

# The City of Ann Arbor

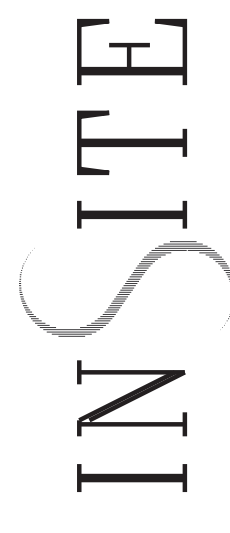
## Arbor Oaks Park Rain Gardens

### DRAWING LIST

- L-0 Cover Sheet
- C-1 Topographic Survey
- L-1 Site Preparation and Erosion Control
- L-2 Grading and Utilities
- L-3 Planting
- L-4 General Details
- C-2 Details: Rain Gardens

### CONSULTANTS

Landscape Architect:



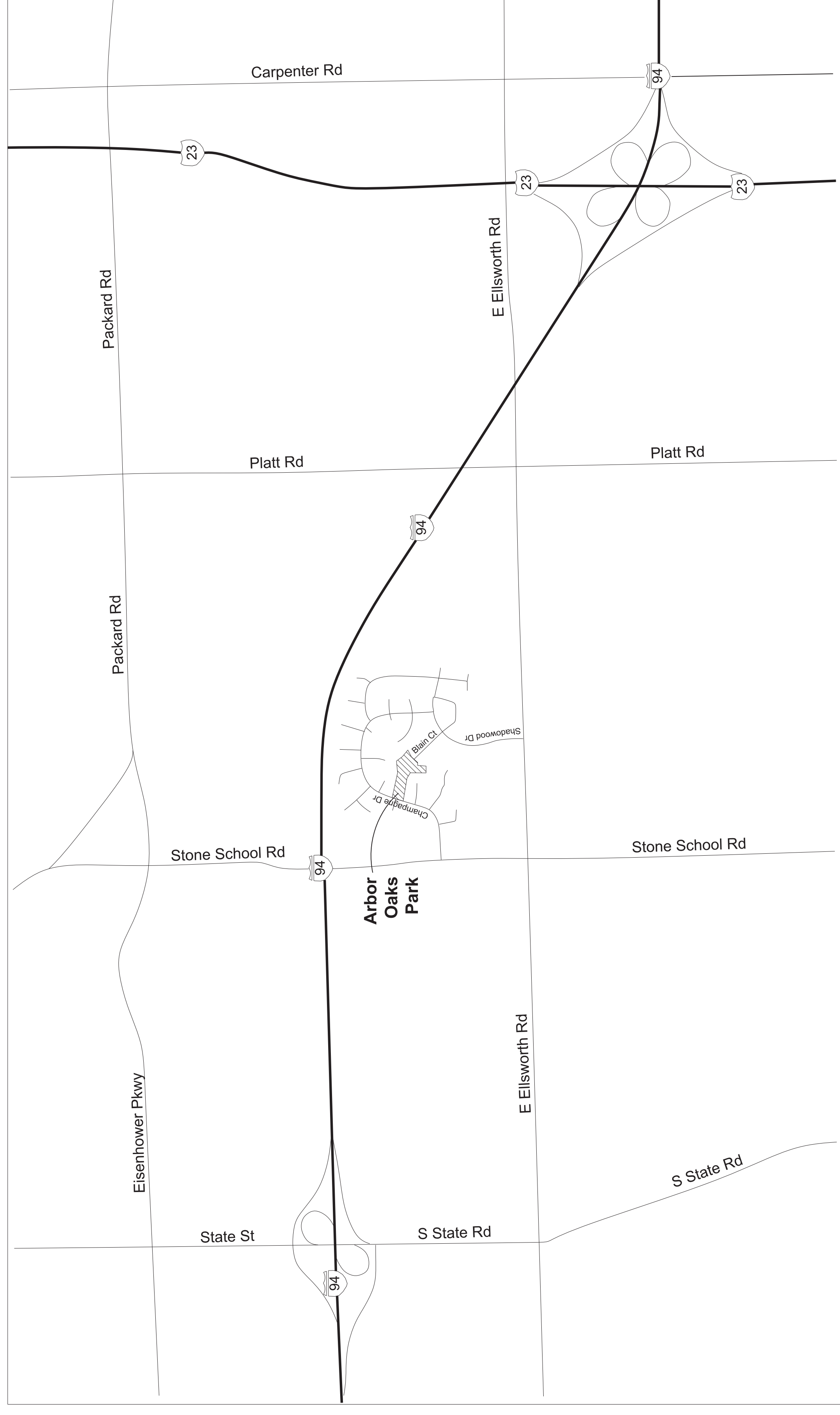
InSite Design Studio, Inc.  
516 East Washington St.  
Ann Arbor, MI, 48104  
phone: 734-995-4194  
fax: 734-665-2525  
e-mail: [sgibb-randall@insite-studio.com](mailto:sgibb-randall@insite-studio.com)

Civil Engineer:

Johnson & Anderson  
4494 Elizabeth Lake Road  
Waterford, MI 48328  
phone: 248-681-7800  
fax: 248-681-2660

### GENERAL SITE MAP

Not to Scale



Project:  
**Arbor Oaks Park  
Rain Gardens**

Project Number:  
Date  
Issued For  
December 15, 2012  
DEG Review Draft Plans  
January 24, 2013  
Cover Review Draft  
Plans and Specifications  
February 7, 2013  
Final Review Draft  
Plans and Specifications  
April 11, 2013  
Bidding

Scale:  
Drawn by: JCB, SGR

Title:  
**Cover**

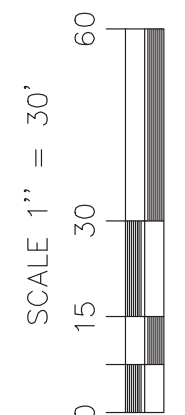
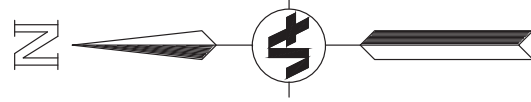
Sheet:

**L-0**



**LEGEND**

- EXISTING**
- WATER MAIN
  - SEWER
  - STORM SEWER
  - GAS MAIN
  - ELECTRIC
  - UNDERGROUND CABLE
  - UNDERGROUND TELEPHONE/CONDUIT
  - LIGHT POLE
  - GUY ANCHOR
  - POWER POLE
  - TELEPHONE POLE
  - TELEPHONE MANHOLE
  - 1/2" CABLE TV BOX
  - 1/2" CABLE TV BOX
  - GAS METER
  - ELECTRIC METER
  - ELECTRIC MANHOLE
  - ELECTRIC OUTLET
  - MAILBOX
  - POST
  - CONCRETE FILLED POST
  - GUARD POST
  - VALVE BOX
  - SPRINKLER VALVE
  - FIRE HYDRANT
  - STORM MANHOLE
  - CATCH BASIN
  - SANITARY MANHOLE
  - CLEAN OUT
  - FOUND IRON/RE-ROD/PIPE
  - FOUND MONUMENT
  - ELEVATION TAKEN HERE
  - ELECTRIC MARKER
  - GAS MARKER
  - DEODIOUS TREE
  - CONFEROUS TREE
  - BUSH



**3 FULL WORKING DAYS  
BEFORE YOU DIG CALL**

**811**

Know what's below  
Call before you dig

**MISS DIG System, Inc.**  
1-800-482-7171 www.missdig.net  
(TOLL FREE)

**WARNING**

UTILITY LOCATIONS ARE NOT GUARANTEED. THOSE SHOWN WERE OBTAINED FROM UTILITY OWNERS OR PLANS. THREE FULL WORKING DAYS PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL NOTIFY MISS DIG SYSTEM, INC. AT 811. MISS DIG SHALL VERIFY AND HE SHALL PROTECT OR HAVE RELOCATED, AS NOTED IN THE SPECIFICATIONS, ALL UTILITIES THAT MIGHT INTERFERE WITH CONSTRUCTION.

Existing Conditions Topographical Survey - Nov. 2012

SCALE: HORIZ. 1" = 30'

VERT. 1" = 30'

**City of Ann Arbor:**  
Impervious Area Disconnection and  
Infiltration Project  
734-794-6000

**ARBOR OAKS PARK**  
Rain Gardens

Arbor Oaks Park  
Ann Arbor, Michigan

**Johnson & Anderson**  
1450 E. Washtenaw Ave., Suite 7  
Ann Arbor, Michigan 48106  
tel (734) 769-3100 fax (734) 760-3115

3941 Lucerne Road  
Ann Arbor, Michigan 48106  
tel (734) 987-7820 fax (734) 987-7895

JOB NO. 17208  
DATE ISSUED 04/17/2013  
SHEET NO. C-1

REVISIONS

NO.	DATE	DESCRIPTION

B.M. #1 ELEV. = 822.60 NAVD 1988  
E BOLT OF LIGHT POLE SE EDGE OF  
PLAYGROUND AREA E OF CHAMPAGNE DRIVE

B.M. #2 ELEV. = 821.14 NAVD 1988  
W BOLT OF LIGHT POLE BASE @ END OF  
BLAIN COURT

DRAWN: DM  
DESIGN: DM  
CHECKED: DM

MARK ADDENDUM/CHANGE ORDER DATE MARK ADDENDUM/CHANGE ORDER DATE MARK ADDENDUM/CHANGE ORDER DATE

## Legend

See Survey Sheets for all survey symbol information

- Proposed Contour
- Proposed Half Contour
- Proposed Spot Elevation
- Proposed Tree Protection
- Proposed Silt Fence
- Proposed Inlet Filter
- Proposed Erosion Control Blanket
- Erosion Control Seed
- Proposed Augured Culvert
- Tree to be Transplanted
- Abandon Existing Culvert
- Proposed Anti-Tracking Pad
- Protect ex. Sidewalk

Project: **Arbor Oaks Park Rain Gardens**

Project Number:

Date

December 19, 2012  
January 24, 2013  
February 7, 2013  
April 11, 2013

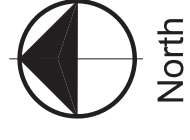
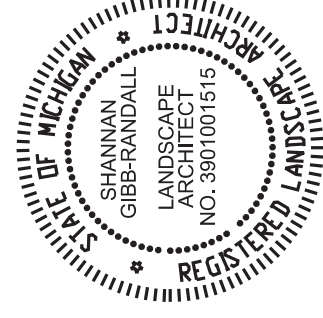
Scale: 1"= 30'-0"

Drawn by: JCB, SGR

Title: **Site Preparation and Erosion Control**

Sheet:

L-1



BEFORE YOU DIG  
CALL MISS DIG  
800-487-4747  
www.missdig.com

CONTRACTOR is responsible to field verify location of all underground utilities prior to any work.



### SOIL EROSION and SEDIMENTATION CONTROL SEQUENCE

In accordance with rule 1709 promulgated under the authority of Part 91, Soil Erosion and Sedimentation Control, of the Natural Resources and Environment Act, the following general conditions and specifications, the following general conditions apply to the earth change authorized by this document:

- Design, construct, and complete the earth change in a manner that limits the exposed area of disturbed land for the shortest period of time.
- Remove sediment caused by accelerated soil erosion from runoff water before it leaves the site of the earth change.
- Temporary or permanent control measures shall be designed and installed to convey water around, through or from the earth change at a non-erosive velocity.
- Install temporary soil erosion and sedimentation control measures before or upon commencement of the earth change activity and maintain the measures on a daily basis. Remove permanent soil erosion measures as they are no longer needed. ("Stabilized" means the establishment of vegetation with its resistance to soil erosion, sliding, or other earth movement.)
- Complete permanent soil erosion control measure for the earth change as soon as possible after the earth change is complete upon completion of the final earth change. If it is not possible to permanently stabilize the earth change, then maintain temporary soil erosion and sedimentation control measures until permanent soil erosion control measures are in place and the area is stabilized.
- The contractor is responsible for sowing the erosion control blanket as shown on this plan. The contractor will be responsible for maintaining stable earth through the winter and early spring. Seeding erosion areas prior to planting May 15, and early spring seeding prior to planting May 15, shall be required for routine maintenance of the soil erosion control devices, as well as additional controls.

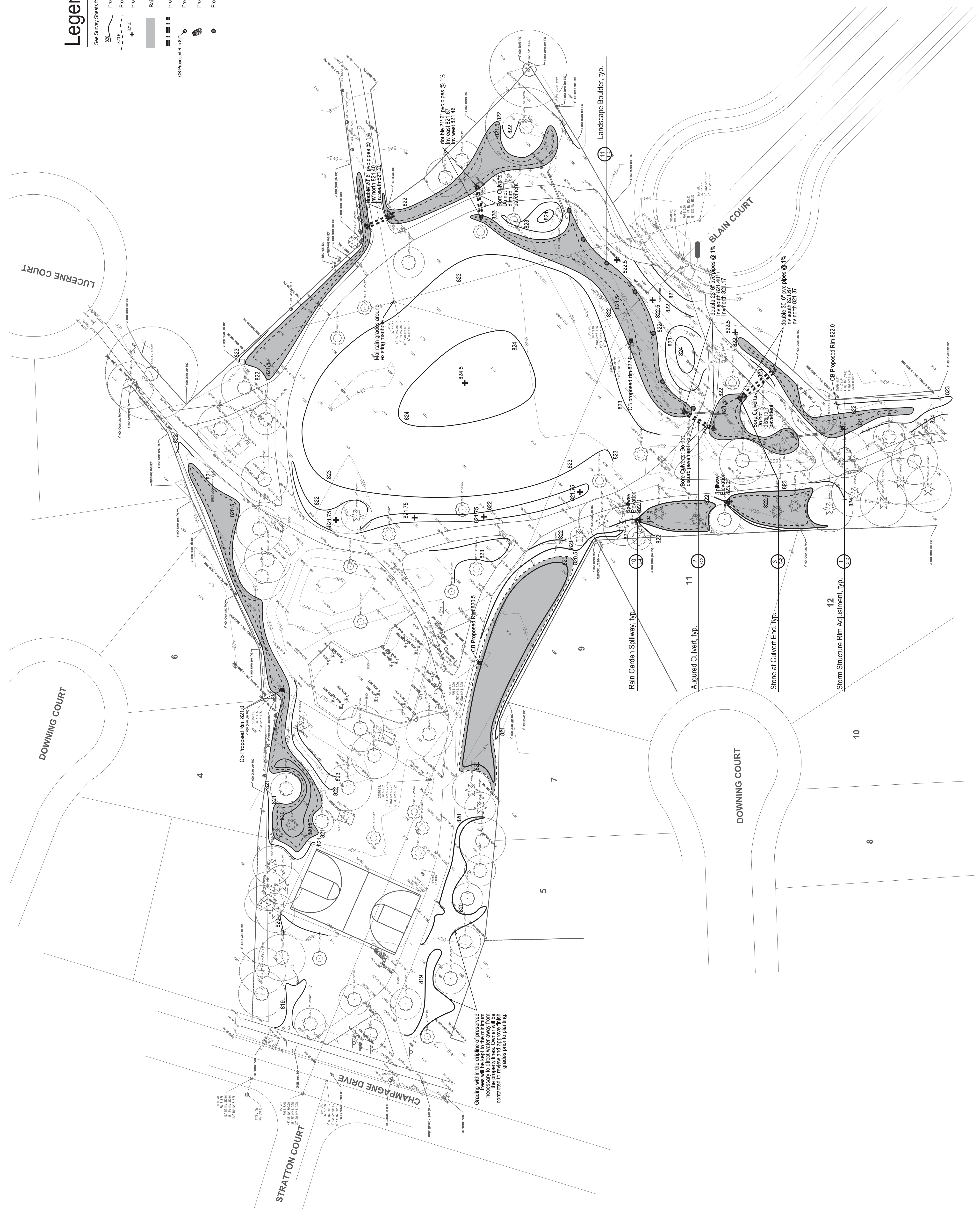
### SOIL EROSION and SEDIMENTATION CONTROL MAINTENANCE NOTES

- Install two anti-tracking pads: one at the east end of the site and one at the west end of the site. The anti-tracking pads should be constructed of geotextile fabric with limestone over it.
- Silt fence and inlet filters shall be maintained throughout construction. If repair or replacement is necessary, it shall be performed according to the manufacturer's specifications. Maintenance includes the removing of Contractor shall remove, replace, re-trench, or re-backfill the fence if they fail. Additionally, the contractor shall reinstall any portion of the fencing damaged by construction machinery.
- Place stockpiles and other spoil piles away from the drainage system to minimize sediment transport. If the stockpile and/or spoil pile is located in a drainage area, the contractor shall take steps to create the chance for precipitation. A) cover the pile with water repellent material to prevent erosion and/or B) install silt fencing around the base of the pile to prevent transport of sediment into the drainage system. Control measures to guard against wind erosion must also be employed, such as wetting or covering the stockpiles. Keep as few stockpiles as possible during the course of the project.
- Throughout the construction period, all mud/silt tracked onto existing roads from the site due to construction shall be immediately removed by the contractor.
- Construction operations shall be scheduled and performed so that the maximum amount of erosion control and temporary stabilization measures are in place immediately following backfilling operations.
- Special precautions will be taken in the use of construction equipment to prevent situations that promote erosion.
- Seeding or other stabilization shall be required immediately to areas which have been damaged by runoff.
- The contractor shall maintain dust control on the site throughout the duration of the construction process.
- The contractor shall be responsible for maintaining all temporary soil erosion control measures and removal of some upon authorized until all site work, and utility construction is complete and all soils are stabilized.
- The contractor shall not grade into adjacent properties. Silt fences shall be installed and maintained to prevent grading, erosion and sedimentation running into them.
- Tree protection fencing must remain intact until restoration of the site is complete.
- Weekly inspections by a City of Ann Arbor BEESC trained Certified Storm Water Management Operator, as well as periodic inspections within 24 hours of construction completion, shall be required for routine maintenance of the soil erosion control devices, as well as additional controls.

**Legend**

See Survey Sheets for all survey symbol information

- 820 Proposed Contour
- 820.5 Proposed Half Contour
- 821.5 Proposed Spot Elevation
- 821.5 Rain Garden Ponding Area
- CB Proposed Rim 821 Proposed Augured Culvert
- Proposed Storm Structure Rim Adjustment
- Proposed Stone at Culvert End
- Proposed Landscape Boulder

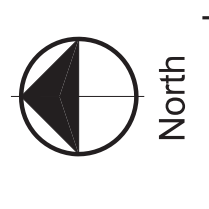
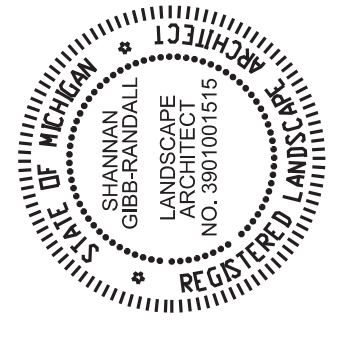


**Project:** Arbor Oaks Park Rain Gardens

**Project Number:** 010  
**Date:** December 15, 2012  
**Issued For:** DELO Ruckelshaus LLP  
Cover: Robert Palm and Spectrochambers  
Soil: Spectrochambers and Spectrochambers  
Bearing: 11/11/13  
**Scale:** 1" = 30'-0"  
**Drawn by:** JCB, SGR

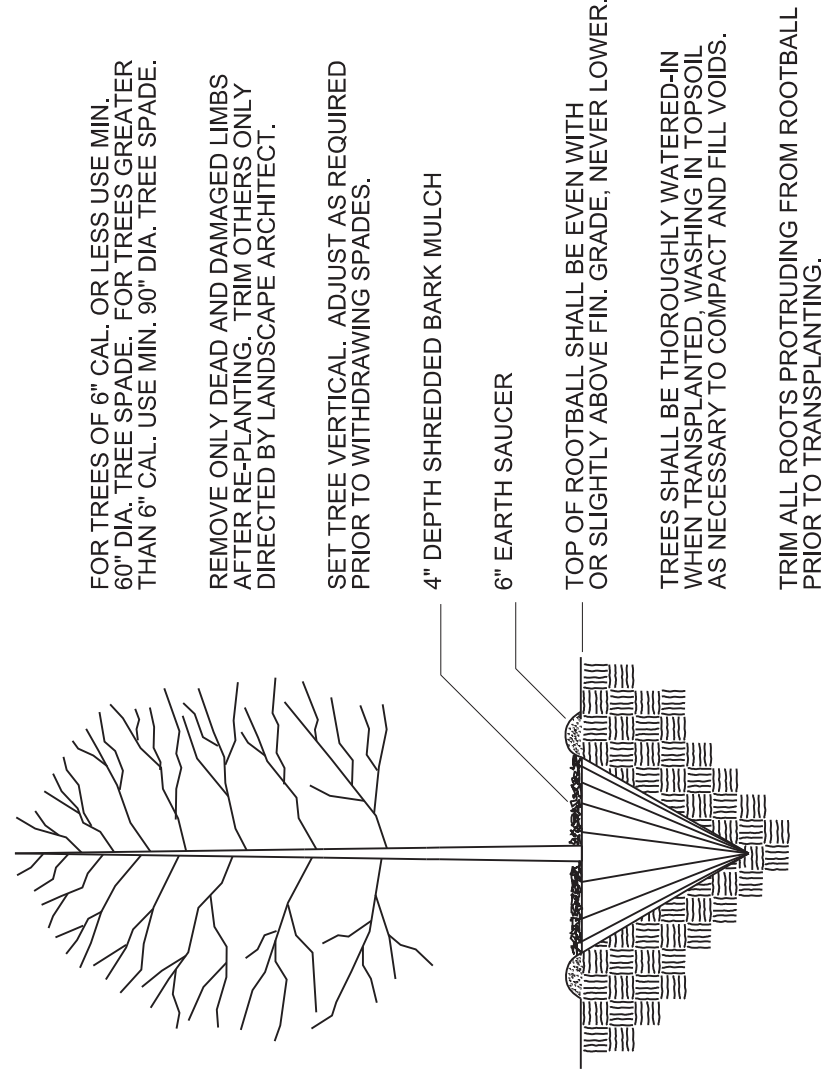
**Title:** Grading and Utilities

Sheet: L-2



North  
BEFORE YOU DIG  
CALL MISS DIG  
800-487-4771  
www.missdig.com





**9 Tree Transplanting**  
NO SCALE

**Project:** Arbor Oaks Park Rain Gardens

**Project Number:**

**Date:** Issued For  
December 19, 2012  
December 19, 2012  
January 24, 2013  
February 7, 2013  
April 11, 2013

**Scale:** no scale

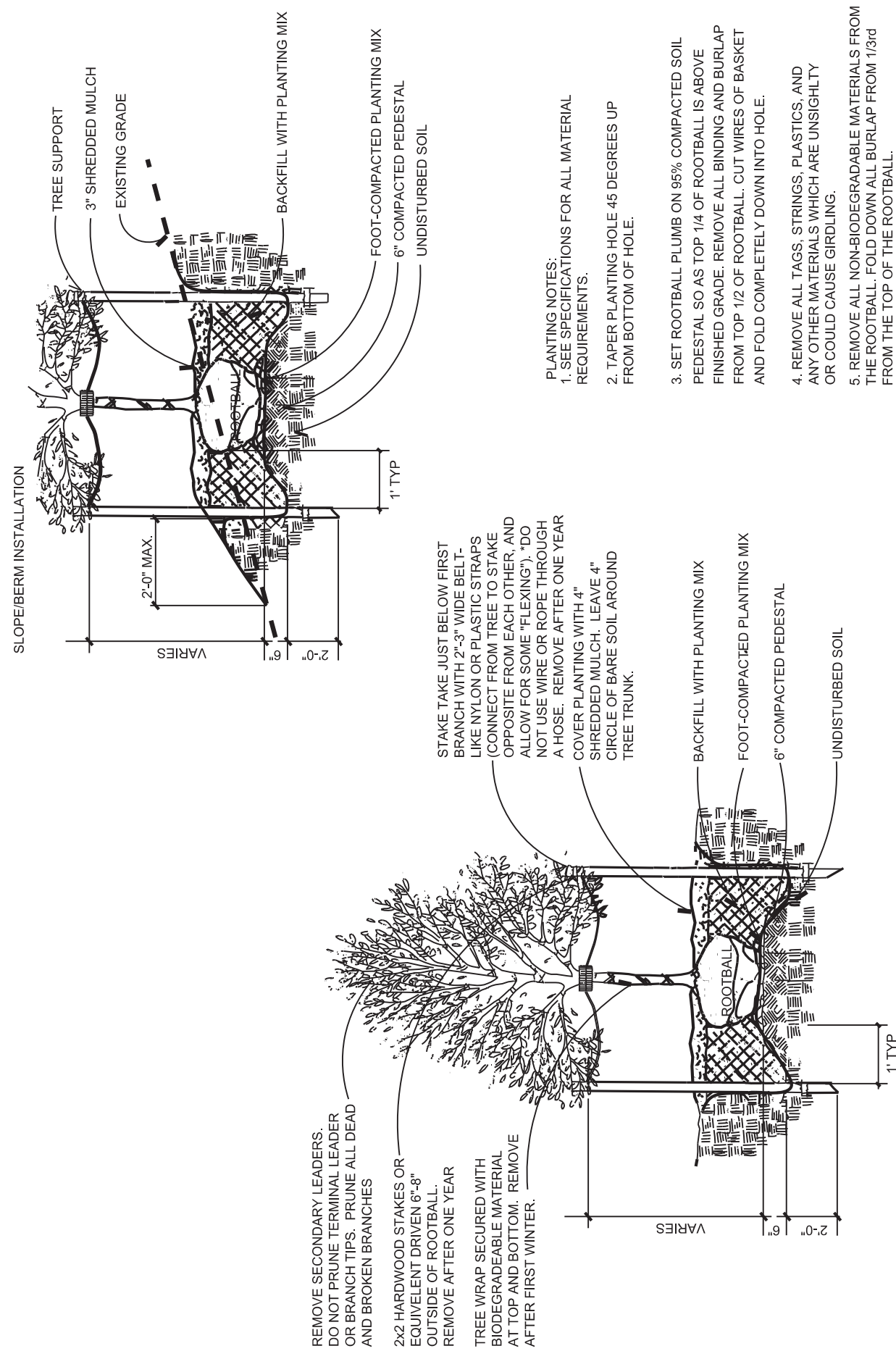
**Drawn by:** JCB, SGR



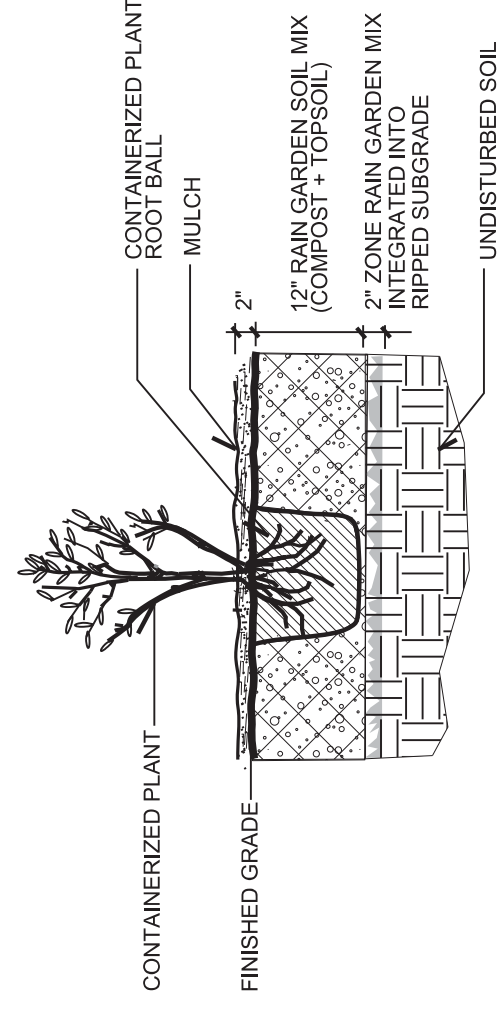
**Title:** General Details

Sheet:

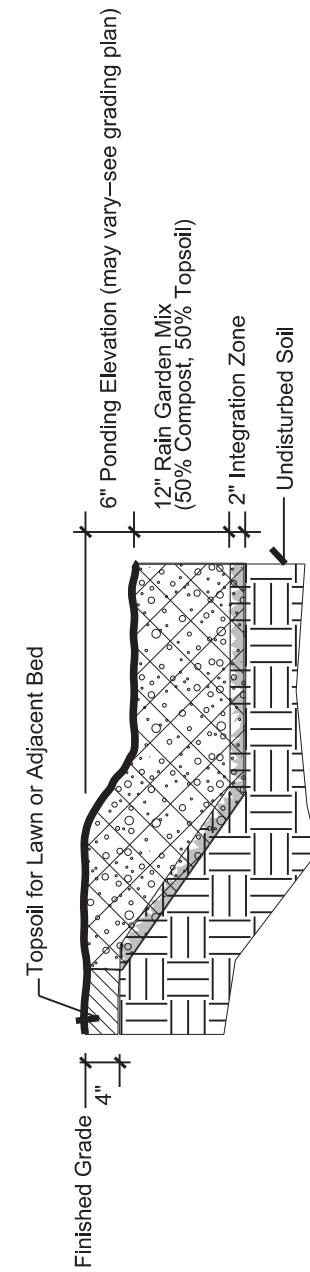
L-4



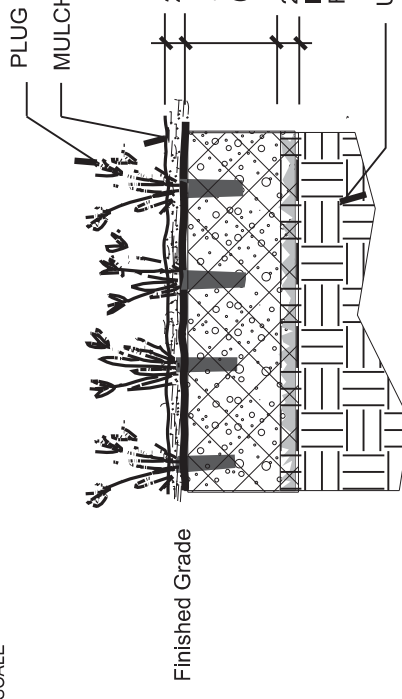
**5 Deciduous Tree Planting**  
NO SCALE



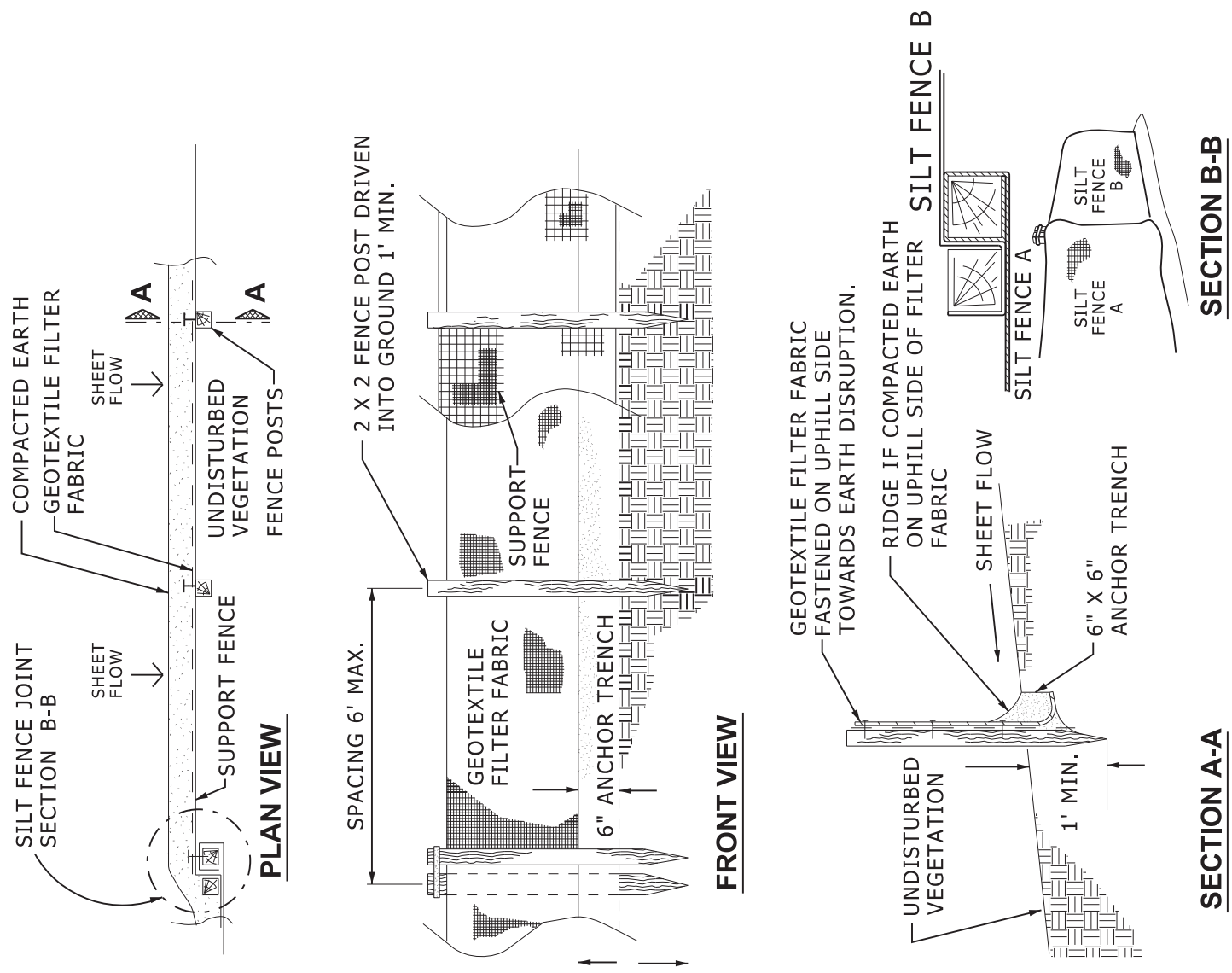
**6 Shrub Planting**  
NO SCALE



**7 Typ. Rain Garden Section**  
NO SCALE

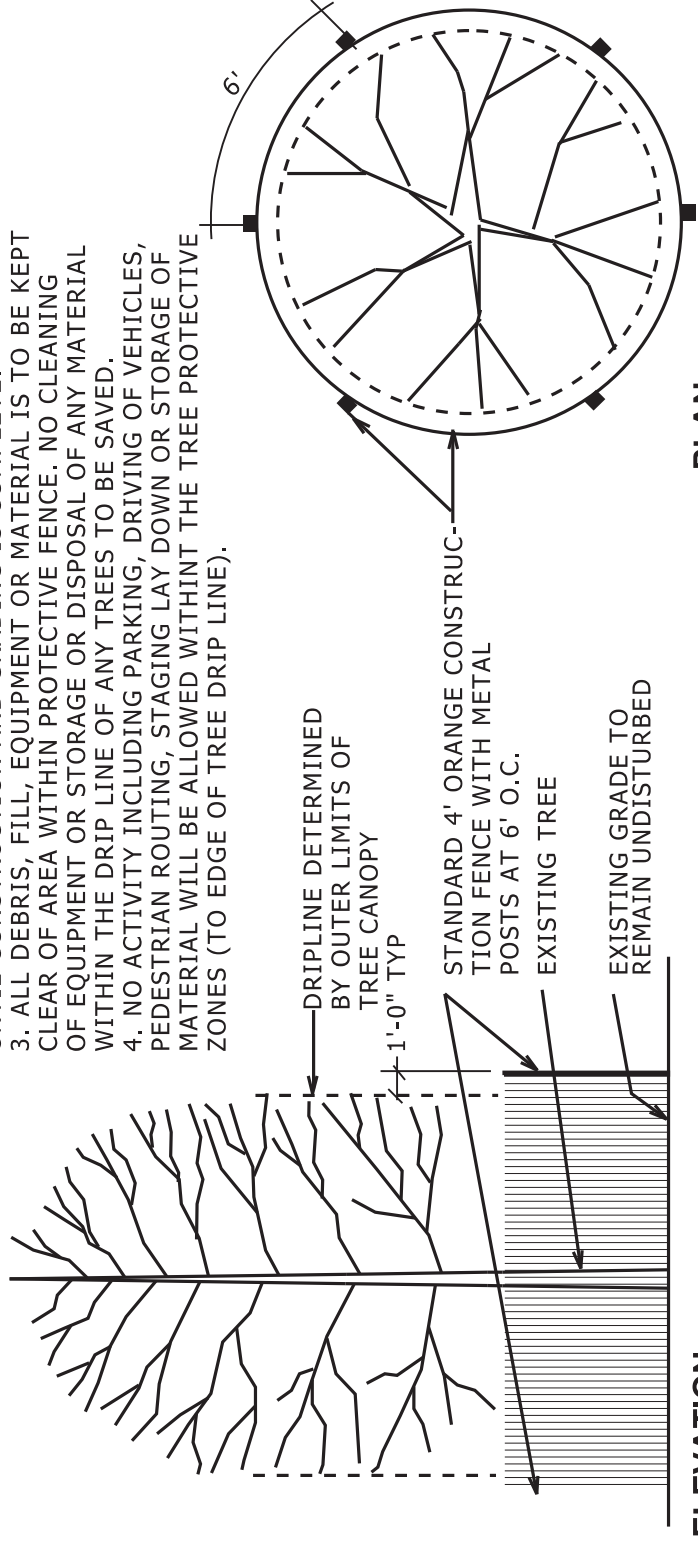


**8 Native Plug Planting**  
NO SCALE

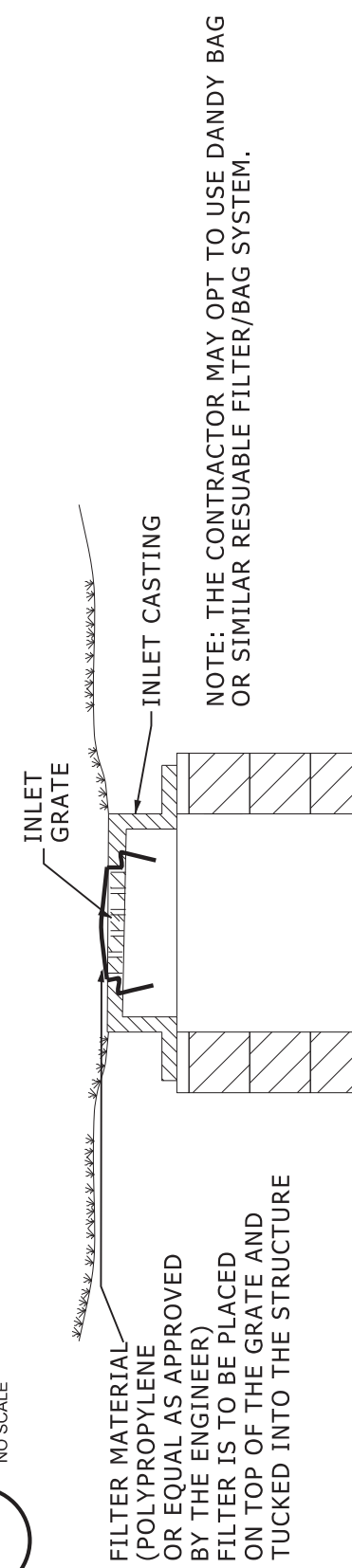


**1 Silt Fence**  
NO SCALE

- NOTES:**
1. FENCE SHALL BE LOCATED A MIN. OF 1 FOOT OUTSIDE THE DRIP LINE OF THE TREE TO BE SAVED OR CLOSER ONLY AT THE DIRECTION OF THE CITY OF ANN ARBOR FORESTRY STAFF.
  2. TREE PROTECTION FENCING IS TO BE ERECTED PRIOR TO ANY EARTHWORK OR CONSTRUCTION AND IS TO REMAIN IN PLACE THROUGHOUT CONSTRUCTION.
  3. ALL DEBRIS, FILL, EQUIPMENT OR MATERIAL IS TO BE KEPT CLEAR OF AREA WITHIN PROTECTIVE FENCE. NO CLEANING OF EQUIPMENT OR STORAGE OR DISPOSAL OF ANY MATERIAL OR DEBRIS IS TO BE ALLOWED WITHIN PROTECTIVE FENCE.
  4. NO CUTTING INCLUDING PARKING, DRIVING OR VEHICLES PEDESTRIAN ROUTING, STAGING LAY DOWN OR STORAGE OF MATERIAL WILL BE ALLOWED WITHIN THE TREE PROTECTIVE ZONES (TO EDGE OF TREE DRIP LINE).

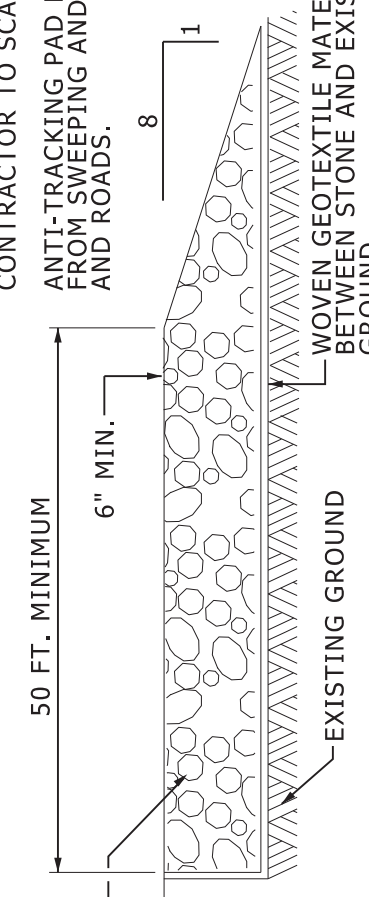


**2 Tree Protection**  
NO SCALE

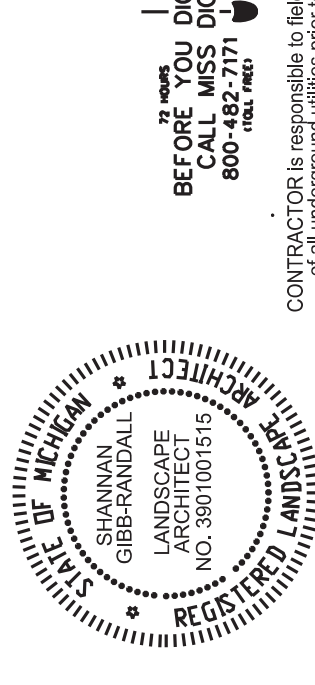


**3 Inlet Filter**  
NO SCALE

- CONTRACTOR TO INSTALL & MAINTAIN ANTI-TRACKING PAD.**
- WHEN AGGREGATE BECOMES SATURATED WITH FINES, CONTRACTOR TO SCARIFY AND RELAY AGGREGATE.**
- ANTI-TRACKING PAD DOES NOT RELIEVE CONTRACTOR FROM SWEEPING AND CLEANING ADJACENT WALKS AND ROADS.**

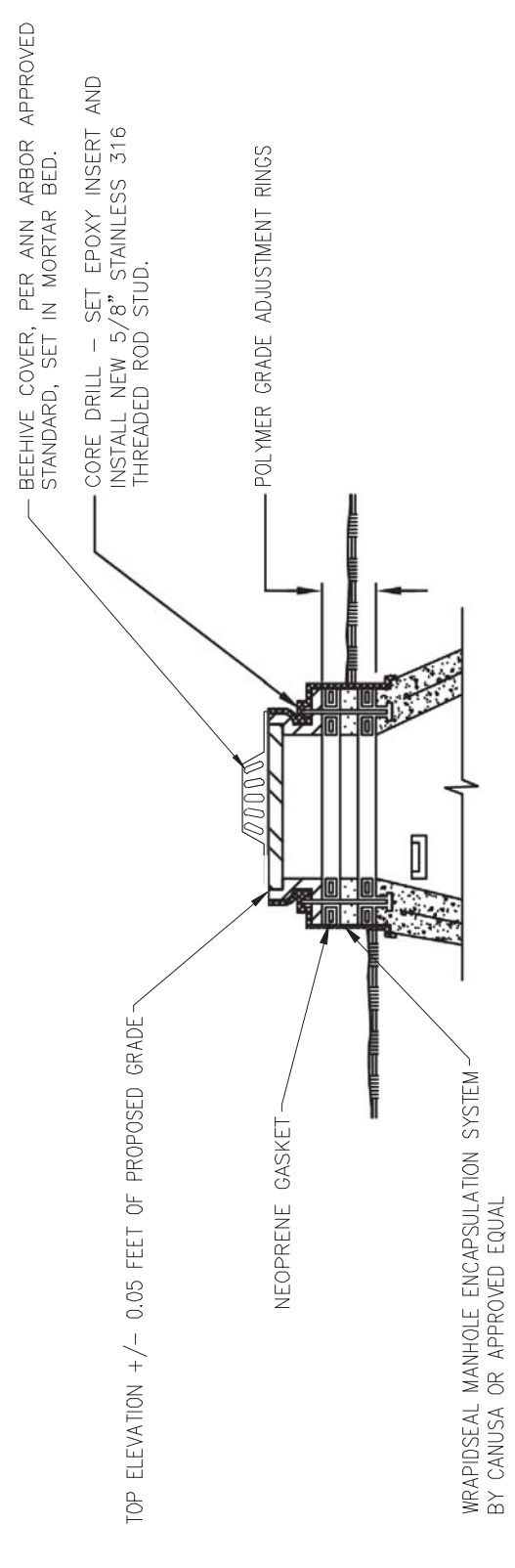


**4 Anti-Tracking Pad Detail**  
NO SCALE

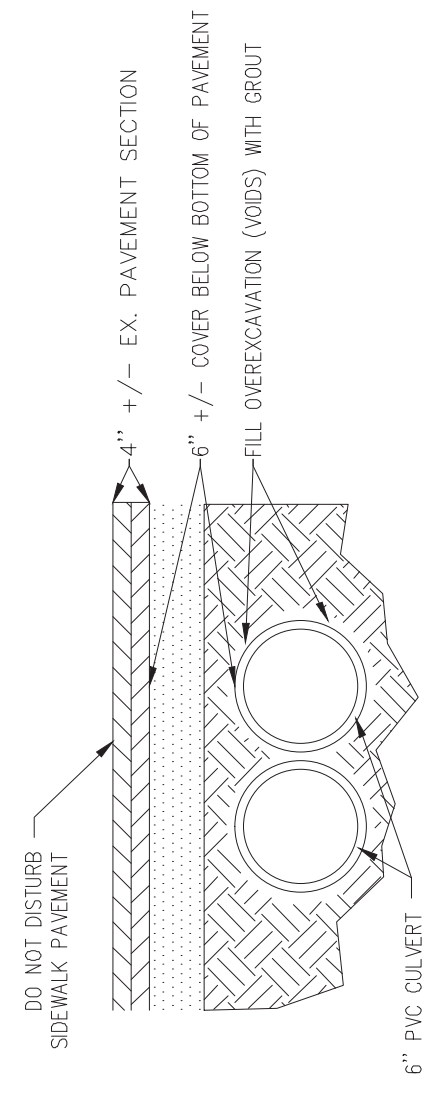


**BEFORE YOU DIG CALL MISS DIG 800-487-4771**

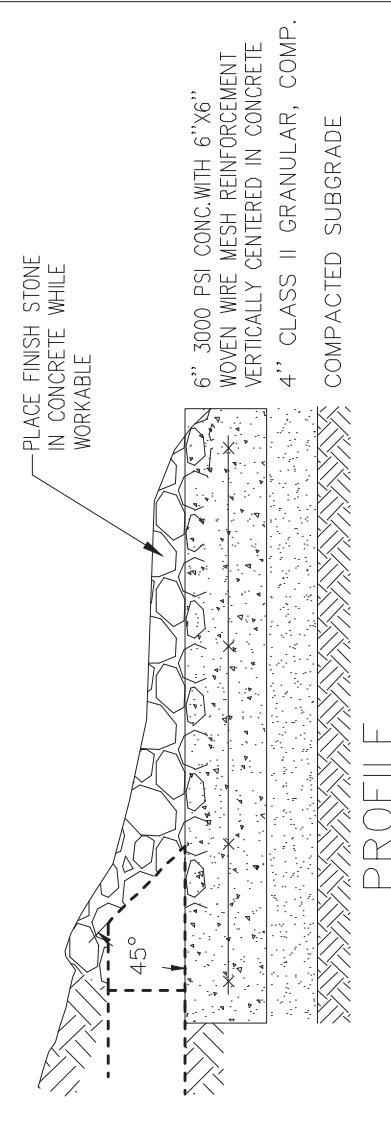
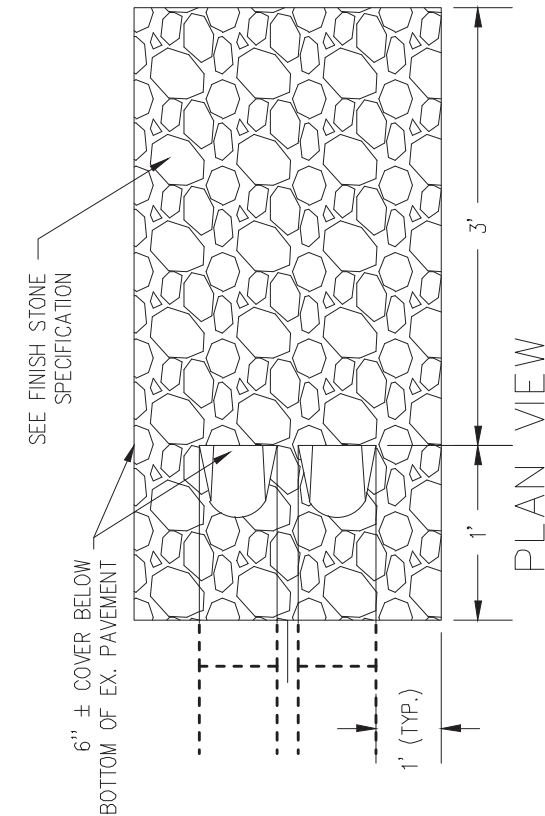
CONTRACTOR IS RESPONSIBLE TO IDENTIFY LOCATION of all underground utilities prior to any work.



**① STORM STRUCTURE RIM ADJUSTMENT**



**② AUGERED CULVERT DETAIL**



**③ STONE AT CULVERT END**

**IN SITE**  
**InSite Design Studio, Inc.**  
 516 East Washington  
 Ann Arbor, Michigan  
 48104  
 734.965.4194 Phone  
 734.965.3408 Fax

DRAWN: JBM  
 DESIGN: -  
 CHECKED: -

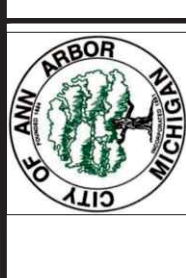
REVISIONS	MARK	ADDENDUM/CHANGE	ORDER	DATE	MARK	ADDENDUM/CHANGE	ORDER	DATE

**JA Johnson & Anderson**  
 4450 Elizabeth Lake Road  
 Westford, MA 01581  
 tel (248) 651-7900 fax (248) 681-2660

1405 W. Washtenaw Ave. #207  
 Ann Arbor, Michigan 48104  
 tel (231) 790-3108 fax (231) 790-3115

3315 Lapeer Road  
 Port Huron, Michigan 48060  
 tel (810) 987-7320 fax (810) 987-7995

City of Ann Arbor:  
 Impervious Area Disconnection and  
 Infiltration Project  
 734-794-6000



**DETAILS**  
**Rain Gardens**

SCALE: VERT. AS SHOWN  
 HORIZ. AS SHOWN

JOB NO. 17208  
 DATE ISSUED 04/11/2013  
 SHEET NO. C-2