



**BUILDING CODE  
BOARD OF APPEALS  
SPECIAL MEETING AGENDA**

500 W. Big Beaver  
Troy, MI 48084  
(248) 524-3344  
[www.troymi.gov](http://www.troymi.gov)  
[planning@troymi.gov](mailto:planning@troymi.gov)

Theodore Dziurman, Chair; Gary Abitheira  
Brian Kischnick, Michael Morris, Andrew Schuster

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**January 20, 2016**

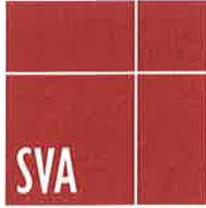
**3:00 PM**

**COUNCIL BOARD ROOM**

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1. ROLL CALL
2. HEARING OF CASE
  - A. VARIANCE REQUEST, STUCKY VITALE ARCHITECTS FOR YAREMA DIE AND ENGINEERING, 1855 STEPHENSON HIGHWAY – A variance to construct a 14,686 square foot unsuppressed roof shelter addition to the existing 62,628 square foot fully suppressed building. Section 503.1, 506.3 and Table 503 of the 2012 Michigan Building Code requires fire suppression in the existing building and proposed roof shelter addition.  
  
2012 Michigan Building Code
3. ADJOURNMENT

**NOTICE:** People with disabilities needing accommodations for effective participation in this meeting should contact the City Clerk by e-mail at [clerk@troymi.gov](mailto:clerk@troymi.gov) or by calling (248) 524-3317 at least two working days in advance of the meeting. An attempt will be made to make reasonable accommodations.



STUCKY VITALE ARCHITECTS

January 7, 2016

City of Troy Planning Department  
500 W. Big Beaver Road  
Troy, MI 48084

Re: Yarema Die & Engineering  
1855 Stephenson Highway  
Architects' Project No.: 2015.020

To Whom It May Concern:

This request is for a variance from section 503 of the MBC. The new structure will be providing protection for small metal stamping parts that are produced inside the existing building and then placed into metal bins. These bins will then be stored under the newly constructed roof structure and stacked while they await future finishing to be completed inside the existing building.

The new 14,686 sf roof shelter addition will not have exterior walls and will be a pre-engineered noncombustible roof supported structure designed to protect these bins from weather conditions.

From MBC 2012 Section 503, General Building Height and Area Limitation, this addition will be increasing the S-2 use area to 49,131 sf. From Table 503, the allowable S-2 for a Type II B construction type is 26,000 Sf. There is a small increase of 11.34% for the S-2 portion that would increase the allowable S-2 Use to 28,949 sf.

The requested variance would be to allow for this increase in the S-2 use group building area for the roof shelter addition. It should be noted that 34,445 sf of the existing S-2 use is currently fully suppressed with the remaining S-2 roof shelter structure area addition of 14,686 sf that will not be suppressed. From previous discussions with the fire department staff, the roof shelter addition is supported to not having to be suppressed.

1. The new addition will be constructed with noncombustible materials.
2. The roof shelter addition will not have any full height exterior walls allowing for quick exiting from it.
3. The height of the new addition slopes from 21'-10" to 17'-0" at the low point to the south. These heights are under the allowable 55 ft. /3 story limit from Table 503 for Type III B Construction.

In conclusion, the request for variance is for the 14,686 square foot roof shelter addition.

Thank you in advance for your consideration.

Sincerely,

John A. Vitale, AIA, NCARB  
Principal

Enclosure

**CITY OF TROY PLANNING DEPARTMENT  
BUILDING CODE BOARD OF APPEALS APPLICATION**

CITY OF TROY PLANNING DEPARTMENT  
500 W. BIG BEAVER ROAD  
TROY, MICHIGAN 48084  
PHONE: 248-524-3364  
E-MAIL: [planning@troymi.gov](mailto:planning@troymi.gov)



**FEE \$50**

**NOTICE TO THE APPLICANT**

REGULAR MEETINGS OF THE BUILDING CODE BOARD OF APPEALS ARE HELD ON THE FIRST **WEDNESDAY OF EACH MONTH AT 3:00 P.M.** AT CITY HALL.

PLEASE FILE A COMPLETE APPLICATION, TOGETHER WITH THE APPROPRIATE FEE, **NOT LESS THAN TWENTY-SEVEN (27) DAYS** BEFORE THE MEETING DATE.

COMPLETE APPLICATIONS ARE PLACED ON THE NEXT AVAILABLE AGENDA OF THE BUILDING CODE BOARD OF APPEALS.

1. ADDRESS OF THE SUBJECT PROPERTY: 1855 Stephenson Highway  
ACREAGE PROPERTY: *Attach legal description if this an acreage parcel*
  
2. PROPERTY TAX IDENTIFICATION NUMBER(S): 88-20-26-351-022
  
3. CODE NAME (e.g. "BUILDING CODE", "SIGN CODE", "FENCE CODE") AND SECTION(S) RELATED TO THE APPEAL:  
2012 Michigan Building Code - Section and Table 503
  
4. REASONS FOR APPEAL/VARIANCE: *On a separate sheet, please describe the reasons justifying the requested action. See Submittal Checklist.*
  
5. HAVE THERE BEEN ANY PREVIOUS APPEALS INVOLVING THIS PROPERTY? YES  NO

6. APPLICANT INFORMATION:

NAME John A. Vitale, AIA, NCARB, Principal  
COMPANY Stucky Vitale Architects  
ADDRESS 27172 Woodward Avenue  
CITY Royal Oak STATE MI ZIP 48067  
TELEPHONE (248) 546-6700  
E-MAIL jvitale@stuckyvitale.com

7. APPLICANT'S AFFILIATION TO THE PROPERTY OWNER: Architect

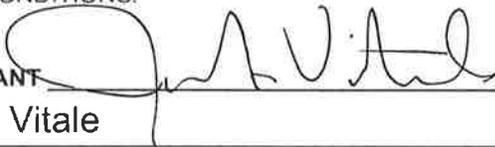
8. OWNER OF SUBJECT PROPERTY:

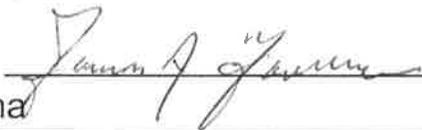
NAME James A. Yarema, Manager  
COMPANY Stephenson Investments, LLC  
ADDRESS 1855 Stephenson Highway  
CITY Troy STATE MI ZIP 48083  
TELEPHONE 248-227-0440  
E-MAIL James.Yarema@Yarema.com

The undersigned hereby declare(s) under penalty of perjury that the contents of this application are true to the best of my (our) knowledge, information and belief.

The applicant accepts all responsibility for all of the measurements and dimensions contained within this application, attachments and/or plans, and the applicant releases the City of Troy and its employees, officers, and consultants from any responsibility or liability with respect thereto.

I, James A. Yarema (PROPERTY OWNER), HEREBY DEPOSE AND SAY THAT ALL THE ABOVE STATEMENTS AND STATEMENTS CONTAINED IN THE INFORMATION SUBMITTED ARE TRUE AND CORRECT AND GIVE PERMISSION FOR THE BOARD MEMBERS AND CITY STAFF TO CONDUCT A SITE VISIT TO ASCERTAIN PRESENT CONDITIONS.

SIGNATURE OF APPLICANT  DATE 01-14-2016  
PRINT NAME: John A. Vitale

SIGNATURE OF PROPERTY OWNER  DATE 01-14-2016  
PRINT NAME: James A. Yarema

*Failure of the applicant or his/her authorized representative to appear before the Board, as scheduled, shall be justifiable cause for denial or dismissal of the case with no refund of appeal fee(s). If the person appearing before the Board is not the applicant or property owner, signed permission must be presented to the Board.*

*The applicant will be notified of the time and date of the hearing by electronic mail.*



# CITY OF TROY

## Treasurer's Office

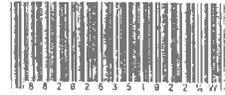
500 West Big Beaver Road  
Troy, MI 48084-5285

Make checks payable to: CITY OF TROY  
Tax information available at [www.troymi.gov](http://www.troymi.gov)  
Office Hours: Monday-Friday - 8:00 am to 4:30 pm

### 2015 WINTER TAX STATEMENT RETURN THIS PORTION WITH YOUR PAYMENT

DUE DECEMBER 1, 2015 PAYABLE THROUGH FEBRUARY 14, 2016  
POSTMARKS NOT ACCEPTED

3% penalty added after February 14, 2016.  
Failure to receive bill does not waive interest and/or penalty.



STEPHENSON INVESTMENTS LLC 2725 6  
300 MINNESOTA DR  
TROY MI 48083-4610



PARCEL I.D. NUMBER		TOTAL
88-20-26-351-022		\$ 12,739.10
PENALTY & INT.	TOTAL PAID	BALANCE

2015W00554754000000008820263510220000000000000012739100

↑ PLEASE TEAR OFF THE ABOVE COUPON AND SEND IT WITH YOUR PAYMENT ↓

### CITY OF TROY 2015 PROPERTY TAX NOTICE - DECEMBER FISCAL YEARS

County Parks  
& Zoo Authority  
10-1-2015 to 9-30-2016

Art Institute Authority  
7-1-2015 to 6-30-2016

School & OCPTA  
7-1-2015 to 6-30-2016

Huron-Clinton Metro Authority  
1-1-2016 to 12-31-2016

PAYABLE DECEMBER 1, 2015 - FEBRUARY 14, 2016  
POSTMARKS NOT ACCEPTED

3% PENALTY ADDED AFTER FEBRUARY 14, 2016

Warning: Failure to receive bill does not waive interest and/or penalty.

*H.P.R. TAX BASE		PARCEL I.D. NUMBER	SCHOOL DIST.
0		88-20-26-351-022	260
% DECLARE AS H.P.R.	*NON H.P.R. TAX BASE	TAXABLE VALUE	STATE EQUALIZED VALUE
0	966,930	966,930	1,015,720
TAX DESCRIPTION		RATE PER \$1,000	AMOUNT
COUNTY PARKS		0.24100	233.03
H/CL METRO AUTH		0.21460	207.50
SCHOOL OPERATING		8.93960	8,643.96
SCHOOL DEBT		2.35000	2,272.28
OCPTA SMART		0.99980	966.73
ZOO AUTHORITY		0.09980	96.49
ART INSTITUTE		0.19960	192.99

ADMINISTRATIVE FEE 126.12

Include Parcel I.D. Number on your check.

#### SEE REVERSE SIDE FOR IMPORTANT PAYMENT INFORMATION

88-20-26-351-022

\*H.P.R. = HOMEOWNER'S PRINCIPAL RESIDENCE

TOTAL	PENALTY & INT.	TOTAL PAID	BALANCE
\$ 12,739.10			

STEPHENSON INVESTMENTS LLC  
300 MINNESOTA  
TROY MI 48083

Property Address: 1805 STEPHENSON -1855

CLASS: 301

301 IND IMP

#### PARTIAL DESCRIPTION OF PROPERTY

T2N, R11E, SEC 26 PART OF SW 1/4 BEG AT PT DIST N  
01-32-25 E 900 FT FROM SW SEC  
COR, TH N 01-32-25 E 129.87 FT, TH S 88-17-45 E 760.94 FT,  
TH S 29-28-00 E  
619.28 FT, TH N 88-17-45 W 479.91 FT, TH N 01-32-25 E 400 FT,  
TH N 88-17-45 W

BEGINNING MARCH 1, 2016

unpaid taxes are considered delinquent and must be paid with  
additional penalties to:

OAKLAND COUNTY TREASURER  
1200 North Telegraph  
Pontiac, MI 48341

During the month of March, a revised statement from the City Treasurer  
must accompany your remittance to the County Treasurer.

Checks accepted only as a conditional payment. If not honored by bank,  
tax is unpaid and subject to unpaid tax penalties. Post-dated checks or  
checks with errors will be returned which could result in late payments.

ASSESSMENTS BASED ON PROPERTY STATUS AS OF 12-31-2014.

RETAIN THIS LOWER PORTION FOR YOUR RECORDS YOUR  
CANCELLED CHECK IS YOUR RECEIPT

IF PAYING IN PERSON PLEASE BRING IN ENTIRE BILL

PHONE (248) 524-3333

LEGAL DESCRIPTION:

PARCEL A:

PART OF THE SOUTHWEST 1/4 OF SECTION 26, TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS: BEGINNING AT A POINT DISTANT SOUTH 88 DEGREES 17 MINUTES 45 SECONDS EAST ALONG THE SOUTH LINE OF SAID SECTION 26, A DISTANCE OF 250.00 FEET AND NORTH 1 DEGREE 32 MINUTES 25 SECONDS EAST, 500.00 FEET AND SOUTH 88 DEGREES 17 MINUTES 45 SECONDS EAST, 350.00 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION 26; THENCE NORTH 1 DEGREE 32 MINUTES 25 SECONDS EAST, 400.00 FEET; THENCE SOUTH 88 DEGREES 17 MINUTES 45 SECONDS EAST 239.13 FEET TO THE WESTERLY LINE OF STEPHENSON (M-150) HIGHWAY (204 FEET WIDE); THENCE SOUTH 29 DEGREES 28 MINUTES EAST ALONG SAID WESTERLY HIGHWAY LINE 467.50 FEET; THENCE NORTH 88 DEGREES 17 MINUTES 45 SECONDS WEST, 479.91 FEET TO THE POINT OF BEGINNING.

PARCEL B:

PART OF THE SOUTHWEST 1/4 OF SECTION 26, TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE WEST LINE OF SECTION 26, DISTANT NORTH 1 DEGREE 32 MINUTES 25 SECONDS EAST, 899.63 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION 26; THENCE CONTINUING NORTH 1 DEGREE 32 MINUTES 25 SECONDS EAST, 130.00 FEET; THENCE SOUTH 29 DEGREES 28 MINUTES EAST, 151.93 FEET; THENCE NORTH 88 DEGREES 17 MINUTES 45 SECONDS WEST, 839.38 FEET TO THE POINT OF BEGINNING.

TOTAL PROPERTY ACREAGE IS 5.68 ACRES.

# YAREMA DIE AND ENGINEERING

**SHELTERED STORAGE ADDITION**  
**1855 STEPHENSON HWY**  
**TROY, MI 48083**

## ARCHITECT

STUCKY ■ VITALE ARCHITECTS  
 27172 WOODWARD AVENUE  
 ROYAL OAK, MICHIGAN 48067  
 (248) 546-6700

## STRUCTURAL ENGINEER

PINNACLE CONSULTING  
 ENGINEERS, INC.  
 6400 LAKESHORE ST. WEST  
 BLOOMFIELD, MI 48323  
 (248) 766-4010

## PROJECT DATA

BUILDING CODE AUTHORITY:  
 CITY OF TROY  
 BUILDING DEPARTMENT  
 500 WEST BIG BEAVER ROAD  
 TROY, MI 48064  
 248.524.3344

OWNER:  
 YAREMA DIE AND ENGINEERING  
 1855 STEPHENSON HWY.  
 TROY, MI 48083

TYPE OF CONSTRUCTION:  
 IIB  
 EXISTING BUILDING HAS AN NFPA 13 SPRINKLER SYSTEM

OCCUPANCY:  
 EXISTING MANUFACTURING - F2: 21,920 SQ. FT.  
 STORAGE - S2: 34,445 SQ. FT.  
 OFFICE - B: 6,263 SQ. FT.

PROPOSED SHELTER STORAGE ADDITION - S2: 14,686 SQ. FT.  
 (WITH OVERHANG 16,295 SQ. FT.)  
 THIS SHELTERED STORAGE ADDITION WILL NOT BE  
 SPRINKLED AND IS ONLY A ROOF STRUCTURE.

SUMMARY  
 EXISTING AREA FLOOR = 62,628 SQ. FT.  
 ALLOWED FLOOR AREA = 92,234 SQ. FT. (TABLE 503 AND 506)  
 MAX. OCCUPANTS = 336  
 MIN. NUMBER OF EXITS = 2  
 MIN. DOOR WIDTH = 50.4"  
 MAX. EXIT ACCESS TRAVEL LENGTH = 300 FT.

PROPOSED SHELTER ADDITION  
 ADDITION = 14,686 SQ. FT.  
 MAX. OCCUPANTS = 54 (300 SQ. FT. PER PERSON; TABLE 1004.1.2)  
 MIN. NUMBER OF EXITS = 2 (NOTE: THERE ARE NO EXTERIOR WALLS  
 ASSOC. WITH THIS STRUCTURE WHICH WILL ALLOW FOR QUICK  
 EXITING.  
 MAX. EXIT ACCESS TRAVEL LENGTH = 300 FT.

APPLICABLE CODES:  
 BUILDING CODE:  
 2012 MICHIGAN REHABILITATION FOR EXISTING BUILDING  
 2012 MICHIGAN BUILDING CODE (MBC) AS AMENDED

MECHANICAL CODE:  
 2012 MICHIGAN MECHANICAL CODE AS AMENDED  
 (NO ANTICIPATED WORK)

PLUMBING CODE:  
 2012 MICHIGAN PLUMBING CODE AS AMENDED  
 (NO ANTICIPATED WORK)

ELECTRICAL CODE:  
 2014 NATIONAL ELECTRIC CODE (NEC) AS AMENDED & MICHIGAN  
 AMMENDMENTS PART 8.  
 (NO ANTICIPATED WORK)

SHEET INDEX		ISSUED FOR	
DRAWING INDEX KEY:		BIDS/PERMITS	
<input type="checkbox"/>	NOT ISSUED	REVISED	
<input type="checkbox"/>	PREVIOUSLY ISSUED	VARIANCE	
<input checked="" type="checkbox"/>	ISSUED		
<input checked="" type="checkbox"/>	REFERENCE		
GENERAL			
TS1.1	TITLE SHEET AND SHEET INDEX AND LOCATOR PLAN	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ARCHITECTURAL			
SP1.1	ARCHITECTURAL SITE PLAN	<input type="checkbox"/>	<input type="checkbox"/>
A1.1	ARCHITECTURAL FLOOR PLAN	<input type="checkbox"/>	<input type="checkbox"/>
A2.1	ARCHITECTURAL ROOF PLAN	<input type="checkbox"/>	<input type="checkbox"/>
A3.1	EXTERIOR ELEVATIONS, BUILDING SECTION	<input type="checkbox"/>	<input type="checkbox"/>
A4.1	WALL SECTIONS	<input type="checkbox"/>	<input type="checkbox"/>
STRUCTURAL			
S-1	FOUNDATION PLAN	<input type="checkbox"/>	<input type="checkbox"/>
S-2	GENERAL NOTES	<input type="checkbox"/>	<input type="checkbox"/>

NOTE:  
 THESE CONSTRUCTION DRAWINGS WERE PREPARED FOR COMPLIANCE WITH THE MICHIGAN  
 CONSTRUCTION CODES IN EFFECT AT THE TIME OF PERMIT SUBMITTAL. ALL ENGINEERS,  
 CONTRACTORS AND SUPPLIERS INVOLVED WITH THIS PROJECT SHALL COMPLY WITH THE  
 SAME CODES. ISSUED AND APPROVED CODE MODIFICATIONS AND/OR CITY CODE AUTHORITY  
 CONSTRUCTION BOARDS OF APPEALS RULINGS AND WHENEVER REQUIRED SHALL PROVIDE  
 SHOP DRAWINGS AND SUBMITTALS CLEARLY DESCRIBING COMPLIANCE TO THE REGISTERED  
 DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE FOR REVIEW AND APPROVAL.

MOUNTING SCHEDULE						
WALL MOUNTED ACCESSORIES						
DUPLEX OUTLET	KEY SWITCH or PUSH BUTTON FORWARD APPROACH	KEY SWITCH or PUSH BUTTON PARALLEL APPROACH	ROOM NAME SIGN	FIRE EXIT SIGN @ ELEVATORS	CARD READER	LIGHT SWITCH or DIMMER
FIRE EXTINGUISHER SHALL BE INSTALLED 48" MAX TO HIGHEST OPERABLE PART.	FIRE ALARM PULL BOX	HVAC CONTROLS	EXIT LIGHT	CLOCK OUTLET	TELEPHONE WALL JACKS	

SYMBOL LEGEND		ABBREVIATION	
	DARKENED ARROW INDICATES ELEVATED SECTION	@	ACOUSTICAL
	ELEVATION NUMBER	A.C.T.	ACOUSTIC CEILING TILE
	SHEET NUMBER WHERE ELEVATION IS LOCATED	ADJ.	ADJACENT
	ELEVATION NUMBER	A.F.F.	ABOVE FINISH FLOOR
	SHEET NUMBER WHERE ELEVATION IS LOCATED	ALUM.	ALUMINUM
	DETAIL REFERENCE NUMBER	ANOD.	ANODIZED
	SHEET NUMBER WHERE DETAIL IS LOCATED	BD.	BOARD
	DETAIL NUMBER	BLDG.	BUILDING
	SHEET NUMBER WHERE DETAIL IS REFERENCED	BLK.	BLOCK
	DETAIL NAME	BLKG.	BLOCKING
	DRAWING SCALE	CEM.	CEMENT
	SHEET NUMBER WHERE DETAIL IS REFERENCED	C.J.	CONTROL JOINT
	ROOM NAME	CLG.	CEILING
	ROOM NUMBER	C.	CENTER LINE
	HEIGHT ABOVE FINISHED FLOOR	C.O.	CLEAN OUT
	REFERENCE POINT OF ELEVATION	COL.	COLUMN
	HEIGHT ABOVE FINISHED FLOOR	CONC.	CONCRETE
	NOTE: DATUM SYMBOL INDICATES A SPECIFIC REFERENCE HEIGHT OF MATERIAL INDICATED	C.G.	CORNER GUARD
	ROOM NAME	CONST.	CONSTRUCTION
	ROOM NUMBER	CONT.	CONTINUOUS
	NUMBERS DESIGNATE VERTICAL COLUMN LINES	CORR.	CORRUGATED
	LETTERS DESIGNATE HORIZONTAL COLUMN LINES	CPT.	CARPET
	CIRCLES REPRESENT NEW COLUMN LINES	C.T.	CERAMIC TILE
	DASHED CIRCLES REPRESENT EXISTING COLUMNS	DET.	DETAIL
	EXISTING DOOR SYMBOL	DIA.	DIAMETER
	NEW DOOR SYMBOL	DM.	DIMENSION
	DOOR DESIGNATION	DN.	DOWN
	WALL TYPE DESIGNATION NUMBER - COORDINATE WITH SCHEDULE	D.O.	DOOR OPENING
	EQUIPMENT DESIGNATION NUMBER - COORDINATE WITH PLAN NOTES	DR.	DOOR
	KEY NOTE DESIGNATION NUMBER - COORDINATE WITH PLAN NOTES	DWG.	DRAWING
	ADDENDUM DESIGNATION NUMBER	EA.	EACH
	BULLETIN DESIGNATION NUMBER	ELEV.	ELEVATION
	MATCH LINE REF: A3 SHEET REFERENCE FOR DRAWING CONTINUATION	E.W.	EACH WAY
	ACOUSTICAL CEILING	EXG.	EXISTING
	BATTLOOSE INSULATION	EXIST.	EXISTING
	BLOCKING/ROUGH LUMBER	EXP.	EXPANSION, EXPOSED
	CONCRETE	EXT.	EXTERIOR
	FINISHED WOOD	F.D.	FLOOR DRAIN
	GLASS	FDN.	FOUNDATION
	GYPSUM WALLBOARD	F.R.P.	FIBER REINFORCED PANELS
	MASONRY	FIN.	FINISH
	PARTICLE BOARD	FLOOR.	FLOOR
	PLYWOOD	F.O.	FACE OF
	ACOUSTICAL CEILING	F.O.S.	FACE OF STUD
	BATTLOOSE INSULATION	FR.	FRAME
	BLOCKING/ROUGH LUMBER	FTG.	FOOTING
	CONCRETE	FV.	FIELD VERIFY
	FINISHED WOOD	GA.	GAUGE
	GLASS	GALV.	GALVANIZED
	GYPSUM WALLBOARD	GYP.	GYPSUM
	MASONRY	HDW.	HARDWARE
	PARTICLE BOARD	H.M.	HOLLOW METAL
	PLYWOOD	HORIZ.	HORIZONTAL
	ACOUSTICAL CEILING	I.D.	INSIDE DIAMETER
	BATTLOOSE INSULATION	INSUL.	INSULATION
	BLOCKING/ROUGH LUMBER	INT.	INTERIOR
	CONCRETE	JT.	JOINT
	FINISHED WOOD	LAV.	LAVATORY
	GLASS	LG.	LONG
	GYPSUM WALLBOARD	L.L.O.	LONG LEG OUTSTANDING
	MASONRY	L.L.V.	LONG LEG VERTICAL
	PARTICLE BOARD	MAX.	MAXIMUM
	PLYWOOD	MECH.	MECHANICAL
	ACOUSTICAL CEILING	MET.	METAL
	BATTLOOSE INSULATION	MEZZ.	MEZZANINE
	BLOCKING/ROUGH LUMBER	M.I.	MISCELLANEOUS IRON
	CONCRETE	MIN.	MINIMUM
	FINISHED WOOD	MISC.	MISCELLANEOUS
	GLASS	M.O.	MASONRY OPENING
	GYPSUM WALLBOARD	N.I.C.	NOT IN CONTRACT
	MASONRY	N.T.S.	NOT TO SCALE
	PARTICLE BOARD	O.C.	ON CENTER
	PLYWOOD	O.D.	OUTSIDE DIAMETER
	ACOUSTICAL CEILING	OPNG.	OPENING
	BATTLOOSE INSULATION	OPP.	OPPOSITE
	BLOCKING/ROUGH LUMBER	PL.G.	PLATE GLASS
	CONCRETE	PL.S.	PLATE STEEL
	FINISHED WOOD	P.LAM.	PLASTIC LAMINATE
	GLASS	PLAS.	PLASTER
	GYPSUM WALLBOARD	PREFAB.	PREFABRICATED
	MASONRY	PROJ.	PROJECT, PROJECTION
	PARTICLE BOARD	P.S.F.	POUNDS PER SQUARE FOOT
	PLYWOOD	PT.	PAINT, POINT
	ACOUSTICAL CEILING	R.	RISER
	BATTLOOSE INSULATION	R.A.	RETURN AIR
	BLOCKING/ROUGH LUMBER	R.B.	RUBBER BASE
	CONCRETE	R.C.	ROOF CONDUCTOR
	FINISHED WOOD	R.C.P.	REFLECTED CEILING PLAN
	GLASS	R.D.	ROOF DRAIN
	GYPSUM WALLBOARD	R.F.	RUBBER FLOORING
	MASONRY	REINF.	REINFORCED, REINFORCING
	PARTICLE BOARD	REQD.	REQUIRED
	PLYWOOD	RFG.	ROOFING
	ACOUSTICAL CEILING	RM.	ROOM
	BATTLOOSE INSULATION	R.S.	ROOF SUMP
	BLOCKING/ROUGH LUMBER	R.T.	RUBBER TILE
	CONCRETE	SAN.	SANITARY
	FINISHED WOOD	SCHED.	SCHEDULE
	GLASS	SH.T.	SHEET
	GYPSUM WALLBOARD	SIM.	SIMILAR
	MASONRY	SPEC.	SPECIFICATION
	PARTICLE BOARD	S.S.	SERVICE SINK
	PLYWOOD	STL.	STEEL
	ACOUSTICAL CEILING	STD.	STANDARD
	BATTLOOSE INSULATION	STOR.	STORAGE
	BLOCKING/ROUGH LUMBER	STRUCT.	STRUCTURAL
	CONCRETE	SUSP.	SUSPENDED
	FINISHED WOOD	SW.	SWITCH
	GLASS	SYM.	SYMMETRICAL
	GYPSUM WALLBOARD	T.	TRAD.
	MASONRY	T&B	TOP AND BOTTOM
	PARTICLE BOARD	TEL.	TELEPHONE
	PLYWOOD	TERR.	TERRAZZO
	ACOUSTICAL CEILING	T&G	TONGUE AND GROOVE
	BATTLOOSE INSULATION	THK.	THICK, THICKNESS
	BLOCKING/ROUGH LUMBER	THRESH.	THRESHOLD
	CONCRETE	T.O.S.	TOP OF STEEL
	FINISHED WOOD	TYP.	TYPICAL
	GLASS	U/C.	UNDERCUT
	GYPSUM WALLBOARD	U.N.O.	UNLESS NOTED OTHERWISE
	MASONRY	V.B.	VINYL BASE
	PARTICLE BOARD	V.C.T.	VINYL COMPOSITION TILE
	PLYWOOD	V.I.F.	VERIFY IN FIELD
	ACOUSTICAL CEILING	W.	WIDE
	BATTLOOSE INSULATION	VERT.	VERTICAL
	BLOCKING/ROUGH LUMBER	WAIN.	WAINSCOT
	CONCRETE	W.C.	WATER CLOSET
	FINISHED WOOD	WID.WIN.	WOOD WINDOW
	GLASS	WT.	WEIGHT
	GYPSUM WALLBOARD	W.W.F.	WELDED WIRE FABRIC

**SVA**  
 STUCKY VITALE ARCHITECTS  
 27172 WOODWARD AVENUE  
 ROYAL OAK, MI 48067-0925  
 P. 248.546.6700  
 F. 248.546.8454  
 WWW.STUCKYVITALE.COM

**Project :**  
 YAREMA DIE AND  
 ENGINEERING -  
 SHELTERED STORAGE  
 ADDITION  
 1855 STEPHENSON HWY  
 TROY, MI 48083

**Issued for :**  
 BIDS/PERMITS 11.24.15  
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 TITLE SHEET,  
 SHEET INDEX, AND  
 LOCATOR PLAN

**Project No. :**  
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**Project :**  
 YAREMA DIE AND  
 ENGINEERING -  
 SHELTERED STORAGE  
 ADDITION  
 1855 STEPHENSON HWY  
 TROY, MI 48083

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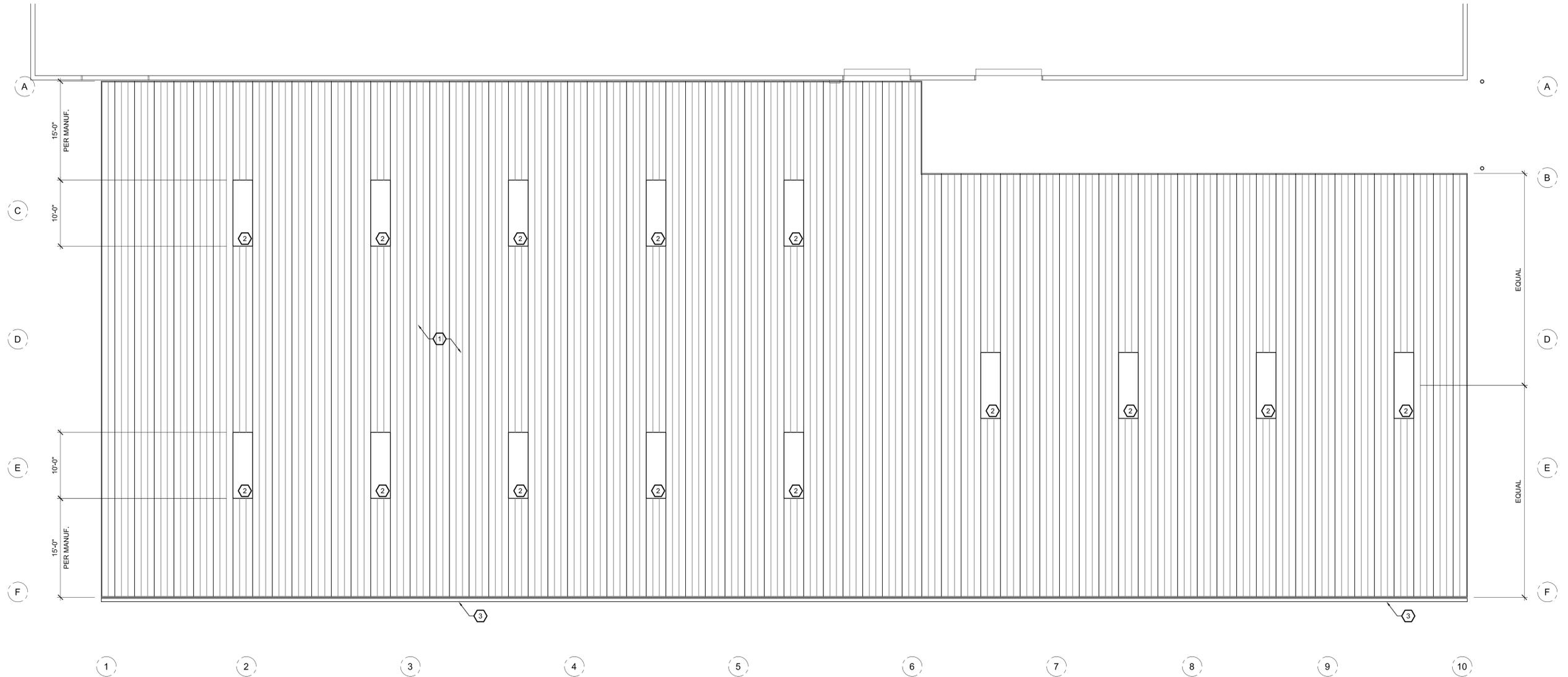
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**Sheet Title :**  
 ARCHITECTURAL  
 ROOF PLAN

**Project No. :**  
 2015.020

**Sheet No. :**  
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**ARCHITECTURAL ROOF PLAN**  
 SCALE: 1/8"=1'-0"

**ROOF PLAN KEY NOTES:**

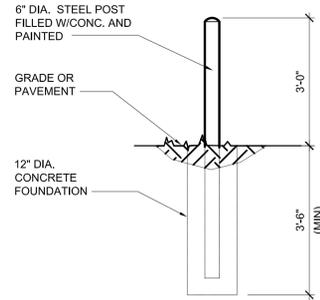
- (TYPICAL THIS SHEET ONLY)
- 1 NEW 36" WIDE (12" RIB) METAL ROOF PANEL ON PURLIN, BY PRE-MANUFACTURED BUILDING CO.
  - 2 PROPOSED LOCATION FOR TRANSLUCENT ROOF PANEL, BY PRE-MANUFACTURED BUILDING CO.
  - 3 GUTTER AND DOWNSPOUT, BY PRE-MANUFACTURED BUILDING CO. DOWNSPOUT LOCATIONS SHALL BE FIELD COORDINATED & LOCATED.

**LEGAL DESCRIPTION:**

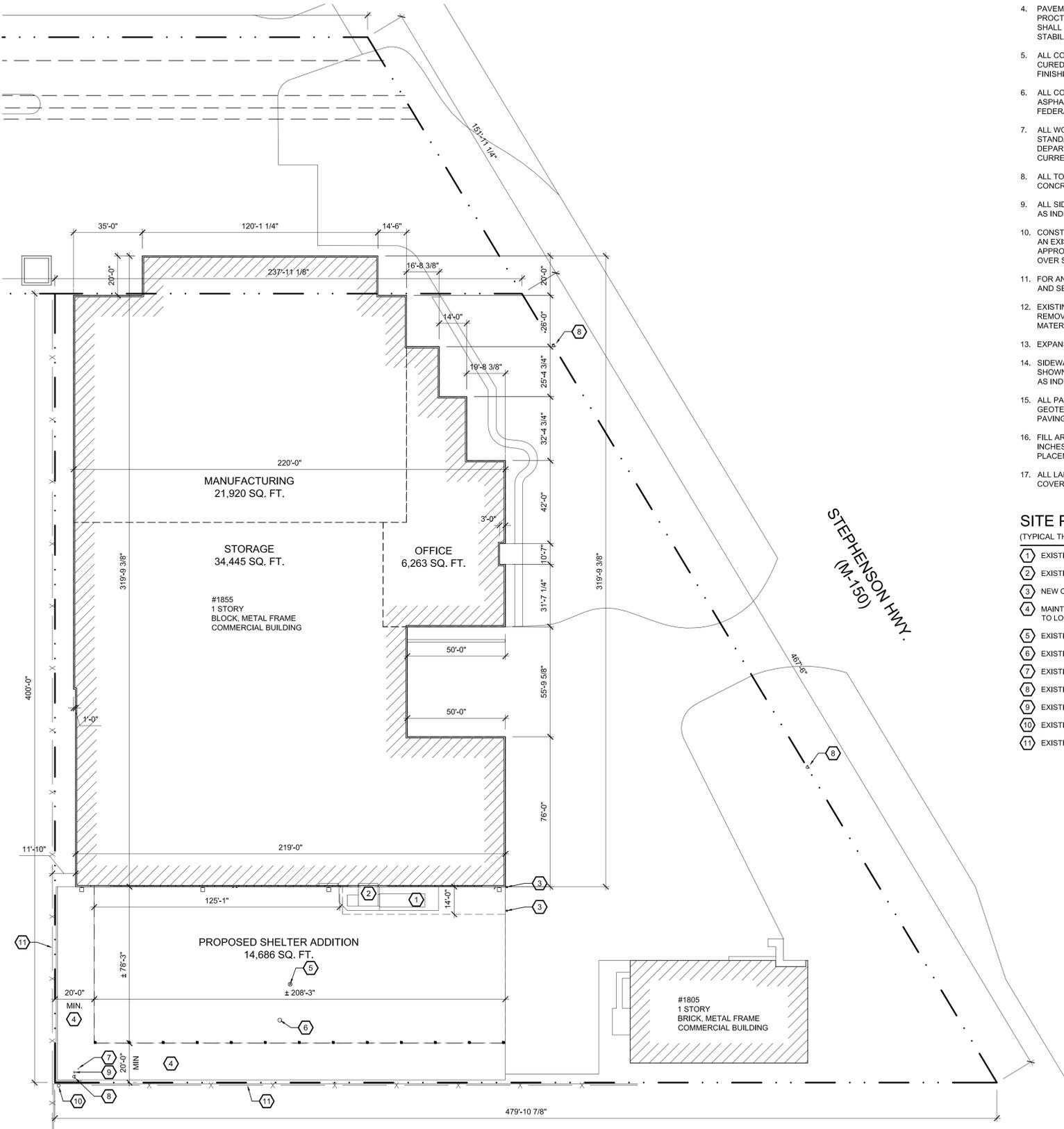
PARCEL A:  
PART OF THE SOUTHWEST 1/4 OF SECTION 26, TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS: BEGINNING AT A POINT DISTANT SOUTH 88 DEGREES 17 MINUTES 45 SECONDS EAST ALONG THE SOUTH LINE OF SAID SECTION 26, A DISTANCE OF 250.00 FEET AND NORTH 1 DEGREE 32 MINUTES 25 SECONDS EAST, 500.00 FEET AND SOUTH 88 DEGREES 17 MINUTES 45 SECONDS EAST, 350.00 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION 26; THENCE NORTH 1 DEGREE 32 MINUTES 25 SECONDS EAST, 400.00 FEET; THENCE SOUTH 88 DEGREES 17 MINUTES 45 SECONDS EAST 239.13 FEET TO THE WESTERLY LINE OF STEPHENSON (M-150) HIGHWAY (204 FEET WIDE); THENCE SOUTH 29 DEGREES 28 MINUTES EAST ALONG SAID WESTERLY HIGHWAY LINE 467.50 FEET; THENCE NORTH 88 DEGREES 17 MINUTES 45 SECONDS WEST, 479.91 FEET TO THE POINT OF BEGINNING.

PARCEL B:  
PART OF THE SOUTHWEST 1/4 OF SECTION 26, TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE WEST LINE OF SECTION 26, DISTANT NORTH 1 DEGREE 32 MINUTES 25 SECONDS EAST, 899.63 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION 26; THENCE CONTINUING NORTH 1 DEGREE 32 MINUTES 25 SECONDS EAST, 130.00 FEET; THENCE SOUTH 29 DEGREES 28 MINUTES EAST, 151.93 FEET; THENCE NORTH 88 DEGREES 17 MINUTES 45 SECONDS WEST, 839.38 FEET TO THE POINT OF BEGINNING.

NOTE:  
A BOUNDARY SURVEY IS NEEDED TO DETERMINE THE EXACT SIZE AND/OR LOCATION OF PROPERTY LINES, TO DETERMINE THE EXACT AMOUNT OF ENCROACHMENT AND/OR DETERMINE THE EXACT LOCATION OF FENCES.



**A** GUARD POST  
SP1.1 SCALE: 1/2"=1'-0"



**N** ARCHITECTURAL SITE PLAN  
SCALE: 1"=30'-0"

**GENERAL SITE PLAN NOTES:**

- PAVEMENT SHALL BE OF THE TYPE, THICKNESS AND CROSS SECTION AS INDICATED ON THE PLANS AND AS FOLLOWS:
- CONCRETE: PORTLAND CEMENT TYPE IA (AIR-ENTRAINED) WITH A MINIMUM CEMENT CONTENT OF SIX SACKS PER CUBIC YARD, MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,500 PSI AND A SLUMP OF 1 1/2 TO 3 INCHES.
- ASPHALT: BASE COURSE - MDOT BITUMINOUS MIXTURE NO. 1100L, 20AA; SURFACE COURSE - MDOT BITUMINOUS MIXTURE NO. 1100T, 20AA; ASPHALT CEMENT PENETRATION GRADE 85-100, BOND COAT - MDOT SS-1H EMULSION AT 0.10 GALLON PER SQUARE YARD; MAXIMUM 2 INCH LIFT.
- PAVEMENT BASE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY (MODIFIED PROCTOR) PRIOR TO PLACEMENT OF PROPOSED PAVEMENT. EXISTING SUB-BASE SHALL BE PROOF-ROLLED IN THE PRESENCE OF THE ENGINEER TO DETERMINE STABILITY.
- ALL CONCRETE PAVEMENT, DRIVEWAYS, CURB & GUTTER, ETC., SHALL BE SPRAY CURED WITH WHITE MEMBRANE CURING COMPOUND IMMEDIATELY FOLLOWING FINISHING OPERATION.
- ALL CONCRETE PAVEMENT JOINTS SHALL BE FILLED WITH HOT POURED RUBBERIZED ASPHALT JOINT SEALING COMPOUND IMMEDIATELY AFTER SAWCUT OPERATION, FEDERAL SPECIFICATION SS-S164.
- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE MUNICIPALITY AND THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, CURRENT EDITION.
- ALL TOP OF CURB ELEVATIONS, AS SHOWN ON THE PLANS, ARE CALCULATED FOR A 6" CONCRETE CURB UNLESS OTHERWISE NOTED.
- ALL SIDEWALK RAMPS, CONFORMING TO PUBLIC ACT NO. 8, 1993, SHALL BE INSTALLED AS INDICATED ON THE PLANS.
- CONSTRUCTION OF A NEW OR RECONSTRUCTED DRIVE APPROACH CONNECTING TO AN EXISTING STATE OR COUNTY ROADWAY SHALL BE ALLOWED ONLY AFTER AN APPROVED PERMIT HAS BEEN SECURED FROM THE AGENCY HAVING JURISDICTION OVER SAID ROADWAY.
- FOR ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY, THE CONTRACTOR SHALL PAY FOR AND SECURE ALL NECESSARY PERMITS AND LIKEWISE ARRANGE FOR ALL INSPECTION.
- EXISTING TOPSOIL, VEGETATION AND ORGANIC MATERIALS SHALL BE STRIPPED AND REMOVED FROM PROPOSED PAVEMENT AREA PRIOR TO PLACEMENT OF BASE MATERIALS.
- EXPANSION JOINTS SHOULD BE INSTALLED AT THE END OF ALL INTERSECTION RADII.
- SIDEWALK RAMPS, CONFORMING TO PUBLIC ACT NO. 8, 1973, SHALL BE INSTALLED AS SHOWN AT ALL STREET INTERSECTIONS AND AT ALL BARRIER FREE PARKING AREAS AS INDICATED ON THE PLANS.
- ALL PAVEMENT AREAS SHALL BE PROOF-ROLLED UNDER THE SUPERVISION OF A GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF BASE MATERIALS AND PAVING MATERIALS.
- FILL AREAS SHALL BE MACHINE COMPACTED IN UNIFORM LIFTS NOT EXCEEDING 9 INCHES THICK TO 98% OF THE MAXIMUM DENSITY (MODIFIED PROCTOR) PRIOR TO PLACEMENT OF PROPOSED PAVEMENT.
- ALL LANDSCAPED AREAS TO BE PROVIDED W/ SPRINKLER SYSTEMS FOR 100% COVERAGE.

**SITE PLAN KEY NOTES:**

(TYPICAL THIS SHEET ONLY)

- EXISTING DUMPSTER ON METAL PAD.
- EXISTING COMPACTOR TO REMAIN
- NEW CONCRETE-FILLED METAL BOLLARD, PAINT SAFETY YELLOW.
- MAINTAIN 20'-0" MINIMUM SETBACK FROM PROPERTY LINE. CONDUCT BOUNDARY SURVEY TO LOCATE PROPERTY LINES.
- EXISTING STORM DRAIN TO REMAIN.
- EXISTING SEWER MANHOLE TO REMAIN.
- EXISTING BOLLARD TO REMAIN, PAINT SAFETY YELLOW.
- EXISTING FIRE HYDRANT TO REMAIN.
- EXISTING WATER SERVICE ACCESS / SHUT-OFF.
- EXISTING TELEPHONE POLE TO REMAIN.
- EXISTING FENCE, PART OF NEIGHBORING PROPERTY TO REMAIN.



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**Project :**

YAREMA DIE AND  
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ADDITION  
1855 STEPHENSON HWY  
TROY, MI 48083

**Issued for :**

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**Drawn by :**

JJR

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JJR

**Sheet Title :**

ARCHITECTURAL  
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**Project No. :**

2015.020

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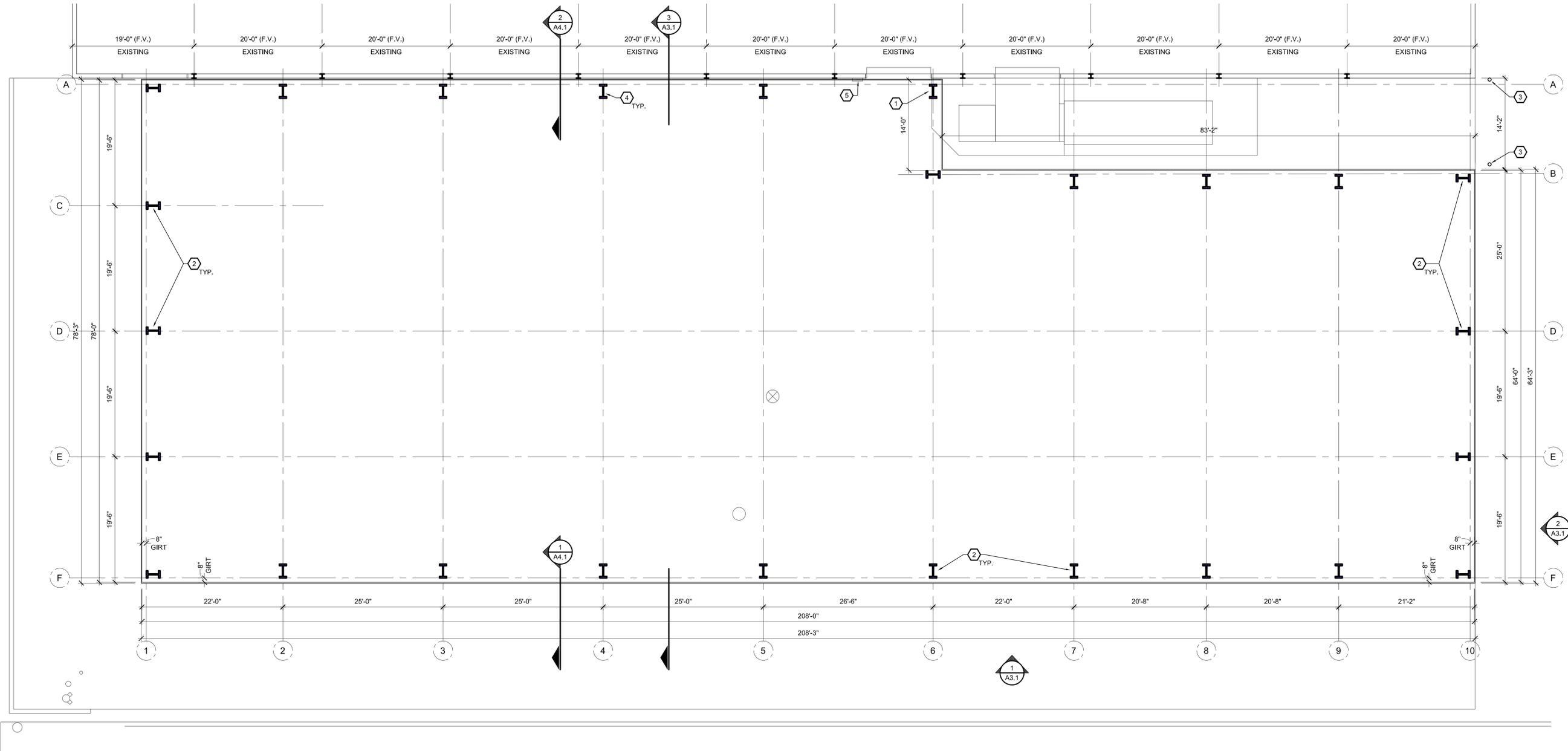
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**Sheet Title :**  
ARCHITECTURAL  
FLOOR PLAN

**Project No. :**  
2015.020

**Sheet No. :**  
A1.1

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**ARCHITECTURAL FLOOR PLAN**  
SCALE: 1/8"=1'-0"

**GENERAL FLOOR PLAN NOTES:**

1. THIS DRAWING IS DIAGRAMMATIC AND SHOULD BE USED TO DETERMINE THE DESIGN INTENT. THE CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE SET OF WORK AS INDICATED AND SHALL FIELD VERIFY ALL WORK. COORDINATE ALL DRAWINGS / NEW WORK AND SHALL NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES IN THE DOCUMENTS BEFORE PROCEEDING. FAILURE TO DO SO WILL RESULT IN THE CONTRACTOR TAKING FULL RESPONSIBILITY AND LIABILITY FOR SAID DISCREPANCIES.
2. ALL DIMENSIONS ARE SHOWN FROM FINISH FACE TO FINISH FACE OF PARTITION UNLESS OTHERWISE NOTED.
3. WALL THICKNESS' ARE NOMINAL NOT ACTUAL DIMENSIONS. SEE WALL SCHEDULE FOR ACTUAL DIMENSIONS.
4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL LOCAL, STATE, COUNTY CODE REGULATIONS, O.S.H.A., AND THE AMERICAN WITH DISABILITIES ACT (ADA). REFER TO THE CODE PLAN FOR MORE INFORMATION.

**FLOOR PLAN KEY NOTES:**

(TYPICAL THIS SHEET ONLY)

- 1 EXISTING COMPACTOR ON EXISTING CONCRETE PAD. PORTION OF EXISTING COMPACTOR PAD SHOULD BE REMOVED AS NEEDED FOR NEW FOUNDATION INSTALLATION. RE-POUR PAD UPON COMPLETION. COORDINATE LOCATION OF NEW COLUMN WITH EXISTING SERVICE DOOR. REMOVE AND RELOCATE EXISTING HOSE CABINET, CURRENTLY LOCATED ON RIGHT HAND SIDE OF DOOR (REFERENCE NOTE #5).
- 2 REMOVE EXISTING CONCRETE / SOILS AROUND AREA OF NEW COLUMN FOOTING. REFER TO STRUCTURAL DWGS FOR PAD SIZES; COORDINATE LOCATIONS WITH PRE-MANUFACTURED BUILDING DRAWINGS. CONCRETE SHALL BE SAW CUT TO ALLOW FOR NEW EXPANSION JOINT INSTALLATION AT TIME OF CONCRETE RE-POUR.
- 3 NEW 6" CONCRETE BOLLARD, PAINTED SAFETY YELLOW.
- 4 CONTRACTOR SHALL USE CARE WHEN EXCAVATING FOR NEW FOUNDATIONS ALONG EXISTING BUILDING. DO NOT UNDERMINE EXISTING FOUNDATIONS; HAND DIG DIRECTLY ADJACENT TO EXISTING FOOTINGS; FIELD VERIFY EXISTING CONDITIONS AND FOOTING DEPTHS.
- 5 RELOCATED, EXISTING HOSE CABINET. COORDINATE WATER CONNECTION IN FIELD.



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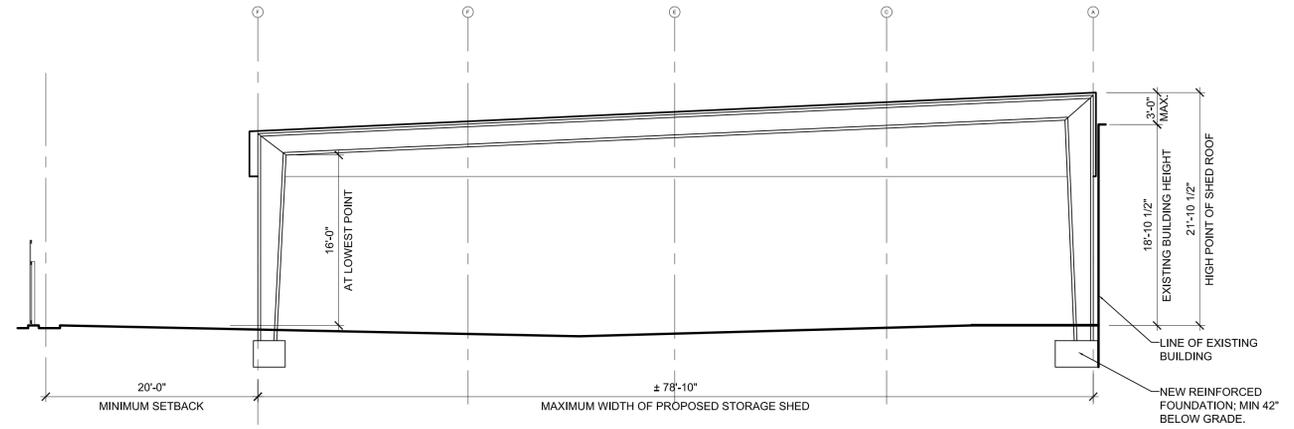
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 EXTERIOR  
 ELEVATIONS

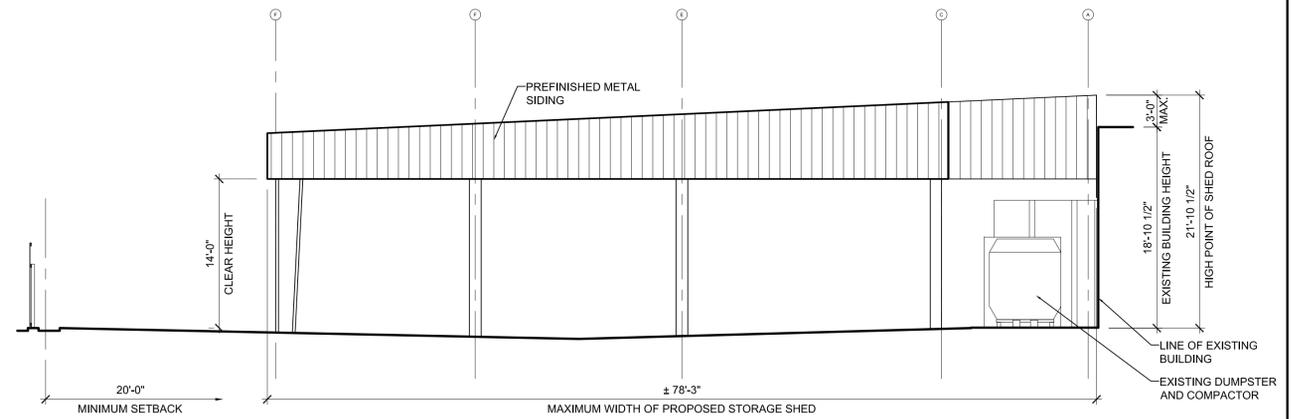
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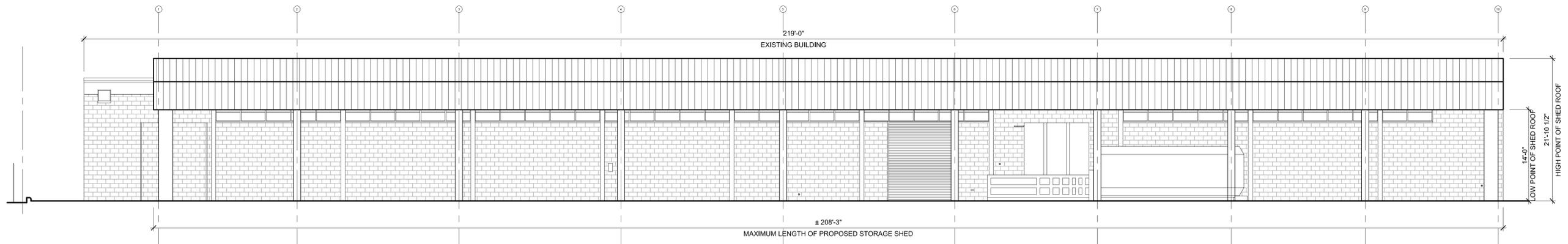
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**3 BUILDING SECTION**  
 SCALE: 1/8" = 1'-0"



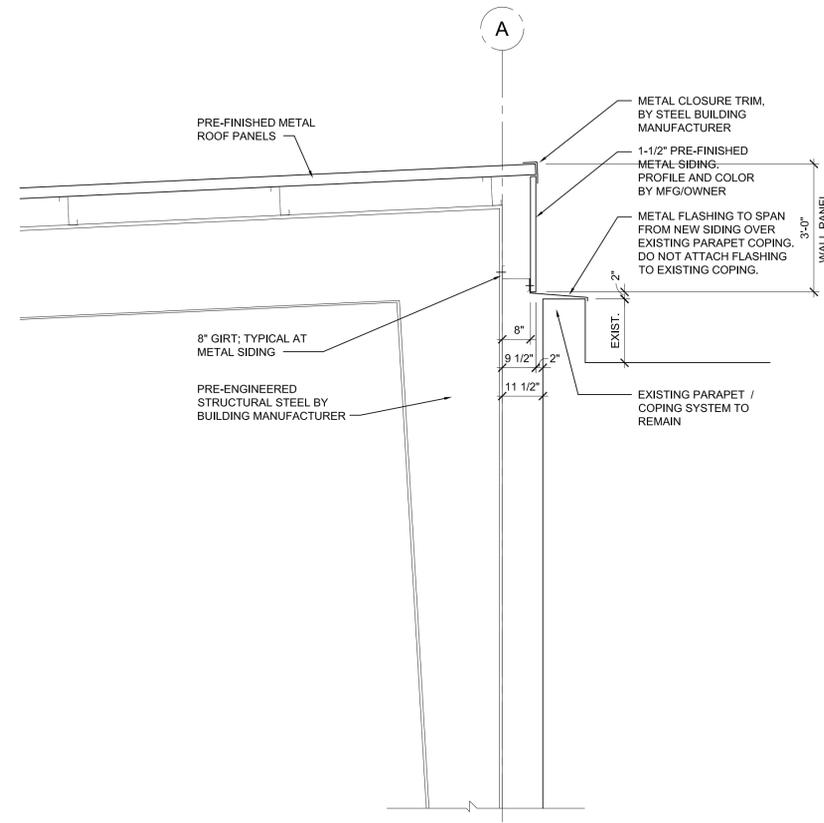
**2 EAST ELEVATION**  
 SCALE: 1/8" = 1'-0"



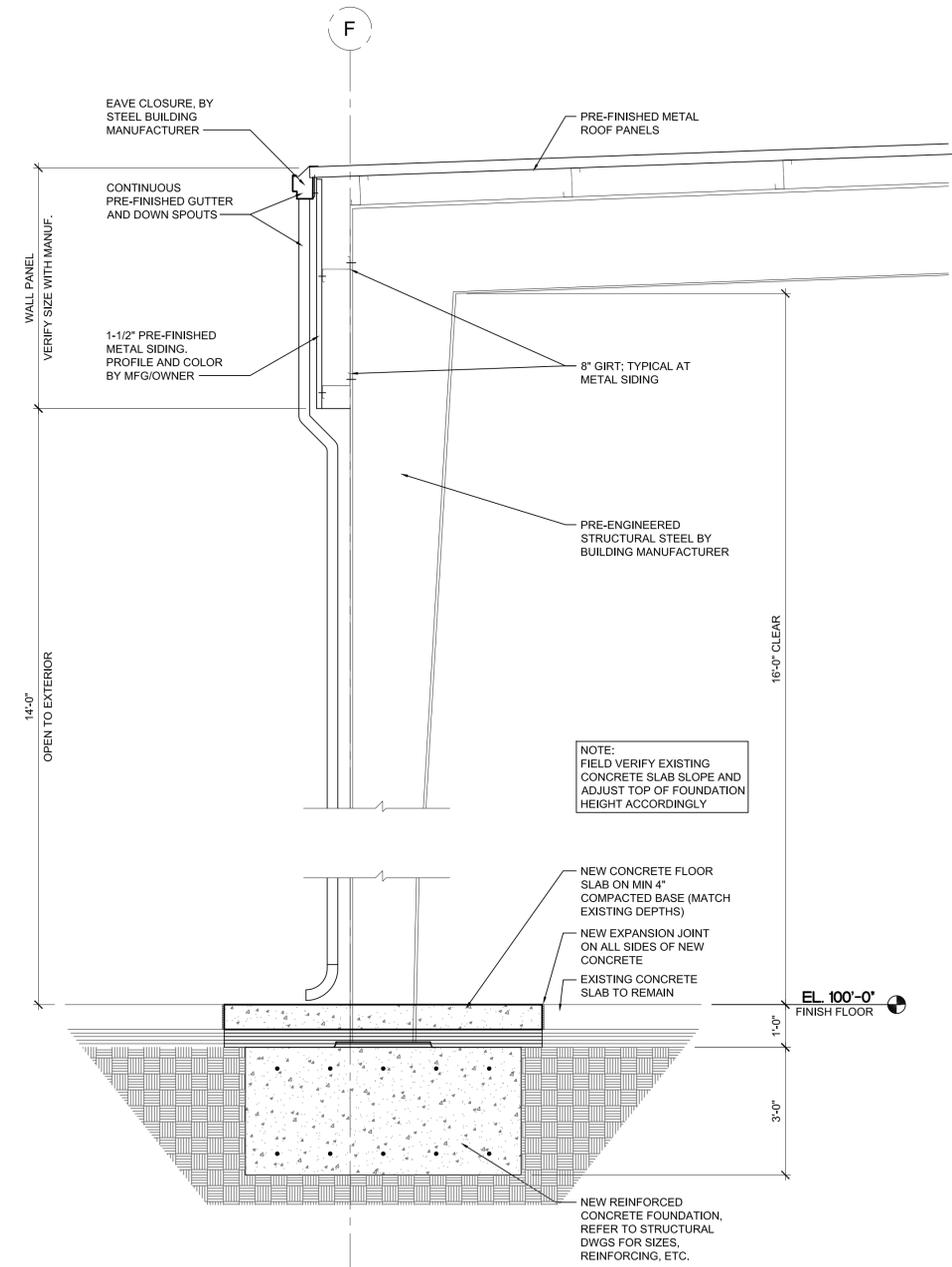
**1 SOUTH ELEVATION**  
 SCALE: 1/8" = 1'-0"



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**2** WALL SECTION  
 A1.1 SCALE: 1/2" = 1'-0"



**1** WALL SECTION  
 A1.1 SCALE: 1/2" = 1'-0"

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 WALL SECTIONS

**Project No. :**  
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## CHAPTER 5

# GENERAL BUILDING HEIGHTS AND AREAS

### SECTION 501 GENERAL

**501.1 Scope.** The provisions of this chapter control the height and area of structures hereafter erected and *additions* to existing structures.

**[F] 501.2 Address identification.** New and existing buildings shall be provided with *approved* address numbers or letters. Each character shall be not less than 4 inches (102 mm) in height and not less than 0.5 inch (12.7 mm) in width. They shall be installed on a contrasting background and be plainly visible from the street or road fronting the property. When required by the fire code official, address numbers shall be provided in additional *approved* locations to facilitate emergency response. Where access is by means of a private road and the building address cannot be viewed from the *public way*, a monument, pole or other *approved* sign or means shall be used to identify the structure. Address numbers shall be maintained.

### SECTION 502 DEFINITIONS

**502.1 Definitions.** The following terms are defined in Chapter 2:

AREA, BUILDING.

BASEMENT.

EQUIPMENT PLATFORM.

GRADE PLANE.

HEIGHT, BUILDING.

MEZZANINE.

### SECTION 503 GENERAL BUILDING HEIGHT AND AREA LIMITATIONS

**503.1 General.** The *building height and area* shall not exceed the limits specified in Table 503 based on the type of construction as determined by Section 602 and the occupancies as determined by Section 302 except as modified hereafter. Each portion of a building separated by one or more *fire walls* complying with Section 706 shall be considered to be a separate building.

**503.1.1 Special industrial occupancies.** Buildings and structures designed to house special industrial processes that require large areas and unusual *building heights* to accommodate cranes or special machinery and equipment, including, among others, rolling mills; structural metal fabrication shops and foundries; or the production and distribution of electric, gas or steam power, shall be exempt from the *building height and area* limitations of Table 503.

**503.1.2 Buildings on same lot.** Two or more buildings on the same *lot* shall be regulated as separate buildings or shall be considered as portions of one building if the *building height* of each building and the aggregate *building area* of the buildings are within the limitations of Table 503 as modified by Sections 504 and 506. The provisions of this code applicable to the aggregate building shall be applicable to each building.

**503.1.3 Type I construction.** Buildings of Type I construction permitted to be of unlimited tabular *building heights and areas* are not subject to the special requirements that allow unlimited area buildings in Section 507 or unlimited *building height* in Sections 503.1.1 and 504.3 or increased *building heights and areas* for other types of construction.

### SECTION 504 BUILDING HEIGHT

**504.1 General.** The *building height* permitted by Table 503 shall be increased in accordance with Sections 504.2 and 504.3.

**Exception:** The *building height* of one-story aircraft hangars, aircraft paint hangars and buildings used for the manufacturing of aircraft shall not be limited if the building is provided with an *automatic sprinkler system* or *automatic fire-extinguishing system* in accordance with Chapter 9 and is entirely surrounded by *public ways* or *yards* not less in width than one and one-half times the *building height*.

**504.2 Automatic sprinkler system increase.** Where a building is equipped throughout with an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, the value specified in Table 503 for maximum *building height* is increased by 20 feet (6096 mm) and the maximum number of *stories* is increased by one. These increases are permitted in addition to the *building area* increase in accordance with Sections 506.2 and 506.3. For Group R buildings equipped throughout with an *approved automatic sprinkler system* in accordance with Section 903.3.1.2, the value specified in Table 503 for maximum *building height* is increased by 20 feet (6096 mm) and the maximum number of *stories* is increased by one, but shall not exceed 60 feet (18 288 mm) or four *stories*, respectively.

**Exception:** The use of an *automatic sprinkler system* to increase *building heights* shall not be permitted for the following conditions:

1. Buildings, or portions of buildings, classified as a Group I-2 occupancy of Type IIB, III, IV or V construction.
2. Buildings, or portions of buildings, classified as a Group H-1, H-2, H-3 or H-5 occupancy.

$F$  = Building perimeter that fronts on a *public way* or open space having a width of 20 feet (6096 mm) or more.

**Exception:** Where the building meets the requirements of Section 507, as applicable, except for compliance with the 60-foot (18 288 mm) *public way* or *yard* requirement, and the value of  $W$  is greater than 30 feet (9144 mm), the value of  $W$  divided by 30 shall be limited to a maximum of 2.

**506.2.2 Open space limits.** Such open space shall be either on the same *lot* or dedicated for public use and shall be accessed from a street or *approved fire lane*.

**506.3 Automatic sprinkler system increase.** Where a building is equipped throughout with an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, the *building area* limitation in Table 503 is permitted to be increased by an additional 200 percent ( $I_s = 2$ ) for buildings with more than one *story above grade plane* and an additional 300 percent ( $I_s = 3$ ) for buildings with no more than one *story above grade plane*. These increases are permitted in addition to the height and *story* increases in accordance with Section 504.2.

**Exception:** The use of an *automatic sprinkler system* to increase the building area limitation shall not be permitted for the following conditions:

1. Buildings classified as a Group H-1 occupancy.
2. Buildings, or portions of buildings, classified as either a Group H-2 or H-3 occupancy. For buildings containing such occupancies, the allowable area shall be determined in accordance with Section 508.4.2, with the sprinkler system increase applicable only to the portions of the building not classified as Group H-2 or H-3.
3. Buildings where an *automatic sprinkler system* is substituted for fire-resistance rated construction in accordance with Table 601, Note d.

**506.4 Single occupancy buildings with more than one story.** The total allowable *building area* of a single occupancy building with more than one *story above grade plane* shall be determined in accordance with this section. The actual aggregate *building area* at all *stories* in the building shall not exceed the total allowable *building area*.

**Exception:** A single *basement* need not be included in the total allowable *building area*, provided such *basement* does not exceed the area permitted for a building with no more than one *story above grade plane*.

**506.4.1 Area determination.** The total allowable *building area* of a single occupancy building with more than one *story above grade plane* shall be determined by multiplying the allowable *building area* per *story* ( $A_s$ ), as determined in Section 506.1, by the number of *stories above grade plane* as listed below:

1. For buildings with two *stories above grade plane*, multiply by 2;
2. For buildings with three or more *stories above grade plane*, multiply by 3; and

3. No *story* shall exceed the allowable *building area* per *story* ( $A_s$ ), as determined in Section 506.1, for the occupancies on that *story*.

**Exceptions:**

1. Unlimited area buildings in accordance with Section 507.
2. The maximum area of a building equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.2 shall be determined by multiplying the allowable area per *story* ( $A_s$ ), as determined in Section 506.1, by the number of *stories above grade plane*.

**506.5 Mixed occupancy area determination.** The total allowable *building area* for buildings containing mixed occupancies shall be determined in accordance with the applicable provisions of this section. A single *basement* need not be included in the total allowable *building area*, provided such *basement* does not exceed the area permitted for a building with no more than one *story above grade plane*.

**506.5.1 No more than one story above grade plane.** For buildings with no more than one *story above grade plane* and containing mixed occupancies, the total *building area* shall be determined in accordance with the applicable provisions of Section 508.1.

**506.5.2 More than one story above grade plane.** For buildings with more than one *story above grade plane* and containing mixed occupancies, each *story* shall individually comply with the applicable requirements of Section 508.1. For buildings with more than three *stories above grade plane*, the total *building area* shall be such that the aggregate sum of the ratios of the actual area of each *story* divided by the allowable area of such *stories* based on the applicable provisions of Section 508.1 shall not exceed 3.

## SECTION 507 UNLIMITED AREA BUILDINGS

**507.1 General.** The area of buildings of the occupancies and configurations specified in Sections 507.1 through 507.12 shall not be limited.

**Exception:** Other occupancies shall be permitted in unlimited area buildings in accordance with the provisions of Section 508.2.

Where Sections 507.2 through 507.12 require buildings to be surrounded and adjoined by *public ways* and *yards*, those open spaces shall be determined as follows:

1. *Yards* shall be measured from the building perimeter in all directions to the closest interior *lot lines* or to the exterior face of an opposing building located on the same *lot*, as applicable.
2. Where the building fronts on a *public way*, the entire width of the *public way* shall be used.

**507.2 Nonsprinklered, one story.** The area of a Group F-2 or S-2 building no more than one *story* in height shall not be limited where the building is surrounded and adjoined by

**GENERAL BUILDING HEIGHTS AND AREAS**

3. Buildings where an *automatic sprinkler system* is substituted for fire-resistance rated construction in accordance with Table 601, Note d.

**504.3 Roof structures.** Towers, spires, steeples and other roof structures shall be constructed of materials consistent with the required type of construction of the building except where other construction is permitted by Section 1509.2.5.

Such structures shall not be used for habitation or storage. The structures shall be unlimited in height if of noncombustible materials and shall not extend more than 20 feet (6096 mm) above the allowable *building height* if of combustible materials (see Chapter 15 for additional requirements).

**TABLE 503**  
**ALLOWABLE BUILDING HEIGHTS AND AREAS<sup>a, b</sup>**  
 Building height limitations shown in feet above grade plane. Story limitations shown as stories above grade plane.  
 Building area limitations shown in square feet, as determined by the definition of "Area, building," per story

GROUP	HEIGHT (feet)	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
	UL	160	65	55	65	55	65	50	40	
		STORIES(S) AREA (A)								
A-1	S	UL	5	3	2	3	2	3	2	1
	A	UL	UL	15,500	8,500	14,000	8,500	15,000	11,500	5,500
A-2	S	UL	11	3	2	3	2	3	2	1
	A	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
A-3	S	UL	11	3	2	3	2	3	2	1
	A	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
A-4	S	UL	11	3	2	3	2	3	2	1
	A	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
A-5	S	UL	UL	UL	UL	UL	UL	UL	UL	UL
	A	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	S	UL	11	5	3	5	3	5	3	2
	A	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000
E	S	UL	5	3	2	3	2	3	1	1
	A	UL	UL	26,500	14,500	23,500	14,500	25,500	18,500	9,500
F-1	S	UL	11	4	2	3	2	4	2	1
	A	UL	UL	25,000	15,500	19,000	12,000	33,500	14,000	8,500
F-2	S	UL	11	5	3	4	3	5	3	2
	A	UL	UL	37,500	23,000	28,500	18,000	50,500	21,000	13,000
H-1	S	1	1	1	1	1	1	1	1	NP
	A	21,000	16,500	11,000	7,000	9,500	7,000	10,500	7,500	NP
H-2	S	UL	3	2	1	2	1	2	1	1
	A	21,000	16,500	11,000	7,000	9,500	7,000	10,500	7,500	3,000
H-3	S	UL	6	4	2	4	2	4	2	1
	A	UL	60,000	26,500	14,000	17,500	13,000	25,500	10,000	5,000
H-4	S	UL	7	5	3	5	3	5	3	2
	A	UL	UL	37,500	17,500	28,500	17,500	36,000	18,000	6,500
H-5	S	4	4	3	3	3	3	3	3	2
	A	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000
I-1	S	UL	9	4	3	4	3	4	3	2
	A	UL	55,000	19,000	10,000	16,500	10,000	18,000	10,500	4,500
I-2	S	UL	4	2	1	1	NP	1	1	NP
	A	UL	UL	15,000	11,000	12,000	NP	12,000	9,500	NP
I-3	S	UL	4	2	1	2	1	2	2	1
	A	UL	UL	15,000	10,000	10,500	7,500	12,000	7,500	5,000
I-4	S	UL	5	3	2	3	2	3	1	1
	A	UL	60,500	26,500	13,000	23,500	13,000	25,500	18,500	9,000

(continued)

TABLE 503—continued  
ALLOWABLE BUILDING HEIGHTS AND AREAS<sup>a, b</sup>

GROUP	HEIGHT (feet)	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
		UL	160	65	55	65	55	65	50	40
		STORIES(S) AREA (A)								
M	S	UL	11	4	2	4	2	4	3	1
	A	UL	UL	21,500	12,500	18,500	12,500	20,500	14,000	9,000
R-1	S	UL	11	4	4	4	4	4	3	2
	A	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
R-2	S	UL	11	4	4	4	4	4	3	2
	A	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
R-3	S	UL	11	4	4	4	4	4	3	3
	A	UL	UL	UL	UL	UL	UL	UL	UL	UL
R-4	S	UL	11	4	4	4	4	4	3	2
	A	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
S-1	S	UL	11	4	2	3	2	4	3	1
	A	UL	48,000	26,000	17,500	26,000	17,500	25,500	14,000	9,000
S-2	S	UL	11	5	3	4	3	5	4	2
	A	UL	79,000	39,000	26,000	39,000	26,000	38,500	21,000	13,500
U	S	UL	5	4	2	3	2	4	2	1
	A	UL	35,500	19,000	8,500	14,000	8,500	18,000	9,000	5,500

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m<sup>2</sup>.

A = building area per story, S = stories above grade plane, UL = Unlimited, NP = Not permitted.

a. See the following sections for general exceptions to Table 503:

1. Section 504.2, Allowable building height and story increase due to automatic sprinkler system installation.
2. Section 506.2, Allowable building area increase due to street frontage.
3. Section 506.3, Allowable building area increase due to automatic sprinkler system installation.
4. Section 507, Unlimited area buildings.

b. See Chapter 4 for specific exceptions to the allowable height and areas in Chapter 5.

### SECTION 505 MEZZANINES AND EQUIPMENT PLATFORMS

**505.1 General.** Mezzanines shall comply with Section 505.2. Equipment platforms shall comply with Section 505.3.

**505.2 Mezzanines.** A mezzanine or mezzanines in compliance with Section 505.2 shall be considered a portion of the story below. Such mezzanines shall not contribute to either the building area or number of stories as regulated by Section 503.1. The area of the mezzanine shall be included in determining the fire area. The clear height above and below the mezzanine floor construction shall be not less than 7 feet (2134 mm).

**505.2.1 Area limitation.** The aggregate area of a mezzanine or mezzanines within a room shall be not greater than one-third of the floor area of that room or space in which they are located. The enclosed portion of a room shall not be included in a determination of the floor area of the room in which the mezzanine is located. In determining the allowable mezzanine area, the area of the mezzanine shall not be included in the floor area of the room.

Where a room contains both a mezzanine and an equipment platform, the aggregate area of the two raised floor

levels shall be not greater than two-thirds of the floor area of that room or space in which they are located.

#### Exceptions:

1. The aggregate area of mezzanines in buildings and structures of Type I or II construction for special industrial occupancies in accordance with Section 503.1.1 shall be not greater than two-thirds of the floor area of the room.
2. The aggregate area of mezzanines in buildings and structures of Type I or II construction shall be not greater than one-half of the floor area of the room in buildings and structures equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 and an approved emergency voice/alarm communication system in accordance with Section 907.5.2.2.

**505.2.2 Means of egress.** The means of egress for mezzanines shall comply with the applicable provisions of Chapter 10.

**505.2.3 Openness.** A mezzanine shall be open and unobstructed to the room in which such mezzanine is located