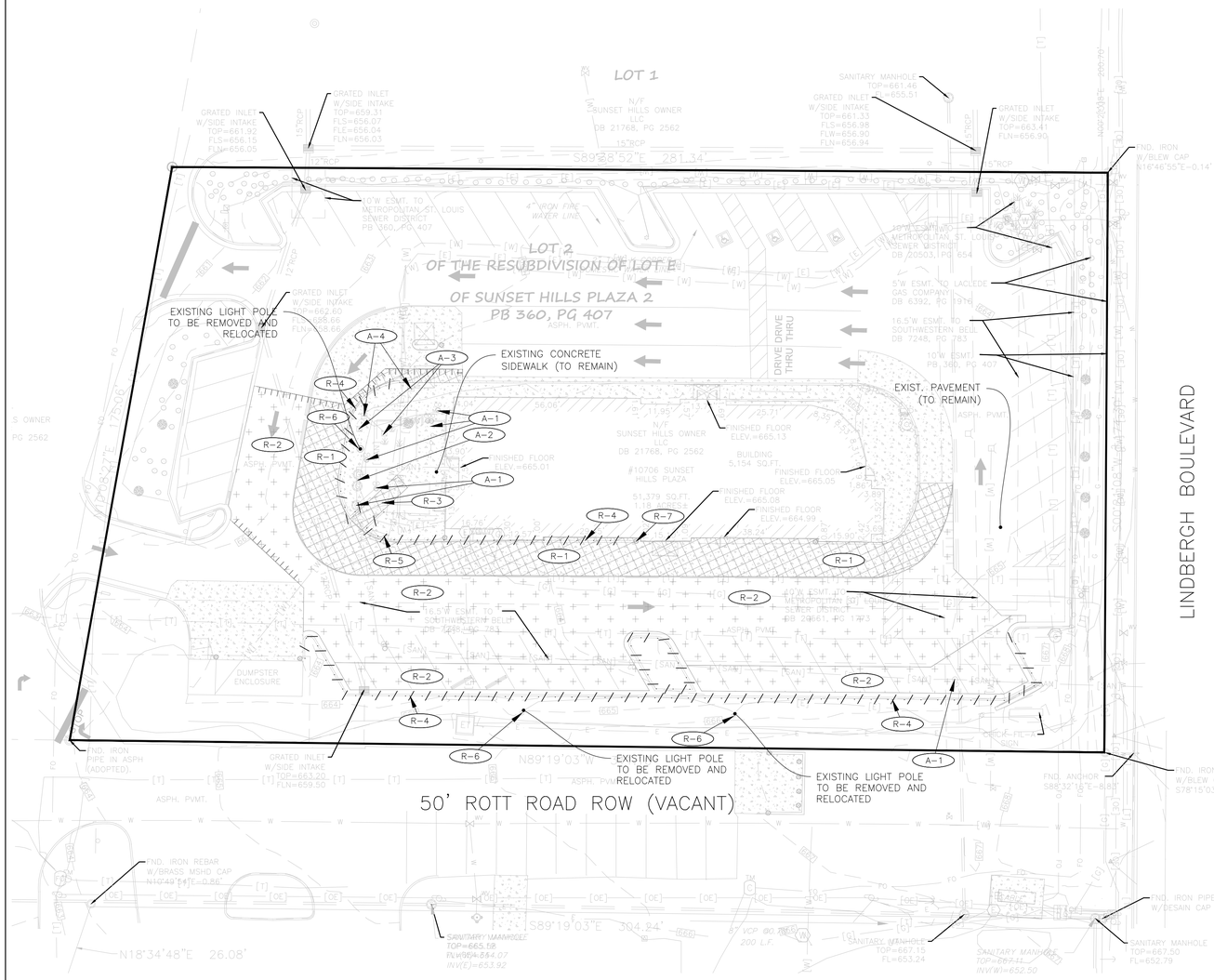


PROJECT NOTES:

- LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES, IN ADDITION TO, NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL PERIMETER EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED. (INCLUDING STORM WATER POLLUTION PREVENTION PLAN PER THE DEVELOPMENT CRITERIA.) SEE SHEET C-302 FOR EROSION CONTROL MEASURES)
- ALL EXISTING UTILITIES TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE AND COMPLY WITH ALL UTILITY COMPANIES INVOLVED IN PROJECT AND PAY ALL REQUIRED FEES AND COSTS.
- ALL STRUCTURES & DEBRIS SHALL BE REMOVED PRIOR TO CONSTRUCTION & DISPOSED OF OFFSITE.
- ANY EXISTING FIELD DRAIN TILES ENCOUNTERED SHALL BE REPLACED, LOCATED AND IDENTIFIED ON THE RECORD PLANS BY THE CONTRACTOR. FIELD TILE SHALL NOT BE CONNECTED TO THE STORM SEWER SYSTEM.
- CONTRACTOR TO KEEP ACCESS DRIVE OPEN AT ALL TIMES WITH MINOR CLOSINGS ALLOWED FOR PAVING ACTIVITIES.
- THE CONTRACTOR IS CAUTIONED NEITHER TO OBSTRUCT NOR REMOVE ANY EXISTING PAVEMENT, NOR TO DISTURB THE EXISTING TRAFFIC PATTERNS MORE THAN IS NECESSARY FOR THE PROPER EXECUTION OF THE WORK.
- ALL BITUMINOUS PAVEMENT REMOVAL AREAS SHALL BE SAWCUT.
- CONTRACTOR SHALL INSTALL CONSTRUCTION FENCING AND SIGNAGE AROUND CONSTRUCTION BOUNDARIES TO PROTECT PEDESTRIANS.

TRAFFIC CONTROL NOTES:

- ALL APPLICABLE CITY PERMITS, INCLUDING BUT NOT LIMITED TO CLOSURE PERMITS, SHALL BE OBTAINED PRIOR TO ANY CONSTRUCTION WITHIN CITY ROW OR LANE CLOSURES.
- ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- PERMANENT SIGNING THAT CONVEYS A MESSAGE CONTRARY TO THE MESSAGE OF TEMPORARY SIGNING AND NOT APPLICABLE TO THE WORKING CONDITIONS SHALL BE COVERED BY THE CONTRACTOR WHEN DIRECTED BY THE CITY.
- THE CONTRACTOR SHALL COORDINATE HIS TRAFFIC CONTROL WITH OTHER CONSTRUCTION PROJECTS IN THE AREA.
- SIDEWALK CLOSED SIGNS REQUIRED FOR ALL SIDEWALK CLOSURES.
- THE CONTRACTOR IS CAUTIONED NEITHER TO OBSTRUCT NOR REMOVE ANY EXISTING PAVEMENT, NOR TO DISTURB THE EXISTING TRAFFIC PATTERNS MORE THAN IS NECESSARY FOR THE PROPER EXECUTION OF THE WORK.

DEMOLITION LEGEND

- INDICATES FULL DEPTH SAWCUT
- INDICATES CONC. SIDEWALK/PAVEMENT REMOVAL (FULL DEPTH)
- INDICATES BIT./ASPHALT REMOVAL (FULL DEPTH)
- R-# INDICATES MISC. REMOVAL ITEMS (SEE THIS SHEET FOR SIZE AND QUANTITY)
- DENOTES EXIST. CONCRETE CURB & GUTTER/WALL REMOVAL
- DENOTES UTILITIES/HANDRAIL TO BE REMOVED
- INDICATES TREE AND BRUSH REMOVAL (SEE LANDSCAPING PLANS FOR SIZE AND QUANTITY)
- INDICATES TREE AND BRUSH PROTECTION (SEE LANDSCAPING PLANS FOR SIZE AND QUANTITY)

STAGING NOTES:

(STAGING SUBJECT TO CHANGES PER SITE CONTRACTORS SCHEDULE AND METHODS OF OPERATION)

1. EROSION CONTROL MEASURES AND STOCKPILE STAGING
2. CONSTRUCTION ENTRANCE
3. PLAN REMOVALS
4. PROPOSED UNDERGROUND
5. GRADING
6. PAVING

R-# REMOVAL TAGS

REMOVALS / RELOCATES / ADJUSTMENTS

NUMBER		REMARKS
A-1	SANITARY STRUCTURES	ADJUST RIM TO FG
A-2	GREASE TRAP	ADJUST RIMS TO FG
A-3	UNDERGROUND ELECTRIC BOX	ADJUST TO FG
A-4	UNDERGROUND TELECOM BOX	ADJUST TO FG
R-1	CONCRETE PAVEMENT	REMOVE
R-2	BITUMINOUS PAVEMENT	REMOVE
R-3	CONCRETE SIDEWALK	REMOVE
R-4	CONCRETE CURB & GUTTER	REMOVE
R-5	ELECTRIC HEATING/COOLING STATION	REMOVE & RELOCATE
R-6	LIGHT POLE	REMOVE & RELOCATE
R-7	CONCRETE BOLLARD	REMOVE

Dial 811 or 1-800-892-0123

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

CALL JULIE 1-800-892-0123

WITH THE FOLLOWING:
COUNTY St. Louis
CITY-TOWNSHIP City of St. Louis
SEC. & 1/4 SEC. NO.# SEC-13-T-44N-5E

48 hours before you dig
(Excluding Sat., Sun. & Holidays)

NORTH

0 20'
1" = 20'

BAR IS ONE INCH ON OFFICIAL DRAWINGS
0 1"
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

PRELIMINARY

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

HRGreen
HRGreen.com

CHICK-FIL-A
SUNSET HILLS PLAZA (MO) FSU
10706 SUNSET HILLS PLAZA
SAINT LOUIS, MO 63127

FSU# 03077

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

PRELIMINARY

ENGINEER'S PROJECT # 211353.01
PRINTED FOR PRELIMINARY
DATE 08/08/2025
DRAWN BY: ERN
CHECKED BY: TMR

SHEET
SITE DEMOLITION PLAN

SHEET NUMBER
C-100

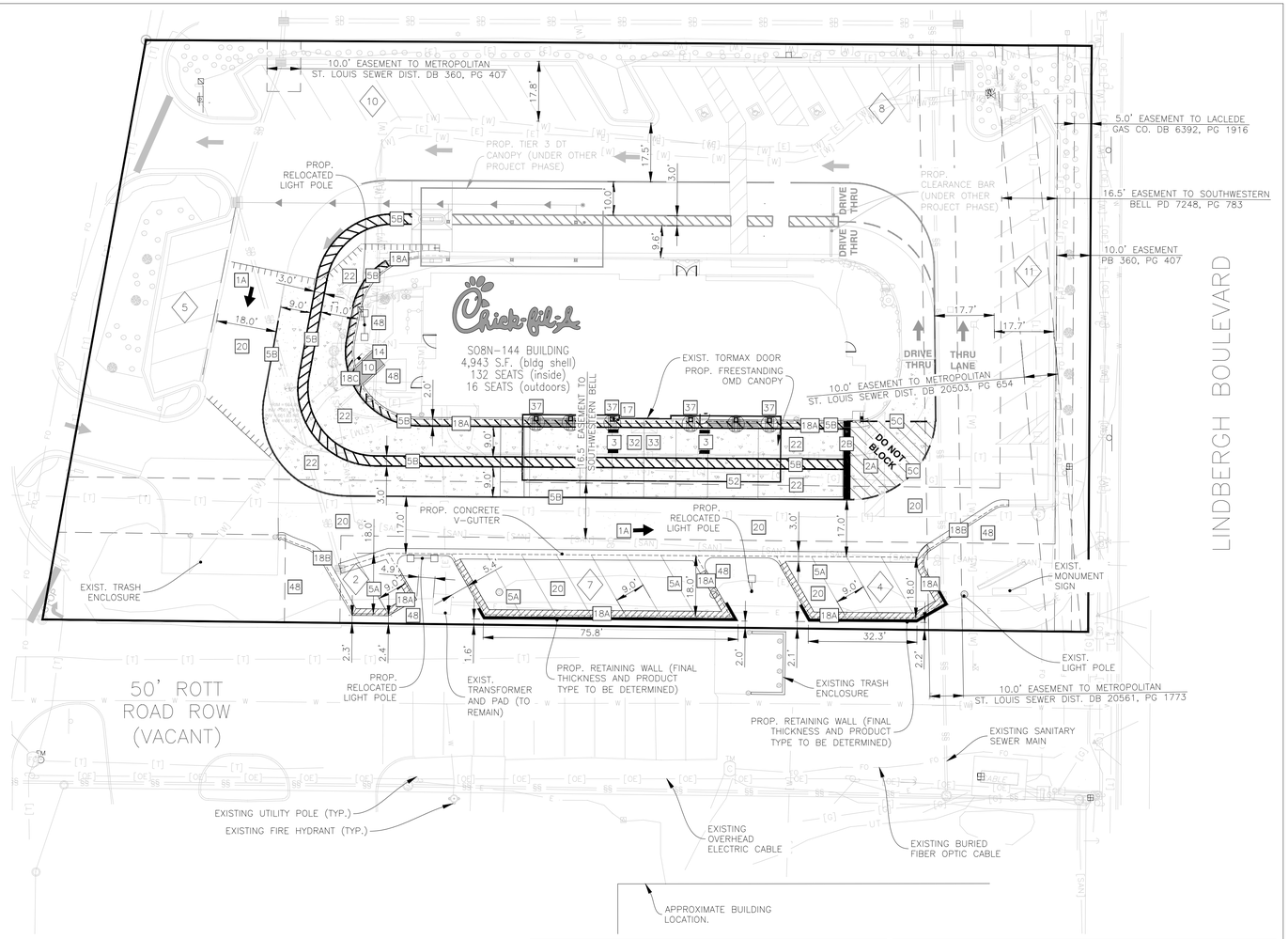
SITE PLAN DESIGN NOTES & KEY PLAN

1A DIRECTIONAL ARROW (1A C-400)
1B ~~PAINTED HANDICAP PARKING SYMBOL~~ (1B C-400)
2A DRIVE-THRU GRAPHICS (2A C-400)
2B ~~STOP BAR GRAPHIC~~ (2B C-400)
3 CROSSWALK MARKINGS (3 C-400)
4 ~~MULTI-LANE DIRECTIONAL GRAPHICS~~ (4 C-400)
5 ~~STANDARD OR HANDICAP PARKING STALL PER CODE~~ (5 C-400)
5A 4" SOLID WHITE STRIPING
5B 4" SOLID YELLOW STRIPING
5C 4" SKIP DASH YELLOW STRIPING
6 ~~SOLID PLASTIC WHEEL STOP~~ (6 C-400)
7 ~~BOLLARD MOUNTED SIGN~~ (7 C-400)
8 ~~CURB RAMP w/ SHORT FLARED SIDES (GRASSED AREAS)~~ (8 C-400)
9 ~~CURB RAMP w/ FLARED SIDES (IN SIDEWALK)~~ (9 C-400)
10 RETURNED CURB HANDICAP RAMP (10 C-400)
11 ~~SIDEWALK ACCESSIBLE RAMP~~ (1 C-401)
12 ~~DETECTABLE WARNING DEVICE~~ (2 C-401)
13 ~~TYPICAL ADA RAMP & HANDRAIL~~ (3 C-401)
14 CONCRETE SIDEWALK (4 C-401)
15 CONCRETE SIDEWALK w/ CURB & GUTTER (5 C-401)
16 ~~ENTRY DOOR FROST SLAB DETAIL~~ (6 C-401)
17 CONCRETE BOLLARD (7 C-401)
18 CONCRETE CURB & GUTTER (8 C-401)
- 18A SPILLING CURB & GUTTER
- 18B CATCHING CURB & GUTTER
- 18C DEPRESSED SPILLING CURB & GUTTER
- 18D ~~DEPRESSED CATCHING CURB & GUTTER~~
- 18E ~~SPILLING GUTTER SECTION AT ACCESSIBLE RAMP~~
- 18F ~~CATCHING GUTTER SECTION AT ACCESSIBLE RAMP~~
- 18G ~~MOUNTABLE CURB & GUTTER~~

19 ~~LANDSCAPE & IRRIGATION PROTECTOR~~ (9 C-401)
20 TYPICAL HMAC PAVEMENT SECTION (1 C-402)
21 BUTT JOINT (2 C-402)
22 CONCRETE PAVEMENT DRIVE-THRU LANE (3 C-402)
23 ~~CONCRETE APRON AT TRASH ENCLOSURE~~ (4 C-402)
24 PAVEMENT EDGE DETAIL (START & END OF DRIVE-THRU LANES) (5 C-402)
25 ~~CONCRETE PAVEMENT SECTIONS~~ (6 C-402)
26 TRANSVERSE & LONGITUDINAL CONTRACTION JOINT (7 C-402)
27 TRANSVERSE & LONGITUDINAL DOWELED CONSTRUCTION JOINT (8 C-402)
28 CONTRACTION JOINT (9 C-402)
29 KEYED CONSTRUCTION JOINT (10 C-402)
30 LONGITUDINAL BUTT JOINT (11 C-402)
31 EXPANSION JOINT (12 C-402)
FOR CONCRETE PAVING
32 DRIVE-THRU PLAN - FLUSH WITH FFE (1 C-403)
33 DRIVE-THRU ISOMETRIC (2 C-403)
34 ~~DRIVE-THRU ORDER POINT ISLAND~~ (3 C-403)
35 ~~MENU BOARD LOOP DETECTION SYSTEM~~ (4 C-403)
36 ~~BUILDING DOWNSPOUT CONNECTION (TO SITE DRAINAGE SYSTEM)~~ (5 C-403)
37 CANOPY DOWNSPOUT CONNECTION (TO SITE DRAINAGE SYSTEM) (6 C-403)
38 ~~SCREENED REFUSE ENCLOSURE (REFER TO ARCH PLANS FOR ADDITIONAL DETAILS)~~ (7 C-403)
39 CLEAN-OUT (OUTSIDE OF BUILDING) (8 C-403)
40 ~~THICKENED PAVEMENT @ STRUCTURES~~ (9 C-403)
41 ~~STORM STRUCTURE WEEP HOLE DETAILS~~ (10 C-403)
42 ~~ALUMINUM HANDRAIL (REFER TO ARCH PLANS)~~
43 OMITTED
44 ~~DRIVE-THRU CLEARANCE BAR (REFER TO SIGNAGE PACKAGE)~~
45 ~~GREASE TRAP~~
46 ~~PROPOSED TRANSFORMER~~
47 ~~BIKE RACK~~
48 LANDSCAPED AREA
49 ~~TYPICAL LOCATION FOR OUTDOOR TABLES (REFER TO ARCH PLANS)~~
50 ~~CONCRETE PAD FOR OPTIONAL CASH STATION~~
51 ~~FREE-STANDING ORDER POINT CANOPY~~
52 FREE-STANDING OUTSIDE MEAL DELIVERY CANOPY
53 ~~CONVEX SAFETY MIRROR (LOCATION TO BE COORDINATED WITH SECURITY CONSULTANT)~~

HATCH LEGEND

- DENOTES STANDARD PAVEMENT SECTION
- DENOTES CONCRETE SECTION
- DENOTES PROP. SIDEWALK
- DENOTES AREA OF DEPRESSED SIDEWALK
- DENOTES AREA OF DEPRESSED CURB AND GUTTER WITH LENGTH NOTED ON PLANS.
- DENOTES REVERSE CURB & GUTTER



TRAFFIC CONTROL NOTES:

- ALL APPLICABLE CITY PERMITS, INCLUDING BUT NOT LIMITED TO CLOSURE PERMITS, SHALL BE OBTAINED PRIOR TO ANY CONSTRUCTION WITHIN CITY ROW OR LANE CLOSURES.
- ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- PERMANENT SIGNING THAT CONVEYS A MESSAGE CONTRARY TO THE MESSAGE OF TEMPORARY SIGNING AND NOT APPLICABLE TO THE WORKING CONDITIONS SHALL BE COVERED BY THE CONTRACTOR WHEN DIRECTED BY THE CITY.
- THE CONTRACTOR SHALL COORDINATE HIS TRAFFIC CONTROL WITH OTHER CONSTRUCTION PROJECTS IN THE AREA.
- SIDEWALK CLOSED SIGNS REQUIRED FOR ALL SIDEWALK CLOSURES.
- THE CONTRACTOR IS CAUTIONED NEITHER TO OBSTRUCT NOR REMOVE ANY EXISTING PAVEMENT, NOR TO DISTURB THE EXISTING TRAFFIC PATTERNS MORE THAN IS NECESSARY FOR THE PROPER EXECUTION OF THE WORK.

SITE DATA:

- ADDRESS: 10706 SUNSET HILLS PLAZA
- LOT 1 SIZE: 51,379± SQ. FT. (1.18 AC.)
- EXISTING IMPERVIOUS AREA: 39,871± SQ. FT. (77.6%)
- PROPOSED IMPERVIOUS AREA: 41,369± SQ. FT. (80.5%)
- IMPERVIOUS AREA CHANGE: 1,498± SQ. FT. INCREASE

BUILDING AREA:

- EXIST. BUILDING FOOT PRINT: 4,943± SQ. FT.
- FLOOR AREA RATIO (F.A.R.) = 0.096

PARKING DATA:

- TYPICAL PARKING WIDTH: 9.0'
- TYPICAL PARKING LENGTH: 18.0'
- TYPICAL AISLE WIDTH: 18.0'
- EXISTING REGULAR SPACES PROVIDED: 50
- EXISTING ADA SPACES: 3
- EXISTING TOTAL SPACES: 53
- PROPOSED REGULAR SPACES PROVIDED: 44
- PROPOSED ADA SPACES: 3
- PROPOSED TOTAL SPACES: 47

PARKING FORMULA:
1 PARKING SPACE PER 300 SQ. FT. GROSS FLOOR AREA
(4,943/300) = 17 STALLS

- TOTAL STALLS REQUIRED = 17 STALLS

PROJECT NOTES:

- ALL CONSTRUCTION WITHIN PUBLIC R.O.W./ EASEMENTS AND OR CONNECTION TO PUBLIC SEWERS AND STREETS SHALL COMPLY WITH THE CITY OF SAINT LOUIS STANDARD CONSTRUCTION SPECIFICATIONS.
- AT LEAST ONE WEEK PRIOR TO ANY CONSTRUCTION WITHIN PUBLIC R.O.W./ EASEMENTS AND/OR ANY CONNECTION TO PUBLIC SEWERS AND STREETS, THE CONTRACTOR SHALL CONTACT THE CITY TO OBTAIN APPLICABLE CITY PERMITS.
- INGRESS/EGRESS WILL BE PROVIDED INTERNAL AND EXTERNAL TO THIS SITE.
- ALL CONCRETE CURB & GUTTER SHALL BE 24" (B6.18) UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL PAVEMENT DIMENSIONS ARE MEASURED TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
- ALL CONSTRUCTION MATERIALS, DUMPSTER, DETACHED TRAILERS OR SIMILAR ITEMS ARE PROHIBITED ON PUBLIC STREETS OR WITHIN THE PUBLIC RIGHT-OF-WAY"

NORTH
0 20'
1" = 20'
BAR IS ONE INCH ON OFFICIAL DRAWINGS
0 1"
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

PRELIMINARY

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SUNSET HILLS PLAZA (MO) FSU

10706 SUNSET HILLS PLAZA
SAINT LOUIS, MO 63127

FSU# 03077

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

PRELIMINARY

ENGINEER'S PROJECT #	211353.01
PRINTED FOR	PRELIMINARY
DATE	08/08/2025
DRAWN BY:	ERN
CHECKED BY:	TMR

SHEET
SITE PLAN

SHEET NUMBER
C-200

GRADING & DRAINAGE NOTES

1. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SITE PLAN DOCUMENTS AND ARCHITECTURAL DESIGN FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, GREASE TRAP REQUIREMENTS/DETAILS, DOOR ACCESS, AND EXTERIOR GRADING. THE UTILITY SERVICE SIZES ARE TO BE DETERMINED BY THE ARCHITECT. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES/SERVICES WITH THE INDIVIDUAL COMPANIES, TO AVOID CONFLICTS AND ENSURE PROPER DEPTHS ARE ACHIEVED. THE JURISDICTION UTILITY REQUIREMENTS SHALL ALSO BE MET, AS WELL AS COORDINATING THE UTILITY TIE-INS/CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY/SERVICE. WHERE CONFLICTS EXIST WITH THESE SITE PLANS, ENGINEER IS TO BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE SAME.

2. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED AS OUTLINED IN THE GEOTECHNICAL REPORT. MOISTURE CONTENT AT TIME OF PLACEMENT SHALL BE SUBMITTED IN COMPACTION REPORT PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT. SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT SHALL BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE BY OWNER OR OWNER'S REPRESENTATIVE, SUBBASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL COMPACTED AS DIRECTED BY THE GEOTECHNICAL REPORT.

3. ALL FILL, COMPACTION, AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION SHALL BE AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND SHALL BE COORDINATED WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS.

4. THE CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST OSHA STANDARDS AND REGULATIONS, OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE "MEANS AND METHODS" REQUIRED TO MEET THE INTENT AND PERFORMANCE CRITERIA OF OSHA, AS WELL AS ANY OTHER ENTITY THAT HAS JURISDICTION FOR EXCAVATION AND/OR TRENCHING PROCEDURES.

5. PAVEMENT SHALL BE SAW CUT IN STRAIGHT LINES TO THE FULL DEPTH OF THE EXISTING PAVEMENT. ALL DEBRIS FROM REMOVAL OPERATIONS SHALL BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STOCKPILING OF DEBRIS WILL NOT BE PERMITTED.

6. THE TOPS OF EXISTING MANHOLES, INLET STRUCTURES, AND SANITARY CLEANOUT TOPS SHALL BE ADJUSTED, IF REQUIRED, TO MATCH PROPOSED GRADES IN ACCORDANCE WITH ALL APPLICABLE STANDARDS.

7. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO ENSURE 0.75% MINIMUM SLOPE ALONG ALL ISLANDS, GUTTERS, AND CURBS; 1.0% ON ALL CONCRETE SURFACES; AND 1.5% MINIMUM ON ASPHALT, TO PREVENT PONDING. ANY DISCREPANCIES THAT MAY AFFECT THE PUBLIC SAFETY OR PROJECT COST MUST BE IDENTIFIED TO THE ENGINEER IN WRITING IMMEDIATELY. PROCEEDING WITH CONSTRUCTION WITHOUT NOTIFICATION IS DONE SO AT THE CONTRACTOR'S OWN RISK.

8. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE EXISTING LOCAL ASPHALT GRADE UNLESS OTHERWISE NOTED. FIELD ADJUST TO CREATE A MINIMUM OF 0.75% GUTTER GRADE ALONG CURB FACE. ENGINEER TO APPROVE FINAL CURBING CUT SHEETS PRIOR TO INSTALLATION.

9. IN CASE OF DISCREPANCIES BETWEEN PLANS OR RELATIVE TO OTHER PLANS, THE SITE PLAN WILL TAKE PRECEDENCE. IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICTS.

10. CONTRACTOR SHALL BE REQUIRED TO SECURE ALL NECESSARY PERMITS AND APPROVALS FOR ALL OFF-SITE MATERIAL SOURCES AND DISPOSAL FACILITIES. CONTRACTOR SHALL SUPPLY A COPY OF APPROVALS TO ENGINEER AND OWNER PRIOR TO INITIATING WORK.

11. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.

12. SEE EROSION CONTROL PLAN FOR EROSION CONTROL MEASURES AND NOTES.

13. ALL EXISTING STRUCTURES, UNLESS OTHERWISE NOTED TO REMAIN, FENCING, TREES, & ETC., WITHIN CONSTRUCTION AREA SHALL BE REMOVED & DISPOSED OF OFF SITE. NO ON SITE BURNING WILL BE ALLOWED

14. ALL DRAINAGE STRUCTURES SHALL BE PRE-CAST.

15. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND BE INSTALLED ACCORDINGLY.

16. GENERAL CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAY PRIOR TO EXCAVATION. CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO GRADING START.

17. NO PART OF THE PROPOSED PROJECT IS LOCATED WITHIN A FLOOD HAZARD AREA

18. SPOT ELEVATIONS SHOWN ARE @ EDGE OF PAVEMENT UNLESS OTHERWISE NOTED ON PLAN.

19. ALL CONCRETE CURB & GUTTER SHALL BE TYPE B-6.18 CURB UNLESS OTHERWISE NOTED ON THE PLANS.

20. ALL STORM SEWER JOINTS SHALL HAVE O-RING GASKETS.

21. MATCH EXISTING GRADES AT PROPERTY LINES AND/OR CONSTRUCTION LIMITS.

22. BACKFILL TO THE TOP OF CURBS.

23. SITE SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS

24. ALL SIDEWALK CROSS SLOPES SHALL BE A MAXIMUM OF 1.5%.

25. DESIGNATED HANDICAP PARKING AREAS SHALL BE GRADED TO A MAXIMUM OF 1.5%

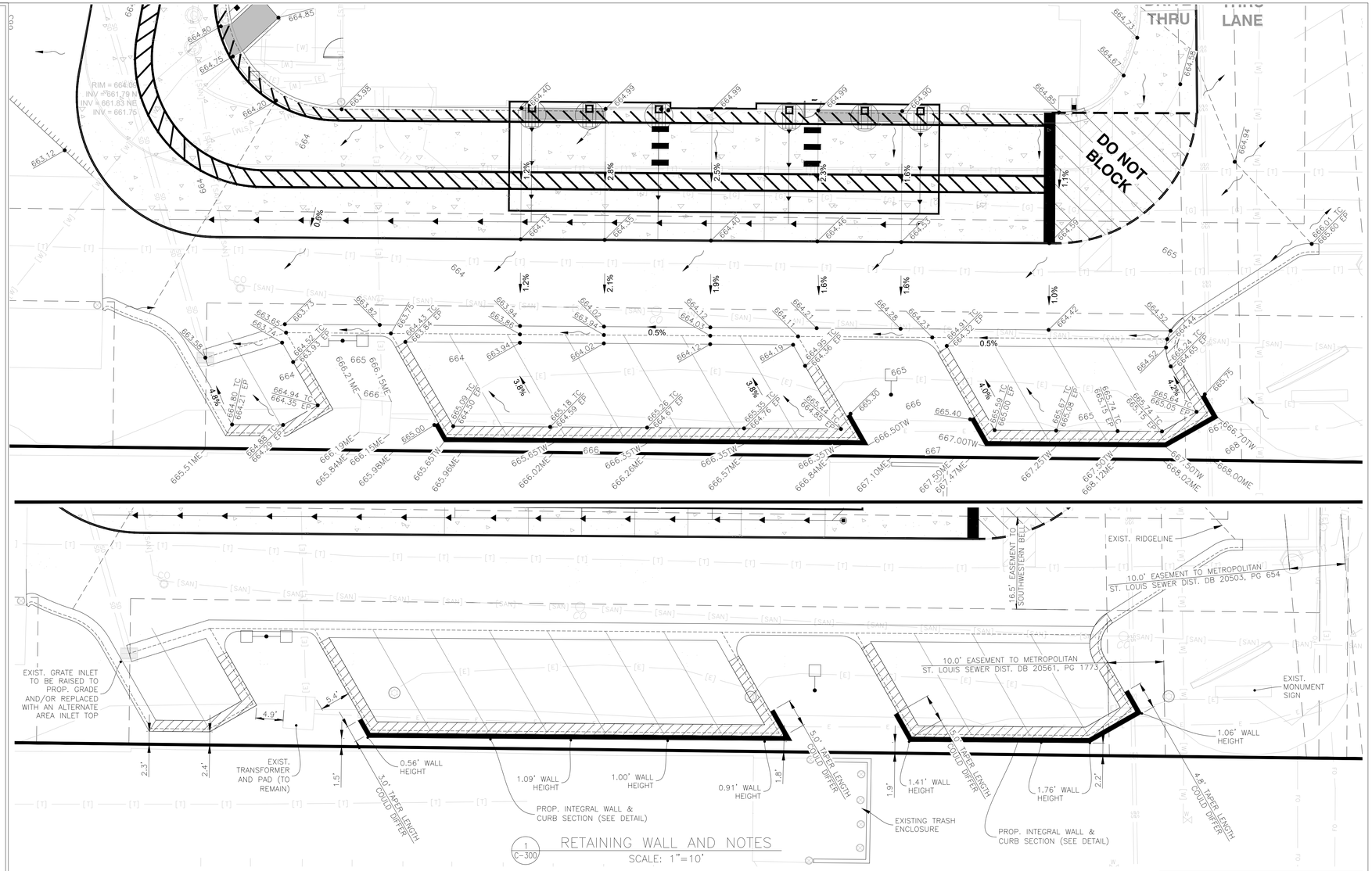
26. SLOPES IN PAVEMENT SHALL BE UNIFORM TO AVOID PONDING OF PAVEMENT.

27. THE CONTRACTOR SHALL CONFINE HIS GRADING OPERATIONS TO WITHIN CONSTRUCTION LIMITS AND EASEMENTS SHOWN ON THE PLANS. ANY DAMAGE TO PROPERTIES OUTSIDE THE SITE BOUNDARY SHALL BE AT THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

28. THE CONTRACTOR SHALL APPLY NECESSARY MOISTURE CONTROL TO THE CONSTRUCTION AREA AND HAUL ROADS TO PREVENT THE SPREAD OF DUST.

29. ALL FIELD TILES ENCOUNTERED SHALL BE REPLACED AND/OR CONNECTED TO THE STORM SEWER SYSTEM AND LOCATED AND IDENTIFIED ON THE RECORD PLANS BY THE CONTRACTOR.

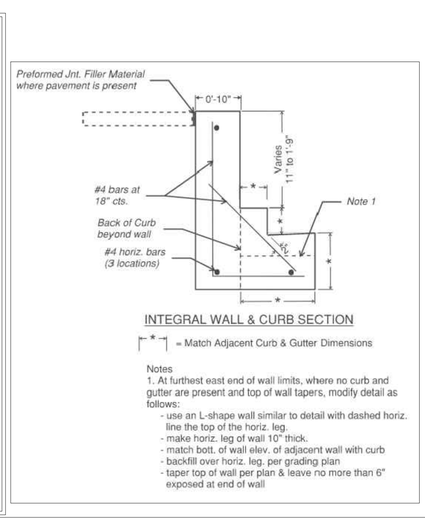
30. ALL STORM DRAINAGE CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE MOST CURRENT CITY OF ST. LOUIS STANDARDS AND SPECIFICATIONS.



1 C-300 RETAINING WALL AND NOTES
SCALE: 1"=10'

GENERAL NOTES:

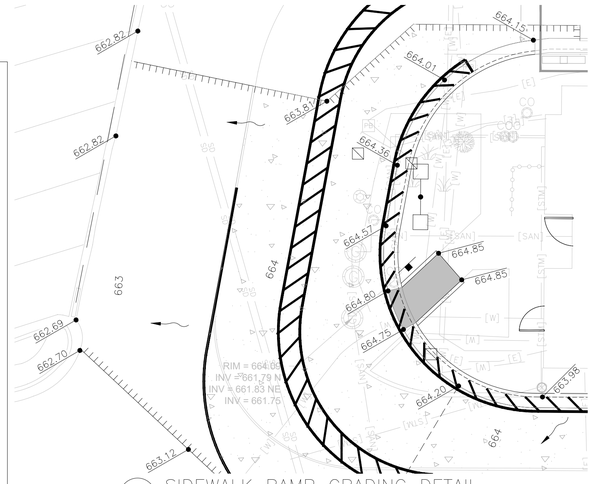
- ACCESSIBLE PARKING, RAMPS, AND SIGNAGE SHALL COMPLY WITH ADA ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES.
- ALL WORK SHALL BE IN ACCORDANCE WITH OSHA CODES AND STANDARDS, NOTHING INDICATED ON THE DRAWINGS SHALL RELIEVE THE CONTRACTOR FROM COMPLYING WITH ANY APPROPRIATE SAFETY REGULATIONS.
- 1 WEEK PRIOR TO CONSTRUCTION WITHIN CITY OR STATE ROW OR ANY CONNECTION TO PUBLIC SEWERS, CONTRACTOR SHALL NOTIFY THE APPROPRIATE CITY ENGINEERING DIVISION.
- CONTRACTOR TO VERIFY BUILDING DIMENSIONS WITH ARCHITECTURAL PLANS. PLACE 3/4 INCH EXPANSION JOINT BETWEEN ALL P.C.C. PAVEMENT/ SIDEWALKS AND BUILDING. PLACE 1/2 INCH EXPANSION JOINT BETWEEN SIDEWALKS AND P.C.C. PAVEMENT. CUT/TRIM EXPANSION JOINTS TO BE FLUSH WITH SURFACE.
- ALL PROPERTY PINS SHALL BF PROTECTED FROM GRADING OR OTHER OPERATIONS. ANY PINS DISTURBED SHALL BE RESET AT THE CONTRACTOR'S EXPENSE.
- DO NOT STORE CONSTRUCTION MATERIALS AND EQUIPMENT IN THE RIGHT-OF-WAY.
- THE CONTRACTOR SHALL NOT DISTURB DESIRABLE GRASS AREAS AND DESIRABLE TREES OUTSIDE THE CONSTRUCTION LIMITS. THE CONTRACTOR SHALL NOT BE PERMITTED TO PARK OR SERVICE VEHICLES AND EQUIPMENT OR USE THESE AREAS FOR STORAGE OR MATERIALS. STORAGE, PARKING AND SERVICE AREAS WILL BE SUBJECT TO THE APPROVAL OF THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY AREAS OF PAVEMENT OR SIDEWALK NOT TO BE REMOVED THAT IS DAMAGED DUE TO OPERATING EQUIPMENT ON THE PAVEMENT OR SIDEWALK.
- THE CONTRACTOR MAY BE REQUIRED TO PLACE TEMPORARY WARNING DEVICES AND SAFETY FENCE AT CERTAIN LOCATIONS WHERE REPLACEMENT FEATURES ARE NOT INSTALLED THE SAME DAY, AS DIRECTED BY THE ENGINEER OR THE CITY.
- ALL CONSTRUCTION WITHIN PUBLIC ROW/EASEMENTS AND/OR ANY CONNECTION TO PUBLIC SEWERS AND STREETS, SHALL COMPLY WITH THE CITY CONSTRUCTION SPECIFICATIONS FOR SUBDIVISIONS AND LATEST EDITION OF MODOT DESIGN STANDARDS
- EXCAVATION SHALL BE IN ACCORDANCE WITH THE GEO TECHNICAL REPORT PREPARED FOR THIS PROJECT.
- CONTRACTOR TO GRADE 4" BELOW THE BACK OF CURB TO ALLOW FOR THE PLACEMENT OF TOPSOIL. A MINIMUM OF 4" OF TOPSOIL SHALL BE PLACED IN ALL PLANTING BEDS AND ALL GRASSED AREAS. GRADED AREAS TO BE HELD DOWN TO THE APPROPRIATE ELEVATION TO ACCOUNT FOR TOPSOIL. SEE SHEET L-101 FOR DETAILS.



INTEGRAL WALL & CURB SECTION

* = Match Adjacent Curb & Gutter Dimensions

Notes
1. At furthest east end of wall limits, where no curb and gutter are present and top of wall tapers, modify detail as follows:
- use an L-shape wall similar to detail with dashed horiz. line the top of the horiz. leg.
- make horiz. leg of wall 10" thick.
- match bott. of wall elev. of adjacent wall with curb
- backfill over horiz. leg. per grading plan
- taper top of wall per plan & leave no more than 6" exposed at end of wall



2 C-300 SIDEWALK RAMP GRADING DETAIL
SCALE: 1"=10'

HATCH LEGEND

- DENOTES REVERSE (SPILLING) CURB & GUTTER
- DENOTES CONCRETE CURB & GUTTER (CATCHING)
- DENOTES AREA OF DEPRESSED SPILLING CURB & GUTTER
- DENOTES AREA OF DEPRESSED CATCHING CURB & GUTTER
- DENOTES AREA OF DEPRESSED SIDEWALK
- XXX.XX DENOTES EXISTING AND OR PROPOSED SPOT ELEVATIONS.
- DENOTES PROPOSED DRAINAGE DIRECTION ARROW.

NORTH
0 10'
1" = 10'

BAR IS ONE INCH ON OFFICIAL DRAWINGS
0 1"
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

PRELIMINARY

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

HRGreen HRGreen.com

CHICK-FIL-A
SUNSET HILLS PLAZA (MO) FSU

10706 SUNSET HILLS PLAZA
SAINT LOUIS, MO 63127

FSU# 03077

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

PRELIMINARY

ENGINEER'S PROJECT #	211353.01
PRINTED FOR	PRELIMINARY
DATE	08/08/2025
DRAWN BY:	ERN
CHECKED BY:	TMR

SHEET
GRADING PLAN

SHEET NUMBER
C-300

(ST-#) STORM TAGS

ST-1 EXIST. STM INLET
EXIST. RIM = 661.92
INV = 656.15 S 12" RCP
INV = 656.05 SE 12" RCP
(CONTRACTOR TO VERIFY CONDITION OF STRUCTURE AND REPLACE IF NECESSARY)

ST-2 EXIST. 2 LIN FT SS RCP, 12"
@ 6.28%

ST-3 STM SWR MH 6' DIA., R-1713 CL
(RESTRICTOR STRUCTURE - SEE DETAIL)
RIM = 662.00
TOP OF WEIR WALL INV = 659.75
(3)-6" ORIFICES INV = 658.30
1.5" ORIFICE INV = 656.35 (W/ TRASH RACK)
INV = 656.33 NE 12"
INV = 656.70 SW 12"

ST-4 EXIST. 1 LIN FT SS RCP, 12"
@ 6.28%

ST-5 STM SWR MH 6' DIA., R-1713 CL
RIM = 662.10
INV = 656.82 NE 12"
INV = 657.19 SW 12"
INV = 656.85 E 36"
INV = 656.85 SE 6"

ST-6 EXIST. 17 LIN FT SS RCP, 12"
@ 6.28%

ST-7 STM SWR MH 4' DIA., R-1713 CL
RIM = 662.17
INV = 657.00 NE 6"
INV = 657.78 N 12"
INV = 658.03 S 12"

ST-8 EXIST. 5 LIN FT SS RCP, 12"
@ 6.28%

ST-9 EXIST. STM INLET
EXIST. RIM = 662.60
INV = 658.66 S 12"
INV = 658.66 N 12"
INV = 656.66 E 6"
(CONTRACTOR TO VERIFY CONDITION OF STRUCTURE AND REPLACE IF NECESSARY)

ST-10 9 LIN FT SS PVC, 6" SDR 26
@ 2.67%

ST-11 BARRACUDA MAX S3 WQU, 3' DIA.
(SEE DETAIL)
RIM = 662.50
INV = 656.90 N 6"
INV = 656.90 W 6"

ST-12 10 LIN FT SS PVC, 6" SDR 26
@ 1.00%

ST-13 35 LIN FT SS RCP, 36"
@ 0.57%

ST-14 STM SWR MH 4' DIA., R-1713 CL
RIM = 663.00
INV = 657.05 W 36"
INV = 657.15 E 36"

ST-15 50 LIN FT SS RCP, 36"
@ 0.55%

ST-16 STM SWR MH 4' DIA., R-1713 CL
RIM = 664.50
INV = 659.90 W 36" RCP

ST-17 EXIST. 109 LIN FT SS RCP, 12"
@ 0.77%

ST-18 134 LIN FT SS PVC, 8" SDR 26
@ 1.00%
INV @ CONNECTION = 659.32

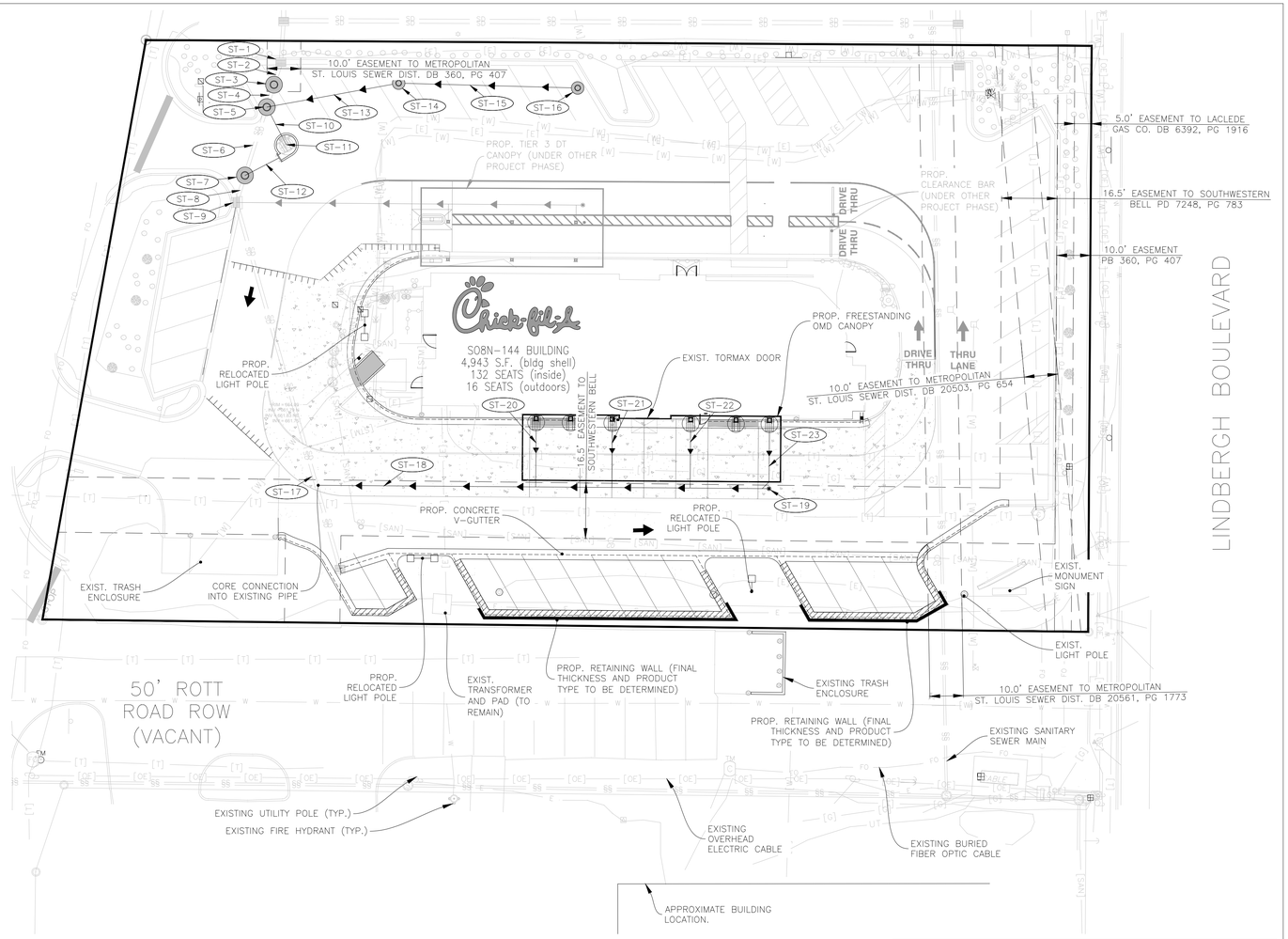
ST-19 CLEANOUT (SEE DETAIL)
RIM = 664.60
INV = 660.70

ST-20 19 LIN FT SS PVC CANOPY DRAIN, 6" SDR 26
@ 1.00%

ST-21 19 LIN FT SS PVC CANOPY DRAIN, 6" SDR 26
@ 1.00%

ST-22 19 LIN FT SS PVC CANOPY DRAIN, 6" SDR 26
@ 1.00%

ST-23 19 LIN FT SS PVC CANOPY DRAIN, 6" SDR 26
@ 1.00%



PROJECT NOTES:

* ALL CONSTRUCTION WITHIN PUBLIC R.O.W./ EASEMENTS AND OR CONNECTION TO PUBLIC SEWERS AND STREETS SHALL COMPLY WITH THE CITY OF SAINT LOUIS STANDARD CONSTRUCTION SPECIFICATIONS.
* AT LEAST ONE WEEK PRIOR TO ANY CONSTRUCTION WITHIN PUBLIC R.O.W./ EASEMENTS AND/OR ANY CONNECTION TO PUBLIC SEWERS AND STREETS, THE CONTRACTOR SHALL CONTACT THE CITY TO OBTAIN APPLICABLE CITY PERMITS.
* INGRESS/EGRESS WILL BE PROVIDED INTERNAL AND EXTERNAL TO THIS SITE.
* ALL CONCRETE CURB & GUTTER SHALL BE 24" (B6.18) UNLESS OTHERWISE NOTED ON THE PLANS.
* ALL PAVEMENT DIMENSIONS ARE MEASURED TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
* ALL CONSTRUCTION MATERIALS, DUMPSTER, DETACHED TRAILERS OR SIMILAR ITEMS ARE PROHIBITED ON PUBLIC STREETS OR WITHIN THE PUBLIC RIGHT-OF-WAY"

NORTH

0 20'
1" = 20'

BAR IS ONE INCH ON OFFICIAL DRAWINGS
0 1"
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

PRELIMINARY

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REVISION SCHEDULE

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PRELIMINARY

ENGINEER'S PROJECT # 211353.01
PRINTED FOR PRELIMINARY
DATE 08/08/2025
DRAWN BY: ERN
CHECKED BY: TMR

SHEET
PLUMBING SITE PLAN

SHEET NUMBER
PS-100

EQUIPMENT SCHEDULE	
X0.3	**BOLLARD SLEEVE** SUPPLIER: G.C. MODEL NUMBER: 1736YRS - EAGLE 6" 6-7/8" ID, 7-3/8 OD, 56"H; COLOR: SAFETY YELLOW W/ REFLECTIVE RED STRIPE. HIGH-DENSITY POLYETHYLENE (HDPE) CONSTRUCTION WITH UV INHIBITORS; SLIDE-ON & TRIM PER MANUFACTURERE'S INSTALLATION INSTRUCTIONS.
X0.9	**LED DECK LIGHT** SUPPLIER: CANOPY MANUFACTURER. LEGACY LED CANOPY LIGHT; CRUS SC LED LW 30 UE WHT. OVERHEAD LED LIGHT PREMOUNTED TO CANOPY PER MANUFACTURERES GUIDELINES. 15-15/16" L X 15-15/16"D X 7-1/8" H; STANDARD SYMMETRIC LIGHT DISTRIBUTION; 300K LIGHT TEMPERATURE; G.C. RESPONSIBLE FOR ELECTRICAL CONNECTIONS.
X0.16	**MOUNTED FAN** SUPPLIER: TOM BARROW COMPANY (CONTACT SCOTT GEORGE PH#:404-351-1010 SGEORGE@TOMBARROW.COM) TPI CORP - U18TE-HD 22-1/2" DIAMETER; BLACK FINISH; 10' CORD; TOTALLY ENCLOSED; CORROSION AND DENT PROOF HOUSING. 120V, 1 PHASE; 3 SPEED MOTOR; MOUNT TO WALLS, COLUMNS OR CANOPY CEILING PER MANUFACTURER'S INSTRUCTIONS.
X0.19	**CLEARANCE TEXT** SUPPLIER: CANOPY MANUFACTURER; 9'-0" CLEARANCE TEXT; METALLIC VINYL NUMBERS. TEXT HEIGHTS VARY BY CANOPY - SEE SHOPS FOR COMPONENT AND DIMENSION INFO, CANOPY VENDOR TO INSTALL.
X0.29	**OVERHEAD ELECTRIC HEATER** SUPPLIER: BROMIC HEATING RE: ELECTRICAL PLANS 56"L X 8.5"D X 3.5"H; BLACK HIGH TEMPERATURE COATING FINISH; CEILING OR WALL MOUNTED; HORIZONTALLY FACING 30° TO GROUND; SEE CANOPY MANUFACTURER'S SHOP DRAWINGS TOP OF HEATER TO BE MIN 12" TO BOTTOM OF DECK. MUST BE MORE THAN 8' ABOVE GROUND; MUST BE MIN 4' BETWEEN CENTER OF HEATER TO CENTER OF FAN.

CANOPY EQUIPMENT SPEC NOTES:
REFER TO CANOPY MANUFACTURER CUTSHEET FOR HEATERS, FANS, CANOPY LIGHTS, PERMANENT BOLLARD & SLEEVE, AND 9'-0" CLEARANCE TEXT SPECIFICATIONS.

NOTE:

1. ALLOW 4'-0" MIN. BETWEEN LIGHTS/FANS AND HEATERS.

2. UTILITIES SHALL BE FED OVERHEAD ON EXISTING BLDGS.

3. INSTALL FLASHING AT ALL WINDOW CONDITIONS, SEE 4ASP1.1

4. ALL FOOTINGS TO BE BELOW GRADE.

5. DO NOT UNDERMINE EXISTING BUILDING FOUNDATION.

6. DRAINAGE TO BE BELOW GRADE WHEN POSSIBLE PER SITE CONDITIONS; TIE INTO EXISTING UTILITIES.

7. G.C. TO VERIFY METHOD OF DRAINAGE ON CANOPY SHOP DRAWINGS.

8. G.C. TO PATCH AND REPAIR WALL AFFECTED BY DEMOLITION. FINISH TO MATCH EXISTING.

9. PRIOR TO POURING THE CANOPY FOOTERS G.C. TO COORDINATE DEPTH OF CANOPY FOOTERS WITH GAS PIPING DEPTH REQUIREMENTS PER THE LOCAL JURISDICTION.

10. X/Y DIMENSION SHOWN FOR ILLUSTRATIVE PURPOSES ONLY FROM FACE OF FINISH TO COLUMN CENTERLINE. G.C. TO CONFIRM DIMENSIONS WITH CIVIL PLANS AND FIELD VERIFY EXACT LOCATIONS. G.C. TO NOTIFY CHICK-FIL-A PROJECT TEAM IF CANOPY LOCATION CHANGES AND IMPACTS OTHER CONSTRUCTIONS RELATED CONDITIONS.

LEGEND

XXXX FINISH TAG.

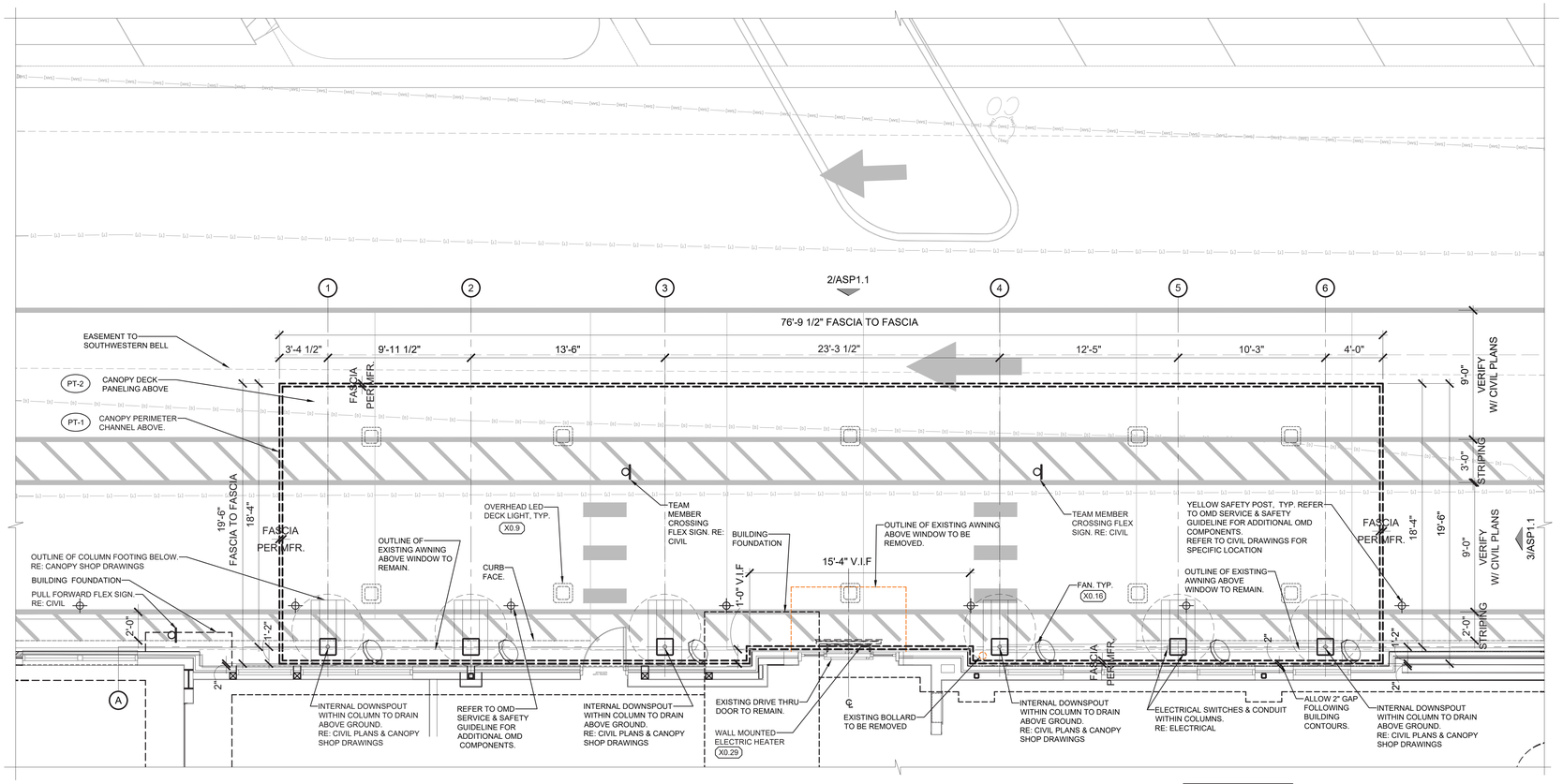
XXXX EQUIPMENT TAG.

NOTE:
REFER TO CFA'S OMD SERVICE & SAFETY GUIDELINES AS WELL AS CFA'S OMD G.C. INSTALL GUIDE FOR REFERENCE.

EXPOSED PIPING FINISHES:
ANY EXPOSED GAS OR ELECTRICAL CONDUIT SHALL BE FINISHED. PAINTED BLACK TO MATCH ADJACENT MATERIAL.

EXTERIOR FINISH SCHEDULE:

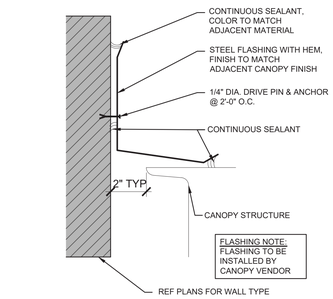
PT-1 DURA COAT, DC19ST02703
DARK BRONZE, OIL RUBBED BRONZE METALLIC TEXTURE PVD
PT-2 SMOOTH WHITE, HIGH GLOSS



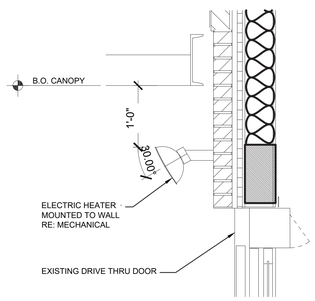
CANOPY TO DRAIN BELOW GROUND

1 TIER 3 OUTSIDE MEAL DELIVERY CANOPY
1/4"=1'-0"

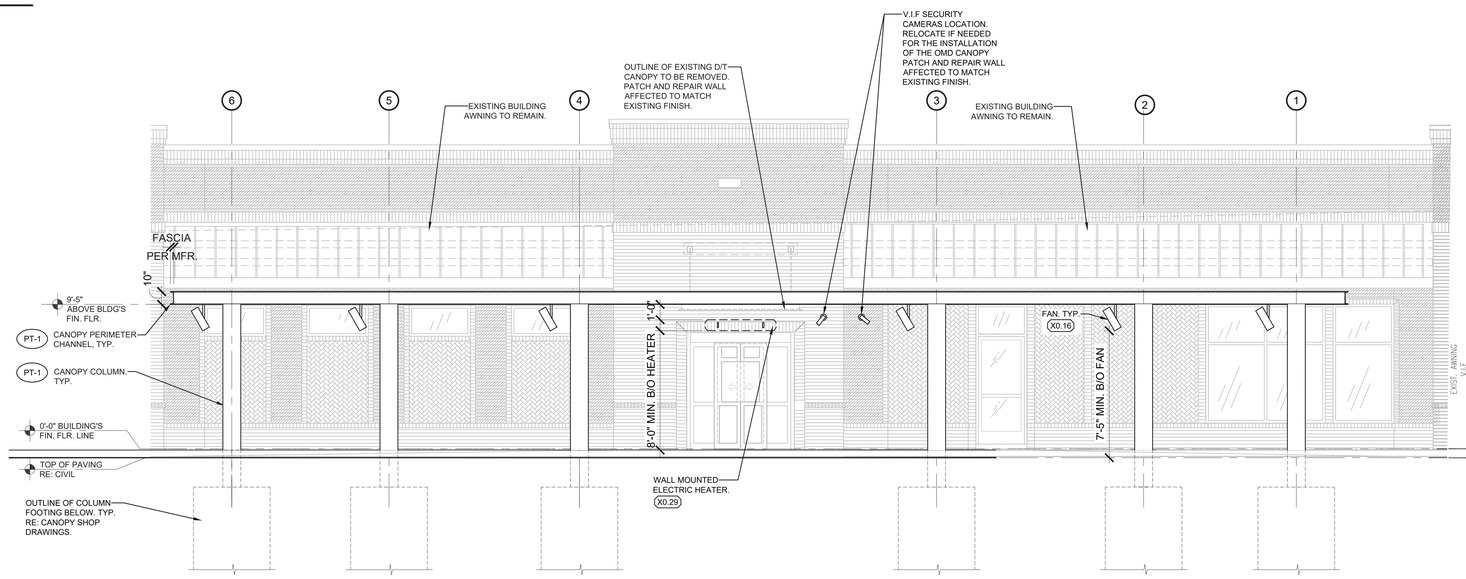
NORTH



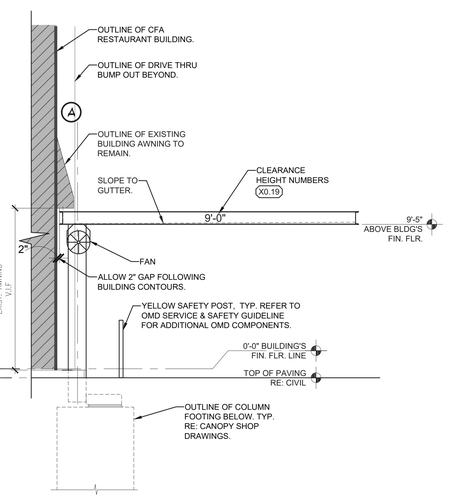
4 FLASHING DETAIL
NTS



5 HEATER DETAIL
NTS



2 OMD CANOPY SIDE ELEVATION
1/4"=1'-0"



3 OMD CANOPY REAR ELEVATION
1/4"=1'-0"

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

INTERPLAN
INTERPLAN LLC
ARCH COA #2015008774
ENG COA #2005026904
ARCHITECTURE
ENGINEERING
PERMITTING
220 E. CENTRAL PKWY, STE 4000
ALTAMONTE SPRINGS, FL 32701
407.645.5008

SEAL:

STATE OF MISSOURI
TAN VU
NUMBER A-2024013667
ARCHITECT

TAN VU - ARCHITECT
LIC # A-2024013667

CHICK-FIL-A
SUNSET HILLS_PHASE 2
10706 SUNSET HILLS PLAZA
ST. LOUIS, MO 63127

FSU#03077

BUILDING TYPE / SIZE: S08N-LG
RELEASE: -
PRINTED FOR
PERMIT

REVISION SCHEDULE

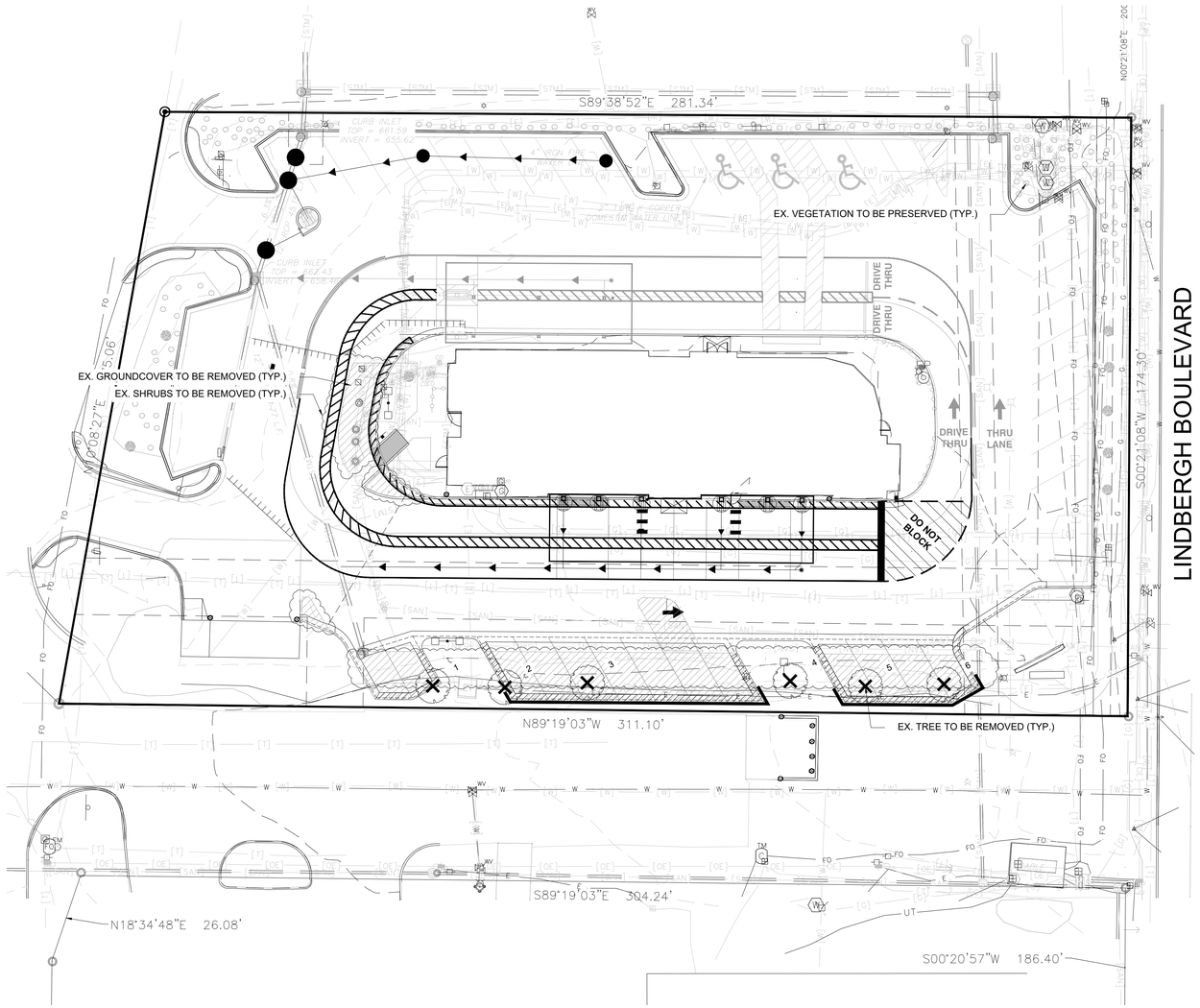
NO.	DATE	DESCRIPTION

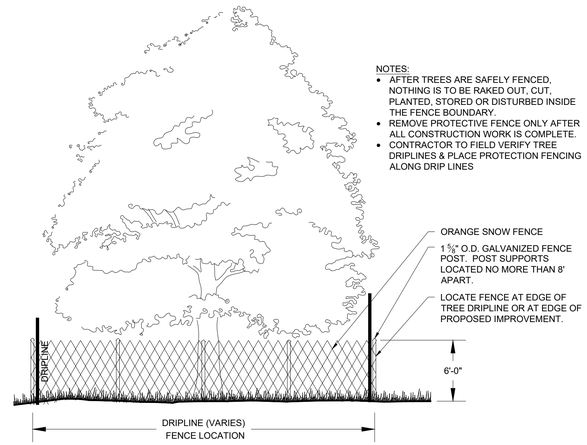
CONSULTANT PROJECT # 2025.0595
DATE OCTOBER 2025
DRAWN BY YT
CHECKED BY YT

SHEET
ARCHITECTURAL SITE PLAN - OMD CANOPY

SHEET NUMBER
ASP-1.1

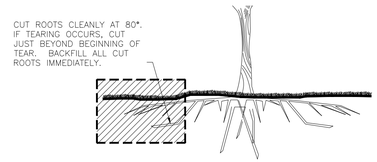
YOVTIS - 12/19/2025 9:56:20 AM





1 TYP. TREE PROTECTION SNOW FENCE DETAIL

SCALE: NTS



2 TYP. ROOT PRUNING DETAIL

SCALE: NTS

CFA Sunset Hills Plaza
12/11/2025
TREE SURVEY

TAG #	DBH (INCHES)	BOTANICAL NAME	COMMON NAME	AGE*	CONDITION**	ACTION	REASON
1	6.0	*Acer rubrum 'October Glory'*	October Glory Red Maple	S	A	REMOVE	DISTURBANCE IN CRITICAL ROOT ZONE
2	6.0	*Acer rubrum 'October Glory'*	October Glory Red Maple	S	A	REMOVE	DISTURBANCE IN CRITICAL ROOT ZONE
3	6.0	*Acer rubrum 'October Glory'*	October Glory Red Maple	S	A	REMOVE	DISTURBANCE IN CRITICAL ROOT ZONE
4	6.0	*Acer rubrum 'October Glory'*	October Glory Red Maple	S	A	REMOVE	DISTURBANCE IN CRITICAL ROOT ZONE
5	6.0	*Acer rubrum 'October Glory'*	October Glory Red Maple	S	A	REMOVE	DISTURBANCE IN CRITICAL ROOT ZONE
6	6.0	*Acer rubrum 'October Glory'*	October Glory Red Maple	S	A	REMOVE	DISTURBANCE IN CRITICAL ROOT ZONE

KEY:
* AGE: *S - Semi-Mature (young trees over 5m high) M - Mature (approximately 40-50 years old) O - Over-Mature (die-back of branches, dead wood, etc.)*
** CONDITION: *A - Good B - Fair C - Poor D - Dead*

TREE PROTECTION KEY

EXISTING TREE TO BE REMOVED

TOTAL QUANTITIES (IN VICINITY OF DISTURBANCE AND PROPOSED IMPROVEMENTS)

EXIST. TREES TO BE REMOVED	7
TOTAL EXISTING TREES TAGGED	7

GENERAL NOTES

1. THE INTENT IS TO KEEP THE EXISTING TREES TO BE PRESERVED IN TACT THROUGHOUT THE DURATION OF CONSTRUCTION ON-SITE. IF THE TREES ARE DAMAGED DURING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR REPLACING PER THE MUNICIPALITY'S ORDINANCE.
2. CONTRACTOR IS RESPONSIBLE FOR THE HAUL-OFF OF ALL TREES AND OTHER VEGETATION TO BE REMOVED.

NORTH

0 20'
1" = 20'

BAR IS ONE INCH ON OFFICIAL DRAWINGS
0 1"
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

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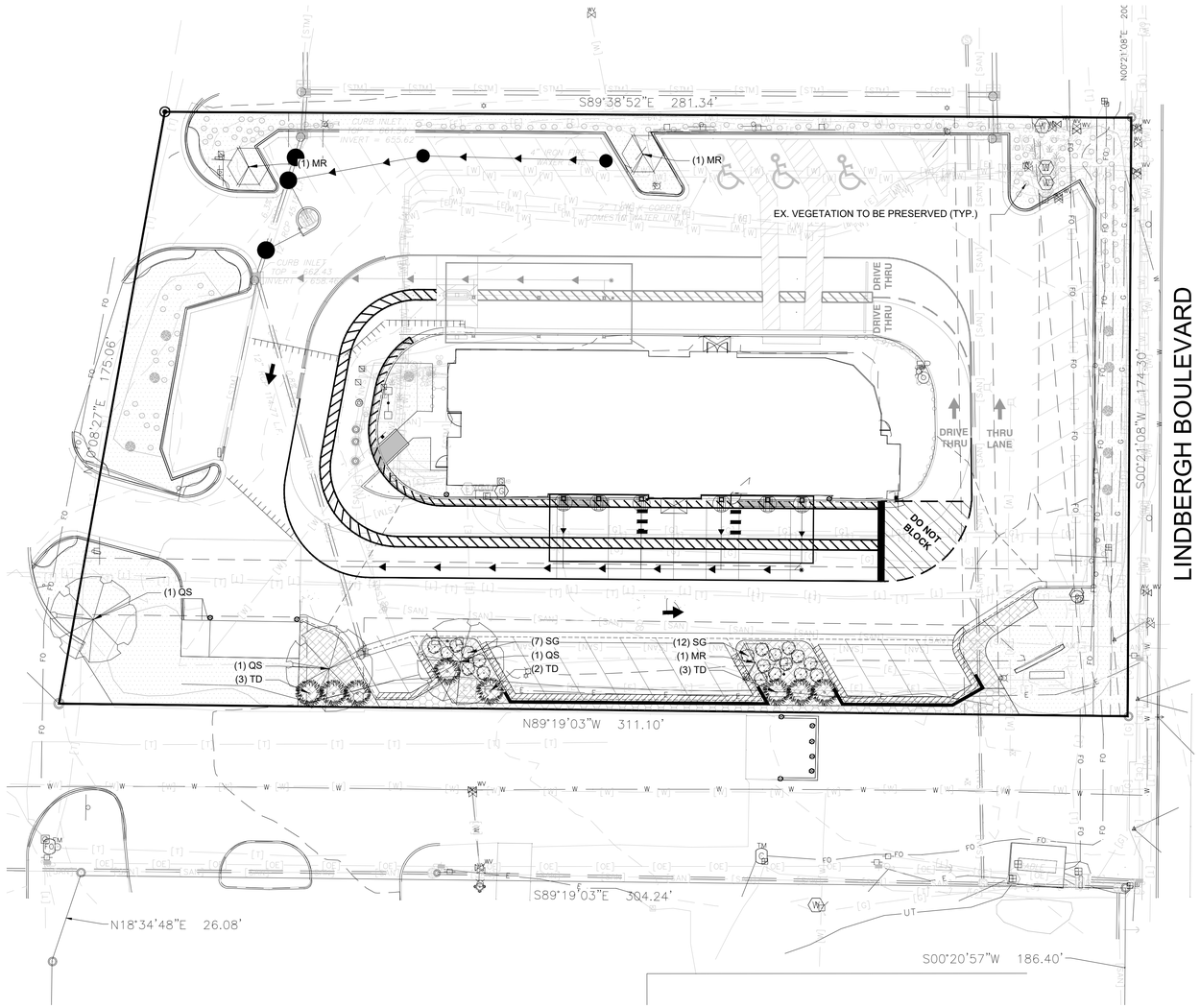
PRELIMINARY

ENGINEER'S PROJECT # 211353.01
PRINTED FOR PRELIMINARY
DATE 08/08/2025
DRAWN BY: KAL
CHECKED BY: JFR

SHEET
TREE PRESERVATION PLAN

SHEET NUMBER
L-100



PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	PLANTING SIZE
DECIDUOUS TREES				
	QS	3	QUERCUS SHUMARDII SHUMARD OAK	3" CAL.
ORNAMENTAL TREES				
	MR	3	MAGNOLIA STELLATA 'ROYAL STAR' ROYAL STAR MAGNOLIA	2" CAL.
SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	SIZE
DECIDUOUS SHRUBS				
	SG	19	SPIRAEA JAPONICA 'GOLDMOUND' GOLDMOUND JAPANESE SPIREA	5 GAL.
EVERGREEN SHRUBS				
	TD	8	TAXUS X MEDIA 'DENSIFORMIS' DENSE ANGLO-JAPANESE YEW	5 GAL.

GROUND COVERS		
	463 SF	1-1/2" ROCK MULCH (TO MATCH EXISTING)
	8,677 SF	EXISTING (PRESERVED)
	1,333 SF	SHREDDED MULCH (TO MATCH EXISTING)

LANDSCAPE CALCULATIONS

LANDSCAPE OF OFF STREET PARKING AREAS

AREA/MATERIAL	ORDINANCE	REQUIRED	PROVIDED
174 LF (LINDBERGH RD.)	1 CANOPY TREE AND 4 SHRUBS PER 30 LF	6 TREES AND 24 SHRUBS	6 TREES AND 87 SHRUBS (EXISTING)

* DUE TO OVERHEAD POWERLINES, BELL SOUTH EASEMENT, AND LACLEDE GAS EASEMENT, UNDERSTORY TREES WERE USED.

INTERIOR LANDSCAPE AREA

AREA/MATERIAL	ORDINANCE	REQUIRED	PROVIDED
21,546 SF (PARKING AREA)	1 CANOPY OR ORNAMENTAL TREE PER 4,000 SF OF PARKING AREA	6	6 (3 ORNAMENTAL)

*MAX 50% OF REQUIRED TREES MAY BE ORNAMENTAL AND PLANS COMPLY.

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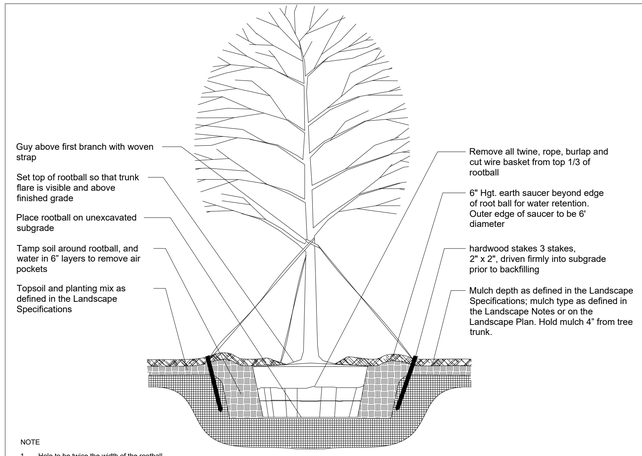
DRAWN BY: KAL CHECKED BY: JFR	

SHEET
LANDSCAPE PLAN

SHEET NUMBER
L-101

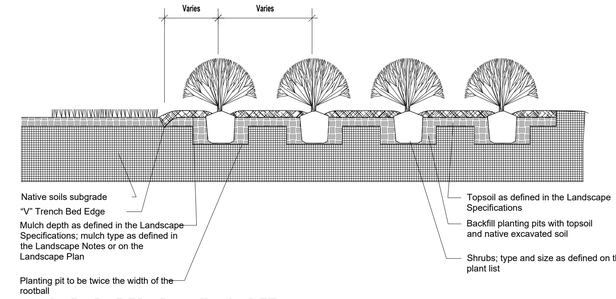


NOTE

1. Hole to be twice the width of the rootball.
2. Do not heavily prune tree at planting. Prune only crossover limbs, broken or dead branches; Do not remove the terminal buds of branches that extend to the edge of the crown.
3. Each tree must be planted such that the trunk flare is visible at the top of the rootball. Trees where the trunk flare is not visible shall be rejected. Do not cover the top of the rootball with soil. Mulch to be held back 4" away from trunk.
4. Remove Guy Wires and Staking when warranty period has expired (after one year).

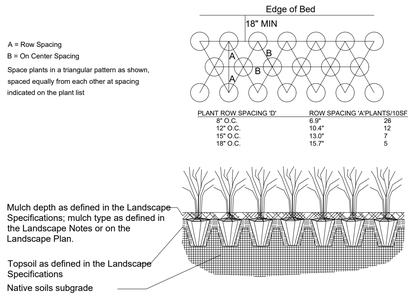
1 TREE PLANTING AND STAKING DETAIL

SCALE: NTS



2 SHRUB BED PLANTING DETAIL

SCALE: NTS



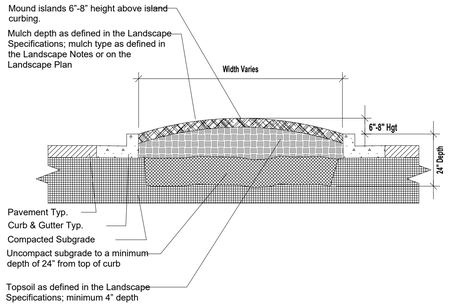
PLANT ROW SPACING 'B'	ROW SPACING 'A'	PLANTS/10SF
8" O.C.	6.9"	26
12" O.C.	10.4"	12
15" O.C.	13.0"	7
18" O.C.	15.7"	5

NOTE

1. Space groundcover plants in accordance with indicated spacing listed on the plant list, or as shown on the landscape plan.
2. Adjust spacing as necessary to evenly fill planting bed with indicated quantity of plants.
3. Plant to within 24" of the trunks of trees and shrubs within planting bed and to within 18" of edge of bed.

3 GROUNDCOVER PLANTING DETAIL

SCALE: NTS

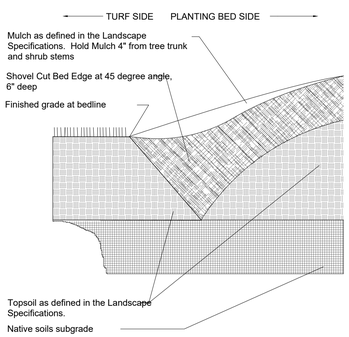


NOTE

1. Clean construction debris from within landscape island areas (ie. concrete, rocks, rubble, building materials, ect), prior to installing topsoil and plant material.
2. Fracture/loosen existing subgrade to a minimum 24" depth. Remove and replace any subgrade unsuitable for planting. Once subgrade is clean of debris and loosened, add topsoil to a minimum bermed 6"-8" height above island curbing.
3. Island plant material as per the Landscape Plan.
4. Install plant material as per tree, shrub and ground cover planting details, and as defined in the Landsacpe Specifications.
5. Install mulch or sod as specified on the Landscape Plan, and as defined in the Landscape Specifications.

4 PARKING ISLAND BERMING DETAIL

SCALE: NTS



5 "V" TRENCH BED EDGING

SCALE: NTS

GENERAL NOTES

1. BASE MAP INFORMATION IS ACCURATE AS OF THE DATE PRINTED ON THIS PACKAGE.
2. THE LANDSCAPE PLANS CONTAINED HEREIN ILLUSTRATE APPROXIMATE LOCATIONS OF ALL SITE CONDITIONS. REFER TO SURVEY, ARCHITECTURAL, CIVIL ENGINEERING, STRUCTURAL, ELECTRICAL, IRRIGATION AND ALL OTHER DRAWINGS, IF AVAILABLE, FOR ADDITIONAL DETAILED INFORMATION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BECOMING AWARE OF AND FIELD VERIFYING ALL RELATED EXISTING AND PROPOSED CONDITIONS, UTILITIES, PIPES AND STRUCTURES, ETC. PRIOR TO BIDDING AND CONSTRUCTION. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR CONTACTING JULIE, THE COUNTY PUBLIC WORKS DEPARTMENT, THE MUNICIPALITY AND ANY OTHER PUBLIC OR PRIVATE AGENCIES NECESSARY FOR UTILITY LOCATION PRIOR TO ANY CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF APPARENT CONFLICTS WITH CONSTRUCTION AND UTILITIES SO THAT ADJUSTMENTS CAN BE PLANNED PRIOR TO INSTALLATION. IF FIELD ADJUSTMENTS ARE NECESSARY DUE TO EXISTING UTILITY LOCATIONS THEY MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY AND ALL COSTS OR OTHER LIABILITIES INCURRED DUE TO DAMAGE OF SAID UTILITIES/STRUCTURES/ETC.
4. THE CONTRACTOR SHALL COMPLY WITH ALL CODES APPLICABLE TO THIS WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH SUBCONTRACTORS AND OTHER CONTRACTORS OF RELATED TRADES, AS REQUIRED, TO ACCOMPLISH THE PLANTING AND RELATED OPERATIONS.
6. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF ALL PLANT MATERIAL WITH THE INSTALLATION OF OTHER IMPROVEMENTS SUCH AS HARDSCAPE ELEMENTS AND RELATED STRUCTURES. ANY DAMAGE TO EXISTING IMPROVEMENTS IS THE RESPONSIBILITY OF THE CONTRACTOR.
7. THE CONTRACTOR IS RESPONSIBLE TO RESTORE ALL AREAS OF THE SITE, OR ADJACENT AREAS, WHERE DISTURBED BY OPERATIONS OF OR RELATED TO THE CONTRACTOR'S WORK.
8. ALL SURFACE DRAINAGE SHALL BE DIVERTED AWAY FROM STRUCTURES AND NOTED SITE FEATURES IN ALL AREAS AT A MINIMUM OF 2% SLOPE OR AS SHOWN ON THE CIVIL ENGINEERING PLANS. ALL AREAS SHALL POSITIVELY DRAIN AND ALL ISLANDS SHALL BE CROWNED 1" IN HEIGHT PER 1' IN ISLAND WIDTH.
9. THE CONTRACTOR SHALL STAKE ALL TREE LOCATIONS AND THE PERIMETER OF SHRUB/PERENNIAL BEDS PRIOR TO INSTALLATION AND CONTACT THE OWNER'S REPRESENTATIVE FOR APPROVAL. FINAL LOCATION AND STAKING OF ALL PLANT MATERIALS SHALL BE ACCEPTED BY THE OWNER'S REPRESENTATIVE IN ADVANCE OF PLANTING.
10. IF CONFLICTS ARISE BETWEEN THE SIZE OF AREAS AND PLANS, THE CONTRACTOR IS REQUIRED TO CONTACT THE OWNER'S REPRESENTATIVE FOR RESOLUTION PRIOR TO INSTALLATION.
11. WHERE PROVIDED, AREA TAKEOFFS AND PLANT QUANTITY ESTIMATES IN THE PLANT LIST ARE FOR INFORMATION ONLY. THE CONTRACTOR IS RESPONSIBLE TO DO THEIR OWN QUANTITY TAKE-OFFS FOR ALL PLANT MATERIALS AND SIZES SHOWN ON PLANS. IN CASE OF ANY DISCREPANCIES, PLANS TAKE PRECEDENCE OVER CALL-OUTS AND/OR THE PLANT LIST(S).
12. PLANTS ARE TO BE TYPICAL IN SHAPE AND SIZE FOR SPECIES. PLANTS PLANTED IN ROWS OR GROUPS SHALL BE MATCHED IN FORM. PLANTS SHALL NOT BE ROOT-BOUND OR LOOSE IN THEIR CONTAINERS. HANDLE ALL PLANTS WITH CARE IN TRANSPORTING, PLANTING AND MAINTENANCE UNTIL INSPECTION AND FINAL ACCEPTANCE. FIELD COLLECTED MATERIAL SHALL NOT BE USED UNLESS APPROVED BY THE OWNER'S REPRESENTATIVE.
13. SHREDDED HARDWOOD MULCH, FERTILIZING, AS SPECIFIED, STAKING, WATERING AND ONE (1) YEAR PLANT WARRANTY FOR INSTALLED PLANT MATERIAL, SHALL BE CONSIDERED INCIDENTAL TO THE PLANT ITEMS.
14. MUSHROOM COMPOST SHALL BE FINELY SCREENED, HOMOGENOUS, DECOMPOSED ORGANIC MATERIAL SUITABLE FOR HORTICULTURAL USE. MIX THOROUGHLY IN PLANT BED BEFORE INSTALLING PLANTS.

LANDSCAPE NOTES

1. LANDSCAPE CONTRACTOR TO READ AND UNDERSTAND THE LANDSCAPE SPECIFICATIONS (SHEET L-103) PRIOR TO FINALIZING BIDS. THE LANDSCAPE SPECIFICATIONS SHALL BE ADHERED TO THROUGHOUT THE CONSTRUCTION PROCESS.
2. CONTRACTOR RESPONSIBLE FOR LOCATING AND PROTECTING ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
3. CONTRACTOR RESPONSIBLE FOR PROTECTING EXISTING TREES FROM DAMAGE DURING CONSTRUCTION.
4. EDGER SHALL BE PLACED IN BETWEEN ALL CHANGES IN GROUND COVER MATERIAL.
5. ALL PLANTING AREAS SHALL BE CLEANED OF CONSTRUCTION DEBRIS (IE. CONCRETE, ROCK, RUBBLE, BUILDING MATERIALS, ETC.) PRIOR TO ADDING AND SPREADING OF THE TOPSOIL.
6. ALL SHRUBS BEDS (EXISTING AND NEW) TO BE MULCHED WITH A 3 INCH MINIMUM LAYER OF DOUBLE SHREDDED HARDWOOD MULCH.
7. ALL ANNUAL AND PERENNIAL BEDS TO BE TILLED TO A MINIMUM DEPTH OF 12 INCHES AND AMENDED WITH 4 INCHES OF ORGANIC MATERIAL. MULCH PLANTED ANNUAL AND PERENNIAL BEDS WITH 2 INCH DEPTH OF MINI NUGGETS.
8. PLANTING HOLES TO BE DUG A MINIMUM OF TWICE THE WIDTH OF THE SIZE OF THE ROOT BALL OF BOTH SHRUB AND TREE. BACK TO BE A MIX OF 4 PARTS TOPSOIL AND 1 PART ORGANIC SOIL CONDITIONER (IE. NATURE'S HELPER OR PRO MIX). BACKFILL AND TAMP BOTTOM OF HOLE PRIOR TO PLANTING SO TOP OF ROOT BALL DOES NOT SETTLE BELOW SURROUNDING GRADE.
9. EXISTING GRASS IN PROPOSED PLANTING AREAS TO BE KILLED AND REMOVED AND AREA TO BE HAND RAKED TO REMOVE ALL ROCKS AND DEBRIS LARGER THAN 1 INCH IN DIAMETER PRIOR TO PLANTING SHRUBS.
10. ANY EXISTING GRASS DISTURBED DURING CONSTRUCTION TO BE FULLY REMOVED, REGRADED AND REPLACED. ALL TIRE MARKS AND INDENTIONS TO BE REPAIRED.
11. SOIL TO BE TESTED TO DETERMINE FERTILIZER AND LIME REQUIREMENTS AND DISTRIBUTED PRIOR TO LAYING SOD.
12. SOD TO BE DELIVERED FRESH (CUT LESS THAN 24 HOURS PRIOR TO ARRIVING ON SITE), LAID IMMEDIATELY, ROLLED, AND WATERED THOROUGHLY IMMEDIATELY AFTER PLANTING. EDGE OF SOD IS TO BE "V" TRENCHED.
13. ALL CHANGES TO DESIGN OR PLANT SUBSTITUTIONS ARE TO BE AUTHORIZED BY THE LANDSCAPE ARCHITECT.
14. ALL LANDSCAPING SHALL BE INSTALLED IN CONFORMANCE WITH ANSI Z60.1 THE "AMERICAN STANDARD FOR NURSERY STOCK" AND THE ACCEPTED STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN.
15. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTS INSTALLED FOR ONE FULL YEAR FROM DATE OF ACCEPTANCE BY THE OWNER. ALL PLANTS SHALL BE ALIVE AND AT A VIGOROUS RATE OF GROWTH AT THE END OF THE GUARANTEE PERIOD. THE LANDSCAPE CONTRACTOR SHALL NOT BE RESPONSIBLE FOR ACTS OF GOD OR VANDALISM.
16. ANY PLANT THAT IS DETERMINED DEAD, IN AN UNHEALTHY OR UNSIGHTLY CONDITION, LOST ITS SHAPE DUE TO DEAD BRANCHES OR OTHER SYMPTOMS OF POOR, NON-VIGOROUS GROWTH SHALL BE REPLACED BY THE LANDSCAPE CONTRACTOR.
17. GENERAL CONTRACTOR IS RESPONSIBLE FOR ADDING A MIN OF 4" OF CLEAN FRIABLE TOPSOIL IN ALL PLANTING BEDS AND ALL GRASSED AREAS. GRADED AREAS TO BE HELD DOWN THE APPROPRIATE ELEVATION TO ACCOUNT FOR TOPSOIL. SEE SPECIFICATIONS FOR REQUIRED TOPSOIL CHARACTERISTICS.
18. IN ALL PARKING LOT ISLANDS, THE GENERAL CONTRACTOR IS RESPONSIBLE TO REMOVE ALL DEBRIS, FRACTURE/LOOSEN SUBGRADE TO A MIN. 24" DEPTH. ADD TOPSOIL TO A 6"-8" BERM HEIGHT ABOVE ISLAND CURBING; REFER TO LANDSCAPE SPECIFICATIONS AND LANDSCAPE ISLAND DETAIL.
19. PRIOR TO BEGINNING WORK, THE LANDSCAPE CONTRACTOR SHALL INSPECT THE SUBGRADE, GENERAL SITE CONDITIONS, VERIFY ELEVATIONS, UTILITY LOCATIONS, IRRIGATION, APPROVE TOPSOIL PROVIDED BY GENERAL CONTRACTOR AND OBSERVE THE SITE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. NOTIFY GENERAL CONTRACTOR OF ANY UNSATISFACTORY CONDITIONS, AND WORK SHALL NOT PROCEED UNTIL SUCH CONDITIONS HAVE BEEN CORRECTED AND ARE ACCEPTABLE TO THE LANDSCAPE CONTRACTOR.
20. STAKE ALL EVERGREEN AND DECIDUOUS TREES AS SHOWN IN THE DETAILS THIS SHEET.
21. REMOVE ALL STAKES AND GUYING FROM ALL TREES AFTER ONE YEAR FROM PLANTING.
22. WATER THOROUGHLY TWICE IN FIRST 24 HOURS AND APPLY MULCH IMMEDIATELY.
23. SITE TO BE 100% IRRIGATED IN ALL PLANTING BEDS AND GRASS AREA BY AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM. SEE IRRIGATION PLAN FOR DESIGN.
24. ALL TREE PROTECTION DEVICES TO BE INSTALLED PRIOR TO THE START OF LAND DISTURBANCE, AND MAINTAINED UNTIL FINAL LANDSCAPING.
25. ALL TREE PROTECTION AREAS TO BE PROTECTED FROM SEDIMENTATION.
26. ALL TREE PROTECTION FENCING TO BE INSPECTED DAILY, AND REPAIRED OR REPLACED AS NEEDED.
27. NO PARKING, STORAGE OR OTHER CONSTRUCTION ACTIVITIES ARE TO OCCUR WITHIN TREE PROTECTION AREAS.
28. CONTRACTOR SHALL USE CAUTION WHEN DIGGING TREE PITS IN THE VICINITY OF UNDERGROUND UTILITY LINES AND MAY NEED TO HAND DIG THE PITS IN MANY OF THESE INSTANCES.

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LANDSCAPE NOTES & DETAILS

SHEET NUMBER
L-102

LANDSCAPE SPECIFICATIONS

PART 1 - GENERAL

DESCRIPTION

PROVIDE TREES, SHRUBS, GROUND COVERS, SOD, AND ANNUALS/PERENNIALS AS SHOWN AND SPECIFIED ON THE LANDSCAPE PLAN. THE WORK INCLUDES:

1. SOIL PREPARATION.
2. TREES, SHRUBS, GROUND COVERS, AND ANNUALS/PERENNIALS.
3. PLANTING MIXES.
4. TOP SOIL, MULCH AND PLANTING ACCESSORIES.
5. MAINTENANCE.
6. DECORATIVE STONE.

RELATED WORK:

1. IRRIGATION SYSTEM; SEE IRRIGATION SPECIFICATIONS (NOT INCLUDED IN PACKAGE).

QUALITY ASSURANCE

PLANT NAMES INDICATED; COMPLY WITH "STANDARDIZED PLANT NAMES" AS ADOPTED BY THE LATEST EDITION OF THE AMERICAN JOINT COMMITTEE OF HORTICULTURAL NOMENCLATURE. NAMES OF VARIETIES NOT LISTED CONFORM GENERALLY WITH NAMES ACCEPTED BY THE NURSERY TRADE. PROVIDE STOCK TRUE TO BOTANICAL NAME AND LEGIBLY TAGGED.

COMPLY WITH SIZING AND GRADING STANDARDS OF THE LATEST EDITION OF "AMERICAN STANDARD FOR NURSERY STOCK". A PLANT SHALL BE DIMENSIONED AS IT STANDS IN ITS NATURAL POSITION.

ALL PLANTS SHALL BE NURSERY GROWN UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT FOR A MINIMUM OF 2 YEARS.

NURSERY STOCK FURNISHED SHALL BE AT LEAST THE MINIMUM SIZE INDICATED. LARGER STOCK IS ACCEPTABLE, AT NO ADDITIONAL COST, AND PROVIDING THAT THE LARGER PLANTS WILL NOT BE CUT BACK TO SIZE INDICATED. PROVIDE PLANTS INDICATED BY TWO MEASUREMENTS SO THAT ONLY A MAXIMUM OF 25% ARE OF THE MINIMUM SIZE INDICATED AND 75% ARE OF THE MAXIMUM SIZE INDICATED.

BEFORE SUBMITTING A BID, THE CONTRACTOR SHALL HAVE INVESTIGATED THE SOURCES OF SUPPLY AND BE SATISFIED THAT THEY CAN SUPPLY THE LISTED PLANTS IN THE SIZE, VARIETY AND QUALITY AS SPECIFIED. FAILURE TO TAKE THIS PRECAUTION WILL NOT RELIEVE THE CONTRACTOR FROM THEIR RESPONSIBILITY FOR FURNISHING AND INSTALLING ALL PLANT MATERIALS IN STRICT ACCORDANCE WITH THE CONTRACT DOCUMENTS WITHOUT ADDITIONAL COST TO THE OWNER. THE LANDSCAPE ARCHITECT SHALL APPROVE ANY SUBSTITUTES OF PLANT MATERIAL, OR CHANGES IN PLANT MATERIAL SIZE, PRIOR TO THE LANDSCAPE CONTRACTOR SUBMITTING A BID.

DELIVER, STORAGE AND HANDLING

TAKE ALL PRECAUTIONS CUSTOMARY IN GOOD TRADE PRACTICE IN PREPARING PLANTS FOR MOVING. WORKMANSHIP THAT FAILS TO MEET THE HIGHEST STANDARDS WILL BE REJECTED. SPRAY DECIDUOUS PLANTS IN FOLIAGE WITH AN APPROVED "ANTI-DESICCANT" IMMEDIATELY AFTER DIGGING TO PREVENT DEHYDRATION. DIG, PACK, TRANSPORT, AND HANDLE PLANTS WITH CARE TO ENSURE PROTECTION AGAINST INJURY. INSPECTION CERTIFICATES REQUIRED BY LAW SHALL ACCOMPANY EACH SHIPMENT INVOICE OR ORDER TO STOCK. PROTECT ALL PLANTS FROM DRYING OUT. IF PLANTS CANNOT BE PLANTED IMMEDIATELY UPON DELIVERY, PROPERLY PROTECT THEM WITH SOIL, WET PEAT MOSS, OR IN A MANNER ACCEPTABLE TO THE LANDSCAPE ARCHITECT. WATER HEELED-IN PLANTINGS DAILY. NO PLANT SHALL BE BOUND WITH ROPE OR WIRE IN A MANNER THAT COULD DAMAGE OR BREAK THE BRANCHES. COVER PLANTS TRANSPORTED ON OPEN VEHICLES WITH A PROTECTIVE COVERING TO PREVENT WIND BURN.

PROJECT CONDITIONS

PROTECT EXISTING UTILITIES, PAVING, AND OTHER FACILITIES FROM DAMAGE CAUSED BY LANDSCAPE OPERATIONS.

A COMPLETE LIST OF PLANTS, INCLUDING A SCHEDULE OF SIZES, QUANTITIES, AND OTHER REQUIREMENTS ARE SHOWN ON THE DRAWINGS. IN THE EVENT THAT QUANTITY DISCREPANCIES OR MATERIAL OMISSIONS OCCUR IN THE PLANT MATERIALS LIST, THE PLANTING PLANS SHALL GOVERN.

THE IRRIGATION SYSTEM WILL BE INSTALLED PRIOR TO PLANTING. LOCATE, PROTECT AND MAINTAIN THE IRRIGATION SYSTEM DURING PLANTING OPERATIONS. REPAIR IRRIGATION SYSTEM COMPONENTS DAMAGED DURING PLANTING OPERATIONS; AT THE CONTRACTOR'S EXPENSE. REFER TO THE IRRIGATION SPECIFICATIONS, IRRIGATION PLAN AND IRRIGATION DETAILS.

DO NOT BEGIN LANDSCAPE ACCESSORY WORK BEFORE COMPLETION OF FINAL GRADING OR SURFACING.

WARRANTY

WARRANT PLANT MATERIAL TO REMAIN ALIVE, BE HEALTHY AND IN A VIGOROUS CONDITION FOR A PERIOD OF 1 YEAR AFTER COMPLETION AND FINAL ACCEPTANCE OF ENTIRE PROJECT.

REPLACE, IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS, ALL PLANTS THAT ARE DEAD OR, ARE IN AN UNHEALTHY, OR UNSIGHTLY CONDITION, AND HAVE LOST THEIR NATURAL SHAPE DUE TO DEAD BRANCHES, OR OTHER CAUSES DUE TO THE CONTRACTOR'S NEGLIGENCE. THE COST OF SUCH REPLACEMENT(S) IS AT THE CONTRACTOR'S EXPENSE. WARRANT ALL REPLACEMENT PLANTS FOR 1 YEAR AFTER INSTALLATION.

WARRANTY SHALL NOT INCLUDE DAMAGE, LOSS OF TREES, PLANTS, OR GROUND COVERS CAUSED BY FIRES, FLOODS, FREEZING RAINS, LIGHTNING STORMS, WINDS OVER 75 MILES PER HOUR, WINTER KILL CAUSED BY EXTREME COLD, SEVERE WINTER CONDITIONS NOT TYPICAL OF PLANTING AREA, AND/OR ACTS OF VANDALISM OR NEGLIGENCE ON A PART OF THE OWNER.

REMOVE AND IMMEDIATELY REPLACE ALL PLANTS, FOUND TO BE UNSATISFACTORY DURING THE INITIAL PLANTING INSTALLATION.
MAINTAIN AND PROTECT PLANT MATERIAL, LAWNS, AND IRRIGATION UNTIL FINAL ACCEPTANCE IS MADE.

ACCEPTANCE

INSPECTION OF PLANTED AREAS WILL BE MADE BY THE OWNER'S REPRESENTATIVE.

1. PLANTED AREAS WILL BE ACCEPTED PROVIDED ALL REQUIREMENTS, INCLUDING MAINTENANCE, HAVE BEEN COMPLIED WITH AND PLANT MATERIALS ARE ALIVE AND IN A HEALTHY, VIGOROUS CONDITION.

UPON ACCEPTANCE, THE CONTRACTOR SHALL COMMENCE THE SPECIFIED PLANT MAINTENANCE.

CODES, PERMITS AND FEES

OBTAIN ANY NECESSARY PERMITS FOR THIS SECTION OF WORK AND PAY ANY FEES REQUIRED FOR PERMITS.

THE ENTIRE INSTALLATION SHALL FULLY COMPLY WITH ALL LOCAL AND STATE LAWS AND ORDINANCES, AND WITH ALL ESTABLISHED CODES APPLICABLE THERETO; ALSO AS DEPICTED ON THE LANDSCAPE AND IRRIGATION CONSTRUCTION SET.

PART 2 - PRODUCTS

MATERIALS

PLANTS: PROVIDE TYPICAL OF THEIR SPECIES OR VARIETY; WITH NORMAL, DENSELY DEVELOPED BRANCHES AND VIGOROUS, FIBROUS ROOT SYSTEMS. PROVIDE ONLY SOUND, HEALTHY, VIGOROUS PLANTS FREE FROM DEFECTS, DISFIGURING KNOTS, SUN SCALD INJURIES, FROST CRACKS, ABRASIONS OF THE BARK, PLANT DISEASES, INSECT EGGS, BORERS, AND ALL FORMS OF INFESTATION. ALL PLANTS SHALL HAVE A FULLY DEVELOPED FORM WITHOUT VOIDS AND OPEN SPACES. PLANTS HELD ON STORAGE WILL BE REJECTED IF THEY SHOW SIGNS OF GROWTH DURING THE STORAGE PERIOD.

1. BALLED AND PLANTS WRAPPED WITH BURLAP, TO HAVE FIRM, NATURAL BALLS OF EARTH OF SUFFICIENT DIAMETER AND DEPTH TO ENCOMPASS THE FIBROUS AND FEEDING ROOT SYSTEM NECESSARY FOR FULL RECOVERY OF THE PLANT. PROVIDE BALL SIZES COMPLYING WITH THE LATEST EDITION OF THE "AMERICAN STANDARD FOR NURSERY STOCK". CRACKED OR MUSHROOMED BALLS, OR SIGNS OF CIRCLING ROOTS ARE NOT ACCEPTABLE.
2. CONTAINER- GROWN STOCK: GROWN IN A CONTAINER FOR SUFFICIENT LENGTH OF TIME FOR THE ROOT SYSTEM TO HAVE DEVELOPED TO HOLD ITS SOIL TOGETHER, FIRM AND WHOLE.
   2.1. NO PLANTS SHALL BE LOOSE IN THE CONTAINER.
   2.2. CONTAINER STOCK SHALL NOT BE POT BOUND.
3. PLANTS PLANTED IN ROWS SHALL BE MATCHED IN FORM.
4. PLANTS LARGER THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED WHEN ACCEPTABLE TO THE LANDSCAPE ARCHITECT.
   4.1. IF THE USE OF LARGER PLANTS IS ACCEPTABLE, INCREASE THE SPREAD OF ROOTS OR ROOT BALL IN PROPORTION TO THE SIZE OF THE PLANT.
5. THE HEIGHT OF THE TREES, MEASURED FROM THE CROWN OF THE ROOTS TO THE TOP OF THE TOP BRANCH, SHALL NOT BE LESS THAN THE MINIMUM SIZE DESIGNATED IN THE PLANT LIST.
6. NO PRUNING WOUNDS SHALL BE PRESENT WITH A DIAMETER OF MORE THAN 1" AND SUCH WOUNDS MUST SHOW VIGOROUS BARK ON ALL EDGES.
7. EVERGREEN TREES SHALL BE BRANCHED TO THE GROUND OR AS SPECIFIED IN PLANT LIST.
8. SHRUBS AND SMALL PLANTS SHALL MEET THE REQUIREMENTS FOR SPREAD AND HEIGHT INDICATED IN THE PLANT LIST
   8.1. THE MEASUREMENTS FOR HEIGHT SHALL BE TAKEN FROM THE GROUND LEVEL TO THE HEIGHT OF THE TOP OF THE PLANT AND NOT THE LONGEST BRANCH.
   8.2. SINGLE STEMMED OR THIN PLANTS WILL NOT BE ACCEPTED.
   8.3. SIDE BRANCHES SHALL BE GENEROUS, WELL-TWIGGED, AND THE PLANT AS A WHOLE WELL-BUSHED TO THE GROUND
   8.4. PLANTS SHALL BE IN A MOIST, VIGOROUS CONDITION, FREE FROM DEAD WOOD, BRUISES, OR OTHER ROOT OR BRANCH INJURIES.

ACCESSORIES

TOPSOIL: SHALL BE FERTILE, FRIABLE, NATURAL TOPSOIL OF LOAMY CHARACTER, WITHOUT ADMIXTURE OF SUBSOIL MATERIAL, OBTAINED FROM A WELL-DRAINED ARABLE SITE, REASONABLY FREE FROM CLAY, LUMPS, COARSE SANDS, STONES, ROOTS, STICKS, AND OTHER FOREIGN MATERIALS, WITH ACIDITY RANGE OF BETWEEN PH 6.0 AND 6.8.

NOTE: ALL PLANTING AREAS SHALL BE CLEANED OF CONSTRUCTION DEBRIS (IE. CONCRETE, RUBBLE, STONES, BUILDING MATERIAL, ETC.) PRIOR TO ADDING AND SPREADING OF THE TOP SOIL.

1. SOD AREAS: SPREAD A MINIMUM 4" LAYER OF TOP SOIL AND RAKE SMOOTH.
2. PLANTING BED AREAS: SPREAD A MINIMUM 4" LAYER OF TOP SOIL AND RAKE SMOOTH.
3. LANDSCAPE ISLANDS/MEDIANS: FRACTURE/LOOSEN EXISTING SUBGRADE TO A MINIMUM 24" DEPTH. REMOVE AND REPLACE ANY SUBGRADE UNSUITABLE FOR PLANTING. ONCE SUBGRADE IS CLEAN OF DEBRIS AND LOOSENED, ADD TOPSOIL TO A MINIMUM BERM 6"-8" HEIGHT ABOVE ISLAND CURBING.
4. ANNUAL/PERENNIAL BED AREAS: ADD A MINIMUM OF 4" ORGANIC MATTER AND TILL TO A MINIMUM 12" DEPTH.

MULCH: TYPE SELECTED DEPENDENT ON REGION AND AVAILABILITY; SEE LANDSCAPE PLANS FOR TYPE OF MUCH TO BE USED. HOLD MULCH 4" FROM TREE TRUNKS AND SHRUB STEMS.

1. HARDWOOD: 6 MONTH OLD WELL ROTTED DOUBLE SHREDDED NATIVE HARDWOOD BARK MULCH NOT LARGER THAN 4" IN LENGTH AND ½" IN WIDTH, FREE OF WOOD CHIPS AND SAWDUST. INSTALL MINIMUM DEPTH OF 3".
2. PINE STRAW: PINE STRAW TO BE FRESH HARVEST, FREE OF DEBRIS, BRIGHT IN COLOR. BALES TO BE WIRED AND TIGHTLY BOUND. NEEDLES TO BE DRY. INSTALL MINIMUM DEPTH OF 3".
3. RIVER ROCK: (COLOR) LIGHT GRAY TO BUFF TO DARK BROWN, WASHED RIVER ROCK, 1" – 3" IN SIZE. INSTALL IN SHRUB BEDS TO AN EVEN DEPTH OF 3". WEED CONTROL BARRIER TO BE INSTALLED UNDER ALL ROCK MULCH AREAS. USE CAUTION DURING INSTALLATION NOT TO DAMAGE PLANT MATERIAL.
4. MINI NUGGETS: INSTALL TO A MINIMUM DEPTH OF 2"-3" AT ALL LOCATIONS OF ANNUAL AND PERENNIAL BEDS. LIFT THE STEMS AND LEAVES OF THE ANNUALS AND CAREFULLY SPREAD THE MULCH TO AVOID INJURING THE PLANTS. GENTLY BRUSH THE MULCH OFF THE PLANTS.

GUYING/STAKING:

1. ARBORTIE: GREEN (OR WHITE) STAKING AND GUYING MATERIAL TO BE FLAT, WOVEN, POLYPROPYLENE MATERIAL, ¾" WIDE 900 LB. BREAK STRENGTH. ARBORTIE SHALL BE FASTENED TO STAKES IN A MANNER WHICH PERMITS TREE MOVEMENT AND SUPPORTS THE TREE.
2. REMOVE GUYING/STAKING AFTER ONE YEAR FROM PLANTING.

TREE WRAP: TREE WRAPS SHOULD BE USED ON YOUNG, NEWLY PLANTED THIN-BARKED TREES (CHERRY, CRABAPPLE, HONEY LOCUST, LINDEN, MAPLE, MOUNTAIN ASH, PLUM) THAT ARE MOST SUSCEPTIBLE TO SUN SCALD/SUNBURN. STANDARD WATERPROOFED TREE WRAPPING PAPER, 2-1/2" WIDE, MADE OF 2 LAYERS OF CREPE DRAFT PAPER WEIGHING NOT LESS THAN 30 LBS. PER REAM, CEMENTED TOGETHER WITH ASPHALT. WRAP THE TREE IN THE FALL AND LEAVE THE WRAP IN PLACE THROUGHOUT THE WINTER AND EARLY SPRING. TREE WRAPS ARE TEMPORARY AND NO LONGER NEEDED ONCE TREES DEVELOP CORKY BARK.

PART 3 – EXECUTION

INSPECTION

PRIOR TO BEGINNING WORK, THE LANDSCAPE CONTRACTOR SHALL INSPECT THE SUBGRADE, GENERAL SITE CONDITIONS, VERIFY ELEVATIONS, UTILITY LOCATIONS, IRRIGATION, APPROVE TOP SOIL PROVIDED BY THE GENERAL CONTRACTOR AND OBSERVE THE SITE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. NOTIFY THE GENERAL CONTRACTOR OF ANY UNSATISFACTORY CONDITIONS, AND WORK SHALL NOT PROCEED UNTIL SUCH CONDITIONS HAVE BEEN CORRECTED AND ARE ACCEPTABLE TO THE LANDSCAPE CONTRACTOR.

PREPARATION

PLANTING SHALL BE PERFORMED ONLY BY EXPERIENCED WORKMEN FAMILIAR WITH PLANTING PROCEDURES UNDER THE SUPERVISION OF A QUALIFIED SUPERVISOR.

LOCATE PLANTS AS INDICATED ON THE PLANS OR AS APPROVED IN THE FIELD AFTER STAKING BY THE LANDSCAPE CONTRACTOR. IF OBSTRUCTIONS ARE ENCOUNTERED THAT ARE NOT SHOWN ON THE DRAWINGS, DO NOT PROCEED WITH PLANTING OPERATIONS UNTIL ALTERNATE PLANT LOCATIONS HAVE BEEN SELECTED AND APPROVED BY THE LANDSCAPE ARCHITECT; SPACING OF PLANT MATERIAL SHALL BE AS SHOWN ON THE LANDSCAPE PLAN.

EXCAVATE CIRCULAR PLANT PITS WITH VERTICAL SIDES, EXCEPT FOR PLANTS SPECIFICALLY INDICATED TO BE PLANTED IN BEDS. PROVIDE SHRUB PITS AT LEAST 12" GREATER THAN THE DIAMETER OF THE ROOT SYSTEM AND 24" GREATER FOR TREES. DEPTH OF PIT SHALL ACCOMMODATE THE ROOT SYSTEM. PROVIDE UNDISTURBED SUB GRADE TO HOLD ROOT BALL AT NURSERY GRADE AS SHOWN ON THE DRAWINGS.

INSTALLATION

SET PLANT MATERIAL IN THE PLANTING PIT TO PROPER GRADE AND ALIGNMENT. SET PLANTS UPRIGHT, PLUMB, AND FACED TO GIVE THE BEST APPEARANCE OR RELATIONSHIP TO EACH OTHER OR ADJACENT STRUCTURE. SET PLANT MATERIAL 2" – 3" ABOVE THE FINISH GRADE. NO FILLING WILL BE PERMITTED AROUND TRUNKS OR STEMS. BACKFILL THE PIT WITH TOPSOIL MIX AND EXCAVATED MATERIAL. DO NOT USE FROZEN OR MUDDY MIXTURES FOR BACKFILLING. FORM A RING OF SOIL AROUND THE EDGE OF EACH PLANTING PIT TO RETAIN WATER.

AFTER BALLED AND WRAPPED IN BURLAP PLANTS ARE SET, MUDDLE PLANTING SOIL MIXTURE AROUND BASES OF BALLS AND FILL ALL VOIDS.

1. REMOVE ALL BURLAP, ROPES, AND WIRES FROM THE TOP 1/3 OF THE ROOT BALL

SPACE GROUND COVER PLANTS IN ACCORDANCE WITH INDICATED DIMENSIONS. ADJUST SPACING AS NECESSARY TO EVENLY FILL PLANTING BED WITH INDICATED QUANTITY OF PLANTS. PLANT TO WITHIN 24" OF THE TRUNKS OF TREES AND SHRUBS WITHIN PLANTING BED AND TO WITHIN 18" OF EDGE OF BED.

MULCHING:

1. MULCH TREE AND SHRUB PLANTING PITS AND SHRUB BEDS WITH REQUIRED MULCHING MATERIAL (SEE LANDSCAPE PLAN FOR MULCH TYPE); DEPTH OF MULCH AS NOTED ABOVE. HOLD MULCH BACK 4" AWAY FROM TREE TRUNKS AND SHRUB STEMS. THOROUGHLY WATER MULCHED AREAS. AFTER WATERING, RAKE MULCH TO PROVIDE A UNIFORM FINISHED SURFACE.

DECORATIVE STONE: (WHERE INDICATED ON LANDSCAPE PLAN)

1. INSTALL WEED CONTROL BARRIER OVER SUB-GRADE PRIOR TO INSTALLING STONE. LAP 6" ON ALL SIDES.
2. PLACE STONE WITHOUT DAMAGING WEED BARRIER.
3. ARRANGE STONES FOR BEST APPEARANCE AND TO COVER ALL WEED BARRIER FABRIC.

WRAPPING, GUYING, STAKING:

1. INSPECT TREES FOR INJURY TO TRUNKS, EVIDENCE OF INSECT INFESTATION, AND IMPROPER PRUNING BEFORE WRAPPING.
2. WRAPPING:
   2.1. WRAP TRUNKS OF ALL YOUNG NEWLY PLANTED TREES KNOWN TO HAVE THIN BARK. WRAP SPIRALLY FROM BOTTOM TO TOP WITH SPECIFIED TREE WRAP AND SECURE IN PLACE.
   2.2. OVERLAP ½ THE WIDTH OF THE TREE WRAP STRIP AND COVER THE TRUNK FROM THE GROUND TO THE HEIGHT OF THE SECOND BRANCH.
   2.3. SECURE TREE WRAP IN PLACE WITH TWINE WOUND SPIRALLY DOWNWARD IN THE OPPOSITE DIRECTION, TIED AROUND THE TREE IN AT LEAST 3 PLACES IN ADDITION TO THE TOP AND BOTTOM.
   2.4. WRAP THE TREES IN THE FALL AND LEAVE THE WRAP IN PLACE THROUGHOUT THE WINTER AND EARLY SPRING.
   2.5. TREE WRAPS ARE TEMPORARY AND NO LONGER NEEDED ONCE THE TREES DEVELOP CORKY BARK.
3. STAKING/GUYING:
   3.1. STAKE/GUY ALL TREES IMMEDIATELY AFTER LAWN SODDING OPERATIONS AND PRIOR TO ACCEPTANCE.
   3.2. STAKE DECIDUOUS TREES 2" CALIPER AND LESS. STAKE EVERGREEN TREES UNDER 7'-0" TALL.
      3.2.1. STAKES ARE PLACED IN LINE WITH PREVAILING WIND DIRECTION AND DRIVEN INTO UNDISTURBED SOIL.
      3.2.2. TIES ARE ATTACHED TO THE TREE, USUALLY AT THE LOWEST BRANCH.
   3.3. GUY DECIDUOUS TREES OVER 2" CALIPER. GUY EVERGREEN TREES 7'-0" TALL AND OVER.
      3.3.1. GUY WIRES TO BE ATTACHED TO THREE STAKES DRIVEN INTO UNDISTURBED SOIL, WITH ONE STAKE PLACED IN THE DIRECTION OF THE PREVAILING WIND.
      3.3.2. TIES ARE ATTACHED TO THE TREE AS HIGH AS PRACTICAL.
      3.3.3. THE AXIS OF THE STAKE SHOULD BE AT 90 DEGREE ANGLE TO THE AXIS ON THE PULL OF THE GUY WIRE.
4. **REMOVE ALL GUYING AND STAKING AFTER ONE YEAR FROM PLANTING.**

PRUNING:

1. PRUNE DECIDUOUS TREES AND EVERGREENS ONLY TO REMOVE BROKEN OR DAMAGED BRANCHES.

WORKMANSHIP

DURING LANDSCAPE/IRRIGATION INSTALLATION OPERATIONS, ALL AREAS SHALL BE KEPT NEAT AND CLEAN. PRECAUTIONS SHALL BE TAKEN TO AVOID DAMAGE TO EXISTING STRUCTURES. ALL WORK SHALL BE PERFORMED IN A SAFE MANNER TO THE OPERATORS, THE OCCUPANTS AND ANY PEDESTRIANS.

UPON COMPLETION OF INSTALLATION OPERATIONS, ALL EXCESS MATERIALS, EQUIPMENT, DEBRIS AND WASTE MATERIAL SHALL BE CLEANED UP AND REMOVED FROM THE SITE; UNLESS PROVISIONS HAVE BEEN GRANTED BY THE OWNER TO USE ON-SITE TRASH RECEPTACLES. SWEEP PARKING AND WALKS CLEAN OF DIRT AND DEBRIS. REMOVE ALL PLANT TAGS AND OTHER DEBRIS FROM LAWNS AND PLANTING AREAS.

ANY DAMAGE TO THE LANDSCAPE, THE STRUCTURE, OR THE IRRIGATION SYSTEM CAUSED BY THE LANDSCAPE CONTRACTOR SHALL BE REPAIRED BY THE LANDSCAPE CONTRACTOR WITHOUT CHARGE TO THE OWNER.

MAINTENANCE

CONTRACTOR SHALL PROVIDE MAINTENANCE UNTIL WORK HAS BEEN ACCEPTED BY THE OWNER'S REPRESENTATIVE.

MAINTENANCE SHALL INCLUDE MOWING, FERTILIZING, MULCHING, PRUNING, CULTIVATION, WEEDING, WATERING, AND APPLICATION OF APPROPRIATE INSECTICIDES AND FUNGICIDES NECESSARY TO MAINTAIN PLANTS AND LAWNS FREE OF INSECTS AND DISEASE.

1. RE-SET SETTLED PLANTS TO PROPER GRADE AND POSITION. RESTORE PLANTING SAUCER AND ADJACENT MATERIAL AND REMOVE DEAD MATERIAL.
2. REPAIR GUY WIRES AND STAKES AS REQUIRED. REMOVE ALL STAKES AND GUY WIRES AFTER 1 YEAR.
3. CORRECT DEFECTIVE WORK AS SOON AS POSSIBLE AFTER DEFICIENCIES BECOME APPARENT AND WEATHER AND SEASON PERMIT.
4. WATER TREES, PLANTS AND GROUND COVER BEDS WITHIN THE FIRST 24 HOURS OF INITIAL PLANTING, AND NOT LESS THAN TWICE PER WEEK UNTIL FINAL ACCEPTANCE.

LANDSCAPE MAINTENANCE SPECIFICATIONS

THE CONTRACTOR SHALL PROVIDE AS A SEPARATE BID, MAINTENANCE FOR A PERIOD OF 1 YEAR AFTER FINAL ACCEPTANCE OF THE PROJECT LANDSCAPING. THE CONTRACTOR MUST BE ABLE TO PROVIDE CONTINUED MAINTENANCE IF REQUESTED BY THE OWNER OR PROVIDE THE NAME OF A REPUTABLE LANDSCAPE CONTRACTOR WHO CAN PROVIDE MAINTENANCE.

STANDARDS

ALL LANDSCAPE MAINTENANCE SERVICES SHALL BE PERFORMED BY TRAINED PERSONNEL USING CURRENT, ACCEPTABLE HORTICULTURAL PRACTICES.

ALL WORK SHALL BE PERFORMED IN A MANNER THAT MAINTAINS THE ORIGINAL INTENT OF THE LANDSCAPE DESIGN.

ALL CHEMICAL APPLICATIONS SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT COUNTY, STATE AND FEDERAL LAWS, USING EPA REGISTERED MATERIALS AND METHODS OF APPLICATION. THESE APPLICATIONS SHALL BE PERFORMED UNDER THE SUPERVISION OF A LICENSED CERTIFIED APPLICATOR.

APPROVALS

ANY WORK PERFORMED IN ADDITION TO THAT WHICH IS OUTLINED IN THE CONTRACT SHALL ONLY BE DONE UPON WRITTEN APPROVAL BY THE OWNER'S REPRESENTATIVE (GENERAL MANAGER OF THE RESTAURANT).

ALL SEASONAL COLOR SELECTIONS SHALL BE APPROVED BY THE GENERAL MANAGER PRIOR TO ORDERING AND INSTALLATION.

SOIL TESTING

THE MAINTENANCE CONTRACTOR SHALL PERFORM SOIL TESTS AS NEEDED TO IDENTIFY IMBALANCES OR DEFICIENCIES CAUSING PLANT MATERIAL DECLINE. THE OWNER SHALL BE NOTIFIED OF THE RECOMMENDATION FOR APPROVAL, AND THE NECESSARY CORRECTIONS MADE AT AN ADDITIONAL COST TO THE OWNER.

ACCEPTABLE SOIL TEST RESULTS

	LANDSCAPE TREES AND SHRUBS	TURF
pH RANGE	5.0 - 7.0	6.0 - 7.0
ORGANIC MATTER	> 1.5%	> 2.5%
MAGNESIUM (Mg)	100+ LBS/ACRE	100+ LBS/ACRE
PHOSPHORUS (P205)	150+ LBS/ACRE	150+ LBS/ACRE
POTASSIUM (K2O)	120+ LBS/ACRE	120+ LBS/ACRE
SOLUBLE SALTS/ CONDUCTIVITY	NOT TO EXCEED 900PPM/1.9MMHOS/CM IN SOIL; NOT TO EXCEED 1400 PPM/2.5 MMHOS/CM IN HIGH ORGANIC MIX.	NOT TO EXCEED 900PPM/1.9MMHOS/CM IN SOIL; NOT TO EXCEED 1400 PPM/2.5 MMHOS/CM IN HIGH ORGANIC MIX.

WORKMANSHIP

DURING LANDSCAPE MAINTENANCE OPERATIONS, ALL AREAS SHALL BE KEPT NEAT AND CLEAN. PRECAUTIONS SHALL BE TAKEN TO AVOID DAMAGE TO EXISTING STRUCTURES. ALL WORK SHALL BE PERFORMED IN A SAFE MANNER TO THE OPERATORS, THE OCCUPANTS AND ANY PEDESTRIANS.

UPON COMPLETION OF MAINTENANCE OPERATIONS, ALL DEBRIS AND WASTE MATERIAL SHALL BE CLEANED UP AND REMOVED FROM THE SITE, UNLESS PROVISIONS HAVE BEEN GRANTED BY THE OWNER TO USE ON-SITE TRASH RECEPTACLES.

ANY DAMAGE TO THE LANDSCAPE, THE STRUCTURE, OR THE IRRIGATION SYSTEM CAUSED BY THE MAINTENANCE CONTRACTOR, SHALL BE REPAIRED BY THE MAINTENANCE CONTRACTOR WITHOUT CHARGE TO THE OWNER.

TURF

GENERAL CLEAN UP

PRIOR TO MOWING, ALL TRASH, STICKS, AND OTHER UNWANTED DEBRIS SHALL BE REMOVED FROM LAWNS, PLANT BEDS, AND PAVED AREAS.

MOWING

WARM SEASON GRASSES (I.E. BERMUDA GRASS) SHALL BE MAINTAINED AT A HEIGHT OF 1" TO 2" DURING THE GROWING SEASON.

COOL SEASON GRASSES, INCLUDING BLUE GRASS, TALL FESCUE, PERENNIAL RYEGRASS, ETC., SHALL BE MAINTAINED AT A HEIGHT OF 2" TO 3" IN SPRING AND FALL. FROM JUNE THROUGH SEPTEMBER, MOWING HEIGHT SHALL BE MAINTAINED AT NO LESS THAN 3".

THE MOWING OPERATION INCLUDES TRIMMING AROUND ALL OBSTACLES, RAKING EXCESSIVE GRASS CLIPPINGS AND REMOVING DEBRIS FROM WALKS, CURBS, AND PARKING AREAS. CAUTION: WEED EATERS SHOULD NOT BE USED AROUND TREES BECAUSE OF POTENTIAL DAMAGE TO THE BARK.

EDGING

EDGING OF ALL SIDEWALKS, CURBS AND OTHER PAVED AREAS SHALL BE PERFORMED ONCE EVERY OTHER MOWING. DEBRIS FROM THE EDGING OPERATIONS SHALL BE REMOVED AND THE AREAS SWEPT CLEAN. CAUTION SHALL BE USED TO AVOID FLYING DEBRIS.

LIMING & FERTILIZING

A SOIL TEST SHALL BE TAKEN TO DETERMINE WHETHER AN APPLICATION OF LIMESTONE IN LATE FALL IS NECESSARY. IF LIMESTONE IS REQUIRED, THE LANDSCAPE CONTRACTOR SHALL SPECIFY THE RATE, OBTAIN APPROVAL FROM THE OWNER AND APPLY IT AT AN ADDITIONAL COST. A UNIT PRICE FOR LIMING OF TURF SHALL ACCOMPANY THE BID BASED ON A RATE OF 50 POUNDS PER 1000 SQUARE FEET.

FERTILIZER SHALL BE APPLIED IN AREAS BASED ON THE EXISTING TURF SPECIES.

LAWN WEED CONTROL: HERBICIDES

SELECTION AND PROPER USE OF HERBICIDES SHALL BE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY. ALL CHEMICAL APPLICATIONS SHALL BE PERFORMED UNDER THE SUPERVISION OF A LICENSED CERTIFIED APPLICATOR. **READ THE LABEL PRIOR TO APPLYING ANY CHEMICAL.**

INSECT & DISEASE CONTROL FOR TURF

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING THE SITE CONDITIONS ON EACH VISIT TO DETERMINE IF ANY INSECT PEST OR DISEASE PROBLEMS EXIST. THE CONTRACTOR SHALL IDENTIFY THE INSECT PEST OR DISEASE, AS WELL AS THE HOST PLANT, AND THEN CONSULT THE MOST CURRENT EDITION OF THE COOPERATIVE EXTENSION SERVICE'S "COMMERCIAL INSECTICIDE RECOMMENDATION FOR TURF" FOR CONTROL. THE LICENSED APPLICATOR SHALL BE FAMILIAR WITH THE LABEL PROVIDED FOR THE SELECTED PRODUCT PRIOR TO APPLICATION.

INSPECTION AND TREATMENT TO CONTROL INSECT PESTS SHALL BE INCLUDED IN THE CONTRACT PRICE.

TREES, SHRUBS, & GROUND COVER

PRUNING

ALL ORNAMENTAL TREES, SHRUBS AND GROUND COVER SHALL BE PRUNED WHEN APPROPRIATE TO REMOVE DEAD OR DAMAGED BRANCHES, DEVELOP THE NATURAL SHAPES. **DO NOT SHEAR TREES OR SHRUBS.** IF PREVIOUS MAINTENANCE PRACTICE HAS BEEN TO SHEAR AND BALL, THEN A NATURAL SHAPE WILL BE RESTORED GRADUALLY.

PRUNING GUIDELINES:

1. PRUNE THOSE THAT FLOWER BEFORE THE END OF JUNE IMMEDIATELY AFTER FLOWERING. FLOWER BUDS DEVELOP DURING THE PREVIOUS GROWING SEASON. FALL, WINTER OR SPRING PRUNING WOULD REDUCE THE SPRING FLOWERING DISPLAY.
2. PRUNE THOSE THAT FLOWER IN SUMMER OR AUTUMN IN WINTER OR SPRING BEFORE NEW GROWTH BEGINS, SINCE THESE PLANTS DEVELOP FLOWERS ON NEW GROWTH.
3. DELAY PRUNING PLANTS GROWN FOR ORNAMENTAL FRUITS, SUCH AS COTONEASTERS, PYRACANTHAS AND VIBURNUMS.
4. HOLLIES AND OTHER EVERGREENS MAY BE PRUNED DURING WINTER IN ORDER TO USE THEIR BRANCHES FOR SEASONAL DECORATION. HOWEVER, SEVERE PRUNING OF EVERGREENS SHOULD BE DONE IN EARLY SPRING ONLY.
5. BROADLEAF EVERGREEN SHRUBS SHALL BE HAND-PRUNED TO MAINTAIN THEIR NATURAL APPEARANCE AFTER THE NEW GROWTH HARDENS OFF.
6. HEDGES OR SHRUBS THAT REQUIRE SHEARING TO MAINTAIN A FORMAL APPEARANCE SHALL BE PRUNED AS REQUIRED. DEAD WOOD SHALL BE REMOVED FROM SHEARED PLANTS BEFORE THE FIRST SHEARING OF THE SEASON.
7. CONIFERS SHALL BE PRUNED, IF REQUIRED, ACCORDING TO THEIR GENUS.
   7.1. YEWS, JUNIPERS, HEMLOCKS, ARBORVITAE, AND FALSE-CYPRESS MAY BE PRUNED AFTER NEW GROWTH HAS HARDENED OFF IN LATE SUMMER. IF SEVERE PRUNING IS NECESSARY, IT MUST BE DONE IN EARLY SPRING.
   7.2. FIRS AND SPRUCES MAY BE LIGHTLY PRUNED IN LATE SUMMER, FALL, OR WINTER AFTER COMPLETING GROWTH. LEAVE SIDE BUDS. NEVER CUT CENTRAL LEADER.
   7.3. PINES MAY BE LIGHTLY PRUNED IN EARLY JUNE BY REDUCING CANDLES.
8. GROUNDCOVER SHALL BE EDGED AND PRUNED AS NEEDED TO CONTAIN IT WITHIN ITS BORDERS.
9. THINNING: REMOVE BRANCHES AND WATER SPROUTS BY CUTTING THEM BACK TO THEIR POINT OF ORIGIN ON PARENT STEMS. THIS METHOD RESULTS IN A MORE OPEN PLANT, WITHOUT STIMULATING EXCESSIVE GROWTH. THINNING IS USED ON CREPE MYRTLES, LILACS, VIBURNUMS, SMOKE BUSH,ETC.
10. RENEWAL PRUNING: REMOVE OLDEST BRANCHES OF SHRUB AT GROUND, LEAVING THE YOUNGER, MORE VIGOROUS BRANCHES. ALSO REMOVE WEAK STEMS. ON OVERGROWN PLANTS, THIS METHOD MAY BE BEST DONE OVER A THREE-YEAR PERIOD. RENEWAL PRUNING MAY BE USED ON ABELIA, FORSYTHIA, DEUTZIA, SPIREA, ETC.

PLANTS OVERHANGING PASSAGEWAYS AND PARKING AREAS AND DAMAGED PLANTS SHALL BE PRUNED AS NEEDED.

SHADE TREES THAT CANNOT BE ADEQUATELY PRUNED FROM THE GROUND SHALL NOT BE INCLUDED IN THE MAINTENANCE CONTRACT. A CERTIFIED ARBORIST UNDER A SEPARATE CONTRACT SHALL PERFORM THIS TYPE OF WORK.

SPRING CLEANUP

PLANT BEDS SHALL RECEIVE A GENERAL CLEANUP BEFORE FERTILIZING AND MULCHING. CLEANUP INCLUDES REMOVING DEBRIS AND TRASH FROM BEDS AND CUTTING BACK HERBACEOUS PERENNIALS LEFT STANDING THROUGH WINTER, E.G. ORNAMENTAL GRASSES, SEDUM AUTUMN JOY.

FERTILIZING

FOR TREES, THE RATE OF FERTILIZATION DEPENDS ON THE TREE SPECIES, TREE VIGOR, AREA AVAILABLE FOR FERTILIZATION, AND GROWTH STAGE OF THE TREE. MATURE SPECIMENS BENEFIT FROM FERTILIZATION EVERY 3 TO 4 YEARS; YOUNGER TREES SHALL BE FERTILIZED MORE OFTEN DURING RAPID GROWTH STAGES.

THE CURRENT RECOMMENDATION IS BASED ON THE RATE OF 1000 SQUARE FEET OF AREA UNDER THE TREE TO BE FERTILIZED. FOR DECIDUOUS TREES, 2 TO 6 POUNDS OF NITROGEN PER 1000 SQUARE FEET; FOR NARROW-LEAF EVERGREENS, 1 TO 4 POUNDS OF NITROGEN PER 1000 SQUARE FEET; FOR BROADLEAF EVERGREENS, 1 TO 3 POUNDS OF NITROGEN PER 1000 SQUARE FEET.

SHRUBS AND GROUNDCOVER SHALL BE TOP-DRESSED WITH COMPOST 1" DEEP, OR FERTILIZED ONCE IN MARCH WITH 10-6-4 ANALYSIS FERTILIZER AT THE RATE OF 3 POUNDS PER 100 SQUARE FEET OF BED AREA. ERICACEOUS MATERIAL SHALL BE FERTILIZED WITH AN ERICACEOUS FERTILIZER AT THE MANUFACTURER'S RECOMMENDATION RATE. IF PLANTS ARE GROWING POORLY, A SOIL SAMPLE SHOULD BE TAKEN.

MULCHING

ANNUALLY, ALL TREE AND SHRUB BEDS WILL BE PREPARED AND MULCHED, TO A MINIMUM DEPTH OF 3" WITH QUALITY MULCH TO MATCH EXISTING. BED PREPARATION SHALL INCLUDE REMOVING ALL WEEDS, CLEANING UP SAID BED, EDGING AND CULTIVATING DECAYED MULCH INTO THE SOIL. DEBRIS FROM EDGING IS TO BE REMOVED FROM BEDS WHERE APPLICABLE. IF DEEMED NECESSARY, A PRE-EMERGENT HERBICIDE MAY BE APPLIED TO THE SOIL TO INHIBIT THE GROWTH OF FUTURE WEEDS.

ORGANICALLY MAINTAINED GARDENS SHALL NOT RECEIVE ANY PRE-EMERGENT HERBICIDES. MULCH IN EXCESS OF 4" WILL BE REMOVED FROM THE BED AREAS. SPECIAL CARE SHALL BE TAKEN IN THE MULCHING OPERATION NOT TO OVER-MULCH OR COVER THE BASE OF TREES AND SHRUBS. THIS CAN BE DETRIMENTAL TO THE HEALTH OF THE PLANTS.

WEEDING

ALL BEDS SHALL BE WEEDED ON A CONTINUOUS BASIS THROUGHOUT THE GROWING SEASON TO MAINTAIN A NEAT APPEARANCE AT ALL TIMES.

PRE-EMERGENT (SOIL-APPLIED) AND POST-EMERGENT (FOLIAR-APPLIED) HERBICIDES SHALL BE USED WHERE AND WHEN APPLICABLE AND IN ACCORDANCE WITH THE PRODUCT'S LABEL.

INSECT & DISEASE CONTROL: TREES, SHRUBS & GROUNDCOVER

THE MAINTENANCE CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING THE LANDSCAPE SITE ON A REGULAR BASIS. THE MONITORING FREQUENCY SHALL BE MONTHLY EXCEPT FOR GROWING SEASON, WHICH WILL BE EVERY OTHER WEEK. TRAINED PERSONNEL SHALL MONITOR FOR PLANT DAMAGING INSECT ACTIVITY, PLANT PATHOGENIC DISEASES AND POTENTIAL CULTURAL PROBLEMS IN THE LANDSCAPE. THE PEST OR CULTURAL PROBLEM WILL BE IDENTIFIED UNDER THE SUPERVISION OF THE CONTRACTOR.

FOR PLANT DAMAGING INSECTS AND MITES IDENTIFIED IN THE LANDSCAPE, THE CONTRACTOR SHALL CONSULT AND FOLLOW THE RECOMMENDATIONS OF THE MOST CURRENT EDITION OF THE STATE COOPERATIVE SERVICE PUBLICATION ON INSECT CONTROL ON LANDSCAPE PLANT MATERIAL.

PLANT PATHOGENIC DISEASE PROBLEMS IDENTIFIED BY THE CONTRACTOR THAT CAN BE RESOLVED BY PRUNING OR PHYSICAL REMOVAL OF DAMAGED PLANT PARTS WILL BE PERFORMED AS PART OF THE CONTRACT. FOR AN ADDITIONAL CHARGE, PLANT PATHOGENIC DISEASES THAT CAN BE RESOLVED THROUGH PROPERLY TIMED APPLICATIONS OF FUNGICIDES SHALL BE MADE WHEN THE OWNER AUTHORIZES IT.

IF THE CONTRACTOR NOTES AN ESPECIALLY INSECT-OR DISEASE-PRONE PLANT SPECIES IN THE LANDSCAPE, HE/SHE WILL SUGGEST REPLACEMENT WITH A MORE PEST-RESISTANT CULTIVARS OR SPECIES THAT IS CONSISTENT WITH THE INTENT OF THE LANDSCAPE DESIGN.

NOTE: FOR IDENTIFICATION OF PLANT-DAMAGING INSECTS AND MITES, A REFERENCE TEXTBOOK THAT CAN BE USED IS INSECTS THAT FEED ON TREES AND SHRUBS BY JOHNSON AND LYON, COMSTOCK PUBLISHING ASSOCIATES. FOR PLAN PATHOGENIC DISEASES, TWO REFERENCES ARE SUGGESTED: SCOUTING AND CONTROLLING WOODY ORNAMENTAL DISEASES IN LANDSCAPES AND NURSERIES , AUTHORIZED BY GARY MOORMAN, PUBLISHED BY PENN STATE COLLEGE OF AGRICULTURAL SCIENCES, AND DISEASES OF TREES AND SHRUBS BY SINCLAIR AND LYON, PUBLISHED BY COMSTOCK PUBLISHING PRESS.

TRASH REMOVAL

THE MAINTENANCE CONTRACTOR SHALL REMOVE TRASH FROM ALL SHRUB AND GROUNDCOVER BEDS WITH EACH VISIT.

LEAF REMOVAL

ALL FALLEN LEAVES SHALL BE REMOVED FROM THE SITE IN NOVEMBER AND ONCE IN DECEMBER. IF REQUESTED BY THE OWNER, THE MAINTENANCE CONTRACTOR, AT AN ADDITIONAL COST TO THE OWNER SHALL PERFORM SUPPLEMENTAL LEAF REMOVALS.

WINTER CLEAN-UP

THE PROJECT SHALL RECEIVE A GENERAL CLEAN-UP ONCE DURING EACH OF THE WINTER MONTHS, I.E., JANUARY, FEBRUARY, AND MARCH.
CLEAN-UP INCLUDES:

- CLEANING CURBS AND PARKING AREAS
- REMOVING ALL TRASH AND UNWANTED DEBRIS
- TURNING MULCH WHERE NECESSARY
- INSPECTION OF GROUNDS

SEASONAL COLOR: PERENNIALS, ANNUALS, AND BULBS

THE INSTALLATION OF PERENNIALS, ANNUALS, AND BULBS, UNLESS SPECIFIED HEREIN, SHALL BE REVIEWED WITH THE OWNER, AND, IF ACCEPTED, INSTALLED AND BILLED TO THE OWNER.

SEASONAL COLOR MAINTENANCE

PERENNIALIZATION OF BULBS:

1. AFTER FLOWERING, CUT OFF SPENT FLOWER HEADS.
2. ALLOW LEAVES OF DAFFODILS AND HYACINTHS TO REMAIN FOR SIX WEEKS AFTER FLOWERS HAVE FADED. CUT OFF AT BASE.
3. ALLOW LEAVES OF OTHER BULBS TO YELLOW NATURALLY AND THEN CUT OFF AT BASE.
4. APPLY FERTILIZER AFTER FLOWERING IN SPRING, POSSIBLY AGAIN IN FALL. APPLY 10-10-10 AT THE RATE OF 2 POUNDS PER 1000 SQUARE FEET, OR TOP-DRESS WITH COMPOST 1" DEEP. FALL FERTILIZATION WITH A BULB FERTILIZER OR MULCHING WITH 1" OF COMPOST IS OPTIONAL.

FLOWER ROTATION

1. BULBS: REMOVE THE ENTIRE PLANT AND BULB AFTER FLOWERS HAVE FADED OR AT THE DIRECTION OF THE OWNER, AND INSTALL NEW PLANTS IF INCLUDED IN CONTRACT.
2. SUMMER ANNUALS OR FALL PLANTS:
   2.1. DEAD HEADING: PINCH AND REMOVE DEAD FLOWERS ON ANNUALS AS NECESSARY.
   2.2. FERTILIZING SUMMER ANNUALS: FERTILIZE USING ONE OR TWO METHODS: APPLY A SLOW-RELEASE FERTILIZER IN MAY FOLLOWING MANUFACTURER'S RECOMMENDATIONS. A BOOSTER SUCH AS 10-10-10 MAY BE NECESSARY IN LATE SUMMER. OR, APPLY LIQUID FERTILIZATIONS OF 20-20-20 WATER-SOLUBLE FERTILIZERS, NOT TO EXCEED 2 POUNDS OF 20-20-20 PER 100 GALLONS OF WATER, MONTHLY; OR MULCH WITH COMPOST 1" DEEP.
   2.3. REMOVAL: IF FALL PLANTS ARE TO BE INSTALLED, SUMMER ANNUALS SHALL BE LEFT IN THE GROUND UNTIL THE FIRST KILLING FROST AND THEN REMOVED, UNLESS OTHERWISE DIRECTED BY THE OWNER.

PERENNIALS

1. AFTER INITIAL INSTALLATION, IF A TIME-RELEASED FERTILIZER HAS BEEN INCORPORATED DURING PLANT INSTALLATION, NO MORE FERTILIZER NEED BE APPLIED THE FIRST GROWING SEASON.
2. THE FOLLOWING YEAR:
   2.1. FERTILIZE PERENNIALS WITH A SLOW-RELEASE FERTILIZER OR ANY 50% ORGANIC FERTILIZER, OR MULCH PERENNIALS WITH COMPOST 1" DEEP.
   2.2. CUT ALL DECIDUOUS PERENNIALS FLUSH TO THE GROUND BY MARCH 1, IF THIS WAS NOT DONE THE
   2.3. PREVIOUS FALL, TO ALLOW NEW GROWTH TO DEVELOP FREELY.
   2.4. MULCH THE PERENNIAL BED ONCE IN EARLY SPRING AT 1"-2" DEPTH. IF SOIL IS BARED IN LATE
   2.5. FALL, RE-MULCH LIGHTLY AFTER GROUND IS FROZEN TO PROTECT PERENNIALS.
   2.6. INSPECT FOR INSECT OR DISEASE PROBLEMS ON PERENNIALS. MONITOR AND CONTROL SLUGS ON HOSTAS AND LIGULARIAS. POWDERY MILDEW ON PHLOX, MONARDAS, AND ASTERS CAN BE PREVENTED WITH PROPERLY TIMED FUNGICIDES OR USE OF DISEASE-RESISTANT VARIETIES.
   2.7. WEED PERENNIAL BED AS SPECIFIED IN "WEEDING" ABOVE.
   2.8. PRUNE BRANCHING SPECIES TO INCREASE DENSITY. CUT ONLY THE FLOWERING STEMS AFTER BLOOMING. DO NOT REMOVE THE FOLIAGE.
3. THE FOLLOWING FALL CUT BACK DETERIORATING PLANT PARTS UNLESS INSTRUCTED TO RETAIN FOR WINTER INTEREST, E.G. SEDUM AUTUMN JOY AND ORNAMENTAL GRASSES.
4. LONG-TERM CARE:
   4.1. DIVIDE PLANTS THAT OVERCROWD THE SPACE PROVIDED. DIVIDE ACCORDING TO THE SPECIES. SOME NEED FREQUENT DIVIDING, E.G. ASTERS AND YARROW EVERY TWO YEARS; OTHER RARELY, IF EVER, E.G. PEONIES, HOSTAS, AND ASTILBE.
   4.2. FOR DETAILED INFORMATION REGARDING THE CARE OF SPECIFIC PERENNIALS, REFER TO ALL ABOUT PERENNIALS BY ORTHO; PERENNIALS: HOW TO SELECT, GROW AND ENJOY BY PAMELA HARPER AND FREDERICK MCGOUTY, HP BOOKS PUBLISHER; HERBACEOUS PERENNIAL PLANTS: A TREATISE ON THEIR IDENTIFICATION, CULTURE AND GARDEN ATTRIBUTES BY ALLAN ARMITAGE, STIPES PUB LLC.

SUMMARY OF MAINTENANCE

LAWN MAINTENANCE

1. SOIL ANALYSIS PERFORMED ANNUALLY TO DETERMINE PH. IF PH DOES NOT FALL WITHIN SPECIFIED RANGE, ADJUST ACCORDING TO SOIL TEST RECOMMENDATIONS .
2. MAINTAIN PROPER FERTILITY AND PH LEVELS OF THE SOIL TO PROVIDE AN ENVIRONMENT CONDUCIVE TO TURF VITALITY FOR COOL SEASON GRASSES
3. MOW WARM AND COOL SEASON ON A REGULAR BASIS AND AS SEASON AND WEATHER DICTATES. REMOVE NO MORE THAN THE TOP 1/3 OF LEAF BLADE. CLIPPINGS ON PAVED AND BED AREAS WILL BE REMOVED.
4. AERATE WARM SEASON TURF AREAS TO MAINTAIN HIGH STANDARDS OF TURF APPEARANCE.
5. APPLY PRE-EMERGENT TO TURF IN TWO APPLICATIONS IN EARLY FEBRUARY AND EARLY APRIL TO EXTEND BARRIER.
6. APPLY POST EMERGENT AS NEEDED TO CONTROL WEEDS.
7. MECHANICALLY EDGE CURBS AND WALKS.
8. APPLY NON-SELECTIVE HERBICIDE, TO MULCHED BED AREAS AND PAVEMENT AND REMOVE EXCESS RUNNERS TO MAINTAIN CLEAN DEFINED BEDS.

TREE, GROUNDCOVER, AND SHRUB BED MAINTENANCE

1. PRUNE SHRUBS, TREES AND GROUNDCOVER TO ENCOURAGE HEALTHY GROWTH AND CREATE A NATURAL APPEARANCE.
2. MULCH TO BE APPLIED IN FEBRUARY/MARCH WITH A HALF RATE IN LATE SUMMER TO TOP DRESS.
3. APPLY PRE-EMERGENT HERBICIDES IN FEBRUARY AND APRIL.
4. MANUAL WEED CONTROL TO MAINTAIN CLEAN BED APPEARANCE.
5. APPLY FUNGICIDES AND INSECTICIDES AS NEEDED TO CONTROL INSECTS AND DISEASE.
6. ORNAMENTAL SHRUBS, TREES AND GROUNDCOVERS TO BE FERTILIZED THREE (3) TIMES PER YEAR WITH A BALANCED MATERIAL (JANUARY/FEBRUARY, APRIL/MAY, AND OCTOBER/NOVEMBER)
7. EDGE ALL MULCHED BEDS.
8. REMOVE ALL LITTER AND DEBRIS.

GENERAL MAINTENANCE

1. REMOVE ALL MAN-MADE DEBRIS, BLOW EDGES.
2. INSPECT GROUNDS ON A MONTHLY BASIS AND SCHEDULE INSPECTION WITH UNIT OPERATOR.

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CHICK-FIL-A
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REVISION SCHEDULE

NO.	DATE	DESCRIPTION

PRELIMINARY

ENGINEER'S PROJECT # **211353.01**
PRINTED FOR PRELIMINARY
DATE 08/08/2025
DRAWN BY: KAL
CHECKED BY: JFR

SHEET
LANDSCAPE SPECIFICATIONS

SHEET NUMBER
L-103

Catalog #: ______ Project: ______
Prepared By: ______ Date: ______ Type: ______

Scottsdale® Legacy (CRUS)

LED Canopy Luminaire

IN THE USA · cULus LISTED · DLC · ida · IP66

OVERVIEW	
Lumen Package	5,000 - 22,000
Wattage Range	38 - 152
Efficacy Range (LPW)	114 -156
Weight lbs(kg)	23 (10.4)

QUICK LINKS

Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction

- Features a ultra-slim 11/16" profile die-cast housing, with flat clear tempered glass lens. Unit is water-resistant, sealed and IP66 rated. Integral designed heat sink does not trap dirt and grime, ensuring cool running performance over the life of the fixture.
- Standard color is white and is finished with LSI's DuraGrip polyester powder coat process. DuraGrip withstands extreme weather changes without cracking or peeling.
- Luminaire assembly incorporates a pressure stabilizing vent breather to prevent seal fatigue and failure.

Optical System

- Features an array of select, mid-power, high brightness, high efficiency LED; 3000K, 4000K, 5000K color temperature, 80 CRI (nominal).
- Choice of Symmetric or Asymmetric distribution. Asymmetric provides a wider distribution pattern.
- Six Lumen Packages: 5,000, 9,000, 10,000, 13,000, 18,000 and 22,000 Lumens.

Electrical

- High performance factory programmable driver features over-voltage, under voltage, short-circuit and over temperature protection with integral 6kV surge protection that meets IEEE C62.41.2 and ANSI C82.77-5 Location Category C Low standards. Custom lumen and wattage packages available.
- Additional field replaceable 10kV surge protection device that meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2) is standard.
- Driver components are fully encased in potting for moisture resistance. Complies with IEC and FCC standards. 0-10 V dimming supplied standard with all drive currents.
- Die-cast aluminum, wet location rated driver/electrical enclosure is elevated above canopy deck to prevent water entry, provide easy "knock-out" connection of primary wiring and acts as the primary heatsink ensuring cool operation of internal components for longer life. Seals to optical housing via one-piece molded silicone gasket.
- Universal voltage power supply, 120-277 VAC, 50/60 HZ and 347-480 VAC, 50/60 HZ input.
- -40°C to 55°C (-40°F to 131°F) ambient operating temperature. (Varies based on lumen package and mounting style see performance data for specifics.)
- Minimum 60,000 to 100,000 hours depending upon the ambient temperature of the installation location (see performance data for specifics.)

Hazardous Location

- Designed for lighter than air fuel applications. Product is suitable for Class 1 Divisions 2 only when properly installed per LSI installation instructions. See lsicorp.com for specific guidance. Not available on SLW.

Installation

- One-person installation.
- Installs in a 12" or 16" deck pan. Deck penetration consists of a 4" hole, simplifying installation and water sealing. Unit is designed to quickly retrofit into existing Scottsdale (4") hole as well as openings for Encore and Encore Top Access and to reconnect wiring for the SC/ECTA without having to relocate the conduit.
- Retro panels are available for existing Encores as well as kits for recessed and 2x2 installations (see separate spec sheets). Support brackets are provided standard, to prevent sagging of deck.

Warranty

- LSI LED fixtures carry a 5-year warranty (contact your LSI representative for extended warranty options.)

Listings

- UL and ETL listed to UL 1598, UL 8750 and other U.S. and International safety standards. Suitable for wet locations.
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
- Meets Buy American Act requirements.
- IDA compliant with 3000K or lower color temperature.

Type: ______

Scottsdale® Legacy LED Canopy Luminaire (CRUS)

ORDERING GUIDE

Back to Quick Links

TYPICAL ORDER EXAMPLE: CRUS SC LED SS 50 UE WHT

Prefix	Distribution	Light Source	Drive Current	Color Temp	Input Voltage	Finish	Options
CRUS - LED Canopy Luminaire	SC - Symmetric AC[1] - Asymmetric	LED	SLW - Super Low Watt VLW - Very Low Watt LW - Low Watt SS - Super Saver HO - High Output VHO - Very High Output Custom Lumen Packages[3]	50 - 5,000K 40 - 4,000K 30 - 3,000K	UE - Universal Voltage (120 - 277V) HV - High Voltage 347 - 480V	WHT - White BRZ - Bronze BLK - Black	HL[2] - Hazardous Location

FOOTNOTES:
1. AC distribution utilizes a reflector which alters the look from a standard SC distribution.
2. Not available on SLW.
3. Custom lumen and wattage packages available consult factory. Values are within industry standard tolerances but not DLC listed.

Accessory Ordering Information (Accessories are field installed)

Description	Order Number	Description	Order Number
Retrofit Panels - EC / ECTA / SCF to CRUS, for 16" Deck Panel	525946	Retrofit RIC Cover Panel Blank (no holes)	354702
Retrofit Panels - ECTA / SCF to CRUS, for 12" Deck Panel	530281	Kit - Hole Plugs and Silicone (enough for 25 retrofits)[1]	1320540
Retrofit 2x2 Cover Panel Blank (no holes)	357282		

1 - Consists of (25) 7/8" hole plugs, (100) 5/16" hole plugs and (1) tube of RTV

PERFORMANCE

Back to Quick Links

DELIVERED LUMENS

Lumen Package	Distribution	3000K CCT			4000K CCT			5000K CCT			Wattage
		Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	
VHO	SC	21301	140	B4-U0-G2	21835	144	B4-U0-G2	22697	150	B4-U0-G2	152
	AC	17355	114	B3-U0-G3	17799	117	B3-U0-G3	18502	122	B3-U0-G3	
HO	SC	17889	143	B3-U0-G1	18346	146	B3-U0-G2	19071	152	B4-U0-G2	125
	AC	14582	116	B3-U0-G2	14955	119	B3-U0-G2	15546	124	B3-U0-G2	
SS	SC	13113	141	B3-U0-G1	13449	144	B3-U0-G1	13980	150	B3-U0-G1	93
	AC	11468	123	B3-U0-G2	11761	126	B3-U0-G2	12226	131	B3-U0-G2	
LW	SC	10457	144	B3-U0-G1	10724	148	B3-U0-G1	11148	154	B3-U0-G1	73
	AC	9145	126	B2-U0-G2	9379	129	B2-U0-G2	9749	134	B2-U0-G2	
VLW	SC	8783	146	B3-U0-G1	9008	149	B3-U0-G1	9364	155	B3-U0-G1	60
	AC	7681	127	B2-U0-G1	7878	131	B2-U0-G1	8189	136	B2-U0-G1	
SLW	SC	5585	146	B2-U0-G1	5728	150	B2-U0-G1	5954	156	B2-U0-G1	38
	AC	4884	128	B1-U0-G1	5009	131	B1-U0-G1	5207	136	B1-U0-G1	

*LEDs are frequently updated therefore values are nominal.

ELECTRICAL DATA (AMPS)

Lumen Package	Wattage	120V	208V	240V	277V	347V	480V
VHO	152	1.27	0.73	0.64	0.55	0.44	0.32
HO	124	1.03	0.6	0.52	0.45	0.36	0.26
SS	92	0.77	0.44	0.38	0.33	0.27	0.19
LW	72	0.6	0.35	0.3	0.26	0.21	0.15
VLW	60	0.5	0.29	0.25	0.22	0.17	0.13
SLW	38	0.32	0.18	0.16	0.14	0.11	0.08

*Electrical data at 25C (77F). Actual wattage may differ by +/-10%.

OPERATING TEMPERATURE

LUMEN PACKAGE	MOUNTING	Max
VHO	Metal/Wood Canopy	45 C
HO	Metal/Wood Canopy	45 C
SS	Metal/Wood Canopy	55 C

Recommended Lumen Maintenance[1] CRUS VHO

Ambient Temp C	Initial[2]	25k hr[2]	50k hr[2]	75k hr[3]	100k hr[3]
0 C	102%	97%	92%	88%	84%
10 C	102%	97%	92%	88%	84%
20 C	102%	97%	92%	88%	84%
25 C	102%	97%	92%	88%	84%
30 C	102%	97%	92%	88%	84%
40 C	101%	95%	90%	85%	80%
50 C	101%	94%	89%	83%	78%

Recommended Lumen Maintenance[1] CRUS SS

Ambient Temp C	Initial[2]	25k hr[2]	50k hr[2]	75k hr[3]	100k hr[3]
0 C	102%	97%	92%	88%	84%
10 C	102%	97%	92%	88%	84%
20 C	102%	97%	92%	88%	84%
25 C	102%	97%	92%	88%	84%
30 C	102%	97%	92%	88%	84%
40 C	102%	97%	92%	88%	84%
50 C	101%	95%	91%	86%	82%

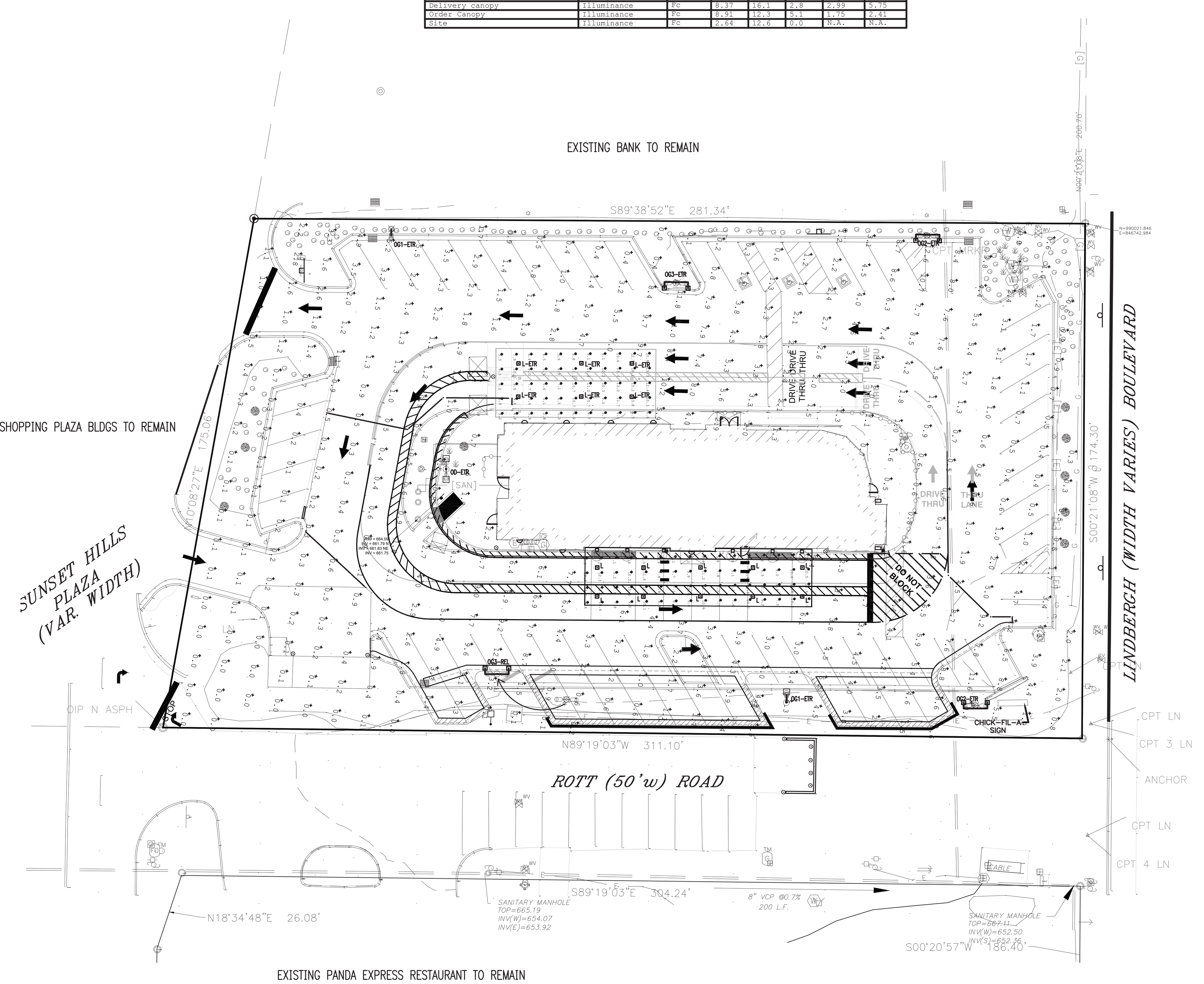
FOOTNOTES:
1 - Lumen maintenance values at 25°C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing.
2 - In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED).
3 - In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times NA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED).

NEW CANOPY FIXTURE L

Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Description	LLF	Luminaire Lumens	Mounting Height
	6	L ETR	SINGLE	CRUS SM-SC-LED-SPECIAL-50	1.000	1856	9.5
	10	L	SINGLE	CRUS SM-SC-LED-SPECIAL-50	1.000	1856	9.5
	2	OG1-ETR	SINGLE	KSF2 400M R4W	0.720	22229	20
	3	OG2-ETR	Twin	KSF2 400M R4SC	0.720	16358	20
	1	OG2-REL	Twin	KSF2 400M R4SC	0.720	16358	20

ETR = EXISTING TO REMAIN ETR|REL = EXISTING RELOCATED

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Delivery canopy	Illuminance	Fc	8.37	16.1	2.8	2.99	5.75
Order Canopy	Illuminance	Fc	8.91	12.3	5.1	1.75	2.41
Site	Illuminance	Fc	2.64	12.6	0.0	N.A.	N.A.



SITE PHOTOMETRIC PLAN 1/2"-1'-0" NORTH

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

INTERPLAN
INTERPLAN LLC
ARCH COA #2015008774
ENG COA #2005026904
ARCHITECTURE
ENGINEERING
PERMITTING
220 E. CENTRAL PKWY, STE 4000
ALTAMONTE SPRINGS, FL 32701
407.645.5008

SEAL:
STATE OF MISSOURI · STACY TREVOR HENSON · NUMBER PE-2016036828 · PROFESSIONAL ENGINEER
STACY HENSON - PROFESSIONAL ENGINEER
LIC. # PE-2016036828

CHICK-FIL-A
SUNSET HILLS_PHASE 2
10706 SUNSET HILLS PLAZA
ST. LOUIS, MO 63127

FSU#03077
BUILDING TYPE / SIZE: S08N-LG
RELEASE: -
PRINTED FOR
PERMIT

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 2025.0595
DATE OCTOBER 2025
DRAWN BY BEM
CHECKED BY SN

SHEET
SITE PHOTOMETRIC PLAN
SHEET NUMBER
ES1.0

SYLNAS - 12/19/2025 3:06:35 PM

HRGreen

1391 Corporate Drive | Suite 203 | McHenry, IL 60050
Main 815.385.1778 + Fax 815.385.1781

HRGREEN.COM

December 23, 2025

To: City of Sunset Hills
3939 S. Lindbergh Boulevard
Sunset Hills, MO 63127

From: Mr. Todd Richards, P.E.

Subject: Stormwater Memo
Chick-fil-A – Sunset Hills, MO
Job #: 211353

This memo is to provide design intent for the entitlement submittal. A final stormwater report will be provided at the time of building permit submittal

Background

Chick-fil-A (CFA) is proposing to redevelop the site with a new dual drive-thru lane with a free-standing canopy over the meal delivery area for the existing CFA located at 10706 Sunset Hills Plaza in the City of Sunset Hills. The proposed stormwater management improvements have been designed in accordance with the Metropolitan St. Louis Sewer District Rules and Regulations and Engineering Design Requirements.

Existing Conditions

The subject CFA parcel is currently a developed outlot east of the Home Depot in Sunset Hills Plaza shopping center in the City of Sunset Hills. The site lies adjacent to Lindbergh Boulevard to the east, Sunset Hills Plaza to the west, multi-tenant commercial to the north, and multi-tenant commercial to the south.

The parcel is approximately 1.18 acres (51,379 square feet) in size. In the existing condition, the impervious and pervious areas within the subject parcel are calculated to be 39,871 square feet and 11,508 square feet respectively, resulting in the site to be 77.6% impervious. Exhibit EX-100 delineates the existing condition & drainage patterns for the parcel.

The site currently drains to existing storm sewer inlet structures located around the parking lot at approximately 1-5 percent slopes. Runoff tributary to these inlets is then conveyed to an existing 12” storm sewer line at the northwest corner of the site. The overland flood route generally flows from east to west to the access drive west of the site. The subject site is tributary to the existing stormwater quality basin on the adjacent property to the north and the existing underground stormwater detention basin provided for the overall development located west of the CFA development in the parking lot of 3660 S Geyer Road, west of the Home Depot.

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Proposed Conditions

The proposed improvements to the site consist of a new dual drive-thru lane with a free-standing canopy over the meal delivery area, reconstruction of parking stalls south of the building, and storm sewer. In the proposed condition, the impervious and pervious areas within the subject parcel are calculated to be 41,369 square feet and 10,010 square feet respectively, resulting in the site to be 80.5% impervious. The proposed improvements will increase the amount of impervious surface from the existing condition by approximately 1,498 square feet. The proposed impervious/pervious areas are delineated on Proposed Drainage Plan (EX-200) exhibit included in the Attachments. The increase in runoff from the existing condition for the design storm (15-year/20-min) has been calculated to be **0.103 cfs.** Despite being less than the 2 cfs differential threshold, stormwater detention will be required for the proposed development. Per MSD Rules and Regulations, projects with prior detention shall provide additional detention for increasing runoff irrespective of the 2 cfs threshold. Therefore, underground detention is proposed so the post-developed peak flows from the site do not exceed the existing peak flows for the 2-year and 100-year, 24-hour events, prorated based on the % of the site in the existing condition that is tributary to the north storm sewer outlet from the site.

Stormwater Quality

The proposed development will also be required to provide water quality treatment and channel protection. Due to grading constraints and the lack of available green space, a mechanical water quality unit was selected to provide treatment. The required water quality treatment flow rate was calculated per Appendix D.10 of the Maryland Department of the Environment Stormwater Design Manual. The required water quality treatment flow rate was determined to be **0.07-cfs**. Water quality flow rate calculations have been provided in this report. Per MSD's Barracuda MAX BMP Approval Memo, the selected unit has a maximum treatment flow rate of **0.85-cfs**. The MSD approval memo has been included in this report for reference.

An HDS unit (Barracuda MAX, 3') is proposed to be installed to treat runoff and provide channel protection prior to discharging to the existing storm sewer system at the northwest corner of the site in a 10' easement to MSD. The Barracuda MAX has been sized to treat the water quality volume per MSD standards.

Channel Protection

Per Section 4.060.02.3c Channel Protection Storage Volume Requirements in the MSD Rules and Regulations, all sites that do require new flood protection volume shall provide a 24-hour extended detention of the one-year, 24 hour storm event to protect channels from erosion. The project site does not qualify for an exemption to the channel protection storage requirement.

The calculation of the required channel protection volume is located in the Appendix G. A time of concentration of 6 minutes (0.1 hours) was used in accordance with the minimum time allowed in TR-55 Chapter 3. The channel

protection for the site will be addressed with the use of the underground pipe storage system. The Channel Protection Storage Volume required has been calculated to be **223 cf** for the site redevelopment impervious area increase of 0.04 acres.

Detention Storage / Flood Protection

Per Section 4.060.01.2b in the MSD Rules and Regulations, stormwater quantity will be required for projects which have a differential runoff of 2 cfs or greater for the 15-year, 20-minute event (in St. Louis County where storm sewers are separated from sanitary sewers). The differential runoff is calculated by the Rational Method using PI factors. Projects with prior detention shall provide additional detention for increasing runoff irrespective of the 2 cfs threshold. Flood protection will be required despite only having a differential runoff differential of **0.103 cfs (increase)** from the existing condition.

The subject site is tributary to the existing underground stormwater detention basin provided for the overall development located west of the CFA development in the parking lot of 3660 S Geyer Road, west of the Home Depot.. The net increase in impervious area is only 1,498 square feet. Therefore, the CFA development will be required to provide onsite stormwater detention for net increase in impervious area. Per Section 4.060.02.4a Flood Protection Volume Requirements, stormwater shall be detained and released at a rate not to exceed the existing routed peak flow for the 2-year and 100-year 24-hour events.

The following discharge rates were calculated for the existing condition via HydroCAD v10.10 for the various design storms:

Peak Release Rates - Existing Condition (cfs)	
1-Year	3.66
2-Year	4.68
100-Year	11.75

The following discharge rates were calculated for the proposed condition via HydroCAD v10.10 for the various design storms:

Peak Release Rates - Proposed Condition (cfs) (without onsite detention)	
1-Year	3.73
2-Year	4.75
100-Year	11.81

As can be seen from the table, detention will be required to control the proposed release rates, so they are at or below the allowable release rates from the existing condition. The required detention volume including channel protection volume was calculated to be **0.011 ac-ft**. Pipe storage in the storm sewer system will be utilized to accommodate flood and channel protection volume. The discharge rates out of the system will be controlled by an orifices set in the weir plate inside the restrictor structure (1.5-inch @ 656.35 and 6-inch @ 658.30). The OCS is labeled as "ST-3" on the Grading Plan (Sheet C-300). The controlled discharge will outlet via a 12-inch storm sewer to the existing storm sewer system.

Storm Sewer

The CFA site has been designed to capture and convey stormwater via the existing onsite storm sewer system. The majority of flows will be conveyed to the 12" storm sewer outlet provided at the northwest corner of the site. The CFA site has been designed to match the drainage patterns as close as practicable. As mentioned previously, the existing and proposed storm sewer infrastructure will be routed to the Barracuda MAX, 3' water quality unit and onsite pipe storage system. Ultimately, the site is tributary to the overall development's regional basin to the west.

The CFA site has been designed to maintain overland flood routes throughout the parking lot and drive-thru lane to direct water away from the CFA building. The CFA site has been designed to match existing drainage patterns as close as practicable.

Erosion Control

Installation of sediment and erosion control measures will be placed prior to the start of construction. Inlet protection baskets and silt fence are planned to be installed to control erosion and silt displacement until vegetation is established.

Attachments

- Runoff Differential Calculation
- Water Quality Calculation
- Channel Protection Calculation
- HydroCAD Existing and Proposed
- Existing Drainage Plan (EX-100)
- Proposed Drainage Plan (EX-200)
- Plumbing Site Plan (PS-100)
- Barracuda Max Approval Letter

HRGreen

PRE/POST RUNOFF DIFFERENTIAL CALCULATIONS

Project #: **211353.01**
Project: **Chick-fil-A - Sunset Hills**
Location: **St. Louis, MO**

By **ERN**
Revised
Checked

Date **10/10/2025**
Date
Date

Area Name	Area (sf)	Area (ac)	*Roof Area (sf)	*Roof Area (ac)	**Average P.I. factor (cfs/ac)	Q (15-year/20-min) (cfs)	Imp. Area (sf)	Imp. Area (ac)	**Average P.I. factor (cfs/ac)	Q (15-year/20-min) (cfs)	Pervious Area (sf)	Pervious Area (ac)	**Average P.I. factor (cfs/ac)	Q (15-year/20-min) (cfs)	Total Storm Water Q (15-year/20-min) (cfs)
EXISTING															
EX-OVERALL	51,379	1.179	5,300	0.122	4.20	0.51	34,571	0.794	3.54	2.81	11,508	0.264	1.70	0.45	3.770
EXISTING TOTAL	**51,379**	**1.179**	**5,300**	**0.122**	**4.20**	**0.51**	**34,571**	**0.794**	**3.54**	**2.81**	**11,508**	**0.264**	**1.70**	**0.45**	**3.770**
PROPOSED															
PR-OVERALL	51,379	1.179	7,924	0.182	4.20	0.76	33,445	0.768	3.54	2.72	10,010	0.230	1.70	0.39	3.873
PROPOSED TOTAL	**51,379**	**1.179**	**7,924**	**0.182**	**4.20**	**0.76**	**33,445**	**0.768**	**3.54**	**2.72**	**10,010**	**0.230**	**1.70**	**0.39**	**3.873**

* Roof area assumed to have direct connection to sewer
** Per MSD 4.030.01-2.e

Post Development Runoff Differential (cfs) **0.103**
(Proposed - Pre-developed)

Chick-fil-A - Sunset Hills (MO)

MDE Appendix D.10 - Method for Computing Peak Discharge for Water Quality Storm

Author:	ERN
Date:	10/13/2025
Revisions:	
Date:	

Note: WQU sized for the site redevelopment impervious area increase area of 0.04 acres.

Appendix D.10 The peak rate of discharge is needed for the sizing of off-line diversion structures …the following procedure can be used to estimate peak discharges for small storm events. It relies on the volume of runoff computed using the Small Storm Hydrology Method (Pitt, 1994) and utilizes the NRCS, TR-55 Graphical Peak Discharge Method (USDA, 1986).

BMP Drainage Area

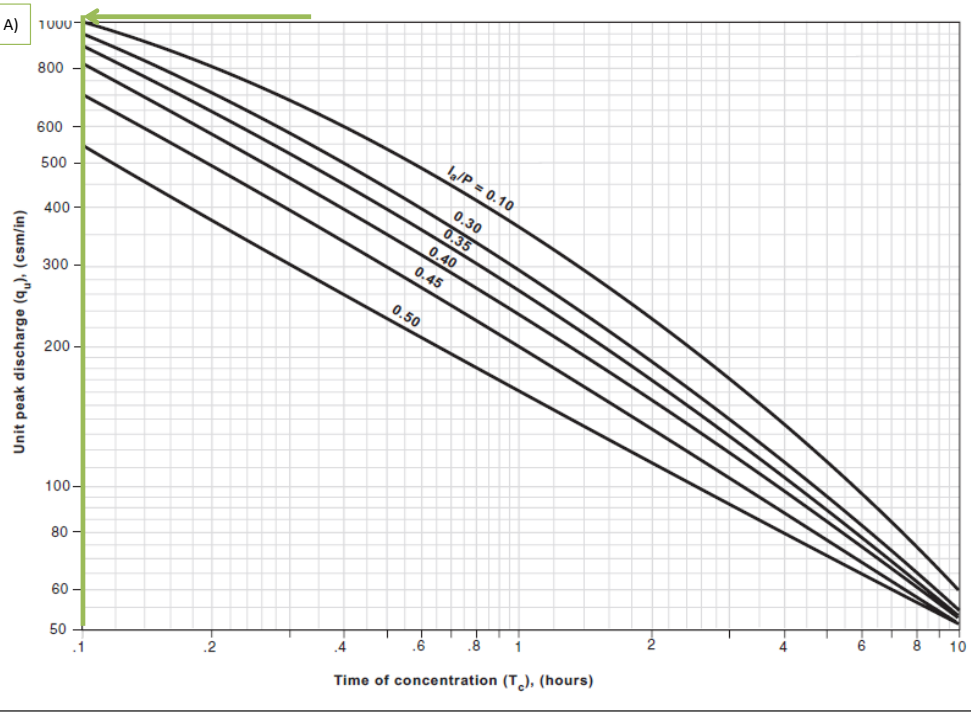
P =	1.14	in
Rv =	0.950	= 0.05 + 0.009 (I) where I = (1798/1798)*100 = (80.5%)
Qa =	1.08	in
CN =	100	
Ia =	0.010	
Ia / P =	0.009	
tc =	6	min
	0.10	hr
qu =	1000	csm/in
A =	0.04	ac
	0.0001	mi^2
Qp =	**0.07**	**cfs**

$$CN = \frac{1000}{[10 + 5P + 10Q_a - 10\sqrt{Q_a^2 + 1.25Q_aP}]}$$

2000 Maryland Stormwater Design Manual, Appendix D.10

Exhibit 4-II Unit peal discharge (q_m) for NRCS (SCS) type II rainfall distribution

q_U = 1000 csm/in (BMP A)



Natural Resources Conservation Service TR-55, Chapter 4

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Chick-fil-A - Sunset Hills (MO)

Method for Computing Channel Protection Storage Volume

Author:	ERN
Date:	10/13/2025
Revisions:	
Date:	

Note: CPv calculated for the site redevelopment impervious area increase area of 0.04 acres.

4.060.02.3 To protect channels from erosion, a 24-hour extended detention of the one-year, 24-hour storm event shall be provided. The rationale for this criterion is that runoff will be stored and released in such a gradual manner that critical erosive velocities during bankfull and near-bankfull events will seldom be exceeded or prolonged in downstream channels.

Design Basis TR-55 shall be used for determining peak discharge rates.

The rainfall depth for the one-year, 24-hour storm is 2.5 inches.

The maximum length of overland flow used in time of concentration calculations is 100 feet for post project conditions.

The 24-hour extended detention is defined as providing a 24-hour detention lag time for the one-year storm.

CN Calculation	Area (ac)	CN
Pervious	0.000	80
Impervious	0.041	98

Total Area = 0.041 ac
Composite CN = 98

$$A_o = \frac{q_o}{C\sqrt{2gh_o}} = \frac{q_o}{4.81\sqrt{h_o}} \qquad (d_o)\ d_o = \sqrt{4A_o/\pi}$$

Required orifice area Ao = 0.0004 sq ft
Required orifice diameter do = 0.0228 feet
0.3 inches

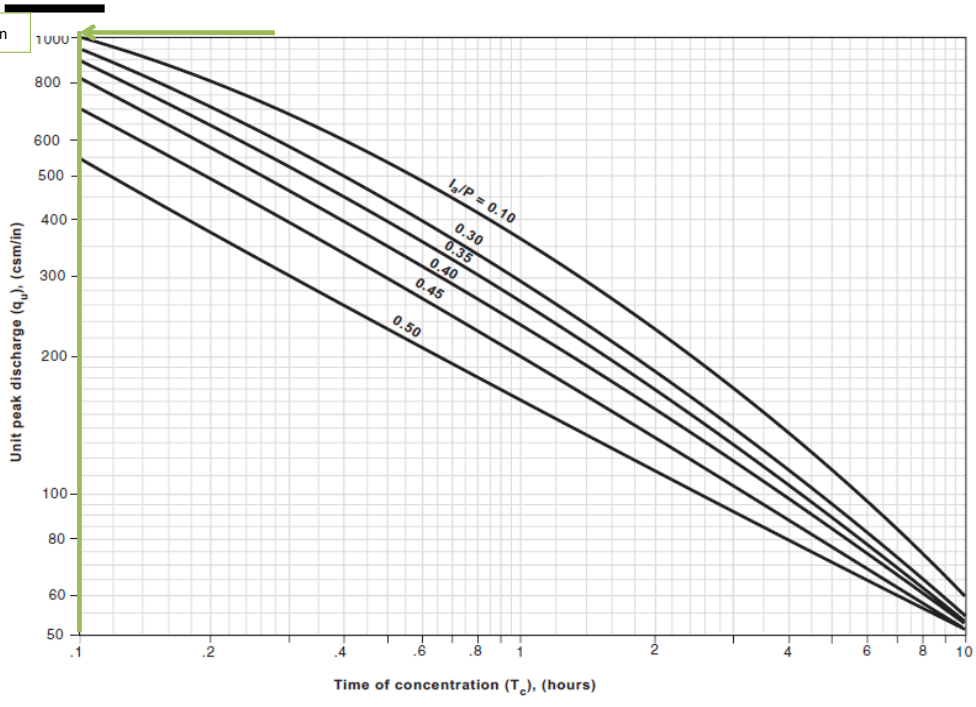
Appendix D-11 of the Maryland Stormwater Manual used to calculate the channel protection storage volume and the orifice (outlet) size.

BMP Drainage Area

P =	2.50	in	
t_c =	6	min	
	0.10	hr	
CN =	98		*from Composite CN calc*
S =	0.204		*= 1000/CN - 10 [eq. 2-4 from TR-55]*
A =	0.041	ac	
Q_a =	2.271	in	*= (P-0.2S)^2 / (P+0.8S) [eq. 2-3 from TR-55]*
I_a =	0.041		*= 200/CN - 2*
I_a / P =	0.016		
q_u =	1,000	csm/in	*from Exhibit 4-II*
q_i =	0.15	cfs	
q_o/q_i =	0.019		*from Figure D11.2*
q_o =	0.003	cfs	
V_s/V_r =	0.655		
V_r =	340	cf	
V_s =	**223**	**cf**	

Exhibit 4-II Unit peal discharge (q_m) for NRCS (SCS) type II rainfall distribution

q_U = 1000 csm/in



Natural Resources Conservation Service TR-55, Chapter 4

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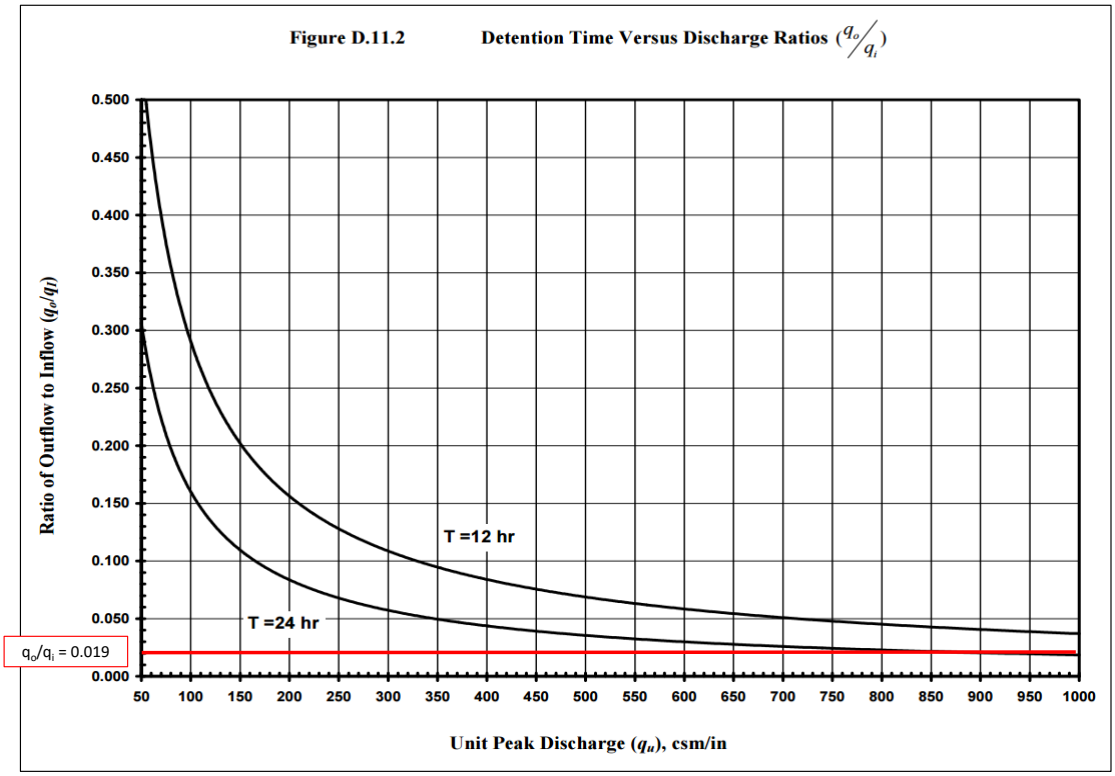
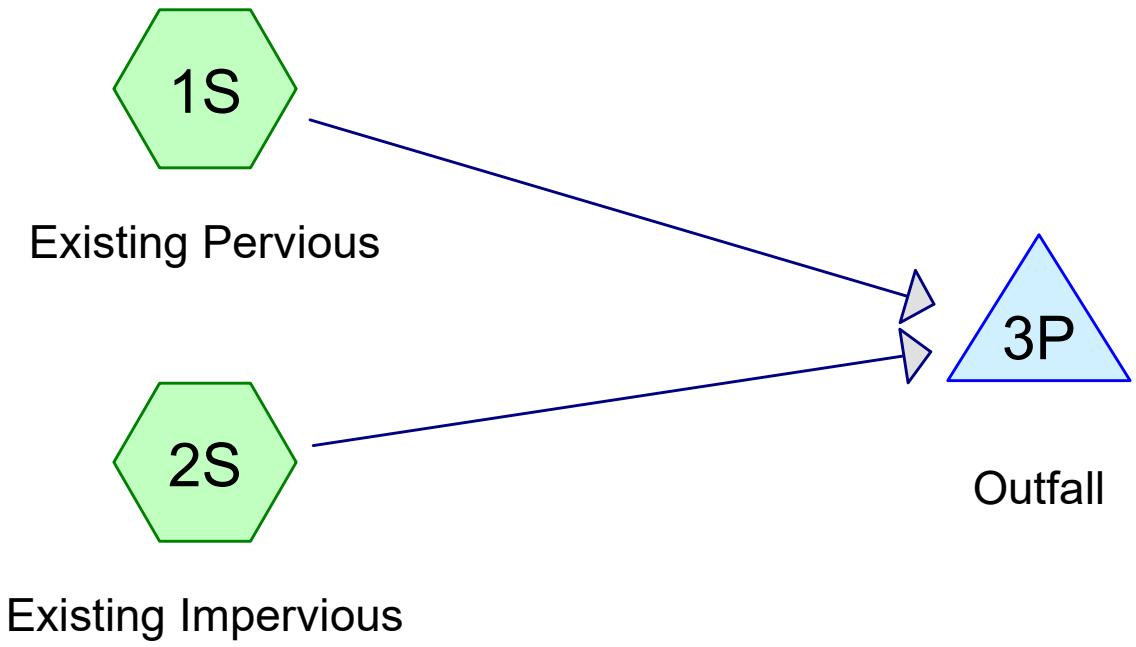
Method for Computing Channel Protection Storage Volume - Continued

Author:	ERN
Date:	10/13/2025
Revisions:	
Date:	



Maryland Departmment of the Environment (MDE), Appendix D.11: Mehtod for Computing the Channel Protection Storage Volume (Cpv)



Subcat Reach Pond Link

Routing Diagram for Existing Condition_2025-12-23
Prepared by HR Green, Inc, Printed 12/23/2025

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-YR	Type II 24-hr		Default	24.00	1	2.50	2
2	2-YR	Type II 24-hr		Default	24.00	1	3.10	2
3	100-YR	Type II 24-hr		Default	24.00	1	7.20	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.264	80	>75% Grass cover, Good, HSG D (1S)
0.915	98	Paved parking, HSG D (2S)
1.179	**94**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
1.179	HSG D	1S, 2S
0.000	Other	
1.179		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.264	0.000	0.264	>75% Grass cover, Good	1S
0.000	0.000	0.000	0.915	0.000	0.915	Paved parking	2S
0.000	**0.000**	**0.000**	**1.179**	**0.000**	**1.179**	**TOTAL AREA**	

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing Pervious Runoff Area=11,508 sf 0.00% Impervious Runoff Depth=0.89"
Tc=5.0 min CN=80 Runoff=0.42 cfs 0.020 af

Subcatchment 2S: Existing Impervious Runoff Area=39,871 sf 100.00% Impervious Runoff Depth=2.27"
Tc=5.0 min CN=98 Runoff=3.25 cfs 0.173 af

Pond 3P: Outfall Inflow=3.66 cfs 0.193 af
Primary=3.66 cfs 0.193 af

Total Runoff Area = 1.179 ac Runoff Volume = 0.193 af Average Runoff Depth = 1.96"
22.40% Pervious = 0.264 ac 77.60% Impervious = 0.915 ac

Summary for Subcatchment 1S: Existing Pervious

[49] Hint: Tc<2dt may require smaller dt

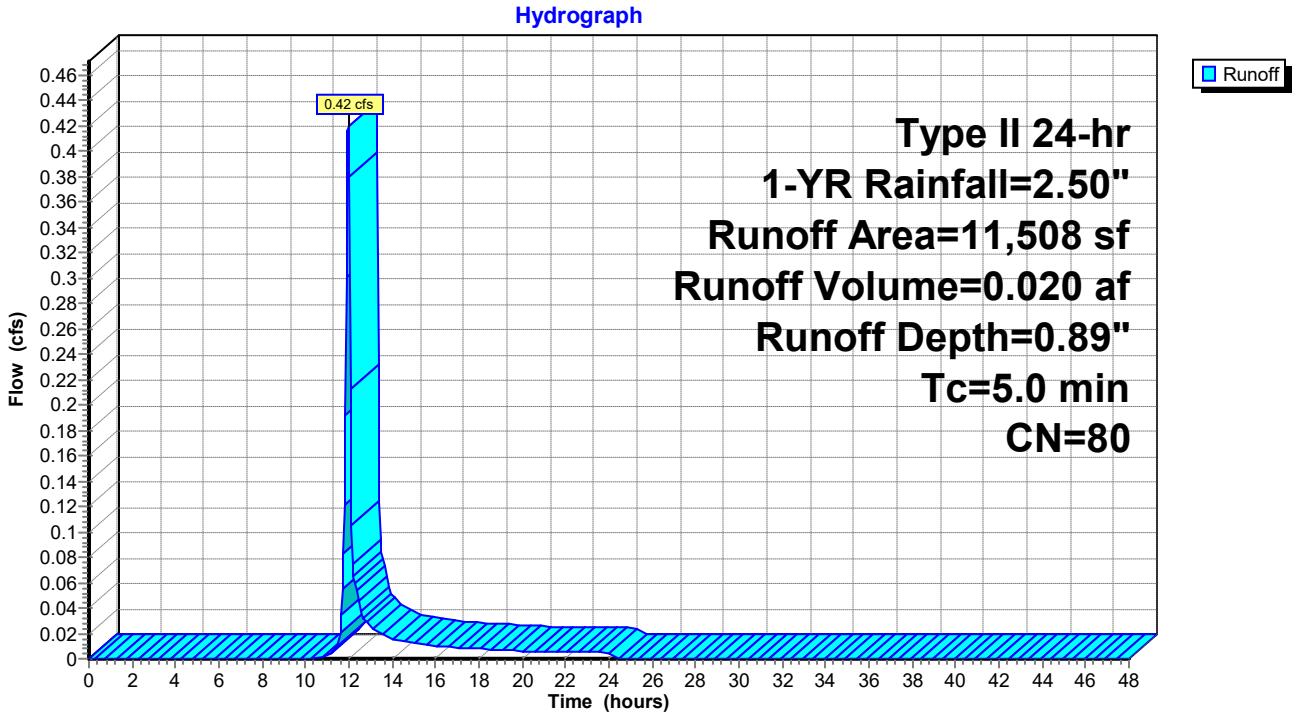
Runoff = 0.42 cfs @ 11.96 hrs, Volume= 0.020 af, Depth= 0.89"
Routed to Pond 3P : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.50"

Area (sf)	CN	Description
11,508	80	>75% Grass cover, Good, HSG D
11,508		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Existing Pervious



Summary for Subcatchment 2S: Existing Impervious

[49] Hint: Tc<2dt may require smaller dt

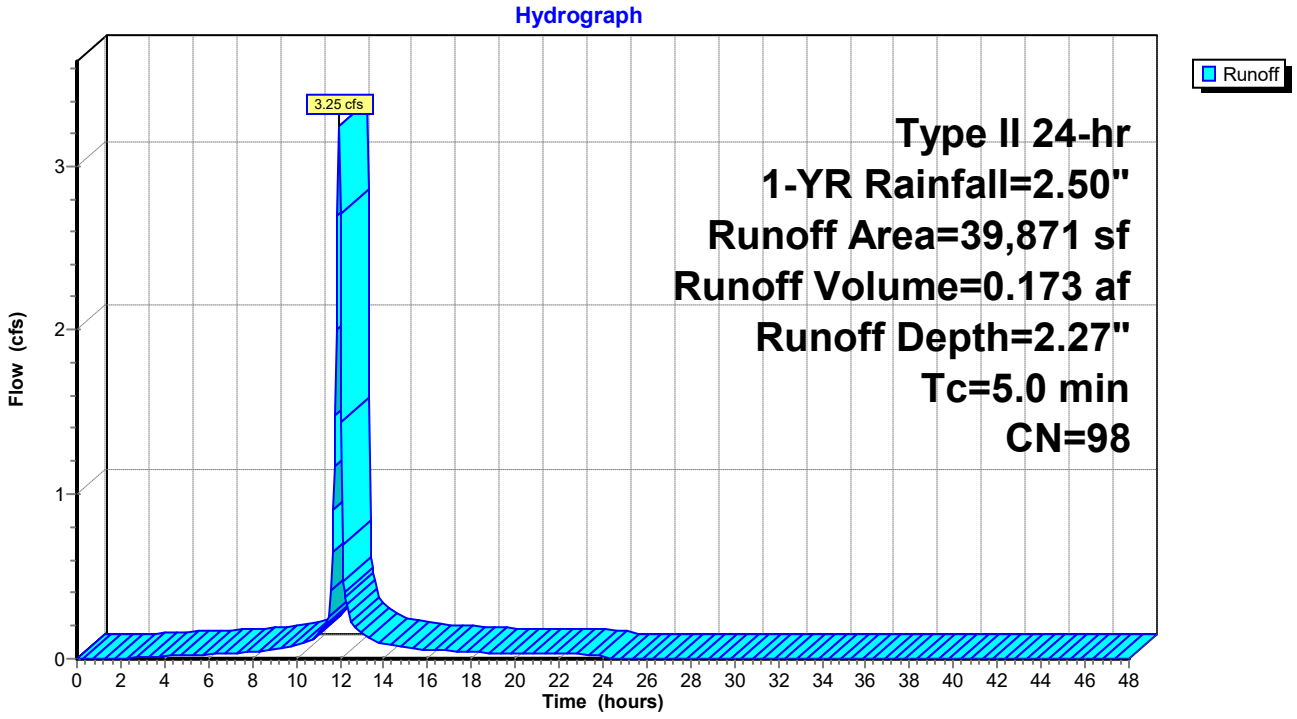
Runoff = 3.25 cfs @ 11.95 hrs, Volume= 0.173 af, Depth= 2.27"
Routed to Pond 3P : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.50"

Area (sf)	CN	Description
39,871	98	Paved parking, HSG D
39,871		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Existing Impervious



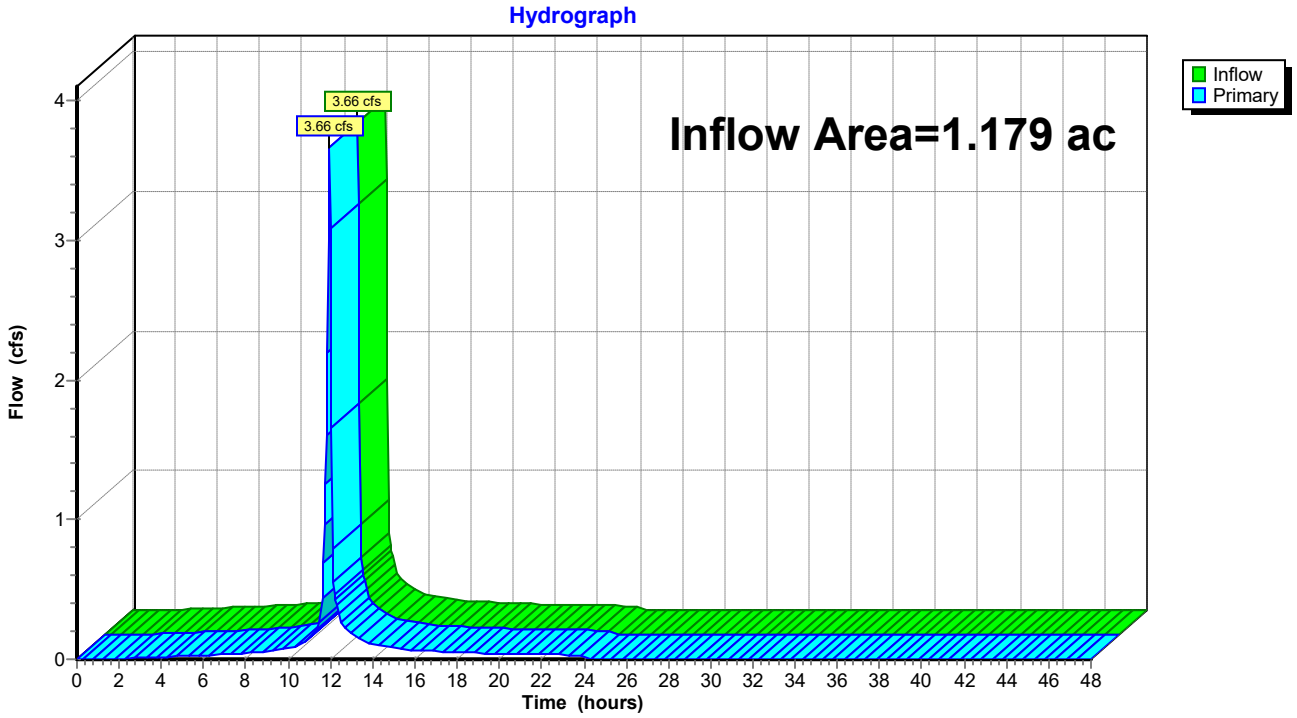
Summary for Pond 3P: Outfall

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.179 ac, 77.60% Impervious, Inflow Depth = 1.96" for 1-YR event
Inflow = 3.66 cfs @ 11.95 hrs, Volume= 0.193 af
Primary = 3.66 cfs @ 11.95 hrs, Volume= 0.193 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Pond 3P: Outfall



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing Pervious Runoff Area=11,508 sf 0.00% Impervious Runoff Depth=1.33"
Tc=5.0 min CN=80 Runoff=0.63 cfs 0.029 af

Subcatchment 2S: Existing Impervious Runoff Area=39,871 sf 100.00% Impervious Runoff Depth=2.87"
Tc=5.0 min CN=98 Runoff=4.05 cfs 0.219 af

Pond 3P: Outfall Inflow=4.68 cfs 0.248 af
Primary=4.68 cfs 0.248 af

Total Runoff Area = 1.179 ac Runoff Volume = 0.248 af Average Runoff Depth = 2.52"
22.40% Pervious = 0.264 ac 77.60% Impervious = 0.915 ac

Summary for Subcatchment 1S: Existing Pervious

[49] Hint: Tc<2dt may require smaller dt

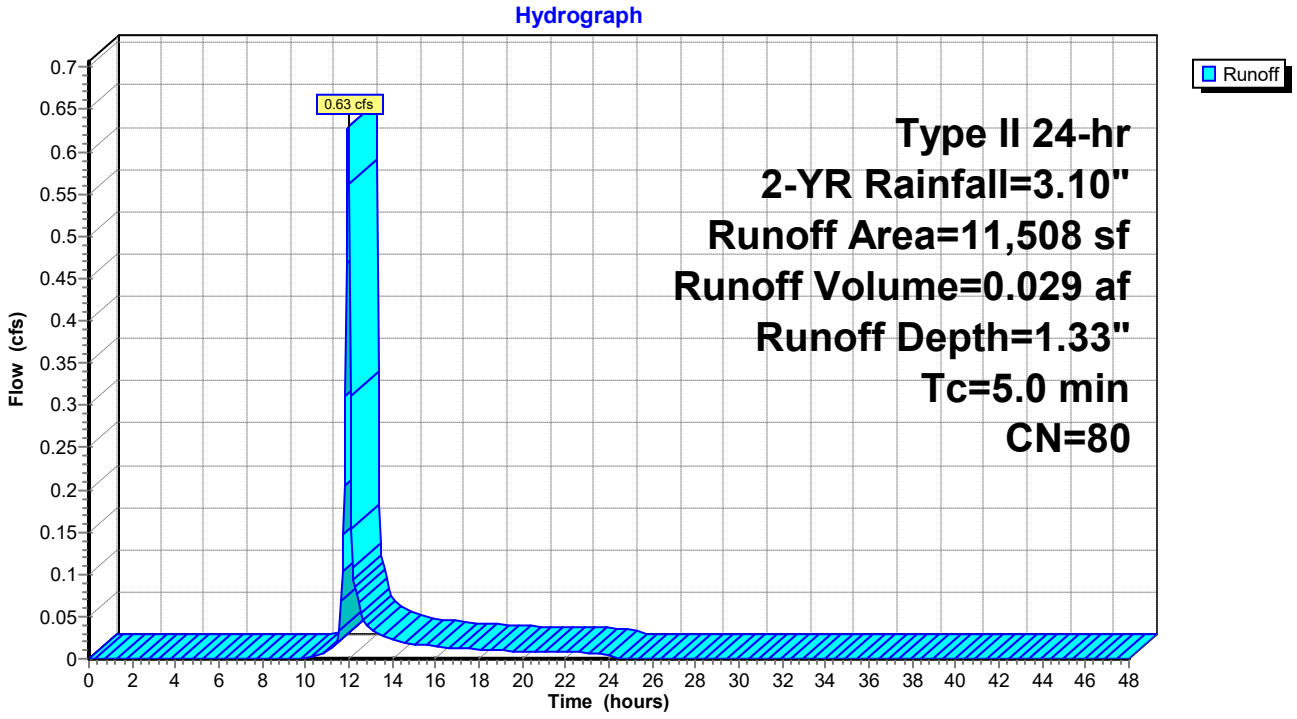
Runoff = 0.63 cfs @ 11.96 hrs, Volume= 0.029 af, Depth= 1.33"
Routed to Pond 3P : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
11,508	80	>75% Grass cover, Good, HSG D
11,508		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Existing Pervious



Summary for Subcatchment 2S: Existing Impervious

[49] Hint: Tc<2dt may require smaller dt

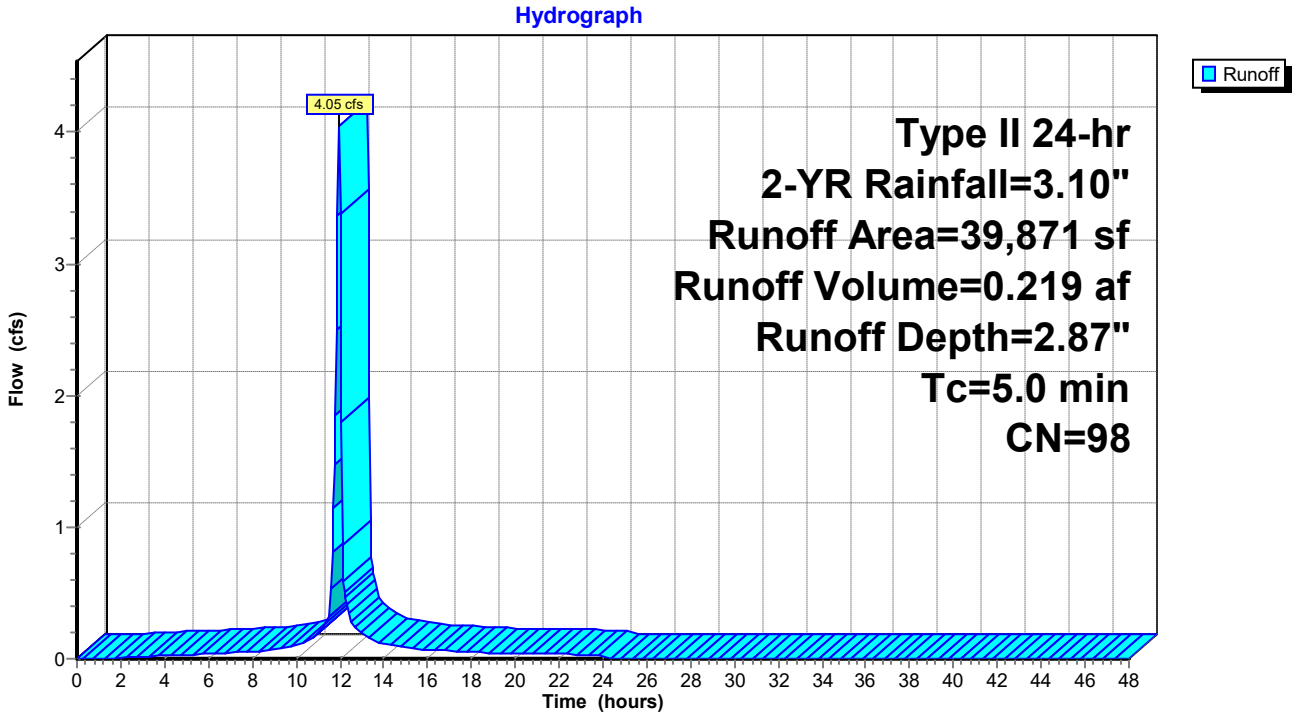
Runoff = 4.05 cfs @ 11.95 hrs, Volume= 0.219 af, Depth= 2.87"
Routed to Pond 3P : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
39,871	98	Paved parking, HSG D
39,871		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Existing Impervious



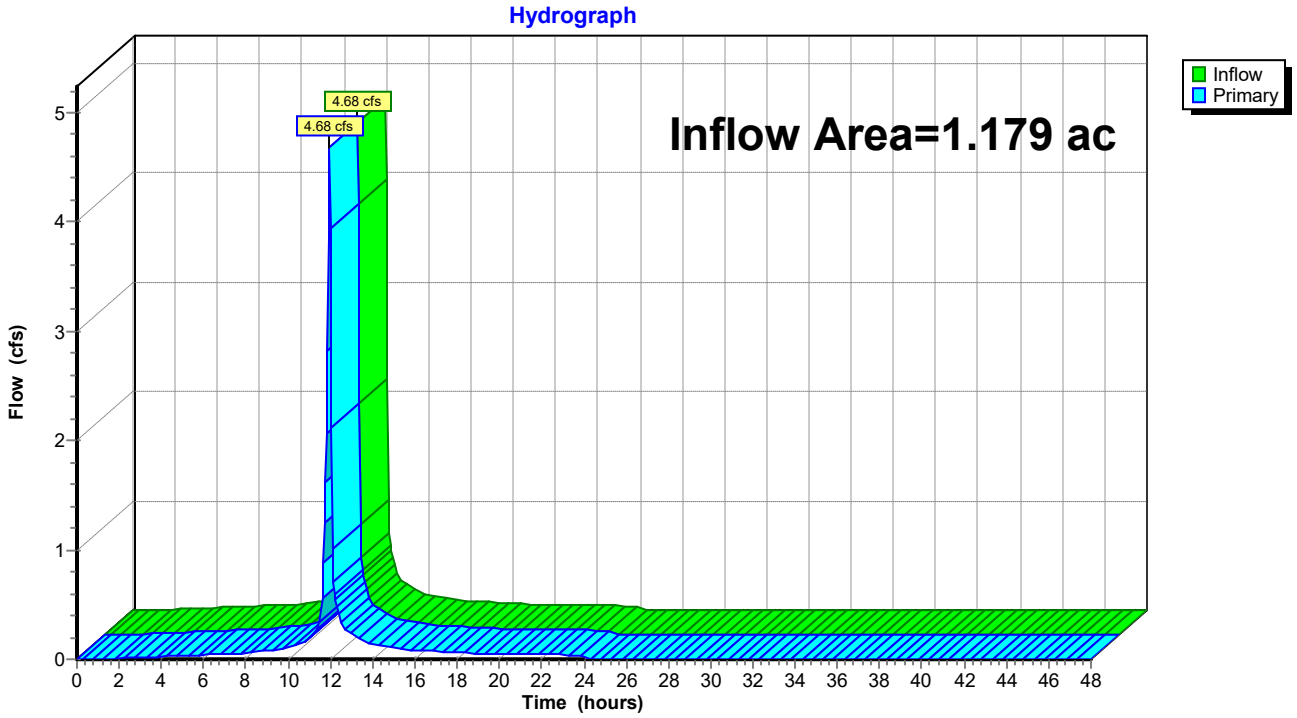
Summary for Pond 3P: Outfall

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.179 ac, 77.60% Impervious, Inflow Depth = 2.52" for 2-YR event
Inflow = 4.68 cfs @ 11.95 hrs, Volume= 0.248 af
Primary = 4.68 cfs @ 11.95 hrs, Volume= 0.248 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Pond 3P: Outfall



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing Pervious Runoff Area=11,508 sf 0.00% Impervious Runoff Depth=4.88"
Tc=5.0 min CN=80 Runoff=2.24 cfs 0.107 af

Subcatchment 2S: Existing Impervious Runoff Area=39,871 sf 100.00% Impervious Runoff Depth=6.96"
Tc=5.0 min CN=98 Runoff=9.51 cfs 0.531 af

Pond 3P: Outfall Inflow=11.75 cfs 0.638 af
Primary=11.75 cfs 0.638 af

Total Runoff Area = 1.179 ac Runoff Volume = 0.638 af Average Runoff Depth = 6.49"
22.40% Pervious = 0.264 ac 77.60% Impervious = 0.915 ac

Summary for Subcatchment 1S: Existing Pervious

[49] Hint: Tc<2dt may require smaller dt

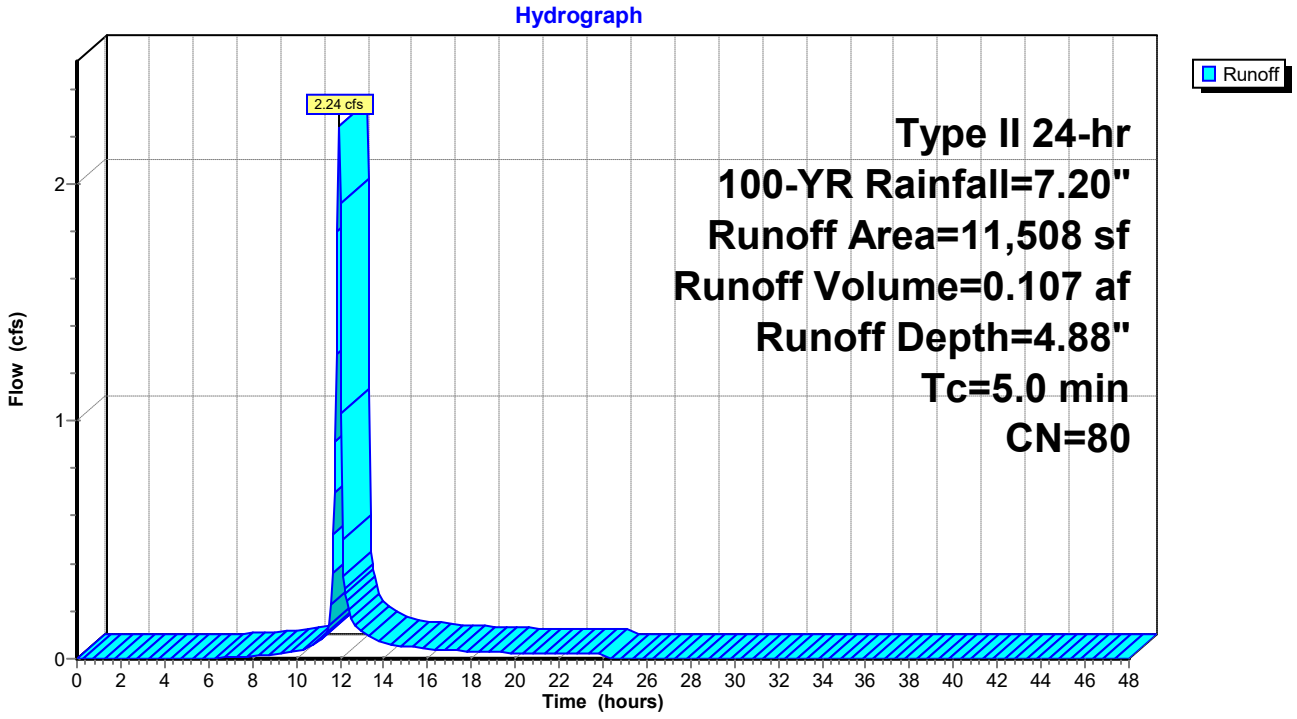
Runoff = 2.24 cfs @ 11.95 hrs, Volume= 0.107 af, Depth= 4.88"
Routed to Pond 3P : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=7.20"

Area (sf)	CN	Description
11,508	80	>75% Grass cover, Good, HSG D
11,508		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Existing Pervious



Summary for Subcatchment 2S: Existing Impervious

[49] Hint: Tc<2dt may require smaller dt

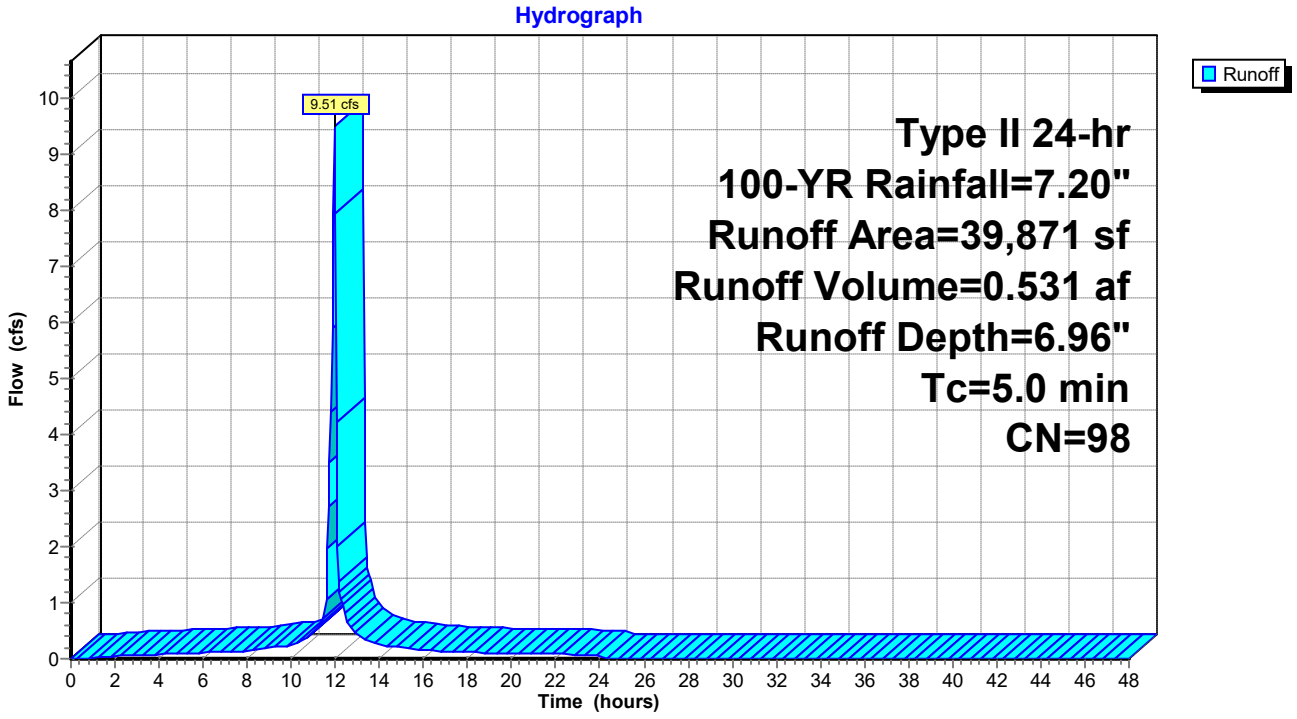
Runoff = 9.51 cfs @ 11.95 hrs, Volume= 0.531 af, Depth= 6.96"
Routed to Pond 3P : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=7.20"

Area (sf)	CN	Description
39,871	98	Paved parking, HSG D
39,871		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Existing Impervious



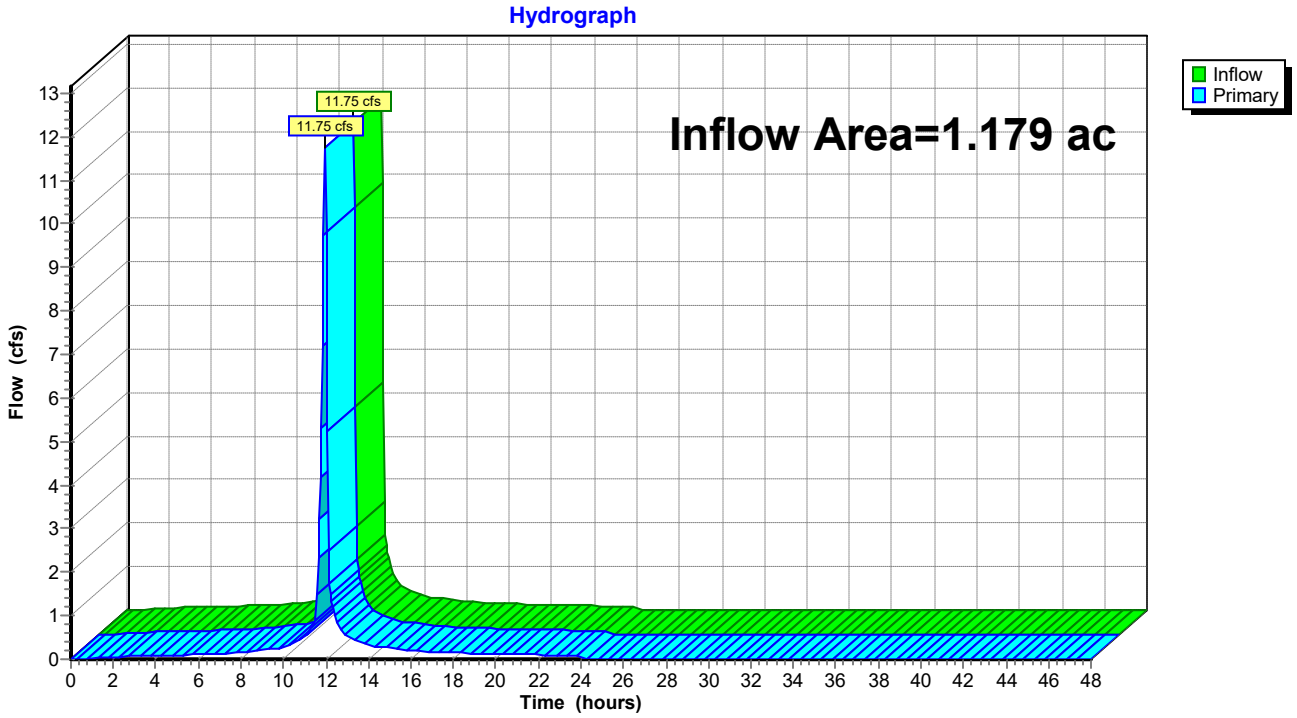
Summary for Pond 3P: Outfall

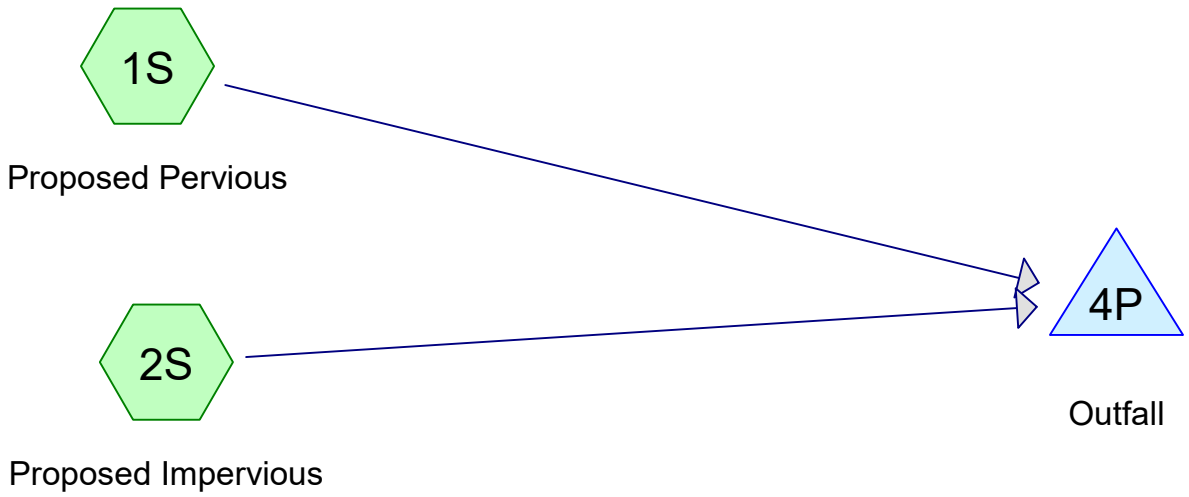
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.179 ac, 77.60% Impervious, Inflow Depth = 6.49" for 100-YR event
Inflow = 11.75 cfs @ 11.95 hrs, Volume= 0.638 af
Primary = 11.75 cfs @ 11.95 hrs, Volume= 0.638 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Pond 3P: Outfall





Subcat Reach Pond Link

Routing Diagram for Proposed Condition_No Detention_2025-12-23
Prepared by HR Green, Inc, Printed 12/23/2025

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-YR	Type II 24-hr		Default	24.00	1	2.50	2
2	2-YR	Type II 24-hr		Default	24.00	1	3.10	2
3	100-YR	Type II 24-hr		Default	24.00	1	7.20	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.230	80	>75% Grass cover, Good, HSG D (1S)
0.950	98	Paved parking, HSG D (2S)
1.179	**94**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
1.179	HSG D	1S, 2S
0.000	Other	
1.179		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.230	0.000	0.230	>75% Grass cover, Good	1S
0.000	0.000	0.000	0.950	0.000	0.950	Paved parking	2S
0.000	**0.000**	**0.000**	**1.179**	**0.000**	**1.179**	**TOTAL AREA**	

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Proposed Pervious Runoff Area=10,010 sf 0.00% Impervious Runoff Depth=0.89"
Tc=5.0 min CN=80 Runoff=0.37 cfs 0.017 af

Subcatchment 2S: Proposed Impervious Runoff Area=41,369 sf 100.00% Impervious Runoff Depth=2.27"
Tc=5.0 min CN=98 Runoff=3.37 cfs 0.180 af

Pond 4P: Outfall Inflow=3.73 cfs 0.197 af
Primary=3.73 cfs 0.197 af

Total Runoff Area = 1.179 ac Runoff Volume = 0.197 af Average Runoff Depth = 2.00"
19.48% Pervious = 0.230 ac 80.52% Impervious = 0.950 ac

Summary for Subcatchment 1S: Proposed Pervious

[49] Hint: Tc<2dt may require smaller dt

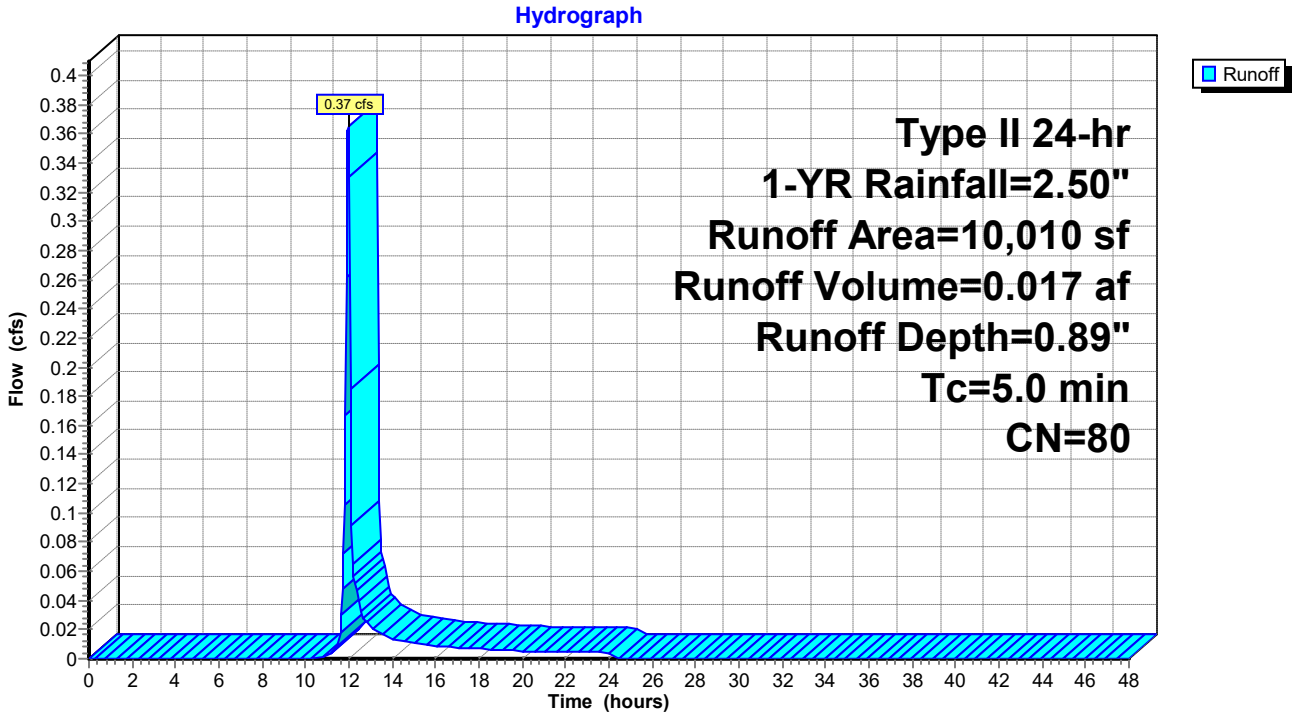
Runoff = 0.37 cfs @ 11.96 hrs, Volume= 0.017 af, Depth= 0.89"
Routed to Pond 4P : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.50"

Area (sf)	CN	Description
10,010	80	>75% Grass cover, Good, HSG D
10,010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Proposed Pervious



Summary for Subcatchment 2S: Proposed Impervious

[49] Hint: Tc<2dt may require smaller dt

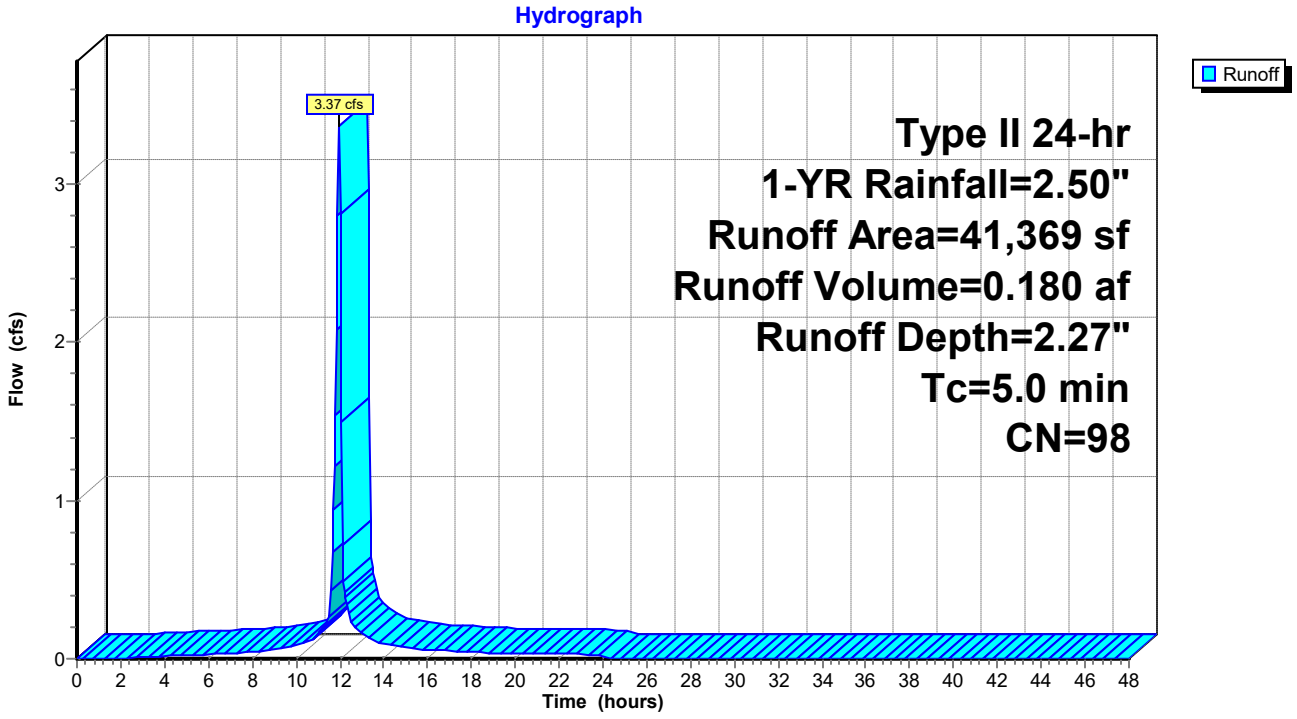
Runoff = 3.37 cfs @ 11.95 hrs, Volume= 0.180 af, Depth= 2.27"
Routed to Pond 4P : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.50"

Area (sf)	CN	Description
41,369	98	Paved parking, HSG D
41,369		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Proposed Impervious



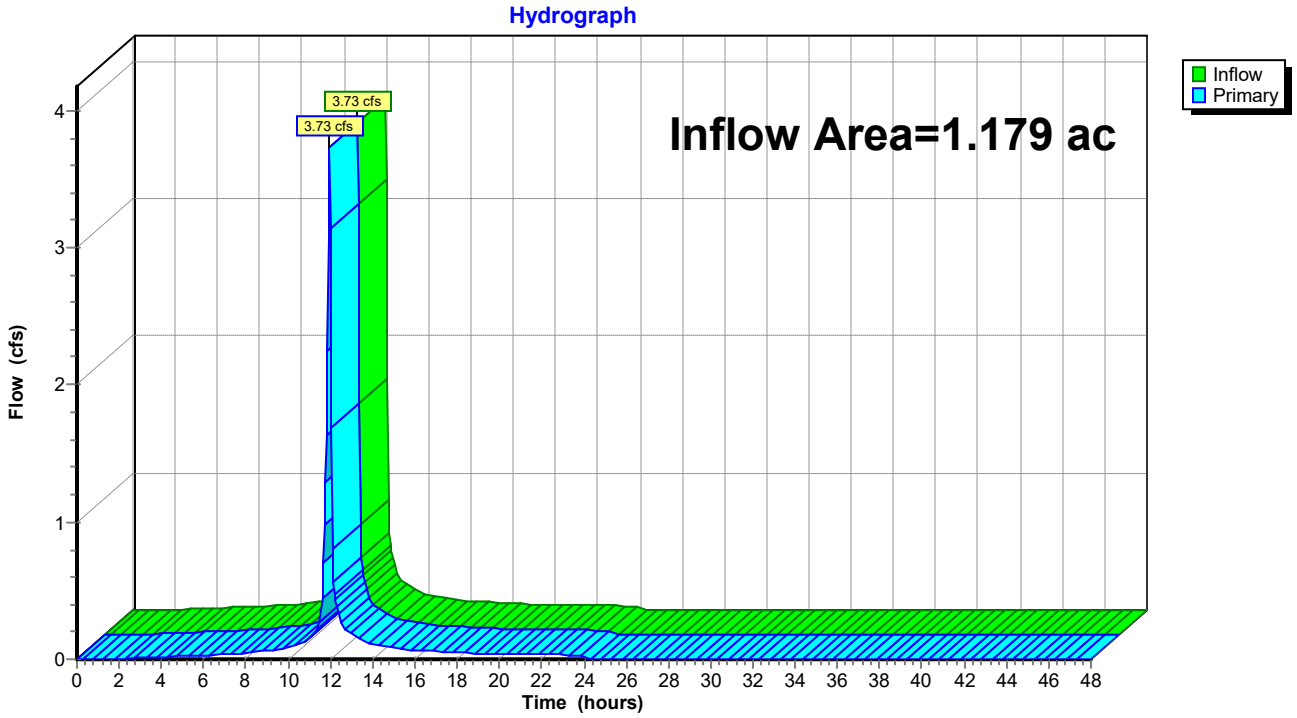
Summary for Pond 4P: Outfall

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.179 ac, 80.52% Impervious, Inflow Depth = 2.00" for 1-YR event
Inflow = 3.73 cfs @ 11.95 hrs, Volume= 0.197 af
Primary = 3.73 cfs @ 11.95 hrs, Volume= 0.197 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Pond 4P: Outfall



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Proposed Pervious Runoff Area=10,010 sf 0.00% Impervious Runoff Depth=1.33"
Tc=5.0 min CN=80 Runoff=0.55 cfs 0.025 af

Subcatchment 2S: Proposed Impervious Runoff Area=41,369 sf 100.00% Impervious Runoff Depth=2.87"
Tc=5.0 min CN=98 Runoff=4.20 cfs 0.227 af

Pond 4P: Outfall Inflow=4.75 cfs 0.252 af
Primary=4.75 cfs 0.252 af

Total Runoff Area = 1.179 ac Runoff Volume = 0.252 af Average Runoff Depth = 2.57"
19.48% Pervious = 0.230 ac 80.52% Impervious = 0.950 ac

Summary for Subcatchment 1S: Proposed Pervious

[49] Hint: Tc<2dt may require smaller dt

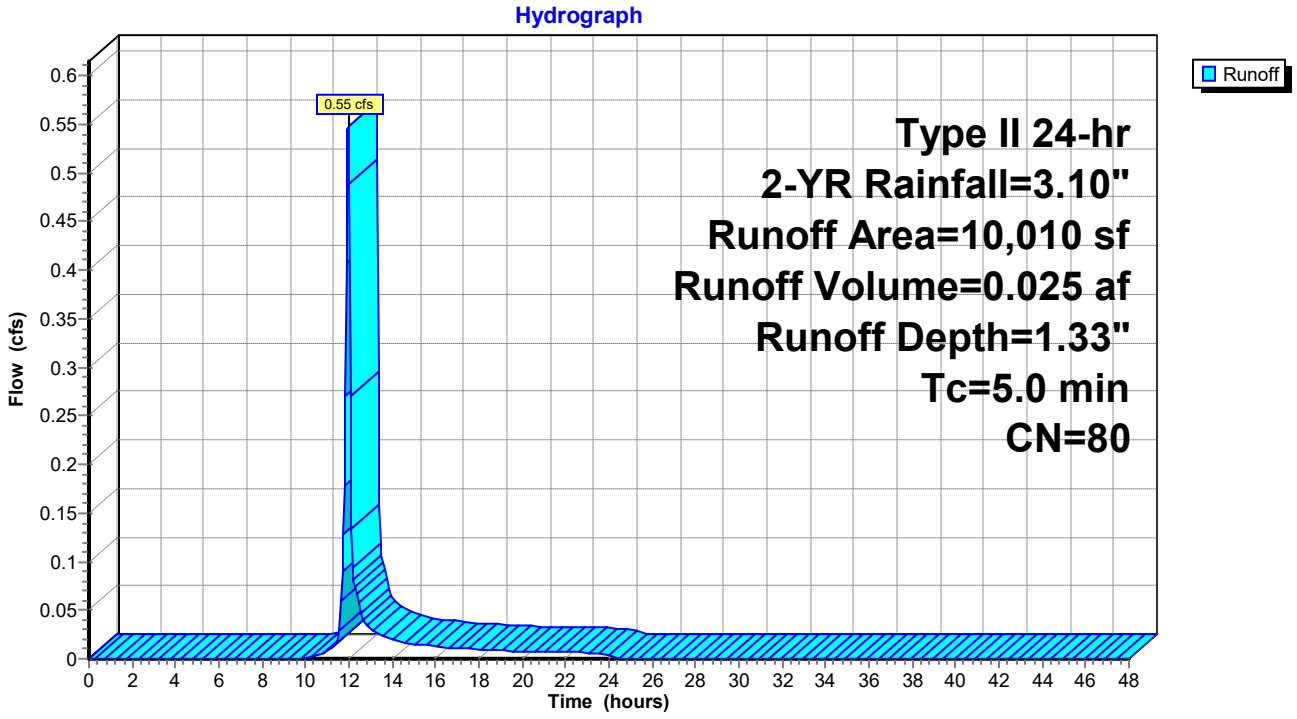
Runoff = 0.55 cfs @ 11.96 hrs, Volume= 0.025 af, Depth= 1.33"
Routed to Pond 4P : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
10,010	80	>75% Grass cover, Good, HSG D
10,010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Proposed Pervious



Summary for Subcatchment 2S: Proposed Impervious

[49] Hint: Tc<2dt may require smaller dt

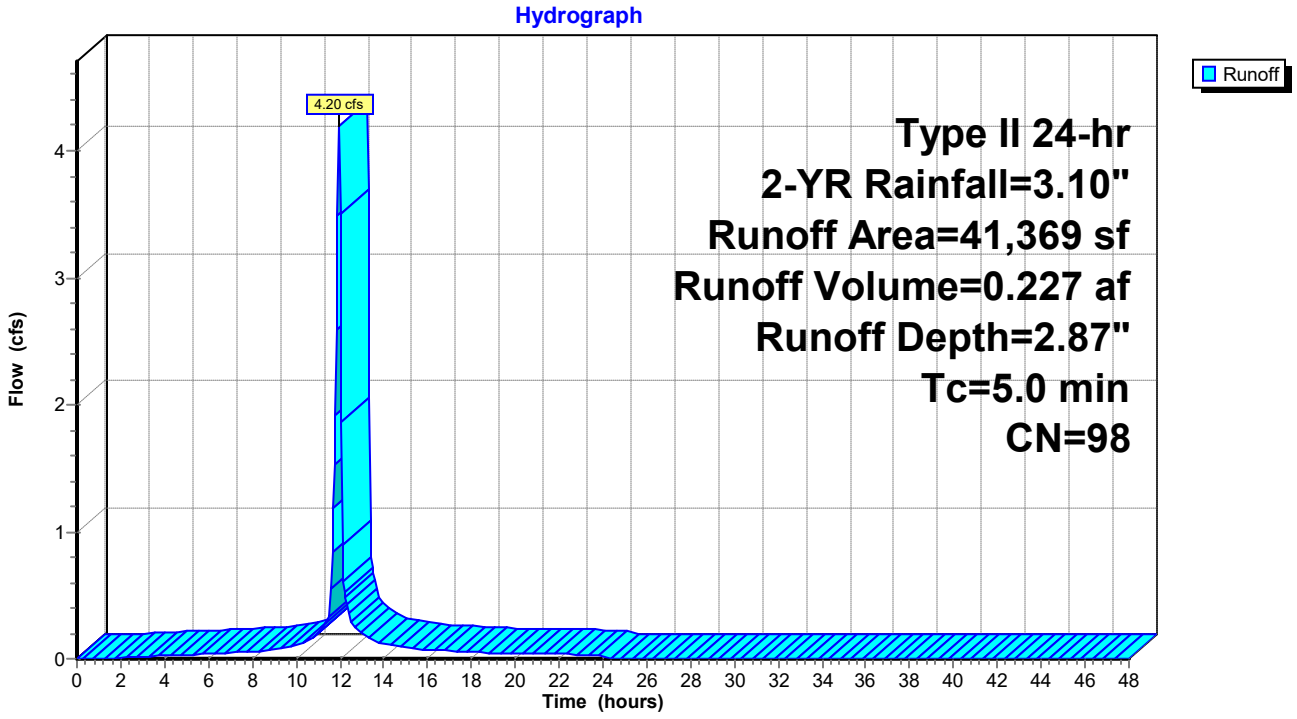
Runoff = 4.20 cfs @ 11.95 hrs, Volume= 0.227 af, Depth= 2.87"
Routed to Pond 4P : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.10"

Area (sf)	CN	Description
41,369	98	Paved parking, HSG D
41,369		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Proposed Impervious



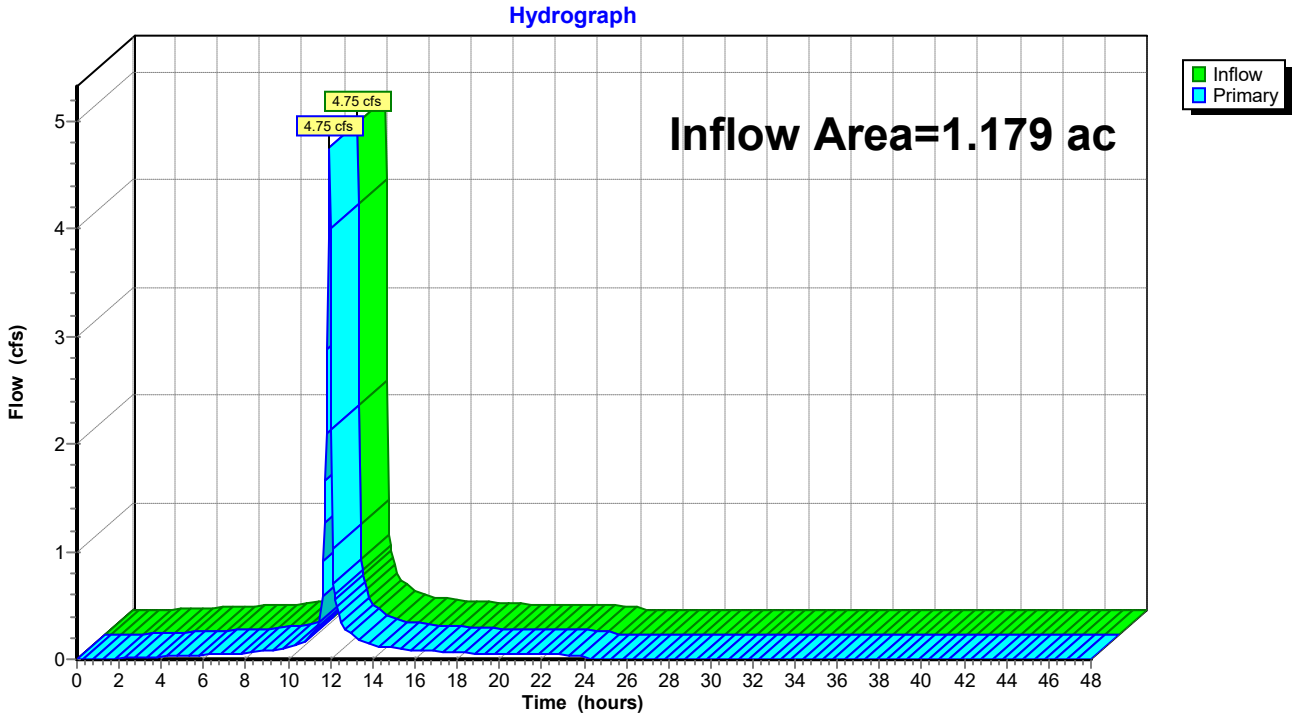
Summary for Pond 4P: Outfall

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.179 ac, 80.52% Impervious, Inflow Depth = 2.57" for 2-YR event
Inflow = 4.75 cfs @ 11.95 hrs, Volume= 0.252 af
Primary = 4.75 cfs @ 11.95 hrs, Volume= 0.252 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Pond 4P: Outfall



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Proposed Pervious Runoff Area=10,010 sf 0.00% Impervious Runoff Depth=4.88"
Tc=5.0 min CN=80 Runoff=1.95 cfs 0.093 af

Subcatchment 2S: Proposed Impervious Runoff Area=41,369 sf 100.00% Impervious Runoff Depth=6.96"
Tc=5.0 min CN=98 Runoff=9.86 cfs 0.551 af

Pond 4P: Outfall Inflow=11.81 cfs 0.644 af
Primary=11.81 cfs 0.644 af

Total Runoff Area = 1.179 ac Runoff Volume = 0.644 af Average Runoff Depth = 6.56"
19.48% Pervious = 0.230 ac 80.52% Impervious = 0.950 ac

Summary for Subcatchment 1S: Proposed Pervious

[49] Hint: Tc<2dt may require smaller dt

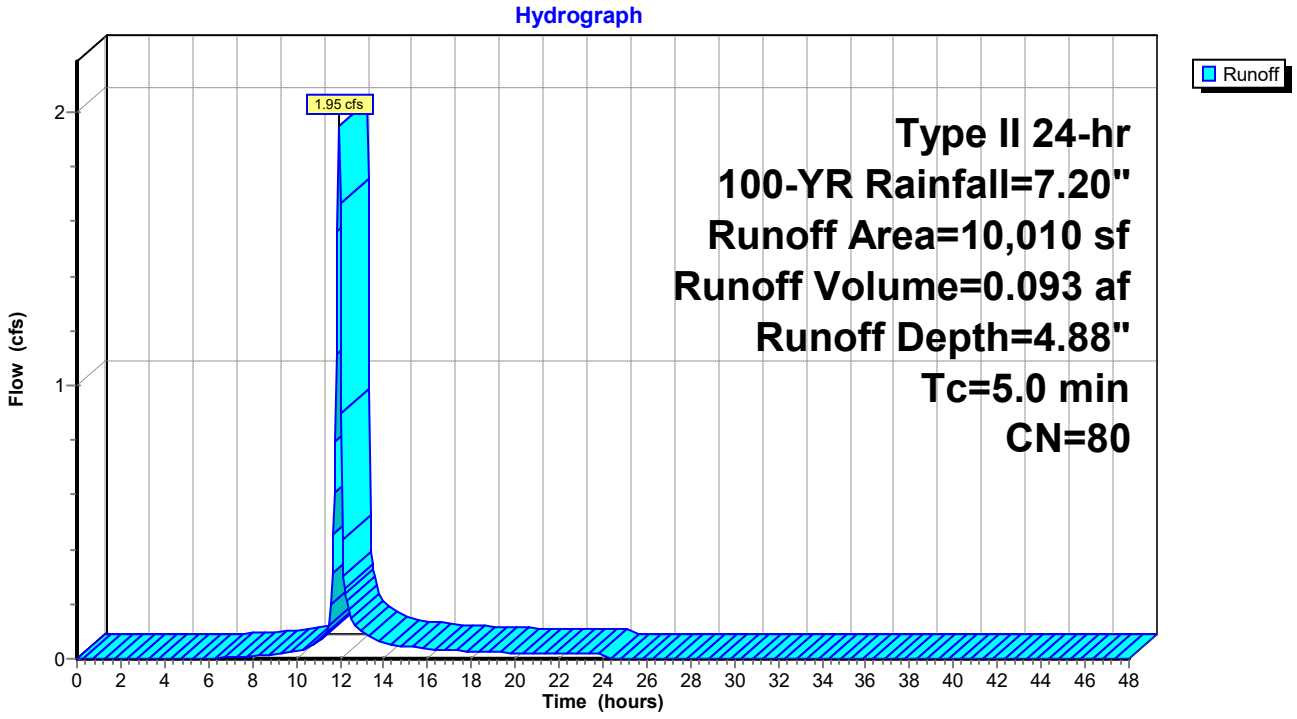
Runoff = 1.95 cfs @ 11.95 hrs, Volume= 0.093 af, Depth= 4.88"
Routed to Pond 4P : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=7.20"

Area (sf)	CN	Description
10,010	80	>75% Grass cover, Good, HSG D
10,010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Proposed Pervious



Summary for Subcatchment 2S: Proposed Impervious

[49] Hint: Tc<2dt may require smaller dt

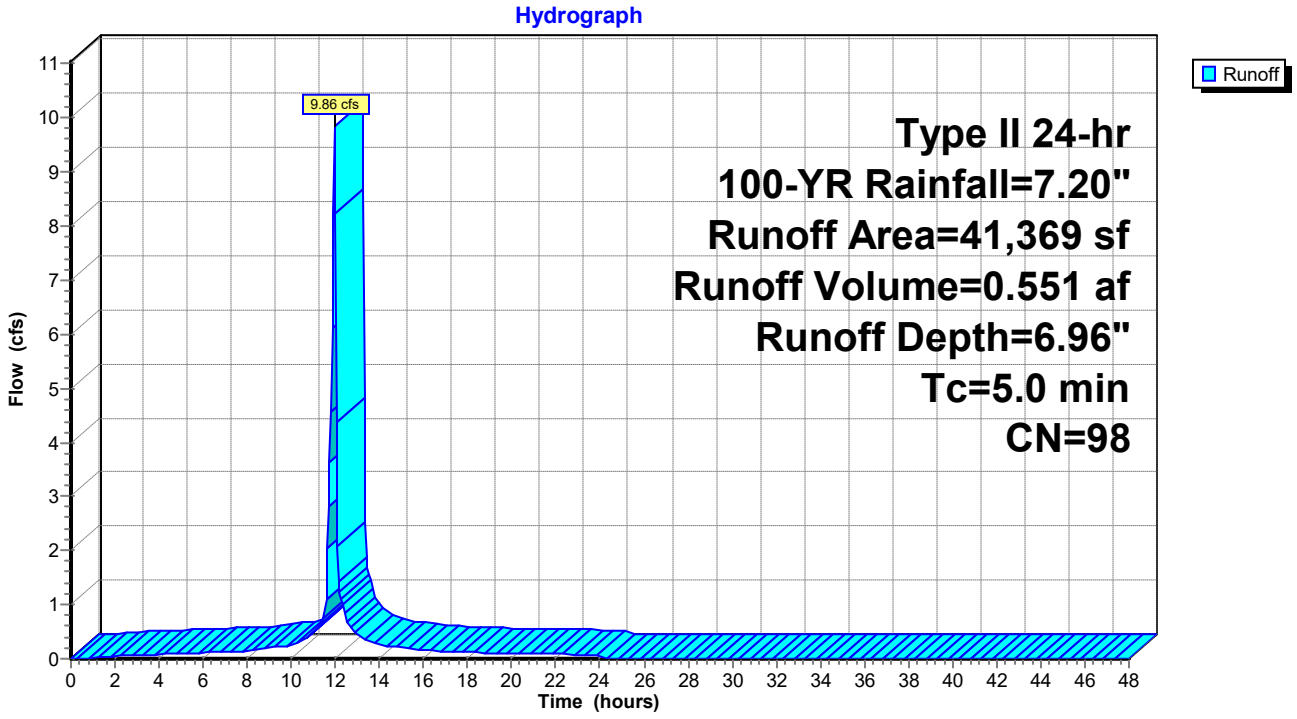
Runoff = 9.86 cfs @ 11.95 hrs, Volume= 0.551 af, Depth= 6.96"
Routed to Pond 4P : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=7.20"

Area (sf)	CN	Description
41,369	98	Paved parking, HSG D
41,369		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Proposed Impervious



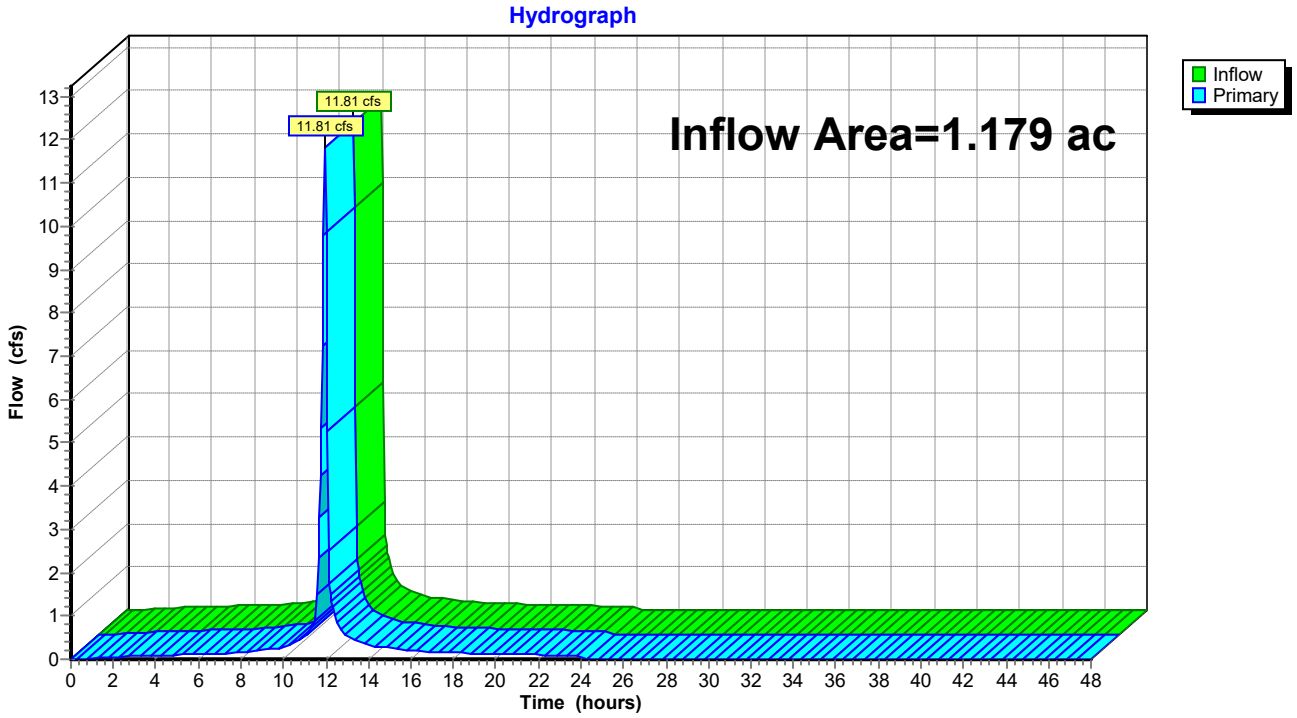
Summary for Pond 4P: Outfall

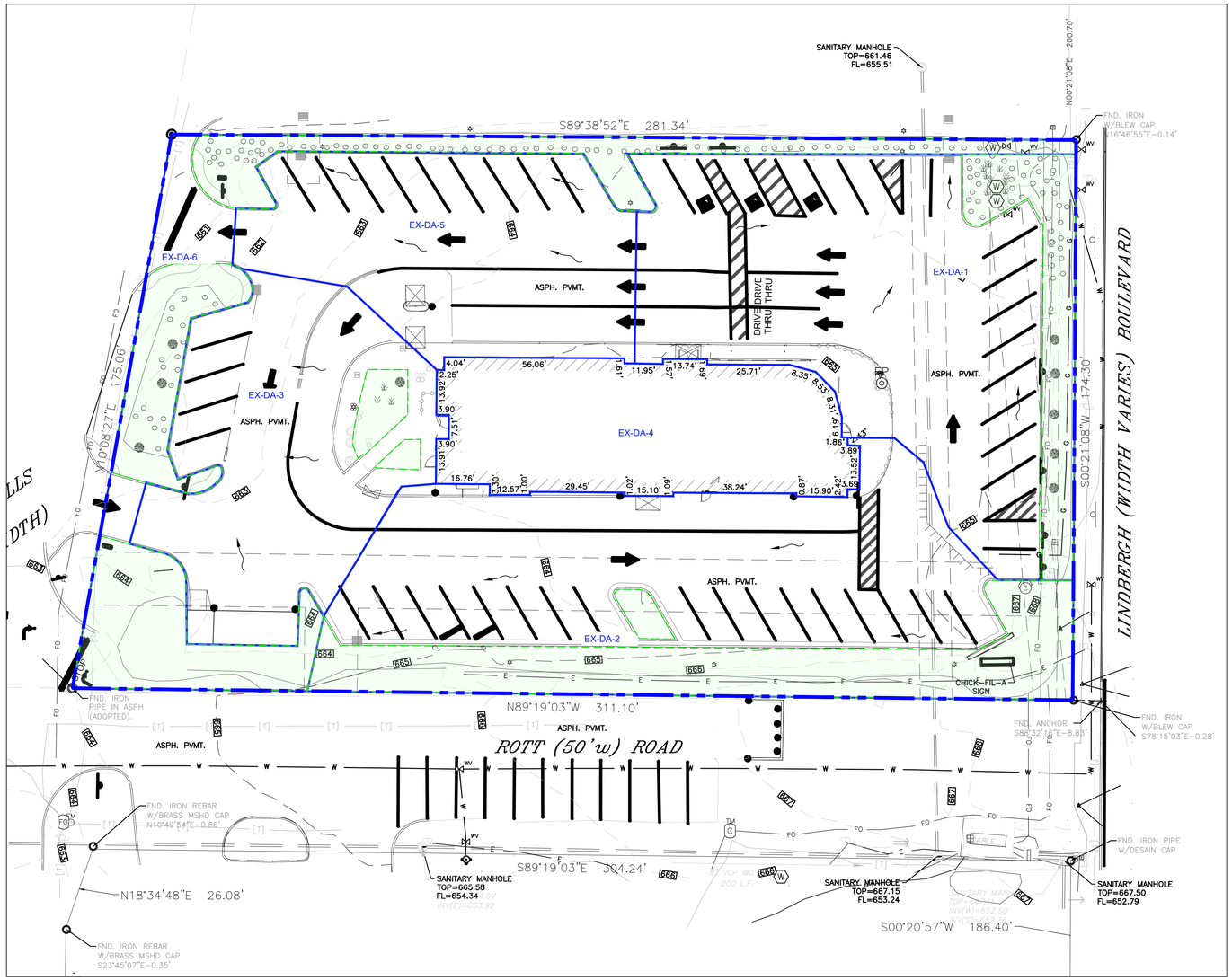
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.179 ac, 80.52% Impervious, Inflow Depth = 6.56" for 100-YR event
Inflow = 11.81 cfs @ 11.95 hrs, Volume= 0.644 af
Primary = 11.81 cfs @ 11.95 hrs, Volume= 0.644 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Pond 4P: Outfall





LEGEND:

- EXISTING DRAINAGE AREA BOUNDARY
- DENOTES EXISTING PERVIOUS AREA
- DRAINAGE ARROW

NORTH

0 10'

1" = 10'

BAR IS ONE INCH ON OFFICIAL DRAWINGS

0 1"

IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

PRELIMINARY

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

HRGreen
HRGreen.com

CHICK-FIL-A

SUNSET HILLS PLAZA (MO) FSU

10706 SUNSET HILLS PLAZA
SAINT LOUIS, MO 63127

FSU# 03077

REVISION SCHEDULE

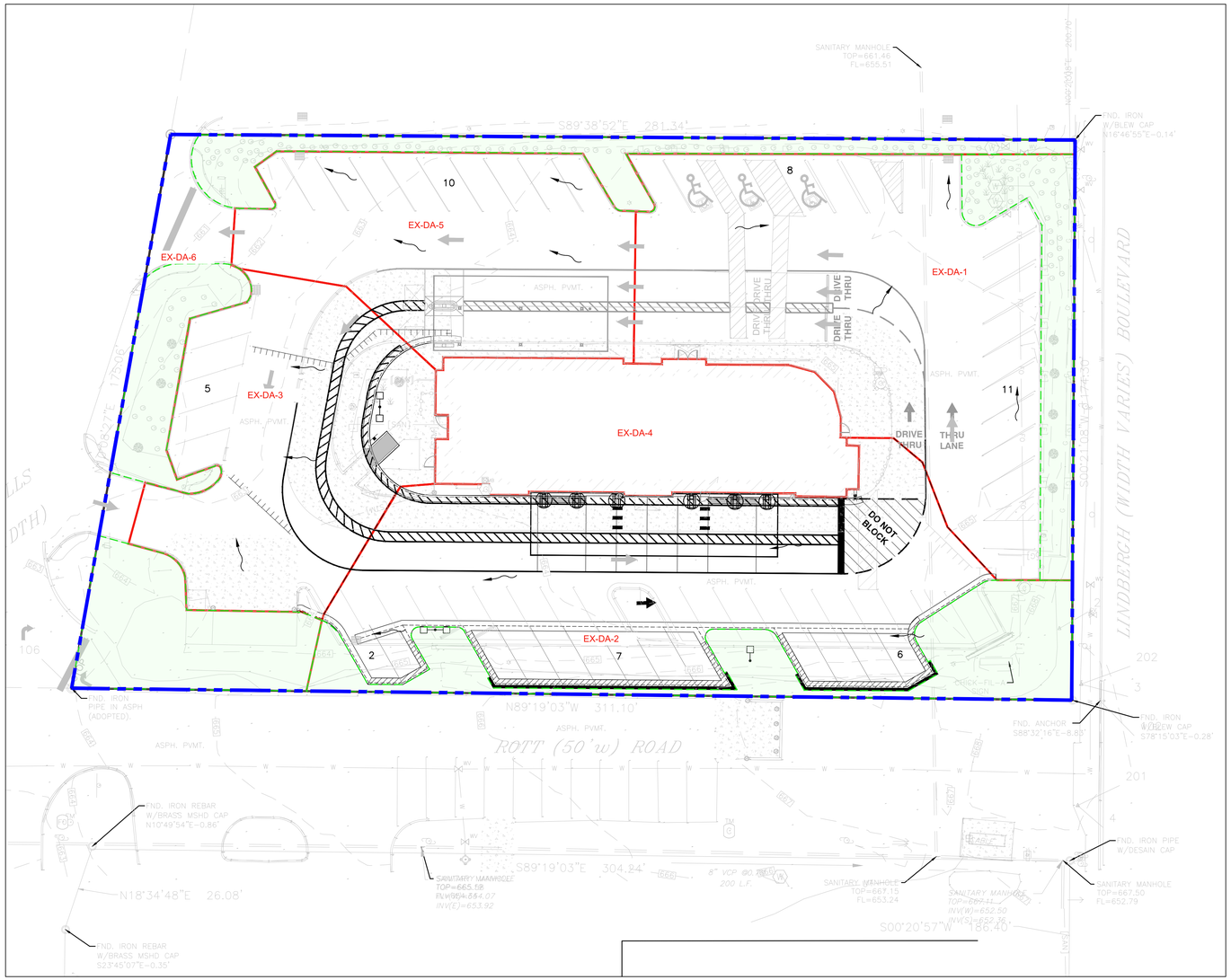
NO.	DATE	DESCRIPTION

PRELIMINARY

ENGINEER'S PROJECT #	211353.01
PRINTED FOR	PRELIMINARY
DATE	08/08/2025
DRAWN BY:	ERN
CHECKED BY:	TMR

SHEET
EXISTING DRAINAGE PLAN

SHEET NUMBER
EX-100



LEGEND:

- PROPOSED PROJECT AREA
- PROPOSED DRAINAGE AREAS
- DENOTES PROPOSED PERVIOUS AREA
- DRAINAGE ARROW

NORTH

0 10'
1" = 10'

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0 1"
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SHEET
PROPOSED DRAINAGE PLAN

SHEET NUMBER
EX-200

(ST-#) STORM TAGS

ST-1 EXIST. STM INLET
EXIST. RIM = 661.92
INV = 656.15 S 12" RCP
INV = 656.05 SE 12" RCP
(CONTRACTOR TO VERIFY CONDITION OF STRUCTURE AND REPLACE IF NECESSARY)

ST-2 EXIST. 2 LIN FT SS RCP, 12"
@ 6.28%

ST-3 STM SWR MH 6' DIA., R-1713 CL
(RESTRICTOR STRUCTURE - SEE DETAIL)
RIM = 662.00
TOP OF WEIR WALL INV = 659.75
(3)-6" ORIFICES INV = 658.30
1.5" ORIFICE INV = 656.35 (W/ TRASH RACK)
INV = 656.33 NE 12"
INV = 656.70 SW 12"

ST-4 EXIST. 1 LIN FT SS RCP, 12"
@ 6.28%

ST-5 STM SWR MH 6' DIA., R-1713 CL
RIM = 662.10
INV = 656.82 NE 12"
INV = 657.19 SW 12"
INV = 656.85 E 36"
INV = 656.85 SE 6"

ST-6 EXIST. 17 LIN FT SS RCP, 12"
@ 6.28%

ST-7 STM SWR MH 4' DIA., R-1713 CL
RIM = 662.17
INV = 657.00 NE 6"
INV = 657.78 N 12"
INV = 658.03 S 12"

ST-8 EXIST. 5 LIN FT SS RCP, 12"
@ 6.28%

ST-9 EXIST. STM INLET
EXIST. RIM = 662.60
INV = 658.66 S 12"
INV = 658.66 N 12"
INV = 656.66 E 6"
(CONTRACTOR TO VERIFY CONDITION OF STRUCTURE AND REPLACE IF NECESSARY)

ST-10 9 LIN FT SS PVC, 6" SDR 26
@ 2.67%

ST-11 BARRACUDA MAX S3 WQU, 3' DIA.
(SEE DETAIL)
RIM = 662.50
INV = 656.90 N 6"
INV = 656.90 W 6"

ST-12 10 LIN FT SS PVC, 6" SDR 26
@ 1.00%

ST-13 35 LIN FT SS RCP, 36"
@ 0.57%

ST-14 STM SWR MH 4' DIA., R-1713 CL
RIM = 663.00
INV = 657.05 W 36"
INV = 657.15 E 36"

ST-15 50 LIN FT SS RCP, 36"
@ 0.55%

ST-16 STM SWR MH 4' DIA., R-1713 CL
RIM = 664.50
INV = 659.90 W 36" RCP

ST-17 EXIST. 109 LIN FT SS RCP, 12"
@ 0.77%

ST-18 134 LIN FT SS PVC, 8" SDR 26
@ 1.00%
INV @ CONNECTION = 659.32

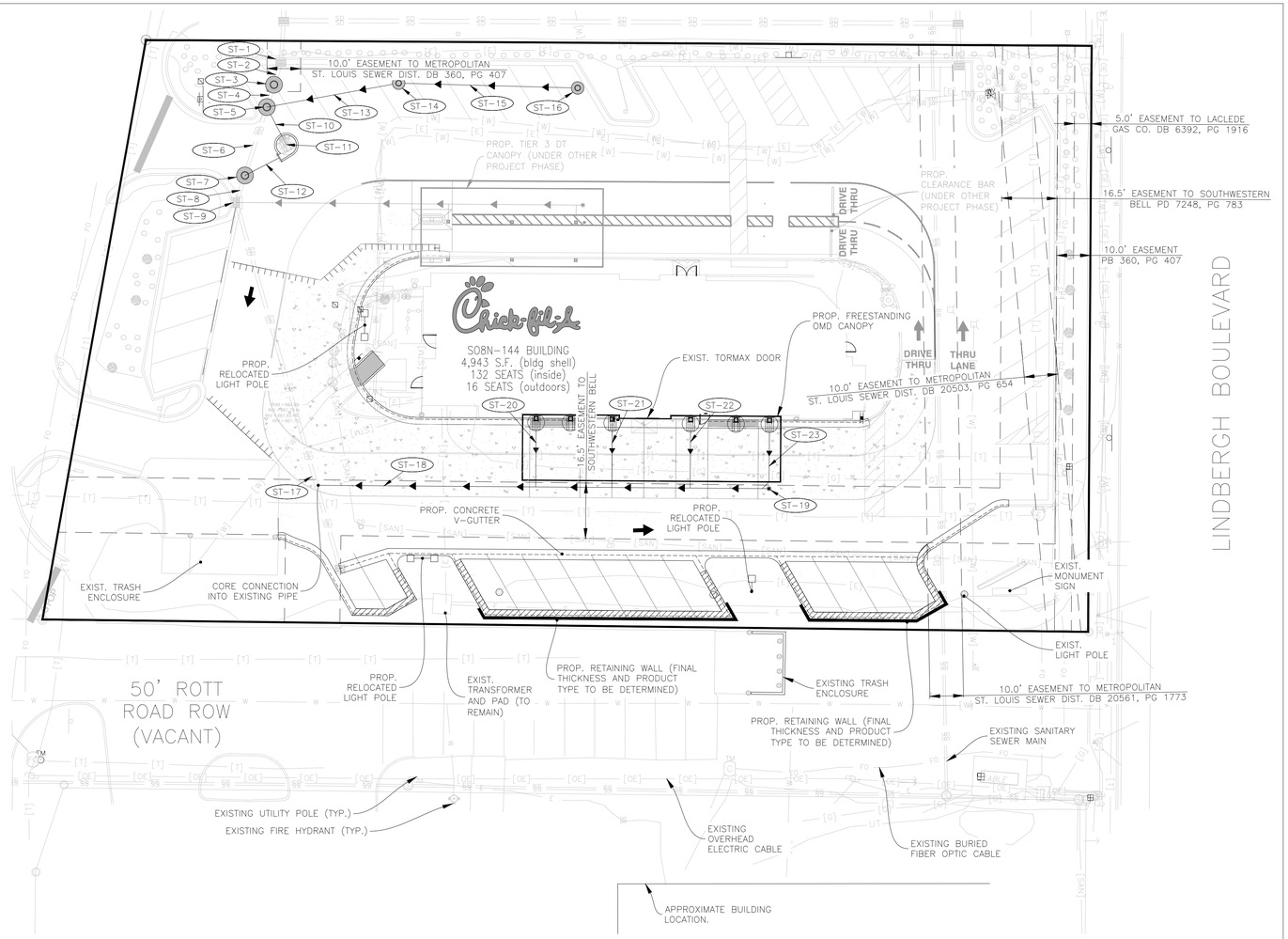
ST-19 CLEANOUT (SEE DETAIL)
RIM = 664.60
INV = 660.70

ST-20 19 LIN FT SS PVC CANOPY DRAIN, 6" SDR 26
@ 1.00%

ST-21 19 LIN FT SS PVC CANOPY DRAIN, 6" SDR 26
@ 1.00%

ST-22 19 LIN FT SS PVC CANOPY DRAIN, 6" SDR 26
@ 1.00%

ST-23 19 LIN FT SS PVC CANOPY DRAIN, 6" SDR 26
@ 1.00%



PROJECT NOTES:

* ALL CONSTRUCTION WITHIN PUBLIC R.O.W./ EASEMENTS AND OR CONNECTION TO PUBLIC SEWERS AND STREETS SHALL COMPLY WITH THE CITY OF SAINT LOUIS STANDARD CONSTRUCTION SPECIFICATIONS.
* AT LEAST ONE WEEK PRIOR TO ANY CONSTRUCTION WITHIN PUBLIC R.O.W./ EASEMENTS AND/OR ANY CONNECTION TO PUBLIC SEWERS AND STREETS, THE CONTRACTOR SHALL CONTACT THE CITY TO OBTAIN APPLICABLE CITY PERMITS.
* INGRESS/EGRESS WILL BE PROVIDED INTERNAL AND EXTERNAL TO THIS SITE.
* ALL CONCRETE CURB & GUTTER SHALL BE 24" (B6.18) UNLESS OTHERWISE NOTED ON THE PLANS.
* ALL PAVEMENT DIMENSIONS ARE MEASURED TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
* ALL CONSTRUCTION MATERIALS, DUMPSTER, DETACHED TRAILERS OR SIMILAR ITEMS ARE PROHIBITED ON PUBLIC STREETS OR WITHIN THE PUBLIC RIGHT-OF-WAY"

NORTH

0 20'
1" = 20'

BAR IS ONE INCH ON OFFICIAL DRAWINGS
0 1"
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

PRELIMINARY

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REVISION SCHEDULE

NO.	DATE	DESCRIPTION

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PRINTED FOR PRELIMINARY
DATE 08/08/2025
DRAWN BY: ERN
CHECKED BY: TMR

SHEET
PLUMBING SITE PLAN

SHEET NUMBER
PS-100

Metropolitan St. Louis Sewer District
2350 Market Street
St. Louis, MO 63103-2555
(314) 768-6200

September 9, 2022

Advanced Drainage Systems, Inc.
Mr. Craig Dahlgren
4640 Trueman Blvd.
Hilliard, OH 43026

RE: ADS Barracuda MAX
Highway Use Level (HUL) and Redevelopment Use Level (RUL)
Approval within the District

Mr. Dahlgren,

The Metropolitan St. Louis Sewer District (MSD) is pleased to provide HUL and RUL approval for the use of the ADS Barracuda MAX HDS unit as a stand-alone water quality BMP, subject to the following provisions:

- The Barracuda MAX is only approved for use on public highway and roadway projects, and for redevelopment sites less than 5 acres. This approval is based upon compliance with requirements listed in MSD's Proprietary Water Quality Products and the MSD's Stormwater Management Program (Revised Jan. 2009).
- The Barracuda MAX must be sized such that the Maximum Treatment Flow Rate (MTFR) for the unit exceeds the Water Quality flow rate calculated for the unit's tributary area. The Barracuda MAX's approved MTFRs will be those shown in Table 1 below, to match the certified flow rates provided by the New Jersey Department of Environmental Protection (NJDEP). Procedures for calculating the Water Quality flow rate are provided in Appendix D.10 of the Maryland Stormwater Design Manual (2000).

Table 1: Barracuda MAX Models and Approved MTFRs

Model	Manhole Diameter (ft)	MTFR (cfs)	50% Max. Sediment Storage Volume (ft^3)
Barracuda MAX S3	3	0.85	5.89
Barracuda MAX S4	4	1.52	10.47
Barracuda MAX S5	5	2.37	16.36
Barracuda MAX S6	6	3.40	23.56
Barracuda MAX S8	8	6.08	41.89
Barracuda MAX S10	10	9.48	65.45

- The Barracuda MAX will be configured as an off-line unit, downstream from a diversion manhole. In most cases, the BMP will be installed without the need to store the Water Quality volume upstream of the unit.
- All devices shall provide a minimum sediment storage capacity of 10 cubic feet.
- All proprietary lids and covers should be captive components. The minimum size access hole is 30 inches in diameter.
- Confined space entry shall not be a requirement for routine maintenance. No special tools or attachments should be required to provide for routine maintenance with a vacuum pumping truck.
- Project specific design calculations and maintenance plans furnished by the manufacturer must be included within the project's Stormwater Management Facilities Report prepared by the consulting engineer.

MSD reserves the ability to withdraw or modify this approval based on subsequent information, including information indicating that this BMP does not satisfy MSD rules, requirements, or construction specifications.

Sincerely,

Curtis Zurliene, PE
Civil Engineer (BMP Committee Chairman)
Engineering / Development Review
Metropolitan St. Louis Sewer District