

# Appendix B

## Local Examples of BMPs

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Designers, developers, planners and regulators may find it useful to observe operational BMPs described in this manual. To that end, a listing of example BMPs within the Twin Cities metropolitan area is offered here. Location and contacts are included wherever possible, so in addition to visiting the site, users may discuss the installation with someone knowledgeable of the site.

Examples are provided for only some of the 40 BMPs described in this manual. The omissions are intentional; data was not collected for Housekeeping BMPs (for example, pavement management or landscape maintenance). Nor are examples given for those BMPs that are installed only temporarily, then removed when construction is complete.

### **Runoff Pollution Prevention**

#### **Impervious Surface Reduction**

##### **Cul-de-Sacs**

Location: 15th Street North, east of Inwood Avenue, Lake Elmo  
Contact: Tom Prew, City Engineer, Lake Elmo • 651-292-4400  
Notes: Proposed summer 2001—conversion of a round cul-de-sac to a T-shaped turnaround

Location: 15th Street North, east of Inwood Avenue, Eagan  
Contact: Planning and Zoning Department, City of Eagan • 651-681-4685

Location: St. Francis Woods, Falcon Way and Duckwood Trail, Eagan  
Contact: Planning and Zoning Department, City of Eagan • 651-681-4686

##### **Parking Lot Design**

Location: H.B. Fuller Corporation, 3210 Labore Rd., Vadnais Heights (southeast corner of Labore Road and Wolters Blvd.)  
Contact: Dana Larsen Ramsay, H.B. Fuller Corp. • 651-236-4554  
Notes: Please make appointment with Dana before entering the campus. Alternate contact: Rob Langer Ramsey Washington Metro Watershed District • 651-704-2089.

Location: Shepherd of the Valley Lutheran Church, Hudson Road South about a mile west of Stagecoach Trail, Afton  
Contact: Afton City Hall • 651-436-5090  
Notes: Proposed 2001—parking lot with islands and infiltration basins

##### **Turf Pavers, Soil Reinforcement**

Location: University of Minnesota St. Paul Campus, Intersection of Hoyt Avenue and Flandrau Street, St. Paul  
Contact: Pat Byrne, City of St. Paul • 651-266-6171  
Notes: Flood remediation, erosion protection (Paramat)

Location: Parking area, Lake Harriet Rose Gardens, Dupont and West 42nd Streets, Minneapolis  
Contact: Jeff Lee, Minneapolis Park and Recreation Board • 612-370-4900  
Notes: Summer turf parking

Location: Tamarack Swamp Water Quality Ponds, immediately north of Wood Park Boulevard and 2 blocks east of Tower Drive, Woodbury  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089

## Street Design

Location: Stonebridge of Lilydale, northwest quadrant of Trunk Highway 13 and I-35E, Lilydale  
Contact: Mike Rancone, Rancone Development Co. • 651-688-9689  
Notes: Narrow streets, shared parking and bumpout parking

Location: Birmingham and Ripley Streets south of Frost Avenue, Maplewood  
Contact: Chris Cavett, City of Maplewood • 651-770-4550  
Notes: Curbless, gutterless streets allow runoff to flow into rainwater gardens located in rights-of-way.

Location: Century and Harvester Avenues, Maplewood  
Contact: Chris Cavett, City of Maplewood • 651-770-4551  
Notes: Curbless, gutterless streets allow runoff to flow into rainwater gardens located in rights-of-way.

Location: 50th Street North west of Highway 5, Lake Elmo  
Contact: Tom Prew, City Engineer, Lake Elmo • 651-292-4400  
Notes: Construction scheduled for 2001

Location: Fields of St Croix residential development, Highway 5 north of Manning Avenue and the Washington County Fairgrounds, Lake Elmo  
Contact: Tom Prew, City Engineer, Lake Elmo • 651-292-4400  
Notes: Narrow streets and median strips.

## Green Rooftops

Location: Phillips Eco-Enterprise Center, 2801 21st Ave. S. (one block north of Lake Street off Highway 55), Minneapolis  
Contact: Jonathon Sage-Martinson, The Green Institute • 612-278-7120

## Housekeeping

### Animal Management

Location: Loring Park, Hennepin Avenue and Vineland Place, Minneapolis  
Contact: Jeff Lee, Minneapolis Park and Recreation Board • 612-370-4900  
Notes: Buffer strip around pond for goose control.

## Stormwater Treatment BMPs

### Infiltration Systems

#### On-Lot Infiltration

Location: Riverwood development, Hastings: (1) south of Intersection of Vista Drive and Vista Court, (2) west of intersection of Village Trail and South Point Drive, (3) east of Intersection of South Point Drive and Vista Trail, (4) east of intersection of South Point Drive and South Point Court.  
Remainder of infiltration ponds are scattered around the development,  
Contact: Tom Montgomery, City of Hastings • 651-437-4127

Location: Kwanzaa Community Fellowship, 2100 Emerson Ave. N., Minneapolis  
Contact: Sarah Wash, Environmental Organizer, Hawthorne Area Community Council • 612-529-6033 or  
Carmen Simonet, Barr Engineering • 952-832-2718.  
Notes: Rainwater garden for infiltration function and amenity

Location: Birmingham and Ripley Streets, south of Frost Avenue, Maplewood  
Contact: Chris Cavett, City of Maplewood • 651-770-4550  
Notes: Lushly planted rainwater gardens in sandy soils

Location: Saint Mary's Greek Orthodox Church, 3450 Irving Avenue South, Minneapolis  
Contact: Paul Chellsen, Minneapolis Public Works • 612-673-2406  
Notes: Parking lot and building addition required removal of suspended solids and rate control.

### **Infiltration Basins**

Location: Intersection of Lexington Ave. and Nebraska Street, St. Paul  
Contact: District 10, Como Park, Environment Committee • 651-644-3889  
Notes: Difficulty establishing vegetation because contractor applied excessive mulch. This caused a nitrogen deficiency and lack of plant growth.

Location: Swede Hollow Café, 7th Street East and Bates Avenue, St. Paul  
Contact: Upper Swede Hollow Neighborhood Association • 651-771-2659  
Notes: Accepts water from a portion of street and roof. Extensive removal and replacement of compacted soil was necessary because the garden was built where a section of street had been removed.

Location: Quarry Ridge Development, northeast of Radio Drive and Afton Road, Woodbury  
Contact: Steve Kernik, City of Woodbury • 651-714-3533  
Location: County Ditch P85, West of County Road 19, Woodbury  
Contact: Matt Moore, South Washington Watershed District • 651-714-3729  
Notes: Large infiltration basin for pumped water

### **Infiltration Trenches**

Location: Lexus of Maplewood, 3000 N. Hwy. 61, Maplewood  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089

Location: Kline Volvo, Highway 61, 1/2 mile north of Beam Avenue, Maplewood  
Contact: Rob Langer, Ramsey-Washington Metro Watershed District • 651-704-2089  
Notes: RWMWD is monitoring this site.

Location: County Ditch P85, Woodbury  
Contact: Matt Moore, South Washington Watershed District • 651-714-3729  
Notes: Two installed trenches in bottom of larger basin

### **Filtration**

#### **Surface Sand Filters**

Location: Denny's Restaurant, east ditch along Century Avenue, 1/4 mile north of I-94, Oakdale  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089

## Underground Filters

Location: Tamarack Ponds, south end of Tamarack Nature Preserve: (1) Wood Park Boulevard and Tower Drive, (2) Wood Park Boulevard and Evergreen, Woodbury  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089

## Bioretention

Location: Southeast corner of Early Lake, Burnsville  
Contact: Pulte Homes • 651-452-5200

Location: Kwanzaa Community Fellowship, 2100 Emerson Ave. N., Minneapolis  
Contact: Sarah Wash, Environmental Organizer, Hawthorne Area Community Council • 612-529-6033 or Carmen Simonet, Barr Engineering • 952-832-2718.

Notes: Rainwater gardens

Location: Bryant Avenue just north of Highway 55, Minneapolis  
Contact: Lois Eberhart, City of Minneapolis • 612-673-3260  
Notes: Intended to be a demo site, for Mississippi River protection.

Location: Silver Lake, Lake Boulevard and 19th Avenue, North St. Paul  
Contact: Greg Wilson, Lower St. Croix Valley Watershed District • 952-832-2672

Location: Near North Side Redevelopment Project, north of Olson Memorial Highway, from Lyndale Avenue to Fremont, Minneapolis  
Contact: Lois Eberhart, Near North Side Redevelopment, City of Minneapolis • 612-673-3260  
Notes: First large redevelopment project required to meet city stormwater requirements

## Constructed Wetlands

### Stormwater Wetlands

Location: Carlton College Arboretum, Highway 19, Northfield  
Contact: Mark McKone, Carleton College • 507-646-4393

Location: Target Store pond, Trunk Highway 36 at McKnight Road, North St. Paul  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089

Location: Kohlman Basin, southeast of Beam Avenue and Highway 61, Maplewood  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089

Location: Tanners Lake wetland, northwest of 7th Street and Gershwin Avenue North, Oakdale  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089

Location: McCarron's wetland treatment system, Roseville  
Contact: Duane Schwartz, City of Roseville • 651-490-2311 or Gary Oberts, Metropolitan Council • 651-602-1079

Notes: Detention ponds followed by series of small wetland chambers

## Wet Swales

Location: Carver Ravine ponds, West of Intersection of Jordan Dr and Buckingham Road, Woodbury  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089

## BMPs in Series

Location: Plymouth Boulevard and 34th Avenue, Plymouth  
Contact: Ron Quanbeck, City of Plymouth • 763-509-5525  
Notes: Multiple cell basin.

Location: North of Tanners Lake: (1) south of intersection of Minnehaha and Century Avenues and (2) north of Intersection of Century Avenue and 7th Street, Oakdale  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089  
Notes: Alum treatment, followed by wetland, sediment basin and weirs.

Location: McCarron's wetland treatment system, Roseville  
Contact: Duane Schwartz, City of Roseville • 651-490-2311 or Gary Oberts, Metropolitan Council • 651-602-1079  
Notes: Detention ponds followed by series of small wetland chambers

Location: Lake Calhoun, southwest side, near Xerxes and Lake Calhoun Blvd., Minneapolis.  
Contact: Mike Panzer, Wenck Associates • 763-479-4200

## Retention Systems

### Wet Ponds

Location: Gervais Mill Pond - Edgerton Street, 1/4 mile north of Little Canada Road, Little Canada  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089  
Notes: Large site

Location: Tanners Lake Park, east side of lake, Grafton Location: Avenue and 2nd Street North, Oakdale  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089  
Notes: Smaller site

Location: Carver Ravine, south of Lake Road on east side of Jordan Drive, Woodbury  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089  
Notes: Smaller site

Location: Schaper Park Pond, north side of Trunk Hwy 55, East of Trunk Hwy 100, Golden Valley  
Contact: Jeff Oliver, City of Golden Valley • 763-593-8034  
Notes: Pond removes nutrients so they do not enter Sweeney Lake

Location: Beam Avenue Pond, one block south of Beam Avenue and Hazelwood Road, Maplewood  
Contact: Chris Cavett, City of Maplewood • 651-770-4550

Location: McKnight Basin, east of Larry Ho Drive and McKnight Road, Maplewood  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089

Location: Bredeson Park, Vernon Avenue and Olinger Boulevard, Edina  
Contact: Bob Obermeyer, Nine Mile Creek Watershed District & City of Edina • 612-832-2857

Location: Normandale Lake, southwest of Highway 100 and 82nd Street, Bloomington  
Contact: Bob Obermeyer, Nine Mile Creek Watershed District • 612-832-2857

## Extended Storage Ponds

Location: Hastings Industrial Park, one block southeast of intersection of Spiral Boulevard and Enterprise Avenue, Hastings

Contact: Tom Montgomery, City of Hastings • 651-437-4127

Location: Summit Point Development, one block east of intersection of 4th Street and General Sieben Drive, north side of 4th Street, Hastings

Contact: Tom Montgomery, City of Hastings • 651-437-4127

Location: Carver Ravine, south of Lake Road on northwest side of Jordan Drive, Woodbury

Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089

## Detention Systems

### Dry Ponds

Location: Intersection of Hoyt Avenue and Flandrau Street, St. Paul

Contact: Pat Byrne, City of St. Paul • 651-266-6171

Location: Hazel Street and Bush Avenue, St. Paul

Contact: Karl Johnson • 651-266-6256

Location: 14th Street basin, 14th Street and Tierney Drive, Hastings

Contact: Tom Montgomery, City of Hastings • 651-437-4127

Location: 20th St. Basin, 20th St and Pleasant Dr., Hastings

Contact: Tom Montgomery, City of Hastings • 651-437-4127

Location: Conzemius Park, Park Lane and Bahls Drive, Hastings

Contact: Tom Montgomery, City of Hastings • 651-437-4127

Location: Northwest ponding basin, northeast of intersection of West View Drive and Pleasant Drive, Hastings

Contact: Tom Montgomery, City of Hastings • 651-437-4127

Location: Pine Tree Ponds subdivision, Cottage Grove

Contact: City of Cottage Grove • 651-458-2825

Notes: Series of dry ponds throughout 1970s development by Orrin Thompson.

Location: Marigold Foods, 4<sup>th</sup> Street and 21<sup>st</sup> Avenue North, Minneapolis

Contact: Paul Chellsen, Minneapolis Public Works • 612-673-2406

Notes: Dry pond constructed for treating of runoff from new parking lot.

### Oversized Pipes

Location: 14th Street Basin, 2 Blocks South of intersection of General Sieben Drive and Hwy 55, Hastings

Contact: Tom Montgomery, City of Hastings • 651-437-4127

### Oil & Grit Separators

Location: Target Store, I-94 near Lexington Avenue, St. Paul

Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089

Location: Twin Cities Air Force Base, Minneapolis  
Contact: Robert Callery, U.S. Air Force • 612-292-4487  
Notes: Example provided by Vortechinics, Inc.

Location: Hastings Industrial Park Pond, east side of pond, 1 block south of Spiral Boulevard and Enterprise Avenue, Hastings  
Contact: Tom Montgomery, City of Hastings • 651-437-4127

## Dry Swales

Location: Hastings Industrial Park, Spiral Boulevard and Enterprise Avenue, Hastings  
Contact: Tom Montgomery, City of Hastings • 651-437-4127

## Flow Control Structures

### Permeable Weirs

Location: Kohlman Basin, Beam Avenue and Highway 61, Maplewood  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089

Location: Tanners Lake wetland, 7th Street, 1 block east of Century Avenue, Oakdale  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089

Location: Lake Gervais wetland, Edgerton Street, 1/4 mile north of Little Canada Road, Little Canada  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089

### Flow Splitters

Location: Intersection of Lexington Avenue and Nebraska Street, St. Paul  
Contact: Dan Krivit, District 10, Como Park, Environment Committee • 651-489-4990  
Notes: Infiltration basin also located here

Location: Near intersection of Century and Minnehaha Avenues, Maplewood  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089  
Notes: Flow splitter for Tanner's Lake alum treatment

Location: Near North Side Redevelopment Project, north of Olson Memorial Highway, from Lyndale Avenue to Fremont, Minneapolis  
Contact: Lois Eberhart, Near North Side Redevelopment, City of Minneapolis • 612-673-3260  
Notes: First large redevelopment project required to meet city stormwater requirements.

### Proprietary Flow Control Devices

Location: Apostolic Bible Institute, I-94 and Hadley Avenue, Oakdale  
Contact: Cliff Aichinger, Ramsey-Washington Metro Watershed District • 651-704-2089  
Notes: To be constructed in 2001

Location: Lake Nokomis, Minneapolis  
Contact: Dave Johnson, HDR Engineering • 763-479-4200  
Notes: Large site offers examples of "swirl technology," grit chamber and constructed wetlands

