

**WHITE LAKE TOWNSHIP
INTER-OFFICE MEMORANDUM
COMMUNITY DEVELOPMENT DEPARTMENT**

DATE: October 11, 2022

TO: Rik Kowall, Supervisor
Township Board of Trustees

FROM: Sean O'Neil, AICP
Community Development Director

**SUBJECT: Black Rock
Preliminary site plan approval**
Property described as parcel number 12-23-129-018 (9531 Highland Road), located south of Highland Road and east of White Banks Blvd, consisting of approximately 2.78 acres.

The preliminary site plan and special land use approvals were considered by the Planning Commission at their regular meeting of October 6, 2022 at which time the **Planning Commission approved the special land use and recommended approval of the preliminary site plan.** Please find enclosed the following related documents:

- ❑ Draft minutes of the October 6, 2022 Planning Commission meeting.
- ❑ Review letter prepared by the Township Engineering Consultant, Mike Leuffgen, dated September 6, 2022.
- ❑ Review letter prepared by the Township Staff Planner, Justin Quagliata, dated September 6, 2022.
- ❑ Review letter prepared by White Lake Township Fire Marshal, Jason Hanifen, dated September 6, 2022.
- ❑ Site plan and elevations submitted by the applicant.

Please place this matter on the next available Township Board agenda. Do not hesitate to contact me should you require additional information.

**WHITE LAKE TOWNSHIP
PLANNING COMMISSION**

Township Annex, 7527 Highland Road
White Lake, MI 48383
October 6, 2022 @ 7:00 PM

CALL TO ORDER

Commissioner Anderson called the meeting to order at 7:00 PM and led the Pledge of Allegiance. Roll was called.

ROLL CALL

Steve Anderson
Pete Meagher
Debby Dehart
Matt Slicker
T. Joseph Seward
Scott Ruggles
Robert Seeley
Merrie Carlock
Mark Fine

Absent: None

Also Present: Sean O'Neil, Community Development Director
Justin Quagliata, Staff Planner
Mike Leuffgen, DLZ
Lisa Kane, Recording Secretary

Visitors: Approximately 20 members of the public were present

APPROVAL OF AGENDA

Commissioner Seeley moved to approve the agenda of the October 6, 2022 Planning Commission Meeting.

Commissioner Dehart supported and the **MOTION CARRIED** with a voice vote: 9 yes votes.

APPROVAL OF MINUTES

- a. Regular meeting minutes of September 1, 2022

Commissioner Meagher moved to approve the Minutes of September 1, 2022.

Commissioner Fine supported and the **MOTION CARRIED** with a voice vote: 9 yes votes.

CALL TO THE PUBLIC (FOR ITEMS NOT ON THE AGENDA)

None

PUBLIC HEARING

A. Cosmo's Car Wash

Location: Property described as parcel number 12-20-276-034, located at the northwest corner of Highland Road (M-59) and Bogie Lake Road, consisting of approximately 1.88 acres, currently zoned (PB) Planned Business.

Request: **To receive public comment on the proposed preliminary site plan for the above Planned Business zoned property, consisting of a 4,535 square foot automobile wash establishment.**

Applicant: EWM- Miller Wash, LLC
201 East Ogden Ave, Ste #18-1
Hinsdale, IL 60521

Applicant present: John Pellegrine of Development Management Associates and Cameron Ray, Head of Operations, EWM-Miller Wash, LLC

Director O'Neil clarified that the applicant is requesting preliminary site plan approval.

Mr. Quagliata presented the project as a car wash establishment that would have road access from the Meijer private drive. This parcel size was determined prior to the 10-acre ordinance requirement so it will not require a waiver for size. No wetland or floodplain is impacted at the site and it is a relatively flat lot. The applicant proposes 20 vacuum stations to the west of the building which will be covered by a canopy. The applicant has agreed to all engineering comments. There is a sidewalk along the Meijer private drive on the site plan that needs clarification. Public utilities are available to this site. There will be waivers requested; including the setback from Bogie Lake Road, the number of stacking spaces, window coverage for the front façade, loading space and dumpster enclosure location. The landscaping comments have been addressed. A community benefit of \$15,000 has been proposed to either the parks fund or sidewalk fund. As the applicant has agreed to address all comments, staff recommends approval.

Mr. Leuffgen presented the engineering review. The drive lane requirement adjacent to the handicap parking space has been satisfied. The number of stacking spaces are deficient. Details are needed for the dumpster enclosure. Clarification needed for the proposed sidewalk. Details are needed for the fire truck turning radius near the vacuum stalls. There is an area near the existing sign that will need grading for drainage. A storm water maintenance agreement is needed, whether they will fall under Meijer's or have their own agreement. A sanitary sewer oil/grit separator clarification is needed. Many of these items can be clarified on final site plan.

Commissioner Carlock inquired about the revised plans that were requested.

Mr. Quagliata stated that the revised plans have not been received yet but the applicant has committed to address all of the comments by staff.

Mr. Pellegrine stated that they agree to meet all of the recommendations from staff and engineering and that they are very interested in partnering with the Township.

Commissioner Fine inquired about water reclamation process for the car wash and how oil is contained.

Mr. Ray stated that there are a series of tanks in the ground that separate all the oil and grit. The first 3 tanks are pumped out every 6 months and there are oil sensors inside the tanks.

Commissioner Slicker inquired how this operation is different from other car wash operations in the area.

Mr. Ray stated that there are a greater number of attendants on site to assist customers. Attendants are highly trained and well paid, which motivates them to give high value of service to the community.

Commissioner Dehart inquired about the other out lot on the Meijer property and would like to see a shared driveway agreement.

Mr. Pellegrine stated that they have been in communications with the group considering developing that lot and they have shared the grading plan so that they can consider a plan for a shared driveway.

Commissioner Meagher is concerned with the community benefit.

Mr. Quagliata stated that the community benefit should be commensurate with the waivers requested.

Director O'Neil clarified that they typically consider not just the number of waivers requested, but the significance of the requested waiver.

Commissioner Anderson stated that a recommendation can be made at this step of the process and consideration can be modified before final site plan review.

Mr. Ray stated the community benefits that they intend to provide in addition to the \$15,000 would include Back to School drives, Teacher Appreciation Week, School District staff lunches, Annual Thanksgiving food drives and Annual Toys for Tots drive.

Commissioner Anderson inquired about the cost of the services.

Commissioner Anderson opened public comment at 7:32 p.m.

Ed Liker of 847 W. Oxhill Dr. is concerned about water runoff being tracked onto the road being dangerous when it ices over.

Mr. Ray stated that they have blowers which push the water into the water separators to reduce water run-off and the 20 feet before and at the exit concrete slabs are heated.

Commissioner Anderson closed public comment at 7:35 p.m.

Commissioner Dehart inquired when the waivers are granted.

The board deliberated the waivers that have been requested.

Commissioner Meagher moves to forward a favorable recommendation, subject to the applicant addressing all of the staff and consultant comments and recommendations to the Township Board, the preliminary site plan for the property described as parcel number 12-20-276-034, located at the northwest corner of Highland Road (M-59) and Bogie Lake Road, consisting of approximately 1.88 acres, currently zoned (PB) Planned Business.

Commissioner Seeley supported, and the MOTION CARRIED with a roll call vote (9 yes votes): (Anderson/yes, Dehart/yes, Carlock/yes, Fine/yes, Meagher/yes, Seeley/yes, Seward/yes, Slicker/yes, Ruggles/yes)

B. Black Rock

Location: Property described as parcel number 12-23-129-018, located south of Highland Road and east of White Banks Blvd, consisting of approximately 1 acre. Currently zoned as (GB) General Business.

Request: **Preliminary Site Plan Approval**

Special Land Use Approval- The applicant is requesting to construct a restaurant with outdoor dining.

Applicant: Black Rock White Lake, LLC

30553 S Wixom Road #300

Wixom, MI 48393

Applicant present: Wayne Perry with Design Engineering and Lonny Morganroth, owner of Black Rock

Director O'Neil clarified that the lot size is 2.7 acres, not 1 acre as indicated on the agenda. The driveway location on M59 may require a variance due to proximity to White Banks Blvd. A right lane deceleration taper on eastbound M59 has been indicated by the applicant's traffic engineer. The building materials will be presented at the final site plan review. The window percentage on the west façade is deficient by a small amount. The landscaping will be addressed at final site plan review. The number of parking spaces has been reduced to 128 spaces, due to the reduced size of the building. A sign variance would be requested for the location of the digital area of the proposed sign. The proposed sign on the east wall would require a variance. The door handles will not require a variance as they fall under incidental signage. Outdoor seating requires a special land use approval by the Commission. The hours of operation will need to meet the ordinance, the applicant has not indicated what hours they would be requesting. The lighting plan was revised to reduce the impact on the neighbors. No additional parking is needed for the outdoor seating. Staff recommendation for approval is subject to meeting all comments in the staff review letter and obtaining any necessary variances.

Commissioner Seeley inquired if they could reduce the number of parking spaces and still be within tolerances for the ordinance.

Director O'Neil stated that they could, however the applicant indicated that they believe they will need all of the spaces on the plan during weekends, holidays and special events. The applicant moved secondary access further north to accommodate the neighbors' request. Employees would be parking in the lot furthest from the door which reduces the noise in that area.

Mr. Leuffgen presented the engineering review. This site plan demonstrates engineering feasibility for this level of plan submittal. The storm sewer will require a permit from M-DOT to outlet into the road right of way. The site utilizes underground detention storage for storm water. There are possible contamination tanks near the Speedway. Environmental reports have been presented indicating no contamination impacting this site. Engineering is committed to reviewing the site to make sure there are no adverse impact on adjacent properties.

Commissioner Carlock inquired how many parking spots over what is required by the ordinance.

Director O'Neil stated there were 31 parking spots over the requirement of the ordinance.

Mr. Perry responded on behalf of the owner of Black Rock White Lake. MDOT has responded that the entrance on M59 has to move about 50 feet to the west, which will align with the convenience store across the street. They anticipate approval for the storm water drainage to drain to M59. Due to the utility easement on the southern property line, they are not able to plant any landscaping in that area. At the

request of staff, they have lowered the lights and have them facing the restaurant so that they will not impact the residences.

Commissioner Seeley inquired if the lighting continues around the parking lot.

Mr. Perry stated that it does.

Commissioner Carlock inquired if some parking spaces could be removed to increase landscaping.

Mr. Perry stated that the Black Rock restaurant has a high volume of customers at the end of the week and the weekend and they will need to utilize all of the parking spaces indicated on the plan.

Director O'Neil inquired about the revision to the parking lot with the entrance moving west on M59.

Mr. Perry presented an updated site plan which indicates the change to the entrance and parking spaces. The handicap spaces move to the curb and closer to the front door, which is a better location for them.

Commissioner Ruggles inquired about the entrance shift on White Banks Blvd. to the north and noted that it appears they have made effort to accommodate the residents.

Commissioner Slicker inquired about a line on the west side of the rear parking indicated on the site plan.

Mr. Perry stated that it is an existing retaining wall that belongs to the neighbors, which is encroaching on their property.

Commissioner Anderson opened public comment at 8:19 p.m.

Dan Torossian of 844 E. Oxhill is concerned about the entrances on M59 and on White Banks Blvd.

Brenda of 232 Cranberry Beach is concerned about traffic to get into her home and would like a traffic light.

Heather Emerson of 846 W. Oxhill is concerned about traffic and believes a traffic light would alleviate much of the problem. Ms. Emerson would like to see less parking spaces and would like to see a "no outlet" sign on White Banks Blvd. She is also concerned about the possibility of outdoor speakers, what the hours would be and if they would play music or just be for announcements.

Bill of 232 Cranberry Beach is concerned about storm water run-off during winter with snow removal.

Christopher Emerson of 846 W. Oxhill is also concerned about traffic coming into his neighborhood and the peninsula of parking near the residences.

Ed Liker of 847 W. Oxhill Dr is concerned about traffic on M59 and the weeds being maintained between the retaining wall and privacy fence.

Lois Demers of 860 W. Oxhill Dr would like to see the parking spaces removed so they are not next to the residential lot.

Theresa Bismack of 548 E. Oxhill Dr. is concerned about traffic as well and would like to see a traffic light at this location.

John Hunt of 871 Oxhill Dr would like to speak with Mr. Perry. He is very concerned about the grading next to his house where the parking lot will be and does not want to have the parking lot next to his property.

David Youngquist of 669 Robar Circle doesn't believe this restaurant will be successful at this location.

Debbie Torossian of 844 E. Oxhill inquired if there is a screen wall at the end of the parking area, where the location of the dumpster will be and about the lighting plan. She also inquired if there has to be two entrances.

Director O'Neil addressed the lighting and stated that no outdoor speakers are allowed. The Township has no authority over traffic lights on M59, only MDOT can authorize a new traffic light and encouraged the residents to appeal to MDOT to consider a traffic light at that location.

Commissioner Anderson closed public comment at 8:48 p.m.

Mr. Perry addressed the storm water and snow melt retention on the site, acknowledged the drainage challenges and stated that they propose to raise the site and have it slope inwards towards the drain for the underground detention. Under the parking lot will be a large, underground detention infiltration system. The dumpster location is near the building, not in the south parking lot, and parking islands are a requirement of the ordinance.

Mr. Morganroth founder of Black Rock is a Lakeland High School graduate and is happy to bring this restaurant home. Mr. Morganroth purchased the property in 2002 and removed the dilapidated building years ago. He believes that the restaurant will be successful at this site and stated that he gives back to the community where they have restaurants. They will have 150 employees.

Commissioner Anderson thanked Mr. Morganroth for speaking.

Commissioner Carlock inquired about the second entrance on White Banks and if it was eliminated would it change the location of the parking spaces.

Director O'Neil stated that a traffic engineer would need to address the issue.

Commissioner Seeley stated that the second entrance could keep traffic from entering the neighborhood looking for the entrance to the restaurant.

The board deliberated the two proposed entrances to the restaurant.

Director O'Neil stated that the "no outlet" sign on White Banks Blvd. was an excellent idea and encourages the residents to request that of the Road Commission, and the Township will request it as well.

Commissioner Carlock inquired about "no parking" signs on White Banks Blvd.

Director O'Neil stated that the Road Commission would need to address that request and that it is a long process that involves the Michigan State Police.

Commissioner Seward moved to approve the Special Land Use subject to all staff and consultant review comments being addressed and obtaining approval of final site plan approval for the property described as parcel number 12-23-129-018, located south of Highland Road and east of White Banks Blvd, consisting of approximately 1 acre. Currently zoned as (GB) General Business.

Commissioner Fine supported, and the MOTION CARRIED with a roll call vote (9 yes votes): (Anderson/yes, Dehart/yes, Carlock/yes, Fine/yes, Meagher/yes, Seeley/yes, Seward/yes, Slicker/yes, Ruggles/yes)

Commissioner Meagher moves to forward a favorable recommendation, subject to the applicant addressing all of the staff and consultant comments and recommendations, upon Zoning Board of Appeals approvals and posting that the parking area known as “the leg” will be posted as Employees Only, to the Township Board, the preliminary site plan for the property described as parcel number 12-23-129-018, located south of Highland Road and east of White Banks Blvd, consisting of approximately 1 acre. Currently zoned as (GB) General Business.

Commissioner Fine supported, and the MOTION CARRIED with a roll call vote (7 yes votes): (Anderson/yes, Dehart/no, Carlock/no, Fine/yes, Meagher/yes, Seeley/yes, Seward/yes, Slicker/yes, Ruggles/yes)

CONTINUING BUSINESS

None

NEW BUSINESS

None

OTHER BUSINESS

A. New Hope Landscape Reduction Request

Applicant present: Rumi Shahzad of New Hope White Lake, LLC

Director O’Neil stated Site Plan for this approval was granted in July of 2020. This request for modification will need to be forwarded to the Township Board for approval as it will necessitate an amendment to the Planned Development Agreement.

Mr. Shahzad addressed the request to scale back the overall landscaping of the project, noting that there are large forested areas on the site which remain natural area. They accommodated a request of one neighbor who could see the building from their home and installed a fence. Mr. Shahzad proposes that the current, existing trees and the new landscaping be adequate as built.

Director O’Neil stated there are three options: approve this request as it is, deny the request and have him add the trees or suggest something else.

Commissioner Anderson inquired what landscaping is lacking.

Director O’Neil stated the deficiency is in the courtyard area and all screening landscaping has been provided.

The board deliberated the landscaping deficiencies and if variances were granted.

Rick Brown of 8159 High Point Trail shared that he is a nearby resident and his sister will be a resident of New Hope White Lake. Mr. Brown would like to see the facility open soon.

Commissioner Carlock moves to forward a favorable recommendation to the Township Board to allow a general 40% reduction in landscaping that the landscaper and land owner find most useful and subject to administrative review.

Commissioner Seeley supported, and the MOTION CARRIED with a roll call vote (9 yes votes): (Anderson/yes, Dehart/yes, Carlock/yes, Fine/yes, Meagher/yes, Seeley/yes, Seward/yes, Slicker/yes, Ruggles/yes)

B. Master Plan Update

Director O'Neil presented a brief update on the RFP for the Master Plan. Seven firms were sent Request for Proposals and 2 firms have responded. They will present to the Planning Commission at the next meeting.

LIAISON'S REPORT

Commissioner Ruggles stated that the Township Board approved the Capital Improvement Plan. The Road Commission of Oakland County has approved the potential road design entrance to the new Town Hall on Elizabeth Lake Road. The Board also approved DLZ to do the engineering for the project.

Commissioner Dehart reported that the Zoning Board of Appeals states that the sign ordinance needs to be discussed.

Commissioner Carlock reported that they are working on the 5-year Parks & Rec plan. They will be meeting with the National Park Service regarding threatened and endangered species. Trunk or Treat next Saturday.

DIRECTOR'S REPORT

None

COMMUNICATIONS

NEXT MEETING DATES: October 20, 2022
November 3, 2022

ADJOURNMENT

Commissioner Fine moved to adjourn the meeting at 9:53 PM
Commissioner Carlock supported and the MOTION CARRIED with a voice vote: 9 yes votes



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

September 6, 2022

Sean O' Neil
Community Development Department
Charter Township of White Lake
7525 Highland Road
White Lake, Michigan 48383

RE: Black Rock – Preliminary Site Plan Review – 2nd Review

Ref: DLZ No. 2245-7382-02

Design Professional: Desine Inc.

Dear Mr. O' Neil,

Our office has performed the above-mentioned revised Preliminary Site Plan review for the plan dated August 18, 2022. The plans were reviewed for feasibility based on general conformance with the Township Engineering Design Standards.

General Site Information

This site is located on the south side of Highland Road between Fisk and Teggerdine Lake Roads. The property is on the southeast corner of Highland Road and White Banks Boulevard. Total site acreage is approximately 2.78 acres.

Site Improvement Information:

- Construction of a (1) one story restaurant totaling 6,887 square feet.
- Associated paved and curbed parking including ADA accessible parking spaces and maneuvering aisles.
- Site to be serviced by watermain and sanitary sewer.
- Storm water runoff is proposed to be detained in two (2) underground detention units located under the parking lot on the eastern half of the parcel. Discharge is proposed to the existing MDOT storm system along Highland Road.

4494 Elizabeth Lake Rd, Waterford, MI 48328 | OFFICE 248.681.7800 | ONLINE WWW.DLZ.COM

Akron Bridgeville Burns Harbor Chicago Cincinnati Cleveland Columbus Detroit Flint Fort Wayne Indianapolis Joliet Kalamazoo
Lansing Lexington Louisville Madison Melvindale Munster Muskegon Port Huron Saint Joseph South Bend Toledo Waterford

We offer the following comments:

Note that comments from our May 12, 2022 review are in *italics*. Responses to those comments are in **bold**. New comments are in standard font.

The following items should be noted with respect to Planning Commission review:

- a. *The majority of the overhead electrical is proposed to be removed. There is one portion of overhead electrical that runs along the property line between 12-23-129-017 and 12-23-129-007 and is not noted to be removed on the demolition page; however, it is not shown as existing on the proposed pages. Clarify if this portion of the overhead electrical is to be removed as well. DTE approval will be required for the removal and relocation of the overhead electrical.* **Comment addressed. Power line removal and relocation has been clarified.**
- b. *The design for the storm system proposes discharge into the MDOT storm sewer along Highland Road. MDOT approval will be required. If MDOT requires additional storage volume on site, there is room to accommodate additional underground storage volume within the parking lot without impacting the site layout.* **Comment remains as a notation.**
- c. *White Lake Township records show two nearby sites are possibly contaminated at 9640 Highland and 9601 Highland. The applicant should provide supporting documentation that the potential contaminants are not in the influence of the proposed storm sewer system, particularly the underground detention system.* **Comment addressed. Phase 1 and Phase 2 environmental reports have been provided and indicate the Black Rock site has not been contaminated by adjacent site usages.**
- d. *Please show the existing sanitary sewer force main and watermain along White Banks Blvd and ensure no conflicts with proposed landscaping.* **Comment addressed. Sanitary sewer force main and watermain are now shown.**
- e. *The 1-Foot Freeboard extends onto property 12-23-129-006. Drainage and detention must be contained to the site.* **Comment partially addressed. The berm proposed along the east side of the site will need to be extended southward until a point where the existing site grade exceeds the underground detention unit 1' freeboard elevation of 968.70. This item can be addressed at the time of Final Site Plan/ Final Engineering Plan submittal.**

The following comments can be addressed on the Final Site Plan/Final Engineering Plan and are provided at this time as a courtesy to the design engineer:

Final Site Plan/Final Engineering Plan Comments-

General

1. *Plan shall contain notes per White Lake Township Engineering Design Standards Section A. 8. a.-d.*
Comment addressed.
2. *Provide parcel IDs on cover page.* **Comment addressed.**
3. *Include information regarding the sizes of the existing watermain, sanitary sewer, and storm sewer.*
Comment addressed.

Paving/Grading

1. *Additional grades will be required to confirm ramp slopes meet ADA requirements.* **Comment addressed. Grading details will be reviewed at time of FSP/FEP submittal.**
2. *The ground appears to be sloped back towards the building at the southwest corner of the building.*
Comment addressed. Grades have been adjusted for positive flow away from the building.

Watermain

1. *We defer to the Fire Department regarding items related to fire suppression and hydrant coverage.*
Comment addressed. Per design engineer response letter dated 08/18/2022, Fire Department review comments have been addressed.
2. *Fire suppression line connection shall be accomplished utilizing a tapping sleeve, valve, and well.*
Comment remains. Add a note regarding the TSV&W to the utility plan.
3. *The existing well on site is not noted to be removed; however, a connection to the municipal water is proposed. Indicate well removal on the plans.* **Comment addressed.**

Sanitary Sewer

1. *Total length of the sanitary sewer service lead including the existing portion to be connected to exceeds the maximum length of 150'.* **Comment addressed.**
2. *Cleanouts shall be located at a minimum interval of every 75'.* **Comment addressed.**
3. *A 4' diameter sampling manhole is required on the sewer service.* **Comment partially addressed; MH-1 (Observation Manhole) has been provided. Please clarify this as a 4' diameter manhole.**

Stormwater Management

1. *Minimum 24" inlet structure depth shall be 3.5' from top of frame and cover to invert. The three inlets (CB-123, CB-141, and CB-101) are less than 3.5' deep.* **Comment remains. Design engineer indicates**
-

in 08/18/2022 response letter that the storm system has been revised to address the cover issue. This item will be further reviewed at the time of FEP submittal.

2. *The design engineer will need to demonstrate that the proposed storm sewer material (HDPE-S) will maintain its integrity when located under proposed pavement, otherwise use CLIV Reinforced Concrete pipe within pavement influence. Comment remains. Design engineer states that documentation relative to the proposed HDPE-S pipe material will be provided at the time of FEP submittal.*
3. *The storm pipe from FES-210 to MH-200 is not identified with length, size, material, and slope on sheet UT. Comment rescinded. Proposed pipe FES-210 to MH-200 is no longer proposed.*
4. *Indicate length of roof drains. Comment addressed.*

Landscape Plan

1. *Landscaping shall be revised such that proposed trees are located a minimum of 10' horizontal separation from all watermain, sanitary sewer, and storm sewer. Comment addressed.*

Permits and Approvals

1. An easement will be required for the portion of M-59 frontage sidewalk proposed outside of the M-59 ROW.
2. An access easement will be required for the proposed future frontage road stub and drive to the east property line.
3. Soil Erosion Permit is required through Oakland County Water Resource Commissioners Office.
4. Sanitary Sewer tap permit is required through Oakland County Water Resource Commissioners Office.
5. MDOT permit is required for all work within the MDOT Right-of-Way.
6. Permit will be required from Road Commission for Oakland County for all work within the White Banks Boulevard Right-of-Way.

Recommendation

We now recommend approval of the Preliminary Site.



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

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September 6, 2022
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Please feel free to contact our office should you have any questions.

Sincerely,

DLZ Michigan

Michael Leuffgen, P.E.
Department Manager

Victoria Loemker, P.E.
Senior Engineer

Cc: Justin Quagliata, Community Development, *via email*
Hannah Micallef, Community Development, *via email*
Aaron Potter, DPS Director, White Lake Township, *via email*
John Holland, Fire Chief, White Lake Township, *via email*
Jason Hanifen, Fire Marshal, White Lake Township, *via email*

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WHITE LAKE TOWNSHIP PLANNING COMMISSION

REPORT OF THE COMMUNITY DEVELOPMENT DEPARTMENT

TO: Planning Commission

FROM: Sean O'Neil, AICP, Community Development Director
Justin Quagliata, Staff Planner

DATE: September 6, 2022

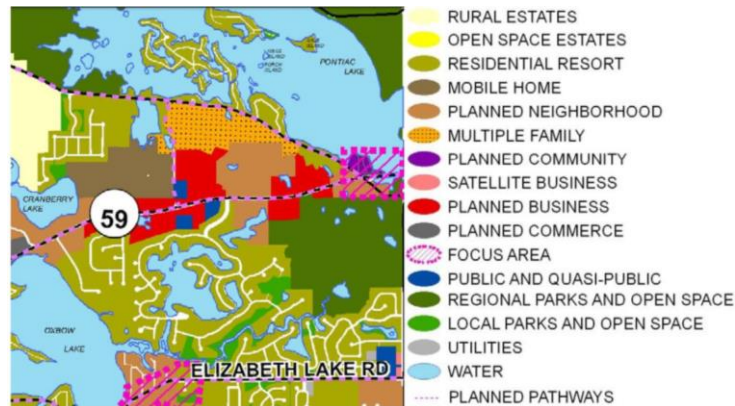
RE: Black Rock
Preliminary Site Plan and Special Land Use – Review #2

Black Rock White Lake, LLC has requested preliminary site plan approval to construct a ~~7,893~~ **6,887** square foot restaurant with alcohol service **(the Developer has reduced the proposed building footprint to accommodate interior changes)** at 9531 Highland Road (Parcel Number 12-23-129-018), located at the southeast corner of Highland Road and Whitebanks Boulevard **(the parcel number and address shall be provided on the plans)**. **(Comment outstanding)**. Special land use approval is also requested to allow outdoor dining at the restaurant.

Master Plan

The Future Land Use Map from the Master Plan designates the subject site in the Planned Business category. All development in Planned Business is required to adhere to strict access management principles in order to minimize traffic conflict and maximize safety throughout the M-59 corridor. Connections to and segments of the Township community-wide pathway system are required as an integral part of all Planned Business development.

FUTURE LAND USE MAP



Zoning

The subject site is located in the GB (General Business) zoning district, which requires a minimum of 200 feet of lot width and one acre of lot area. The subject site contains 337.6 feet of frontage along Highland Road, 289.11 feet of frontage on Whitebanks Boulevard, and 2.78 acres of lot area. At its meeting on May 17, 2022 the Township Board approved the final adoption for the rezoning of the former easterly parcel (9501 Highland Road) from Local Business (LB) to GB. Restaurants with alcohol service are a permitted principal use in the GB zoning district.

Physical Features

A vacant single-family house which would be demolished is located on the former easterly parcel (9501 Highland Road). The topography of the site is generally level, with elevations ranging from 971 feet above mean sea level near the west side of the site and declining to 967 feet above mean sea level near the east side of the site. The Michigan Department of Environment, Great Lakes, and Energy (EGLE) Wetland Map and the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map indicate neither wetlands nor floodplain are present on the site.

Access

The site fronts on Highland Road (state trunkline) and Whitebanks Boulevard. Along the property Highland Road is a five-lane road (two lanes each direction and a center turn lane). Whitebanks Boulevard is a divided two-lane public road with curb and gutter designated a local street by the National Functional Classification System (NFCS) utilized by the Road Commission for Oakland County (RCOC). As a preface to the comments on the following page regarding access management, the Planning Commission should note the zoning ordinance states direct access drives should generally be minimized in number and maximized in separation. Reasonable access is not necessarily the same as direct access. The number of driveways permitted for a site shall be the minimum number necessary to provide safe and efficient access for regular traffic and emergency vehicles.

The site would be accessed from driveways on Highland Road and Whitebanks Boulevard. Driveways must have a minimum of 455 feet of spacing provided from other driveways along the same side of the street, measured centerline to centerline. The centerline of the proposed Highland Road driveway would not be located 455 feet from the existing driveway to the east (property formerly occupied by Brendel's Septic). The zoning ordinance allows the Planning Commission to consider a waiver of the spacing requirement only after the Applicant has demonstrated both alternative access and access restriction have been seriously considered and incorporated in the site plan where feasible. **As the required spacing is not provided, a variance from the Zoning Board of Appeals is required.** (Comment outstanding; however, the Developer intends to seek a variance from the Zoning Board of Appeals).

The proposed Highland Road driveway must be aligned with the existing driveway on the opposite side of the street or offset 455 feet, measured centerline to centerline; said driveway is offset approximately 60 feet from the existing Famous Market driveway (to the west) and approximately 340 feet from the existing Salvation Army driveway (to the east). **As the required offset is not provided, a variance is required from the Zoning Board of Appeals.** (Comment outstanding; however, the Developer intends to seek a variance from the Zoning Board of Appeals). According to the submitted traffic impact assessment (TIA), the proposed Highland Road driveway does not meet the Michigan Department of Transportation (MDOT) offset criteria. However, the TIA states the proposed Highland Road driveway location creates a positive driveway offset for ingress left-turn traffic along Highland Road which provides the safest operations and minimizes conflict points.

The minimum distance between a proposed driveway and the nearest intersection shall not be less than the minimum required driveway-to-driveway spacing. Also, a proposed driveway on the approach to an intersection shall not be opposite a dedicated left-turn lane for the intersection, or within 100 feet upstream of that lane. This provision may be waived by the Planning Commission if supported by a traffic impact study. The nearest street intersection (Highland Road and Village Drive – to the west) is approximately 230 feet from the proposed Highland Road driveway. Additionally, the proposed Highland Road driveway is located approximately 340 feet from the intersection with Whitebanks Boulevard. **As the driveway is not located 455 feet from adjacent intersections, a variance from the Zoning Board of Appeals is required.** (Comment outstanding; however, the Developer intends to seek a variance from the Zoning Board of Appeals). According to the submitted traffic impact assessment (TIA), the proposed Highland Road driveway does not meet the MDOT spacing criteria from adjacent intersections. However, the proposed Highland Road driveway would be located as far east along the property frontage as possible; the TIA states this spacing provides the greatest distance from the intersections of Highland Road with Whitebanks Boulevard and Village Drive, both of which pose the greatest potential for conflict points between vehicles.

The zoning ordinance requires site plans incorporate, where feasible and appropriate, cross-access with neighboring sites via connected parking aisles or frontage roads, shared side service drives and/or site access drives, and rear service drives connecting to side roads. Any such cross-access should be supported by general-purpose (unrestricted) easements, as well as agreements regarding maintenance responsibilities. **The required frontage road shall be extended to the east property line. Furthermore, the site plan measures the frontage road width to the back of curb; the road surface measurement is taken between the edges of the gutter pan. Twenty-four feet of drive width shall be provided between the edges of the gutter pan.** (Comment addressed. The frontage road has been extended to the east property line and width of the proposed frontage road has been revised to provide 24 feet of pavement).

The zoning ordinance requires a minimum five-foot-wide sidewalk placed one-foot from the inside edge of the right-of-way along the Whitebanks Boulevard property frontage, and a minimum eight-foot-wide sidewalk along the Highland Road property frontage. The submitted site plan shows the required sidewalks (concrete). **A portion of the Highland Road sidewalk (east 85 feet) are proposed outside of the right-of-way; the sidewalk must be relocated inside the road right-of-way or an easement be provided. Right-of-way/easement widths for public walkways when not adjacent to or a part of street rights-of-way must be at least 15 feet and dedicated to the use of the public. Furthermore, the frontage sidewalks shall be constructed through the driveways (concrete sections through the approaches). Direct pedestrian access from the frontage sidewalks to the building should also be provided.** (Comment addressed. An easement dedicated to use of the public will be provided. The site plan also shows concrete walk through the approaches).

A TIA is required if the proposed use(s) would generate between 500 and 749 driveway trips per day, or between 50 and 99 peak-hour, peak-direction driveway trips. An average day is the average 24-hour total of all vehicle trips counted to and from a study site from Monday through Friday. A peak hour of traffic is the hour of highest volume of traffic entering and exiting the site during the morning and afternoon hours. A TIA prepared by Fleis & VandenBrink dated April 25, 2022 was submitted examining traffic generation, access management, safety, and sight distance for the proposed development. Based on the proposed restaurant use, the TIA evaluated weekday afternoon (4:45-5:45 p.m.) and Saturday (12:00-1:00 p.m.) peak hours in its analysis. The Institute of Transportation Engineers (ITE) trip generation rates for Fine Dining Restaurant (Land Use Code 931) were selected to represent the development. The following table summarizes traffic generation estimates for the proposed project:

Land Use	ITE Code	Amount	Units	Average Weekday Daily Traffic	PM Peak Hour (vph)			Average Weekend Daily Traffic	SAT Peak Hour (vph)		
					In	Out	Total		In	Out	Total
Fine Dining Restaurant	931	7,765	SF	651	41	20	61	699	49	34	83

According to the TIA, with the addition of the site-generated traffic resulting from the development the proposed Highland Road driveway meets the MDOT criteria warranting a right-turn deceleration taper. While the TIA recommends the installation of an eastbound right-turn deceleration taper at the proposed Highland Road driveway, the suggested improvement is not shown on the site plan.

Utilities

The project would be served by both the municipal water and sanitary sewer systems. The Township Engineering Consultant will perform an analysis of stormwater, location and capacity of utilities, and grading to ensure compliance with all applicable ordinances as well as the Township Engineering Design Standards.

Staff Analysis – Preliminary Site Plan

Building Architecture and Design

Generally, exterior building materials should be comprised primarily of high quality, durable, low maintenance material, such as masonry, stone, brick, glass, or equivalent materials. Buildings should be completed on all sides with acceptable materials. Overall, the single-story building is approximately 29 feet in height as measured to the peak of the parapet (**building height shall be dimensioned on the elevations at final site plan**). **(Comment addressed. Building height has been noted on all elevations of all top of walls)**. The proposed building materials for the project are a mix of dark gray cultured stone (vener) and light gray EFIS (exterior insulation finishing system).

Wherever a side or rear facade is visible from a street, or if parking is located at the side or rear of a building, the facade shall be designed to create a pleasing appearance, using materials and architectural features similar to those present on the front of the building. **On the east elevation of the building, the 4’-6” section of cultured stone veneer shall be increased in height by six feet, to 10’-6”.** **The exterior elevations shall be revised accordingly at final site plan.** **(Comment addressed. East elevation cultured stone has been raised six feet to a height of 10’-6”).**

The zoning ordinance requires all buildings have windows at eye level. Windows should cover at least 30% of a front facade. **Calculations for window coverage on the front facades shall be provided on the elevations at final site plan.** **(Comment partially addressed. Window coverage area has been noted on the west and north elevations. Insufficient window coverage is proposed on the west elevation (24.5% of the facade). Therefore, a variance is required from the Zoning Board of Appeals).**

A sample board of building materials to be displayed at the Planning Commission meeting and elevations in color are required by the zoning ordinance and must be submitted at final site plan. **(Comment remains as a notation. This requirement was acknowledged by the Developer’s engineer in the response letter provided to the first review).**

The address (street number) location shall be shown on the building. Six-inch-tall numbers visible from the street shall be required. The address location is subject to approval of the Township Fire Marshal. (Comment partially addressed. A note has been added to the plan indicating the proposed location of the address. While the location of the address is subject to approval of the Fire Marshal, staff suggests locating the street number away from the roofline of the building in a more visible location. Additionally, the street number is proposed to be black, which would not be in contrast with the immediate background on which it is mounted (dark gray). Therefore, the street number shall be the color white).

An outdoor patio is located on the west side of the building. Four-foot-tall cultured stone (vener) walls with glass panels (upper wall) and limestone capped columns surround the patio. **Details for the items to be located on the patio and details for the patio surfacing shall be provided at final site plan. An ornamental paving treatment should be required by the Planning Commission.** (Comment remains as a notation. The response letter provided to the first review indicates stamped concrete shall be provided on the patio (a stamp detail is required at final site plan), and furniture pictures shall be provided). The treatment should be something either decorative or something to provide aesthetic quality to the patio. Potential options for ornamental paving treatments include, but are not limited to, CMU pavers; brick; stone; or stamped, stained, and sealed concrete. Accessory items such as railings, benches, trash receptacles, outdoor seating (such as tables and chairs), or sidewalk planters located in the vicinity of sidewalks and/or outdoor seating areas are required to be of commercial quality and complement the building design and style. **These details shall be provided at final site plan.** (Comment remains as a notation).

Landscaping and Screening

Landscaping must comply with the provisions of the zoning ordinance and should be designed to preserve existing significant natural features and to buffer service areas, parking lots, and dumpsters. A mix of evergreen and deciduous plants and trees are preferred, along with seasonal accent plantings. A landscape plan is not required as part of the preliminary site plan, but was provided for consideration and will be reviewed in detail during final site plan review if the preliminary site plan is approved.

Following are initial comments on the landscape plan:

- Interior Landscaping Requirements: For every new development requiring site plan review, except site condominiums as regulated in Article 6, Section 1, interior landscaping areas shall be provided, equal to at least 15 percent of the total lot area. These landscaped areas shall be grouped near all building entrances, building foundations, pedestrian walkways, and service areas, and may also be placed adjacent to fences, walls, or rights-of-way. These planting areas shall be so located as to breakup an otherwise continuous abutment of building facade with sidewalks and/or parking areas. All interior landscaping shall provide one large deciduous, small ornamental deciduous, or evergreen tree and five shrubs for every 300 square feet of required interior landscaping area.

- **Parking Lot Landscaping:** Within every parking area containing 10 or more spaces, there shall be parking lot landscaping in accordance with this Subsection. These landscaping areas shall be located so as to better define parking spaces and drives. Landscaping on the perimeter of the parking lot does not satisfy the parking lot landscaping requirement. Island locations shall also be considered in a manner that will assist in controlling traffic movements. The requirements, for trees and islands, may be modified when it is found through careful coordination of parking lot landscaping with peripheral and building plantings an unnecessary duplication of plantings would be created. In addition, consideration shall be given to situations when an excess number of small islands would be created that would only serve to disrupt reasonable traffic patterns and maintenance activities. One hundred square feet of parking lot landscaping containing one large deciduous tree or small deciduous ornamental tree and three shrubs is required for every 100 square feet of required parking lot landscaping area.
- **Transformer and Mechanical Equipment Screening:** All ground mounted transformers, climate control, and similar equipment shall be screened from view from any street or adjacent property by a wall constructed of the same decorative exterior materials as the building and not less than the height of the equipment to be screened. As an alternative, the equipment may be screened by landscaping approved by the Planning Commission. All rooftop climate control equipment, transformer units, and similar equipment shall be screened. The materials used to screen the equipment shall be compatible in color and type with exterior finish materials of the building. All rooftop equipment shall conform to the maximum height regulations of this Ordinance. **The plans do not show proposed locations for mechanical units or provide the method of screening. The plans shall be revised accordingly to provide the location(s) and method of screening at final site plan.** (Comment partially addressed. The plan now shows a proposed transformer on the south side of the building screened with nine arborvitae. It seems rooftop mechanical units are proposed (units not shown on the ground); therefore, the method of screening shall be provided for consideration).
- Trees shall not be planted closer than four feet to a property line. **Add note to landscape plan at final site plan.** (Comment addressed. A note has been added to the plan).
- All required landscape areas in excess of 200 square feet shall be irrigated to assist in maintaining a healthy condition for all plantings and lawn areas. **An irrigation plan shall be provided at final site plan.** (Comment remains as a notation. This requirement was acknowledged by the Developer's landscape architect in the response letter provided to the first review).
- All required site irrigation systems shall include a rain sensor or similar measure to ensure irrigation does not occur during or shortly after precipitation events. All site plans shall note installation of required irrigation. **Add note to plan at final site plan.** (Comment addressed. A note has been added to the plan).

- The landscape plan denotes seed, and sod is required (particularly in the front yards). **Revise accordingly.** (Comment addressed. Sod has now been specified on the plan).
- The landscape plan denotes mulch. The zoning ordinance states the mulch product itself shall be at least doubled-shredded quality. **Revise accordingly.** (Comment addressed. A note has been added to the plan).
- Trees identified for protection during construction and the means of protection shall be identified on the landscape plan. No construction shall occur until tree protection has been installed and approved by the Community Development Director.
- A screen wall is provided to buffer the adjacent residentially zoned properties to the south from the parking lot (**a wall detail shall be provided at final site plan.**) (Comment remains as a notation). The zoning ordinance requires a screen wall be six feet in height, eight inches in width (faced with a decorative masonry product), with a five-foot greenbelt adjacent to the screen wall for its entire length planted with one large deciduous or evergreen tree and eight shrubs for every 30 linear feet. **No landscaping is provided in the screen wall greenbelt; therefore, a variance is required from the Zoning Board of Appeals.** (Comment partially addressed. The required screen wall greenbelt and landscaping must be provided on the exterior sides of the wall facing adjacent properties. Insufficient landscaping is proposed; therefore, a variance is required from the Zoning Board of Appeals).
- **The screen wall along the south property line (north of 847 W. Oxhill Drive) shall be extended 10 feet westward. Revise accordingly.** (Comment addressed. The proposed screen wall has been extended to the west approximately 10 feet to align with the end of the proposed parking spaces).
- **At least six evergreen trees shall be provided generally west of the screen wall described above. The Red Oak tree in said area shall be replaced with an evergreen tree.** (Comment partially addressed. Three White Pines have been specified in the aforementioned area. In the response letter provided to the first review, the Developer's landscape architect stated six trees were unable to be provided due to the existing overhead utilities and pole. Note pine trees are prohibited in the Township; a different species of evergreen tree shall be proposed).
- **Staff does not recommend use of the proposed Grey Owl Juniper in front of the monument sign. A combination of Francee Hosta and Stella D' Oro Daylily would be more pleasing in appearance; other plantings around the monument sign may be proposed for consideration. Furthermore, the landscape bed should be located around all sides of the monument sign, with plantings provided on all sides of the sign.** (Comment partially addressed. Landscaping is now proposed on all sides of the sign. The number of Grey Owl Juniper has been reduced and additional plantings have been proposed. Staff still does not recommend use of the proposed Grew Owl Juniper in front of the monument sign).

- **The Planning Commission should note three of the parking lot landscape islands are proposed to be completely covered with Grow-Low Sumac. A different groundcover should be proposed to add diversity among plantings. Grow-Low Sumac, when not maintained, loses aesthetic appeal. Use of Grow-Low Sumac is generally not preferred. (Comment partially addressed. Additional plants have been proposed in the parking lot islands. Staff maintains use of Grow-Low Sumac is generally not preferred).**
- **A snow storage plan was not provided. Information on method of snow storage shall be provided at final site plan. Winter maintenance of parking lot landscape islands shall be required where heavy applications of salt and de-icing products occur through the use of salt tarps which minimize soil absorption and ultimately reduce plant disorders. (Comment addressed. Snow storage areas are now indicated on the plan).**
- **No landscaping is shown in the stone beds at the north side (and northwest corner) of the building. The width of the bed shall be increased to four feet and furnished with plantings. (Comment addressed. Additional plantings have been added to the north side of the building).**
- **There are labels identifying a certain number of plantings with inconsistent symbols for those plantings depicted on the plan. Revise accordingly.**

Trash Receptacle Screening

The zoning ordinance requires dumpsters be surrounded by a six-foot-tall wall (but not more than eight feet high) on three sides and an obscuring wood gate on a steel frame on the fourth side, located on a six-inch concrete pad extending 10 feet in front of the gate, with six-inch concrete-filled steel bollards to protect the rear wall and gates. The proposed enclosure is located adjacent to the south side of the building. An 8'-10" wall (cultured stone over block screen wall) is proposed on the sides of the dumpster enclosure, with a steel backed wood gate on the south side of the enclosure **(the color of the gate shall be provided at final site plan).** **(Comment addressed. The color of the gate and posts is to be black).** **The depth of the concrete where the dumpsters are located shall also be indicated at final site plan.** **(Comment partially addressed. The depth of the concrete shall be six inches. The "prop. heavy duty concrete pavement" designation shall be used within the delivery and dumpster area. Revise accordingly).** **A concrete pad does not extend 10 feet in front of the dumpster gates; therefore, a variance is required from the Zoning Board of Appeals. (Comment addressed. A 10-foot-wide concrete pad in front of the dumpster enclosure has been added).** **Additionally, the screen wall shall be reduced 10 inches in height or a variance is required. (Comment addressed. Screen wall height has been reduced ten inches to eight feet in height).**

Parking

The zoning ordinance requires restaurants with alcohol service to provide one parking space per 60 square feet of gross floor area. For the proposed 7,893 square foot restaurant, 132 parking spaces are required. Parking for the outdoor patio is described later in this report. In total, 159 parking spaces are provided (153 standard spaces and 6 accessible spaces).

The zoning ordinance requires each individual parking space be delineated by dual stripes, two feet apart centered on the dividing lines and painted white. The plan shall be revised to indicate the required striping, or a variance be requested from the Zoning Board of Appeals. (Comment addressed. Parking space striping has been depicted by dual stripes). Note 1 on the pavement marking plan shall be revised to indicate the color of the required parking stall striping. (Comment addressed. Paint color has been revised to white).

The pavement marking plan shows the easternmost tier of parking spaces 17.5 feet in length and the site plan shows the same tier of parking spaces 17 feet in length. The plans shall be revised for consistency. (Comment partially addressed. Parking space dimensioning has been revised to be consistent. However, gutter pan shall not be included in the measurement of parking space depth. Revise accordingly). Additionally, staff recommends the 15 southeasternmost parking spaces be restricted to employee parking and designated/marked accordingly. (Comment outstanding. Only eight of the southeasternmost parking spaces have been designated as employee parking. Revise accordingly).

Off-Street Loading Requirements

The zoning ordinance requires one loading spaces for a development of this size. Such loading and unloading space must be an area 10 feet by 50 feet, with a 15-foot height clearance. The proposed loading area is located at the south side of the building and 10 feet by 50 feet; **however, the proposed loading area is located in a drive aisle. The applicant previously indicated loading/unloading would occur off-hours as to not conflict with customer traffic flow; a note stating such shall be provided on the final site plan. (Comment addressed. A note pertaining to loading area use limitation has been added to the plan). The loading area shall not block a fire lane and its location is subject to the approval of the Township Fire Marshal. (Comment remains as a notation).**

Signs

The zoning ordinance requires the area, quantity, location, and dimensions of all signs to be provided with the preliminary site plan. The site plan shows the location of a monument sign setback 23 feet from the Highland Road right-of-way line. Overall, the sign is 45.28 square feet in size. An approximately 26 square foot electronic message center comprises one-half of the sign. **The zoning ordinance requires the upper 25% of electronic message board signs not include an electronic component; as proposed, the current sign would require a variance from this requirement. (Comment outstanding. A variance is required from the Zoning Board of Appeals).**

A maximum of one wall sign is permitted for each principal building. In instances where a parcel has frontage on two streets, an additional wall sign may be permitted on the building facing the secondary thoroughfare, which is no greater than 5% of the wall area on which the sign is placed. Where permitted, wall signs must be located flat against the building's front facade or parallel to the front facade on a canopy. A wall sign is shown on the west elevation, which would be permitted since the building contains frontage on Whitebanks Boulevard. A 63 square foot wall sign is shown on the east elevation, which is not permitted. **The wall sign on the east elevation shall be removed, or a variance is required from the Zoning Board of Appeals.** (Comment outstanding; however, the Developer intends to seek a variance from the Zoning Board of Appeals).

Total area of a primary wall sign cannot exceed 10% of the front facade of the building. The primary wall sign (63 square feet in size) is located on the north facade of the building; however, said sign extends above the roofline of the building. The zoning ordinance prohibits signs from extending above the roofline of a building. **A variance from the Zoning Board of Appeals is required to install the north wall sign extending above the roofline of the building.** (Comment outstanding; however, the Developer intends to seek a variance from the Zoning Board of Appeals).

Both the east and west sides of the building contain four metal canopies with the Black Rock logo (BR). **The logos on the canopies shall be removed, or variances are required from the Zoning Board of Appeals.** (Comment addressed. The logos have been removed from all the canopies). **Furthermore, the elevations of all four sides of the building indicate the EIFS cornice contains LED lighting under the bottom edge. As the proposed LED lighting would attract attention to the building, the zoning ordinance considers the lighting prohibited signage. A variance from the Zoning Board of Appeals would be required to install the LED lighting; such a variance request would likely be denied by the Zoning Board of Appeals. Staff recommends as a condition of approval the plans be revised to remove the trim LED lighting.** (Comment addressed. The LED lighting has been removed from the cornice around the top of the building).

On the east elevation, the public entrance to the building contains doorhandles with the Black Rock logo (BR). **The doorhandles meet the zoning ordinance definition of a sign; therefore, a variance is required from the Zoning Board of Appeals.** (Comment outstanding; however, the Developer intends to seek a variance from the Zoning Board of Appeals).

Lighting

Site lighting is required to comply with the zoning ordinance. Information on site lighting was provided and will be reviewed in detail during final site plan review. Following are initial comments on the lighting (photometric) plan:

- Lighting shall be shielded from adjacent properties and designed to reflect continuity with the pedestrian orientation of the area. Floodlights, wall pack units, and other types of unshielded lights, and lights where the lens or bulb is visible outside of the light fixture are not permitted except in service areas where the lights will not generally be visible by the public or adjacent residential properties. Lights underneath canopies must be fully recessed into the canopy to minimize glare from the light source.
- Footcandles shall be measured at approximately six feet above grade. **Revise accordingly, and the plan must contain a note (revise General Note 2) confirming footcandles are measured at six feet above grade.** (Comment addressed. Footcandle calculations are shown at six feet above grade).
- Partial lighting fixture specifications were provided on the photometric plan. **Complete catalog details (lighting fixture specification sheets) for all proposed fixtures shall be provided. Light fixture selections and colors are subject to review and approval by the Township.** (Comment outstanding – shall be addressed at final site plan).
- The preliminary elevations show wall-mounted decorative or architectural lighting proposed on the building. However, said fixtures are not shown on the photometric plan. **Revise accordingly, and see previous comment. Additionally, up-lighting or outward shining lighting are not permitted on the building (see first bullet point on this page).** (Comment outstanding. The building lighting, including the now proposed recessed LED light strips, require variances from the Zoning Board of Appeals).
- Mounting height is measured from grade to the sky side of the fixture. **Revise mounting height on the plan accordingly.** (Comment addressed. A mounting height note has been added to the plan).
- The Planning Commission may require special conditions for properties adjacent to residential uses and districts.
 - Six pole-mounted luminaries are proposed adjacent to residentially zoned property. Ground-mounted lighting can be used as area lighting to illuminate pedestrian areas and walkways. **Staff recommends the Planning Commission require the aforementioned six pole-mounted luminaries be replaced with ground-mounted lighting (such as a bollard light or path light) which is fully shielded and directed downward. Said light fixtures should not exceed three to four feet in height above grade.** (Comment partially addressed. Ten pole-mounted luminaries six feet in height are proposed in the aforementioned area. No details were provided for the proposed luminaries, and the proposed height is taller than recommended by staff. Revise accordingly).

Staff Analysis – Special Land Use

Special land uses for outdoor dining are evaluated using the general standards for all special land uses listed in Article 6, Section 10 of the zoning ordinance and the following specific standards for outdoor dining found in Article 4, Section 18 of the zoning ordinance:

A. The Planning Commission shall determine that the use is designed and will be operated so as not to create a nuisance to property owners adjacent to or nearby the eating establishment. As such, the proposed use shall meet the following minimum criteria:

i. The establishment may operate only during the following hours:

- *Monday thru Thursday: 8:00 a.m. – 12:00 midnight*
- *Friday: 8:00 a.m. – 2:00 a.m.*
- *Saturday: 10:00 a.m. – 2:00 a.m.*
- *Sunday: 10:00 a.m. – 10:00 p.m.*

Black Rock would be required to adhere to said hours of operation.

ii. The use of exterior loudspeakers is prohibited where the site abuts a residential district or use. The noise level at the lot line shall not exceed 70 dB.

Black Rock would be required to adhere to said performance standard.

iii. An outdoor lighting plan shall specify the type of fixtures to be used, light intensity, and method of shielding the fixtures so that light does not project onto adjoining properties or on any public or private street or right-of-way. Dropped fixtures shall not be allowed. The site plan shall include a photometric plan and catalog details for all proposed fixtures. Outdoor lights must meet the performance standards of Section 5.18.

Information on site lighting was provided and will be reviewed in detail during final site plan if the preliminary site plan and special land use are approved. Initial comments on the lighting (photometric) plan were previously provided in this report.

B. Additional parking spaces must be provided according to the following:

i. Outdoor dining areas for more than 30 people or which include either permanent or seasonal structures, such as awning, roofs, or canopies, may be required to provide additional parking according to the following:

a. If the outdoor seating is 25% of the indoor seating or less, no additional parking is necessary.

b. If the outdoor seating is 26%-50% of the indoor seating, the restaurant may be required to provide up to 125% of the parking required for the indoor space.

c. If the outdoor seating is over 50% of the indoor seating capacity, the restaurant may be required to provide up to 150% of the parking required for the indoor space.

According to the site plan, a 762.2 square foot patio is proposed on the west side of the building. From an occupancy perspective, the Building Code states assembly without fixed seating – unconcentrated (tables and chairs) is 15 square feet per person. For a 762 square foot patio, that would be a maximum 50 seat capacity. The floor plan shows seating for 36 patrons on the patio (nine, four-top tables). Maximum patio occupancy is subject to approval of the Building Official. For patio parking, the site plan notes 13 parking spaces are required. Based on a restaurant capacity of ~~276~~ 232, the outdoor seating does not warrant additional parking.

Planning Commission Options / Recommendation

The Planning Commission may recommend approval, approval with conditions, or denial of the preliminary site plan to the Township Board. The Planning Commission may approve, approve with conditions, or deny the special land use. ~~Staff recommends the plans be revised and resubmitted to address the items identified in this memorandum. All site plan review submittals, following the initial preliminary site plan review, shall include a response letter detailing the changes made to the plan since the previous submittal. A list of any requested variances shall also be provided.~~ **(Staff recommends approval of the preliminary site plan and approval of the special land use conditioned on the Developer addressing all staff and consultant review comments and recommendations, and requesting and receiving the necessary variances from the Zoning Board of Appeals. An updated list of requested variances shall be provided).**

The following notations summarize the preliminary site plan review:

- Recommendation of approval is in accordance with the plans prepared by Desine Inc. (revision date August 18, 2022), subject to revisions as required. Utility, grading, and storm drainage plans for the site are subject to the approval of the Township Engineering Consultant and shall be completed in accordance with the Township Engineering Design Standards.
- Recommendation of approval is in accordance with the exterior elevations and floor plan prepared by Creekwood Architecture, Inc. dated August 15, 2022, subject to revisions as required.
- Recommendation of approval is in accordance with the photometric plan prepared by Gasser Bush dated August 8, 2022, subject to revisions as required.
- Recommendation of approval is in accordance with the landscape plan (north and south) prepared by Vert Verde Landscape Architecture dated January 2022 (revision date August 17, 2022 (Sheet L-1) and July 18, 2022 (Sheet L-2)), subject to revisions as required.



Fire Department
Charter Township
of White Lake

Site / Construction Plan Review

To: Sean O'Neil, Planning Department Director

Date: 09/06/2022

Project: Black Rock Br & Grill

Project #: 214182

Date on Plans: 08/18/2022

The Fire Department has the following comments with regards to the 2nd review of preliminary site plans for the project known as Black Rock Bar & Grill.

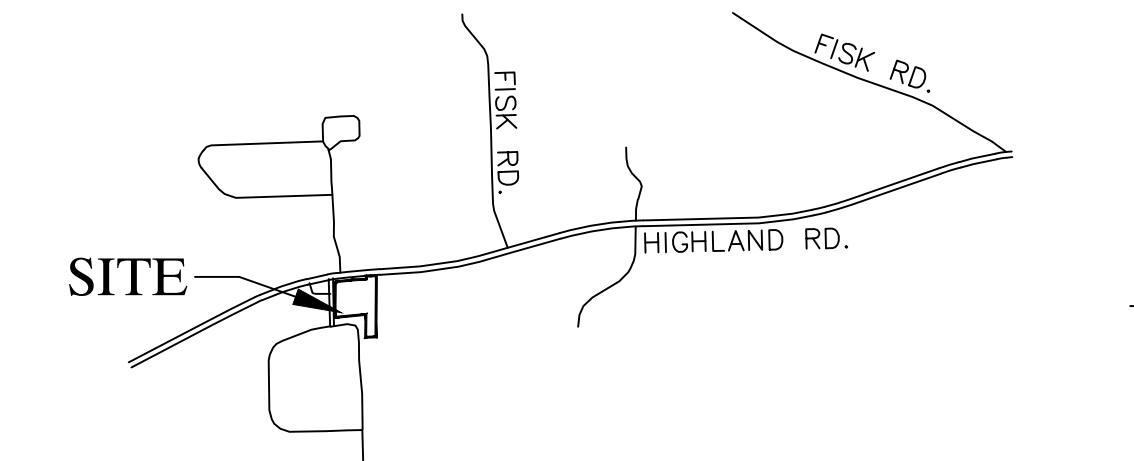
1. The Fire Department has no further comments at this time

Jason Hanifen
Fire Marshal
Charter Township of White Lake
(248)698-3993
jhanifen@whitelaketwp.com

Plans are reviewed using the International Fire Code (IFC), 2015 Edition and Referenced NFPA Standards.

PRELIMINARY SITE PLAN FOR
Black Rock Bar & Grill
WHITE LAKE TOWNSHIP

**A PART OF THE EAST 1/2 OF THE NW 1/4 SECTION 23, T 3 N, R 8 E,
 WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN**



LOCATION MAP
SCALE: 1" = 2000'

LEGAL DESCRIPTION

A parcel of land being a part of the Northwest 1/4 of Section 23, Town 3 North, Range 8 East, White Lake Township, Oakland County Michigan and all of Lots 8 through 10, inclusive, of "Suburban Knolls Subdivision No. 1, according to the plat thereof, as recorded in Liber 130 of Plats, Pages 42 through 44, inclusive, Oakland County records, being more particularly described as: Commencing at the North 1/4 Corner of Section 23, Town 3 North, Range 8 East, White Lake Township, Oakland County, Michigan; thence S00°15'34"W 498.83 feet along the North-South 1/4 line of said Section 23 as previously platted in said "Suburban Knolls Subdivision No. 1;" thence S89°07'59"W 82.72 feet (recorded as S88°35'26"W 85 feet) along the Southerly line of Highland Road a.k.a. M-59 Highway to the PLACE OF BEGINNING; thence S00°32'33"W (recorded as S00°30'26"W) 512.50 feet to the North line of Lot 54 of said "Suburban Knolls Subdivision No. 1;" thence S88°00'07"W (recorded as S87°58'30"W & platted as S87°58'00"W) 85.00 feet along the North line of said Lot 54; thence N00°32'33"E (recorded & platted N00°30'26"E) 191.93 feet along the East line of Lot 11 of said "Suburban Knolls Subdivision No. 1;" to the Southeast Corner of Lot 8 of said "Suburban Knolls Subdivision No. 1;" thence S84°25'28"W (platted S84°23'21"E) 261.49 feet along the South line of said Lot 8 to the East line of White Banks Boulevard (100-foot wide Right-of-Way); thence along the Easterly line of said White Banks Boulevard the following two courses:
 1) N00°32'33"E (platted N00°30'26"E) 289.11 feet and
 2) Northerly 14.35 feet along the arc of a 10.00 foot radius curve to the right, through a central angle of 82°12'08" and having a chord bearing N41°38'37"E (platted N41°36'30"E) to the Southerly line of said Highland Road a.k.a. M-59 Highway;
 thence along the Southerly line of Highland Road a.k.a. M-59 Highway (variable width Right-of-Way) the following four courses:
 1) Easterly 252.60 feet along the arc of a 3207.84 foot radius curve to the right, through a central angle of 04°30'42" and having a chord bearing N85°00'02"E (platted as N84°57'55"E) 252.54 feet,
 2) N00°32'33"E (platted as N00°30'26"E) 25.12 feet,
 3) Easterly 38.98 feet along the arc of a 3224.00 foot radius curve to the right, through a central angle of 00°41'35" and having a chord bearing N86°47'04"E (recorded as N87°53'52"E) 38.98 feet and
 4) N89°07'59"E (recorded as N88°35'26"E) 46.02 feet to the Place of Beginning.

Being a part of the Northwest 1/4 of Section 23, Town 3 North, Range 8 East, White Lake Township, Oakland County, Michigan. Containing 2.78 acres of land, more or less. Subject to and together with all easements and restrictions affecting title to the above-described premises.

PARCEL I.D. #: 12-23-129-007
12-23-129-017

BENCHMARKS

DATUM BASED ON RTK-GPS OBSERVATIONS,
DATE NOVEMBER 5, 2021 AT 1:28 PM

BENCHMARK #200
ARROW ON HYDRANT, LOCATED 11± FEET WESTERLY OF THE NWLY CORNER OF LOT 8.
ELEVATION = 972.75 (NAVD 88)
NOTE: ORIGINAL PROJECT #30106
ELEVATION = 973.21 (NGVD 29) DIFFERENCE OF 0.4586.

BENCHMARK #201
ARROW ON HYDRANT, LOCATED NEAR THE SOUTH SIDE OF HIGHLAND RD (M-59), 32± FEET NORTHERLY OF THE NELY CORNER OF LOT 10.
ELEVATION = 971.33 (NAVD 88)

BENCHMARK #202
NAIL IN CONCRETE, LOCATED NEAR THE WEST SIDE OF #9501 BLDG, 123± SOUTHERLY OF THE NELY CORNER OF LOT 10 AND 14± EAST OF THE WEST PROPERTY LINE.
ELEVATION = 968.79 (NAVD 88)

NOTES:

- A. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWNSHIP'S CURRENT STANDARDS AND SPECIFICATIONS.
- B. THE CONTRACTOR SHALL NOTIFY THE TOWNSHIP ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION, 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- C. CONTRACTOR SHALL CALL MISS DIG AT 800-482-7171, 72 HOURS IN ADVANCE OF CONSTRUCTION, FOR EXISTING UNDERGROUND UTILITY LOCATIONS.
- D. IN ORDER TO VERIFY COMPLIANCE WITH THE APPROVED PLANS, FULL-TIME CONSTRUCTION OBSERVATION WILL GENERALLY BE REQUIRED DURING ALL PHASES OF UNDERGROUND SITE CONSTRUCTION INCLUDING INSTALLATION OF SANITARY SEWER, STORM SEWERS, DRAINS, WATERMANS AND APPURTENANCES AS WELL AS PRIVATE STREET CURBING AND PAVING CONSTRUCTION. INTERMITTENT OBSERVATIONS WILL BE MADE FOR SITE GRADING, PARKING LOT CURBING AND PAVING, RETAINING WALL CONSTRUCTION AND OTHER SURFACE ACTIVITY.



SHEET INDEX

EX	EXISTING CONDITIONS & DEMOLITION PLAN
AD	ADJACENT DRIVEWAY LOCATIONS
SP	SITE PLAN
UT1	UTILITY PLAN
UT2	STORM WATER MANAGEMENT CALCULATIONS
GR	GRADING & PAVING PLAN
SW	STORM WATER PLAN
SG	SIGNAGE & PAVEMENT MARKING PLAN PLAN
DT	SITE PAVEMENT NOTES & DETAILS
L-1	LANDSCAPE PLAN
L-2	LANDSCAPE PLAN
1 of 1	PHOTOMETRIC PLAN
LT	BUILDING MOUNTED LIGHT FIXTURE DETAILS
A1	COMPOSITE FLOOR PLAN
A2	EXTERIOR ELEVATIONS
A3	EXTERIOR ELEVATIONS



OWNER/DEVELOPER
BRANDENBROOKE INVESTMENTS
 30553 WIXOM ROAD
 WIXOM, MI, 48393

ARCHITECT
CREEKWOOD ARCHITECTURE INC.
 1111 CREEKWOOD TRAIL
 BURTON, MI, 48509
 (810) 742-0480

CIVIL ENGINEER/LAND SURVEYOR
DESINE INC.
 2183 PLESS DRIVE
 BRIGHTON, MI. 48114
 (810) 227-9533

LANDSCAPE ARCHITECT
VERT VERDE LANDSCAPE ARCHITECTURE LLC
 44960 ALBERT DRIVE
 PLYMOUTH, MI. 48170
 (734) 249-3568

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REVISED	SCALE: AS NOTED
04-20-2022	PROJECT No.: 214182
08-18-2022	DWG NAME: COV
	PRINT: AUG. 18, 2022

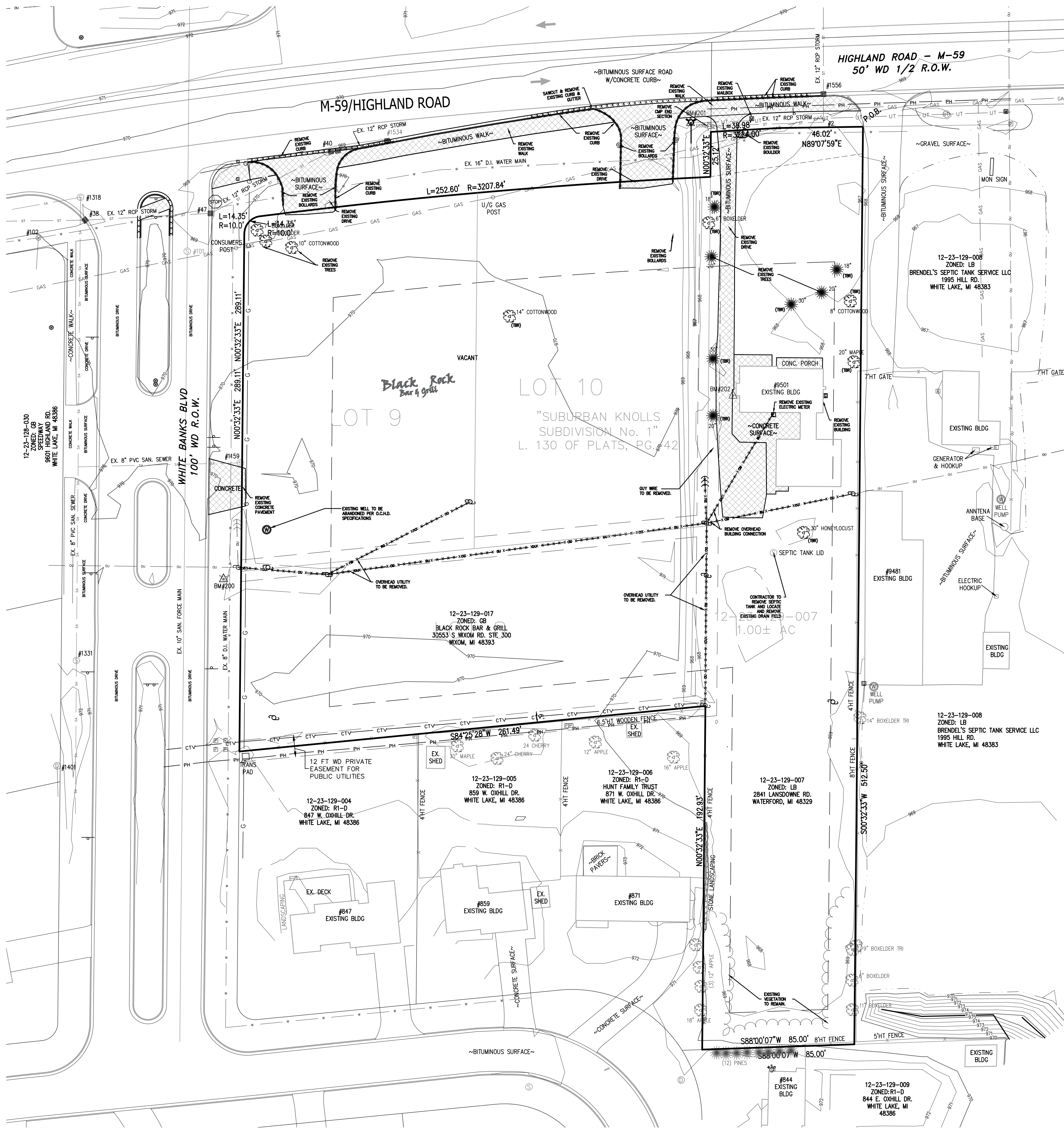
DESINE INC.
 (810) 227-9533
 CIVIL ENGINEERS
 LAND SURVEYORS
 2183 PLESS DRIVE
 BRIGHTON, MICHIGAN 48114

EXISTING UTILITY INVENTORY

- STORM MANHOLE #1
WESTERLY RIM 970.69
INVERTS
SOUTHWESTERLY 12" RCP 965.39
EASTERLY 12" RCP 965.44
- CATCH BASIN #3
ROAD SIDE RIM 969.93
INVERTS
NORTHEASTERLY 12" RCP 965.53
NORTHERLY 12" RCP 965.83
SOUTHERLY 12" RCP 965.53
- SANITARY SEWER MANHOLE #101
SOUTHERLY RIM 969.19
INVERTS
TOP OF WATER 966.89
INVERTS ARE AVAILABLE
- WATER GATE VALVE WELL #102
EASTERLY RIM 970.04
INVERTS
TOP OF PIPE IRON 961.84
- SANITARY SEWER MANHOLE #106
SWLY RIM 969.27
INVERTS
WATER LEVEL 967.57
PIPE INVERTS NOT AVAILABLE
- SANITARY SEWER MANHOLE #107
NORTHERLY 971.51
INVERTS
WATER LEVEL 967.61
PIPE INVERTS NOT AVAILABLE
- CATCH BASIN #1556
ROAD SIDE RIM 966.98
INVERTS
NORTHERLY 12" RCP 965.78
SOUTHERLY 12" RCP NOT AVAILABLE
WATER LEVEL 965.78
- SANITARY SEWER MANHOLE #1159
RIM 970.40
INVERTS
EAST 8" PVC 963.30
WEST 8" PVC 963.10
- SANITARY SEWER MANHOLE #1318
SELY RIM 965.13
INVERTS
WEST 8" PVC 963.06
SOUTH 8" PVC 963.06
- SANITARY SEWER MANHOLE #1331
SELY RIM 970.83
INVERTS
SOUTH 8" PVC 961.86
NORTH 8" PVC 962.01
- CATCH BASIN #1401
CENTER 970.23
INVERTS
SOUTH 15" CONCRETE 940.23
- CATCH BASIN #1534
RIM 968.98
INVERTS
SOUTHWEST 12" CONCRETE 966.98

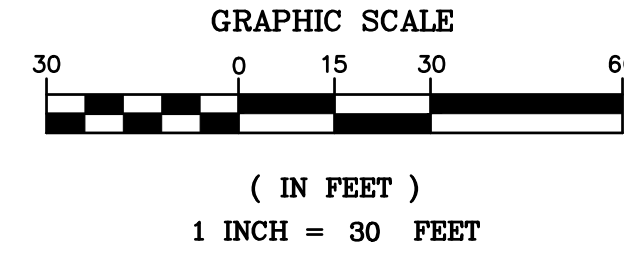
BENCHMARK
DATUM BASED ON RTK-GPS OBSERVATIONS.
DATE NOVEMBER 5, 2021 AT 1:28 PM

- BENCHMARK #200
ARROW ON HYDRANT, LOCATED 11± FEET WESTERLY OF THE NWLY CORNER OF LOT 8.
ELEVATION = 972.75 (NAVD 88)
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ARROW ON HYDRANT, LOCATED NEAR THE SOUTH SIDE OF HIGHLAND RD (M-59), 32± FEET NORTHERLY OF THE NE'LY CORNER OF LOT 10.
ELEVATION = 971.33 (NAVD 88)
- BENCHMARK #202
NAIL IN CONCRETE, LOCATED NEAR THE WEST SIDE OF #9501 BLDG, 123± SOUTHERLY OF THE NE'LY CORNER OF LOT 10 AND 14± EAST OF THE WEST PROPERTY LINE.
ELEVATION = 968.79 (NAVD 88)



LEGEND

- = PARCEL BOUNDARY
- = BUILDING SETBACK
- = UTILITY EASEMENT
- = EX. EDGE OF PAVEMENT
- = EX. EDGE OF GRAVEL
- = EX. BUILDING
- = EX. UTILITY METERS & BOXES
- = EX. UTILITY POLE
- = EX. 0/H UTILITY LINE
- = EX. GUY ANCHOR
- = EX. U/G UTILITY LINES (PHONE/FIBER OPTIC/ELECTRIC/CABLE TV/MISC)
- = EDGE OF WOODS / DRIP LINE
- = DECIDUOUS TREE
- = CONIFEROUS TREE
- = FENCE (CHAIN LINK UNLESS OTHERWISE STATED)
- = EX. SANITARY SEWER
- = EX. SANITARY MANHOLE
- = EX. STORM SEWER
- = EX. STORM CATCHBASIN
- = EX. STORM MANHOLE
- = EX. FLARED END SECTION
- = EX. WELL
- = EX. WATERMAIN
- = EX. HYDRANT
- = EX. WATER SHUTOFF
- = EX. GAS VALVE
- = EX. GAS LINE
- = EX. GAS VALVE
- = EXIST. 1' CONTOUR
- = EXIST. 5' CONTOUR
- = PROP. 1' CONTOUR



DEMOLITION NOTES:

1. The demolition specifications of the Local Municipality are a part of this work. Refer to the General Notes on the project plans for additional requirements.
2. Contractor shall contact the 811 Underground Public Utility Locating System or other appropriate local underground utility locating Agency, a minimum of three (3) working days prior to performing demolition work. Existing utility information on the project plans may be from information disclosed to this firm by the Utility Companies, Local, County or State Agencies, and/or various other sources. No guarantee is given as to the completeness or accuracy thereof. Prior to construction, locations and depths of all existing utilities (in possible conflict with the proposed improvements) shall be verified in the field.
3. Contractor shall contact the appropriate Agencies to coordinate disconnect of the electric, gas, phone, cable and other public utilities as necessary prior to performing demolition work.
4. Contractor shall contact the appropriate Agencies to coordinate removal and/or relocation of any underground and/or overhead public utility lines as necessary prior to performing demolition work.
5. Contractor shall recycle and/or dispose of all demolition material and debris in accordance with the appropriate Local, County, State and Federal regulations.
6. All bituminous and concrete pavement that is to be removed shall be saw cut at the limits of removal to provide for a clean straight edge for future abutment.
7. All existing irrigation lines that are to be removed shall be terminated at the limits of demolition or as necessary to allow for construction of the proposed site improvements. Ends of pipe shall be capped and the location of marked for future connection.
8. All existing water main and sanitary sewer that is to be removed shall be terminated at the limits of demolition or as indicated on the project plans. Temporary plugs shall be installed in the ends of pipe in accordance with the appropriate Agency and the locations of marked for future connection. Permanent plugs shall be installed in the ends of pipe in accordance with the appropriate Agency. The Contractor shall record the location of all permanent plugs and provide the location information to the appropriate Agency.
9. All existing storm sewer that is to be removed shall be terminated at the limits of demolition or as indicated on the project plans. Temporary plugs shall be installed in the ends of pipe in accordance with the appropriate Agency and the locations of marked for future connection. Permanent bulkheads shall be installed in the ends of pipe and/or openings in terminating structures in accordance with the appropriate Agency. The Contractor shall record the location of all permanent bulkheads and provide the location information to the appropriate Agency.
10. All existing light sources to be removed shall have their power cables removed up to the power source or properly terminated for future connection at the limits of demolition or as necessary to allow for construction of the proposed site improvements. Removal and termination of power cables shall be performed in accordance with local electric codes.
11. All existing utility meters that are to be removed shall be properly removed to allow for reuse. Any existing utility meters that are not to be reused as a part of this project shall be returned to the appropriate Agency.
12. All trenches and/or excavations resulting from the demolition of underground utilities, building foundations, etc., that are located within the 1 on 1 influence zone of proposed structures, paved areas and/or other areas subject to vehicular traffic shall be backfilled with MDOT Class III granular material (or better) to the proposed subgrade elevation. Backfill shall be placed using the controlled density method (12" maximum lifts, compacted to 95% maximum unit weight, Modified Proctor).

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CIVIL ENGINEERS
LAND SURVEYORS
2183 PLEURS DRIVE
BRIGHTON, MICHIGAN 48114

DESIGN: WMP	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: L.F.		08-18-22	REVISED PER REVIEW COMMENTS			
CHECK: WMP						

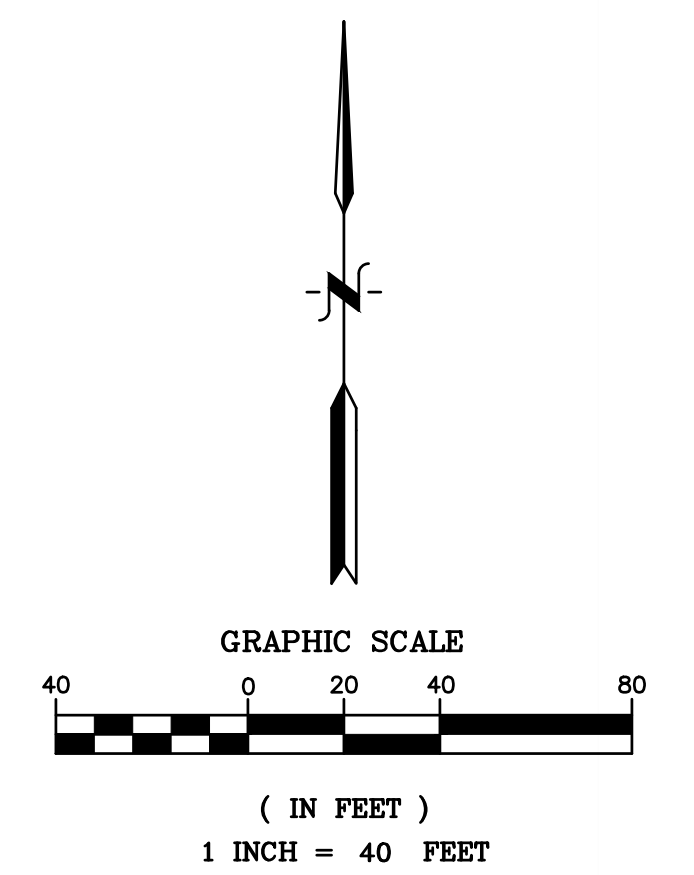
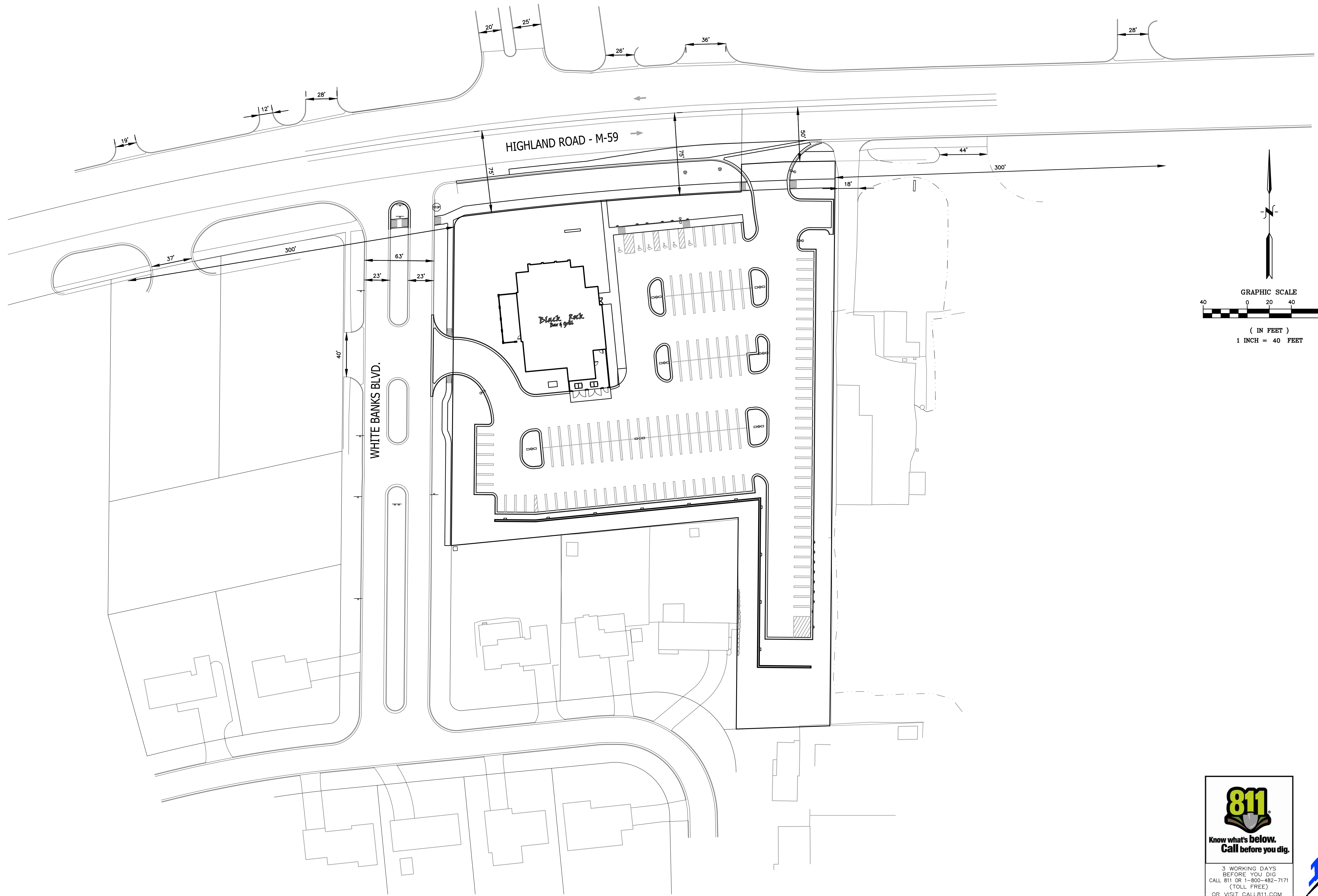
**BLACK ROCK
WHITE LAKE TOWNSHIP**

**EXISTING CONDITIONS &
DEMOLITION PLAN**

CLIENT:
BRANDENBROOKE INVESTMENTS
30553 WIXOM ROAD
WIXOM, MI, 48393

SCALE: 1"=30'
PROJECT NO.: 214182
DWG NAME: 4182 EX
ISSUED: AUG. 18, 2022

EX



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 BRIGHTON, MICHIGAN 48114

DESIGN: AJL	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: O.M.						
CHECK: WMP						

BLACK ROCK
WHITE LAKE TOWNSHIP

ADJACENT
DRIVEWAY
LOCATIONS

CLIENT:
 BRANDENBROOKE INVESTMENTS
 30553 WIXOM ROAD
 WIXOM, MI, 48393

SCALE: 1" = 40'
 PROJECT No.: 214182
 DWG NAME: 4182-AREA
 ISSUED: **AUG. 18, 2022**

AD

DETENTION BASIN DESIGN CALCULATIONS

TRIBUTARY AREA (A) = 3.22 ACRES
 COMPOUND RUN-OFF COEFFICIENT (C) = 0.56
 ALLOWABLE OUTFLOW RATE PER ACRE = 0.20 CFS/A
 ALLOWABLE OUTFLOW RATE (Qa) = 0.64 CFS
 MDOT ALLOWABLE DISCHARGE RATE = 0.56 CFS
 Qo = ALLOWABLE CFS/ACRE IMPERVIOUSNESS = Qa/A*C = 0.31 CFS/ACRE IMPERVIOUSNESS

100 YEAR STORM FREQUENCY EQUATIONS:

RAINFALL INTENSITY (I) = 275/(T+25) = 1.51 INCHES PER HOUR
 STORAGE TIME (T) = -25 + (10312.5/Qo)*1/2 = 157 MINUTES
 STORAGE VOL. PER ACRE IMPERV. (Vs) = ((16500*T)/T+25) - 40*Qo*T = 12,272 CF PER ACRE IMPERV.
 TOTAL STORAGE REQUIRED (Vt) = Vs*A*C = 22,000 CUBIC FEET

1 YEAR STORM FREQUENCY EQUATIONS:

RAINFALL INTENSITY (I) = 72/(T+25) = 0.77 INCHES PER HOUR
 STORAGE TIME (T) = -25 + (2700.0/Qo)*1/2 = 68 MINUTES
 STORAGE VOL. PER ACRE IMPERV. (Vs) = ((4320*T)/T+25) - 40*Qo*T = 2,309 CF PER ACRE IMPERV.
 TOTAL STORAGE REQUIRED (Vt) = Vs*A*C = 4,139 CUBIC FEET

Project: BLACK ROCK - DETENTON AREA A

Chamber Model - DC-780
 Units - Imperial
 Number of chambers - 237
 Voids in the stone (porosity) - 35 %
 Base of STONE Elevation - 965.45 ft
 Amount of Stone Above Chambers - 12 in
 Amount of Stone Below Chambers - 9 in
 Area of system - 8345 sf Min. Area - 8012 sf min. area
 Include Perimeter Stone in Calculations

StormTech DC-780 Cumulative Storage Volumes

Height of System (inches)	Incremental Single Chamber (cubic feet)	Incremental Total Chamber (cubic feet)	Incremental Stone (cubic feet)	Incremental Ch & St (cubic feet)	Cumulative Chamber (cubic feet)	Elevation (feet)
51	0.00	0.00	243.40	243.40	19540.82	969.70
50	0.00	0.00	243.40	243.40	19297.42	969.62
49	0.00	0.00	243.40	243.40	19054.03	969.53
48	0.00	0.00	243.40	243.40	18810.63	969.45
47	0.00	0.00	243.40	243.40	18567.24	969.37
46	0.00	0.00	243.40	243.40	18323.84	969.28
45	0.00	0.00	243.40	243.40	18080.44	969.20
44	0.00	0.00	243.40	243.40	17837.05	969.12
43	0.00	0.00	243.40	243.40	17593.65	969.03
42	0.00	0.00	243.40	243.40	17350.26	968.95
41	0.00	0.00	243.40	243.40	17106.86	968.87
40	0.00	0.00	243.40	243.40	16863.46	968.78
39	0.06	13.72	238.59	252.31	16620.07	968.70
38	0.17	39.51	229.57	269.08	16376.75	968.62
37	0.29	67.93	219.62	287.55	16133.46	968.53
36	0.61	144.82	192.71	337.53	15890.13	968.45
35	0.81	192.06	176.17	368.24	15646.80	968.37
34	0.96	227.30	163.84	391.14	15403.47	968.28
33	1.08	256.67	153.56	410.23	14174.23	968.20
32	1.19	281.48	144.88	426.36	14004.00	968.12
31	1.27	301.93	137.72	439.65	13877.64	968.03
30	1.36	323.28	130.25	453.53	13751.11	967.95
29	1.45	344.69	122.75	467.45	12984.46	967.87
28	1.53	361.91	116.73	478.64	12517.01	967.78
27	1.59	377.08	111.42	488.50	12038.38	967.70
26	1.65	391.41	106.40	497.81	11549.88	967.62
25	1.71	405.00	101.64	506.65	11052.07	967.53
24	1.76	417.74	97.19	514.93	10545.42	967.45
23	1.81	429.69	93.01	522.69	10030.50	967.37
22	1.86	440.87	89.09	529.96	9507.80	967.28
21	1.90	451.38	85.41	536.80	8977.84	967.20
20	1.95	461.24	81.96	543.20	8441.04	967.12
19	1.99	470.50	78.72	549.22	7897.84	967.03
18	2.02	479.19	75.68	554.87	7348.62	966.95
17	2.06	487.34	72.83	560.17	6793.75	966.87
16	2.09	494.97	70.16	565.13	6233.59	966.78
15	2.12	502.09	67.66	569.76	5668.46	966.70
14	2.15	508.74	65.34	574.08	5098.70	966.62
13	2.17	514.93	63.17	578.10	4524.62	966.53
12	2.20	520.66	61.17	581.82	3946.53	966.45
11	2.22	525.95	59.31	585.26	3364.70	966.37
10	2.24	531.51	57.37	588.88	2779.44	966.28
9	0.00	0.00	243.40	243.40	2190.56	966.20
8	0.00	0.00	243.40	243.40	1947.17	966.12
7	0.00	0.00	243.40	243.40	1703.77	966.03
6	0.00	0.00	243.40	243.40	1460.38	965.95
5	0.00	0.00	243.40	243.40	1216.98	965.87
4	0.00	0.00	243.40	243.40	973.58	965.78
3	0.00	0.00	243.40	243.40	730.19	965.70
2	0.00	0.00	243.40	243.40	486.79	965.62
1	0.00	0.00	243.40	243.40	243.40	965.53

HWL

Project: BLACK ROCK - DETENTON AREA B

Chamber Model - DC-780
 Units - Imperial
 Number of chambers - 251
 Voids in the stone (porosity) - 35 %
 Base of STONE Elevation - 965.85 ft
 Amount of Stone Above Chambers - 12 in
 Amount of Stone Below Chambers - 9 in
 Area of system - 8860 sf Min. Area - 8485 sf min. area
 Include Perimeter Stone in Calculations

StormTech DC-780 Cumulative Storage Volumes

Height of System (inches)	Incremental Single Chamber (cubic feet)	Incremental Total Chamber (cubic feet)	Incremental Stone (cubic feet)	Incremental Ch & St (cubic feet)	Cumulative Chamber (cubic feet)	Elevation (feet)
51	0.00	0.00	258.42	258.42	20727.92	970.10
50	0.00	0.00	258.42	258.42	20469.51	970.02
49	0.00	0.00	258.42	258.42	20211.09	969.93
48	0.00	0.00	258.42	258.42	19952.67	969.85
47	0.00	0.00	258.42	258.42	19694.26	969.77
46	0.00	0.00	258.42	258.42	19435.84	969.68
45	0.00	0.00	258.42	258.42	19177.42	969.60
44	0.00	0.00	258.42	258.42	18919.01	969.52
43	0.00	0.00	258.42	258.42	18660.59	969.43
42	0.00	0.00	258.42	258.42	18402.17	969.35
41	0.00	0.00	258.42	258.42	18143.76	969.27
40	0.00	0.00	258.42	258.42	17885.34	969.18
39	0.06	14.53	253.33	267.86	17626.92	969.10
38	0.17	41.84	243.77	285.61	17368.50	969.02
37	0.29	71.94	233.24	305.18	17110.08	968.93
36	0.61	153.37	204.74	358.11	16851.66	968.85
35	0.81	203.41	187.22	390.63	16593.24	968.77
34	0.96	240.72	174.16	414.89	16334.82	968.68
33	1.08	271.83	163.28	435.11	16076.40	968.60
32	1.19	298.11	154.08	452.19	15817.98	968.52
31	1.27	319.77	146.50	466.26	15559.56	968.43
30	1.36	342.38	138.58	480.96	15301.14	968.35
29	1.45	365.06	130.65	495.70	15042.72	968.27
28	1.53	383.29	124.27	507.55	14784.30	968.18
27	1.59	399.35	118.64	518.00	14525.88	968.10
26	1.65	414.53	113.33	527.86	14267.46	968.02
25	1.71	428.93	108.29	537.22	14009.04	967.93
24	1.76	442.41	103.57	545.99	13750.62	967.85
23	1.81	455.07	99.14	554.21	13492.20	967.77
22	1.86	466.92	95.00	561.91	13233.78	967.68
21	1.90	478.05	91.10	569.15	12975.36	967.60
20	1.95	488.48	87.45	575.93	12716.94	967.52
19	1.99	498.29	84.01	582.31	12458.52	967.43
18	2.02	507.50	80.79	588.29	12200.10	967.35
17	2.06	516.13	77.77	593.90	11941.68	967.27
16	2.09	524.21	74.94	599.15	11683.26	967.18
15	2.12	531.75	72.30	604.06	11424.84	967.10
14	2.15	538.80	69.84	608.63	11166.42	967.02
13	2.17	545.34	67.55	612.89	10908.00	966.93
12	2.20	551.41	65.42	616.83	10649.58	966.85
11	2.22	557.02	63.46	620.48	10391.16	966.77
10	2.24	562.91	61.40	624.31	10132.74	966.68
9	0.00	0.00	258.42	258.42	9874.32	966.60
8	0.00	0.00	258.42	258.42	9615.90	966.52
7	0.00	0.00	258.42	258.42	9357.48	966.43
6	0.00	0.00	258.42	258.42	9099.06	966.35
5	0.00	0.00	258.42	258.42	8840.64	966.27
4	0.00	0.00	258.42	258.42	8582.22	966.18
3	0.00	0.00	258.42	258.42	8323.80	966.10
2	0.00	0.00	258.42	258.42	8065.38	966.02
1	0.00	0.00	258.42	258.42	7806.96	965.93

HWL

FIRST FLUSH ORIFICE CALCULATION

TOTAL STORAGE REQUIRED = 4,139 CF
 DESIGN OUTFLOW RATE (Qa) = 0.64 CFS
 1 YEAR STORM ELEVATION = 966.30
 OUTLET INVERT ELEVATION = 966.20

ORIFICE EQUATION:

$Q = CdA\sqrt{2gh}$ WHERE

D = 1.00 INCHES, DIAMETER OF THE ORIFICE
 Qa = 0.64 CFS, ALLOWABLE OUTFLOW RATE
 Cd = 0.62 FOR SHARP EDGE CIRCULAR ORIFICE
 2g = 64.4 FT/SEC²
 A = 0.0055 FT², AREA OF 1.0 INCH DIAMETER ORIFICE
 h = 0.06 FT, VERTICAL DISTANCE FROM 1 YEAR ELEVATION TO CENTER OF ORIFICE BASED ON BOTTOM OF ORIFICE LOCATED AT BOTTOM OF OUTLET PIPE

N = 4 orifices required, Dia. = 1"

DETENTION ORIFICE CALCULATION

TRIBUTARY AREA (A) = 3.22 ACRES

DESIGN OUTFLOW RATE PER ACRE = 0.200 CFS/A
 DESIGN OUTFLOW RATE (Qa) = 0.64 CFS

100 YEAR ELEVATION = 967.70
 OUTLET INVERT ELEVATION = 966.20

ORIFICE EQUATION:

$Q = CdA\sqrt{2gh}$ WHERE

Qa = 0.64 CFS, ALLOWABLE OUTFLOW RATE
 Cd = 0.62 FOR SHARP EDGE CIRCULAR ORIFICE
 2g = 64.4 FT/SEC²
 A = 0.0873 FT², AREA OF ORIFICE
 h = 1.33 FT, VERTICAL DISTANCE FROM 100 YEAR ELEVATION TO CENTER OF ORIFICE BASED ON BOTTOM OF ORIFICE LOCATED AT BOTTOM OF OUTLET PIPE

FOR A 4 INCH ORIFICE DIAMETER

A = 0.0873 FT²
 h = 1.33 FT
 Q = 0.50 CFS

A 4 INCH DIAMETER ORIFICE IS SPECIFIED

MDOT DISCHARGE RATE CALCULATION

TRIBUTARY AREA (A) = 3.22 ACRES

100 YEAR ELEVATION = 967.70
 OUTLET INVERT ELEVATION = 965.87

ORIFICE EQUATION:

$Q = CdA\sqrt{2gh}$ WHERE

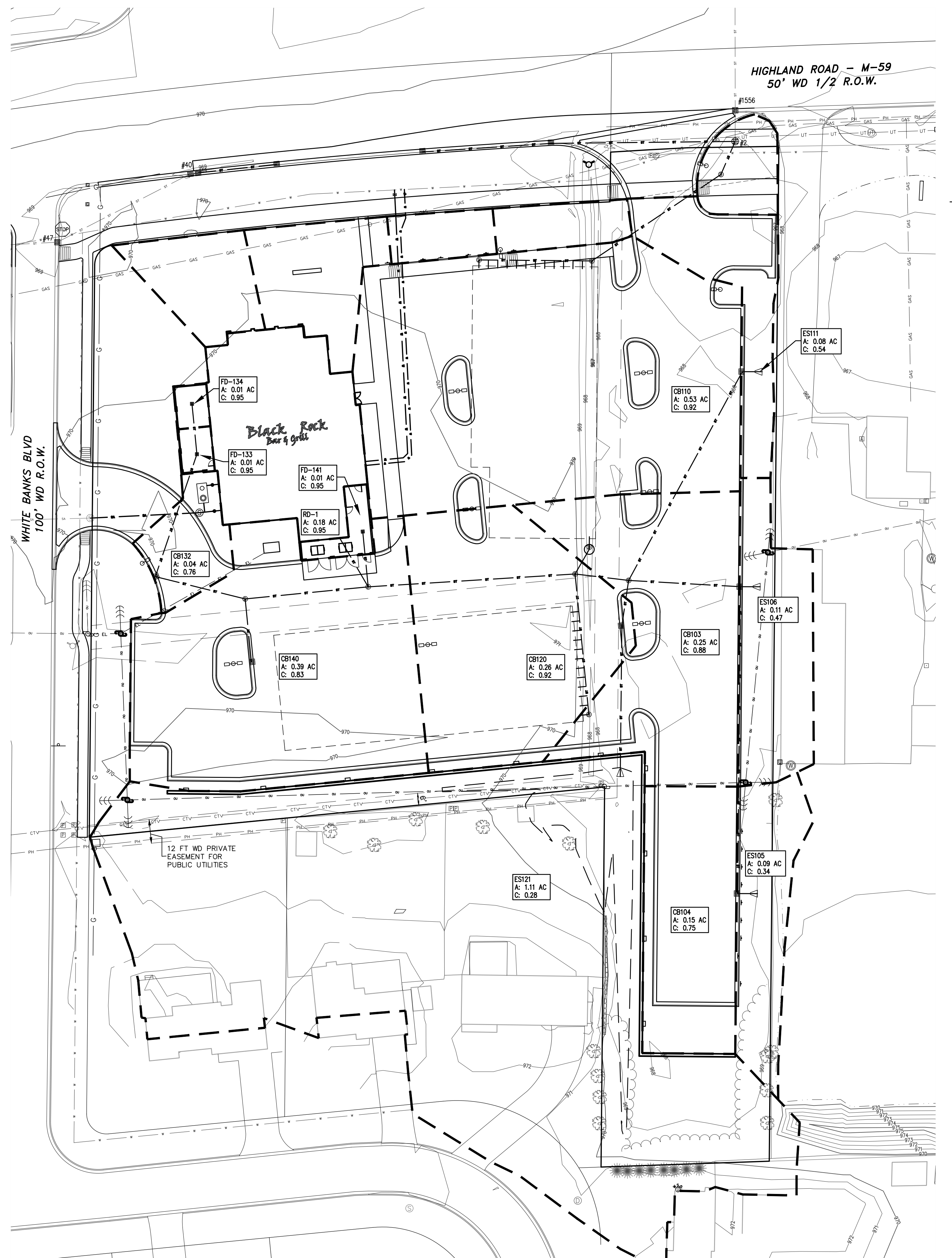
Qa = 0.56 CFS, ALLOWABLE OUTFLOW RATE
 Cd = 0.62 FOR SHARP EDGE CIRCULAR ORIFICE
 2g = 64.4 FT/SEC²
 A = 0.0873 FT², AREA OF 4" DIA. ORIFICE
 h = 1.66 FT, VERTICAL DISTANCE FROM 100 YEAR ELEVATION TO CENTER OF ORIFICE BASED ON BOTTOM OF ORIFICE LOCATED AT BOTTOM OF OUTLET PIPE

FOR A 4.0 INCH ORIFICE DIAMETER

A = 0.0873 FT²
 h = 1.66 FT
 Q = 0.56 CFS

Design Criteria: 10 yr event (I = 175R + 25) HDPE n= 0.010 RCP n= 0.013

From MH#	To MH#	Inc. 0.00	Eqv. Area 100% CA	Total Area 100% CA	T Time Min.	I Inch Per Hour	Q (CIA) c.f.s.	Dia. of pipe inch	Slope pipe %	Slope H.G. %	Length of line ft.	Vel. Flow full ft./sec.	Time of flow min.	Cap of pipe c.f.s.	H.G. Elev. upper end	Ground Elev. Upper end	Ground Elev. Lower end	Invert Elev. Upper end	Invert Elev. Lower end
ES 111	CB 110	0.08	0.54	0.04	10.0	5.00	0.20	12	2.30	0.00	10	6.88	0.0	5.40	968.47	967.70	969.84	967.70	967.47
CB 110	MH 102	0.53	0.92	0.49	10.0	5.00	2.64	18	0.20	0.06	119	2.66	0.7	4.70	968.41	969.84	970.80	967.07	966.83
ES 105	CB 104	0.09	0.34	0.03	10.0	5.00	0.16	12	2.00	0.00	10	6.42	0.0	5.04	968.75	967.95	970.57	967.95	967.75
CB 104	CB 103	0.15	0.75	0.11	10.0	5.00	0.70	18	0.20	0.00	155	2.66	1.0	4.70	968.55	970.57	970.50	967.35	967.04
ES 106	CB 103	0.11	0.47	0.05															



STORM WATER RUNOFF COEFFICIENT CALCULATIONS						
SURFACE TYPE	Pavement	Building	Lawn	Water	TOTAL AREA (ACRES)	CALCULATE D RUNOFF COEFFICIENT "C"
SURFACE RUNOFF COEFFICIENT	0.80	0.90	0.20	1.00		
DRAINAGE AREA	SURFACE TYPE AREA (ACRES)					
141	0.014				0.01	0.80
140	0.330		0.060		0.39	0.71
134	0.009				0.01	0.80
133	0.009				0.01	0.80
132	0.030		0.010		0.04	0.65
121	0.066	0.052	0.996		1.11	0.27
120	0.250		0.010		0.26	0.78
111	0.034		0.041		0.08	0.47
110	0.508		0.024		0.53	0.77
106		0.04	0.073		0.11	0.45
105	0.017		0.075		0.09	0.31
104	0.107		0.038		0.15	0.64
103	0.222		0.024		0.25	0.74
RD-1		0.18			0.18	0.90
Totals	1.596	0.273	1.351	0.000	3.22	0.56

TOTAL DRAINAGE AREA (A) = 3.22
 COMPOSITE RUNOFF COEFFICIENT (C) = 0.56

STORM WATER RUNOFF COEFFICIENT CALCULATIONS - UNDETAINED						
SURFACE TYPE	Pavement	Building	Lawn	Water	TOTAL AREA (ACRES)	CALCULATE D RUNOFF COEFFICIENT "C"
SURFACE RUNOFF COEFFICIENT	0.80	0.90	0.20	1.00		
DRAINAGE AREA	SURFACE TYPE AREA (ACRES)					
CB300	0.071				0.07	0.80
CB301	0.029		0.195		0.22	0.28
#2	0.007		0.033		0.04	0.31
Totals	0.107	0.000	0.228	0.000	0.34	0.39

TOTAL DRAINAGE AREA (A) = 0.34
 COMPOSITE RUNOFF COEFFICIENT (C) = 0.39

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 BRIGHTON, MICHIGAN 48114

DESIGN: AJL	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: AJL		08-18-22	REVISED PER REVIEW COMMENTS			
CHECK: WMP						

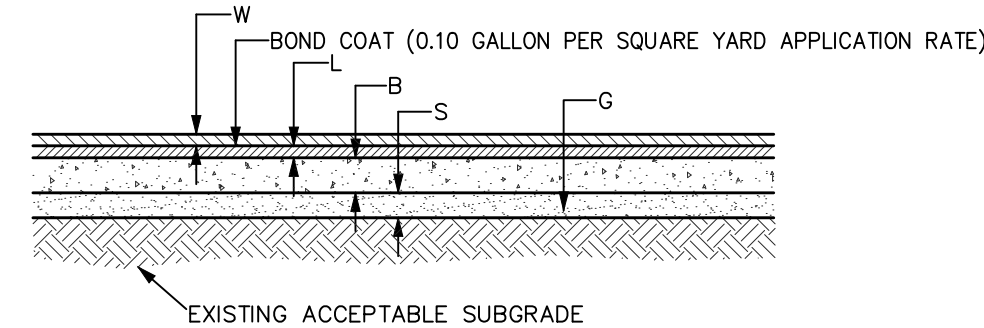
BLACK ROCK
WHITE LAKE TOWNSHIP

STORM WATER PLAN

CLIENT:
 BRANDENBROOKE INVESTMENTS
 30553 WIXOM ROAD
 WIXOM, MI, 48393

SCALE: 1" = 30'
 PROJECT No.: 214182
 DWG NAME: 4182 SW
 ISSUED: **AUG. 18, 2022**

SW



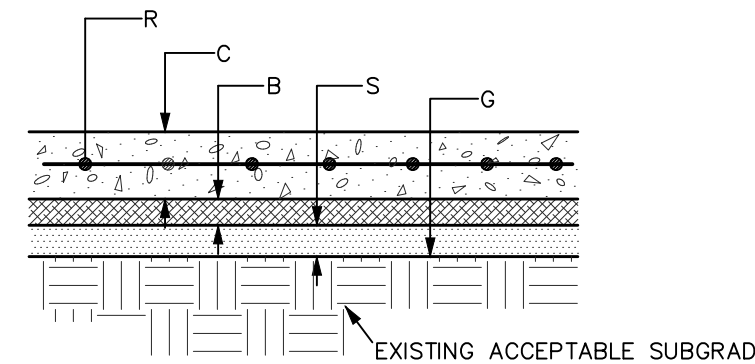
STANDARD DUTY BITUMINOUS PAVEMENT CROSS SECTION

NOT TO SCALE

KEY	DESCRIPTION	MATERIAL SPECIFICATION	MINIMUM COMPACTED THICKNESS
W	WEARING COURSE	MDOT 36A	1.5"
L	LEVELING COURSE	MDOT 13A	1.5"
S	AGGREGATE BASE	MDOT 21AA	8"
B	GRANULAR SUBBASE	MDOT CLASS II	6"
G	GEOGRID	N/A	N/A

BITUMINOUS PAVEMENT NOTES:

- The construction specifications of the appropriate Local Municipality are a part of this work. Refer to the General Notes, Road and/or Parking Lot Construction Notes and Typical Road and/or Pavement Cross Section details on the project plans for additional requirements.
- Unsuitable soils found within the 1 on 1 influence zone of the pavement, such as muck, peat, topsoil, marl, silt or other unstable materials shall be excavated and replaced up to the proposed subgrade elevation with MDOT Class III granular material compacted to 95% maximum unit weight, modified proctor.
- Contractor shall proof roll prepared subgrade as directed by Engineer. Unacceptable areas of subgrade shall be undercut and replaced as directed by Engineer.
- Owner/Developer may delay placement of the bituminous wearing course outside of the public road right of way. Repair of the bituminous leveling course may be necessary due to any delay in placement of the bituminous wearing course. Substantial repair to the bituminous leveling course may be necessary if placement of the bituminous wearing course is delayed for more than 12 months after placement of the bituminous leveling course. The bituminous leveling course shall be repaired as directed by Engineer prior to placement of the bituminous wearing course.



HEAVY DUTY CONCRETE PAVEMENT CROSS-SECTION

NOT TO SCALE

KEY	DESCRIPTION	MATERIAL SPEC.	MIN. THICKNESS
R	REINFORCEMENT	N/A	N/A
C	CONCRETE	MDOT P1-1A -- 6 SACK	8"
B	AGGREGATE BASE	MDOT 21AA	6"
S	GRANULAR SUBBASE	MDOT CLASS II	6"
G	GEOGRID	N/A	N/A

CONCRETE PAVEMENT NOTES:

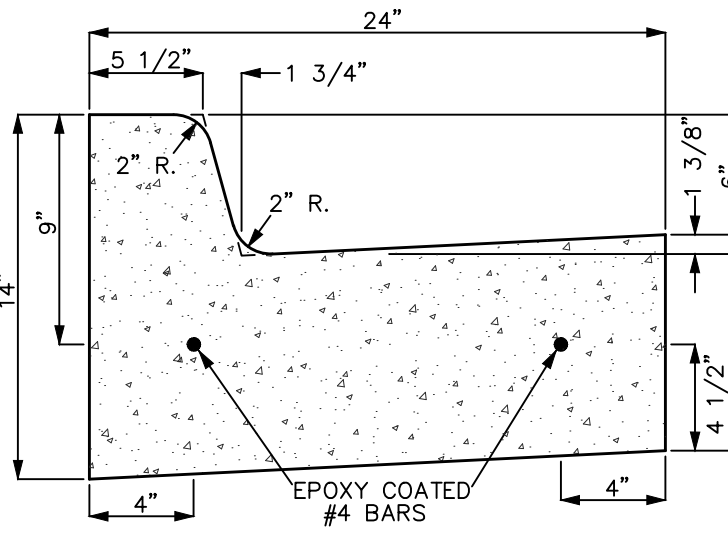
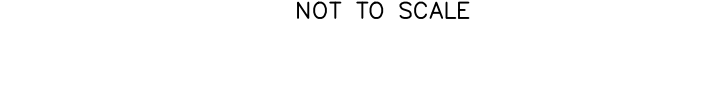
- The construction specifications of the appropriate Local Municipality are a part of this work. Refer to the General Notes, Road and/or Parking Lot Construction Notes and Typical Road and/or Pavement Cross Section details on the project plans for additional requirements.
- Unsuitable soils found within the 1 on 1 influence zone of the pavement, such as muck, peat, topsoil, marl, silt or other unstable materials shall be excavated and replaced up to the proposed subgrade elevation with MDOT Class II granular material compacted to 95% maximum unit weight, modified proctor.
- Contractor shall proof roll prepared subgrade as directed by Engineer. Unacceptable areas of subgrade shall be undercut and replaced as directed by Engineer.
- Concrete material shall meet or exceed the specification requirements of the appropriate Local Municipality. If not specified by the Local Municipality, then the concrete material shall be MDOT P1 (I-A) 6.0 sack concrete pavement mixture with a minimum 28 day design compressive strength of 4,000 PSI and 6.5% (+/-1.5%) entrained air. Contractor shall submit concrete mix design and aggregate mechanical analysis report to the Local Municipality and Engineer for review and approval prior to use.
- Install transverse contraction control joints in accordance with the Local Municipality requirements. If not specified by the Local Municipality, then install transverse contraction control joints in curb with 1" minimum depth at 10' on center. Tool joints in fresh concrete or saw cut within 8 hours.
- Install transverse expansion control joints in accordance with the Local Municipality requirements. If not specified by the Local Municipality, then install transverse expansion control joints in curb as follows: 300' maximum on center. Transverse expansion control joints shall be 1" thick asphalt fiber joint filler matching entire concrete cross section.
- Provide lane ties when specified on the Project Plans, otherwise provide 0.5" asphalt fiber control joint between concrete pavement and all other concrete structures, such as concrete curb, sidewalks and concrete driveways.

CONCRETE CURB NOTES:

- Refer to the project plans for the proposed locations of the specific curb types.
- The construction specifications of the appropriate Local Municipality are a part of this work. Refer to the General Notes and Curb Cross Section Details on the project plans for additional requirements.
- Extend the base and/or subbase material of the appropriate adjacent pavement cross-section horizontally to 1 foot behind the back of curb. Concrete curb shall be constructed on no less than 6" of combined depth of compacted base/subbase material.
- Concrete material shall meet or exceed the specification requirements of the appropriate Local Municipality. If not specified by the Local Municipality, then the concrete material shall be MDOT P1 (I-A) 6.0 sack concrete pavement mixture with a minimum 28 day design compressive strength of 4,000 PSI and 6.5% (+/-1.5%) entrained air. Contractor shall submit concrete mix design and aggregate mechanical analysis report to the Local Municipality and Engineer for review and approval prior to use.
- Install transverse contraction control joints in accordance with the Local Municipality requirements. If not specified by the Local Municipality, then install transverse contraction control joints in curb with 1" minimum depth at 10' on center. Tool joints in fresh concrete or saw cut within 8 hours.
- Install transverse expansion control joints in accordance with the Local Municipality requirements. If not specified by the Local Municipality, then install transverse expansion control joints in curb as follows: 400' maximum on center, at spring points of intersecting streets and within 10' on each side of catch basins. Transverse expansion control joints shall be 1" thick asphalt fiber joint filler matching entire curb cross section.
- Provide 1" asphalt fiber control joint between back of curb and all other concrete structures, such as concrete sidewalks and concrete driveways.
- Curb Contractor shall provide final adjustment of catch basin castings in curb line. Castings shall be tucked pointed to structure water tight with concrete or mortar inside and outside of casting.
- Install curb cuts for all existing and proposed sidewalks and pedestrian ramps in accordance with the American Disabilities Act and the Barrier Free Design requirements of the appropriate Local, County and/or State Agency. Refer to MDOT Standard Plan R-28, latest revision. Install curb cuts for all existing and proposed vehicular ramps and drives as noted on the project plans.

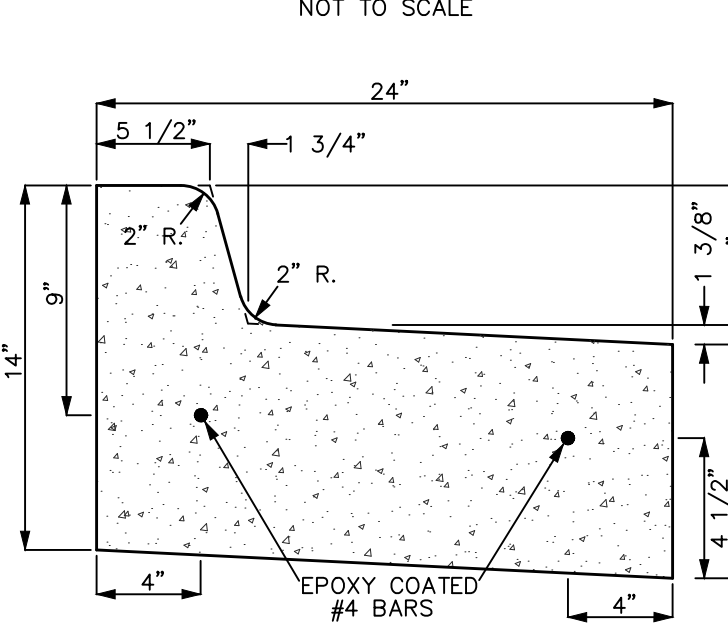
MDOT TYPE B2 CURB

NOT TO SCALE



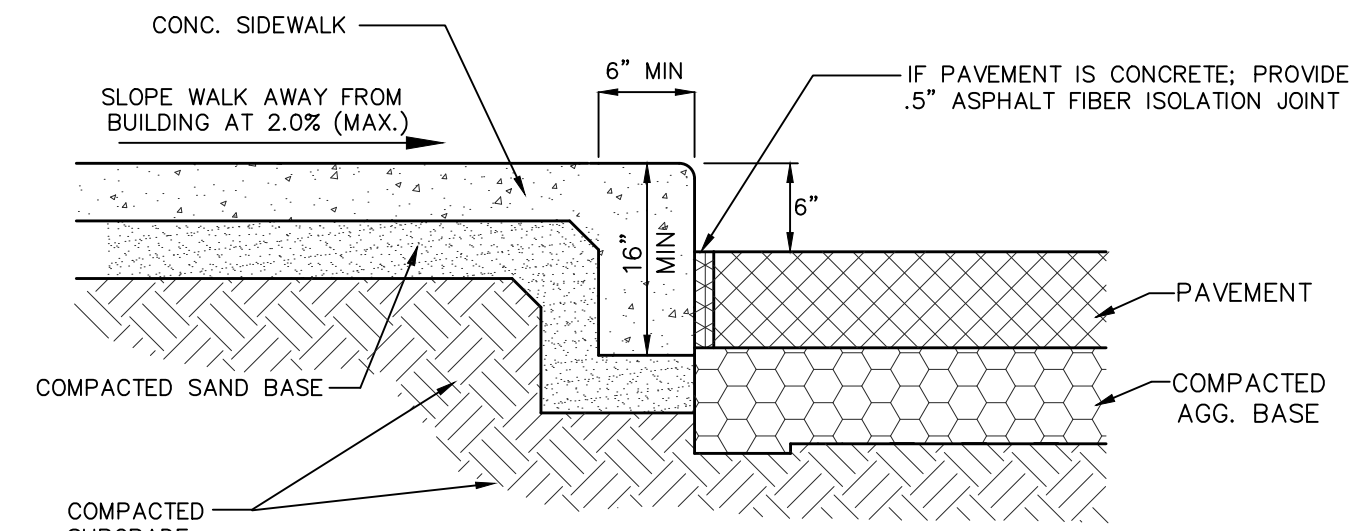
MDOT TYPE F4 CURB

NOT TO SCALE



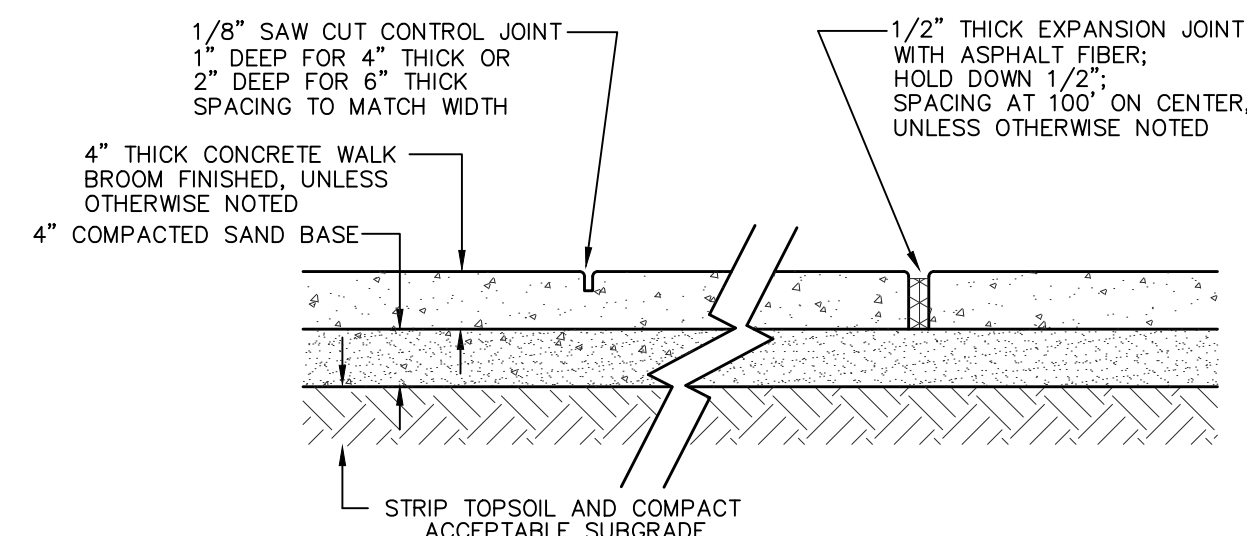
MDOT TYPE F4 CURB REVERSE PITCH

NOT TO SCALE



SIDEWALK WITH INTEGRAL CURB & ISOLATION JOINT DETAIL

NOT TO SCALE



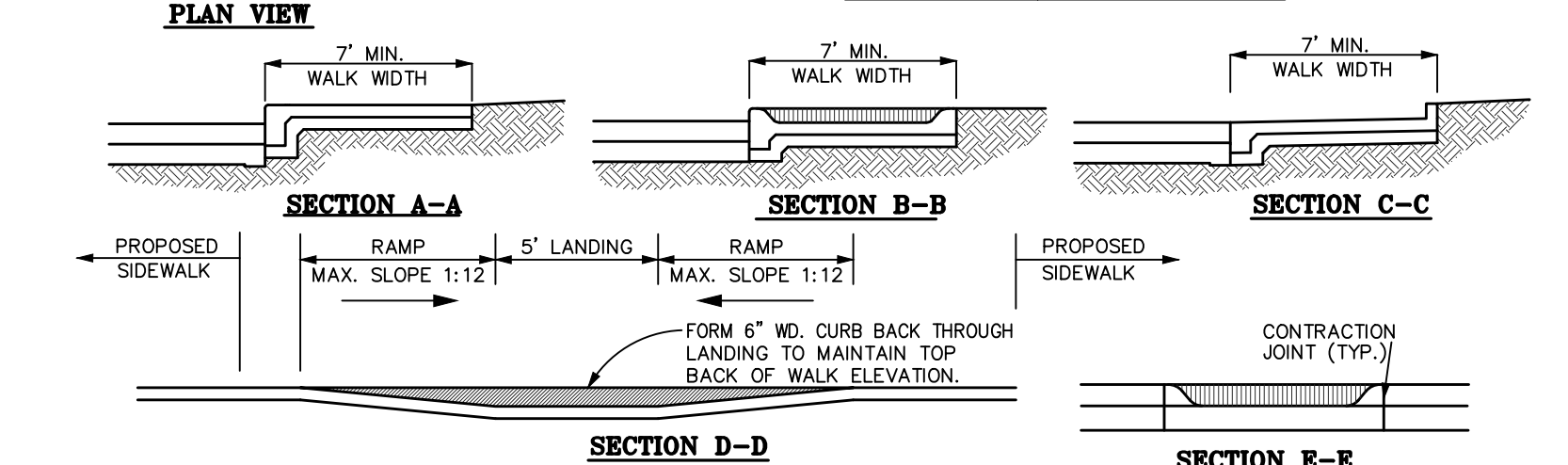
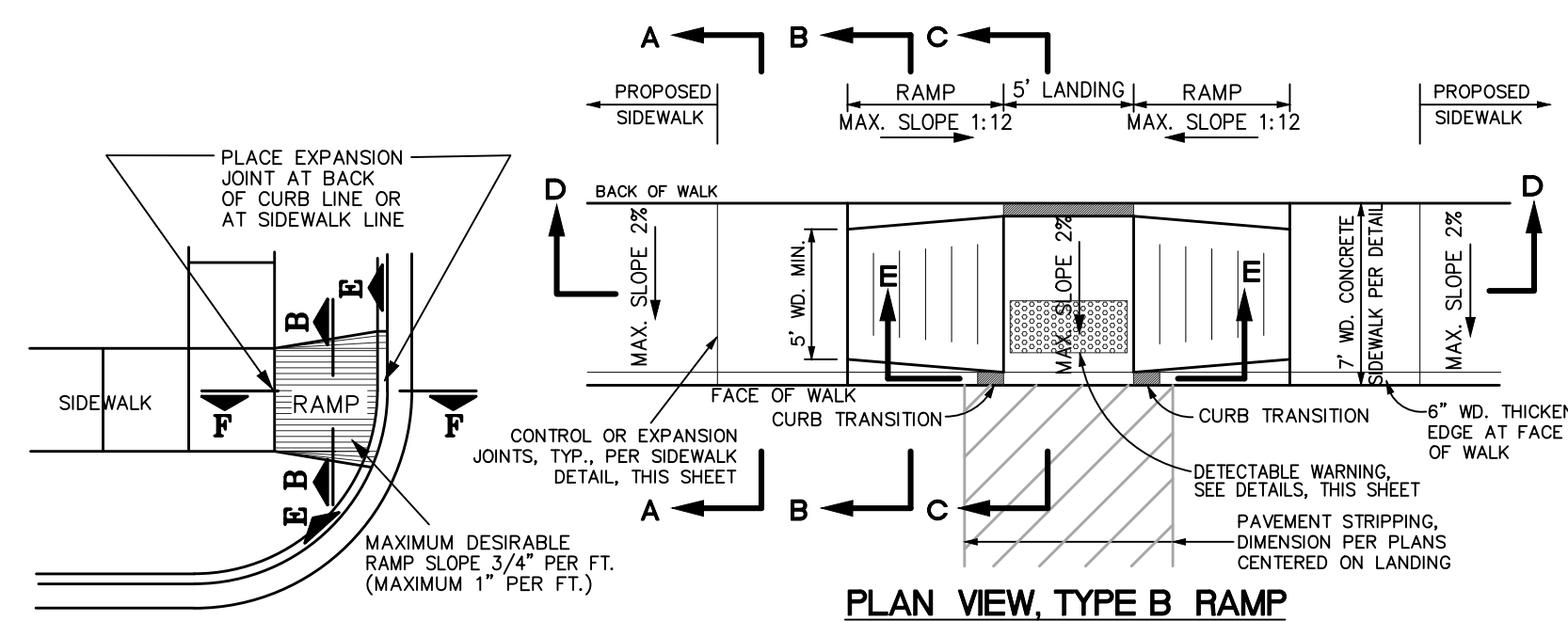
SIDEWALK CROSS SECTION

NOT TO SCALE

- NOTES:
- SEE PLAN FOR WIDTH OF SIDEWALK.
 - PROVIDE CONCRETE TYPE PER LOCAL CODE. (3500 PSI AIR ENTRAINED)
 - WALK TO BE 6" THICK AT ENTRY DRIVES

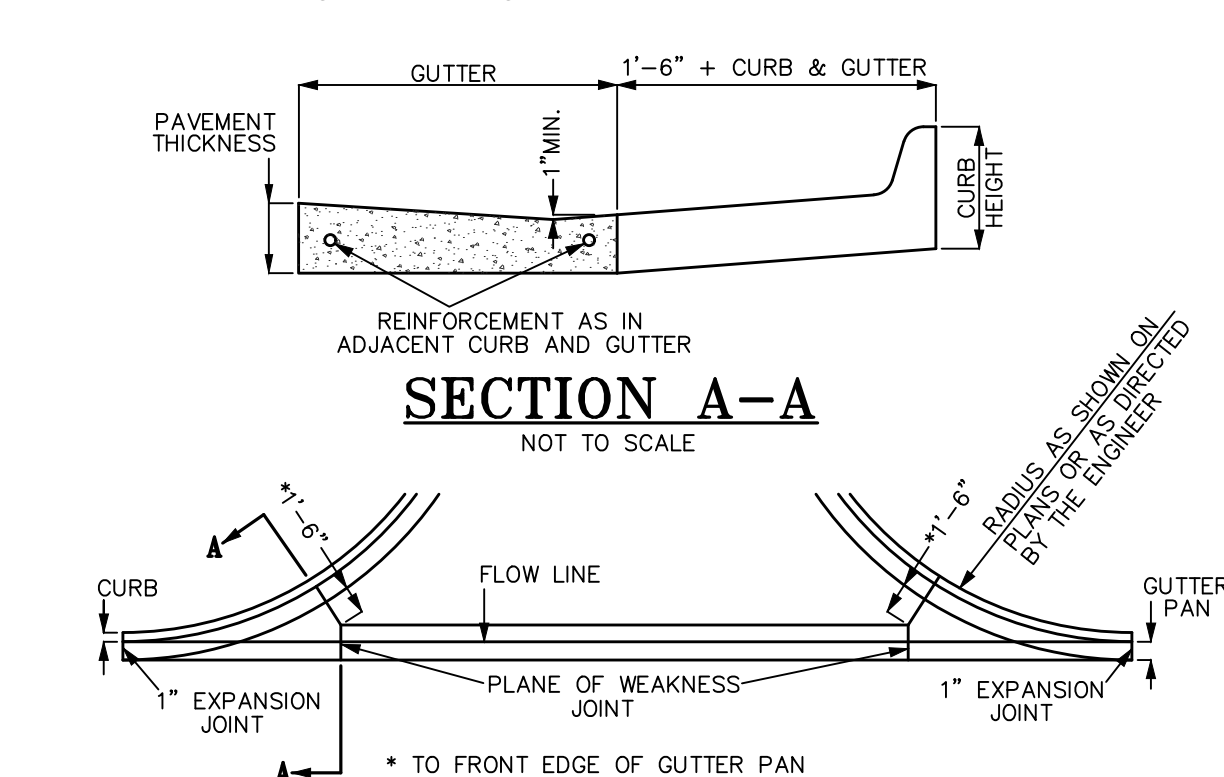
SIDEWALK CROSS SECTION NOTES:

- The construction specifications of the Local Municipality are a part of this work. Refer to the General Notes and the Sidewalk Cross Section Details on the Project Plans for additional requirements.
- Sidewalk widths may vary. See the Project Plans for the proposed sidewalk width at each location. Increase sidewalks to 6" minimum thickness at driveways and other areas exposed to vehicular traffic.
- The existing subgrade soils shall be prepared prior to placement of the granular subbase. Unsuitable soils found within the 1 on 1 influence zone of the proposed sidewalk areas, such as muck, peat, topsoil, marl, silt or other unstable materials shall be excavated and replaced with structural fill. Structural fill shall be MDOT Class II granular material placed in accordance with the General Notes on the Project Plans.
- The sidewalk compacted subbase material shall be MDOT CL II sand. No subbase material substitutions shall be permitted without prior written approval of the Project Engineer and receipt of the Owner's Authorization. The subbase shall be compacted to a minimum of 95% of the maximum unit weight, modified proctor.
- Concrete material shall be MDOT P1 (I-A) 6.0 sack concrete pavement mixture with a minimum 28 day design compressive strength of 4,000 PSI and 6.5% (+/-1.5%) entrained air. The Contractor shall submit the concrete mix design and aggregate mechanical analysis report to the Material Testing Engineer and/or Project Engineer for review and approval prior to use.
- Install transverse contraction control joints in accordance with the Sidewalk Cross Section Detail. Space contraction control joints to match sidewalk width, but no greater than 10' on center. Tool joints in fresh concrete or saw cut within 8 hours.
- Install transverse expansion control joints in accordance with the Sidewalk Cross Section Detail. Space expansion control joints at 50 feet on center maximum. Transverse expansion control joints shall be 1/2" thick asphalt fiber joint filler matching entire sidewalk cross section.
- Provide 1" asphalt fiber control joint between concrete sidewalks and all other concrete structures, such as concrete building foundations, concrete curb and concrete driveways.
- Construct all Barrier Free Sidewalk Ramps in accordance with the American Disabilities Act and the Barrier Free Design Requirements of the appropriate Local, County or State Agency with jurisdiction over the project. Refer to MDOT Standard Plan R-28, latest revision.
- The concrete sidewalk shall not be exposed to vehicular traffic until the concrete has reached at least 75% of the design flexural strength.



BARRIER FREE RAMP

NOT TO SCALE



CONCRETE DRIVEWAY OPENING MDOT DETAIL "M"

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DESIGN: AJL	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: O.M.		08-18-22	REVISED PER TOWNSHIP REVIEW COMMENTS
CHECK: WMP			

REVISION #	DATE	REVISION-DESCRIPTION

BLACK ROCK
WHITE LAKE TOWNSHIP

SITE PAVEMENT
NOTES & DETAILS

CLIENT: BRANDENBROOKE INVESTMENTS	SCALE: N/A
30553 WIXOM ROAD WIXOM, MI, 48393	PROJECT No.: 214182
	DWG NAME: 4182 DT
	ISSUED: AUG. 18, 2022

DT

02.02.2022	Prelim Site Plan Review
02.10.2022	Revision per Owner
04.20.2022	Revision
07.18.2022	Revision
08.17.2022	Revision

Black Rock
Bar & Grill

Highland Drive
White Lake Township, Michigan

Landscape Plan
North

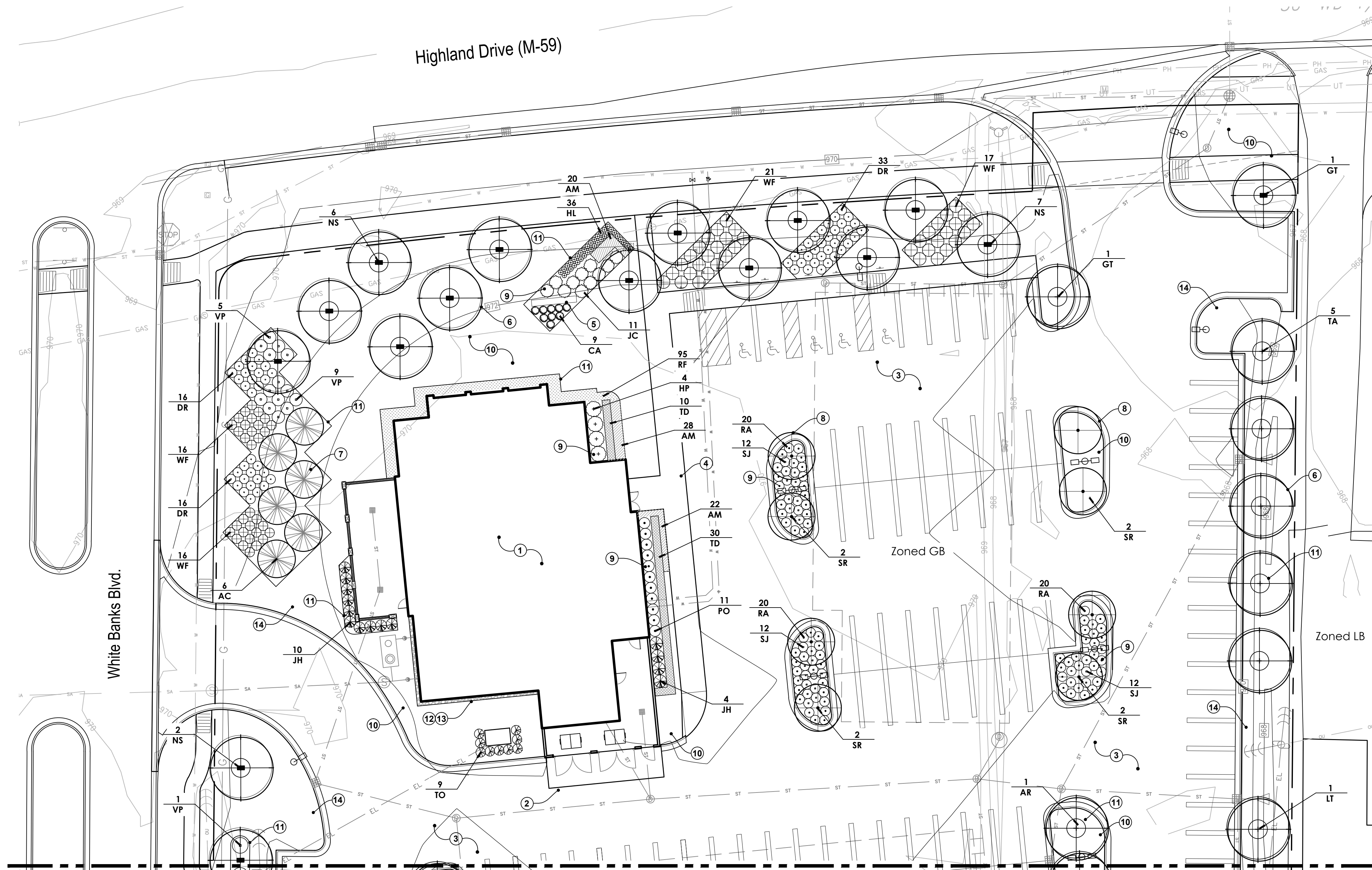
NOT FOR
CONSTRUCTION



Drawn: JG
Checked: JG
Date: 01.2022
Scale: 1" = 20'-0"

22.003

L-1



Notes

- ALL LANDSCAPE MATERIALS, INSTALLATION, AND MAINTENANCE SHALL COMPLY W/ ZONING ORDINANCE.
- ALL PLANT MATERIAL SHALL BE LOCALLY GROWN OR OF THIS NORTH MIDWEST AMERICAN REGION AND CONFORM TO THE CURRENT AAN STANDARDS. USE NO. 1 GRADE PLANT MATERIAL.
- ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION FREE OF WEEDS AND DEBRIS. THIS ESTABLISHMENT PERIOD SHALL BE TWO (2) YEARS FROM THE DATE OF APPROVAL OF PLANTINGS BY THE TOWNSHIP. FAILING PLANT MATERIAL SHALL BE REPLACED WITHIN THREE MONTHS, OR THE NEXT GROWING SEASON.
- ALL LANDSCAPE AREAS GREATER THAN 200 SF SHALL BE IRRIGATED BY AN AUTOMATIC IRRIGATION SYSTEM. THE IRRIGATION SYSTEM SHALL HAVE A RAIN SENSOR OR SIMILAR DEVICE INSTALLED TO PREVENT WATERING AFTER A PRECIPITATION EVENT.
- ALL TREE WRAP, STAKES AND GUY WIRES SHALL BE REMOVED AFTER ONE WINTER SEASON.
- NATURAL COLOR, DOUBLE SHREDDED HARDWOOD BARK MULCH - SEE PLANTING DETAILS FOR DEPTH.
- TREES SHALL NOT BE PLANTED CLOSER THAN 4' TO THE PROPERTY LINE
- ALL TREES SHALL MAINTAIN A MINIMUM 10' HORIZONTAL DISTANCE FROM ALL WATERMAIN, STORM SEWER, AND SANITARY SEWER LINES
- ALL PARKING LOT ISLANDS CONTAINING SHRUBS SHALL BE PROTECTED IN THE WINTER BY THE USE OF SALT TARPS TO PREVENT SALT BUILD-UP AND DESICCATION

MATCH LINE - SEE SHEET L-2

PLANT SCHEDULE

TREES							
QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	ROOT	COMMENTS
6	AC	<i>Abies concolor</i>	Concolor Fir	7' ht.	as shown	B&B	Unsheared, branched to ground
4	AR	<i>Acer r. 'Redpointe'</i>	Redpointe Red Maple	2.5" cal.	as shown	B&B	Single straight trunk
2	GT	<i>Gleditsia t. 'Skyline'</i>	Skyline Honeylocust	2.5" cal.	as shown	B&B	Single straight trunk
6	LT	<i>Liriodendron tulipifera</i>	Tulip Tree	2.5" cal.	as shown	B&B	Single straight trunk
17	NS	<i>Nyssa sylvatica</i>	Blackgum	2.5" cal.	as shown	B&B	Single straight trunk
11	PA	<i>Picea abies</i>	Norway Spruce	7' ht.	as shown	B&B	Unsheared, branched to ground
3	PS	<i>Pinus strobus</i>	Eastern White Pine	7' ht.	as shown	B&B	Unsheared, branched to ground
4	QR	<i>Quercus rubra</i>	Red Oak	2.5" cal.	as shown	B&B	Single straight trunk
8	SR	<i>Syringa r. 'Ivory Silk'</i>	Japanese Tree Lilac	2" cal.	as shown	B&B	Single straight trunk
5	TA	<i>Tilia americana 'Redmond'</i>	Redmond American Basswood	2.5" cal.	as shown	B&B	Single straight trunk
SHRUBS							
65	DR	<i>Dianella rivularis 'Kodiak Orange'</i>	Kodiak Orange Bush Honeysuckle	30" ht.	as shown	cont.	Well rooted
21	FI	<i>Forsythia x l. 'Spring Glory'</i>	Spring Glory Forsythia	30" ht.	as shown	cont.	Well rooted
5	HP	<i>Hydrangea p. 'Little Lime'</i>	Little Lime Hydrangea	30" ht.	as shown	cont.	Well rooted
11	JC	<i>Juniperus c. 'Grey Owl'</i>	Grey Owl Juniper	24" spd.	as shown	cont.	Well rooted
14	JH	<i>Juniperus c. 'Hetz Columnar'</i>	Hetz Columnar Juniper	48" ht.	as shown	B&B	Well rooted
39	JS	<i>Juniperus c. 'Sea Green'</i>	Sea Green Juniper	24" spd.	as shown	cont.	Well rooted
11	PO	<i>Physocarpus o. 'Summer Wine'</i>	Summer Wine Ninebark	30" ht.	as shown	cont.	Well rooted
60	RA	<i>Rhus aromatica 'Gro-Low'</i>	Gro-Low Sumac	24" spd.	as shown	cont.	Well rooted
36	SJ	<i>Spiraea japonica 'Neon Flash'</i>	Neon Flash Spirea	24" ht.	as shown	cont.	Well rooted
15	SP	<i>Syringa p. 'Miss Kim'</i>	Miss Kim Dwarf Korean Lilac	30" ht.	as shown	cont.	Well rooted
40	TD	<i>Taxus x m. 'Densiformis'</i>	Dense Yew	24" ht.	24" o.c.	cont.	Trim to Hedge
9	TO	<i>Thuja o. 'Nigra'</i>	Dark Green American Arborvitae	5' ht.	as shown	B&B	Trim to Hedge
26	VP	<i>Viburnum p.t. 'Shasta'</i>	Shasta Doublefile Viburnum	30" ht.	as shown	cont.	Well rooted
20	VT	<i>Viburnum trilobum 'Bailey's Compact'</i>	Bailey's Compact Cranberry Bush	30" ht.	as shown	cont.	Well rooted
70	WF	<i>Weigela f. 'Wine & Roses'</i>	Wine & Roses Weigela	24" ht.	as shown	cont.	Well rooted
22	WR	<i>Weigela f. 'Red Prince'</i>	Red Prince Weigela	30" ht.	as shown	cont.	Well rooted
PERENNIALS							
70	AM	<i>Allium 'Millenium'</i>	Millenium Ornamental Onion	#1	18" o.c.	cont.	Well rooted
9	CA	<i>Calamagrostis a. 'Overdam'</i>	Overdam Feather Reed Grass	#2	as shown	cont.	Well rooted
36	HL	<i>Hemerocallis 'Little Grapette'</i>	Little Grapette Daylily	#1	as shown	cont.	Well rooted
95	RF	<i>Rudbeckia f. 'Goldstrum'</i>	Black-eyed Susan	#1	24" o.c.	cont.	Well rooted

SITE LANDSCAPE CALCULATIONS

INTERIOR LANDSCAPING:
15% of the total lot area

Total lot area: 2.78 ac (121,143 sf)
Total Area Required: 18,171 sf (121,143 x .15)
Total Area Provided: **43,141 (35.6%)**

One (1) tree & (5) five shrubs per 300 sf of area required

Total Trees Required: 61 (18,171 / 300)
Total Trees Provided: **61** (3 are existing to remain)

Total Shrubs Required: 303 (18,171 / 300)*5
Total Shrubs Provided: **328**

INTERIOR PARKING LOT LANDSCAPE:
20 sf. of landscape area per space
Number of Spaces: 159

Landscape Area Required: 3,180 sf (159 x 20)
Landscape Area Provided: **3,327 sf**

Tree Planting:
(1) Deciduous or Ornamental Tree and (3) Shrubs per 100 SF of landscape area required

Trees Required: 32 (3,180 / 100)
Trees Provided: **33**

Shrubs Required: 96 (3,180 / 100)*3
shrubs provided: **96**

SCREENING REQUIREMENTS:
North & West Property Line - Type 'E'
(1) Tree and (8) Shrubs per 30 lf
North Property Line: 337.6 lf
West Property Line: 289 lf

Trees Required (North): 12
Trees Provided (North): **13**

Shrubs Required (North): 90
Shrubs Provided (North): **90**

Trees Required (West): 10
Trees Provided (West): **11**

Shrubs Required (West): 77
Shrubs Provided (West): **77**

South & Portion of West Property Line - Type 'E'
A 6' height obscuring wall is provided, see sheet L-2 and civil engineering drawings. (1) Tree and (8) Shrubs per 30 lf. are also required.

South Property Line: 288 lf
West Property Line: 152 lf

Trees Required (South): 10
Trees Provided (South): **5***

Shrubs Required (South): 77
Shrubs Provided (South): **77**

Trees Required (West): 5
Trees Provided (West): **6**

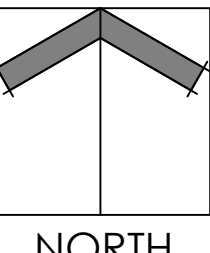
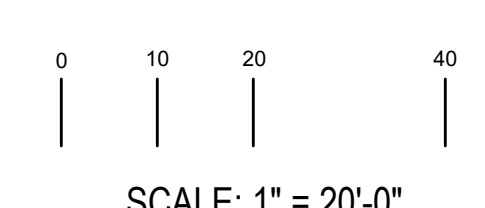
Shrubs Required (West): 41
Shrubs Provided (West): **41**

*NOTE: Due to the overhead power lines, the required trees could not be planted along a portion of the south property line. See sheet L-2

East Property Line: N/A

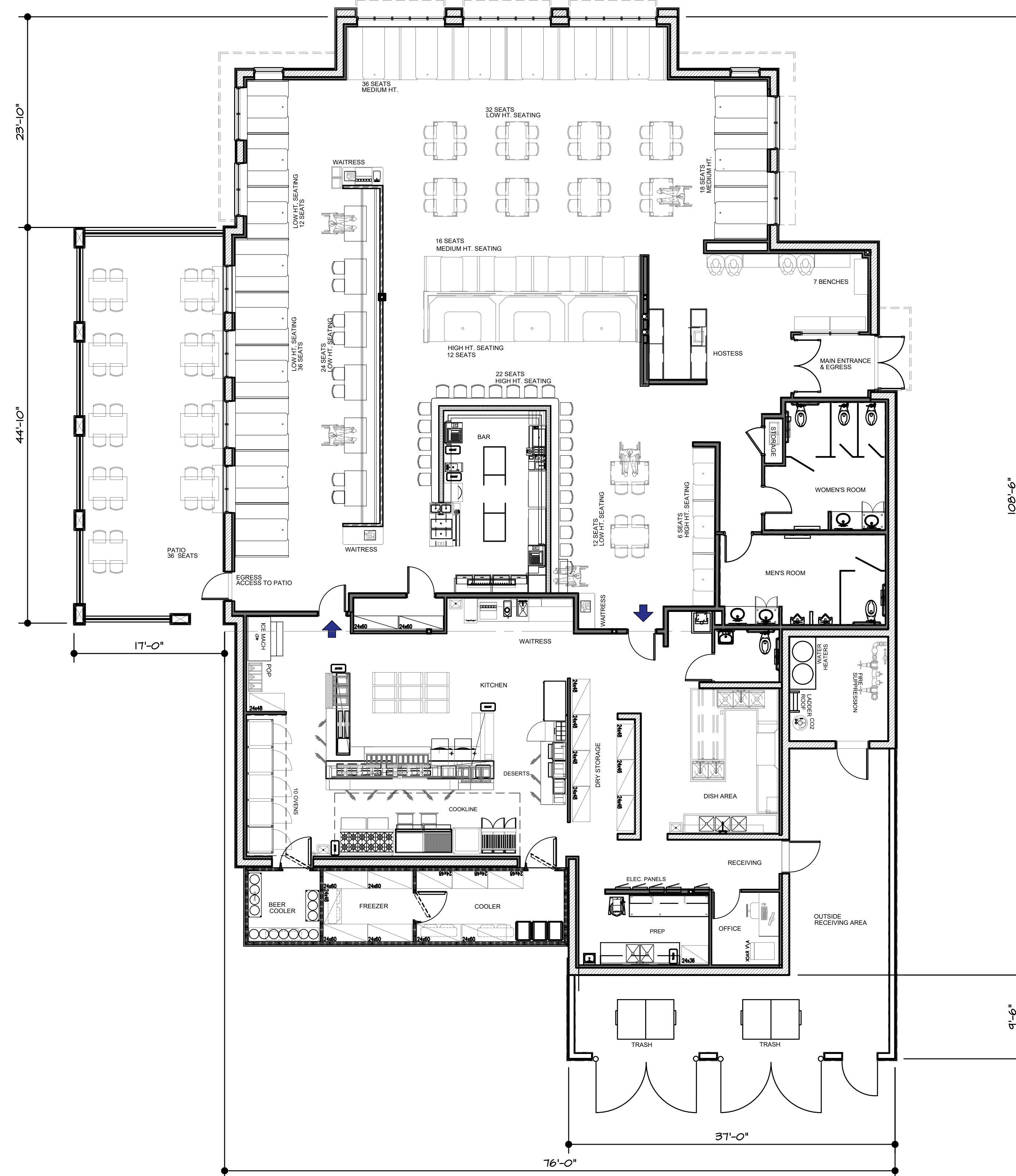
NOTE KEY:

- ① PROPOSED BUILDING
- ② PROPOSED DUMPSTER ENCLOSURE AND SERVICE ENTRANCE
- ③ PROPOSED ASPHALT PARKING LOT, SEE CIVIL ENGINEERING DRAWINGS
- ④ PROPOSED CONCRETE SIDEWALK
- ⑤ PROPOSED MONUMENT SIGN
- ⑥ DECIDUOUS CANOPY TREE, SEE TYPICAL DETAIL SHEET L-2
- ⑦ EVERGREEN TREE, SEE TYPICAL DETAIL SHEET L-2
- ⑧ PROPOSED ORNAMENTAL TREE PLANTING, SEE TYPICAL DETAIL SHEET L-2
- ⑨ PROPOSED SHRUB PLANTING, SEE TYPICAL DETAIL SHEET L-2
- ⑩ SODDED LAWN OVER MINIMUM 3" DEPTH TOPSOIL TO LIMITS OF DISTURBANCE. CROWN ALL PARKING LOT ISLANDS 6" TO THE CENTER
- ⑪ SHOVEL CUT EDGE BETWEEN LAWN AND LANDSCAPE BED
- ⑫ METAL EDGING BETWEEN LAWN AND STONE MAINTENANCE STRIP
- ⑬ 12" WIDE 3" DEPTH CRUSHED STONE MAINTENANCE STRIP OVER FILTER FABRIC
- ⑭ SNOW STORAGE AREA

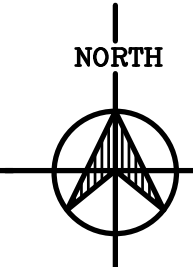


SCALE: 1" = 20'-0"

REGISTERED DESIGN PROFESSIONAL
 IN RESPONSIBLE CHARGE:
 JEFFREY L. CREEKWOOD ARCHITECT
 LICENSE NO. 1301047808
 EXPIRATION DATE 5-21-2024



6,887 SQ FT- 232 SEATS
 COMPOSITE FLOOR PLAN
 SCALE: 1/8" = 1'-0"



SHEET TITLE
 COMPOSITE FLOOR PLAN

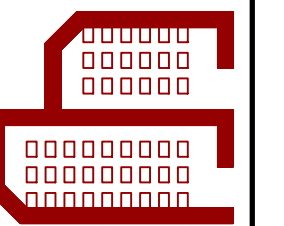
PROJECT
**NEW BUILDING FOR
 BLACK ROCK RESTAURANT WHITE LAKE**
 HIGHLAND ROAD
 WHITE LAKE, MI
 DRAWN BY B.A.C. CHECKED BY B.A.S.

JOB NO. 2002TRT

DATE 15 AUG 2022

SHEET NO.

A1
 OF 3

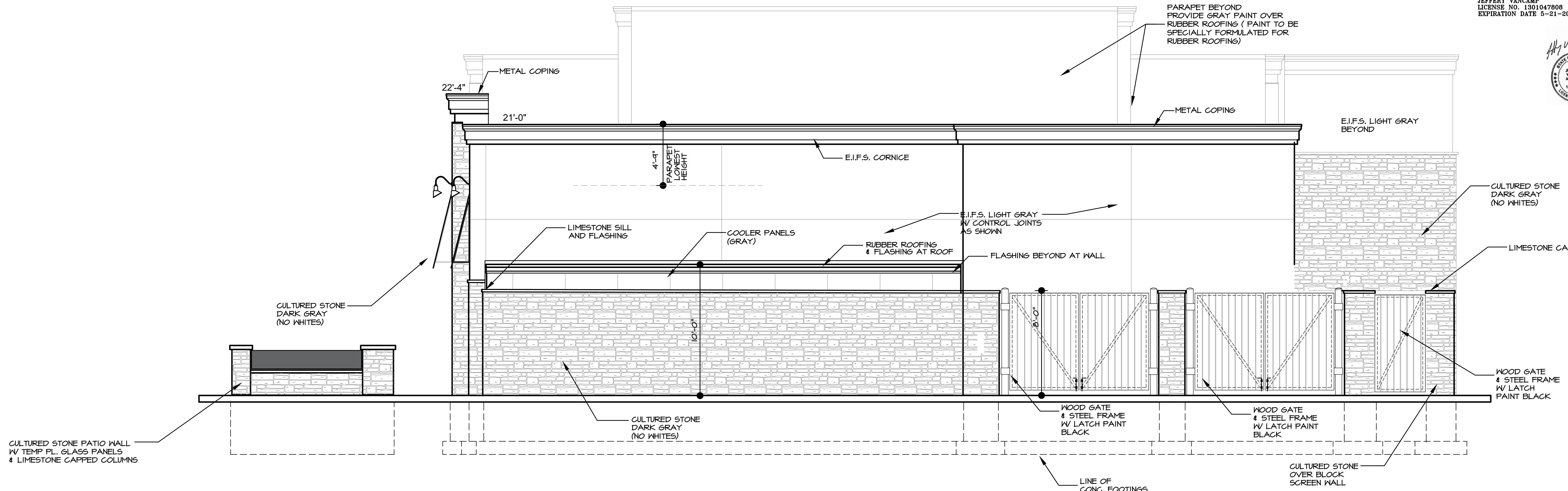


CREEKWOOD ARCHITECTURE, INC.
 11111 s. creekwood
 burton, michigan 48509
 tel. (810) 742-0480 fax (810) 742-8393

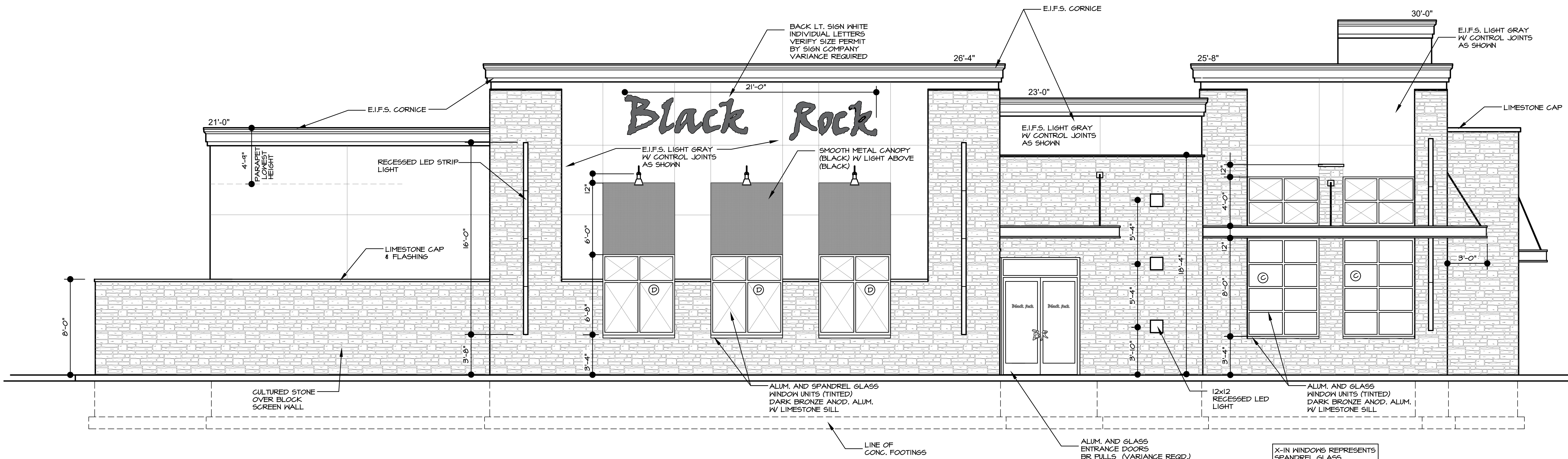
REVISIONS

Black Rock

REGISTERED DESIGN PROFESSIONAL
IN RESPONSIBLE CHARGE:
REGISTERED ARCHITECT
JEFFERY VANCAMP
LICENSE NO. 1301047808
EXPIRATION DATE 5-21-2024



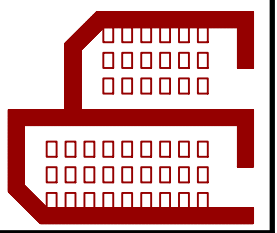
SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



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

REVISIONS

CREEKWOOD ARCHITECTURE, INC.
burton, michigan 48509
11111 s. creekwood
tel. (810) 742-0480
fax (810) 742-8393

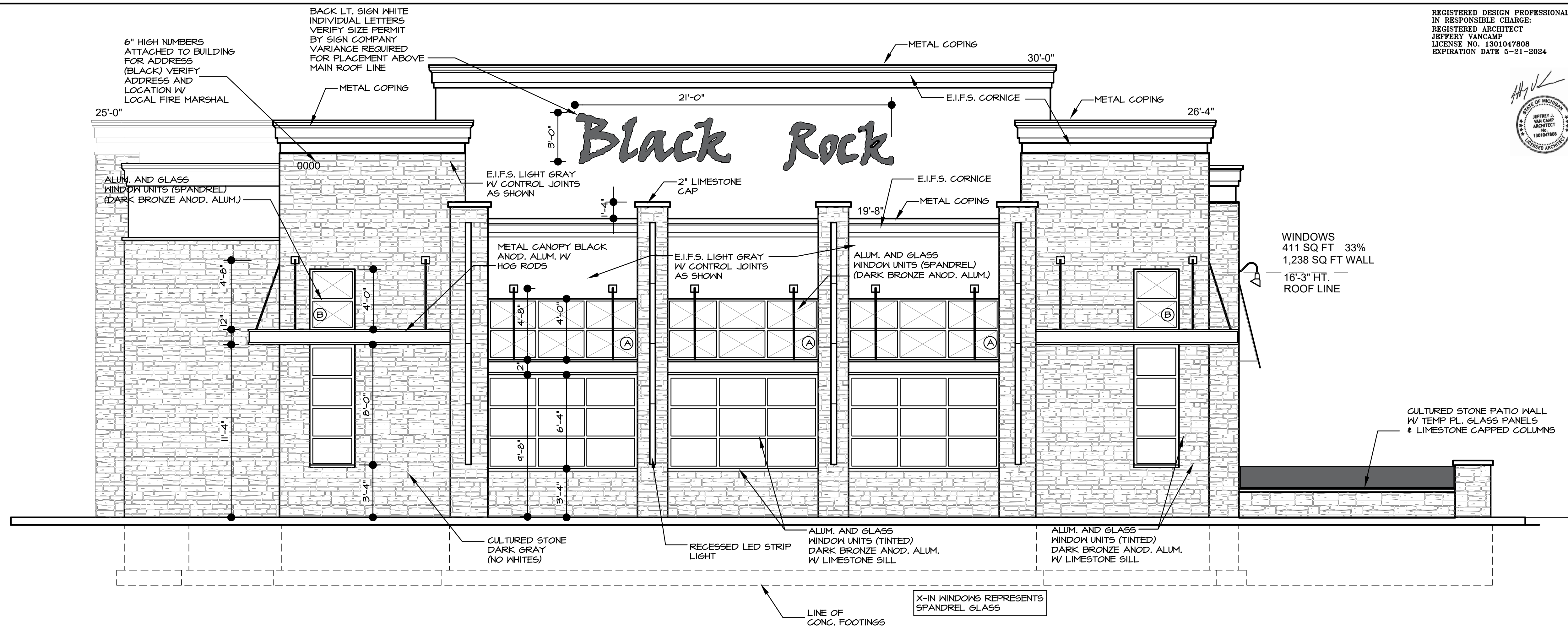


SHEET TITLE
EXTERIOR ELEVATIONS

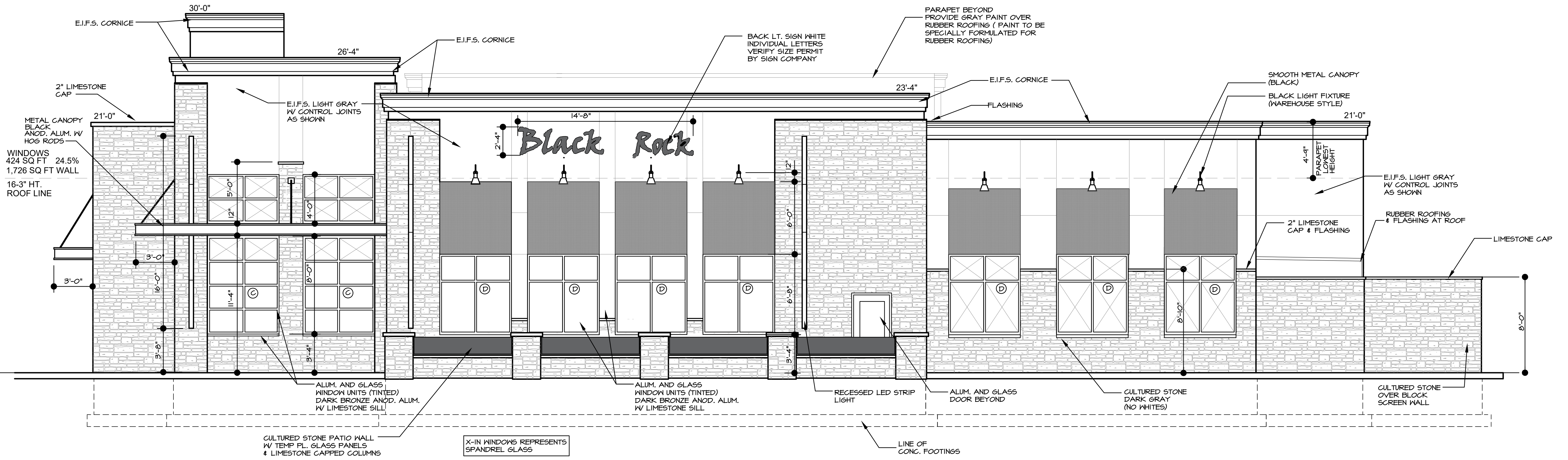
PROJECT
**NEW BUILDING FOR
BLACK ROCK RESTAURANT WHITE LAKE**
HIGHLAND ROAD WHITE LAKE MI
DRAWN BY B.A.S. CHECKED BY R.A.S.

JOB NO. 2002TRT
DATE 15 AUG 2022
SHEET NO.

Black Rock **A2**
OF 3



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

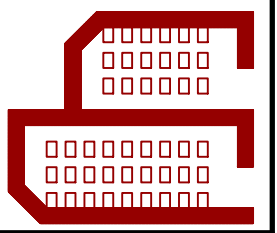


WEST ELEVATION
SCALE: 1/4" = 1'-0"

REGISTERED DESIGN PROFESSIONAL
IN RESPONSIBLE CHARGE:
REGISTERED ARCHITECT
JEFFREY VANCAMP
LICENSE NO. 1301047808
EXPIRATION DATE 5-21-2024



REVISIONS
CREEKWOOD ARCHITECTURE, INC.
burton, michigan 48509
11111 s. creekwood
tel. (810) 742-0480
fax (810) 742-8393



SHEET TITLE
EXTERIOR ELEVATIONS

PROJECT
**NEW BUILDING FOR
BLACK ROCK RESTAURANT WHITE LAKE**
HIGHLAND ROAD
WHITE LAKE MI
DRAWN BY B.A.C. CHECKED BY B.A.C.

JOB NO. 2002TRT
DATE 15 AUG 2022
SHEET NO.

Black Rock **A3**
OF 3