



## Memorandum

To: Planning Commission Members  
From: Elizabeth J Corwin, PE, AIPC; Planning Director  
Date: November 6, 2025  
Re: SPR25- 01  
Applicant: Steve Kolber/Kolbrook Design. Owner: OM Group  
140 W Highland Road  
PIN 11-22-301-007

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The applicant for the Jimmy John/Dunkin' Donuts project at the NW corner of M-59 and Milford Road has submitted a site plan addressing staff and consultant comments as identified in my last memo of October 16, 2025. While they have not yet received the permit from the Oakland County Health Division, they have submitted their design drawings as part of this permit package, so you can see the likely footprint of the system.

There are a few issues that require some more design work to show compliance with the Zoning Ordinance.

First, the lighting levels at the property line shall be no more than 1 foot candle. They have chosen pole mounting heights that are compliant and are essentially in the same locations as the existing site lighting. They may have to consider alternate models with a lesser impact in order to achieve the target lighting levels. They have noted on the drawings that the lighting levels will be reduced after 11:00 p.m. to comply with the zoning ordinance.

The second issue is that the signing package greatly exceeds ordinance limits. They are working with the client to reduce the signage and may seek variances. Your approval, if any, should note that the signage must comply with ordinance limitations or variances must be obtained.

For your ease in review, I have attached the staff reports and prior minutes here so that you need not download additional files, as well as the body of the email from the architect in submitting the plans.

From: Kevin Rucker [krucker@kpenr.com](mailto:krucker@kpenr.com)

To: Beth Corwin [CorwinB@highlandtwp.org](mailto:CorwinB@highlandtwp.org)

Cc: Ketan Patel [kpatel@kpenr.com](mailto:kpatel@kpenr.com), Steven Kolber [skolber@kpenr.com](mailto:skolber@kpenr.com)

Date: Thu, Oct 30, 2025, 1:02 PM

Hi Beth,

Attached is the response package to the comments you sent below from the 10/16 meeting. Included in the package is the:

- Grading Plans
- Septic System Plans
- Architectural drawings

 JJ DKN 140 Highland Rd Site Plan Review Package.pdf

To provide guidance where the comment response revisions are:

- See SP1.0 showing the parking calculations, the extended sidewalk along Milford Rd to the cemetery, the proposed ground sign moved to be located 10' from the ROW in both directions, and a designated loading/unloading zone.
- See PH1.1 and PH1.2 for the lighting cut sheets and the added General Note D on PH1.0 about the light levels after 11 pm.
- See L1.0 showing how the planting will be bedded and added Landscaping Maintenance note. Also, there are existing faucets on the front and back of the building that will be maintained and used for providing a readily available water supply per Section 12.03.B.6.c.
- I have included the exterior elevations showing the wall signage as it currently stands. We understand your comment that we are over the allowed amount and will require a variance if we plan to continue with the signage as shown. We are working with the brands to see if we should reduce the signage to meet the ordinance or keep it as is and go for the variance. In the end we want to provide a good amount of signage for each tenant and show equal representation. We will keep you updated as we come to a decision.

I believe this covers all of the comments, but let me know if there is anything missing and I will be happy to provide it. Also, let me know if we are confirmed for the 11/06 meeting so we can make sure we have someone in attendance.

Thank you,

**Kevin Rucker**

Architectural Designer II

**KP + J | ARCHITECTS & ENGINEERS**

[krucker@kpenr.com](mailto:krucker@kpenr.com) | c. 847.497.8150 | [www.kpenr.com](http://www.kpenr.com)

828 Davis St. Suite 300 Evanston IL 60201



# Memorandum

To: Planning Commission Members  
From: Elizabeth J Corwin, PE, AICP; Planning Director  
Date: October 16, 2025  
Re: Special Land Use Approval and Site Plan Review for Jimmy John's and Dunkin'

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As you may recall, this project was first presented to the Planning Commission for review for Special Land Use Approval of the drive-through on April 3, 2025. Although a number of site issues were identified in the discussion following the public hearing, the Planning Commission did not complete the site plan review at that time. The site plan review was deferred for a future meeting when more input would be received from public agencies. The Board of Trustees approved the Special Land Use at their meeting of April 7, 2025.

There are a number of changes to this revised site plan in response to your comments. First, the applicant has provided a civil site drawing. Changes to the layout include moving the two "longer" parking spaces for recreational vehicles and truck/trailer combinations to the northwest side of the parking lot, next to the dumpster. These are still perpendicular, pull-in/back-out spaces, but they no longer have the potential to block the entrance to the site. The other significant change is modifications to the drainage system to accommodate the new traffic pattern at the drive-through area, and identification of the onsite sewage disposal system.

The discussion that follows includes many points that were raised in the staff review from April, but have not been sufficiently addressed.

### ***Parking and site circulation:***

The plan should include a table of basic site data, including the parking calculations. In general, the requirement for a restaurant is one space per 70 square feet of the net floor area of the restaurant, plus 10 stacking spaces plus two longer spaces for recreational vehicles, buses or semi-trucks (Sect 11.02, Table 11.1). The definition of net area can be found in Section 2.07. If we assume the net area is approximately 80 percent of the gross floor area, the parking requirement would be 38 spaces plus the ten stacking and two longer spaces. 30 spaces are provided, but the two "longer spaces" are impractical, requiring a backing maneuver near the entrance to the site. This does not include any allowance for use of the basement. Additional parking would be required for any use of the basement, even warehousing.

The location of the septic system and reserve system effectively reduces any area that might be otherwise available for "reserved" parking spaces. In theory, there is space along the north property line for the missing spaces, although that is not a very desirable location. This is a "re-use" site plan, and the Zoning Ordinance does permit "Flexibility in Application" (Sect 11.02.A.F). Designating this area as reserve would provide the

flexibility for the Planning Commission to accept the parking plan as proposed; and not send the applicant to the Zoning Board of Appeals.

The Fire Marshal has reviewed the revised site plan and has no concerns. He will review the plans in greater detail with review of the building permit package.

As noted previously, the RCOC has stated an intent to restrict turning movements to right turns in and out at the Milford Road driveway. We have not received any new input from the RCOC indicating otherwise.

***Sidewalks:***

You will note there are discrepancies between the architect's plans and the civil plan. Where there are conflicts, you should defer to the civil plan, which is based on an actual survey. The Milford Road sidewalk currently ends at the driveway and should be extended north to the property line. The Planning Commission should also discuss whether there is enough probability of foot traffic from Milford Road to require an internal sidewalk from Milford Road to the building.

***Lighting:*** The lighting plan should include "catalog cuts" of the fixtures so as to demonstrate that the chosen fixtures conform to the zoning ordinance, particularly that they are fully shielded and cutoff. The lighting levels through the east 1/3 of the site appear to exceed ordinance limits. The Planning Commission should discuss lighting levels after 11:00 p.m. since the ordinance would typically require reduced lighting levels.

***Landscaping:*** The applicant has provided a landscaping plan. There are no details to indicate how the trees/shrubs in lawn areas will be bedded. There should be better differentiation on the plans between bedding areas and lawn areas. Notes should be added to the plans indicating that an irrigation system will be installed or describing the maintenance plan per Section 12.03.B.6.c

***Signage***

The site plan indicates a proposed ground mounted sign along the Highland Road frontage. The existing ground sign will be reviewed and replaced. The new sign should be located at least 10 feet from the ROW in both directions. (Section 14.07, Table 14.2.)

As for the building mounted signage, the sign allowance is 2 square feet for every lineal foot of the primary façade (2 sq ft x 47 lf = 94 sq ft). This signage may be split on multiple faces of the building. While I have not independently verified the calculations indicated on the site plan, there are signs on 3 faces of the building totally 193 square feet. No new building façade plans have been submitted since April, so it is unclear how the applicant intends to comply with the ordinance. While the Planning Commission may allow the signage to be split on multiple faces of the building (Sect. 14.07.J.1) there is no provision to allow for additional signage. Granting additional signage would require approval of a variance by the Zoning Board of Appeals.

Directional signs as indicated on the plans are permissible, but no details are presented for your consideration.

***Onsite sewage disposal and water service:***

I understand that the applicant is working with the Oakland County Health Division (OCHD) on approval of an engineered septic system and the latest revised drawings were submitted October 16, 2025. I believe the revised plans submitted to OCHD are consistent with the location and layout of the proposed system shown

There is public water in both the Highland Road and Milford Road rights-of-way. The plans were revised to show the approximate location of the water service, which will enter the building at the southeast corner of the building. There is now a note to properly abandon the existing water supply well.

***Grading and Drainage .***

The applicant has provided calculations to demonstrate that the impervious surface of the site has actually decreased with the parking area changes. The Township engineer has reviewed the proposed modifications to the site drainage plan and has accepted the concept. Additional catchbasins will be added to the site.

**SUMMARY**

The site plan as presented, still contains deficiencies, some of which are technical in nature and could be deferred to staff/consultants or could be handled through notes on the site plan. The applicant has not submitted evidence of receipt of any permits from outside agencies.

You could choose to grant either preliminary or final approval of the site plan, subject to the following:

- a) Addressing all issues identified in the Planning Director's review of October 16, 2025.
- b) Submittal of construction drawings for review and approval of the Township Engineer.
- c) Submittal of approvals from all outside agencies identified by staff.
- d) Any other conditions of importance that the Planning Commission would like to add.

Preliminary approval would indicate that you would like to see the package back to you before construction is allowed. Final approval would indicate that the plan is sufficiently detailed that you are comfortable with final administrative approval based on your direction in the motion. If you are *not* comfortable with the layout and believe more work is needed on the site layout, you should postpone action to a later meeting.

Upon discussion of the project in greater detail at the Planning Commission meeting, we will be able to determine what, if any issues, need to be directed to the Zoning Board of Appeals.



October 11, 2025

Highland Township  
205 North John Street  
Highland, MI 48357

Attn: Ms. Beth Corwin, P.E.  
Planning & Development Director

Re: Site Plan Review 3  
Jimmy John's/Dunkin  
140 Highland Road  
Sidwell No. 11-22-301-007

HRC Job No. 20250252.02

Dear Ms. Corwin:

As requested, this office has reviewed the plans for the above-mentioned project as prepared by Alpine Engineering (dated October 9, 2025) and the responses to our September 20, 2025 Site Plan Review letter. It appears that the comments from our previous letter have been satisfactorily addressed. Therefore, we have no objections to the proposed site plan. If you have any questions or require any additional information, please contact the undersigned.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.



Michael P. Darga, P.E.

MPD/mpd

pc: Highland Township; R. Hamill  
HRC; R. Alix, File

Mr. Zeolla asked if this would be a “baked” on site store. Mr. Kolber noted that this model has basically vanished, and that most stores receive multiple deliveries of baked goods in any given day from a central commissary. There will be some frozen product that could be baked in a pinch.

Mr. York noted the importance of this corner in the Highland Downtown Development Authority District and its proximity to the historic Highland Station. While this property is not required to comply with the design standards that properties on the south side of Highland Road, it should accommodate the pedestrian traffic onto the site. A sidewalk connection between the multi-purpose pathway on Highland Road and the west façade of the building where the public entrances are proposed.

Mr. York also noted that the corridor sees a lot of truck and recreational vehicle traffic, and a better solution must be offered for the longer vehicle parking. Mr. Kolber committed to exploring other options, noting that the dissolution of the easement offers more space and once they have the final design of the septic system approved and know what is available to work with.

Mr. Zeolla expressed a concern about the photometric plan and the issue of light trespass. Mr. Kolber committed to providing a revised design for lighting that is consistent with ordinance requirements and will submit the required photometric plans with the final site design.

Mr. Smith noted the sensitivity of the adjacent cemetery and asked that the landscape design provide a dense enough screen to help buffer noise from the order system.

Mr. Charlick reviewed the required standards of approval for special land use under Section 6.03.H of the Zoning Ordinance, also referencing the memorandum from the Planning Director dated April 3, 2025. In particular, he offered the following findings: that the proposed use of a restaurant is consistent with the Master Land Use designation of Office and Local Commercial, and that the parcel has been operated with a drive-through facility in the past. The site layout provides for safe and effective vehicular traffic, and appropriate stacking distances. He noted there would not be an unreasonable burden on the capacity of public services because public water is available on the site, and the property owner will provide a private sewage disposal system.

Mr. Charlick offered the following motion. To recommend approval of the Special Use approval for a drive-through facility for the permitted use of a restaurant on parcel 11-22-301-007, 140 West Highland Road based on the findings noted earlier and conditioned upon the following: pedestrian connections to multi-purpose pathway on the south; provision of a landscape design that includes buffers to deaden the sound and screen from the cemetery; site lighting consistent with the ordinance and a final site plan, based on the preliminary site plan prepared by Kolbrook Design and responsive to the other issues identified by the Planning Director, Township Engineer and as discussed.

The motion was supported by Mr. York.

Mr. Curtis called for a vote. Roll call vote: Zeolla, yes; York – yes; Curtis – yes; Heyn-yes; Charlick – yes; Smith – yes; Motion carries (6 yes, 0 no).

**Agenda Item #5:**

Parcel #	11-22-301-007
Zoning:	C-1, Local Commercial Zoning District
Address:	140 W Highland

File#: SPR 25-01  
Request: Site Plan Review for restaurant for drive-through facility  
Applicant: Steve Kolber, Kolbrook Design  
Owner: OM Group

Chairman Curtis introduced the site plan for the proposed restaurant. He noted that many site plan issues had been discussed during the previous agenda item and in the Planning Director and consultant memorandums. He invited the Planning Commission to raise any other issues that should be discussed.

Ms. Corwin noted that the site plan should also include a designated loading/unloading zone, which she had not included in her memorandum. Mr. Kolber responded that the driveway on the north side of the building is wide, and that a truck could be loaded/unloaded along that driveway without impeding traffic.

Mr. Charlick offered a motion to table the site plan review for a future meeting. Mr. Curtis supported the motion which passed by voice vote. (all ayes, no nays).

**Agenda Item #6:** Committee Updates

- Zoning Board of Appeals:
- Township Board:
- Highland Downtown Development Authority:
- Planning Director's Update

Committee liaisons reported on the activities of their respective organizations.

**Agenda Item #5:** Minutes: March 20, 2025

Mr. York offered a motion to approve the minutes of the March 20, 2025, Planning Commission minutes as presented. Mr. Curtis supported the motion which was approved by voice vote (all ayes, no nays)

***Adjournment:***

Mr. Charlick moved to adjourn the meeting at 10:10 p.m. Mr. York supported the motion, which was unanimously approved by voice vote. (all ayes, no nays)

Respectfully submitted,

A. Roscoe Smith, Secretary  
ARS/ejc

i) Personnel Policy Revisions

Ms. Frederick moved to approve the Personnel Policy Revisions effective on April 7, 2025. Mr. Howe supported, and the motion carried with the following roll call vote: Hamill – yes, Flowers – yes, Frederick – yes, Charlick – yes, Howe – yes, Lewis - yes, and Salvia – yes.

j) Ordinance Officer Assistant & Fire Department Administrative Assistant

Ms. Frederick moved to approve Laura Carpenter as the full-time Ordinance Officer Assistant and Fire Department Administrative Assistant starting date April 9, 2025, hourly wage \$20.65 per hour not to exceed 2,080 per year. Mrs. Lewis supported, and the motion carried with the following roll call vote: Hamill – yes, Flowers – yes, Frederick – yes, Charlick – yes, Howe – yes, Lewis - yes, and Salvia – yes.

k) Resolution 25-09 Declaring Surplus Property and Approving the Conveyance Thereof –  
Property located adjacent to South Bay Shores Condominium in Highland Township

Ms. Frederick moved to approve Resolution 25-09 Declaring Surplus Property and Approving the Conveyance Thereof – Property located adjacent to South Bay Shores Condominium in Highland Township. Mr. Howe supported, and the motion carried with the following roll call vote: Hamill – yes, Flowers – yes, Frederick – yes, Charlick – yes, Howe – yes, Lewis - yes, and Salvia – yes.

l) URSA 25-01 Special Approval of Land Use for drive-through facility for restaurant; 140 W. Highland; PIN 11-22-301-007; Applicant: Steve Kolber, Kolbrook Design; Property Owner: OM Group

Mr. Charlick moved to approve the URSA 25-01 Special Approval of Land Use for a drive-through facility for restaurant; 140 W. Highland; PIN 11-22-301-007; Applicant: Steve Kolber, Kolbrook Design; Property Owner: OM Group with the knowledge it meets all of the seven tenants of our special use and that it does not affect other pieces of property. The following conditions apply: pedestrian connections to multi-purpose pathway on the south; provision of a landscape design that includes buffers to deaden the sound and screen from the cemetery. Site lighting consistent with the ordinance and a final site plan, based on the preliminary site plan prepared by Kolbrook Design and responsive to the other issues identified by the Planning Director, Township Engineer and as discussed. Mr. Salvia supported, and the motion carried with the following roll call vote: Hamill – yes, Flowers – yes, Frederick – yes, Charlick – yes, Howe – yes, Lewis - yes, and Salvia – yes.

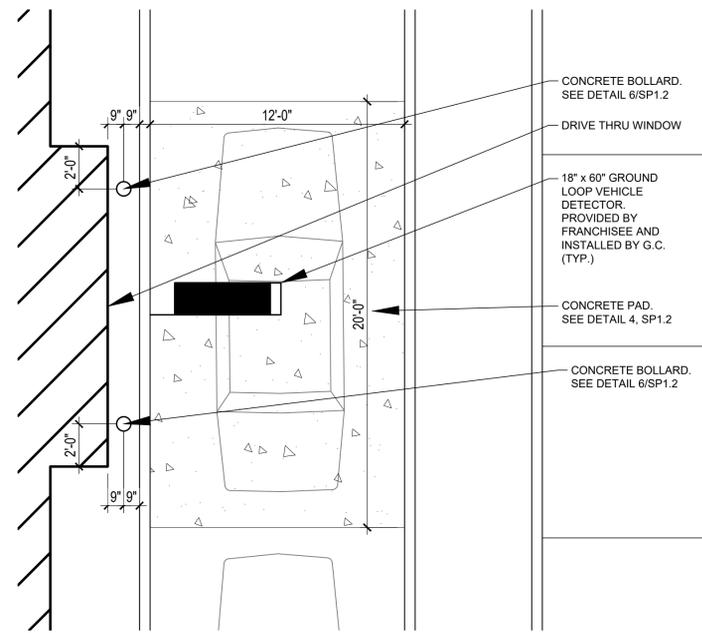
m) Purchase requests for Fire Department

Mr. Hamill moved to approve Bio-Care as an official vendor for Highland Township. Mrs. Lewis supported, and the motion carried with the following roll call vote: Hamill – yes, Flowers – yes, Frederick – yes, Charlick – yes, Howe – yes, Lewis - yes, and Salvia – yes.

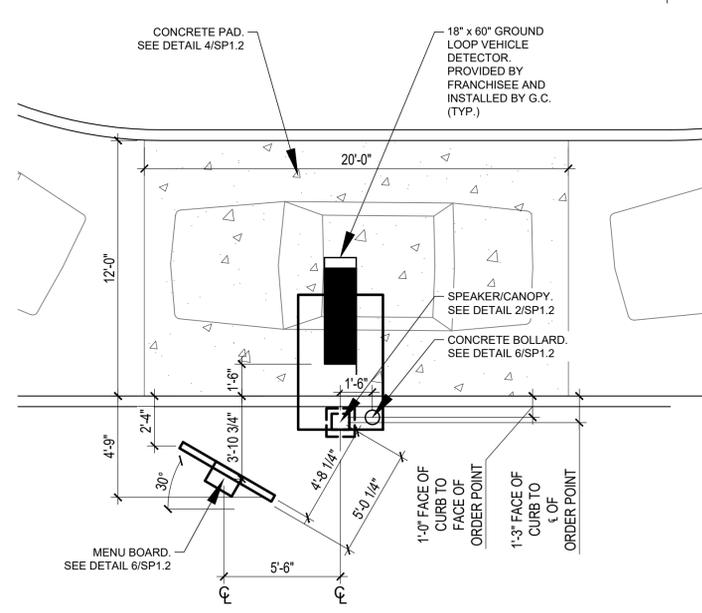
Mr. Hamill moved to approve both Gracon Services and Bio-Care invoices as attached. Mr. Howe supported, and the motion carried with the following roll call vote: Hamill – yes, Flowers – yes, Frederick – yes, Charlick – yes, Howe – yes, Lewis - yes, and Salvia – yes.

# PARKING CALCULATIONS

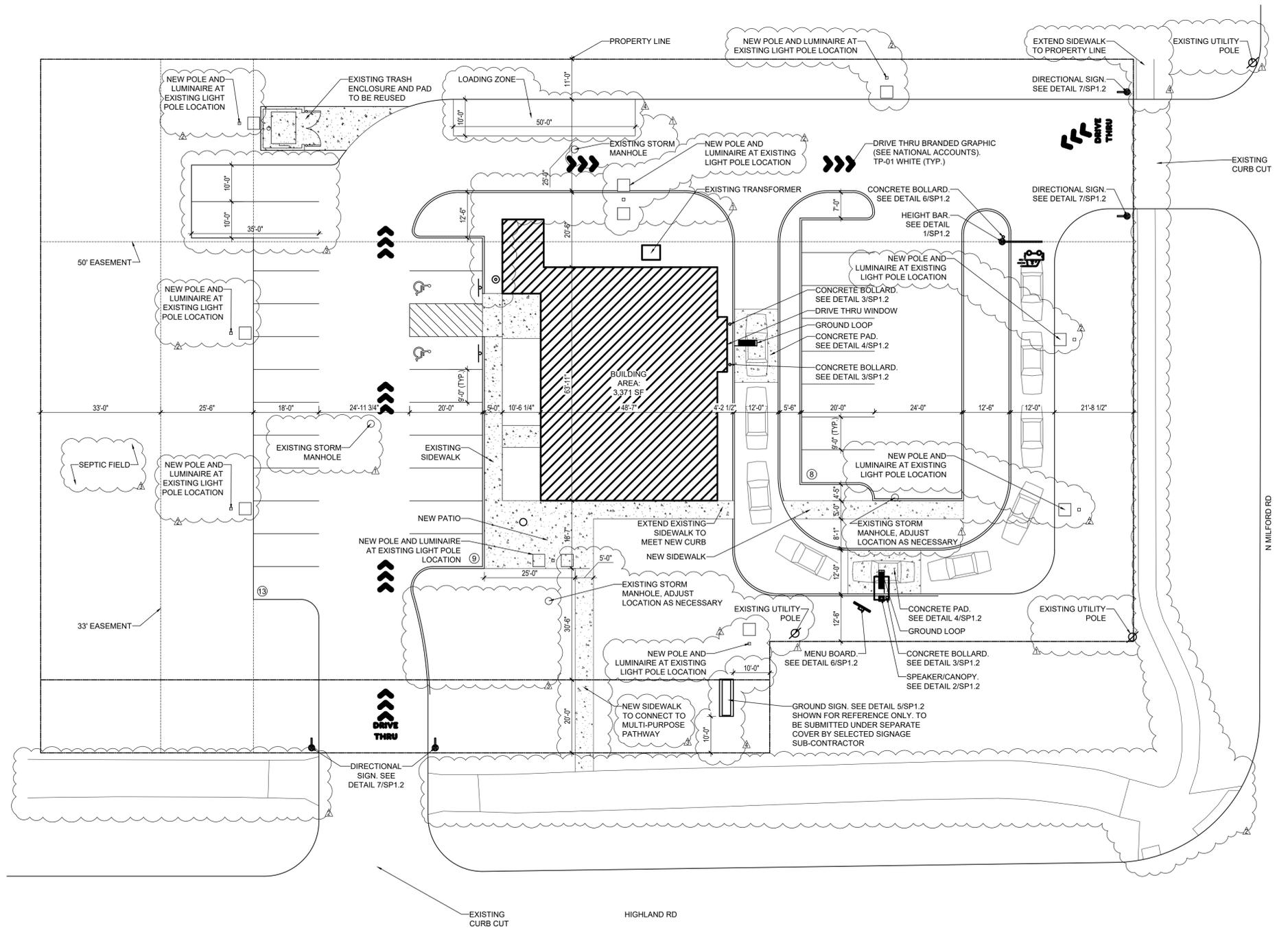
- DUNKIN'**
  - REQUIRED OFF-STREET PARKING SPACES
    - DRIVE-IN AND DRIVE THROUGH RESTAURANT: 1 space for each 70 square feet of net floor area, plus 10 stacking spaces for drive-through service which do not conflict with use of required spaces, plus 2 longer spaces designated for recreational vehicles, buses and semi-trucks
    - NET FLOOR AREA: 903.33 SF / 70 SF = 12.9 SPACES = 13 SPACES
  - REQUIRED SPACES: 13 SPACES, 10 STACKING SPACES, 2 LONGER SPACES
- JIMMY JOHN'S**
  - REQUIRED OFF-STREET PARKING SPACES
    - CARRY-OUT RESTAURANT: 6 spaces for each service or counter station plus employee parking
    - EMPLOYEE PARKING: MAX STAFF = 6 PEOPLE = 6 SPACES
  - REQUIRED SPACES: 12 SPACES
- COMBINED:**
  - REQUIRED OFF-STREET PARKING SPACES: 13 SPACES + 12 SPACES = 25 SPACES
  - TOTAL REQUIRED SPACES: 25 SPACES, 10 STACKING SPACES, 2 LONGER SPACES



**3 DRIVE-THRU WINDOW LAYOUT**  
 SCALE: 1/4" = 1'-0"



**2 DRIVE-THRU MENU LAYOUT**  
 SCALE: 1/4" = 1'-0"



**1 SCHEMATIC SITE PLAN**  
 SCALE: 1/16" = 1'-0"

BRAND PARTNER / CLIENT: DM GROUP  
 BRAND COORDINATORS: JIMMY JOHN'S, DUNKIN'  
 MEP ENGINEER:  
 DEVELOPER:  
 ARCHITECT: **kolbrook design**  
 828 DAVIS STREET, SUITE 300  
 EVANSTON, IL 60201  
 OFFICE: 847.492.1892 | FAX: 312.453.0669

EXP: 05/24/2026  
 SIGNED: 03/12/2025

PROJECT: **HIGHLAND RESTAURANTS**  
**JIMMY JOHN'S & DUNKIN'**  
 140 HIGHLAND RD  
 HIGHLAND CHARTER TOWNSHIP, MI 48357  
 DUNKIN PC #: 365060

DRAWING ISSUE	DATE
FOR PERMIT	03/12/2025
TWP COMMENTS	06/17/2025
PHOTOMETRICS UPDATE	07/29/2025
SITE PLAN COMMENTS	08/08/2025
SITE PLAN COMMENTS	10/24/2025

DRAWN BY: KR, VV  
 CHECKED BY:  
 SHEET TITLE:

SCHEMATIC SITE PLAN & LAYOUT DETAILS

SHEET NO.  
**SP1.1**

**LEGEND:**

⊕	EX. CATCH BASIN	⊕	EX. UTILITY MARKER
⊕	EX. MANHOLE	⊕	EX. E.V. CHARGING STATION
⊕	EX. END SECTION	⊕	EX. SOIL BORING
⊕	EX. OVERFLOW STRUCTURE	⊕	EX. MAILBOX
⊕	EX. DOWNSPOUT/ROOF DRAIN	⊕	EX. GENERATOR
⊕	EX. CLEANOUT	⊕	EX. MONITOR WELL
⊕	EX. WATER GATE VALVE	⊕	EX. AIR CONDITIONER
⊕	EX. HYDRANT	⊕	EX. TRAFFIC SIGNAL
⊕	EX. WATER VALVE	⊕	EX. FENCE
⊕	EX. WATER SHUTOFF	⊕	PROP. FINISH FLOOR ELEVATION
⊕	EX. FIRE DEPT. CONNECTION	⊕	PROP. CURB & GUTTER (PITCH IN)
⊕	EX. GAS SHUTOFF	⊕	PROP. CURB & GUTTER (PITCH OUT)
⊕	EX. GAS VENT	⊕	PROP. STORM SEWER
⊕	EX. ELECTRIC/GAS METER	⊕	PROP. SANITARY SEWER
⊕	EX. HANDHOLE	⊕	PROP. WATER MAIN
⊕	EX. PEDESTAL	⊕	PROP. STRUCTURE
⊕	EX. TRANSFORMER	⊕	PROP. END SECTION
⊕	EX. LIGHTPOLE	⊕	PROP. CLEAN-OUT
⊕	EX. UTILITY POLE	⊕	PROP. HYDRANT
⊕	EX. GUY ANCHOR	⊕	PROP. GATE VALVE
⊕	EX. TREE	⊕	PROP. CURB BOX
⊕	EX. TREE TAG & NUMBER	⊕	PROP. E.V. CHARGING STATION
⊕	EX. TREE LINE	⊕	PROP. GUTTER ELEV.
⊕	EX. SANITARY SEWER	⊕	PROP. TOP OF CURB ELEV.
⊕	EX. STORM SEWER	⊕	PROP. TOP OF WALK ELEV.
⊕	EX. WATER MAIN	⊕	PROP. TOP OF PAVEMENT ELEV.
⊕	EX. ELECTRIC CABLE	⊕	PROP. SPOT ELEV.
⊕	EX. COMMUNICATION	⊕	PROP. DRAINAGE ARROW
⊕	EX. GAS LINE	⊕	PROP. SILT FENCE
⊕	EX. OVERHEAD LINE	⊕	PROP. TREE PROTECTION FENCE
⊕	EX. SIGN	⊕	PROP. INLET FILTER
⊕	EX. POST/BOLLARD	⊕	PROP. ASPHALT
⊕	EX. FLAGPOLE	⊕	PROP. CONCRETE
⊕	EX. WATER WELL	⊕	PROP. LIGHT POLE
⊕	EX. RAILROAD SIGNAL		
⊕	EX. SATELLITE DISH		
⊕	EX. BOULDER		
⊕	EX. TREE STUMP		
⊕	EX. PARKING METER		

**DESCRIPTION:**

LAND SITUATED IN THE TOWNSHIP OF HIGHLAND, COUNTY OF OAKLAND, STATE OF MICHIGAN, DESCRIBED AS FOLLOWS:  
 PART OF LOT 1, MAE-ORACE ACRES, AS RECORDED IN LIBER 89, PAGE 13 OF PLATS, OAKLAND COUNTY RECORDS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT NORTHEAST CORNER; THENCE SOUTH 00 DEGREES 11 MINUTES 30 SECONDS WEST 154.20 FEET; THENCE SOUTH 89 DEGREES 30 MINUTES 20 SECONDS WEST 100.40 FEET; THENCE SOUTH 00 DEGREES 11 MINUTES 30 SECONDS WEST 30 FEET; THENCE SOUTH 89 DEGREES 30 MINUTES 20 SECONDS WEST 200 FEET; THENCE NORTH 00 DEGREES 00 MINUTES 40 SECONDS EAST 190.79 FEET; THENCE SOUTH 89 DEGREES 14 MINUTES 20 SECONDS EAST 300.90 FEET.

**NOTE:**

BEARINGS BASED ON MICHIGAN STATE PLANE COORDINATES, NAD83, MICHIGAN SOUTH ZONE

**BENCHMARKS:**

BM#1 - ARROW ON HYDRANT ON NORTH SIDE OF M-59 AND 70 FT. WEST OF MILFORD ROAD. ELEVATION - 1016.57 NAVD88  
 BM#2 - TOP OF WELL ON EAST SIDE OF ADJACENT BUILDING TO THE WEST OF SUBJECT PARCEL. ELEVATION - 1020.54 NAVD88



**EXISTING ON-SITE SOILS**  
 13B OSHTOMO-BOYER LOAMY SANDS  
 (PER USDA WEB SOIL SURVEY)

**SESC SEQUENCE OF CONSTRUCTION**

1. INSTALL GRAVEL MUD TRACKING MAT, SILT FENCE, AND INLET FILTERS (ON EXISTING STORM CATCH BASINS) AS INDICATED ON THE PLANS. (1 WEEK)
2. DEMO. EXISTING AREAS TO BE REMOVED. (1 WEEK)
3. MASS GRADING ACTIVITIES AND CONSTRUCTION OF UTILITIES (STORM SEWER/SEPTIC SYSTEM). INLET PROTECTION MUST BE INSTALLED IMMEDIATELY FOLLOWING THE CONSTRUCTION OF EACH CATCH BASIN. (2 WEEKS)
4. INSTALL PAVING. (2 WEEKS)
5. SEED & MULCH OR SOD ALL DISTURBED AREAS. VEGETATION SHALL BE ESTABLISHED WITHIN 5 DAYS OF FINAL GRADE, OR WHENEVER DISTURBED AREAS WILL REMAIN UNCHANGED FOR 30 DAYS OR GREATER. 3-4" OF TOPSOIL WILL BE USED WHERE VEGETATION IS REQUIRED. (2 WEEKS)
6. FOR THE ENTIRE DURATION OF CONSTRUCTION, ALL SESC MEASURES SHALL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS TO ENSURE PROPER FUNCTION. REMOVAL OF TEMPORARY SESC MEASURES IS PERMITTED ONLY AFTER THE ENTIRE SITE IS FULLY STABILIZED.

**DISTURBANCE AREA 0.5 AC. ±**

**EROSION CONTROL STANDARD NOTES**

1. ALL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE OAKLAND COUNTY WATER RESOURCES COMMISSIONER (OCWRC) AND HIGHLAND TOWNSHIP.
2. DAILY INSPECTIONS SHALL BE MADE BY THE CONTRACTOR FOR EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES. ANY NECESSARY REPAIRS SHALL BE PERFORMED WITHOUT DELAY.
3. EROSION AND ANY SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED WITHIN THE WORK AREA AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MANMADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES, PONDS AND WETLANDS.
4. THE CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES AS DIRECTED ON THESE PLANS AND WHERE OTHERWISE REQUIRED BY THE WORK. THE CONTRACTOR SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPES, DITCHES, AND OTHER CHANGES HAVE BEEN ACCOMPLISHED.
5. SOIL EROSION CONTROL PRACTICES WILL BE ESTABLISHED IN EARLY STAGES OF CONSTRUCTION BY THE CONTRACTOR. SEDIMENT CONTROL PRACTICES WILL BE APPLIED AS A PERIMETER DEFENSE AGAINST ANY TRANSPORTING OF DIRT OFF THE WORK AREA.
6. THE CONTRACTOR SHALL PRESERVE ON-SITE NATURAL VEGETATION AS MUCH AS POSSIBLE.
7. PROTECT ALL EXISTING TREES, INCLUDING THEIR BRANCHES AND ROOTS, FROM DAMAGE DUE TO THIS WORK UNLESS SPECIFICALLY IDENTIFIED FOR REMOVAL.
8. STABILIZATION OF ALL DISTURBED AREAS SHALL BE ESTABLISHED USING THE APPROPRIATE VEGETATION WITHIN FIVE DAYS OF COMPLETION OF FINAL GRADING.
9. THE CONTRACTOR SHALL SWEEP THE EXISTING STREETS SURROUNDING THE PROJECT SITE AS NEEDED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL AND SHALL PROVIDE ALL EQUIPMENT AND MATERIAL TO KEEP DUST IN CHECK AT ALL TIMES. THE CONTRACTOR SHALL RESPOND IMMEDIATELY TO ANY AND ALL COMPLAINTS.

**MAINTENANCE REQUIREMENTS**

THE SOIL EROSION CONTROLS WILL BE MAINTAINED WEEKLY AND AFTER EVERY STORM EVENT BY THE CONTRACTOR.  
**SILT FENCE**  
 SILT FENCES SHOULD BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND SEVERAL TIMES DURING PROLONGED RAINFALLS. IF THE FENCE IS SAGGING OR THE SOIL HAS REACHED ONE HALF THE HEIGHT OF THE FABRIC, THE SOIL BEHIND THE FABRIC SHOULD BE REMOVED AND DISPOSED OF IN A STABLE UPLAND SITE. THE SOIL CAN BE ADDED TO THE SOIL PILE. IF THE FABRIC IS BEING UNDERCUT (I.E. IF THE WATER IS SEEPING UNDER THE FENCE), THE FENCE SHOULD BE REMOVED AND REINSTALLED FOLLOWING THE GIVEN PROCEDURES. FABRIC WHICH DECOMPOSES OR OTHERWISE BECOMES INEFFECTIVE SHOULD BE REMOVED AND REPLACED WITH NEW FILTER FABRIC IMMEDIATELY. FILTER FENCES SHOULD BE REMOVED ONCE VEGETATION IS WELL ESTABLISHED AND THE UP-SLOPE IS FULLY STABILIZED OR UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

**ACCESS ROADS (HAUL ROADS)**  
 PROPER MAINTENANCE MAY INCLUDE ADDING ADDITIONAL LAYERS OF STONE WHEN THE ORIGINAL STONE BECOMES COVERED WITH MUD. AFTER EACH STORM EVENT, INSPECT THE ROAD FOR EROSION AND MAKE ANY NECESSARY REPAIRS. IT IS ALSO IMPORTANT TO CHECK AND MAINTAIN ANY BMP'S WHICH ARE USED IN CONJUNCTION WITH THIS BMP, ESPECIALLY THOSE FOR DRAINAGE. ALL SEDIMENT DROPPED OR ERODED ONTO PUBLIC RIGHT-OF-WAYS SHOULD BE REMOVED IMMEDIATELY BY SWEEPING OR SCRAPPING AND SWEEPING, IF NECESSARY.

**SEEDING, SODDING & MULCHING**  
 SEEDING, SODDING OR MULCHED AREAS SHOULD BE CHECKED FOLLOWING EACH RAIN TO ENSURE THE MATERIAL IS STAYING IN PLACE. ADDITIONAL TACKING MATERIALS OR NETTING MAY NEED TO BE APPLIED TO HOLD THE AFOREMENTIONED MATERIALS IN PLACE. MAINTENANCE PROCEDURES SHOULD ALSO BE FOLLOWED FOR THE BMP'S WHICH WERE IMPLEMENTED TO KEEP ERODED SOIL OR CONCENTRATED RUNOFF AWAY FROM THESE TARGET AREAS.

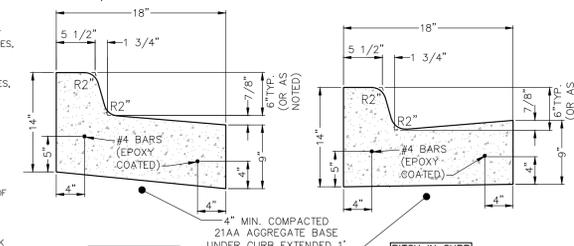
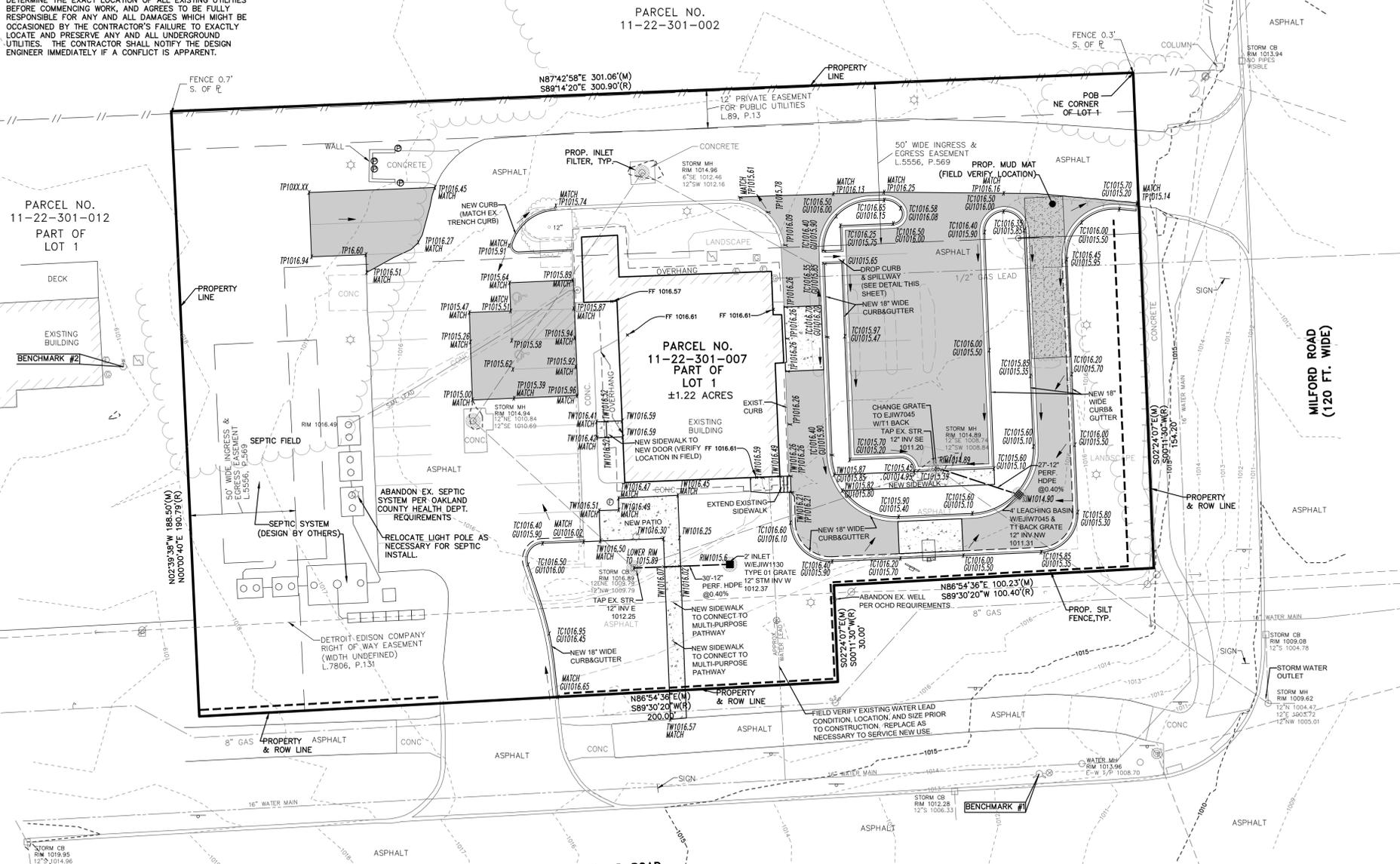
**NOTICE:**

CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

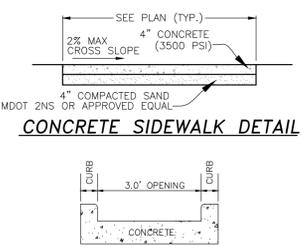
**NOTE:**

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

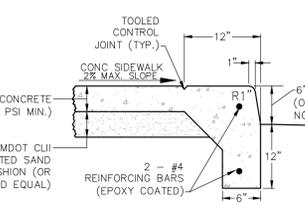
EXISTING VS. PROPOSED IMPERVIOUS AREAS (PAVEMENT/BUILDING)			
EXISTING IMPERVIOUS AREAS	30,202 S.F.		
PROPOSED IMPERVIOUS AREAS	27,386 S.F.		
PROPOSED IMPERVIOUS AREAS REDUCTION	2,816 S.F.		9.3239%



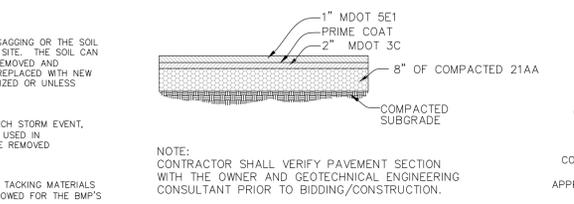
**CONCRETE CURB & GUTTER - ON-SITE**



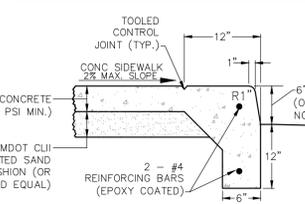
**CONCRETE SIDEWALK DETAIL**



**DROP CURB SPILLWAY DETAIL**



**BITUMINOUS PAVEMENT CROSS-SECTION**



**INTEGRAL SIDEWALK AND CURB**

**NOTES:**

1. ALL WORK TO CONFORM TO CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY, COUNTY, AND/OR MDOT.
2. THE CONTRACTOR SHALL NOTIFY MISS DIG (800-482-1771) A MINIMUM OF 72 HOURS PRIOR TO START OF CONSTRUCTION.
3. THE CONTRACTOR SHALL NOTIFY THE CITY/COUNTY/STATE AS REQUIRED PRIOR TO START OF CONSTRUCTION.
4. CONTRACTOR TO FIELD VERIFY LOCATION, DEPTH, CONDITION, AND SIZE OF ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR TO PLACE BOLLARDS PER ARCHITECTURAL DRAWINGS. CONTRACTOR TO VERIFY THAT ADA ACCESS IS NOT IMPACTED BY THE BOLLARDS.
6. SLOPES AND DIMENSIONS OF THE ADA SITE COMPONENTS (PARKING, PARKING ACCESS, ACCESSIBLE ROUTE, SIDEWALK, RAMPS, AND LANDINGS) TO MEET ALL ADA REQUIREMENTS.
  - ADA PARKING AND ADA PARKING ACCESS NOT TO EXCEED A 2% SLOPE IN ANY DIRECTION.
  - SIDEWALK (INCLUDING THE ACCESSIBLE ROUTE) NOT TO EXCEED 5% LONGITUDINAL SLOPE AND A 2% CROSS SLOPE.
  - RAMPS NOT TO EXCEED 8.3% LONGITUDINAL SLOPE.
7. ALL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE OAKLAND COUNTY WATER RESOURCES COMMISSIONER (OCWRC) AND HIGHLAND TOWNSHIP. EROSION AND ANY SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED WITHIN THE WORK AREA AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MANMADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES, PONDS AND WETLANDS.
8. MILL & RESURFACE REMAINING PORTIONS OF PARKING LOT, AS DIRECTED BY OWNER.
9. COMPACTED MDOT CLASS II SAND BACKFILL SHALL BE PROVIDED FOR ALL UTILITIES WITHIN THE INFLUENCE OF PAVED AREAS.
10. HIGH DENSITY POLYETHYLENE (HDPE) STORM SEWER SHALL BE DOUBLE WALLED WITH SMOOTH INTERIOR AND ANNUAL EXTERIOR CORRUGATION MEETING REQUIREMENTS OF ASTM F2306. INSTALL PER TOWNSHIP/MANUFACTURER STANDARDS AND SPECIFICATIONS.
11. REFER TO DEMO AND SITE PLAN (PREPARED BY OTHERS).
12. THE EXISTING STORM SEWER SYSTEM AND LEACHING BASINS SHALL BE CLEANED, TESTED, AND CONFIRMED TO BE IN PROPER WORKING ORDER PRIOR TO FINAL PROJECT CLOSURE.

**SHEET INDEX:**

1	GRADING PLAN
1 OF 2	STANDARD DETAILS
2 OF 2	HIGHLAND TOWNSHIP STORM SEWER DETAILS
1 OF 1	WRC SOIL EROSION AND SEDIMENTATION CONTROL DETAILS



**ALPINE ENGINEERING INC.**  
 CIVIL ENGINEERS & LAND SURVEYORS  
 46892 WEST ROAD  
 SUITE 109  
 NOVI, MICHIGAN 48377  
 (248) 926-3701 (BUS)  
 (248) 926-3765 (FAX)  
 WWW.ALPINE-INC.NET

**811**  
 Know what's below  
 Call before you dig.

**KP-J ARCHITECTS & ENGINEERS**  
**GRADING PLAN**  
 SECTION: 22  
 RANGE: 7E  
 140 W. HIGHLAND ROAD  
 TOWNSHIP: 3N  
 HIGHLAND TOWNSHIP  
 OAKLAND COUNTY  
 MICHIGAN

CLIENT: \_\_\_\_\_  
 REVISED: 2025-10-09 PER TWP.  
 DATE: 2025-09-11  
 DRAWN BY: TG  
 CHECKED BY: SD  
 FBK: \_\_\_\_\_  
 CHF: \_\_\_\_\_  
 SCALE: HOR 1" = 20 FT.  
 VER 1" = \_\_\_\_\_  
 23-424



# GENERAL NOTES

- A. POLE STYLE (SQUARE), COLOR, AND TOTAL MOUNTING HEIGHT (BASE, POLE, FIXTURE) SHALL BE DESIGNED TO MATCH THE EXISTING DEVELOPMENTS
- B. THE ELECTRICAL CONTRACTOR SHALL REPORT AN DAMAGED LIGHT FIXTURES OR MISSING PARTS TO VILLA LIGHTING WITHIN 48 HOURS OF RECEIPT OF LIGHT FIXTURE PACKAGE.
- C. LIGHT LEVELS ARE CALCULATED ON THE GROUND.
- D. PER ZONING ORDINANCE 13.03 D, ALL OUTDOOR LIGHT FIXTURES SHALL BE TURNED OFF OR REDUCED IN LIGHTING INTENSITY TO APPROVED LEVELS BETWEEN 11:00PM AND SUNRISE.

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.

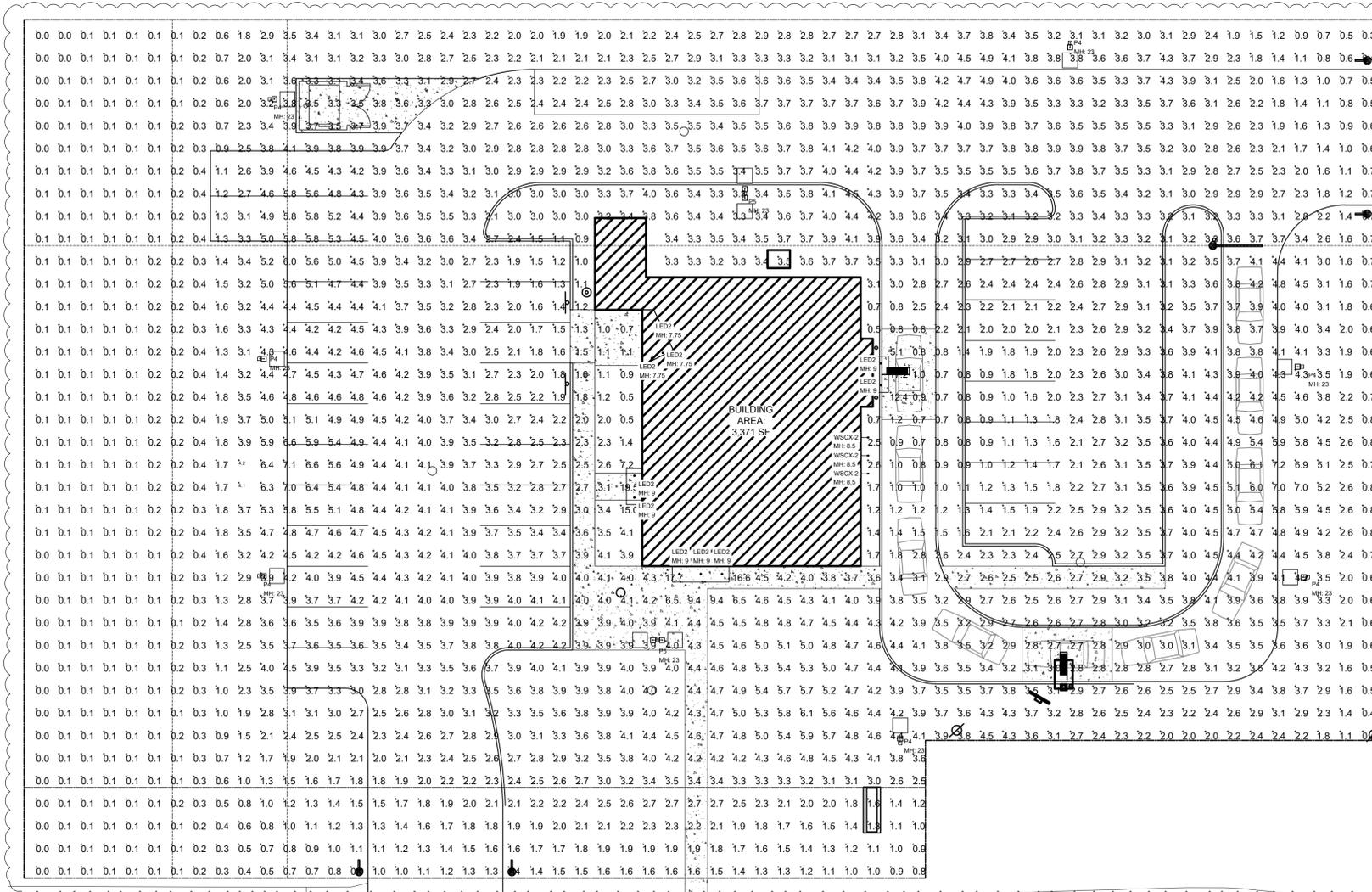
Fixtures mounted on 20' pole & 3' base  
Light level calculated on the ground

Luminaire Schedule								
Symbol	Qty	Label	Description	LLF	Luminaire Lumens	Luminaire Watts	BUG Rating	
⊕	10	LED2	LED-DLJBX4RG-4-15W-5CCT-WH-R	1.000	975	13.1146	N.A.	
⊖	7	P4	PRV-C40-D-UNV-T4-BZ-HSS	1.000	15518	131	B2-U0-G4	
⊕ ⊖	2	P5	PRV-C40-D-UNV-T5-BZ	1.000	18264	131	B4-U0-G4	
⊕ ⊖ ⊕	3	WSCX-2	H-GU10-BRZ/18-1-BRZ	1.000	582	5.89	B1-U1-G0	

Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Avg/Min
CalcPts_1	Illuminance	Fc	2.68	19.5	0.0	N.A.

## 2 LUMINAIRE SCHEUDLE

SCALE: NTS



## 1 PHOTOMETRIC PLAN

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

BRAND PARTNER / CLIENT: OM GROUP  
BRAND COORDINATORS: JIMMY JOHN'S DUNKIN'  
MEP ENGINEER:  
DEVELOPER:  
ARCHITECT:  
**kolbrook design**  
828 DAVIS STREET, SUITE 300  
EVANSTON, IL 60201  
OFFICE: 847.492.1892 | FAX: 312.453.0669

Professional Engineer Seal for J. M. Johnson, No. 042000001, State of Illinois.  
EXP: 05/24/2026  
SIGNED: 03/12/2025

PROJECT: **HIGHLAND RESTAURANTS**  
**JIMMY JOHN'S & DUNKIN'**  
140 HIGHLAND RD  
HIGHLAND CHARTER TOWNSHIP, MI 48357  
DUNKIN PC #: 365060

DRAWING ISSUE	DATE
FOR PERMIT	03/12/2025
TWP COMMENTS	06/17/2025
PHOTOMETRICS UPDATE	07/29/2025
SITE PLAN COMMENTS	08/08/2025
SITE PLAN COMMENTS	10/24/2025

DRAWN BY: KR, VW  
CHECKED BY:  
SHEET TITLE:

PHOTOMETRIC PLAN & NOTES

SHEET NO:  
**PH1.0**

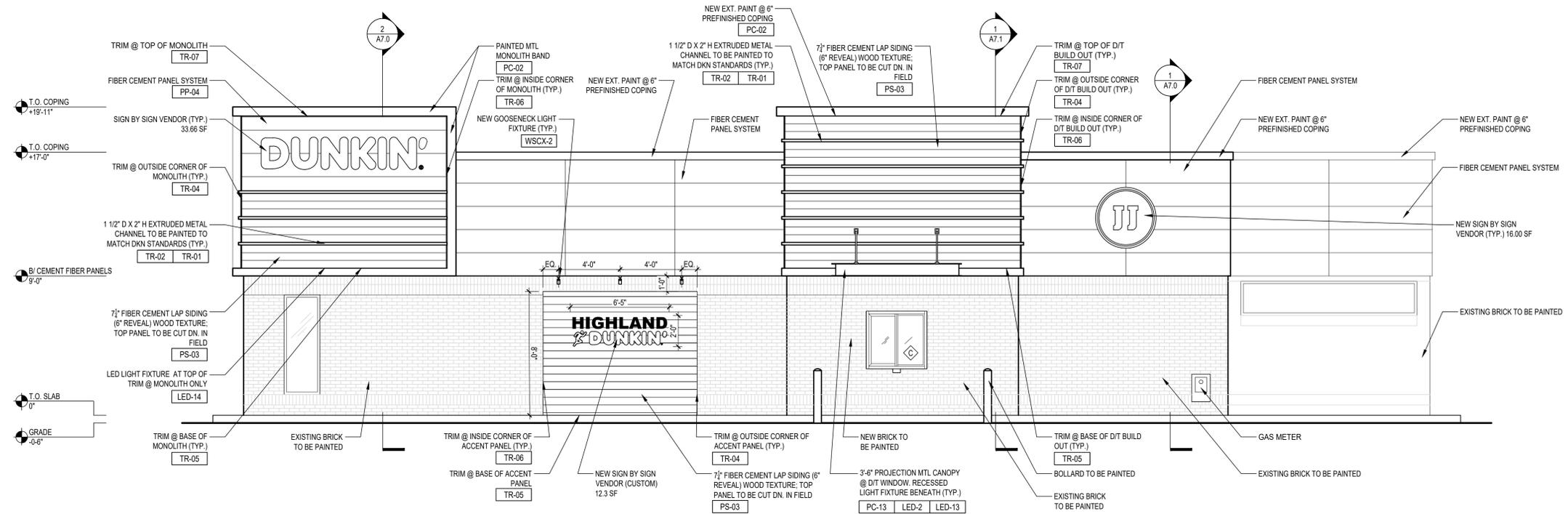
Kolbrook Job No. 1502.166 (JIMMY JOHN'S), 1502.147 (DUNKIN')



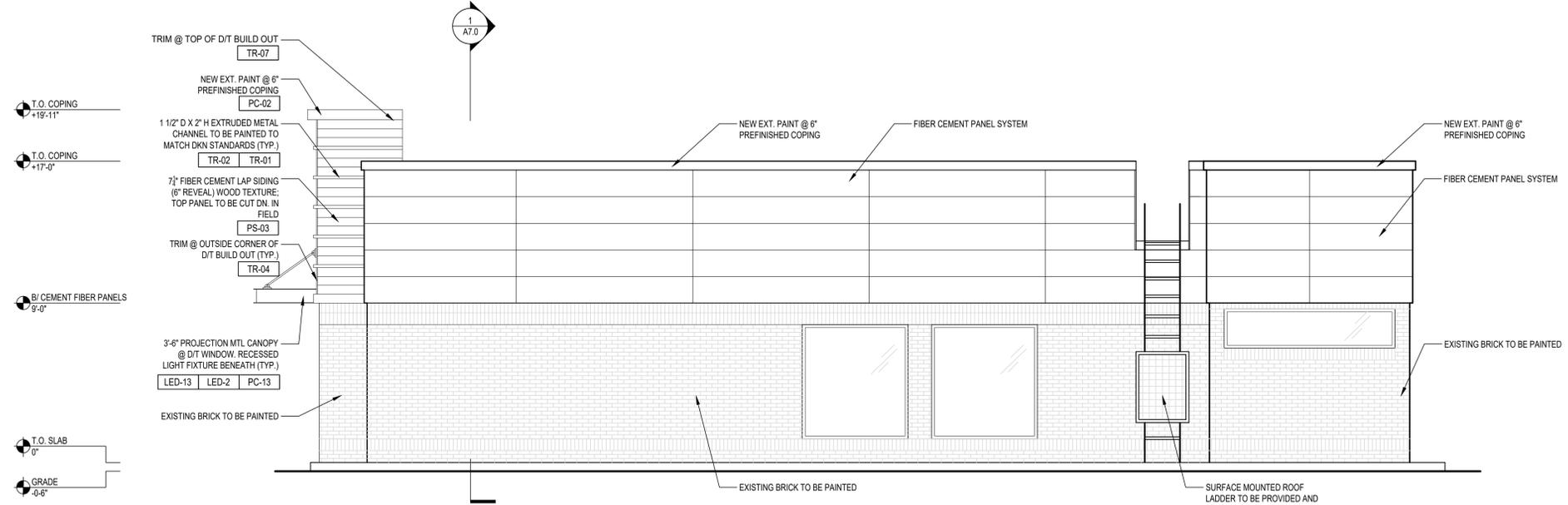


# GENERAL NOTES

- WALL SIGNS SHOWN FOR REFERENCE ONLY. SIGNAGE TO BE SUBMITTED UNDER SEPARATE COVER BY SELECTED SIGNAGE SUB-CONTRACTOR.



**2 EAST ELEVATION**  
SCALE: 1/4" = 1'-0"



**1 NORTH ELEVATION**  
SCALE: 1/4" = 1'-0"

BRAND PARTNER / CLIENT: OM GROUP  
 BRAND COORDINATORS: JIMMY JOHN'S, DUNKIN'  
 MEP ENGINEER:  
 DEVELOPER:  
 ARCHITECT: **kolbrook design**  
 828 DAVIS STREET, SUITE 300  
 EVANSTON, IL 60201  
 OFFICE: 847.492.1892 | FAX: 312.453.0669

Professional Engineer Seal for Travis M. Brooks, No. 043000002, State of Illinois.  
 EXP: 05/24/2026  
 SIGNED: 03/12/2025

PROJECT: **HIGHLAND RESTAURANTS**  
**JIMMY JOHN'S & DUNKIN'**  
 140 HIGHLAND RD  
 HIGHLAND CHARTER TOWNSHIP, MI 48357  
 DUNKIN' PC #: 365060

DRAWING ISSUE	DATE
FOR PERMIT	03/12/2025
TWP COMMENTS	06/17/2025
PHOTOMETRICS UPDATE	07/25/2025
SITE PLAN COMMENTS	08/08/2025
SITE PLAN COMMENTS	10/24/2025

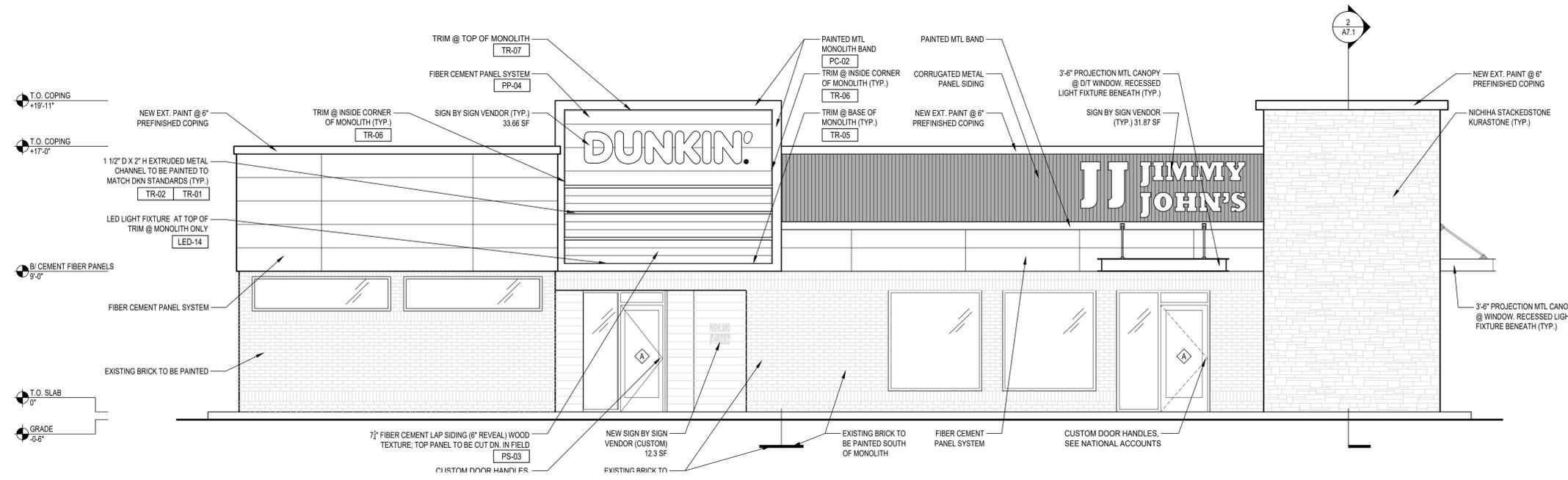
DRAWN BY: KR, VV  
 CHECKED BY:  
 SHEET TITLE:

**PROPOSED EXTERIOR ELEVATIONS**

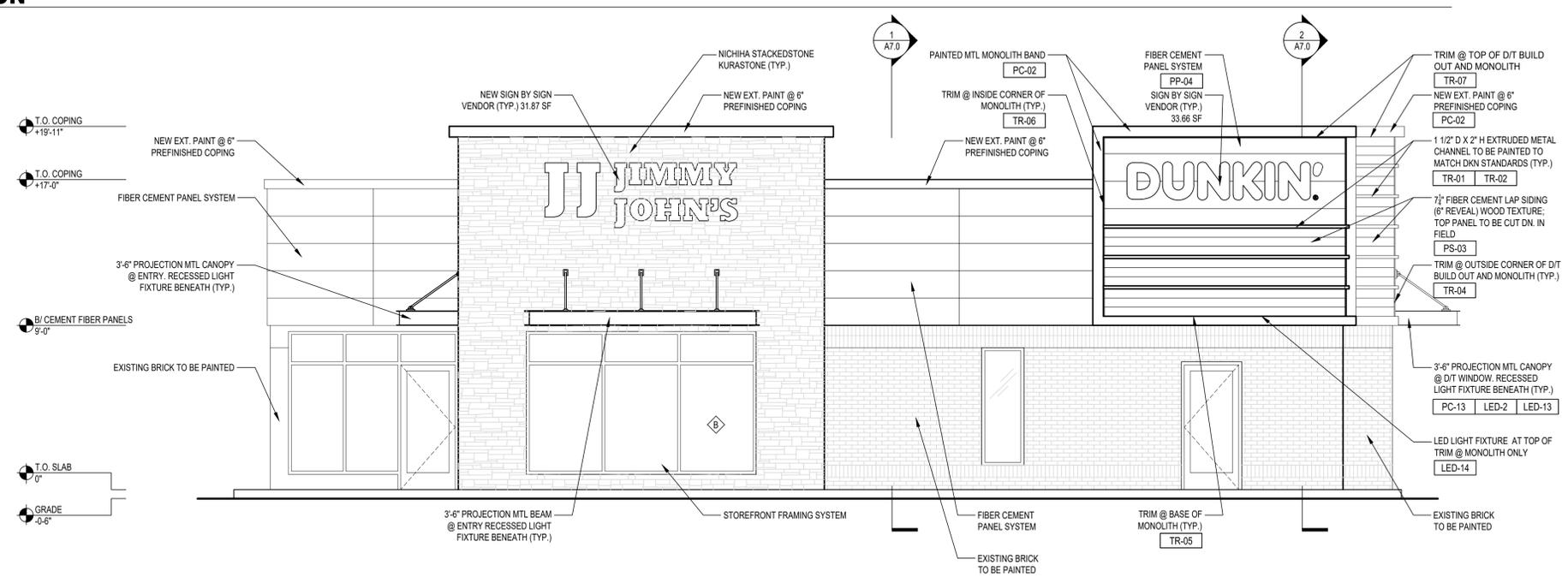
SHEET NO. **A5.2**

# GENERAL NOTES

- WALL SIGNS SHOWN FOR REFERENCE ONLY. SIGNAGE TO BE SUBMITTED UNDER SEPARATE COVER BY SELECTED SIGNAGE SUB-CONTRACTOR.



**2 WEST ELEVATION**  
SCALE: 1/4" = 1'-0"



**1 SOUTH ELEVATION**  
SCALE: 1/4" = 1'-0"

BRAND PARTNER / CLIENT: OM GROUP  
 BRAND COORDINATORS: JIMMY JOHN'S, DUNKIN'  
 MEP ENGINEER:  
 DEVELOPER:  
 ARCHITECT: kolbrook design  
 828 DAVIS STREET, SUITE 300  
 EVANSTON, IL 60201  
 OFFICE: 847.492.1892 | FAX: 312.453.0669

Professional Engineer Seal: JAMES W. BRIDGES, ARCHITECT, No. 042000001, State of Illinois  
 EXP: 05/24/2026 SIGNED: 03/12/2025

PROJECT:  
**HIGHLAND RESTAURANTS**  
**JIMMY JOHN'S & DUNKIN'**  
 140 HIGHLAND RD  
 HIGHLAND CHARTER TOWNSHIP, MI 48357  
 DUNKIN PC #: 365060

DRAWING ISSUE	DATE
FOR PERMIT	03/12/2025
TWP COMMENTS	06/17/2025
PHOTOMETRICS UPDATE	07/29/2025
SITE PLAN COMMENTS	08/08/2025
SITE PLAN COMMENTS	10/24/2025

DRAWN BY: KR, VV  
 CHECKED BY:  
 SHEET TITLE:  
**PROPOSED EXTERIOR ELEVATIONS**

SHEET NO.  
**A5.3**  
 Kolbrook Job No. 1502.165 (JIMMY JOHN'S), 1502.147 (DUNKIN')

# SEPTIC SYSTEM PLAN

## PART OF NE QUARTER, SECTION 21 HIGHLAND TOWNSHIP, OAKLAND COUNTY, MI



**BASIS OF DESIGN:**  
JIMMY JOHNS  
FLOWS FROM OTHER SITES

	MAX (GPD)	MIN (GPD)	AVERAGE (GPD)
#1 CITY OF ANGOLA:	581	313	438
#2 CITY OF NEW CASTLE:	645	454	550
#3 929 E. ANN ST:	395	305	347
#4 600 PACKARD ST:	298	271	282
#5 143 N. HARRISON RD:	261	186	228

MAXIMUM AVERAGE FLOW 550 GPD  
550 GPD AVERAGE DAILY FLOW  
25% PEAK FACTOR = 688 GPD

**DUNKIN' DONUTS:**  
18 SEATS, DRIVE THRU, & 1903 SF  
A STUDY WAS CONDUCTED BY MHF DESIGN CONSULTANTS, INC. IN AN EFFORT TO PROVIDE DESIGN BASELINES FOR OTHER DUNKIN' DONUTS DEVELOPMENTS.

EQUIVALENT SITES:	DESIGN FLOW:	WATER METER:	ADJUSTED FLOW:	SEPTIC TANK PUMP:
#1 0 SEATS, DOUBLE DRIVE THRU	410 GPD	1,089 GPD	243 GPD	428 GPD
#2 28 SEATS, DRIVE THRU, 2,150 SF	735 GPD	1,991 GPD	1,286 GPD	-
#3 24 SEATS, DRIVE THRU, 2,500 SF	1500 GPD	884 GPD	343 GPD	386 GPD
#5 24 SEATS, DRIVE THRU, 2,300 SF	-	-	425 GPD	511 GPD

DUE TO SITE #2 BEING INCONSISTENT WITH THE RELATIVELY EQUIVALENT SITES #1, #3, AND #5 WE WILL UTILIZE THE HIGHEST FLOW OF SITE #5. SITE #4 OF THE DUNKIN' DONUTS STUDY WAS NOT SHOWN DUE TO ITS LARGE SCALE OPERATION AND ADDED FLOWS FROM A 5,000 SF ITALIAN RESTAURANT.  
520 GPD AVERAGE DAILY FLOW  
25% PEAKING FACTOR = 650 GPD

**TOTAL SITE:**  
TOTAL SITE FLOW = 1338 GPD  
SOIL LOADING RATE (MICHIGAN CRITERIA) = 0.75 GAL/SF  
1338 GPD / 0.75 GAL/SF = 1784 SF  
2176 SF PROVIDED  
3 DAY SEPTIC TANK CAPACITY = 4014 GALLONS  
5140 GALLONS PROVIDED

**WASTE STRENGTH:**  
DUNKIN AVERAGE: 863 BOD  
JIMMY JOHNS AVERAGE: 230 BOD (RESIDENTIAL STRENGTH)  
DAILY BOD: 1338 GPD X 863 BODS X 0.0000083 = 9.6 LBS/DAY  
BIOMICROBICS FAST 4.5 TANK CAN HANDLE 9 LBS OF BOD5 TO 30/30 mg/Liter  
FIELD SOIL LOADING RATE OF 0.75 GAL/SF USED DUE TO 30/30 ACHIEVED WITHIN THE BIOMICROBICS FAST 4.5 TANK

**SOIL BORINGS:**

**SB 1**  
0.0'-1.0' SANDY LOAM TOPSOIL  
1.0'-4.5' SANDY LOAM  
4.5'-5.5' OLD FIELD (DRY)  
5.5'-8.0' COARSE SAND  
HSWT NOT OBSERVED

**SB 2**  
0.0'-1.0' SANDY LOAM TOPSOIL  
1.0'-2.0' LOAMY SAND  
2.0'-6.0' SANDY LOAM  
6.0'-9.0' COARSE SAND  
HSWT NOT OBSERVED

**SB 3**  
0.0'-1.0' SANDY LOAM TOPSOIL  
1.0'-5.0' SANDY LOAM  
5.0'-8.0' COARSE SAND  
HSWT NOT OBSERVED

WITNESSED BY O.C.H.D. (J.K.) ON 1/8/2024

**DUNKIN FLOW STRENGTH:**

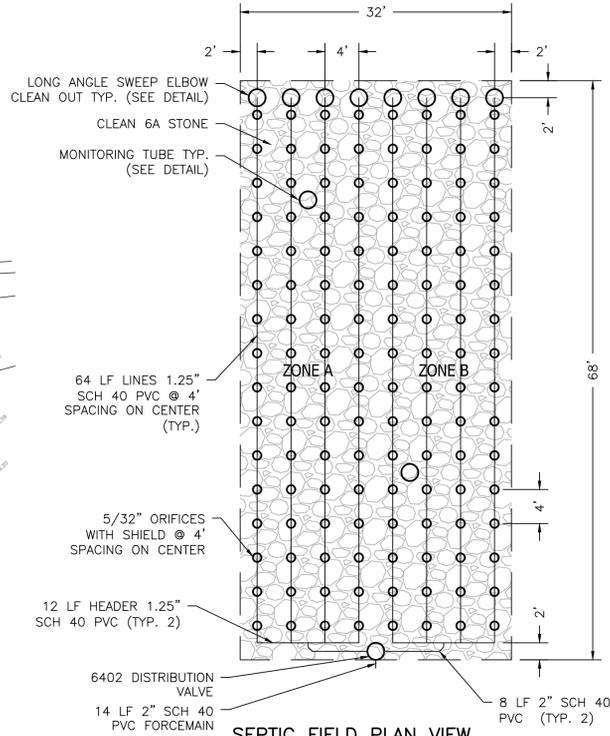
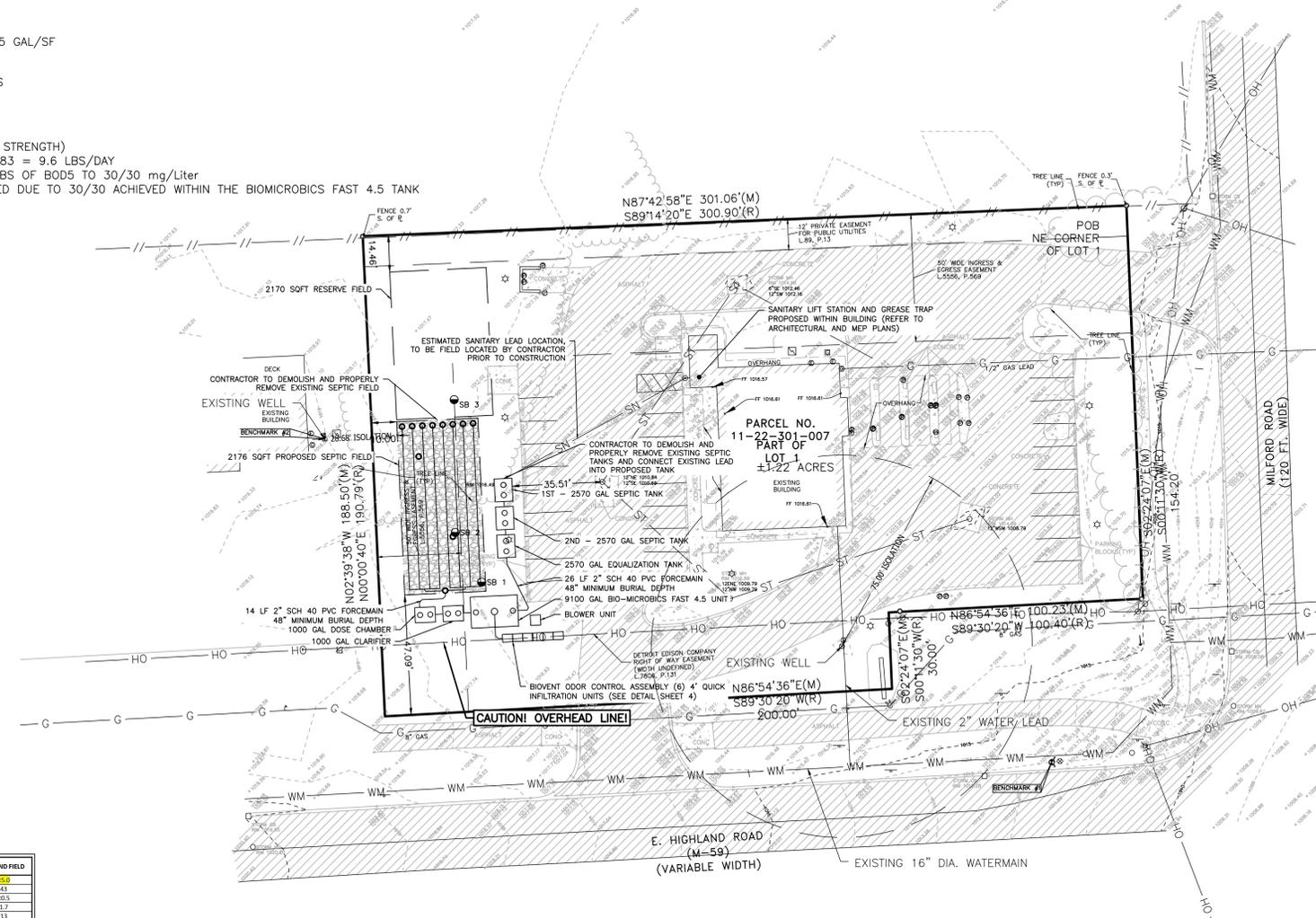
Test Site # 1 (NH)	GREASE TANK	SEPTIC TANK	DIST BOX	BEYOND FIELD
CHLORIDE	57	69	66	42
NITRITE-N	<0.5	<0.5	<0.5	<0.5
NITRATE-N	<0.5	<0.5	<0.5	1.7
ALKALINITY TOTAL	<1	<1	<1	1.3
AMMONIA-N	3.4	2.5	8.9	<0.05
TKN	80	80	80	85
BOD	2800	2500	2100	85
COO	3500	3600	2500	50
TEMPERATURE	14	10	8	11
OIL & GREASE	99	79	78	<5.0
FIELDPI	8.7	8.4	8.5	5.9
E.COLI	<1	<1	<1	<1.0
STATIC WATER LEVEL				12.5

Test Site # 2 (NH)	GREASE TANK	SEPTIC TANK	DIST BOX	BEYOND FIELD
CHLORIDE	45	63	73	100
NITRITE-N	<0.5	<0.5	<0.5	<0.5
NITRATE-N	<1	<1	<1	2.5
ALKALINITY TOTAL	<1	89	170	55
AMMONIA-N	0.09	16	32	2.1
TKN	70	50	50	2.2
BOD	1400	1100	900	18
COO	1400	2400	2500	50
TEMPERATURE	13	11	8	11
OIL & GREASE	310	150	140	<5
FIELDPI	8.8	8.8	8.8	8.8
E.COLI	<1	<1	<1	<1
STATIC WATER LEVEL				9.6

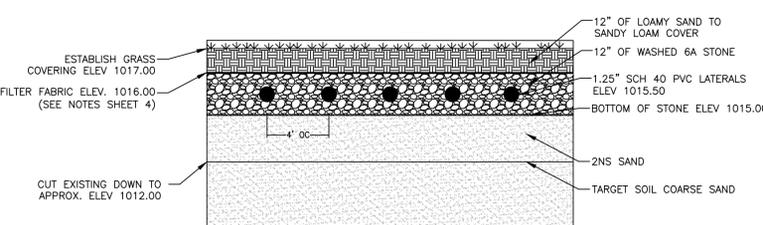
  

Test Site # 3 (MA)	GREASE TANK	SEPTIC TANK	DIST BOX	BEYOND FIELD
CHLORIDE	61	75	92	72
NITRITE-N	<0.5	0.5	<0.5	<0.5
NITRATE-N	<0.5	<0.5	0.6	3.6
ALKALINITY TOTAL	67	110	110	270
AMMONIA-N	<0.05	18	25	50
TKN	70	40	70	41
BOD	2800	800	1000	50
COO	2600	600	1300	20
TEMPERATURE	10	9	8	12
OIL & GREASE	70	18	69	<5
FIELDPI	8.3	8.4	8.8	8.1
E.COLI	<1	<1	<1	<1
STATIC WATER LEVEL				<1



- LEGEND**
- 900 - EXISTING CONTOUR
  - 922.00 - EXISTING SPOT ELEVATION
  - FP - FUEL TANK FILL LIDS
  - PP - POWER POLE
  - GW - GUY WIRE
  - TP - TRANSFORMER PAD
  - ER - ELECTRICAL RISER
  - EM - ELECTRICAL METER
  - ACU - AIR CONDITIONING UNIT
  - LP - LIGHT POLE
  - OL - ORNAMENTAL LIGHT
  - W - WELL
  - HY - HYDRANT
  - GV - GATE VALVE
  - WM - WATER MANHOLE
  - MH - MANHOLE
  - SCB - STORM CATCH BASIN (BEEHIVE)
  - SCBS - STORM CATCH BASIN (SQUARE)
  - SI - STORM INVERT
  - TR - TELEPHONE RISER
  - GM - GAS METER
  - GR - GAS RISER
  - CTV - CABLE TV RISER
  - MB - MAILBOX
  - S - SIGN
  - SR - STEEL ROD SET
  - SRR - STEEL ROD/PIPE FOUND
  - SC - SECTION CORNER
  - SB - SOIL BORING
  - SS - SANITARY SEWER
  - WM - WATER MAIN
  - ST - STORM SEWER
  - GT - GAS MAIN
  - E - ELECTRIC
  - T - TELEPHONE
  - OH - OVERHEAD WIRES
  - F - FENCE
  - CONC - CONCRETE
  - SM - SAN. MH
  - ST MH - STORM MANHOLE
  - C - CENTERLINE
  - L.P. - LIBER. PAGE
  - L.C.R. - LIVINGSTON COUNTY RECORDS
  - (M&R) - MEASURED AND RECORD
  - P.O.B. - POINT OF BEGINNING
  - INV. - INVERT
  - FES - FLARED END SECTION
  - AC± - ACRES, MORE OR LESS
  - FEE - FINISHED FLOOR ELEVATION
  - LP - LIGHT POLE
  - BK - BURGER KING
  - ASPH - ASPHALT
  - CONC - CONCRETE
  - GRAV - GRAVEL

**NOTE:**  
ALL SEPTIC TANKS ARE TO BE CONSTRUCTED WITH PREMIUM JOINTS AND VACUUM TESTED TO ENSURE INFILTRATION OF STORM WATER IN THE STORM SYSTEM WILL NOT ENTER THE SEPTIC SYSTEM TANK.



**ALL EQUIPMENT, OTHER THAN THAT RELATED TO SYSTEM CONSTRUCTION, SHALL BE PROHIBITED FROM DRIVING ON PROPOSED FIELD AREA AS NOTED. THIS IS IMPERATIVE TO PROPER SYSTEM INSTALLATION AND FUNCTION. THE ENGINEER AND THE HEALTH DEPARTMENT WILL NOT APPROVE THE SYSTEM CONSTRUCTION IF THIS AREA IS FOUND TO BE DISTURBED. THIS AREA SHALL BE ROPED OFF BY THE CONTRACTOR PRIOR TO ANY SITE-WORK.**

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND DEPTH OF EXISTING UTILITIES CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION. THE APPLICANT OR THE LOCATION OR DEPTH OFFERS SIGNIFICANTLY FROM THE PLANS.

**BE BOSS Engineering**  
Professional Engineer  
No. 38211  
3121 E. GRAND RIVER AVE.  
HOWELL, MI. 48843  
517.546.4836 FAX 517.548.1670

**SEPTIC SYSTEM PLAN**

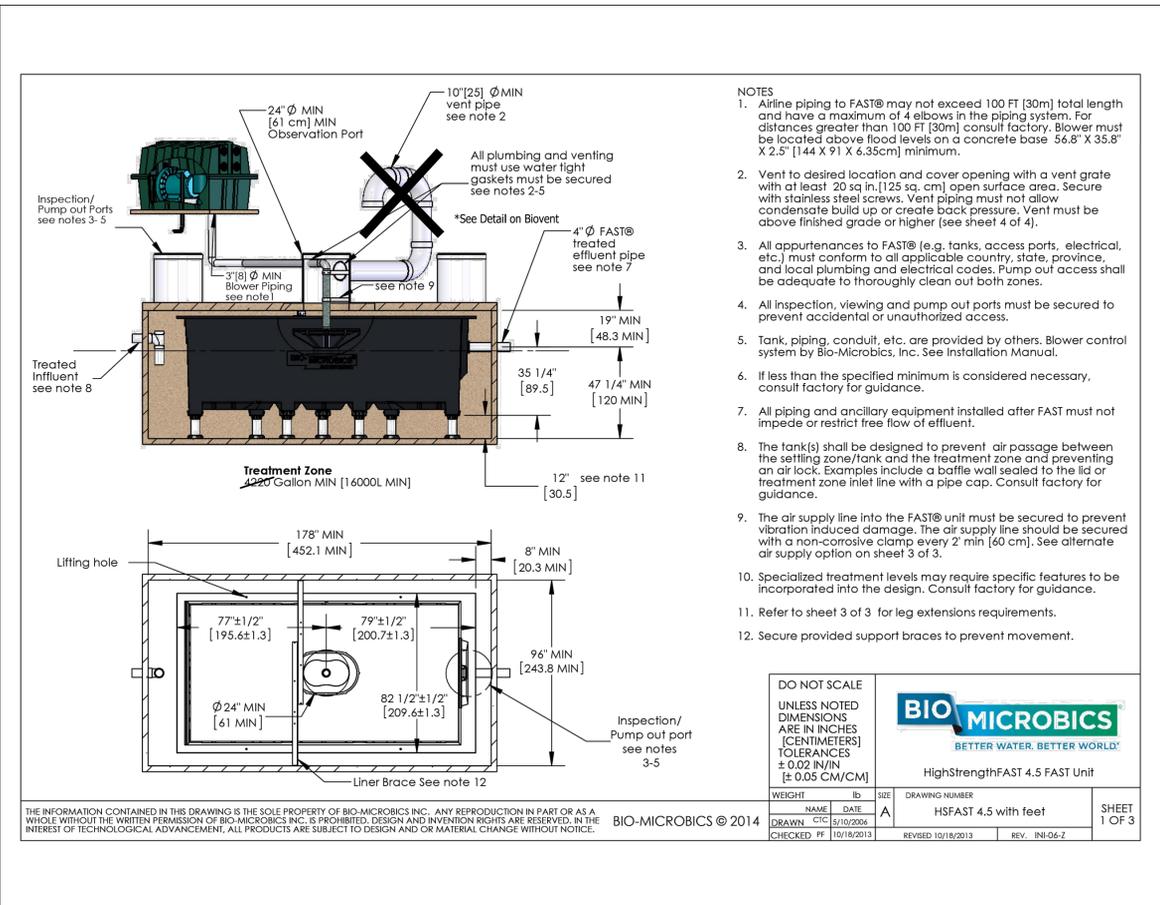
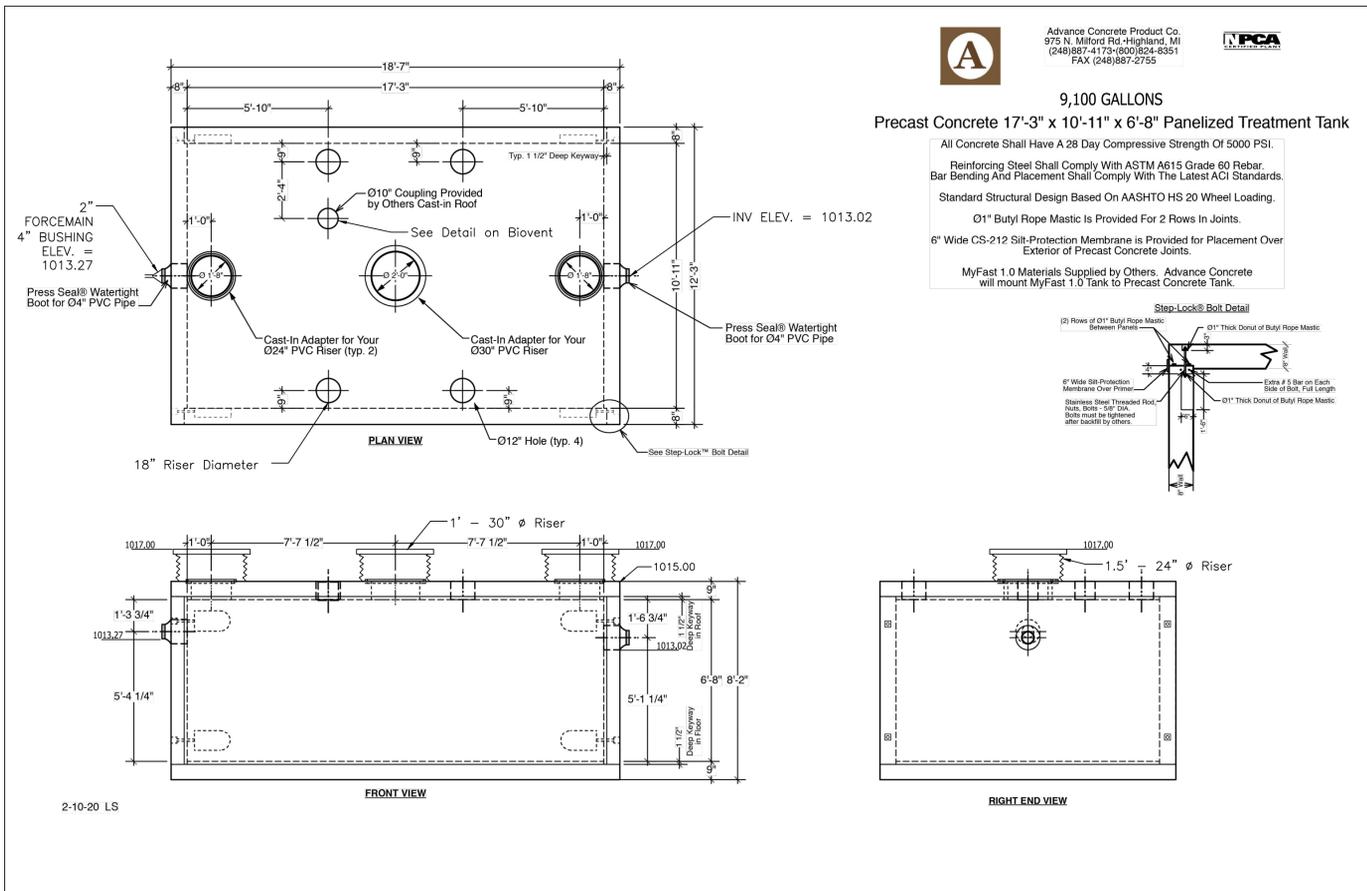
PROJECT: **KOLBROOK DESIGN INC.**  
628 DAVIS STREET, SUITE 300  
EVANSTON, IL 60201  
815-492-1992

PREPARED FOR: **KOLBROOK DESIGN INC.**

DATE: 10/13/25

DESIGNED BY: MJD  
DRAWN BY: MJD  
CHECKED BY:  
SCALE: NO SCALE  
JOB NO: 24-022  
DATE: 5/2/25  
SHEET NO. 1 OF 4





**Specifications for HighStrengthFAST 4.5 Wastewater Treatment System**

**1. GENERAL**  
The contractor shall furnish and install (1) HighStrengthFAST 4.5 treatment system as manufactured by Bio-Microbics, Inc. The treatment system shall be complete with all needed equipment as shown on the drawings and specified herein. The principal items of equipment shall include FAST System insert, leg extensions, blower assembly, blower controls and alarms. The MicroFAST 4.5 unit shall be situated within a 9,100 Gallon (16,000 L) minimum tank, as shown on the plans. Suggested maximum settling tank(s) equaling 1/3 to 1 x daily flow must be used prior to FAST. Tank(s) must conform to local, state, and all other applicable codes. The contractor shall provide coordination between the FAST system and tank supplier with regard to fabrication of the tank, installation of the FAST unit and delivery to the job site.

**2. OPERATING CONDITIONS**  
The HighStrengthFAST 4.5 treatment system shall be capable of treating the wastewater produced by non-residential or commercial facilities provided the waste contains nothing that will interfere with biological treatment. The FAST system is a biological treatment system not meant for non-biodegradable or industrial wastewater. Consult factory for proper sizing and usage.

**3. MEDIA**  
The FAST media shall be manufactured of rigid PVC, polyethylene, or polypropylene and it shall be supported by the polyethylene insert. The media shall be fixed in position and contain no moving or wearing parts and shall not corrode. The media shall be designed and installed to ensure that sloughed solids descend through the media to the bottom of the septic tank.

**4. BLOWER**  
The HighStrengthFAST 4.5 unit shall come equipped with a regenerative type blower capable of delivering 90-140 CFM [185-238m<sup>3</sup>/hr]. The blower assembly shall include an inlet filter with metal filter element.

**5. REMOTE MOUNTED BLOWER**  
The blower elevation must be higher than the normal flood level. A two-piece, rectangular housing shall be provided with tamper-proof screws. The discharge air line from the blower to the MicroFAST shall be provided and installed by the contractor.

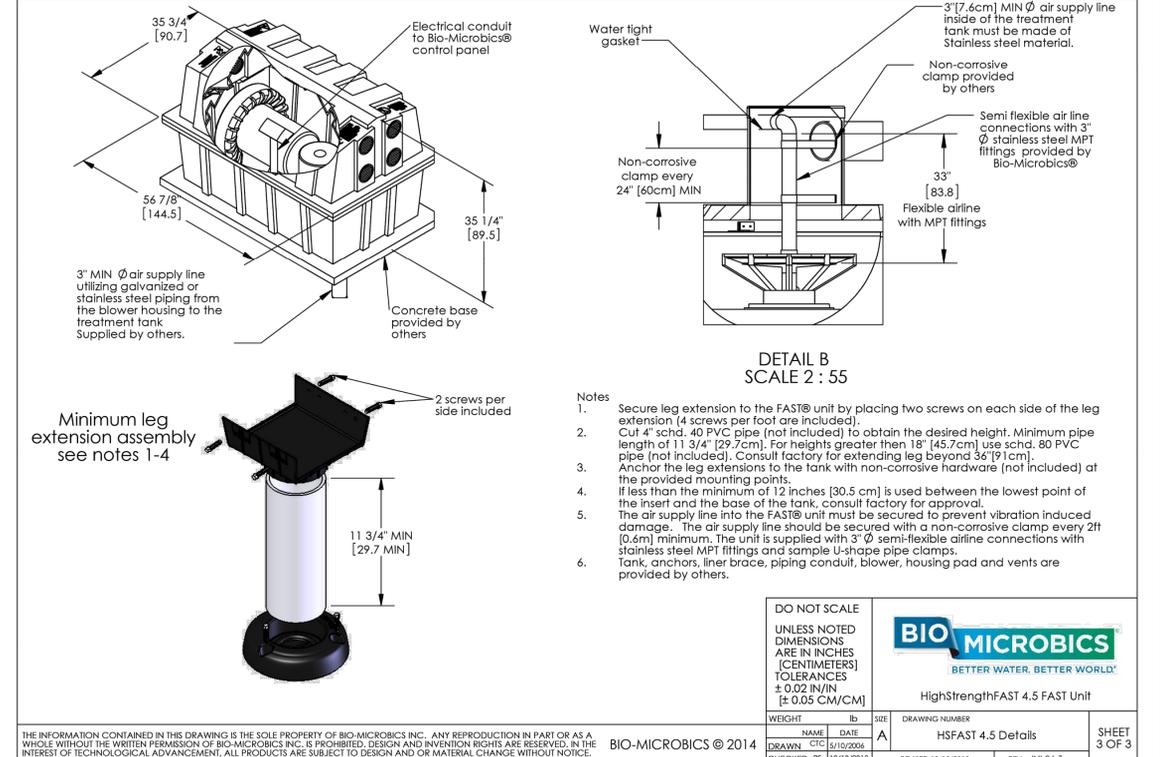
**6. ELECTRICAL**  
The electrical source should be within 150 feet [45 meters] of the blower. Consult local codes for longer wiring distances. All wiring must conform to code. Input power on 60Hz electrical systems 220/440VAC, 3Ø, 11/4.5 FLA, on 50 Hz electrical systems 230/380VAC, 3Ø, 13.4/7.2 FLA. Other voltages and phase are also available. Actual power consumption varies with site conditions. All conduit and wiring shall be supplied by contractor.

**7. ALARMS**  
The alarm system shall consist of a visual and audible alarm to indicate loss of power to the blower. A manual silence switch is included.

**8. INSTALLATION AND OPERATING INSTRUCTIONS**  
All work must be done in accordance with local codes and regulations. Installation of the HighStrengthFAST 4.5 shall be done in accordance with the written instructions provided by the manufacturer. An operation and maintenance manual shall be furnished, which will include a description of system installation, operation, and maintenance procedures. Treatment unit weighs approximately 1400 pounds [726kg]. Four holes for lifting the FAST liner are supplied. Spreader bars are to be used in lifting the unit. Place spreader bars between lifting holes.

**9. FLOW & PIPE SIZING**  
FAST systems have been successfully designed, tested and certified receiving gravity, demand-based influent flow. Consult factory for guidance when influent flow is controlled by pump or other means to help with highly variable flow conditions. Multiple dosing events should be used to maximize performance.

**10. WARRANTY**  
Bio-Microbics, Inc. warrants all new commercial FAST® models (HighStrengthFAST® 1.0, 1.5, 3.0, 4.5 and 9.0) against defects in materials and workmanship for a period of one year after installation or eighteen months from date of shipment, whichever occurs first. All are subject to the following terms and conditions below:  
During the warranty period, if any part is defective or fails to perform as specified when operating under design conditions, and if the equipment has been installed and is being operated and maintained in accordance with the written instructions provided by Bio-Microbics, Inc., Bio-Microbics, Inc. will repair or replace at its discretion such defective parts free of charge. Defective parts must be returned by owner to Bio-Microbics, Inc. 1 factory postage paid, if so requested. The cost of labor and all other expenses resulting from replacement of the defective parts and from installation of parts furnished under this warranty and regular maintenance items such as filters or bulbs shall be borne by the owner. This warranty does not cover general system misuse, operator components which have been damaged by flooding or any other cause that have been damaged by unauthorized persons, improperly installed or damaged due to altered or improper wiring or overfeed protection. This warranty applies only to the treatment plant and does not include any of the structure, wiring, plumbing, drainage, septic tank or disposal system. Bio-Microbics, Inc. reserves the right to revise, change or modify the construction and/or design of the FAST system, or any component thereof, without incurring any obligation to make such changes or modifications in present equipment. Bio-Microbics, Inc. is not responsible for consequential or incidental damages of any nature resulting from such things as, but not limited to, defect in design, material, or workmanship, or delays in delivery, replacements or repairs.  
THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. BIO-MICROBICS SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.  
NO REPRESENTATIVE OR PERSON IS AUTHORIZED TO GIVE ANY OTHER WARRANTY OR TO ASSUME FOR BIO-MICROBICS, INC., ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF ITS PRODUCTS. Contact your local distributor for parts and service.



**BEBOSS Engineering**  
Engineers Surveyors Planners Landscape Architects  
3121 E. GRAND RIVER AVE.  
HOWELL, MI. 48843  
517.546.4836 FAX 517.548.1670

**SEPTIC SYSTEM PLAN**  
PROJECT: [Blank]  
PREPARED FOR: KOLBROOK DESIGN INC.  
628 DAVIS STREET, SUITE 300  
EVANSTON, IL 60201  
847-992-1992

**BIO-MICROBICS DETAILS**  
TITLE: [Blank]  
DATE: 10/13/25

1	IMD	NO BY
1	NO	NO

DESIGNED BY: MJD  
DRAWN BY: MJD  
CHECKED BY: [Blank]  
SCALE: NO SCALE  
JOB NO: 24-022  
DATE: 5/2/25  
SHEET NO. 3 OF 4

**NOTES:**

PRE-CONSTRUCTION MEETING WITH THE SYSTEM DESIGNER, MILAN SUPPLY AND OAKLAND COUNTY HEALTH DEPARTMENT PRIOR TO BEGINNING CONSTRUCTION.

PRIOR TO INITIATING CONSTRUCTION THE CONTRACTOR SHALL OBTAIN A COPY OF THE PERMIT FROM THE OAKLAND CO. HEALTH DEPARTMENT AND CONTACT THE SYSTEM DESIGNER.

THE SYSTEM DESIGNER AND OCHD SHALL INSPECT THE FIELD CONSTRUCTION AS NOTED:

\*INSTALLER IS TO BE IN FREQUENT CONTACT WITH THE SYSTEM DESIGNER TO DETERMINE THE EXACT INSPECTION SCHEDULE. INSPECTIONS REQUIRED BUT NOT LIMITED TO:

- 1.) AFTER CUT DOWN IN THE BED TO THE SPECIFIED SOIL IS ACHIEVED
- 2.) DURING INSTALLATION OF STONE AND LOW PRESSURE DISTRIBUTION NETWORK
- 3.) INSTALLATION OF ALL TANKS AND TREATMENT UNIT.
- 4.) START UP OF EACH PUMP CHAMBER
- 5.) SYSTEM START UP/PRESSURE TEST
- 6.) FINAL COVER

UPON COMPLETION OF THE CONSTRUCTION THE SYSTEM DESIGNER SHALL SUBMIT A LETTER TO THE HEALTH DEPARTMENT INDICATING THE SYSTEM WAS INSTALLED IN SUBSTANTIAL COMPLIANCE WITH THE PLANS AND SPECIFICATIONS.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF UNDERGROUND UTILITIES WHICH MIGHT AFFECT THIS PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE UTILITIES CAUSED BY HIS OPERATION.

DOWNSPOUTS, WEEP TILE, FOOTING DRAINS, WATER SOFTENER DISCHARGE, OR ANY CONDUIT THAT CARRIES STORM OR GROUND WATER SHALL NOT BE ALLOWED TO DISCHARGE INTO THE SANITARY SYSTEM.

**INSTALLATION OF THE FIELD:**

1. THE 6A STONE IS COVERED WITH A SYNTHETIC DRAINAGE FABRIC TO PREVENT THE UNCONSOLIDATED SOIL COVER FROM ENTERING THE MEDIA. ALLOW A MINIMUM OF 3 INCHES OF OVERLAP TO COVER SEAMS AND TEARS. (MATERIAL SPECIFICATIONS NOTED BELOW).

- AIR PERMEABILITY 500 CFM/FT
- THICKNESS 4.4 MILS
- WEIGHT 0.85 OZ/YD
- GRAB TENSILE (MD) 30.2 LBS
- TRAP TEAR (MD) 10.3 LBS
- MULLEN BURST 29 PSI

2. THE PERFORATION HOLES IN THE LATERALS MUST BE DRILLED ON A STRAIGHT LINE AT 12 O'CLOCK AT SPECIFIED SPACING WITH EVERY 4TH HOLE AT 6 O'CLOCK. CARE MUST BE USED TO DRILL THE HOLES PERPENDICULAR TO THE PIPE AND NOT AT AN ANGLE. ALL BURRS LEFT AROUND THE HOLES INSIDE THE PIPE SHOULD BE REMOVED. ORIFICE SHIELDS SHALL BE INSTALLED OVER EACH HOLE.

3. ALL LATERALS SHALL BE SCHEDULE 40 PVC WITH 5/32" HOLES DRILLED AS NOTED. LATERALS SHALL BE SPACED AS NOTED ON THE DETAIL.

4. THE HEADER SHALL BE SCHEDULE 40 PVC (SIZE AS NOTED)

5. DISTURBED AREAS SHALL BE EITHER SEEDED OR SODDED ADEQUATELY TO PREVENT EROSION.

**ELECTRICAL**

1. ELECTRICAL INSTALLATION SHALL MEET ALL LOCAL REGULATORY REQUIREMENTS.

2. THE PUMP AND ALARM FLOAT MUST BE ON SEPARATE CIRCUITS.

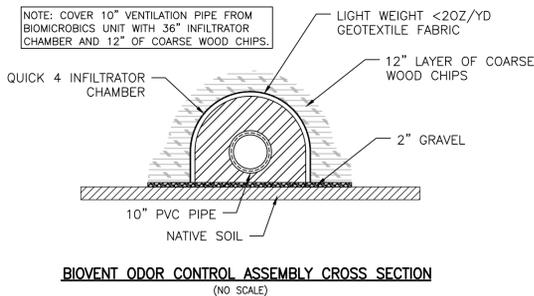
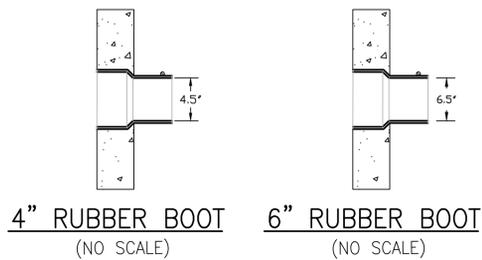
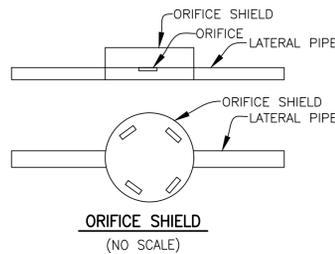
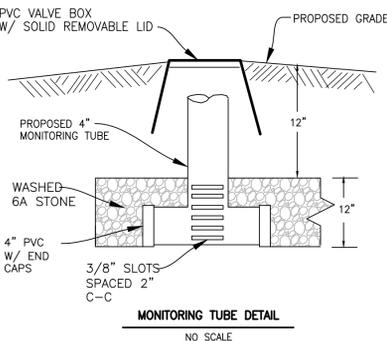
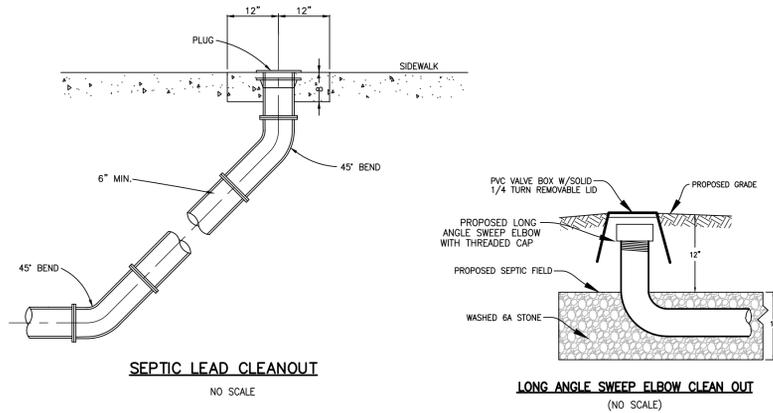
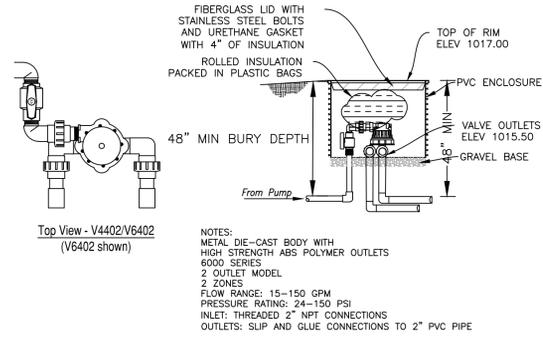
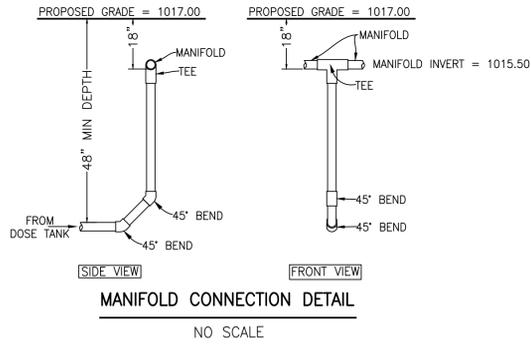
3. THE CONTROL PANELS MUST BE INSTALLED IN LINE OF SIGHT OF THE TANK RISERS FOR REPAIR AND MAINTENANCE ACTIVITIES.

Prior to OCHD approving the alternative wastewater system for use the following shall be recorded with the Oakland County Register of Deeds.

1. A legal description of the subject property utilizing the alternative system.
2. The following language:  
—This structure is served by a Biomicrobics FAST 4.5 Unit. The Biomicrobics FAST 4.5 Unit, septic tanks, effluent filter, pump, and pressure dosed dispersal field requires routine evaluation and maintenance. An annual operation permit shall be filed with the Oakland County Health Division.

**GENERAL NOTES:**

1. SHOULD SOIL CONDITIONS ENCOUNTERED DIFFER FROM THOSE SPECIFIED ON THIS PLAN, CONTACT THE SYSTEM DESIGNER IMMEDIATELY.
2. ALL ELECTRICAL WORK SHALL MEET ALL LOCAL CODES. ELECTRICAL PERMITS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
3. PUMPS AND ALARMS SHALL BE INSTALLED ON SEPARATE CIRCUITS.
4. THIS WASTEWATER TREATMENT SYSTEM WILL REQUIRE REGULAR MAINTENANCE TO FUNCTION PROPERLY. A CERTIFIED OPERATION AND MAINTENANCE PROVIDER IS REQUIRED BY THE LIVINGSTON COUNTY HEALTH DEPARTMENT TO COMPLETE SYSTEM MAINTENANCE.
5. ADD 2" OF TEMPORARY STRAW TO INSULATE THE DISPERSAL SYSTEM IF THE SYSTEM IS INSTALLED BETWEEN NOVEMBER AND APRIL TO PREVENT FREEZING. ESTABLISH VEGETATION IN THE MONTHS OF MAY TO OCTOBER.



**PUMP CURVE -- EQUALIZATION**

Pump Selection for a Non-Pressurized System - Commercial Project  
Kolbrook Design - E. Highland EQ Tank

**Parameters**

Discharge Assembly Size	2.00 inches
Transport Length	28 feet
Transport Pipe Class	40
Transport Line Size	2.00 inches
Distributing Valve Model	None
Max Elevation Lift	9 feet
Design Flow Rate	30 gpm
Flow Meter	None inches
Add-on Friction Losses	3 feet

**Calculations**

Transport Velocity	2.9 fps
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**Frictional Head Losses**

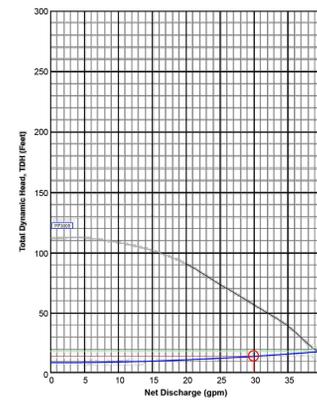
Loss through Discharge	1.8 feet
Loss in Transport	0.4 feet
Loss through Valve	0.0 feet
Loss through Flowmeter	0.0 feet
Add-on Friction Losses	3.0 feet

**Pipe Volumes**

Vol of Transport Line	4.5 gals
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**Minimum Pump Requirements**

Design Flow Rate	30.0 gpm
Total Dynamic Head	14.2 feet



**PumpData**

PF3000 High Head Effluent Pump  
30 GPM, 1/2HP  
115/230V 1Ø 60Hz, 200V 3Ø 60Hz



**PUMP CURVE -- DOSE TANK**

Pump Selection for a Pressurized System - Commercial Project  
Kolbrook Design - E. Highland Dose Tank

**Parameters**

Discharge Assembly Size	2.00 inches
Transport Length Before Valve	14 feet
Transport Pipe Class	40
Transport Line Size	2.00 inches
Distributing Valve Model	6402
Transport Length After Valve	8 feet
Transport Pipe Class	40
Transport Pipe Size	2.00 inches
Max Elevation Lift	10 feet
Manifold Length	12 feet
Manifold Pipe Class	40
Manifold Pipe Size	1.25 inches
Number of Laterals per Cell	8
Lateral Length	64 feet
Lateral Pipe Class	40
Lateral Pipe Size	1.25 inches
Orifice Spacing	4 feet
Orifice Size	5/32 inches
Residual Head	5 feet
Flow Meter	None inches
Add-on Friction Losses	3 feet

**Calculations**

Minimum Flow Rate per Orifice	0.88 gpm
Number of Orifices per Zone	64
Total Flow Rate per Zone	46.5 gpm
Number of Laterals per Zone	4
% Flow Differential 1st/Last Orifice	4.1 %
Transport Velocity Before Valve	4.5 fps
Transport Velocity After Valve	4.5 fps

**Frictional Head Losses**

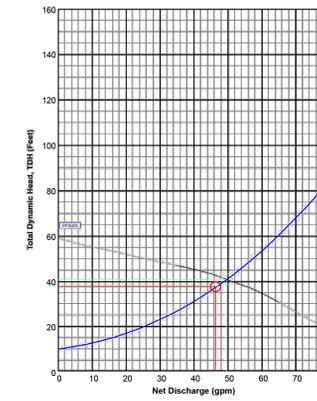
Loss through Discharge	4.3 feet
Loss in Transport Before Valve	0.5 feet
Loss through Valve	13.0 feet
Loss in Transport after Valve	0.3 feet
Loss in Manifold	0.6 feet
Loss in Lateral	0.5 feet
Loss through Flowmeter	0.0 feet
Add-on Friction Losses	3.0 feet

**Pipe Volumes**

Vol of Transport Line Before Valve	2.4 gals
Vol of Transport Line After Valve	1.4 gals
Vol of Manifold	0.9 gals
Vol of Laterals per Zone	19.9 gals
Total Vol Before Valve	2.4 gals
Total Vol After Valve	22.2 gals

**Requirements**

Minimum Flow Rate	46.5 gpm
Total Dynamic Head	37.4 feet



**PumpData**

PF3000 High Head Effluent Pump  
50 GPM, 1/2HP  
115/230V 1Ø 60Hz, 200/230V 3Ø 60Hz



**BEBOSS Engineering**  
Engineers Surveyors Planners Landscape Architects  
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PROJECT: SEPTIC SYSTEM PLAN

PREPARED FOR: KOLBROOK DESIGN INC.  
628 DAVIS STREET, SUITE 300  
EVANSTON, IL 60201  
817-492-1992

TITLE: SEPTIC SYSTEM DETAILS

NO	BY	DATE	REVISION	COMMENTS
1	MJD	10/13/25		OCHD REVIEW

DESIGNED BY: MJD  
DRAWN BY: MJD  
CHECKED BY:

SCALE: NO SCALE  
JOB NO: 24-022  
DATE: 5/2/25