

Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2021-084

Considered at Board of Managers Meeting: June 1, 2022

Received complete: May 11, 2022

Applicant: Beth Davidson, Chick-Fil-A, Inc.

Representative: GBC Design, Inc., Allan Wiley

Project: The project proposes the expansion of a Chick-Fil-A restaurant drive-thru and associated onsite parking areas in Chanhausen, Minnesota.

Location: 445 W. 79th Street, Chanhausen, Minnesota, 55317

Reviewer: Dallen Webster, EIT; and Scott Sobiech, PE; Barr Engineering Co.

Proposed Board Action

Manager _____ moved and Manager _____ seconded adoption of the following resolutions based on the permit report that follows and the presentation of the matter at the June 1, 2022 meeting of the managers:

Resolved that the application for Permit 2021-084 is approved, subject to the conditions and stipulations set forth in the Recommendations section of the attached report;

Resolved that on determination by the RPBCWD administrator that the conditions of approval of the permit have been affirmatively resolved, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2021-084 to the applicant on behalf of RPBCWD.

Upon vote, the resolutions were adopted, _____ [VOTE TALLY].

Applicable Rule Conformance Summary

Rule	Issue	Conforms to RBPCWD Rules?	Comments
C	Erosion Control Plan	See comment	See rule-specific permit condition C1 related to name of individual responsible for on-site erosion control.
J	Stormwater Management	Rate	Yes
		Volume	Yes
		Water Quality	Yes
		Low Floor Elev.	Yes
		Maintenance	Yes
		Chloride Management	See comment
	Wetland Protection	NA	

Rule	Issue	Conforms to RBPCWD Rules?	Comments
L	Permit Fee Deposit	Yes	\$3,000 deposit fee received March 21, 2022. Replenish permit fee deposit. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. As of May 25, 2022 the amount due is \$2,460
M	Financial Assurance	See Comment	The financial assurance is calculated at \$9,543.

Background

The proposed redevelopment will include the demolition and removal of the existing Chick-fil-A drive-thru and a portion of the parking lot for the construction of an expanded drive-thru and onsite parking areas. The applicant completed the initial redevelopment and construction of the Chick-Fil-a restaurant under RPBCWD Permit 2016-014, including the required stormwater management system. The applicant proposes to use the existing stormwater management system, a StormTrap subsurface detention facility, to provide water quality treatment, rate control, and volume abstraction. Because the property owner has undertaken a prior redevelopment project triggering the RPBCWD stormwater requirements since January 1, 2015 (i.e., when RPBCWD reinstated a regulatory program) on the site, the presently proposed redevelopment will be considered in aggregate with prior changes under the common scheme of development provision of Rule J.

The project site information is summarized in Table 1.

Table 1. Project site information

Site Information	Permit 2016-014	2021-084 (current)	Aggregate Total
Total Site Area (acres)	1.32	1.32	1.32
Existing Site Impervious Area (acres)	0.87	0.87	0.87
Post Construction Site Impervious (acres)	1.03	1.06	1.06
New (increase) in Site Impervious Area (acres)	0.16	0.03	0.19
Percent increase in Impervious Surface	18%	2.9%	20.9%
Disturbed Site Impervious Area (acres)	0.87	0.38	0.87
Percent Disturbance of Existing Impervious Surface	100%	37%	100%
Total Disturbed Area (acres)	1.32	0.51	1.32

Exhibits:

1. Permit application dated November 9, 2021 (Notified applicant on November 22, 2021 and March 24, 2022 that submittal was incomplete, revised materials completing the application received May 11, 2022)
2. Project Plan set dated November 11, 2021 (revised March 18, 2022)
3. Stormwater Report memo dated March 18, 2022 (revised May 10, 2022)
4. Proposed HydroCAD Models received March 18, 2022

5. Existing HydroCAD Models received May 11, 2022
6. Review Responses dated March 18, 2022 and May 10, 2022 (i.e., the applicant's responses to the November 22nd and March 24th incomplete notice/review comments)
7. Proposed MIDS Model received March 18, 2022 (revised May 11, 2022)
8. Existing MIDS Model received May 11, 2022
9. Original Stormwater Management Report received March 18, 2022 (dated July 26, 2016)
10. Geotechnical Analysis report received May 11, 2022 (dated October 4, 2016)
11. Geotechnical Groundwater Depth Analysis received May 11, 2022 (dated June 10, 2015)
12. Phase I Environmental Site Assessment received May 11, 2022 (dated January 20, 2015)
13. Phase I Environmental Site Assessment received May 11, 2022 (dated March 11, 2016)
14. Phase I Environmental Site Assessment Recertification received May 11, 2022 (dated July 26, 2016)
15. Limited Phase II Environmental Site Assessment received May 11, 2022 (dated March 14, 2016)
16. Limited Phase II Environmental Site Assessment letter received May 11, 2022 (dated June 14, 2016)
17. Response Action Plan Implementation Report received May 11, 2022 (dated July 12, 2017).

Rule Specific Permit Conditions

Rule C: Erosion Prevention and Sediment Control

Because the project will involve the alteration of 0.51 acres of land-surface area or vegetation, the project must conform to the erosion prevention and sediment control requirements established in Rule C.

The erosion control plan prepared by GBC Design includes installation of perimeter control (silt fence or sediment control logs), a stabilized rock construction entrance, inlet protection, daily inspection, staging areas, placement of a minimum of 6 inches of topsoil (at 5% organic matter), decompaction of areas compacted during construction, and retention of native topsoil onsite to the greatest extent possible. To conform to RPBCWD Rule C requirements, the following revisions are needed:

- C1. The Applicant must provide the name, address and phone number of the individual who will remain liable to the District for performance under this rule and maintenance of erosion and sediment-control measures from the time the permitted activities commence until vegetative cover is established.

Rule J: Stormwater Management

Because the property owner has undertaken a prior redevelopment project triggering the RPBCWD stormwater requirements since January 1, 2015 (i.e., when RPBCWD reinstated a regulatory program) on the site, the presently proposed redevelopment will be considered in aggregate with prior changes under the common scheme of development provision of Rule J. Because the project will disturb 0.51 acres of land-surface area, the project must meet the criteria of RPBCWD's Stormwater Management rule (Rule J,

Subsection 2.1). The criteria listed in Subsection 3.1 will apply to the entire project site because the aggregate site activity will disturb more than 50 percent of the existing impervious surface on the parcel (Rule J, Subsection 2.3).

The applicant is utilizing an existing subsurface detention basin to provide the rate control, volume abstraction and water quality management for the disturbed and replaced impervious area. Pretreatment for runoff entering the infiltration basin is being provided by catch basins with sumps.

Rate Control

In order to meet the rate control criteria listed in Subsection 3.1.a, the 2-, 10-, and 100-year post development peak runoff rates must be equal to or less than the existing discharge rates at all locations where stormwater leaves the site. The applicant used a HydroCAD hydrologic model to simulate runoff rates for pre- and post-development conditions for the 2-, 10-, and 100-year frequency storm events using a nested rainfall distribution, and a 100-year frequency, 10-day snowmelt event. The existing and proposed 2-, 10-, and 100-year frequency discharges from the site are summarized in Table 2 below. Because the modeled increase is within the margin of error for the computer model, the proposed project conforms to RPBCWD Rule J, Subsection 3.1.a.

Table 2. Existing and Proposed Peak Runoff Rates

Modeled Discharge Location	2-Year Discharge (cfs)		10-Year Discharge (cfs)		100-Year Discharge (cfs)		10-Day Snowmelt (cfs)	
	Ex	Prop	Ex	Prop	Ex	Prop	Ex	Prop
MnDOT Right-of-Way	4.3	1.4	7.1	2.5	12.2	4.6	0.2	0.2
West 79 th Street	0.1	0.2	0.2	0.3	0.5	0.6	< 0.1	< 0.1

Volume Abstraction

Subsection 3.1.b of Rule J requires the abstraction onsite of 1.1 inches of runoff from the regulated impervious surface of the site. An abstraction volume of 4,233 cubic feet is required from the 1.06 acres of regulated site impervious area on the project for volume retention. The following information was considered during the review of permit 2016-014 and remains relevant for the current abstraction analysis:

- Soil borings performed by Giles Engineering Associates show that soils in the project area are sandy/silty clays; the MN Stormwater Manual indicates an infiltration rate of 0.06 inches per hour for such soils. Soil borings show mottled soils which indicate the presence of seasonally high groundwater at the site. Seasonally high groundwater was also identified in a subsequent geotechnical report based on piezometers installed at the site. The high groundwater table is close enough to the surface to not allow for the necessary 3-ft separation distance from potential above ground infiltration basins. The high groundwater is present throughout the site, preventing relocation of the BMPs to another area.

- The Phase I assessment indicated the presence of possible contaminated soils from the adjacent and nearby properties. The Phase II assessment indicates there is low level contamination in the groundwater. Infiltration of runoff through a BMP or irrigation has the potential to increase the movement of the existing contamination. Therefore, these abstraction methods are not available for this site.
- The project site is located in the Drinking Water Supply Management Area (DWSMA). The MPCA Stormwater Manual suggests no infiltration if site is a potential stormwater hotspot, such as a gas station or contaminated site, to protect drinking water. Based on the findings of the Phase II assessment, the site is a potential stormwater hotspot.
- The topography and land use of the site were evaluated to determine if stormwater could be routed to a shallow vegetated swale to provide abstraction. The large majority of the site drains to the southwest towards the MNDOT right-of-way. A very small portion drains to the north starting at a point just south of the West 79th Street right-of-way. The west side of the site ties into the existing shared paved access drive with no vegetated areas available to route stormwater through. The topography at the north side of the site does not allow for routing stormwater to the vegetated area as the west access drive grading needs to remain similar to the existing condition and the east access drive grading must connect to West 79th Street. Because of the need to tie into existing adjacent grades the site could not be raised to provide the required separation to groundwater.
- Water reuse was considered as a stormwater-treatment option; however, for the reason noted above regarding the poor subsurface soils, any areas within proximity to the parking lot would have to have an underdrain and be directed into the storm sewer system, thus providing no abstraction. Additionally, there is limited green space available for irrigation and the applicant is proposing a no mow fescue mix which requires minimal watering, thus reducing the abstraction that could be provided by a reuse system.
- The use of pervious pavement was reviewed to determine if it would be a feasible option for stormwater infiltration. The applicant's geotechnical engineer noted that the subsurface soils are moisture-sensitive and frost-susceptible which is supported by the supplied soil boring information. The introduction of additional water to these soils could cause them to lose strength due to the increase in moisture content unless underdrains are included in the design. The inclusion of underdrains would result in runoff being discharged from the site rather than abstracted on-site. The use of a pervious pavement is not feasible due to the soil characteristics listed above.
- The Chick-fil-A building is not structurally designed to handle the additional loading of a green roof system and the amount of space available for a green roof is limited after the towers and roof top units are deducted.

The Engineer concurs that soil-contamination information, shared driveway access with adjacent property, and high groundwater show that the abstraction standard in Subsection 3.1 of Rule J cannot practicably be met, and the engineer determines that the site is restricted and stormwater runoff volume must be managed in accordance with Subsection 3.3 of Rule J. For restricted sites, Subsection 3.3 of Rule J requires rate control in accordance with Subsection 3.1a and that abstraction and water quality protection be

provided in accordance with the following sequence: (a) Abstraction of 0.55 inches of runoff from site impervious surface determined in accordance with paragraphs 2.3, 3.1 or 3.2, as applicable, and treatment of all runoff to the standard in paragraph 3.1c; or (b) Abstraction of runoff onsite to the maximum extent practicable and treatment of all runoff to the standard in paragraph 3.1c; or (c) Off-site abstraction and treatment in the watershed to the standards in paragraph 3.1b and 3.1c. Because of the cited site conditions, the Engineer concurs that the maximum practicable extent of abstraction under 3.3b is 0.

Water Quality Management

Subsection 3.1.c of Rule J requires the Applicant to provide volume abstraction in accordance with 3.1b or least 60 percent annual removal efficiency for total phosphorus (TP), and at least 90 percent annual removal efficiency for total suspended solids (TSS) from site runoff, and no net increase in TSS or TP loading leaving the site from existing conditions. The Applicant proposes to use the existing underground detention system to achieve the required TP and TSS removals and sump manholes for pretreatment. A P8 water quality model was developed to estimate the TP and TSS removal capacity of the existing BMP and is summarized in the table below. The engineer concurs with the modeling and finds that the proposed project is in conformance with Rule J, Subsection 3.1.c.

Annual TSS and TP removal summary:

Pollutant of Interest	Regulated Site Loading (lbs/yr)	Required Load Removal (lbs/yr)	Provided Load Reduction (lbs/yr)
Total Suspended Solids (TSS)	840	756 (90%)	765 (91%)
Total Phosphorus (TP)	2.8	1.68 (60%)	1.71 (61%)

Summary of net change in TSS and TP leaving the site

Pollutant of Interest	Existing Site Loading (lbs/yr)	Proposed Site Load after Treatment (lbs/yr)	Change (lbs/yr)
Total Suspended Solids (TSS)	712	62	-650
Total Phosphorus (TP)	2.3	1	-1.3

Low floor Elevation

All new buildings must be constructed such that the lowest floor is at least two feet above the 100-year high-water elevation or one foot above the emergency overflow of a stormwater-management facility according to Rule J, Subsection 3.6a. The lowest elevation of the nearest building and the 100-year event flood elevation in the proposed underground system is summarized below. The RPBCWD Engineer concurs that the proposed project is in conformance with Rule J, Subsection 3.6.

Location	Low Floor Elevation of Building (feet)	100-year Event Flood Elevation (feet)	Freeboard (feet)
Underground System	951.55	947.23	4.32

Maintenance

Subsection 3.7 of Rule J requires the submission of maintenance plan. All stormwater management structures and facilities must be designed for maintenance access and properly maintained in perpetuity to

assure that they continue to function as designed. Because the applicant is proposing to use the existing subsurface detention basin, recorded a maintenance declaration prior to issuance of the prior permit (2016-014), and no modifications to the existing system are needed; the RPBCWD Engineer concurs that the proposed project is in conformance with Rule J, Subsection 3.7.

Chloride Management

Subsection 3.8 of Rule J requires the submission of chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan. To close out the permit and release the \$5,000 in financial assurance held for the purpose of chloride management, the permit applicant must provide a chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan at the site. An unsigned chloride management plan was received on behalf of Chick-fil-A, Inc. on May 11, 2022 designating Craig Jongerius of SW Lawn, Snow & Landscape as the MPCA-certified salt applicator. Prior to project close-out the applicant must execute the chloride management plan.

Rule L: Permit Fee

The RPBCWD permit fee schedule adopted in February 2020 requires permit applicants to deposit \$3,000 to be held in escrow and applied to cover the \$10 permit-processing fee and reimburse RPBCWD for permit review and inspection-related costs and when a permit application is approved, the deposit must be replenished to the applicable deposit amount by the applicant before the permit will be issued to cover actual costs incurred to monitor compliance with permit conditions and the RPBCWD Rules. A permit fee deposit of \$3,000 was received on March 21, 2022. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. Subsequently, if the costs of review, administration, inspections and closeout-related or other regulatory activities exceed the fee deposit amount, the applicant will be required to replenish the deposit to the original amount or such lesser amount as the RPBCWD administrator deems sufficient within 30 days of receiving notice that such deposit is due. The administrator will close out the relevant application or permit and revoke prior approvals, if any, if the permit-fee deposit is not timely replenished.

- L1. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. The amount needed to replenish the permit fee deposit is \$2,460 as of May 25, 2022.

Rule M: Financial Assurance

	Unit	Unit Cost	# of Units	Total
Rules C: Silt fence:	LF	\$2.50	700	\$1,750
Inlet protection	EA	\$100	4	\$400
Rock Entrance	EA	\$250	1	\$250
Restoration	Ac	\$2,500	0.51	\$1,275
Rules J: Chloride Management	LS	\$5,000	1	\$5,000
Rules J: Stormwater Management: 125% of engineer’s opinion of cost (\$0 because the existing subsurface detention system provides stormwater management without system revisions)	EA	125% OPC	1	\$0
Contingency (10%)		10%		\$868
Total Financial Assurance				\$9,543

Applicable General Requirements:

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. Construction shall be consistent with the plans and specifications approved by the District as a part of the permitting process. The date of the approved plans and specifications is listed on the permit.
3. Construction must be consistent with the plans, specifications, and models that were submitted by the applicant that were the basis of permit approval. The date(s) of the approved plans, specifications, and modeling are listed on the permit. The grant of the permit does not in any way relieve the permittee, its engineer, or other professional consultants of responsibility for the permitted work.
4. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.
5. The issuance of this permit does not convey any rights to either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
6. In all cases where the doing by the permittee of anything authorized by this permit involves the taking, using or damaging of any property, rights or interests of any other person or persons, or of any publicly owned lands or improvements or interests, the permittee, before proceeding therewith, must acquire all necessary property rights and interest.
7. RPBCWD’s determination to issue this permit was made in reliance on the information provided by the applicant. Any substantive change in the work affecting the nature and extent of applicability of RPBCWD regulatory requirements or substantive changes in the methods or means of compliance with RPBCWD regulatory requirements must be the subject of an application for a permit modification to the RPBCWD.

8. If the conditions herein are met and the permit is issued by RPBCWD, the applicant, by accepting the permit, grants access to the site of the work at all reasonable times during and after construction to authorized representatives of the RPBCWD for inspection of the work.

Findings

1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. The proposed project will conform to Rules C and J if the Rule Specific Permit Conditions listed above are met.

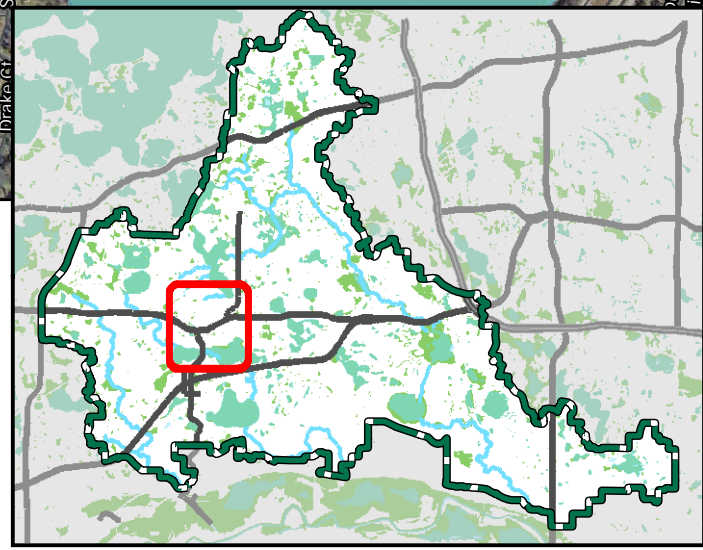
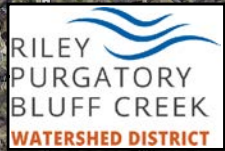
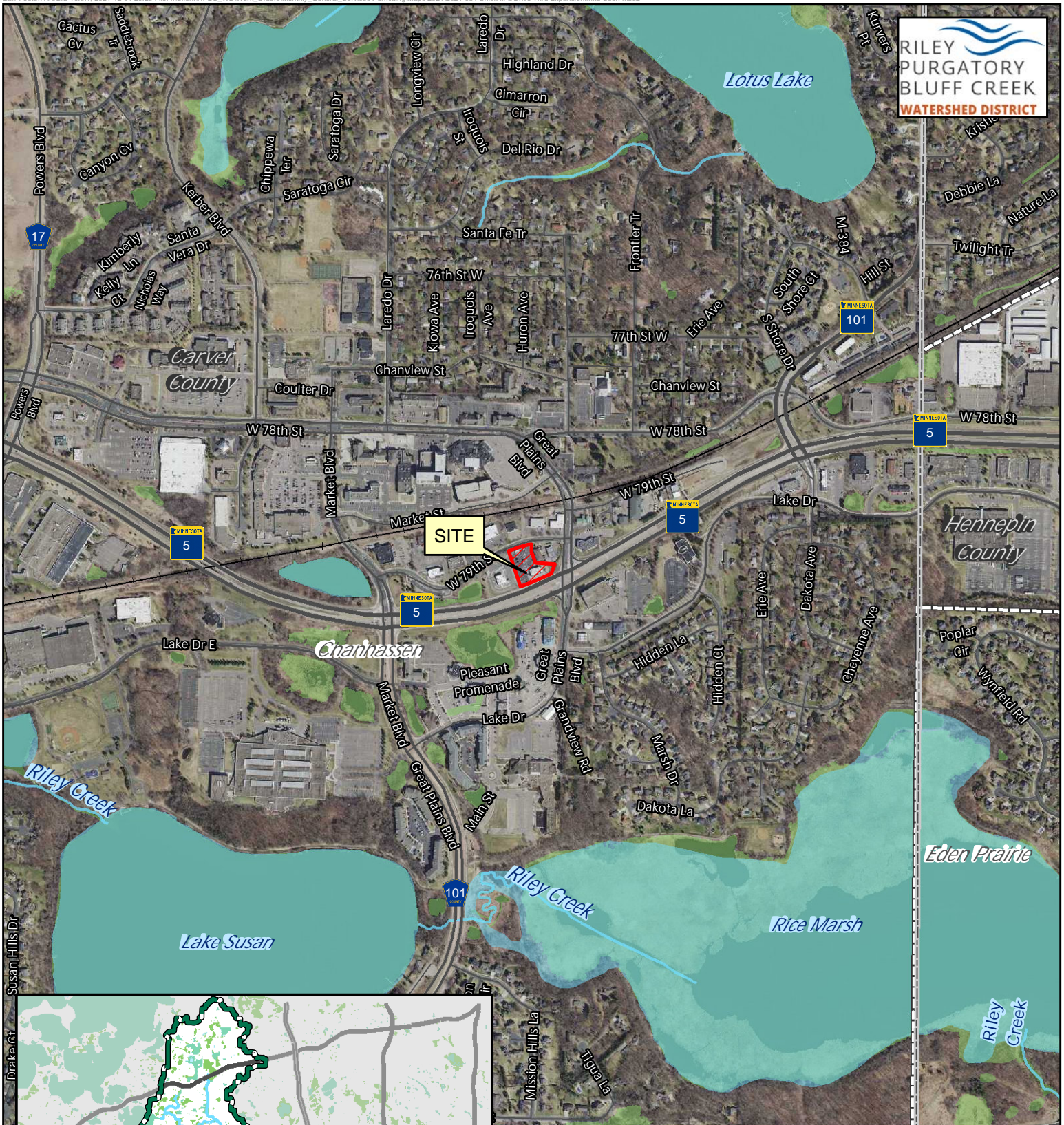
Recommendation:

Approval of the permit contingent upon:

1. Financial Assurance in the amount of \$9,543.
2. Permit applicant must provide the name and contact information of the general contractor responsible for the site. RPBCWD must be notified if the responsible party changes during the permit term.
3. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. The amount needed to replenish the permit fee deposit is \$2,460 as of May 25, 2022.

By accepting the permit, when issued, the applicant agrees to the following stipulations:

1. Continued compliance with General Requirements.
2. To close out the permit and release the \$5,000 in financial assurance held for the purpose of the chloride management, the permit applicant must provide an executed chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan at the site.



Permit Location Map



Feet



CHICK-FIL-A
 DRIVE THRU EXPANSION
 Permit 2021-084
 Riley Purgatory Bluff Creek
 Watershed District



Chick-fil-A
5200 Burlington Road
Atlanta, Georgia 30349-2988

GBC Design, Inc.
665 White Road Dr. Athens, OH 43003-1123
Phone: 530-536-0228 Fax: 530-536-0752

PROFESSIONAL ENGINEER
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Georgia.
Print Name: [Signature] License # 49285
Date: 7/14/22

CHICK-FIL-A
CHANNASSEN FSU
CUSTOM PROJECT SOLUTIONS
445 W 79TH STREET
CHANNASSEN, MN

FSU# 03840

REVISIONS

GBC PROJECT #	DATE	DESCRIPTION
54880	11/02/21	PERMIT
54880	11/02/21	PERMIT
54880	11/02/21	PERMIT

DATE: 7/14/22

CONTRACTOR RESPONSIBLE TO FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITY TIE-INS AND CROSSINGS AS SHOWN ON SITE PLAN. CONTRACTOR SHALL VERIFY ALL UTILITY TIE-INS AND CROSSINGS AS SHOWN ON SITE PLAN PRIOR TO THE DESIGN OF CONSTRUCTION. CONTACT ALLAN WILEY AT GBC DESIGN, INC., 330-836-0228, WITH ANY CONCERNS OR CONFLICTS TO THE DESIGN. CONTRACTOR SHALL VERIFY THE THICKNESS OF EXISTING ASPHALT AND CONCRETE AND SIDEWALK SO THE RESTORATION WORK IS INCLUDED IN THE BID.

SHEET NUMBER C-110

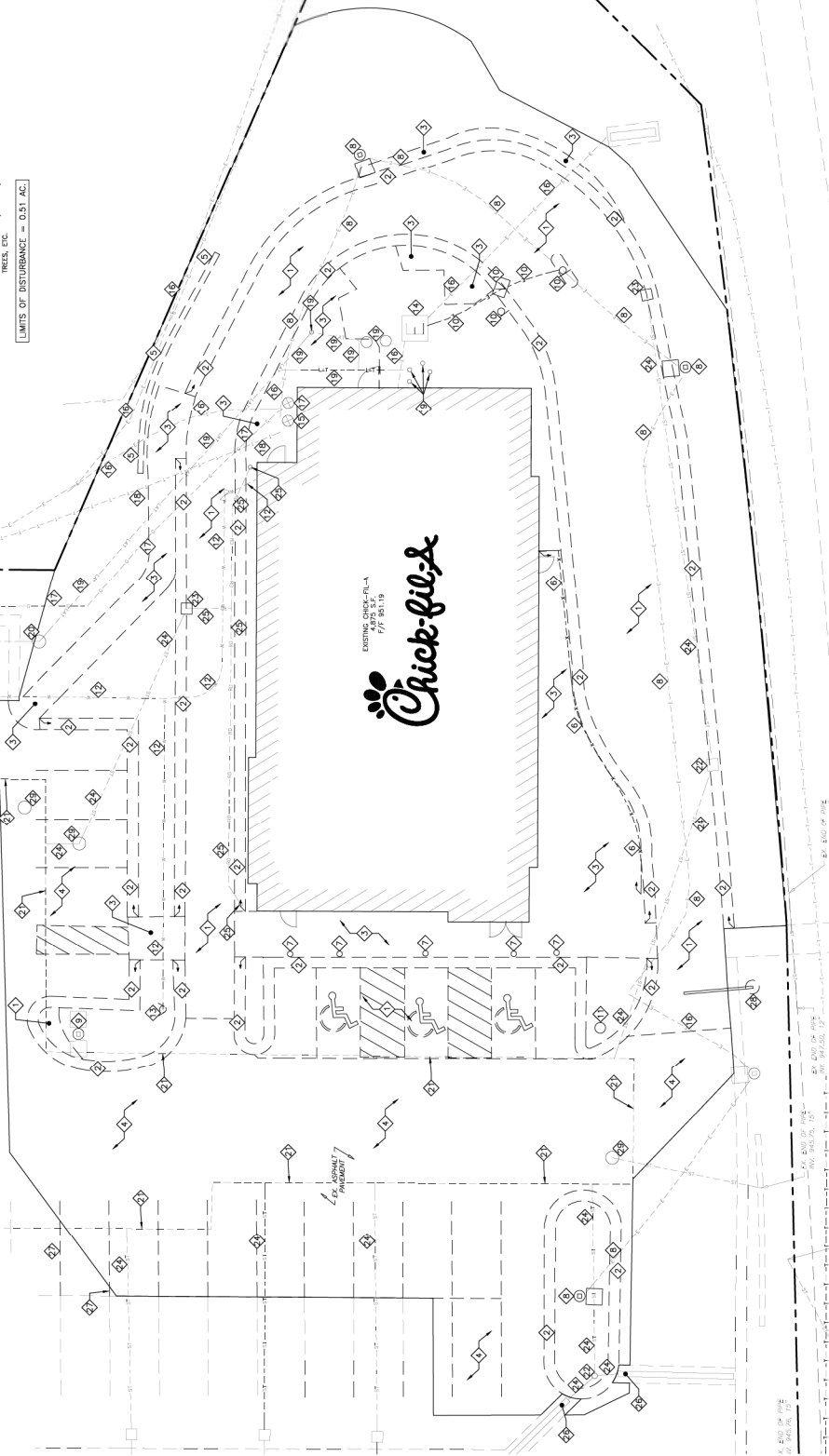
LEGEND

- △ EX. FIRE HYDRANT
- EX. VALVE
- EX. MANHOLE
- EX. CATCH BASIN
- EX. BOX INLET
- EX. LIGHT POLE
- EX. OCCUPANCY LAMP
- EX. POWER POLE
- EX. TREE
- EX. SIGNAGE
- EX. ELECTRICAL
- EX. OVERHEAD WIRE
- EX. GAS LINE
- EX. SANITARY SEWER
- EX. STORM SEWER
- EX. WATER LINE
- EX. CURB

AREA OF DEMOLITION INCLUDING EXISTING SIDEWALK, LIGHT POLE, CONCRETE SIGN, SIGN, MANHOLE, TRUNK, ETC.

LIMITS OF DISTURBANCE = 0.51 AC.

SCALE: 1" = 10'



CONTRACTOR RESPONSIBLE TO FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITY TIE-INS AND CROSSINGS AS SHOWN ON SITE PLAN. CONTRACTOR SHALL VERIFY ALL UTILITY TIE-INS AND CROSSINGS AS SHOWN ON SITE PLAN PRIOR TO THE DESIGN OF CONSTRUCTION. CONTACT ALLAN WILEY AT GBC DESIGN, INC., 330-836-0228, WITH ANY CONCERNS OR CONFLICTS TO THE DESIGN. CONTRACTOR SHALL VERIFY THE THICKNESS OF EXISTING ASPHALT AND CONCRETE AND SIDEWALK SO THE RESTORATION WORK IS INCLUDED IN THE BID.

ARBORETUM BLVD.

- DEMOLITION NOTES**
- 1 EXISTING CONCRETE PAVEMENT TO BE SAWCUT FULL DEPTH AND REMOVED AS NEEDED FOR NEW CONSTRUCTION
 - 2 EXISTING CONCRETE CURB TO BE SAWCUT AND REMOVED AS NEEDED FOR NEW CONSTRUCTION
 - 3 EXISTING CONCRETE WALK/PATIO TO BE SAWCUT AT NEW CONSTRUCTION AND REMOVED AS NEEDED FOR NEW CONSTRUCTION
 - 4 EXISTING ASPHALT PAVEMENT TO BE SAWCUT & REMOVED AS NEEDED FOR NEW CONSTRUCTION
 - 5 EXISTING RETAINING WALL TO BE REMOVED
 - 6 EXISTING RAILING TO BE REMOVED
 - 7 EXISTING SIGN/BOLLARD TO BE REMOVED
 - 8 EXISTING LIGHT POLE AND ASSOCIATED SERVICE TO BE RELOCATED
 - 9 EXISTING LIGHT STATION AND ASSOCIATED UTILITIES TO BE REMOVED
 - 10 EXISTING FLAGPOLE TO BE RELOCATED
 - 11 EXISTING WATER SERVICE TO REMAIN
 - 12 EXISTING HYDRANT TO BE RELOCATED
 - 13 EXISTING TRANSFORMER TO REMAIN
 - 14 EXISTING ELECTRIC METER TO REMAIN
 - 15 EXISTING ELECTRIC TO REMAIN
 - 16 EXISTING GAS SERVICE & METER TO REMAIN
 - 17 EXISTING COMMUNICATIONS TO REMAIN
 - 18 EXISTING GREASE TRAP, SANITARY LATERAL, UNDERGROUND STORM CHAMBER, AND STRUCTURES/CLEANOUTS TO PROPOSED GRADE
 - 19 EXISTING SANITARY MANHOLE TO REMAIN
 - 20 EXISTING UNDERGROUND STORM CHAMBER SYSTEM TO REMAIN UNDISTURBED DURING CONSTRUCTION
 - 21 EXISTING STORM STRUCTURE TO REMAIN
 - 22 EXISTING CURB INLET TO BE MODIFIED WITH CATCH BASIN AND REMOVED AS NEEDED FOR NEW CONSTRUCTION TO PROPOSED GRADE
 - 23 EXISTING STORM SEWER TO REMAIN
 - 24 EXISTING ROOF DRAIN / DOWNSPOUT TO REMAIN
 - 25 EXISTING FRENCH DRAIN / CONCRETE SURROUND TO REMAIN UNDISTURBED DURING CONSTRUCTION
 - 26 EXISTING SPRING TO BE BACKED OUT AS NEEDED FOR NEW PAVEMENT
 - 27 EXISTING CLEARANCE BAR TO BE REMOVED
 - 28 EXISTING STORM STRUCTURE TO REMAIN



GBC DESIGN, INC.
 665 White Road Dr., Akron, OH 44320-1228
 Phone: 330-596-0228 Fax: 330-596-0725

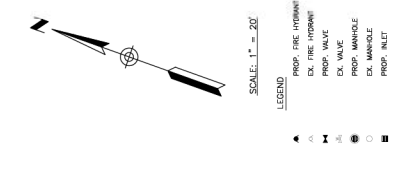
CHICK-FIL-A
 445 W 79TH STREET
 CHANHASSEN, MN

FSU# 03840
 CHANHASSEN FST
 CUSTOM PROJECT SOLUTIONS

CHICK-FIL-A
 CHANHASSEN FST
 CUSTOM PROJECT SOLUTIONS
 445 W 79TH STREET
 CHANHASSEN, MN

PERMIT
 SHEET NUMBER: C-200

SITE PLAN
 CONTRACTOR RESPONSIBLE TO FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITY TIE-INS AND CROSSINGS AS SHOWN ON THIS PLANIFICATION DRAWING. ANY DISCREPANCIES BETWEEN THE DESIGN OF CONSTRUCTION, CONTACT ALLAN WILEY AT GBC DESIGN, INC., 330-836-0228. WITH ANY CONCERNS OR CONFLICTS OF THE DRAWING, THE CONTRACTOR SHALL BE RESPONSIBLE TO THE THICKNESS OF ANY CURB, SIDEWALK (ASPHALT AND CONCRETE) AND SIDEWALK SO THE RESTORATION WORK IS INCLUDED IN THE BID.



CURVE LENGTH	RADIUS	DELTA	TANGENT	CHORD LENGTH	CHORD BEARING
C1	63.26	1827.91°	122.45'	31.63'	N. 85°24.99' E
C2	87.02	1827.91°	129.50'	43.51'	N. 85°24.99' E
C4	182.04	1702.64°	1433.07'	81.78'	S. 71°48.04' W

63. RETURNED CURB ACCESSIBLE RAMP
 NOT TO SCALE

EXISTING AREA TABULATION	NEW DEVELOPMENT AREA TABULATION
ASPHALT PAVEMENT SUBTOTAL	ASPHALT PAVEMENT SUBTOTAL
CONCRETE PAVEMENT SUBTOTAL	CONCRETE PAVEMENT SUBTOTAL
LANDSCAPE/PAVING	LANDSCAPE/PAVING
TOTAL AREA	TOTAL AREA

EXISTING AREA TABULATION	NEW DEVELOPMENT AREA TABULATION
ASPHALT PAVEMENT SUBTOTAL	ASPHALT PAVEMENT SUBTOTAL
CONCRETE PAVEMENT SUBTOTAL	CONCRETE PAVEMENT SUBTOTAL
LANDSCAPE/PAVING	LANDSCAPE/PAVING
TOTAL AREA	TOTAL AREA



BUILDING DIMENSIONS (SEE SITE LAYOUT PLAN)

QUANTITY	DESCRIPTION	VALUE
4,878 S.F.	GROSS FLOOR AREA	4,878 S.F.
1	SINGLE/ZONE (1)	1

PARKING SUMMARY: PROPOSED CONDITIONS

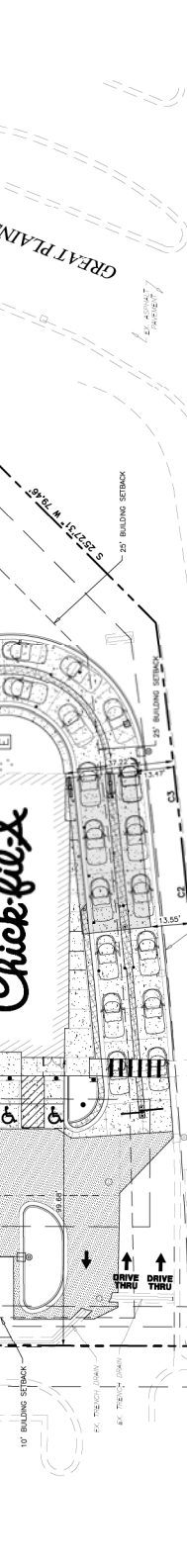
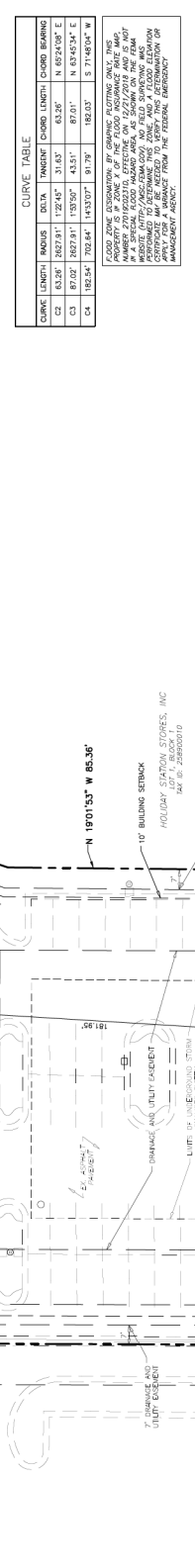
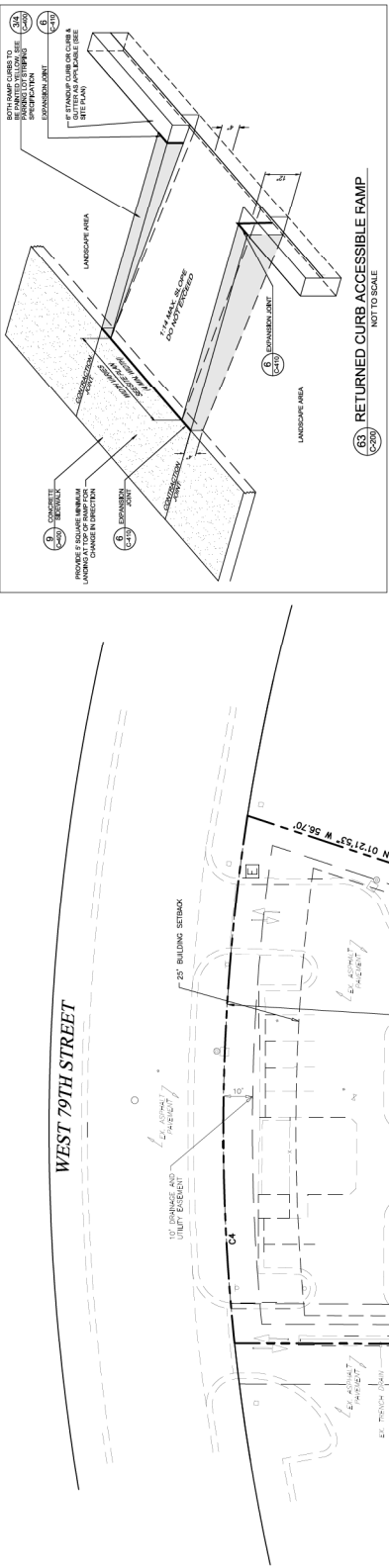
REQUIREMENT PER PAR.	10 SPACES PER 1,000 S.F.
4,875 S.F. / 1,000 S.F. x 10 =	49 SPACES REQUIRED PER PAR
4,875 S.F. / 80 S.F. x 10 =	61 SPACES REQUIRED PER CITY

PARKING SPACES PROVIDED (EXISTING):

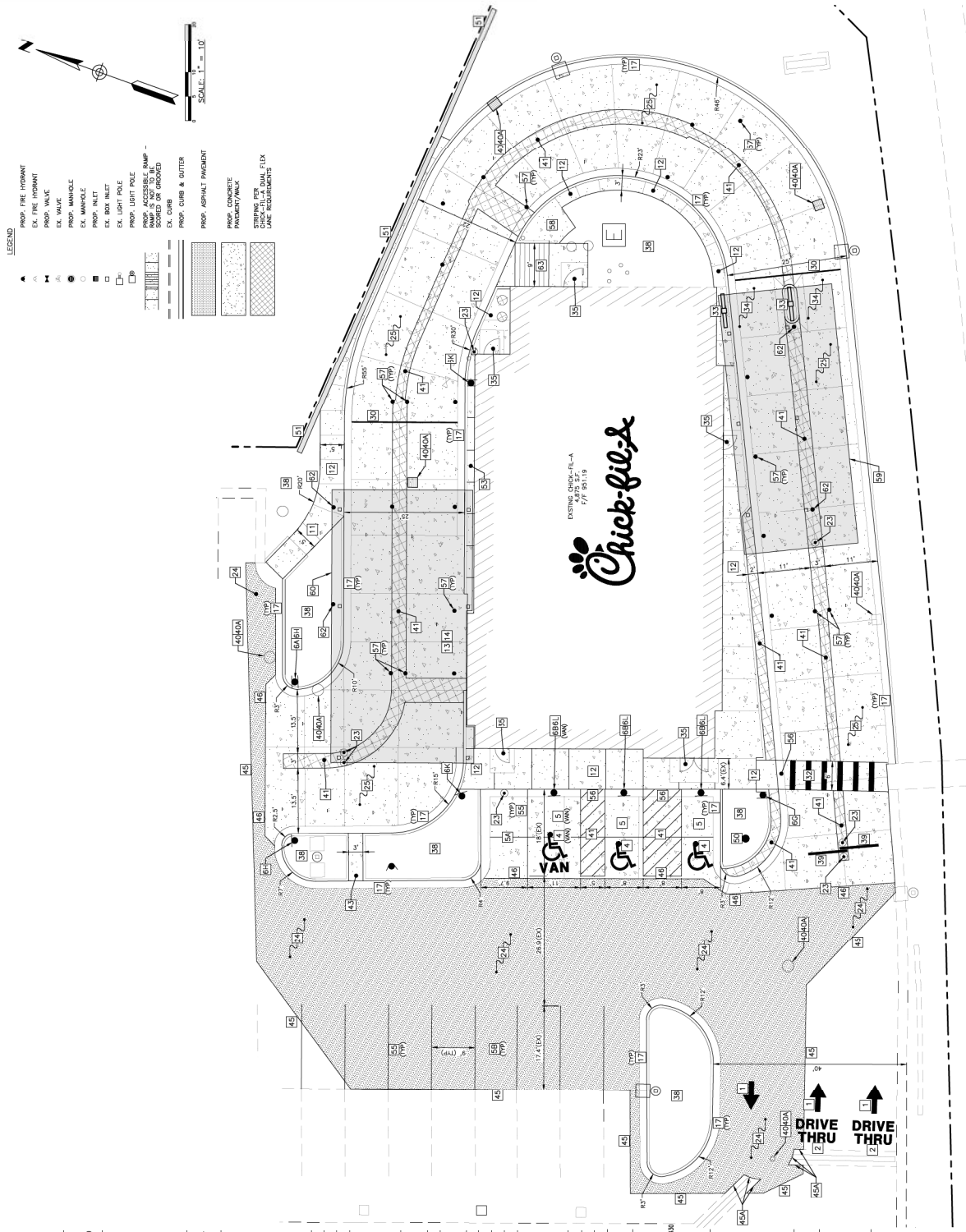
TYPE	QUANTITY
TOTAL	18
ACCESSIBLE SPACES	7

PARKING SPACES PROVIDED (PROPOSED):

TYPE	QUANTITY
TOTAL	61
ACCESSIBLE SPACES	3



CONTRACTOR RESPONSIBLE TO FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITY TIE-INS AND CROSSINGS AS SHOWN ON THIS PLAN. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE DESIGN OF CONSTRUCTION. CONTACT ALLAN WILEY AT GBC DESIGN, INC., 330-556-0228, WITH ANY CONCERNS OR COMMENTS TO THE DESIGN. CONTRACTOR SHALL VERIFY THE THICKNESS OF ANY EXISTING ASPHALT AND CONCRETE AND SIDEWALK SO THE RESTORATION WORK IS INCLUDED IN THE BID.



- NOTE: FOR CONCRETE PAVEMENT CONSTRUCTION - SEE JOINING DETAILS 7, 8, 9, & 10 ON SHEET C-410 AND DETAIL 1 ON SHEET SITE PLAN DESIGN NOTES & KEY PLAN
- 1 PAINTED DIRECTIONAL ARROW
 - 2 PAINTED DRIVE-THRU BARBERS
 - 3 PAINTED ACCESSIBILITY PARKING SYMBOL
 - 4 ACCESSIBLE PARKING STALL
 - 5 8' PARKING STALL
 - 6 DIRECTIONAL SIGNAGE (SEE SIGNAGE PACKAGE)
 - 7 "STOP" SIGN (SEE SIGNAGE PACKAGE)
 - 8 "ACCESSIBLE PARKING" SIGN (SEE SIGNAGE PACKAGE)
 - 9
 - 10
 - 11 CONCRETE SIDEWALK
 - 12 SIDEWALK WITH CURB & GUTTER
 - 13 DRIVE-THRU PLAN - 2' BELOW FTE
 - 14 DRIVE-THRU ISOMETRIC
 - 15
 - 16 CONCRETE CURB & GUTTER - TYPE "B"
 - 17
 - 18
 - 19
 - 20
 - 21
 - 22
 - 23 TYPICAL ASPHALT PAVEMENT SECTION
 - 24 CONCRETE PAVING DRIVE-THRU LANE
 - 25
 - 26
 - 27
 - 28
 - 29
 - 30
 - 31
 - 32
 - 33 DRIVE-THRU ORDER POINT ISLAND
 - 34 MENU BOARD LOGO DETECTION SYSTEM
 - 35 5'x5' LANDING AND ENTRY DOOR FROST SLAB
 - 36
 - 37
 - 38 LANDSCAPED AREA (SEE LANDSCAPE PLAN)
 - 39 DRIVE-THRU CLEARANCE BAR
 - 40 TYPICAL SECTION AT STORM/SANITARY STRUCTURE
 - 41 STORM WEEP HOLE DETAIL
 - 42 PAVEMENT STRIPING AREA
 - 43 CONCRETE FLUME
 - 44
 - 45 BUTT JOINT (ASPHALT)
 - 46 BUTT JOINT (CONCRETE)
 - 47 PAVEMENT EDGE DETAIL
 - 48
 - 49
 - 50 RELOADED FLAGPALE (SEE SIGNAGE PACKAGE)
 - 51 RETAINING WALL WITH 42" HANGTAIL ON TOP
 - 52
 - 53 4" THICK CONCRETE STRIP BETWEEN BUILDING AND BACK OF CURB
 - 54
 - 55 4" WIDE PAINT STRIPE
 - 56 CURB & GUTTER AT ACCESSIBLE RAMP
 - 57 MAGNETIC DELIMITER
 - 58 GASH STATION LOCATION
 - 59 PROPOSED 72" CANOPY - SEE CANOPY PLANS
 - 60 PROPOSED 60" CANOPY - SEE CANOPY PLANS
 - 61 STORM SEWER CLEANOUT DETAIL
 - 62 RETURNED CURB ACCESSIBLE RAMP
 - 63

TEMPORARY SEEDING

SEEDING DATES	SPECIES	SEEDING RATE PER ACRE
MARCH 1 TO AUGUST 15	GRASS PERENNIAL PTERGISS ANNUAL PTERGISS	3 1 1
AUGUST 16 TO NOVEMBER 1	FIVE FESCUE TALL FESCUE WALL PTERGISS ANNUAL PTERGISS	3 1 1 1
NOVEMBER 1 TO SPRING SEEDING DOMINANT SEEDING	USE MULCH ONLY, SOODING PRACTICES OR DOMINANT SEEDING.	45 LB 45 LB 45 LB 45 LB

NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED.

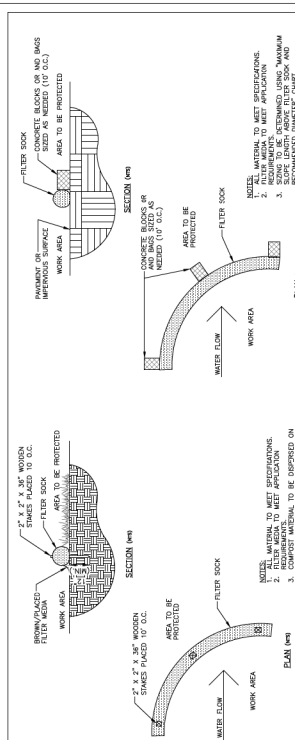
- STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIMENSIONS SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION-SITE.
- TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOLE AREAS SHOULD BE SEED AS SOON AS POSSIBLE AFTER GRADING OR SHALL BE SEED WITHIN 7 DAYS. SEVERAL APPLICATIONS OF TEMPORARY SEEDING ARE NECESSARY ON TYPICAL CONSTRUCTION PROJECTS. THE SUCCESS OF ESTABLISHING VEGETATION, HOWEVER, TEMPORARY SEEDING SHALL NOT BE POSITIVE.
- SOIL AMENDMENTS—APPLICATIONS OF TEMPORARY VEGETATION SHALL BE TO SOIL AMENDMENTS SOIL. TESTS SHOULD BE TAKEN ON THE SITE TO PREDICT THE BEST FOR LIMB AND FERTILIZER.
- SEEDING METHODS—SEED SHOULD BE APPLIED BY HAND OR WITH A COMBINE. OTHER SEEDING METHODS SHOULD BE COVERED BY FARKING OR DRAGGING AND THEN IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON-SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

MULCHING TEMPORARY SEEDING

- APPLICATIONS OF TEMPORARY SEEDING SHALL INCLUDE MULCH WHICH SHALL BE APPLIED DURING OR IMMEDIATELY AFTER SEEDING. SEEDINGS MADE DURING CONSTRUCTION OPERATIONS SHALL BE APPLIED IMMEDIATELY AFTER SEEDING. FLAT AREAS MAY NOT NEED MULCH TO ACHIEVE ADEQUATE STABILIZATION.
- MATERIALS:
 - STRAW—IF STRAW IS USED, IT SHALL BE UNWEIGHTED SMALL-GRAIN APPLIED AT 2 TONS/AC OR 30 LB./1,000 SQ. FT. (TWO TO THREE BALES). THE MULCH SURFACE IS COVERED FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH. LB. BALS OF STRAW IN EACH SECTION. 50 FT. SECTIONS AND SPREAD TWO 45 PHOSPHORUS—IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE USED AT 2,000 LB. / AC OR 46 LB. / 1,000 SQ. FT.
- OTHER—OTHER ACCEPTABLE MULCHES INCLUDE: MULCH MATTINGS APPLIED AT 2,000 LB. / AC OR 46 LB. / 1,000 SQ. FT.
- PHOSPHORUS—IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE USED AT 2,000 LB. / AC OR 46 LB. / 1,000 SQ. FT.

PROHIBITED METHODS

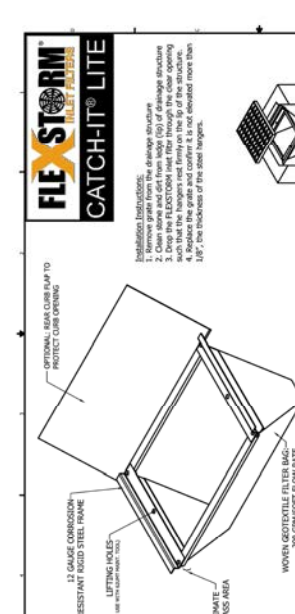
- STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER.
- ANCHORING METHODS:
 - WOOD CHIPS—WOOD CHIPS OR PINE OR PINE, SHALL BE SET STRAIGHT TO PINCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICAL ANCHOR SHALL NOT BE FINELY CHIPPED BUT, GENERALLY BE LEFT LONGER THAN 6 INCHES.
- MULCH MATTINGS—MATTINGS SHALL BE APPLIED TO THE MANUFACTURER'S RECOMMENDATIONS. NETTING MADE BY NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES.
- MULCHING—MULCHING OF SLOPES OF 10% OR GREATER SHALL BE RECOMMENDED BY THE MANUFACTURER OF THE MULCHING MATERIAL.
- SYNTHETIC BINDERS—SYNTHETIC BINDERS SUCH AS ACRYLIC (AKA ACRYL-100), SOA-TO- PETROLET, TERRY-TACK OR EQUAL, MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER.
- WOOD-CELLULOSE FIBER—WOOD-CELLULOSE FIBER BINDER SHALL BE APPLIED TO WOOD-CELLULOSE FIBER AT A RATE OF 750 LB. PER TON OF MULCH. FIBERS SHALL BE MIXED WITH WATER AND THE MATURE SHALL CONTAIN A MAXIMUM OF 50 LB. / 100 GAL.



FILTER SOCK ON PAVEMENT DETAIL
 (NOT TO SCALE)

MAXIMUM SLOPE LENGTH ABOVE FILTER SOCK AND RECOMMENDED DIAMETER

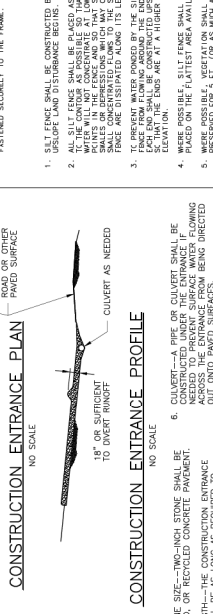
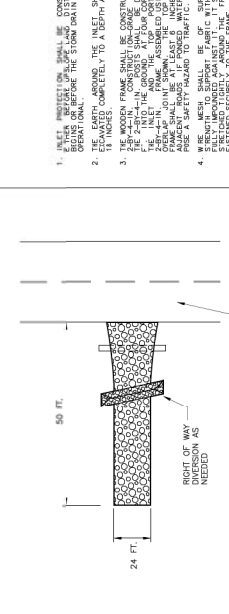
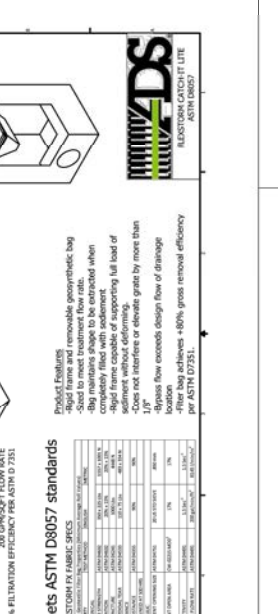
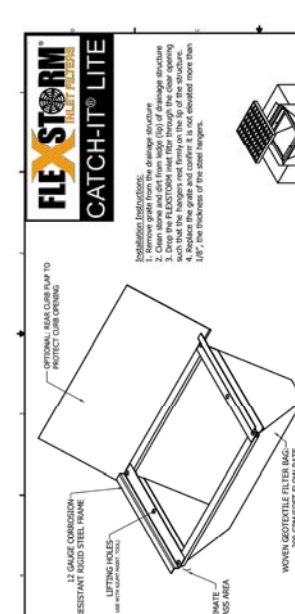
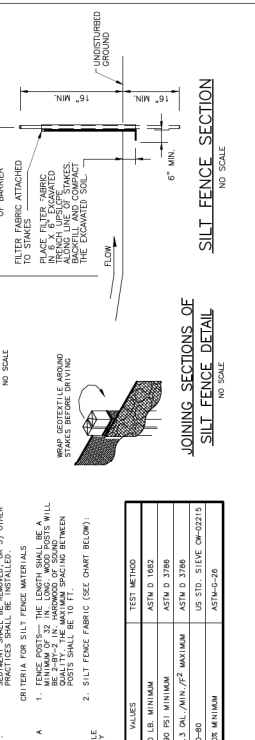
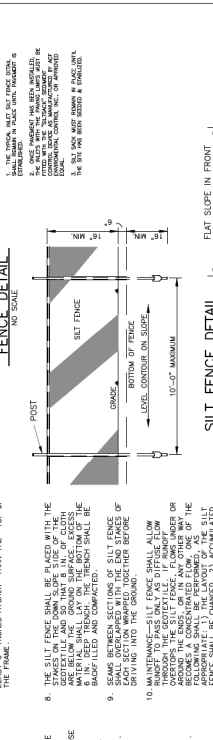
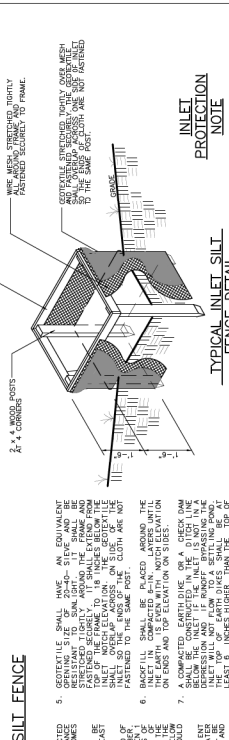
DIAMETER	100'	150'	200'	250'	300'	350'	400'	450'	500'	550'	600'	650'	700'	750'
1/2"	100	150	200	250	300	350	400	450	500	550	600	650	700	750
3/4"	150	200	250	300	350	400	450	500	550	600	650	700	750	
1"	200	250	300	350	400	450	500	550	600	650	700	750		
1 1/2"	250	300	350	400	450	500	550	600	650	700	750			
2"	300	350	400	450	500	550	600	650	700	750				
3"	350	400	450	500	550	600	650	700	750					
4"	400	450	500	550	600	650	700	750						
5"	450	500	550	600	650	700	750							
6"	500	550	600	650	700	750								
8"	600	650	700	750										
10"	700	750												



FILTER SOCK DETAIL
 (NOT TO SCALE)

MAXIMUM SLOPE LENGTH ABOVE FILTER SOCK AND RECOMMENDED DIAMETER

DIAMETER	100'	150'	200'	250'	300'	350'	400'	450'	500'	550'	600'	650'	700'	750'
1/2"	100	150	200	250	300	350	400	450	500	550	600	650	700	750
3/4"	150	200	250	300	350	400	450	500	550	600	650	700	750	
1"	200	250	300	350	400	450	500	550	600	650	700	750		
1 1/2"	250	300	350	400	450	500	550	600	650	700	750			
2"	300	350	400	450	500	550	600	650	700	750				
3"	350	400	450	500	550	600	650	700	750					
4"	400	450	500	550	600	650	700	750						
5"	450	500	550	600	650	700	750							
6"	500	550	600	650	700	750								
8"	600	650	700	750										
10"	700	750												



Meets ASTM D8057 standards

FLUXTORM FX FABRIC SPECIFICATIONS

PROPERTY	TEST METHOD	VALUES
GAB TENSILE STRENGTH	ASTM D 1982	90 LB. MINIMUM
MULEN BURST STRENGTH	ASTM D 3798	100 PSI MINIMUM
SURRY FLOW RATE	ASTM D 3798	0.3 OZ./MIN./72" WATERM
EQUIPMENT OPENING SIZE	ASTM D 3798	40-80
ULTRAVIOLET RADIATION STABILITY	ASTM D 8057	SIZE MINIMUM

Meets ASTM D8057 standards

FLUXTORM FX FABRIC SPECIFICATIONS

PROPERTY	TEST METHOD	VALUES
GAB TENSILE STRENGTH	ASTM D 1982	90 LB. MINIMUM
MULEN BURST STRENGTH	ASTM D 3798	100 PSI MINIMUM
SURRY FLOW RATE	ASTM D 3798	0.3 OZ./MIN./72" WATERM
EQUIPMENT OPENING SIZE	ASTM D 3798	40-80
ULTRAVIOLET RADIATION STABILITY	ASTM D 8057	SIZE MINIMUM

