / A5.2 CONC. SLAB DETAILS
3/4" = 1'-0"

BY	REVISIONS	DATE	MK
	9/SSUED FOR PERMIT	8.11.14	
	9/SSUED FOR BID	8.11.14	
	REVISED	8.8.14	
	REVISED	4.22.14	

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SHEET TITLE: PROPOSED BLDG. A, B & C FOUNDATION PLANS

Drawn By	Job No.	Scale	Job Loc.
CHECKED BY	3.10.14	PROJECT NUMBER	AS INDICATED

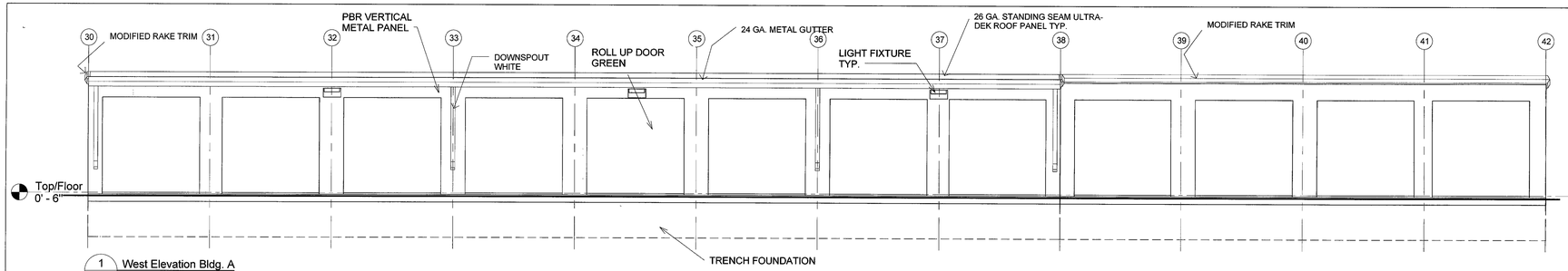
PROJECT NAME: METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES 7/31/2015

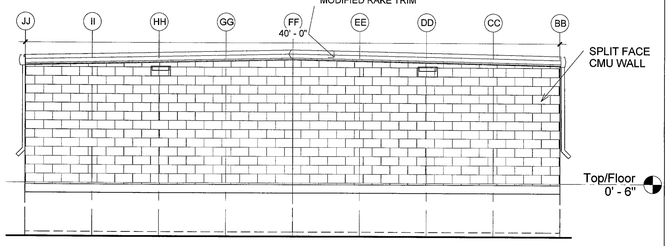
WISCONSIN
CHRISTOPHER URBANCZYK
9284-005
NORTHBROOK IL
ARCHITECT

8.12.14

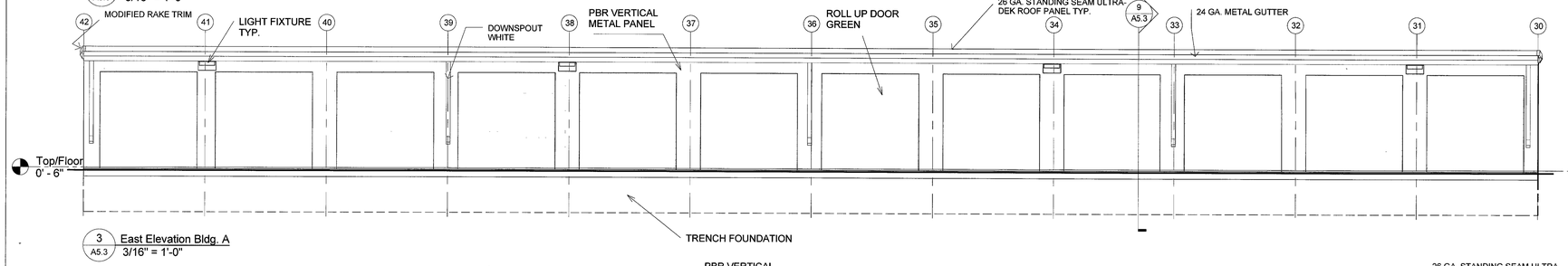
A5.2



1 A5.3 West Elevation Bldg. A
3/16" = 1'-0"



2 A5.3 South Elevation Bldg. A
3/16" = 1'-0"



3 A5.3 East Elevation Bldg. A
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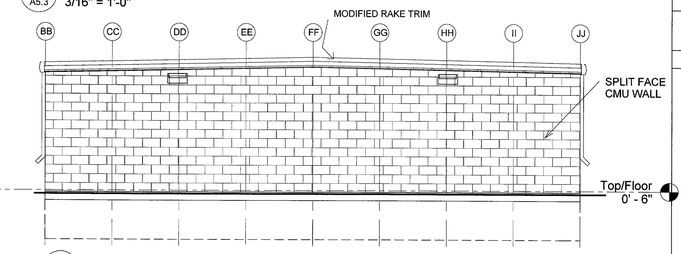

4 A5.3 North Elevation Bldg. A
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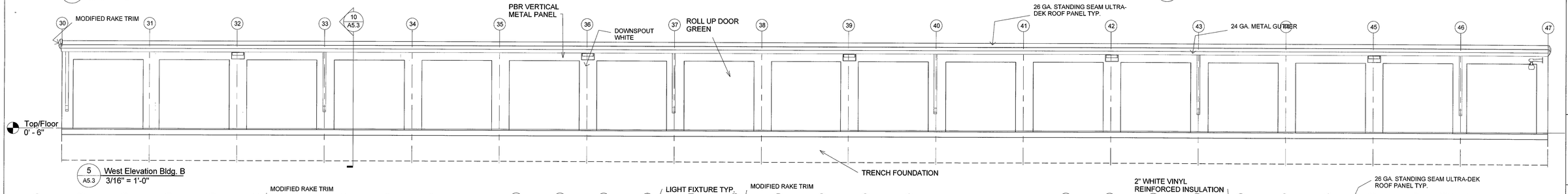
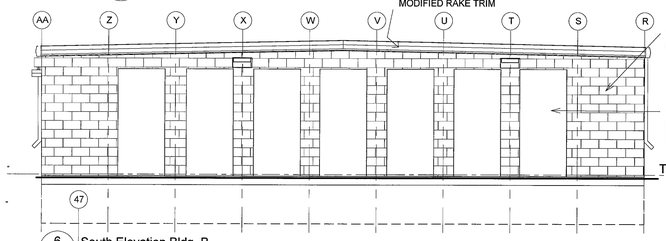
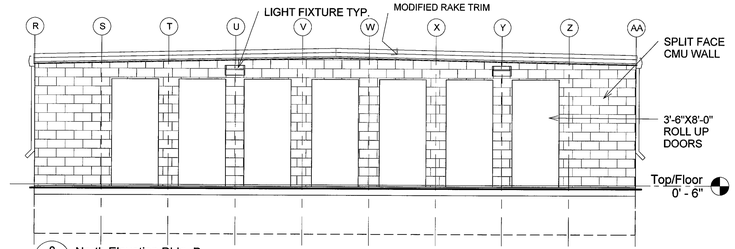


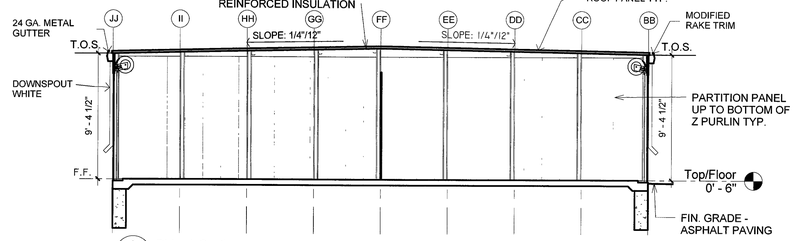
5 A5.3 West Elevation Bldg. B
3/16" = 1'-0"



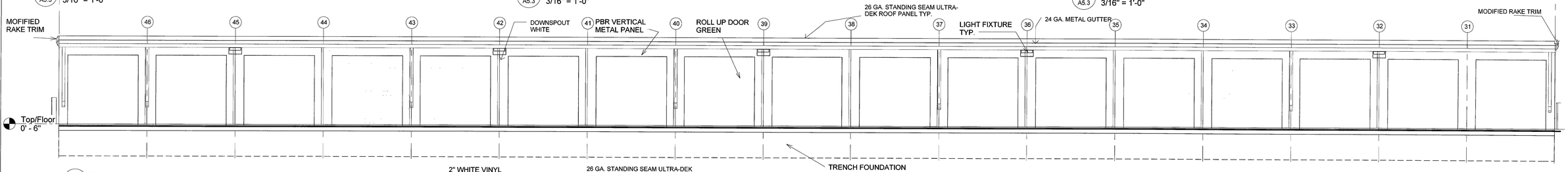
6 A5.3 South Elevation Bldg. B
3/16" = 1'-0"



8 A5.3 North Elevation Bldg. B
3/16" = 1'-0"



9 A5.3 Bldg. A Section
3/16" = 1'-0"



7 A5.3 East Elevation Bldg. B
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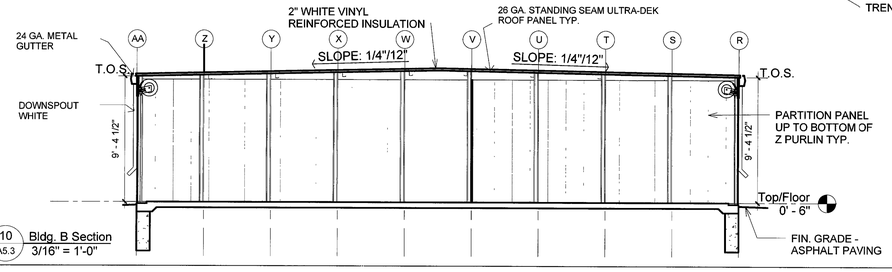

10 A5.3 Bldg. B Section
3/16" = 1'-0"

COLOR SCHEDULE
DOORS: JANUS FOREST GREEN
GUTTERS/RAKE: KYNAR 500 SIGNATURE 300 CLASSIC GREEN
DOWNSPOUTS: SIGNATURE 200 LIGHT STONE
BLOCK: SW 7571 CASA BLANCA
SIDING: SIGNATURE 200 LIGHT STONE

BY	REVISIONS	DATE	MK
	ISSUED FOR PERMIT	9.11.14	
	ISSUED FOR BID	9.5.14	
	REVISED	4.22.14	
	REVISED	4.8.14	

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SHEET TITLE
PROPOSED BLDG. A & B ELEVATIONS

Drawn By: A.Arora | Date: 8.14 | Scale: 3/16" = 1'-0"
Checked By: C.Urbanczyk | Project Number: 3.13.14

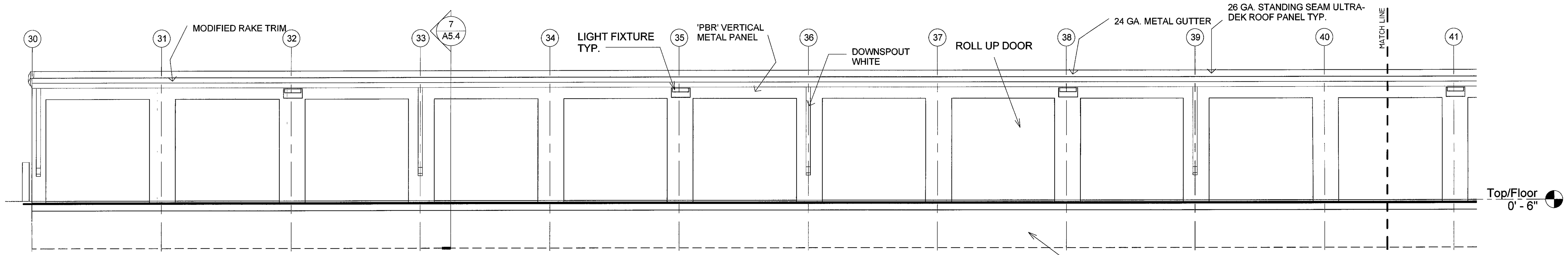
PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES 7/31/2015

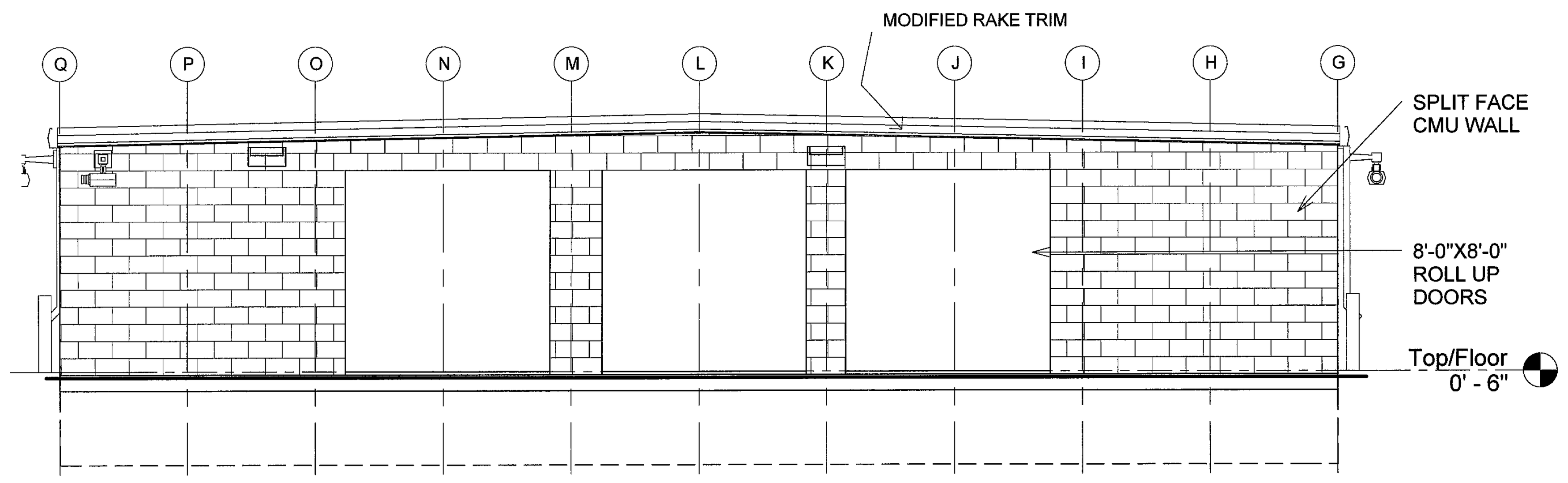
WISCONSIN CHRISTOPHER URBANCZYK 9284-005 NORTHBROOK IL ARCHITECT

8.12.14

A5.3



1 / A5.4 Partial West Elevation A Bldg. C
3/16" = 1'-0"



3 / A5.4 South Elevation Bldg. C
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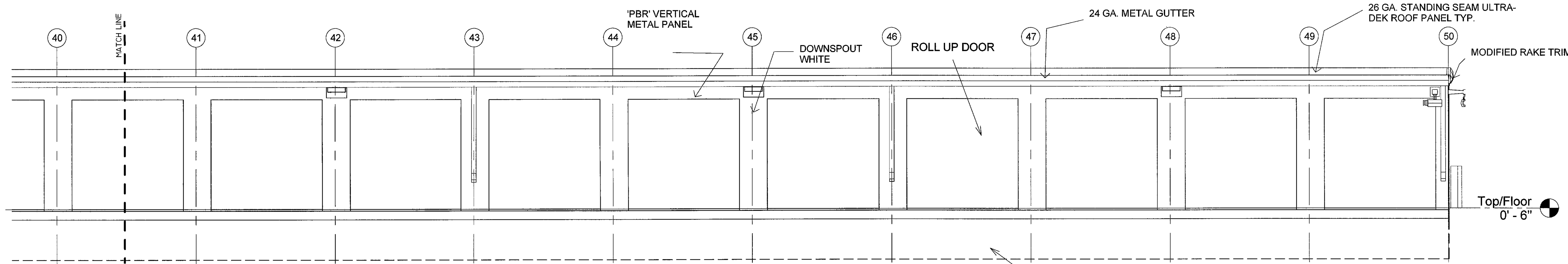
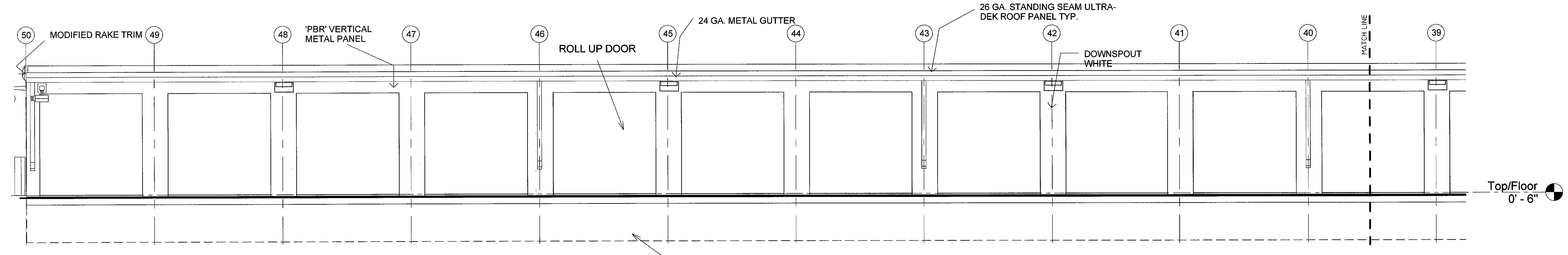


2 / A5.4 Partial West Elevation B Bldg. C
3/16" = 1'-0"



4 / A5.4 Partial East Elevation A Bldg. C
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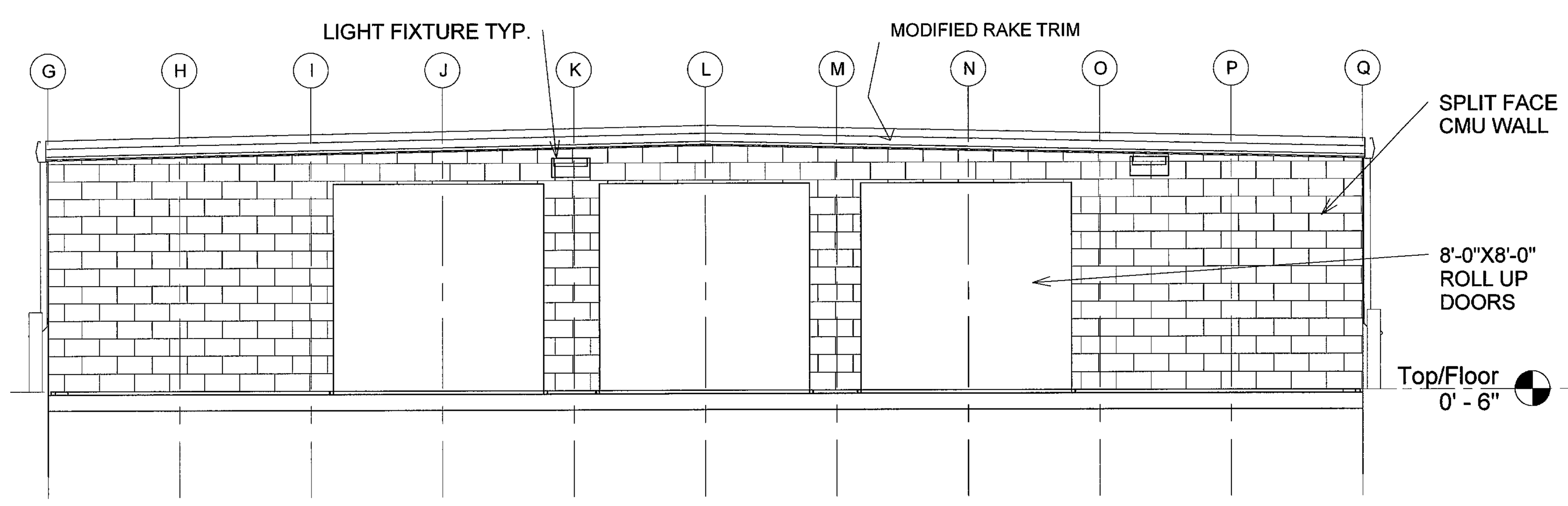

6 / A5.4 North Elevation Bldg. C
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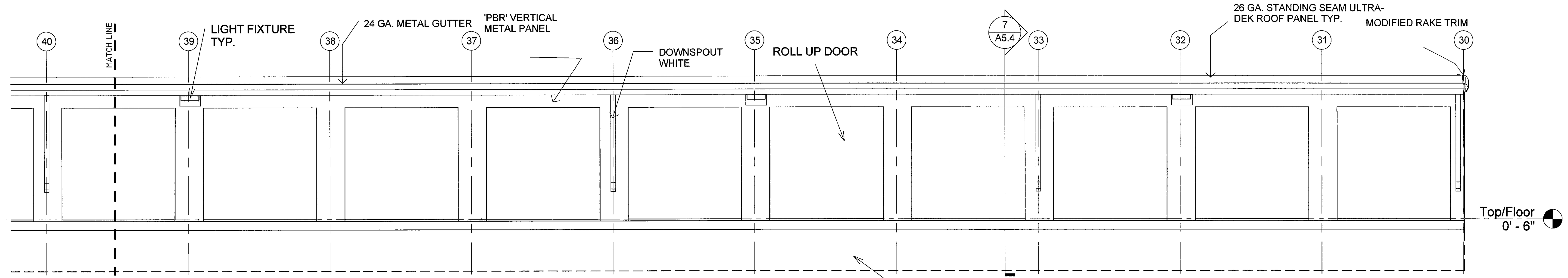
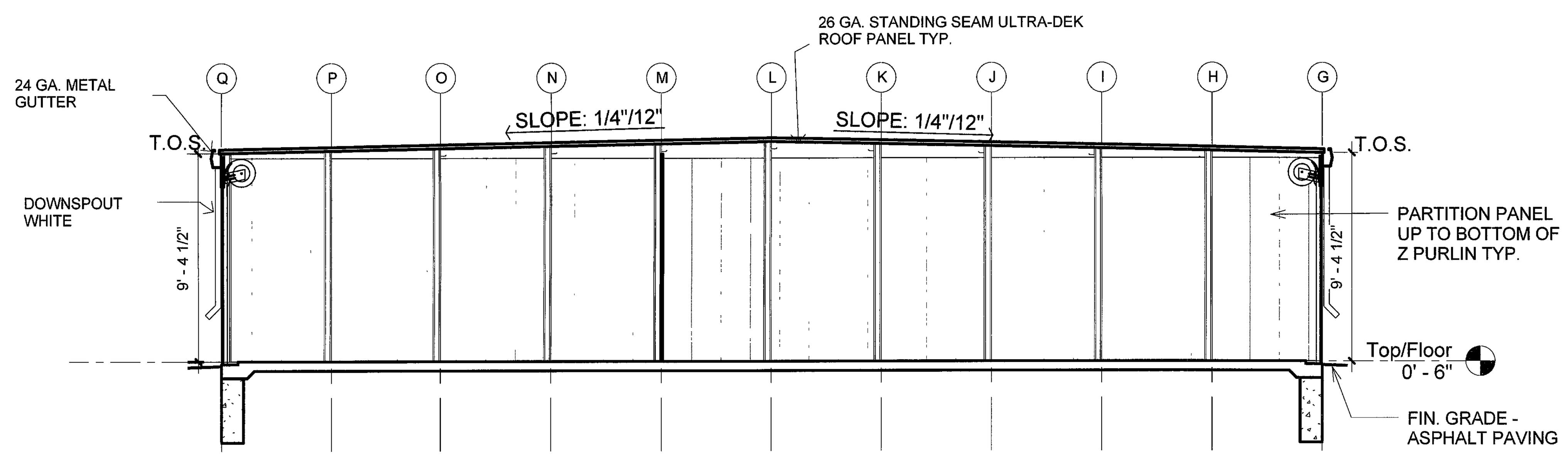


5 / A5.4 Partial East Elevation B Bldg. C
3/16" = 1'-0"

COLOR SCHEDULE
DOORS: JANUS FOREST GREEN
GUTTERS/RAKE: KYNAR 500 SIGNATURE 300 CLASSIC GREEN
DOWNSPOUTS: SIGNATURE 200 LIGHT STONE
BLOCK: SW 7571 CASA BLANCA
SIDING: SIGNATURE 200 LIGHT STONE



7 / A5.4 Bldg. C Section
3/16" = 1'-0"

MK	DATE	REVISIONS	BY
3	9.22.14	REVISED	
2	9.8.14	REVISED	
1	8.17.14	ISSUED FOR BID	
	8.11.14	ISSUED FOR PERMIT	

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SHEET TITLE
PROPOSED BLDG. C ELEVATIONS

DRAWN BY	AUTHOR	DATE	3.10.14	SCALE	3/16" = 1'-0"
CHECKED BY	CHECKER			PROJECT NUMBER	1428

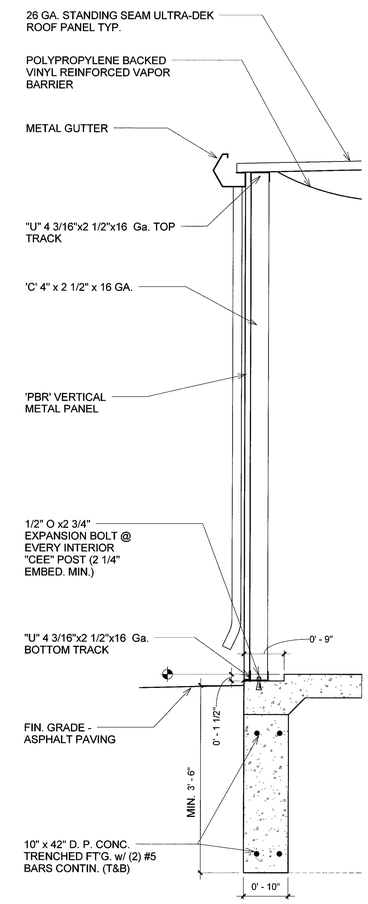
PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES 7/31/2016

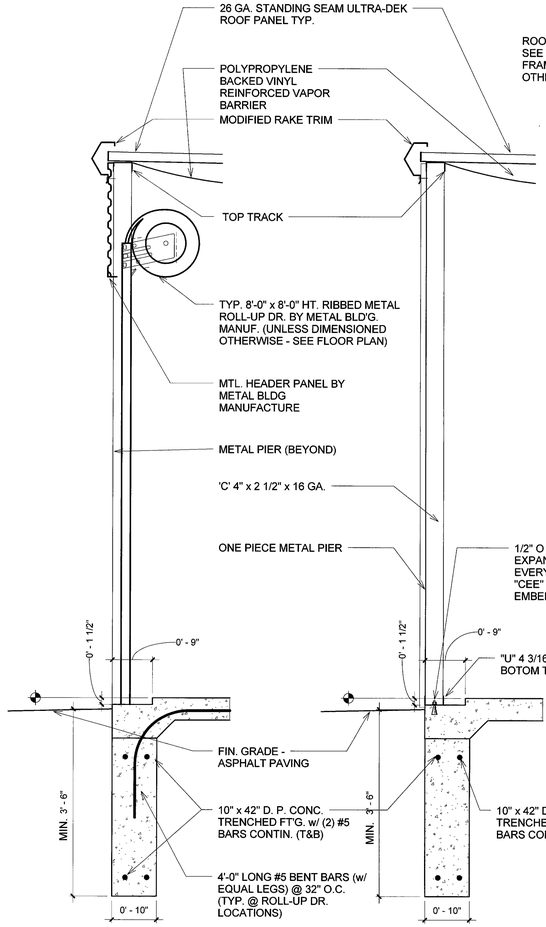
WISCONSIN
CHRISTOPHER URBANCZYK
9284-005
NORTHBROOK IL
ARCHITECT

8.12.14

A5.4



1 WALL DETAIL
3/4" = 1'-0"



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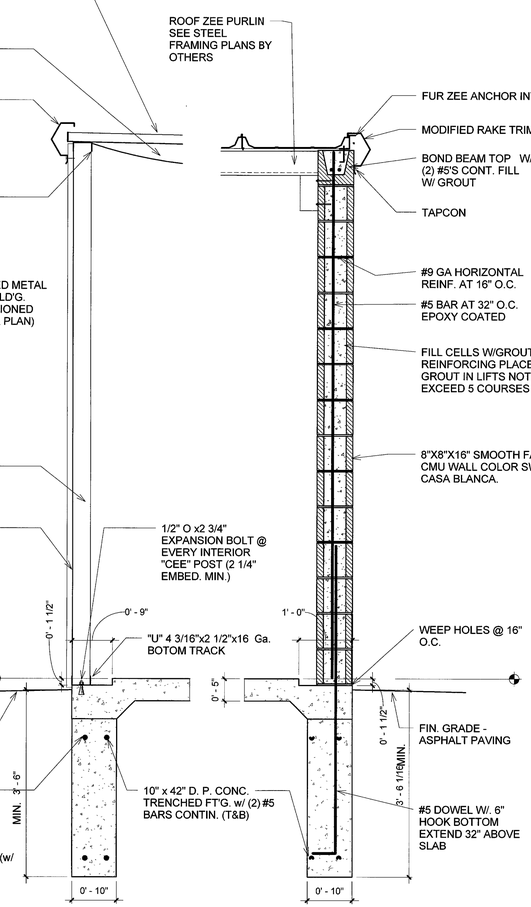

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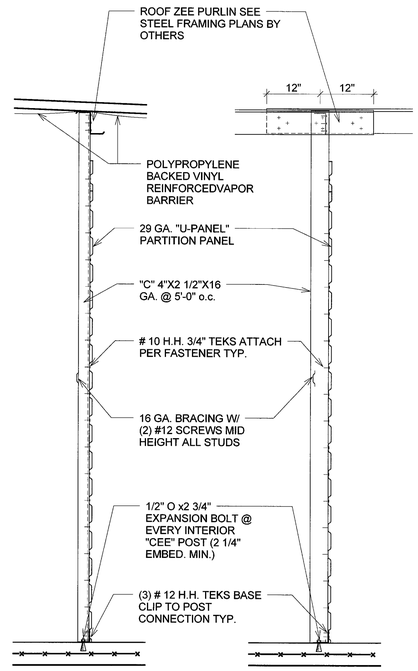
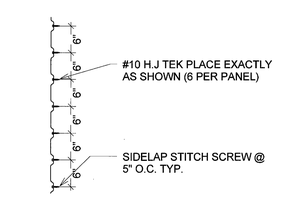
3/4" = 1'-0"



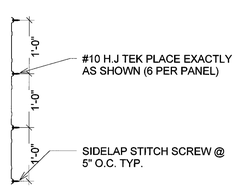
4 WALL DETAIL
3/4" = 1'-0"

5 SECTION AT POST
3/4" = 1'-0"

6 PURLIN TO POST ATTACHMENT
3/4" = 1'-0"

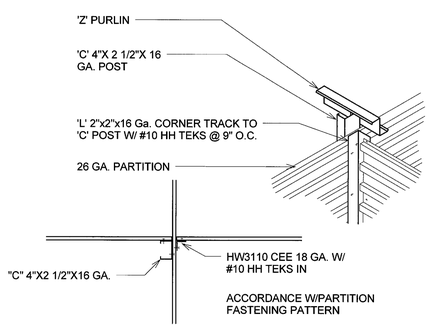


PARTITION FASTENER PATTERN FOR TYP. INTERIOR SUPPORT CONNECTION



PARTITION FASTENER PATTERN FOR TYP. END SUPPORT CONNECTION

7 PARTITION FASTENING PATTERN
SCALE: 3/4"=1'-0"



8 INTERSECTION AT POST
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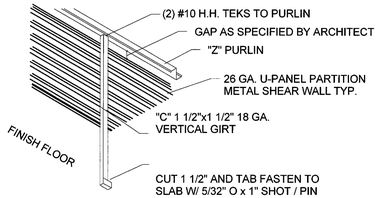
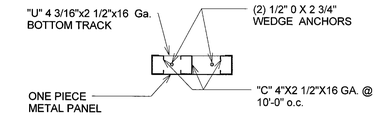


9 VERTICAL GIRT
NOT SCALE

NOTE:
FOR STEEL STRUCTURAL INFORMATION SEE STRUCTURAL DRAWINGS BY OTHERS TYP.



10 METAL PIER DETAIL
SCALE: 1"=1'-0"

MK	DATE	REVISIONS	BY
1	4.23.14	RE-RISED	
2	6.6.14	REVISED	
3	6.17.14	ISSUED FOR BID	
4	8.11.14	ISSUED FOR PERMIT	

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SHEET TITLE
PROPOSED BLDG. A, B & C WALL SECTIONS

Drawn By: AS/CHK | Date: 8.8.14 | Project Number: 3.0.14 | Scale: 3/4" = 1'-0" | Sheet No.

PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
EXPIRATION DATE: 11/30/2015

WISCONSIN CHRISTOPHER URBANCZYK 928A-005 NORTHBROOK IL REGISTERED ARCHITECT

8.12.14

A6.0

STORAGE UNIT DOOR SCHEDULE

DOOR SYMBOL	DESCRIPTION	WIDTH X HEIGHT	RATED (MIN.)	INSULATED	GLAZING	
(A)	INTERIOR METAL COILING DOOR	3'-6" X 7'-0"	N/A	N/A	N/A	GLOSSY WHITE
(B)	INTERIOR METAL COILING DOOR	5'-0" X 7'-0"	N/A	N/A	N/A	GLOSSY WHITE
(C)	INTERIOR METAL COILING DOOR	8'-0" X 7'-0"	N/A	N/A	N/A	GLOSSY WHITE
(D)	EXTERIOR METAL COILING DOOR	3'-6" X 8'-0"	N/A	N/A	N/A	FOREST GREEN
(E)	EXTERIOR METAL COILING DOOR	8'-0" X 8'-0"	N/A	N/A	N/A	FOREST GREEN

* 1 THESE DOORS TO BE COMPLIMENTED WITH MOTORIZED OPERATION / REMOTE ACTIVATION

NOTE:
SECTIONAL DOOR SUBCONTRACTOR & DOOR AND CORRIDOR SYSTEMS SUBCONTRACTOR SHALL FIELD MEASURE ALL OPENINGS, REPORT ALL DISCREPANCIES TO CONSTRUCTION MANAGER AND CONFIRM ALL DOOR SIZES PRIOR TO FABRICATION.

HARDWARE HEADINGS

(1) FIREWALL DOORS (3 HOUR RATED)

HINGES STLY CB1900 4.5 x 4.5 x 652 x NRP
CLOSER/HOLDER LCN 4040 SED
EXIT DEVICE YALE 7100F x AU526F x 32D NOT USED
(PANIC / LEVER)
SMOKE SEAL NGPI 2525B x 20'
DOOR BOTTOM NGPI 200 NA x 48"
WITH MAGNETIC HOLD OPEN TIED TO FIRE ALARM

(2) STANDARD EXTERIOR DOORS

HINGES STLY CB 1900 4.5 x 4L.5 x 652 x NRP (a) HALLWAY DOORS
DOOR CLOSER NORT P8501BF x AL x SNB EXTERIOR "EXIT ONLY"
EXIT DEVICE YALE 7100F x AU526F x 32D DOORS WITH NO
(PANIC / LEVER) EXTERIOR HARDWARE
CYLINDER YALE 1109 x US26D
KICK PLATE HALL 10" x 48" x .050 x 630
SILENCER HALL 307D
THRESHOLD
WEATHER STRIPPNG
DRIP GUARD

(3) BATH DOOR

HINGES STLY LB 1900 4.5 x 4.5 x 652 x NRP
DOOR CLOSER NORT P8501BF x AL x SNB
LEVER / LOCKSET YALE AU 5402LN x US26IPRIVACY
SILENCER HALL 307D

(4) OFFICE TO CORRIDOR

HINGES STLY CB 1900 4.5 x 4L.5 x 652 x NRP
DOOR CLOSER NORT P8501BF x AL x SNB
EXIT DEVICE YALE 7100F x AU526F x 32D
(PANIC / LEVER)
CYLINDER YALE 1109 x US26D
KICK PLATE HALL 10" x 48" x .050 x 630
SILENCER HALL 307D

STANDARD PASSAGE
(5) DOORS

HINGES STLY CB 1900 4.5 x 4L.5 x 652 x NRP
DOOR CLOSER NORT P8501BF x AL x SNB
CYLINDER YALE 1109 x US26D
KICK PLATE HALL 10" x 48" x .050 x 630
SILENCER HALL 307D

KEYING

KEY ALL LOCKSETS AND CYLINDERS TO EXISTING OWNERS GRAND MASTER KEY SYSTEM.
FURNISH "2" MASTER KEYS AA.
FURNISH "2" CHANGE KEYS EACH LOCK.
FURNISH "2" CONSTRUCTION MASTER KEYS.

MANUFACTURERS

STANLEY HARDWARE STLY NEW BRITAIN, CT
YALE LOCKS YALE CHARLOTTE, NC
NORTON DOOR CONTROLS NORT CHARLOTTE, NC
CORBIN RUSSWIN CORU BERLIN, CT
RIXSON FIREMARK RXSN FRANKLIN PARK, IL
HAGER ACCENT HACC ST LOUIS, MO
NATIONAL GUARD PRODUCTS NGPI MEMPHIS, TN
LCN CLOSERS LCN PRINCETON, IL

NOTES

ALL ENTRY DOORS AND FIREWALL DOORS SHALL BE EQUIPPED WITH FINISH HARDWARE WHICH MEETS OR EXCEEDS THE REQUIREMENTS OF THE VILLAGE OF BROWN DEER, WISCONSIN

ALL REQUIRED ENTRY / EXIT AND FIREWALL DOORS SHALL BE BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE

SIGNS, IF REQUIRED, SHALL BE READILY VISIBLE AND DURABLE WITH LETTERS NOT LESS THAN ONE INCH HIGH ON A CONTRASTING BACKGROUND.

ALL GLAZINGS SHALL COMPLY TO THE OF THE VILLAGE OF BROWN DEER, WISCONSIN

HANDLES, PULLS, LATCHES, LOCKS, AND OTHER OPERABLE PARTS ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, OINCHING OR TWISTING OF THE WRIST. THE HARDWARE SHALL BE PLACED AT LEAST 34", BUT NOT MORE THAN 45 INCHES SBOVE THE FLOOR SURFACE.

2

DOOR FINISHES
- Paint for the Hollow Metal Doors & Frames in the Office shall be oil base enamel finish Color to match the wall colors selected above. "White".
- Office interior wood doors shall receive stain and sealer in all areas. Standard stain color shall be Pratt & Lambert "Tonetic ". Color shall be: Eastern Red Cedar, on Oak
- Exterior hollow metal doors: Green
- Interior hollow metal doors: White to match glossy white hallway systems

1

Material shown on these drawings will be fabricated only after formal approval of submitted Finish Hardware Schedule including all necessary hardware templates. Doors and frames shall be reinforced for surface mounted hardware as required. Drilling and tapping for surface mounted hardware shall be performed by installation contractor.
All Standard type hardware will be located at this manufacturer's standard location as shown on door and frame elevation. Hardware items such as paic exit devices, deadlocks, etc. will also be located at the manufacturer's standard location unless specifically addressed in submittal and/or submittal review. All frames shall be prepared for door silencers, three for single swing opening and two per head for double sing openings.
Installation of all glass and glazing to be done by installation contractor.
All frames will be supplied with required wall and floor anchors. Submittals shall show these components.
Once materials are delivered to the jobsite and signed for, they become the reponsibility of the contractor.
Missing or damaged material must be so noted on the delivery ticket at the time of delivery. Failure to do so is at the installation contractor's risk of replacement.
Hardware locations and door clearances will be in accordance with S.D.I. standards.
When Hollow Metal is used in conjunction with Aluminum or structural steel products, consult with the Construction Manager for coordination of hardware locations.
All frames must be set absolutely plumb, square, and level to ensure proper operation of doors and hardware.
All thresholds shall not exceed 1/2" in height.

HOLLOW METAL DOORS AND FRAMES

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All Standard type hardware will be located at this manufacturer's standard location as shown on door and frame elevation.
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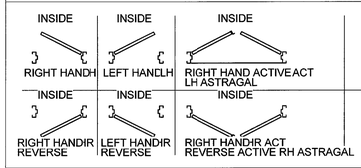
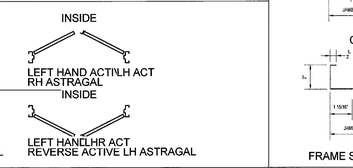
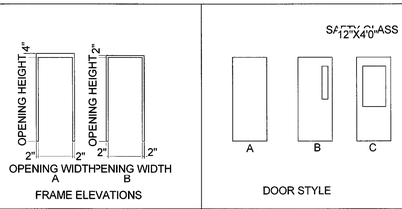
DOOR HANDING CHART

SINGLE DOORS



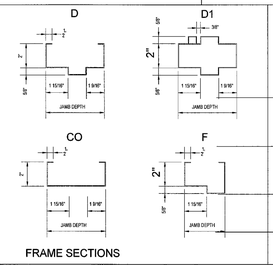
PAIR OF DOORS





FRAME ELEVATIONS

DOOR STYLE



FRAME SECTIONS

LOCATION							FRAME DATA										DATA			NOTES
SYMBOL	SINGLE / PAIR	HARDWARE HEADING	LOCATION	T / F	LOCATION	HAND	FRAME CONSTRUCTION	GAUGE	DOOR OPENING WIDTH	DOOR OPENING HEIGHT	DOOR THICKNESS	ELEVATION	SECTION SHEET	JAMB DEPTH	OVERALL HEIGHT (ROUGH OPENING)	ANCHOR	DOOR GUAGE	DOOR INSULATION	DOOR STYLE	LABEL	
101	SNGL.		OFFICE	T	EXTERIOR	LH	ALUM		3'-0"	7'-0"	BY STOREFRONT MANUFACTURER TUMBLER SUPPLIED BY HARDWARE CO. FULL VIEW. PUSH/PULL, PADDLE/KEYLOCK, CLOSER, MAIL SLOT. ANODIZED ALUM.										
102	SNGL.	4	OFFICE	T	STORAGE	LH	WELD	16	3'-0"	7'-0"	1 3/4	B	D	5"	7'-2"	MTL STUD			A		BIRCH VENEER DOOR FOR STAIN
103	SNGL.	5	OFFICE	T	BREAK ROOM	LH	WELD	16	3'-0"	7'-0"	1 3/4	B	D	5"	7'-2"	MTL STUD			A		BIRCH VENEER DOOR FOR STAIN. ADD HANDLE SAMEAS HWDR (3) PASSAGE LATCH
104	SNGL.	3	OFFICE	T	BATHROOM	LHR	WELD	16	3'-0"	7'-0"	1 3/4	B	D	5"	7'-2"	MTL STUD			A		BIRCH VENEER DOOR FOR STAIN. ADD HANDLE SAMEAS HWDR (3) PASSAGE LATCH
105	SNGL.	4	OFFICE	T	CORRIDOR	LH	WELD	16	3'-0"	7'-0"	1 3/4	B	D	5"	7'-2"	MTL STUD	18		C		
106	SNGL.	3	CORRIDOR	T	BATHROOM	LH	WELD	16	3'-0"	7'-0"	1 3/4	B	D	5"	7'-0"	MTL STUD	18		A		
107	SNGL.	3	CORRIDOR	T	BATHROOM	RH	WELD	16	3'-0"	7'-0"	1 3/4	B	D	5"	7'-2"	MTL. STUD	18		A		
108	SNGL.		LOADING	T	JANITOR'S CLOSET	LHR	WELD	16	3'-0"	7'-0"	1 3/4	B	D	5"	7'-2"	MTL. STUD	18		A		KEYLOCK NO CLOSER
109	SNGL.	2	CORRIDOR	T	EXTERIOR	RH	WELD	16	3-0	7-0	1 3/4	B	D	5 3/4"	7'-2"	WIRE	18	Y	C		EXIT ONLY
110			LOADING	T	EXTERIOR				14'-0"	14'-0"			GLAZED INSULATED SECTIONAL DOOR								REFERENCE SHEET A8.1 COPLAY 903
111			LOADING	T	EXTERIOR				14'-0"	14'-0"			GLAZED INSULATED SECTIONAL DOOR								REFERENCE SHEET A8.1 COPLAY 903
112	SNGL	2	CORRIDOR	T	EXTERIOR	LHR	WELD	16	3'-0"	7'-0"	1 3/4	B	D	5 3/4	7'-2"	WIRE	18	Y	C		REFERENCE COPLAY 3602 SHEET A8.1
113	SNGL	1	CORRIDOR	T	CORRIDOR	LH	WELD	16	3'-6"	7'-0"	1 3/4	B	D	5 3/4	7'-2"	WIRE	18		A	3 HR	
114	SNGL	1	CORRIDOR	T	EXTERIOR	RH	WELD	16	3'-6"	7'-0"	1 3/4	B	D	5 3/4"	7'-2"	WIRE	18	Y	C		EXIT ONLY
115	SNGL	1	CORRIDOR	T	CORRIDOR	RH	WELD	16	3'-6"	7'-0"	1 3/4	B	D	5 3/4"	7'-2"	WIRE	18		A	3 HR	
116	SNGL.	2	CORRIDOR	T	EXTERIOR	LHR	WELD	16	3'-0"	7'-0"	1 3/4	B	D	5 3/4"	7'-2"	WIRE	18	Y	C		EXIT ONLY
117	SNGL.	2	CORRIDOR	T	EXTERIOR	LHR	WELD	16	3'-0"	7'-0"	1 3/4	B	D	5 3/4"	7'-2"	WIRE	18	Y	C		EXIT ONLY
118	SNGL.	2	CORRIDOR	T	EXTERIOR	LHR	WELD	16	3'-0"	7'-0"	1 3/4	B	D	5 3/4"	7'-2"	WIRE	18	Y	C		EXIT ONLY
119			LOADING	T	EXTERIOR				14'-0"	14'-0"			GLAZED INSULATED SECTIONAL DOOR								REFERENCE SHEET A8.1 COPLAY 903 W/BARREIR ARM AND WARNING LIGHTS
120	SNGL.	2	CORRIDOR	T	EXTERIOR	LHR	WELD	16	3'-0"	7'-0"	1 3/4	B	D	5 3/4"	7'-2"	WIRE	18	Y	C		LEVER LATCH/ELECTRIC RELEASE/CONTROLLED BY KEY PAD ON EXTRIOR
121	SNGL.	2	CORRIDOR	T	EXTERIOR	LHR	WELD	16	3'-0"	7'-0"	1 3/4	B	D	5 3/4"	7'-2"	WIRE	18	Y	C		EXIT ONLY
122	SNGL.	2	CORRIDOR	T	EXTERIOR	LHR	WELD	16	3'-0"	7'-0"	1 3/4	B	D	5 3/4"	7'-2"	WIRE	18	Y	C		EXIT ONLY
123			LOADING	T	EXTERIOR				14'-0"	14'-0"			GLAZED INSULATED SECTIONAL DOOR								REFERENCE SHEET A8.1 COPLAY 903
124	SNGL.	2	CORRIDOR	T	EXTERIOR	RHR	WELD	16	3'-6"	7'-0"	1 3/4	B	D	5 3/4"	7'-2"	WIRE	18	Y	C		EXIT ONLY
125	SNGL.	2	CORRIDOR	T	EXTERIOR	LHR	WELD	16	3'-0"	7'-0"	1 3/4	B	D	5 3/4"	7'-2"	WIRE	18	Y	C		ELECTRIC LATCH TIED TO KEY PAD VERIFY OPENING SIZE
201	DBL.		CORRIDOR	T	LIFT		WELD	16	6'-0"	7'-0"	1 3/4	B	D	5 3/4"	7'-2"	WIRE	18				
202	SNGL.	1	CORRIDOR	T	EXTERIOR		WELD	16	6'-0"	7'-0"	1 3/4	B	D	5 3/4"	7'-2"	WIRE	18				EXIT ONLY
203	NEW PASSAGE HARDWARE ON NEW DOOR FROM STAIR TO CORRIDOR C LABEL IN EXISTING OPENING. VERIFY OPENING SIZE IN FIELD																				
126	NEW KEY LOCK ON EXISTING DOOR																				
127	NEW PASSAGE HARDWARE ON EXISTING DOOR																				
128	NEW PASSAGE HARDWARE ON EXISTING DOOR																				
129	NEW PASSAGE HARDWARE ON NEW DOOR FROM STAIR TO CORRIDOR C LABEL IN EXISTING OPENING. VERIFY OPENING SIZE IN FIELD																				
130	NEW PASSAGE HARDWARE ON NEW DOOR FROM STAIR TO CORRIDOR C LABEL IN EXISTING OPENING. VERIFY OPENING SIZE IN FIELD																				

3

3

MK	DATE	REVISIONS	BY
5	4.22.14	REVISED	
4	4.8.14	REVISED	
3	3.17.14	ISSUED FOR BID	
2	3.11.14	ISSUED FOR PERMIT	

URBAN & ASSOCIATES ARCHITECTS, INC.
2529 ILLINOIS ROAD, NORTHBROOK, ILLINOIS 60062
WWW.URBANASSOCIATES.NET (847) 291.9570

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SHEET TITLE: DOOR SCHEDULE

PROJECT NAME: METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
EXPIRATION DATE: 11.30.2015

WISCONSIN
CHRISTOPHER URBANCZYK
9284-006
NORTHBROOK IL
ARCHITECT

8.12.14

A7.0

METRO STORAGE
Construction Design Standards
& General Specifications

Intent

-The construction design standards and general specifications included here-in are provided and referenced to be applied as required and/or as necessary for the design and/or construction of a facility, conversion of a facility and/or for the general maintenance or repairs for various systems and conditions at a facility or site.
- The construction design standards and general specifications should be cross referenced in the various sections as necessary.
- Any deviations for these construction design standards and general specifications must be submitted to the Owner in writing for approval.

Miscellaneous Site Fencing & Gate Design Requirements & Specifications:

- ***Dumpster Area***

- Typical dumpster shall sit on a concrete slab. Slab construction 6" thick minimum with reinforcement and an 18" x 18" thickened edge on the front 2' of the dumpster slab.
- The dumpster fencing shall be a chain link fence.
- Typical the gate frames for the dumpster will be designed with 2" x 2" square tube steel welded frame with the fence attached directly to the frame.
- Gates frames shall be attached with heavy duty hardware and welded to the posts with a minimum 6" steel post set to support the gates.
- Note: Gate posts shall be set in a minimum 24" diameter footing set 3'-6" deep in the ground.
- Concrete at grade shall be sloped on all sides to drain water away from the post.
- The (2) swing gates to the dumpster area section shall be supplied with a drop rod set into the pavement or concrete dumpster pad with the appropriate locking hardware also provided for the gates.

- ***Perimeter Fencing, Automatic Gates & Access Gates***

- The typical height of all perimeter fencing of the property shall be 6'.
- Prior to the installation of any fencing all areas intended to receive the fence shall receive a utility locate.
- New fencing shall be installed a minimum of 4" inside the perimeter of the existing property line.
- Property lines shall be also be surveyed and staked prior to the installation of any new fencing.
- Typically all main entrance vehicle access gates shall be constructed of wrought iron or aluminum with a minimum opening of 14', The color would be painted or pre-finished "Black ".
- Automatic access gates if all possible shall retract against existing fence lines and/or against building areas. If not the retracted area of the automatic gate shall be enclosed in fencing for safety.
- Walk Gates: Provided a 3'–6 "minimum width walk-gate with-in the immediate area of any automatic vehicle access gate. The walk gate shall be constructed out of similar materials as the automatic access gate.
- Walk Gates: All walk gates for the property shall allow free exit from the inside of the property. Walk gates shall also prevent unauthorized entry from the exterior or perimeter of the property into the property.
- The walk gate shall receive a standard lever type lock set, keyed on the exterior side with a passage lever on the interior side.
- The walk gate shall have diamond mesh installed on the complete walk gate and on any adjacent fence/gate areas in an area of approximately 24" wide x the height of the adjacent walk gate to prevent people from reaching around from the exterior side to access from the exterior side without a key.
- Walk gate hardware shall include; brushed stainless finish lever lock and the lock shall be keyed to owner requirements, heavy duty hinges and a closure shall be provided for all walk gates.
- Secondary Gates: Typically some additional swinging vehicle access gates might be required in the design at the ends of strategic aisles for the purpose additional customer access, snow removal, local municipality requirements for fire, etc.
- All posts shall be set at least 3' deep, in and 8" diameter hole with concrete around the all sides of the post post.
- Concrete at grade shall be sloped on all sides to drain water away from the post.

- ***Chain Link Fencing & Gates***
- **- Typical Color: Black with Green and Galvanized materials also used.**
- **- Fabric: 72", 9 Ga. (2"Mesh) Black coated chain link fabric.**
- **- Top Rail: 1 5/8" O.D. vinyl coated structural pipe, 1.73 lbs. per foot. Top rail maximum length of 21'.**
- **- Line Posts: 2" O.D. vinyl coated structural pipe, 2.20 lbs. per foot, black with cap. Line post spacing shall not exceed 10'.**
- **- Terminal Posts: 2-1/2" O.D. vinyl coated structural pipe, 2.78 lbs. per foot.**
- **- Bracing: Terminal posts shall be braced to the nearest line post with 1-5/8" O.D. vinyl coated structural pipe.**
- **- Tension Wire: 9ga. Smooth wire vinyl coated tension wire attached to the bottom of the fence fabric with 9ga. aluminum hog ring spaced 18" on center.**
- **- Tie Wire: 9ga. vinyl coated spaced at 14" on center for line posts and 18" on center for rails.**
- **- Fittings: Vinyl Coated in all areas.**
- **- All posts shall be set at least 3' deep, in and 8" diameter hole with concrete around the all sides of the post post. Note: Note: Gate posts shall be set in a minimum 24" diameter footing set 3'-6" deep in the ground.**
- **- Concrete at grade shall be sloped on all sides to drain water away from the post.**
- **- Fencing shall not be installed on the posts until concrete has cured for a minimum of seven days.**
- **- Fencing fabric shall be secured to the posts and top rails as specified. The bottom of the fence shall be secured with tension wire in all cases.**
- **-The bottom of the fencing in all areas shall be 2" above the finish grade of the site.**
- **- The dumpster fencing when chain link fencing and gates are used shall receive decorative slats "Winged Slat" by Tri-Seal International. Color shall be "Green".**
- **- All dumpster areas constructed with entirely with chain link materials shall be enclosed with slats.**

- ***Aluminum Fencing & Gates***

- All aluminum fencing and gates shall powder coated "Black".
- Post spacing shall not exceed 8'.
- Posts 3" x 3" square with cap.
- Rails 2" x 1" punched for pickets (minimum of 3)
- Pickets 3/4" x 3/4" square materials
- All posts shall be set at least 3' deep with a minimum of 6" of concrete around the all sides of the post post. Note: Gate posts shall be set in a minimum 24" diameter footing set 3'-6" deep in the ground.
- Concrete shall be sloped to drain water away from the post.
- Fencing and gates shall not be installed until concrete has cured for a minimum of seven days.
- The bottom of the fencing in all areas shall be 2" above the finish grade.
- Note cantilevered gates shall be installed approximately 6" above the pavement grade

Protection Bumper Posts

- Bumper posts typically shall be installed and included in the design for protection of systems in the following locations: Building Corners, Gate Areas/Corners, Gate Keypads, Gate Operators, Dumpster Areas, Fire Hydrants, Electrical Panels, HVAC Condensers, Gas Meters, Building Entrances, Signs, Awnings, cameras and any other areas as necessary for protection of equipment or the buildings.

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- Concrete shall be sloped to drain water away from the post.
- Fencing and gates shall not be installed until concrete has cured for a minimum of seven days.
- The bottom of the fencing in all areas shall be 2" above the finish grade.
- Note cantilevered gates shall be installed approximately 6" above the pavement grade

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Site Work, Landscape & Asphalt Misc. Design Requirements & Specifications:

- ***Site Work Design & Misc. Requirements***

- A Civil Engineer shall complete the plans for all related site work in accordance with state and local codes. (Drawings shall be signed and sealed by the engineer).
- The site plan shall include the layout and details at a minimum of the following: Building locations, building setbacks, driving aisles, curbing areas, the access control gate system location, perimeter fencing, walk gates, dumpster area, bumper posts, site signage, parking spaces, utility locations, retaining walls, relevant elevations, dimensions, details, etc. At a minimum these items shall be included on the site drawings and or site plan for approval of the layout by the owner.
- Slit fencing and erosion control shall be indicated on the plans by the civil engineer to be installed by the site contractor per local or governmental requirements.
- All clearing and removal of undesirable trees and vegetation when required within the planned construction areas shall be kept to a minimum. All materials removed shall be hauled off site and legally disposed of.
- Tree protection in areas as designated or required shall be shall be maintained accordingly by the site contractor.
- During the construction process streets adjacent to the site shall be kept clean and free of dirt, mud and debris.
- All subsurface areas shall be compacted to meet 95% density minimum in all areas.
- All subsurface areas shall be inspected and tested by a qualified soils engineer to ensure allowable soil bearing pressure. Owner and (local municipality if required) shall be provided with a copy of all testing reports from the testing company.
- Work can typically include: demolition of existing structures, haul off of materials, stripping of topsoil, cutting, stockpiling, placement, compacting, importing, back filling and grading of the site and building areas, etc. as part of the project.
- Exterior excavations of building walls that will be in pavement areas shall be back filled with gravel only.
- The properties main aisle shall be 30' wide minimum and all other aisles shall have minimum width of not less than 25'.
- The finish grade for all landscape and grass/lawn areas shall be approximately 4" below the finished floor elevation of the buildings. The grade in all instances shall also naturally slope away from the buildings for drainage.
- All landscape areas shall receive a minimum of 6" of topsoil free of large clumps and root material.
- The finished grade for all pavement areas shall be a minimum of 3" below the finished floor elevation of the buildings.
- The pavement grade in all instances shall naturally slope away from the buildings.
- All pavement areas shall be ramped up flush with the finished floor at all exterior hallway or building man door openings.
- The turning radius on the ends of buildings shall be a minimum of 30'.
- The site shall be designed with at least 5 customer spaces total, including 1 handicapped designated space.
- All parking spaces shall be striped and handicapped spaces shall be stripped and labeled accordingly with handicapped signage as required by local codes.
- Handicapped spaces will also include the necessary ramp or curb cut for access into the office area.
- 1 to 2 Parking spaces shall also be allowed for the property managers. This space can be installed on the interior of the property.

- ***Site Utilities***

- - All sewer and water mains shall be constructed in accordance with the standard specifications, construction details and the ordinances of the state and local governing authorities.
- - Maintain separations of under ground lines and services as required.
- - Excavations for sewer, water, storm and other lines in paved areas shall be back filled with approved materials only and meet the same compaction requirements as required for the paved areas.
- - Provide utility systems from the point of connection at public services to with-in 5 feet of the building.
- - Provide all bedding materials, pipe, pipe fittings, cleanouts, inlets, structures, valves, hydrants, back flow preventers, meters, connections, tapping, certification and chlorination as might be required with the installation of the utility systems.
- - All valve vaults, b-boxes, manholes, clean outs, etc. in pavement, slab, walk or landscape areas shall be adjusted to finish flush with the finished surface areas.

- ***Building Utilities***

- The contractor providing the service is responsible for the coordination and installation of all sleeves through foundation walls, under footings, through floor slabs, walls and decks for the installation of systems as necessary.
- All under slab trenches shall be back filled with gravel in all areas.
- The plumbing contractor is responsible for the removal of all spoils associated with the under slab plumbing work in all areas.
- The plumbing contractor is responsible for stubbing the sanitary sewer service 5' outside of the building areas.
- The plumbing contractor is responsible for the domestic water meter installation.
- The installation of the domestic water service shall be coordinated with the site sewer and water contractor, fire sprinkler contractor and plumbing contractor as necessary.
- Note: Any water service of more than 2" in diameter for the fire system shall be stubbed into the building and up through the slab by the site sewer and water contractor and left with a flanged fitting for acceptance of the fire system. Work will be coordinated with the fire sprinkler contractor for the location or locations of the service riser's.
- All valve vaults, b-boxes, manholes, clean outs, etc. in pavement, slab, walk or landscape areas shall be adjusted to finish flush with the finished surface areas.

- ***Landscape***

- All landscape plant materials shall come with a standard 1-year warranty for the date of acceptance or receipt of the occupancy permit by the owner.
- A lawn sprinkler system shall be standard and installed for the frontage area of the property and around the office areas. (Shop drawings shall be submitted for the design and approval of all systems).
- Yard hydrants will be installed at intervals of 200' with the installation of site lawn sprinkler systems.
- The finish grade for all landscape and grass areas shall be approximately 4" below the finished floor elevation of the buildings. The grade in all instances shall naturally slope away from the buildings.
- All landscape areas shall receive a minimum of 4" of topsoil free of large clumps and root material.
- Composted hardwood bark, pine bark or approved equal mulch of 4" thick will be installed in all bedding areas. A premium weed barrier fabric will be installed under all mulched areas.
- The landscape contractor is responsible for the final grading of the topsoil.
- The main entrance area and property frontage areas around the office shall receive sod –Vs- seed.
- After installation water, roll and stake sod as necessary and as required.
  - A 30-day maintenance period shall be provided by the contractor for all landscape plant materials, seed and sod installed.

- ***Asphalt***

- Standard asphalt spec. Minimum 8" of grade 9 compacted limestone with a 2" binder and 1-1/2" finished surface course of pavement.
- All subsurface pavement areas shall be compacted to meet 95% density minimum in all areas.
- All subsurface pavement areas shall be inspected and tested by a qualified soils engineer to ensure allowable soil bearing pressure. Owner and (local municipality if required) will be provided with a copy of all testing reports from the testing company.
- The paving contractor shall be responsible for 1 sweeping of the previously installed binder course prior to the installation of the finish surface coarse.
- The finish grade of the driving aisle pavement against the edge of the building shall be at a minimum of 3" below the finish grade of the building slab.
- All pavement areas shall be ramped up flush with the finished floor at all exterior hallway or building man door openings.
- If conditions require), A heavy-duty Geo-tech fabric will be installed under all driveway and parking areas on the site.
- All stripping of the asphalt pavement areas shall be "White" unless listed otherwise.
- All stripping lines shall be installed straight and true to dimensions as specified or shown on the drawings.
- Handicapped parking space or spaces shall be installed per State and Local codes.
- Pavement markings and signage for handicapped areas shall be included with the stripping.
- Commercial Wheel Stops: when specified 9" x 5" x 6'. Wheel stops will be secured with (2) 5/8" x 3're-bar dowels for each wheel stop driven into the pavement or concrete.
- Rental parking areas: Numbering of rental parking areas shall include the installation of 12" numerals or letters to identify the rental space. The location of the numbering of the space shall be approximately 2' out in front of the space on the pavement area

Concrete & Masonry Misc. Design Requirements & Specifications:

- ***Site Concrete Work***

- Standard concrete spec. for site driving aisles; 5" minimum concrete on 6" of compacted gravel.
- Reinforcement for the concrete, expansion and control joints for the concrete areas as specified by the site engineer or architect.
- All subsurface building and curbing areas shall be compacted to meet 95% density minimum in all areas.
- All subsurface building and curbing areas shall be inspected and tested by a qualified soils engineer to ensure allowable soil bearing pressure. The owner to be provided with a copy of all testing reports from the testing company.
- The finish grade of the driving aisle pavement against the edge of the building shall be at a minimum of approximately 3" below the finish grade of the building slab finished floor elevation.
- All pavements shall be ramped up flush with the finished floor at exterior hallway or building door openings.
- Depressed curbing/sidewalk areas shall be provided for the office, residence, buildings and site as required for handicapped accessibility or per local codes.
- Curbs will also be depressed at locations where public walks intersect curb lines at street locations.
- In all pavement ramp areas provide grid pattern slip resistant areas as required.
- All site concrete work shall develop a minimum 3000psi compressive strength within 30 days.
- Typical sidewalk 5" thick concrete on 4" of compacted gravel/sand fill with reinforcing as specified by the architect or site engineer.
- A combination curb/sidewalk installation if used; shall not be less than 8' in width in front of a building area.
- If a residence is provided on the site a concrete patio of at least 10' x 10' shall be provided for the residence The patio shall be set at approximately 4" below finished floor grade of the residence.
- Typical dumpster shall sit on a concrete slab. Slab shall be 6" thick minimum with reinforcement as specified by the civil engineer or architect with an 18" x 18" thickened edge on the front edge of the slab.
- Typical gate keypad gooseneck footings shall be 12" x 12" x 3'-6" with anchor bolts for the mounting of the keypad gooseneck.
- Typical bumper posts shall be set 3'-6" below grade in an 18"diameter footing.
- The interior of the bumper post and footing area shall be filled completely with a minimum of 3000 PSI concrete. The concrete shall be rounded above/on the top of the post.
  - The concrete for the bumper post footing at grade shall receive a smooth trowel finish.
- The bumper posts shall be left free of excess concrete for painting.
- Standard curbing shall be combination 6/12-type curb and gutter. Barrier cubing 6" x 18" may be used on the interior of the property. Masonry concrete block will not be allowed as a curbing.
- be installed on the interior of the property.
- Site retaining walls when required shall be constructed out of concrete or landscape block. Retaining wall systems shall include all reinforcement, drain tile, fabrics, and the appropriate backfill.
  - Site retaining wall systems in landscape bed areas or for landscape enhancements will be the responsibility of the landscape architect.
  - Site retaining walls adjacent to or in pavement areas, retention areas or as required to retain site areas for buildings, pavement or to achieve desired elevations shall be designed as required by the civil engineer or architect as required or as necessary for the project.

- ***Buildings Concrete***

- All footings soil bearing shall test to 3000psi.
- Footing depth shall be a minimum of 3'-6" below finish grade or as specified by the architect.
- All slab areas to be back filled only with approved materials as specified by the engineer or architect.
- All concrete slab areas shall be proof rolled and tested to a minimum of 95% density.
- All subsurface building areas shall be inspected and tested by a qualified soils engineer to ensure allowable soil bearing pressure. The owner (and if required local Municipality) shall be provided with a copy of all testing reports from the testing company.
- Interior excavations of building foundation walls/footings, plumbing, electrical and mechanical trenches shall be back filled with gravel only.
  - Utility penetrations through floors, foundation walls, etc. Patching or sealing up shall be the responsibility of each individual contractor
- Typical the concrete slab shall be depressed approximately 1-1/2" at all exterior overhead and or roll up door openings to create an apron for the door to sit into.
- The depressed concrete apron at the doors shall pitch a ¼ inch per foot towards the exterior pavement.
- The typical depressed concrete apron width is 7-1/2" for a non-climate building and 11-1/2" for a climate controlled building. NOTE: confirm the size of the framing, siding, door and door track to verify the door when closed will sit inside the depressed concrete apron area.
- All concrete floors shall receive a smooth hard trowel finish for acceptance of floor sealer, tile or carpet flooring materials by others.
- NOTE: 4' of clearance is required behind the framing in the recessed concrete apron for the installation of a sectional insulated Coplay brand door and door track. 3" of clearance is required behind the framing in the recessed concrete apron for the installation of a typical roll-up door and door track.
- Typical: All building exterior entrances to lobbies and hall areas shall be recessed in the building approximately 4'.
- The concrete slab at these recessed entrance areas shall pitch ¼ per foot to the exterior.
- All storage buildings shall have saw cut expansion joints in the slab areas as recommended by the Architect/Engineer.
- The concrete contractor is responsible for providing and setting all anchor bolts. (Anchor bolts for structural steel shall be provided by the steel erector.)
- The concrete contractor is responsible for conveyor pours for multiple story building. Work will additionally include the shoring as required for the pouring of the concrete decks and any misc. framing necessary for the deck edges, elevator openings, stair openings, boxing out of utility and other openings, necessary for the pour.
- The concrete contractor shall also be responsible for a temporary railing at the edge of the deck and any railings required for interior openings with multiple story buildings during the pouring of the concrete.
- The concrete contractor is also responsible for the protection of all existing surfaces and any clean-up associated with pouring and installation of the concrete.
- Elevator pits shall be constructed of poured concrete walls only.
- Elevator pit walls below grade shall be completely waterproofed on the exterior side of the pit prior to backfill.
- A sump pit opening will be installed in each elevator pit (unless against local code). The location of the sump pit opening shall be coordinated by the concrete contractor with the elevator contractor prior to install.
- Additives may not be added to the concrete without the consent of the Owner.
- Retaining walls below grade when required and exposed inside the building areas shall be constructed with the necessary waterproofing, drain tile, drainage systems and fabrics as per the systems engineering design requirements.

- ***Masonry***

- All concrete block or masonry design and construction shall conform to "specifications for the design of load bearing masonry national concrete masonry association latest edition".
- All lintels shall bear a minimum of 8" on each end on solid grouted masonry.
- All mortar shall have a minimum compressive strength of 1800psi in 28 days.
- All Grout shall have a minimum compressive strength of 3000psi in 28 days.
- All masonry reinforcement materials shall be galvanized. Provide reinforcement as specified by the architect.
- Masonry contractor shall provide all miscellaneous lintels associated with the construction of the project.
- Masonry contractor is responsible for setting all bearing plates embedded in masonry for others and for the grouting in and around all beams installed into the masonry wall system.
- Masonry contractor shall be responsible for setting all elevator rail inserts and sills and coordinating the installation of these with the elevator contractor.
- The masonry contractor shall coordinate the installation of all of the hollow metal door jambs, window bucks, metal sleeves, boxes, etc. to be installed in the masonry wall systems by other trades.
- The masonry contractor shall be responsible for the flashing of all windows and door openings installed in the masonry exterior walls.
- Expansion joints shall be installed in the masonry walls as recommended by the Architect.
- Expansion joint caulking shall be the responsibility of the masonry contractor with products as specified by the Architect.
- The masonry contractor is responsible for the protection of all existing adjacent surfaces and any clean-up associated with the work.
- All colors and designs for a Dryvit and/or stucco finish system if used as a final finish coat over the masonry or in conjunction with the masonry to be approved by the Owner.
- Masonry exterior walls when used as part of a climate controlled building system, office or residential area shall be insulated in the core or cell area of the masonry.
  - Mortar joints shall be tooled concave when mortar becomes thumbprint hard. All excess mortar shall be removed from face of the block or brick.
  - No exterior masonry shall be laid when the outside air temperature is less than 40 degrees.
- Split faced block may be used as a finished exterior wall system when designated by the Architect.
  - Brick veneer when specified by the Architect shall be based on the minimum price of $300.00 per 1000 brick for a material allowance.
- All colors associated with the masonry, dryvit, stucco, caulking and mortars for the systems shall be selected by the Owner.

Site & Buildings Illuminated Signage Requirements:

- ***Pole, Monument, Wall Signs, Message Centers, Channel Letters***
- ***Typical Sign Types:***
- ***Illuminated pole, wall, roof or monument signs.***
- ***Directional signs***
- ***Electronic LED signs/reader boards***
- ***Manual reader boards "with numbers and lettering product"***
- ***Channel letters wall or roof mounted "with or without day/night perforated vinyl for visibility and colors"***
  - Faces typically constructed from; Lexan, Panaflex, Acrylic or flex faces.
  - Graphics for letter and logos should be cut out/heat transferred to the fabric.
  - Standard colors are Green with White or Yellow lettering and Yellow Key.
  - Pole signs; the sign pole shall be painted "Black" with a new sign or face change.
  - Pole signs; the sign pole shall include the property numeric address on the pole; white or black 3M vinyl 4" or 6" in size pending the pole thickness and the color of the painted pole.
  - The property numeric address shall also be installed on the base of all monument signs.
  - Work shall typically include; all permits, engineering, excavation, concrete, new signs, sign cabinets, faces, pole electrical, raceways, servicing of existing signs, time clocks, photo cells, painting, taxes, freight, etc.

- Typically all sites and buildings Metro will want to receive the maximum amount signage permissible by local and governing agencies and multiple illuminated signs will be installed if allowed by the governing agency. It is the Contractor's responsibility to; investigate allowable footages, heights, restrictions, setbacks, electrical, photo cells, time clocks, etc. as necessary for new or replacement signage work in order to present a complete package to the owner for the project. This work is considered incidental and part of the standard bid process.
- Typically a manual or electronic message center or reader board will be installed if allowed by code or the municipality.
- Sign colors and sign cabinet design will vary depending on the existing conditions and ordnances. Sign design shall incorporate Metro's logo, key, web address or Metro's name and web address.
- All signs will be illuminated as allowed by the local jurisdiction.
- All exterior signs will also be set up on a photo eye for the control with a separate time clock installed for the over ride of the photo eye.
- Typically the time clock for the sign will be located in the office utility room area.
- The disconnect switch for the sign will typically be located on the sign.
- Signage submittals will include a minimum of (3) Color renderings shall be submitted for approval of design, graphics and colors for each sign.
  - All sign renderings or drawings for new or existing signs to be replaced and/or installed shall show the following;
  - Ø The new sign faces or new signs shall be super-imposed in the new/existing cabinet or new/existing sign locations depicting the location of the proposed new/existing signs on the property.
  - Ø Various elevations and views will be required showing the signage.
  - Ø A site plan shall also be included depicting the sign/signs locations on the property.
  - Ø The sign footages allowed and sign footages recommended or installed shall be shown on all shop drawings.
  - Ø Electrical information and requirements shall be included on the drawings.
- -Renderings are required for all sign work; renderings will be approved, signed off on and attached as an exhibit to the purchase order or contract released for all signage work to be completed.
- The contractor is responsible for securing all permits if necessary for the installation and/or re-facing of a sign.
- Upon the completion of the sign work, receipt of the permit by the owner and final invoicing by the Contractor a Change Order will be processed for the cost of the permit.
  - The contractor shall examine the specifications and drawings for the various other trades and shall coordinate his work with all other trades as to avoid any delays in the completion.
  - Verify with local codes and sign ordinances all necessary permit requirements for the sign installation and electrical work associated with the signage installation.
  - Electrical fluorescent fixtures used for exterior signs, awnings etc. shall include -20 degree ballasts in colder climate areas as required.
  - Typical any signage re-face work will include the re-lamp of the existing sign cabinet.
  - All the signage product, colors and PMS colors shall be listed on the renderings for each sign.

- ***Awnings***

- Typically the front and side elevations of the office area shall receive an awning.
- Awnings will also be considered for all multi-story building entrances to lobbies, loading dock areas, stairwells and hallways.
- Frame shall be of welded aluminum continuous construction in a waterfall shape.
- Typical height of an awning is 3'-6" to 4' with a projection of 1'-6" to 2' from the wall
- Bottom of awning shall be enclosed with hinged mesh cover or egg crate diffuser, color shall be white.
- Fabric material shall be translucent vinyl laminated polyester or Panaflex.
- Graphics for lettering and logo of the awning should be cut out/heat transferred to the awning fabric.
- Standard colors are Green, Yellow and White. Color samples, shop drawings and renderings required for approval in all cases.
- Awning colors and design shall vary; incorporate Metro's logo, key, phone number or Metro's name and phone number.
- (3) Color renderings shall be submitted for approval in all cases for the design, graphics and colors.
  - Verify with local codes and sign ordinances all necessary permit requirements for the awning installation and electrical work.

BY	DATE	REVISIONS
MK	4.22.14	REVISED
MK	6.9.14	REVISED
MK	6.11.14	ISSUED FOR BID
MK	7.15.14	ISSUED FOR PERMIT

URBAN & ASSOCIATES ARCHITECTS, INC.
2529 ILLINOIS ROAD, NORTHBROOK, ILLINOIS 60062
WWW.URBANASSOCIATES.NET (847) 291.9570

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SHEET TITLE: METRO STANDARDS

Date: 7.15.14 | Project Number: 1329

Drawn By: MK | Checked By: MK

PROJECT NAME: METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES
7/3/2015

WISCONSIN CHRISTOPHER URBANCZYK 9284-005 NORTHBROOK IL ARCHITECT

8.12.14

A8.0

- Electrical for the awning lighting shall include 2 rows of continuous double tube high output fluorescent light fixtures.
- All awnings shall also be set up on a photo cell with a time clock for control and over riding of the fluorescent fixtures.
- Typical awnings to be installed at 14' above grade. Awnings lower a than 14' above grade installed in driveway areas will be protected by bumper posts on the projecting corners and across the face as necessary to protect the awning.
- Electrical fluorescent fixtures used for exterior signs, awnings etc. shall include -20 degree ballasts in colder climate areas as required.
- All electric shall be in conduit and fastened securely to the exterior wall or surface.
- The lighting fixtures for the awning shall be installed with a photocell with a time clock for control and over riding of the fixtures, set up if possible on a separate circuit.
- Awning Alternates: Green metal roof canopy with a white metal soffit and recessed down lights and/or an Architectural designed awning or projecting overhang designed for an exterior entrance or loading area into a building.

• Standard Signage Colors
- Standard Metro Colors shall be as Follows:
- Graphics, Metro Text, Phone Number, Key Highlight & Star "White"
- Background "# 76 Holly Green "/ 3M Scotchcal 3630-76 / Cooley Brite #2108 Flex
- Key and Phone Number "PMS # 125 Golden Yellow" / 3M Scotchcal 3636-125 / Golden Yellow #3630-125
- Sign Cabinet (Existing Paint to Match) "# 76 Holly Green" or 3M Scotch cal 3630-76
- Support Posts paint "Black Enamel Finish" or Yellow to match "PMS # 125 Golden Yellow" / 3M Scotch cal 3636-125
- Shop drawings and renderings will be required for approval for all signs.

Site & Buildings Unit Numbering & Instructional Signage Requirements:

• Unit Numbering & Instructional Signs
  - Unit numbering for the buildings/units shall be completed in sequence as much as possible and is required to be shown on the architectural floor plans.
  - Typical Numbering: Starting from the 1st building as Building 100 and on up. Owner to approve numbering sequence for all units and buildings.
- The interior Storage Unit Numbers shall be engraved 2-ply laminated plastic plaques 2" x 4" with 1- 1/2" numbers. Color shall be white for the plaques with black lettering for the interior access storage unit numbers.
- Interior Storage Unit Numbers shall be installed above each roll-up or swing door centered in the door opening on the header or wall panel with (2) self tapping "White"mini screws.
- Exterior Storage Unit Numbers shall be engraved 2- ply laminated plastic plaques 4" x 6" with 3" numbers. Color shall be Forest Green for the plaques to match DBCI, Janus or US Door Forest Green color with White lettering for the exterior access storage unit numbers.
- The Exterior Storage Unit Numbers shall be installed above each door centered in the door opening on the metal header panel or siding with (2) self tapping "Green"mini screws. For masonry openings plaques can be installed with an industrial adhesive or silicone sealant.
  -Exterior Hallway and/or Stair Entrance Doors to Multiple units shall receive signage. Typical engraved 2-ply laminated plastic plaques 8" x10", with 3" numbers and letters. Color shall be: White for the plaques with Black for the lettering or numbers for the exterior hallway or stair entrance doors.
- Building Letters or Numbers shall be engraved 2-ply laminated plastic plaques approximately 16" x 16" with an engraved 12" number or letter proportional to the plaque. Plaque color shall be Forest Green for the plaques to match DBCI, Janus or US Door Forest Green color with 1' x 1-1/2" White lettering.
- Additionally provide signs for all equipment rooms regardless of and/or as required by state or local codes. Examples: Elevator, Electrical and Sprinkler Equipment Rooms. 2 Ply laminate white plaques with black or red lettering or numbers. Metro will provide examples.
- Signs the following will be provided by Metro: Gates, intercoms, keypads, door decals, no smoking, dumpsters, floor plans, etc.

Metal Buildings and Hallway Systems Misc. Design Requirements and Specifications:

• Building Structure
- The metal building manufacture shall provide metal building structural shop drawings and calculations certified and stamped by a licensed structural engineer. The structural engineer shall be licensed to do business in the state where the work is being completed.
  - The metal building structure design shall be engineered to meet all structural; floor, roof, wind, live and dead loads including sprinkler, mechanical loading fire ratings, etc. as called for on the drawings or as required by the municipal code or ordinance of governing agency.
- The design load requirements shall be incorporated on the title page of the drawings.
- Structure shall include; all structural supports, support systems, columns, beams, posts, purlins, tracks, angles, decks, panels, partitions, doors, trims, stairs, gutters, down spouts, flashings, clips, framing, insulation, sealants, accessories, fasteners, etc. for the construction of a complete project.
- The contractor shall be responsible for the receipt of all materials delivered to the site necessary for the completion of their work.
- The contractor shall at all times be responsible for the protection of existing surfaces and conditions.
- Materials shall be stored on site in areas designated by the owner; contractor is responsible for the protection of these materials.
- Typical exterior systems building construction would be steel siding; additional systems when required would include masonry and pre finished insulated panels.
- Typical building system interior panel height is 9'.
- Typical units storage height clearance shall be a minimum of 9'.
- Single story buildings constructed with a lower exterior or eave height as might be required by code; the interior storage or ceiling areas will be adjusted accordingly to 8' - 4" or 8' – 8'.
- The finished ceiling height in the main entrance lobby areas of building typically would be 10' when a soffit ceiling system is used.
- A finished interior clear hallway dimension of 5' shall be maintained in all buildings with common interior corridors.
- Typical: All building exterior entrances to lobbies and hall areas shall be recessed in the building approximately 4'. The concrete slab at these entrances shall pitch ¼ per foot to the exterior.
- The depressed concrete apron at the doors shall pitch a ¼ inch per foot towards the exterior pavement.
- Typical depressed concrete apron width is 7-1/2" for a non-climate building and 11-1/2" for a climate controlled building.
- NOTE: an additional 4" of clearance is required behind the framing in the recessed concrete apron for the installation of a sectional insulated Coplay door and door track. 3" of clearance is required behind the framing in the recessed concrete apron for the installation of a typical roll-up door and door track.
- The typical connection of an interior partition support column or bearing stud to the floor shall be with a base angle clip at the column or bearing stud –Vs- a continuous floor track system. Note a continuous angle is acceptable –Vs- as single clip at the bearing stud location.
  - The metal building contractor shall be responsible for setting all elevator rail inserts and sills and coordinating the installation of these with the elevator contractor when the elevator shaft areas are constructed of metal framing as part of the metal building system.
- The metal building contractor shall be responsible for the flashing of all windows and door openings installed in the metal exterior walls.
- It shall be the metal building contractor's responsibility to coordinate the installation of any anchor bolts and/or bearing plates for structural steel being installed by the metal building contractor in the concrete or masonry systems with the concrete and/or masonry contractors.
- Multiple floor buildings where the metal building contractor uses a corrugated between floors the metal building contractor is responsible for sealing the seams in the deck to prevent concrete spillage to the lower floors areas and will be responsible for the clean-up associated with areas where concrete drips or damages lower finishes.
- All 2-story buildings and taller shall be provided with an access hatch to the roof area. The hatch shall be located in a stairwell of the building. Typical 3' x 3' smoke relief vent with a 160- degree fusible link located in the stairwell area. Babcock- Davis Hatchways, Inc., Model 6-101V or equal.
- A metal ladder shall also be provided for access to the roof access hatch and roof area.
- Loading dock areas and interior loading areas shall be designed with a door and interior clearance height of 13' – 6" at the exterior opening and through the entire interior area of the dock.
- All stairwells shall be constructed of steel; work shall include all landings, supports, railings, blocking. Etc. with the stair in width of not less that 3'-6".
- Stairs and stair railings shall be primed and ready for finish paint in all areas.
  - Exterior Awning Alternates: Green metal roof canopy with a white metal soffit and recessed down lights and/or an Architectural designed awning or projecting overhang designed for an exterior covered entrance or loading area into a building.

• Interior Tenant Separation
- Typical interior hallway and unit wall panel partition height is 9'. Alternate systems: 8'- 8" or 8' – 4".
- Typical interior partition separation/sheathing panels: In a Climate Controlled Buildings the color shall be "White" in all areas of the building. Note a typical R or U-panel may be used inside the unit areas. The wall panel gauge shall be as specified by the structural engineer.
  - Typical interior partition separation/sheathing panels: In a Regular Storage or Non Climate Buildings the color shall be "Galvanized" unless specified otherwise. The wall panel gauge as specified by the structural engineer.
- Tenant separation: For Regular Storage and/or Non Climate Buildings. The siding may be extended to any height as long as an 8" gap is maintained between the top of the wall and the underside of the roof deck.
- The separation between the top of the tenant's wall panel and the bottom of the roof deck shall not exceed 8" in any area when sheathing is used full height as tenant separation.
- Typical Tenant separation: Climate Controlled Buildings: Burglar bars installed at 9" on center Color shall be glossy white to separate the areas between the top of the unit partition and common area walls (usually at 9' high) and the floor/roof deck area.
- Alternate Tenant separation: Climate Controlled Buildings: Typical 2" x 2" or 4" x 4" 14ga. minimum wire mesh shall be used for tenant separation to separate the areas between the top of the unit partition and common area walls (usually at 9' high) and the floor/roof deck area.
  - Note: Wire or Burglar Bars "has to be used in climate controlled buildings above the partition height".

Ø Wire Option 1 if used shall be installed "vertically" and the wire shall be secured with screws, washers and cross bracing at the purlins /roof/deck area and top wall areas as necessary.
Ø Wire Option 2 Alternate Tenant Separation: Climate Controlled Buildings: Typical 2" x 2" or 4" x 4" 14ga. minimum wire mesh shall be used to span over the top of the units for tenant separation. The wire shall be secured with screws, washers and cross bracing across the top of the units as necessary.
- Exterior Access Climate Controlled Units: These units when designed shall be separated from the interior general climate controlled building unit/areas in sections of approximately 3000 square feet. The separation shall include a full height wall to control the heating/cooling loss in the entire building when an exterior access climate controlled unit door is opened. This detail also needs to be included for back to back exterior access units and also applies to any exterior climate controlled exterior access units adjacent to a common area or corridor. As much as possible all gaps will need to be closed and sealed as necessary.
  - Tenant Separation: Burglar Bars may be used as an alternate to any system on the interior areas of the building. Bars shall not exceed 9" in separation in any area. Burglar Bars: Glossy white for climate buildings and galvanized for regular storage buildings above the wall panel height.
  - Exterior Access Climate Controlled Access Units will still require closure and separation of areas as identified above.

• Interior Tenant Separation, Drywall Walls, & Fire Walls
• - Rated walls will be constructed of the materials specified on the drawings.
• - Materials and thickness as shown to conform to UL required fire ratings when required. (Verify with construction, State and Local Codes).
• - Fire rated frame wall construction shall consist of metal studs and track, gauge and spacing as specified on the drawings with the top track following the slope of the roof deck and/or floor. Wall framing typically must extend from floor to roof/or floor deck and from wall too wall. Caulking and fire stopping shall be included with the construction of the wall system.
• - Drywall wallboard shall be installed in lengths as long as practical to result in a minimum of joint seams.
• - Fasteners shall be power driven screws installed slightly below the surface of the wall board.
• - Adhesive shall be used for installation of wallboard on all ceilings and corner bead where required shall installed with screws.
• - Joint tape and finishing compounds as approved and recommended by wall board manufacture.
• - All drywall shall be installed straight and true to dimensions as specified or shown on the drawings.
• - Verify all details and dimensions of drywall prior to the commencement of any work as specified as specified here-in.
• - Normal partition walls (other than party walls, bathrooms, or fire walls) shall be 1/2 inch regular gypsum board.
• - Shower or tub areas shall receive 1/2 inch or 5/8 inch water resistant board.
• - Fire walls and party walls between residence and office shall receive 5/8 inch fire rated drywall as the system is designed and/or shown on the drawings.
• - Ceilings shall receive 1/2 inch or 5/8 inch fire rated drywall.
• - A temperature of 55 degrees F. to 70 degrees F. shall be maintained in spaces where joint treatments are being applied. Ventilation shall be provided as necessary to eliminate excess moisture.

• Building's Interior Hall Systems, Systems & Colors
- No color or product substitutions will be accepted with out prior owner approval.
- Standard interior common area and hallway systems to consist of corrugated wall and header panels with flush columns: Janus System 300 Corrugated Hallway System, US Door Value Storage Flush System w/ Corrugated header panels, "DBCI" System 300 Hallway System. Color of the hallway system shall be "Glossy White".
- Typical hallway system with an open ceiling or open to the deck above; Soffit ceiling panels with fluorescent lay in lights panels only when specified in hallway areas and common areas entrances.
- Hallway system finish heights vary from 8' – 4" to 9'.
  - Interior hallway wall system sections with a span of over 10' will receive a center wall mid span bracing for securing the hallway panels.
  - The width of the typical hallway system will be 5'.
- Provide standard inside and outside corner angles, floor trims, top caps trims and other associated trims as necessary to match the system.
- Typical provide 45 degree full height diamond plate corners at all outside corner areas.
- Climate Controlled Buildings: The interior partition separation/sheathing panel between units shall be a "White" panel in all areas of the building for tenant separation; Note in cases where the panel is part of the structural system for lateral control a typical "White" R or U-panel may be used.
- Non Climate Buildings: The interior partition separation/sheathing panel between units shall be a "Galvanized" panel. Note: Any hall areas would receive the "White" interior hall way system.
- Climate Buildings exterior insulated walls with exposed insulation on the interior side of the wall shall be covered with metal to protect the insulation in all areas "White Metal" shall be used. Note: Flat metal has to be used to cover the exposed insulation around all overhead and roll-up door exterior openings for the installation of the door.
  - All wall areas exposed in all areas of the building considered, as "Common Area" of the building shall receive the white metal corridor system and/or siding panels to cover the exposed area. Includes covering over exposed framing systems, exposed insulation, drywall, etc. in all climate controlled building areas. Note: any exposed masonry in these common areas will be painted White.

• Buildings Roofing, Gutters, Awnings, Siding, Etc.
- Typical roofing system 24 gauge "galvalume" standing seam metal Ultra-Dek system with a minimum ¼-12 roof pitch.
- Alternate roofing systems: built up membrane roofing system as specified by the architect.
- The proper trims, flashings, caps and closure materials shall be used with premium adhesives, fasteners and double sided closure tapes for roof lap joints, gable ends, ridges, eaves, etc.
  - The crimping of a metal roof panel over a gable roof system at the ridge will not be allowed.
- Closure at the roof eave locations shall include eave trim/flashing to cap the wall with a metal inside or outside roof/eave closure panel or closure strip with a double-sided tri-bead closure tape on the top and bottom of the closure panel or closure strip.
- The closure panel or closure strip at the roof eave locations shall run continuous including the overlap area of the roof panels. The closure panel or strip shall be located towards the outside edge of the wall.
- Closure at gutters shall include the installation of double-sided butyl tape and sealant to provide a continuous sealant between the gutter/roof at the eave line.
- Double sided closure tape shall be placed in the line of the fasteners at all joints.
- Use roof sealant tapes of sufficient width and thickness for all of the joints as necessary.
- Premium long life fasteners shall be used for all roofing systems compatible with the life of the roofing system.
- Metal roof panels at the eave shall project a minimum of 2" away or out past the building edge.
- Metal Roof sheets shall be drip formed at the edge to allow water to drip/flow into the gutter.
- When a metal roofing system is used the metal building contractor shall be responsible for the weather tight closure of the roof and for checking around all penetrations trough the roof for and equipment installed by others. The same applies for the contractor of a built up or membrane roofing system
  - The metal building contractor shall be responsible for providing reinforcement as necessary in the roof structure and shall coordinate and set all roof curbs for all vents and HVAC equipment as required.
- All roof top equipment, elevator roof penetrations, etc. the roof shall be designed and installed so the water can freely drain around these systems.
- Note: Buildings 2-story and above buildings shall be provided with an access hatch to the roof area. Typical 3' x 3' smoke relief vent with a 160- degree fusible link located in the stairwell area. Babcock-Davis Hatchways, Inc., Model 6-101V or equal.
- The roof and gutters shall be completely cleaned and free of all debris upon completion of the project.
  - All metal or membrane roofing systems at a minimum shall carry a standard 10-year warranty on labor with a minimum 20-year Manufactures warranty on all materials.
  - Typical gutters when used 6" x 8" box style with 4" x 4" down spouts minimum, 26 gauge materials minimum.
- Downspout placement 30' on center maximum or provide 1 downspout per every 1000sf of roof area.
  - Exterior Awning Alternates: Green metal roof canopy with a white metal soffit and recessed down lights and/or an Architectural designed awning or projecting overhang designed for an exterior covered entrance or loading area into a building.
  - Flashing shall be installed by the metal building contractor at the side wall/awning locations as necessary.
- Typical siding product; metal R-panel installed with premium screws. Alternate systems as designed by the Architect might include; premium insulated pre-finished panels, dryvit/stucco systems and/or masonry systems.
  - A base drip channel/flashing shall be installed at all exterior wall siding areas.
  - A foam closure strip shall also be installed on the interior between the base drip channel/flashing and exterior siding at the base.
  - A seal sealer shall be installed under all exterior wall channel frame members for climate controlled buildings.
  - Flashing shall be installed by the metal building contractor at the side wall/awning locations as necessary.

• Buildings Loading, Entry & Lobby Areas
- Ground floor lobby/elevator areas entrance areas shall be designed with a staging area; minimum of 100 to 200 square feet.
- Staging areas for upper floor lobby/elevator areas shall be a minimum of 100 - 150 square feet in front of the elevator area.
- All building exterior entrances to lobbies and hallway areas shall be recessed in the building approximately 4' and the concrete slab shall pitch ¼ per foot to the exterior. The only exception being an entrance area designed with a canopy or awning that projects out from the building at least 4' to protect the entrance area.
- Loading areas: Interior loading areas shall be designed with a minimum clearance height of 13' -6" at the opening and through the entire interior space of the loading area.
- Typical loading areas will be designed for loading and unloading at grade level; raised or drive up loading dock areas only when specified.
- Note: In areas to receive a soffit ceiling system a clearance of 9'- 5" is required to all equipment and systems in all areas that will receive a finished ceiling of the soffit panels.
  - All wall areas exposed in all areas of the building considered, as "Common Area" of the building shall receive the white metal corridor system and/or siding panels to cover the exposed area. Includes covering over exposed framing systems, exposed insulation, drywall, etc. in all climate controlled common building areas.
  Note: any exposed masonry in these common areas will be painted White. Note also that flat metal has to be used to cover the exposed areas/insulation around any and all overhead and roll-up door exterior openings so the door frame can be mounted to the framing for the installation of the door.
- Drive-in interior loading areas the floor shall be pitched to drain to the exterior of the building.
- Drive through interior loading areas the floor shall receive slotted floor drains installed approximately 25' from the entrance and exit drive through door areas. The floor drains in the drive through shall be tied to the storm drainage system with oil and grease separators installed for the drainage systems (if required by code). Note: these slotted floor drains systems will only be required in cold weather climate areas.

• Building Insulation
- A Minimum of R-19 insulation or system shall be installed or used for the exterior wall areas s for all Climate Controlled Buildings.
- A minimum of R-30 white vinyl reinforced insulation or rigid insulation shall be installed or used in the roof area for all Climate Controlled Buildings.
- Standard 2" white vinyl reinforced insulation will be used for the roof areas in all regular/non-climate storage buildings.
- Exterior insulated walls in all climate controlled buildings with exposed insulation to the interior side shall be covered with metal to protect the insulation in all areas "White Metal" shall be used. Note: Flat metal has to be used around all overhead and roll-up door openings for the installation of the door.
- All ceiling insulation seams shall be over lapped minimum 6" and taped completely with white tape in all Climate Controlled storage building areas for a complete vapor barrier.
- All ceiling insulation shall be white-backed vinyl reinforced in all storage buildings.
- Ceiling insulation at the exterior wall and ridge areas shall be folded and hemmed back to provide a double layer for strength at the eave or top of the wall. Insulation shall be securely fasten to top of wall. Provide a closure eave trim/flashing to cap the wall.
- One inch (1") thermo spacer blocks shall be provided between the purlins and roof system in all climate controlled buildings.
- Masonry exterior walls when used as part of a climate controlled building system shall be insulated in the core or cell of the masonry.

• Building Exterior Systems & Colors
- Typical roofing system 24 gauge "galvalume" standing seam metal Ultra-Dek system.
- Alternate roofing systems: built up membrane roofing system as specified by the architect.
- No color or product substitutions will be accepted with out prior owner approval.
- Colored roof panels when specified shall match Janus Forest Green (20), MBCI Signature 300 Classic Green, DBCI Forest Green 10, or US Door Hunter Green 11
- Gutters, eave trim and roof trims for the Storage Buildings shall match Janus Forest Green (20), MBCI Signature 300 Classic Green, DBCI Forest Green 10, or US Door Hunter Green 11, 26 gauge minimum.
- Downspout color shall match Janus White (20), MBCI Signature 200 "Polar White, DBCI White 20.
- Siding Color: New construction shall be "White"
- Insulated metal wall panels when used: Typical Aluma Shield AW-500 wall panels, 2-1/2" thick, R-20.83. with stucco embossed finish or approved equal. Color shall be as selected by the owner.
- Split faced block or brick when used as a finished exterior wall system the color of the split faced block or brick will be selected by the owner.
  - Brick veneer when specified shall be based on the price of $300.00 per 1000 brick for a material allowance. Color shall be selected by the Owner.

Door Systems Design Standards & Specifications:

• Rollup Doors, Swing Doors & Hardware
  - No color or product substitutions will be accepted without prior owner approval.

  -Typical Interior Rollup Doors and Swing Doors:
Ø Janus Model 650 Glossy White (20)

- Typical Exterior Rollup Doors:
Ø Janus Model 650 Forest Green (20)

  - New Construction: All rollup and swing doors will receive a high security Chateau slide latch for cylinder lock installation with managers over locking capability.
Ø Chateau C-487B 4 Bolt Bezel Door Latch (Stainless Steel).

  - The gap between the roll-up door and the exterior header panel shall not exceed ½" across the face of the door. The contractor shall be responsible for providing and installing a weather strip/sealer strip to close the opening.
  - Typical size of exterior access doors to storage units 8' x 7'. (verify with plans)
  - Typical size of interior access doors to storage units 8' x 7'.
  - Typical size of swing doors to storage units 3' x 7'.
  - Roll-up doors shall be used for all exterior openings.
  - Typical display door colors when used would be Forest Greens or yellow.
  - All 10' x 10' units and larger shall have a full size 8' x 7' roll-up door for the opening.

Overhead Sectional Glass Doors & Hardware

- Drive-In Loading Areas or Drive Through Buildings:

Ø Standard Door: Clopay Model 903 premium aluminum glass full view door or equal

- The overhead sectional doors to drive in or drive through loading areas minimum of 10' wide x 14' high with clear 1/2" insulated glass (tempered glass in lower panels).
- Doors typically shall be controlled with a PTI keypad on the exterior and a manual interior 3-button control for exit. Note: (Drive through loading area doors shall be set up as a free exit door.)
- Doors shall be set up with a timer to close, multiple photo eyes (2) sets, safety loop sensors and edge sensors.
  - Note A safety loop sensor shall also be installed on the exterior of the building in front of each door.
- Anodized Aluminum finish.
- Note: photo eyes installed for the door shall also be protected as necessary with the installation.
- Exterior weather stripping on the top, bottom and sides of the door jamb as needed.
- Industrial duty trolley type belt driven operator.

- Drive through Loading Areas Door/Gate Warning System: A door/gate warning system will be provided for the protection of the overhead automatic doors, lift arms, and/or gates in drive through loading areas. –
- Protection shall consist of a white strobe light on the exterior (entry) and interior (exit) areas approximately 8' above grade adjacent to the door on the driver's side of the door jamb with a lift arm set up in front of the free exit door. with the warning light in both areas and the lift .
- The strobe lights shall be connected to keypads or free exit loop and will activate by the keypad or free exit loop when the respective overhead door starts to open. The strobe light will turn off only when the door is in the fully open position and will turn back on when the door begins to close.
- The barrier lift arm in front of the free exit door will also be tied into the free exit loop or exit keypad and will activate and open only when the door has completed the fully open cycle. The barrier arm will drop back down in place when the door starts the close cycle.
- include all relays, switches, timers, power supplies, wire and raceways as required for a complete installation.

• Hollow Metal Doors Buildings

MK	DATE	REVISIONS	BY
3	9.22.14	REVISED	
2	9.8.14	REVISED	
1	8.17.14	ISSUED FOR BID	
	8.11.14	ISSUED FOR PERMIT	

URBAN & ASSOCIATES ARCHITECTS, INC.
2529 ILLINOIS ROAD, NORTHBROOK, ILLINOIS 60062
WWW.URBANASSOCIATES.NET (847) 291.9570

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SHEET TITLE
METRO STANDARDS

DRAWN BY	AUTHOR	DATE	3.10.14	SCALE	1 1/2" = 1'-0"
CHECKED BY	CHECKER			PROJECT NUMBER	1428

PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG ARCHITECT
COMMISSION EXPIRES 7/31/2016

WISCONSIN
CHRISTOPHER URBANCZYK
9284-005
NORTHBROOK IL
ARCHITECT

8.12.14

A8.1

- ***Exterior and Interior Hollow Metal Doors for entrances to lobbies, loading areas and halls doors shall be a minimum of 3'- 6" wide. Stairwell doors shall be 3' wide (unless used for loading then all doors shall be a minimum of 3'-6" wide.***
  - ***Exterior hollow metal door hardware shall typically consist of: 3 Heavy-duty spring hinges or a heavy-duty closer, closer shall have hold open capabilities, type A lever passage or key lock, door sweep, rain cap/diverted, weather-stripping, threshold and a half-light glass vision light in the door.***
- ***All exterior hollow metal doors to the storage building hallway areas shall have a half-light in the door.***
- ***Weather stripping is not necessary for non-climate building exterior doors, however a sweep is required.***
- ***Rain diverters are not necessary for exterior doors that are recessed into the building areas.***
- ***Interior hollow metal door hardware shall typically consist of: 3 Heavy-duty spring hinges or a heavy-duty closer, closer shall have hold open capabilities. Type A lever passage or key lock type hardware, half-light glass vision light or light allowable by code on fire doors.***
- ***No visions lights will be installed for the doors for the stairwells, mechanical, electrical or janitors closet area interior doors.***
- ***Glass for vision lights shall be wire reinforced safety glass or tempered glass in all areas***
- ***All locks for the buildings, mechanical, electrical, sprinkler rooms, janitor's closets etc. shall be keyed alike and master keyed per Owner Requirements.***
- ***All locks shall be lever type in all areas.***
- ***Finish Hardware for the all areas shall be A Series with a brushed stainless finish. Includes; Hinges, strikes, doorstops, closures, etc.***
- ***Hollow metal frames for all doors shall be 16-gauge construction, provide reinforcing as necessary for closures and hardware.***
- ***Insulated doors are required for Climate Controlled building exterior doors.***
- ***Door closures shall be through-bolted through the doors. Provide adequate fasteners for the installation of closures to the doorframes.***
- ***Rated doors/frames as applicable and per code requirements, with the maximum amount of vision lights allowed. Glass shall be wire reinforced safety glass or tempered glass.***
- ***Note: Fire doors in hall areas as required by local codes shall be set up with a magnetic hold open device tied into the fire alarm system (if applicable) or set up with a fusible link hold open door closure for the door.***
- ***Larger Exterior Units 2nd Access/Service Doors: When applicable install a secondary 3' x 6' -8" flush 16 gauge steel doors and frames with heavy duty wind chain, rain cap, threshold, Chateau "Chicago" Slide Bolt latch C-04-2 with a 1/2" diameter bolt zinc plated. Lock shall be through bolted through the door with a minimum of 3 bolts. Provide a C-814 Overlock Plate for every slide bolt latch installed for Managements over locking capabilities.***
- ***Note: Exterior hallway entrance doors for the non climate buildings will receive a 24" x 24" louver venting in the lower section of the door for exhaust venting when a exhaust venting system is installed in the buildings hallway area.***
  - ***Hinges/*** with Closer installation***: Full mortise typical size is 4 -1/2" X 4 -1/2" with 1 -1/2 pair per door.***
- ***Closures: Dorma series 600 surface applied, standard finish, with door saver arm installation on all exterior doors. Note: Fusible link closures required on fire doors.***
- ***All closures installed on exterior doors shall be installed with through bolts.***
- ***Heavy Duty Spring Hinges: Full mortise typical size is 4 -1/2" X 4 -1/2" with 1 -1/2 pair per door***
- ***Doors Sweeps: Dorbin #139-A***
- ***Threshold: Dorbin 259-AV***
- ***Heavy Duty Wind Chain: Bolt Through Door Type***
- ***Kick Down Door Holder: Glynn-Johnson Model 4555***
- ***Wall Bumper: Glynn-Johnson 50C & 60C Cast Wall Bumpers***
- ***Rain Drip Cap: Reese R201 Extended Rain Drip 2-1/2" projection.***
- ***Roton Hinges: Hager: Full length Roton Retrofit Hinge for 13/8" and 13/4" Doors 780-053 and 780-053HD***
- ***Push Button Exit/Entry Control Lock: ILCO/Unican LP1000 Series w/Panic Exit Device (When Specified)***

  - Electronic door latches will be required for doors that are controlled by Access Control Keypads ***when specified. The responsibility for the supply of the electronic latches, fabrication of the door frames and the doors to accept the electronic latch will be the responsibility of the supplier of the door fame, including the necessary coordination for the installation wiring and hook-up coordination of the electronic latch by the access control installer.***
  - ***The installer of the door and door frame is also responsible for allowing for a chase or for fishing of the pre-wire feed for the control of the systems into the door frame as necessary for the operation of the system. This also includes the necessary wiring for contacts for burglar alarms systems also.***

- ***Storefront Doors for Buildings***
- ***The Typical Standard for the main doors to the lobby for a Climate buildings: pair of 3'-6" swing type storefront doors with adjacent sidelights.***
- ***Typical Storefront door shall be Kawneer Tri-fab II 451 system or equal with a full view clear tempered glass.***
- ***The Typical Storefront Hardware for the doors; Standard pivot hinges, standard weather stripping, threshold, tempered glass, closure, keying, keypad or free access per specifications.***
- ***Provide hold open closures for all storefront entrance doors for storage buildings.***
- ***All storefront doors for the buildings shall be keyed per owner requirements.***
- ***When specified: All accessible storefront entrance doors to climate controlled buildings or buildings shall be controlled with a PTI keypad.***
- ***Typically keypads will be installed for lobby doors, overhead/roll-up loading area doors, and drive through doors and on occasion stair doors and hallway doors.***
- ***All storefront doors shall have handicapped approved hardware.***
  - ***Electronic door latches will be required for doors that are controlled by*** Access Control Keypad***s specified. The responsibility for the supply of the electronic latches, fabrication of the door frames and the doors to accept the electronic latch will be the responsibility of the supplier of the door fame, including the necessary coordination for the installation wiring and hook-up coordination of the electronic latch by the access control installer.***
- ***All Storefront Doors, Storefront Windows and Automatic Doors; Aluminum frames finish for all types finish shall be "Clear Anodized Aluminum Finish ".***
- ***When specified a push button entry/exit lock may be used for an entrance door: Push Button Exit/Entry Control Lock: ILCO/Unican LP1000 Series w/Panic Exit Device on the interior of the door.***

Automatic Doors for the Buildings

- ***Typical Automatic Door Horton 2110 single slide door.***
- ***Doors to shall be a minimum of 9' wide with a minimum 4' clear opening.***
- ***Automatic Doors to be furnished with the following: Sensors, motion device, threshold safety beams, hold open toggle switch, paddle exit device, standard weather stripping, threshold, tempered glass, keying, keypad or free access per specifications.***
- ***When specified: Automatic entrance doors to climate controlled buildings or buildings shall be controlled with a PTI keypad.***
  - ***Aluminum frames finish for all types finish shall be "Clear Anodized Aluminum Finish ".***

Storefront Windows & Glazing for the Building Areas

- ***Typically fixed glass storefront windows will be installed adjacent to main entrance store front doors.***
- ***The height of the windows will vary with the height of the store front doors.***
- ***If the height allows; transom windows will be installed above the storefront door and windows.***
- ***Typically fixed glass storefront display area windows will be installed on the upper floor areas on a building corner or frontage area to display the interior storage area display doors for marketing.***
- ***Typically fixed glass or fixed glass with operable windows will be installed on the upper floor areas in elevator lobby areas and at intersections of hallways to allow natural light into the building areas.***
- ***Storefront windows shall be clear ½" insulated glass and tempered glass where required.***
- ***The metal building and/or Masonry contractor shall be responsible for the flashing of all windows and door openings installed into the metal building system or masonry system exterior wall areas.***
- ***The glazing contractor shall be responsible for the exterior caulking of these systems with the installation*** of the storefront systems.
- Aluminum frames finish for all types finish shall be "Clear Anodized Aluminum Finish".

Miscellaneous Residence/Office Design Standards, Products, Colors, Etc.:

- ***Miscellaneous***
- Typical: Stand alone office/apartment roof system shall be a pitched roof system minimum 6/12 pitch with 40 year dimensional shingles Owens Corning Oakridge Shadow Color Chateau Green
- Alternate: Office/apartment roof system shall be a pitched roof system minimum 6/12 pitch with standing seam metal roofing Color shall be Green to match exterior Green color as close as possible.
- Typical gutter/downspouts with roof system or Standard 5" style k gutters with 3" x 4" downspouts. Color typically White, Verify color.
- Soffit/Fascia: Aluminum system with shingle roof system, Color typically White, Verify color
  - Exterior Colors: Paint colors for masonry/stucco see painting specifications.
  - Office ceiling: Acoustical ceiling tile type shall be Certain Teed Baroque 2' x 2' with a ¼" recessed/reveal with white ceiling grid and wall angle trim.
- The ceiling height in the office area shall be typically designed to be at 10'.
- Bathroom accessories for the office bathrooms shall have a "Stainless Architectural Satin Finish"
- Office bathroom accessories shall be Bradley or equal with a brushed stainless architectural finish and shall include: Grab Bars (as required by code), Soap Dispenser, Paper Towel Dispenser, Toilet Paper Holder, Surface Mirror approx 2' x 3' with Stainless frame.
- Bathroom accessories for the residence shall have a chrome finish.
- At a minimum the residence bathroom shall receive (2) 24" towel bars, (1) towel ring and toilet paper holder.
- Provide blocking as necessary for all bathroom accessories in all areas.
- Typical the residence bathroom to be provided with a recessed side wall medicine cabinet and a surface plate mirror installed over the entire length of the bathroom vanity below.
- Typical residence tub area shall be a molded full height tub/shower unit furnished with opaque shower doors and frame.
- Shower doors shall also be tempered glass doors with aluminum tracks. The installer is responsible for caulking the doors/track to the tile and or tub enclosure, clear silicone caulk shall be used.
- Typically sound bat insulation shall be installed in all party walls between the walls of the residence and office area.
  - Typically sound bat insulation shall also be installed in all interior bedroom and bathroom walls of the apartment area.
- Closet shelving for the residence and office when used shall be plastic coated wire. Color shall be "White".
- Typical residence shall have wood base with a wood base shoe for stain or paint in all areas with exception to the bathroom area "ceramic base would be installed with ceramic floor tile".
  - Typical residence shall have wood window sills, aprons and trim for stain or paint in all areas. bathroom "Ceramic Base". Alternate: Pre-finished wood trim for painting in all areas.
- Typical office blinds would be aluminum mini blinds matched to the anodized aluminum window or storefront door finish.
- When specified the office shall be provided with Solar Shades, Hunter Douglas – Umbria Collection Color: Thunder
- Typical residence windows shall be provided with Mini-blinds. Color shall be "White"
- Typical residence patio door shall be provided with vertical-blinds. Color shall be "White"
- The strings for all mini blinds shall be trimmed/adjusted for the pull length of the blind and any additional bottom slats shall be removed accordingly from the blind to fit the window opening in a closed position.

- ***Residential Doors & Windows***
- The typical windows and patio door for the residence shall be aluminum clad wood windows: Pella, Anderson or equal.
- The exterior finish for the clad residence windows shall be "clear anodized aluminum finish". "Verify"
- Screens shall be standard with all the residence windows and patio doors.
- Interior window hardware for the residence and screens shall have a "clear anodized aluminum finish".
- The residence shall be designed to include at least 1 window for each of the bedrooms, baths, kitchen and living room areas. (windows in all areas need to be accessible per code requirements)
  - The residence shall also be designed to include a 6' patio door exiting to a balcony and/or concrete patio area for the manager's use. Patio door can exit from the living room, dining room, kitchen or bedroom area based on the design layout.
- All doors in the residence shall be sized accordingly for handicapped accessibility.
- The residence main entrance door and secondary door shall be a pre-hung 6-panel insulated door for paint. Each door shall receive a key lock and dead bolt lock (Keyed Alike).
  - Typical residence interior doors shall be hollow core birch doors with wood jambs and casings for stain in all areas. Alternate: Pre-hung colonist 6- panel doors and trim for paint in all areas.
- Finish Hardware for the residence shall be brushed stainless; lever type, F- Series hardware may be use for the interior residential doors with the brushed stainless finish on all hinges, strikes, doorstops, etc.
- Typical residence doors shall be standard 6'-8" height.
- The residence main entrance door shall have a full view storm/screen door. Door manufactured by Larson, Pella or Equal. Typical Color White, Verify

- ***Office Interior Doors***
  - Office interior doors shall be birch solid-core doors, for stain on 16gauge hollow metal jambs for paint.
- Typical all interior office doors shall be 7'-0" in height.
- All locks in the office area shall be keyed alike or per owner requirements.
- All Office doors shall be sized for handicapped accessibility in public areas.
- Office interior doors shall receive stain in all areas.
- Finish Hardware for the office doors shall be Lever type hardware in all areas, A Series with a brushed stainless finish. Finish Includes: hinges, strikes, doorstops, closures, etc.
- Doorstops shall be commercial wall or floor mounted.

- ***Storefront Doors, Windows & Glazing for the Office Areas***
- Office design shall incorporate as many storefront windows as possible into the design. Office layout as much as possible shall be set up with an unrestricted view of the main entrance gate and office parking areas. Additionally a clear view into the office sales area from the exterior frontage area is important.
  - Storefront Office Windows: Typically office windows will be installed from grade or at approx 6" above the finish floor elevation of the office, full height to the finished ceiling height at 10' or slightly below the finished ceiling height.
  - Typical storefront design would include allowing for 2 to 4 lower window panels to be provided with lower awning transitions. type vent windows with screens.
- All Storefront Widows and Storefront Entry Doors; Aluminum frames finish for all types shall be "Clear Anodized Aluminum Finish ".
- Standard Storefront Door for office and storage building areas shall be Kawneer Tri-fab II 451 system or equal with a full view clear tempered glass.
- Standard Storefront Hardware for office storefront entry doors includes standard pivot hinges, push pull handles, standard weather stripping, threshold, key lock with paddle handle, tempered glass and a mail slot on the lower hinge side of the door.
- All storefront doors shall be keyed per owner requirements.
- Storefront windows shall be clear ½" insulated glass and tempered glass where required.
- Storefront office windows shall receive mini-blinds for the windows. Color to match the anodized metal finish.
- Storefront system installer is responsible for a weather tight system installation in all openings.
- The glazing contractor shall be responsible for the exterior caulking of these systems.
  - Electronic door latch when specified for the securing of an office entrance door will include an intercom from the entrance to the front office counter area and the manager shall also be able to release the door from the sitting area at the front counter. The responsibility for the supply of the electronic latch and fabrication of the door frame and of the doors to accept the electronic latch will be the responsibility of the supplier of the door fame, including the necessary coordination for the installation wiring and hook-up coordination of the electronic latch by the access control or security contractor installer.

Floorings Standard Products, Colors & Specs:

- ***Office Area Typical Colors***
- - STANDARD OFFICE CARPET: Shaw Floors, Queen Commercial Carpets, Chain Reaction j0115 pa- Color: 00301 Stone's Throw Note these are 24" x 24" carpet tiles 12 per carton, installed with pressure sensitive adhesive i- turn pattern.
- - Note: Carpet tiles are purchased by the carton and any open cartons the remaining tiles left over or n- used shall remain on the site for the owner.
- Typical Office vinyl base in carpet areas: Roppe Vinyl Base color #93 black/brown
- Typical Office and sales area ceramic tile: Daltile DM92 Tatiann Nole 20" x 20" with a 4" ceramic base to match in al areas.
- Typical Office ceramic tile grout: #9 Natural Gray
- Typical Break room / bathrooms ceramic tile: Daltile DM92 Tatiann Nole 13" x 13" with 4" ceramic base to match in all areas.
- Typical Break room / bathrooms ceramic tile grout: #9 Natural Gray

- ***Office Area Alternate Colors***
- - Alternate Office Carpet: Shaw Capital III 54280 100% Solution Q Dyed Nylon 28oz Color: Official Off- 80300 or J & J Commercial"Connect II" 100% Ultima Nylon, Solution Dyed, Dense Pattern Loop, 28oz. Style 4150 Connect II, Color shall be: 8732 Tie
  - Alternate Office Vinyl Cove Base: VPI Premium Wall Base Color shall be: #66 CHARCOAL
  - Alternate Office and sales ceramic tile: American Olean, Standard size 12" x 12'" floor tile Color shall Municipal Gray AU08
  - Alternate Office ceramic tile grout: **Dark Gray** for the ceramic tile (Too match the VPI Premium Wall #66 Charcoal Color as close possible.)

- ***General Carpet & Tile***
  - All carpeting and padding shall be delivered to the site in original wrappings with manufacture's labels.
  - All carpeting shall be first quality, no seconds or imperfects will be accepted.
  - Tack less strips, metal strips, thresholds, gripper edges, padding tape and other accessories shall be standa quality.
  - Provide binder bars or edge strips at all doorways and against dissimilar flooring materials as necessary. (Silver Color Metal or Gray Rubber Reducer)
  - All areas to receive carpeting shall be dry,l broom cleaned, and free of grease, oil and any other foreign substances.
  - Any required seams shall not be obvious in the finished work. Installation shall be free of any visual imperfec
  - Setting cement for the ceramic shall be installed as recommended by the manufacture.
  - Spread cement for the ceramic tile evenly as to leave no bare spots.
  - Place the tile in position using sufficient pressure to set tile firmly in the cement.
  - Keep all joints straight, level and perpendicular when setting the ceramic tile.
  - Remove excess cement from the face of the tile joints when the setting bed has hardened sufficiently enoug before installing the grout.
  - Clean tile completely before installing grout.
  - Mix grout according to manufactures specifications and recommendations.
  - Install grout completely in all joints, remove surplus grout and after tile has reached its initial set, wash as necessary and polish the tile surface with a clean dry cloth.
  - Office Vinyl Flooring for the Storage rooms, Utility Rooms, Janitors Closets, Closes, etc. when specified will be Mannington Commercial Sheet Vinyl ''Custom Spec II "Color shall be: BORELO 6402 or Armstrong Tough Guard Initiato Color shall be 66081.
  - Adhesive shall be water resistant type, recommended by the resilient flooring or base manufactures for the surfaces to witch the materials shall be cemented.
  - Provide the necessary fill or underlayment to bring the finished resilient flooring to a level surface.
  - Surfaces to receive tile flooring shall be swept and otherwise cleaned to provide a clean subsurface. Prime th surface if recommended by the manufacture.
  - Tile shall be cut neatly and snugly at all pipes, openings and other vertical projections. Joints between the tiles shall be hairline, straight and true. Surfaces shall be flush and level. Spots, smears of adhesive and stains shall be removed immediately.
- Vinyl Cove Base will be VPI Premium Wall Base when specified in areas of the lobby, utility rooms, stairwells, common areas Color shall be: #66 CHARCOAL
- Vinyl cove base shall be securely glued to the walls in all areas.
  - Vinyl base shall be 1/8 inch thick, four inches high and in lengths as long as possible.
  - Base shall be manufactured by VPI Premium, or equal.
  - Base shall be cove, set on type for tile and straight when used for carpet.
  - Adhesive shall be water-resistant type, recommended by the resilient flooring or base manufacture for the su- faces to which the materials will be cemented.
  - Base shall be installed on all walls including walls behind movable equipment.
  - Joints shall be tight at the base throughout its entire length and top and bottom edges shall be in firm contac- with the walls and floor.
- Note: Vinyl cove base shall also return across the front laminate wall of the customer counter.
- All laminate shall be delivered to the site in original wrappings with manufacture's labels.
  - All laminate shall be first quality, no seconds or imperfects will be accepted.
  - Provide edge strips or reducers at all doorways and against dissimilar flooring materials as necessary for all
  - Provide quarter round trim at all existing base board areas. Quarter round trim shall be primed and painted t match the existing baseboard or stained to match the new laminate flooring as necessary.
  - Undercut all door jamb case moldings for a clean transition at door areas.
  - All areas to receive laminate shall be dry, broom cleaned, and free of grease, oil and any other foreign subst nces.
  - Installation shall be free of any visual imperfections.
  - Final color approval is required for the residential carpeting.
- No color or product substitutions will be accepted for any products without prior owner approval.

Painting Standard Products, Colors & Specs:

- ***Office Areas***
- "When Specified" Office custom colors and accent painting colors in an Eggshell finish the office when specified:
  - Ø Walls: Sherwin Williams #SW6120 Believable Buff
  - Ø Soffit above Counter: Paint color face of the soffit: Sherwin Williams #SW6122 Camelback
  - Ø Paint color for the bottom ceiling of the soffit and any accent drywall ceilings: Sherwin Williams's #SW6199 Antique White.
- Paint for the office ceilings (when applicable) will be Latex "Flat Finish ". Color shall be: "White". Provide sample color chart for owner approval. (Note: All bathroom, break room and utility room ceilings in all areas shall receive an "Eggshell Finish".
- All new gypsum board walls and ceilings shall receive 1 complete coat of Pratt & Lambert Vapex wall Primer or equal.
- All walls and ceiling areas shall be free of touch-up flashing areas and all areas will be required to be re- painted completely if touch-up painting does not blend into the surrounding surfaces.
- All gypsum board walls and ceilings (2) complete finish coats of Latex Eggshell enamel or Flat latex paint. (Note: Bath rooms, break rooms and Utility room ceilings in all areas shall receive an Eggshell finish).
- Paint for the Hollow Metal Doors & Frames in the Office shall be oil base enamel finish Color to match the wall colors selected above.
- Office interior wood doors shall receive stain and sealer in all areas. Standard stain color shall be Pratt & Lambert "Tonetic ". Color shall be: Eastern Red Cedar, on Oak
  - Any visible finish caulking for all surfaces including the counters, cabinets, windows, window sills, doors, etc. shall be the responsibility of the painting contractor to finish as part of the finish system.

- ***Building & site Areas Metal Surfaces***
  - All Misc. metal Surfaces Standard Paint Product & Color as listed here-in:
  - NOTE: NO PRODUCT SUBISTUTIONS WILL BE ALLOWED
- Interior & Exterior Metal Doors, Jambs, Lintels, Columns, Railings, Posts, Pipes etc. shall receive 1 primer coat and (2) complete finish coats of paint if necessary.
  - Typical paint for exterior items and the exterior and interior side of hollow metal hallway entrance doors, doorframes and for the exterior of insulated sectional doors shall be "Forest Green". (Verify if the Insulated Sectional Doors will be painted or remain in the factory finish white color).
- Paint for the Interior doors, doorframes, lintels, beams, frames, etc. shall be (Matched to the Glossy "White" color of the hallway system and interior roll-up doors provided).
- Paint for the interior/exterior exposed metal surfaces of the building stairs, railings, risers, stringers, decks and shall be (Matched to the "Forest Green" color of the exterior roll-up doors/trim provided).
- Bumper posts on the entire site. Color shall be (Matched to the "Forest Green" color of the exterior roll-up doors and trim provided or painted Safety Yellow, "Verify").
  - Exterior sectional insulated roll up doors. Factory color is white; Color typically shall be matched to the "Forest Green" color of the exterior roll-up doors and trim provided on the other non-climate buildings on site. (Always verify the painting of Sectional Doors).
- Metal Exterior Lintels exposed shall be painted to match the adjacent metal, masonry or aluminum surface.

- ***Buildings & Site Areas Masonry Surfaces***
- Paint for interior building stairwell exposed block or drywall walls and ceilings: (1) coat block filler and complete coat of Elastomeric paint. Color shall be (Matched to the Glossy White color of the hallway system and interior roll-up doors provided).
- Exposed common area interior block and drywall walls (not covered with white metal) in every area of a climate-controlled building shall be painted (2) coats of paint (Matched to the Glossy White color of the hallway system and interior roll-up doors provided) This includes all areas of the entire building with exception to lobby areas with drywall. Lobby areas with drywall exposed shall typically receive white metal to cover the drywall system to a height of 8' with the remaining drywall painted above.
- Paint for exterior block walls shall be Benjamin Moore "Moralistic" Color shall be: "White" to match the building siding or as selected by the owner. (VERIFY)
- Exterior concrete block shall receive 1 complete coat of block filler and 1 complete coat of the Elastomeric waterproof coating. (No spraying is allowed, coatings to be applied with a roller and back rolled).

- ***Buildings & Site Areas Wood Surfaces***
  - Clean, scrape, sand and spot prime surfaces using a premium quality exterior latex primer.
  - Apply one (1) finish coat, Pratt & Lambert Permalize oil base house paint. (VERIFY IF (2) COATS ARE REQUIRED)
  - Verify Color: White or Off White or Forest Green

Typical Exterior Painting Colors & Products

Building Body Color Use: Masonry, Wood & Metal
Sherwin Williams A-100 Satin
Standard Color
SW 2060 Casa Blanca

Color: Yellow
Sherwin Williams A-100 Satin **Use:** ***Wood, Masonry & Previously Painted Surfaces***
Custom Color, Ultra Deep Base, 1 Gallon Formula
Enviro Toner Tints: W-1 2 Y 0/32, G-1 0 Y 1/32, Y-2 6 Y 0/32, YO 2 Y 0/32

Color: Green
Sherwin Williams A-100 Satin **Use: *Wood, Masonry & Previously Painted Surfaces***
Custom Color, Ultra Deep Base, 1 Gallon Formula
Blend-A-Color Tints: W-1 0 Y 24/32, G-2 8 Y 0/32, B-1 2 Y 0/32, Y-3 2 Y 0/32

Color: Green
Endura-Clad Coatings Door Armor 4000 **Use (Previously Painted "Peeling" Surfaces):** ***Roll-up Doors, Swing Doors, Meta Gutters, Fascia, etc.***
Color: Forest Green from the Endura-Clad color chart

Color: Green
Endura- Clad Coatings Chem-Bake 8000 **Use (Factory Finished Surfaces)** ***Roll-up Doors, Swing Doors, Metal Roofs, Gutters, Fascia, etc.***
Color: Forest Green from the Endura-Clad c

- ***Buildings Concrete Floor Sealer***
- Typical buildings shall receive 2 complete coats of floor sealer in the all of the common areas, units, utility rooms, stairwells and loading areas with (1) coat of clear sealer upon completion.
- Standard Product: Benjamin Moore 100% Acrylic Epoxy Fortified Concrete Stain (072) 71 Deck Gray

OR

- H & C Silicone Acrylic Concrete Sealer, HC124 Silver Gray.
- An Industrial sealer is required for the loading dock, drive through and lobby areas. Prime Coat PC **TerrazzoRock 326-03**
- Clear sealer for concrete floors: Zep Shield Product #1971. Slip resistant water based sealer with a dry bright finish look for high durability and low maintenance.
- Prior to the installation of the floor sealer on new or existing concrete the floor area shall be cleaned, shot blasted, grinded, sanded and/or etched completely per the manufactures instructions and/or recommendations for the product being used.
- Oil and Grease spots shall be cleaned and removed per the manufactures recommendations.
- All clean areas should be thoroughly rinsed and allowed to dry a minimum of 24 hours or until all dampness has evaporated from the floor area.
- Surfaces should be inspected prior to coating to ensure that the cleaning and concrete etching process was successful.
- Surfaces should be cleaned thoroughly again to remove any dust remaining after grinding, sanding or etching.
- Any 3/16" or larger stress cracks shall be caulked with a clear paintable silicone caulk prior to the application of the floor sealer. (Excludes the caulking of the saw cut expansion joints).
- Sealer should be mixed thoroughly in larger containers prior to use and smaller containers should be boxed together for large areas to ensure an even color and finish.
- Protect existing walls and other surfaces as necessary to avoid getting paint on these areas walls when cutting in areas.
- Note: the depressed edge or apron at exterior door openings will remain as unfinished concrete "protect these areas as necessary".
- The sealer should be applied with a roller in liberal amounts, evenly roll out the entire floor until completed.
- The product should dry a minimum of 12 hours before a recoat or per manufactures recommendations.

- ***Buildings Caulking***
- Caulking as required for all of the interior and exterior surfaces shall match the adjacent surfaces as close as possible.
  - Any visible interior finish caulking of surfaces including the counters, cabinets, windows, sills, doors, tubs, tile, etc., shall be the responsibility of the painting contractor to finish.
- Caulking shall include the installation of backer rod if necessary in areas.
- Typical caulking products Tremco Dymeric 511 polyurethane caulk, Sonneborn NP 1 or Sonolastic TX 1 for exterior expansion joint areas.
- Tremco Dymeric Mono 555 or Equal for hairline masonry cracks.
- Vulkem High Performance Polyurethane Joint Sealants; Vulkem 116 for caulking to masonry, windows, doors, etc., on the exterior and interiors.
- Silicone caulking products in clear and appropriate colors for interior finish areas.

URBAN & ASSOCIATES ARCHITECTS, INC.
2529 ILLINOIS ROAD, NORTHBROOK, ILLINOIS 60062
WWW.URBANASSOCIATES.NET (847) 291.9570

BY	REVISIONS	DATE	MK
2	REVISED	4.23.14	
1	REVISED	4.9.14	
3	REVISED FOR BID	3.11.14	
4	REVISED FOR PERMIT	3.11.14	

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SHEET TITLE: METRO STANDARDS

Issued	Project Number
3.5.14	326

Drawn By: MK | Checked: | Date: 3.5.14 | Scale: 1/2" = 1'-0"

PROJECT NAME: METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
EXPIRATION & EXPIRES 7/31/2015

WISCONSIN
CHRISTOPHER URBANCZYK
9284-005
NORTHBROOK IL
ARCHITECT

8.12.14

A8.2

Appliance, Cabinets, Counters, Products, Design, Colors & Specifications:

- ***Appliances***

- Typical Office appliances Kenmore or GE units as specified or equal. (Submit cut Sheets for approval in all cases).

- Color: Brushed stainless for all office appliances

Office: Refrigerator full size or ½ fridge under counter unit
Office: Microwave countertop unit

- ***Office Cabinets, Counters & Sales Display Typical Colors***

- Office Cabinets, countertops and laminate windowsills shall be custom fabricated from "Wilsonart Brand" Laminate in the following colors.

Ø Laminate for the cabinets, slat wall sales display, trim, etc.: Wilsonart #7054-78 Wild Cherry
Ø Laminate for the cabinets base trim, horizontal trim, slat wall insert trim, etc.: Wilsonart #4829-07 Satin Silver.
Ø Solid surface for counters in the office areas: Staron Quartz Surfaces, Trevethan Black TB890
Ø Laminate cabinets for office break room: use the Wild Cherry.
Ø Laminate counters for break room areas: match the laminate to the solid surface color in the office area.
Ø Brushed stainless hardware for all cabinet pulls.

- Typical office new construction design cabinet layout to include at a minimum (2) 21" base cabinets (1) with a lockable cash drawer adjacent to the manager's main sitting area. (1) 24" base cabinet, (1) 30" base cabinet and enough room below the counter area for (2) 36" (2) drawer lateral metal hanging file cabinets and a work knee/work space below the counter of approximately 4' for the manager and a secondary knee/work space for an additional manager. (Design of the office cabinet layout to be approved by the Owner)

- The typical design shall include a lower counter area shall also be designed for handicapped accessibility (provide a sit down face to face area at the 30" height with minimum 8" over hang on the customer side).

- Typical a frame knee wall will be constructed installed for the support of the upper counter, lower cabinets/counters and for the installation of all services for the front counter area.

- The lower sit down counter design can be incorporated into the design as the manager's main sitting area.

- All cabinets shall be install level true and plumb.

- Caulk counters and cabinets at intersecting wall areas as necessary.

- The project site and the knee wall area shall also be field measured prior to the delivery of the cabinets and countertops.

- A drop down keyboard tray shall be provided for the main sitting area, submit cut sheet for approval.

- Hon metal lateral hanging file cabinets will be provided under the counter space to match the laminate or as selected by the owner for the. Typical color will be Black. Alternate color will be gray to match the alternate laminate color as close as possible.

- Cash Drawer: Provide a cash drawer insert for the top drawer for one of the 21" laminate base cabinets.

- Furnish the owner as required a complete set of shop drawings for approval.

- *Office Countertops*
- *- Typical office lower counters shall have a finish height of 30" in all areas.*
- *- Typical office upper customer counter shall have a finish height of 42".*
- *- The typical depth of the lower main counter (manager's sitting area) shall be 30"*
- *- The depth of the upper customer counter shall be no less than 15".*
- *- The depth of all other counter areas shall be 24" wide.*
- *- Grommets plastic 1-1/2" (inch) to match laminate color, minimum of (3 - 4) will be supplied and*
- *installed per average office for the counter areas.*
- *- The cabinet/counter installer shall be responsible for the drilling of all laminate and/or solid surface counter tops*
- *for the grommets. The locations of the grommets should be identified on the shop drawings and field verified with*
- *the existing conditions and equipment connections below the counter area that grommets are meant to service.*
- *- Countertops should overhang face of cabinets approximately 1-1/2" in all areas.*
- *- All seams shall be tight and not noticeably visible.*
- *- Supports brackets shall be installed as necessary for the support of the counter tops.*
- *- Laminate shall also be used to cover the knee wall of the customer counter on the customer side with*
- *the appropriate trim for the corners and edges of the counter/wall area.*
- *- Trim shall be installed as necessary on the customer side of the knee wall at the underside of the customer*
- *Counter area.*

- *Office Cabinets*

- Office cabinet construction shall consist of door and drawer cabinets with the laminate color as specified.
- Cabinet construction with flush doors and drawers, 4" kick space for and depths proportional with the counter areas.
- European style concealed hinges with European style cabinet drawer and door handles in a "Brushed Stainless" finish shall be provided.
- Typical Base Cabinet Types (2) Door Cabinets: Standard with (1) 16"interior adjustable shelf.
- Typical Base Cabinet Type (3) Drawer Cabinets: Standard set up shall include a hanging rack for legal files in the bottom drawer area (provided with cabinet by the cabinet installer), the top drawer shall be sized deep enough (approx: 4") for the cash drawer insert (provided with the cabinet by the cabinet installer) and the balance of the cabinet space shall be for the middle drawer.
- The width sizes of base cabinets may vary in size with standard sizes of 21", 24" to 30".
- Laminate shall also be used to cover the knee wall of the customer counter on the customer side. With the appropriate trim for the corners and edges of the counter/wall areas.

- *Sales Displays*

- Display areas shall include cabinets, counters, shelves, slat wall, and box cabinets, free standing floor displays and wall displays with appropriate hooks, brackets and hangers for the display of the materials.
- Design and layout of the office sales display to be approved by the Owner

- *Sales Displays Graphics*
- *- Graphics 3M Vinyl Letters: Heights vary from 3" to 6" in Height.*
- *- Colors of graphics will be Black when "Wilsonart Brand" Laminate colors are used.*
- *- Colors of graphics will be White when "Formica & Pionite Brand" Laminate colors are used.*

- *Sales Display: Slat Wall*

- Provide (1) 4' shelf for every 4' wide section of slat wall being provided. Shelves 6" wide with a 1" clear stop.
- Provide adjustable brackets for slat wall shelves (Brackets shall hold shelves on downward angle).
- Provide (36) assorted slat wall hangers in a combination of 3/16" x 8", 6" and 4" and (12) assorted hooks for the hanging display items with each 4' wide section of slat wall display area being provided.
- Typical slat wall construction will include a slat wall area of 4' wide x 8' high with a raised base of approximately 4". The base shall project out from the wall approximately 4" up to 16" as identified on the drawings.
- Slat wall typically to extend from the floor to ceiling or from the floor to approximately 8' in height.
- Slat wall typically shall receive raised laminate boarder trim on the sides and on the top.
- The raised laminate boarder trim surrounding the slat wall shall be a minimum of 4" to 6" in width.
- The raised laminate boarder trim will be in a separate corresponding laminate color and shall joined to or overlap the slat wall with a clean joint at the intersection of the trim and slat wall.
- The raised laminate boarder trim shall be complemented with offset 3-m graphics on 1 side or top.

Accommodate the various sizes of the boxes.
- For box cabinets designed for back loading into a storage room area provide double swinging doors for closure of cabinet on the back side.

- ***Sales Display; Open Floor Merchandise Kiosk***

- Typical Construction Sizes: 5' or 8' Length, Width of 3'- 0", Height of 5'- 0".
- Provide (24) assorted slat wall hangers and hooks for the hanging of display items with each Kiosk.
- Typical Construction will include a raised base of approximately 4", slat wall, trim on the sides and top and complemented with offset graphic section on 1 side as indicated on the drawings.

Miscellaneous Electrical Design Standards and Specifications:

- ***General***
- - Verify all requirements required for the design and coordinate the installation of the electrical systems as
- needed for the HVAC, fire alarm, fire sprinkler, plumbing, elevator, gate access control, site security, burglar
- phone, data and other system requirements that might be necessary with the construction.
- - Cut sheets for all equipment and fixtures shall be submitted for approval.
- - Contractor is also responsible for sealing around any and all penetrations through all wall and floor
- openings including fire caulking and fire stopping areas associated with their work.

- ***Misc. Site Electrical & Exterior Lighting***

- Typical exterior building wall pack light fixture for new construction would be a new LED wall pack light fixture: LED-21040FLD-UNV LED 40W wall pack flood 14" housing 120-277 Fixture: LED as manufactured by Neptun Light www.neptunlight.com
- Typical exterior fixture for a residence exterior entrance, residence patio area or a small recessed building entrance area for new construction and retro fits would be a new LED wall pack light fixture. Manufacture Neptune light.
- Typical exterior pole light fixture for new construction or retro fits would be a new LED pole light fixture: LED-16120-UNV LED 120w 16" square shoebox, 120-277v pole light fixture as manufactured by Neptun Light www.neptunlight.com Note; order needs to include the necessary mounting hardware for the fixture to mount to a new or existing pole.
- Typical exterior site lighting wall pack fixtures shall be installed at a minimum of every 75' in the driving aisles.
- Typical exterior site lighting wall pack fixtures shall also be installed on building ends, building entrance and exit areas, sidewalk areas and key pad locations. and other areas of the property as might be necessary to illuminate the site areas for safety.
- Typical exterior site light fixtures shall be installed on a photocell with a time clock for the over ride of the light fixtures.
- LED exterior site lighting fixtures when used will be set up on a photo cell only.
- Typically awnings when used for the office and building entrance areas shall include 2 rows of continuous double tube high output fluorescent T-8 light fixtures, waterproof, with protective lamp covers and with –20 degrees ballast in colder climate areas as applicable.
-Typically all awnings shall also be set up on a photo cell with a time clock for control and overriding of the fluorescent fixtures. Typically this time clock for the office awning lights would be located in the office utility and or security closet or room.
- Typically all exterior signs to be set up on a photo eye with a separate time clock for control and over riding the signs. Typically this time clock will be located in the office utility/security closet or room for the site signs.
- Typically all exterior entrance areas shall be illuminated with a light fixture on the exterior; includes buildings, office, residence, hallways, and stairwells, etc.
- Typically all exterior electrical devices and trim colors shall be in the anodized aluminum color in all areas unless specified.

- Typically separate electrical meters shall be installed for the electric services to separate for the residence area from the office and building areas on the property.
- If possible separate electrical meters shall also be installed for any climate controlled buildings electrical services on the property.
- Typical electrical contractor to verify with the plans and provide receptacles and required circuits for all camera locations on the site if necessary.
- Typical electrical contractor to verify and provide receptacles and circuits for the site door alarm system (when used), approximately (1) receptacle will be required for every 60 units.
- Typical electrical contractor to verify and provide receptacles and circuits for the burglar alarm system, typically 1 receptacle is required for the system. Location will typically be in the office security or utility room area.
- Typical electrical contractor to verify and provide power and circuits as required for gates, illuminated awnings And signage, typically these circuits shall be located in the office electrical panel. Note circuits and systems allocated for the office and site area systems will not be allowed in the residence electrical service panel under any circumstance.
- Electrical contractor shall provide circuits for the fire alarm and fire sprinkler systems as required. Typically the fire alarm panel will be provided with a dedicated circuit with a lock out provided on the circuit.
- In new construction the electrical contractor shall be responsible for all sleeves required on site between the buildings, gate, office and signage areas for the electrical, phone, data, gate and security systems. All underground systems wiring shall be installed in rigid conduit or schedule 40 PVC with watertight fittings, minimum 18" below grade or per local code requirements.
- All electrical trenches in pavement areas shall be filled with gravel only compacted in lifts not exceeding 8".
- Under slab trenches with-in the building foot print shall be back filled with gravel in all areas.
- Typical electrical contractor is responsible for the coordination and installation of all sleeves through foundation walls, under footings, through floor slabs, walls, roofs and decks for the installation of their systems as necessary.
- The electrical contractor shall be responsible for the coordination of the installation of a new service to the development, including assisting the owner with the paper work for the new service requirements.
- Typical new service installations as part of the electrical bid shall include the transformer pad, primary and secondary sleeves for new service to the transformer pad and to the building service area.

- ***Building Lighting & Electrical***

- Typically all interior building corridors, hallways areas, mechanical, electrical and utility rooms, stair and loading area lighting systems shall be set up on motion sensors for the control of the lights.
- Typically motion sensors shall be provided at all entrances, cross hallways, mid hall sections, etc. for the adequate control of the lighting fixtures, sensors at a minimum should be able to detect and activate the systems they control from a distance of 30'.
- Typical Interior hallway lighting fixture 4' (2) lamp T8 rapid start energy efficient fixture with energy efficient Lamps and clear plastic lamp covers for all lamps.
- Typically the interior hallway or corridor lighting fixtures shall be placed with 10' between each fixture as a standard.
- Typically the interior hallway or corridor lighting fixtures shall be suspended in the center of the hall.
- Typically the interior hallway or corridor lighting fixtures will be suspended from the roof purlins or lower floor decking as a standard. For new construction or conversions with higher than normal ceilings the fixtures will be moved down and suspended from framing installed across the hall way areas by the electrician. (Verify and confirm the height of the fixtures)
- Typically the lighting fixtures should not be more than 8' above the top of the finished unit height.
- When specified lay-in type lighting fixtures with lens covers shall be provided for hallways or common areas when a hallway soffit ceiling system is specified or drop ceiling system is specified.
- Typically all 10' x 20' units and larger will receive a 4' (2) lamp T8 rapid start energy efficient fixture with energy efficient lamps on a motion sensor. Units 10' x 30' and larger would receive (2) fixtures
- Typically building interior areas would receive interior night-lights (24 hour lights) in various locations throughout the building. Locations would include interior hallway and/or common areas for the buildings, all entrance door areas, stairwell landings, lobby areas and hallway windows openings to the exterior.
- Emergency and exit lights with LED lamps shall be installed at exits, cross hallways, stairwells, utility rooms, etc. and/or as per other code requirements. Exit and emergency lights to be provided with battery back-up.

- All interior electrical devices and trims in all areas of the residence, buildings and office areas shall be white unless otherwise specified.
- Receptacles shall be installed approximately every 100' in the storage building interior hallway areas for maintenance use.
- Receptacles in the storage building interior hallway areas shall be set up on a separate switch or circuit in the electrical service panel, electrical closet or utility room. The switch or circuit will be for the control of the receptacles for the use by property management or maintenance only.
- Typically all building or site electrical panels, sub panels and time clocks shall be located in a building utility room or in a common area of a building.
- Electrical panels, sub panels, junction boxes, etc., shall be located in utility rooms, mechanical rooms, electrical rooms or common areas of the buildings. All design work shall consider and include the locations of the electrical services and panels to keep these systems out of tenant unit areas as much as possible.
- All electrical panels shall be the locking type and all panels shall be keyed alike.
- Typically all electrical panels will be clearly labeled on the exterior of the panel and the interior of the panel will be labeled with typed labels provided clearly indentifying all the circuits in all panels.
- All time clocks on the property shall be also be labeled on the exterior and interior as to what they control for the property.
- At a minimum all mechanical, electrical, elevator equipment and utility rooms shall be provided with a switched 4' (2) lamp T8 rapid start energy efficient fixture with energy efficient lamps and a GFI receptacle. If required by code or the local jurisdictions these mechanical, electrical, utility and equipment rooms shall also be provided with an exit light and emergency light.
- Typically also provide GFI service receptacles for all equipment as required.
- Motion sensors shall be 360 degree type sensors able to pick up movement in any direction with a minimum coverage area of not less than 1000sf and sensors at a minimum should be able to detect and activate the systems they control from a distance of 30'.
- Motion sensors shall mounted on brackets, roof purlins, ceiling panels, lower floor decks, etc. in the center of the hallway or storage unit area. The height of the motion sensors should not be more than 3' above the finished unit partition height.
- Typically the timer setting for all motion sensors once activated shall be a minimum of 15 minutes, with adjustable settings up to 60 minutes.
- Motion sensors timers will be set at 15-minutes with the installation of the sensors.
- Typically (1) Unit on the property will be designated as the maintenance unit for property management's use. This unit will be provided with (2) 20amp GFI receptacles and a 220-volt receptacle for the golf cart charging and (2) 4' (2) lamp T8 rapid start energy efficient fixture with energy efficient lamp fixtures on a switch.
- Exhaust fans when used, specified or installed in non-climate building hallways; provide electric magnetic starters for the exhaust fans with thermostats located in the common hallway areas at approximately 7' above grade in a vented clear lockable cover to control the fans.
- Unit Heaters when specified: Supplemental electric unit heaters for stairwells, utility rooms and for supplementing entrance area openings.
- Typical verify system requirements associated the Mechanical, Elevator, Fire Sprinkler, Fire Alarm, Gate, Data and Security Systems as they affect the electrical.
- A GFI receptacle and protected light fixture shall be installed at a minimum in the elevator pit area. Coordinate the installation with the elevator contractor.
- A GFI receptacle and switched florescent fixture shall be installed in the elevator equipment room.
- **Note:** Allow for at least 5" in any area to receive a finished soffit ceiling system or a finished ceiling system in a storage building hallway of common area for the rough equipment height.

- ***Office Lighting & Electrical***

- The office and residence shall have separate electrical services and service panels in all cases.
- The office electrical service panel shall be sized accordingly to accommodate the electrical requirements for the site gate systems, exterior signage, office awnings, site security system and office systems accordingly. Circuits and systems allocated for the office and site will not be allowed in the residence electrical panel under any circumstance.
- Office area shall receive minimum of (1) hard-wired smoke detector or per code requirements.

- Typically the office bathrooms shall receive a combination fan/light with and additional decorative fixture over the surface mirror above the sink or ceiling mounted fixture. (Cut sheets to be submitted for approval of all fixtures).
- Window Display Receptacles: Typically receptacles shall be installed in center of the office window opening at the ceiling level for purpose of displaying illuminated neon signs in the window areas. Note that more than 1 receptacle might be required for an additional display area based on the amount of windows and frontage the office and site has on a property.
- Typically emergency and exit lights shall be installed in the office and utility areas per code requirements.
- All interior electrical devices and trims in the office area shall be white unless otherwise specified.
- Typically a minimum of 8 – 10 duplex receptacles will be provided for the front counter knee wall area and manager's sitting area.
- Typical mounting heights of receptacles at the counter areas; 36" above the finished floor above the counter areas and 12" above the floor for the areas below the counter.
- Verify the locations of all receptacles, phone jacks and data jack locations above and below all counter areas in the office areas with the cabinet layout plans to ensure that these items are not located behind the cabinet or sales display areas.
- Typical office and sales area lighting fixtures 2' x 2' lay-in ceiling fluorescent fixtures set up on 3- way switching.
- Typical lighting for a sales area slat wall display would be surface mounted track lighting systems with high-tech track lights or recessed down light with directional lens, set up on a dimmer switch.
- Typical lighting above the main front counter area would be recessed down light fixtures set into a lower accented soffit area the follows the layout or contour of the front counter, controlled by a dimmer switch.
- Interior night-lights (24 hour lights); a minimum of (1) fixture shall be wired in the office area as a 24hr. light.
- Switching of the lighting fixtures in the office areas could be controlled from multiple areas based on the layout of the office area and types of fixtures used.
- Typical Phone/Data Requirements: A modem line, main line and rollover line shall be standard and installed at both the main managers sitting area and secondary desk sitting area locations in the office areas where the managers will sit. At a minimum a drywall ring and conduit chase through the wall, above the ceiling line or into the phone or utility room will be installed by the electrician for the installation of the phone and data lines to the office counter areas.

Miscellaneous HVAC Design Standards & Specifications:

- ***General***

- Verify all requirements and coordinate the installation of the HVAC systems to accommodate all electrical, fire, fire sprinkler, plumbing, elevator, and other systems requirements with the construction.
- Cut sheets, load calculations, engineering as required for all equipment and fixtures shall be submitted for approval as necessary.
- Contractor is also responsible for sealing around any and all penetrations through all wall and floor openings including fire caulking and fire stopping areas associated with their work.

- ***Site***

- The mechanical contractor shall be responsible for the coordination of the installation of new service to the development, including assisting the owner with the paper work for the new service requirements and providing calculations for the sizing of the service for the systems to be used accordingly.
- Separate gas meters shall be installed for the gas services for the office and residence.
- Separate gas meters shall also be installed for climate controlled buildings.
- All condensers set at ground level on the exterior shall be set on pre-cast pads or poured concrete pads provided by the HVAC Contractor. All roof mounted condensers shall be set on roof curbs or pre-cast pads provided by the HVAC contractor.

- ***Climate Buildings***

- Typical system would be designed for a gas forced air system.
- The office or residence should not be supplied for the general building HAVC systems. Office and Residence systems shall be served by independent and separate HVAC systems.
- Cut sheets shall be provided for all equipment and shall be submitted for approval.
- Design Specifications for a Climate Controlled Building system shall be based on; 55 degrees winter heating temperature and 78 degrees summer cooling temperature for the storage

completely open in a building with no fire or party wall restrictions in the building and an adequate open area is provided above the tenant unit areas for an open return air system to function properly. The return air duct system for an open system at a minimum should extend out into the areas serviced approx 10' off of the air handler unit or out of the mechanical room into the general areas to be service by the system.
- All mechanical equipment, pumps, de-humidifiers, drain pans, etc., shall be located in utility rooms, mechanical rooms, or in the common areas of the buildings. All design work shall consider and include the locations of the HVAC equipment and systems to keep these out of tenant unit areas and to allow for the servicing of the equipment.
- Typically cooling and heating shall be provided to all building areas including the common areas of the climate controlled buildings. Exception would only be to extreme Southern climates where heating requirements would not extend below 50 degrees for more than 3 days in a row.
- All units shall have programmable thermostats for the control of the storage units in all areas. Thermostats shall also be programmed for every piece of equipment upon completion per the owner's standards. The Typical standard stetting for the programmable thermostat is 50 degrees on the heating and 78 degrees on the cooling for a climate controlled building environment.
- Thermostats shall also be located common areas of the buildings and shall be installed approximately 7' above the finished floor of the building in a clear lockable cover. (A thermostat shall not be located in a storage unit under any circumstance).
- Typical all louvers/grilles shall have a "White" finish in all areas.
- All condensers set at ground level on the exterior shall be set on pre-cast concrete pad or concrete pad as provided by the HVAC Contractor. All roof mounted condensers shall be set on roof curbs, rails or pre-cast pads provided by the HVAC contractor.
- Typical in Northern climate areas any condensate drain lines that exit too and through an exterior wall areas shall Be wrapped in heat tape at the exterior wall area to prevent freezing of the drain line.
- Air handler units, suspended packaged units and suspended dehumidification units shall include the necessary drip pans below the units, condensate pumps as might required for the units and condensate drainage piping as necessary.
- All condensate piping shall be installed and routed through the common areas of the building as much as possible and gravity drainage of the condensate lines shall be utilized as much as possible.
- Any and all overhead gas lines, condensate lines, line sets, supply lines, return lines, vent lines, flues, etc shall be installed as close as possible to the floor deck, wall and/or roof purlins as possible.
- When supply and return lines have to be ran through a rental unit area it is best if the design can incorporate the Location of the lines along the rear/party wall area between the rental unit areas
- All gas lines, condensate lines, line sets, vent lines, flues, etc. that have to be run through or in a rental unit space shall be installed if possible in the wall cavity stud space area inside the unit and this also includes lines hanging below the ceiling space area of the rental unit and any systems that might be damaged by a tenant inside a tenant unit area. Enclosing and/or protecting these lines shall be the responsibility of the HVAC contractor. Typically these items will be enclosed or covered with similar materials used in the construction when passing through floors on hanging below the ceilings in a rental unit.
- Packaged HAVC systems, dehumidifiers and any other equipment when suspended from a ceiling or roof deck area that has to be installed above the tenant space due to hallway limitations shall be installed on the edge of the tenant space and hallway so the equipment even suspended above the tenant space is completely serviceable from the hallway area above tenant space.
- Typically the metal building contractor shall be responsible for providing reinforcement in the roof structure for all roof top equipment.
- The HVAC contractor shall be responsible for providing the documents necessary for the roof loads and for providing any dimensions necessary for roof decking penetrations.
- All roof cuts through the roof for curbs, vents, penetrations, etc. shall be coordinated with the roofing contractor and the HVAC contractor shall be responsible for setting all roof curbs for all vents and HVAC equipment as required.
- The HVAC contractor shall typically also be responsible for providing the curbs for all systems through the roof.
- HAVC design shall include the necessary requirements for the venting of all equipment rooms, bathrooms, elevator areas, drive through and interior loading areas and the general building areas as required.
- HVAC system designs shall include providing fire dampers for supply, return and vent lines as required.
- HVAC work will include providing gas distribution piping and connections and service to each gas fired piece of equipment.
- All installations upon completion shall include the balancing and adjustment of all heating, ventilating and air conditioning systems for the proper function of each system.
- The HVAC contractor is responsible for the coordination and installation of all sleeves required to complete his work, including sleeves that might be required through foundation walls, under footings, through floor slabs, walls, decks and roof decks as necessary.
- Note: Allow for at least 5" in any area to receive a finished soffit ceiling system or a finished ceiling system in a storage building hallway of common area for the rough mechanical equipment height.

- *Exterior Access Climate Controlled Units*
- *- Typically when designed or installed exterior access climate controlled rental units shall be separated from the general climate controlled storage building area in sections of approximately 3000 square feet or less.*
- *- Separation of the exterior access climate controlled rental units shall include a full height wall between the interior and exterior climate controlled rental units to control the heating/cooling loss in the entire building when and exterior access climate controlled rental unit is opened for an extended period of time.*
- *- The HVAC system shall be designed to accommodate these separated exterior climate controlled access units as zoned areas.*
- *- A set back thermostat with a remote sensor installed in the sectioned of exterior access climate controlled units area for the control of the heating and cooling to this area. All control and zone wiring for the system shall be completed by the HVAC contractor.*
- *- The layout of the duct work shall be set up so that the supply and return lines to the exterior access climate controlled rental units are immediately adjacent to the separation wall between the exterior access climate controlled rental units and interior climate controlled rental units for easy access through the separation wall area for the supply and return venting into the exterior access climate controlled area.*

- *Non-Climate Buildings*

- Hallway Exhaust Fans: when specified shall be provided for non-climate hallway buildings in the Southern regions with a thermostat controlled exhausting system in the buildings hallway areas to provide fresh air and air circulation throughout the hallway areas of the building.
- System design shall exhaust approximately 1cfm per 1 square foot of the floor area.
- Acceptable Manufacture: Penn Ventilation Companies FX V-belt drive models with spun aluminum centrifugal up blast roof exhaust fans, with bird screen, roof curb and back draft damper.

- *Office & Apartment*

- Typical system design would be for a gas forced air system.
- The office and residence areas in all new installations shall be designed to be served by independent HVAC systems.
- Separate gas meters shall be installed for the gas services for the office and apartment.
- All condensers set at ground level on the exterior shall be set on pre-cast concrete pads provided by the HVAC Contractor.
- HAVC design shall include the necessary requirements for the venting of all equipment rooms, bathrooms, kitchen areas and laundry equipment as required.
- All louvers/grilles shall have a "White" finish in all areas.
- HVAC systems for the office and apartment shall have programmable thermostats.
- Verify all requirements necessary for the systems including all electrical and fire systems requirements in all areas.
- HVAC work shall include the hook-up of the gas and installation of the venting systems to the equipment and appliances installed and provided for the project.
- All exhaust venting shall terminate to the exterior.
- Bird screens and back draft dampers shall be provided for all exhaust vents terminating on the exterior of a structure.
- Provide fire dampers for supply, return and vent lines as required.
- Provide gas distribution piping, connections and service to each gas fired piece of equipment.
- Balance and adjust all heating, ventilating and air conditioning systems for the proper function of each
- Ceiling Grilles for acoustical ceilings will be the 2' x 2' white lay-in type grilles in the ceiling grid system for the supply and returns.
- The supply and return ceiling grills shall be spaced accordingly for the distribution of air to all areas and the

MK	DATE	REVISIONS	BY
3	9.22.14	REVISED	
2	9.8.14	REVISED	
1	8.17.14	ISSUED FOR BID	
	8.11.14	ISSUED FOR PERMIT	

URBAN & ASSOCIATES ARCHITECTS, INC.
2529 ILLINOIS ROAD, NORTHBROOK, ILLINOIS 60062
WWW.URBANASSOCIATES.NET (847) 291.9570

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SHEET TITLE
METRO STANDARDS

DRAWN BY | AUTHOR | DATE 3.10.14 | SCALE 1 1/2" = 1'-0"
CHECKED BY | CHECKER | PROJECT NUMBER 1428

PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG ARCHITECT
COMMISSION EXPIRES 7/31/2016

WISCONSIN CHRISTOPHER URBANCZYK 9284-005 NORTHBROOK IL ARCHITECT

8.12.14

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locations of the grilles shall be coordinated with others for systems being installed in the ceiling grid system.

Plumbing Design Standards and Specifications:

- ***General***
  - Verify all requirements and coordinate the installation of the plumbing systems to accommodate all HVAC, fire, fire sprinkler, electrical, elevator, and other systems requirements with the construction.
  - Cut sheets for all equipment and fixtures shall be submitted for approval.
  - Contractor is also responsible for sealing around any and all penetrations through all wall and floor openings including fire caulking and fire stopping areas associated with their work.
- All water lines in the climate-controlled building areas, residence and office areas shall be insulated.

- ***Site Areas***
  - Contractor is responsible for the coordination and installation of all sleeves through foundation walls, under footings, through floor slabs, walls and decks for the installation of systems as necessary.
  - Under slab trenches with-in the building foot print shall be back filled with gravel in all areas.
- The plumbing contractor is responsible for the removal of all spoils associated with the buildings under slab plumbing work in all areas.
- The plumbing contractor is responsible for stubbing the sanitary sewer service 5' outside of the building areas.
- The plumbing contractor is responsible for the domestic water meter installation as required by the local municipality.
- The installation of the domestic water service shall be coordinated with the site sewer and water contractor, fire sprinkler contractor and plumbing contractor as necessary.
- Note: Any water service of larger than 2" in diameter shall be stubbed into the building by the site sewer and water contractor and coordinated with the fire sprinkler and plumbing contractor for the location or locations of the service risers.
- Provide backflow prevention devices as required on all systems with testing and certification of the same upon completion of the project.

- ***Office Area***
  - The office water heater for the servicing of the domestic bathrooms and break room shall be 10 gallon minimum electric water heater.
- Include a minimum of 1 water fountain in the immediate area of the office or climate building area for tenant usage and provide high/low type water fountain for handicapped accessibility as required.
- Office bathroom accessories shall be Bradley or equal with a brushed stainless architectural finish.
- Office bathroom accessories shall include as follows: Grab Bars (as required by code). A Soap Dispenser Paper Towel Dispenser, Toilet Paper Holder all in a bushed stainless finish and a Surface Mirror with stainless frame for above the sink or sinks.
- All Plumbing Fixtures for the office areas shall be "White"
- All office bathroom fixtures shall be handicapped approved and accessible.
- Typically a floor drain shall be installed in all bathrooms.
- Typically a floor drain shall be installed in the office utility room or janitor's closet.
- The exterior of the office building shall be provided with a minimum of (1) exterior hose bib.
- Typically the office area or general building area will be provided with a janitor's closet. The janitor's closet shall be provided with a floor mounted slop sink in the closet area.
- The office bathroom design shall comply with all ADA requirements as necessary.

- ***Climate Controlled Buildings***
- All gas lines, water lines, drainage lines, waste and vent shall be enclosed in the wall cavity stud space.
- All overhead lines shall be installed as close to the floor deck, wall and/or roof purlins as possible.
- The contractor will be responsible for installing metal guards to protect all lines in areas where the lines are exposed on the interior side of the wall or where the lines hang below the ceiling space area of the units and might be accessible to damage by a tenant. Enclosing and/or protecting these lines shall be the responsibility of the Plumbing contractor.
- Floor drains shall be installed in all bathrooms.
- Floor drains will be installed in building :utility rooms (only if required by code).
- Under slab trenches shall be back filled with sand or gravel in all areas.
- The plumbing contractor is responsible for the removal of all spoils associated with the under slab plumbing work in all areas.
- All elevators will receive a sump pump. The location of the sump pump pit and sump pump piping will be coordinated by the plumbing contractor with the elevator contractor prior to install.
- All sump pump pits shall finish flush with the concrete floor and shall also receive a ¼" steel cover over the pit and the cover shall be notched around the discharge piping.
  - The exterior of the storage building shall be provided with a minimum of (1) hose bib (Verify hose bib will be provided only if domestic water service is provided to the building).
  - Note: Allow for at least 5" in any area to receive a finished soffit ceiling system or a finished ceiling system in storage building hallway of common area for the rough equipment height.

Miscellaneous Gate, Access Control & Camera Systems:

- ***General***
  - Verify all requirements and coordinate the installation of the gate systems to accommodate all electrical, security, concrete and site systems and other systems requirements with the construction.
- Typical: Shop drawings for the access control gate system, alarm layout, cameras, etc. shall be included and submitted for approval of the layout by the owner.

- ***Standard Site Access Control***
  - Typical Access Control System: PTI access control system with Apex series keypads with intercoms for each keypad master intercom from the keypad locations to the office front desk area.
  - The PTI access control system shall come standard with Windows Software Package and Centershift accounting link Interface.

- ***Standard & General Specifications with a NEW Access Control Systems Installation Work***
- System installations shall include as necessary all trenching, sleeves, conduit, wiring, concrete, etc. necessary for a complete installation.
- All conduits shall be underground rigid conduit with watertight fittings, minimum 12" below grade or per local code requirements. All trenches shall be back filled with gravel only in paved areas, compacted and left ready for pavement by others.
- New system installations shall include all necessary sleeves and conduit required on site and in the buildings for the installation of the system.
- All access control gates and/or doors will be free exit gates or doors.
- All access/over head doors when used will be free exit. Includes; vehicle detector for exit and safety loops.
- Photo eyes: photo eyes shall be installed for all gate systems and /or overhead doors; Photo eyes shall also be placed in a protected area or protected as necessary. Protection of a photo eye system might include a bumper post, fabricated pillar, screen, etc. The protection of the photo eye must be adequate enough to protect the photo eye from be distributed.
  - Key Pad Gooseneck Footings: A new concrete footing for a gooseneck keypad minimum 12" x 12" x 3' depth
- Typical distance of the access control keypad from the drive up access gate or door shall be not less than 12'.
- Typically an extra 2-conductor wire shall be pulled from the Digigate system controller in the office to the gate entrance/entrances keypad locations for future use.
- Typical all keypads shall come with an intercom and a master intercom station shall be installed in the office Adjacent to the manager's desk location for access to all of the keypad locations. The master intercom shall also be sized accordingly for the amount of keypads used.
- When Specified: Remote intercoms shall be also be provided in all common area lobbies and elevator lobbies, (1 intercom per lobby area, per floor if multiple floors) and in all loading dock areas. These remote intercoms shall also be tied into the master intercom at the manager's deck location.

- When specified: Additional PTI access control keypads might also be provided for all climate controlled/common building entrances including all loading dock overhead doors, lobby doors, automatic doors and exterior hall/stairwell doors.
- When Specified: PTI system access control keypads might also be provided for all elevators.
- When Specified: The PTI access control system design can also include Individual door alarms. Door alarms will be either the hardwired type or wireless type door alarms.
- Exterior access climate controlled units with sectional doors when receiving a hard wired door alarm system the doors would receive the heavy-duty floor contacts for the door alarm system.
- Bumper Posts: New 6" diameter bumper post, posts to be 7' long set 3'- 6" deep in 18" diameter concrete filled footing. The interior of post and footing area shall be filled completely with concrete. The concrete shall be rounded on the top of the post and a smooth trowel finish shall be completed at grade. Bumper post shall project 3'- 6" above grade upon completion.
- Bumper posts shall be installed as a standard and as necessary for the protection of the gate, gate operator, photo eyes and gate key pads.
- Typical standard (2) Bumper posts shall be installed for the protection of all keypads. The keypad bumper posts shall project slightly past the face of the keypad for protection of the keypad.
- Typical all new keypad locations shall align with the gate opening.
- New construction and security system designs would typically include the installation of a security closet typically behind the main counter area in the office for the housing of the DVR, cameras and display of the flat screens. The typical room size approximately 4' x 4' with all camera and gate systems terminating into this area. Security room can also serve as the location for housing of additional office systems such as: the office electrical panel, phone system, burglar alarm system, DVR, access gate system controller, etc. pending the size of the room.
- Typical for new Construction: The security/electrical contractor would provide and install at a minimum (1) 2" conduit sleeves from the access control/access gate keypad location into the security flat screens/DVR location or security room in the interior office area for the PTI access control system installation.
- Typical for new Construction: The security/electrical contractor would provide and install at a minimum (2) 2" conduit sleeves from the security flat screens/DVR location or security room in the interior office area to the front manager's desk area for the PTI access control system installation.
- All security lines throughout the storage building or passing between floor areas shall be piped in conduit to above the ceiling line. (Verify wiring requirements with local authorities)
- Door Alarms (when specified) All security lines throughout the building and lines feeding door contacts shall be concealed as much as possible in all areas of the building.
- Door Alarms New Construction (when specified): Electrical contractor would provide receptacles and circuits for the site door alarm system, approximately (1) receptacle will be needed for every 60 units.
- Door Alarms Mux Panels (when specified): Locations for the door alarm systems mux panels shall be located in the building mechanical rooms, electrical rooms, equipment rooms or common areas only. Door alarm mux panels will not be allowed in any units.
- Door Alarms (when specified): Sirens shall be included with the PTI door alarm system and tied into the system. Standard locations shall include: 1 on the exterior of the site and 1 per floor in multiple floor buildings.

Standard & General Specifications with RETRO FIT Access Control System Work
- New conduit or power; All trenches shall be back filled with gravel only in paved areas, compacted and patched with a minimum 2" of cold patch asphalt or 5" of concrete, grading existing pavement conditions.
- System installations new or existing shall include all necessary sleeves and conduit required on site and in the buildings for the installation of the system.
- All access gates will be free exit gates. Existing gates: change the gate/gates to free exit gates, conversion also includes vehicle detector and converting the existing safety loop to a free exit loop or adding the loop if necessary.
- A safety photo eye reflector system transmit/receive type system can be provided in retro fit installations for existing gate openings.
- Safety loops: saw cut loops can be provided in retro fit installations.

Standard Access Control Safety Systems
- A hard-wired safety photo eye transmit/receive type shall be installed for all gate openings in new construction.
- All access control gates shall be set up for a free exit. Including a free exit loop and operator conversion as necessary for retro fit installations.
- Free exit loop shall cover and area of approximately 4' x 10'. The front edge of the loop shall be placed approximately 6' from the gate and/or exit door on the inside of the property with the back edge approximately 10' from the gate and/or exit door opening on the inside of the property.
- The free exit loop shall be set in PVC in the pavement in new construction installations; security contractor will coordinate accordingly with the pavement contractor.
- An on/off cut off switch shall be installed for the safety photo eye. Switch to be located on the inside of the gate operator box if all possible.
- A 3-button manual gate control with a timer cut off switch to hold the gate open for extended periods of time shall be installed in the office located by the manager's desk area.
- All access gates and/or overhead doors shall be set up with a timer to automatically close the gate/door each time it opens.
- If required a low voltage wiring and/or a point of connection shall be provided by the gate/security contractor to each access gate location for the burglar alarm or fire alarm system access, hook up by others.

Gate Operators
- Typical: gate operator shall be Elite Model SL-3000 ½ to 1hp motor high traffic commercial gate operator.
- T/lt Gate Operators when specified: Sun Power Model C -50 gate operator/gate with a maximum gate length of 20' and gate height of 6'
- All operators shall be sized accordingly for the gate.
- All operators shall come standard with instant reversing sensor.

Buildings & Site Security Systems
- New system designs typically will include: Site and building security cameras, keypads for gates and door access with intercoms and additional intercoms in the lobby/elevator areas of multi-story buildings and loading areas.
- Typical DVR: ECOR 264 16 Channel / 2 TB DVR, Part #:EVE ECOR26416X1/2T, Description: 16CH H264 DVR/DVD-R DRIVE.
- DVR to be supplied and installed by the security contractor.
- DVR shall be sized accordingly for the amount of cameras on site.
- DVR provided with a wireless keypad and mouse for the DVR control.
- Note: DVR Installations by the security contractor will include as necessary all network cabling, surge protection devices for the DVR and cameras on site, hardware, UPS battery back-up and the DVR shall be tied into the internet router by the Contractor.
- DVR installations will include connections to of the equipment into the store router for complete internet capabilities with all system installs, security contractor in all cases will verify the internet connectivity with Metro's IT department while on the property.
- Note: DVR installations where the DVR is installed inside a cabinet will require providing adequate ventilation for the system in all installations. Note: this will include and require the installation of a supplementary fan or fans in all cases.
- Typical Flat Screen Monitors: Wide screen LCD flat screen color monitors in the office for the security system display with the necessary mounting brackets, hardware and monitors shall include the necessary vga inputs, etc.
- Typical Flat Screen Sizes: 22", 27", 32" 37" and 42" (and as specified for the project)
- All flat screens monitors have to be mountable via wall mount, stand or ceiling suspended; included the necessary brackets, hardware, etc. for the planned installation.
- When a Digiview or PTI site surveillance map is provided for a new install or exists on an existing site the Digiview or PTI site surveillance map will typically be set up on a separate flat screen monitor for the display of this system. The display Monitor can be installed in a cabinet, on the counter area or on the wall.
- Unit mix changes and system upgrades typically require the site surveillance hardware to be updated by Digitech or PTI.

Security Cameras
- Typical site installation would include (16) color cameras with (2) 32" Flat Screen Monitors.
- The Camera layout to be approved by Owner.
- Cameras would typically be installed in the following areas: Climate controlled and regular storage building lobbies and loading areas, elevator lobbies, office area, main entrance gate, secondary gates, driving aisles and dumpster area.
- Color cameras will be required for use in all locations throughout the site.

- Color cameras will be Speco Technologies HT-7246iHR Color dome cameras with 2.8 – 12mm lens and INTWMW wall mounts, www.specotech.com or equal.
- Camera housings; vandal proof dome camera housings with wall, ceiling and gooseneck options for mounting, www.specotech.com
- Camera housings for outdoor cameras, heated where required.
- Cameras when installed on the exterior in driving aisles shall be installed where they can be protected or installed at a height of 13' above grade. Protection will be required in the form of a bumper post.
- New Construction: Electrical contractor would verify and provide receptacles and required circuits for all camera locations on the site.

- ***Standard Systems Training***
- Installation of any system including access control, cameras, DVR, site surveillance map, etc. shall include the orientation and necessary programming of the system by the installer with Property Management.

Miscellaneous Security & Data Requirements:

- ***Office Burglar Security***
- Standard burglar alarm system in the Office to include: Motion sensors, keypads for the main entrance door, side entrance door if applicable, door contacts for the exterior door and any door exiting into a common area of the building, hold-up button under the main counter.
- Provide a remote hold-up transmitter (when specified).
- All wiring for the system shall be concealed in building systems, door frames, etc as much as possible.
- The hold up button under the main counter area shall be with-in arms length of the sitting area.

- ***Office/Apartment/Site Data Requirements***
- Standard phone system includes the pre wire of a minimum of 3 separate phone lines to the office area as follows: Main Metro line, Roll over 2nd Metro line, Fax line/Modem/Credit Card line.
- A modem line, main line and rollover line shall be standard and installed at both the main and secondary
  - desk locations in the office area where the manager and storage consultant will sit. At a minimum a drywall
  - ring and conduit will be installed to these locations by the electrician and stubbed above the ceiling or into
  - the security/phone closet location.
- Additional lines will be required for monitoring and emergency services associated with the elevators, fire, burglar and security alarms and systems for the office and building.
- At a minimum of a10 pair phone line shall be pulled into the telephone equipment area of the office for the specified phone requirements and future use in the office area.
- At a minimum of a 5 pair phone line shall be pulled into the telephone equipment area of the office for the specified phone requirements and future use in the residential area.
- Verify line installation for buildings/site fire alarm systems, elevator systems and burglar alarm systems that will be monitored separately.
  - Verify all sleeves required on site and in the buildings for the phone and data systems from the point of service to the buildings, between the buildings, from the elevators, fire sprinkler rooms, gate system and office areas into the security room or location of the phone/data interface and for the phone, data and monitoring systems.
  - All systems underground wiring shall be installed in rigid conduit or schedule 40 PVC with watertight fittings, minimum 18" below grade or per local code requirements.
  - Cable TV – The office shall typically be wired with a cable TV jack when a TV is provided for the sitting area.
- All phone jacks, cable jacks, etc. shall have white finish trim in all areas.

Building Fire & Sprinkler Systems, Misc.:

- ***General***
- Verify all requirements and coordinate the design and installation of the fire systems to accommodate all HVAC, electrical, plumbing, elevator, security and other systems requirements with the construction.
  - Cut sheets for all equipment, load calculations and shop drawings shall be submitted for approval to the local governing agency and owner as required for the approval of the system.
- Fire Alarm and/or Sprinkler Systems for the buildings, office and residence area shall be installed only if required by the governing agency. The system shall then be designed based on the requirements of the governing agency.
- The installation of any Fire Alarm and/or Sprinkler Systems shall include; the testing as necessary with the governing agency and related contractors for the approval and release of the system.
  - Contractor is also responsible for sealing around any and all penetrations through all wall and floor openings including fire caulking and fire stopping associated with their work.

- ***Systems Information***
- Note: Fire sprinkler inspectors test valves and drain down valves shall not be located in a unit area.
- Signage will be provided by the fire sprinkler contractor to identify all valve locations, sprinkler room locations, etc. and/or as required by the governing agency.
- The fire sprinkler contractor shall be responsible for the coordination and providing the information necessary for the installation of the fire sprinkler service with the site sewer and water contractor, and/or plumbing contractor as necessary.
- Note: Any water service of more than 2" in diameter shall be stubbed into the building by the site sewer and water contractor and coordinated with the fire sprinkler and plumbing contractor for the location or locations of the service risers.
- Provide backflow prevention devices as required on systems with testing and certification of the same upon completion of the project.
- Head guards shall be provided for fire sprinkler heads projecting into the storage space or into a common area where the sprinkler head in below the height of 8' or as necessary.
- Typically the fire alarm system main control panel for property shall be installed in the office. If the fire alarm system main control panel is required to be installed in the fire sprinkler room or common area of the building a remote enunciator panel shall then be installed in the office area.
- Note: Typically fusible link door closures will be used for the fire doors that are required to be shut or controlled in building areas with intermittent fire wall areas in the building hallways.
- Note: A fire alarm system with magnetic hold open devices controlled by the fire alarm will be used for the control of the fire doors in building areas with intermittent fire wall areas in the building hallway areas if the local authority will not accept fusible link door closures.
- Fire alarm system installation and requirements for the elevators per governing agency requirements.
- At a minimum 1 smoke detector shall be provided for the office area.
- At a minimum (1) fire extinguisher each shall be provided for the office area.
- Typically (1) fire extinguisher and cabinet shall be required for each driving aisle on the site or per local code requirements.
- At a minimum multiple story buildings shall receive (1) fire extinguisher each in lobby/elevator area or per local code requirements.
- Interior building fire extinguisher cabinets in the common areas shall be semi- recessed into the walls.
- Standard interior building recessed cabinet manufactured by JL Industries Inc. Type: Ambassador 1016-G10 with Saf-T- Lok, "White" finish.
- Typical Fire Extinguisher Exterior Cabinets: Surface mounted plastic "Red" exterior extinguisher cabinets with plastic pull off face and lock.
- Provide as necessary dated certification tags for each new fire extinguisher supplied and installed.

URBAN & ASSOCIATES ARCHITECTS, INC.
2529 ILLINOIS ROAD, NORTHBROOK, ILLINOIS 60062
WWW.URBANASSOCIATES.NET (847) 291-9570

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BY	REVISIONS	DATE
MK	1 RE-ISSUED	4.22.14
	2 RE-ISSUED	4.8.14
	3 ISSUED FOR BID	5.17.14
	4 ISSUED FOR PERMIT	8.11.14

SHEET TITLE: METRO STANDARDS

Drawn By: | Approved By: | Date: 3.13.14 | Scale: 1/32" = 1'-0" | Project Number: 1478

PROJECT NAME: METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES 7/31/2015

WISCONSIN CHRISTOPHER URBANCZYK 9284-005 NORTHBROOK IL ARCHITECT

8.12.14

A8.4

REFER TO DEMOLITION NOTES ON DRAWING E0.1. SEE ARCHITECTURAL PLANS FOR ADDITIONAL DEMOLITION WORK. COORDINATE ALL DEMOLITION WORK WITH GENERAL CONTRACTOR.

DO NOT DEMOLISH:
1. EXISTING EXTERIOR POWER OUTLETS AND RELATED CONDUITS AND CONDUCTORS. RECONNECT OUTLETS TO CIRCUIT BREAKERS INDICATED ON PANEL SCHEDULES.
2. EXISTING WALL HYDRANTS AND ASSOCIATED PLUMBING PIPING.

EXISTING ELECTRICAL PANELS, CONDUITS AND OTHER ASSOCIATED ELECTRICAL WORK IN THIS ROOM. MODIFY ELECTRICAL AS SHOWN ON PLANS

REMOVE EXIST UNIT HEATER, GAS PIPING, FLUE AND ASSOCIATED ACCESSORIES. PATCH ROOF OPENING

EXISTING ELECTRICAL SERVICE, METER, DISCONNECT AND PANEL TO REMAIN.

REMOVE EXISTING FURNCAES, DUCT WORK, GAS PIPING, THERMOSTATS ETC FROM SECOND FLOOR MECH. ROOM

REMOVE EXIST WATER CLOSETS, LAVATORIES, URINALS, FLOOR DRAINS AND OTHER PLUMBING RELATED ITEMS FROM THESE TOILETS. REMOVE HOT WATER, COLD WATER PIPING, SANITARY PIPING AND VENT PIPING UP TO SOURCE. CAP REMAINING PIPING.

REMOVE EXISTING MAKE UP AIR UNITS, GAS PIPING AND DUCT WORK. REMOVE AIR INTAKE AND PATCH ROOFING WATER TIGHT

EXISTING SPRINKLER RISER AND WATER SERVICE TO REMAIN. REMOVE DOMESTIC WATER LINE DOWN STREAM OF METER TO ACCOMMODATE NEW PLUMBING WORK.

REMOVE ALL SUPPLY AND RETURN DUCTWORK, DIFFUSERS, GRILLES, THERMOSTATS, CONTROL WIRING, GAS PIPING ETC FORM FIRST AND SECOND FLOOR.

REMOVE EXISTING ROOFTOP UNITS, DUCT WORK, GAS PIPING, THERMOSTATS ETC FROM ROOF

REMOVE EXISTING HOSE BIBB AND CAP EXISTING WATER LINE. CONNECT NEW HOSE BIBB TO EXISTING COLD WATER LINE AT THIS LOCATION

EXISTING GARAGE CATCH BASIN TO BE FILLED WITH SAND AND CONCRETE

FILL EXISTING TRENCH DRAIN WITH CONCRETE. CAP SANITARY CONNECTIONS TO TRENCH DRAIN

FILL EXISTING TRENCH DRAIN WITH CONCRETE. CAP SANITARY CONNECTIONS TO TRENCH DRAIN.

REMOVE EXISTING WATER HEATER. REMOVE ASSOCIATED GAS PIPING AND OTHER ACCESSORIES. REUSE CW, HW AND DRAIN LINES FOR NEW ELECTRIC WATER HEATER

EXISTING GAS METER AND PRESSURE REGULATOR SHALL REMAIN. REMOVE EXISTING GAS PIPE DOWN STREAM OF METER ASSEMBLY. CAP GAS MAIN FOR FUTURE CONNECTION

EXISTING ROOF DRAINS, DOWN SPOUTS AND CLEAN OUTS SHALL REMAIN. PLUMING CONTRACTOR SHALL ROD STORM DRAINAGE SYSTEM AND MAKE IT OPERATIONAL

EXISTING GARAGE CATCH BASIN TO BE CLEANED AND REUSED FOR NEW TRENCH DRAIN CONNECTION

REMOVE EXIST UNIT HEATER, GAS PIPING, FLUE AND ASSOCIATED ACCESSORIES. PATCH ROOF OPENING

REMOVE EXIST 480V/277V,225AMPS PANELS FROM THIS LOCATION

REMOVE ALL LIGHTS, ASSOCIATED CONDUITS, CONDUCTORS, SWITCHES ANT OTHER ITEMS FROM WAREHOUSE. VERIFY IN FIELD

REMOVE EXISTING AIR HANDLING UNIT, GAS PIPING AND DUCT WORK. REMOVE AIR INTAKE AND PATCH ROOFING WATER TIGHT

DEMOLITION CONTRACTOR SHALL REMOVE ELECTRICAL WIRING AND CONDUITS TO MECHANICAL EQUIPMENT WHICH ARE REMOVED

REMOVE ALL OVERHEAD DOOR MOTORS, MOTOR WIRING AND DOOR CONTROLS

REMOVE ALL EXTERIOR LIGHTING FROM BUILDING FACADE. REMOVE CABLES UP TO PANEL. PROVIDE JUNCTION BOX COVERS. (TYPICAL FOR ALL EXTERIOR LIGHTING).

REMOVE EXISTING RELIEF VENT, ROOF CURB ETC. PATCH ROOF OPENING WATER TIGHT

REMOVE EXISTING AIR HANDLING UNIT, GAS PIPING AND DUCT WORK. REMOVE AIR INTAKE AND PATCH ROOFING WATER TIGHT

EXISTING CONDENSATE DRAINS TO BE REMOVED. FILL PIPE OPENINGS WITH CONCRETE. EXISTING 4"ø UNDERGROUND SANITARY SHALL REMAIN AND SHALL BE REUSED FOR CONNECTION TO TRENCH DRAINS.

REMOVE ALL LIGHTING FROM FREEZERS

REMOVE EXISTING REFRIGERANT COMPRESSORS, FAN COIL UNITS, REFRIGERANT PIPING, CONTROLS ETC. ASSOCIATED WITH FREEZERS. REFRIGERANT FROM THE SYSTEM SHALL BE RECLAIMED PER EPA GUIDE LINES AND RETURN TO OWNER. (TYPICAL FOR ALL FREEZERS).

GENERAL DEMOLITION NOTES:

1 ALL CONTRACTOR SHALL VISIT THE SITE TO VERIFY ALL THE EXISTING SYSTEMS AND CONDITIONS ON SITE AND WITH PROJECT DRAWINGS.

2 ALL DEMOLISHED ITEMS SHALL BE DISPOSED OF LEGALLY.

3 PATCHING AND REPAIRING OF DEMOLISHED ITEMS SHALL BE INCLUDED AS REQUIRED.

4 ANY EXISTING SYSTEMS BEING REUSED WILL NEED TO BE UP IN THE OPEN TRUSS SPACE OR ADJACENT TO THE EXISTING EXTERIOR WALL OR IN THE FIRE SPRINKLER OR ELECTRICAL ROOM AREAS TO REMAIN. ANY ITEMS BELOW THE TRUSS SPACE OR OUT OF THESE SPACES SHOULD BE REMOVED WITH GENERAL DEMOLITION WORK.

5 PLUMBING: LOCATE ALL UNDER SLAB SEWERS, FLOOR DRAINS, CLEAN OUTS ETC AND VERIFY WHAT WILL BE REUSED. INCLUDE THE REMOVALS, FILLING IN AND CAPPING OF ALL SEWERS AND WATER LINES, DRAINAGE TRENCHES, SUMP PUMPS, ETC. NOT BEING REUSED FOR THE PROJECT. REMOVE ALL EXISTING WATER, WASTE AND VENT LINES NOT BEING REUSED FOR THE PROJECT AND ALSO REMOVE ALL SYSTEMS NOT BEING USED THROUGH ROOF AS REQUIRED. PHOTO ALL SEWER LINES TO BE REUSED TO MAKE SURE THEY ARE CLEAR OF OBSTRUCTIONS.

6 FIRE ALARM: REPLACE AS NECESSARY THE EXISTING FIRE ALARM PANEL AND FIRE ALARM SYSTEM. LOCATE NEW FIRE ALARM PANEL, ENUNCIATOR PANEL, KNOX BOX ETC. IN THE LOCATIONS AS DESIGNATED BY THE FIRE DEPARTMENT.

7 HVAC: REMOVE ALL EXISTING HVAC SYSTEMS, RTU'S, FANS, DUCTWORK, STATS, VENTS, ETC IN THEIR ENTIRELY AND THROUGH THE ROOF AREAS AS REQUIRED. REMOVE ALL EXISTING GAS LINES AND GAS PIPING NOT BEING REUSED FOR THE PROJECT.

8 FIRE PROTECTION: REMOVE EXISTING SYSTEM AND NECESSARY TO COMPLY WITH THE DEMOLITION WORK. REWORK, RETROFIT, AND REUSE ANY OF THE EXISTING SYSTEMS AS APPLICABLE IN THE EXISTING BUILDING AREA. RELOCATE THE FDC.

9 ELECTRICAL: REMOVE ALL OLD ELECTRICAL PANELS, SWITCH GEAR, TRANSFORMER, LIGHTS, FANS, TELEPHONE, DATA, INTERCOM, WIRING, SWITCHES, ETC THROUGHOUT THE BUILDING AND NOT BEING REUSED FOR THE PROJECT.

HVAC

Conditionally
APPROVED
DEPT. OF SAFETY AND PROFESSIONAL SERVICES
DIVISION OF INDUSTRY SERVICES
Warren D. Erdman
SEE CORRESPONDENCE

1 DMEP-1 **DEMOLITION PLAN**
SCALE: 1/16" = 1'-0"
NORTH

MK	DATE	REVISIONS	BY
1	08-11-14	ISSUED FOR BIDDING	YS
2	07-08-14	ISSUED FOR PERMIT	YS

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2529 ILLINOIS ROAD, NORTHBROOK, ILLINOIS 60062
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SHEET TITLE
FIRST FLOOR AND SECOND FLOOR MECHANICAL, ELECTRICAL AND PLUMBING DEMOLITION PLAN

DRAWN BY	Y.S.	DATE	07/07/14	SCALE	AS NOTED
CHECKED BY	Y.S.			JOB NO.	1407

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER

COMMISION EXPIRES
07/31/16

THERMAL ENERGY, INC.
9 Westicke Drive
South Barrington, IL 60010
Tel 847 985-1026
Fax 847 387-3738

DMEP-1

ELECTRICAL SYMBOLS

- EQUIPMENT CONNECTION
- HOMERUN TO PANELBOARD, SLASHED LINES INDICATE NUMBER OF WIRES:
  PHASES –SHORT SLASH
  NEUTRAL –LONG SLASH
  LONG SASH–EQUIPMENT GROUND
- $3a / 3W — SINGLE POLE TOGGLE SWITCH, 42"AFF (UNO)
  SUBSCRIPT:
  3 –BRANCH CIRCUIT NUMBER
  a –SWITCH LEG
  3W –THREE WAY TOGGLE SWITCH
- SINGLE/THREE PHASE MOTOR; HP AS INDICATED
- EQUIPMENT TAG
- NON-FUSIBLE DISCONNECT
- DUPLEX 20A RECEPTACLE, MTD 15"AFF (UNO) — F — FUSIBLE DISCONNECT SWITCH
- 20AMP, 220V,1ø OUTLET
- JUNCTION BOX
- GROUND
- CIRCUIT BREAKER (MOLDED CASE)
- FLEXIBLE CONDUIT
- P-1 — DISTRIBUTION PANELBOARD & SWITCHBOARD
- LIGHTING & POWER PANELBOARD
- TELEPHONE JACK
- TELE/DATA JACK
- CCTV CAMERA
- MS — CEILING MOUNTED OCCUPANCY SENSOR
- LCP — LIGHTING CONTROL PANEL
- PC — PHOTOCELL
- MS — MANUAL STARTER

FIRE ALARM SYMBOLS

- FACP — FIRE ALARM CONTROL PANEL
- HD — HEAT DETECTOR
- SD — SMOKE DETECTOR
- TS — TAMPER SWITCH
- FS — FLOW SWITCH
- PS — PULL STATION (FIRE ALARM)
- V — VISUAL ENUNCIATOR
- AV — AUDIO/VISUAL ENUNCIATOR
- AB — FIRE ALARM BELL
- AR — AREA OF RESCUE SIGN
- CB — AREA OF RESCUE CALL BOX

ELECTRICAL GENERAL REQUIREMENTS

PART 1 – GENERAL

1.01 WORK INCLUDED

FURNISH ALL LABOR AND INCIDENTALS REQUIRED TO COMPLETE THE ELECTRICAL WORK WHICH IS CALLED FOR DIAGRAMMATICALLY IN THE DRAWINGS AND SPECIFIED HEREIN.

1.02 INTENT

A. FURNISH, ERECT, INSTALL, CONNECT, CLEAN, ADJUST, TEST AND PLACE IN SERVICE ALL MATERIALS, EQUIPMENT AND SYSTEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS.

B. APPARATUS, LIGHTING FIXTURES, MATERIALS OR WORK NOT SHOWN ON THE DRAWINGS, OR ANY INCIDENTAL ACCESSORIES SUCH AS WIRING, SWITCHES ETC. NECESSARY TO MAKE THE WORK COMPLETE SHALL BE FURNISHED AND INSTALLED WITHOUT ADDITIONAL EXPENSE TO THE OWNER.

1.03 STANDARDS

A. THE FOLLOWING STANDARDS FORM A PART OF THIS SPECIFICATION.
1. NATIONAL ELECTRICAL CODE 2012 AND CITY OF MUNSTER, INDIANA AMENDMENTS
2. STATE OF INDIANA ELECTRICAL CODE
3. UNDERWRITERS LABORATORIES (U.L.).
4. NFPA, NEMA, ANSI, IES AND IEEE STANDARDS.

1.04 QUALITY ASSURANCE

A. MATERIALS AND INSTALLATION SHALL COMPLY WITH LATEST CODES, LAWS AND ORDINANCES OF FEDERAL, STATE AND LOCAL GOVERNING BODIES HAVING JURISDICTION.

B. WHERE REGULATIONS OF ELECTRIC UTILITY COMPANY APPLY, CONFORMANCE WITH THEIR REGULATIONS IS MANDATORY AND ANY COSTS INVOLVED SHALL BE INCLUDED IN THE CONTRACT.

C. ARRANGE AND PAY FOR ALL APPLICABLE FEES FOR TEST AND INSPECTIONS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. CONTRACTOR SHALL PAY FOR ALL PERMITS AND INSPECTION.

1.05 SUBMITTALS

A. PRIOR TO ROUGHING IN ANY ELECTRICAL WORK AND ORDERING EQUIPMENT, SUBMIT DRAWINGS TO ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL.

B. CONTRACTOR SHALL NOT TO ORDER ANY EQUIPMENT OR ROUGH–IN ANY CONDUITS PRIOR TO SECURING APPROVAL OF RELATED DRAWINGS FROM LOCAL AUTHORITIES, ARCHITECT/ENGINEER.

C. SHOP DRAWINGS:
SUBMIT THREE COPIES OF SHOP DRAWINGS. EQUIPMENT CATALOG NUMBERS AND PARTS SHALL BE UNDERLINED OR IDENTIFIED WITH AN ARROW ON THE SHOP DRAWINGS.

1.06 WARRANTY

A. ELECTRICAL WORK SHALL BE WARRANTED FOR BOTH MATERIALS AND LABOR FOR ONE YEAR FROM THE DATE OF EXECUTION OF CERTIFICATE OF SUBSTANTIAL COMPLETION. THE CONTRACTOR SHALL REPLACE AND/OR REPAIR ANY DEFECT WITHIN A TWELVE MONTH PERIOD TO THE SATISFACTION OF THE ARCHITECT/ENGINEER AND AT NO ADDITIONAL COST TO THE OWNER.

PART 2 – PRODUCTS

2.01 MATERIALS AND EQUIPMENT

A. MATERIALS AND EQUIPMENT SHALL BE NEW AND UL LABELED.

B. MATERIALS AND EQUIPMENT OF THE SAME GENERAL TYPE SHALL BE OF THE SAME MANUFACTURER THROUGHOUT THE PROJECT FOR UNIFORM APPEARANCE, OPERATION AND MAINTENANCE.

C. EACH MAJOR ELECTRICAL COMPONENT SHALL HAVE A MANUFACTURER'S NAMEPLATE.

2.02 QUIET OPERATION AND VIBRATION

A. ALL EQUIPMENT AND/OR SYSTEMS SHALL OPERATE UNDER ALL CONDITIONS OF LOAD WITHOUT ANY SOUND OR VIBRATION WHICH IS OBTRUSIVE IN NATURE.

B. VIBRATION CONTROL SHALL BE BY MEANS OF APPROVED VIBRATION ELIMINATORS IN A MANNER AS RECOMMENDED BY THE MANUFACTURER.

PART 3 – EXECUTION

3.01 DELIVERY, STORAGE, HANDLING

A. DELIVER MATERIALS IN ADEQUATE TIME TO MAINTAIN APPROVED CONSTRUCTION SCHEDULE.

B. STORE MATERIALS IN SAFE, DRY LOCATION, OUT OF THE WAY OF CONSTRUCTION OPERATIONS AS APPROVED BY THE BUILDING OWNER.

3.02 INSTALLATION OF WORK

A. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF CONDUIT, BOXES, EQUIPMENT, FIXTURES AND OTHER WORK. DRAWINGS DO NOT NECESSARILY INDICATE EVERY FITTING, JUNCTION BOX, PULL BOX OR OTHER ITEMS REQUIRED FOR A COMPLETE SYSTEM.

B. THE DRAWINGS UTILIZE SYMBOLS AND SCHEMATIC DIAGRAMS WHICH DO NOT HAVE ANY DIMENSIONAL SIGNIFICANCE. THE INSTALLATION SHALL FULFILL THE DIAGRAMMATIC INTENT EXPRESSED ON THE ELECTRICAL DRAWINGS.

C. COORDINATE ELECTRICAL SYSTEMS, MATERIALS AND EQUIPMENT INSTALLATION WITH OTHER BUILDING COMPONENTS.

D. CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACES IN WHICH WORK WILL BE INSTALLED AND FURNISH OTHER TRADES WITH ADVANCE INFORMATION ON LOCATIONS AND SIZES OF FRAMES, BOXES, SLEEVES, AND OPENINGS NEEDED FOR WORK.

E. ALL WORK SHALL BE PERFORMED BY SKILLED MECHANICS OF THE PARTICULAR TRADE IN A NEAT AND WORKMANLIKE MANNER.

F. WITH THE APPROVAL OF THE OWNER AND WITHOUT ADDITIONAL COST TO THE OWNER, MAKE MINOR MODIFICATIONS IN THE WORK AS REQUIRED BY THE STRUCTURAL INTERFERENCE AND WORK OF OTHER TRADES.

3.03 SCAFFOLDING, RIGGING, HOISTING

A. FURNISH ALL THE SCAFFOLDING, RIGGING, HOISTING AND SERVICES NECESSARY FOR THE ERECTION AND DELIVERY INTO THE PREMISES OF ALL EQUIPMENT AND APPARATUS AND REMOVE THE SAME FROM THE PREMISES WHEN NO LONGER REQUIRED.

3.04 CUTTING AND PATCHING

A. PROVIDE DRILLING, CUTTING, FITTING AND PATCHING NECESSARY FOR THE INSTALLATION OF CONDUITS, WIREWAYS AND OTHER ELECTRICAL EQUIPMENT. NO CUTTING OF STRUCTURAL WORK OR OF FIREPROOFING SHALL BE DONE WITHOUT A WRITTEN CONSENT OF THE ARCHITECT/ENGINEER.

B. HOLES THROUGH CONCRETE AND MASONRY IN THE EXISTING STRUCTURES SHALL BE CUT WITH A DIAMOND CORE DRILL OR CONCRETE SAW. HOLES SHALL BE LOCATED SO AS NOT TO AFFECT STRUCTURAL RIBS OR BEAMS.

3.05 PROTECTION

A. PROTECT ALL CONDUIT, WIREWAY AND EQUIPMENT AGAINST ENTRANCE OF LIQUIDS AND FOREIGN MATTER BY MEANS OF PLUGS OR CAPS.

B. COVER AND PROTECT EQUIPMENT FURNISHED AND/OR INSTALLED UNDER THIS SECTION DURING THE CONSTRUCTION PERIOD.

C. DAMAGED DEVICES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR REPLACED.

3.06 TEMPORARY UTILITIES AND HEAT

A. PROVIDE, MAINTAIN AND REMOVE TEMPORARY LIGHT AND POWER WHEN PERMANENT WIRING IS MADE AVAILABLE, AS REQUIRED BY THE GENERAL CONTRACTOR AND APPROVED BY THE BUILDING ENGINEER.

3.07 GENERAL REQUIREMENTS

A. THE CONTRACTOR COVENANTS AND AGREES THAT HE AND HIS SUB–CONTRACTORS AND HIS AND THEIR AGENTS, AND EMPLOYEES WILL PROVIDE AND MAINTAIN A SAFE PLACE TO WORK AND THAT HE AND THEY WILL COMPLY WITH ALL LAWS AND REGULATIONS OF ANY GOVERNMENTAL AUTHORITY HAVING JURISDICTION HEREOF AND THE CONTRACTOR AGREES TO INDEMNIFY, DEFEND AND HOLD HARMLESS THE ARCHITECT/ENGINEER AND THE OWNER FROM AND AGAINST ANY LIABILITY, LOSS, INJURY, DEATH OR DAMAGE OR EXPENSE, INCLUDING ATTORNEY'S FEES.

SPECIFICATIONS CONTINUED ON SHEET E–2

INSTALLATION NOTES:

1 HALLWAY FIXTURES SHALL BE SUSPENDED IN THE CENTER OF THE HALL FROM ROOF PURLINS OR SUSPENDED FROM FRAMING INSTALLED ACROSS THE HALL WAY AREAS BY THE ELECTRICIAN.

2 ELECTRICAL LIGHTING FIXTURES WILL BE INSTALLED AND MOUNTED TO THE UNDERSIDE OF THE FLOOR DECK AND/OR UNDERSIDE OF THE ROOF PURLINS.

3 ELECTRICAL PANELS SHALL BE THE LOCKING TYPE, KEYED ALIKE AND CLEARLY LABELED WITH TYPED LABELS FOR ALL CIRCUITS.

4 MOUNTING HEIGHT OF THE MOTION SENSOR SHALL NOT BE EXTENDED ABOVE THE HALL OR UNIT PARTITION HEIGHT.

5 TIMER SETTING FOR ALL MOTION SENSORS SHALL BE ADJUSTABLE FROM 30 TO 60 MINUTES AND SET AT 30 MINUTES WITH THE INSTALLATION.

6 THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE INSTALLATION OF NEW SERVICE TO THE DEVELOPMENT, INCLUDING ASSISTING THE OWNER WITH THE PAPER WORK FOR THE NEW SERVICE REQUIREMENTS.

7 TRANSFORMER PADS AND SLEEVES FOR NEW SERVICES SHALL BE PART OF THE ELECTRICAL BID.

8 ELECTRICAL TRADE SHALL PROVIDE AS PART OF THE BASE BID VERIFICATION OF SITE ALL UTILITIES.

ELECTRICAL DEMOLITION NOTES:

1 BIDDERS ARE TO VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AND SATISFY THEMSELVES AS TO THE NATURE AND SCOPE OF THE WORK. THE SUBMISSION OF A BID WILL BE EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS FOR LABOR EQUIPMENT OR MATERIALS REQUIRED OR FOR DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD AN EXAMINATION BEEN MADE, WILL NOT BE ALLOWED.

2 ALL EXISTING CIRCUITS TO REMAIN SHALL BE RECONNECTED WHETHER INDICATED OR NOT ON PROJECT DOCUMENTS.

3 NEW AND EXISTING CIRCUIT DESIGNATIONS MAY NOT REPRESENT ACTUAL FIELD CONDITIONS. THEY ARE INTENDED FOR REFERENCE ONLY.

4 COORDINATE WITH OTHER TRADES FOR ITEMS IN THEIR SCOPE OF WORK WHICH WOULD REQUIRE ELECTRICAL WORK (DISCONNECTION/RECONNECTION, ETC.) AND ARE NOT INDICATED ON THE ELECTRICAL PLANS.

5 ELECTRICAL CONTRACTOR SHALL REMOVE ALL EXISTING CONDUITS, CABLES AND OTHER DEVICES NOT USED FOR THIS PROJECT. REMOVE EXPOSED CONDUITS AND CABLES. REMOVE CONDUCTORS FROM UNDERGROUND CONDUITS BETWEEN THE DEVICES AND POWER SOURCE. SEAL BOTH ENDS OF UNUSED CONDUITS WATER TIGHT.

6 REUSE ALL EXTERIOR POWER RECEPTACLES. CONNECT EXISTING OUTDOOR RECEPTACLES TO SPARE CIRCUITS.

7 REMOVE ALL EXISTING BUILDING MOUNTED LIGHT FIXTURES. REMOVE CONDUITS AND CABLE BETWEEN EXISTING LIGHT FIXTURES AND ELECTRICAL PANEL. VERIFY EXACT NUMBER OF FIXTURES TO BE REMOVED AT PROJECT SITE.

MK	DATE	REVISIONS	BY
2	08–11–14	ISSUED FOR BIDDING	YS
1	07–08–14	ISSUED FOR PERMIT	YS

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(847) 291.9570WWW.URBANASSOCIATES.NET

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SHEET TITLE
ELECTRICAL NOTES AND SPECIFICATIONS

DRAWN BY Y.S. | CHECKED BY Y.S. | DATE 07/07/14 | SCALE AS NOTED | JOB NO. 1407

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER

WISCONSIN — YOGENDRA G. SHAH — E-24607 — REGISTERED PROFESSIONAL ENGINEER — CHICAGO, IL — MONTH/DAY/YEAR: JULY 8, 2014

COMMISION EXPIRES
07/31/16

THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995–1926
Fax 847 387–3738

E0.1

SPECIFICATIONS CONTINUED FROM SHEET E-1

BASIC MATERIALS AND METHODS

PART 1 – GENERAL

1.01 GENERAL

A. PROVIDE EQUIPMENT, MATERIALS, OPERATIONS AND METHODS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS INCLUDING LABOR, TOOLS, SUPPLIES AND NECESSARY ACCESSORIES.

PART 2 – PRODUCTS

2.01 HANGERS, SUPPORTS AND ANCHORS

A. PROVIDE CORROSION RESISTANT HANGERS, ANGLES, CHANNELS, ANCHORS AND OTHER SUPPORTS INCLUDING ASSOCIATED HARDWARES AND FASTENERS REQUIRED FOR SUPPORTING ITEMS OF ELECTRICAL EQUIPMENT.
B. PROVIDE HANGERS AND SUPPORTS THAT ARE SUITABLE IN STRENGTH AND ANCHORAGE FOR THE LOAD SUPPORTED.
C. HANGERS AND SUPPORTS EXPOSED TO MOISTURE OR OUTDOORS SHALL BE HOT DIPPED GALVANIZED STEEL.
D. NO ELECTRICAL ITEMS SHALL REST ON, OR DEPEND FOR SUPPORT ON SUSPENDED CEILING MEDIA (TILES, LATH PLASTER, SPLINES ETC.), MECHANICAL DUCTWORK, MECHANICAL EQUIPMENT OR PIPING IN SUSPENDED CEILING.
E. CONDUIT MAY BE CONNECTED TO A 4"X4"X1-1/2" BOX, WHICH MAY BE INSTALLED ON GRID. SAID J-BOX SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE. LIGHTING FIXTURES, POWER POLES OR OTHER SYSTEMS THAT ARE ATTACHED TO THE CEILING SHALL BE THE ONLY SYSTEM THAT CAN BE CONNECTED TO THIS BOX.
F. ALL FLOOR MOUNTED EQUIPMENT SHALL BE PROVIDED WITH CONCRETE HOUSEKEEPING PADS.
G. ANY ITEMS FOUND TO BE INCORRECTLY SUPPORTED WILL BE CORRECTED AT NO COST TO THE OWNER.

2.02 FLOOR AND WALL PENETRATIONS

A. WHERE CABLES, CONDUITS, BUSWAY, CABLE TRAY AND OTHER ELECTRICAL PENETRATIONS PASSING THROUGH FIRE-RATED WALLS, FLOORS, THE OPENINGS AROUND THESE DEVICES SHALL BE SEALED WITH LISTED FIRE RESISTANT/STOP MATERIALS. CONDUIT FLOOR PENETRATIONS WITHIN FIRE-RATED CHASES SHALL BE SEALED WITH SMOKE BARRIER SEALANTS.

2.03 SLEEVES AND OPENINGS

A. PROVIDE ALL SLEEVES AND OPENINGS REQUIRED FOR WORK UNDER THIS CONTRACT.
B. SLEEVES IN THE FLOOR SLAB SHALL EXTEND 4 INCHES ABOVE FINISHED FLOOR LEVEL.
C. CAP ALL UNUSED SLEEVES.

2.04 CONDUIT AND FITTINGS

A. ELECTRICAL METALLIC TUBING (EMT) CONDUIT SHALL BE GALVANIZED WITH AND APPLIED WITH CORROSION RESISTANT COATING AFTER GALVANIZING.
B. INTERMEDIATE GRADE CONDUIT (IMC) AND HEAVY WALL CONDUIT (GRSC) SHALL BE HOT DIPPED GALVANIZED.
C. FEEDER AND BRANCH CIRCUIT CONDUITS SHALL BE GALVANIZED RIGID STEEL CONDUIT (GRSC), INTERMEDIATE METAL CONDUIT (IMC) OR ELECTRICAL METALLIC CONDUIT (EMT).
D. EMT COUPLINGS AND CONNECTORS SHALL BE STEEL COMPRESSION TYPE WITH CONNECTORS HAVING INSULATED THROATS OR THREAD-ON TYPE. CRIMP-ON OR SCREW SET FITTINGS AND DIE-CAST ZINC FITTINGS ARE PROHIBITED.
E. CONDUIT SHALL BE A MINIMUM OF 1/2 INCH.
F. ALL CONNECTIONS TO MOTORS, TRANSFORMERS, CONTROLS AND OTHER VIBRATING EQUIPMENT SHALL USE FLEXIBLE METAL CONDUIT.
G. ALL CONNECTIONS TO RECESSED LIGHTING FIXTURES SHALL BE FLEXIBLE METAL TUBING PER NATIONAL ELECTRICAL CODE AND LOCAL AMENDMENTS AND ORDENANCES..
H. ALL EMPTY CONDUITS SHALL HAVE 14 GAUGE GALVANIZED PULL WIRES.
I. PVC CONDUIT SHALL BE SCHEDULE 40 OR 80 AS APPLICABLE.
J. PROVIDE UNDERGROUND OR UNDERSLAB NON-METTALIC CONDUIT RUNS WITH RIGID GALVANIZED CONDUIT STUB UPS OF THE SAME SIZE.
J. PROVIDE UNDERGROUND OR UNDERSLAB NON-METTALIC CONDUIT RUNS WITH RIGID GALVANIZED CONDUIT STUB UPS OF THE SAME SIZE.
K. ALL UNDERGROUND CONDUITS SHALL BE CONCRETE ENCASED SCH 40 PVC CONDUIT UNLESS NOTED OTHERWISE
L. ALL INTERIOR EXPOSED AND EXTERIOR ABOVE GRADE CONDUITS SHALL BE GALVANIZED RIGID STEEL CONDUIT
M. CONCEALED CONDUITS SHALL BE IMC/EMT

2.05 BUSHINGS

A. BUSHINGS FOR 1 INCH CONDUIT AND SMALLER SHALL BE SELF-EXEINGUISHING THERMOPLASTIC TYPE.
B. BUSHINGS FOR 1-1/4 INCH CONDUIT AND LARGER SHALL HAVE A MALLEABLE IRON BODY WITH INSULATING MATERIAL LOCKED IN PLACE.

2.06 JUNCTION AND PULL BOXES

A. JUNCTION AND PULL BOXES SHALL BE GALVANIZED CODE-GAUGE STEEL WITH CONTINUOUS WELDED SEAMS. SIZE SHALL BE IN ACCORDANCE WITH CODE.
B. JUNCTION AND PULL BOXES SHALL HAVE SCREW FASTENED COVERS.
C. WEATHERPROOF BOXES SHALL BE NEMA 3R ENCLOSURES WITH GASKETTED COVERS.

2.07 OUTLET BOXES

A. OUTLET BOXES SHALL BE GALVANIZED PRESSED STEEL, KNOCKOUT TYPE WITH SUITABLE PLASTER RINGS AND COVERS OR PLATES. SIZES IN ACCORDANCE WITH CODE.
B. OUTLET BOXES FOR NEMA 3R AREAS SHALL BE RAIN TIGHT AND CONSTRUCTED OF CORROSION RESISTANT CAST METAL HAVING HUBS, GASKETTED METAL COVER PLATE AND SPRING HINGED CAP. SIZE IN ACCORDANCE WITH CODE.
C. UNUSED KNOCKOUT HOLES SHALL BE CAPPED.
D. ALL BOXES SHALL BE MOUNTED TRUE AND PLUMB.
E. ALL BOXES SHALL BE TIGHTLY AND RIGIDLY FASTENED.
F. ALL BOXES SHALL BE SUPPORTED INDEPENDENTLY OF CONDUIT.

2.08 FLOOR BOXES

A. CONCRETE-TIGHT FLOOR BOXES SHALL BE PRESSED STEEL BOXES WITH BRASS FLANGE, AND ADJUSTABLE HINGED COVERS.
MANUFACTURERS: BELL, HUBBELL, T&B OR APPROVED EQUAL.
B. WATERTIGHT FLOOR BOXES SHALL BE CAST IRON WITH THREADED CONDUIT ENDS, BRASS FLANGE AND ADJUSTABLE HINGED COVERS.
MANUFACTURERS: BELL, HUBBELL, T&B OR APPROVED EQUAL.

2.09 FUSES

A. ALL FUSES LARGER THAN 600 AMPS SHALL BE LISTED CLASS "L" FUSES.
MANUFACTURERS: BUSSMANN KRP-C HI-CAP FUSES.
B. ALL FUSES 600 AMPS AND SMALLER SHALL BE UL LISTED CLASS "RK-1" FUSES.
MANUFACTURERS: BUSSMANN LOW-PEAK DUAL ELEMENT FUSES LPN-RK(250 VOLTS) OR LPS-RK(600VOLTS).

2.10 CIRCUIT BREAKERS

A. PROVIDE CIRCUIT BREAKERS THAT ARE UL LISTED FOR THE APPLICATION AND IN THEIR INTENDED ENCLOSURE.
B. PROVIDE MOLDED CASE CIRCUIT BREAKERS WITH FOLLOWING FEATURE;
- QUICK-MAKE AND QUICK BREAK MECHANISM.
- TRIP FREE OPERATION ON OVERLOAD AND SHORT CIRCUIT.
- TOGGLE TYPE OPERATING HANDLE HAVING TRIPPED POSITION MIDWAY BETWEEN ON-OFF POSITIONS.
- BOLT ON TYPE CONSTRUCTION.

C. PROVIDE CIRCUIT BREAKERS LARGER THAN 400 AMPERES WITH SOLID STATE TRIP UNITS HAVING RMS SENSING AND LONG TIME, SHORT TIME PICK UP AND TIME DELAY, INSTANTANEOUS PICK UP SETTINGS.
D. PROVIDE CIRCUIT BREAKERS AND PANELBOARDS AS AN ASSEMBLY FROM THE SAME MANUFACTURER.

2.11 WIRE AND CABLE – 600 VOLT

A. ALL WIRING SYSTEMS INSTALLED (INCLUDING SERVICE CONDUCTORS, SUB-FEED CONDUCTORS, BRANCH CIRCUIT CONDUCTORS, LOW VOLTAGE CONDUCTORS AND CONTROL WIRING) SHALL BE COPPER. ALUMINUM CONDUCTORS SHALL NOT USED.
B. 600 VOLT WIRE AND CABLE FOR BRANCH CIRCUITS AND FEEDERS SHALL BE SINGLE CONDUCTOR COPPER #12 MINIMUM EXCEPT WHERE NOTED OTHERWISE. WIRE #10 AND SMALLER (EXCEPT FIXTURE WIRE) SHALL BE SOLID OR STRANDED. WIRE #8 AND LARGER SHALL BE STRANDED. ALL CONTROL WIRING, FIXTURE WIRE AND ALL CONNECTIONS TO VIBRATING EQUIPMENT SHALL USE STRANDED CONDUCTORS.
C. TYPE THHN/THWN 600 VOLT INSULATION SHALL BE PROVIDED FOR ALL ABOVE GRADE INTERIOR CONDUCTORS ROUTED IN CONDUIT EXCEPT WHERE SPECIAL CONDITIONS OR LOCATIONS DICTATE USE OF OTHER TYPES OF INSULATION.
D. TYPE XHHW, 600 VOLT INSULATION SHALL BE PROVIDED FOR ALL CONDUCTORS ROUTED IN CONDUIT BELOW GRADE AND IN EXTERIOR CONDITIONS.
E. WIRE FOR CONTROL CIRCUITS SHALL BE #14 AWG MINIMUM.

2.12 WIRING DEVICES

A. LIGHT SWITCHES SHALL BE PROVIDED IN THE TYPES, CHARACTERISTICS, NUMBER OF POLES AS INDICATED ON THE DRAWINGS. ALL SWITCHES SHALL BE RATED 20 AMPERE AT 125 VOLT.
B. CONVENIENCE RECEPTACLES SHALL BE DUPLEX TYPE RATED AT 20 AMPERE AT 125 VOLT AND HAVE A NEMA 5-20R CONFIGURATION.
C. SWITCH AND RECEPTACLE COLOR SHALL BE AS PER THE ARCHITECT.
D. DIMMER SWITCHES SHALL BE LOW PROFILE AND LINEAR CONTROL.
E. GROUND FAULT RECEPTACLES SHALL BE RATED 20 AMPERES AT 125 VOLTS HAVING NEMA 5-20R CONFIGURATION AND BE OF FEED-THRU TYPE WITH INTEGRAL "TEST" AND "RESET" BUTTON AND VISUAL TRIP INDICATION.
F. MANUFACTURERS: HUBBELL, GE, BRYANT, EAGLE, PASS & SEYMOUR.

2.13 PLATES

A. PROVIDE PLATES FOR ALL OUTLETS WITH OPENING CONFIGURATION SUITABLE FOR DEVICES TO BE COVERED.
B. ALL PLATES SHALL BE NYLON AND COLOR SHALL BE AS PER THE ARCHITECT.
C. COVERS FOR "FS" OR "FD" BOXES SHALL BE CORROSION RESISTANT.
D. MANUFACTURERS: SAME AS WIRING DEVICES.

2.14 PANELBOARDS

A. PANELBOARDS SHALL BE DEAD FRONT TYPE, FACTORY ASSEMBLED AS A COMPLETE UNIT WITH BOLT-ON TYPE CIRCUIT BREAKERS IN THE BRANCHES AS INDICATED ON THE DRAWINGS. PANELBOARDS SHALL BE SUITABLE FOR THE RATING INDICATED.
B. PANELBOARDS SHALL BE CONSTRUCTED OF CODE GAUGE GALVANIZED STEEL. PANELBOARD MOUNTING SHALL BE AS INDICATED ON THE PANELBOARD SCHEDULES.
C. ALL PANELBOARDS SHALL HAVE COPPER BUSSING.
D. EACH PANELBOARD, AS A COMPLETE UNIT, SHALL HAVE AN INTEGRATED EQUIPMENT SHORT CIRCUIT RATING EQUAL TO OR GREATER THAN THE RATING SHOWN ON THE DRAWINGS. SERIES RATING IS NOT ACCEPTABLE.
E. A DIRECTORY HOLDER WITH METAL FRAME SHALL BE FURNISHED AND INSTALLED ON THE INSIDE OF THE DOOR OF EACH CABINET.
F. PANELBOARDS SHALL HAVE 100% RATED NEUTRAL AND A GROUND BUS. PANELBOARDS SUPPLYING NONLINEAR LOADS SHALL HAVE 200% RATED NEUTRAL BUS.
G. PANELBOARDS USED IN SERVICE ENTRANCE APPLICATIONS SHALL BE UL LISTED AS BEING "SUITABLE FOR USE AS A SERVICE ENTRANCE EQUIPMENT".
H. ALL PANELBOARDS SHALL BE BY SAME MANUFACTURER.
I. SPLIT BUSS PANELBOARDS SHALL NOT BE USED ON THIS PROJECT.
J. MANUFACTURERS: CUTLER HAMMER, SQUARE-D, GENERAL ELECTRIC.

2.15 DISCONNECT SWITCHES

A. DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE FUSIBLE OR NON-FUSIBLE WITH AMPERAGE AND VOLTAGE RATING, NUMBER OF POLES AND NEMA ENCLOSURES AS REQUIRED FOR LOCATION. ALL SWITCHES SHALL BE PROVIDED WITH PADLOCK PROVISIONS.
B. AN APPROVED DISCONNECTING SWITCH SHALL BE EXTERNALLY INSTALLED TO DISCONNECT THE GROUNDED CONDUCTORS THAT SERVE WATER HEATERS AND HVAC EQUIPMENT. INTEGRAL SWITCHES ON SAID EQUIPMENT SHALL NOT BE APPROVED AS DISCONNECTING MEANS.
C. FUSE HOLDERS SHALL BE EQUIPPED TO ACCEPT CLASS "R" FUSES ONLY.
D. DISCONNECT SWITCHES FOR MOTORS SHALL BE HORSEPOWER RATED.
E. PROVIDE EQUIPMENT DISCONNECT SWITCHES IN STRICT COMPLIANCE WITH CODE REQUIREMENTS.
F. MANUFACTURERS: CUTLER HAMMER, SQUARE-D, GENERAL ELECTRIC.

2.16 LIGHTING FIXTURES

A. FIXTURES SHALL BE UL LISTED.
B. FIXTURES SHALL BE COMPLETE WITH LAMPS, BALLASTS, REQUIRED LENSES, MOUNTING ACCESSORIES ETC. AS SCHEDULED ON THE DRAWINGS.
C. FIXTURES SHALL BE APPROVED FOR THE MOUNTING METHOD USED.
D. RECESSED INCANDESCENT FIXTURES SHALL BE THERMALLY PROTECTED AND UL LISTED AS SUITABLE FOR USE IN THE TYPE OF CEILING USED.
E. RECESSED FIXTURES SHALL BE PROVIDED WITH THE FRAME OR ADAPTER TO RECEIVE THE FINISHED CEILING CONSTRUCTION. VERIFY THE TYPE OF CEILING PRIOR TO ORDERING FIXTURES. FIXTURES WHICH ARE SHIPPED TO THE PROJECT AND DO NOT FIT OR OTHERWISE MATCH THE CEILING SYSTEM SHALL BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.
F. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR THE EXACT LOCATION OF THE LIGHTING FIXTURES.
G. EXIT SIGNS SHALL BE LOCATED SO AS TO ATTAIN MAXIMUM VISIBILITY.
H. LOCATION OF THE LIGHTING FIXTURE INSTALLED IN THE EQUIPMENT ROOMS SHALL BE COORDINATED WITH OTHER TRADES.

2.17 BALLASTS

A. FLUORESCENT:
1. FLUORESCENT LAMP BALLASTS SHALL BE ELECTRONIC TYPE AND OF HIGH POWER FACTOR TYPE WITH CLASS P RATING. BALLASTS SHALL BE UL LISTED FOR USE WITH REDUCED WATTAGE TYPE LAMPS AND SHALL HAVE A SOUND RATING OF "A".
2. BALLASTS SHALL BE COMPATIBLE WITH OCCUPANCY SENSORS AND INSTANT START TYPE WIRED IN PARALLEL.
3. MANUFACTURERS: ADVANCE, MAGNATEK, MOTOROLA.
B. PROVIDE HIGH POWER FACTOR BALLASTS FOR HID FIXTURES.

2.18 LAMPS

A. INCANDESCENT LAMPS SHALL BE AS SCHEDULED AND SHALL BE EXTENDED SERVICE TYPE RATED AT 130 VOLTS.
B. FLUORESCENT LAMPS SHALL BE OF THE LENGTH AND WATTAGE AS SCHEDULED. LAMPS SHALL HAVE A FLUORESCENT COLOR TEMPERATURE OF 3500K AND COLOR RENDERING INDEX OF 85 CRI UNLESS NOTED OTHERWISE.
C. MANUFACTURERS: GENERAL ELECTRIC, OSRAM SYLVANIA, PHILLIPS.

2.19 SWITCHBOARD

A. PROVIDE FACTORY ASSEMBLED SWITCHBOARD AND ANCIALLARY DEVICES IN TYPES, SIZES AND RATINGS AS INDICATED ON THE DRAWINGS.
B. PROVIDE SWITCHBOARD THAT IS UL LISTED AS 'SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT'.
C. CONSTRUCT SWITCHBOARD FOR FRONT ACCESSIBILITY ONLY WITH INDIVIDUAL MOUNTED FIXED MAIN DEVICE AND GROUP MOUNTED FEEDER DEVICES.
D. PROVIDE SWITCHBOARD THAT IS COMPLETELY FREE STANDING STRUCTURE OF BOLTED CONSTRUCTION, RIGIDLY SUPPORTING DEVICES AND EQUIPMENT. PROVIDE SWITCHBOARD OF DEADFRONT TYPE CONSTRUCTION.
E. PROVIDE WIREWAYS WITH SEPARATE HINGED FRONT COVERS FOR ACCESS TO ANY GROUP MOUNTED FEEDER LOAD SIDE CONNECTIONS WITHOUT REMOVING SWITCHBOARD FRONT COVER.
F. PROVIDE PULL BOXES ON THE SWITCHBOARD TOP AS REQUIRED.
G. PROVIDE COPPER BUSBARS RATED FOR MINIMUM 1000A PER SQUARE INCH CAPACITY AND SIZED TO LIMIT TEMPERATURE RISE TO 65 DEGREE CELCIUS OVER AN AMBIENT OF 40 DEGREE CELCIUS BASED ON NEMA AND UL STANDARDS.
H. PROVIDE COPPER GROUND BUSBAR THAT EXTENDS THROUGH EACH SWITCHBOARD SECTION AND IS BOLTED TO EACH VERICAL SECTION.
I. PROVIDE MOLDED CASE MAIN AND FEEDER DEVICES.
J. PROVIDE AN INTEGRAL TVSS WITH OVERCURRENT PROTECTION AND OPERATION COUNTER.
K. MANUFACTURERS: GENERAL ELECTRIC, SQUARE-D, SIEMENS, CUTLER HAMMER.

2.20 GROUNDING MATERIAL

A. INSULATED GROUND CONDUCTORS: RATED 600 VOLTS, TYPE THHN OR XHHW INSULATION, COPPER, STRANDED, GREEN COLOR, SIZED PER DRAWINGS WHERE NOTED AND SIZED PER NATIONAL ELECTRICAL CODE WHERE NOT NOTED.
B. BUS BAR: COPPER BUS BAR, MINIMUM 1/4 INCH BY 2 INCH UNLESS INDICATE OTHERWISE, WITH LENGTH AS INDICATED ON THE DRAWINGS AND MOUNTED ON STANDOFF INSULATORS.
C. GROUND RODS: STEEL WITH COPPER CLAD EXTERIOR, MINIMUM 3/4 INCH DIAMETER BY 10 FEET LONG.
D.

FIRE ALARM SYSTEM: (NOTE: FIRE ALARM SYSTEM SHALL BE DESIGNED AND INSTALLED BY FIRE ALARM CONTRACTOR).

A) SUBMITTALS: FOLLOWING DOCUMENTS SHALL BE SUBMITTED FOR THE PROPOSED FIRE ALARM SYSTEM.
1. SHOP DRAWINGS SHOWING EQUIPMENT DEVICE LOCATIONS ON THE FLOOR PLANS FOR THE ENTIRE FIRE ALARM SYSTEM.
2. MANUFACTURER'S TECHNICAL DATA FOR ALL THE FIRE ALARM DEVICES.
3. SEQUENCE OF OPERATIONS.
4. SUBMIT INSTALLATION CERTIFICATE SIGNED BY THE MANUFACTURER OF THE FIRE ALARM SYSTEMS COMPONENTS CERTIFYING THAT THEIR PRODUCTS COMPLY WITH THE SPECIFIED REQUIREMENTS.

B) QUALITY ASSURANCE:
1. FIRE ALARM SYSTEM COMPONENTS SHALL BE OBTAINED FROM A SINGLE APPROVED SOURCE WHO ASSUMES RESPONSIBILITY FOR COMPATIBILITY OF SYSTEM COMPONENTS.
2. COMPLY WITH ALL APPLICABLE BUILDING CODES, LOCAL REGULATIONS AND REQUIREMENT OF AUTHORITY HAVING JURISDICTION.
3. COMPLY WITH NFPA 72 AND NFPA 101.
4. PROVIDE SYSTEMS AND EQUIPMENT THAT ARE UL LISTED.

C) SYSTEM DESCRIPTION:
1. PROVIDE A FIRE ALARM SYSTEM WITH, BUT NOT LIMITED TO: MAIN CONTROL PANEL, POWER SUPPLIES, AMPLIFIERS, BATTERIES, BATTERY CHARGER, ALL DETECTION DEVICES, AUDIO/VISUAL DEVICES, CONDUIT WIRE, FITTINGS AND ACCESSORIES REQUIRED TO PROVIDE A COMPLETE OPERATING SYSTEM.
2. PROVIDE A SYSTEM THAT IS COMPLETELY STAND ALONE AND INDEPENDENT SYSTEM.
3. PROVIDE A FIRE ALARM SYSTEM THAT IS ZONED, NON-CODED, MICROPROCESSOR BASED WITH AUTOMATIC AND MANUAL ALARM INITIATION USING TRANSMISSION DEDICATED TO FIRE ALARM SYSTEM ALONE.

D) MANUFACTURERS:
1. SIMPLEX
2. NOTIFIER
3. SIEMENS
4. GE

E) SEQUENCE OF OPERATIONS: PROVIDE FIRE ALARM SYSTEM THAT IS INDEPENDENT SYSTEM MANAGING FIRE DETECTION, TROUBLE AND ALARM CONDITIONS.

1. UPON ACTIVATION OF ANY SMOKE DETECTOR FOLLOWING EVENTS SHALL AUTOMATICALLY OCCUR:
– ENTIRE BUILDING SHALL BE AUTOMATICALLY NOTIFIED OF FIRE INCIDENT BY AUDIO AND VISUAL ALARM.
– AN AUDIBLE ALARM SHALL BE SOUNDED AT THE FACP.
– AN ALARM SHALL BE DISPLAYED WHICH INDICATES THE DEVICE TYPE AND LOCATION ON THE FACP.
– FIRE ALARM SYSTEM SHALL AUTOMATICALLY SEND A SIGNAL TO THE FIRE DEPARTMENT BY A DEDICATED TELEPHONE LINE IF REQUIRED BY LOCAL AUTHORITY.

2. UPON ACTIVATION OF ANY SPRINKLER WATER FLOW ALARM FOLLOWING EVENTS SHALL AUTOMATICALLY OCCUR:
– ENTIRE BUILDING SHALL BE AUTOMATICALLY NOTIFIED OF FIRE INCIDENT BY AUDIO AND VISUAL ALARM.
– AN AUDIBLE ALARM SHALL BE SOUNDED AT THE FACP.
– AN ALARM SHALL BE DISPLAYED WHICH INDICATES THE DEVICE TYPE AND LOCATION ON THE FACP.
– FIRE ALARM SYSTEM SHALL AUTOMATICALLY SEND A SIGNAL TO THE FIRE DEPARTMENT BY A DEDICATED TELEPHONE LINE IF REQUIRED BY LOCAL AUTHORITY.

3. UPON ACTIVATION OF ANY TAMPER SWITCH FOLLOWING EVENTS SHALL AUTOMATICALLY OCCUR:
– AN AUDIBLE ALARM SHALL BE SOUNDED AT THE FACP.
– AN ALARM SHALL BE DISPLAYED WHICH INDICATES THE DEVICE TYPE AND LOCATION ON THE FACP.
– FIRE ALARM SYSTEM SHALL AUTOMATICALLY SEND A TROUBLE SIGNAL TO THE FIRE DEPARTMENT BY A DEDICATED TELEPHONE LINE.

4. UPON ACTIVATION OF ANY TROUBLE SIGNAL FOLLOWING EVENTS SHALL AUTOMATICALLY OCCUR:
– AN AUDIBLE ALARM SHALL BE SOUNDED AT THE FACP.
– AN ALARM SHALL BE DISPLAYED WHICH INDICATES THE DEVICE TYPE AND LOCATION ON THE FACP.
– FIRE ALARM SYSTEM SHALL AUTOMATICALLY SEND A SIGNAL TO THE FIRE DEPARTMENT BY A DEDICATED TELEPHONE LINE IF REQUIRED BY LOCAL AUTHORITY.

5. UPON ACTIVATION OF ANY SMOKE DETECTOR IN LOBBY, ELEVATOR SHAFT OR IN THE ELEVATOR MACHINE ROOM FOLLOWING EVENTS SHALL AUTOMATICALLY OCCUR:
– ENTIRE BUILDING SHALL BE AUTOMATICALLY NOTIFIED OF FIRE INCIDENT BY AUDIO AND VISUAL ALARM.
– AN AUDIBLE ALARM SHALL BE SOUNDED AT THE FACP.
– AN ALARM SHALL BE DISPLAYED WHICH INDICATES THE DEVICE TYPE AND LOCATION ON THE FACP.
– FIRE ALARM SYSTEM SHALL AUTOMATICALLY SEND A SIGNAL TO THE FIRE DEPARTMENT BY A DEDICATED TELEPHONE LINE.
– AN AUTOMATIC ELEVATOR RECALL SIGNAL SHALL BE INITIATED. THE EXACT SEQUENCE OF OPERATION SHALL BE COORDINATED WITH ELEVATOR CONTRACTOR.

6. UPON ACTIVATION OF ANY HEAT DETECTOR IN ELEVATOR MACHINE ROOM FOLLOWING EVENTS SHALL AUTOMATICALLY OCCUR:
– ENTIRE BUILDING SHALL BE AUTOMATICALLY NOTIFIED OF FIRE INCIDENT BY AUDIO AND VISUAL ALARM.
– AN AUDIBLE ALARM SHALL BE SOUNDED AT THE FACP.
– AN ALARM SHALL BE DISPLAYED WHICH INDICATES THE DEVICE TYPE AND LOCATION ON THE FACP.
– FIRE ALARM SYSTEM SHALL AUTOMATICALLY SEND A SIGNAL TO THE FIRE DEPARTMENT BY A DEDICATED TELEPHONE LINE.
– AN AUTOMATIC ELEVATOR RECALL SIGNAL SHALL BE INITIATED. THE EXACT SEQUENCE OF OPERATION SHALL BE COORDINATED WITH ELEVATOR CONTRACTOR.
– ELEVATOR MAIN POWER SHALL BE DISCONNECTED PER APPROVED SEQUENCE OF OPERATION BY AUTHORITY HAVING JURISDICTION.

7. UPON ACTIVATION OF ANY SPRINKLER SYSTEM PRESSURE SWITCH IN THE ELEVATOR SHAFT FOLLOWING EVENTS SHALL AUTOMATICALLY OCCUR:
– ENTIRE BUILDING SHALL BE AUTOMATICALLY NOTIFIED OF FIRE INCIDENT BY AUDIO AND VISUAL ALARM.
– AN AUDIBLE ALARM SHALL BE SOUNDED AT THE FACP.
– AN ALARM SHALL BE DISPLAYED WHICH INDICATES THE DEVICE TYPE AND LOCATION ON THE FACP.
– ELEVATOR MAIN POWER SHALL BE DISCONNECTED PRIOR TO THE WATER APPLICATION PER APPROVED SEQUENCE OF OPERATION BY AUTHORITY HAVING JURISDICTION.
– FIRE ALARM SYSTEM SHALL AUTOMATICALLY SEND A SIGNAL TO THE FIRE DEPARTMENT BY A DEDICATED TELEPHONE LINE IF REQUIRED BY LOCAL AUTHORITY.

8. UPON ACTIVATION OF ANY FIRE PUMP ALARM SIGNALS:
– AN AUDIBLE ALARM SHALL BE SOUNDED AT THE FACP.
– AN ALARM SHALL BE DISPLAYED WHICH INDICATES THE DEVICE TYPE AND LOCATION ON THE FACP.
– FIRE ALARM SYSTEM SHALL AUTOMATICALLY SEND A SIGNAL TO THE FIRE DEPARTMENT BY A DEDICATED TELEPHONE LINE IF REQUIRED BY LOCAL AUTHORITY.

INSTALLATION NOTES:

1 HALLWAY FIXTURES SHALL BE SUSPENDED IN THE CENTER OF THE HALL FROM ROOF PURLINS OR SUSPENDED FROM FRAMING INSTALLED ACROSS THE HALL WAY AREAS BY THE ELECTRICIAN.

2 THE MOUNTING HEIGHT OF THE HALLWAY LIGHTING FIXTURES SHALL NOT BE EXTENDED MORE THAN A FOOT ABOVE THE HALL OR UNIT PARTITION HEIGHT.

3 ELECTRICAL PANELS SHALL BE THE LOCKING TYPE, KEYED ALIKE AND CLEARLY LABELED WITH TYPED LABELS FOR ALL CIRCUITS.

4 MOUNTING HEIGHT OF THE MOTION SENSOR SHALL NOT BE EXTENDED ABOVE THE HALL OR UNIT PARTITION HEIGHT.

5 TIMER SETTING FOR ALL MOTION SENSORS SHALL BE ADJUSTABLE FROM 30 TO 60 MINUTES AND SET AT 30 MINUTES WITH THE INSTALLATION.

6 ELECTRICAL CONTRACTOR TO VERIFY WITH THE PLANS AND PROVIDE RECEPTACLES AND REQUIRED CIRCUITS FOR ALL CAMERA LOCATIONS ON THE SITE IF NECESSARY.

7 ELECTRICAL CONTRACTOR TO VERIFY AND PROVIDE POWER AND CIRCUITS FOR GATE, AWNINGS AND ILLUMINATED SIGNAGE, TYPICALLY CIRCUITS SHALL BE LOCATED IN THE OFFICE ELECTRICAL PANEL. CIRCUITS AND SYSTEMS ALLOCATED FOR THE OFFICE.

8 ELECTRICAL CONTRACTOR SHALL PROVIDE CIRCUITS FOR THE FIRE ALARM AND SPRINKLER SYSTEMS AS REQUIRED.

9 THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SLEEVES REQUIRED ON SITE BETWEEN THE BUILDINGS, GATE AND OFFICE AREAS. ALL SYSTEMS UNDERGROUND WIRING SHALL BE INSTALLED IN RIGID CONDUIT WITH WATERTIGHT FITTINGS, MINIMUM 18" BELOW GRADE OR PER LOCAL CODE REQUIREMENTS. (1) EXTRA 1" LINE SHALL BE INSTALLED IN ALL LOCATIONS FOR FUTURE USE.

10 UNDER SLAB ELECTRICAL TRENCH LINES SHALL BE FILLED WITH GRAVEL ONLY.

11 CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION AND INSTALLATION OF ALL SLEEVES THROUGH FOUNDATION WALLS, UNDER FOOTINGS, THROUGH FLOOR SLABS, WALLS AND DECKS FOR THE INSTALLATION OF SYSTEMS AS NECESSARY.

12 THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE INSTALLATION OF NEW SERVICE TO THE DEVELOPMENT, INCLUDING ASSISTING THE OWNER WITH THE PAPER WORK FOR THE NEW SERVICE REQUIREMENTS.

13 TRANSFORMER PADS AND SLEEVES FOR NEW SERVICES SHALL BE PART OF THE ELECTRICAL BID.

14 ELECTRICAL TRADE SHALL PROVIDE AS PART OF THE BASE BID VERIFICATION OF SITE ALL UTILITIES. ELECTRICAL TRADE SHALL VISIT THE SITE AND LOCATE THE EXISTING COMED POWER SOURCE AND AT&T SERVICE TELEPHONE. EXTEND UTILITY FROM NEW TRANSFORMER LOCATION TO BUILDING EXTERIOR METER

NOTE:
FIRE ALARM CONTRACTOR SHALL PROVIDE CONNECTION TO SITE GATE. UPON DETECTION OF SMOKE OR FIRE, SITE GATE SHALL AUTOMATICALLY OPEN.

MK	DATE	REVISIONS	BY
2.	08-11-14	ISSUED FOR BIDDING	YS
1.	07-08-14	ISSUED FOR PERMIT	YS

URBAN & ASSOCIATES ARCHITECTS, INC.
2529 ILLINOIS ROAD, NORTHBROOK, ILLINOIS 60062
(847) 291.9570WWW.URBANASSOCIATES.NET

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SHEET TITLE
ELECTRICAL NOTES AND SPECIFICATIONS

SCALE AS NOTED | JOB NO. 1407
DATE 07/07/14
DRAWN BY Y.S. | CHECKED BY Y.S.

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER

COMMISION EXPIRES
07/31/16

TEI
THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 985-1928
Fax 847 387-3738

E0.2

E2.1

E2.2

EXTERIOR LIGHTING TO BE CONTROLLED BY PHOTOCELL(PC-1) AND 4-POLE, 20A, 240V ELECTRICALLY OPERATED AND MECHANICALLY HELD LIGHTING CONTRACTOR (SQUARE 'D') MOUNT PC-1 AND PC-2 ABOVE BUILDING FACING NORTH.

SIGN. SEE ARCH. FOR EXACT LOCATION

30A/3P, 600V, NON FU DIS.SW

2#12&1#12GND IN 3/4"C TO PNL C

30A/3P, 600V, NON FU DIS.SW

3#8&1#10GND IN1"C TO PNL P2

60A/3P, 600V, NON FU DIS. SW

3#8, 1#10G, 1"C TO PNL P2

3/4HP, 208V,1ø MS

EF 2

2#12, 1#12G TO PNL B CKT 25, 27

3#4&#6GND IN 1 1/4"C TO PNL P-1

45KVA TRANS T2 480V/120-208V, 3ø 4W

100A/2P, 600V, NON FU DIS. SW

PROVIDE 10'X6'(MIN.) ELECTRICAL CLOSET AT THIS LOCATION

PNL-C

PNL-D

6X6X3'-0" LONG NEMA 3R WIREWAY

E2.1

E2.3

NOTES:

1. FOR EXACT NUMBER AND LOCATION OF CAMERAS SEE ARCHITECTURAL DRAWING A1.1.
2. FIRE ALARM CONTRACTOR SHALL DESIGN-BUILD FIRE ALARM SYSTEM. CONTRACTOR SHALL DETERMINE EXACT NUMBER AND LOCATION OF FIRE ALARM DEVICES.

NOTES:

1. ALL EMERGENCY BATTERY PACK TO BE WIRED TO AREA NIGHT LIGHT CIRCUIT.
2. ALL DISCONNECT SWITCHES ON ROOF NEMA 3R MINIMUM
3. ALL CONDUITS TO BE RIGID STEEL GALVANIZED.(EXTERIOR)
4. ALL LIGHTING IN SECTION A (THIS DRAWING) TO BE FED FROM PANEL C.

NOTE:

1. ALL EXISTING EXTERIOR OUTLETS(WP) IN BUILDING A SHALL BE WIRED TO NEW OR EXISTING PANEL UTILIZING SPARE CIRCUITS.

NOTE:

1. SEE ARCHITECTURAL DRAWINGS FOR KEY PAD LOCATIONS. PROVIDE 3/4"CONDUIT FROM KEY PAD TO CEILING. TERMINATE ABOVE CEILING WITH 90° ELBOW AND GROMET

NOTE:

1. PROVIDE ELECTRICAL POWER TO SECURITY GATE. SEE PANEL SCHEDULE FOR POWER REQUIREMENT. SEE ARCHITECTURAL DRAWINGS FOR SECURITY GATE LOCATION.

1 / E2.1 FIRST FLOOR ELECTRICAL PLAN - AREA A

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

NORTH

BUILDING A

BUILDING B

BUILDING C

AREA B

AREA C

AREA D

E2.3 E2.4

2 / E2.1 KEY PLAN

SCALE: 1/128" = 1'-0"

NORTH

MK	DATE	REVISIONS	BY
1	07-08-14	ISSUED FOR PERMIT	YS
2	08-11-14	ISSUED FOR BIDDING	YS

URBAN & ASSOCIATES ARCHITECTS, INC.
2529 ILLINOIS ROAD, NORTHBROOK, ILLINOIS 60062
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SHEET TITLE
FIRST FLOOR ELECTRICAL LIGHTING AND POWER PLAN - SECTION A

DRAWN BY Y.S. | DATE 07/07/14
CHECKED BY Y.S. | SCALE AS NOTED | JOB NO. 1407

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER

WISCONSIN YOGENDRA G. SHAH E-32768 STATE OF ILLINOIS 62165 PROFESSIONAL ENGINEER
SIGNED: JULY 9, 2014

COMMISION EXPIRES 07/31/16

THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995-1926
Fax 847 387-3738

E2.1

PANEL P-2
225A, 480/277V
3ø,4W

600A,600VAC
SERVICE DISC.

DISB. PANEL P-1
600A,480/277V

45KVATRANSFORMER
1-1,480V/120-208V
3ø,4W

LP-1

LP-2

ELECTRICAL ROOM PLAN

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

E2.1 E2.2

LOWER LEVEL STORAGE

3/4HP, 208V,1ø
MS
EF 2
2#12, 1#12G TO PNL B CKT 25, 27

60A/3P, 600V, NON FU DIS. SW
3#8&1#10GND,1"C TO PNL P2 CKT 20,22,24

RTU 8

480/277V SERVICE CT/METERING

PC-1

ELECTRICAL ROOM

SEE DRAWING E2.5 FOR WORK IN THIS AREA

SIGN. SEE ARCH. FOR EXACT LOCATION

2#12&1#12GND,3/4"C TO PNL B

30A/3P, 600V, NON FU DIS.SW

GAS METER

KEY PAD WITH INTERCOM

2#12&1#12GND, TO PNL B CKT 22

2#12&1#12GND TO PNL B CKT 21, 23

GUH 1

EF 3

30A/3P, 600V, NON FU DIS. SW
3#10&1#12GND,3/4"C TO PNL P-2 CKT 2,4,6

RTU 5

B-24

LOADING

E2.2
E2.4

NOTES:
1. FOR EXACT NUMBER AND LOCATION OF CAMERAS SEE ARCHITECTURAL DRAWING A1.1.
2. FIRE ALARM CONTRACTOR SHALL DESIGN-BUILD FIRE ALARM SYSTEM. CONTRACTOR SHALL DETERMINE EXACT NUMBER AND LOCATION OF FIRE ALARM DEVICES.

NOTES:
1. ALL EMERGENCY BATTERY PACK TO BE WIRED TO AREA NIGHT LIGHT CIRCUIT.
2. ALL DISCONNECT SWITCHES ON ROOF NEMA 3R MINIMUM
3. ALL CONDUITS TO BE RIGID STEEL GALVANIZED.(EXTERIOR)
4. ALL LIGHTING IN SECTION A (THIS DRAWING) TO BE FED FROM PANEL C.

AREA A AREA B AREA C AREA D

2 E2.2 KEY PLAN
SCALE: 1/128" = 1'-0"

NORTH

1 E2.2 FIRST FLOOR ELECTRICAL PLAN - SECTION B
SCALE: 1/8" = 1'-0"

NORTH

BY	DATE	REVISIONS
YS	08-11-14	ISSUED FOR BIDDING
YS	07-08-14	ISSUED FOR PERMIT

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SHEET TITLE
FIRST FLOOR ELECTRICAL LIGHTING AND POWER PLAN - SECTION B

DRAWN BY Y.S. | SCALE AS NOTED
CHECKED BY Y.S. | DATE 07/07/14
JOB NO. 1407

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER

WISCONSIN YOGENDRA G. SHAH E-35104 ENGINEER PROFESSIONAL ENGINEER
SIGNED: JULY 8, 2014

COMMISION EXPIRES
07/31/16

TEI
THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995-1926
Fax 847 387-3738

E2.2

E2.3

E2.1

E2.3

30A/3P, 600V,3ø NON FU DIS. SW

3#10,1#12G, 3/4"C TO PNL D CKT 16, 18

RTU 3

D-16

3#8&1#10GND,1"C TO PNL P2 CKT19,21,23

60A/3P, 600V, NON FU DIS. SW.

RTU 4

D-16

KEY PAD WITH INTERCOM

PS

2#12&1#12GND,3/4"C TO PNL D CKT13

GUR 3

30A/3P, 600V,3ø NON FU DIS. SW.

RTU 2

3#8&1#10GND,1"C TO PNL P2 CKT7,9,11

D-18

60A/3P, 600V, NON FU DIS. SW

RTU 1

3#8&1#10GND,1"C TO PNL P2 CKT 1,3,5

D-18

DRIVE THRU

EF 1

MS

2#12&1#12GND,3/4"C TO PNL D CKT15,17

NOTES:

1. ALL LIGHTING IN SECTION "C" TO BE FED FROM PANEL 'C'.

E2.3 E2.4

AREA A AREA B AREA C AREA D

1 / E2.3 **FIRST FLOOR ELECTRICAL PLAN - SECTION C**

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

NORTH

2 / E2.3 **KEY PLAN**

SCALE: 1/128" = 1'-0"

NORTH

BY	DATE	REVISIONS
YS	08-11-14	ISSUED FOR BIDDING
YS	07-08-14	ISSUED FOR PERMIT

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SHEET TITLE
FIRST FLOOR ELECTRICAL LIGHTING POWER PLAN - SECTION C

DRAWN BY	CHECKED BY	DATE	SCALE	JOB NO.
Y.S.	Y.S.	07/07/14	AS NOTED	1407

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

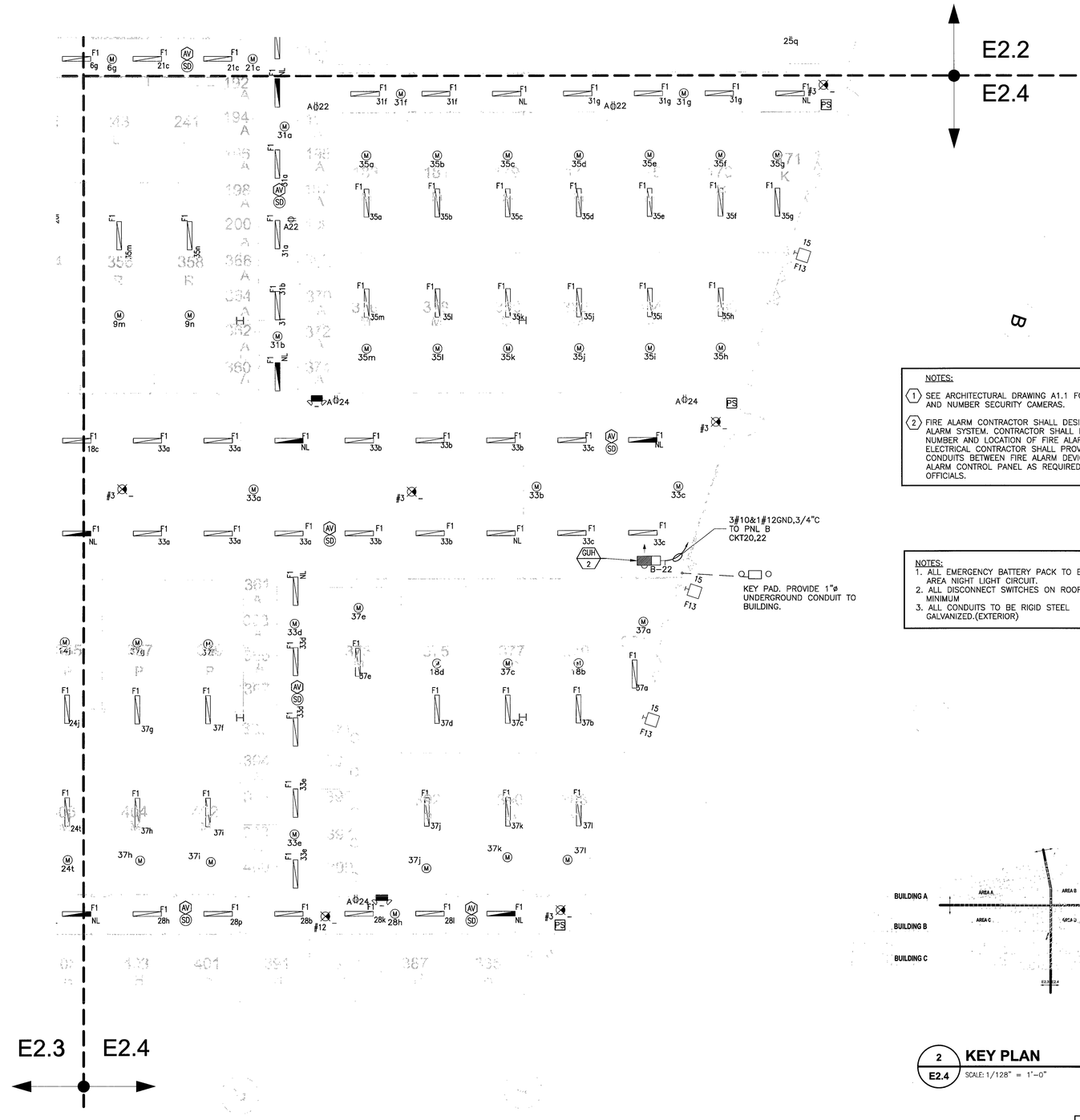
YOGENDRA G. SHAH
REG. ENGINEER

WISCONSIN YOGENDRA G. SHAH E-32705 PROFESSIONAL ENGINEER
SIGNED JULY 8, 2014

COMMISION EXPIRES 07/31/16

THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995-1926
Fax 847 387-3738

E2.3

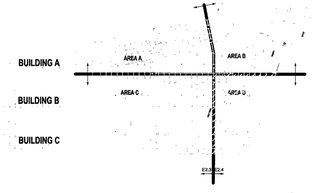


NOTES:

1. SEE ARCHITECTURAL DRAWING A1.1 FOR LOCATIONS AND NUMBER SECURITY CAMERAS.
2. FIRE ALARM CONTRACTOR SHALL DESIGN-BUILD FIRE ALARM SYSTEM. CONTRACTOR SHALL DETERMINE EXACT NUMBER AND LOCATION OF FIRE ALARM DEVICES. ELECTRICAL CONTRACTOR SHALL PROVIDE 3/4" EMPTY CONDUITS BETWEEN FIRE ALARM DEVICES AND FIRE ALARM CONTROL PANEL AS REQUIRED BUILDING CODE OFFICIALS.

NOTES:

1. ALL EMERGENCY BATTERY PACK TO BE WIRED TO AREA NIGHT LIGHT CIRCUIT.
2. ALL DISCONNECT SWITCHES ON ROOF NEMA 3R MINIMUM
3. ALL CONDUITS TO BE RIGID STEEL GALVANIZED.(EXTERIOR)



2 / E2.4 **KEY PLAN**
SCALE: 1/128" = 1'-0"

NORTH

1 / E2.4 **FIRST FLOOR ELECTRICAL PLAN - SECTION D**
SCALE: 1/8" = 1'-0"

NORTH

MK	DATE	REVISIONS	BY
2	08-11-14	ISSUED FOR BIDDING	YS
1	07-08-14	ISSUED FOR PERMIT	YS

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(847) 291.9570WWW.URBANASSOCIATES.NET

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SHEET TITLE
FIRST FLOOR LIGHTING AND POWER PLAN - SECTION D

DRAWN BY	Y.S.	DATE	07/07/14	SCALE	AS NOTED
CHECKED BY	Y.S.			JOB NO.	1407

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

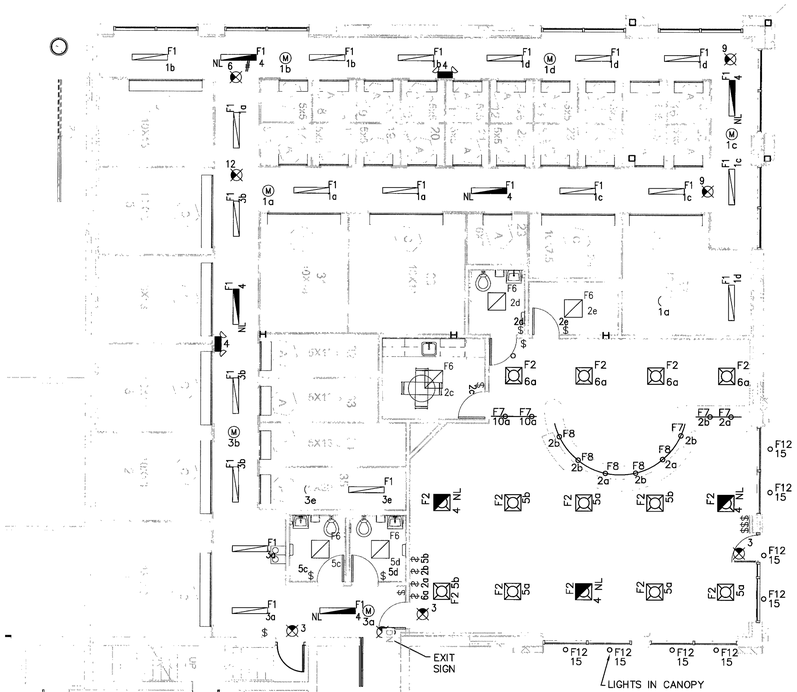
YOGENDRA G. SHAH
REG. ENGINEER

WISCONSIN
YOGENDRA G. SHAH
E-32006
17704
DISCHOL
ENGINEER
SIGNED: JULY 9, 2014

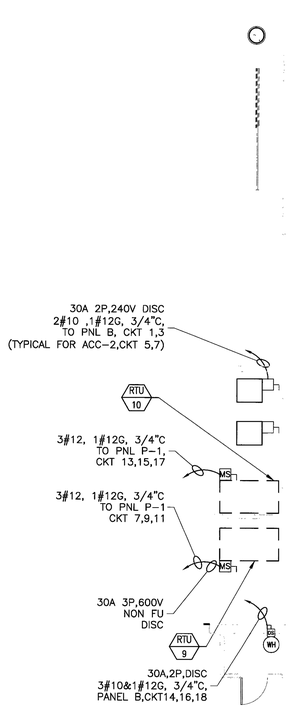
COMMISION EXPIRES
07/31/16

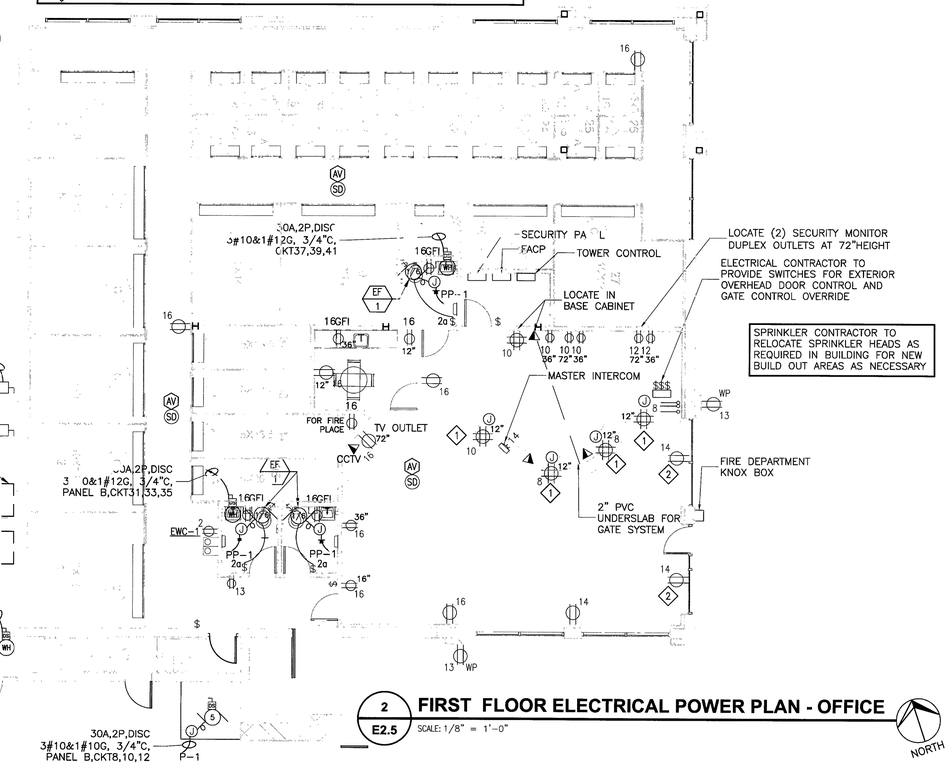
TEI
THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995-1926
Fax 847 387-3738

E2.4

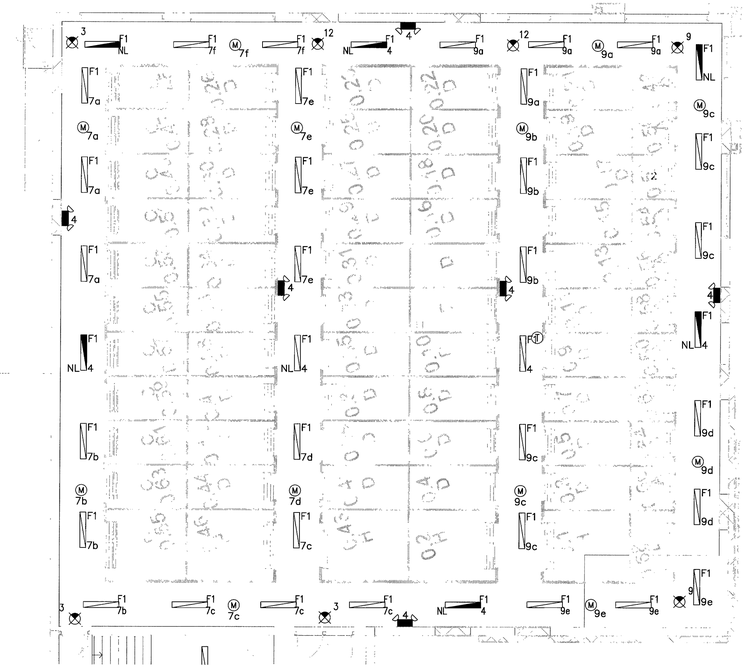


1 E2.5 **FIRST FLOOR ELECTRICAL LIGHTING PLAN - OFFICE**
SCALE: 1/8" = 1'-0"

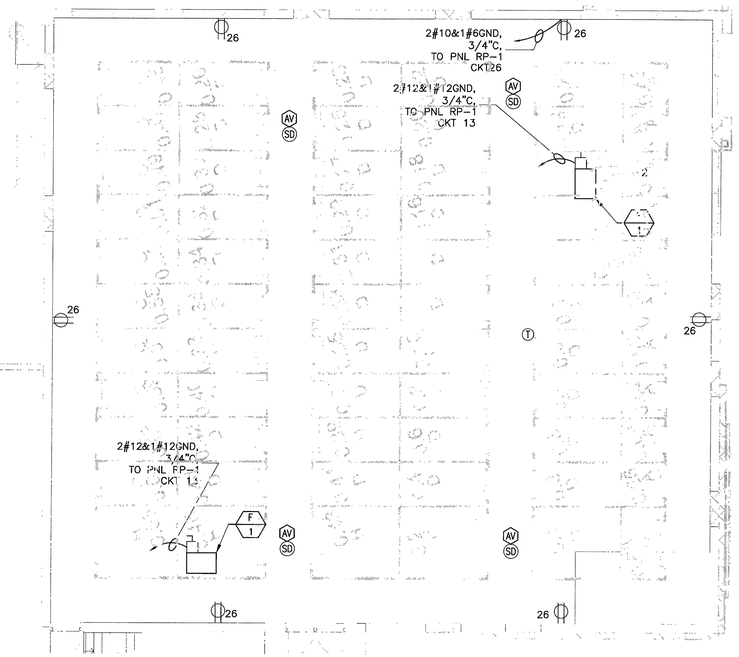




2 E2.5 **FIRST FLOOR ELECTRICAL POWER PLAN - OFFICE**
SCALE: 1/8" = 1'-0"



3 E2.5 **SECOND FLOOR ELECTRICAL LIGHTING PLAN - OFFICE**
SCALE: 1/8" = 1'-0"



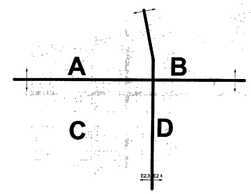
4 E2.5 **SECOND FLOOR ELECTRICAL PLAN - OFFICE**
SCALE: 1/8" = 1'-0"

KEY-NOTES:

1 SECURITY CAMERAS. EXACT NUMBER AND LOCATION OF CAMERAS SHALL BE DETERMINED BY SECURITY CONSULTANT.

2 FIRE ALARM CONTRACTOR SHALL DESIGN-BUILD FIRE ALARM SYSTEM. CONTRACTOR SHALL DETERMINE EXACT NUMBER AND LOCATION OF FIRE ALARM DEVICES. PROVIDE 3/4" EMPTY CONDUITS BETWEEN FIRE ALARM DEVICES AND FIRE ALARM CONTROL PANEL AS REQUIRED BY BUILDING CODE OFFICIALS.

OFFICE



5 E2.5 **KEY PLAN - OFFICE**
SCALE: 1/128" = 1'-0"

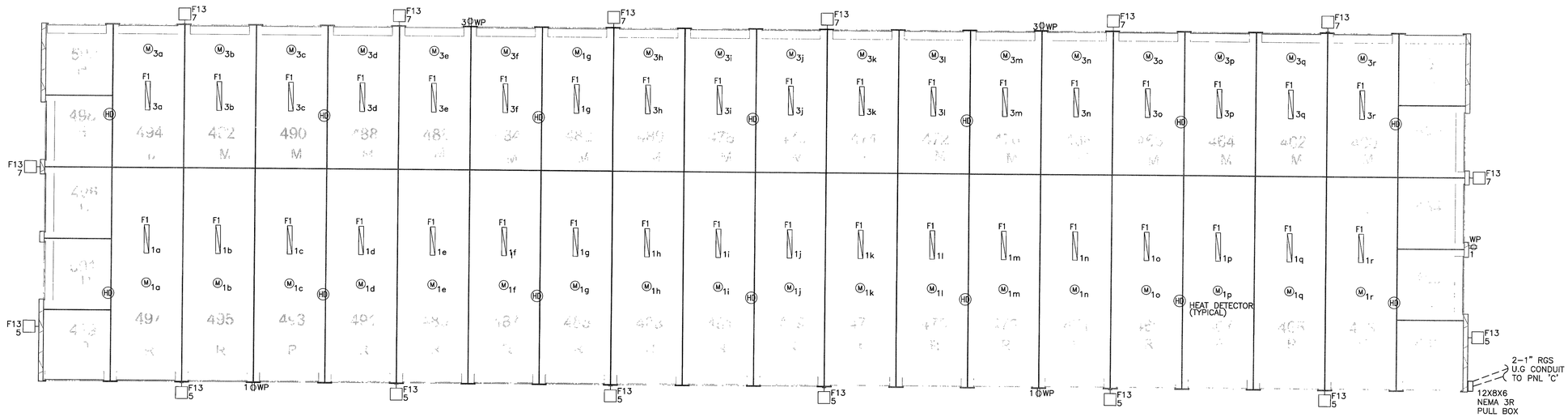
URBAN & ASSOCIATES
ARCHITECTS, INC.

SHEET TITLE
FIRST FLOOR ELECTRICAL LIGHTING AND POWER PLAN - OFFICE

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

THERMAL ENERGY, INC.

E2.5



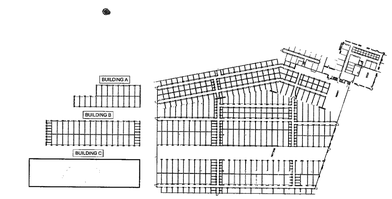
1 E2.0 **ELECTRICAL PLAN - BUILDING C**

SCALE: 1/8" = 1'–0"

NORTH

KEY–NOTES:

1. BUILDING A,B&C ALL LIGHT CKTS TO PANEL 'C'.
2. ALL HOME RUNS TO BE 10 AWG.
3. PROVIDE 1 1 1/4" UNDERGROUND CONDUIT (RGS) BETWEEN BUILDINGS', FURNISH 12"X8"X6" NEMA 3R PULL BOX AT EACH BUILDINGS.
4. BLDG. A, B, C EXTERIOR LIGHTING WILL BE CONTROLLED BY PHOTO CELL 2, LIGHTING CONTACTOR. ROUTE CIRCUIT C–5, C–7, C–13, C–15 AND C–19 VIA LIGHTING CONTACTOR. LIGHTING CONTACTOR SHALL BE SQUARE B, ELECTRICALLY OPERATED, MECHANICALLY HELD, 6 POLE, 20A, 240VAC RATED WITH 120V COIL.



2 E2.0 **KEY PLAN - BUILDING B**

SCALE: 1/128" = 1'–0"

NORTH

MK	DATE	REVISIONS	BY
1	07-08-14	ISSUED FOR PERMIT	YS
2	08-11-14	ISSUED FOR BIDDING	YS

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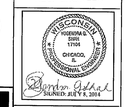
SHEET TITLE
FIRST FLOOR ELECTRICAL LIGHTING AND POWER PLAN - SECTION A

DRAWN BY	Y.S.	DATE	07/07/14	SCALE	AS NOTED
CHECKED BY	Y.S.			JOB NO.	1407

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER



COMMISION EXPIRES
07/31/16

TEI
THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995–1926
Fax 847 387–3738

E2.7

PANEL NAME	SERVICES	LOCATION	MOUNTING	SUPPLIED FROM	VOLTAGE	BUS AMP RATING	MAIN
MAIN DISTRIBUTION PANEL P-1(EXISTING)		MAIN BLDG. ELECT.RM	SURFACE	600A,600V SERVICE DIST.	480/277V 3ø,4W	600A	MLO

LOAD TYPE	LOAD (VA) A	B	C				LOAD (VA) A	B	C	LOAD TYPE
PANEL P-2 FEEDER	58704			225	1	2	70A	15000			OFFICE LIGHTING TRANSFORMER T-1 (45 KVA)
		58704			3	4			15000		
			58704	3P	5	6	3P			15000	
ROOFTOP UNIT RTU-9	3322			15A	7	8	70A	15000			LIGHTING TRANSFORMER T-2 (45KVA) FOR STORAGE BUILDINGS A,B,C,D
		3322			9	10			15000		
			3322	3P	11	12	3P			15000	
ROOFTOP UNIT RTU-10	3322			15A	13	14	–	–			SPACE
		3322			15	16	–		–		SPACE
			3322	3P	17	18	–			–	SPACE
MOTORIZED OVERHEAD DOOR (1.5HP)	–			20A	19	20	–	–			SPACE
		–			21	22	–		–		SPACE
			–	3P	23	24	–			–	SPACE
MOTORIZED OVERHEAD DOOR (1.5HP)	–			20A	25	26	–	–			SPACE
		–			27	28	–		–		SPACE
			–	3P	29	30	–			–	SPACE
MOTORIZED OVERHEAD DOOR (1.5HP)	–			20A	31	32	–	–			SPACE
		–			33	34	–		–		SPACE
			–	3P	35	36	–			–	SPACE
SPACE	–			–	37	38	–	–			SPACE
SPACE		–		–	39	40	–		–		SPACE
SPACE			–	–	41	42	–			–	SPACE

[X] GROUND BUS	PHASE CONN. LOAD	A	XXX	B	XXX	C	XXX	VA
[X] 100% NEUTRAL	TOTAL CONN. LOAD		XX	KVA				
INDOOR INSTALLATION 10KAIC (MIN)	EST. DEMAND LOAD		XX	KVA	AMP	XX	A	

PANEL NAME	SERVICES	LOCATION	MOUNTING	SUPPLIED FROM	VOLTAGE	BUS AMP RATING	MAIN
PANEL P-2 (EXISTING)		MAIN BLDG. ELECT.RM	SURFACE	P-1	480/277V 3ø,4W	225A	MLO

LOAD TYPE	LOAD (VA) A	B	C				LOAD (VA) A	B	C	LOAD TYPE
ROOFTOP UNIT RTU-1	8858			40A	1	2	30A	7198			ROOFTOP UNIT RTU-5
		8858			3	4			7198		
			8858	3P	5	6	3P			7198	
ROOFTOP UNIT RTU-2	6090			30A	7	8	40A	8858			ROOFTOP UNIT RTU-6
		6090			9	10			8858		
			6090	3P	11	12	3P			8858	
ROOFTOP UNIT RTU-3	5813			25A	13	14	25A	5813			ROOFTOP UNIT RTU-7
		5813			15	16			5813		
			5813	3P	17	18	3P			5813	
ROOFTOP UNIT RTU-4	8858			40A	19	20	30A	7198			ROOFTOP UNIT RTU-8
		8858			21	22			7198		
			8858	3P	23	24	3P			7198	
SPARE	–			15A	25	26	15A	–			SPARE
		–			27	28			–		
			–	3P	29	30	3P			–	
SPACE	–			–	31	32	–	–			SPACE
		–			33	34			–		
			–	–	35	36	–			–	
SPACE	–			–	37	38	–	–			SPACE
		–			39	40			–		
			–	–	41	42	–			–	

[X] GROUND BUS	PHASE CONN. LOAD	A	58704	B	58704	C	58704	VA
[X] 100% NEUTRAL	TOTAL CONN. LOAD		176.112	KVA				
INDOOR INSTALLATION 10KAIC (MIN)	EST. DEMAND LOAD		140.9	KVA	AMP	169.66	A	

NOTE: USE EXISTING SQUARE D PANEL. INSTALL NEW BREAKERS OF SIZE/POLES AS PER PANEL SCHEDULE

PANEL NAME	SERVICES	LOCATION	MOUNTING	SUPPLIED FROM	VOLTAGE	BUS AMP RATING	MAIN
PANEL RP-1(B) (EXISTING)		MAIN BLDG. ELECT.RM	SURFACE	TRANSFORMER T-1	120/208V 3ø,4W	150A	MLO

LOAD TYPE	LOAD (VA) A	B	C				LOAD (VA) A	B	C	LOAD TYPE
AIR COOLED CONDENSING UNIT CU-1 FOR OFFICE AREA	2185			30A	1	2	20A	480			EWC-1
		2185		2P	3	4	20A		–		SPARE
AIR COOLED CONDENSING UNIT CU-2 FOR OFFICE AREA	2185			30A	5	6	20A			–	SPARE
		2185		2P	7	8	30A	2004			
ELECTRIC CABINET HEATER ECH-1		1000		20A	9	10	–		2004		LIFT (5.0 H.P.)
			1000	2P	11	12	3P			2004	
FURNACE F-1	865			20A	13	14	25A	2000			
FURNACE F-2		865		20A	15	16	–		2000		EWH-3
SPARE			–	20A	17	18	3P			2000	
SPARE	–			20A	19	20	20A	–			SPARE
EXHAUST FAN EF-3 (1.0HP,208V/1ø)		1331		20A	21	22	20A		400		GAS UNIT HEATER GUH-1
			1331	2P	23	24	20A			960	RECEPTACLES-ROOF SECTION B
EXHAUST FAN EF-13 (3/4HP,208V/1ø)	990			20A	25	26	20A	800			RECEPTACLES-SECOND FLOOR STORAGES
		990		2P	27	28	20A		1000		TOWER CLOCK
SPARE			–	20A	29	30	20A			300	BUILDING SIGN
EWH-2	2000			25A	31	32	20A	–			SPARE
		2000			33	34	20A		–		SPARE
			2000	3P	35	36	–	–		–	SPACE
EWH-1	2000			25A	37	38	–	–			SPACE
		2000			39	40	–		–		SPACE
			2000	3P	41	42	–			–	SPACE

[X] GROUND BUS	PHASE CONN. LOAD	A	15509	B	15779	C	13480	VA
[X] 100% NEUTRAL	TOTAL CONN. LOAD		44.77	KVA				
INDOOR INSTALLATION 10KAIC (MIN)	EST. DEMAND LOAD		35.8	KVA	AMP	99.5	A	

PANEL NAME	SERVICES	LOCATION	MOUNTING	SUPPLIED FROM	VOLTAGE	BUS AMP RATING	MAIN
PANEL A (EXISTING PANEL) LP-1		MAIN BLDG. ELECT.RM	SURFACE	TRANSFORMER T-1	120/208V 3ø,4W	150A	125A/3P

LOAD TYPE	LOAD (VA) A	B	C				LOAD (VA) A	B	C	
OFFICE FIRST FLOOR STORAGE AISLE	1140			20A	1	2	20A	1000			OFFICE
OFFICE FIRST FLOOR STORAGE AISLE		540		20A	3	4	20A		720		OFFICE FIRST FLOOR NIGHT LIGHTS
OFFICE FIRST FLOOR LIGHTING			1260	20A	5	6	20A			700	OFFICE DOWN LIGHTS
OFFICE SECOND FLOOR AISLE LITES	900			20A	7	8	20A	720			OFFICE FIRST FLOOR RECEPTACLES
OFFICE SECOND FLOOR AISLE LITES		900		20A	9	10	20A		720		OFFICE FIRST FLOOR RECEPTACLES
OFFICE SECOND FLOOR NIGHT LITES/EM			?	20A	11	12	20A			720	OFFICE FIRST FLOOR RECEPTACLES
SPARE	–			20A	13	14	20A	?			SPARE
BUILDING A-EXTERIOR LIGHTS		600		20A	15	16	20A		1080		OFFICE RECEPTACLES
BUILDING A-EXTERIOR LIGHTS			700	20A	17	18	20A			–	SPARE
SECTION B-AISLE LIGHTS	900			20A	19	20	20A	–			STORAGE AREA RECEPTACLES
SECTION B-AISLE LIGHTS		1020		20A	21	22	20A		–		STORAGE AREA RECEPTACLES
SECTION B-AISLE LIGHTS			660	20A	23	24	20A			–	STORAGE AREA RECEPTACLES
SECTION B-STORAGE LIGHTS	1020			20A	25	26	20A	800			BUILDING SIGNAGE
SECTION B-NIGHT LIGHTS		400		20A	27	28	20A		500		SECURITY ALARM PANEL
SECTION B-NIGHT LIGHTS			400	20A	29	30	20A			500	SECURITY CAMERAS
SECTION D-AISLE LIGHTS	840			20A	31	32	20A	500			FIRE ALARM CONTROL PANEL
SECTION D-AISLE LIGHTS		900		20A	33	34	–		500		FIRE ALARM BELL
SECTION D-STORAGE LIGHTS			900	20A	35	36	–			600	SECURITY GATE, SLIDING DOOR, BUZZER
SECTIOND-STORAGE LIGHTS	400			20A	37	38	–	–			SPACE
SECTION D-NIGHT LIGHTS *		800		20A	39	40	–		–		SPACE
SECTION D-EXIT SIGNS *			600	20A	41	42	–			–	SPACE

[X] GROUND BUS	PHASE CONN. LOAD	A	9520	B	8850	C	8540	VA
[X] 100% NEUTRAL	TOTAL CONN. LOAD		26.95	KVA				
INDOOR INSTALLATION 10KAIC (MIN)	EST. DEMAND LOAD		16.5	KVA	AMP	45.0	A	

NOTE: *PROVIDE LOCKABLE BREAKERS

PANEL NAME	SERVICES	LOCATION	MOUNTING	SUPPLIED FROM	VOLTAGE	BUS AMP RATING	MAIN
PANEL C (LP-2)			SURFACE	TRANSFORMER T-2 45KVA	120/208V 3ø,4W	200A	150A/3P

LOAD TYPE	LOAD (VA) A	B	C				LOAD (VA) A	B	C	LOAD TYPE
STORAGE LIGHTS-BUILDING B	1080			20A	1	2	20A	1080			SECTION A-AISLE LIGHTING
STORAGE LIGHTS-BUILDING B		1080		20A	3	4	20A		1020		SECTION A-AISLE LIGHTING
EXTERIOR WALL PACKS-BUILDING B			800	20A	5	6	20A			1080	SECTION A-AISLE LIGHTING
EXTERIOR WALL PACKS-BUILDING B	800			20A	7	8	20A	780			SECTION A-STORAGE LIGHTING
STORAGE LIGHTS-BUILDING C		900		20A	9	10	20A		660		SECTION A-STORAGE LIGHTING
STORAGE LIGHTS-BUILDING C			900	20A	11	12	20A			900	SECTION A-AISLE LIGHTING
EXTERIOR WALL PACKS-BUILDING C	700			20A	13	14	20A	1080			SECTION C-AISLE LIGHTING
EXTERIOR WALL PACKS-BUILDING C		700		20A	15	16	20A		780		SECTION C-AISLE LIGHTING
STORAGE LIGHTS-BUILDING D			960	20A	17	18	20A			780	SECTION C-AISLE LIGHTING
EXTERIOR WALL PACKS-BUILDING D	1100			20A	19	20	20A	1200			SECTION C-STORAGE LIGHTING
BUILDING SIGN		300		20A	21	22	20A		1200		SECTION C-STORAGE LIGHTING
SPARE			–	20A	23	24	20A			1200	SECTION C-STORAGE LIGHTING
SPARE	–			20A	25	26	20A	600			SECTION C-STORAGE LIGHTING
SPARE		–		20A	27	28	20A		960		SECTION C-AISLE LIGHTING
SPARE			–	20A	29	30	20A			–	SPARE
SPACE	–			–	31	32	20A	–			SPARE
SPACE		–		–	33	34	20A		400		EXIT SIGNS-SECTION A&C *
SPACE			–	–	35	36	20A			480	SECTION A-NIGHT LIGHTS *
SPACE	–			–	37	38	20A	600			SECTION A-NIGHT LIGHTS *
SPACE		–		–	39	40	20A		600		SECTION C-NIGHT LIGHTS *
SPACE			–	–	41	42	20A			480	SECTION C-NIGHT LIGHTS *

[X] GROUND BUS	PHASE CONN. LOAD	A	13620	B	13800	C	13500	VA
[X] 100% NEUTRAL	TOTAL CONN. LOAD		40.9	KVA				
INDOOR INSTALLATION 10KAIC (MIN)	EST. DEMAND LOAD		32.8	KVA	AMP	91.5	A	

NOTE: *PROVIDE LOCKABLE BREAKERS

PANEL NAME	SERVICES	LOCATION	MOUNTING	SUPPLIED FROM	VOLTAGE	BUS AMP RATING	MAIN
PANEL RP-2(D)			SURFACE	PANEL C	120/208V 3ø,4W	100A	MLO

LOAD TYPE	LOAD (VA) A	B	C				LOAD (VA) A	B	C	LOAD TYPE
SPARE	–			20A	1	2	20A	–			SPARE
SPARE		–		20A	3	4	20A		–		SPARE
SPARE			–	20A	5	6	20A			–	SPARE
SPARE	–			20A	7	8	20A	–			SPARE
SPARE		–		20A	9	10	20A		–		SPARE
SPARE			–	20A	11	12	20A			–	SPARE
GAS UNIT HEATER GUH-2	400			20A	13	14	20A	360			RECEPTACLES-ROOF SECTION A
EXHAUST FAN EF-1 (3/4HP)		990		20A	15	16	20A		360		RECEPTACLES-ROOF SECTION C
			990	2P	17	18	20A			360	RECEPTACLES-ROOF SECTION C
STORAGE AREA RECEPTACLES	–			20A	19	20	20A	–			SPARE
STORAGE AREA RECEPTACLES		–		20A	21	22	20A		–		SPARE
STORAGE AREA RECEPTACLES			–	20A	23	24	20A			–	STORAGE AREA RECEPTACLES
SPARE	–			20A	25	26	20A	–			SPARE
SPACE		–		20A	27	28	–		–		SPACE
SPACE			–	–	29	30	–			–	SPACE
SPACE	–			–	31	32	–	–			SPACE
SPACE		–		–	33	34	–		–		SPACE
SPACE			–	–	35	36	–			–	SPACE
SPACE	–			–	37	38	–	–			SPACE
SPACE		–		–	39	40	–		–		SPACE
SPACE			–	–	41	42	–			–	SPACE

[X] GROUND BUS	PHASE CONN. LOAD	A	760	B	1350	C	1350	VA
[X] 100% NEUTRAL	TOTAL CONN. LOAD		3460	KVA				
INDOOR INSTALLATION 10KAIC (MIN)	EST. DEMAND LOAD		3.5	KVA	AMP	–	A	

SIGN FACE LEGEND

CHICAGO CODE NO.	CHICAGO CODE NO. SINGLE FACE	CHICAGO CODE NO.	CHICAGO CODE NO. DOUBLE FACE
1	FIRE ESCAPE	13	FLUSH OR RECESSED
2	STAIR(S) OR STAIRWAY	14	TRIANGLE
3	EXIT	15	ELEVATOR
4	FIRE ESCAPE	16	FIRE ESCAPE
5	STAIR(S) OR STAIRWAY	17	STAIR(S) OR STAIRWAY
6	EXIT	18	EXIT
7	FIRE ESCAPE	19	FIRE ESCAPE
8	STAIR(S) OR STAIRWAY	20	STAIR(S) OR STAIRWAY
9	EXIT	21	EXIT
10	FIRE ESCAPE	22	FIRE ESCAPE
11	STAIR(S) OR STAIRWAY	23	STAIR(S) OR STAIRWAY
12	EXIT	24	EXIT

GENERAL NOTES:
1. ELECTRICAL CONTRACTOR TO COORDINATE WITH SECURITY CONTRACTOR FOR POWER REQUIREMENTS OF SECURITY SYSTEMS AND EQUIPMENT. PROVIDE ADDITIONAL CIRCUITS REQUIRED FOR SECURITY SYSTEMS.
2. PROVIDE CIRCUITS, CONDUITS AND CONDUCTORS REQUIRED FOR SITE GATE AND GATE OPENER.
3. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OWNER POWER REQUIREMENTS FOR FACILITY SIGNAGE.

MK	DATE	REVISIONS	BY
2	08-11-14	ISSUED FOR BIDDING	YS
1	07-08-14	ISSUED FOR PERMIT	YS

URBAN & ASSOCIATES ARCHITECTS, INC.
2529 ILLINOIS ROAD, NORTHBROOK, ILLINOIS 60062
(847) 291.9570WWW.URBANASSOCIATES.NET

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SHEET TITLE
ELECTRICAL PANEL SCHEDULES

SCALE AS NOTED | JOB NO. 1407 | DATE 07/07/14 | DRAWN BY Y.S. | CHECKED BY Y.S.

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER
WISCONSIN YOGENDRA G. SHAH E-17205 CHICAGO, IL PROFESSIONAL ENGINEER
DATE SIGNED: JULY 9, 2014
COMMISION EXPIRES 07/31/16

THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995-1926
Fax 847 387-3736

E9.1

MECHANICAL SPECIFICATIONS

PART 1 – GENERAL

WORK INCLUDED

Furnish all labor, materials and incidentals required to complete the mechanical work which is called for diagrammatically in the drawings and specified herein.

INTENT

Furnish, erect, install, connect, clean, adjust, test and place in service all materials, equipment and systems shown on the drawings or called for in the Specifications.

Apparatus, material or work not shown on drawings, or any incidental accessories such as dampers, grilles, smoke and fire detectors, fire dampers, etc. necessary to make the work complete shall be furnished and installed at no additional expense to the Owner.

The installation shall be complete in every detail essential to proper and satisfactory operation, ready for use and in condition for service when delivered to the owner. This includes the furnishing and installing of all equipment and material herein described or shown or called for on these drawings, or reasonably implied by the drawings.

STANDARDS

The following standards form a part of this specifications.

1. ASHRAE Standards
2. Underwriters Laboratories (U.L.)
3. SMACNA Standards
4. ANSI Standard
5. ASME Standards
6. NFPA Standards
7. Federal, State and local codes

APPLICABLE CODES:

The following Building Codes form a part of this specifications.

1. The Wisconsin Administrative Code. The following Chapters are applicable
2. Chapters ILHR 50–64, Building and Heating, Ventilating and Air–Conditioning Code and commonly referred to as the COMMERCIAL BUILDING CODE.
3. 2009 International Mechanical Code
4. Chapters ILHR 82–86, Plumbing Code.
5. Chapter PSC 114, Electrical Code, Volume 1.
6. Chapter ILHR 16, Wisconsin State Electrical Code, Vol. 2.
7. Chapters ILHR 160–164, Existing Buildings
8. All other Chapters of the Wisconsin Administrative Code applicable to the protection and maintenance of the public's health, safety and welfare.
9. All codes and amendments adopted by the Village of Brown Deer.

QUALITY ASSURANCE

Materials and installation shall comply with latest codes, laws and ordinances of Federal, State and local governing bodies having jurisdiction.

Where regulations of electric utility and telephone companies apply, conformance with their regulations is mandatory and any costs involved shall be included in the contract. Consult with the power, telephone and gas company prior to bids.

Arrange and pay for all applicable fees for test and inspections required by authorities having jurisdiction. Contractor shall pay for all permits and inspections.

The contractor shall visit the project site and become thoughly familiar with all site conditions and limitations. Any discrepancy between field conditions and these documnets shall be reported to achitects/engineer. No extra charges shall be accepted by the owner for the work that has to be performed due to contractor's negligence in verifying field conditions.

All work is to be coordinated with all trades. Provide offsets in piping and duct systems to avoid structural, architectural, plumbing, and electrical interferences whether or not indicated on plans.

Contractor to schedule all his work with the general contractor.

SUBMITTALS

Prior to fabrication of any work and ordering equipment, submit shop drawings to Arch/Engineer for review. Contractor is warned not to order any equipment and/or material prior to review by Arch./Engineer. Same submittals and shop drawings shall be submitted to the Commissioning Agent.

Shop Drawings and Samples: Submit five copies of all shop drawings. Equipment catalog numbers and parts shall be underlined or identified on the shop drawings.

Installation Drawings: The HVAC contractor shall prepare complete detailed and coordinated shop drawings and/or submittals showing all elevations, break points and starting points, ductwork with dimensioned grilles, diffusurers, registers, piping and all other mechanical equipment..

Submit five copies of coordinated shop drawings to Architect/Engineer for his review.

Operation and Maintenance Manuals: Submit five copies of operation and maintenance manuals in hard bound covers.

Certifications: One week prior to the final inspection, deliver to the Architect/Engineer four typewritten copies of each of the following:

1. Certification from the contractor that all equipment and systems have been properly installed, adjusted and tested.
2. Certification from the respective manufacturer's authorized representative that the equipment and system(s) have been properly installed, adjusted and tested.

Project Record Drawings: Prepare and maintain in current status, a complete set of detailed drawings for all work included under the contract. These drawings shall be made at the contractor's expense.

WARRANTY

All work shall be warranted for both materials and labor for one year.
The contractor shall replace and/or repair any defect within a twelve month period to the satisfaction of the Architect and at no additional cost to the owner.

Warranty shall include at least one complete heating and cooling season.

PART 2 – PRODUCTS

MATERIAL AND EQUIPMENT

Materials and equipment shall be new and UL labeled. Materials and equipment of the same general type shall be of the same manufacturer throughout the project to provide uniform appearance, operation and maintenance.

DELIVERY, STORAGE, HANDLING

Deliver materials in adequate time to maintain approved construction schedule and store in a safe dry location out of the way of construction operations as approved by the General Contractor.

SCAFFOLDING, RIGGING, HOISTING

Furnish all scaffolding, rigging, hoisting and services necessary for the erection and delivery onto the promises of all equipment apparatus. Furnish and remove same from premises when no longer required.

CUTTING AND PATCHING

Provide drilling, cutting, fitting and patching necessary for the installation of equipment, ductwork, piping, control wiring and other work and provide supports for bracing and anchorage of work.
No cutting of structural work or of fireproofing shall be done without the written consent of the Architect.

Holes through concrete and masonry in existing structures shall be cut with a diamond core drill or concrete saw. Holes shall be located so as not to affect structural ribs or beams.

FLASHING

Provide weatherproof flashing for exhaust ducts, vents and pipes that run through the roof or other exposed areas as specified in the roofing and weatherproofing sections. Coordinate roof penetrations with General Contractor. Provide insulated roof curbs and pipe curbs as directed by General Contractor and as required.

PROTECTION

Protect all piping and ductwork against entrance of liquids and foreign matter by means of plugs or caps. Cover and protect all other materials and equipment furnished and/or installed under this Section during the construction period. Damaged devices shall be restored to their original condition or replaced.

CLEANING AND PAINTING

All finished metal surfaces shall be cleaned. All unfinished metal surfaces shall be cleaned and readied for painting.

All panelboards, switchboards, starters, disconnect switches and other electrical equipment shall be factory finished with baked enamel or lacquer paint.

TEMPORARY UTILITIES AND HEAT

Provide, maintain and remove temporary heat until construction is complete as required and approved by the General Contractor.

GENERAL REQUIREMENTS

The contractor covenants and agrees that he and his Subcontractors and his and their agents, and employees will provide and maintain a safe place to work and that he and they will comply with all laws and regulations of any governmental authority having jurisdiction hereof, and the Contractor agrees to indemnify, defend and hold harmless the Architect/Engineer(s) and the Owner from and any liability, loss, injury, death, damage or expense, including attorneys' fees.

BASIC MATERIALS AND METHODS

PART 1 – GENERAL

GENERAL

Provide equipment, materials, operations, and methods required by the drawings and specifications including labor, tools, supplies and necessary accessories.

PART 2 – PRODUCTS

HANGERS, SUPPORTS AND ANCHORS

Provide corrosion resistant hangers, angles, channels, anchors and other supports required by field conditions to install piping, ductwork and equipment. Supports and methods of fastening to building structure shall be acceptable to the Architect/Engineer.

Hangers and supports exposed to moisture or outdoors shall be hot dipped galvanized steel.

No mechanical items shall rest on, or depend for support on suspended ceiling media, such as tiles, lath plaster, splines, etc.. In suspended ceiling, support piping and ductwork directly from structural slabs, decks or framing member. All floor mounted equipment shall be provided with concrete housekeeping pads.

FLOOR AND WALL PENETRATIONS

No coring, drilling or other penetrations in post tension slab is allowed unless authorized by the Structural Engineer. Coordinate work with the General Contractor.

Where piping passes through fire–rated floors or walls, the openings around the pipes shall be sealed with 3M fire safing. Piping floor penetrations within fire–rated chases shall be sealed with smoke barrier sealants.

INSERTS

Concrete inserts for suspended items shall be malleable iron.

PIPING MATERIALS AND FITTINGS

Welding, brazing and soldering materials shall be in compliance with "ASME" boiler and pressure code.

Gasket materials shall be full–faced for cast iron flanges and raised–face for steel flanges. Gasket materials shall be suitable to the service of the piping system.

Escutcheons shall be chrome–plated, stamped steel, hinged, split–ring escutcheons with set–screw and shall completely cover the openings in floors, walls and ceilings.

Dielectric fittings shall be provided with appropriate end connections to effectively isolate dissimilar metals, prevent galvanic actions and stop corrosion.
type 304 stainless steel screens with 3/64" perforations at 233 per square inch.
Y–Type strainers shall be full line size with ends matching piping system materials. Strainers shall have Sheet metal sleeves shall be 10 gauge, galvanized sheetmetal, round tube closed with welded longitudinal joint.

Steel sleeves shall be schedule 40, galvanized, welded steel pipe, ASTM A120/A53.

Gas pipes shall be schedule 40 carbon steel ASTM A120/A53, Welded. 2–1/2" and under – 150 malleable iron screwed fittings, ASME B 16.3, 3" and over – butt welded steel fittings, ASME B 16.9 wrought steel or ASME B16.11, forged steel.

Refrigerant piping shall be copper tubing, ASTM B 280, Type ACR, hard drawn straight length, and soft annealed coils, seamless copper tubing. Tubing shall be factory cleaned, ready for installation, and have ends capped to protect cleanliness of pipe interiors prior to shipping.
Refrigerant piping shall be copper tubing, ASTM B88, Type L, hard drawn straight lengths, and soft annealed coils, seamless copper tubing.

Fittings for Refrigerant piping shall be Wrought– Copper ANSI B 16.22, streamlined pattern.

AIR DISTRIBUTION

Fans shall be designed, fabricated and assembled in accordance with ASHRAE and AMCA standards.

Ducts and equipment fabrication and installation shall meet the requirements and recommendations of ASHRAE and SMACNA guides. The larger side of ductwork shall dictate the gauge and joint size for all four sides. Unless otherwise specified, chambers, ductwork, casing, connections, angles, stiffeners, access doors and frames and other like items shall be of hot dipped galvanized prime quality steel. Radius elbows shall be provided with turning vanes. Provide all square elbows with double width vanes.

Provide minimum 16 gauge galvanized steel dampers and/or splitters as required to completely balance the job. Manual dampers larger than 2.0 sq. ft. to be multiblade volume dampers with maximum 8" blades.

Provide flexible connections on inlet and discharge of fans connected to duct work, casing and like items. Connections to be a minimum of 12" wide fabric with 1" of slack.

Grilles, registers and diffusers shall be aluminum or steel and shall be factory finished with baked enamel finish of colors selected by Architect. Supply air diffusers and registers shall distribute the specified quantity of air evenly throughout the occupied zone uniformly, draftessly, noiselessly. Sound levels shall not exceed NC35.

Diffusers, registers and grilles shall have frames compatible to ceiling in which they are installed. All diffusers and registers shall be equipped with opposed blade dampers.

Dampers and doors for fire protection as identified by symbol F.D. on drawings shall be UL labeled for use in class B opening. For installation in 1–1/2 hr. rated walls, provide one fusible link damper (F.D.) and for 3 to 4 hour rated wall, provide (2) F.D. in series. Note that symbol F.D. implies the provision of access door, sleeve, break away joint and other manufacturer recommended installation accessories. Fusible link dampers shall be installed where shown on the drawing and where required by code and shall be of the folding blade type, and shall bear underwriters labels. See installation detail for fire dampers on the drawings. Fire damper shall meet the requirements of latest NFPA bulletin #90A. Smoke dampers of the normally closed type shall be installed where shown on the drawings or required by code at each opening in rated partitions and other smoke separations in addition to a damper, if a fire damper is required. Fire dampers shall be tested in presence of the engineer for proper operation before turning building over to owner. Automatic control dampers where indicated on the drawings shall be provided by temperature control contractor. Provide access doors or other approved means of access through ducts for service to control equipment.

Fire dampers and smoke dampers shall be installed as per manufacturer's installation instructions. Contractor shall make necessary arrangement with local authority having jurisdiction for final inspection prior to project close out.

MECHANICAL INSULATION

DUCT INSULATION

Interior exposed rectangular supply ductwork shall be insulated with minimum 1–1/2" thick board type fiber glass insulation with vapor barrier.

Interior exposed round supply ductwork shall be insulated with minimum 1–1/2" thick blanket type fiber glass insulation with vapor barrier.

All interior exhaust ducts shall be insulated with minimum 1–1/2" thick blanket type insulation for minimum 5'–0" from discharge point.

All sheet metal plenum and outside air intake ducts shall be insulated with minimum 2" thick fiber glass insulation with vapor barrier.

Return ductwork shall be insulated in un–conditioned areas and in ceiling spaces below roof.

PIPING INSULATION

Interior exposed and concealed refrigerant suction lines shall be insulated with minimum 3/4" thick Flexible Elastomeric insulation.

Exterior exposed and concealed refrigerant suction lines shall be insulated with minimum 3/4" thick Flexible Elastomeric insulation with vapor barrier and aluminum jacket.

Drain lines from cooling coil drain pans shall be insulated with minimum 1" thick fiber glass insulation with vapor barrier above ceiling spaces only.

TEMPERATURE CONTROL

Temperature control contractor shall provide all necessary thermostats, control wiring, interlock wiring between devices, conduits, relays, control dampers, damper motors, control valves, flow switches, temperature sensors, meters and other such devices for complete control of air distribution, hydronic, steam and condensate heating system, compressed air, vaccum and other system shown on these drawings.

Temperature control contractor shall coordinate with General Contractor, mechanical and piping contractor and other trades to thoroughly understand scope of his work prior to submitting his bid. Refer to control sequences shown on these documents.

PART 3 – EXECUTION

INSTALLATION OF WORK

The drawings are diagrammatic and indicate the general arrangement of equipment, ductwork, piping and other work. Exact locations necessary to secure the best conditions and results shall be determined at the site and shall be subject to the approval of the Architect.

Check drawings of the other trades to verify spaces in which work will be installed and furnish other trades with advance information on locations and sizes of frames, concrete pads, sleeves and openings needed for work.

After reviewed by the Architect and without additional cost to the Owner, minor modifications may be made in the work as required by the structural interferences and work of other trades.

Refer to all contract documents for details, including reflected ceiling plans and large scale drawings for architectural, structural and mechanical work.

QUIET OPERATION AND VIBRATION

All equipment and/or systems shall operate under all conditions of load without any sound or vibration which is obtrusive in quality. Vibration control shall be by means of approved vibration eliminators in a manner as recommended by the manufacturer.

TESTING, ADJUSTING AND BALANCING

The balancing of all systems shall be accomplished by an independent testing and balancing contractor to the satisfaction of the owner and the architect, at the time of completion of the installation.

The testing and balancing agency shall be certified by National Environmental Balancing Bureau (NEBB) or Associated Air Balancing Council (AABC). The testing and balancing Engineer shall have at least (3) three years of testing, adjusting and balancing experience.

Air, refrigerant and other such system shown on these document shall be tested and balanced. Complete report showing cfm, gpm, rpm of fans and pumps, motor rpm, horse power, and other such pertinent information for each equipment and each room shall be submitted to Architect/Engineer for his review. Balancing Contractor shall readjust/rebalance the system as directed engineer to his satisfaction.

Balancing Contractor shall verify equipment for smooth and quiet operation and shall make necessary adjustments to obtain noiseless, vibration free systems.

HVAC contractor shall make himself available to balancing contractor to assist him in performance of testing and balancing portion of work.

Balancing Contractor shall provide all necessary equipment and items such as sheaves, belts etc. for completion of testing and balancing portion of the project.

The TAB ciontractor shall provide 90 day extended warranty during which he may have to readjust, rebalance or retest his work at the request of architect/engineer.

TRAINING

Mechanical Contractor shall provide Owner's maintenance personnel in operation of HVAC and hydronic systems installed during this project. Contractor shall provide minimum three bound copies of Operting and Maintenance Manuals which shall outline normal maintenace procedures as well as troubleshooting guide lines. O&M manuals shall also include written warranties for all the equipment installed under this contract.
Schedule training with Owner atleast seven(7) days prior notice.

GENERAL NOTES:

1 DESIGN CONDITIONS:
A. RETAIL BUILDING HVAC SYSTEM SHALL MAINTAIN INDOOR CONDITIONS AT 75'F AND 50% RH DURING COOLING SEASON AND 70'F IN THE WINTER MONTHS.
B. ALL DIFFUSERS AND REGISTERS IN RETAIL BUILDING SHALL BE EQUIPPED WITH OPPOSED BLADE DAMPERS TO ADJUST AIR QUANTITIES.
C. LOCATE THERMOSTAT IN SALES AREA. THERMOSTAT SHALL BE PROGRAMMABLE AND SHALL HAVE FAN–AUTO–ON AND HEAT–OFF–COOL SETTING FOR OPERATOR.
D. CLIMATE CONTROLLED STORAGE BUILDING IS UNOCCUPIED AND IS HEATED, AIR CONDITIONED AND DEHUMIDIFIED. HVAC SYSTEMS SHALL MAINTAIN 68'F IN WINTER AND 78'F/50%RH IN SUMMER. TEMPERATURES SHALL BE ADJUSTABLE.

MK	DATE	REVISIONS	BY
1	07–08–14	ISSUED FOR PERMIT	YS
2	08–11–14	ISSUED FOR BIDDING	YS

URBAN & ASSOCIATES ARCHITECTS, INC.
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SHEET TITLE
MECHANICAL SPECIFICATIONS AND NOTES

DRAWN BY Y.S. | DATE 07/07/14 | SCALE AS NOTED | JOB NO. 1407
CHECKED BY Y.S.

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER

WISCONSIN YOGENDRA G. SHAH E-35701 17105 DIGITAL ENGINEER

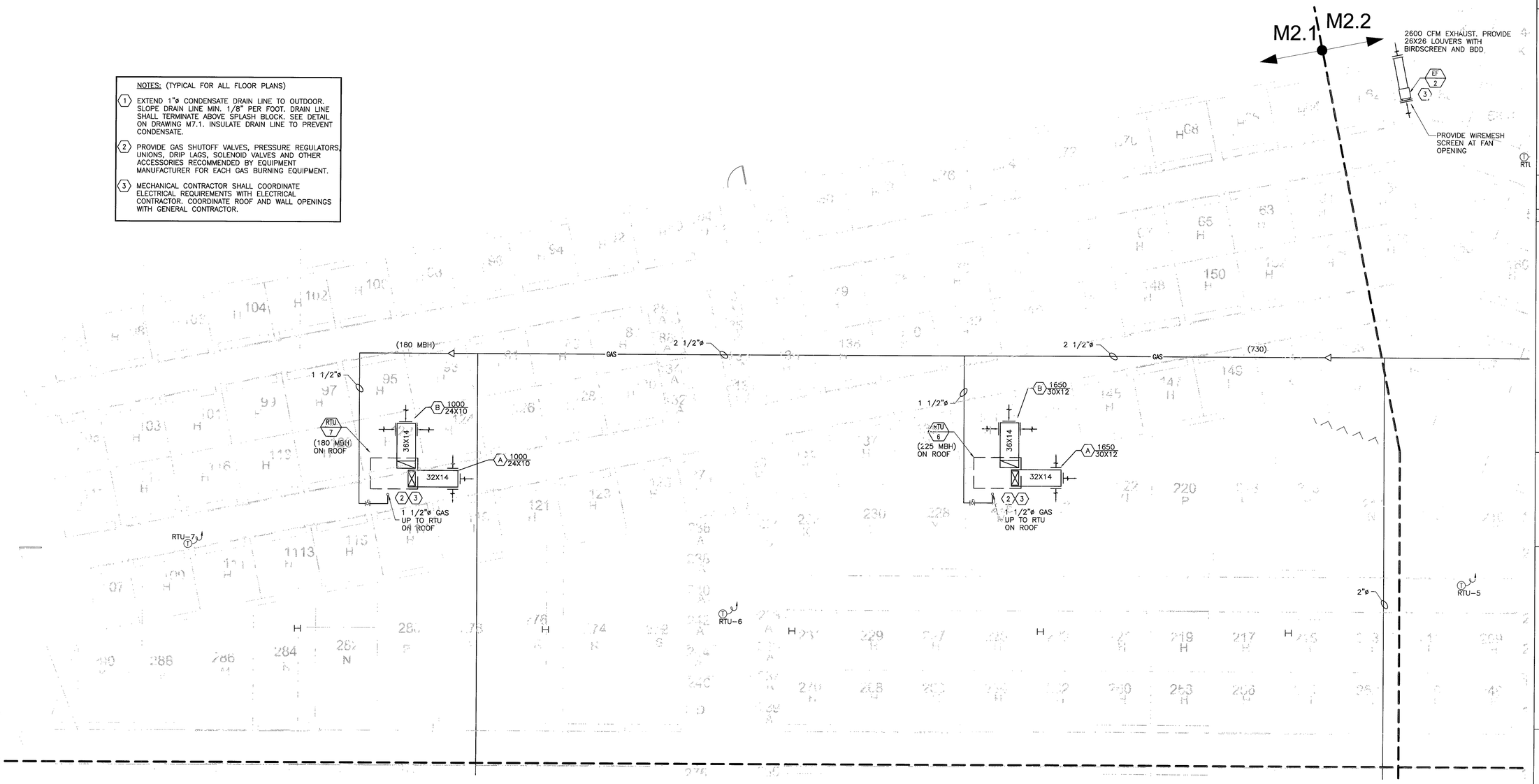
COMMISION EXPIRES 07/31/16

THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995–1926
Fax 847 387–3738

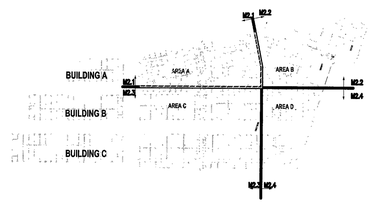
M0.1

NOTES: (TYPICAL FOR ALL FLOOR PLANS)

1. EXTEND 1"ø CONDENSATE DRAIN LINE TO OUTDOOR. SLOPE DRAIN LINE MIN. 1/8" PER FOOT. DRAIN LINE SHALL TERMINATE ABOVE SPLASH BLOCK. SEE DETAIL ON DRAWING M7.1. INSULATE DRAIN LINE TO PREVENT CONDENSATE.
2. PROVIDE GAS SHUTOFF VALVES, PRESSURE REGULATORS, UNIONS, DRIP LAGS, SOLENOID VALVES AND OTHER ACCESSORIES RECOMMENDED BY EQUIPMENT MANUFACTURER FOR EACH GAS BURNING EQUIPMENT.
3. MECHANICAL CONTRACTOR SHALL COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR. COORDINATE ROOF AND WALL OPENINGS WITH GENERAL CONTRACTOR.



1 M2.1 **FIRST FLOOR MECHANICAL PLAN - SECTION A**
SCALE: 1/8" = 1'-0"



2 M2.1 **KEY PLAN - SECTION A**
SCALE: 1/128" = 1'-0"

NORTH

MK	DATE	REVISIONS	BY
2	08-11-14	ISSUED FOR BIDDING	YS
1	07-08-14	ISSUED FOR PERMIT	YS

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SHEET TITLE
FIRST FLOOR MECHANICAL PLAN
SECTION A

DRAWN BY Y.S. | DATE 07/07/14 | SCALE AS NOTED | JOB NO. 1407
CHECKED BY Y.S.

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER

WISCONSIN 10029018-6 YOGENDRA G. SHAH 51154 CHICAGO PROFESSIONAL ENGINEER
SIGNED JULY 8, 2014

COMMISION EXPIRES 07/31/16

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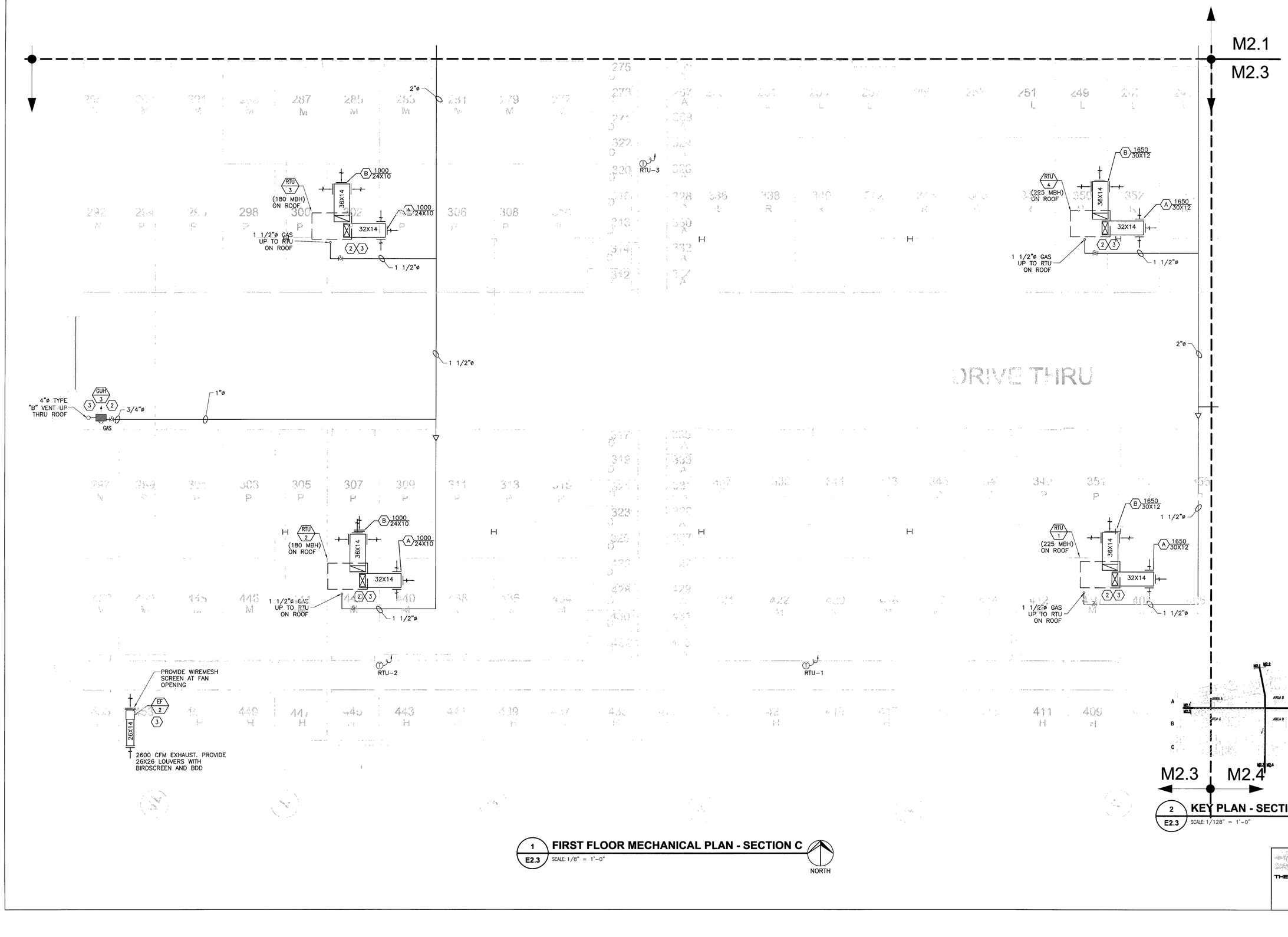
TEI
THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 955-1926
Fax 847 387-3736



1 / E2.3 **FIRST FLOOR MECHANICAL PLAN - SECTION C**
SCALE: 1/8" = 1'-0"

NORTH

2 / E2.3 **KEY PLAN - SECTION C**
SCALE: 1/128" = 1'-0"

NORTH

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SHEET TITLE
FIRST FLOOR MECHANICAL PLAN
SECTION C

SCALE: AS NOTED
DATE: 07/07/14
JOB NO. 1407
DRAWN BY: Y.S.
CHECKED BY: Y.S.

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

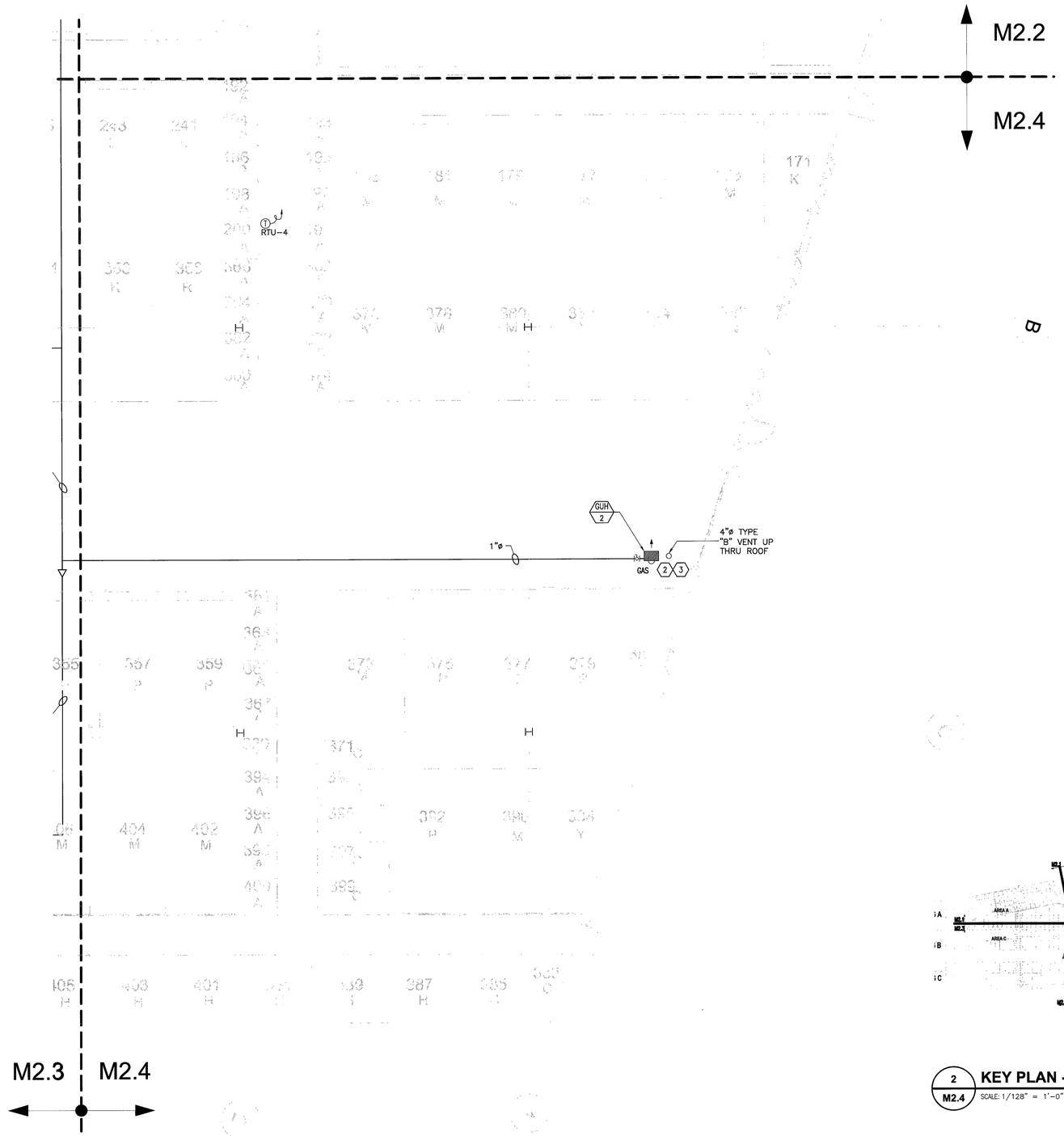
YOGENDRA G. SHAH
REG. ENGINEER

WISCONSIN
YOGENDRA G. SHAH
E-32706
DODGEVILLE, WI
PROFESSIONAL ENGINEER
SIGNED: JULY 9, 2014

COMMISION EXPIRES
07/31/16

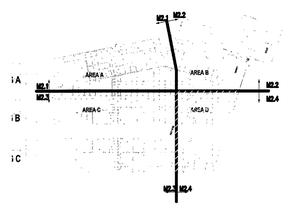
TEI
THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995-1926
Fax 847 387-3738

M2.3



1 M2.4 **FIRST FLOOR MECHANICAL PLAN - SECTION D**
SCALE: 1/8" = 1'-0"

NORTH



2 M2.4 **KEY PLAN - SECTION D**
SCALE: 1/128" = 1'-0"

NORTH

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SHEET TITLE
FIRST FLOOR MECHANICAL PLAN SECTION D

DRAWN BY Y.S. | DATE 07/07/14 | SCALE AS NOTED
CHECKED BY Y.S. | JOB NO. 1407

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER

WISCONSIN YOGENDRA G. SHAH 5005 STATE CHICAGO, IL PROFESSIONAL ENGINEER
SIGNED: JULY 8, 2014

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07/31/16

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9 Westicke Drive
South Barrington, IL 60010
Tel 847 995-1926
Fax 847 387-3738

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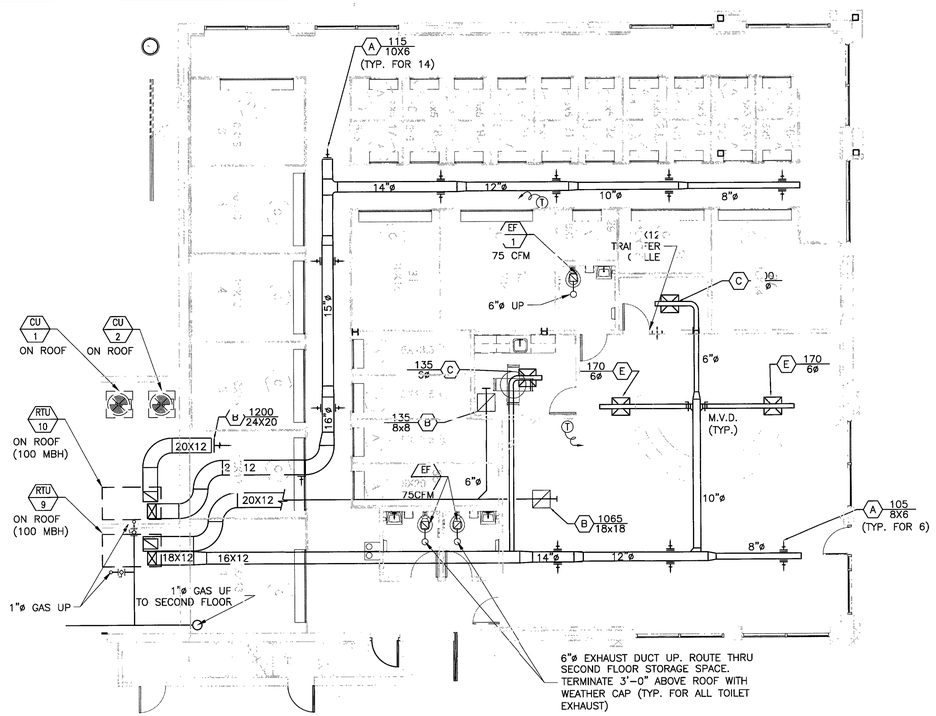
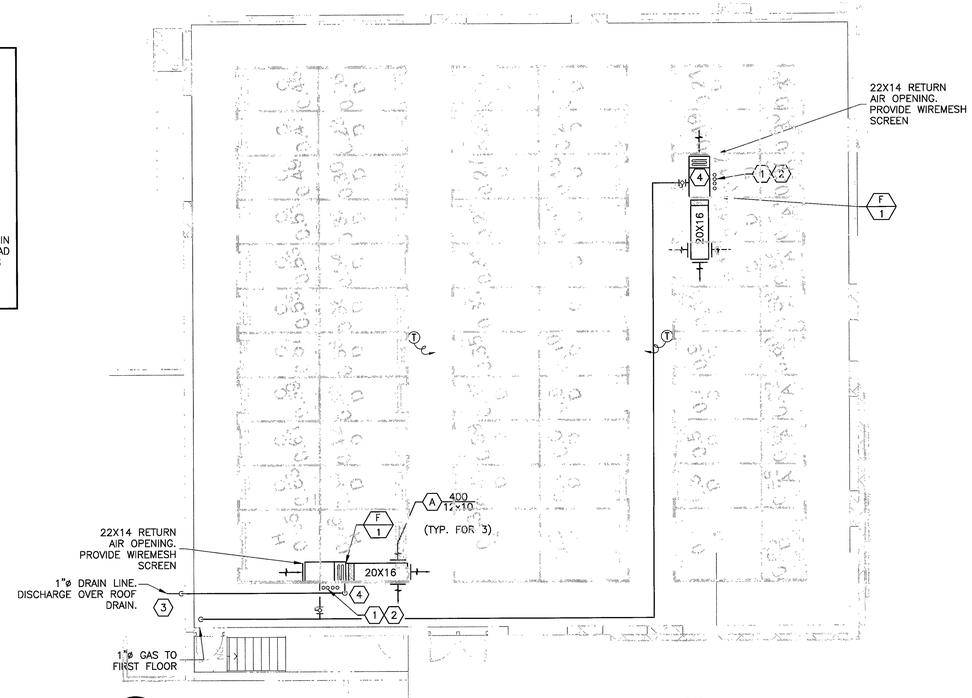


1 / M2.5 **FIRST FLOOR MECHANICAL PLAN - OFFICE**

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

NOTES:

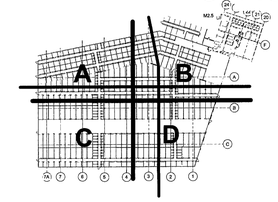
1. 2"ø COMBINATION AIR INTAKE AND 2"ø VENT EXTEND THRU ROOF. PROVIDE CONCENTRIC VENT.
2. EXTEND REFRIGERANT SUCTION AND LIQUID LINES TO AIR COOLED CONDENSING UNITS ON ROOF. PIPING SHALL BE ROUTED IN FIELD AND SIZED PER MANUFACTURER'S RECOMMENDATIONS. SEE AIR CONDENSING UNIT SCHEDULE FOR PIPE SIZES.
3. DISCHARGE CONDENSATE DRAIN LINE ABOVE ROOF DRAIN. INSULATE CONDENSATE DRAIN LINE WITH MINIMUM 1" THICK INSULATION TO PREVENT CONDENSATION.
4. EXACT LOCATION OF FURNACE SHALL BE DETERMINED IN FIELD. LOCATE UNIT TO OBTAIN HIGHEST POSSIBLE HEAD ROOM AND FOR EASE OF MAINTENANCE. LOCATE UNITS AS CLOSE TO HALLWAYS AS POSSIBLE TO PROVIDE ACCESS WITHOUT ENTERING STORAGE AREA.



2 / M2.5 **SECOND FLOOR MECHANICAL PLAN - OFFICE**

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

OFFICE



3 / M2.5 **KEY PLAN - OFFICE**

SCALE: 1/128" = 1'-0"

NORTH

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2	08-11-14	ISSUED FOR BIDDING	YS

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SHEET TITLE
FIRST FLOOR ELECTRICAL LIGHTING AND POWER PLAN - OFFICE

SCALE AS NOTED
JOB NO. 1407
DATE 07/07/14
DRAWN BY Y.S.
CHECKED BY Y.S.

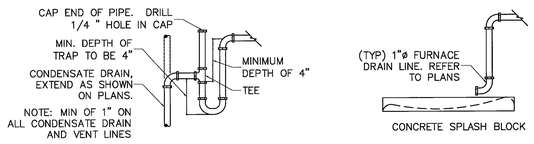
PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER

COMMISION EXPIRES
07/31/16

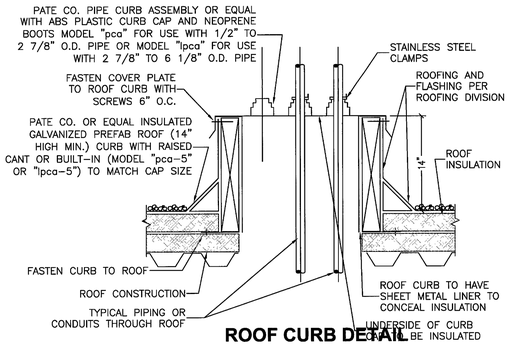
THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995-1926
Fax 847 387-3738

M2.5



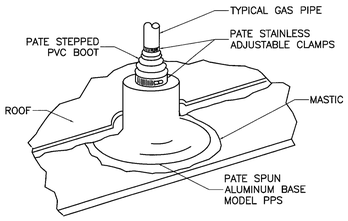
5 / M0.3 CONDENSATE DRAIN DETAIL

SCALE: N.T.S.



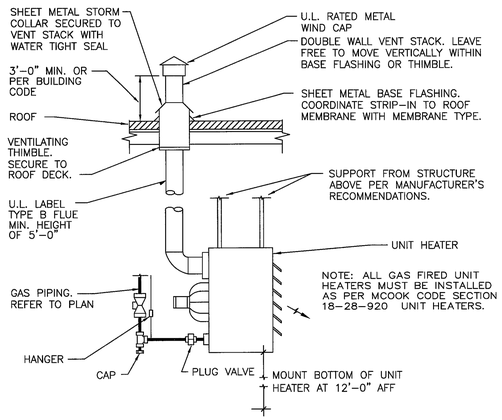
ROOF CURB DETAIL

SCALE: N.T.S.



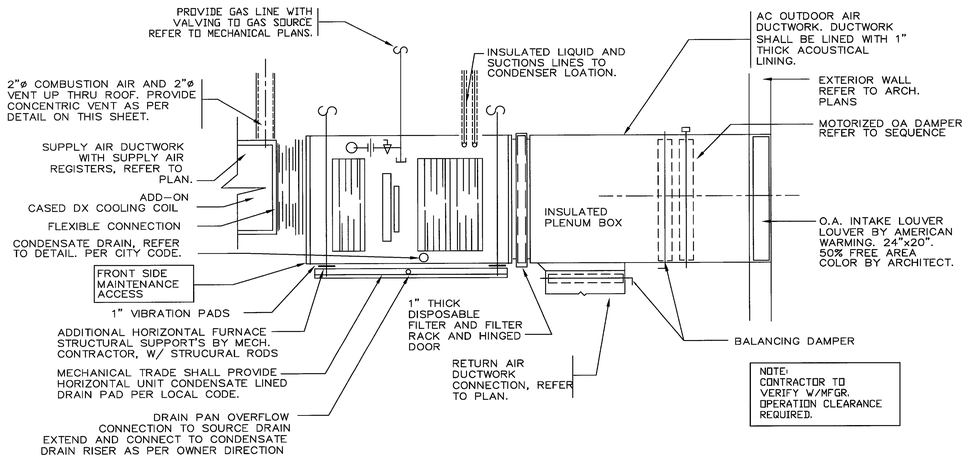
8 / M-3 GAS PIPE THRU ROOF DETAIL

SCALE: N.T.S.



2 / M-3 GAS UNIT HEATER

SCALE: N.T.S.



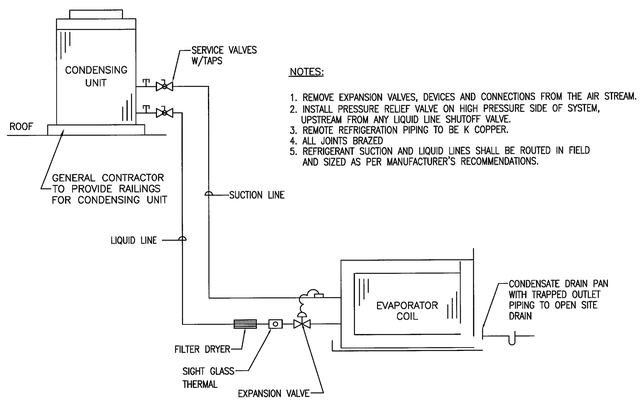
A. CLEARANCES FOR FORCED AIR FURNACES MUST CONFORM TO MANUFACTURER'S RECOMMENDATIONS.

B.HORIZONTAL MOUNTED GAS FIRED FURNACES SHALL BE INSTALLED AS PER CITY OF MUNSTER CODE AND IMC 2006 FOR FURNACES..

C. HORIZONTAL FURNACE INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.

1 / M0.3 HORIZONTAL AC UNIT DETAIL

SCALE: N.T.S.

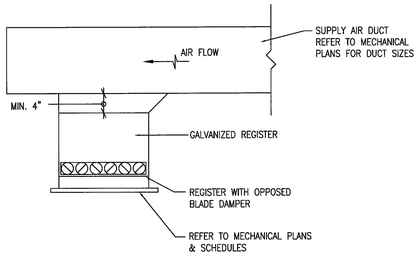


NOTES:

1. REMOVE EXPANSION VALVES, DEVICES AND CONNECTIONS FROM THE AIR STREAM.
2. INSTALL PRESSURE RELIEF VALVE ON HIGH PRESSURE SIDE OF SYSTEM, UPSTREAM FROM ANY LIQUID LINE SHUTOFF VALVE.
3. REMOTE REFRIGERATION PIPING TO BE K COPPER.
4. ALL JOINTS BRAZED
5. REFRIGERANT SUCTION AND LIQUID LINES SHALL BE ROUTED IN FIELD AND SIZED AS PER MANUFACTURER'S RECOMMENDATIONS.

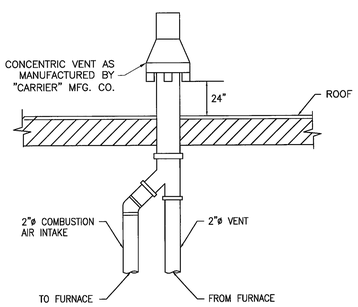
4 / M0.3 REFRIGERANT PIPING DIAGRAM

SCALE: N.T.S.



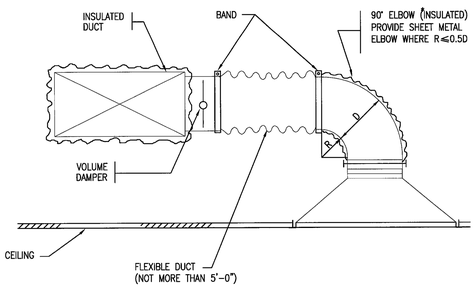
6 / M-3 TYPICAL DIFFUSER & REGISTER DETAIL

SCALE: N.T.S.



2 / M0.3 CONCENTRIC VENT DETAIL

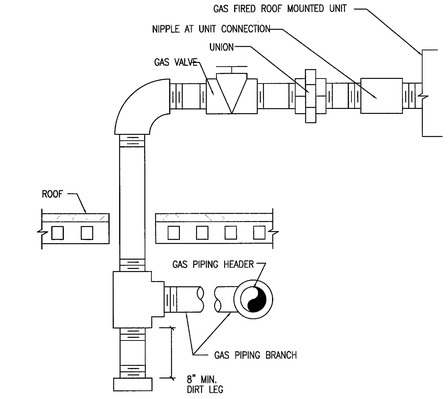
SCALE: N.T.S.



3 / M0.3 CEILING DIFFUSER CONNECTION DETAIL

*** FOR SHORT RADIUS ELBOWS**

SCALE: N.T.S.



5 / M-3 GAS PIPING AT ROOF EQUIPMENT DETAIL

SCALE: N.T.S.

MK	DATE	REVISIONS	BY
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1	07-08-14	ISSUED FOR PERMIT	YS

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SHEET TITLE
MECHANICAL SPECIFICATIONS AND NOTES

DRAWN BY Y.S.
CHECKED BY Y.S.
DATE 07/07/14
SCALE AS NOTED
JOB NO. 1407

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER

COMMISION EXPIRES
07/31/16

TEI
THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995-1926
Fax 847 387-3738

M7.1

PIPING & INSULATION APPLICATIONS

NOTES:

	PIPE: TYPE L HARD COPPER TUBING	TYPE K SOFT COPPER TUBING	SCH. 40 GALVANIZED STEEL PIPE	TYPE K HARD COPPER TUBING	HIGH SILICONE IRON PIPE	TYPE DWV COPPER TUBING	RUB & SPIGOT CAST IRON SOIL PIPE	HUBLESS CAST IRON SOIL PIPE	SCHEDULE 40 POLYPROPYLENE	SCH. 40 POLYVINYL CHLORIDE	SCH. 40 CARBON STEEL PIPE	DUCTILE CAST IRON PIPE	SCHEDULE 80 POLYVINYL CHLORIDE	SCHEDULE 80 CARBON STEEL PIPE	WROUGHT COPPER OR CAST BRONZE-PRESSURE	GALVANIZED MALLEABLE IRON	HIGH SILICONE IRON	CARBON STEEL	WROUGHT COPPER OR CAST BRONZE-DRAINAGE	HUB & SPIGOT CAST IRON SOIL PIPE	BLACK CAST IRON SOIL PIPE	SCHEDULE 40 POLYPROPYLENE	SCHEDULE 40 CAST IRON DRAINAGE	MALLEABLE IRON	DUCTILE CAST IRON	SCHEDULE 80 POLYVINYL CHLORIDE	SCHEDULE 80 POLYVINYL CHLORIDE	SOLDERED	THREADED	LEAD & OAKUM-CAULKED	PUSH-ON	NEOPRENE SLEEVE W/ST. STEEL SHIELD	WELDED	MECHANICAL JOINT GASKET	LEAD & ACID-RESISTANT PACKING	SOLVENT WELDED	BRAZED	GLASS FIBER	CELLULAR GLASS	ELASTOMERIC	INSULATION	REMARKS
NATURAL GAS 3/4" TO 2"			●																																					
NATURAL GAS 2 1/2" TO 6"			●													●																								
COOLING COIL CONDENSATE 3/4"-2"	●											●													●														INSULATE ABOVE CEILING ONLY
REFRIGERANT LINES-SUCTION	●											●													●														
REFRIGERANT LINES-LIQUID	●											●													●														

GRILLE & REGISTER SCHEDULE

GRILLE OR REGISTER NUMBER	MANUFACTURER & MODEL NO.	MOUNTING LOCATION	DISCHARGE DIRECTION	FINISH	ACCESSORY ITEMS	REMARKS
A	TITUS 300RL	DUCT MOUNTING	-	BY ARCHITECT OR OWNER	OBD	NOTES 1, 2 , 3 AND 4
B	TITUS 350RL	DUCT MOUNTING	-	BY ARCHITECT OR OWNER	OBD	NOTES 1, 2 AND 3
C	TITUS OMNI- SQUARE PLAQUE	CEILING	-	BY ARCHITECT OR OWNER	OBD	NOTES 1, 2 AND 3
D	TITUS 355RL	CEILING	-	BY ARCHITECT OR OWNER	OBD	NOTES 1, 2 AND 3

NOTES:
1. ALL DIFFUSERS AND REGISTERS SHALL HAVE FRAMES COMPATIBLE TO THE CEILING OR WALL IN WHICH THEY ARE INSTALLED.
2. PROVIDE OPPOSED BLADE DAMPERS ON ALL SUPPLY DIFFUSERS AND RETURN REGISTERS.
3. DIFFUSER FINISH TO BE SELECTED BY ARCHITECT/OWNER.

GAS FIRED UNIT HEATER SCHEDULE

"MODINE" AS STANDARD

TAG NO.	AREA SERVED	MBH		FAN DATA								FAN TYPE	FAN SPEED RPM	FLUE SIZE	POWER VENT (Y/N)	MTG. HT A.F.F.	MODEL	REMARKS
		INPUT	OUTPUT	CFM	E.A.T. °F	L.A.T. °F	MOTOR SIZE (HP)	SPEED (RPM)	ELEC. CHAR V	PH	HZ							
GUH-1	LOADING DOCK	135	125.5	2160	55	108.8	1/3	1075	115	1	60	PROPELLER	1075	3	Y	10	PTC-135	PROVIDE REMOTE THERMOSTAT
GUH-2	STORAGE AREA(DRIVE THRU)	85	79	1650	55	99	1/8	1550	115	1	60	PROPELLER	1550	3	Y	10	PTC-85	PROVIDE REMOTE THERMOSTAT
GUH-3	STORAGE AREA(DRIVE THRU)	85	79	1650	55	99	1/8	1550	115	1	60	PROPELLER	1550	3	Y	10	PTC-85	PROVIDE REMOTE THERMOSTAT

FAN SCHEDULE

FAN NO.	MANUFACTURER AND MODEL NO.	SERVICE	LOCATION	CFM	STATIC PRESSURE	FAN RPM	MOTOR RPM	H.P.	ELEC.	REMARKS
EF-1	GEMINI-GC140	TOILET EXHAUST FAN	OFFICE AREA	75	0.375	1500	1500	70 WATTS	120/1ø	NOTES 1, 2, 3
EF-2	COOK-165SQN10D	GENERAL EXHAUST FAN	STORAGE AREA	2600	0.25	1115	1115	1/2	208/1ø	NOTES 1, 3, 4, 5
EF-3	COOK-24XLW	LOADING DOCK	ROOF	3000	0.250	840	1750	1/3 HP	120/1ø	NOTES 6

NOTES:
1. PROVIDE BACKDRAFT DAMPERS FOR ALL FANS.
2. INTERLOCK TOILET EXHAUST FAN WITH LIGHT SWITCH.
3. PROVIDE PAINTED ALUMINUM GRILLE
4. PROVIDE DISCONNECT SWITCH.
5. PROVIDE MOTOR STARTER.
6. PROVIDE 14" HIGH INSULATED ROOF CURB.

FURNACE SCHEDULE

UNIT NO.	MFG.	MODEL	UNIT SERVED	GAS INPUT MBH	GAS OUTPUT MBH	CFM	STATIC PRESSURE	H.P.	ELECT. CHARC.	FLUE		EVAP. COIL MFG.	EVAP. COIL MODEL#	COOL CAP. MBH	REMARKS
										COMB.AIR					
F-1	CARRIER	58MCA06012	OFFICE STORAGE AREA	60	56	1200	0.3	1/3	120/1ø	2"ø	2"ø	CARRIER	CD5A	36	

NOTES: 1. PROVIDE 24 HR-7 DAY PROGRAMMABLE THERMOSTAT FOR EACH FURNACE.
2. PROVIDE DISPOSABLE FILTERS. PROVIDE FILTER RETAINERS IN FURNACE.
2. PROVIDE 2"ø VENT AND 2ø COMBUSTION AIR INTAKE FOR EACH FURNACE.

AIR COOLED CONDENSING UNIT SCHEDULE

UNIT NO.	MANUFACTURER & MODEL NO.	UNIT SERVED	REFRIG.	COOLING CAPACITY MBH	REFRIGERANT PIPE SIZE		ELECTRICAL DATA			WEIGHT	REMARKS
					UNIT SUCTION	UNIT LIQUID	VOLT/PH	MCA	MOCP		
CU-1	CARRIER-38ETG036301	F-1	R-410A	36	3/4	3/8	208/1	20.4	30.0	250	
CU-2	CARRIER-38ETG036301	F-1	R-410A	36	3/4	3/8	208/1	20.4	30.0	250	

NOTES: 1. ALL AIR COOLED CONDENSING UNITS SHALL BE INSTALLED ON RAILINGS (OR STAND) PROVIDED BY GENERAL CONTRACTOR.
2. PROVIDE DISCONNNECT SWITCH.
3. PROVIDE ACCESSORIES SUCH AS SOLENOID VALVES ETC. AS RECOMMENDED BY EQUIPMENT MANUFACTURER.
4. ALL REFRIGERANT PIPING SHALL BE SIZED AS PER MANUFACTURER'S RECOMMENDATIONS AND TO MATCH FIELD CONDITIONS.

BY	DATE	REVISIONS
YS	07-08-14	ISSUED FOR PERMIT
YS	08-11-14	ISSUED FOR BIDDING

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(847) 291.9570/WWW.URBANASSOCIATES.NET

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SHEET TITLE
MECHANICAL SPECIFICATIONS AND NOTES

DRAWN BY	Y.S.	DATE	07/07/14	SCALE	AS NOTED
CHECKED BY	Y.S.			JOB NO.	1407

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER

WISCONSIN Yogendra G. Shah E-35151 17164 CHICAGO, IL PROFESSIONAL ENGINEER SIGNED: JULY 1, 2014

COMMISION EXPIRES 07/31/16

THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 985-1926
Fax 847 387-3738

M9.1

MECHANICAL NOTES:

1 ALL WORK SHALL BE DONE IN STRICK ACCORDANCE WITH 2006 INTERNATIONAL MECHANICAL CODE.

2 ALL GRILLES AND REGISTERS SHALL BE COMPATIBLE WITH THE CEILING IN WHICH THEY ARE INSTALLED.

3 PROVIDE THERMOSTAT FOR ALL FURNACES. LOCATION OF THERMOSTATS SHALL BE COORDINATED WITH ARCHITECT OR HIS REPRESENTATIVE. THERMOSTAT SHALL BE 7-DAY PROGRAMMABLE TYPE.

4 COORDINATE WITH OTHER TRADES BEFORE PROCEEDING WITH WORK.

5 PROVIDE LOCKING TYPE MANUAL BALANCING DAMPERS AT ALL BRANCH TAKE OFFS AND TEES.

6 CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ARCHITECTS/ENGINEER FOR REVIEW AND APPROVAL. THESE DRAWINGS SHALL BE UPDATED AND REPRODUCIBLE OF EACH SUBMITTED OWNER FOR RECORD.

7 PROVIDE REFRIGERANT PIPING BETWEEN DX COILS AND AIR COOLED CONDENSERS AS RECOMMENDED BY MANUFACTURERS. REFRIGERANT LINES SHALL BE INSULATED. PROVIDE 1"ø DRAIN LINE FROM COOLING COIL TO NEAREST FLOOR DRAIN. DRAIN LINES SHALL BE COPPER AND SHALL BE INSULATED.

8 ALL DUCTWORK SHALL BE GALVANIZED SHEETMETAL AND SHALL BE AS PER SMACNA STANDARDS. ALL CONCEALED SUPPLY DUCTWORK SHALL BE INSULATED.

9 FLEXIBLE DUCTWORK IF USED SHALL NOT BE MORE THAN 5'-0" LONG AND SHALL BE AS PER BUILDING CODE.

10 ALL EXHAUST DISCHARGE POINTS SHALL BE MINIMUM 15'-0" AWAY FROM ANY FREASH AIR INTAKES OR WINDOWS.

11 ALL REFRIGERANT LINES SHALL BE COPPER AND JOINTS SHALL BE BRAZED.

12 REMOVE ALL REFRIGERANT EXPANSION VALVES, SAFETY RELIEF VALVES AND OTHER SUCH DEVICES FORM AIR STREAMS.

13 PROVIDE COMBUSTION INTAKE AND VENT PIPING FROM FURNACE TO OUTDOOR. PIPING SHALL TERMINATE WITH CONCENTRIC VENT THOUGH WALL AS PER MANUFACTURER'S RECOMMENDATIONS.

14 ALL AIR INTAKE OPENINGS SHALL BE 15'-0" AWAY FROM ALL EXHAUST DISCHARGES AND SHALL BE 10'-0" ABOVE GRADE.

15 ALL WORK SHALL BE PERFORMED BY EXPERIENCED WELL TRAINED WORKERS COMPETENT TO COMPLETE THE WORK AS SPECIFIED AND WITHIN SCHEDULED TIME PERIOD.

16 ALL WORK SHALL BE WARRANTED FOR MINIMUM ONE YEAR OR ONE COMPELETE HEATING AND COOLING SEASON. PROVIDE ONE YEAR MAINTENANCE CONTRACT INCLUDING INSPECTION, ADJUSTMENTS, LUBRICATION, REPAIR AND REPLACEMENT OF PARTS AS REQUIRED AND EMERGENCY CALL-BACK SERVICE.

17 ALL EXHAUST DISCHARGE POINTS SHALL BE MINIMUM OF 15 FT. AWAY FROM ANY FRESH AIR INTAKES OR WINDOWS.

18 EXTEND MIN. 1"ø COPPER PIPE FROM COOLING COIL DRAIN CONNECTION TO NEAREST FLOOR DRAIN.

20 PROVIDE LOCKING TYPE MANUAL BALANCING DAMPERS AT ALL BRANCH TAKE-OFFS AND TEES.

VENTILATION NOTES:

1 CLEARANCES FOR FORCED AIR FURNACES MUST CONFORM TO MANUFACTURER'S REQUIREMENTS.

2 ALL DUCTWORK MUST BE GALVANIZED STEEL AS PER SMACNA STANDARDS.

3 SMOKE DETECTORS AND CARBON MONOXIDE DETECTORS ARE SHOWN ON ARCHITECTURAL DRAWINGS.

4 ALL RETURN SHALL BE DUCTED RETURN. CEILING CAVITY IS NOT USED AS PLENUM CHAMBER.

GAS FURNACE INSTALLATION AND GAS PIPING NOTES:

1 ALL GAS PIPING AND GAS CONTROLS SHALL COMPLY WITH INTERNATIONAL FUEL GAS CODE.

2 ALL GAS PIPING SHALL BE SCHEDULE 40 BLACK IRON PIPE WITH MALLEABLE SCREW FITTINGS FOR 2ø AND UNDER, SCHEDULE 40 BLACK STEEL PLAIN END PIPE WITH BUTT WELD FITTINGS FOR 2-1/2"ø AND LARGER. PIPING SHALL BE BY MECHANICAL CONTRACTOR.

3 PROVIDE GAS PIPING TO FURNACE. MECHANICAL CONTRACTOR TO PROVIDE PRESSURE REGULATORS, FLEXIBLE CONNECTORS, SOENOID VALVES AND OTHER ACCESSORIES REQUIRED FOR COMPLETE INSTALLATION. CONTRACTOR TO MAKE CERTAIN THAT PROPER VENTING AS RECOMMENDED BY MANUFACTURER IS PROVIDED FOR FURNACE.

DUCT SIZING & INSULATION APPLICATIONS

NOTES:
1. ALL DUCTWORK SHALL BE SHEET METAL DUCT WORK AND SHALL BE AS PER SMACNA STANDARDS.
2. DUCT GAUGES INDICATED ON THIS CHART ARE FOR LOW PRESSURE DUCT WORK ONLY. FOR MEDIUM AND HIGH PRESSURE DUCT WORK, SEE SMACNA STANDARDS.

	SUPPLY DUCTS									RETURN DUCTS										EXHAUST DUCTS										REMARKS
	MATERIAL					INSULATION				MATERIAL					INSULATION					MATERIAL					INSULATION				
	GAGE NO.18	GAGE NO. 20	GAGE NO. 22	GAGE NO. 24	GAGE NO. 26	GLASS FIBER	CELLULAR GLASS	CALCIUM SILICATE	FLEXIBLE ELASTOMERIC	GAGE NO.18	GAGE NO. 20	GAGE NO. 22	GAGE NO. 24	GAGE NO. 26	GLASS FIBER	CELLULAR GLASS	CALCIUM SILICATE	FLEXIBLE ELASTOMERIC	14GA.-BLACK IRON	GAGE NO.18	GAGE NO. 20	GAGE NO. 22	GAGE NO. 24	GAGE NO. 26	GLASS FIBER	CELLULAR GLASS	CALCIUM SILICATE	FLEXIBLE ELASTOMERIC	
DUCTS 0-12" ON ANY DIMENSION				●	●									●	●								●	●					1" THICK INSULATION. SEE NOTE 2
DUCTS 13-30" ON ANY DIMENSION				●	●									●	●								●	●					1" THICK INSULATION. SEE NOTE 2
O.A. INTAKE DUCTS				●	●																								1" THICK INSULATION. SEE NOTE 4

NOTES:
1. ROUND DUCTS OF EQUIVALENT DIMENSION AND OF SPIRAL CONSTRUCTION CAN BE USED.
2. INSULATE SUPPLY AND RETURN DUCT BELOW ROOF AND IN CEILING SPACES ABOVE UNCONDITIONED ROOMS ONLY.
3. UNLESS OTHERWISE SPECIFIED, ALL INSULATION SHALL HAVE VAPOR BARRIER JACKETS.
4. OUTSIDE AIR INTAKE DUCTS SHALL BE INSULATED UP TO FURNACE.
5. TOILET EXHAUST RISERS SHALL BE INSULATED 6'-0" UPSTREAM OF EXHAUST DISCHARGE POINTS.

ROOF TOP AIR CONDITIONING UNIT SCHEDULE

TAG	SERVICE	LOCATION	AIR FLOW CFM	E.S.P.	HP	FAN RPM	COOLING COIL CAPACITY MBH SENS.	COOLING COIL CAPACITY MBH TOTAL	ENTER. AIR DB	ENTER. AIR WB	HEATING MBH INPUT	HEATING MBH OUTPUT	MIN. OUTSD. AIR	ELECTRICAL 120/208V V	ELECTRICAL 120/208V PH	ELECTRICAL 120/208V MCA	MODEL	OPER. WEIGHT	REMARKS
RTU-1	STORAGE AREA	STORAGE ROOF	5000	0.5	5.0	976	125.2	149..1	77.3	65.8	120	98	660	480	3	34	CARRIER 48TCDD14	1200	
RTU-2	STORAGE AREA	STORAGE ROOF	3000	0.5	2.0	750	71.0	95.2	77.3	65.8	120	98	400	480	3	24	CARRIER 48TCDA08	800	
RTU-3	STORAGE AREA	STORAGE ROOF	3400	0.5	2.0	750	81.6	105.1	77.3	65.8	120	98	500	480	3	22	CARRIER 48TCDD09	1000	
RTU-4	STORAGE AREA	STORAGE ROOF	5000	0.5	5.0	976	125.2	149..1	77.3	65.8	120	98	830	480	3	34	CARRIER 48TCDD14	1200	
RTU-5	STORAGE AREA	STORAGE ROOF	4000	0.5	3.0	850	117.2	124.1	77.3	65.8	120	98	540	480	3	27	CARRIER 48TCDD12	1000	
RTU-6	STORAGE AREA	STORAGE ROOF	5000	0.5	5.0	976	125.2	149..1	77.3	65.8	120	98	750	480	3	34	CARRIER 48TCDD14	1200	
RTU-7	STORAGE AREA	STORAGE ROOF	3400	0.5	2.0	750	81.6	105.1	77.3	65.8	120	98	530	480	3	22	CARRIER 48TCDD09	1000	
RTU-8	STORAGE AREA	STORAGE ROOF	4000	0.5	3.0	850	117.2	124.1	77.3	65.8	120	98	600	480	3	27	CARRIER 48TCDD12	1000	
RTU-9	OFFICE	ROOF	1200	0.5	1/2	860	22.4	32.5	77.3	65.8	72	56	360	480	3	13	CARRIER 48TCDA04	500	
RTU-9	OFFICE	ROOF	1200	0.5	1/2	860	22.4	32.5	77.3	65.8	72	56	360	480	3	13	CARRIER 48TCDA04	500	

NOTES:
1. PROVIDE 14" HIGH INSULATED ROOF CURB.
2. PROVIDE BUILT-IN DISCONNECT SWITCH.
3. PROVIDE AUTO-OFF-ON, HEAT-COOL THERMOSTAT FOR ALL ROOFTOP UNITS.
4. PROVIDE CONVENIENCE OUTLET FOR ALL ROOFTOP UNITS.

GAS PIPING/ TUBING MATERIAL MATRIX (BASED ON IFGC 403)

MATERIAL	PERMITED	NOT PERMITED	STANDARDS TO FOLLOW	REMARKS
CAST-IRON		●		
WROUGHT IRON	SCHEDULE 40 OR BETTER		ASME B 36.10.10M OR ASTM A35 OR ASTM A106	
STEEL	SCHEDULE 40 OR BETTER		ASME B 36.10.10M OR ASTM A35 OR ASTM A106	
COPPER AND BRASS	●		ASTM B 88, ASTM B280	SEE 403.4.3. NOT FOR CORROSIVE GAS
ALLUMINUM ALLOY	●		ASTM B241	NO EXTERIOR OR UNDERGORUND APPLICATION SHALL BE COATED.
CCST (CORRUGATED S.S. TUBING)	●		ANSI/ AGA LCI	INDOOR USE ONLY. NO UNDERGORUND USE.
PLASTIC	●		ASTM D2513	OUTDORR UNDERGORUND APPLICATION ONLY.

NO	DATE	REVISIONS	BY
2	08-11-14	ISSUED FOR BIDDING	YS
1	07-08-14	ISSUED FOR PERMIT	YS

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SHEET TITLE
MECHANICAL SPECIFICATIONS AND NOTES

DRAWN BY Y.S. | CHECKED BY Y.S. | DATE 07/07/14 | SCALE AS NOTED | JOB NO. 1407

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

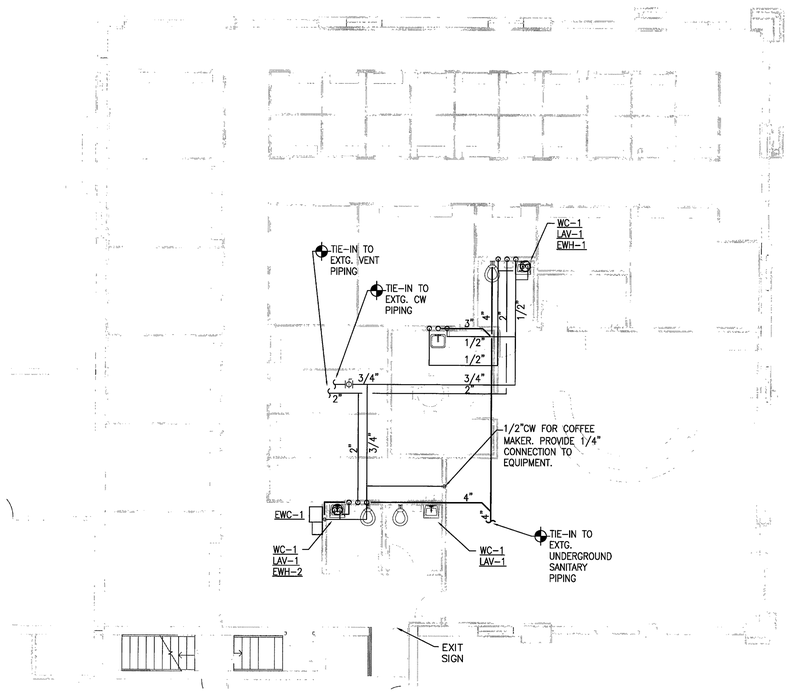
YOGENDRA G. SHAH
REG. ENGINEER

REGISTERED PROFESSIONAL ENGINEER YOGENDRA G. SHAH 17704 04/30/00 ILLINOIS
SIGNED: JULY 8, 2014

COMMISION EXPIRES 07/31/16

TEI
THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995-1926
Fax 847 387-3738

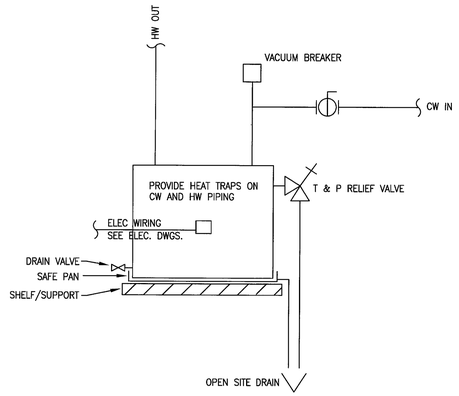
M9.2



1 / P2.1 UNDERGROUND & FIRST FLOOR PLUMBING PLAN - OFFICE

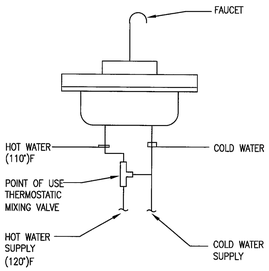
SCALE: 1/8" = 1'-0"

NORTH



3 ELECTRIC WATER HEATER

SCALE: NONE



4 LAVATORY WITH POINT OF USE TMV

SCALE: NONE

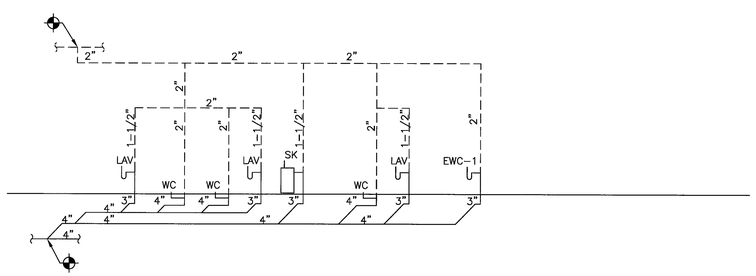
PLUMBING NOTES

1. ALL WORK SHALL COMPLY WITH THE BROWN DEER PLUMBING CODE, THE WISCONSIN PLUMBING CODE, THE ENERGY POLICY ACT OF 1992, THE AMERICANS WITH DISABILITIES ACT, AND BUILDING STANDARDS.
2. VERIFY THE SIZE AND LOCATION OF THE EXISTING WATER, DRAIN, AND VENT PIPING AT TIE–IN POINTS.
3. BIDDERS SHALL VISIT THE JOBSITE TO BECOME FAMILIAR WITH JOBSITE CONDITIONS.
4. COORDINATE WORK WITH ALL OTHER CONTRACTORS INVOLVED IN THE PROJECT.
5. LOCATIONS OF PIPING AND COMPONENTS ON THE DRAWINGS ARE FOR THE CONTRACTOR'S INFORMATION.
6. ALL CUTTING AND PATCHING SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR.
7. PIPING MATERIALS
   A. SUSPENDED SANITARY WASTE AND VENT PIPING 4" AND LARGER SHALL BE HUB AND SPIGOT SERVICE WEIGHT CAST IRON SOIL PIPE AND FITTINGS WITH LEAD AND OAKUM JOINTS.
   B. SUSPENDED SANITARY WASTE AND VENT PIPING 3" AND SMALLER SHALL BE TYPE M HARD COPPER TUBING WITH COPPER DWV FITTINGS WITH LEAD–FREE SOLDERED JOINTS.
   C. SUSPENDED WATER PIPING SHALL BE TYPE L HARD COPPER TUBING WITH PRESSURE–TYPE COPPER OR CAST BRONZE FITTINGS WITH LEAD–FREE SOLDERED JOINTS.
8. INSULATION
   A. ALL SUSPENDED WATER PIPING EXCEPT PIPING LOCATED WITHIN WALLS OR CHASES SHALL BE INSULATED WITH 1" THICK FIBERGLASS INSULATION WITH ALL SERVICE JACKET. FITTINGS SHALL HAVE PVC COVERS. PROVIDE PREFABRICATED SUPPLY AND WASTE COVERS FOR ADA FIXTURES.
9. ALL NEW WATER PIPING SHALL BE TESTED AND DISINFECTED IN ACCORDANCE WITH LOCAL CODE.
10. ALL NEW DRAINAGE AND VENT PIPING SHALL BE TESTED IN ACCORDANCE WITH LOCAL CODE.
11. PLUMBING FIXTURES, EQUIPMENT, AND DRAINS
    A. FURNISH AND INSTALL PLUMBING FIXTURES, EQUIPMENT, AND DRAINS COMPLETE WITH APPROPRIATE TRAPS, CARRIERS, WASTE FITTINGS, AND LOCAL STOPS.
    B. MANUFACTURERS LISTED ARE AN INDICATION OF THE QUALITY EXPECTED. EQUIVALENT PRODUCTS FROM OTHER MANUFACTURERS MAY BE SUBMITTED FOR REVIEW.
    C. WC–1: WHITE VITREOUS CHINA FLUSH TANK TYPE, 1.28 GPF, ANTI–MICROBIAL OPEN FRONT PLASTIC SEAT WITH COVER, ADA APPROVED: KOHLER MODEL L–3589, KOHLER MODEL K–4650–A SEAT WITH COVER.
    D. LAV–1: 21"X18–1/4" WHITE VITREOUS CHINA WALL MOUNTED LAVATORY, DRILLED FOR CONCEALED ARM CARRIER, WITH CHROME PLATED METERING FAUCET, THERMOSTATIC MIXING VALVE, 0.5 GPM FLOW RESTRICTOR, GRID STRAINER, ADA APPROVED: KOHLER MODEL K–2032, SYMMONS MODEL S–60–G–H AND MODEL 5–120–CK.
    E. SK–1: 22"X19"X5.5" DEEP STAINLESS STEEL SELF–RIMMING COUNTERTOP SINK WITH CHROME PLATED FAUCET WITH SINGLE LEVER HANDLE, ADA APPROVED: ELKAY LRAD2219; ELKAY LK99; SYMMONS MODEL S–23. PROVIDE GREASE TRAP ROCKFORD MODEL G.1012.
    F. EWH–1, EWH–2 & EWH–3: 20 GALLON STORAGE ELECTRIC WATER HEATER, 25 GALLONS RECOVERY @ 100° F. RISE, 6 KW/208V/3 PHASE, WITH T&P RELIEF VALVE, DRAIN VALVE, SAFE PAN, AND SHELF SUPPORT FOR ABOVE–CEILING INSTALLATION: A.O. SMITH MODEL DSE–20–06.
    G. EWC–1: ELECTRICAL WATER COOLER–BI LEVEL, WALL HUNG, REFRIGERATED, WITH CAPACITY OF 50°F DRINKING WATER BASED ON 80°F INLET WATER. COOLERS SHALL BE ADA COMPLIANT WITH HANDS FREE OPERATION AND EASY TOUCH CONTROL. COOLER SHALL BE ELKAY MODEL EZOSTLBC WITH LKAPREZL APRON OR APPROVED EQUAL.
    H. TRENCH DRAINS: TRENCH DRAINS SHALL BE MADE FROM HIGH DENSITY POLYETHYLENE CHANNELS, HEAVY DUTY FRAME WITH ANCHOR STUDS AND SHALL HAVE DUCTILE IRON SLOTTED GRATE–CLASS C. LENGTH OF EACH DRAIN SHALL BE AS INDICATED ON ARCHITECTURAL DRAWINGS. PROVIDE CATCH BASIN WITH EACH DRAIN SUITABLE FOR GARAGE APPLICATION. TRENCH DRAIN SHALL BE ZURN MODEL Z882 OR APPROVED EQUAL.
    I. HB–1: J.R. SMITH MODEL 5509QT FROST PROOF WITH VACUUM BREAKER AND INTEGRAL VACUUM BREAKER.

PLUMBING SYMBOLS

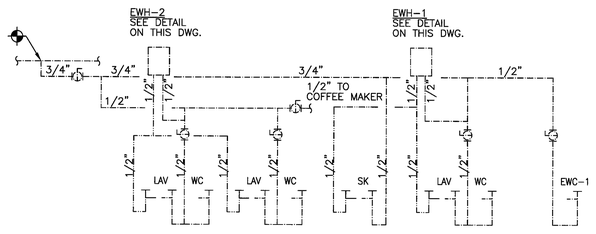
(NOTE: NOT ALL SYMBOLS SHOWN MAY BE REQUIRED FOR THIS PROJECT.)

- NEW UNDERGROUND SANITARY
- NEW UNDER FLOOR SANITARY
- NEW SANITARY
- NEW VENT
- NEW COLD WATER
- NEW HOT WATER
- NEW HOT WATER RETURN
- NEW STORM
- NEW DRAIN TILE
- EXISTING UNDERGROUND SANITARY
- EXISTING UNDER FLOOR SANITARY
- EXISTING SANITARY
- EXISTING VENT
- EXISTING COLD WATER
- EXISTING HOT WATER
- EXISTING HOT WATER RETURN
- EXISTING STORM
- EXISTING DRAIN TILE
- BUTTERFLY VALVE
- GATE VALVE
- BALL VALVE
- DRAIN VALVE
- CHECK VALVE
- TS TAMPER SWITCH
- FS FLOW SWITCH
- PS PRESSURE SWITCH
- PRESSURE RELIEF VALVE
- CO CO FLOOR CLEANOUT.
- W/CO WALL CLEANOUT.
- ELBOW DOWN.
- TEE DOWN.
- FLOOR DRAIN.
- P–TRAP.
- PIPE UP/DN.



5 SANITARY WASTE & VENT DIAGRAM

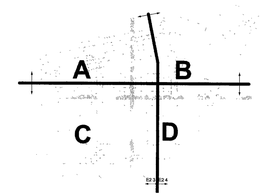
SCALE: NONE



6 WATER SUPPLY DIAGRAM

SCALE: NONE

OFFICE



2 / P2.1 KEY PLAN - OFFICE

SCALE: 1/128" = 1'-0"

NORTH

BY	DATE	REVISIONS
YS	08-11-14	ISSUED FOR BIDDING
YS	07-08-14	ISSUED FOR PERMIT

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SHEET TITLE
UNDERGROUND & FIRST FLOOR PLUMBING PLAN - OFFICE

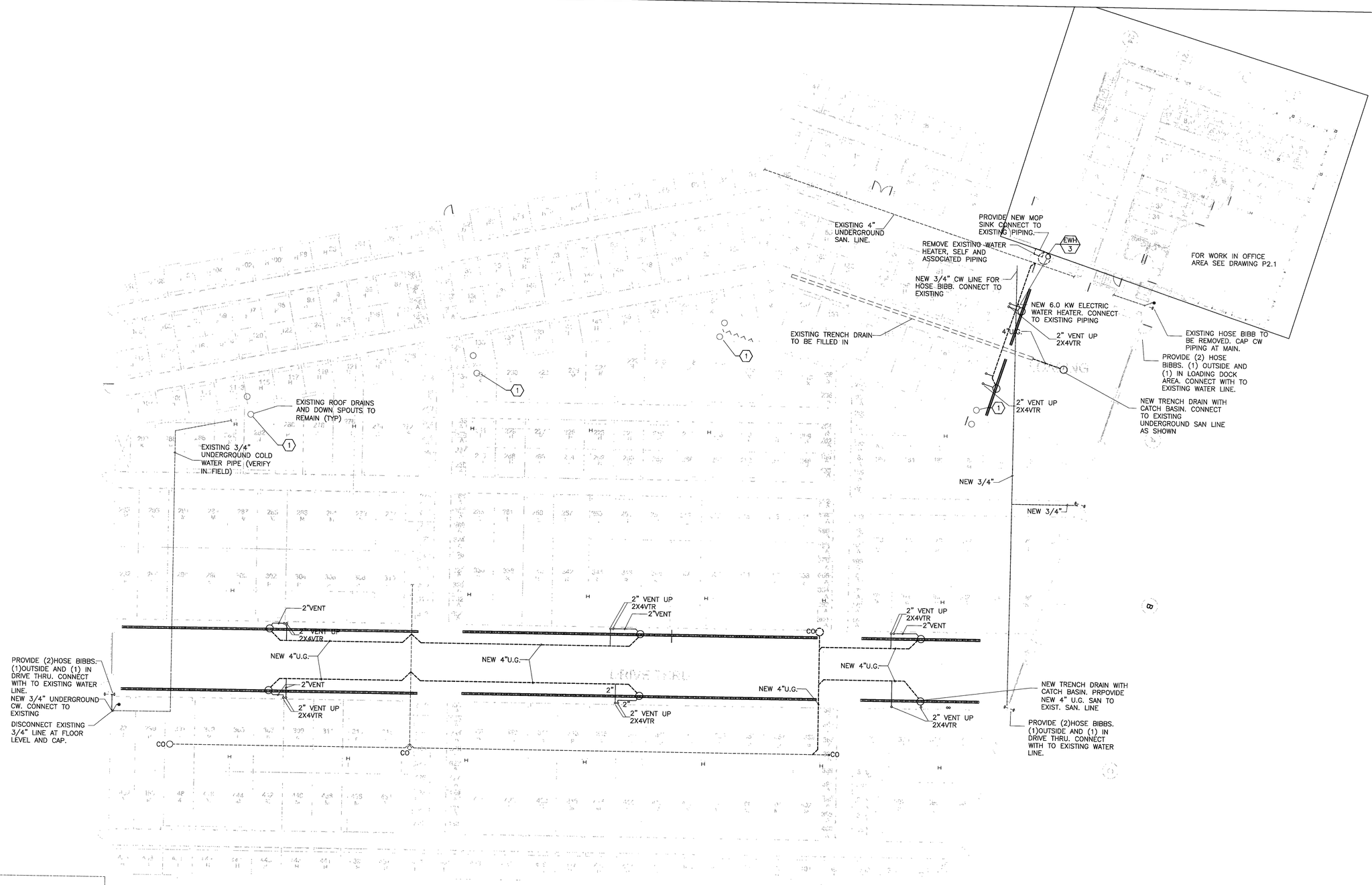
DRAWN BY: Y.S. | DATE: 07/07/14
CHECKED BY: Y.S. | SCALE: AS NOTED | JOB NO. 1407

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER
WISCONSIN
YOGENDRA G. SHAH
E-32809 E
REGISTERED
PROFESSIONAL ENGINEER
CHICAGO, ILLINOIS
SIGNED: JULY 2, 2013
COMMISION EXPIRES 07/31/16

THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995-1926
Fax 847 387-3736

P2.1



1 / P2.2 **FIRST FLOOR PLUMBING**
SCALE: 1/16" = 1'-0"

NORTH

MK	DATE	REVISIONS	BY
2	08-11-14	ISSUED FOR BIDDING	YS
1	07-08-14	ISSUED FOR PERMIT	YS

URBAN & ASSOCIATES ARCHITECTS, INC.
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SHEET TITLE
FIRST FLOOR PLUMBING PALN

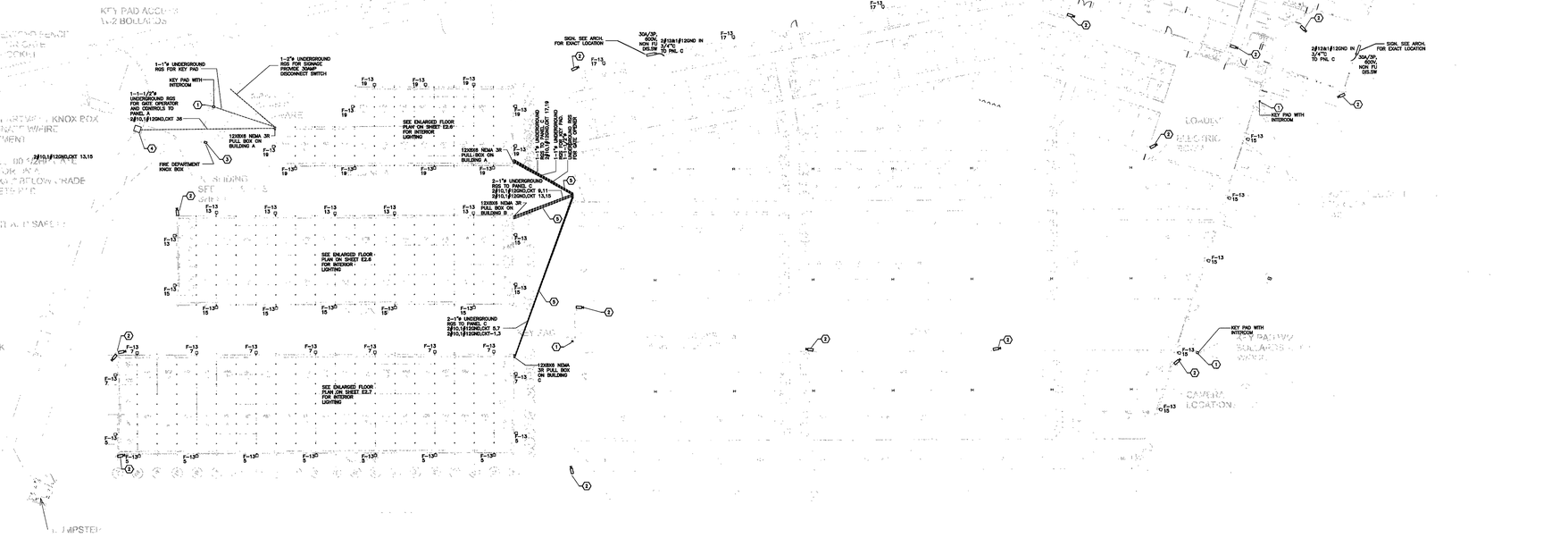
SCALE: AS NOTED
DRAWN BY: Y.S.
DATE: 07/07/14
CHECKED BY: Y.S.
JOB NO. 1407

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER
WISCONSIN YOGENDRA G. SHAH E-32104 ENGINEER
SIGNED: JULY 8, 2014
COMMISION EXPIRES
07/31/16

TEI
THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995-1926
Fax 847 387-3738

P2.2



NOTES:

1. KEY PAD WITH INTERCOM. ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUITS FOR KEY PADS AND SECURITY SYSTEM. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS.
2. SECURITY CAMERAS. ELECTRICAL CONTRACTOR SHALL PROVIDE JUNCTION BOXES AND CONDUITS FOR SECURITY CAMERAS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS.
3. FIRE DEPARTMENT KNOX BOX. SEE ARCHITECTURAL DRAWINGS FOR LOCATION AND SIZE.
4. SECURITY GATE OPENER. PROVIDE CONDUITS AND CONDUCTORS TO PANEL A, CIRCUIT NO. 36 IN MAIN BUILDING. CONDUITS BETWEEN BUILDINGS SHALL UNDERGROUND. OVERSIZE CONDUCTORS TO ALLOW FOR LONG DISTANCE.
5. PROVIDE (1)2"ø R.G.S. UNDERGROUND CONDUIT FOR FIRE PROTECTION SYSTEM AND (1)1"ø R.G.S UNDERGROUND CONDUIT FOR SECURITY SYSTEM.

1 / SE-1 **SITE ELECTRICAL PLAN**

SCALE: 1/16" = 1'-0"

NORTH

MK	DATE	REVISIONS	BY
1	07-08-14	ISSUED FOR PERMIT	YS
2	08-11-14	ISSUED FOR BIDDING	YS

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SHEET TITLE
SITE ELECTRICAL PLAN

DRAWN BY Y.S.
CHECKED BY Y.S.
DATE 07/07/14
SCALE AS NOTED
JOB NO. 1407

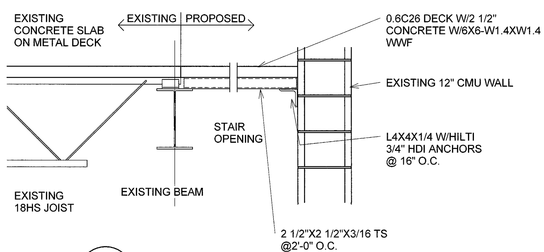
PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER

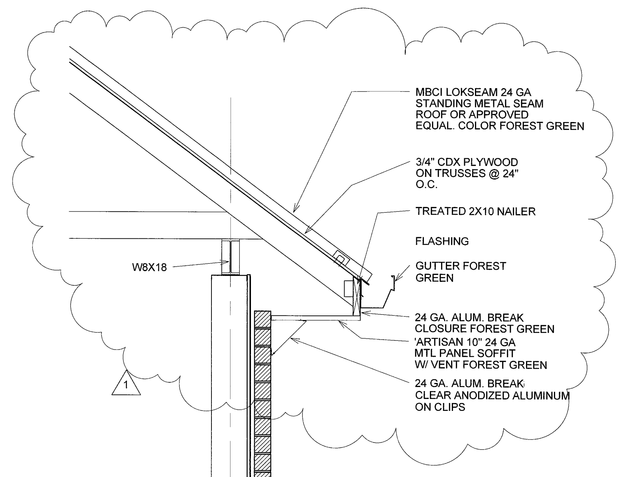
WISCONSIN YOGENDRA G. SHAH 31002 17708 CHICAGO, IL REGISTERED PROFESSIONAL ENGINEER
Signature
COMMISION EXPIRES 07/31/16

TEI THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995-1926
Fax 847 387-3738

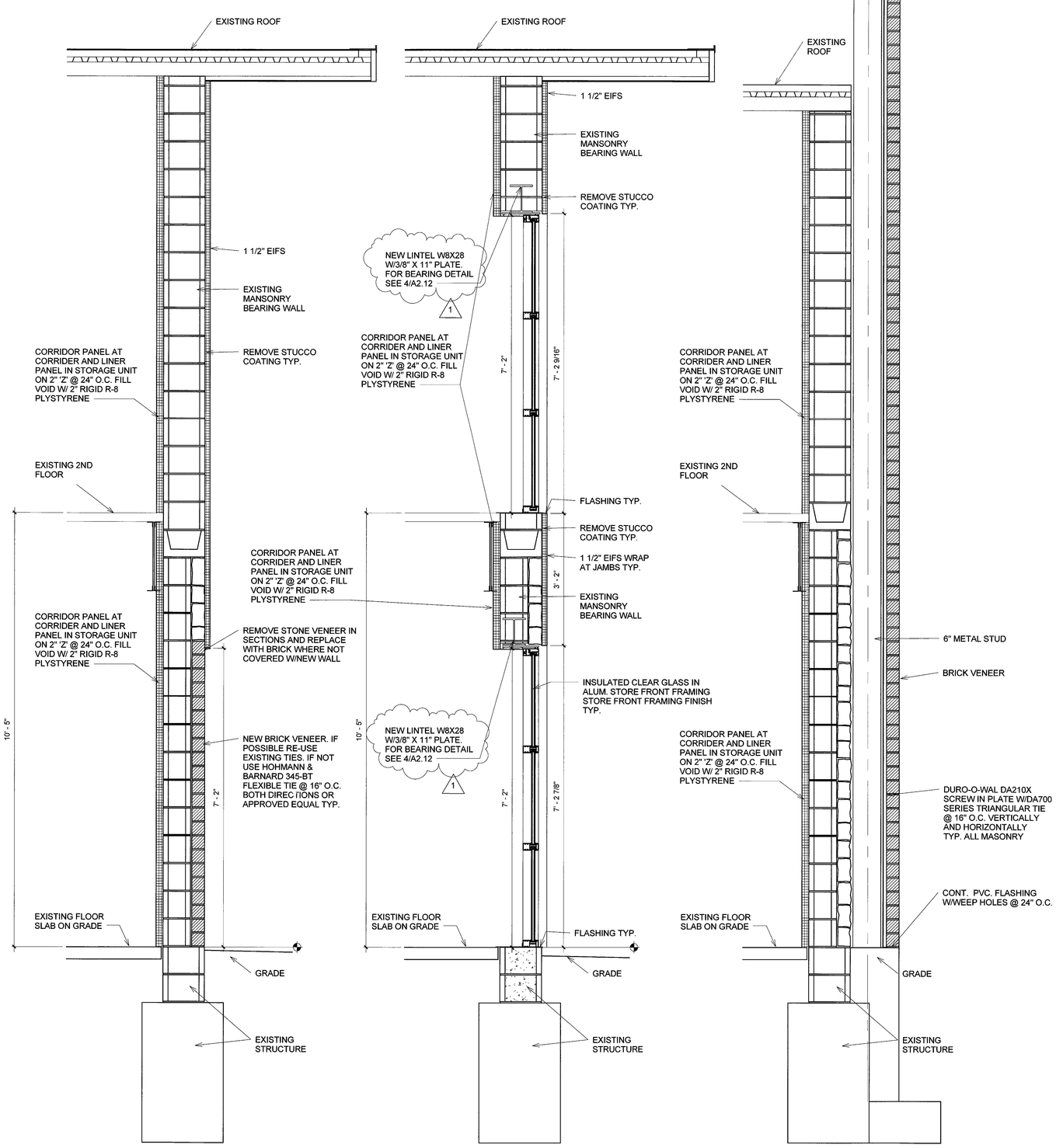
SE-1



4 / A4.1 DETAIL
3/4" = 1'-0"



NOTE:
Gutters, eave trim and roof trims for the Storage Buildings shall match Janus Forest Green (20), MBCI Signature 300 Classic Green, DBCI Forest Green 10, or US Door Hunter Green 11, 26 gauge minimum.



1 / A4.1 WALL DETAIL
3/4" = 1'-0"

2 / A4.1 WALL DETAIL
3/4" = 1'-0"

3 / A4.1 WALL DETAIL
3/4" = 1'-0"

A4.1

CHRISTOPHER M. URBANCZYK
REGISTERED ARCHITECT
STATE OF WISCONSIN
CHRISTOPHER M. URBANCZYK
1-31-2015

PROJECT NAME
METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

SHEET TITLE
OFFICE WALL SECTIONS

Drawn By: | Approv | Date | Scale: AS INDICATED
Checked By: | Checked | 3 10 14 | Project Number | 1428

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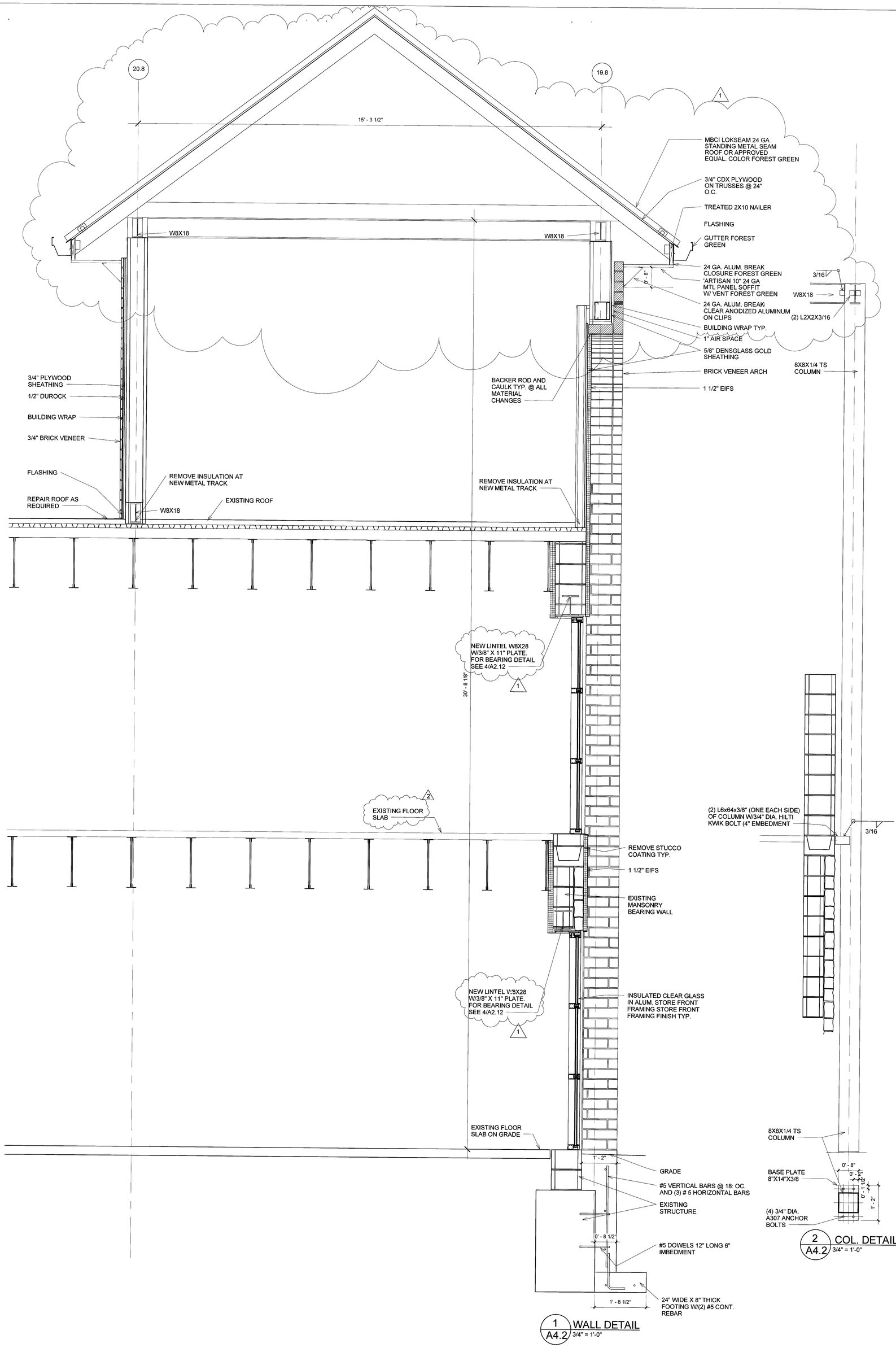
2529 ILLINOIS ROAD, NORTHBROOK, ILLINOIS 60062
WWW.URBANASSOCIATES.NET (847) 291.9570

MK	DATE	REVISIONS	BY
3	9.22.14	REVISED	
2	9.8.14	REVISED	
1	8.17.14	ISSUED FOR BID	
	8.11.14	ISSUED FOR PERMIT	



1 A4.2 WALL DETAIL 3/4" = 1'-0"

2 A4.2 COL. DETAIL 3/4" = 1'-0"

A4.2

CHRISTOPHER M. URBANCZYK — WISCONSIN — CHRISTOPHER MICHAEL URBANCZYK — 42764-006 — ARCHITECT

PROJECT NAME

METRO STORAGE

4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

SHEET TITLE

OFFICE CLOCK TOWER SECTION

Drawn By	Author	Date	Scale	As indicated
Checked By	Checker	3.0.14	Project Number	429

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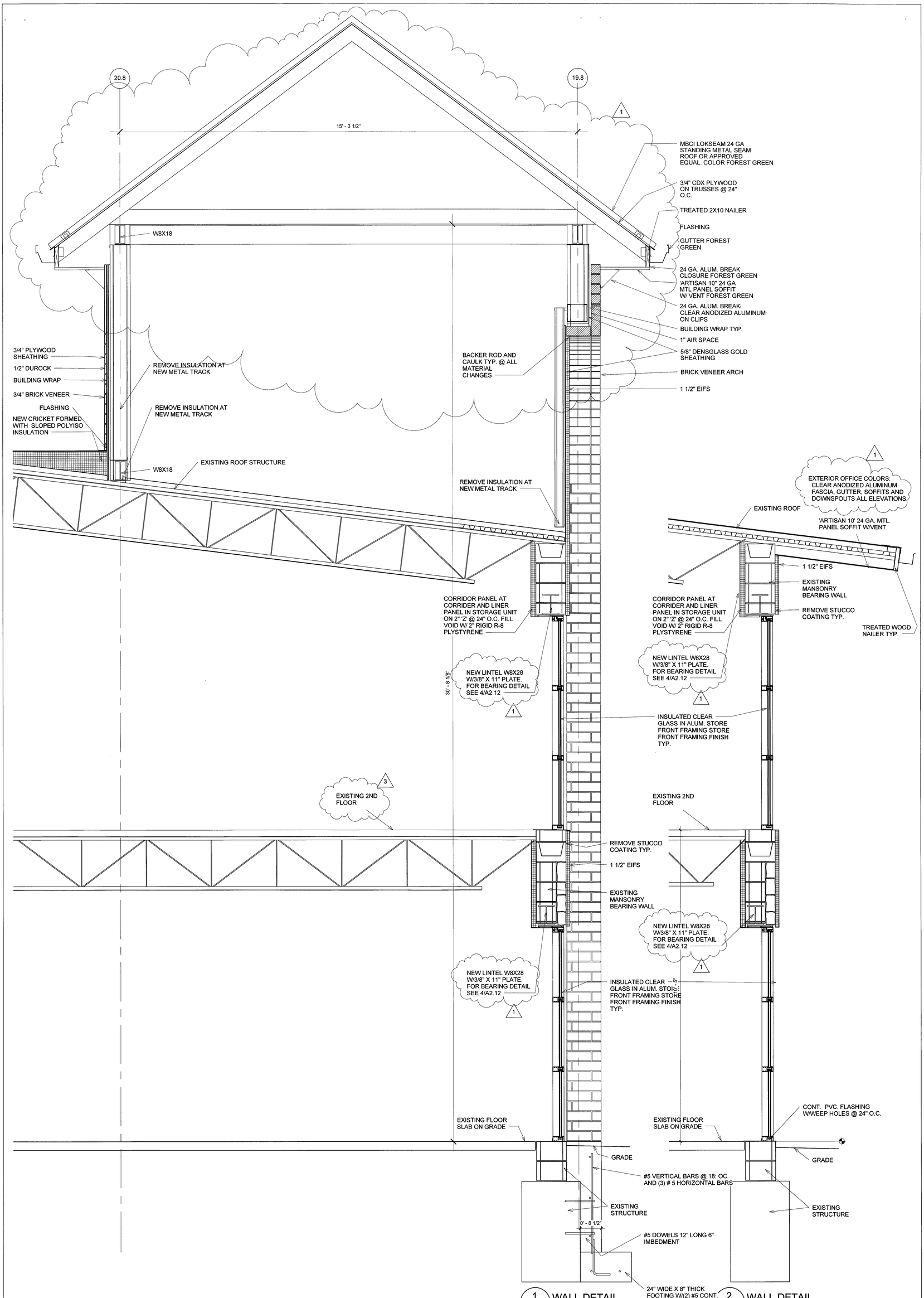
WWW.URBANASSOCIATES.NET (847) 291.9570

MK	DATE	REVISIONS	BY
3	9.22.14	REVISED	
2	9.0.14	REVISED	
1	8.11.14	ISSUED FOR BID	
	8.11.14	ISSUED FOR PERMIT	



A4.3

CHRISTOPHER M URBANCZYK
ARCHITECT
WISCONSIN
NORTHBROOK, ILLINOIS
1984-001

PROJECT NAME

METRO STORAGE

4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

SHEET TITLE

OFFICE CLOCK TOWER SECTION

DRAWN BY	AUTHOR	DATE	SCALE	AS INDICATED
CHECKED BY	CHECKER	3 IS ½	PROJECT NUMBER	1475

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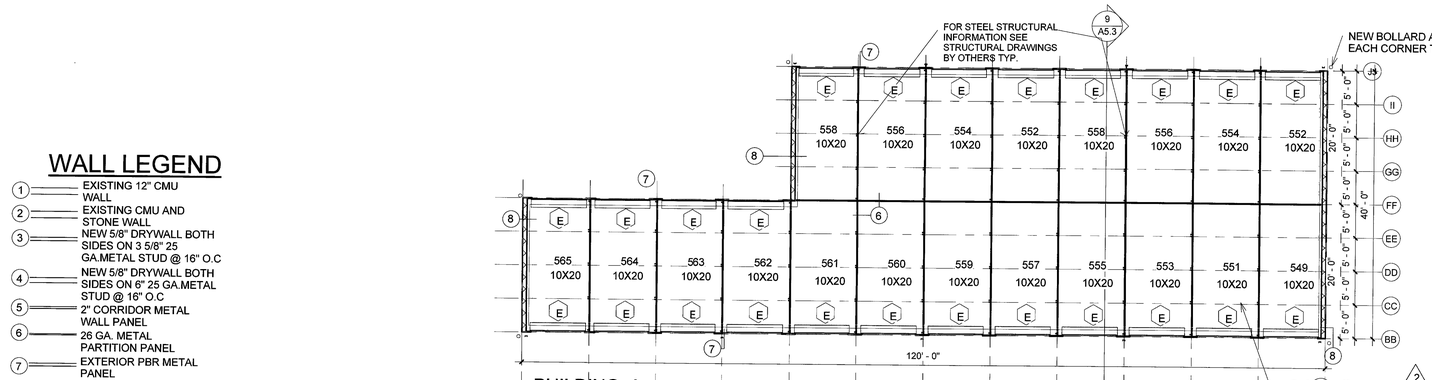
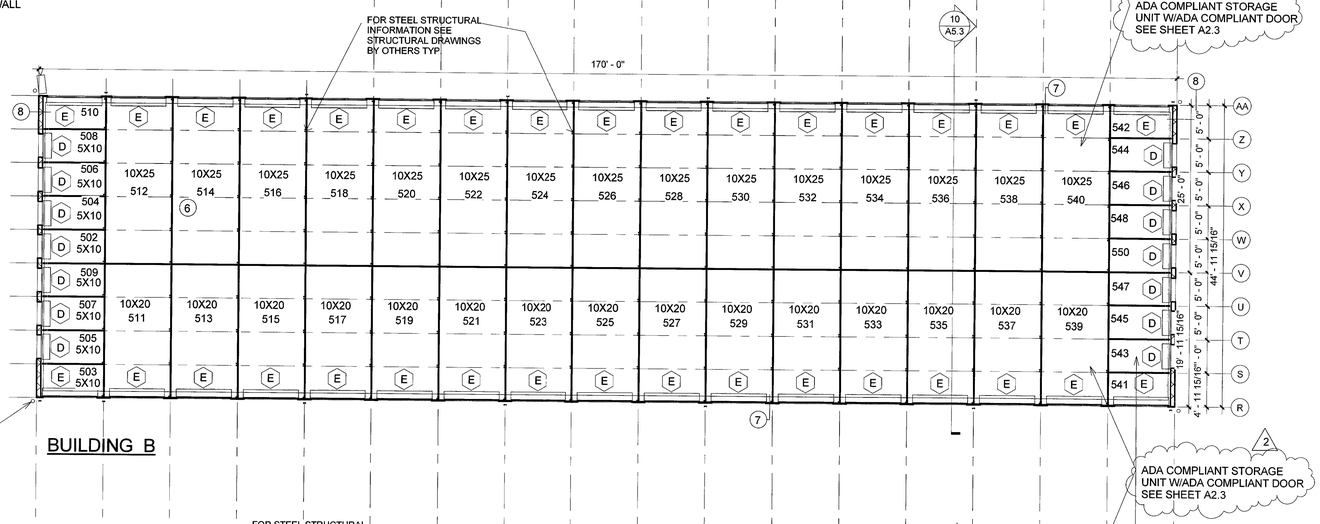
2529 ILLINOIS ROAD, NORTHBROOK, ILLINOIS 60062
WWW.URBANASSOCIATES.NET (847) 291.9570

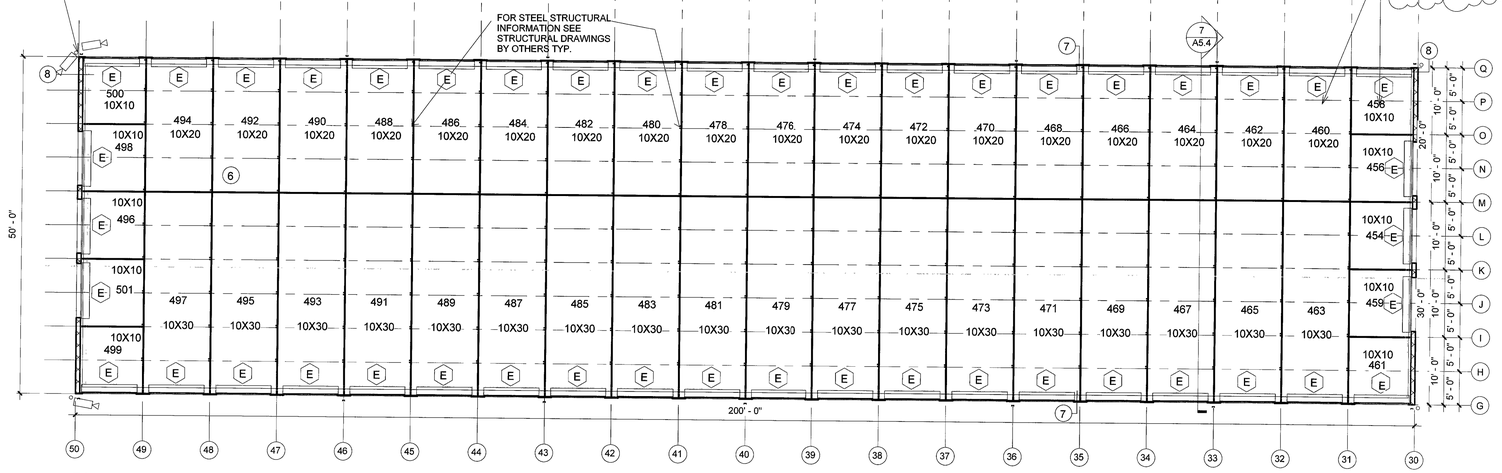
MK	DATE	REVISIONS	BY
3	9.22.14	REVISED	
2	9.8.14	REVISED	
1	8.17.14	ISSUED FOR BID	
	8.11.14	ISSUED FOR PERMIT	

WALL LEGEND

1. EXISTING 12" CMU WALL
2. EXISTING CMU AND STONE WALL
3. NEW 5/8" DRYWALL BOTH SIDES ON 3 5/8" 25 GA.METAL STUD @ 16" O.C
4. NEW 5/8" DRYWALL BOTH SIDES ON 6" 25 GA.METAL STUD @ 16" O.C
5. 2" CORRIDOR METAL WALL PANEL
6. 26 GA. METAL PARTITION PANEL
7. EXTERIOR PBR METAL PANEL
8. NEW 8"X8"X16" SPLIT FACE CMU WALL







1 A5.0 Proposed Bldg. A, B & C Floor Plans
3/32" = 1'-0"

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2529 ILLINOIS ROAD, NORTHBROOK, ILLINOIS 60062
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MK	DATE	REVISIONS	BY
A	4.22.14	REVISED	
B	5.6.14	REVISED	
C	6.11.14	ISSUED FOR BID	
	8.11.14	ISSUED FOR PERMIT	

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SHEET TITLE: PROPOSED BLDG. A, B & C PLANS

Drawn By: AJ/HL | Checked By: MK | Scale: 3/32" = 1'-0" | Project Number: 1425

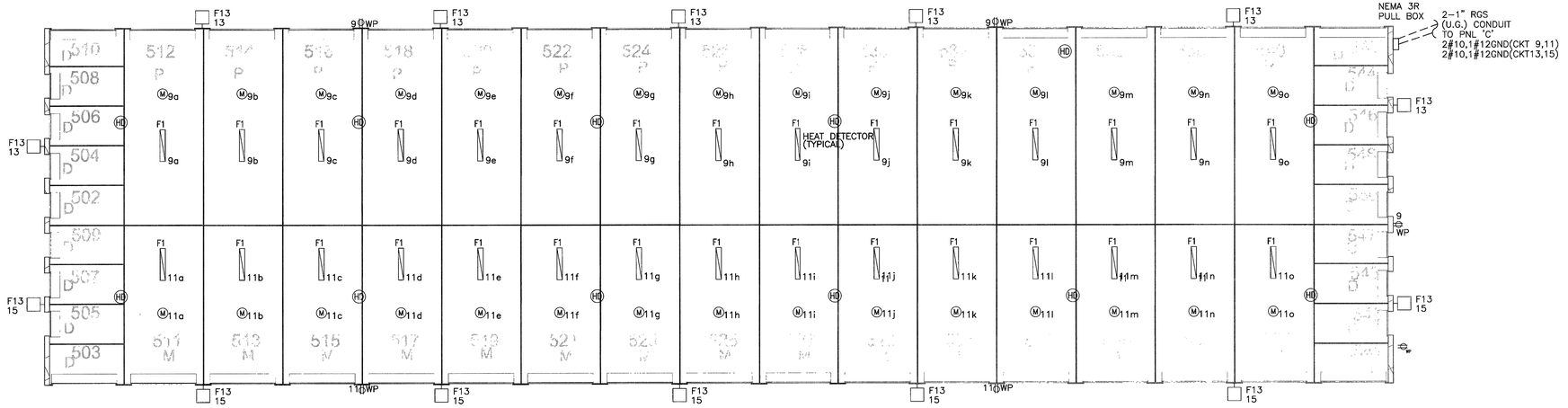
PROJECT NAME: METRO STORAGE
4059 W. BRADLEY ROAD BROWN DEER, WISCONSIN

CHRISTOPHER M. URBANCZYK
REG. ARCHITECT
COMMISSION EXPIRES 7/31/2006

WISCONSIN CHRISTOPHER URBANCZYK 928-005 NORTHBROOK IL REGISTERED ARCHITECT

8.12.14

A5.0



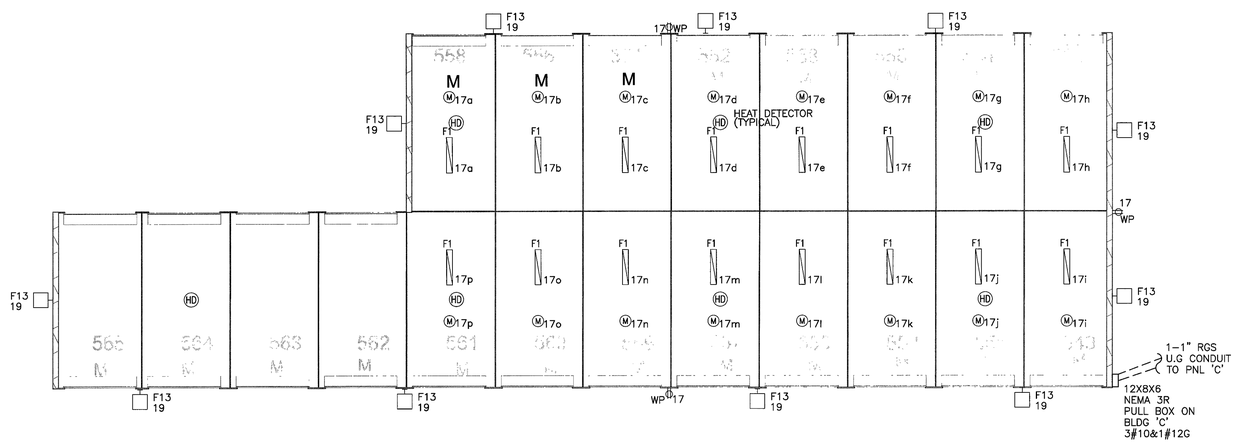
1 E2.0 ELECTRICAL SITE PLANV - BUILDING B

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

NORTH

KEY-NOTES:

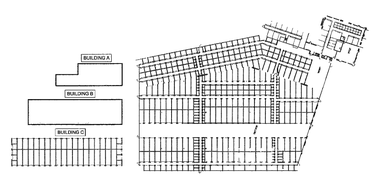
1. BUILDING A,B&C ALL LIGHT CKTS TO PANEL 'C'.
2. ALL HOME RUNS TO BE 10 AWG.
3. PROVIDE 1 1 1/4" UNDERGROUND CONDUIT (RGS) BETWEEN BUILDINGS'. FURNISH 12"X8"X6" NEMA 3R PULL BOX AT EACH BUILDINGS.
4. BLDG. A, B, C EXTERIOR LIGHTING WILL BE CONTROLLED BY PHOTO CELL 2, LIGHTING CONTACTOR. ROUTE CIRCUIT C-5, C-7, C-13, C-15 AND C-19 VIA LIGHTING CONTACTOR. LIGHTING CONTACTOR SHALL BE SQUARE B, ELECTRICALLY OPERATED, MECHANICALLY HELD, 6 POLE, 20A, 240VAC RATED WITH 120V COIL.



1 E2.0 ELECTRICAL SITE PLAN - BUILDING A

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

NORTH



2 E2.0 KEY PLAN - SITE PLAN

SCALE: 1/128" = 1'-0"

NORTH

MK	DATE	REVISIONS	BY
1	07-08-14	ISSUED FOR PERMIT	YS
2	08-11-14	ISSUED FOR BIDDING	YS

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SHEET TITLE
FIRST FLOOR ELECTRICAL LIGHTING AND POWER PLAN - SECTION A

DRAWN BY Y.S. | DATE 07/07/14 | SCALE AS NOTED | JOB NO. 1407
CHECKED BY Y.S.

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER

WISCONSIN YOGENDRA G. SHAH 31765 E-GINEER PROFESSIONAL ENGINEER
SIGNED JULY 9, 2014

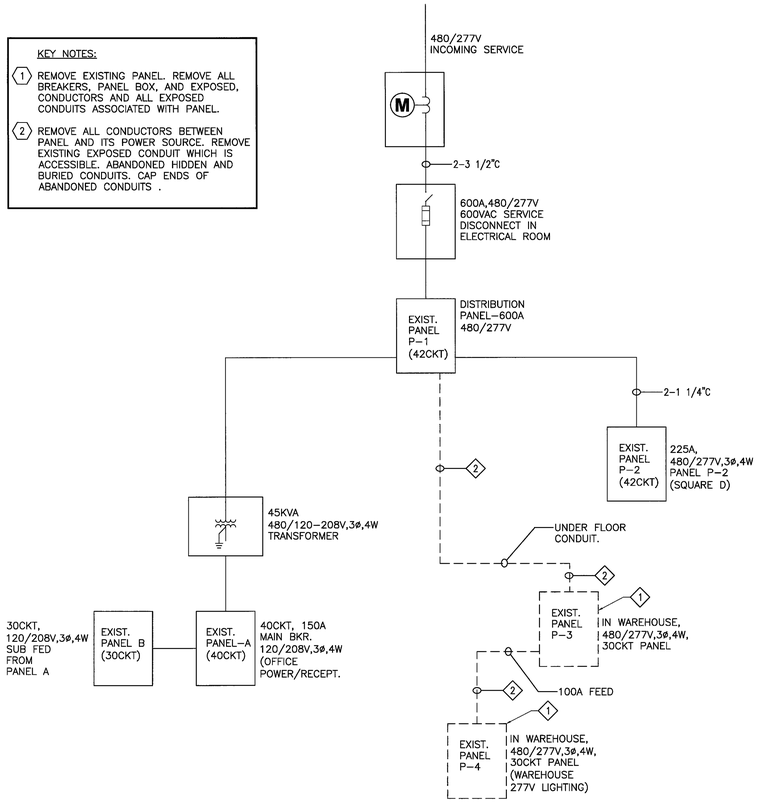
COMMISION EXPIRES
07/31/16

THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995-1926
Fax 847 387-3738

E2.6

KEY NOTES:

1. REMOVE EXISTING PANEL. REMOVE ALL BREAKERS, PANEL BOX, AND EXPOSED, CONDUCTORS AND ALL EXPOSED CONDUITS ASSOCIATED WITH PANEL.
2. REMOVE ALL CONDUCTORS BETWEEN PANEL AND ITS POWER SOURCE. REMOVE EXISTING EXPOSED CONDUIT WHICH IS ACCESSIBLE. ABANDONED HIDDEN AND BURIED CONDUITS. CAP ENDS OF ABANDONED CONDUITS .



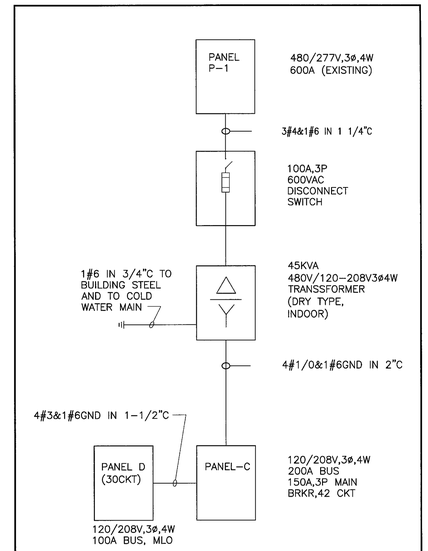
EXISTING ELECTRICAL RISER DIAGRAM

LIGHTING FIXTURE SCHEDULE

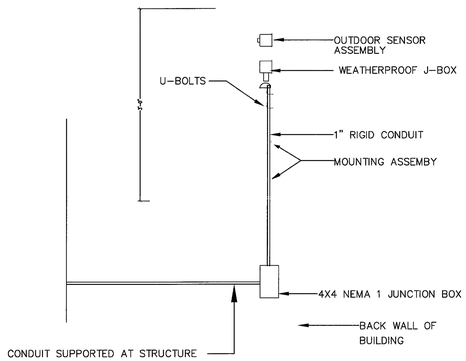
TYPE	DESCRIPTION	MOUNTING	LAMP TYPE	LAMP QTY	VOLTAGE	BALLAST	TOTAL FIX. W	REMARKS
F1	METALUX #SS-232-120V-EB81-2 LAMP-4' LONG FLUORESCENT STRIP FIXTURE	CHAIN MOUNTED	F32T8/SP30	2	120V	ELECTRONIC	70	PROVIDE WIRE GUARD PROTECTOR
F2	LITHONIA COMMERCIAL FLUORESCENT FIXTURE,2X2 SERIES AVSM,2 LAMPS, WITH ENERGY SAVING BALLASTS, MDR DISSFUSER, MULTI VOLT, RECESSED CEILING FIXTURE	CEILING RECESSED	F32T8/SP30	2	120V	ELECTRONIC	140	
F3	METALUX #SS-132-120V-EB81-1 LAMP-4' LONG FLUORESCENT STRIP FIXTURE	PENDANT	F32T8/SP30	1	120V	ELECTRONIC	35	NOT USED
F4	METALUX #8TSS-232-120V-EB81-4 LAMP TANDUM-8' LONG FLUORESCENT STRIP FIXTURE-LOW TEMP. BALLAST	CHAIN MOUNTED	F32T8/SP30	4	120V	LOW TEMP. ELECTRONIC	140	NOT USED
F5	METALUX-#STW-448HO-120V-EVB22 FLOOR MOUNTED-4 LAMP WITH PROTECTIVE CAGE	FLOOR	F48HO-T12	4	120V	ELECTRONIC	265	NOT USED
F6	METALUX-#2EPSGX-2U6T8S331-120-EB18-U-2 U LAMP 2'X2' PARABOLIC FIXTURE 9 CELL SILVER WITH ELECTRONIC BALLAST.	RECESSED MOUNTED	F32T8U6	2	120V	ELECTRONIC	70	
F7	HALO-H7T-78 100W-RECESSED DOWN LIGHT-INCANDESCENT EYE BALL WITH 30° TILT.	RECESSED	100W-PAR 30	1	120V	ELECTRONIC	110	
F8	HALO-POWER TRACK L652-P-8'-0" LONG TRACK, SINGLE CIRCUIT PER TRACK, WHITE ON WHITE, FIXTURE TO BE LZR1330, INSTALLED BY CONT.	PENDENT MOUNTED	75W-PAR30	4	120V	-	300	
F9	METALUX GP-252A-120V-EB81-2 LAMP, 1X4 RECESSED STATIC TROFFER, LOW PROFILE, ACRYLIC LENS	RECESSED	F32T8/SP30	2	120V	ELECTRONIC	35	NOT USED
F10	LUMARK MWHL-150-MT-LL. EXTERIOR WALL MOUNTED CAST ALUMINUM CONSTRUCTION ACRYLIC LENS, 120V COLD WEATHER ELECTRONIC BALLAST	SURFACE MOUNTED	150W-MH MVR150/U	1	120V	ELECTRONIC COLD WEATHER	165	NOT USED
F11	LITHONIA-WFL2-100MHC-RW. EXTERIOR WALL MOUNTED FIXTURE, CAST ALUMINUM WITH 50/50 UP/DOWN THROW.	WALL MOUNTED	100MH-MVR100U	1	120V	N/A	100	NOT USED
F12	5"ø OUTDOOR RECESSED INCANDESCENT DOWN LIGHT	RECESSED CEILING	LITHONIA L5-5H20	1	120V	ELECTRONIC COLD WEATHER	75	SURFACE MOUNTED BELOW CANOPY
F13	NEPTUNE 14"LED FULL CUT OFF WAAL PAK FIXTURE DIE CAST ALUMINUM HOUSING, 70W, 5000K LED, CATALOG NO. LED-21070-FCT-UNV-850-LD120-BR2	SURFACE MOUNTED	-	1	120/277V	HIGH P.F. LOW THD DRIVER	-	LED
	SURE LITE XR-6-C DUAL VOLTAGE, EMERGENCY LIGHT, WALL MOUNTED, 1'-0" BELOW CEILING, AS REQUIRED BY CITY CODE.	SURFACE MOUNTED	2-12 WATT HALOGEN	2	120V	ELECTRONIC COLD WEATHER	25	
	SURE-LITE CHX SERIES DUAL VOLTAGE EXIT SIGNS WITH 90 MINUTES LEAD CALCIUM BATTERY, WITH DIRECTIONAL ARROWS AS REQUIRED BY CITY CODE.	SURFACE	2-15 WATT	2	120V	N/A	35	

LIGHTING FIXTURE SCHEDULE NOTES:

1. ELECTRICAL CONTRACTOR TO COORDINATE FIXTURE TYPES WITH OWNER PRIOR TO PURCHASE AND INSTALLATION.
2. ELECTRICAL CONTRACTOR TO FIELD COORDINATE CEILING TYPES PRIOR TO LIGHTING FIXTURE PURCHASE.
3. PROVIDE FUSES FOR FLUORESCENT AND H.I.D. FIXTURE BALLASTS.
4. LIGHTING FIXTURES SHALL BE APPROVED BY THE ARCHITECT.
5. APPROVED EQUAL LIGHTING FIXTURE MANUFACTURES: LITHONIA, COOPER LIGHTING, LIGHTOLIER, COLUMBIA LIGHTING.
6. THE EMERGENCY BATTERY FIXTURES AND EXIT SIGNS SHALL COMPLY WITH CODE AND ANY LOCAL REQUIREMENTS AND SHALL BE APPROVED BY AUTHORITY HAVING JURISDICTION.

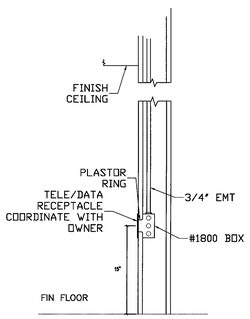


ELECTRICAL RISER DIAGRAM
PROPOSED NEW WORK



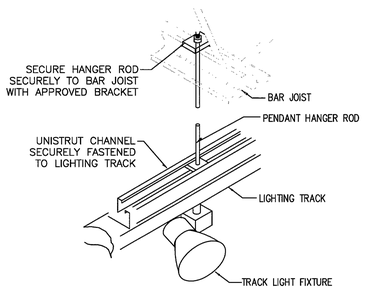
OUTDOOR SENSOR ASSEMBLY

SCALE: N.T.S.



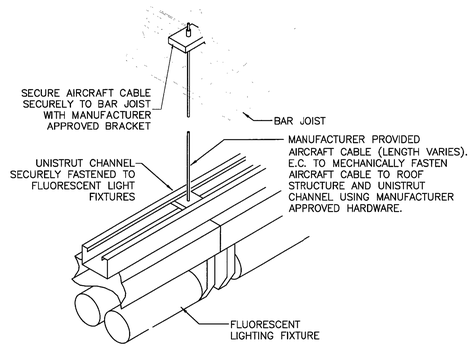
12 / E0.4 **DATA/TELE RECEPT DETAIL**

SCALE: N.T.S.



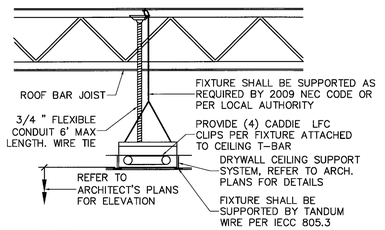
9 / E0.4 **LINEAR TRACK LIGHT MOUNTING**

SCALE: N.T.S.



11 / E0.4 **CORRIDOR FLUORESCENT MOUNTING**

SCALE: N.T.S.



DETAIL NOTES:

1. PROVIDE STEEL SUPPORT CHANNEL WHERE BAR JOIST DOES NOT LINE UP IN CENTER AISLE OR OBSTRUCTIONS PREVENT HANGING DIRECTLY FROM JOIST.

10 / E0.4 **LIGHTING SUPPORT DETAIL**

SCALE: N.T.S.

BY	DATE	REVISIONS
Y.S.	08-11-14	ISSUED FOR BIDDING
Y.S.	07-08-14	ISSUED FOR PERMIT

URBAN & ASSOCIATES ARCHITECTS, INC.
2529 ILLINOIS ROAD, NORTHBROOK, ILLINOIS 60062
(847) 291.9570WWW.URBANASSOCIATES.NET

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SHEET TITLE
ELECTRICAL DIAGRAM, SCHEDULES AND DETAILS

SCALE AS NOTED
JOB NO. 1407
DATE 07/07/14
DRAWN BY Y.S.
CHECKED BY Y.S.

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER

WISCONSIN YOGENDRA G. SHAH E-35704 REGISTERED PROFESSIONAL ENGINEER

SIGNED: JULY 3, 2014

COMMISION EXPIRES
07/31/16

TEI
THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995-1926
Fax 847 387-3738

E7.1

M2.1 M2.2

2600 CFM EXHAUST. PROVIDE 26X26 LOUVERS WITH BIRDSCREEN AND BDD

EF 2 3

PROVIDE WIREMESH SCREEN AT FAN OPENING

1 RTU-8

RTU 8 (180 MBH) ON ROOF

B 1000 24X10

36X14

32X14

A 1000 24X10

1 1/2"ø GAS UP TO RTU ON ROOF

1 1/2"ø

1 1/4"ø

3"ø GAS

(730)

1 1/2"ø GAS

RTU 5 (180 MBH) ON ROOF

B 1000 24X10

36X14

32X14

A 1/2

1 1/2"ø GAS UP TO RTU ON ROOF

2"ø

1 RTU-5

3"ø GAS

1 1/4"ø

GUH 1 (135 MBH)

2 3

4"ø TYPE "B" VENT UP THRU ROOF

FAN ON ROOF

3000 CFM EXHAUST. PROVIDE 30X30 ROOF OPENING. PROVIDE WIREMESH SCREEN AND BDD

EF 3

SEE ENLARGED PLANS ON SHEET M2.5 FOR WORK IN THIS AREA

M2.2

M2.4

1 M2.2 **FIRST FLOOR MECHANICAL PLAN - SECTION B**
SCALE: 1/8" = 1'-0"

NORTH

BUILDING A
BUILDING B
BUILDING C
AREA A
AREA B
AREA C
AREA D
M2.1 M2.2
M2.3 M2.4

2 M2.2 **KEY PLAN - SECTION B**
SCALE: 1/128" = 1'-0"

NORTH

MK	DATE	REVISIONS	BY
2	08-11-14	ISSUED FOR BIDDING	YS
1	07-08-14	ISSUED FOR PERMIT	YS

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SHEET TITLE
FIRST FLOOR MECHANICAL PLAN SECTION B

DRAWN BY Y.S.
CHECKED BY Y.S.
DATE 07/07/14
SCALE AS NOTED
JOB NO. 1407

PROJECT NAME
METRO STORAGE
BROWN DEER, WISCONSIN

YOGENDRA G. SHAH
REG. ENGINEER

STATE OF WISCONSIN
E-32210
17104
CHICAGO, ILLINOIS
PROFESSIONAL ENGINEER
SIGNED JULY 8, 2014

COMMISION EXPIRES
07/31/16

TEI
THERMAL ENERGY, INC.
9 Westlake Drive
South Barrington, IL 60010
Tel 847 995-1926
Fax 847 387-3738

M2.2