



500 West Big Beaver
Troy, MI 48084
troymi.gov

Planning Department
planning@troymi.gov
248.524.3364

SUSTAINABLE DESIGN REVIEW COMMITTEE MEETING AGENDA

Committee Members: Building Official, City Engineer, Zoning Administrator,
Planning Commissioners (2)

October 27, 2025	2:00 PM	Community Development Conference Room
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1. ROLL CALL
2. APPROVAL OF MINUTES – April 24, 2025
3. BUSINESS AGENDA
 - A. PREQUALIFIED SDP STATUS – Atlantic Lofts, located on North of Maple & West of Stephenson (1441 E Maple), Section 26 – Zoned IB
4. OTHER BUSINESS

ADJOURN

NOTICE: People with disabilities needing accommodations for effective participation in this meeting should contact the City Clerk by e-mail at clerk@troymi.gov or by calling (248) 524-3317 at least two working days in advance of the meeting. An attempt will be made to make reasonable accommodations.

R. Brent Savidant called the meeting of the Sustainable Design Review Committee to order at 8:35 am on Wednesday, April 24, 2025 in the Community Development Conference Room.

1. ROLL CALL

Present:

SDRC Members:

Michael W. Hutson, Troy Planning Commission Representative
John Tagle, Troy Planning Commission Representative
R. Brent Savidant, Community Development Director (acting as the Zoning Administrator)
Dominic Abate, Building Department Residential Plans Reviewer (acting as Building Official)

Other Attendees:

Salim Huerta, City Building Official
Jim Butler, PEA Group
Ray, Krieger Klatt Architects

2. APPROVAL OF MINUTES

Resolution # SDRC-2025-04-001

Moved by: Finlay
Seconded by: Tagle

RESOLVED, To approve the minutes of the January 10, 2024 Sustainable Design Review Committee, as printed.

Yes: All present (5)

MOTION CARRIED

3. BUSINESS AGENDA

Prequalified SDP Status- Troy Living, located on South side of Maple, East of Adams (1485 Maple Way), Section 31-Zoned IB District.

- Seeking SDP status to expand parking lot within front set back

Brent Savidant summarized case.

Ray Phillips, of Krieger Klatt Architects, further summarized project. He added detail on the below grade parking area, outdoor amenity space, proposed dog park, EV parking.

Jim Butler, of PEA Group, added details on the proposed development.

John Tagle discussed the parking details with the applicant as it related to the case.

Salim Huerta asked applicant to note the barrier free requirements as necessary.

Dominic Abate asked applicant about the land banking options/locations.

Brent Savidant shared OHM will be studying the city of Troy to gather parking data.

Resolution # SDRC-2025-05-002

Moved by: Tagle

Seconded by: Hutson

RESOLVED, The SDRC hereby grants Prequalified Sustainable Development Project status to Troy Living (1485 Maple Way) to permit parking in the front yard in IB.

Yes: All present (5)

MOTION CARRIED

4. **OTHER BUSINESS** - None

ADJOURN

The meeting of the Sustainable Design Review Committee adjourned at 9:00AM.

Respectfully submitted,

R. Brent Savidant, Community Development Director

DATE: October 27, 2025
TO: Sustainable Design Review Committee
FROM: Salim Huerta Jr., Planner
SUBJECT: PREQUALIFIED SDP STATUS – Atlantic Lofts, North of Maple & West of
Stephenson (1441 E. Maple), Section 26 – Zoned IB

The petitioner (Owner: Atlantic Avenue Holdings, LLC; Developer: Blackacre Management, LLC) seeks Prequalified (SDP) Sustainable Design Plan Status to allow parking in the front yard in the IB Integrated Industrial & Business District for the Atlantic Lofts site at 1441 E. Maple Road. The proposal adapts the existing three-story office building for mixed commercial (≈7,927 sq ft) and 28 dwelling units, reconfiguring on-site elements to remove excess impervious surface, increase landscaping, and formalize loading and non-motorized facilities. Required parking is 88 spaces (32 commercial + 56 residential), with 88 proposed which is reduced from 139 existing), with two 10' × 54.5' loading spaces.

This project appeared prior as a Conditional Rezoning, Bachard Lofts. It was acknowledged that the IB rezoning would create a non-conformity to be rectified through an SDP Approval Process.

Upon SDRC action, the applicant intends to seek Final Site Plan approval from the City of Troy.

PREREQUISITES

1. Stormwater Quality – Conversion of surplus parking to landscaping and native/indigenous plantings to promote infiltration and improve on-site water quality.
2. Stormwater Quantity – Net reduction of 51 parking spaces and expansion of green space, from approximately 8,350 sq ft to approximately 13,200 sq ft.
3. Light Pollution Reduction – Full-cutoff shielded luminaires with automatic 50% curfew dimming; photometric design targets are aligned with IES guidance.

QUALIFYING

1. Redevelopment & Reuse – Adaptive re-use of an existing building, with existing parking and removal of excess pavement.
2. Commuter Accommodations – Provision of a bicycle rack and new sidewalk connection to the public walk to encourage non-motorized trips and first/last-mile access.
3. Water-Efficient Landscaping – Native/indigenous and drought-tolerant species; newly landscaped areas replace previously impervious pavement, reducing long-term water use associated with site maintenance.

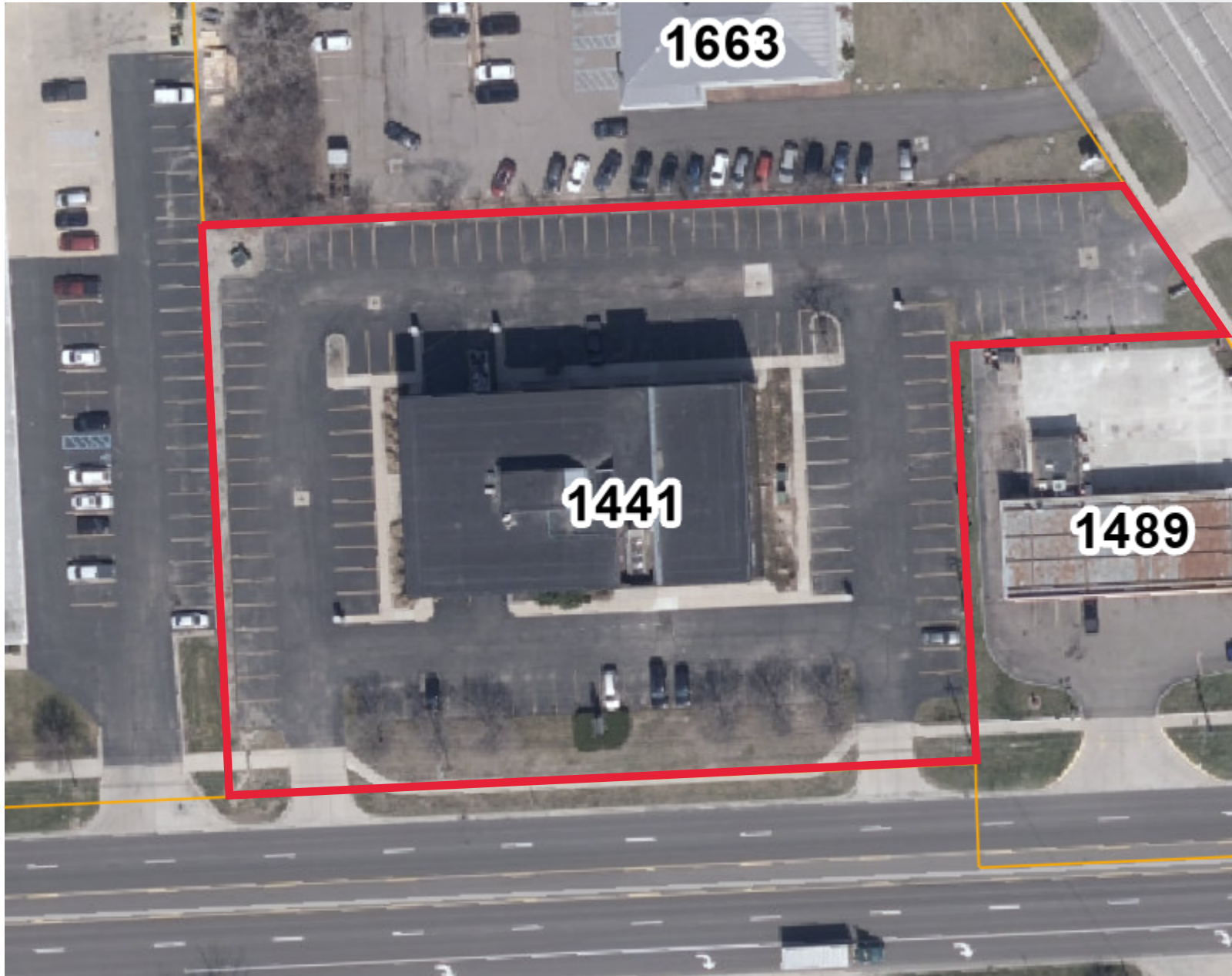
The SDRC shall determine if the application meets the minimum three Prerequisite Measures and two Qualifying measures for parking within a front yard in the IB district.

Attachments:

1. Maps
2. Application Documents
3. Site Plan
4. CR Minutes
5. SDRC Standards



GIS Online



Legend

Tax Parcels

Tax Parcel



0 50 100
ft

Print Date: 10/20/2025



Note: The information provided by this application has been compiled from recorded deeds, plats, tax maps, surveys, and other public records and data. It is not a legally recorded map survey. Users of this data are hereby notified that the source information represented should be consulted for verification.



GIS Online



Legend

Planning

Form Based Zoning

- (GB) General Business
- (IB) Integrated Industrial Business District
- (O) Office Building District

Tax Parcels

Tax Parcel



0 50 100
ft

Print Date: 10/20/2025



Note: The information provided by this application has been compiled from recorded deeds, plats, tax maps, surveys, and other public records and data. It is not a legally recorded map survey. Users of this data are hereby notified that the source information represented should be consulted for verification.

APPLICATION FOR A
SUSTAINABLE DEVELOPMENT PROJECT (SDP)

CITY OF TROY PLANNING DEPARTMENT
500 W. BIG BEAVER
TROY, MICHIGAN 48084
248-524-3364
planning@troymi.gov



SUSTAINABLE DEVELOPMENT APPLICATION:
\$500.00

NOTICE TO THE APPLICANT

APPLICATIONS SHALL CONFORM TO THE REQUIREMENTS CONTAINED IN THE
SUSTAINABLE DEVELOPMENT CHECKLIST AND [CHAPTER 39 ZONING ORDINANCE](#)

EMAIL SCANNED OR DIGITAL COPIES OF THE COMPLETED APPLICATION AND ALL
SUPPORTING DOCUMENTS TO planning@troymi.gov.

APPLICANT AND PARCEL INFORMATION

1. ADDRESS OF THE SUBJECT PROPERTY: 1441 E. MAPLE ROAD
2. AREA OF MODIFICATION (EXAMPLE: LOT COVERAGE): _____
- _____

3. APPLICANT INFORMATION:

NAME DALEN HANNA

COMPANY BLACKACRE MANAGEMENT,

ADDRESS 33717 WOODWARD AVE, STE 560

CITY BIRMINGHAM STATE MI ZIP 48009

TELEPHONE 248-990-1017

E-MAIL CONTACT@BLACKACREMG.T.COM

OWNER OF THE SUBJECT PROPERTY:

NAME DALEN HANNA

COMPANY ATLANTIC AVENUE HOLDINGS, LLC

ADDRESS 33717 WOODWARD AVE, STE 560

CITY BIRMINGHAM STATE MI ZIP 48009

TELEPHONE 248-990-1017

E-MAIL CONTACT@BLACKACREMG.T.COM

4. THE APPLICANT BEARS THE FOLLOWING RELATIONSHIP TO THE OWNER OF THE SUBJECT PROPERTY:
BLACKACRE MANAGEMENT IS THE DEVELOPER, ATLANTIC IS THE SPE/OWNER

5. SIGNATURE OF APPLICANT  DATE 09/30/25

6. SIGNATURE OF PROPERTY OWNER  DATE 09/30/25

REQUIRED INFORMATION

ONE (1) PAPER COPY AND ONE (1) ELECTRONIC COPY (IN PDF FORMAT) OF THE FOLLOWING SHALL BE PROVIDED:

- ☒ A COMPLETED APPLICATION FORM
- ☒ A SITE PLAN CONTAINING THE FOLLOWING INFORMATION:
 - COMMON DESCRIPTION OF THE PROPERTY AND COMPLETE LEGAL DESCRIPTION
 - DIMENSIONS OF LAND, INCLUDING WIDTH, LENGTH, ACREAGE, AND FRONTAGE
 - EXISTING ZONING AND CURRENT LAND USE OF THE PROPERTY UNDER CONSIDERATION
 - CURRENT ZONING AND CURRENT LAND USE OF ALL ADJACENT PROPERTIES
 - LOCATION OF ALL EXISTING BUILDINGS, STRUCTURES, PARKING AREAS, ROADS, AND NATURAL FEATURES
 - GENERAL LOCATION OF ALL PROPOSED BUILDINGS, STRUCTURES, PARKING AREAS, ROADS, AND ALL PROPOSED PROPERTY CHANGES TO THE PROPERTY
- ☒ A SPECIFIC LIST OF PROPOSED SUSTAINABLE DESIGN MEASURES WITH THE FOLLOWING SUPPORTING INFORMATION:
 - ANY MANUFACTURER INFORMATION, SUCH AS SPECIFICATIONS OR CUT SHEETS THAT DETAIL THE TECHNOLOGY, ATTRIBUTES, AND ANTICIPATED BENEFITS OF THE FEATURES OR EQUIPMENT
 - IDENTIFICATION ON THE DRAWINGS PROVIDING INFORMATION ABOUT THE LOCATION, GENERAL DESIGN, AND APPLICATION OF THE SUSTAINABLE DESIGN FEATURES BEING PROPOSED
 - A SPECIFIC LIST OF THE AREAS WITHIN THE ORDINANCE FOR WHICH BENEFITS ARE BEING SOUGHT WITH THE SDP APPLICATION
 - A LONG-TERM MAINTENANCE PLAN DOCUMENTING THE PROPOSED METHOD OF CARE FOR THE MEASURES BEING PROPOSED
- ☒ PHOTOGRAPHS OF THE RELEVANT AREA(S) UNDER CONSIDERATION
- ☒ ANY ADDITIONAL REQUIREMENTS AS DETERMINED BY THE SUSTAINABLE DESIGN REVIEW COMMITTEE, OR ZONING ADMINISTRATOR TO DETERMINE IF THE REQUIREMENTS OF THE SUSTAINABLE DESIGN CHECKLIST OR CHAPTER 39 ARE MET.

BLACKACRE

Date: September 30, 2025
Project: Atlantic Lofts
Owner: Atlantic Avenue Holdings, LLC
Developer: Blackacre Management, LLC
Address: 1441 East Maple Road, Troy, Michigan
Subject: Sustainable Development Application

TO: Attn: Mr. Brent Savidant
City of Troy Planning Department
Sustainable Development Committee
500 W. Big Beaver Road
Troy, Michigan 48064

Dear Committee Members,

On behalf of Atlantic Avenue Holdings, LLC (Owner) and Blackacre Management, LLC (Developer), I am proud to submit this application for Sustainable Development Project (SDP) status for the *Atlantic Lofts* redevelopment at 1441 East Maple Road. This project is more than a building reuse — it is a forward-thinking transformation that aligns with Troy's long-term vision of creating resilient, sustainable, and community-oriented developments.

The Atlantic Lofts plan showcases a comprehensive approach to sustainability, including:

- **Smart Reuse & Green Space Expansion** – Redeveloping an existing office building into a vibrant mixed-use property, while removing unnecessary hardscape and replacing it with over 13,000 square feet of green space. This reduces impervious coverage, strengthens site permeability, and enhances the surrounding streetscape.
- **Advanced Stormwater Solutions** – A permanent bioswale and rain garden system designed to capture, filter, and treat runoff. Backed by a detailed long-term maintenance plan, this feature ensures lasting ecological benefits and regulatory compliance.
- **Native & Water-Efficient Landscaping** – Planting native trees and drought-tolerant species to lower irrigation demands, improve biodiversity, and provide natural cooling against heat island effects.
- **Sustainable Mobility** – Installation of bike racks and sidewalk connections to encourage non-motorized transportation and promote healthier, eco-friendly commuting.

The complete submission package includes the SDP application, architectural site plan, bioswale/rain garden maintenance plan, sustainable design checklist, and drone imagery of the site to give a clear perspective of existing and proposed improvements.

We believe Atlantic Lofts will serve as a model for sustainable redevelopment in Troy: revitalizing underutilized space, reducing environmental impact, and delivering long-term value to the community. We respectfully request the Committee's favorable consideration and Prequalified SDP status for this exciting project.

Thank you for your time and commitment to advancing Troy's sustainable future. We look forward to presenting Atlantic Lofts and working collaboratively with the Committee to make it a success.

Sincerely,



Dalen Hanna, Esq.





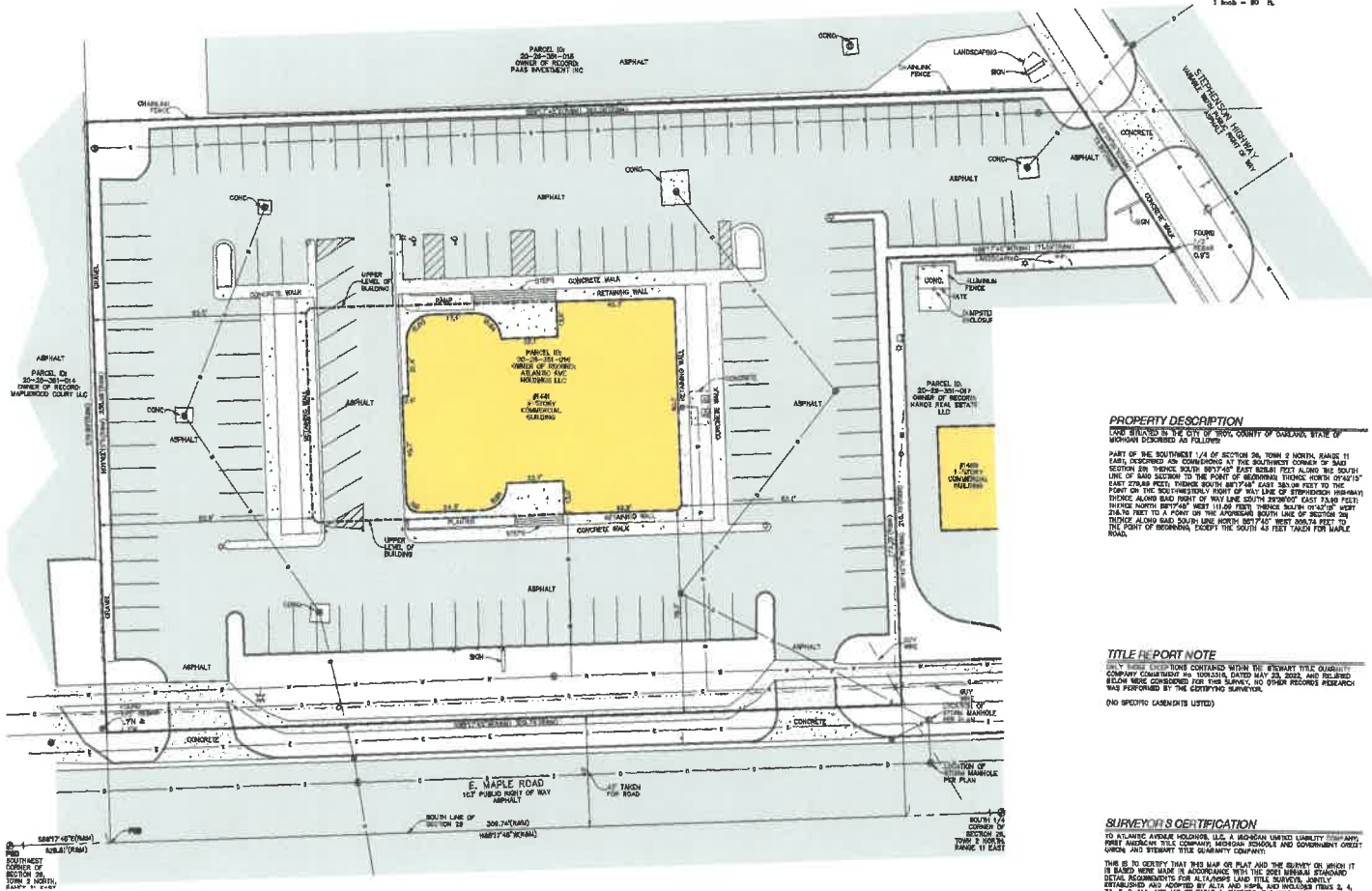
HANDICAP PARKING = 2 STALLS
STANDARD PARKING = 150 STALLS

79,862± SQUARE FEET = 1.62± ac

NORTH 60°17' WEST, BEING THE SOUTH LINE OF
SECTION 28, AS DESCRIBED.

THE LOCATION AND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES COMPRISED ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS BEEN PHYSICALLY LOCATED THE UNDERGROUND UTILITIES OTHER THAN THE RISKING OF DAMAGE TO THE SAME.

ROAD W/HEAVY TRAFFIC
 ROAD FRONT CORNER (AS NOTED)
 REAR CORNER RE-ARMED CONCRETE
 RECORD DRAINAGE
 MEASURED DIMENSION
 TRANSVERSE
 UTILITY POLE
 GAS VALVE
 SANITARY MANHOLE
 ROUND DATCH EASEN
 SQUARE DATCH EASEN
 BROWN BRICK MANHOLE
 FIVE HYDRANT
 FIVE DEPARTMENT CONNECTION
 WATER DATCH MANHOLE
 BOLLARD
 LIGHT-TO-LAMP POST
 SINGLE POST SIGN
 DOUBLE POST SIGN
 HANDCUP PARAPET
 PARCEL, BOUNDARY LINE
 ADDITION PARCEL LINE
 SECTION LINE
 EASEMENT (AS NOTED)
 BUILDING
 BUILDING CORNER
 ASPHALT CURB
 CONCRETE CURB
 RAISED CONCRETE
 PAVING
 EDGE OF CONCRETE (CONC.)
 EDGE OF ASPHALT (ASPH.)
 EDGE OF DRAINAGE
 PAVEMENT (AS NOTED)
 WALK, (AS NOTED)
 OVERHEAD UTILITY LINE
 ELECTRIC LINE
 GAS LINE
 SANITARY LINE
 STORM LINE
 WATER LINE
 BUILDING AREA
 ASPHALT
 CONCRETE



LAND SITUATED IN THE CITY OF TROY, COUNTY OF ONEIDA, STATE OF
MICHIGAN DESCRIBED AS FOLLOWS:

PART OF THE SOUTHWEST 1/4 OF SECTION 20, TOWN 2 NORTH, RANGE 11
EAST, DESCRIBED AS: COMMENCING AT THE SOUTHWEST CORNER OF SAID
SECTION 20, THENCE NORTH 89°45'00" WEST 150.00 FEET TO THE SOUTH
EAST CORNER OF SAID SECTION 20, THENCE SOUTH 89°45'00" WEST
LINE OF SAID SECTION TO THE POINT OF BEGINNING, THENCE ALONG SAID
EAST 27.9965 FEET; THENCE SOUTH 89°17'40" EAST 38.00 FEET TO THE
POINT ON THE SOUTHWESTERN RIGHT OF WAY LINE OF STEPHENSON HIGHWAY
THENCE ALONG SAID RIGHT OF WAY LINE SOUTH 29°00'00" EAST 73.20 FEET
THENCE NORTH 89°45'00" WEST 150.00 FEET TO THE POINT OF BEGINNING,
THENCE ALONG SAID RIGHT OF WAY LINE SOUTH 29°00'00" EAST 73.20 FEET
THENCE NORTH 89°45'00" WEST 150.00 FEET TO THE POINT OF BEGINNING,
THENCE ALONG SAID SOUTH LINE NORTH 89°17'40" WEST 208.74 FEET TO
THE POINT OF BEGINNING, EXCEPT THE SOUTH 45 FEET TAKEN FOR MARLB

ONLY THESE EXCEPTIONS CONTAINED WITHIN THE ITINERARY TITLE QUANTITY COMPANY COMMITMENT No. 10093316, DATED MAY 23, 2022, AND RELIABLE BELOW WERE CONSIDERED FOR THIS SURVEY, NO OTHER RECORDS RESEARCH WAS PERFORMED BY THE CERTIFYING SURVEYOR.

(NO SPECIFIC CASUALTIES LISTED)

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2001 MINIMUM STANDARD REQUIREMENTS FOR ALTA/ACSM AND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND HIGHWAYS 2, 4, 7A, 8, 9, 11A, AND 11B OF TABLE A, THEREOF. THE FIELD WORK WAS COMPLETED ON 08/10/24.

DATE OF PLAT OR MAP: 05/25/71

ANTHONY T. J. JR., P.A.
PROFESSIONAL SURVEYOR
MICHIGAN LICENSE NO. 47970
22508 GRATIOT AVE., EASTPOINTE, MI 48021
TE: 586-465-8120 - FAX: 586-465-8121
TJ@landsurvey.com



ALTA / NSPS LAND TITLE SURVEY
PREPARED FOR BLACKACRE MGT, LLC
1441 E. MAPLE ROAD, TROY, MICHIGAN,
PART OF SECTION 26,
TOWN 2 NORTH, RANGE 11 EAST

DATE	06/22/24
CITY	AUS
STATE	JUNE TX, 2024
PERIOD	7-8-2024
TOTAL	1
UNIT	100-10-25
PRICE	24-97000
TOTAL	24
ENTER SERVICES DESCRIPTION	

BLACKACRE

Date: September 6, 2025
Project: Atlantic Lofts
Owner: Atlantic Avenue Holdings, LLC
Developer: Blackacre Management, LLC
Address: 1441 East Maple Road, Troy, Michigan
Subject: INTERNAL MEMO - Bioswale/Rain Garden Maintenance Plan

I. Bioswale/Rain Garden Maintenance Plan – Atlantic Avenue Project

The bioswale/rain garden will be a permanent, functional component of the Atlantic Avenue project's stormwater management system. It is intended to capture and treat stormwater runoff, reduce peak flows, improve water quality, and provide ecological and aesthetic benefits to the site. The following plan outlines the maintenance protocols that will be followed to ensure the system operates as designed throughout its lifespan.

II. Inspection and Monitoring

- First Year: Inspections will occur monthly to verify proper establishment of vegetation, confirm grading and drainage are functioning, and identify any deficiencies early.
- After Establishment: Inspections will occur on a quarterly basis.
- After Major Storm Events: An additional inspection will take place after rainfall events of 1 inch or more within 24 hours to assess erosion, sediment buildup, or ponding.
- A maintenance log will be kept on-site or electronically, documenting inspection dates, observations, corrective actions, and plant replacements. This record will be available for municipal review upon request.

III. Vegetation Establishment and Care

- The bioswale/rain garden will be planted with native, deep-rooted grasses, sedges, and perennials chosen for their stormwater infiltration, pollutant uptake, and drought tolerance.
- Plants will be watered as necessary during the first growing season to ensure establishment. Irrigation will taper off in subsequent years once plants are established.
- Routine maintenance will include:
 - Weeding and invasive species removal monthly during the growing season.
 - Plant replacement annually each spring or fall to maintain continuous groundcover and prevent bare spots.
 - Pruning or cutting back as needed at the end of the growing season to maintain plant health and system function.

IV. Sediment and Debris Management

- The bioswale/rain garden will be kept free of debris, trash, and leaf litter, which will be removed during every inspection.
- Sediment accumulation will be monitored. If deposition exceeds 3 inches, accumulated material will be removed and the basin restored to its design depth.
- Inlets and outlets will be checked for obstructions, and blockages will be cleared immediately.

V. Erosion Control

- Inlet and outlet structures will be inspected for evidence of erosion or scouring.
- Corrective measures may include reseeding, placing erosion-control matting, or adding riprap/stone armoring to dissipate flow energy.
- Bare soil areas will be immediately reseeded with approved native mixes.

Continued...

BLACKACRE

VI. Mulching and Soil Management

- A 2–3 inch layer of shredded hardwood mulch will be applied around plantings to conserve moisture, control weeds, and reduce erosion.
- Mulch will be replenished annually in spring. Excess mulch will be avoided, as it can impede infiltration.

VII. Long-Term Functional Standards

- Vegetation will be maintained at a minimum 80% live coverage throughout the bioswale/rain garden footprint.
- The system must drain fully within 48 hours of a rainfall event to ensure infiltration and avoid mosquito habitat.
- Water-tolerant species will be maintained near the basin bottom, with drought-tolerant species placed on upper side slopes.
- The system will be kept free of standing water, invasive species, and channelized flow paths.

VIII. Responsibility for Maintenance

- The property owner (Atlantic Avenue project ownership entity) will be responsible for ongoing maintenance and compliance with the approved plan.
- Maintenance may be performed by in-house staff or a qualified landscaping contractor familiar with stormwater best management practices.
- Any substantial repairs, replantings, or modifications will be documented and provided to the City if requested.



Acer rubrum 'October Glory' 'October Glory' Red Maple¹

Edward F. Gilman and Dennis G. Watson²

INTRODUCTION

This cultivar of Red Maple has an oval to rounded shape and is a fast grower with strong wood, reaching a height of 40 to 50 feet (Fig. 1). It and 'Red Sunset' are the most popular Red Maples in cultivation probably due to their dependable fall color and vigorous growth. Unless irrigated or on a wet site, it is best used north of USDA hardiness zone 9. Trees are often seen shorter in the southern part of its range unless growing next to a stream or on a wet site. This tree is much preferred over Red Maple, Silver Maple or Boxelder when a fast growing maple is needed. The newly emerging leaves and red flowers and fruits signal that spring has come. They appear in December and January in Florida, later in the northern part of its range. The seeds of Red Maple are quite popular with squirrels and birds. This tree is sometimes confused with red-leaved cultivars of Norway Maple.

GENERAL INFORMATION

Scientific name: *Acer rubrum* 'October Glory'
Pronunciation: AY-ser ROO-brum
Common name(s): 'October Glory' Red Maple
Family: *Aceraceae*
USDA hardiness zones: 5 through 8 (Fig. 2)
Origin: native to North America
Uses: Bonsai; wide tree lawns (>6 feet wide); medium-sized tree lawns (4-6 feet wide); recommended for buffer strips around parking lots or for median strip plantings in the highway; near a deck or patio; reclamation plant; screen; shade tree; specimen; residential street tree

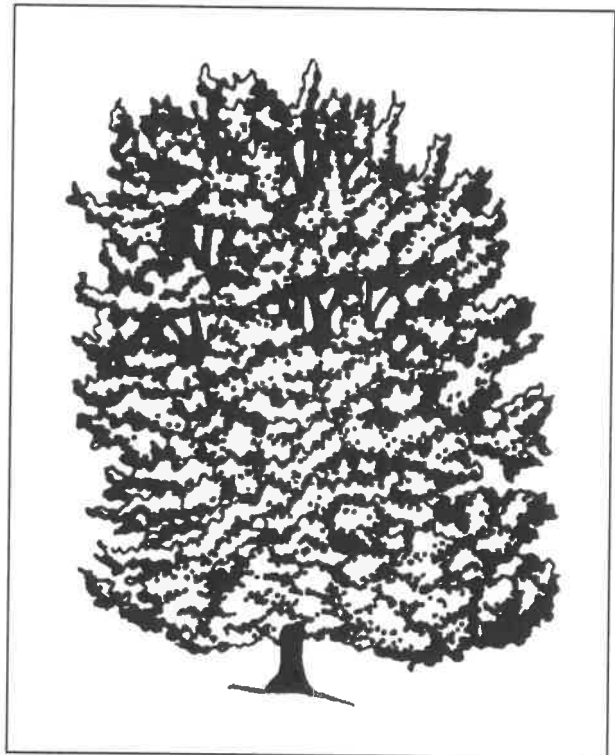


Figure 1. Mature 'October Glory' Red Maple.

Availability: generally available in many areas within its hardiness range

DESCRIPTION

Height: 40 to 50 feet
Spread: 25 to 35 feet
Crown uniformity: symmetrical canopy with a regular (or smooth) outline, and individuals have more

1. This document is adapted from Fact Sheet ST-46, a series of the Environmental Horticulture Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Publication date: November 1993.
2. Edward F. Gilman, associate professor, Environmental Horticulture Department; Dennis G. Watson, associate professor, Agricultural Engineering Department, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville FL 32611.

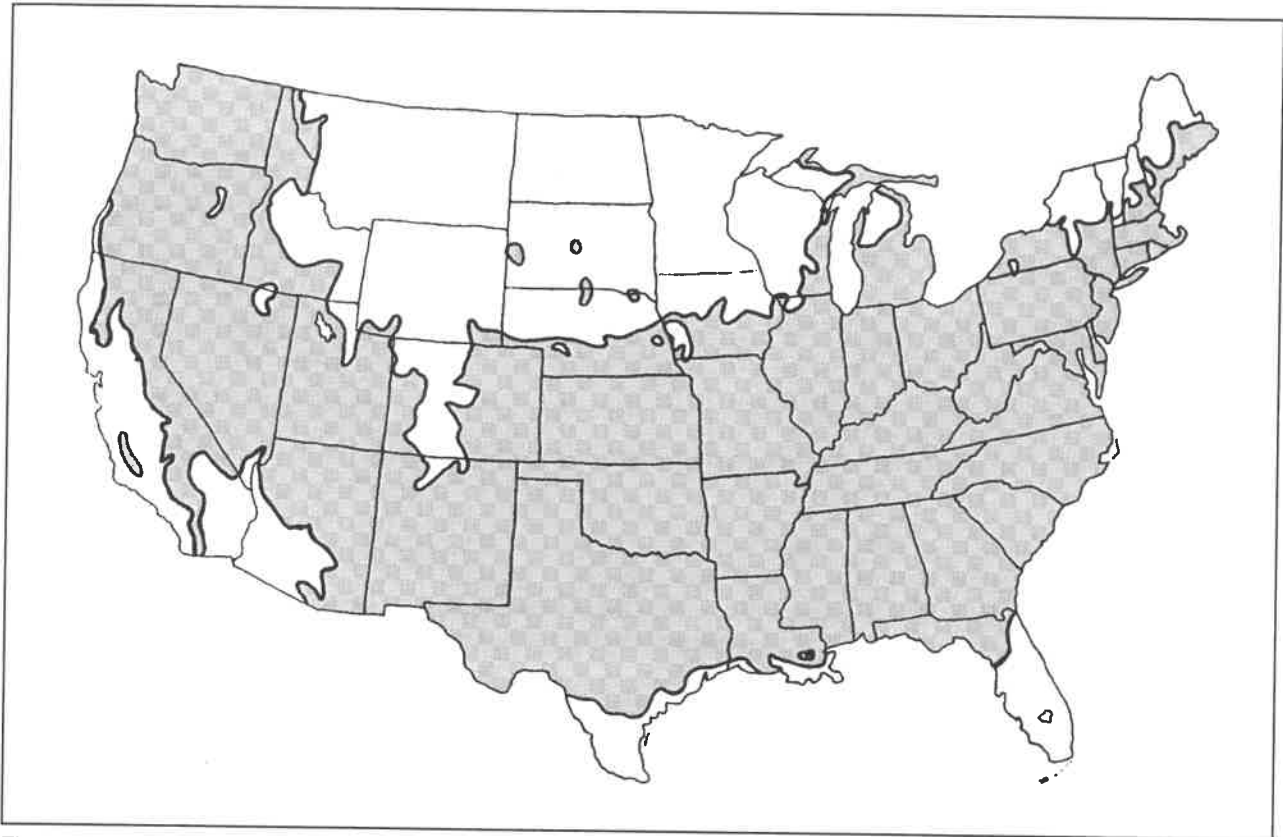


Figure 2. Shaded area represents potential planting range.

or less identical crown forms

Crown shape: oval; round

Crown density: moderate

Growth rate: fast

Texture: medium

Foliage

Leaf arrangement: opposite/subopposite (Fig. 3)

Leaf type: simple

Leaf margin: lobed; incised; serrate

Leaf shape: ovate

Leaf venation: palmate

Leaf type and persistence: deciduous

Leaf blade length: 2 to 4 inches

Leaf color: green

Fall color: orange; red; yellow

Fall characteristic: showy

Flower

Flower color: red

Flower characteristics: showy; spring flowering

Fruit

Fruit shape: elongated

Fruit length: 1 to 3 inches

Fruit covering: dry or hard

Fruit color: red

Fruit characteristics: attracts birds; attracts squirrels and other mammals; no significant litter problem; showy

Trunk and Branches

Trunk/bark/branches: bark is thin and easily damaged from mechanical impact; droop as the tree grows, and will require pruning for vehicular or pedestrian clearance beneath the canopy; not particularly showy; should be grown with a single leader; no thorns

Pruning requirement: requires pruning to develop strong structure

Breakage: resistant

Current year twig color: gray; reddish

Current year twig thickness: medium

Wood specific gravity: 0.54

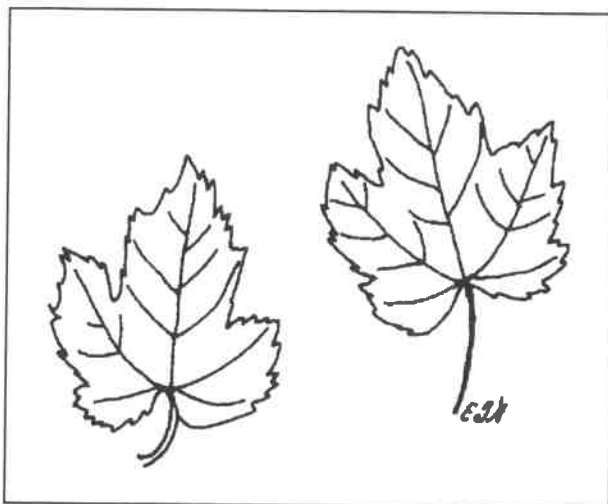


Figure 3. Foliage of 'October Glory' Red Maple.

Culture

Light requirement: tree grows in part shade/part sun;
tree grows in full sun

Soil tolerances: clay; loam; sand; acidic; extended
flooding; well-drained

Drought tolerance: moderate

Aerosol salt tolerance: low

Soil salt tolerance: poor

Other

Roots: surface roots can lift sidewalks or interfere
with mowing

Winter interest: tree has winter interest due to
unusual form, nice persistent fruits, showy winter
trunk, or winter flowers

Outstanding tree: tree has outstanding ornamental
features and could be planted more

Invasive potential: little, if any, potential at this time

Verticillium wilt susceptibility: susceptible

Pest resistance: long-term health usually not
affected by pests

USE AND MANAGEMENT

The outstanding ornamental characteristic of 'October Glory' is bright red to orange fall color (sometimes on the same tree) lasting several weeks. It puts on one of the most brilliant displays of any tree late in the fall.

The tree makes the best growth in wet places and has no other particular soil preference except chlorosis may develop on alkaline soil where it also grows poorly. It is well-suited as a street tree in northern

and mid-south climates in residential and other suburban areas but the bark is thin and easily damaged by mowers. Irrigation is often needed to support street tree plantings in well-drained soil in the south. Roots can raise sidewalks as Silver Maples can but they have a less aggressive root system and so they make a good street tree. Surface roots beneath the canopy can make mowing difficult.

Red Maple is easily transplanted and usually develops surface roots in soil ranging from well-drained sand to clay. It is not especially drought-tolerant, particularly in the southern part of the range, but selected individual trees can be found growing on dry sites. This trait shows the wide range of genetic diversity in the species. Branches often grow upright through the crown forming poor attachments to the trunk. These should be removed in the nursery or after planting in the landscape to help prevent branch failure in older trees during storms. Select branches with a wide angle from the trunk and prevent branches from growing larger than half the diameter of the trunk.

A number of other cultivars are listed. Due to graft-incompatibility problems which cause the tree to break apart, preference should be given to cultivars produced on their own roots. In the northern and southern end of the range, choose cultivars with regional adaptation. The cultivars are: 'Armstrong' - upright growth habit, almost columnar, somewhat prone to splitting branches due to tight crotches, 50 feet tall; 'Autumn Flame' - 45 feet tall, round, above average fall color; 'Bowhall' - upright growth habit, branches form embedded bark, graft incompatibility on grafted trees; 'Gerling' - densely branched, broadly pyramidal, about 35 feet tall when mature; 'Red Sunset' - above average orange to red fall color, does well in the south in USDA hardiness zone 8, probably the best cultivar for the deep south, oval, 50 feet tall; 'Scanlon' - upright growth habit; 'Schlesinger' - good fall color, rapid growth rate; 'Tilford' - globe-shaped crown. Variety *drummondii* is well-suited for USDA hardiness zone 8.

Pests

Aphids infest maples, usually Norway Maple, and may be numerous at times. High populations can cause leaf drop. Another sign of heavy aphid infestation is honey dew on lower leaves and objects beneath the tree. Aphids are controlled by spraying or they may be left alone. If not sprayed, predatory insects will bring the aphid population under control.

Scales are an occasional problem on maples. Perhaps the most common is cottony maple scale. The insect forms a cottony mass on the lower sides of branches. Scales are usually controlled with horticultural oil sprays. Scales may also be controlled with well-timed sprays to kill the crawlers.

If borers become a problem it is an indication the tree is not growing well. Controlling borers involves keeping trees healthy. Chemical controls of existing infestations are more difficult. Proper control involves identification of the borer infesting the tree then applying insecticides at the proper time.

Diseases

Girdling roots grow around the base of the trunk rather than growing away from it. As both root and trunk increase in size, the root chokes the trunk. Girdling roots are detected by examining the base of the trunk. The lack of trunk flare at ground level is a symptom. The portion of the trunk above a girdling root does not grow as rapidly as the rest so may be slightly depressed. The offending root may be on the surface or may be just below the sod. The tree crown shows premature fall coloration and death of parts of the tree in more serious cases. If large portions of the tree have died it may not be worth saving. Girdling roots are functional roots so when removed a portion of the tree may die. When the girdling root is large the treatment is as harmful as the problem. After root removal, follow-up treatment includes watering during dry weather. The best treatment for girdling roots is prevention by removing or cutting circling roots at planting or as soon as they are detected on young trees.

Scorch may occur during periods of high temperatures accompanied by wind. Trees with diseased or inadequate root systems will also show scorching. When trees do not get enough water they scorch. Scorch symptoms are light brown or tan dead areas between leaf veins. The symptoms are on all parts of the tree or only on the side exposed to sun and wind. Scorching due to dry soil may be overcome by watering. If scorching is due to an inadequate or diseased root system, watering may have no effect.

Nutrient deficiency symptoms are yellow or yellowish-green leaves with darker green veins. The most commonly deficient nutrient on maple is manganese. Implanting capsules containing a manganese source in the trunk will alleviate the symptoms. Test soil samples to determine if the soil

pH is too high for best manganese availability. Plants exposed to weed killers may also show similar symptoms.

Tar spot and a variety of leaf spots cause some concern among homeowners but are rarely serious enough for control.

Potentilla fruticosa

Shrubby Cinquefoil



Also called bush cinquefoil. A small, tough shrub, with yellow, 5-petaled flowers from June until fall. Small brown seed capsules provide winter interest. Transplants easily, and is of easy culture. Often found in wet meadows and swamps in the wild, but will tolerate a variety of soils, as long as it gets full sun.

Suggested companions: meadowsweet (*Spiraea alba*), swamp rose (*Rosa palustris*), sensitive fern (*Onoclea sensibilis*), cedar (*Thuja occidentalis*)

Photo Credit: © James L. Reveal. USDA, NRCS 1999. The PLANTS database (<http://plants.usda.gov/plants>). National Plant Data Center, Baton Rouge, LA 70874-4490 USA

Plant Type: Shrub

Size: 1'-3' H
1-4' W

Water Tolerant: Somewhat

Habitat:

Shrubby Wetland
Wet Meadow
Swamp/ Bog

Soil: Average Garden Soil
Sandy/ Gravelly
Very Damp/Wet
Rich Moist

Exposure: sun

Flower Color:
Yellow

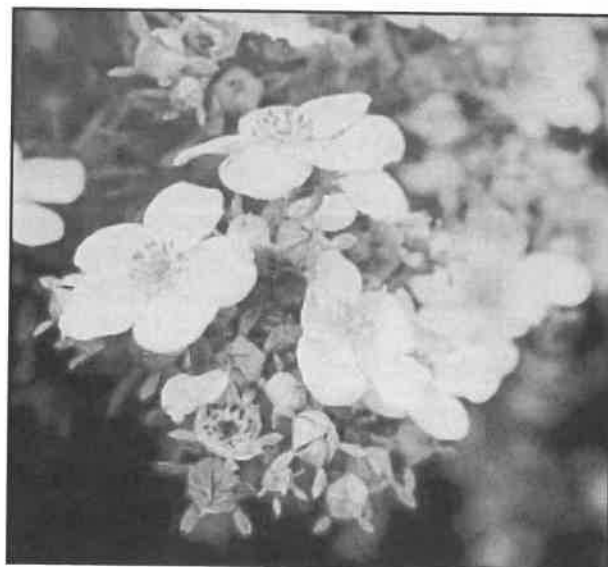
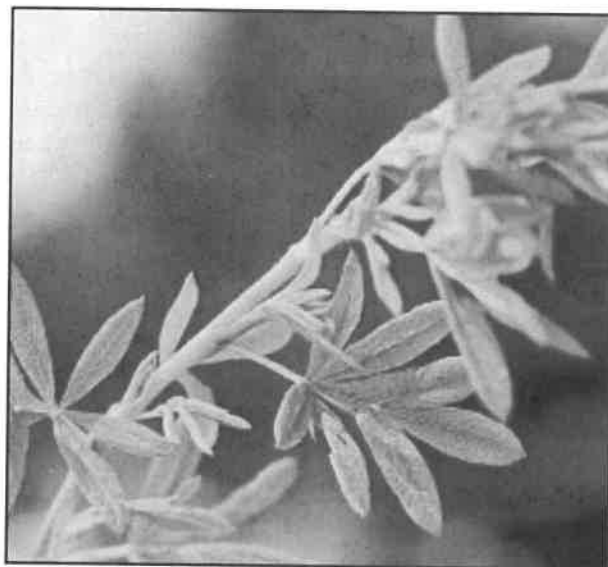
Bloom Time:
June
July
August
September

Other Attributes:
Deer resistant

Plant in:

Groundcover: No

Potentilla or Shrubby Cinquefoil



Potentilla or Shrubby Cinquefoil (*Potentilla fruticosa*)

General Description

A very hardy and widely used native in landscape plantings across the state. Popular for its floral display throughout most of the summer season. There are several herbaceous forbs that belong to the *Potentilla* genus native to the North Dakota prairie.

Leaves and Buds

Bud Arrangement - Alternate.

Bud Color - Brown.

Bud Size - 1/6 inch.

Leaf Type and Shape - Pinnately compound, usually 3 to 5 elliptic leaflets.

Leaf Margins - Revolute margins.

Leaf Surface - Silky, pubescent.

Leaf Length - 3/4 to 1 inch; leaflets 3/8 to 3/4 inch.

Leaf Width - 1/2 to 1 inch; leaflets 1/8 to 3/8 inch.

Leaf Color - Dark green to gray.

Flowers and Fruits

Flower Type - Terminal cymes or solitary, 10 to 30 stamens. Primarily single-flowered, a few double cultivars.

Flower Color - Primarily yellow or white. Several varieties exhibit orange to pinkish-red shades.

Fruit Type - Achene.

Fruit Color - Brown.

Form

Growth Habit - Sub-shrub, may require rejuvenation every 5 to 6 years.

Texture - Fine, summer; medium-fine, winter.

Crown Height - 2 to 4 feet, depending on cultivar.

Crown Width - 2 to 5 feet.

Bark Color - Brown, shredding.

Root System - Fibrous, width of crown spread.

Environmental Requirement

Soils

Soil Texture - Clay to sandy loam.

Soil pH - 5.5 to 8.0. Adaptable to high pH, but variable by cultivar.

Windbreak Suitability Group - 1, 1K, 3, 4, 4C, 5, 6D, 6G.

Cold Hardiness

USDA Zone 2.

Water

Drought tolerant.

Light

Partial to full sun.

Uses

Conservation/Windbreaks

Not recommended due to short stature.

Wildlife

Cover for small ground birds.

Agroforestry Products

Food - Used as feed for livestock, cattle, horses, goats, pigs and geese.

Medicinal - *Potentilla* species have been used for cramps, mouth ulcers, spongy gums, loose teeth, respiratory ailments, and as a cardiac stimulant.

Urban/Recreational

Widely used for landscaping in foundation plantings, hedges and masses.

Cultivated Varieties

Potentilla fruticosa:

'Abbotswood' (Abbotswood *Potentilla*) - Flowers white with a pink blush.

'Absaraka' (Dakota Goldrush® *Potentilla*) - Yellow flowers, NDSU introduction.

'Coronation Triumph' (Coronation Triumph *Potentilla*) - 3 feet tall, abundant yellow flowers.

'Dakota Sunrise' (Dakota Sunrise *Potentilla*) - Flowers light yellow.

'Day Dawn' (Day Dawn *Potentilla*) - Flowers peach-pink, but in hot weather, creamy.

'Fargo' (Dakota Sunspot® *Potentilla*) - Yellow flowers, NDSU introduction.

'Goldfinger' (Goldfinger *Potentilla*) - Compact shrub, bright yellow flowers.

'Hurstbourne' (Hurstbourne *Potentilla*) - Bright yellow flowers all summer long.

'Jackmanii' (Jackman *Potentilla*) - 4 feet tall, large bright yellow flowers.

'Katherine Dukes' (Katherine Dykes *Potentilla*) - Lemon-yellow flowers.

'Snowbird' (Snowbird *Potentilla*) - Double white flowers.

'Yellowbird' (Yellowbird *Potentilla*) - Double yellow flowers.

Related Species

None.

Pests

Several leaf spot and mildew diseases. Spider mites often build up in warm, dry weather.



Thuja occidentalis White-Cedar¹

Edward F. Gilman and Dennis G. Watson²

INTRODUCTION

This slow-growing tree reaches 25 to 40 feet in height and spreads to about 10 to 12 feet wide, preferring a wet or moist, rich soil (Fig. 1). Transplanting is moderately easy if plants are root-pruned and either balled and burlapped or potted. White-Cedar likes high humidity and tolerates wet soils and some drought. The foliage turns brownish in winter, especially on cultivars with colored foliage and on exposed sites open to the wind.

GENERAL INFORMATION

Scientific name: *Thuja occidentalis*

Pronunciation: THOO-yuh ock-sih-den-TAY-liss

Common name(s): White-Cedar, Arborvitae, Northern White-Cedar

Family: Cupressaceae

USDA hardiness zones: 2 through 7 (Fig. 2)

Origin: native to North America

Uses: hedge; recommended for buffer strips around parking lots or for median strip plantings in the highway; reclamation plant; screen; specimen; no proven urban tolerance

Availability: somewhat available, may have to go out of the region to find the tree

DESCRIPTION

Height: 25 to 40 feet

Spread: 10 to 12 feet

Crown uniformity: symmetrical canopy with a regular (or smooth) outline, and individuals have more or less identical crown forms

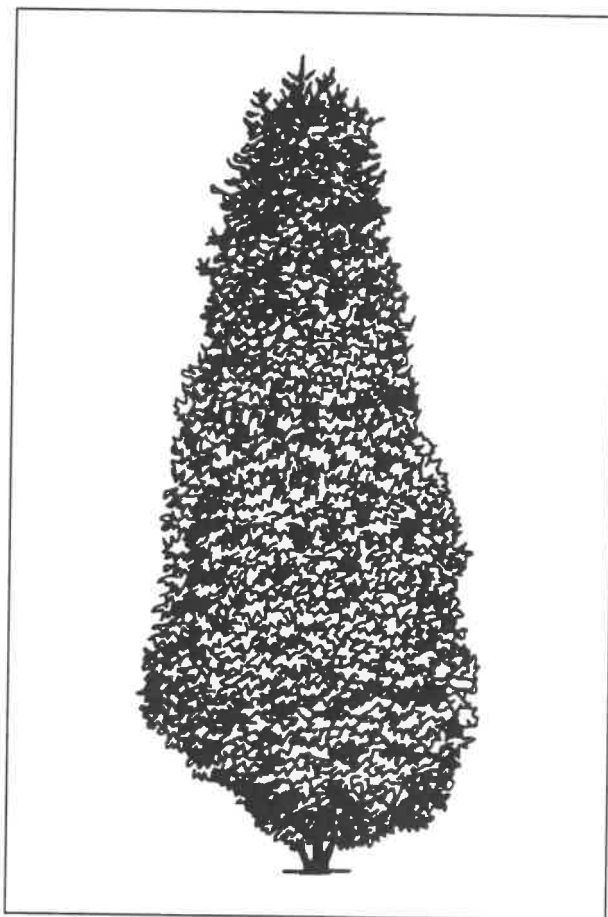


Figure 1. Middle-aged White-Cedar.

Crown shape: pyramidal

Crown density: dense

Growth rate: slow

Texture: fine

1. This document is adapted from Fact Sheet ST-629, a series of the Environmental Horticulture Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Publication date: October 1994.
2. Edward F. Gilman, associate professor, Environmental Horticulture Department; Dennis G. Watson, associate professor, Agricultural Engineering Department, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville FL 32611.

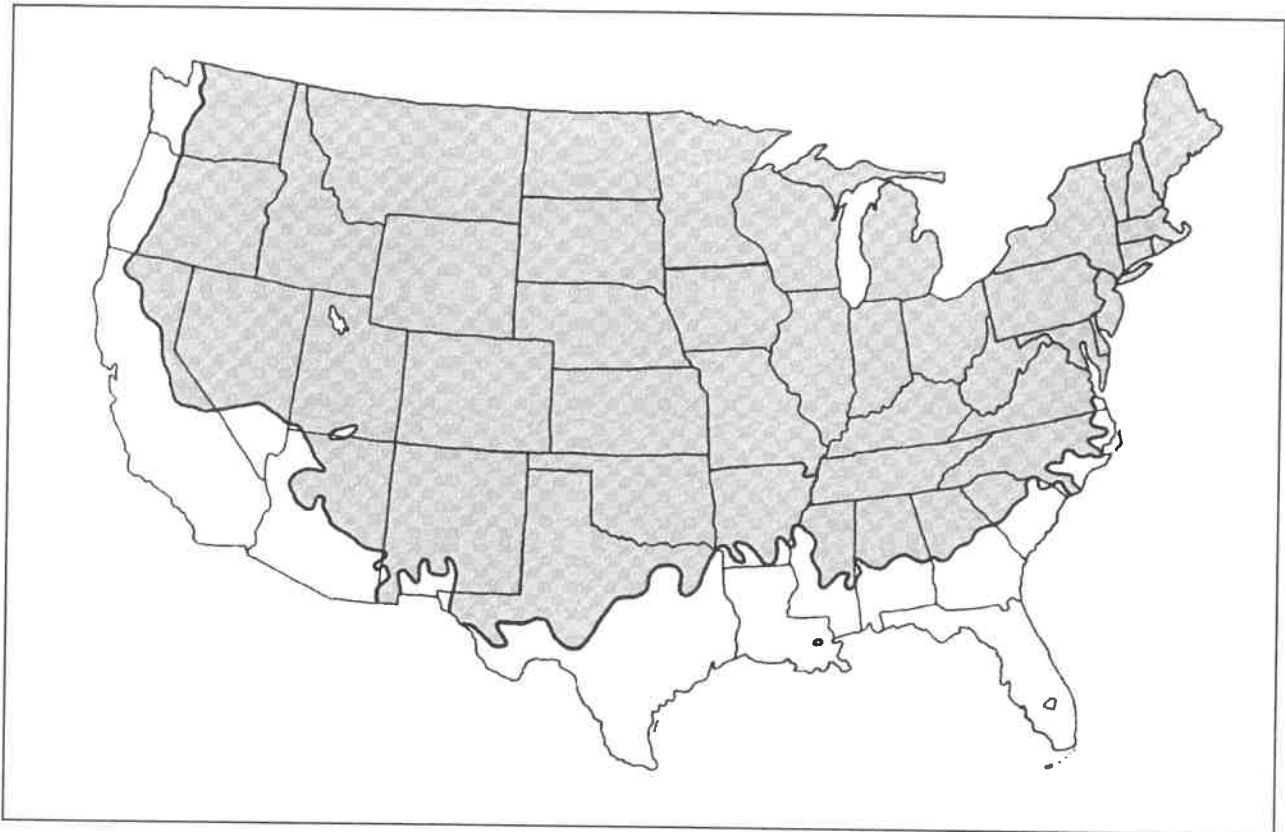


Figure 2. Shaded area represents potential planting range.

Foliage

Leaf arrangement: alternate (Fig. 3)
Leaf type: simple
Leaf margin: entire
Leaf shape: scale-like
Leaf venation: none, or difficult to see
Leaf type and persistence: evergreen; fragrant
Leaf blade length: less than 2 inches
Leaf color: green
Fall color: no fall color change
Fall characteristic: not showy

Flower

Flower color: yellow
Flower characteristics: inconspicuous and not showy; spring flowering

Fruit

Fruit shape: oval
Fruit length: < .5 inch
Fruit covering: dry or hard
Fruit color: brown

Fruit characteristics: does not attract wildlife; inconspicuous and not showy; no significant litter problem; persistent on the tree

Trunk and Branches

Trunk/bark/branches: grow mostly upright and will not droop; not particularly showy; should be grown with a single leader; no thorns
Pruning requirement: needs little pruning to develop a strong structure
Breakage: resistant
Current year twig color: brown; green
Current year twig thickness: thin
Wood specific gravity: 0.31

Culture

Light requirement: tree grows in part shade/part sun; tree grows in full sun
Soil tolerances: clay; loam; sand; slightly alkaline; acidic; extended flooding; well-drained
Drought tolerance: moderate
Aerosol salt tolerance: low
Soil salt tolerance: moderate

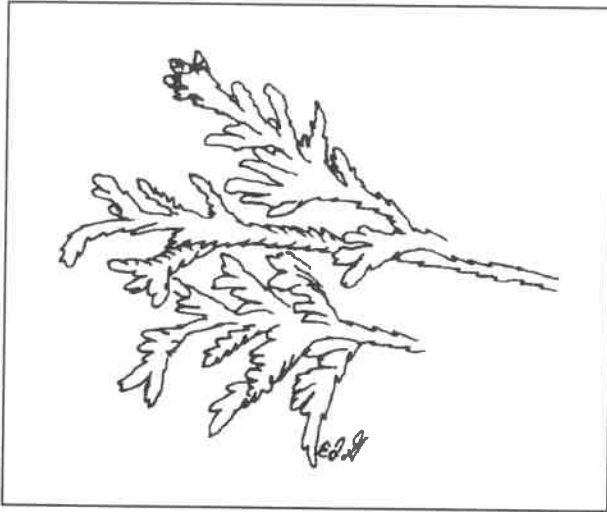


Figure 3. Foliage of White-Cedar.

Other

Roots: surface roots are usually not a problem

Winter interest: no special winter interest

Outstanding tree: not particularly outstanding

Invasive potential: little, if any, potential at this time

Ozone sensitivity: tolerant

Verticillium wilt susceptibility: not known to be susceptible

Pest resistance: very sensitive to one or more pests or diseases which can affect tree health or aesthetics

USE AND MANAGEMENT

Best used as a screen or hedge planted on 8 to 10-foot-centers. There are better specimen plants but it can be placed at the corner of a building or other area to soften a view. Many of the natural stands in the United States have been cut. Some remain in isolated areas along rivers throughout the East.

White-Cedar has given rise to many cultivars, many of which are shrubs. Cultivars include: 'Booth Globe' - low, rounded with a flat top; 'Compacta' - dense and compact; 'Compacta Erecta' - semi-dwarf, pyramidal; 'Douglasi Pyramidalis' - dense, columnar; 'Emerald Green' - good winter color; 'Ericoides' - dwarf, brownish foliage in winter; 'Fastigiata' - narrow, columnar; 'Globosa' - dense, rounded; 'Hetz Junior' - dwarf, wider than it is tall; 'Hetz Midget' - slow grower, quite dwarf, rounded; 'Hovey' - low and rounded; 'Little Champion' - globe shaped; 'Lutea' - yellow foliage; 'Nigra' - dark green foliage in winter, pyramidal; 'Pumila' (Little Gem) - rounded, dwarf; 'Pyramidalis' - narrow pyramidal form; 'Rheingold' - rounded form with yellow to bronze new growth;

'Rosenthalli' - dense, pyramidal; 'Techny' - pyramidal, dark green, hardy; 'Umbraculifera' - flat topped; 'Wareana' - low and dense, pyramidal; 'Woodwardii' - rounded and spreading.

Pests

Arborvitae leaf miner mines out the leaf tips, causing them to turn brown. Translucent areas are seen where the miner has been active.

Scales of several types infest the stems and foliage. Sprays of horticultural oil control overwintering stages.

Mites cause yellowing and speckling of the foliage. The mites are seldom noticed because they are so small.

Bagworms can devour large quantities of foliage very quickly.

Diseases

Leaf blight causes brown spots on the leaves in late spring. The affected foliage appears scorched, then drops.

PROJECT: PROPOSED REDUCED PARKING SITE PLAN
ADDRESS: 1441 EAST MAPLE ROAD, TROY. MI
CLIENT: ATLANTIC

LEGAL DESCRIPTION
PARCEL ID: 20-26-351-016

LAND SITUATED IN THE CITY OF TROY, COUNTY OF OAKLAND, STATE OF MICHIGAN DESCRIBED AS FOLLOWS:

PART OF THE SOUTHWEST 1/4 OF SECTION 26, TOWN 2 NORTH, RANGE 11 EAST, DESCRIBED AS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 26; THENCE SOUTH 88°17'45" EAST 828.81 FEET ALONG THE SOUTH LINE OF SAID SECTION TO THE POINT OF BEGINNING; THENCE NORTH 01°42'15" EAST 279.99 FEET; THENCE SOUTH 88°17'45" EAST 383.08 FEET TO THE POINT ON THE SOUTHWESTERLY RIGHT OF WAY LINE OF STEPHENSON HIGHWAY; THENCE ALONG SAID RIGHT OF WAY LINE SOUTH 29°28'00" EAST 73.90 FEET; THENCE NORTH 88°17'45" WEST 111.59 FEET; THENCE SOUTH 01°42'15" WEST 216.76 FEET TO A POINT ON THE AFORESAID SOUTH LINE OF SECTION 26; THENCE ALONG SAID SOUTH LINE NORTH 88°17'45" WEST 309.74 FEET TO THE POINT OF BEGINNING, EXCEPT THE SOUTH 43 FEET TAKEN FOR MAPLE ROAD.

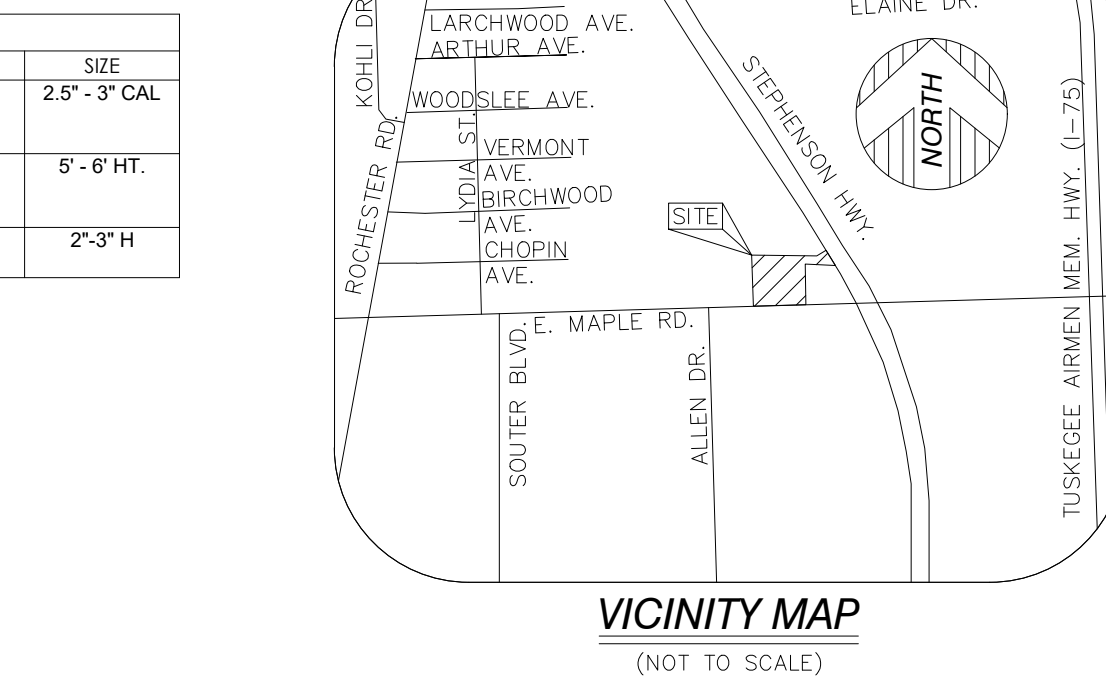
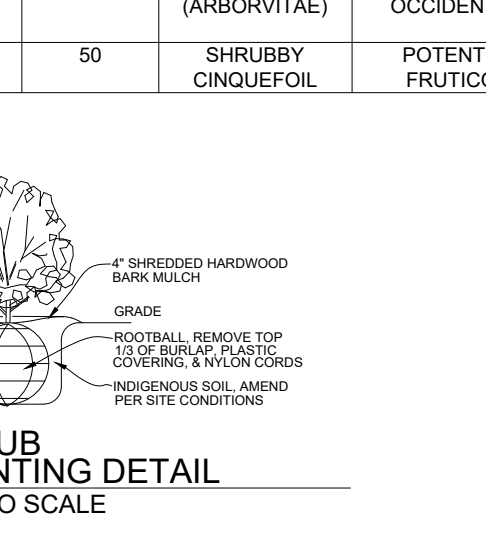
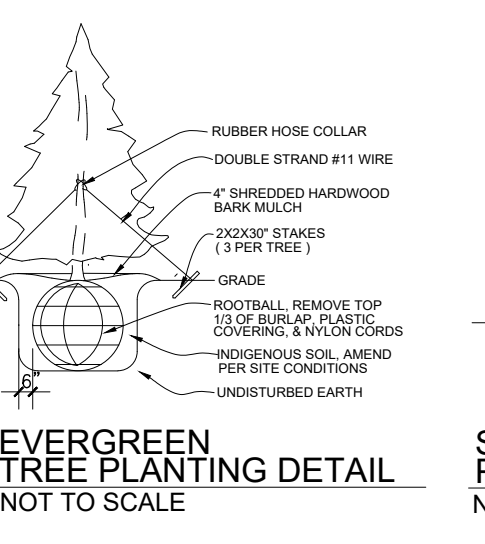
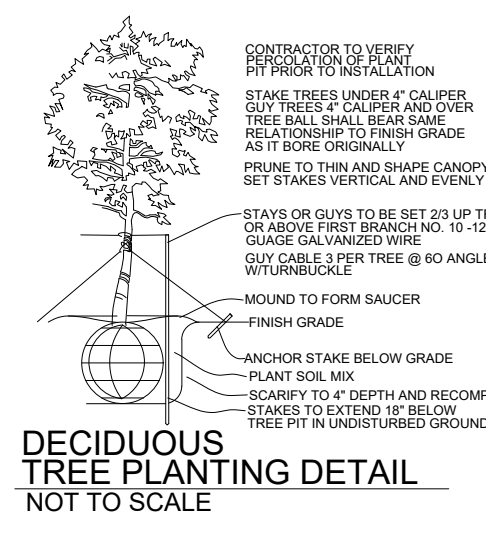
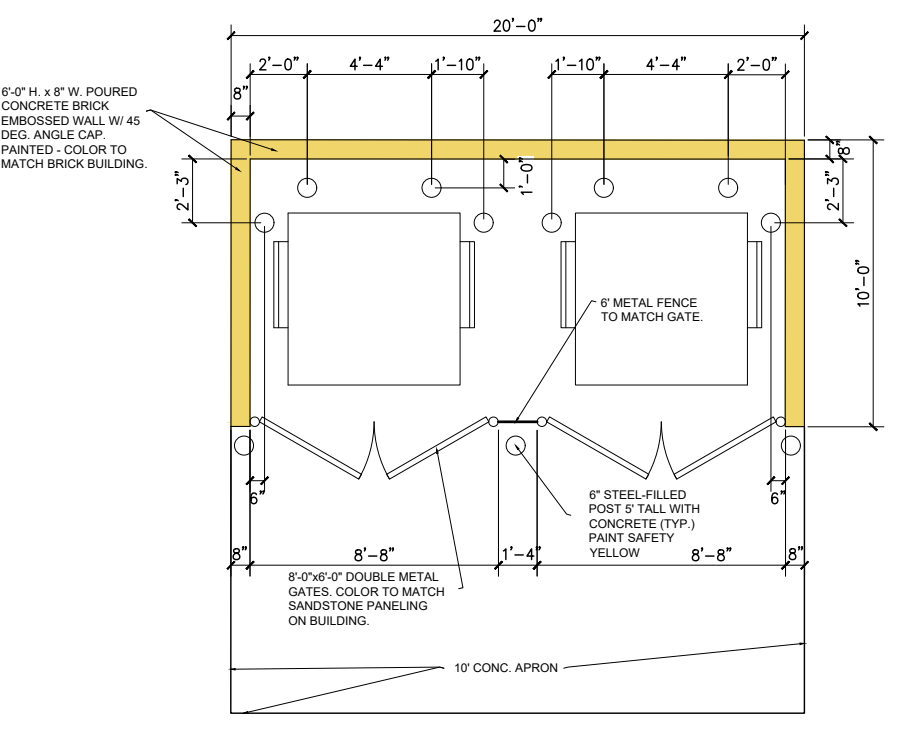
SITE DATA CHART			
ZONING	IB - INTEGRATED INDUSTRIAL AND BUSINESS DISTRICT		
MINIMUM BUILDING HEIGHT - REQUIRED	MINIMUM BUILDING HEIGHT - PROPOSED		
STORIES	4	STORIES	3
FEET	50	FEET	BUILDING < 36 FT
MINIMUM YARD SETBACK REQUIRED			
FRONT - REQ.	30 FT	FRONT - EXISTING	78.31 FT
SIDE TOTAL - REQ.	20 FT	SIDE TOTAL - EXISTING	165.33 FT
SIDE LEAST - REQ.	10 FT	SIDES - EXISTING	83.14 FT & 82.19 FT
REAR - REQ.	20 FT	REAR - EXISTING	76.41 FT
MAX % LOT COVERED BY BUILDINGS - REQ.			
40%	MAX % LOT COVERED BY EXISTING BUILDING	7.927± SF / 79,224± SF = 10%	

- OFF-STREET PARKING REQUIREMENTS**
- ALL COMMERCIAL/RETAIL
 - 1 SPACE PER EACH 250 SF OF GROSS FLOOR AREA
 - 7,927 / 250 = 32 SPACES
 - MULTIPLE-FAMILY RESIDENTIAL
 - 2 SPACE PER EACH DWELLING UNIT
 - 28x2 = 56 SPACES
- TOTAL SPACES**
REQUIRED SPACES: 88
PROPOSED SPACES: 88
- OFF-STREET PARKING EXISTING**
- 139 EXISTING SPACES
 - 137 SPACES
 - 2 ADA SPACES
- THERE WAS A SURPLUS OF PARKING OF 51 SPACES**
- OFF-STREET LOADING REQUIREMENTS**
- INSTITUTIONAL, COMMERCIAL, AND OFFICE USES
 - COMMERCIAL SF = 7,927 ± 5,001 TO 60,000 SQ FT
 - 5,001 TO 60,000 SQ FT = 1 SPACE, PLUS 1 SPACE PER EACH ADDITIONAL 20,000 SF GFA (2 TOTAL REQUIRED)
- BECAUSE OF USE OF EXISTING BUILDING AS OFFICE, NO OFFICIAL LOADING SPACE WAS EVER INDICATED.**
- PROPOSED LOADING AREA = (2) 10'x54.5' = 1,090 SF > REQ.
(2) 10'x50' = 1,000 SF

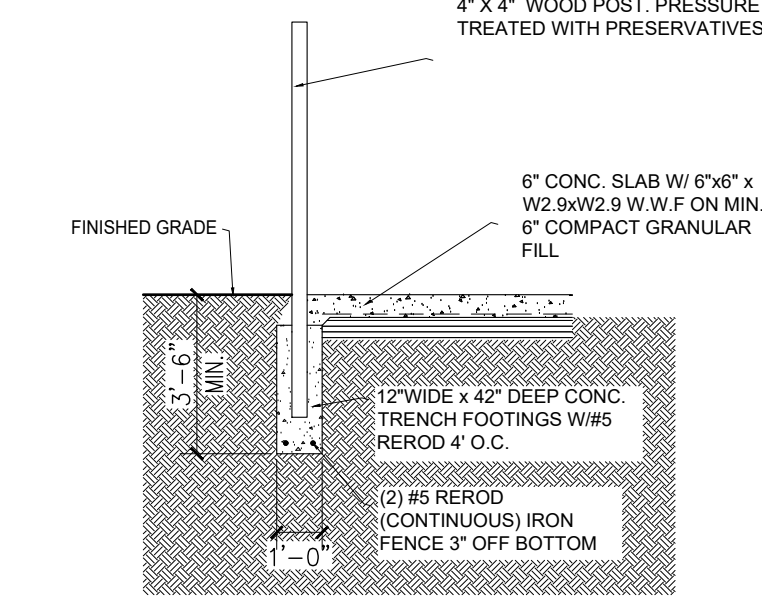
- SUSTAINABLE SITE FEATURES:**
- (1) = Section 12.01.A(1)
 - SITE SELECTION:** PROJECT IS THE REUSE OF AN EXISTING OFFICE BUILDING, CONVERTED TO COMMERCIAL AND RESIDENTIAL USE.
 - (2/3) **HEAT ISLAND AND STORMWATER:** SITE DESIGN REDUCES PARKING AND IMPERVIOUS SURFACES AND INCORPORATES NATIVE TREE PLANTINGS TO LOWER HEAT ISLAND EFFECT AND IMPROVE STORMWATER INFILTRATION AND SITE PERMEABILITY.
 - EXISTING GREEN SPACE:** ~ 8,350 SF
 - PROPOSED GREEN SPACE:** ~ 13,200 SF
 - (2/3) **WATER EFFICIENT LANDSCAPING:** PROPOSED PLANTING NATIVE TREES THROUGHOUT THE SITE
 - (4) = Section 12.01.A(4)
 - COMMUTER ACCOMMODATIONS:** PROPOSED BIKE RACK AND NEW SIDEWALK CONNECTION ADDED TO IMPROVE PEDESTRIAN / NON-MOTORIZED ACCESS TO SITE.

LEGEND	
	PARCEL BOUNDARY LINE
	ADJOINER PARCEL LINE
	EASEMENT (AS NOTED)
	SETBACK LINE
	BUILDING
	CONCRETE CURB
	EDGE OF PAVEMENT
	FENCE (AS NOTED)
	WALL (AS NOTED)
	BUILDING AREA
	ASPHALT
	CONCRETE
	GREEN SPACE / LANDSCAPE AREA

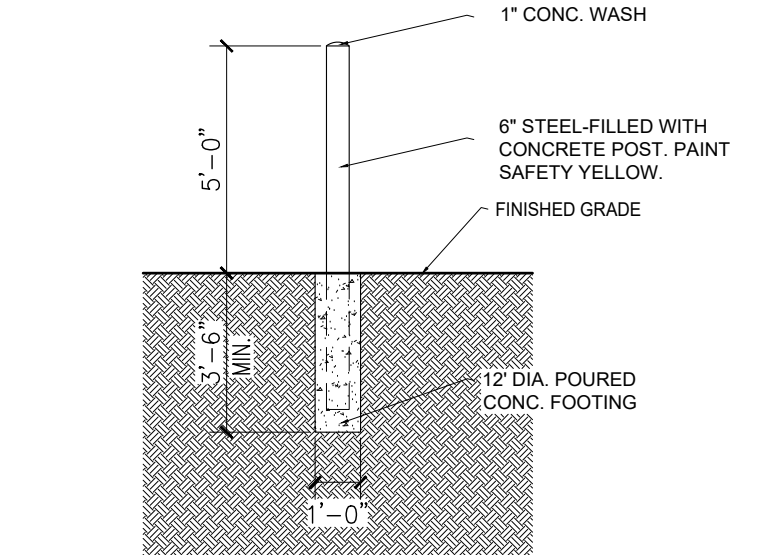
- SCOPE OF WORK**
PROJECT INCLUDES REUSE OF EXISTING OFFICE BUILDING INTO MIXED-USE COMMERCIAL/RESIDENTIAL. SITE DESIGN REMOVES EXCESS PARKING AND IMPERVIOUS SURFACES TO PROVIDE LANDSCAPING AND GREEN SPACE WITH NATIVE TREE PLANTINGS TO LOWER HEAT ISLAND EFFECT AND IMPROVE STORMWATER INFILTRATION. WATER-EFFICIENT LANDSCAPING, NEW BIKE RACK, AND SIDEWALK CONNECTION PROVIDED TO IMPROVE NON-MOTORIZED ACCESS.
- SHEET INDEX**
TITLE SHEET & ARCHITECTURAL SITE PLAN ASP.1
ALTA/TOPOGRAPHIC SURVEY 1
- NOTES:**
- THERE ARE NO CHANGES TO ANY EXISTING FIRE LANES
 - FOR EXISTING TOPOGRAPHIC INFORMATION, REFER TO ALTA/TOPOGRAPHIC SURVEY.
 - SITE LIGHTING WILL REMAIN THE SAME.



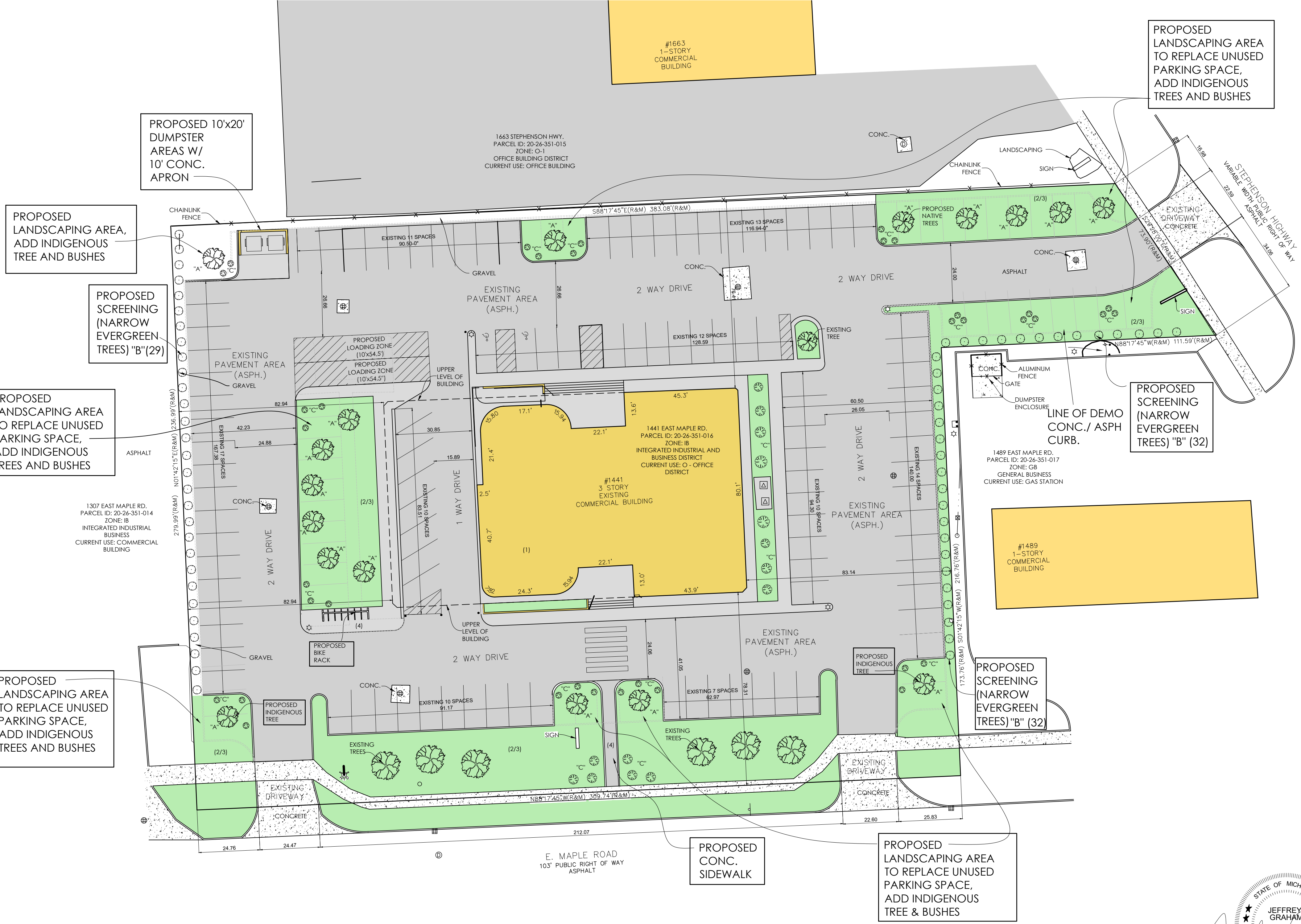
DUMPSTER FLOOR PLAN
NOT TO SCALE



DUMPSTER WALL DETAIL
NOT TO SCALE



BOLLARD DETAIL
NOT TO SCALE



CLIENT: ATLANTIC

PROPOSED SITE PLAN

1441 EAST MAPLE RD. TROY, MI 48063

TITLE SHEET & ARCHITECTURAL SITE PLAN

PROFESSIONAL ARCHITECTS
KEM-TEC & ASSOCIATES
22556 GRATIOT AVENUE
EASTPOINT, MI 48021
(313) 772-1048 FAX

72 HOURS
(3 WORKING DAYS)
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

CM
SCALE: 1/2"=1'-0"
DATE: 09/09/25
PROJECT NO: 24-0108

SHEET NO: ASP.1

Date: September 6, 2025
Project: Atlantic Lofts
Owner: Atlantic Avenue Holdings, LLC
Developer: Blackacre Management, LLC
Address: 1441 East Maple Road, Troy, Michigan
Subject: SDP Lighting Plan

I. Overview

This lighting plan provides the narrative and supporting documentation required for the City of Troy's Sustainable Design Program (SDP). The project will utilize RAB ALED3T78 LED Area Lights (or equivalent full-cutoff luminaires) mounted on site poles throughout the parking areas and drive aisles. The attached manufacturer specification sheet from RAB Lighting demonstrates compliance with all applicable lighting prerequisites, including dark-sky performance, energy efficiency, and light-pollution reduction.

II. Compliance with SDP Light-Pollution Requirements

1. Automatic Curfew Dimming (11:00 PM – 5:00 AM)

All non-emergency exterior lighting will automatically reduce output by 50% between 11:00 PM and 5:00 AM, satisfying the City's light-pollution curfew requirement. Dimming will be achieved through 0–10V dimmable LED drivers integrated within each fixture, controlled by astronomical time clocks. Emergency and egress lighting will remain at code-required illumination levels at all times.

2. Full Cutoff / No Uplight

The selected RAB ALED3T78 fixture is specifically listed by the manufacturer as a "Full Cutoff, Fully Shielded Luminaire" with a BUG rating of B1 U0 G2 per IES TM-15 standards. This confirms zero uplight (U0) and minimal glare, fully satisfying dark-sky and light-trespass criteria.¹

3. Light Quality & Color Temperature

Fixtures will utilize 3000–3500 K correlated color temperature (CCT) LED chips to minimize sky glow while maintaining visual clarity and comfort. All fixtures have a Color Rendering Index (CRI) ≥ 70 , ensuring accurate color rendition and safety in pedestrian areas.

4. Photometric Targets

Photometric analysis (attached) will demonstrate maintained illuminance levels consistent with IES RP-8 recommendations:

- **Parking Areas:** Avg 1.0 fc, Min 0.2 fc, Uniformity $\leq 4:1$
- **Drive Aisles:** Avg 0.5–0.8 fc, Uniformity $\leq 6:1$
- **Walkways / Entries:** Avg 1.0–2.0 fc
- **Property Lines:** Max vertical illuminance ≤ 0.5 fc (adjacent residential), ≤ 1.0 fc

5. Fixture Performance and Durability

- **Model:** RAB ALED3T78 / Type III distribution
- **Input Power:** 78 W
- **Lumens:** 9,862 lm
- **Efficacy:** ~126 lm/W
- **BUG Rating:** B1 U0 G2
- **Dimming:** 0–10 V continuous
- **Operating Temp:** -40°C to +40°C
- **IP Rating:** Suitable for wet locations
- **Lumen Maintenance:** L70 > 100,000 hours
- **Certifications:** DLC Listed, UL Listed, IDA Dark Sky Approved

¹ See attached RAB Lighting Spec Sheet, ALED3T78

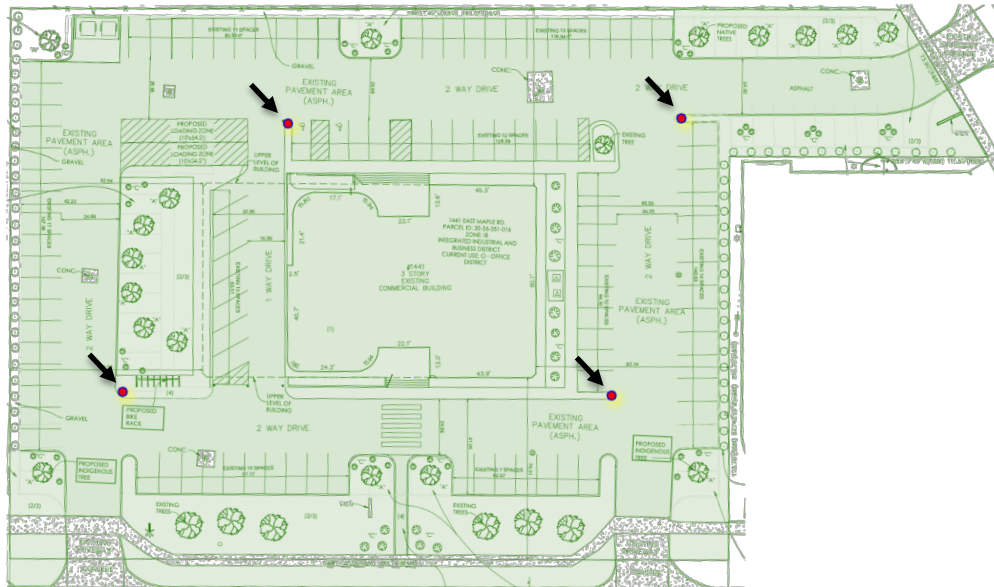
These specifications verify that the fixture meets or exceeds the required energy efficiency, longevity, and environmental performance standards.

6. Mounting & Optics

Fixtures will be mounted on existing (or renewed) 18-25 ft poles, reduced to 15 ft along perimeters to further control glare and spill. Type III optics will direct illumination toward interior site areas while maintaining dark-sky compliance. Optional house-side shields will be applied to fixtures near property lines.

7. Controls & Operation Sequence²

- Dusk to 11 PM: Fixtures at 100% output.
- 11 PM to 5 AM: Fixtures dim to 50% baseline, returning to 100% upon motion detection or scheduled override.
- 5 AM to Dawn: Return to 100% for morning operations.



III. Supporting Documentation

1. **RAB Lighting ALED3T78 Specification Sheet** (attached)
Demonstrates full-cutoff, zero uplight (U0), and 0–10V dimming capability.
2. **Photometric Plan** (attached)
Illustrates compliance with City and IES standards under both normal and curfew conditions.
3. **Fixture Schedule** (attached)
Lists model number, BUG rating, optics, wattage, CCT, mounting height, and control type.

IV. Conclusion

The proposed lighting system, utilizing RAB ALED3T78 full-cutoff LED area lights, satisfies the City of Troy's Sustainable Design Program prerequisites for Light Pollution Reduction and Energy Efficiency. The design ensures safety, compliance, and environmental stewardship while maintaining an attractive and well-controlled nighttime environment.

² Astronomical time switch automatically adjusts for daylight saving time.



Specification grade area lights available with IES Type III distribution. For use for roadway, general parking and other area lighting applications where a larger pool of lighting is required. Patent pending thermal management system. 5 Year Warranty.

Color: Bronze

Weight: 30.4 lbs

Project:

Type:

Prepared By:

Date:

Driver Info

Type: Constant Current
120V: 0.66A
208V: 0.41A
240V: 0.35A
277V: 0.30A
Input Watts: 78W
Efficiency: 99%

LED Info

Watts: 78W
Color Temp: 5100K
Color Accuracy: 67 CRI
L70 Lifespan: 100000
Lumens: 6,911
Efficacy: 88 LPW

Technical Specifications

Optical

Lifespan:

100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations.

BUG Rating:

B1 U0 G2

Replacement:

Replaces 250W Metal Halide.

Construction

IES Classification:

The Type III distribution is ideal for roadway, general parking and other area lighting applications where a larger pool of lighting is required. It is intended to be located near the side of the area, allowing the light to project outward and fill the area.

IP Rating:

Ingress Protection rating of IP66 for dust and water

Ambient Temperature:

Suitable for use in 40°C ambient temperatures.

Cold Weather Starting:

The minimum starting temperature is -40°C/-40°F

Thermal Management:

Superior heat sinking with external Air-Flow fins.

Effective Projected Area:

EPA = 0.75

Housing:

Die cast aluminum housing, lens frame and mounting arm.

Reflector:

Specular vacuum-metallized polycarbonate

Gaskets:

High temperature silicone gaskets.

Finish:

Our environmentally friendly polyester powder coatings are formulated for high-durability and long-lasting color, and contains no VOC or toxic heavy metals.

Green Technology:

Mercury and UV free. RoHS compliant components. Polyester powder coat finish formulated without the use of VOC or toxic heavy metals.

For use on LEED Buildings:

IDA Dark Sky Approval means that this fixture can be used to achieve LEED Credits for Light Pollution Reduction.

LED Characteristics

LEDs:

Six (6) multi-chip, 13W, high-output, long-life LEDs.

Color Consistency:

3-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color.

Color Stability:

LED color temperature is warranted to shift no more than 200K in CCT over a 5 year period.

Color Uniformity:

RAB's range of CCT (Correlated Color Temperature) follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2015.

Electrical

Driver:

Constant Current, Class 2, 2000mA, 100-277V, 50-60Hz, 1.1A, Power Factor 99%

THD:

5.3% at 120V, 13.3% at 277V

Surge Protection:

4kV

Surge Protector:

ALED78 is available with a 6kV surge protector (SP6). SP6 available .

Listings

IESNA LM-79 & IESNA LM-80 Testing:

RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and 80, and have received the Department of Energy "Lighting Facts" label.

Dark Sky Approved:

The International Dark Sky Association has approved this product as a full cutoff, fully shielded luminaire.

UL Listing:

Suitable for wet locations as a downlight.

Technical Specifications (continued)

Listings

DLC Listed:

This product is on the Design Lights Consortium (DLC) Qualified Products List and is eligible for rebates from DLC Member Utilities.

DLC Product Code: P0000179S

Other

California Title 24:

See ALED3T78/D10, ALED3T78/BL, ALED3T78/PCS, ALED3T78/PCS2, or ALED3T78/PCT for a 2013 California Title 24 compliant product. Any additional component requirements will be listed in the Title 24 section under technical specifications on the product page.

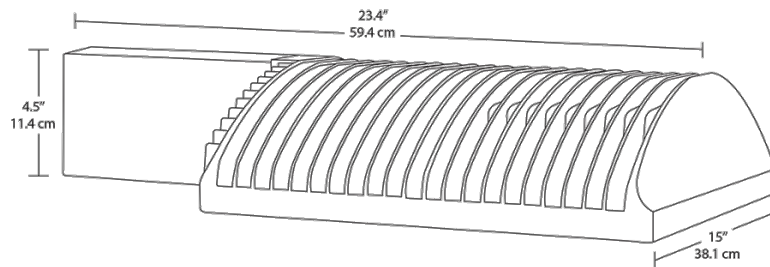
Warranty:

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish.

Patents:

The ALED design is protected by patents in the U.S. Pat. 668,370, Canada Pat. 144956, China ZL201230100154.X, and Mexico Pat. 38423. Pending patents in Taiwan.

Dimensions



Features

- 66% energy cost savings vs. HID
- 100,000-hour LED lifespan
- Type III distribution
- 5-year warranty

Ordering Matrix

Family	Distribution	Watts	Mount	Color Temp	Finish	Voltage	Photocell	Dimming	Bi-Level
ALED									
	2T = Type II	360 =	Blank =	Blank = 5000K	Blank =	Blank = 120-277V	Blank = No Photocell	Blank = No	Blank = No Bi-
	3T = Type III	360W	Arm	(Cool)	Bronze	/480 = 480V (Only 360W &	/PC = 120V Button	Dimming	Level
	4T = Type IV	260 =	SF =	Y = 3000K	W = White	260W)	/PC2 = 277V Button	/D10 = Dimmable	/BL = Bi-Level
		260W	Slipfitter	(Warm)	RG = Gray		/PCS = 120V Swivel		
		150 =		N = 4000K			/PCS2 = 277V Swivel		
		150W		(Neutral)			/PCT = 120-277V		
		125 =					Twistlock		
		125W					/PCS4 = 480V Swivel		
		105 =					/PCT4 = 480V		
		105W					Twistlock		
		78 = 78W							

From: [Dalen Hanna](#)
To: [Maha Banno](#)
Cc: [Salim Huerta Jr](#); [Dennis Cowan](#); [Milan P. Gandhi](#)
Subject: Re: Troy - SDP
Date: Thursday, October 9, 2025 12:04:32 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[2023 - BLACKACRE FULL LOGO WITH BORDER.png](#)
[ATLANTIC - Lighting Plan.pdf](#)
[RAB LED LIGHT SPECS.pdf](#)

CAUTION: This email did not originate from within the City of Troy. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Salim,

Following up on our recent discussion, attached is the Lighting Plan Narrative for our project.

The package includes:

- A detailed Lighting Plan Narrative outlining compliance with the City's Sustainable Design Program lighting prerequisites, including the required 50% curfew dimming between 11 PM and 5 AM, and full-cutoff shielding.
- The manufacturer's specification sheet for the RAB ALED3T78 LED area light, demonstrating compliance with IES TM-15 standards (BUG rating B1 U0 G2), Dark Sky approval, and 0–10V dimming capability.
- Supporting photometric data confirming compliance with IES RP-8 illumination and uniformity standards.

This submittal should address the final outstanding item identified during your review. Please confirm receipt and let us know if any additional information is needed. I look forward to receiving the final scheduling on the SDP meeting on either October 27 or 28, as previously discussed.

On Thu, Oct 9, 2025 at 11:04 AM Maha Banno <mbanno@blackacremgt.com> wrote:
Please see attached!

On Thu, Oct 9, 2025 at 10:56 AM Dalen Hanna <dhanna@blackacremgt.com> wrote:
Thank you.

I am in receipt of your email and we will review and respond shortly. Thank you!

On Thu, Oct 9, 2025 at 10:53 AM Salim Huerta Jr <Salim.HuertaJr@troymi.gov> wrote:

Excuse me, I'm including your full team in the correspondence.

Thank you,



Salim Huerta Jr., AICP
Planner I

City of Troy | Planning Department
O: 248.524.3352



From: Salim Huerta Jr

Sent: Thursday, October 9, 2025 10:49 AM

To: dhanna@blackacremgt.com

Subject: Troy - SDP

Hello Dalen, just following up to make sure you received my previous email and provide a follow up.

Your SDP application is mostly compliant but there are a few pending items I wanted to bring to your attention. First the site plan is quite confusing because it utilizes an old site plan. We are not requiring for the purposes of the SDP a new site plan, but we do want a newly revised one that more clearly outlines the extent of the building footprint. Second there is a set of pre-requisites and you easily comply with storm water quantity and quality. But I don't see a mention of the third required item which is lighting. The adaptive reuse will be your qualifying factor. So I would recommend that you include a narrative on improved lighting or existing compliant lighting that works towards the requirement on **Light Pollution: automatic 50% reduction of all non-emergency lighting between 11 pm–5 am + full cutoff shielding**. Also, we need a **revised site plan showing the building footprint**. Once we receive this we will be able to schedule the SDP meeting.

Which leads me to the last item, which is that some members including myself will not be so readily available for these next two weeks. So more than likely we will need to **schedule the SDP meeting for some time between the 27th and the 31st**. Please reach out to me with a date that works within that week. We are flexible there is not specific required meeting date or time. Though we typically have it during the business day at a practical time that works for everyone. So with your preferred date I will be able to check with the board members for their availability as well.

Thank you,

Salim Huerta Jr., AICP



Planner I

City of Troy | Planning Department
O: 248.524.3352



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Best Regards,

Dalen Hanna, Esq.

BLACKACRE

[Blackacre Management, LLC](#)

24681 Northwestern Hwy, Suite 4000
Southfield, Michigan 48075
(248) 430-6005 Office
(248) 990-1017 Direct

--

Best Regards,

Maha Banno
Managing Partner



[Blackacre Management, LLC](#)

24681 Northwestern Hwy, Suite 4000
Southfield, Michigan 48075
(248) 430-6005 Office
(248) 252-6704 Cell

--

Best Regards,

Dalen Hanna, Esq.

BLACKACRE

[Blackacre Management, LLC](#)

24681 Northwestern Hwy, Suite 4000

Southfield, Michigan 48075

(248) 430-6005 Office

(248) 990-1017 Direct



Specification grade area lights available with IES Type III distribution. For use for roadway, general parking and other area lighting applications where a larger pool of lighting is required. Patent pending thermal management system. 5 Year Warranty.

Color: Bronze

Weight: 30.4 lbs

Project:

Type:

Prepared By:

Date:

Driver Info

Type: Constant Current
120V: 0.66A
208V: 0.41A
240V: 0.35A
277V: 0.30A
Input Watts: 78W
Efficiency: 99%

LED Info

Watts: 78W
Color Temp: 5100K
Color Accuracy: 67 CRI
L70 Lifespan: 100000
Lumens: 6,911
Efficacy: 88 LPW

Technical Specifications

Optical

Lifespan:

100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations.

BUG Rating:

B1 U0 G2

Replacement:

Replaces 250W Metal Halide.

Construction

IES Classification:

The Type III distribution is ideal for roadway, general parking and other area lighting applications where a larger pool of lighting is required. It is intended to be located near the side of the area, allowing the light to project outward and fill the area.

IP Rating:

Ingress Protection rating of IP66 for dust and water

Ambient Temperature:

Suitable for use in 40°C ambient temperatures.

Cold Weather Starting:

The minimum starting temperature is -40°C/-40°F

Thermal Management:

Superior heat sinking with external Air-Flow fins.

Effective Projected Area:

EPA = 0.75

Housing:

Die cast aluminum housing, lens frame and mounting arm.

Reflector:

Specular vacuum-metallized polycarbonate

Gaskets:

High temperature silicone gaskets.

Finish:

Our environmentally friendly polyester powder coatings are formulated for high-durability and long-lasting color, and contains no VOC or toxic heavy metals.

Green Technology:

Mercury and UV free. RoHS compliant components. Polyester powder coat finish formulated without the use of VOC or toxic heavy metals.

For use on LEED Buildings:

IDA Dark Sky Approval means that this fixture can be used to achieve LEED Credits for Light Pollution Reduction.

LED Characteristics

LEDs:

Six (6) multi-chip, 13W, high-output, long-life LEDs.

Color Consistency:

3-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color.

Color Stability:

LED color temperature is warranted to shift no more than 200K in CCT over a 5 year period.

Color Uniformity:

RAB's range of CCT (Correlated Color Temperature) follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2015.

Electrical

Driver:

Constant Current, Class 2, 2000mA, 100-277V, 50-60Hz, 1.1A, Power Factor 99%

THD:

5.3% at 120V, 13.3% at 277V

Surge Protection:

4kV

Surge Protector:

ALED78 is available with a 6kV surge protector (SP6). SP6 available .

Listings

IESNA LM-79 & IESNA LM-80 Testing:

RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and 80, and have received the Department of Energy "Lighting Facts" label.

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The International Dark Sky Association has approved this product as a full cutoff, fully shielded luminaire.

UL Listing:

Suitable for wet locations as a downlight.

Technical Specifications (continued)

Listings

DLC Listed:

This product is on the Design Lights Consortium (DLC) Qualified Products List and is eligible for rebates from DLC Member Utilities.

DLC Product Code: P0000179S

Other

California Title 24:

See ALED3T78/D10, ALED3T78/BL, ALED3T78/PCS, ALED3T78/PCS2, or ALED3T78/PCT for a 2013 California Title 24 compliant product. Any additional component requirements will be listed in the Title 24 section under technical specifications on the product page.

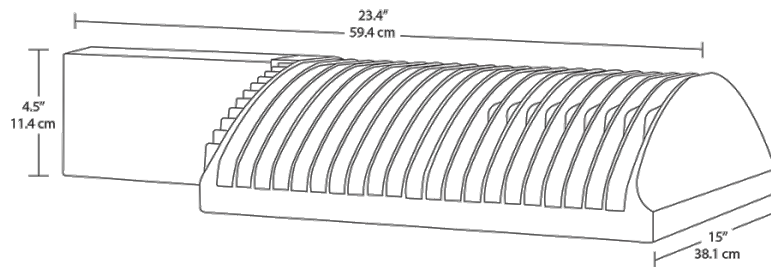
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The ALED design is protected by patents in the U.S. Pat. 668,370, Canada Pat. 144956, China ZL201230100154.X, and Mexico Pat. 38423. Pending patents in Taiwan.

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Features

- 66% energy cost savings vs. HID
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- Type III distribution
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Ordering Matrix

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		105W					Twistlock		
		78 = 78W							

CONDITIONAL REZONING

5. **PUBLIC HEARING - CONDITIONAL REZONING (CR JPLN2024-001)** – Proposed Bachard Lofts Conditional Rezoning, North side of Maple, West side of Stephenson (1441 E. Maple; PIN 88-20-26-351-016), Section 26, From O (Office) to IB (Integrated Industrial & Business) District

Mr. Carlisle reviewed the proposed Bachard Lofts Conditional Rezoning application. He said repurposing and reinvesting in an existing building advance the goals of the Master Plan. Mr. Carlisle addressed voluntary conditions offered by the applicant and the “Offer of Conditional Rezoning” letter dated August 2, 2024 received in the application submittal.

Mr. Carlisle reported rezoning the property to IB would create a non-conformity as relates to parking. He said there are options the applicant could pursue to rectify the non-conformity. Mr. Carlisle said building permits are all that is required if the applicant converts only the upper floors to residential, but a site plan application would be required should the applicant make any site improvements to the property.

Mr. Carlisle asked the Planning Commission to hold a public hearing, consider public testimony, consider in its deliberations if the application meets the Standards of Section 16.03 of the Zoning Ordinance and make a recommendation to the City Council.

Present were Attorney Dennis Cowan of Plunkett Cooney and Dalen Hanna, principle of Blackacre Management LLC.

Mr. Cowan addressed the applicant’s intent for mixed use on the first floor and up to 38 residential units on the second and third floors. He said the footprint of the building would remain the same, and there is sufficient parking for the retail mixed use. Mr. Cowan said they just recently became aware of the non-conformity situation related to parking.

Mr. Hanna shared information on similar development projects in Southfield and Madison Heights. He addressed potential mixed uses, layout of residential units and reskinning of the building façade.

Some comments during discussion related to the following:

- Options to rectify parking non-conformity.
- Reskinning/resurfacing building façade.
- Prohibiting uses relating to automotive, transportation and miscellaneous categories.
- Potential light pollution; photometric plan submitted at permitting process.

The applicants asked for some time to consider how to address the non-conformity.

PUBLIC HEARING OPENED

There was no one present who wished to speak.

PUBLIC HEARING CLOSED

Discussion continued among the administration and Board members on:

- Parking non-conformity along Stephenson Highway and Maple Road.
- Options to rectify the non-conformity;
 - Seek relief from Sustainable Design Review Committee.
 - Seek variance from Zoning Board of Appeals.
 - Eliminate all parking on the site plan.

Mr. Cowan addressed the Board members. He said the applicant is offering to include in the Conditional Rezoning Agreement to (1) either change the site plan to eliminate the non-conformity or seek relief from the Sustainable Design Review Committee, (2) prohibit automotive and transportations uses, and (3) work with the City Attorney on minor miscellaneous uses that might be desirable.

Discussion continued whether to accept the voluntary conditions as verbally presented or request that the applicant come back before the Board at a subsequent meeting with the conditions in writing.

Resolution # PC-2024-08-

Moved by: Fox

Seconded by: Krent

RESOLVED, That the Planning Commission hereby recommends to the City Council that the O to IB Conditional Rezoning Request, as per Section 16.04 of the City of Troy Zoning Ordinance, located on the North side of Maple and West side of Stephenson (1441 E. Maple), within Section 26, being approximately 1.82 acres in size, be GRANTED, for the following reasons:

1. The request complies with the Master Plan.
2. The rezoning would permit greater flexibility in use and development of the property.
3. The conditions offered by the applicant reasonably protect the adjacent properties.
4. The rezoning would be compatible with surrounding zoning and land use.
5. The site can be adequately served with municipal water and sewer.

BE IT FURTHER RESOLVED, That the Planning Commission recommends the following site plan design considerations:

1. Provide Conditional Rezoning Agreement prior to City Council consideration that includes the additional conditions of banning automotive and transportation base uses and the intent to reduce or eliminate the non-conformity that would be created by the rezoning, as offered by the applicant.

Discussion on the motion on the floor.

There was discussion on the interpretation of the conditions verbally cited by the applicant, as relates to reducing or eliminating the non-conformity.

Vote on the motion as revised.

Resolution # PC-2024-08-053

Moved by: Fox

Seconded by: Krent

RESOLVED, That the Planning Commission hereby recommends to the City Council that the O to IB Conditional Rezoning Request, as per Section 16.04 of the City of Troy Zoning Ordinance, located on the North side of Maple and West side of Stephenson (1441 E. Maple), within Section 26, being approximately 1.82 acres in size, be **GRANTED**, for the following reasons:

1. The request complies with the Master Plan.
2. The rezoning would permit greater flexibility in use and development of the property.
3. The conditions offered by the applicant reasonably protect the adjacent properties.
4. The rezoning would be compatible with surrounding zoning and land use.
5. The site can be adequately served with municipal water and sewer.

BE IT FURTHER RESOLVED, That the Planning Commission recommends the following site plan design considerations:

1. Provide Conditional Rezoning Agreement prior to City Council consideration that includes the additional condition of banning automotive and transportation base uses and the intent to eliminate the non-conformity that would be created by the rezoning by either changing the site plan or seeking relief from the Sustainable Design Review Committee.

Yes: Faison, Fox, Krent, Lambert, Malalahalli, Perakis, Tagle

No: Hutson

Absent: Buechner

MOTION CARRIED

City of Troy

Sustainable Development Checklist

Established by Section 12.01 of the City of Troy Zoning Ordinance

Adopted by the Troy City Council on September 26, 2011

TROY Sustainable Development Project Checklist

1.Summary

The purpose of the Sustainable Development Project (SDP) option is to encourage development and redevelopment in the City of Troy to incorporate features designed to minimize adverse impacts on the natural and built environment. The SDP option is established by Section 12.01 of the Zoning Ordinance. SDP status will empower applicants to seek a modification from certain elements of the Zoning Ordinance and receive benefits directly related to the sustainable features proposed for their project.

This SDP application includes a variety of areas within which a project can provide sustainable measures in exchange for regulatory flexibility. Once it has been determined that a project design has included measures which are directly related to and which mitigate for the modification sought by the applicant, Prequalified SDP status can be awarded by the Sustainable Development Review Committee (SDRC). There are 7 groups of potential measures provided which can be applied to a variety of areas within the Zoning Ordinance.

2. Zoning Ordinance Sections for which SDP status may be granted

The SDP process is voluntary, and may be applied to any application requiring site plan review under Section 8.02 of the Zoning Ordinance. This includes conventional projects requiring site plan review or special use approval. SDP projects may receive modifications from the Zoning Ordinance in the following six areas:

- A. Lot Coverage: For projects having SDP status, maximum lot coverage may be reduced in the R1-A through R1-C Districts, RT, MF, UR, CF, IB, OM, and RC Districts (Sections 4.06.D.5, 4.07.D.5, 4.08.D.6, 4.09.D.6, 4.11.D.3, 4.15.D.4, 4.17.D.5, 4.18.D.6,).
- B. IB Front Yard Parking: For projects having SDP status, Front yard parking may be permitted in the IB District (Section 4.15.D.3.a).
- C. One Family Cluster Density Bonus: SDP Status may be used as a qualifying factor for a dwelling unit density bonus in projects utilizing the One-Family Cluster Option (Section 10.04.D.2.a).
- D. One Family Cluster Dimensional Modifications: SDP Status may be used as a qualifying factor for dimensional requirement flexibility in projects utilizing the One-Family Cluster Option (Section 10.04.E.2).
- E. Landscaping Flexibility: All landscaping requirements within Section 13.02, Landscaping, may be modified for projects having SDP status. This includes greenbelt landscaping, screening, parking lot landscaping, and general

landscaping requirements (Section 13.02).

- F. Parking Requirement Deviations: Projects with SDP status are automatically eligible for a parking deviation if the measures proposed and the Prequalified SDP status is granted for measures directly related to the requested change in parking (Section 13.06.F).

3. Application Requirements and Administration

Figure 1: SDP Process Summary

Steps	
1	Applicant files an application seeking Prequalified SDP status for one of the purposes identified herein.
2	Zoning Administrator reviews the application to ensure that measures intended to satisfy the Prerequisites are proposed for the area of relief being sought, and that at least one qualifying measure is proposed for the area of relief being sought (Table 1)
3	The Sustainable Design Review Committee meets and considers the application within 30 days of the Zoning Administrator's formal determination that the application is complete.
4	The Committee takes action on the request. If the Committee finds that the proposed measures will adequately offset the requested modification, the Committee shall grant the applicant Prequalified SDP status.
5	The project goes through the site plan approval process.
6	The SDP status is ratified by final site plan approval

Projects seeking SDP status shall meet the following criteria and prequalification:

- A. Application: The application for SDP status shall contain the following information:
1. Applicant's name, address, and telephone number - professional seals are not required at the SDP application stage
 2. Common description of the property and complete legal description
 3. Dimensions of land, including width, length, acreage, and frontage
 4. Existing zoning and current land use of the property under consideration and zoning and current land use of all adjacent properties
 5. General location of all existing structures, roadways, and natural features
 6. The general location of all proposed buildings, roadways, parking areas, and any other changes proposed to be made on the subject property
 7. A specific list of sustainable design measures being proposed with the following supporting information:
 - a. Any manufacturer information, such as specifications or cut sheets that detail the technology, attributes, and anticipated benefits of the features or equipment

- b. Identification on the drawings providing information about the location, general design, and application of the sustainable design features being proposed
 - c. A specific list of the areas within the Ordinance for which benefits are being sought with the SDP application
 - d. A long-term maintenance plan documenting the proposed method of care for the measures being proposed
- B. Prerequisites and Qualifying Measures: The application will first be reviewed by the Zoning Administrator to ensure that it specifically lists the benefits for which the application is being filed and demonstrates that the areas of the Ordinance for which an application is seeking or benefits are proportionally related to the SDP measures being proposed. *Every area of the Ordinance for which modification can be sought has at least one category of potential measures from which the applicant MUST select and incorporate sustainable design measures. These required sustainable design measure categories are Prerequisites.*

For instance, if an applicant wishes to provide less open space (exceeding lot coverage) than is required by the Ordinance, the categories of measures identified as Prerequisites include measures that would mitigate the negative consequences of providing insufficient open space. In this example, the applicant would be required to provide measures in each of the following areas of stormwater quantity control, stormwater quality control and reduction of heat island effect.

Every area of modification also has measure categories identified as Qualifying. Every project must, in addition to the Prerequisites, provide a measure in one Qualifying category. For instance, in the example above, in addition to providing measures in the Prerequisite categories (stormwater quantity control, stormwater quality control and reduction of heat island effect), they would also be required to provide a measure in one of the following Qualifying areas: redevelopment and reuse, brownfield redevelopment, light pollution reduction, or water recycling.

- C. Sustainable Design Review Committee: Within 30 days of the Zoning Administrator's formal determination that the application is complete, the Committee shall review any application that has been determined to meet the minimum required criteria for application for SDP status and has met the prerequisite standard of proposing measures directly related to the area or areas from which the applicant is seeking modification. The Committee will review the proposal and each proposed measure and requested modification contained in the application. If the Committee finds that the proposed measures will adequately offset the requested modification, the Committee shall grant the application Prequalified SDP status.

- D. Compliance: Throughout the course of site plan or special use approval, the SDP application and findings of the Sustainable Design Review Committee shall be contained in the application. These materials will be reviewed throughout the process by the Zoning Administrator or designee for compliance to Prequalified SDP status. The applicant shall enjoy SDP benefits or modification as outlined in the Prequalified SDP application approved by the Committee. Once a project is complete, the Zoning Administrator shall make a determination that the Committee's findings are confirmed. If a change to the project affects the conditions spelled out in the Prequalified SDP findings, the applicant shall lose the benefits provided by the SDP status or shall reappear before the Committee to request a revised prequalification.
- E. Prequalified SDP status shall become permanent when the Zoning Administrator grants final site plan approval, at which time the project is determined to have achieved full SDP status. The measures and modifications approved as part of the full SDP status are, like any element contained within an approved site plan, a required element of that final site plan and must be adhered to.

4. Sustainable Design Measures

The SDP option provides for seven areas where an applicant can provide sustainable design measures to seek flexibility in the six areas noted in Section 2, above. It is incumbent upon the applicant to devise an application submission demonstrating that the measure is met. The measures may be applied to the area of regulatory flexibility as follows in Table 1.

Table 1: Prerequisite and Qualifying Measures

P = Prerequisite. To obtain Prequalified SDP status, a project MUST include measures in the categories identified as a Prerequisite, below. (Example: Lot Coverage flexibility can only be granted if stormwater quality, stormwater quantity, heat island effect, and water efficient landscaping measures are proposed.)

Q = Qualifying. This measure will qualify as a supporting measure to achieve SDP status for the area under consideration for modification. These options help mitigate the potentially negative factors resulting from the requested modification. Every project qualifying for SDP status must provide at least one Qualifying measure in addition to the Prerequisites for the area of modification.

X = Indicates that this measure will not satisfy the requirements to achieve SDP status.

	A		B		C		D	E	F			G			
Category	Stormwater		Site Selection		Transportation		Light Pollution	Heat Islands	Water Resources			Renewables			
	Quality	Quantity	Redevelopment and Reuse	Brownfields	Alternative Fuel Vehicle Facilities	Commuter			Water Efficient Landscaping	Water Use Reduction	Water Recycling	Solar	Wind	Geothermal	Other
Lot Coverage	P	P	Q	Q	X	X	Q	P	P	X	Q	X	X	X	X
IB District Front Yard Parking	P	P	Q	Q	Q	Q	P	Q	Q	X	Q	X	X	X	X
One Family Cluster Density Bonus	P	P	X	X	Q	Q	P	Q	Q	Q	Q	Q	Q	Q	Q
One Family Cluster Dimensional Flexibility	P	P	X	X	Q	Q	P	Q	Q	Q	Q	Q	Q	Q	Q
Landscaping Flexibility	P	P	X	X	X	X	X	Q	P	Q	Q	X	X	X	X
Parking Requirement Deviations	Q	Q	Q	Q	P	P	P	Q	X	X	X	X	X	X	X

A. Stormwater

Urban development has complicated and, in many cases, impeded the natural cycle of our water resources. By introducing impervious surfaces on a large scale the recharging of groundwater, infiltration of stormwater into the landscape, and flow and volume of rivers and streams have been disrupted. Further, contaminants from automobiles, chemicals from industry, eroded soils, and other undesirable substances have become commonplace, and are frequently washed away with stormwater into the natural environment. By improving the way stormwater is managed on-site, development can mitigate these potentially negative consequences. Low Impact Design techniques reduce the quantity of stormwater leaving a site, and also improve the quality of that water.

Stormwater Quantity

To receive Prequalified SDP status for stormwater quantity measures, an applicant may propose to do the following, or additional measures not specifically listed here, provided that the applicant can demonstrate that similar benefits will be realized:

- RAIN GARDENS
- SWALES
- MANUFACTURED WETLANDS
- GREEN ROOF
- CISTERNS
- PERMEABLE PAVING
- PRESERVATION OF NATURAL AREAS BEYOND WHAT IS REQUIRED

Stormwater Quality

To receive Prequalified SDP status for stormwater quality measures, an applicant may propose to do the following, or additional measures not specifically listed here, provided that the applicant can demonstrate that similar benefits will be realized:

- RAIN GARDENS
- SWALES
- MANUFACTURED WETLANDS
- GREEN ROOF
- CISTERNS
- PERMEABLE PAVING
- PRESERVATION OF NATURAL AREAS BEYOND WHAT IS REQUIRED

B. Site Selection

Renovation of an existing building or site is often more sustainable than new construction. The renovation of existing facilities reduces landfill waste and reduces the need for new materials. Also, the renovation of existing facilities often eliminates the need for changes to underground utilities, access and circulation, and open space, given that building footprints are often preserved. These advantages mean that redevelopment properties can often be revitalized more quickly, efficiently, and sustainably than new construction.

Brownfield projects are often situated in excellent, high-traffic or well developed areas, although in most brownfield cases, the site is environmentally contaminated. This is a disadvantage to the developer in that there is often costly mitigation that must occur in order to make the site useful. Using SDP, the City can incentivize brownfield redevelopment.

Redevelopment and Reuse

To receive Prequalified SDP status for redevelopment and reuse measures, an applicant may propose to do the following:

- USE A SITE THAT IS PREVIOUSLY DEVELOPED AND VACANT

Brownfield Site

To receive Prequalified SDP status for brownfield site measures, an applicant may propose to do the following:

- USE A SITE ON WHICH CONTAMINATION EXISTS AT CONCENTRATIONS IN EXCESS OF THE STATE OF MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY'S (MDEQ) REMEDIATION CRITERIA OF PART 201, ENVIRONMENTAL REMEDIATION, OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT, 1994 PA 451, AS AMENDED - THIS DETERMINATION MUST BE MADE IN WRITING BY THE MDEQ

C. Transportation

Purpose:

Natural gas, electric, hybrid, fuel cell, or other alternative fuel vehicles help reduce greenhouse gas emission and fuel demands. Supporting these vehicles also encourages innovation and job creation in the automotive industry, thereby supporting job growth in Troy and Southeast Michigan. The infrastructure for alternative fuel vehicles is in its infancy, although a few simple elements can be incorporated into new development and redevelopment to empower adopters of new automotive technology to function in Troy. This approach will also help Troy compete for residents and companies that are attracted to this aggressive approach to promoting new technology.

Beyond alternative fuel vehicles, the community realizes even more benefit from those who choose transit or non-motorized means to get to homes, jobs, and everyday activities. Successful regional transit will allow a wider range of people to choose Troy as a home or destination. Non-motorized transportation has both an environmental and overall community health benefit. Both options increase the number of pedestrians on the street, supporting the density in certain areas that are called for in the City of Troy Master Plan.

Alternative Fuel Vehicle Facilities

To receive Prequalified SDP status for alternative fuel vehicle measures, an applicant may propose to do the following:

- INSTALL RECHARGING STATIONS FOR NOT LESS THAN 2.5% OF THE PROVIDED PARKING SPACES
- INSTALL PRIORITY PARKING FOR HYBRID OR ALTERNATIVE FUEL VEHICLES FOR NOT LESS THAN 5% OF THE PROVIDED PARKING SPACES

Commuter Accommodations

To receive Prequalified SDP status for commuter measures, an applicant may propose to do the following:

- PROVIDE NON-MOTORIZED PATHWAYS AND BICYCLE AMENITIES THROUGHOUT THE PROJECT BEYOND THOSE REQUIRED BY THE ORDINANCE
- PROVIDE COMMUTER LOCKERS AND SHOWERS AND SECURE, COVERED BICYCLE PARKING FOR NOT LESS THAN 10% OF THE ESTIMATED STAFF OR RESIDENTS AND 5% OF THE ANTICIPATED CUSTOMERS
- PROVIDE COVERED SHELTER FOR TRANSIT PASSENGERS ON ESTABLISHED TRANSIT ROUTES

D. Light Pollution

Purpose:

Light pollution takes many forms, and can have many negative consequences. Simple problems, like trespass of excess light from one property to another, can be a nuisance. Substantial light pollution can create glare that makes night visibility for drivers a challenge. Regional light pollution can limit the ability to see the night sky clearly, and inappropriate light levels have been shown to affect sleep behavior. Further, by reducing unnecessary lighting, there is an energy reduction benefit that, on a widespread scale, can significantly reduce energy demand.

Light Pollution Reduction Measures

To receive Prequalified SDP status for light pollution reduction measures, an applicant may propose to do the following:

- REDUCE PROVIDED LIGHTING BY USING AUTOMATIC DEVICES FOR ALL NON EMERGENCY LIGHTING BY AT LEAST 50% BETWEEN 11 PM AND 5 AM AND HAVE FULL CUTOFF SHIELDING ON ALL FIXTURES TO PREVENT LIGHT TRESPASS

E. Heat Islands

Purpose:

Heat island effect is when atmospheric temperatures, indoors or outdoors, are artificially increased by elements of the built environment. For instance, a large expanse of asphalt absorbs and slowly releases heat throughout a parking area, where an expanse of grass would have remained cooler and avoided such an “island” of increased heat.

Techniques such as a high-reflectivity roof, sun shades, increased landscaping over a large parking area, or the use of a light, highly reflective pavement material can reduce the heat island effect and help maintain more comfortable temperatures that are closer to the natural condition on a site. These techniques reduce energy demands and naturally preserve comfort for the people who visit or reside in such places.

Heat Island Effect Reduction

To receive Prequalified SDP status for heat island effect measures, an applicant may propose to do the following:

- PLACE A MINIMUM OF 50% OF PARKING UNDERGROUND OR UNDER A STRUCTURE HAVING A ROOF SRI (SOLAR REFLECTANCE) OF AT LEAST 29 OR A STRUCTURE HAVING A GREEN ROOF
- SHADE 50% OR MORE OF THE SITE HARDSCAPE (PARKING, DRIVES, WALKS, COURTS, ETC., NOT INCLUDING BUILDINGS) WITH ANY OF THE FOLLOWING ALONE OR IN COMBINATION:
 - o USE AN OPEN GRID PAVEMENT SYSTEM
 - o LANDSCAPING CANOPY (WITHIN 5 YEARS OF PLANTING)
 - o SOLAR ENERGY STRUCTURES
 - o USING A STRUCTURE HAVING A ROOF SRI OF AT LEAST 29 OR A STRUCTURE HAVING A GREEN ROOF
 - o USE HARDSCAPE MATERIALS WITH AN SRI OF AT LEAST 29
- USE ROOFING MATERIALS WITH AN SRI OF AT LEAST 29 (FOR ROOFS WITH A STEEP SLOPE – GREATER THAN 2:12) OR AT LEAST 78 (FOR ROOFS WITH A LOW SLOPE – EQUAL TO OR LESS THAN 2:12) FOR AT LEAST 75% OF THE ROOF SURFACE AREA
- USE A GREEN ROOF FOR AT LEAST 75% OF THE ROOF SURFACE AREA
- USE A COMBINATION OF THE MINIMUM SRI ROOF MATERIALS AND GREEN ROOF MATERIALS FOR AT LEAST 75% OF THE ROOF SURFACE AREA

F. Water Resources

Purpose:

While the State of Michigan is surrounded by the Great Lakes, most communities obtain their water from groundwater sources. Given the effect of urban development on the

natural recharging of groundwater, there is a benefit in many communities to reduce the amount of water used for everyday activities. Even in Troy, the cost of bringing water in through the regional water network is considerable in terms of the long-term demands placed on the network of underground utilities. By reducing the amount of water wasted in everyday use, the community will extend the useful life of its water resources and the water infrastructure.

Using water efficient landscaping, such as drought tolerant native species, reduces the need for water and maintenance costs. Reducing water use inside a building at the point of consumption is easily achieved through water efficient fixtures. Water recycling is often more involved, but has the added benefit of reducing stormwater quantity, in keeping with other measures within the SDP process.

Water Efficient Landscaping

To receive Prequalified SDP status for water efficient landscaping measures, an applicant may propose to do the following:

- REDUCE WATER CONSUMPTION DEMANDS FOR IRRIGATION BY MORE THAN 50% USING NATIVE SPECIES OVER CONVENTIONAL LANDSCAPING
- INSTALL IRRIGATION SYSTEMS USING ONLY CAPTURED RAINWATER OR RECYCLED WASTEWATER

Water Use Reduction

To receive Prequalified SDP status for water use reduction measures, an applicant may propose to do the following:

- REDUCE WATER CONSUMPTION BY 20% OR MORE OVER CONVENTIONAL DESIGN BY USING WATER EFFICIENT TOILETS (DUAL FLUSH, WATERLESS, LOW FLOW, ETC.), LOW FLOW FAUCETS, LOW FLOW SHOWERS, HIGH-EFFICIENCY WASHING MACHINES OR DISHWASHERS, ETC.

Water Recycling

To receive Prequalified SDP status for water recycling measures, an applicant may propose to do the following:

- CAPTURE MORE THAN 50% OF THE SITE'S WASTEWATER FOR NON-POTABLE USES

G. Renewables

Purpose:

Renewable sources of energy, such as wind, solar, or geothermal, represent cleaner, reliable sources of energy that do not place the same kind of long-term demands on the natural environment that are characteristic of fossil fuels. While not always ideally suited to the climate or condition present in every region or even specific property, renewable sources of energy do represent inexhaustible sources of energy. Solar power, for instance, can generate electricity or provide thermal energy to heat water or even to warm the air inside a building. Geothermal energy takes advantage of the reliable consistent temperatures within the soil beneath our feet. Wind power can enhance the electrical supply without any need for fuel. Other forms of renewable energy production may be proposed, subject to approval by the Committee.

Renewable energy represents a large potential growth area in the economy. By incentivizing the installation of renewable capacity, the City of Troy is also supporting job creation in manufacturing, research and development.

Solar

To receive Prequalified SDP status for solar energy measures, an applicant may propose to do the following:

- PROVIDE ON-SITE SOLAR ENERGY COLLECTORS OR SOLAR THERMAL SYSTEMS TO PRODUCE NOT LESS THAN 10% OF THE SITES ANTICIPATED ELECTRICITY USE AND/OR REDUCE THE LOAD FOR WATER HEATING BY NOT LESS THAN 50% FOR SOLAR THERMAL DEVICES

Wind

To receive Prequalified SDP status for wind energy measures, an applicant may propose to do the following:

- PROVIDE ON-SITE WIND ENERGY CONVERSION SYSTEMS TO PRODUCE NOT LESS THAN 10% OF THE ANTICIPATED ELECTRICITY USEAGE

Geothermal

To receive Prequalified SDP status for geothermal energy measures, an applicant may propose to do the following:

- PROVIDE ON-SITE GEOTHERMAL SYSTEM REDUCE THE LOAD FOR BUILDING HEATING AND COOLING BY NOT LESS THAN 50%

Other

To receive Prequalified SDP status for renewable energy measures not listed here, an applicant may propose to do the following:

- PROVIDE INSTALLED RENEWABLE ENERGY PRODUCTION CAPACITY NOT LESS THAN 10% OF THE ANTICIPATED ELECTRICITY USAGE OR TO REDUCE THE LOAD FOR BUILDING HEATING AND COOLING BY NOT LESS THAN 50%.

4. Definitions

- Alternative Fuel Vehicles - Motorized vehicles that use an energy source other than fossil fuels, or a combination of fossil fuels and another form of energy
- Bicycle Amenities - Services provided that make the use of bicycles more use friendly, such as covered storage, bike racks, pathways etc.
- Brownfield - Abandoned, idle, or under-used industrial and commercial properties where expansion or redevelopment is hindered or complicated by real or perceived environmental conditions (SEMCOG 2008)
- Captured Rainwater – Rainwater collected in rain barrels or cisterns for later use
- Cisterns - Containers that store large quantities of stormwater above or below ground (SEMCOG 2008)
- Contaminants - Pollutants which have negative effects the natural environment, sometimes being washed away by stormwater into the environment
- Drought Tolerant – Plants that do not normally require artificial irrigation
- Glare - An effect of light pollution which causes decreased visibility
- Greenhouse Gas - A gas which is trapped within the atmosphere creating a heating effect on the environment, called the Greenhouse Effect
- Green Roof - A rooftop system that may include vegetation, waterproofing, insulation, fabrics, growth media, and other synthetic components allowing the roof to slow the rate of stormwater runoff (SEMCOG 2008)
- Groundwater - Natural water bearing subsurface layers of porous stone, sand, gravel, silt or clay via infiltration (SEMCOG 2008)
- Full Cutoff Shielding - A buffer used to block light from an affected area
- Hardscape - Paved surfaces such as parking lots, driveways, sidewalks, courts etc. not including buildings
- Heat Island Effect - When atmospheric temperatures, indoors or outdoors, are artificially increased by elements of the built environment
- High-Reflectivity Roof - A type of roofing used to decrease the effects of the urban heat island, by reflecting heat that would otherwise be absorbed
- Hybrid Vehicle - An alternative fuel vehicle that uses a combination of fossil fuels and another form of energy
- Impervious Surfaces - A surface that prevents the infiltration of water into the ground such as roofs, streets, sidewalks, driveways, parking lots, and highly compacted soils (SEMCOG 2008)
- Light Pollution - Pollution caused by light, in the form of excess light or the causation

for a nuisance

- Low Impact Design - Site design and stormwater management techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source, and that result in maintaining a site's pre-settlement hydrology (Troy Zoning Ordinance, 2011)
- Manufactured Wetlands - A man-made wetland used to create more efficient systems of water run-off and retention
- Native Species - Plants that historically co-evolved with the local ecology, geology and climate (SEMCOG 2008)
- Permeable Paving - Paving that allows liquids to pass through (SEMCOG 2008).
- Prerequisites - The sustainable design measures that must be met before an application can be approved
- Qualifying Measures - Measures that need to be met in addition to the prerequisites in order for a sustainable design project to be considered
- Rain Gardens - Landscaping that provides on-site detention, filtering of rainwater, groundwater recharge, and helps reduce runoff volume (Troy Master Plan, 2008).
- Recharging Stations - A purpose built element of infrastructure that supplies electric energy for the recharging of alternative fuel vehicles, including plug-in electric hybrid vehicles, requiring electricity
- Renewable Energy Installations - Equipment or structures that are designed to capture energy generated from natural resources such as sunlight, wind, rain, tides, and geothermal heat, which are renewable (naturally replenished)
- SRI (Solar Reflectance Index) - The amount of solar energy reflected off of a surface measured by the Solar Reflectance Index http://eetd.lbl.gov/coolroof/ref_01.htm
- Stormwater - Water consisting of precipitation runoff or snowmelt (SEMCOG 2008)
- Stormwater Quantity - The amount of stormwater runoff
- Stormwater Quality - The condition of the stormwater, including the amount of contaminants
- Swales - A shallow stormwater channel that can be vegetated with some combination of grasses, shrubs, and/or trees designed to slow, filter, and often infiltrate stormwater runoff (SEMCOG 2008)
- Water Efficient Landscaping - Landscaping which effectively processes water in the most efficient manner possible, reducing negative effects of poor stormwater management
- Water Recycling - The reuse of water from common domestic applications
- Watershed - The geographic area that drains to a specific watercourse outlet. The watershed for a major river may encompass a number of smaller sub-watersheds that ultimately contribute to their common outlet (SEMCOG 2008)