#2025-08
154 S. Virginia Street – Special Use Permit &Variations
Project Review for Planning and Zoning Commission

Meeting Date: November 19, 2025

Requests: Special Use Permit for a Drive-Through Limited Service Restaurant adjacent to a residence with Variations from:

a. Article 2 from the drive-through standards to have a bypass lane.
b. Article 3 from the maximum hard surface coverage of 65% to allow 69.7%, a variation of 4.7%
c. Article 4 to allow a trash enclosure abutting a residential property
d. Article 4 from the required parking of 13 parking spaces to allow 6 spaces, a variation of 7 spaces.

Location: 154 Virginia Street

Acreage: Approximately 16,761 square feet

Existing Zoning: B-2 General Commercial

Surrounding Properties:

North:	B-2 General Commercial
South:	B-2 General Commercial
East:	(Across Route 14) O Office
West:	R-3A Two Family Residential and R-3B Multi-Family Residential

Staff Contact: Elizabeth Maxwell (815.356.3615)

Background:

- Existing Use: The site is a former auto repair shop. The building has been vacant for some time.
- UDO Requirements: The Unified Development Ordinance (UDO) states that a drive-through use adjacent to a residential use shall be a Special Use Permit.
- The petitioner would reuse the existing building by removing the grass area to make room for the drive-through lanes. The position of the building makes it difficult to meet the drive-through requirements and there is concern with stacking onto Route 14. Early on in the process staff suggested demolishing the building and building new building closer to Route 14 to accommodate a longer drive-through queue, a bypass lane and buffer to the adjoining residential property.

Development Analysis:

General

- Request: The request is for a Special Use Permit for fast food drive through use adjacent to a residential use with Variations.
- Land Use: The land use map shows the area as Commerce. This land use designation is appropriate for this use.
- Zoning: The site is zoned B-2. The use of the property as a Limited Service Restaurant is appropriate.

Site Plan

- The primary access is from Route 14 / Virginia Street as a full access on the northeastern corner of the site.
- There are two drive-through lanes each with an ordering board. The outside lane also functions for mobile ordering and allows patrons to pull around and merge into the main lane to get to the pickup window.
- There is no inside seating just a walk up window and the drive-through reducing the need for traditional parking requirements. The parking is for walk up customers and employees.
- Customers can exit back onto Route 14 or onto Lake Shore Drive.
- The site plan includes the recommendations from the traffic consultant's review.

Landscape

- Landscape is planned around the site with a large rain garden along Route 14 to comply with watershed requirements.
- Foundation base landscape is proposed around the building.
- There is a solid fence and shrubs proposed along the west side adjacent to the residential property.

Elevations

- The building is constructed of Hardi Board panels and siding, which is a masonry product.
- They are illustrating a thick black top cap to the building. A dark charcoal brick base and black metal canopy. Vertical siding allows the main tower element to stand out from the rest of the structure.
- The color scheme is classic and bold. White and black contract with accents of pink and orange in the signage.
- The building meets the design standards.

Comprehensive Land Use Plan 2030 Plan Review:

The Comprehensive Plan designates the subject property as Commerce, which allows for existing and future commercial, service and office uses. The following goals are applicable to this request:

Land Use - Commerce

Goal: Maintain a dynamic and sustainable base of commercial uses that provides a solid tax base, goods, services and jobs to the City, as well as the surrounding region through coordination in the Unified Development Ordinance, Comprehensive Land Use Plan and Economic Development Strategic Plan.

This can be accomplished with the following supporting action:

Supporting Action: Promote, retain, and attract businesses that provide a diverse tax base.

Economic Development – Revitalize and Enhance Key Commercial Corridors

Goal: Establish funding sources and work with property owners to assist with and encourage the redevelopment of commercial areas.

Economic Development – Attract and Retain Businesses

Goal: Establish marketing efforts to attract and retain businesses throughout the City.

This can be accomplished with the following supporting action:

Supporting Action: Continue to solicit the retail businesses which are most likely to succeed in various retail nodes in Crystal Lake.

Success Indicator: The number of retail businesses – grocery, restaurants, coffee/juice shops, apparel, electronics, and comparison goods – contacted, started and/or relocated.

Findings of Fact:

SPECIAL USE PERMIT

The petitioner has requested a Special Use Permit to allow a Drive-Through Limited Service restaurant. Special Uses require a separate review because of their potential to impact surrounding properties and the orderly development of the City. Section 2-400 B of the Unified Development Ordinance establishes standard for all Special Uses in Crystal Lake. The criteria are as follows:

1. The use is necessary or desirable, at the proposed location, to provide a service or facility which will further the public convenience and general welfare.

   ☐ *Meets* ☐ *Does not meet*

2. The use will not be detrimental to area property values.

   ☐ *Meets* ☐ *Does not meet*

3. The use will comply with the zoning districts regulations.

   ☐ *Meets* ☐ *Does not meet*

4. The use will not negatively impact traffic circulation.

   ☐ *Meets* ☐ *Does not meet*

5. The use will not negatively impact public utilities or municipal service delivery systems. If required, the use will contribute financially to the upgrading of public utilities and municipal service delivery systems.

   ☐ *Meets* ☐ *Does not meet*

6. The use will not negatively impact the environment or be unsightly.

   ☐ *Meets* ☐ *Does not meet*

7. The use, where possible will preserve existing mature vegetation, and provide landscaping and architecture, which is aesthetically pleasing, compatible or complementary to surrounding properties and acceptable by community standards.

   ☐ *Meets* ☐ *Does not meet*

8. The use will meet requirements of all regulating governmental agencies.

   ☐ *Meets* ☐ *Does not meet*

9. The use will conform to any conditions approved as part of the issued Special Use Permit.

   ☐ *Meets* ☐ *Does not meet*

10. The use will conform to the regulations established for specific special uses, where applicable.

    ☐ *Meets* ☐ *Does not meet*

DRIVE THROUGH

Drive-Through Uses. All drive-through uses must comply with the following standards:

1. General:
   a. Drive-through windows and lanes shall not be placed between the right-of-way of the primary street and the associated building.

      ☐ *Meets* ☐ *Does not meet*

   b. Drive-through windows and lanes shall be placed to the side or rear of the building served. Where allowed, as part of a planned unit development approval or through a variation, drive-through windows and lanes placed between the right-of-way of primary street and the associated building shall require landscape plantings installed and maintained along the entire length of the drive-through lane, located between the drive-through lane and the adjacent right-of-way in accordance with the provision of Section 4-400, Landscaping and Screening standards..

☐ *Meets* ☐ *Does not meet*

c. Drive-through windows shall not be permitted on the side of a building adjoining any residential property.

☐ *Meets* ☐ *Does not meet*

2. Special Use Required. Where a drive-through is adjacent to a residential property, a special use is required.

☐ *Meets* ☐ *Does not meet*

3. Stacking space criteria: Stacking spaces shall be provided for any use having a drive-through. The following general standards shall apply to all stacking spaces for drive-through stations:

☐ *Meets* ☐ *Does not meet*

a. Stacking spaces and lanes for drive-through stations shall not impede on and off-site traffic movement, shall not cross or pass through off street parking areas, and shall not create a potentially unsafe condition where crossed by pedestrian access to a public entrance of a building.

☐ *Meets* ☐ *Does not meet*

b. Drive-through lanes shall be separated from off-street parking areas. Individual lanes shall be striped, marked, or otherwise distinctly delineated.

☐ *Meets* ☐ *Does not meet*

c. Bypass lanes and other parking lot drive aisles immediately adjacent to the drive-through lanes(s) shall maintain the same direction of traffic flow as the drive-through.

☐ *Meets* ☐ *Does not meet*

No bypass lane is provided.

d. Approach lanes for drive-through facilities shall have a minimum width of 12 feet as measured from the face of the curb. The City Engineer may administrate approve the following reductions in width for constrained sites:

One lane: Reduction to 11 feet

Two or more lanes: Reduction to 10 feet per lane.

☐ *Meets* ☐ *Does not meet*

e. All drive-through facilities shall be provided with a bypass lane with a minimum width of 10 feet.

☐ *Meets* ☐ *Does not meet*

No bypass lane is provided.

f. Alleys or driveways in residentially zoned areas adjacent to drive-through facilities shall not be used for the circulation of customer traffic.

☐ *Meets* ☐ *Does not meet*

g. Each stacking space shall be a minimum of 10 feet wide by 20 feet long.

☐ *Meets* ☐ *Does not meet*

h. All drive-through facilities shall be provided with an "escape" route from an existing queue.

☐ *Meets* ☐ *Does not meet*

No bypass lane is provided.

i. Estimates of anticipated drive-through traffic, processing rates, or other operational data from other existing comparable facilities shall be provided.

☐ *Meets* ☐ *Does not meet*

4. Required number of stacking spaces for specific uses: The required number of stacking spaces are to be provided before the location of the first stop (order window, order pedestal, order board, etc.) The uses below shall provide the following minimum numbers of stacking spaces:

☐ *Meets* ☐ *Does not meet*

a. Limited service (fast food) restaurant. Total nine stacking spaces with a minimum of four stacking spaces between the order board and the pick-up window.

☐ *Meets* ☐ *Does not meet*

5. Traffic Study: A traffic study or impact analysis will be required if, in the opinion of the City Engineer, the standards provided in this section cannot be met or where the traffic impact for the proposed use reaches or exceeds the threshold for requiring a traffic study or analysis.

☐ *Meets* ☐ *Does not meet*

VARIATION

The Unified Development Ordinance lists specific standards for the review and approval of a variation. The granting of a variation rests upon the applicant proving practical difficulty or hardship caused by the Ordinance requirements as they relate to the property. To be considered a zoning hardship, the specific zoning requirements; setbacks, lot width and lot area must create a

unique situation on this property. It is the responsibility of the petitioner to prove hardship at the Planning and Zoning Commission public hearing.

Standards

When evidence in a specific case shows conclusively that literal enforcement of any provision of this Ordinance would result in a practical difficulty or particular hardship because:

a. The plight of the property owner is due to unique circumstances, such as, unusual surroundings or conditions of the property involved, or by reason of exceptional narrowness, shallowness or shape of a zoning lot, or because of unique topography, or underground conditions.

☐ *Meets* ☐ *Does not meet*

b. Also, that the variation, if granted, will not alter the essential character of the locality.

☐ *Meets* ☐ *Does not meet*

For the purposes of supplementing the above standards, the Commission may take into consideration the extent to which the following facts favorable to the application have been established by the evidence presented at the public hearing:

a. That the conditions upon which the application for variation is based would not be applicable generally to other property within the same zoning classification;

☐ *Meets* ☐ *Does not meet*

b. That the alleged difficulty or hardship has not been created by any person presently having interest in the property;

☐ *Meets* ☐ *Does not meet*

c. That the granting of the variation will not be detrimental to the public welfare or injurious to other property or improvements in the neighborhood in which the property is located; or

☐ *Meets* ☐ *Does not meet*

d. That the proposed variation will not impair an adequate supply of light or air to adjacent property, will not unreasonably diminish or impair the property values of adjacent property, will not unreasonably increase congestion in the public streets, substantially increase the danger of fire or otherwise endanger public safety.

☐ *Meets* ☐ *Does not meet*

Where the evidence is not found to justify such conditions, that fact shall be reported to the City Council with a recommendation that the variation be denied.

Recommended Conditions:

If a motion to recommend approval of the petitioner's request is made, it should be with the

following conditions:

1. Approved plans, reflecting staff and advisory board recommendations, as approved by the City Council:
   A. Application (Sumish, received 01/17/25)
   B. Site Plan/Engineering (Larson Engineering, dated 10/17/25, received 10/27/25)
   C. Landscape Plan (Dowden Design Group, dated 10/17/25, received 10/27/25)
   D. Floor Plan (Steep Architecture Studio, dated 12/16/21, received 08/11/25)
   E. Elevations (Architects 127, dated 12/17/21, received 08/11/25)
   F. Traffic Study (GHA, dated 06/04/25, received 06/04/25)
   G. Photometric Plan (Villa Lighting, dated 05/15/25, received 10/27/25)

2. Create an operations plan for opening that discusses onsite circulation, traffic control and alternatives if stacking and backups on Route 14 occur. Work with staff on the operations plan.

3. Lighting.
   A. The light plan must be revised to meet the ordinance of 0.3 foot candles at the property lines adjacent to residential uses.
   B. Lighting standard must meet the Virginia Street Corridor standard. Provide cut sheets for wall packs and pole lighting for staff review.

4. Landscape plan:
   A. No more than 10% of landscape beds can be nonliving materials such as mulch or gravel.
   B. Install larger plant material along Virginia Street for parking lot screening. Replace some plugs with established native plants of the same species.
   C. Work with staff on the final landscape plan along the perimeter of the property. There appears to be room for additional plantings.

5. The petitioner shall address all of the review comments and requirements of the Community Development Department, Engineering and Public Works Department, the City's Stormwater Consultant Christopher B. Burke and the City's Traffic Consultant Gewalt Hamilton.

PIQ Map
154 S. Virginia Street



City of Crystal Lake
Development Application

Office Use Only
File # _____

Project Title: Quick Service Restaurant Drive Thru Only

Action Requested

__ **Annexation**
__ **Comprehensive Plan Amendment**
__ **Conceptual PUD Review**
__ **Final PUD**
__ **Final PUD Amendment**
__ **Final Plat of Subdivision**
__ **Preliminary PUD**
__ **Preliminary Plat of Subdivision**
__ **Rezoning**
__ **Special Use Permit**
__ **Variation**
__ **Other**

Petitioner Information

Name: Star Coffee of Virginia LLC
Address: 709 Oak Hollow Court Crystal Lake, IL 60014
Phone: 773-425-7810
Fax:
E-mail: [redacted]

Owner Information (if different)

Name: Lotus Real Estate LLC
Address: 709 Oak Hollow Court Crystal Lake, IL 60014
Phone: 773-425-7810
Fax:
E-mail: [redacted]

Property Information

Project Description:

Project Address/Location: 154 South Virginia Ave Crystal Lake 60014

PIN Number(s): 19-06-204-025

Development Team

Please include address, phone, fax and e-mail

Developer: RESA Construction Inc. 711 N Elmhurst Road Prospect Heights, IL 60070Phone: (847) 850-5510 Fax: (847) 850-5509

Architect: Koru Group, PLLC 2135 City Gate Lane, Suite 330 Naperville, IL 60563 Office Main: 331-444-KORU(5678) x108 Office Direct: 331-256-9791

Attorney: Brandy S. Quance Zukowski, Rogers, Flood & McArdle 50 Virginia Street Crystal Lake, IL 60014 815-459-2050; 815-459-9057 FAX

Engineer: Larson Engineering, Inc. 1488 Bond Street, Suite 100 Naperville, IL 60563-6503 630.357.0540 Fax: 630-357-0164

Landscape Architect: Dowden Design Group P.O. Box 415, Libertyville, IL 60048 Office: (847) 362~1254

Planner:

Surveyor: Vanderstappen Land Surveying, Inc 1316 N. Madison Street Woodstock, IL 60098 815-502-5516 (Direct) 815-337-8314 (Fax)

Other:

Signatures

Sumish Parikh — 12-1-2024

PETITIONER: Print and Sign name (*if different from owner*) **Date**

As owner of the property in question, I hereby authorize the seeking of the above requested action.

Sumish Parikh — 12-1-2024

OWNER: Print and Sign name **Date**

NOTE: If the property is held in trust, the trust officer must sign this petition as owner. In addition, the trust officer must provide a letter that names all beneficiaries of the trust.

BEFORE THE PLANNING AND ZONING COMMISSION OF THE CITY OF CRYSTAL LAKE, MCHENRY COUNTY, ILLINOIS

IN THE MATTER OF THE APPLICATION OF Star Coffee of Virginia, LLC

LEGAL NOTICE

Notice is hereby given in compliance with the Unified Development Ordinance (UDO) of the City of Crystal Lake, Illinois, that a public hearing will be held before the Planning and Zoning Commission upon the application by Sumish Parikh with Star Coffee of Virginia LLC on behalf of the owner Lotus Real Estate LLC for approval of a Special Use Permit at the following real estate known as 154 S. Virginia Street, Crystal Lake, Illinois 60014, PIN: 19-06-204-025.

This application is filed for the purpose of seeking a Special Use Permit for a Drive-Through Limited Service Restaurant adjacent to a residence with Variations from; the maximum hard surface coverage to allow 69.7%, the requirement for a bypass lane, the required parking to allow 6 spaces, as well as any other variations as necessary to approve the plans submitted pursuant to Unified Development Ordinance Article 2, Article 3, Article 4, and Article 9. Plans for this project can be viewed at the City of Crystal Lake Planning and Economic Development Department at City Hall. A public hearing before the Planning and Zoning Com-mission on the request will be held at 7:00 p.m. on Wednesday, November 19, 2025, at the Crystal Lake City Hall, 100 West Wood-stock Street, at which time and place any person determining to be heard may be present.

Jeff Greenman, Chairperson
Planning and Zoning Commission
City of Crystal Lake

(Published Northwest Herald Nov. 1, 2025) 2283912

STATE OF ILLINOIS

COUNTY OF MCHENRY

IN THE MATTER OF THE APPLICATION OF
Star coffee of Virginia (NAME);

AFFIDAVIT

Sumish Parikh (Name), being first duly sworn on oath deposes and states as follows:

A. That a copy of the legal notice, concerning the hearing date for the above mentioned Petitioner, was sent to each of the persons named on the attached list by regular mail notifying them of the hearing before the Planning and Zoning Commission on November 19, 2025, at 7:00 p.m., at the City of Crystal Lake City Hall, 100 West Woodstock Street in Crystal Lake, Illinois. Said notice was mailed to each of the below mentioned persons by regular mail on October 30th 2025 (date)

B. That the posting requirements of the Unified Development Ordinance have been complied with by placing the customary public notice sign on the subject property on October 30th 2025
(date)

(name) (Signature)
(**SIGN NAME IN PRESEANCE OF A NOTARY**)

Subscribed and Sworn to me before
This 30th day of October, 2025

Eleni M Zelazoski
Notary Public

Official Seal
ELENI M ZELAZOSKI
Notary Public, State of Illinois
Commission No. 990216
My Commission Expires May 2, 2028

PROJECT:

DUNKIN' SITE DESIGN
154 VIRGINIA AVE
CRYSTAL LAKE, IL 60014

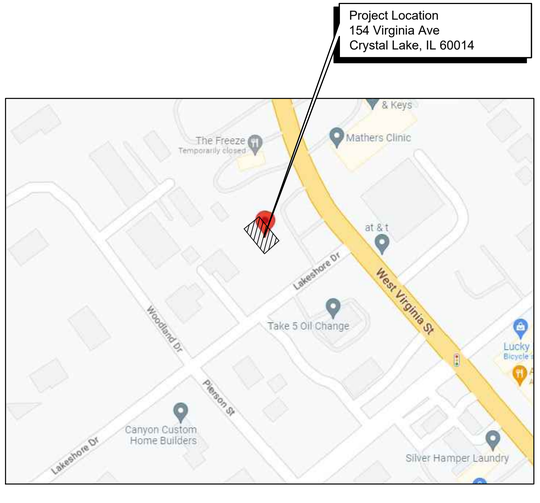
PROJECT CONTACTS

Civil Engineer:
Douglas H. Keppy, P.E.
Larson Engineering, Inc.
1488 Bond Street
Naperville, IL 60563
Tel: 630.357.0540
Fax: 630.357.0164

Land Surveyor:
Terry L. VanAlstine
Vanderstappen Land Surveying, Inc.
1316 N. Madison Street
Woodstock, IL 60098
Tel: 815.337.8310
Fax: 815.337.8314

LOTUS VIRGINIA
709 OAK HOLLOW COURT
CRYSTAL LAKE, IL 60014

VICINITY MAP



INDEX OF DRAWINGS

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C1.0	Existing Conditions
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C3.0	Geometric Paving Plan
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C5.0	Erosion Control Plan
C6.0	Utility Plan
C7.0-C7.3	Details
O&M	Operation & Maintenance Plan
TTE	Truck Turning Exhibit

GENERAL NOTES

1. All site improvements shall be in accordance with the applicable sections of the following, except as modified herein or on the plans:
   - Standard Specifications for Road and Bridge Construction (latest edition), by the Illinois Department of Transportation for all improvements except sanitary sewer and water main construction,
   - Standard Specifications for Water and Sewer Main Construction in Illinois (latest edition) for sanitary sewer and water main construction,
   - Codes and Regulations of the City of Crystal Lake,
   - In case of conflict between the applicable ordinances, the more stringent shall take precedence and shall control all construction.
2. The contractor shall contact "JULIE" at (800) 892-0123 to have certain utility companies field locate their installations. A minimum of two (2) full working days notice are required for a field location.
3. The contractor shall examine the plans and specifications, visit the site of the work and inform himself fully with the work involved, general and local conditions, all federal, state and local laws, ordinances, rules and regulations and all other pertinent items which may affect the cost and time of completion of this project before submitting a proposal.
4. The contractor shall be required to make arrangements for the proper bracing, shoring and other required protection of all roadways, structures, poles, cables and pipe lines, before construction begins. He shall be responsible for any damage to the streets or roadways and associated structures and shall make repairs as necessary to the satisfaction of the engineer and owner at his own expense.
5. No holes are to be left open in the pavement or parkway over a holiday, weekend, or after 3 p.m. on the day preceding a holiday or weekend, or any time the excavation cannot be supervised, secured with snow fence and lighted.
6. The contractor shall restore any area disturbed to a condition equal to or better than its original use. This shall include finish grading, establishment of a vegetative cover (seeding or sod) and general cleanup. The contractor shall not excavate or disturb beyond property line boundaries, unless otherwise noted.
7. The following must be notified two working days prior to starting construction:
   - City Building Department (815) 356-3605
   - Department of Public Works (815) 356-3614
12. All lot irons damaged or removed during construction of this project shall be replaced by the engineer and said cost of replacement shall be paid by the contractor.
12. All work performed shall be done by qualified contractors and subcontractors familiar with the type of work to be accomplished.
13. Permits and licenses of a temporary nature necessary for the prosecution of the work shall be secured and paid for by the contractor. Prior to submitting his bid, the contractor shall call the attention of the engineer to any material or equipment he deems inadequate and to any item of work omitted.
14. The contractor will have in his possession, on the job site, a copy of the plans and specifications prior to beginning work.

Larson Engineering, Inc.
1488 Bond Street, Suite 100
Naperville, IL 60563-6503
630.357.0540 (f) 630.357.0164
www.larsonengr.com
ILLINOIS LICENSE NO. 184-001442

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Client:
LOTUS VIRGINIA
709 OAK HOLLOW COURT
CRYSTAL LAKE, IL 60014

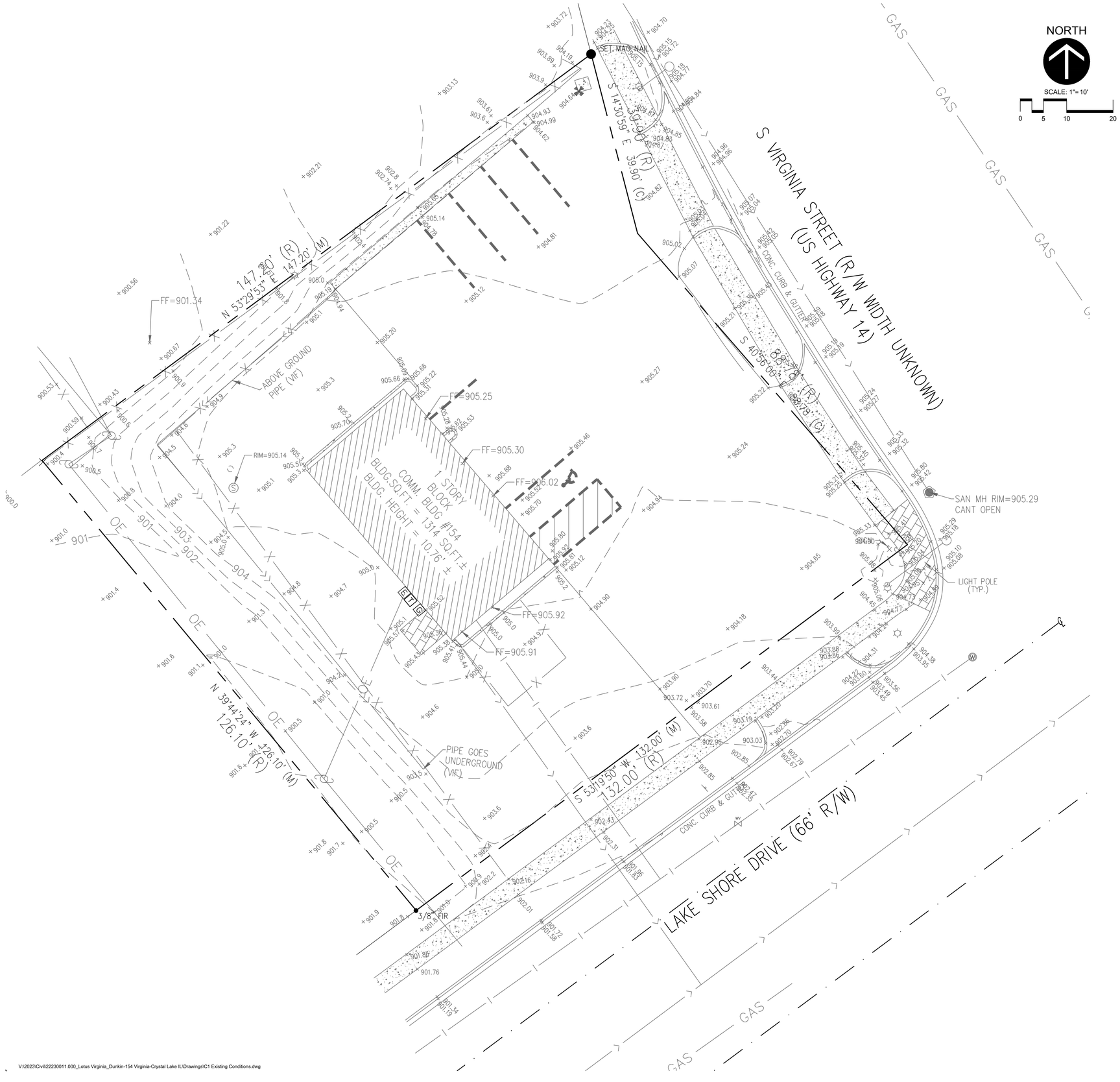
Project Title:
DUNKIN'
SITE DESIGN
154 VIRGINIA AVE
CRYSTAL LAKE, IL 60014

Seal:
DOUGLAS H. KEPPY
062-066676
LICENSED PROFESSIONAL ENGINEER
OF
ILLINOIS
Date: October 17, 2025
Expires: November 30, 2027

Rev.	Date	Description
1	03.05.24	City Comments
2	10.29.24	City Comments
3	02.25.25	City Comments
4	10.17.25	City Comments

Project #: 22230011.000
Drawn By: NLF
Checked By: DHK
Issue Date: 10.04.2023
Sheet Title:
COVER SHEET

C0.0
Sheet: 1 of 13



V:\2023\Civil\22230011.000_Lotus Virginia_Dunkin-154 Virginia-Crystal Lake IL\Drawings\C1 Existing Conditions.dwg

BENCHMARK

PROJECT BENCHMARK: MCHENRY COUNTY GEODETIC
CONTROL STATION "CRYSTAL-LAKE-2B"
ELEV = 918.78 (NAVD88)

SITE BENCHMARK: CUT CROSS IN NW CORNER OF OLD
LIGHT POLE BASE
ELEV = 904.94 (NAVD88)

LEGAL DESCRIPTION

THAT PART OF THE NORTHEAST QUARTER OF SECTION 6, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: BEGINNING AT THE INTERSECTION OF THE WESTERLY LINE OF VIRGINIA STREET WITH THE NORTHERLY LINE OF LAKE SHORE DRIVE, AND RUNNING THENCE NORTHWESTERLY ALONG THE WESTERLY LINE OF VIRGINIA STREET, 88.78 FEET TO AN ANGLE IN SAID WESTERLY LINE; THENCE NORTHERLY ALONG THE WESTERLY LINE OF VIRGINIA STREET, 39.9 FEET; THENCE SOUTHWESTERLY PARALLEL WITH NORTHERLY LINE OF LAKE SHORE DRIVE, 147.2 FEET; THENCE SOUTHERLY TO A POINT IN THE NORTHERLY LINE OF LAKE SHORE DRIVE, 132.0 FEET WESTERLY FROM THE PLACE OF BEGINNING; THENCE EASTERLY ALONG SAID NORTHERLY LINE, 132.0 FEET TO THE PLACE OF BEGINNING, IN MCHENRY COUNTY, ILLINOIS.

TOPOGRAPHIC INFORMATION BASED ON ALTA/ACSM LAND TITLE SURVEY BY:
VANDERSTAPPEN LAND SURVEYING, INC.

DATE: 04/25/2023

ABBREVIATIONS

ADS	ADVANCED DRAINAGE SYSTEMS, INC.
B/W	BOTTOM OF WALL
C	TOP OF CONCRETE
CB	PRECAST CONCRETE CATCH BASIN
CMP	CORRUGATED STEEL PIPE
DIP	DUCTILE IRON PIPE
EX	EXISTING
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
HDPE	HIGH DENSITY POLYETHYLENE
INL	PRECAST CONCRETE INLET
INV	INVERT
MH	PRECAST CONCRETE MANHOLE
P	TOP OF PAVEMENT
PC	PORTLAND CEMENT
PR	PROPOSED
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
SAN	SANITARY
STM	STORM DRAIN
TC	TOP OF CURB
TW	TOP OF SIDEWALK
T/W	TOP OF WALL
T/WM	TOP OF WATER MAIN
UC	UTILITY CROSSING
V	VALVE
WM	WATER MAIN
WS	WATER SERVICE

CALL JULIE TOLL FREE 1(800)892-0123 OPERATES 24 HOURS A DAY 365 DAYS A YEAR
WARNING
CALL BEFORE YOU DIG
CALL 1(800)892-0123 48 HOURS BEFORE YOU DIG

LEGEND

EXISTING		PROPOSED
	SANITARY SEWER	
	STORM SEWER	
	PERFORATED STORM SEWER	
	WATER MAIN	
S	SANITARY SEWER MANHOLE	
ST	STORM SEWER MANHOLE	
	CATCH BASIN	
	INLET	
W	VALVE IN VAULT	
	FIRE HYDRANT	
	UTILITY POLE	
	STREET LIGHT	
	LIGHT STANDARD	
621.12	SPOT ELEVATION	686.02 TC 685.62 FL
621	CONTOUR	621
	SURFACE DRAINAGE	
	GRADE BREAK	
RIM XXX.XX INV XXX.XX	SANITARY MANHOLE ELEVATIONS	RIM XXX.XX INV XXX.XX
RIM XXX.XX INV XXX.XX	STORM STRUCTURE ELEVATIONS	RIM XXX.XX INV XXX.XX
	PROPERTY LINE & R.O.W.	
	EASEMENT LINE	
X X	CHAIN FENCE	X X
	WOOD FENCE	
UE UT	BURIED UTILITY LINE	UE UT
OE OT	OVERHEAD UTILITY LINE	OE OT

FOR BURIED AND OVERHEAD UTILITIES:
E=ELECTRIC T=TELEPHONE C=COMMUNICATIONS G=GAS

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Client:
LOTUS VIRGINIA
709 OAK HOLLOW COURT
CRYSTAL LAKE, IL 60014

Project Title:
DUNKIN'
SITE DESIGN
154 VIRGINIA AVE
CRYSTAL LAKE, IL 60014

Seal:
DOUGLAS H. KEMPF
062-066576
LICENSED PROFESSIONAL ENGINEER
OF
ILLINOIS
Date: October 17, 2025
Expires: November 30, 2027

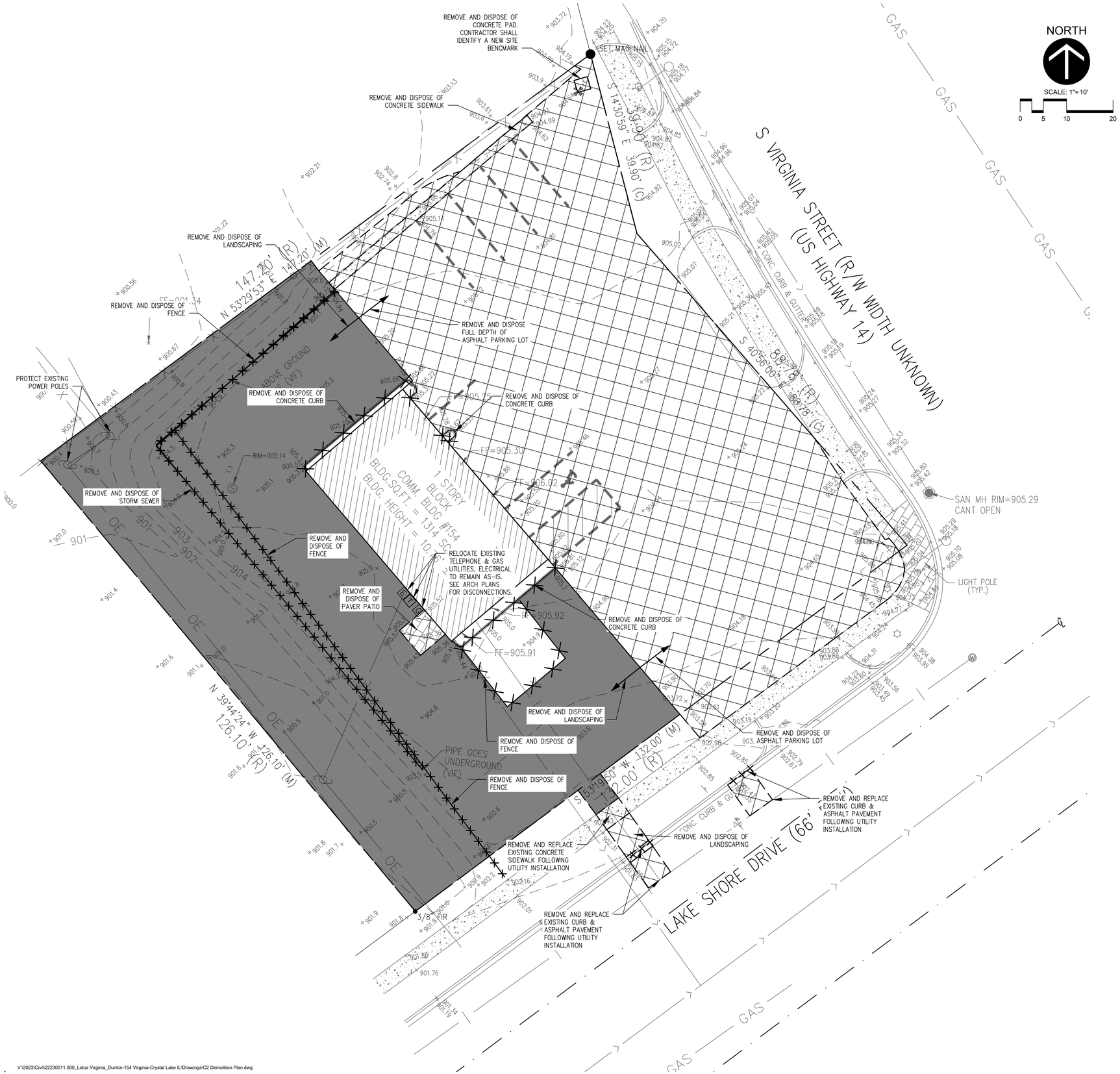
Rev.	Date	Description
1	03.05.24	City Comments
2	10.29.24	City Comments
3	02.25.25	City Comments
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Sheet Title:
EXISTING CONDITIONS

C1.0

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SYMBOL LEGEND

- REMOVE AND DISPOSE OF EXISTING CURB, FENCE, & UTILITY LINES
- REMOVE AND DISPOSE OF EXISTING BUILDINGS, SIDEWALKS, ASPHALT AND CONCRETE PAVEMENT
- EARTH EXCAVATION
- REMOVE AND DISPOSE OF EXISTING TREES, FEATURES, & UTILITY STRUCTURES

DEMOLITION NOTES

1. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL NECESSARY PERMITS HAVE BEEN SECURED. CONTRACTOR SHALL PERFORM ALL DEMOLITION AND ASSOCIATED OPERATIONS IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS AND REQUIREMENTS OF AGENCIES HAVING JURISDICTION.
2. VERIFY ALL EXISTING UTILITY LOCATIONS PRIOR TO COMMENCEMENT OF DEMOLITION OPERATIONS.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM OR COORDINATE ALL NECESSARY UTILITY DEMOLITIONS AND RELOCATIONS FROM EXISTING UTILITY LOCATIONS TO ALL ONSITE AMENITIES AND BUILDINGS. THESE CONNECTIONS INCLUDE, BUT ARE NOT LIMITED TO, WATER, SANITARY SEWER, CABLE TV, TELEPHONE, GAS, ELECTRIC, SITE LIGHTING, ETC.
4. PRIOR TO BEGINNING WORK, CONTACT "JULIE" (800-892-0123) TO LOCATE UTILITIES THROUGHOUT THE AREA UNDER CONSTRUCTION. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A PRIVATE UTILITY LOCATOR TO LOCATE THE PRIVATE UTILITIES.
5. CONTRACTOR SHALL VERIFY THAT ALL EXISTING UTILITIES HAVE BEEN LOCATED, MARKED, AND SHUT-OFF PRIOR TO COMMENCING ABANDONMENT ACTIVITIES. THE ACCURACY AND COMPLETE INCLUSION OF THE LOCATIONS OF EXISTING UTILITIES ON THE PLAN IS NOT GUARANTEED. NOTIFY OWNER AND ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
6. UTILITY SERVICE LINES INDICATED FOR ABANDONMENT SHALL BE PLUGGED AT BOTH ENDS WITH A MINIMUM OF TWO FEET OF NON-SHRINK CONCRETE/MORTAR PLUGS. CONTRACTOR SHALL PROTECT EXISTING UTILITY SERVICE LINES AND MAINS INDICATED TO REMAIN FROM DAMAGE DURING DEMOLITION AND ABANDONMENT OPERATIONS.
7. SAWCUT ALONG EDGES OF PAVEMENTS, SIDEWALKS, AND CURBS TO REMAIN.
8. CLEARING SHALL INCLUDE THE REMOVAL OF BUSHES, TREES AND OTHER PLANTS, AS DETERMINED BY OWNER, WITHIN THE LIMITS SHOWN. CLEARING SHALL ALSO INCLUDE THE REMOVAL OF ALL ROCKS OR BOULDERS LARGER THAN 2 INCHES AT THE SURFACE.
9. ALL DEMOLITION DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROMPTLY AND IN A LEGAL MANNER. STOCKPILING OF MATERIALS WILL BE PROHIBITED WITHOUT PERMISSION FROM THE OWNER AND AGENCY HAVING JURISDICTION.
10. IF MATERIALS SUSPECTED OF CONTAINING HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB, AND NOTIFY THE OWNER IMMEDIATELY.
11. CONTRACTOR SHALL PROTECT ALL UTILITIES, STRUCTURES, AND TREES DESIGNATED TO REMAIN. ANY DAMAGE BY THE CONTRACTOR TO THESE UTILITIES, STRUCTURES, TRES, STREETS OR ADJACENT PROPERTIES WILL BE REPLACED/REPAIRED AT THE CONTRACTOR'S EXPENSE.
12. CONTRACTOR SHALL PROVIDE TEMPORARY BARRICADES AND OTHER PROTECTION REQUIRED TO PREVENT INJURY TO PEOPLE AND DAMAGE TO ADJACENT FACILITIES TO REMAIN. DO NOT CLOSE OR OBSTRUCT WALKS, ROADS, WALKWAYS OR OTHER FACILITIES WITHOUT PERMISSION FROM THE OWNER AND AUTHORITIES HAVING JURISDICTION.

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709 OAK HOLLOW COURT
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Project Title:
DUNKIN'
SITE DESIGN
154 VIRGINIA AVE
CRYSTAL LAKE, IL 60014

Seal:
DOUGLAS H. KEPPY
062-066676
LICENSED PROFESSIONAL ENGINEER
OF
ILLINOIS
Date: October 17, 2025
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Sheet Title:
DEMOLITION PLAN

C2.0

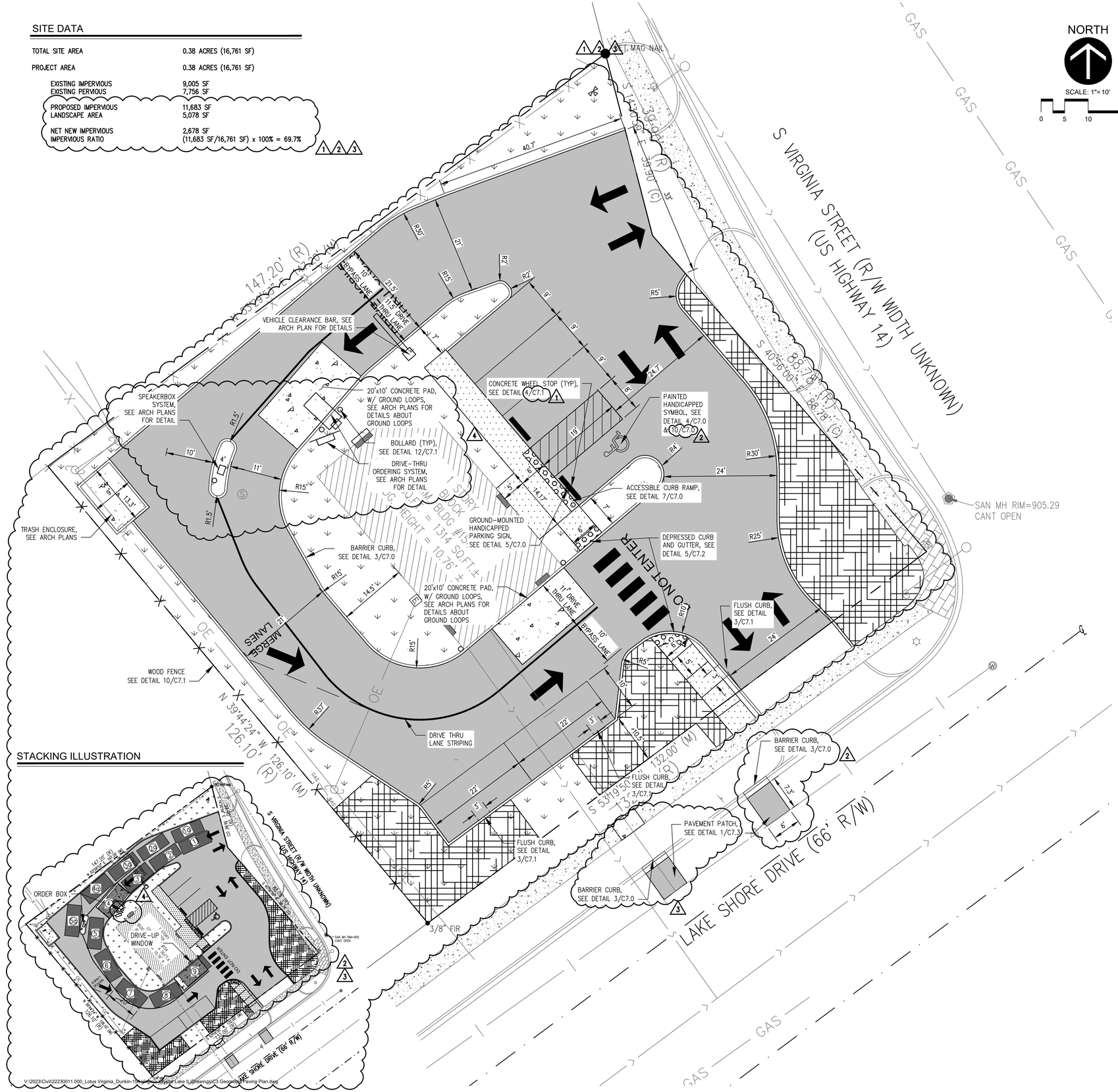
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SITE DATA

TOTAL SITE AREA	0.38 ACRES (16,761 SF)
PROJECT AREA	0.38 ACRES (16,761 SF)
EXISTING IMPERVIOUS	9,005 SF
EXISTING PERVIOUS	7,756 SF
PROPOSED IMPERVIOUS	11,683 SF
LANDSCAPE AREA	5,078 SF
NET NEW IMPERVIOUS	2,678 SF
IMPERVIOUS RATIO	(11,683 SF/16,761 SF) x 100% = 69.7%

1 2 3



STACKING ILLUSTRATION

SYMBOL LEGEND

- CONCRETE SIDEWALK, SEE DETAIL 6/C7.0
- HEAVY DUTY ASPHALT PAVEMENT, SEE DETAIL 1/C7.0
- CONCRETE PAVEMENT, SEE DETAIL 2/C7.0
- 4" TOPSOIL WITH SOD
- RAIN GARDEN, SEE DETAIL 2/C7.1 (1 2)

NOTES

1. ALL WORK PERFORMED SHALL MEET THE STANDARDS OUTLINED IN THE ENCLOSED PLANS, AS WELL AS THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION) BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION, UNLESS OTHERWISE NOTED.
2. DO NOT SCALE DIMENSIONS FOR BUILDINGS FROM THESE DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR BUILDING DIMENSIONS.
3. ALL DIMENSIONS ARE FROM FRONT OF CURB TO FRONT OF CURB, FRONT OF CURB TO END OF STALL LINE, OR BACK OF CURB TO PROPERTY LINE, UNLESS OTHERWISE NOTED. ALL RADII DIMENSIONS ARE TO THE FRONT OF CURB, UNLESS OTHERWISE NOTED.
4. PARKING STALL AND DRIVE THRU STRIPING SHALL BE 4" WIDE YELLOW OR WHITE PAINT MEETING IDOT MATERIAL SPECIFICATION IN ART. 1095.02 OF THE STANDARD SPECIFICATIONS AND SHALL BE APPLIED IN ACCORDANCE WITH ART. 780 OF THE STANDARD SPECIFICATIONS.
5. BASE AGGREGATE IS TO BE IDOT GRADATION CA-6, TYPE B IN ACCORDANCE WITH ART. 1004.01 AND 351 OF THE STANDARD SPECIFICATIONS.
6. BEDDING, JOINT, AND VOID FILLER AGGREGATE SHALL BE IDOT GRADATION CA-11 OR CA-13 IN ACCORDANCE WITH ART. 1004.01 OF THE STANDARD SPECIFICATIONS.
7. DRAINAGE/STORAGE AGGREGATE SHALL BE IDOT GRADATION CA-7 (WASHED) IN ACCORDANCE WITH ART. 1004.01 OF THE STANDARD SPECIFICATIONS.
8. THE CONCRETE MIX DESIGN SHALL BE COMPOSED OF PORTLAND CEMENT, COARSE AND FINE AGGREGATE, WATER, AND AN AIR-ENTRAINING ADMIXTURE, AND SHALL BE PROPORTIONED TO MEET ART. 1020.04 OF THE STANDARD SPECIFICATIONS FOR CLASS PV OR SI, AS INDICATED ON THE DRAWINGS.
9. HOT MIX ASPHALT MIX DESIGNS SHALL CONFORM TO ART. 1030.04 OF THE STANDARD SPECIFICATIONS AND THE FOLLOWING:
   - 9.1. HMA SURFACE COURSE: IL9.5, N50, 4% AIR VOIDS, MIX "D"
   - 9.2. HMA BINDER COURSE: IL 19.0, N50, 4% AIR VOIDS, MIX "D"
10. THE INSTALLATION OF THE HMA SHALL BE DELAYED UNTIL THE BASE AGGREGATE IS PROOF-ROLLED WITH A FULLY LOADED SIX (6) WHEELED VEHICLE BY CONTRACTOR, AT HIS EXPENSE, TO THE SATISFACTION OF THE ENGINEER.
11. WHERE NEW PAVEMENT MEETS EXISTING HMA OR CONCRETE PAVEMENTS, A CUT JOINT OF TRANSITIONAL LENGTH NO LESS THAN TEN (10) FEET WILL BE REQUIRED. THE SUBGRADE SHALL BE GRADED PARALLEL TO THE FINAL SURFACE GRADES AND, AS SUCH, SHALL DRAIN TO THE CURB LINE AND TO THE INLETS AND CATCH BASINS. POSITIVE DRAINAGE MUST BE ACCOMPLISHED ON THE COMPACTED SUBGRADE OR THE PLACEMENT OF BASE MATERIAL WILL NOT BE ALLOWED.
12. TIE NEW CURB TO EXISTING CURB WITH 2 #4 BARS (24" LENGTH, 12" ON EITHER SIDE) EPOXIED INTO EXISTING.
13. ALL CURBS CONSTRUCTED OR REPLACED OVER A UTILITY TRENCH SHALL BE REINFORCED WITH TWO (2) #4 BARS FOR A LENGTH OF 20 FEET CENTERED OVER THE TRENCH. SIDEWALKS SHALL BE TREATED IN THE SAME MANNER USING THREE (3) #6 BARS.
14. ALL B6.12 CURB & GUTTER SHALL BE REVERSE PITCH UNLESS OTHERWISE NOTED ON THE PLANS.
15. THE GRANULAR CURB BASE SHALL BE A MINIMUM OF THREE (3) INCHES OF ⅜" TO ¾" OPEN GRADED GRANULAR MATERIAL TO ALLOW FOR PROPER SUBGRADE DRAINAGE. COMPACTED CURB SUBGRADE SHALL BE SHAPED PARALLEL TO THE CURB FLOW LINE A POSITIVELY DRAINED TO THE INLETS AND CATCH BASINS.
16. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT TEN (10) FOOT MINIMUM INTERVALS. EXPANSION JOINTS SHALL BE REQUIRED AT ALL POINTS OF CURVATURE, AT BOTH SIDES OF ALL DRAINAGE STRUCTURES, AND ALL LOCATIONS WHERE THE SIDEWALK ABUTS THE CONCRETE CURB AND GUTTER.
17. ALL CONCRETE CURB AND GUTTER AND SIDEWALKS SHALL BE CURED WITH W.R. MEADOWS CS-309 CURING COMPOUND, OR APPROVED EQUAL.
18. ALL CONCRETE CURB AND GUTTER SHALL BE SEALED WITH W.R. MEADOWS T1A44 SEALANT, OR APPROVED EQUAL, IMMEDIATELY AFTER SEVEN (7) DAYS OF CURING. APPLICATION SHALL BE AT A RATE OF 300 SQUARE FEET PER GALLON UTILIZING A SPRAYER. THE SURFACE MUST BE THOROUGHLY CLEAN AND DRY FOR APPLICATION.
19. DRAINAGE FABRIC, IF REQUIRED, SHALL BE NON-WOVEN GEOTEXTILE SPECIFICALLY MANUFACTURED AS A DRAINAGE GEOTEXTILE, MEETING THE MINIMUM SPECIFICATIONS OF THE ILLINOIS URBAN MANUAL SPECIFICATION 592.
20. SEPARATION FABRIC, IF REQUIRED, SHALL BE WOVEN GEOTEXTILE SPECIFICALLY MANUFACTURED FOR USE AS A SEPARATION GEOTEXTILE, MEETING THE MINIMUM SPECIFICATIONS OF THE ILLINOIS URBAN MANUAL SPECIFICATION 592.
21. ALL NON-PAVED AREAS DISTURBED OR REGRADED SHALL BE BACKFILLED WITH A MINIMUM OF 6" TOPSOIL AND SEEDED.

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LICENSED PROFESSIONAL ENGINEER OF ILLINOIS
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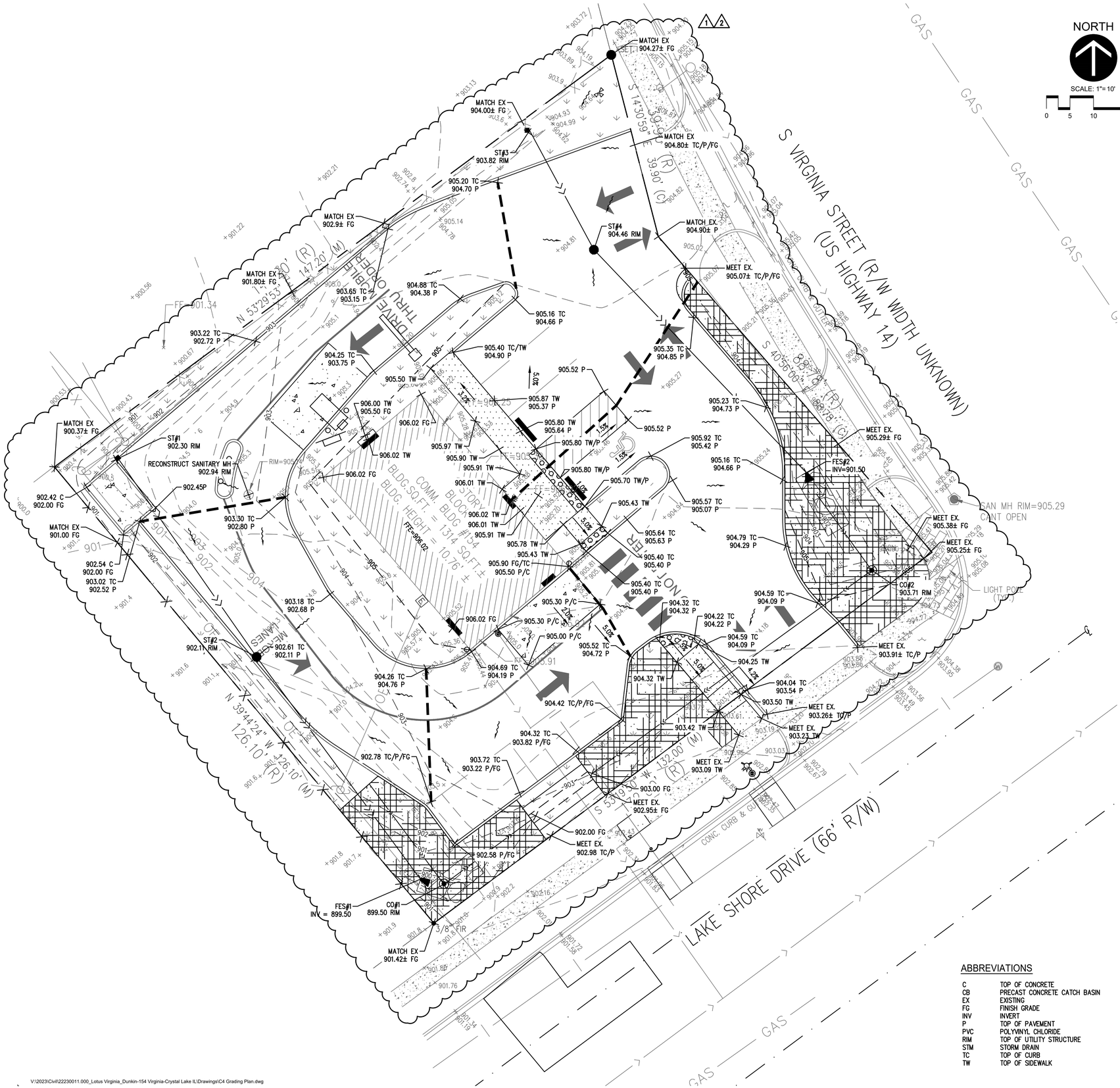
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Sheet Title:
GEOMETRIC PAVING PLAN

C3.0

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ABBREVIATIONS

C	TOP OF CONCRETE
CB	PRECAST CONCRETE CATCH BASIN
EX	EXISTING
FG	FINISH GRADE
INV	INVERT
P	TOP OF PAVEMENT
PVC	POLYVINYL CHLORIDE
RIM	TOP OF UTILITY STRUCTURE
STM	STORM DRAIN
TC	TOP OF CURB
TW	TOP OF SIDEWALK

GRADING NOTES

1. ALL WORK PERFORMED SHALL MEET THE STANDARDS OUTLINED IN THE ENCLOSED PLANS, AS WELL AS THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION) BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION, UNLESS OTHERWISE NOTED.
2. ALL WORK RELATIVE TO PAD AND PAVEMENT CONSTRUCTION, TRENCHING AND BACKFILLING, SITE PREPARATION, AND GRAVEL INSTALLATION, AS SHOWN ON THESE PLANS, SHALL BE CONSTRUCTED IN ACCORDANCE WITH SOIL TEST DATA, STATEMENTS, AND INTERPRETATIONS GIVEN IN REPORT NO. 23G0357 PREPARED BY CGMT, INC. DATED 7.21.2023.
3. THE CONTRACTOR SHALL VERIFY ALL ELEVATIONS PRIOR TO THE START OF WORK. ANY DISCREPANCIES FOUND SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT/ENGINEER AND NO FURTHER WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS CHECKED AND CORRECTED BY THE ENGINEER.
4. ELEVATIONS ARE USGS NAVD88 DATUM.
5. ALL PROPOSED ELEVATIONS SHOWN ON PLAN ARE FINISHED SURFACE ELEVATIONS. CONTRACTOR TO ADJUST ALL EXISTING STRUCTURES TO MEET NEW FINISHED GRADES.
6. IN ALL AREAS WHERE DETAILED SPOT GRADES ARE NOT SHOWN, FINISHED ASPHALT SURFACE ELEVATIONS SHOULD MEET EXISTING GUTTER FLAGS. RETAIN EXISTING SURFACE SLOPES TO ENSURE POSITIVE DRAINAGE TO CATCH BASINS.
7. SIDEWALK SLOPES THROUGHOUT THE PROJECT AREA SHALL NOT EXCEED 2.0% CROSS SLOPE AND 5.0% RUNNING SLOPE.
8. UNSUITABLE MATERIAL ENCOUNTERED IN EXCAVATING FOR PAVEMENT SUBGRADES SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL TO THE LIMITS APPROVED BY THE ENGINEER. UNSUITABLE MATERIAL THAT IS EXCAVATED SHALL BE DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
9. TOPSOIL EXCAVATED SHALL BE STOCKPILED ON THE SITE IN AREAS DESIGNATED BY THE ENGINEER UNTIL SUCH TIME THAT THE TOPSOIL CAN BE USED FOR FINAL GRADING.
10. DEWATERING:
    - A. PREVENT SURFACE WATER AND GROUND WATER FROM ENTERING EXCAVATIONS, FROM PONDING ON PREPARED SUBGRADES, AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA.
    - B. PROTECT SUBGRADES FROM SOFTENING, UNDERMINING, WASHOUT, AND DAMAGE BY RAIN OR WATER ACCUMULATION
        - REROUTE SURFACE WATER RUNOFF AWAY FROM EXCAVATED AREAS. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS, DO NOT USE EXCAVATED TRENCHES AS TEMPORARY DRAINAGE DITCHES.
        - INSTALL DEWATERING SYSTEM AS REQUIRED TO KEEP SUBGRADES DRY AND CONVEY GROUNDWATER AWAY FROM EXCAVATIONS. MAINTAIN UNTIL DEWATERING IS NO LONGER REQUIRED. REFER TO AFOREMENTIONED GEOTECHNICAL REPORT FOR INFORMATION RELATED TO GROUNDWATER ELEVATIONS.
        - DEWATERING SYSTEMS TO INCLUDE MEASURES TO PREVENT SEDIMENT TRANSPORT IN ACCORDANCE WITH ILLINOIS URBAN MANUAL REGULATIONS.

FILL PLACEMENT NOTES

1. BEFORE PLACING ANY FILL WITHIN PAVEMENT OR STRUCTURE AREAS, THE EXISTING SUBGRADE SHALL BE COMPACTED AS INDICATED IN THE "COMPACTION" SECTION OF THESE SPECIFICATIONS. SOFT OR OTHERWISE UNSUITABLE MATERIALS SHALL BE REMOVED AS INDICATED IN THESE SPECIFICATIONS.
2. SUITABLE STRUCTURAL FILL MATERIALS SHALL BE OF A NATURE THAT WILL COMPACT AND DEVELOP A STABILITY SATISFACTORY TO THE GEOTECHNICAL ENGINEER. SUCH MATERIALS SHALL NOT CONTAIN FROZEN MATERIAL OR ANY MATERIAL WHICH, BY DECAY OR OTHERWISE, MIGHT CAUSE SETTLEMENT.
3. MATERIAL TYPES FOR STRUCTURAL FILL PURPOSES:
    - A. SUITABLE FINE-GRAINED SOILS – SOIL MATERIALS THAT COMPLY WITH ASTM D 2487 SOIL CLASSIFICATION GROUP CL AND MEET THE FOLLOWING REQUIREMENTS:
        - LABORATORY MODIFIED DRY DENSITY OF 110 PCF OR GREATER WHEN DETERMINED IN ACCORDANCE WITH ASTM D1557
        - PLASTICITY INDEX OF GREATER THAN 12
        - LIQUID LIMIT LESS THAN 45
        - PARTICLE SIZE DISTRIBUTION WITH GREATER THAN 50% PASSING THE NO. 200 SIEVE
    - B. SUITABLE COARSE-GRAINED SOILS – SOIL MATERIALS THAT COMPLY WITH ASTM-D2487 SOIL CLASSIFICATION GROUPS GW, GP, GM, SW, SP AND SC.
    - C. UNSUITABLE FILL – SOIL MATERIALS THAT DO NOT MEET THE STATED CRITERIA FOR SUITABLE SOILS SHALL NOT BE USED AS STRUCTURAL FILL.
    - D. BITUMINOUS CONCRETE AND GRANULAR BASE MATERIALS REMOVED FROM EXISTING PAVEMENT AREAS MAY BE USED AS STRUCTURAL FILL, SUBJECT TO GRADATION, PLACEMENT AND COMPACTION CONTROL BY THE GEOTECHNICAL ENGINEER.
4. INSTALLED FILL LAYERS SOFTENED OR OTHERWISE DAMAGED BY RAIN, PONDED WATER, OR CONSTRUCTION ACTIVITIES SHALL BE SCARIFIED, DRIED AND RECOMPACTED OR REMOVED AND REPLACED. THIS WORK, EVEN IF PERFORMED AFTER LIFT OR FILL ACCEPTANCE, SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS OF THE WORK.
5. UNSUITABLE SUBGRADE CONDITIONS:
    - A. WITHIN AREAS OF NEW OR RECONSTRUCTED PAVEMENTS, SOFT OR OTHERWISE UNACCEPTABLE SUBGRADE MATERIALS SHALL TYPICALLY BE REMOVED TO A DEPTH WHERE THE MINIMUM IN SITU UNCONFINED COMPRESSIVE STRENGTH IS 2.0 TSF AND THE MOISTURE CONTENT IS NO MORE THAN 3 PERCENTAGE POINTS ABOVE THE OPTIMUM MOISTURE CONTENT PER ASTM D1557. WHEN THE DEPTH OF UNSUITABLE MATERIAL IS EXCESSIVE AND DOES NOT WARRANT COMPLETE REMOVAL, REMEDIAL PROCEDURES WILL TYPICALLY REQUIRE PLACEMENT OF A GEOTEXTILE FABRIC (MIRAFI 600X OR APPROVED EQUAL) AND SUFFICIENT AGGREGATE FILL (I.D.O.T. CA-1 OR ALTERNATE ACCEPTABLE GRANULAR MATERIAL) ON THE REMAINING MATERIAL TO ENABLE THE INSTALLATION OF PROPERLY COMPACTED EARTHFILL TO THE REQUIRED SUBGRADE LEVEL. ALTERNATIVE PROCEDURES MAY BE REQUIRED DEPENDING ON THE CONDITIONS ENCOUNTERED. SPECIFIC REQUIREMENTS FOR REMOVAL AND REMEDIAL PROCEDURES SHALL BE AS DIRECTED BY THE GEOTECHNICAL ENGINEER DURING THE EARTHWORK OPERATIONS.
    - B. REMOVAL OF UNSUITABLE MATERIALS AND INSTALLATION OF REPLACEMENT FILL MATERIAL UNDER AND ADJACENT TO PROPOSED BUILDINGS AND STRUCTURES SHALL BE AS SPECIFIED BY THE GEOTECHNICAL ENGINEER.
6. SUITABLE FILL MATERIALS SHALL BE PLACED AS COMPACTED STRUCTURAL FILL UNDER PROPOSED PAVEMENTS, BUILDINGS AND STRUCTURES, WHERE FILL IS NECESSARY. COMPACTED FILL SHALL BE PLACED TO ELEVATIONS REQUIRED TO INSTALL THE SPECIFIED THICKNESSES AND ESTABLISH THE INDICATED SURFACE ELEVATIONS OF THE PAVEMENTS AND GROUND SURFACES INDICATED ON THE PLANS.
7. UNSUITABLE MATERIALS MAY BE PLACED WITHIN ADJACENT OPEN SPACE AREAS ONLY WHERE FILL IS REQUIRED TO OBTAIN FINAL SUBGRADE LEVELS. IF BORROW PITS ARE USED TO OBTAIN STRUCTURAL FILL MATERIAL, UNSUITABLE MATERIALS MAY BE USED TO BRING THE BORROW AREAS TO GRADE. DISPOSAL OF SUCH MATERIALS SHALL BE LIMITED TO AREAS AND DEPTHS AUTHORIZED BY THE GEOTECHNICAL ENGINEER. IF SUFFICIENT ACCEPTABLE PLACEMENT AREAS ARE NOT AVAILABLE, REMAINING UNSTABLE AND UNSUITABLE MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF.
8. IF NECESSARY, THE CONTRACTOR SHALL PROVIDE SUFFICIENT SUITABLE STRUCTURAL FILL MATERIAL FROM OFF-SITE SOURCES AS NECESSARY TO COMPLETE EARTHWORK OPERATIONS TO THE REQUIRED LEVELS AND ELEVATIONS. THE SUITABILITY OF MATERIALS SUPPLIED BY THE CONTRACTOR SHALL BE AS DEFINED IN PARAGRAPH (3) OF THESE SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE THE GEOTECHNICAL ENGINEER ACCESS TO THE PROPOSED OFF-SITE SOURCES TO TAKE SAMPLES AND EVALUATE THE MATERIALS.

COMPACTION NOTES

1. FILL MATERIAL SHALL BE PLACED IN LAYERS (LIFTS) AND COMPACTED IN ACCORDANCE WITH THE FOLLOWING SPECIFIED REQUIREMENTS. TYPICALLY, LIFT THICKNESS SHALL NOT EXCEED 8 INCHES (LOOSE CONDITION) AND THE FILL MATERIAL (WHEN COMPACTED) SHALL HAVE A MOISTURE CONTENT WITHIN THE LIMITS OF -1 TO +3 PERCENTAGE POINTS OF ITS OPTIMUM VALUE. NECESSARY LIFT THICKNESSES AND MOISTURE CONTENTS SHALL BE AS DETERMINED BY THE GEOTECHNICAL ENGINEER TO OBTAIN THE REQUIRED COMPACTION AND STRENGTH OF MATERIAL IN PLACE.
2. UNPAVED AREAS: COMPACT TOP 6 INCHES OF SUBGRADE AND EACH SUCCESSIVE LAYER (NOT EXCEEDING 12-INCH THICKNESS OF LOOSE MEASURE) OF BACKFILL OR FILL MATERIAL TO A MINIMUM OF 75% RELATIVE DENSITY FOR FREE-DRAINING COHESIONLESS SOILS (ASTM D4253 & D4254) AND 85% MAXIMUM DENSITY FOR COHESIVE SOIL MATERIAL, AS DETERMINED BY THE MODIFIED PROCTOR METHOD (ASTM D1557).
3. PAVEMENT AREAS: COMPACT TOP 6 INCHES OF SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL TO A MINIMUM OF 80% RELATIVE DENSITY FOR FREE-DRAINING COHESIONLESS SOILS (ASTM D4253 & D4254) AND 95% MAXIMUM DRY DENSITY FOR COHESIVE SOILS AND WELL GRADED GRANULAR SOIL, AS DETERMINED BY THE MODIFIED PROCTOR METHOD (ASTM D1557)

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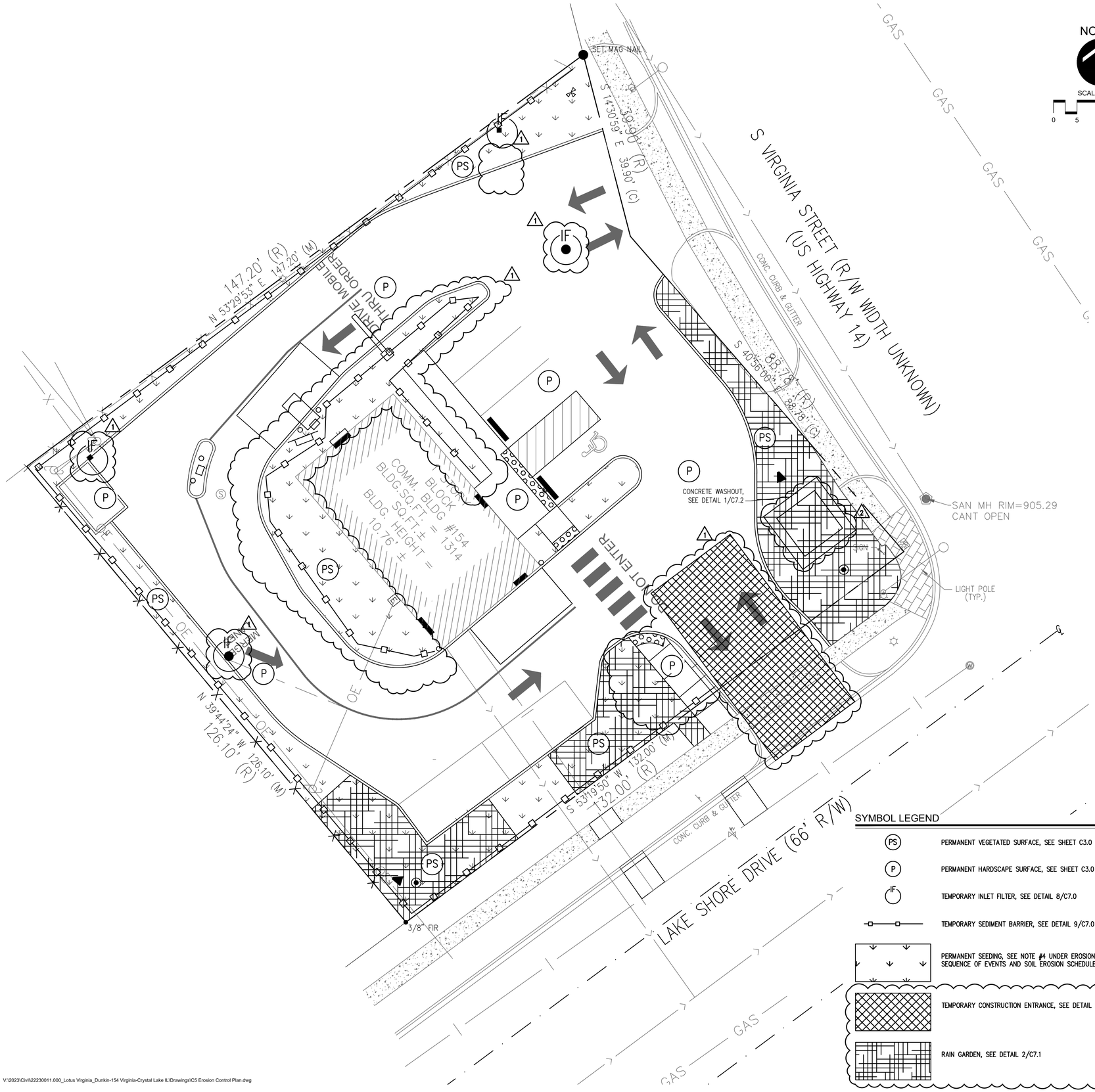
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Sheet Title:
GRADING PLAN

C4.0

Sheet: 5 of 13

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NORTH

SCALE: 1"= 10'

0 5 10 20

EROSION CONTROL NOTES

1. ALL WORK PERFORMED SHALL MEET THE STANDARDS OUTLINED IN THE ENCLOSED PLANS, AS WELL AS THE STANDARDS AND SPECIFICATIONS OF THE ILLINOIS URBAN MANUAL, UNLESS OTHERWISE NOTED.
2. OWNER AND CONTRACTOR SHALL OBTAIN ILLINOIS EPA NPDES (ILR10) PERMIT, IF REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES PERTAINING TO THIS PERMIT. THE SWPPP SHALL BE KEPT ONSITE AT ALL TIMES.
3. INSTALL TEMPORARY EROSION CONTROL MEASURES (INLET PROTECTION, SILT FENCE, AND ROCK CONSTRUCTION ENTRANCE) PRIOR TO BEGINNING ANY EXCAVATION OR DEMOLITION WORK AT THE SITE.
4. EROSION CONTROL MEASURES SHOWN ON THE EROSION CONTROL PLAN ARE THE ABSOLUTE MINIMUM. THE CONTRACTOR SHALL INSTALL TEMPORARY EARTH DIKES, SEDIMENT TRAPS OR BASINS, ADDITIONAL SILTATION FENCING, AND/OR DISK THE SOIL PARALLEL TO THE CONTOURS AS DEEMED NECESSARY TO FURTHER CONTROL EROSION. ALL CHANGES SHALL BE RECORDED IN THE SWPPP.
5. ALL CONSTRUCTION SITE ENTRANCES SHALL BE SURFACED WITH CRUSHED ROCK ACROSS THE ENTIRE WIDTH OF THE ENTRANCE AND FROM THE ENTRANCE TO A POINT 70' INTO THE CONSTRUCTION ZONE.
6. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN A MINIMUM OF 6". THE TRENCH BACKFILL SHALL BE COMPACTED WITH A VIBRATORY PLATE COMPACTOR.
7. ALL GRADING OPERATIONS SHALL BE CONDUCTED IN A MANNER TO MINIMIZE THE POTENTIAL FOR SITE EROSION. SEDIMENT CONTROL PRACTICES MUST BE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITIES BEGIN.
8. ALL EXPOSED SOIL AREAS MUST HAVE TEMPORARY PROTECTION COVER ACCORDING TO THE FOLLOWING:

TYPE OF SLOPE	TIME (MAXIMUM TIME AN AREA CAN REMAIN OPEN WHEN AREA IS NOT ACTIVELY BEING WORKED)
SLOPES STEEPER THAN 3:1	WITHIN 7 DAYS
SLOPES BETWEEN 10:1 AND 3:1	WITHIN 14 DAYS
SLOPES FLATTER THAN 10:1	WITHIN 21 DAYS

THESE AREAS INCLUDE CONSTRUCTED STORM WATER MANAGEMENT POND SIDE SLOPES, AND ANY EXPOSED SOIL AREAS WITH A POSITIVE SLOPE TO A STORM WATER CONVEYANCE SYSTEM, SUCH AS A CURB AND GUTTER SYSTEM, STORM SEWER INLET, TEMPORARY OR PERMANENT DRAINAGE DITCH, OR OTHER NATURAL OR MAN MADE SYSTEMS THAT DISCHARGE TO A SURFACE WATER.

9. ALL RIPRAP MATERIAL SHALL BE INSTALLED WITH A FILTER MATERIAL OR SOIL SEPARATION FABRIC AND COMPLY WITH THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
10. IN AREAS WHERE CONCENTRATED FLOWS OCCUR (SUCH AS SWALES AND AREAS IN FRONT OF STORM CATCH BASINS AND INTAKES) THE EROSION CONTROL FACILITIES SHALL BE BACKED BY STABILIZATION STRUCTURE TO PROTECT THOSE FACILITIES FROM THE CONCENTRATED FLOWS.
11. ALL STORM SEWER CATCH BASINS NOT NEEDED FOR SITE DRAINAGE DURING CONSTRUCTION SHALL BE COVERED TO PREVENT RUNOFF FROM ENTERING THE STORM SEWER SYSTEM. CATCH BASINS NECESSARY FOR SITE DRAINAGE DURING CONSTRUCTION SHALL HAVE INLET FILTER BASKETS INSTALLED. THE FILTER BASKETS SHALL BE MAINTAINED UNTIL THE TRIBUTARY AREAS ARE RESTORED.
12. INSPECT THE CONSTRUCTION SITE ONCE EVERY SEVEN DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. ALL INSPECTIONS SHALL BE RECORDED IN THE SWPPP.
13. ALL SILT FENCES MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/3 OF THE HEIGHT OF THE FENCE. THESE REPAIRS MUST BE MADE WITHIN 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS. ALL REPAIRS SHALL BE RECORDED IN THE SWPPP.
14. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED IN A MANNER AND AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS.
15. ALL SOILS TRACKED ONTO PAVEMENT SHALL BE REMOVED DAILY.
16. ALL PERMANENT SEDIMENTATION BASINS MUST BE RESTORED TO THEIR DESIGN CONDITION IMMEDIATELY FOLLOWING STABILIZATION OF THE SITE.
17. COLLECTED SEDIMENT, ASPHALT AND CONCRETE MILLINGS, FLOATING DEBRIS, PAPER, PLASTIC, FABRIC, CONSTRUCTION AND DEMOLITION DEBRIS AND OTHER WASTES MUST BE DISPOSED OF PROPERLY AND MUST COMPLY WITH ILLINOIS EPA DISPOSAL REQUIREMENTS.
18. OIL, GASOLINE, PAINT, AND ANY HAZARDOUS SUBSTANCES MUST BE PROPERTLY STORED, INCLUDING SECONDARY CONTAINMENT, TO PREVENT SPILLS, LEAKS, OR OTHER DISCHARGE. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH ILLINOIS EPA REGULATIONS.
19. EXTERNAL WASHING OF TRUCKS AND OTHER CONSTRUCTION VEHICLES MUST BE LIMITED TO A DEFINED AREA OF THE SITE. RUNOFF MUST BE CONTAINED AND WASTE PROPERLY DISPOSED OF. NO ENGINE DEGREASING IS ALLOWED ONSITE.
20. ALL LIQUID AND SOLID WASTES GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER. THE LIQUID AND SOLID WASTES MUST NOT CONTACT THE GROUND, AND THERE MUST NOT BE RUNOFF FROM THE CONCRETE WASHOUT OPERATIONS OR AREAS. LIQUID AND SOLID WASTES MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH ILLINOIS EPA REGULATIONS. A SIGN MUST BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.
21. UPON COMPLETION OF THE PROJECT AND STABILIZATION OF ALL GRADED AREAS, ALL TEMPORARY EROSION CONTROL FACILITIES SHALL BE REMOVED FROM THE SITE.
22. SEE ADDITIONAL NOTES ON SHEET C7.2. (1)

EROSION CONTROL SEQUENCE OF EVENTS

1. INSTALL CONSTRUCTION ENTRANCE INTO THE SITE. (1)
2. INSTALL SILT FENCE AND INLET FILTERS.
3. AGGREGATE BASE COURSE WORK, CURBS, AND BASE COURSE PAVING SHALL BE PERFORMED AS SOON AS PRACTICAL.
4. GREEN SPACE AREAS WHICH ARE GRADED AND NO LONGER IN THE PATH OF CONSTRUCTION OPERATIONS SHALL BE TOPSOILED, SEEDED OR SODDED, AND MULCHED AS SOON AS POSSIBLE IN ONE CONTINUOUS OPERATION.
5. PRIOR TO REMOVING INLET FILTERS FROM STORMWATER INTAKE STRUCTURES, REMOVE AND PROPERLY DISPOSE OF ALL ACCUMULATED SILT IN FILTERS.

SYMBOL LEGEND

- PS — PERMANENT VEGETATED SURFACE, SEE SHEET C3.0
- P — PERMANENT HARDSCAPE SURFACE, SEE SHEET C3.0
- IF — TEMPORARY INLET FILTER, SEE DETAIL 8/C7.0
- TEMPORARY SEDIMENT BARRIER, SEE DETAIL 9/C7.0
- PERMANENT SEEDING, SEE NOTE #4 UNDER EROSION CONTROL SEQUENCE OF EVENTS AND SOIL EROSION SCHEDULE
- (1) TEMPORARY CONSTRUCTION ENTRANCE, SEE DETAIL 9/C7.1
- RAIN GARDEN, SEE DETAIL 2/C7.1

SOIL EROSION SCHEDULE

	STABILIZATION TYPE	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
A	PERMANENT SEEDING					IRRIGATE							
B	DORMANT SEEDING												
C	SODDING					IRRIGATE-2 TO 3 WEEKS							
D	MULCHING												

A. KENTUCKY BLUEGRASS @ 90#/ACRE MIXED W/PERENNIAL RYE GRASS @ 30#/ACRE
B. KENTUCKY BLUEGRASS @ 135#/ACRE MIXED W/PERENNIAL RYE GRASS @ 45#/ACRE PLUS 2 TONS STRAW MULCH/ACRE
C. SOD
D. STRAW MULCH @ 2 TONS/ACRE

NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL SOIL EROSION AND SEDIMENTATION CONTROLS, AS REQUIRED HEREIN, AND MAINTAINING THESE CONTROLS AS FOLLOWS:

1. FOR 90 DAYS, AFTER OCCUPANCY PERMIT IS ISSUED, EXCEPT THAT AT SUCH TIME ALL SODDED & SEEDED AREAS MUST BE DEVELOPED, HEALTHY STRANDS OF GRASS WHICH SHALL HAVE UNDERGONE AT LEAST THREE MOWINGS.

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LICENSED PROFESSIONAL ENGINEER OF ILLINOIS

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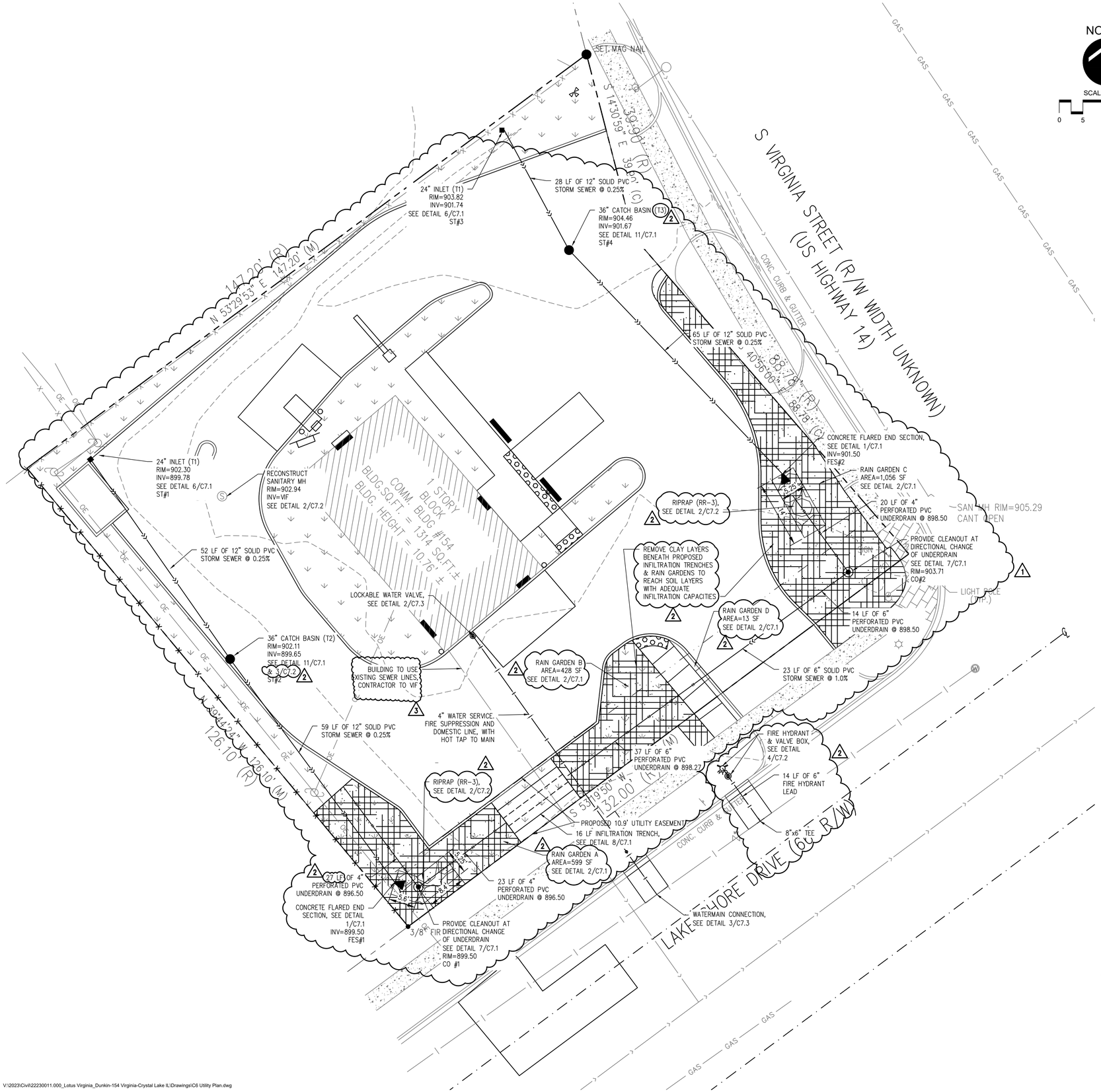
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EROSION CONTROL PLAN

C5.0

Sheet: 6 of 13

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NORTH

SCALE: 1"= 10'

0 5 10 20

1 DRAINAGE STRUCTURE CASTINGS

TYPE OF CASTING TO BE PROVIDED FOR EACH STRUCTURE SHALL BE AS INDICATED ON PLANS IN THE FOLLOWING MANNER:

48" CATCH BASIN (T1)
- TYPE OF CASTING
- STRUCTURE TYPE
- STRUCTURE SIZE

CASTING NUMBER	NEENAH CATALOG NUMBER
T1	R-2535 (OPEN GRATE)
T2	R-3281-A (CURB INLET)
T3	R-1713 WITH R-2504 GRATE (2)

UTILITY NOTES

A. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM OR COORDINATE ALL NECESSARY UTILITY CONNECTIONS AND RELOCATIONS FROM EXISTING UTILITY LOCATIONS TO THE PROPOSED BUILDING, AS WELL AS TO ALL ONSITE AMENITIES. THESE CONNECTIONS INCLUDE, BUT ARE NOT LIMITED TO, WATER, SANITARY SEWER, CABLE TV, TELEPHONE, GAS, ELECTRIC, SITE LIGHTING, ETC.

B. ALL WORK PERFORMED SHALL MEET THE STANDARDS OUTLINED IN THE ENCLOSED PLANS, AS WELL AS THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION) BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION, AND THE STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS (LATEST EDITION), UNLESS OTHERWISE NOTED.

C. THE ACCURACY AND COMPLETE INCLUSION OF THE LOCATIONS OF EXISTING UTILITIES IS NOT GUARANTEED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IDENTIFICATION AND PROTECTION OF ALL PRIVATE AND PUBLIC UTILITIES EVEN THOUGH THEY MAY NOT BE SHOWN ON THE PLANS. ANY UTILITY THAT IS DAMAGED SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER, OWNER, AND UTILITY OWNER, BY THE CONTRACTOR AT HIS EXPENSE.

D. THE CONTRACTOR SHALL VERIFY THE ELEVATIONS AT PROPOSED CONNECTIONS TO EXISTING UTILITIES PRIOR TO ANY DEMOLITION OR EXCAVATION.

E. ALL SEWER AND WATER MAIN WHICH FALLS WITHIN THREE (3) FEET OF EXISTING OR PROPOSED HARDSCAPE SURFACES SHALL BE BACKFILLED WITH TRENCH BACKFILL MATERIAL IN ACCORDANCE WITH IDOT GRADATION CA-6. THE TRENCH BACKFILL SHALL EXTEND A DISTANCE OF 2'-0" BEYOND THE HARDSCAPE AND EXTEND DOWN FROM THAT POINT AT A 1:1 SLOPE AWAY FROM THE HARDSCAPE.

F. NEW AND EXISTING STRUCTURES ONSITE SHALL BE ADJUSTED TO FINISHED GRADE PRIOR TO FINAL INSPECTION OF THE WORK. ADJUSTMENTS UPWARD SHALL BE MADE USING PRECAST CONCRETE ADJUSTMENT RINGS, BUT NO MORE THAN 8" OF RINGS SHALL BE USED. IF THE TOTAL HEIGHT OF ADJUSTMENT EXCEEDS 8" THEN ADJUSTMENTS SHALL BE MADE BY ADDING/REMOVING COMPLETE BARREL SECTIONS TO ACHIEVE THE DESIRED ELEVATION. ALL ADJUSTING RINGS SHALL BE SET IN BUTYL ROPE JOINT SEALANT.

G. PIPES OF DISSIMILAR MATERIALS SHALL BE CONNECTED BY "BANDSEAL" CONNECTORS OR APPROVED EQUAL, AS NECESSARY.

H. ALL MANHOLES, CATCH BASINS, AND INLET STRUCTURES SHALL BE PRECAST REINFORCED CONCRETE CONFORMING TO ASTM C-478.

STORM SEWERS & SANITARY SEWERS

A. SEWERS SHALL BE POLYVINYL CHLORIDE (PVC) PIPE, SDR 26, CONFORMING TO ASTM D3034 WITH JOINTS CONFORMING TO ASTM D3212 AND ASTM F477 ELASTOMERIC GASKETS, UNLESS OTHERWISE NOTED.
B. "WATER MAIN QUALITY" PVC SEWER SHALL CONFORM TO ASTM D2241 WITH JOINTS CONFORMING TO ASTM D3139 AND ASTM F477 ELASTOMERIC GASKETS.
C. REINFORCED CONCRETE PIPE (RCP) SEWERS, WHERE NOTED ON THE PLANS, SHALL CONFORM TO ASTM C76, CLASS IV, WITH CONFINED "O-RING" JOINTS CONFORMING TO ASTM C443.
D. DUCTILE IRON (DIP) SEWER, WHERE SHOWN ON PLANS, SHALL BE CLASS 52 CONFORMING TO ANSI 21.51 (AWWA C151) WITH "PUSH-ON" OR "MECHANICAL" JOINTS CONFORMING TO ANSI 21.11 (AWWA C111 AND C600).
E. WHEN CONNECTING TO AN EXISTING SEWER MAIN BY MEANS OTHER THAN A WYE FITTING, TEE FITTING, OR EXISTING MANHOLE, ONE OF THE FOLLOWING METHODS SHALL BE USED:
- CIRCULAR SAW-CUT OF SEWER MAIN BY PROPER TOOL "SEWER TAP" MACHINE (OR SIMILAR) AND PROPER INSTALLATION OF HUB-WYE SADDLE OR HUB-TEE SADDLE,
- REMOVE AN ENTIRE SECTION OF PIPE (BREAKING ONLY THE TOP OF ONE BELL) AND REPLACE WITH A WYE OR TEE BRANCH SECTION,
- WITH A PIPE CUTTER, NEATLY AND ACCURATELY CUT OUT DESIRED LENGTH OF PIPE FOR INSERTION OF A PROPER FITTING USING "BANDSEAL" OR SIMILAR COUPLINGS TO HOLD IT FIRMLY IN PLACE.

WATER MAINS AND SERVICES

A. ALL WATER MAINS AND SERVICE PIPES GREATER THAN 3" IN DIAMETER SHALL BE DUCTILE IRON (DIP) CLASS 52 CONFORMING TO ANSI 21.51 (AWWA C151) WITH "PUSH-ON" OR "MECHANICAL" JOINTS CONFORMING TO ANSI 21.11 (AWWA C111 AND C600).
B. ALL GATE VALVES, VALVE BOXES, HYDRANTS, CORPORATION STOPS, CURB BOXES, AND CURB STOPS SHALL BE IN ACCORDANCE WITH LOCAL REQUIREMENTS.
C. ALL TEES, BENDS, HYDRANTS, AND VALVES SHALL BE ADEQUATELY SUPPORTED WITH PEER BLOCKING, SUPPORTED LATERALLY WITH POURED IN PLACE THRUST BLOCKING AGAINST UNDISTURBED EARTH. ALL FITTINGS SHALL BE INSTALLED WITH RETAINER GLANDS.
D. ALL WATER MAINS SHALL HAVE A MINIMUM DEPTH OF 5'-6". IF COVER REQUIREMENT CANNOT BE MET, INSTALL 2" RIGID POLYSTYRENE INSULATION WITH A THERMAL RESISTANCE OF AT LEAST 5 AND A COMPRESSIVE STRENGTH OF AT LEAST 25 PSI. INSULATION SHALL BE 8' WIDE, CENTERED OVER PIPE WITH 6" SAND CUSHION BETWEEN PIPE AND INSULATION.
E. PRESSURE TEST AND DISINFECT ALL NEW WATER MAINS IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS.

UTILITY CROSSINGS

A. WATER MAINS AND SERVICES SHALL BE PROTECTED FROM SANITARY SEWERS, STORM SEWERS, AND COMBINED SEWERS IN ACCORDANCE WITH TITLE 35: ENVIRONMENTAL PROTECTION AGENCY SUBTITLE F: PUBLIC WATER SUPPLIES, CHAPTER II: ENVIRONMENTAL PROTECTION AGENCY, PARTS 651-654 TECHNICAL POLICY STATEMENTS, SECTION 653.119.
B. AT ALL LOCATIONS WHERE A SANITARY OR STORM SEWER CROSSES A WATER MAIN OR SERVICE PIPE, PROVIDE "WATER MAIN QUALITY" SEWER PIPE WITHIN 10 FEET MEASURED HORIZONTALLY FROM THE POINT OF CROSSING.
C. AT LOCATIONS WHERE WATER MAINS OR SERVICES ARE SHOWN AS CROSSING BELOW STORM OR SANITARY SEWERS, THEY SHALL BE DEPRESSED BELOW THE MINIMUM COVER DEPTH, AS NECESSARY TO MAINTAIN THE 18" MINIMUM ALLOWABLE CLEAR SEPARATION.

WATER SERVICE TESTING REQUIREMENTS

A. AFTER WATER SERVICE HAS BEEN INSPECTED AND APPROVED THE FOLLOWING TESTS ARE REQUIRED. CONTACT THE COMMUNITY DEVELOPMENT DEPARTMENT TO SCHEDULE INSPECTIONS WITH PERMIT NUMBER AND ADDRESS. MINIMUM OF 24 HOURS ADVANCE NOTICE IS REQUIRED. CITY OF CRYSTAL LAKE PERSONAL TO OPERATE ALL VALVES.
B. DO NOT INSTALL THE RPZ BACKFLOW DEVICE UNTIL WATER TESTING HAS BEEN COMPLETED AND APPROVED.
C. ILLINOIS ENVIRONMENTAL PROTECTION AGENCY OPERATING PERMIT REQUIRED BEFORE WATER CAN BE TESTED TO BUILDING, IF APPLICABLE.
D. FULL-BORE FLUSH OF WATER SERVICE FOR A MINIMUM OF 5 MINUTES OR UNTIL PIPE IS DETERMINED TO BE CLEAR OF FORGIN DEBRIS.
E. INSTALL PERMANENT VALVES FOR FIRE AND DOMESTIC SERVICE. THE FIRST DOMESTIC VALVE IS REQUIRED TO BE A LOCKABLE TYPE IF THERE A SINGLE WATER SERVICE FOR THE FIRE AND DOMESTIC.
F. A HYDROSTATIC TEST OF A FIRE SERVICE FROM CITY VALVE (B-BOX, VALVE VAULT) TO THE FIRST PERMANENT VALVE OR VALVES IN BUILDING. THE TEST IS REQUIRED TO HOLD 200 PSI FOR A MINIMUM OF 2 HOURS WITH NO LOSS OF PRESSURE.
G. AFTER COMPLETION OF THE PRESSURE TESTING THE CHLORINATION CAN BE INSERTED INTO THE WATER SERVICE.
H. SAMPLES ARE REQUIRED AT EACH CONNECTION TO THE SERVICE AND INSIDE AT THE VALVE. AFTER 24 HOURS OF CHLORINATION IN THE SYSTEM THE FIRST DAY SAMPLE CAN BE TAKEN. THE FOLLOWING DAY THE SECOND DAY SAMPLE CAN BE TAKEN.
I. SUBMIT THE RESULTS FROM AN APPROVED TESTING AGENCY TO THE CRYSTAL LAKE COMMUNITY DEVELOPMENT DEPARTMENT. AFTER RECEIPT OF APPROVED RESULTS THE WATER MAY BE TURNED ON INTO THE BUILDING. (3)

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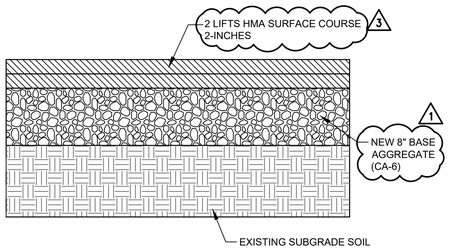
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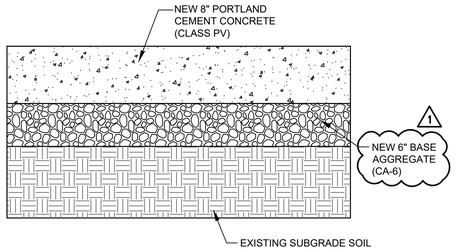
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HEAVY-DUTY BITUMINOUS SURFACE PAVEMENT SECTION

1 C7.0

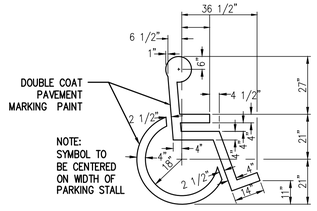
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CONCRETE CONSTRUCTION DETAIL

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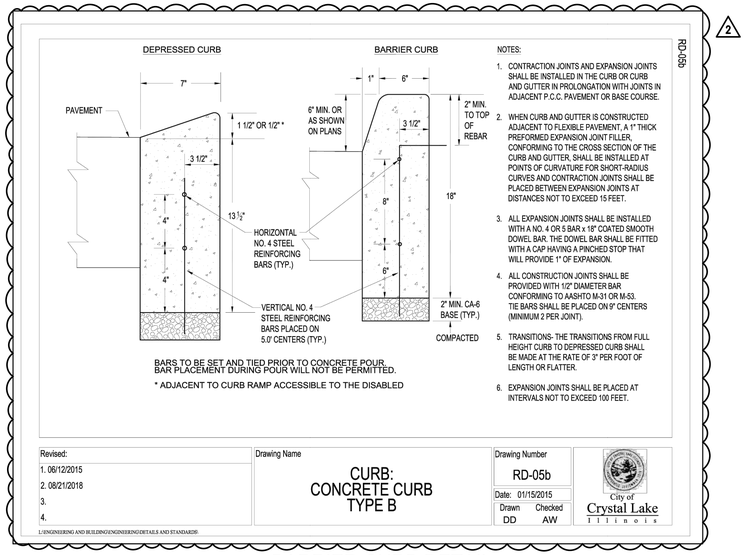
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HANDICAPPED PAINTED SYMBOL

4 C7.0

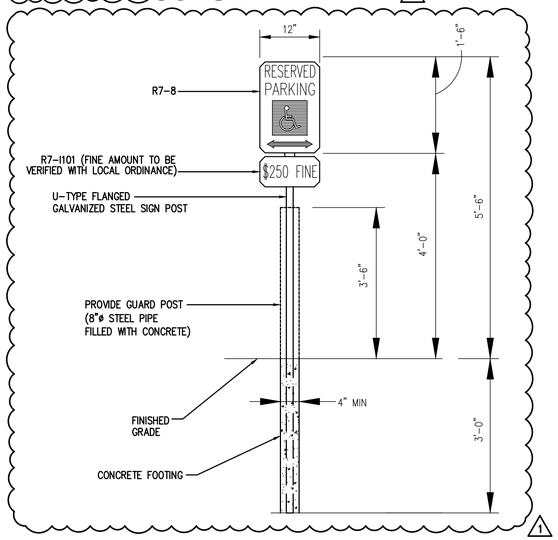
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BARRIER CURB DETAIL

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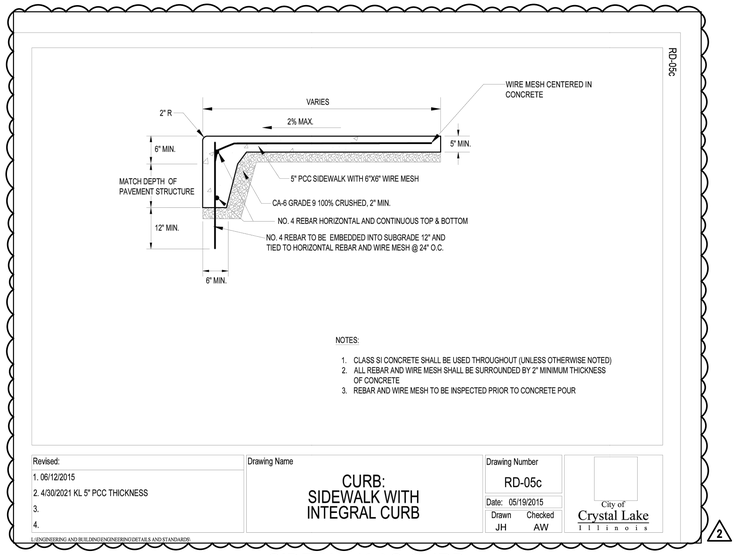
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ACCESSIBLE PARKING SIGN DETAIL

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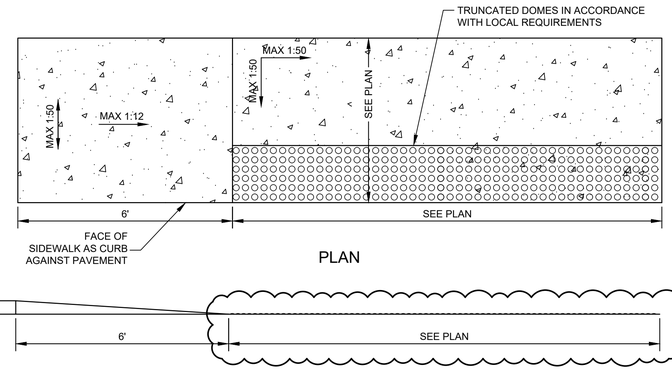
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SIDEWALK AS CURB AGAINST PAVEMENT

6 C7.0

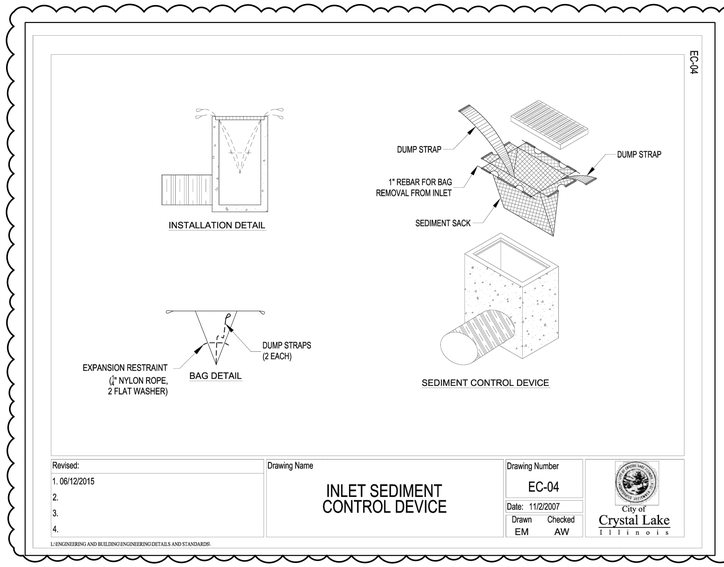
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ACCESSIBLE CURB RAMP

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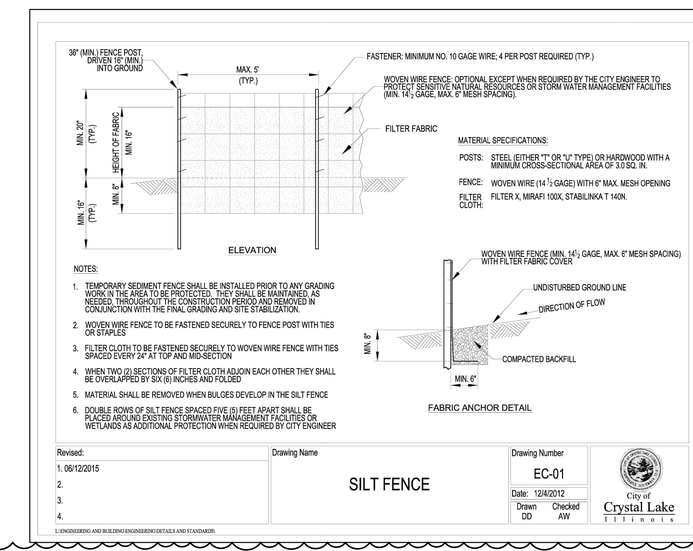
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INLET FILTER BASKET

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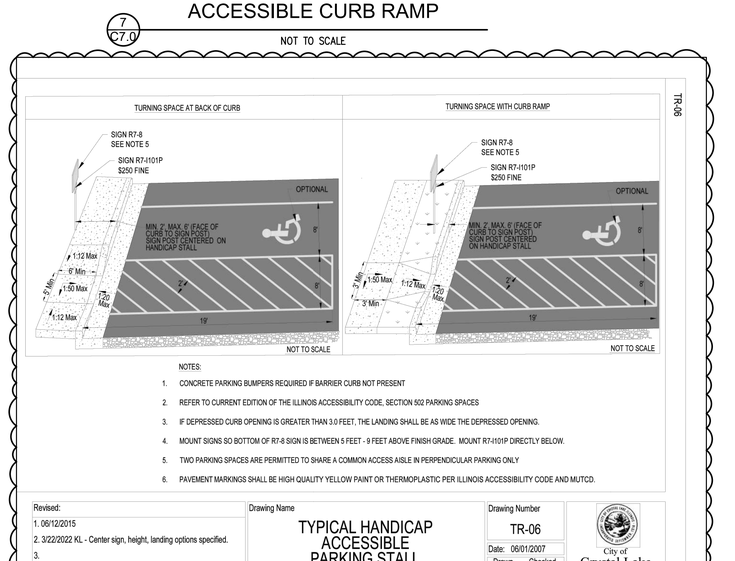
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SILT FENCE DETAIL

9 C7.0

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ACCESSIBLE PARKING STALL DETAIL

10 C7.0

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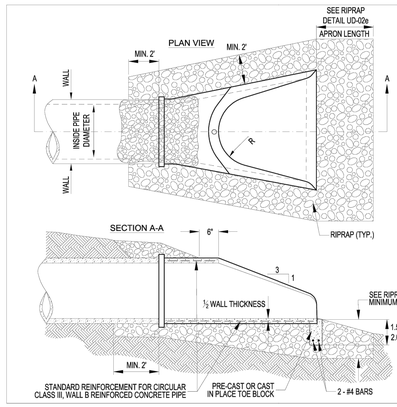
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DETAILS 2

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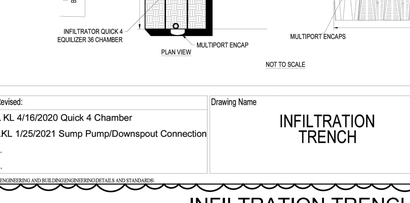


NOTES:
1. CONCRETE FLARED END SECTIONS SHOULD BE CONSIDERED FOR USE WITH CONCRETE PIPE CULVERTS HAVING SKEWS NO GREATER THAN 15 DEGREES.
2. PRECAST CONCRETE FLARED END SECTIONS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-170 CLASS III, WALL B REINFORCED CONCRETE PIPE.
3. PRECAST CONCRETE FLARED END SECTION FOR PIPE DIAMETER REQUIRED SHALL BE AS INDICATED ON DETAIL PLAN FOR EACH INDIVIDUAL INSTALLATION.
4. THE END BLOCK SHALL BE PLACED PRIOR TO THE INSTALLATION OF THE FLARED END SECTION. THE END BLOCK SHALL BE BACKFILLED IN ACCORDANCE WITH ART. 502.10 OF THE STANDARD SPECIFICATIONS. THIS COST SHALL BE INCIDENTAL TO EACH END SECTION.
5. RIPRAP SHALL CONFORM TO SECT. 281 OF THE STANDARD SPECIFICATIONS.
6. INSTALL FILTER FABRIC UNDER ALL RIPRAP AND BEDDING. FILTER FABRIC SHALL CONFORM TO SECT. 282 OF THE STANDARD SPECIFICATIONS.
6. STANDARD IDOT GALVANIZED GRATE REQUIRED FOR 15" DIAMETER AND LARGER.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	FLARED END SECTION (PRECAST CONCRETE PIPE)	UD-02d	City of Crystal Lake Illinois
2. 8/27/2015		Date: 04/15/2007	
3.		Drawn DD / Checked AW	
4.			

L:\ENGINEERING AND BUILDING\ENGINEERING\DETAILS AND STANDARDS\

PRECAST REINFORCED CONCRETE FLARED END SECTION
1 / C7.1
NOT TO SCALE

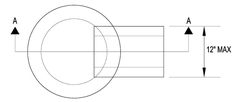


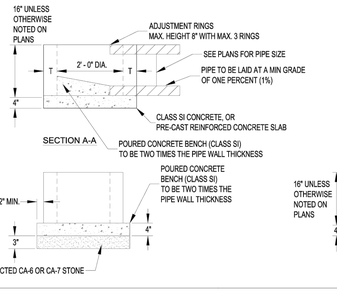
TRENCH WIDTH
DEPTH<5', 12"+O.D.+12"
DEPTH>5', 18"+O.D.+18"

NOTES:
1. TRENCH WALLS MAY REQUIRE TEMPORARY SHEETING, BRACING OR OTHER SUPPORT DURING EXCAVATION, PIPE INSTALLATION & BACKFILL. AT A MINIMUM, ALL APPLICABLE STANDARDS, REGULATIONS AND PROCEDURES AS REQUIRED BY FEDERAL, STATE AND LOCAL LAW FOR THE PROSECUTION OF WORK IN OPEN CUT EXCAVATIONS SHALL BE ADHERED TO FOR THE PROTECTION OF PERSONNEL & PROPERTY.
2. GRANULAR TRENCH BACKFILL REQUIRED FOR UTILITIES LOCATED LESS THAN 3' FROM THE OUTSIDE EDGE OF PAVEMENT
   GRANULAR BEDDING MATERIAL SHALL BE TAMPED INTO PLACE AS SHOWN (ONLY TO ½
3. POINT OF PIPE IF DUCTILE IRON PIPE IS TO BE USED, TYP.) FOR THERMOPLASTIC PIPE, THE BEDDING MATERIAL SHALL CONFORM TO ASTM D-2321 (CLASS I) AND SHALL EXTEND 12" (MIN) ABOVE THE TOP OF PIPE

UTILITY TRENCH
1 / C7.1 — 5 / C7.1
NOT TO SCALE

UD-01a

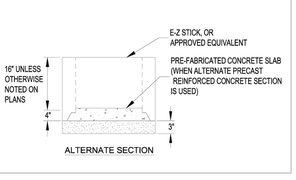




CASTING SCHEDULE		
LOCATION	EJIW	NEENAH
B or M 6.12 C&G	7235 M2	R3502-A
DEPRESSED CURB	7210 M3	R-3281A*
PAVED	1920	R-1713
NON-PAVED	1020	R-2535

* WITHOUT CURB BOX

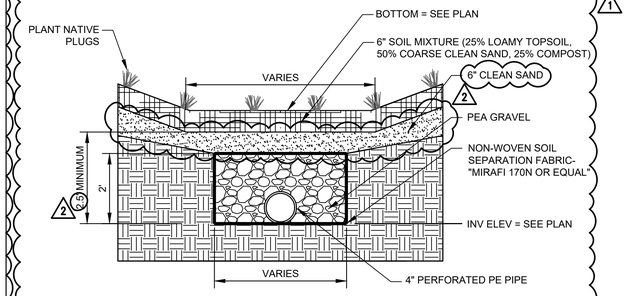
ALTERNATE MATERIALS FOR WALLS	T
PRE-CAST REINFORCED CONCRETE SECTIONS	3"



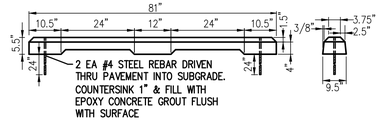
Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	DRAINAGE STRUCTURES: INLET, TYPE A	UD-01a	City of Crystal Lake Illinois
2.		Date: 05/28/2015	
3.		Drawn JH / Checked AW	
4.			

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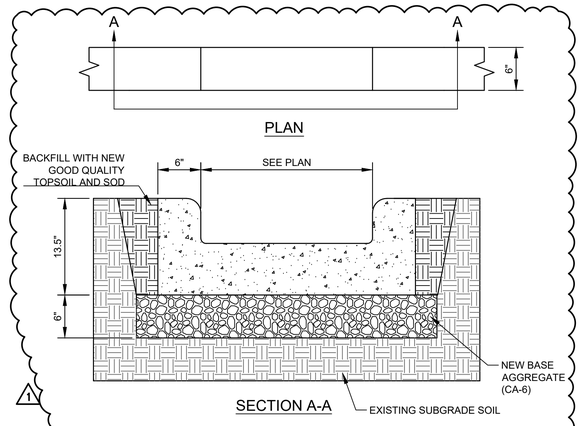
24" STORM INLET
6 / C7.1
NOT TO SCALE



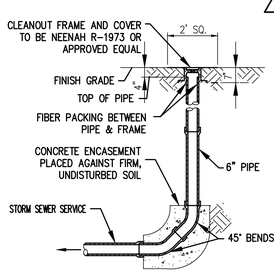
RAIN GARDEN DETAIL
2 / C7.1
NOT TO SCALE



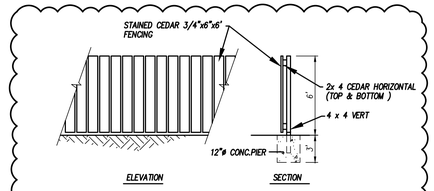
CONCRETE WHEEL STOP DETAIL
4 / C7.1 — 1
NOT TO SCALE



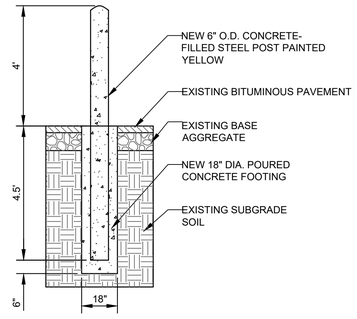
CURB CUT DETAIL
3 / C7.1 — 1
NOT TO SCALE



CLEANOUT
7 / C7.1 — 1
NOT TO SCALE

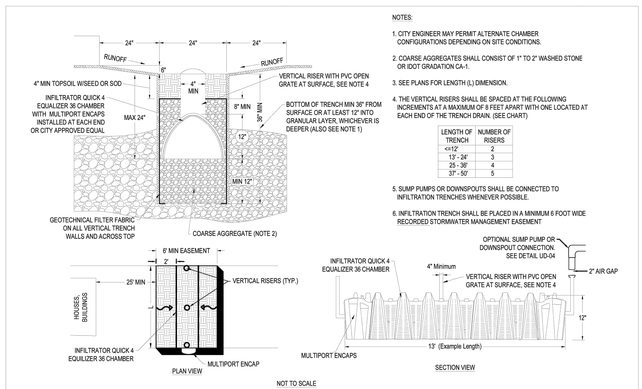


FENCE DETAIL
10 / C7.1 — 1
NOT TO SCALE



BOLLARD DETAIL
12 / C7.1
NOT TO SCALE

UD-05



NOTES:
1. CITY ENGINEER MAY PERMIT ALTERNATE CHAMBER CONFIGURATIONS DEPENDING ON SITE CONDITIONS.
2. COARSE AGGREGATES SHALL CONSIST OF 1" TO 2" WASHED STONE OR IDOT GRADATION CA-1.
3. SEE PLANS FOR LENGTH (L) DIMENSION.
4. THE VERTICAL RISERS SHALL BE SPACED AT THE FOLLOWING INCREMENTS AT A MAXIMUM OF 8 FEET APART WITH ONE LOCATED AT EACH END OF THE TRENCH DRAIN. (SEE CHART)

LENGTH OF TRENCH	NUMBER OF RISERS
<=13'	2
13' - 24'	3
25 - 36'	4
37' - 50'	5

5. SUMP PUMPS OR DOWNSPOUTS SHALL BE CONNECTED TO INFILTRATION TRENCHES WHENEVER POSSIBLE.
6. INFILTRATION TRENCH SHALL BE PLACED IN A MINIMUM 6 FOOT WIDE RECORDED STORMWATER MANAGEMENT EASEMENT

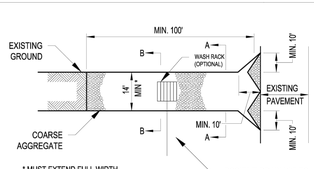
NOT TO SCALE

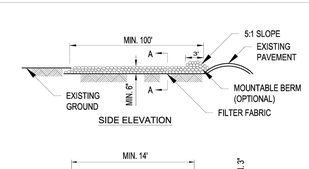
Revised:	Drawing Name	Drawing Number	
1. KL 4/16/2020 Quick 4 Chamber	INFILTRATION TRENCH	UD-05	City of Crystal Lake Illinois
2.KL 1/25/2021 Sump Pump/Downspout Connection		Date: 08/01/2019	
3.		Drawn DD / Checked MM	
4.			

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INFILTRATION TRENCH
8 / C7.1
NOT TO SCALE

EC-02





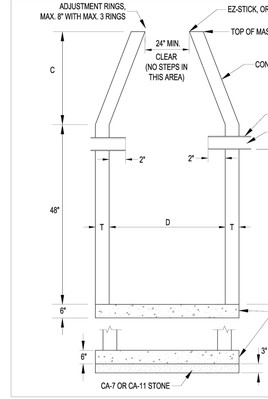
NOTES:
1. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 282 OF THE IDOT STANDARD SPECIFICATIONS AND SHALL BE PLACED OVER THE CLEARED AREA PRIOR TO THE PLACEMENT OF ROCK.
2. ROCK OR RECLAIMED CONCRETE SHALL MEET ONE OF THE FOLLOWING IDOT COARSE AGGREGATE GRADATIONS, CA-1, CA-2, CA-3 OR CA-4.
3. ANY DRAINAGE FACILITIES REQUIRED BECAUSE OF WASHING SHALL BE CONSTRUCTED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
4. IF WASH RACKS ARE USED, THEY SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	CONSTRUCTION ENTRANCE	EC-02	City of Crystal Lake Illinois
2.		Date: 07/31/2012	
3.		Drawn DD / Checked AW	
4.			

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CONSTRUCTION ENTRANCE DETAIL
9 / C7.1
NOT TO SCALE

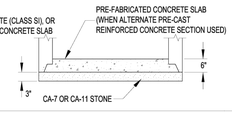
UD-01b



NOTES:
1. ALL CATCH BASINS SHALL BE 4'-0" IN DIAMETER UNLESS OTHERWISE NOTED ON THE PLANS.
2. IN ADDITION TO THE REQUIREMENTS OF ART. 602.16 OF THE STANDARD SPECIFICATIONS THE CONTRACT UNIT PRICE FOR CATCH BASINS, TYPE A SHALL INCLUDE THE CA-7 OR 11 CUSHION WHEN REQUIRED. FURNISHING AND COMPACTING THE SPECIFIED BACKFILL MATERIAL.
3. DIMENSION "C" FOR PRECAST REINFORCED CONCRETE SECTIONS MAY VARY FROM THE DIMENSION GIVEN TO PLUS 6 INCHES.

CASTING SCHEDULE		
LOCATION	EJIW	NEENAH
B or M 6.12 C&G	7235 M2	R3502-A
DEPRESSED CURB	7210 M3	R-2511
PAVED	1920	R-1713
NON-PAVED	1020	R-2535

ALTERNATE MATERIALS FOR WALLS	D	C	T
PRE CAST REINFORCED CONCRETE SECTIONS	4'-0"	2'-5"	4"
	5'-0"	3'-9"	5"
CAST-IN-PLACE CONCRETE	4'-0"	2'-9"	6"
	5'-0"	3'-9"	6"



Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	CATCH BASIN TYPE A	UD-01b	City of Crystal Lake Illinois
2. 08/18/2023		Date: 09/18/2012	
3.		Drawn DD / Checked AW	
4.			

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36" CATCH BASIN
11 / C7.1
NOT TO SCALE

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www.larsonengr.com
ILLINOIS LICENSE NO. 184-001442

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Client:
LOTUS VIRGINIA
709 OAK HOLLOW COURT
CRYSTAL LAKE, IL 60014

Project Title:
DUNKIN'
SITE DESIGN
154 VIRGINIA AVE
CRYSTAL LAKE, IL 60014

Seal:
DOUGLAS H. KEMPF
062-066576
LICENSED PROFESSIONAL ENGINEER
OF
ILLINOIS
Date: October 17, 2025
Expires: November 30, 2027

Rev.	Date	Description
1	03.05.24	City Comments
2	10.29.24	City Comments
3	02.25.25	City Comments
4	10.17.25	City Comments

Project #: 22230011.000
Drawn By: NLF
Checked By: DHK
Issue Date: 10.04.2023
Sheet Title:
DETAILS

C7.1
Sheet: 9 of 13

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STORMWATER MANAGEMENT

595 Attachment 2

City of Crystal Lake

Appendix 2
Standard Soil Erosion and Sediment Control Notes

1. Control measures shall meet the minimum standards and specifications of the Illinois Urban Manual unless stated otherwise. **[Amended 11-17-2020 by Ord. No. 7671]**

2. Soil disturbance shall be conducted in such a manner as to minimize erosion. Areas of the development site that are not to be disturbed shall be protected from construction traffic or other disturbance until final stabilization is achieved.

3. Soil stabilization measures shall consider the time of year, development site conditions and the use of temporary or permanent measures.

4. Stabilization by seeding shall include topsoil placement and fertilization, as necessary.

5. Native seed mixtures shall include rapid-growing annual grasses or small grains to provide initial, temporary soil stabilization.

6. Off-site property shall be protected from erosion and sedimentation. Velocity dissipation devices shall be placed at concentrated discharge locations and along the length of any outfall channel, as necessary to prevent erosion.

7. Sediment control measures shall be installed prior to the disturbance of tributary areas.

8. Stabilization of disturbed areas shall be initiated immediately whenever any clearing, grading, excavating or other earth-disturbing activities have permanently ceased on any portion of the development site, or temporarily ceased on any portion of the development site and will not resume for a period exceeding 14 calendar days. Stabilization of disturbed areas shall be initiated within one working day of permanent or temporary cessation of earth-disturbing activities and shall be completed as soon as possible, but not later than 14 calendar days from the initiation of stabilization work in an area. Exceptions to these time frames are specified below:

   a. Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable; and

   b. In areas where construction activity has temporarily ceased and will resume after 14 days, a temporary stabilization method may be used.

9. Disturbance of steep slopes shall be minimized. Areas or embankments having slopes steeper than 3:1 shall be stabilized with staked-in-place sod, erosion control blankets in combination with seeding, or an equivalent control measure.

CRYSTAL LAKE CODE

10. Perimeter control measures shall be provided downslope and perpendicular to the flow of runoff from disturbed areas, where the tributary area is greater than 5,000 square feet, and where runoff will flow in a sheet flow manner. Perimeter erosion control shall also be provided at the base of soil stockpiles.

11. The stormwater management system shall be protected from erosion and sedimentation downslope from disturbed areas. Inlet protection that reduces sediment loading, while allowing runoff to enter the inlet, shall be required for all storm sewers. Check dams, or an equivalent control measure, shall be required for all channels. Filter fabric inlet protection and straw bale ditch checks are not acceptable control measures.

12. If dewatering services are used, discharges shall be routed through an effective sediment control measure (e.g., sediment trap or an equivalent control measure). The enforcement officer shall be notified prior to the commencement of dewatering activities.

13. All temporary soil erosion and sediment control measures shall be removed within 30 days after final stabilization of the development site is achieved or after the temporary measures are no longer necessary. Trapped sediment shall be removed and disturbed areas shall be permanently stabilized.

14. Stockpiled soil and materials shall be removed from flood hazard areas at the end of each work day. Soil and materials stockpiled in IWMC or buffer areas shall be placed on timber mats, or an equivalent control measure.

15. Effective control measures shall be utilized to minimize the discharge of pollutants from the development site. At a minimum, control measures shall be implemented in order to:

   a. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash water; and

   b. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, vehicle fluids, sanitary waste, and other materials present on the development site to precipitation and to stormwater.

16. Adequate receptacles shall be provided for the depositing of all construction material debris generated during the development process. The applicant shall not cause or permit the dumping, depositing, dropping, throwing, discarding or leaving of construction material debris upon or into any development site, channel, or IWMC. The development site shall be maintained free of construction material debris.

17. The enforcement officer may require additional or alternate soil erosion and sediment control measures, based on development-site-specific considerations and the effectiveness of the installed control measures.

STORMWATER MANAGEMENT

595 Attachment 3

City of Crystal Lake

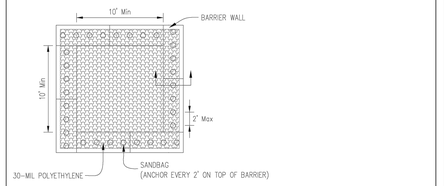
Appendix 3
Standard Drain Tile Notes

1. Drain tiles disturbed during regulated development shall be reconnected by those responsible for their disturbance, unless the development plans specify abandonment of the drain tiles.

2. All abandoned drain tiles within disturbed areas shall be removed in their entirety.

3. Drain tiles within the disturbed area of a development site shall be replaced, bypassed around the development site or intercepted and connected to the stormwater management system for the development site. The size of the replaced or bypassed drain tile shall be equivalent to the existing drain tile.

AUTOCAD2006



NOTES:

1. Maintaining temporary concrete washout facilities shall include removing and disposing of hardend concrete and/or slurry and returning the facilities to a functional condition.
2. Facility shall be cleaned or reconstructed in a new area once washout becomes two-thirds full.

Revised:	Drawing Name	Drawing Number
1. 06/12/2015	TEMPORARY CONCRETE WASHOUT FACILITY – BARRIER WALL	UD-02
2. 01/25/2021 KL ADDED SIGN DETAIL		Date: 08/27/2015
3.		Drawn: DD Checked: AW
4.		

Designed: Date:
Drawn: S. JOHNSON 6/26
Checked:
Approved:

L:\ENGINEERING AND BUILDING\ENGINEERING\DETAILS AND STANDARDS\

1 C7.2 CONCRETE WASHOUT
NOT TO SCALE

ROCK RIPRAP SPECIFICATIONS AND BEDDING

IDOT GRADATION	MAXIMUM ROCK SIZE (lb)*	EQUIVALENT DIAMETER (SPHERICAL)(in)*	MINIMUM BEDDING THICKNESS (in)	MINIMUM THICKNESS (in)
RR-3	50	10	-	8
RR-4	150	15	6	16
RR-5	400	21	8	22
RR-6	600	24	10	26
RR-7	1000	28	12	30

*ASSUMES A MINIMUM SPECIFIC GRAVITY OF 2.450 AND A MINIMUM UNIT WEIGHT OF 153 lb/cf

NOTES:

1. RIPRAP SHALL CONFORM TO SECT. 281 OF THE STANDARD SPECIFICATIONS.

2. INSTALL FILTER FABRIC UNDER ALL RIPRAP AND BEDDING. FILTER FABRIC SHALL CONFORM TO SECT. 282 OF THE STANDARD SPECIFICATIONS.

ROCK RIPRAP SIZE REQUIREMENTS AND THICKNESS

CULVERT DIAMETER (in)	MINIMUM TAILWATER				MAXIMUM TAILWATER			
	MAX CONDUIT VELOCITY = 5 fps		MAX CONDUIT VELOCITY = 10 fps		MAX CONDUIT VELOCITY = 5 fps		MAX CONDUIT VELOCITY = 10 fps	
	IDOT GRADATION	APRON LENGTH (ft)	IDOT GRADATION	APRON LENGTH (ft)	IDOT GRADATION	APRON LENGTH (ft)	IDOT GRADATION	APRON LENGTH (ft)
12	RR-3	10	RR-3	12	RR-3	12	RR-3	15
18	RR-3	14	RR-4	16	RR-3	12	RR-3	16
24	RR-3	16	RR-4	20	RR-3	14	RR-4	17
30	RR-3	18	RR-4	22	RR-3	16	RR-4	20
36	RR-4	20	RR-5	24	RR-3	16	RR-4	22
48	RR-4	24	RR-6	28	RR-4	20	RR-4	24
60	RR-5	32	RR-6	36	RR-4	22	RR-5	26
72	RR-6	40	RR-6	44	RR-5	24	RR-5	29
96	RR-7	50	RR-7	54	RR-5	26	RR-5	32

NOTES:

1. IF TAILWATER DEPTH FROM THE PIPE INVERT IS LESS THAN HALF THE DIAMETER OF THE PIPE, THEN MINIMUM TAILWATER CONDITIONS EXIST.

2. ADAPTED FROM THE ILLINOIS URBAN MANUAL

UD-02e

Revised:	Drawing Name	Drawing Number
1.	RIPRAP DETAILS	UD-02e
2.		Date: 08/27/2015
3.		Drawn: DD Checked: AW
4.		

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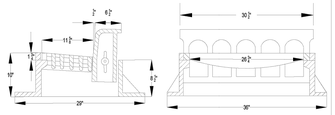
2 C7.2 RIPRAP DETAILS
NOT TO SCALE

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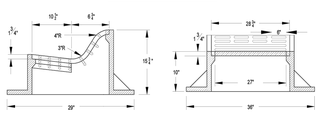
Client:
LOTUS VIRGINIA
709 OAK HOLLOW COURT
CRYSTAL LAKE, IL 60014

Project Title:
DUNKIN'
SITE DESIGN
154 VIRGINIA AVE
CRYSTAL LAKE, IL 60014

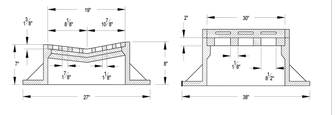
BARRIER CURB
NEENAH FOUNDRY COMPANY: R-3281-A
EJIW: 7210Z2 / T2 / M1 SET



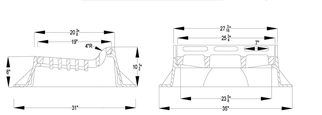
M6.12 MOUNTABLE CURB
NEENAH FOUNDRY COMPANY: R-3503-B
EJIW: 7180Z / M1 SET



DEPRESSED CURB
NEENAH FOUNDRY COMPANY: R-3511



M4.12 MOUNTABLE CURB
NEENAH FOUNDRY COMPANY: R-3501-P
EJIW: 7250Z / 7250M GRATE



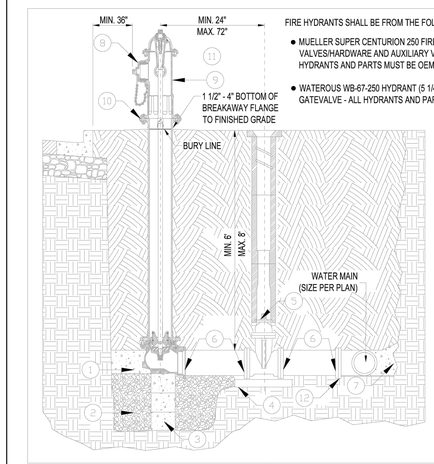
CITY REQUIREMENTS
1) CONCRETE MUST BE POURED A MINIMUM OF 6" AROUND THE CIRCUMFERENCE OF THE FRAME AND AT LEAST 6" BELOW THE FRAME TO ENSURE THAT THERE WILL BE NO INFILTRATION BETWEEN THE FRAME AND STRUCTURE.
2) FRAMES SHALL BE SET IN LINE WITH THE EDGE OF PAVEMENT.

UD-02a

Revised:	Drawing Name	Drawing Number
1. 06/12/2015	CURB INLET FRAME AND GRATE	UD-02a
2. 01/25/2021 KL ADDED R-3281-A, R-3503-B, AND R3501-P		Date: 5/28/2015
3.		Drawn: JH Checked: AW
4.		

L:\ENGINEERING AND BUILDING\ENGINEERING\DETAILS AND STANDARDS\

3 C7.2 36" CURB INLET
NOT TO SCALE



FIRE HYDRANTS SHALL BE FROM THE FOLLOWING LIST, AS APPROVED BY THE CITY:

- MUELLER SUPER CENTURION 250 FIRE HYDRANT, A423 (5 1/4" BARREL) WITH MUELLER VALVES/HARDWARE AND AUXILIARY VALVE 6" GATE VALVE NO. 2361RESILIENT WEDGE - ALL HYDRANTS AND PARTS MUST BE OEM AND COMPLY WITH NO LEAD REQUIREMENTS.
- WATEROUS WB-67-250 HYDRANT (5 1/4" PACER) WITH SERIES 2500-1 RESILIENT WEDGE GATEVALVE - ALL HYDRANTS AND PARTS MUST COMPLY WITH NO LEAD REQUIREMENTS

LEGEND:

1. PROVIDE CLASS SI CONCRETE BASE AND BLOCKING AGAINST UNDISTURBED EARTH
2. DRAIN SUMP TO BE ^{3}/$_4$ CUBIC YARD OF ^{3}/$_4$" WASHED STONE
3. CONCRETE SUPPORT
4. CONCRETE BLOCK OR BRICK SUPPORT
5. RUBBER VALVE BOX STABILIZER
6. USE MEGALUG RESTRAINTS WITH GRADE 304 STAINLESS STEEL NUTS AND BOLTS AT ALL MECHANICAL JOINTS.
7. CONCRETE BLOCKING
8. 4 ^{1}/$_2$" PORT TO FACE PAVEMENT OR AS DIRECTED BY CITY ENGINEER
9. ALL NEWLY INSTALLED HYDRANTS MUST HAVE 2.4 MILS AMERICO AT PRIMER OR EQUAL AND FINISH COAT SHERWIN WILLIAMS POLANE B MIN 4.1 MILS = 6.5 MILS TOTAL DRY FILM THICKNESS. COLOR (SAFETY RED)
10. MIN. 48" BETWEEN HYDRANT AND ANY VERTICAL OBSTRUCTIONS.
11. MIN. 72" BETWEEN HYDRANT AND ANY LANDSCAPING WITH A MATURE HEIGHT GREATER THAN 12".
12. ALL UNDERGROUND HARDWARE MUST BE STAINLESS STEEL INCLUDING NUTS, BOLTS, AND WASHERS.

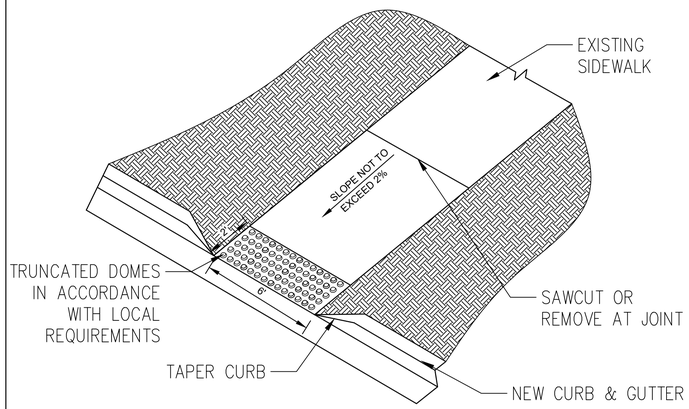
UW-06

Revised:	Drawing Name	Drawing Number
1. 06/12/2015	FIRE HYDRANT	UW-06
2. 01/25/2021 KL Mueller Super Centurion 250 FH Specification		Date: 06/01/2015
3.		Drawn: JH Checked: VR
4.		

L:\ENGINEERING AND BUILDING\ENGINEERING\DETAILS AND STANDARDS\

4 C7.2 FIRE HYDRANT
NOT TO SCALE

TRUNCATED DOMES IN ACCORDANCE WITH LOCAL REQUIREMENTS



5 C7.2 ACCESSIBLE RAMP DETAIL WITH TRUNCATED DOMES
NOT TO SCALE

Seal:
DOUGLAS H. KEPPY
062-066676
LICENSED PROFESSIONAL ENGINEER
OF
ILLINOIS
Date: October 17, 2025
Expires: November 30, 2027

Rev.	Date	Description
1	03.05.24	City Comments
2	10.29.24	City Comments
3	02.25.25	City Comments
4	10.17.25	City Comments

Project #: 22230011.000
Drawn By: NLF
Checked By: DHK
Issue Date: 10.04.2023

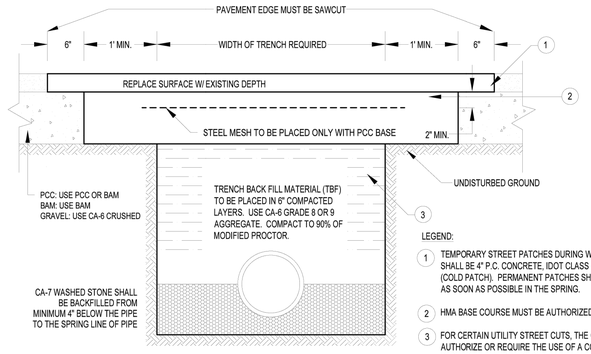
Sheet Title:
DETAILS

C7.2

Sheet: 10 of 13

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RD-06



LEGEND:

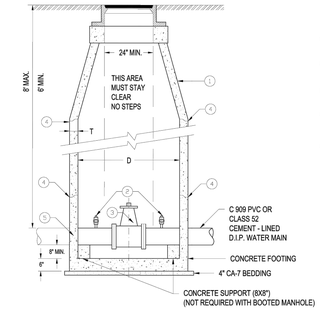
1. TEMPORARY STREET PATCHES DURING WINTER CONSTRUCTION SHALL BE 4" P.C. CONCRETE, IDOT CLASS SI OR A MIN. 3" OF UPM (COLD PATCH). PERMANENT PATCHES SHALL BE COMPLETED AS SOON AS POSSIBLE IN THE SPRING.
2. HMA BASE COURSE MUST BE AUTHORIZED BY THE CITY ENGINEER.
3. FOR CERTAIN UTILITY STREET CUTS, THE CITY ENGINEER MAY AUTHORIZE OR REQUIRE THE USE OF A CONTROLLED LOW-STRENGTH MATERIAL (CLSM) AS PER THE IDOT SPECIAL PROVISIONS.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	PAVEMENT CUT AND REPLACEMENT	RD-06	
2. 9/8/2021 KL - CA-7 TO SPRING LINE OF PIPE		Date: 05/19/2015	
3.		Drawn: JH	Checked: AW
4.			

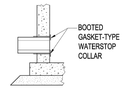
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1 C7.3 PAVEMENT PATCH
NOT TO SCALE

UW-01



DIAMETER OF WATER MAIN	VAULT SIZE DIAMETER	VAULT SIZE WALL THICKNESS
4" AND 6"	4 FT.	4"
UP TO 12"	5 FT.	5"
16" AND OVER	6 FT.	6"



LEGEND:

1. CONCENTRIC CONES REQUIRED
2. 1" (MIN) MUELLER, A.Y. McDONALD, OR FORD NO LEAD CORPORATION STOP EACH SIDE OF VALVE MUST BE A COMPRESSION FITTING.
3. MUELLER 2361 OR AMERICAN FLOW CONTROL 2500-1 RESILIENT SEAT GATE VALVE
4. WATERTIGHT JOINTS USING EZ-STIK PREMIUM BUTYL SEALANT ASTM C990 OR EQUAL FOR FRAMES ADJUSTING RINGS AND BARREL SECTIONS.
5. GASKET-TYPE WATERSTOP COLLAR FOR ALL WATER MAIN CONNECTIONS

NOTES:

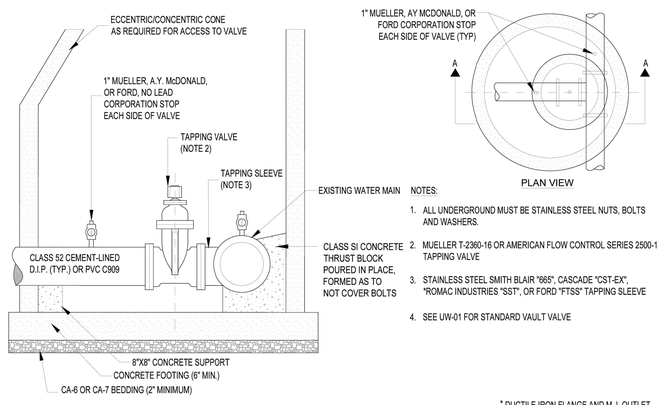
1. ALL MANHOLES MUST BE DAMP PROOF PER IDOT SPECIFICATIONS 1060.
2. DRAIN FOR VALVE VAULT SHALL BE CONSTRUCTED ONLY WHEN SHOWN ON THE PLANS.
3. CAST IRON MANHOLE FRAME & COVER SIMILAR TO NEENAH R-1712, OR EQUAL WITH STANDARD DUTY, NON-ROCKING TYPE LIDS WITH "CITY OF CRYSTAL LAKE WATER" CAST INTO LID. (NEENAH R-2535, OR EQUAL MAY BE USED IN GRASSY AREAS)
4. HDPE PLASTIC MANHOLE ADJUSTING RINGS CONFORMING TO THE REQUIREMENTS OF HS26 OF THE AASHTO STANDARD SPECIFICATIONS AND ASTM D1248-84. ALL ADJUSTING RINGS SHALL BE STABALIZED AGAINST ULTRA VIOLET LIGHT. ADJUSTING RING HEIGHT NOT TO EXCEED 8" WITH A MAXIMUM OF THREE (3) ADJUSTMEVT RINGS. THE ANNULAR SPACE BETWEEN RINGS AND CONE BASIN, THE RINGS AND THE RINGS COVER FRAME SHALL BE SEALED UTILIZING AND APPROVED BUTYL SEALANT. ALL ADJUSTMENT FOR MATCHING ROAD GRADE SHALL BE MADE UTILIZING A MOLDED AND INDEXED SLOPE RING.
5. ALL UNDERGROUND NUTS, BOLTS & WASHERS MUST BE STAINLESS STEEL.
6. VALVE VAULT REQUIRED FOR WATER SERVICES GREATER THAN OR EQUAL TO 4". SEE VAULT SIZE TABLE.
7. STEPS WITHIN VAULT TO BE REMOVED PRIOR TO CITY ACCEPTANCE.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	STANDARD VALVE VAULT	UW-01	
2. 08/18/2023 - JRG 1" CORP AND STEPS REMOVED		Date: 05/29/2015	
3.		Drawn: JH	Checked: VR
4.			

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2 C7.3 VALVE VAULT
NOT TO SCALE

UW-02



SECTION A-A

PLAN VIEW

NOTES:

1. ALL UNDERGROUND MUST BE STAINLESS STEEL NUTS, BOLTS AND WASHERS.
2. MUELLER T-2360-16 OR AMERICAN FLOW CONTROL SERIES 2500-1 TAPPING VALVE
3. STAINLESS STEEL SMITH BLAIR "665", CASCADE "CST-EX", "ROMAC INDUSTRIES "SST", OR FORD "FTSS" TAPPING SLEEVE
4. SEE UW-01 FOR STANDARD VAULT VALVE

* DUCTILE IRON FLANGE AND M.J. OUTLET NOT APPROVED FOR USE W/ROMAC SST

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	WATER MAIN PRESSURE CONNECTION	UW-02	
2. KL 1-25-2021 1" CORPORATION STOPS		Date: 05/29/2015	
3.		Drawn: JH	Checked: VR
4.			

L:\ENGINEERING AND BUILDING\ENGINEERING\DETAILS AND STANDARDS\

3 C7.3 WATER MAIN CONNECTION
NOT TO SCALE

3

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ILLINOIS LICENSE NO. 184-001442

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Client:
LOTUS VIRGINIA
709 OAK HOLLOW COURT
CRYSTAL LAKE, IL 60014

Project Title:
DUNKIN'
SITE DESIGN
154 VIRGINIA AVE
CRYSTAL LAKE, IL 60014

Seal:
DOUGLAS H. KEPP
062-060676
LICENSED PROFESSIONAL ENGINEER
OF
ILLINOIS

Date: October 17, 2025
Expires: November 30, 2027

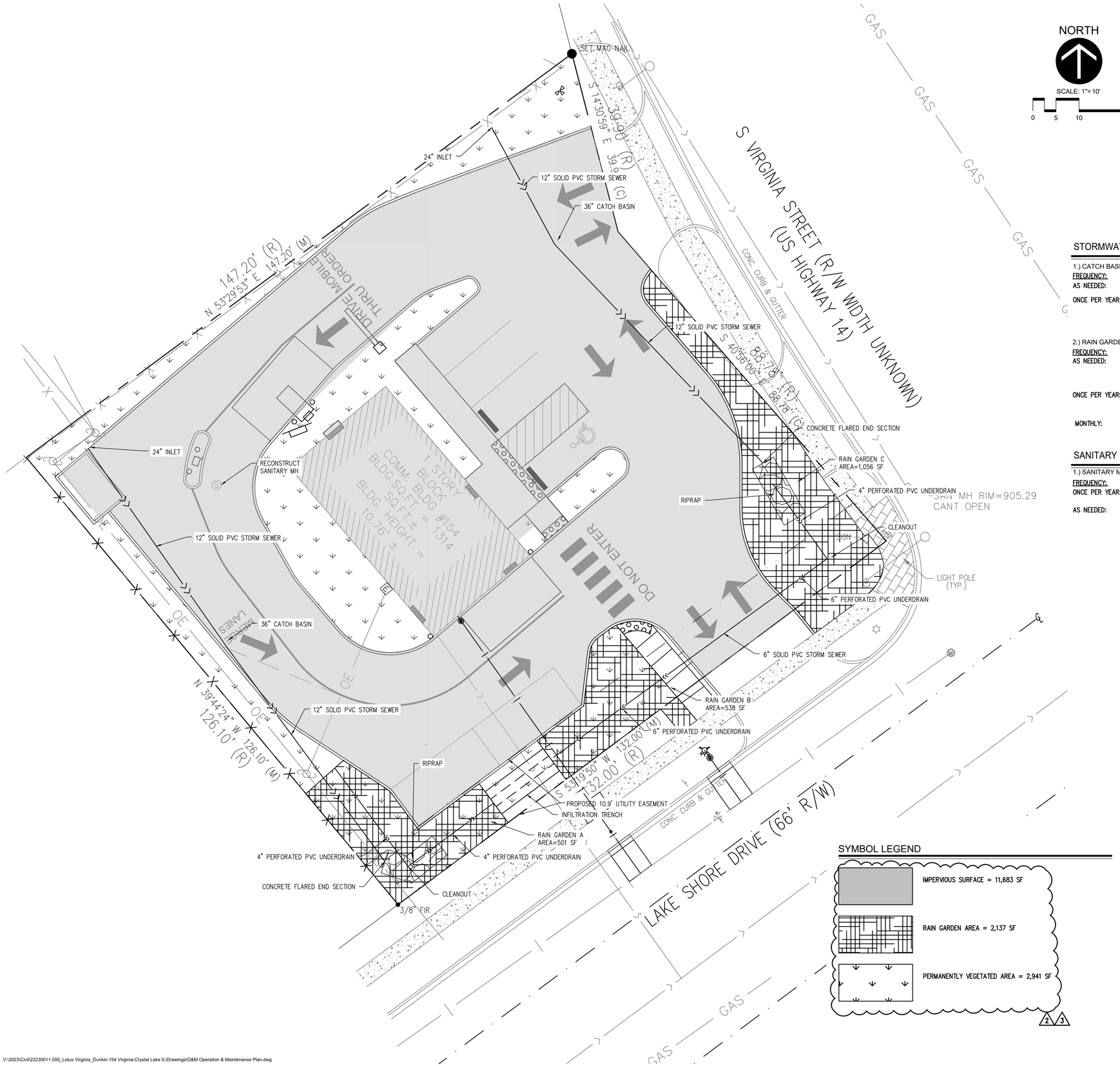
Rev.	Date	Description
1	03.05.24	City Comments
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Project #: 22230011.000
Drawn By: NLF
Checked By: DHK
Issue Date: 10.04.2023

Sheet Title:
DETAILS

C7.3

Sheet: 11 of 13



NORTH

SCALE: 1"= 10'

0 5 10 20

OPERATION & PLAN NOTES

1. O&M PLAN PROCEDURES AND PRACTICES MUST BE REVIEWED AND ASSESSED ANNUALLY.
2. ACCESS ROUTES INCLUDING ROADWAYS AND SIDEWALKS SHALL BE INSPECTED ANNUALLY AND MAINTAINED AS NEEDED.
3. DRAINAGE STRUCTURES MUST BE INSPECTED AND CLEANED SEMI-ANNUALLY.
4. VOLUME CONTROL BMPs SHALL BE INSPECTED SEMI-ANNUALLY AND AFTER SIGNIFICANT RAINFALL EVENTS EXCEEDING 1.5 INCHES.
5. THE OWNER SHALL KEEP AN UPDATED LOG BOOK DOCUMENTING THE PERFORMANCE OF THE REQUIRED O&M ACTIVITIES FOR PERPETUITY. LOG BOOKS MUST BE PRODUCED UPON THE REQUEST OF A VILLAGE INSPECTOR.
6. VEGETATION SHALL BE MAINTAINED ON A REGULAR BASIS.
7. PEST CONTROL MEASURES SHALL BE IMPLEMENTED TO ADDRESS INSECTS AND RODENTS.
8. SIGNAGE AND FENCING SHALL BE INSTALLED AND MAINTAINED WHERE NECESSARY TO PROTECT PROPERTY AND THE PUBLIC.
9. THE SANITARY SEWERS MUST BE INSPECTED ANNUALLY AND MAINTAINED BY OWNER. SEWERS SHALL BE CLEANED ON A PERFORMANCE BASIS ANNUALLY.
10. VOLUME CONTROL PROCEDURES AND PRACTICES MUST BE REVIEWED AND ASSESSED ANNUALLY. ACCESS ROUTES, INCLUDING ROADWAYS AND SIDEWALKS, DRAINAGE SYSTEMS, AND MONITORING WELLS, MUST BE INSPECTED, CLEANED, AND MAINTAINED AS NEEDED SEMI-ANNUALLY.

STORMWATER BMP ACTIVITY SCHEDULE

1.) CATCH BASINS, INLETS, MANHOLES, ROOF DRAINS, AND STORM SEWERS:

FREQUENCY:	ACTIVITY:
AS NEEDED:	CLEAR LEAVES AND DEBRIS FROM DRAINAGE STRUCTURE GRATES TO AVOID CLOGGING AND BLOCKAGES.
ONCE PER YEAR:	KEEP CATCH BASIN CLEAR OF DEBRIS AND LITTER. CLEAN WHEN THEY BECOME ONE THIRD FULL TO MAINTAIN SEDIMENT-TRAPPING CAPACITY. VISUALLY INSPECT PIPES BY REMOVING STRUCTURE LIDS, MAKE REPAIRS AS NECESSARY. STORM SEWERS AND ROOF DRAINS SHALL BE CHECKED FOR SILTATION DEPOSITS. FLUSH DEBRIS FROM PIPES USING HIGH PRESSURE WATER AND COLLECT FROM STRUCTURES, AS NEEDED.

2.) RAIN GARDENS, INFILTRATION TRENCH, & TRIBUTARY AREA:

FREQUENCY:	ACTIVITY:
AS NEEDED:	INSPECT AFTER RUNOFF EVENTS AND ENSURE WATER DRAINS WITHIN 72 HOURS. REMOVE ACCUMULATED SEDIMENT FROM BASIN AS REQUIRED. RESTORE ORIGINAL CROSS SECTION AND INFILTRATION RATE, DISPOSING OF SEDIMENT PROPERLY. REPAIR ADJACENT TRIBUTARY SURFACES IF EVIDENCE OF EROSION IS OBSERVED.
ONCE PER YEAR:	ADD ADDITIONAL STONE. INSPECT FACILITY AND PRETREATMENT AREAS FOR SEDIMENT BUILDUP, EROSION, EXCESS VEGETATIVE GROWTH, ETC. INSPECT OUTLET CONTROL STRUCTURE FOR DAMAGE AND SIGNS OF SPILLS/CONTAMINATION.
MONTHLY:	INSPECT SURFACE STONE AND REPAIR ERODED AREAS. REMOVE LITTER AND DEBRIS. CLEAR LEAVES AND DEBRIS FROM OVERFLOW.

SANITARY SEWER MAINTENANCE ACTIVITY SCHEDULE

1.) SANITARY MANHOLES AND SEWERS:

FREQUENCY:	ACTIVITY:
ONCE PER YEAR:	INSPECT MANHOLES AND SEWERS TO IDENTIFY BLOCKAGES, STRUCTURAL DEFECTS, AND POTENTIAL SAFETY HAZARDS.
AS NEEDED:	CLEAN BLOCKAGES USING HYDRAULIC OR MECHANICAL METHODS.

SYMBOL LEGEND

IMPERVIOUS SURFACE = 11,683 SF

RAIN GARDEN AREA = 2,137 SF

PERMANENTLY VEGETATED AREA = 2,941 SF

2 3

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Client:
LOTUS VIRGINIA
709 OAK HOLLOW COURT
CRYSTAL LAKE, IL 60014

Project Title:
DUNKIN'
SITE DESIGN
154 VIRGINIA AVE
CRYSTAL LAKE, IL 60014

Seal:
DOUGLAS H. KEPPY
062-066576
LICENSED PROFESSIONAL ENGINEER
OF
ILLINOIS

Date: October 17, 2025
Expires: November 30, 2027

Rev.	Date	Description
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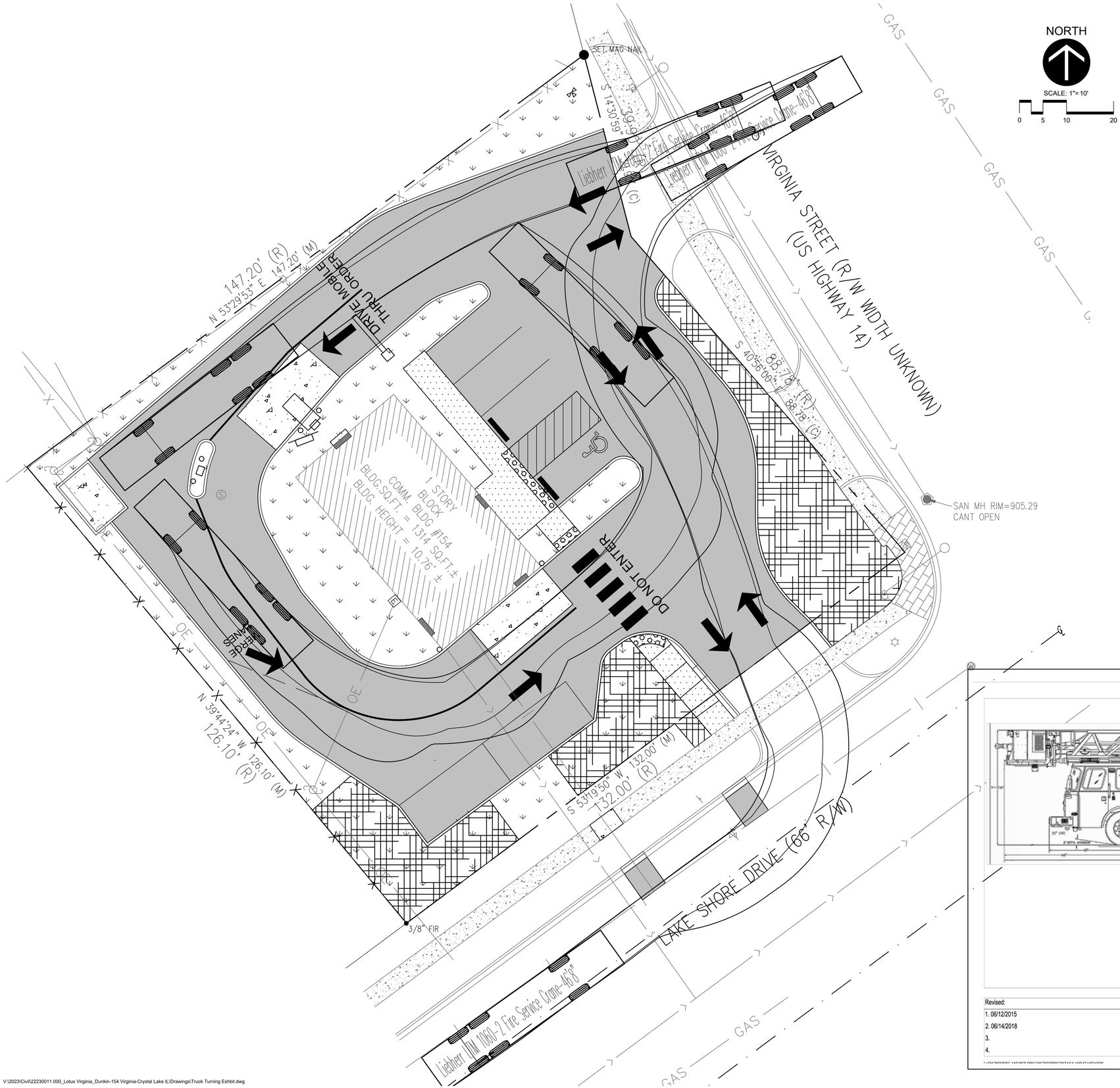
Project #: 22230011.000
Drawn By: NLF
Checked By: DHK
Issue Date: 10.04.2023

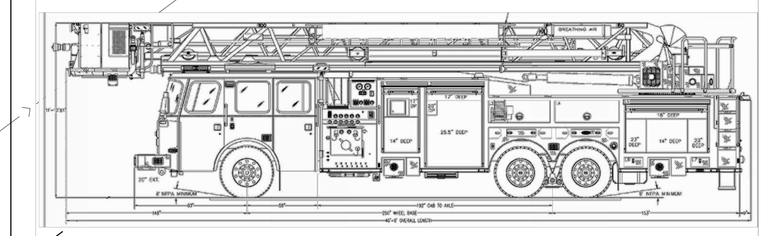
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OPERATION & MAINTENANCE PLAN

O&M

Sheet: 12 of 13

V:\2023\Civil\22230011.000_Lotus Virginia_Dunkin-154 Virginia-Crystal Lake IL\Drawings\O&M Operation & Maintenance Plan.dwg





NOTES

1. THIS DESIGN VEHICLE SHALL BE USED AS THE BASIS FOR ROADWAY AND PARKING LOT GEOMETRICS IN THE ABSENCE OF A SPECIFIC DESIGN TRUCK (e.g., WB-65)
2. THIS INFORMATION IS PROVIDED FOR REFERENCE ONLY.
3. A VEHICLE MANEUVERABILITY ANALYSIS SHOULD BE PERFORMED BY A LICENSED PROFESSIONAL ENGINEER TO VERIFY THE TURNING CAPABILITIES OF THIS DESIGN VEHICLE.

Revised:	Drawing Name	Drawing Number
1. 06/12/2015 2. 06/14/2018 3. 4.	TURNING TEMPLATES: LADDER TRUCK (CITY DESIGN VEHICLE)	TR-05 Date: 04/15/2007 Drawn EM Checked AW

City of Crystal Lake Illinois

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www.larsonengr.com
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Client:
LOTUS VIRGINIA
709 OAK HOLLOW COURT
CRYSTAL LAKE, IL 60014

Project Title:
DUNKIN'
SITE DESIGN
154 VIRGINIA AVE
CRYSTAL LAKE, IL 60014

Seal:
DOUGLAS H. KEPPY
062-066676
LICENSED PROFESSIONAL ENGINEER
OF
ILLINOIS

Date: October 17, 2025
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Project #: 22230011.000
Drawn By: NLF
Checked By: DHK
Issue Date: 10.04.2023

Sheet Title:
TRUCK TURNING EXHIBIT

TTE

Sheet: 13 of 13

= OPTIONAL OSB VDU

= VIDEO DISPLAY UNIT

= PRINTER

= PRINTER UNDERCOUNTER

= FLOOR SINK

= ELECTRICAL DUPLEX OUTLET

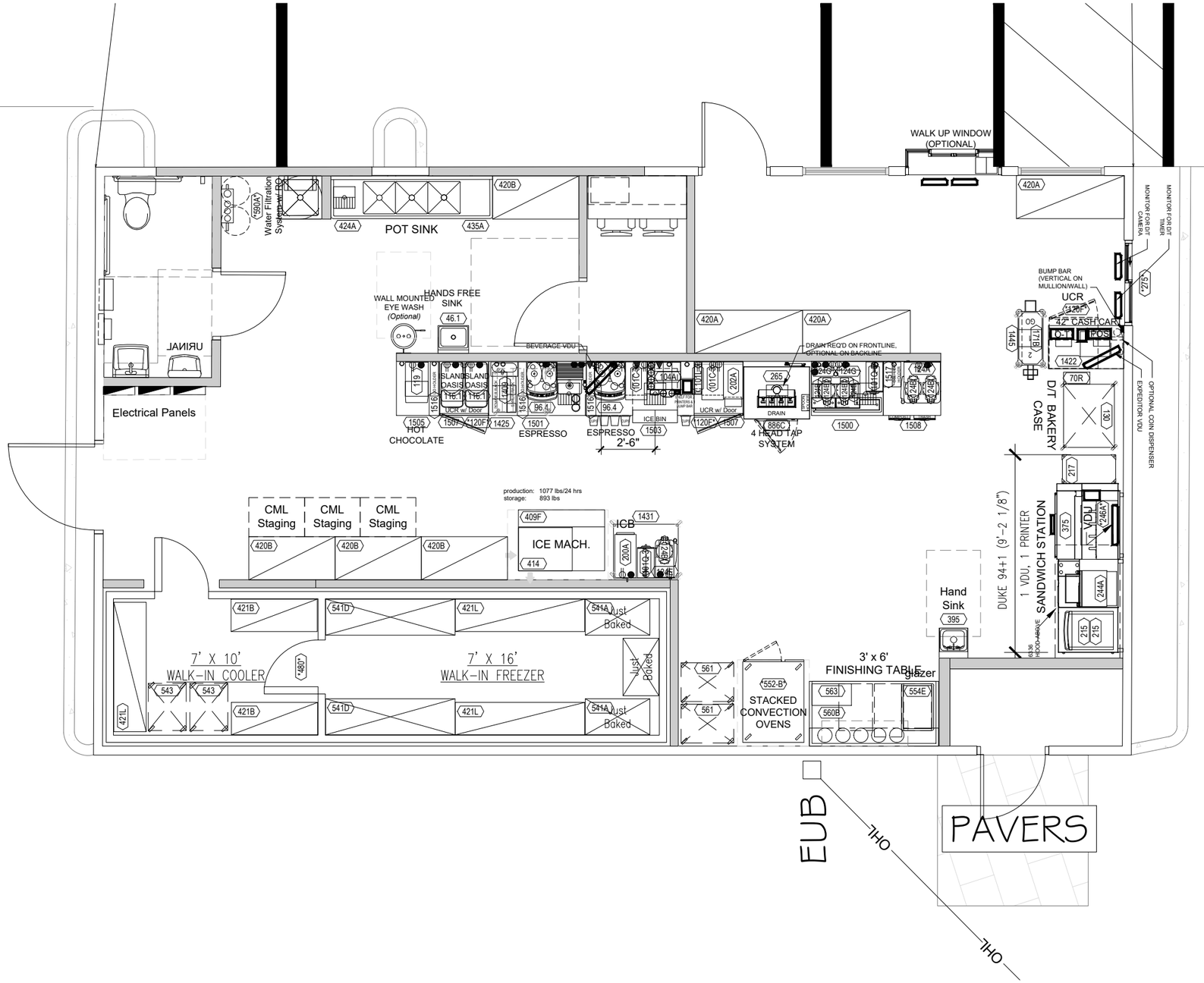
= ELECTRICAL SINGLE OUTLET

= RECESSED PLUMBING

= RECESSED TECHNOLOGY

1,314 SF Total
2 DRY DELIVERIES per WK.
2 REF'D DELIVERIES per WK.
400 DZNS. of DONUTS per WK.
100 DZNS. of Munchkins per WK.
38 LF Dry Storage Shelving

0 5' 10'



NOTES:

1. FRANCHISEE'S ARCHITECT SHALL ENSURE 40" MINIMUM CLEAR ACCESS INTO AND THROUGHOUT THE STORE FOR DELIVERY OF LARGE EQUIPMENT ITEMS.
2. FRANCHISEE'S ARCHITECT TO VERIFY COMPLIANCE WITH APPLICABLE ADA AND CODE REQUIREMENTS FOR RESTROOM(S) AND ENTRANCE(S).
3. WINDOW(S) TO BE IN-FILLED, TINTED, OR BLOCKED OUT WITH APPROVED DBI WINDOW GRAPHICS.
4. UNSIGHTLY UTILITIES:

   TO ENHANCE THE D/T EXPERIENCE PLAN ACCORDINGLY TO EITHER REMOVE OR SCREEN WHEN POSSIBLE.
5. DEFAULT WATER FILTRATION SYSTEM SHOWN. ARCHITECT TO HAVE WATER TESTED TO VERIFY ACTUAL SYSTEM REQUIRED. BOOSTER PUMP CAN BE ELIMINATED IF INCOMING WATER PRESSURE TO THE BUILDING IS 65PSI OR HIGHER.

NORTH

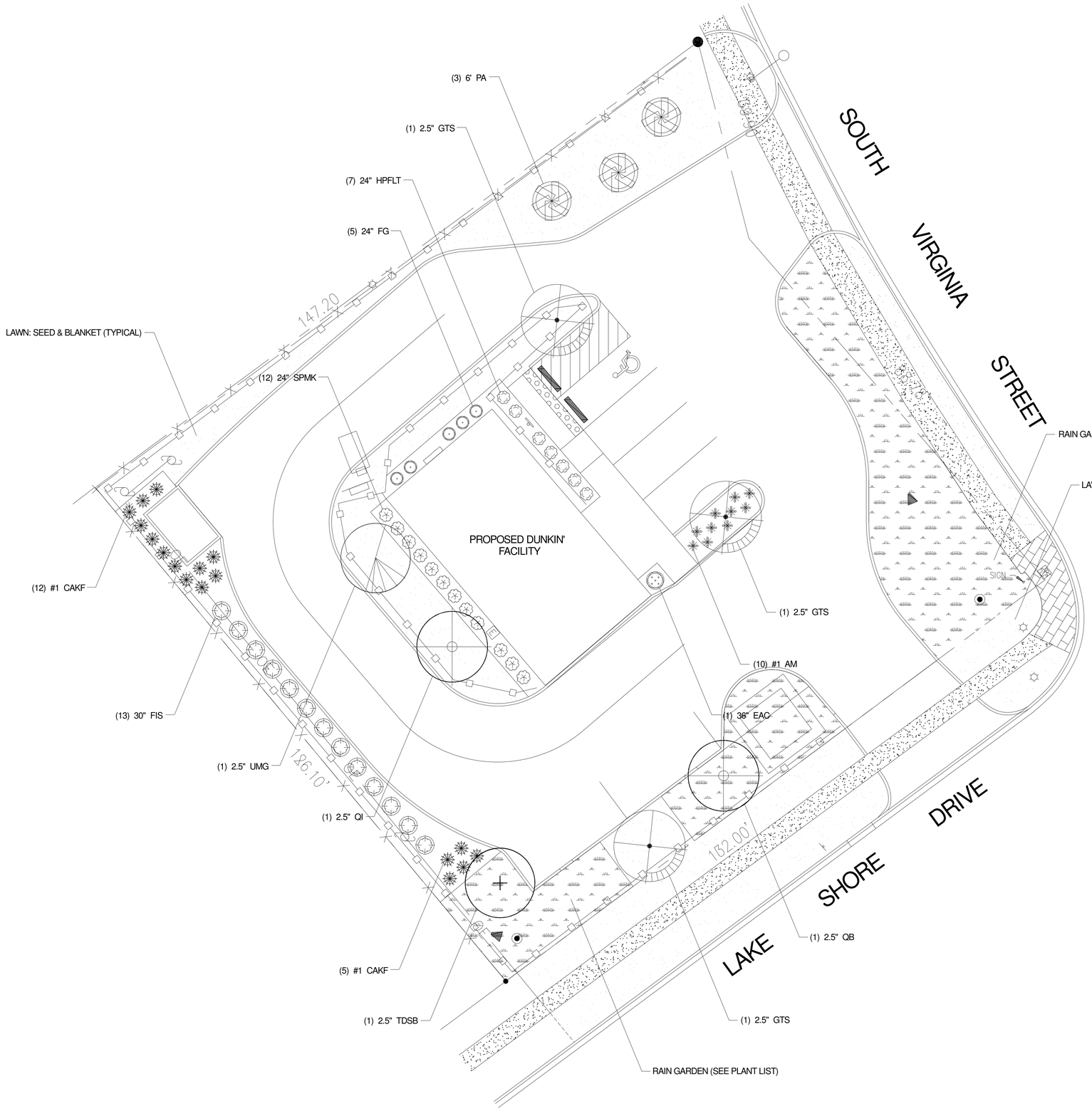
PRELIMINARY KITCHEN LAYOUT

SCALE: 3/16" = 1'-0"

DUNKIN'

DUNKIN' (PC#364510)
154 S VIRGINIA AVE, CRYSTAL LAKE, IL
1 JUNE 2023

KORU



PLANT LIST

Qty.	*Common Name*	*Botanical Name*	*Size*	*Remarks*	*Key*
3	Skyline Locust	Gleditsia triacanthos 'Skyline'	2.5"	B&B	GTS
1	Swamp White Oak	Quercus bicolor	2.5"	B&B	QB
1	Shingle Oak	Quercus imbricaria	2.5"	B&B	QI
1	Shawnee Brave Bald Cypress	Taxodium distichum 'Shawnee Brave'	2.5"	B&B	TDSB
1	Triumph Elm	Ulmus 'Morton Glossy'	2.5"	B&B	UMG
3	Norway Spruce	Picea abies	6'	B&B	PA
1	Dwarf Burning Bush	Euonymus alatus 'Compactus'	36"	Cont.	EAC
5	Dwarf Fothergilla	Fothergilla gardenii	24"	Cont.	FG
13	Show Off Forsythia	Forsythia intermedia 'Show Off'	30"	Cont.	FIS
7	Fire Light Tidbit Hydrangea	Hydrangea paniculata 'SMNHPK'	24"	Cont.	HPFLT
12	Miss Mik Lilac	Syringa patula 'Miss Kim'	24"	Cont.	SPMK
10	Millenium Ornamental Onion	Allium 'Millenium'	#1	Pots	AM
17	Karl Foerster Reed Grass	Calamagrostis acutiflora 'Karl Foerster'	#1	Pots	CAKF

RAIN GARDEN PLANT LIST (24"-30" Spacing)

Qty.	*Common Name*	*Botanical Name*	*Size*
Bank			
75	Prairie Dropseed	Sporobolus heterolepis	Plugs
75	Golden Alexander	Zizia aurea	Plugs
Slope			
50	Dwarf Joe Pye Weed	Eupatorium dubium 'Baby Joe'	Plugs
50	Kobold Spiked Gayfeather	Liatris 'Kobold'	Plugs
50	Goldsturm Black Eyed Susan	Rudbeckia fulgida 'Goldsturm'	Plugs
Basin			
50	Cinderella Swamp Milkweed	Asclepias incarnata 'Cinderella'	Plugs
75	Fox Sedge	Carex vulpinoidea	Plugs
50	Great Blue Lobelia	Lobelia siphilitica	Plugs

0 5 10 20 30

SCALE: 1"=10'

REVISIONS:
10.22.24 (OWNER REVIEW)
10.31.24 (OWNER REVIEW)

DOWDEN DESIGN GROUP
LANDSCAPE ARCHITECTURE, DESIGN & PLANNING
P.O. BOX 415, LIBERTYVILLE, IL 60048
DOWDENDESIGNGROUP.COM PHONE: (847) 362-1254

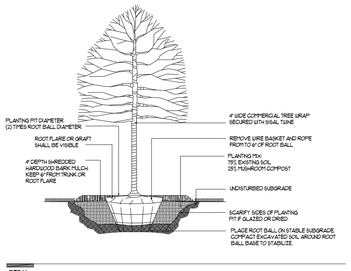
DUNKIN' BRANDS

154 VIRGINIA AVENUE
CRYSTAL LAKE, ILLINOIS

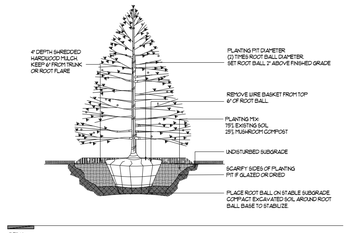
LANDSCAPE PLAN

DATE: 10.17.24
SCALE: 1"=10'
DRAWN: CJD

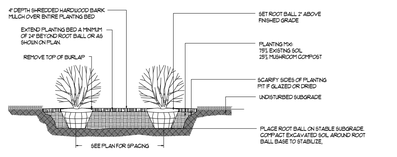
L101



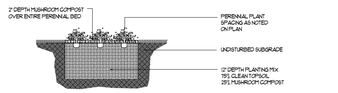
DETAIL
DECIDUOUS TREE PLANTING



DETAIL
EVERGREEN TREE PLANTING



DETAIL
SHRUB PLANTING



DETAIL
PERENNIAL PLANTING

NOTES:

1) The Landscape Contractor shall provide and install all plant materials in the quantities and sizes sufficient to complete planting as shown on the Landscape Plans. All plants shall comply with the requirements of the current American Standard for Nursery Stock published by The American Nursery and Landscape Association. Plants shall meet size, genus, species and variety and be in good health, free of insects, diseases or defects. No "park grade" materials shall be accepted. Trees not exhibiting a central (or single) leader will be rejected unless noted in the plant list as multi-stem. Quantity lists are supplied for convenience. The Landscape Contractor shall verify all quantities and, in case of a discrepancy, the drawn plan shall prevail over the plant list No plants are to be changed of substituted without approval of the Owner or a representative of James Dowden & Associates, Inc.

2) All plants shall be watered during the first 24-hour period following installation. A watering schedule must be agreed upon with the Owner (before plantings are installed) of whom, when and how plant materials are to be properly watered. The Landscape Contractor shall verify proper watering is being done for the establishment and health of all plant materials. The Landscape Contractor shall warranty all plant materials for one year from the time of installation and project acceptance.

3) Plants shall be balled and burlapped unless otherwise noted on the Landscape Plans. No root bound materials shall be accepted and all synthetic or plastic materials shall be removed at the time of planting.
It is the option of the Landscape Contractor to roll back burlap from the top of the root ball.

4) Recommended mulch depth is four inches (4") of shredded hardwood bark. The Landscape Contractor shall avoid over-mulching and the creation of "mulch volcanoes." Mulch Beds shall extend a minimum of two feet (2') beyond the center of a tree or shrub. Mulch must be pulled back at least two inches (2') from the base of a tree so the base of the trunk and root crown are exposed.

5) Prepare all perennial beds with one cubic yard of garden compost per 100 sf and the compost shall be rototilled to an 8" depth.

6) All plants shall be set plumb. It is the option of the landscape contractor to stake deciduous trees but it is also the responsibility of the Landscape Contractor to guarantee the plants remain plumb until the end of the guarantee period.

7) Trees shall be installed a minimum of five feet (5') horizontally from underground electrical feeders, sanitary sewers, sanitary services, water mains, and water services. Trees shall be installed a minimum of ten feet (10') horizontally from utility structures including, but not limited to, manholes, valve vaults and valve boxes. Shade trees shall be a minimum of ten feet (10') from all light poles and all shrubs shall be a minimum of three to five feet (3'-5') from all fire hydrants.

8) The Landscape Contractor shall locate the existence of all underground utilities prior to starting work. The Landscape Contractor must also keep the pavement and work areas in neat and orderly condition throughout the construction process. The Landscape Contractor shall acquaint himself with. And verify. Working conditions in advance of submitting a proposal. Failure to recognize inherent responsibilities does not relieve the contractor of obligations due to miscalculations.

9) Property owners shall be responsible for maintaining all landscaping shown on the approved plans throughout the life of the development.

10) Turf shall be Premium Bluegrass Mix seed and blanket in all disturbed areas except where sod is noted.

11) Once a Landscape Plan has been approved and a Building Permit issued, the Planning and Zoning Administrator may authorize minor revisions to the approved Landscape Plan including the substitution of equivalent planting and ground covers where such revisions do not diminish the benefits of the approved Landscape Plan. As such, revisions shall require the written approval of the Planning and Zoning Administrator.

12) Trees and shrubs shall not be located closer than ten (10) feet to fire hydrants, transformers, or other above ground utilities.

13) Bare root plants shall not be allowed.

14) All planted areas and landscaped islands shall receive a four (4) inch layer of shredded hardwood bark mulch.

PREMIUM BLUEGRASS SEED MIX (4-5 LBS/1000 S.F.)

MIX %	*SEED*	*GERMINATION*	*ORIGIN*
22.82%	AWARD KENTUCKY BLUEGRASS	85%	OR
22.22%	NuGLADE KENTUCKY BLUEGRASS	85%	OR/WA
17.79%	JACKPOT KENTUCKY BLUEGRASS	85%	OR/WA
16.11%	EVEREST KENTUCKY BLUEGRASS	85%	OR
9.98%	FIESTA 4 PERENNIAL RYEGRASS	90%	MN
9.97%	HANCOCK PERENNIAL RYEGRASS	90%	MN
1.11%	INERT MATTER		

REVISIONS:

DOWDEN DESIGN GROUP
LANDSCAPE ARCHITECTURE, DESIGN & PLANNING
P.O. BOX 415, LIBERTYVILLE, IL, 60048
DOWDENDESIGNGROUP.COM PHONE: (847) 362-1254

DUNKIN' BRANDS
154 VIRGINIA AVENUE
CRYSTAL LAKE, ILLINOIS

LANDSCAPE PLAN

DATE: 10.17.24
SCALE: NONE
DRAWN: CJD

L102

01 GRAY
SW 7019
"GAUNTLET GRAY"

02 CHARCOAL
SW 7069
"IRON ORE"

03 WOOD
PATTERN
COLOR:
"HONEY GLAZE"

04 OFF-WHITE
SW 7063
"NEBULOUS WHITE"

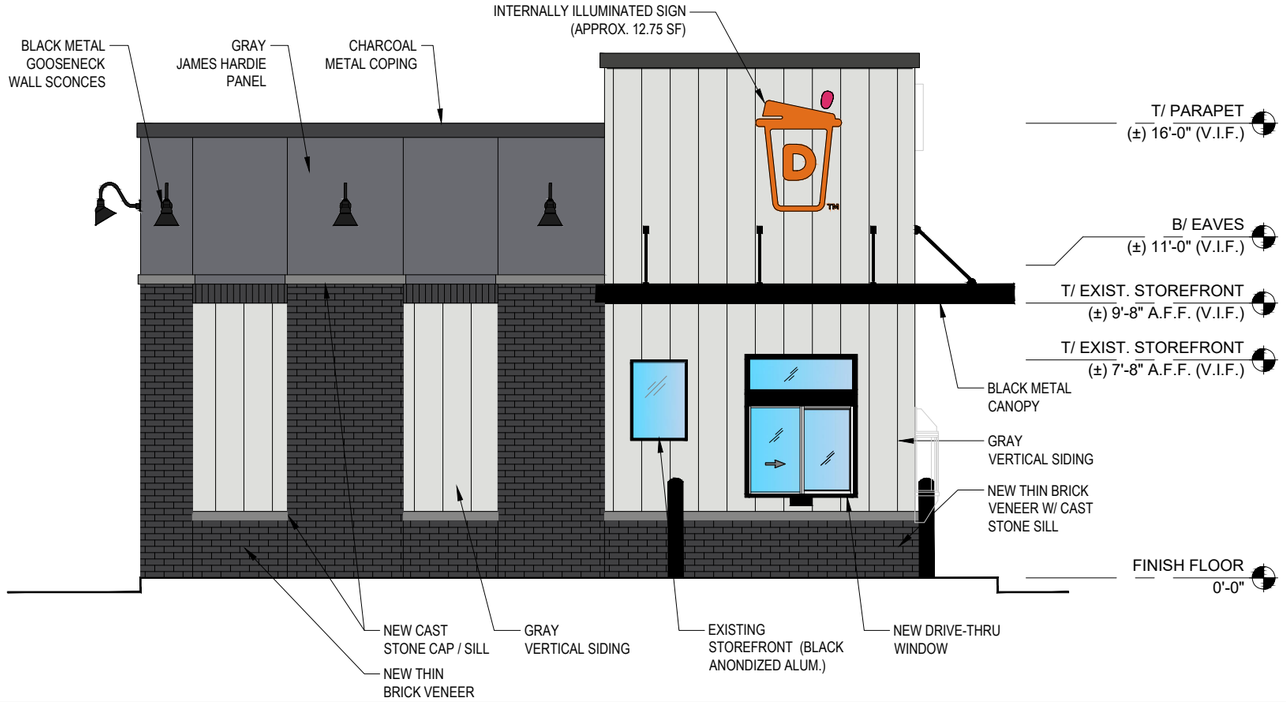
09 CHARCOAL
SW 7069
"IRON ORE"

12 DD PINK
PMS 7635C

13 DD ORANGE
PMS 3564C



NORTHEAST (FRONT) ELEVATION



SOUTHEAST (SIDE) ELEVATION

PRELIMINARY
EXTERIOR ELEVATIONS (1 of 2)

SCALE: 3/16" = 1'-0"

DUNKIN'

PC# 364510
154 W VIRGINIA ST, CRYSTAL LAKE, IL
9 MAY 2025

KORU

01 GRAY
SW 7019
"GAUNTLET GRAY"

02 CHARCOAL
SW 7069
"IRON ORE"

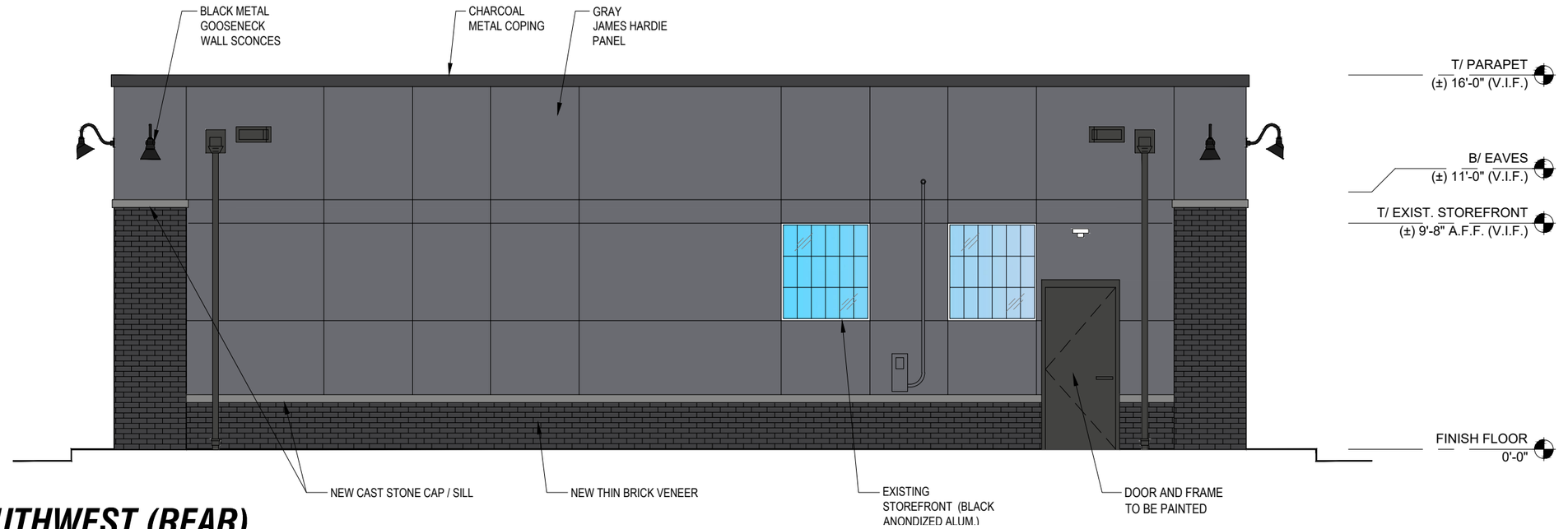
03 WOOD
PATTERN
COLOR:
"HONEY GLAZE"

04 OFF-WHITE
SW 7063
"NEBULOUS WHITE"

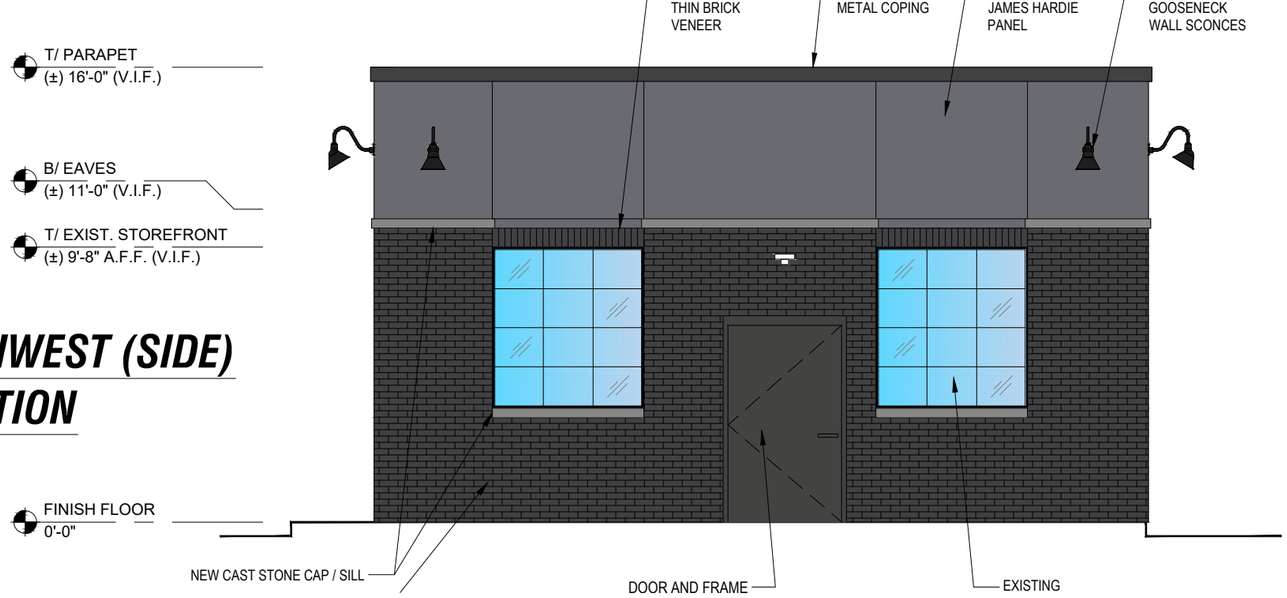
09 CHARCOAL
SW 7069
"IRON ORE"

12 DD PINK
PMS 7635C

13 DD ORANGE
PMS 3564C



SOUTHWEST (REAR) ELEVATION



NORTHWEST (SIDE) ELEVATION

PRELIMINARY
EXTERIOR ELEVATIONS (2 of 2)

SCALE: 3/16" = 1'-0"

DUNKIN'

PC# 364510
154 W VIRGINIA ST, CRYSTAL LAKE, IL
24 APRIL 2025

KORU

GHA GEWALT HAMILTON ASSOCIATES, INC.
CONSULTING ENGINEERS
625 Forest Edge Drive ▪ Vernon Hills, IL 60061
847.478.9700 ▪ GHA-Engineers.com

Project Traffic Review #2

To: Ms. Abigail Wilgreen, PE, CFM
City of Crystal Lake

From: Dan Brinkman, P.E., PTOE

Date: June 4, 2025

Subject: Proposed Dunkin' Crystal Lake Redevelopment
154 S Virginia Street
US Rte 14 at Lake Shore Drive
Crystal Lake, Illinois

Per your request, Gewalt Hamilton Associates, Inc. (GHA) has reviewed the following documents provided for the above referenced project related to traffic, parking, and on-site circulation:

1. Geometric and Paving Plan (Sheet C3.0) prepared by Larson Engineering, Inc. last revised February 25, 2025.
2. Memorandum to Sumish Parikh from Stephen Corcoran of Eriksson Engineering Associates, Ltd. dated June 11, 2015, regarding a proposed Dunkin Donuts on Northwest Highway in Cary, Illinois.
3. Email to Abigail Wilgreen from Sumish Parikh dated May 20, 2024, regarding proposed operations at the subject site.

It is our understanding that the proposed location will operate as a **drive-thru only**, with no opportunities for customers to park and walk into the building to make purchases. Our analysis assumes all transactions occur via the drive-thru lane(s).

Access / Circulation

- One of the two existing access driveways along US Rte 14 (S Virginia Street) is shown to remain operational for the proposed Dunkin' development. This driveway is approximately 28 feet wide on-site and is expected to operate as a full-movement driveway. The on-site curb is not shown connecting / aligning with the existing curb within the US Rte 14 ROW where the access is approximately 25-feet wide. *We recommend that the on-site curb and access be widened to provide for additional stacking in the "Mobile Order" queue and be clearly marked for two-way (full) movements.* Exiting traffic should be under Stop sign control at the driveway.
- As the proposed use is more intense than the previous auto repair facility, access to US Rte 14 will require review and approval from the Illinois Department of Transportation (IDOT). Considering the pattern of adjacent development, we believe it is likely that IDOT will allow one full-movement driveway for the proposed project.
- The second / eastern driveway (the one closest to Lake Shore Drive) is shown as remaining and simply not connected to the proposed parking lot. This access should be completely removed and the curb along US Rte 14 be restored.
- The existing access to Lake Shore Drive is shown as being widened to 24-feet, which will provide adequate width for two-way traffic.
- While most movements in and out of the US Rte 14 drive are expected to be right turns, most turns onto Lake Shore Drive exiting the site are expected to be left turns. The location of the existing/proposed Lake Shore Drive access with respect to US Rte 14 provides limited stacking on Lake Shore Drive to accommodate vehicles exiting the site and attempting to make right or left turns onto US Rte 14.

- A proposed trash enclosure is located at the northwest corner of the subject site accessed via the drive thru and bypass lanes. It is our experience / understanding that deliveries and trash removal typically occur within the drive-thru and bypass lanes during off-peak hours.

Stacking

- The unscaled "Stacking Illustration" on Larson's sheet C3.0 shows nine (9) vehicles between the drive-up window and the existing curb along US Rte 14, four (4) of those from the "order sign" to the curb on US Rte 14. Three (3) additional vehicles are shown stacked in the "Mobile Order" line. Per the City's Unified Development Ordinance eight (8) spaces are required for "Restaurant, with Drive-Through Coffee/Smoothie/Donut/Bakery" sales with four (4) spaces between the "order box" and the pick-up window (which is provided).
- The 2015 Eriksson Engineering memorandum references parking and queuing observations of Dunkin Donuts facilities completed by Gewalt Hamilton Associates, Inc. in 2011. These observations were updated in July 2017 and September 2019 (see attached). Of the eight (8) locations observed, most had an average Morning Peak Period queue of six (6) spaces from the "order sign" with a maximum observed queue of ten (10) spaces from the "order sign".
- A majority (85% per the operations email) of Dunkin' business is conducted via the drive-thru and is typically a function of adjacent street traffic. The average adjacent street volume from the previous study was 26,362 vehicles per day. For reference, in comparison to the sites observed in 2017 and 2019, US Rte 14 carried 25,600 vehicles per day in 2023 along the site frontage.
- The operations email indicates increased usage of mobile ordering, but once there are three (3) vehicles at the "order sign" the mobile order/bypass lane is not accessible.
- Drive through customers are generally interested in convenience and should the queue extend beyond 4-5 vehicles, we feel that it is unlikely that traffic would "sit" on US Rte 14. More likely they would enter the site from Lake Shore Drive and create a second queue across the front of the building.
- Drive-thru stacking could theoretically be increased by one space by moving the "order sign" closer to the pick-up window. Any vehicles that attempted to extend the stacking on-site along the front of the building (parallel to US Rte 14) would effectively block the parking spaces and the on-site circulation.

Parking

- A total of six (6) parking spaces are proposed, including two parallel spaces only accessible from the Drive Thru lanes and one handicapped accessible space. Per the City's Unified Development Ordinance 1 space for each 100 square feet of gross floor area is required. The 1,314 square foot building requires thirteen (13) spaces. However, as the proposed project is within the City's Virginia Street Corridor Overlay District a reduction to 70% of the required parking is allowed. Accordingly, the requirement for the proposed building would be nine (9) spaces. The site is short three (3) spaces from the reduced requirement.
- The 2015 Eriksson Engineering memorandum also references Institute of Transportation Engineers (ITE) parking data. See attached a chart from the current 6th Edition of the ITE *Parking Generation Manual.* Per the ITE data, the proposed Dunkin' would be expected to have a peak parking demand of seven (7) spaces, two more than are provided (not including the accessible space).
- The average parking demand observed in 2017 and 2019 was 6.875 or approximately seven (7) spaces consistent with the ITE data. Peak parking demands as high as thirteen (13) spaces were observed.
- It is possible that the parking supply is sufficient (depending on the number of employees expected), being only one short of other observed peak demands in the Chicago area and the estimated ITE peak, and the heavy reliance on drive-thru traffic during the Morning Peak periods.
- Employees should be required to park in the parallel spaces along the Drive-thru.
- For reference, there is no parking allowed along Lake Shore Drive.

Summary and Recommendations

- The proposed Dunkin' site as proposed on the attached site plan is deficient in parking supply per City Code, but meets the minimum of eight (8) stacking spaces.
- As the proposed use is more intense than the previous auto repair facility, access to US Rte 14 will require review and approval from the Illinois Department of Transportation (IDOT). Considering the pattern of adjacent development, we believe it is likely that IDOT will allow one full-movement driveway for the proposed project.
- We recommend that the on-site curb and existing west access be widened to provide for additional stacking in the "Mobile Order" queue and be clearly marked for two-way (full) movements.
- The second / eastern driveway (the one closest to Lake Shore Drive) is shown as remaining and simply not connected to the proposed parking lot. This access should be completely removed and the curb along US Rte 14 be restored.
- The existing access to Lake Shore Drive is shown as being widened to 24-feet, which will provide adequate width for two-way traffic.
- The petitioner could consider widening the approach to the drive thru and providing a double drive thru that could provide additional stacking spaces (this would require a variance to not provide a full bypass lane). It may be possible to provide a total of eight (8) stacking spaces in two queues of four (4) vehicles between "order signs" and the US Rte 14 curb line while maintaining space to get back to a single line before the "pick-up window".
- The petitioner could also consider an alternative of removing both existing US Rte 14 driveways and constructing a new access on US Rte 14 that allows cars full-movements in and out while also providing appropriate stacking space.
- The location and orientation of the building appear to be limiting / dictating some of the operations. The Petitioner could consider demolishing the existing building and constructing a purpose-built facility that would provide greater flexibility for on-site circulation and improved stacking capacity.

6096.900 CL Dunkin Donuts TPR#2-060425.docx

Exhibit 2
Dunkin' Brands Coffee Shop Survey Data Summary - July 2017 and September 2019

Group 1 - Morning Peak Period (6 AM to 9 AM) - July 2017

Location	Parking Demand Maximum	Parking Demand Average	Drive-Thru Queue Maximum	Drive-Thru Queue Average	Drive-Thru Average Service Time	Annual Average Daily Traffic (Year)
Chicago, IL 6332 N. Broadway	9	5	10	6	2:25	20,000 (2018)
Round Lake Beach, IL 369 Rollins Rd	13	10	7	6	2:26	33,000 (2016)
Northbrook, IL 2775 Dundee Rd	13	8	9	6	1:51	29,900 (2017)
Niles, IL 8080 N. Milwaukee	7	4	7	5	2:23	29,600 (2017)
Waukegan, IL 2900 Belvidere Rd	9	8	7	4	2:19	27,900 (2017)

Group 2 - Morning Peak Period (6 AM to 9 AM) - September 2019

Location	Parking Demand Maximum	Parking Demand Average	Drive-Thru Queue Maximum	Drive-Thru Queue Average	Drive-Thru Average Service Time	Annual Average Daily Traffic (Year)
Chicago, IL. 6250 N. Clark Avenue	6	5	7	5	1:20	15,000 (2018)
Chicago, IL. 3132 W. Devon Avenue	7	6	7	6	1:08	24,800 (2018)
Chicago, IL. 3401 W. Peterson Avenue	10	9	9	6	1:33	30,700 (2017)

GHA GEWALT HAMILTON ASSOCIATES, INC.

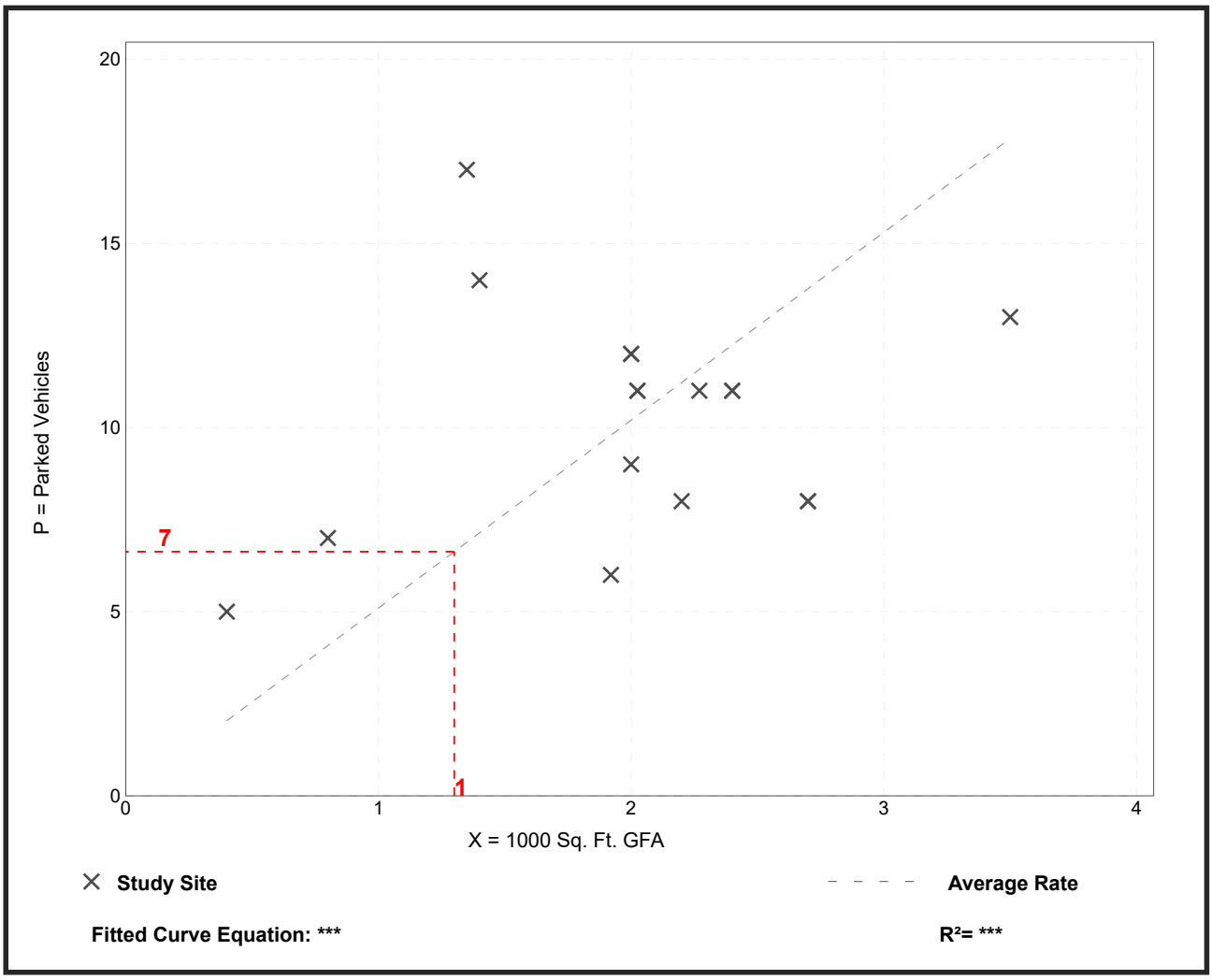
Coffee/Donut Shop with Drive-Through Window
(937)

Peak Period Parking Demand vs: **1000 Sq. Ft. GFA**
On a: **Weekday (Monday - Friday)**
Setting/Location: **General Urban/Suburban**
Number of Studies: 17
Avg. 1000 Sq. Ft. GFA: 2.0

Peak Period Parking Demand per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
5.10	2.96 - 12.59	4.45 / 10.75	***	2.44 (48%)

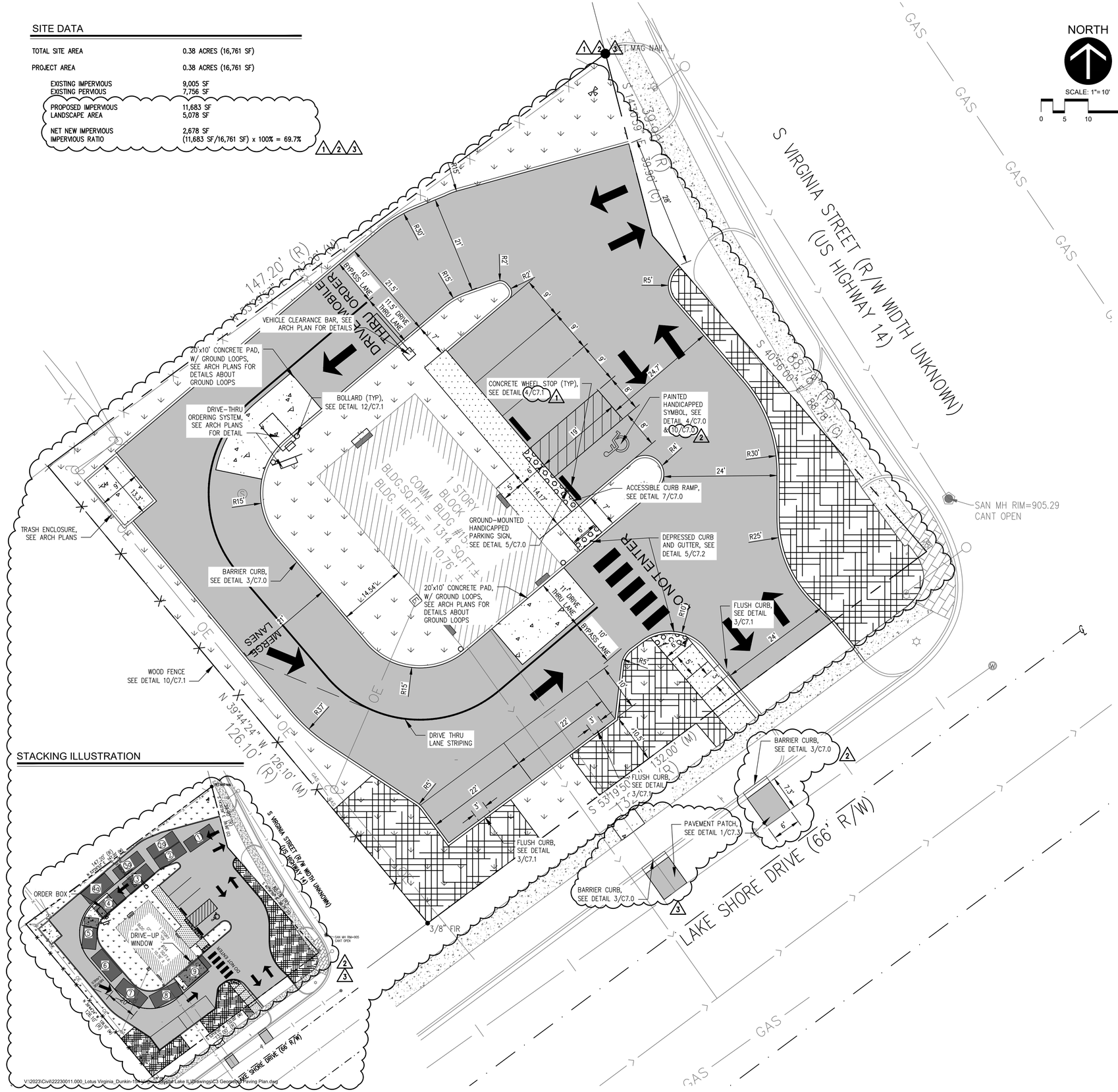
Data Plot and Equation



SITE DATA

TOTAL SITE AREA	0.38 ACRES (16,761 SF)
PROJECT AREA	0.38 ACRES (16,761 SF)
EXISTING IMPERVIOUS	9,005 SF
EXISTING PERVIOUS	7,756 SF
PROPOSED IMPERVIOUS	11,683 SF
LANDSCAPE AREA	5,078 SF
NET NEW IMPERVIOUS	2,678 SF
IMPERVIOUS RATIO	(11,683 SF/16,761 SF) x 100% = 69.7%

1 2 3



STACKING ILLUSTRATION

V:\2023\Civil\22230011.000_Lotus Virginia_Dunkin-154 Virginia_Crystal Lake IL\Drawings\C3 Geometric Paving Plan.dwg

SYMBOL LEGEND

- CONCRETE SIDEWALK, SEE DETAIL 6/C7.0
- HEAVY DUTY ASPHALT PAVEMENT, SEE DETAIL 1/C7.0
- CONCRETE PAVEMENT, SEE DETAIL 2/C7.0
- 4" TOPSOIL WITH SOD
- RAIN GARDEN, SEE DETAIL 2/C7.1 (1 2)

NOTES

1. ALL WORK PERFORMED SHALL MEET THE STANDARDS OUTLINED IN THE ENCLOSED PLANS, AS WELL AS THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION) BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION, UNLESS OTHERWISE NOTED.
2. DO NOT SCALE DIMENSIONS FOR BUILDINGS FROM THESE DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR BUILDING DIMENSIONS.
3. ALL DIMENSIONS ARE FROM FRONT OF CURB TO FRONT OF CURB, FRONT OF CURB TO END OF STALL LINE, OR BACK OF CURB TO PROPERTY LINE, UNLESS OTHERWISE NOTED. ALL RADII DIMENSIONS ARE TO THE FRONT OF CURB, UNLESS OTHERWISE NOTED.
4. PARKING STALL AND DRIVE THRU STRIPING SHALL BE 4" WIDE YELLOW OR WHITE PAINT MEETING IDOT MATERIAL SPECIFICATION IN ART. 1095.02 OF THE STANDARD SPECIFICATIONS AND SHALL BE APPLIED IN ACCORDANCE WITH ART. 780 OF THE STANDARD SPECIFICATIONS.
5. BASE AGGREGATE IS TO BE IDOT GRADATION CA-6, TYPE B IN ACCORDANCE WITH ART. 1004.01 AND 351 OF THE STANDARD SPECIFICATIONS.
6. BEDDING, JOINT, AND VOID FILLER AGGREGATE SHALL BE IDOT GRADATION CA-11 OR CA-13 IN ACCORDANCE WITH ART. 1004.01 OF THE STANDARD SPECIFICATIONS.
7. DRAINAGE/STORAGE AGGREGATE SHALL BE IDOT GRADATION CA-7 (WASHED) IN ACCORDANCE WITH ART. 1004.01 OF THE STANDARD SPECIFICATIONS.
8. THE CONCRETE MIX DESIGN SHALL BE COMPOSED OF PORTLAND CEMENT, COARSE AND FINE AGGREGATE, WATER, AND AN AIR-ENTRAINING ADMIXTURE, AND SHALL BE PROPORTIONED TO MEET ART. 1020.04 OF THE STANDARD SPECIFICATIONS FOR CLASS PV OR SI, AS INDICATED ON THE DRAWINGS.
9. HOT MIX ASPHALT MIX DESIGNS SHALL CONFORM TO ART. 1030.04 OF THE STANDARD SPECIFICATIONS AND THE FOLLOWING:
   - 9.1. HMA SURFACE COURSE: IL9.5, N50, 4% AIR VOIDS, MIX "D"
   - 9.2. HMA BINDER COURSE: IL 19.0, N50, 4% AIR VOIDS, MIX "D"
10. THE INSTALLATION OF THE HMA SHALL BE DELAYED UNTIL THE BASE AGGREGATE IS PROOF-ROLLED WITH A FULLY LOADED SIX (6) WHEELED VEHICLE BY CONTRACTOR, AT HIS EXPENSE, TO THE SATISFACTION OF THE ENGINEER.
11. WHERE NEW PAVEMENT MEETS EXISTING HMA OR CONCRETE PAVEMENTS, A CUT JOINT OF TRANSITIONAL LENGTH NO LESS THAN TEN (10) FEET WILL BE REQUIRED. THE SUBGRADE SHALL BE GRADED PARALLEL TO THE FINAL SURFACE GRADES AND, AS SUCH, SHALL DRAIN TO THE CURB LINE AND TO THE INLETS AND CATCH BASINS. POSITIVE DRAINAGE MUST BE ACCOMPLISHED ON THE COMPACTED SUBGRADE OR THE PLACEMENT OF BASE MATERIAL WILL NOT BE ALLOWED.
12. TIE NEW CURB TO EXISTING CURB WITH 2 #4 BARS (24" LENGTH, 12" ON EITHER SIDE) EPOXIED INTO EXISTING.
13. ALL CURBS CONSTRUCTED OR REPLACED OVER A UTILITY TRENCH SHALL BE REINFORCED WITH TWO (2) #4 BARS FOR A LENGTH OF 20 FEET CENTERED OVER THE TRENCH. SIDEWALKS SHALL BE TREATED IN THE SAME MANNER USING THREE (3) #6 BARS.
14. ALL B6.12 CURB & GUTTER SHALL BE REVERSE PITCH UNLESS OTHERWISE NOTED ON THE PLANS.
15. THE GRANULAR CURB BASE SHALL BE A MINIMUM OF THREE (3) INCHES OF ⅜" TO ¾" OPEN GRADED GRANULAR MATERIAL TO ALLOW FOR PROPER SUBGRADE DRAINAGE. COMPACTED CURB SUBGRADE SHALL BE SHAPED PARALLEL TO THE CURB FLOW LINE A POSITIVELY DRAINED TO THE INLETS AND CATCH BASINS.
16. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT TEN (10) FOOT MINIMUM INTERVALS. EXPANSION JOINTS SHALL BE REQUIRED AT ALL POINTS OF CURVATURE, AT BOTH SIDES OF ALL DRAINAGE STRUCTURES, AND ALL LOCATIONS WHERE THE SIDEWALK ABUTS THE CONCRETE CURB AND GUTTER.
17. ALL CONCRETE CURB AND GUTTER AND SIDEWALKS SHALL BE CURED WITH W.R. MEADOWS CS-309 CURING COMPOUND, OR APPROVED EQUAL.
18. ALL CONCRETE CURB AND GUTTER SHALL BE SEALED WITH W.R. MEADOWS T1A44 SEALANT, OR APPROVED EQUAL, IMMEDIATELY AFTER SEVEN (7) DAYS OF CURING. APPLICATION SHALL BE AT A RATE OF 300 SQUARE FEET PER GALLON UTILIZING A SPRAYER. THE SURFACE MUST BE THOROUGHLY CLEAN AND DRY FOR APPLICATION.
19. DRAINAGE FABRIC, IF REQUIRED, SHALL BE NON-WOVEN GEOTEXTILE SPECIFICALLY MANUFACTURED AS A DRAINAGE GEOTEXTILE, MEETING THE MINIMUM SPECIFICATIONS OF THE ILLINOIS URBAN MANUAL SPECIFICATION 592.
20. SEPARATION FABRIC, IF REQUIRED, SHALL BE WOVEN GEOTEXTILE SPECIFICALLY MANUFACTURED FOR USE AS A SEPARATION GEOTEXTILE, MEETING THE MINIMUM SPECIFICATIONS OF THE ILLINOIS URBAN MANUAL SPECIFICATION 592.
21. ALL NON-PAVED AREAS DISTURBED OR REGRADED SHALL BE BACKFILLED WITH A MINIMUM OF 6" TOPSOIL AND SEEDED.

Larson Engineering, Inc.
1488 Bond Street, Suite 100
Naperville, IL 60563-6503
630.357.0540 (f) 630.357.0164
www.larsonengr.com
ILLINOIS LICENSE NO. 184-001442

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Client:
LOTUS VIRGINIA
709 OAK HOLLOW COURT
CRYSTAL LAKE, IL 60014

Project Title:
DUNKIN'
SITE DESIGN
154 VIRGINIA AVE
CRYSTAL LAKE, IL 60014

Seal:
DOUGLAS H. KEPPY
062-068676
LICENSED PROFESSIONAL ENGINEER OF ILLINOIS

Date: February 25, 2025
Expires: November 30, 2025

Rev.	Date	Description
1	03.05.24	City Comments
2	10.29.24	City Comments
3	02.25.25	City Comments

Project #: 22230011.000
Drawn By: NLF
Checked By: DHK
Issue Date: 10.04.2023

Sheet Title:
GEOMETRIC PAVING PLAN

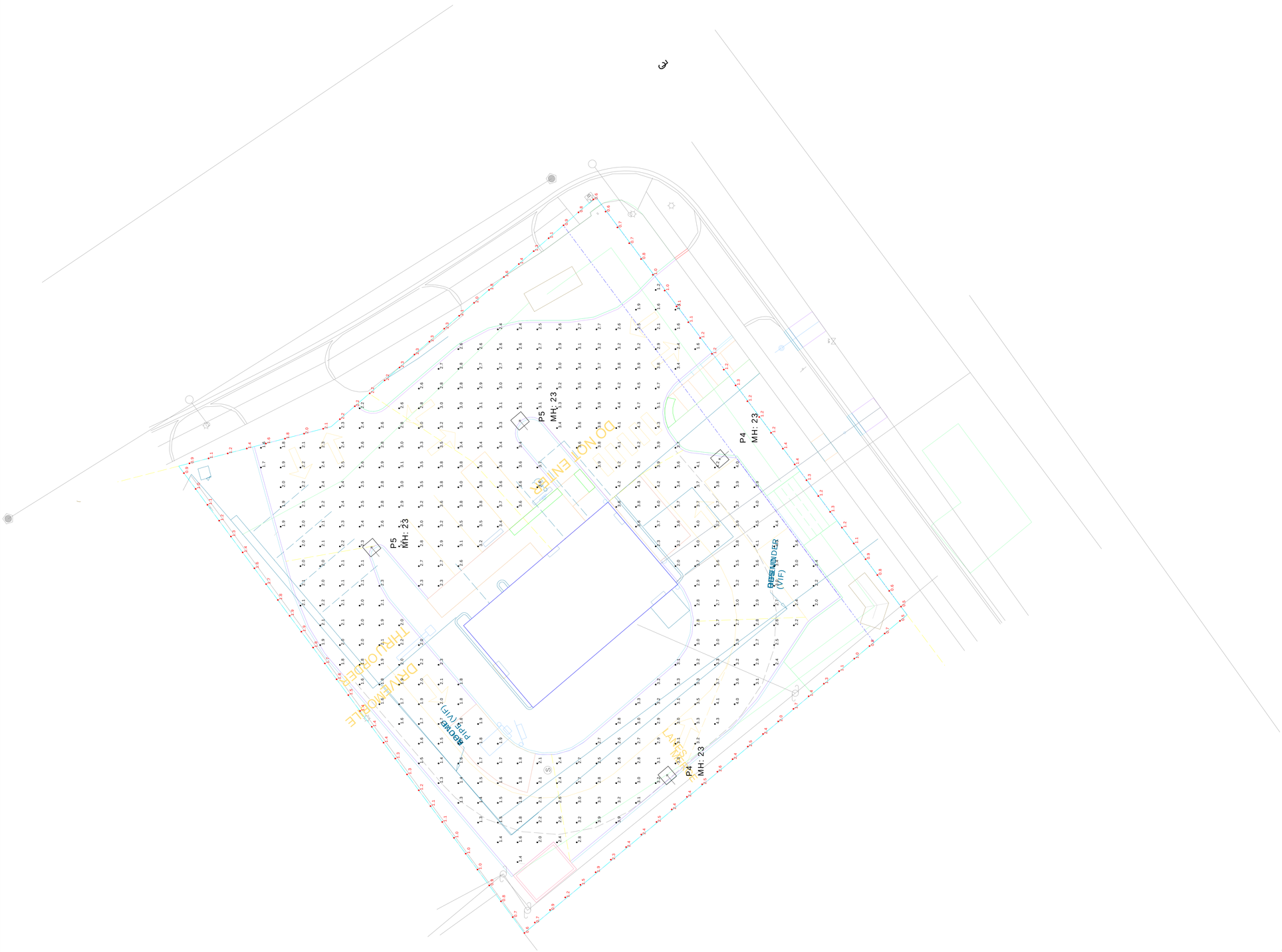
C3.0

Sheet: 4 of 13

DUNKIN DONUTS
CRYSTAL LAKE, IL

Date:5/15/2025

Revisions		
#	Date	Comments



Luminaire Schedule							
Symbol	Qty	Label	Description	LLF	Luminaire Lumens	Luminaire Watts	BUG Rating
	2	P5	PRV-C40-D-UNV-T5-BZ	1.000	18264	131	B4-U0-G4
	2	P4	PRV-C40-D-UNV-T4-BZ-HSS	1.000	15518	131	B2-U0-G4

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Parking Lot	Illuminance	Fc	2.84	5.1	1.1	2.58	4.64
Property Line	Illuminance	Fc	1.43	2.6	0.5	2.86	5.20

Luminaires & Lamps Furnished By Villa Lighting Inc. St Louis, MO. 63103
(800)325-0963
www.villalighting.com

The electrical contractor shall be responsible for receiving, storage, installation and wiring of light fixtures.

The electrical contractor shall report any damaged light fixtures or missing parts to Villa Lighting within 48 hours of receipt of light fixture package.

Design is based on current information provided at the time of request. Any changes in mounting height, mounting location, lamp wattage, lamp type, and existing field conditions that effect any of the previously mentioned will void the current layout and require a change request and recalculation. Calculations are based upon a computer simulation and actual field calculations may vary.

Fixtures mounted on 20' pole & 3' base
Light level calculated on the ground

villa LIGHTING

Comments
Date
#
Revisions

Date:5/15/2025

DUNKIN DONUTS
CRYSTAL LAKE, IL