

Application for Public Hearing SPECIAL USE PERMITS

YOU MUST PROVIDE THE FOLLOWING INFORMATION: IF ADDITIONAL SPACE IS NEEDED, ATTACH EXTRA PAGES TO THE PETITION.

Name of Business (If applicable): McDonald's USA, LLC
Address/Location of Property in Question: 111 West Madison Street
Property Identification Number(s)(PIN): 16-17-105-001; 002; 003; 004; 005; 006
Name of Property Owner(s): McDonald's Corporation
Address of Property Owner(s): 711 Jorie Boulevard, Oak Brook , IL
E-Mail of Property Owner(s): Al.daniels@us.mcd.com Phone: 630-750-4371
If Land Trust, name(s) of all beneficial owners: (A Certificate of Trust must be filed.) See attached corporate resolutions.
Name of Applicant(s): McDonald's Corporation-Al Daniels Applicant's Address: 711 Jorie Boulevard, Oak Brook, IL 60523
Applicant's Phone Number: Office 630-750-4371 E-Mail Al.daniels@us.mcd.com
Other: N/A
Project Contact: (if Different than Applicant) Kenneth Sack
Contact's Address:2631 Ginger Woods Pkwy Aurora, IL 60502
Contact's Phone Number: Office 630-375-1800 Ext. 125 E-Mail Al.daniels@us.mcd.com
Other: Project Manage
Property Interest of Applicant: X OwnerLegal RepresentativeContract PurchaserOther (If Other - Describe):N/A
Existing Zoning : MS Madison Street Describe Proposal : Converting existing single drive-through system to dual drive-through system to increase drive-through capacity, efficiency and customer satisfaction. Maintain existing landscaping and add new landscaping as part of dual drive-through system modifications.

Adjacent:	Zoning Districts	Land Uses		
To the North: MS	Madison Street	Existing retail stores, Existing parking lot.		
To the South: R-4	1 Single Family	Existing residential.		
To the East: MS Madison Street Office building, residential				
To the West: I Institutional Oak Park Village Hall				
How the property	in question is currently	v improved?		
□ Reside		·		
		isting single drive-through system to dual drive-through		
•	•	city, efficiency and customer satisfaction. Maintain existing landscaping and add		
-		hrough system modifications.		
new landscap	ing as part of dual drive-ti	mough system mounications.		
Is the property in	question currently in v	iolation of the Zoning Ordinance? Yes X No		
If Yes, ho	ow? N/A			
Is the property in	auestion presently sub	oject to a Special Use Permit? X YesNo		
		expansion of a legal non-conforming drive-through		
	ease provide relevant Ord			
π 703, μπ	sase provide relevant ord	andree 140. 14/7		
Is the subject pro	perty located within an	y Historic District? Yes X No		
If Yes:	☐ Frank Lloyd Wright	☐ Ridgeland/Oak Park ☐ Gunderson		
From what Section	on(s) of the Zoning Ordi	nance are you requesting approval / relief?		
Article: 8 Uses		Section: 8.3 Use Restrictions, Table 8-1: Use Matrix		
Article: N/A		Section: N/A		
Article: N/A		Section: N/A		

Size of Parcel (from Plat of Survey): 23,605 Square Feet

Explain why, in your opinion, the grant of this request will be in harmony with the neighborhood and not contrary to the intent and purpose of the Zoning Ordinance or Comprehensive Plan;

The special use meets the requirements of zoning classification MS Madison Street Zoning District in that drive-through facilities are allowed at this particular location. The special use request for the dual drive-through system complies with the drive-through facility requirements in the Village of Oak Park Zoning Ordinance. McDonald's has provided a valued service to the community and its neighbor's and has historical precedents of conducting business in safe and friendly manner that adds value to the property, community, and its neighbors without altering the essential character or land use

of the locality. McDonald's will continue their tradition of showing interest and supporting development for the betterment of the community and surrounding properties. As an existing operating McDonald's drive-through restaurant, the business currently upholds all municipal, state and federal laws, and has business maintenance and operational practices for safe operation and service to patrons, employees, community and its neighbors.

(we) consent to the entry in or upon the premises descri Oak Park for the purpose of securing information, posting aw.	bed in this application by any authorized official of the Village of , maintaining and removing such notices as may be required by
(Printed Name) Applicant	
Signature) Applicant	Date
(Printed Name) Owner	
(Signature) Owner	Date
Owner's Signature must be notarized	t
SUBSCRIBED AND SWORN TO BEFORE ME THIS	
,,,,,	

Petition for Public Hearing Page 3 of 3



March 26, 2020

Michael Bruce Zoning Administrator Village of Oak Park 123 Madison Street Oak Park, IL 60302

RE: McDonald's – 111 West Madison Street

Special Use Permit-Additional lane for dual drive-through system

WER#: 20-012

Dear Mr. Bruce,

Below are the findings of support for the special use permit request for the addition of a new lane as part of the dual drive-through modifications in the Village of Oak Park. Following each criterion, we have annotated a response for the project.

- The establishment, maintenance, and operation of the proposed special use will not have substantial or unduly adverse impact on the neighborhood or endanger the public health, safety or welfare.
 - o McDonald's investment into the dual drive-through lane system will increase vehicular stacking capacity in drive-through queue, effectively limit potential stacking issues and provide more efficient customer service. The proposed modifications will not have a negative or adverse impact on the surrounding neighborhood. As an existing operating McDonald's restaurant, the business currently upholds all municipal, state and federal laws, and has business maintenance and operational practices for safe operation and service to patrons, employees, community and its neighbors. McDonald's provides a valued service to the community and its neighbor's and has historical precedents of conducting business in safe and friendly manner adding value to the property, community, and its neighbors.
- The proposed special use is compatible with the general land use of adjacent properties and other property within the immediate vicinity.
 - The general land use will not be altered with the proposed drive-through modifications. McDonald's proposed plans are to maintain all such facilities and improve such facilities. McDonald's provides a valued service to the community and its neighbor's and has historical precedents of conducting business in safe and friendly manner that adds value to the property, community, and its neighbors without altering the essential character of the locality. McDonald's will continue their tradition of showing interest and supporting development for the betterment of the community and surrounding properties.

- The special use in the specific location proposed is consistent with the spirit and intent of this ordinance, adopted land use policies and the comprehensive plan.
 - O The special use meets the requirements of zoning classification MS Madison Street Zoning District in that drive-through facilities are allowed at this particular location. The special use request for the dual drive-through system complies with the drive-through facility requirements in the Village of Oak Park Zoning Ordinance. McDonald's has provided a valued service to the community and its neighbor's and has historical precedents of conducting business in safe and friendly manner that adds value to the property, community, and its neighbors without altering the essential character or land use of the locality. McDonald's will continue their tradition of showing interest and supporting development for the betterment of the community and surrounding properties. As an existing operating McDonald's drive-through restaurant, the business currently upholds all municipal, state and federal laws, and has business maintenance and operational practices for safe operation and service to patrons, employees, community and its neighbors.
- The special use meets the requirements for such classification in this ordinance.
 - The special use meets the requirements of zoning classification MS Madison Street Zoning District in that drive-through facilities are allowed at this particular location. The special use request for the dual drive-through system complies with the drive-through facility requirements in the Village of Oak Park Zoning Ordinance. McDonald's investment into the dual drive-through lane system will increase vehicular stacking capacity and provide more efficient customer service for many years to come.

If you have any questions, please let me know.

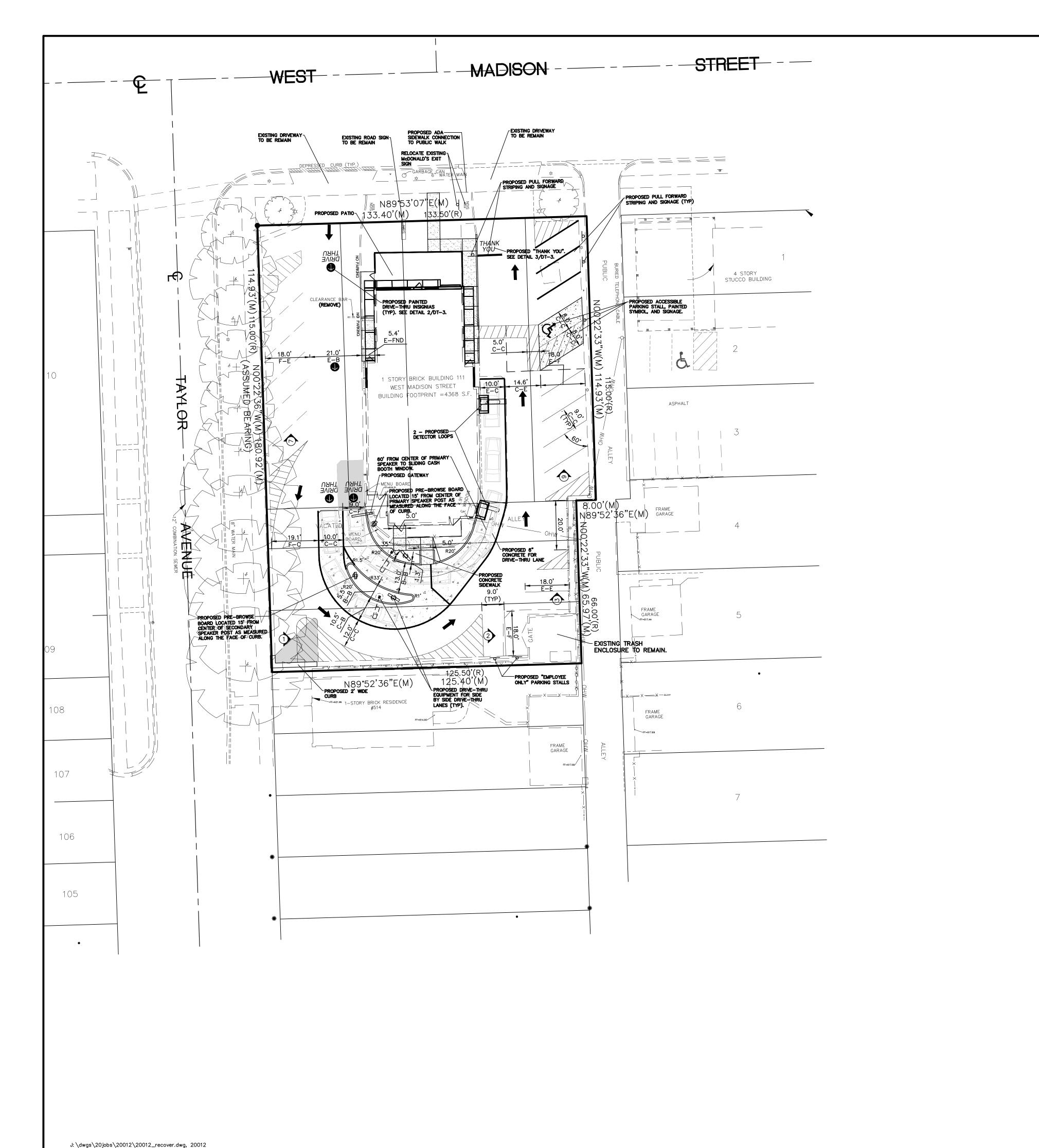
Sincerely,

Watermark Engineering Resources, Ltd.

Kinneth Sack

Kenneth Sack

Project Manager



GENERAL NOTES:

1. THESE PLANS ARE BASED ON THE BOUNDARY AND TOPOGRAPHIC SURVEY

(SURVEY PROJECT #20.027 DATED 02/07/20) PREPARED BY: COMPASS SURVEYING LTD 2631 GINGER WOODS PARKWAY, STE 100, AURORA, IL 60502 (630) 820-9100

2. PRIOR TO CONSTRUCTION, CONTRACTOR TO CONTACT THE DESIGN ENGINEER AND ARCHITECT TO VERIFY THAT THEY ARE WORKING FROM THE MOST CURRENT SET OF PLANS AND SPECIFICATIONS.

ON SITE PARKING DATA EX. REGULAR SPACES EX. ADA ACCESSIBLE SPACES
EX. TOTAL SPACES PROP. REGULAR SPACES PROP. ADA ACCESSIBLE SPACES
PROP. TOTAL SPACES

PARKING REQUIREMENT: 1 SPACE/500 S.F. GROSS BUILDING 4,368 S.F. BLDG/500 S.F. = 8.7 OR 9 REQUIRED SPACES 22 PROPOSED SPACES > 9 REQUIRED SPACES

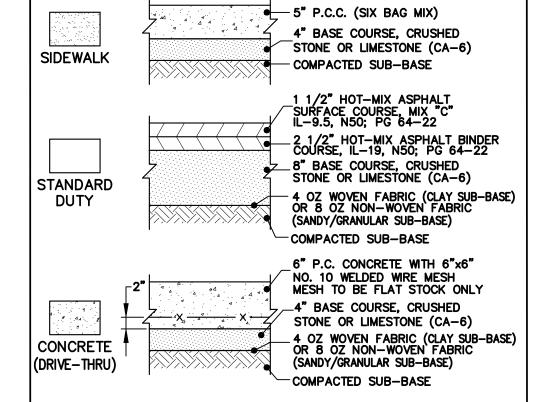
SITE DATA

= 23,605 S.F. (0.54 AC.) LOT AREA BUILDING AREA = 4,368 S.F. F.A.R. = 0.18

- SITE PLAN NOTES:

 1. ALL RADIUS DIMENSIONS ARE TO BACK OF CURB. 2. SEE ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS. 3. ALL STRIPING TO BE DOUBLE COATED 4" YELLOW PAINT UNLESS OTHERWISE NOTED.
- 4. WHERE PEDESTRIANS HAVE TO CROSS A TAPERING RAMP OR CURB RAMP THE FACE AND TOP OF CURB ARE TO BE PAINTED USING YELLOW, SLIP RESISTANT PAINT.

PAVEMENT LEGEND

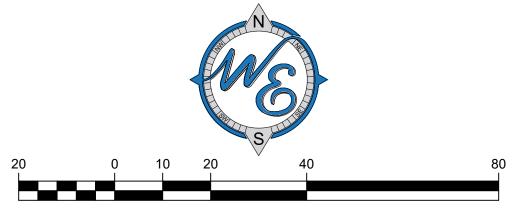


REFERENCE I.D.O.T. STANDARD SPECIFICATIONS (LATEST

- EDITION) SECTION 406 FOR BINDER & SURFACE COURSES AND SECTION 351 FOR AGGREGATE BASE COURSE. THE APPLICATION RATES FOR THE PRIME COAT AND TACK COAT ARE TO BE 0.30 AND 0.10 GALLONS PER SQUARE YARD, RESPECTIVELY.
- SEE PROJECT SPECIFICATIONS FOR SUB-BASE AND BASE COURSE COMPACTION.
- ALL CONCRETE FLATWORK TO INCLUDE A JOINTING PATTERN SUBMITTAL TO THE CONSTRUCTION MANAGER. CONTRACTOR TO STAY AS CLOSE TO 9'x9' SQUARE PANELS IN LARGE CONCRETE FLATWORK AREAS AS POSSIBLE.
- FOR SIDEWALKS, PROVIDE TOOLED JOINTS AT 5' O.C., CONTRACTION JOINTS AT 15' O.C., EXPANSION JOINTS AT
- PROVIDE AN EXPANSION JOINT ADJACENT TO ALL STRUCTURES. THESE JOINTS SHOULD BE SEALED WITH A TOOL-FINISHED SILICONE SEALANT PER I.D.O.T. STANDARD.

DIMENSION LEGEND

	<u>-</u>	<u> </u>	<u> </u>		
F	= FACE		FNC	=	FENCE
FND	D = FOUNDA	TION	R	=	RADIUS
В	B = BACK		С	=	CENTER
Ε	= EDGE		PL	=	PROPERTY LINE

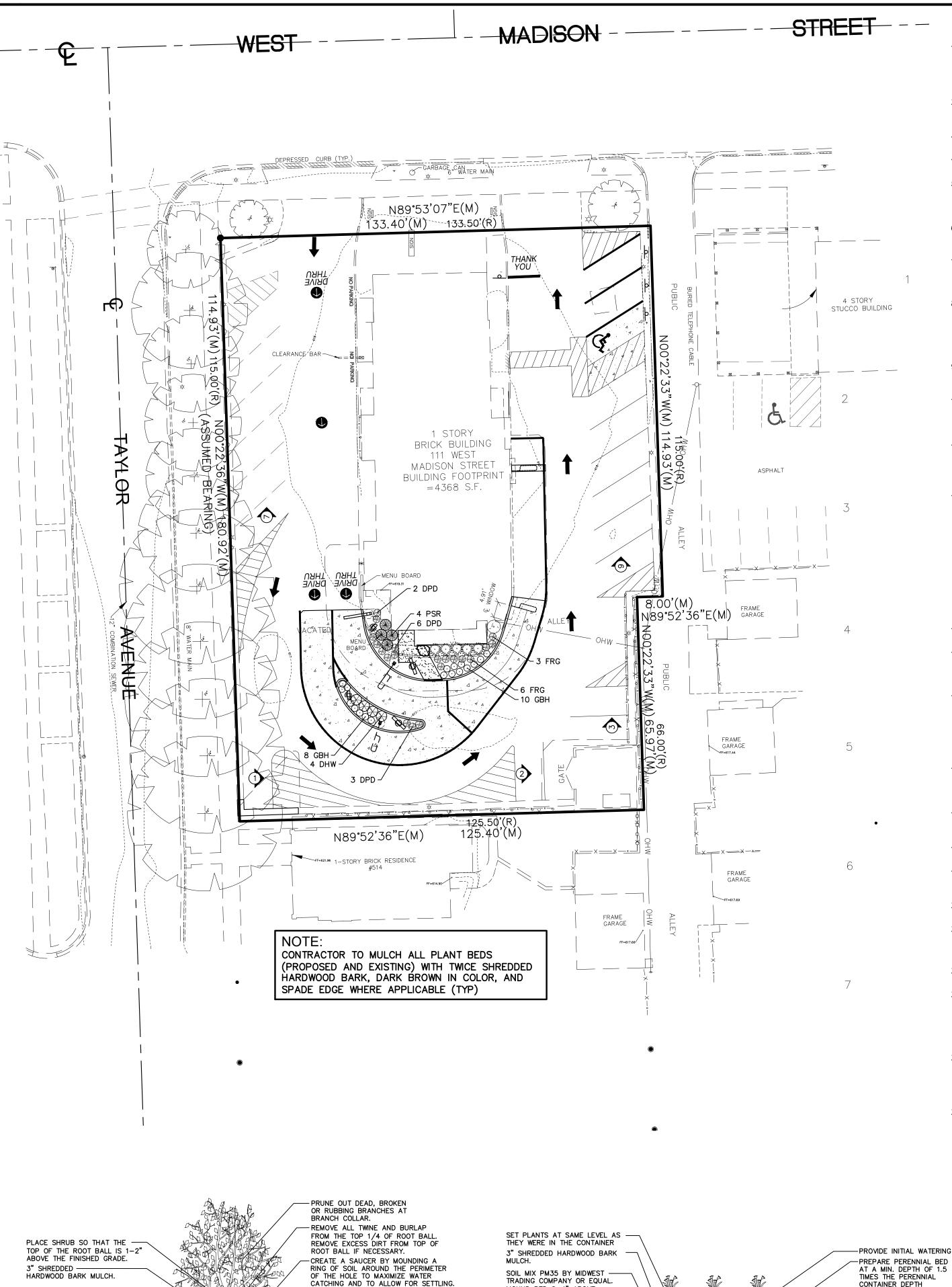


SITE PLAN

Prepared For:

Prepared By:

LC #12-0076



MOUND BED 2-4" ABOVE

BREAK UP ROOT MASS BY

HAND OR BY SLICING IT

FINISHED GRADE.

VERTICALLY

LANDSCAPE NOTES

- 1. ALL PLANT MATERIAL SHALL BE HARDY TO THE ZONE IT IS BEING PLANTED IN. ALL TREES AND SHRUBS ARE TO BE BALLED AND BURLAPED UNLESS OTHERWISE NOTED AND SHALL BE GROWN IN ACCORDANCE WITH THE STANDARDS SET FORTH BY THE LATEST EDITION OF AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY AMERICANHORT.
- 2. PLANT SIZES CALLED OUT ON THIS PLAN ARE THE MINIMUM SIZE REQUIRED. PLANTS WHICH FAIL TO MEET THE SIZES LISTED, SHALL BE REJECTED AT THE EXPENSE OF
- 3. CONTRACTOR MUST VERIFY ALL MATERIAL QUANTITIES AS DEPICTED ON THE DRAWING. THE PLANT LIST PROVIDED ON THIS PLAN IS FOR CONVENIENCE ONLY.
- 4. SUBSTITUTIONS MAY NOT BE MADE WITHOUT THE APPROVAL OF THE LANDSCAPE ARCHITECT/DESIGNER.
- 5. THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE AGENCIES AND UTILITY LOCATORS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOT BEGIN ANY WORK ON-SITE UNTIL ALL UTILITIES HAVE BEEN LOCATED. CONTRACTOR SHALL OBTAIN
- "AS-BUILT" PLANS FOR ALL IRRIGATION AND LIGHTING PRIOR TO CONSTRUCTION. 6. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL UTILITIES INCLUDING IRRIGATION AND LIGHTING. ALL DAMAGE SHALL BE REPAIRED TO A NEW CONDITION IN
- 7. ALL UNSUITABLE MATERIAL (CONCRETE, AGGREGATE STONE, CRUSHED ASPHALT, BRICK ETC.) SHALL BE REMOVED, INCLUDING HAUL OFF, PRIOR TO PLANTING AND SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.

ACCORDANCE WITH ALL CODES AT NO COST TO THE OWNER - SEE NOTE 5.

- 8. SOIL MIX PM35 BY MIDWEST TRADING COMPANY OR EQUAL SHALL BE ROTOTILLED INTO ALL PERENNIAL AND ANNUAL PLANTING BEDS PRIOR TO THE INSTALLATION OF THE PLANT MATERIAL. A SLOW RELEASE, GRANULAR FERTILIZER SHALL BE APPLIED TO ALL ANNUAL AND PERENNIAL PLANTING BEDS AT THE RECOMMENDED RATE, AND SHALL BE ROTOTILLED IN WITH THE ABOVE SOIL MIXTURE BEFORE THE PLANT MATERIAL IS INSTALLED.
- 9. CONTRACTOR TO PROVIDE THOROUGH INITIAL WATERING OF ALL PLANTINGS WITHIN 12 HOURS OF INSTALLATION TO ENSURE ALL AIR POCKETS HAVE BEEN REMOVED AROUND ROOT BALL.
- 10. ALL PLANT BED AREAS ARE TO BE MULCHED WITH 3" OF DOUBLE SHREDDED HARDWOOD MULCH AND SHALL BE SEPARATED WITH A SPADE EDGE ALONG PERIMETERS ADJACENT TO TURF AREAS. FINAL GRADE (AFTER SETTLING) SHALL BE 1" BELOW ADJACENT CURBS.
- 11. ALL TURF AREAS ARE TO BE A MINIMUM OF A FIVE WAY BLUEGRASS BLEND, UNLESS OTHERWISE NOTED. CONTRACTOR IS RESPONSIBLE FOR WATERING ALL INSTALLED TURF AREAS UNTIL TIME OF KNITTING. IF TURF SEED AND SOD OCCUR ON THE SAME PROJECT, CONTRACTOR SHALL VERIFY AND USE SEED MIXTURES TO MATCH SOD.
- 12. AREAS TO BE SODDED SHALL BE WITH AN "APPROVED TURFGRASS SOD" OF PREMIUM GRADE. SOD SHALL BE A 5 WAY BLEND OF IMPROVED KENTUCKY BLUEGRASS VARIETIES THAT HAS BEEN GROWN LOCALLY TO THE PROJECT SITE. SOD MUST BE MATURED FOR 2 FULL GROWING SEASONS PRIOR TO HARVEST CUTTING AND BE HEALTHY WITH WELL ESTABLISHED ROOTS. SOD SHALL BE FREE OF DISEASE, INSECTS AND DEBRIS. SOD SHALL BE UNIFORM IN LEAF COLOR, TEXTURE, AND DENSITY. SOD SHALL BE DELIVERED, INSTALLED, AND WATERED WITHIN 24 HOURS OF HARVEST IN WHICH TEMPERATURES DO NOT EXCEED 90 DEGREES (F) NOR LESS THAN 55 DEGREES (F). SOD SHALL BE MACHINE-CUT AT A MINIMUM UNIFORM SOIL THICKNESS (1.5" OF SOD IS DESIRED) BUT SOD THICKNESS SHALL BE A THICKNESS NECESSARY FOR PLANT VIABILITY. SOD SHALL BE LAID IN STAGGERED STRAIGHT LINES, TIGHTLY AGAINST EACH OTHER WITHOUT STRETCHING OR OVERLAPPING. SOD STAKES SHALL USED ON ALL SLOPES 4:1 OR GREATER.
- 13. CONTRACTOR SHALL REPAIR ALL DISTURBED AREAS (INTENDED OR UNINTENDED) AT A MINIMUM, TO THE ORIGINAL CONDITION UNLESS OTHERWISE NOTED.
- 14. THE EXISTING PLANT MATERIAL SHOWN ON THIS PLAN IS INTENDED SOLELY TO IDENTIFY THEM AS OBSERVED IN THE FIELD. THIS PLAN DOES NOT MAKE ANY CLAIMS ABOUT THE CONDITION OR SAFETY OF ANY OF THE PLANT MATERIAL DESCRIBED HEREIN OR OBSERVED IN THE FIELD.
- 15. ALL TRANSPLANTED PLANT MATERIAL MUST BE INSTALLED IMMEDIATELY UPON EXTRACTION FROM IT'S ORIGINAL LOCATION, UNLESS SPECIFIC ARRANGEMENTS HAVE BEEN MADE WITH THE LANDSCAPE ARCHITECT/DESIGNER. SHOULD IT BECOME UNREASONABLE TO TRANSPLANT ANY OF THE PLANT MATERIAL AS DESCRIBED IN THIS PLAN, DUE TO SITE CONSTRAINTS OR OTHERWISE, CONTRACTOR IS RESPONSIBLE FOR CONTACTING LANDSCAPE ARCHITECT/DESIGNER TO MAKE ALTERNATIVE ARRANGEMENTS.
- 16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE HEALTH AND VIABILITY OF THE PROPOSED PLANT MATERIAL INCLUDING WATERING, PROTECTION FROM PHYSICAL DAMAGE FROM THE TIME PLANT IS SELECTED THROUGH IT'S INSTALLATION.
- 17. CONTRACTOR IS RESPONSIBLE FOR ALL PLANT MATERIAL REMAINING PLUMB UNTIL THE END OF THE GUARANTEE PERIOD. PLANTS MAY NOT BE STAKED UNLESS APPROVED BY THE LANDSCAPE ARCHITECT/DESIGNER. 18. CONTRACTOR TO GUARANTEE PLANT MATERIAL AND LABOR FOR A MINIMUM OF ONE
- YEAR FROM THE TIME OF INSTALLATION. 19. THE CONTRACTOR IS RESPONSIBLE FOR BECOMING FAMILIAR WITH AND ABIDING BY
- THE LANDSCAPE ORDINANCES FOR THE SPECIFIC JURISDICTION IN WHICH THE WORK IS TAKING PLACE. 20. BIDDERS SHALL BE RESPONSIBLE FOR EXAMINING THE SITE, PRIOR TO PREPARING
- BID. TO BECOME FAMILIAR WITH THE SPECIFIC SITE CONSTRAINTS.
- 21. ALL EXISTING ON-SITE PLANT MATERIAL NOT EFFECTED BY CONSTRUCTION OR THE PROPOSED LANDSCAPE, SHALL BE BE PROTECTED AS PART OF THIS PLAN. EXISTING LANDSCAPE IN AREAS OF CONSTRUCTION AND PROPOSED LANDSCAPE SHALL BE REMOVED AS PART OF THIS PLAN.
- 22. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE COMPLETION OF ALL THE ITEMS SHOWN ON THE PLANS.
- 23. IF IRRIGATION IS DEEMED NECESSARY, THE DESIGN AND INSTALLATION OF THE RRIGATION SYSTEM SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR. AN IRRIGATION PLAN ALONG WITH AN AS BUILT OF THE IRRIGATION SYSTEM SHALL BE PREPARED FOR OWNER REVIEW AND APPROVAL. CONTRACTOR SHALL GUARANTEE PERFORMANCE, PARTS, AND LABOR FOR A PERIOD OF 1 YEAR FROM THE DATE OF FINAL APPROVAL.
- 24. IF EXISTING IRRIGATION IS PRESENT ON SITE, CONTRACTOR SHALL ADJUST, ADD TO, OR SUBTRACT FROM, THE EXISTING IRRIGATION SYSTEM TO ACCOMMODATE ANY PROPOSED ALTERATIONS/ADDITIONS TO THE EXISTING LANDSCAPE. CONTRACTOR SHALL PROVIDE THE OWNER AN AS BUILT OF THE IRRIGATION SYSTEM AND ALL CHANGES TO THE SYSTEM AFFECTED BY THIS PROJECT.
- 25. PROVIDE TOPSOIL RE-SPREAD PER THE FOLLOWING UNLESS OTHERWISE NOTED:
- A. 4" MINIMUM IN GRASS OR SOD AREAS
- B. 6" MINIMUM IN PLANTING AREAS
- C. 12" MINIMUM IN LANDSCAPE ISLANDS



-FINISHED GRADE

4" SPADED EDGE

PERENNIAL PLANTING DETAIL

NOT TO SCALE. USE ONLY ZONE HARDY PLANT MATERIAL.

GENERAL NOTES:

1. THESE PLANS ARE BASED ON THE BOUNDARY AND TOPOGRAPHIC SURVEY

(SURVEY PROJECT #20.027 DATED 02/07/20) PREPARED BY: COMPASS SURVEYING LTD 2631 GINGER WOODS PARKWAY, STE 100, AURORA, IL 60502 (630) 820-9100

2. PRIOR TO CONSTRUCTION, CONTRACTOR TO CONTACT THE DESIGN ENGINEER AND ARCHITECT TO VERIFY THAT THEY ARE WORKING FROM THE MOST CURRENT SET OF PLANS AND SPECIFICATIONS.

PLANT LIST

FLOWERING AND EVERGREEN SHRUBS QTY. ABRV. BOTANICAL NAME COMMON NAME SIZE Pink Supreme Carpet 4 PSR Rosa var. 'NOA168098F' 3 Gal. 4 DHW Weigela x 'Dark Horse' 3 Gal. Dark Horse Weigela PERENNIALS, ORNAMENTAL GRASS AND GROUNDCOVERS QTY. ABRV. BOTANICAL NAME COMMON NAME SIZE Korean Feather Reed FRG Calamagrostis brachytricha 1 Gal. Grass GBH Hemerocallis 'Going Bananas' Going Bananas Daylily

11 DPD Sporobolus heterolepis 'Tara' Dwarf Prairie Dropseed 1 Gal.

Prepared By:

Prepared For:

LANDSCAPE PLAN

LC #12-0076

 $J: \dwgs\20jobs\20012\Misc\2020-03-27_Application Submittal\2020-03-26_2012-Site Plan for Submittal.dwg, 20012-Site Pla$

NOT TO SCALE. USE ONLY ZONE HARDY PLANT MATERIAL.

SHRUB PLANTING DETAIL

TAMP WHILE BACKFILLING, USING THE

ORIGINAL SOIL, MAKING SURE TO

USE IN THE BOTTOM OF THE HOLE

WHEN BACKFILLING HOLE.

CHOP UP THE HEAVIER SOILS FOR

AND SAVING THE BETTER SOIL FOR HE TOP LAYERS. ADD MYCORRIHIZA

PROVIDE INITIAL WATERING TO

SATURATE ROOT BALL AND SETTLE REMAINING AIR POCKETS

UNDISTURBED SUBGRADE

DIG HOLE A MINIMUM OF

ROOT BALL DIAMETER.

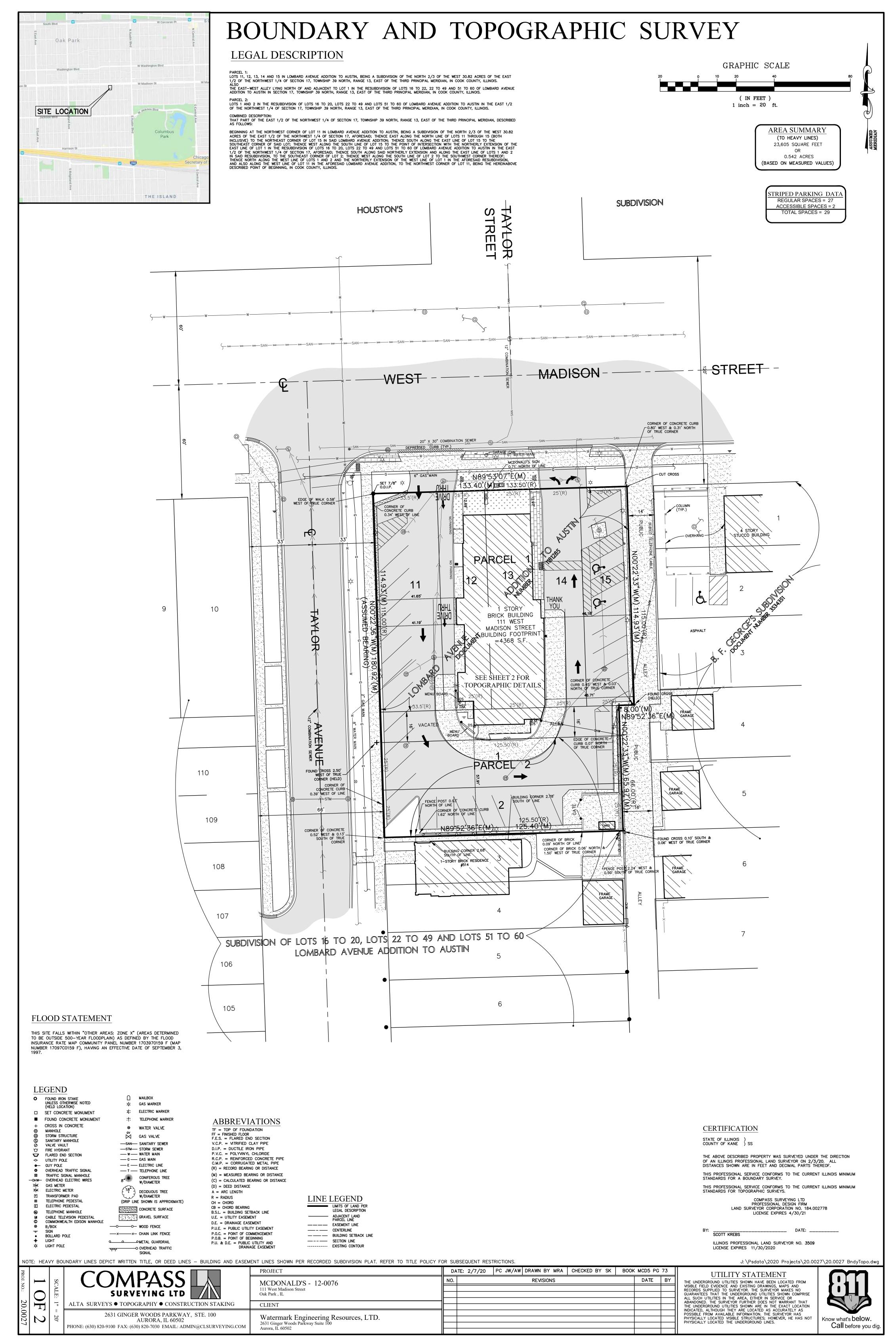
2 TIMES WIDER THAN THE

LANDSCAPE PLAN DESIGNED BY KENNETH M. PRICE, RLA

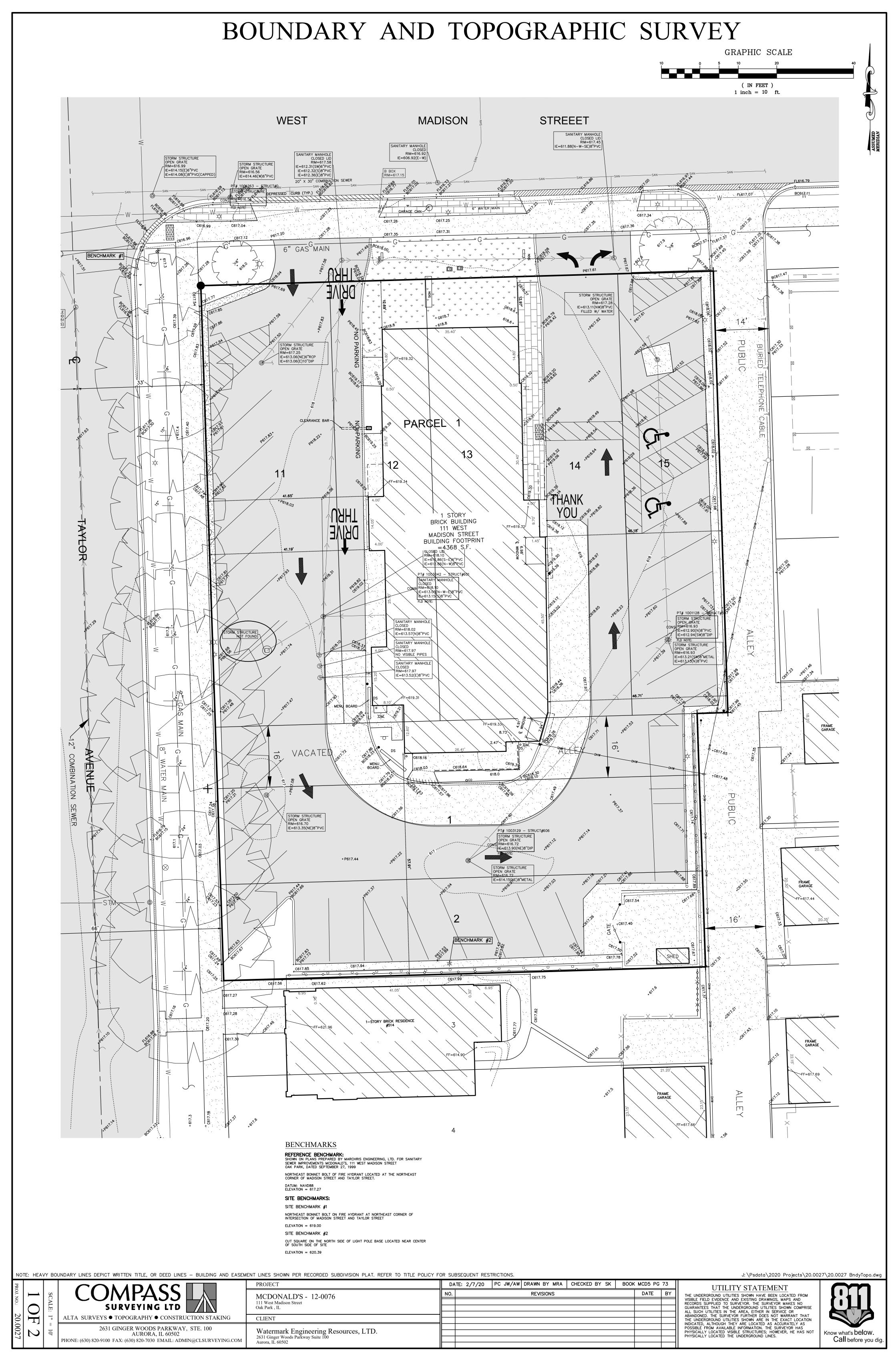
KENNETH M

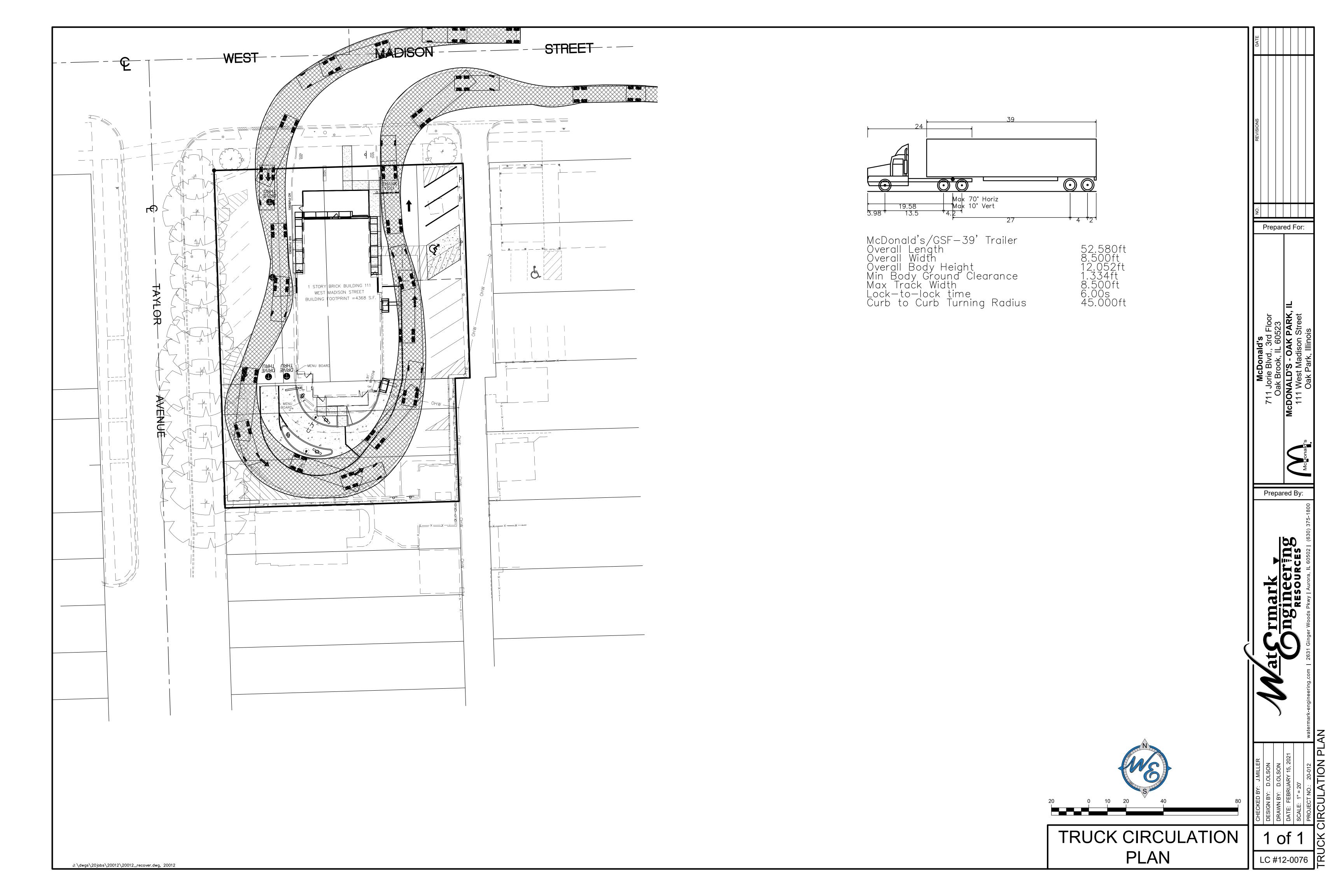
PRICE

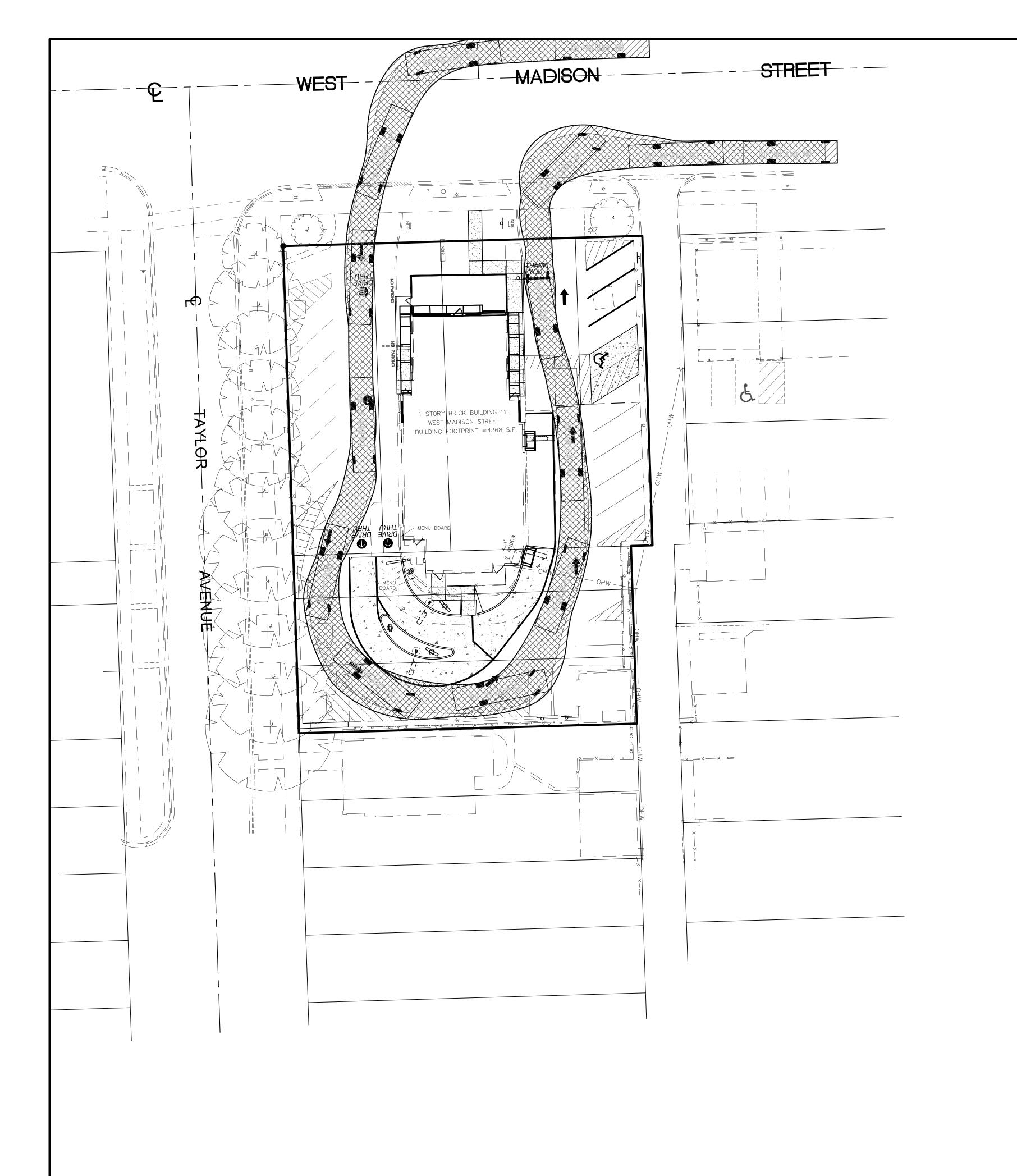
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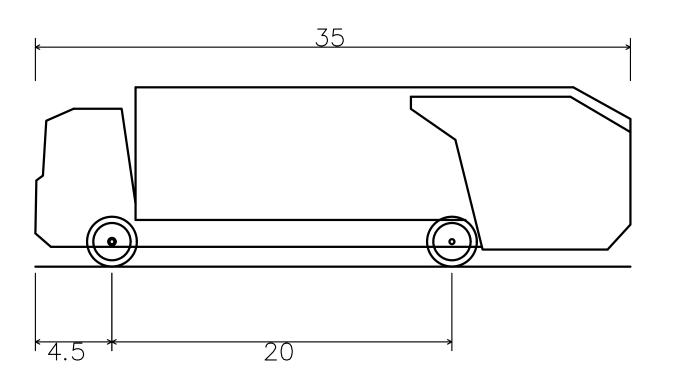
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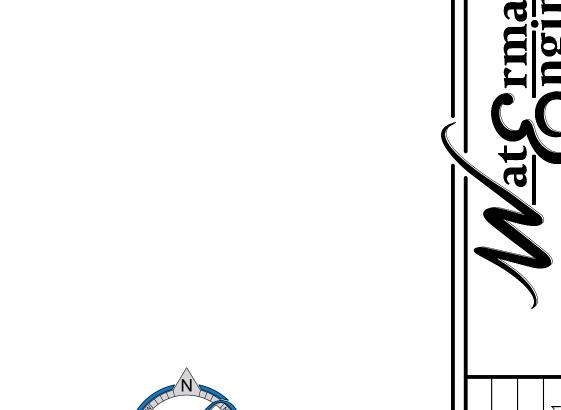




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Refuse Truck
Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
Lock—to—lock time
Curb to Curb Turning Radius



REFUSE TRUCK CIRCULATION PLAN

Prepared For:

LC #12-0076

3M™ Wireless Communication System Model XT-1 **Technical Data**

3M Wireless Communications System Model XT-1's Night Volume feature to comply with City Decibel Level output ordinance.

With the concern over environmental noise today, many communities restrict the audio level of drive-thru intercom systems during normal day-time business hours and for business operations during night time. Usually, this audio level is specified to be below some number at the property line.

Audio levels are measured in terms of "Sound Pressure Level" with the unit of change being the "Decibel". For example, the city of South Plainfield, NJ requires that sound levels not exceed 65 decibels SPL (sound pressure level) in an industrial area. Taking this into consideration, 3M intercom systems provide an adjustable menu speaker volume to assure compliance with city sound ordinances.

The 3M XT-1 Intercom System can be adjusted at installation to produce an audio sound pressure level of 65 decibels (*) at a distance of 4 feet on axis to the center of the speaker. It is VERY easy for the installation company to verify this reading using an Audio dB meter (set to A weighing, slow response). Please note that sound diminishes at the rate of 6 decibels every time the distance from the sound source is doubled. So, at a distance of 8 feet, the level is 59 decibels, at 16 feet it is 53 decibels and so on.

The 3M XT-1 Intercom System also provides an AUTOMATIC reduction of sound volume for night time operation to maintain compliance with cities that require lower operating sound levels after normal business hours. This feature assures compliance 24 hours a day.

To give you a reference of comparative audio levels, please peruse the attached list of typical sound levels. Be aware that acoustic barriers (shrubbery, trees, fences, walls, etc) will reduce the distance faster than shown in the chart.

(* These level measurements assume the use of recommended 3M components.)



3M is a trademark of 3M.

Table of Sound Levels and Corresponding Sound Pressure and Sound Intensity

To get a feel for decibels, look at the table below which gives values for the sound pressure levels of common sounds in our environment. Also shown are the corresponding sound pressures and sound intensities.

From these, you can see that the decibel scale gives numbers in a much more manageable range.

Chart of sound levels L and			
C	orrespo	nding	
		_	und
sound pressure and sound			
intensity Sound Sound			
	Sound Pressure		
		ρ	,
Evennelee	Level dBSPL	N/m ² = Pa	untto lm²
Jet aircraft, 50	OBSPL	N/m = Pa	watts/m
	140	200	100
m away Threshold of		200	100
pain	130	63.2	10
Threshold of		00.2	10
discomfort		20	1
Chainsaw 1m			
distance	110	6.3	0.1
Disco, 1 m			
from speaker	100	2	0.01
Diesel truck, 10	出海外		
m away	90	0.63	0.001
	The state of the		
Curbside of			
busy road, 5 m	80	0.2	0.0001
Vacuum			
cleaner,	70	0.000	0.00004
distance 1 m Conversational	70	0.063 0.0000	
speech, 1m	60	0.02	0.000001
Average home	50	0.0063	1E-07
Quiet library	40	0.0003	1E-08
Quiot ilbrary	MANUFER THOSE	0.002	
Quiet bedroom			
at night	30	0.00063	1E-09
Background in			
TV studio	20	0.0002	1E-10
Rustling leaf	10	0.000063	1E-11
Threshold of	Real Maria		
hearing 0 0.00002 1E-12			



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A given sound pressure level L_p in dBSPL without the distance of the measurement to the specific sound source is useless.

The reference for 0 dBSPL sound pressure level is $p = 20 \mu Pa = 2 * 10^{-5} pascal$, the threshold of hearing.

The sound pressure level decreases in the free field with 6dB per distance doubling. **That is the 1/r law.**

Often it is argued the sound pressure would decrease after the $1/r^2$ law (inverse square law). That is wrong.

The sound pressure in a free field is inversely proportional to the distance from the mic to the source. $p \sim 1/r$

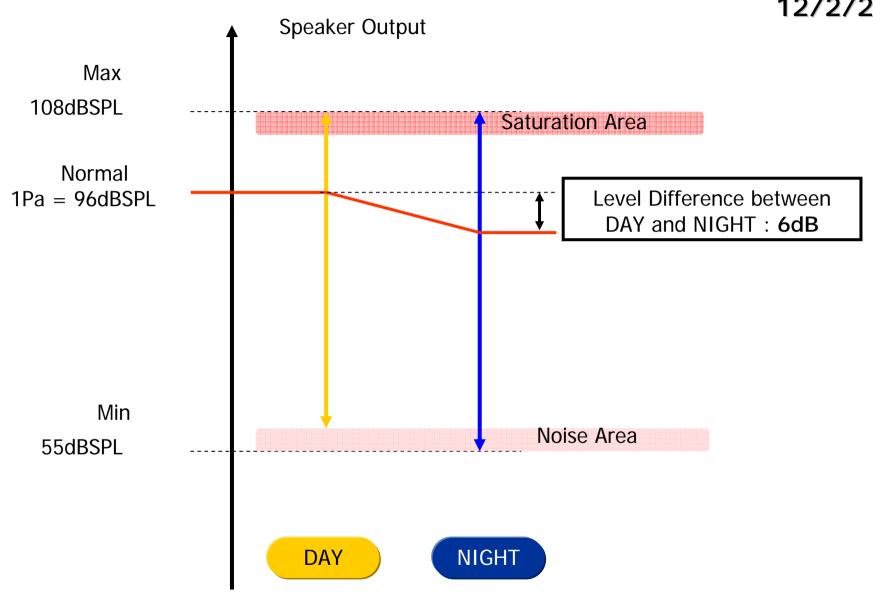
Distance From Menu Post	3M Intercom SPL (dB)
4'	65
8'	59
16'	53
32'	47
64'	41
128'	35
256'	29
512'	23
1024'	17
2048'	11
4096'	5

<u>Note:</u> 20 dB is approximately the threshold of hearing. This occurs at approximately 700 feet from the speaker post in a very QUIET environment. In an environment of average traffic noise, a 35 dB limit is virtually inaudible and should be considered the practical limit. This occurs are approximately 125 feet from the speaker post.



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12/2/2009



Memo

Re: Drive-Thru Sound Pressure Levels From the Menu Board or Speaker Post

The sound pressure levels from the menu board or speaker post are as follows:

- 1. Sound pressure level (SPL) contours (A weighted) were measured on a typical HME SPP2 speaker post. The test condition was for pink noise set to 84 dBA at 1 foot in front of the speaker. All measurements were conducted outside with the speaker post placed 8 feet from a non-absorbing building wall and at an oblique angle to the wall. These measurements should not be construed to guarantee performance with any particular speaker post in any particular environment. They are typical results obtained under the conditions described above.
- 2. The SPL levels are presented for different distances from the speaker post:

Distance from the Speaker (Feet)	SPL (dBA)
1 foot	84 dBA
2 feet	78 dBA
4 feet	72 dBA
8 feet	66 dBA
16 feet	60 dBA
32 feet	54 dBA

3. The above levels are based on factory recommended operating levels, which are preset for HME components and represent the optimum level for drive-thru operations in the majority of the installations.

Also, HME incorporates automatic volume control (AVC) into many of our Systems. AVC will adjust the outbound volume based on the outdoor, ambient noise level. When ambient noise levels naturally decrease at night, AVC will reduce the outbound volume on the system. See below for example:

Distance from Outside Speaker	Decibel Level of standard system with 45 dB of outside noise <u>without</u> AVC	Decibel level of standard system with 45 dB of outside noise with AVC active
1 foot	84 dBA	60 dBA
2 feet	78 dBA	54 dBA
4 feet	72 dBA	48 dBA
8 feet	66 dBA	42 dBA
16 feet	60 dBA	36 dBA

If there are any further questions regarding this issue please contact HME customer service at 1-800-848-4468.

Thank you for your interest in HME's products.

Sound Pressure and Decibel Values For Typical Sounds

0 dB	Threshold of hearing
10 dB	Slow moving air
20 dB	Studio for Sound Movies
30 dB	Soft Whisper at five feet
40 dB	Hearing Test Booth
50 dB	Average residence, no children
60 dB	Conversational Speech at 3'
70 dB	Intercom Outbound Audio Level at 4'
80 dB	Very Noisy Restaurant
90 dB	Printing Presses running in a Print Shop
100 dB	Looms inside a Textile Mill
110 dB	Pipe making shop
120 dB	50 HP Siren at 100 feet
140 dB	Jet aircraft at 100 feet
180 dB	Rocket Launching Pad