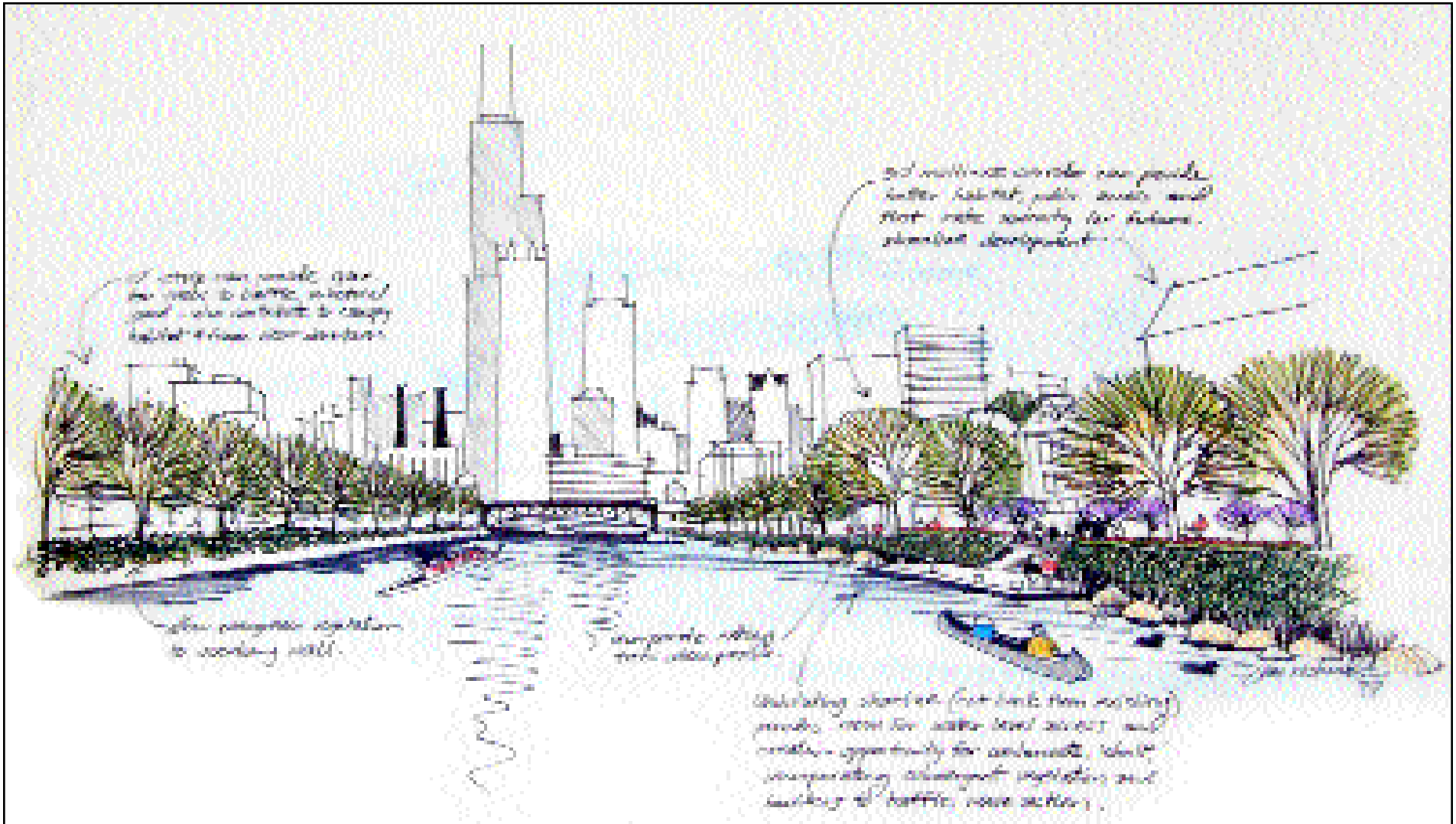

From Stockyards to Spawning Beds

A Handbook of Bank Restoration Designs for the Chicago River and other Urban Streams

CHICAGO WILDERNESS℠

A Regional Nature Reserve

Friends of the Chicago River • Northeastern Illinois Planning Commission • City of Chicago Department of Planning and Development

Introduction

The Chicago River is one of the City of Chicago's most valuable natural assets. Winding its way from the northern suburbs, through the length of the city, and beyond, the river flows through culturally diverse neighborhoods and communities including Edgebrook, Ravenswood, North Park, River North, the Loop, Chinatown, Bridgeport, and Pilsen, to name but a few. City parks, field houses, trails, natural areas, historic landmarks and bridges, industries, boat yards, and universities can be found all along the Chicago River.

The past hundred and fifty years of economic and industrial growth of the city have taken a large toll on the Chicago River.

Spurred on by its association with the river for commercial and manufacturing purposes, our urban and industrial society neglected to preserve the river as a natural amenity by manipulating, channelizing, polluting, and even reversing the flow of the river. Along the banks of the river, miles of unsightly concrete and steel piling and rip rap were installed to stabilize river banks and provide boat mooring locations.

Today, many of the sea walls that line the riverbank are crumbling. In a city-wide effort to revitalize the Chicago River as an aesthetic, recreational, and economic amenity, industries and property owners are encouraged to develop their river banks into more aesthetically pleasing and naturally-vegetated areas. Fortunately, the cost effective technology exists today to stabilize river banks and prevent erosion while also improving biological diversity, aquatic and terrestrial habitats, water quality, and enhanced property values.

Interest in restoring the Chicago River has generated a number of projects including a revitalized downtown river corridor with cafes, riverwalks, new parks, restored natural river trails, canoe launches, and even a regional plan to turn the Chicago River into a State recognized public waterway for canoeists and other boaters. Yet as the river water progressively improves and becomes cleaner, the number of available niches or habitats for wildlife and fish along the most urbanized stretches of river remains low. Without sites for food, spawning, resting, and nesting along the river, fish diversity and wildlife communities continue to remain limited in the Chicago River ecosystem. Future projects need to address river habitat quality and quantity to improve this situation.

Through funding from a Chicago Wilderness grant, the Friends of the Chicago River and the Northeastern Illinois Planning Commission assembled experts in natural river bank and riverwalk design from across the country to participate in a charrette in November, 1998 to design creative solutions to enhance and restore the banks of the Chicago River. Charrette participants are identified in the back of this handbook.

This publication presents the concept designs for treatment of river edges that came out of that design charrette. It is intended to be utilized by property owners, developers, engineers, architects, and city planners who are involved in development projects along the Chicago River, as well as other citizens and community organizations outside the Chicago region who have an interest in restoring degraded riverbanks.

Vision for the Chicago River

In 1998, the City of Chicago Department of Planning and Development presented its Chicago River Corridor Development Plan and its companion publication, Guidelines and Standards for a revitalized and improved Chicago River. The components of this vision include:

- creating a revitalized river that maintains the City's working and cultural heritage
- providing and expanding recreational outlets for the public
- improving the riverbank quality for aesthetics, riverbank stabilization, habitat quality and water quality
- supporting river friendly and compatible commercial and industrial development
- increasing the quality of life for the citizens of Chicago.

Native river bank vegetation can provide many benefits. Due to their drought tolerance ability, native plants are well adapted to the Midwestern climate of hot summers, cold winters, and varying moisture levels, and as perennials they do not have to be replanted every year. Many riverine plants can also tolerate poor soils and fluctuating water levels, typical of difficult situations along the Chicago River. More than just weeds, native plants come in a wide range of vibrant colors, textures, and shapes, such as black eyed susans, purple spiderwort, wild irises, and blue vervain. When combined with certain types of structure, native plants can withstand the hardships of an urban environment, stabilize soils, and prevent erosion. Equally important, native vegetation provides for wildlife habitat, seed source for wintering and migratory birds, pollutant filtering capability, and river bank stabilization through their deep roots.

The Chicago City Council took a step forward to shape the vision of the Chicago River by amending the Chicago Zoning Ordinance in 1998. The amended ordinance required all new development projects within 100 feet of the Chicago River to establish a 30-foot setback from the waterway to preserve the natural character of the river and for potential future greenway applications.

As aging sheet pilings begin to degrade, developers, city planners, and citizens are looking for design alternatives for riverbank stabilization as opposed to traditional sheet pile construction. Riverfront developers working with the Chicago Department of Planning and Development are urged to take on the challenge of softer riverbank designs. Advantages including aesthetics, ecological benefits, lower costs, sustainability, natural river bank stabilization, and quality of life make natural river bank treatments a feasible option for beautifying and enhancing the character of the Chicago River. Developers must also comply with the Chicago River Corridor Design Guidelines and Standards for appropriate site elements and treatment required in the setback area. Within this zone, naturalistic bank stabilization and restoration techniques can and should be applied.

Each site along the river is unique. Site conditions such as soils, hydrology, slope, runoff, erosion, existing vegetation, riverbank condition, utilities, access, costs, and permit requirements will determine the appropriate design. The following illustrations are intended to suggest creative solutions along a continuum from the most urbanized sections of the river to less urbanized riverbanks of more or less natural appearance. These designs are offered as possibilities. Designers should not be limited to only these illustrated solutions, but should draw from them more ideas for additional new and creative bank treatments. A recommended palette of native plants is included at the end, as well as a reference section for further information.

Naturalized River Bank Solutions

For many decades, sheet piling was a common application for river bank treatment in many areas of the city. By installing sheet piling industries were able to develop and utilize space all the way to the water's edge, as well as facilitate transfer of goods between land and boats, but at the cost of the river setback and the natural river bank itself. The function of sheet pile is to maintain the structural integrity of the riverbank as well as absorb wave energy. There are miles of sheet pile of different materials and conditions along the commercial and industrial districts of the Chicago River. As sheet pile ages, it rusts, corrodes, and crumbles, and eventually requires replacement. As an alternative, natural riveredge treatments are eco-friendly solutions that enhance and soften the industrial riverfront. It has been said that the strongest point of a seawall's existence is when it is newly constructed, and it begins to deteriorate from that time on; the river edge treated naturally, by contrast, continues to become stronger as the plants continue to grow and mature.

The following illustrations describe innovative strategies for manipulating existing sheet piling to form natural riverbanks. These designs show how an existing seawall can be cut down or replaced by a shortened sheet pile. The short wall application is particularly useful where there are limited setback distances. The existing slope would need to be regraded and/or backfilled to create a more gradual and natural slope. A cantilevered truss can also serve to extend the riverbank out over the seawall which can then be planted with emergent vegetation, creating a small artificial wetland (Fig. 1).

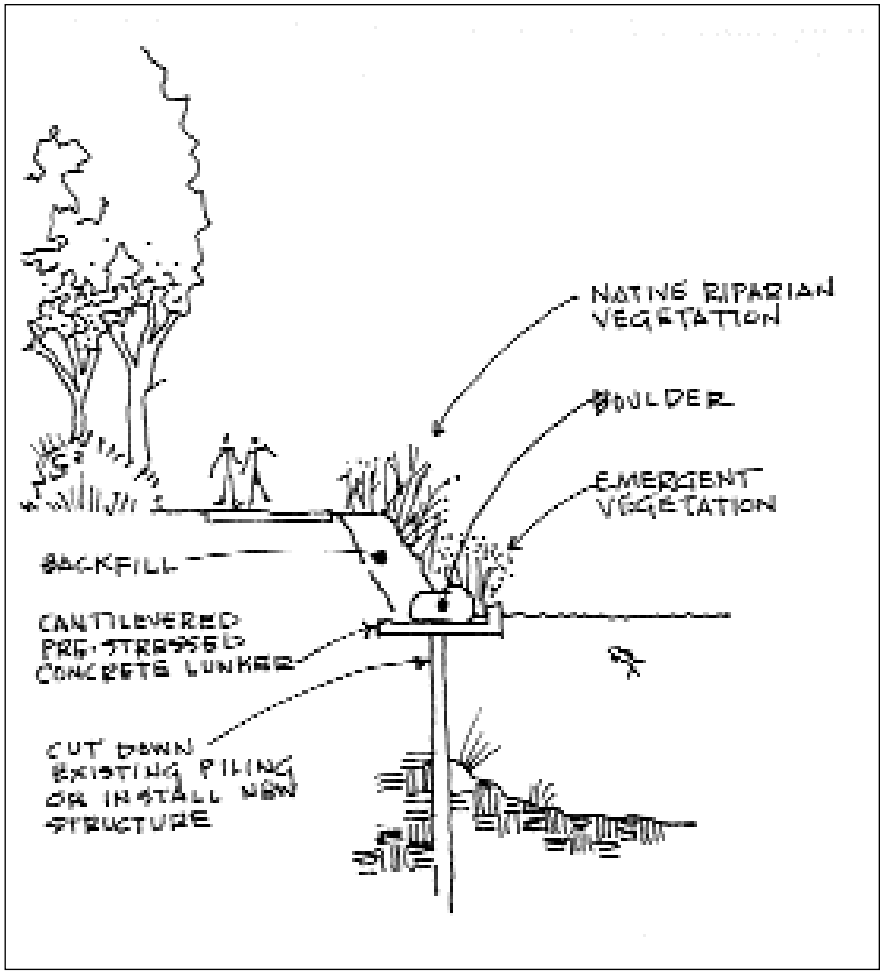

Figure 1

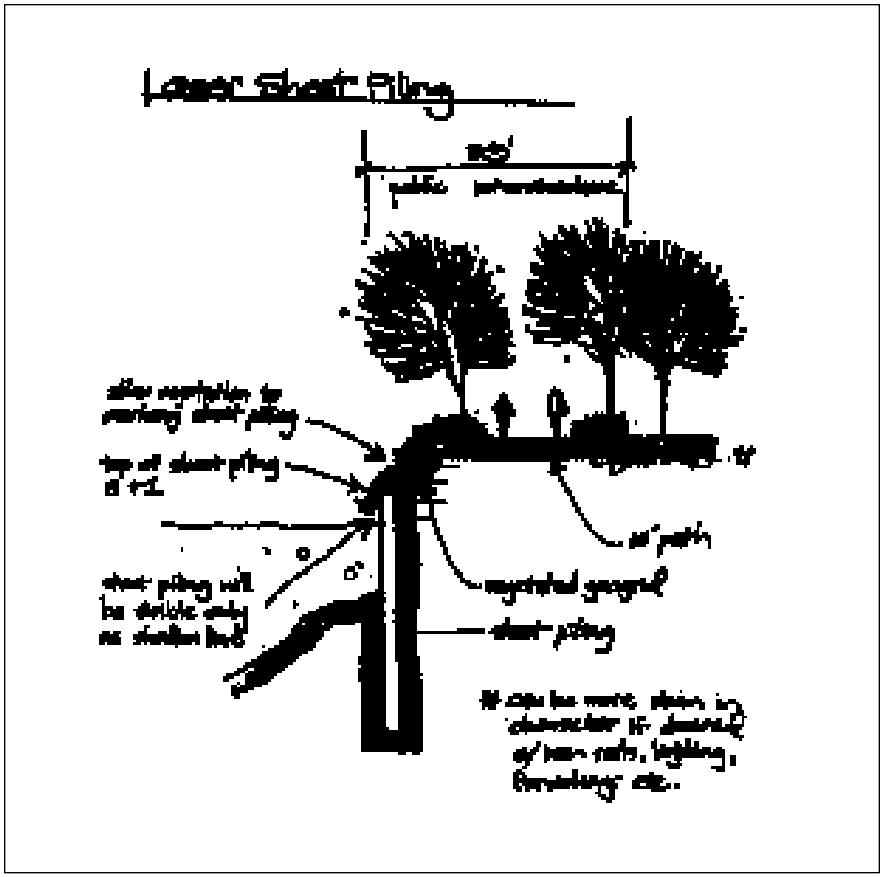

Figure 2

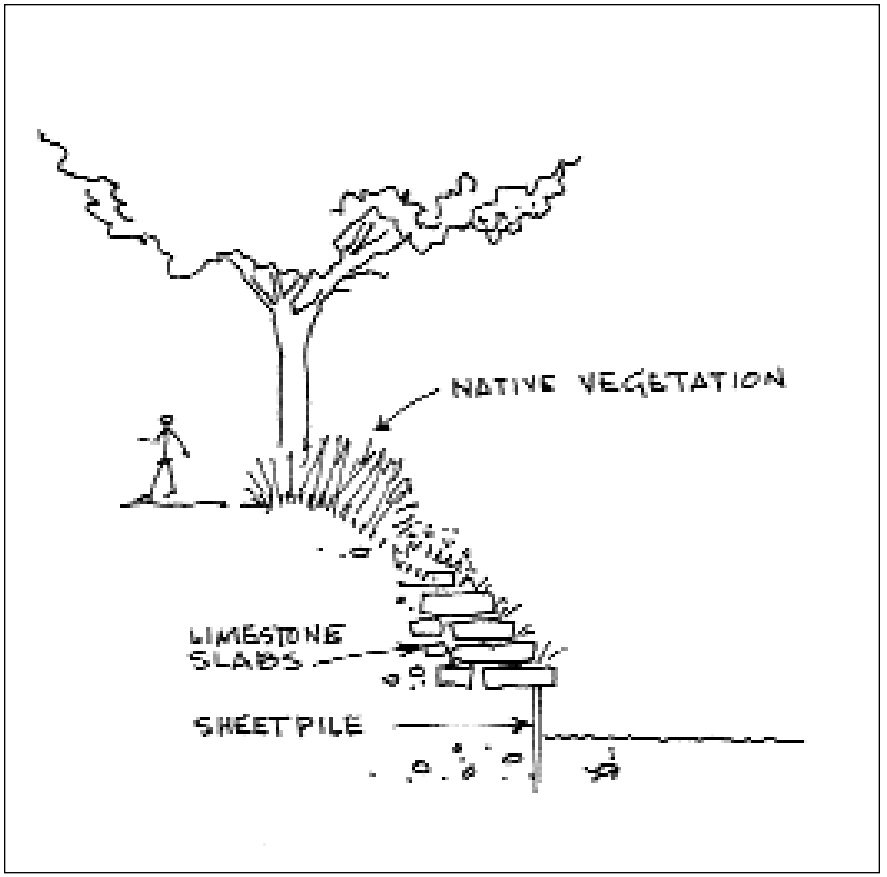

Figure 3

Figure 2 illustrates an approach to regrading and replanting without installing a cantilevered truss. In this approach, a geotextile grid is established on the reconstructed slope which anchors the newly planted vegetated slope. Overhanging vines are allowed to drape over the shortened sheet pile, softening its appearance.

On highly erosible slopes, the use of limestone slabs to anchor the reconstructed slope can be an aesthetically pleasing riverbank treatment (Fig. 3). Again the existing sheet pile is shortened. Limestone slabs are placed in a stepped formation following the angle of the new slope. Interspersed between the limestone slabs are native grasses, forbs, or dormant wood cuttings. Shrubs and trees are planted at the top of the slope. The advantage of this technique is that the natural appearing limestone slabs secure the slope and maintain its structural integrity, while the deep-rooted plants stabilize the stone slabs.

Other creative applications (Fig. 4) involve enhancing the existing sheet pile. By anchoring plants and shrubs in strategic locations, such as in the corrugations' concave spaces, vegetation can be made to grow out of the sheet pile. The short wall applications and sheet pile enhancements are all excellent bank treatments which illustrate how existing sheet pile structures can be easily adapted to natural riverbank treatments, without altering the structural function of the seawall.

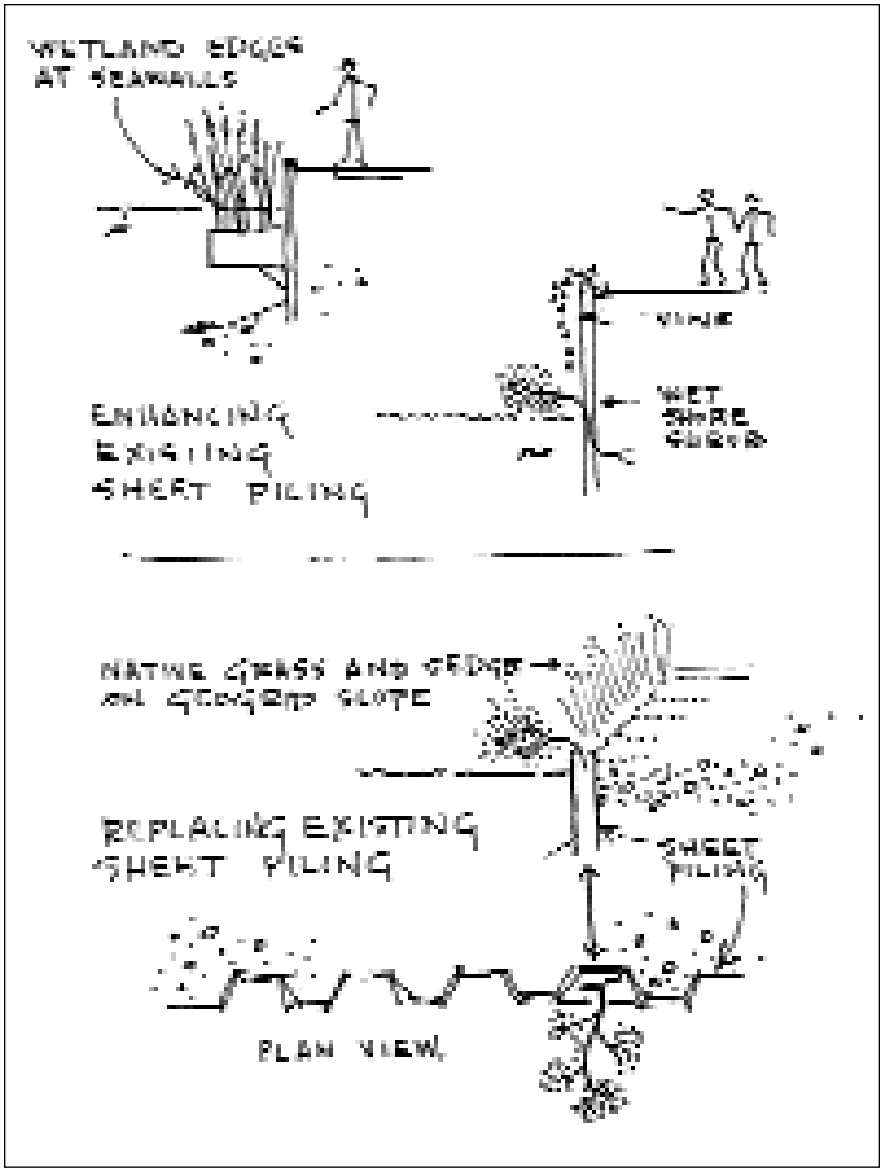

Figure 4

Bioengineering Techniques

A number of proven techniques have been developed to stabilize riverbanks relying largely on vegetation. Dormant woody cuttings and live staking are some of the simplest methods. This technique involves inserting dormant tree cuttings (e.g., willow, dogwood, and buttonbush) into the existing riverbank. As these cuttings require little maintenance and no special treatments to root, they can quickly revegetate a difficult river bank situation. (Fig. 5). An extension of this technique is the use of bundle fascines (bundles of dormant cuttings wound together). These bundles are then inserted into the riverbank in a similar fashion. The advantage of fascines is that the bundles reproduce much more readily than single stems, enabling more rapid revegetation of the river bank. An important aspect of this work is to stabilize the toe of the slope to reduce sloughing and further erosion.

Another common technique to establish a river bank susceptible to erosion is the use of coir logs (Fig. 6). Coir logs are basically coconut fibers wrapped into rolls. The spongy consistency of the coir log serves as a growing medium and substrate for plants. It also serves as a buffering medium to contain and protect a degrading slope from wave and wake action.

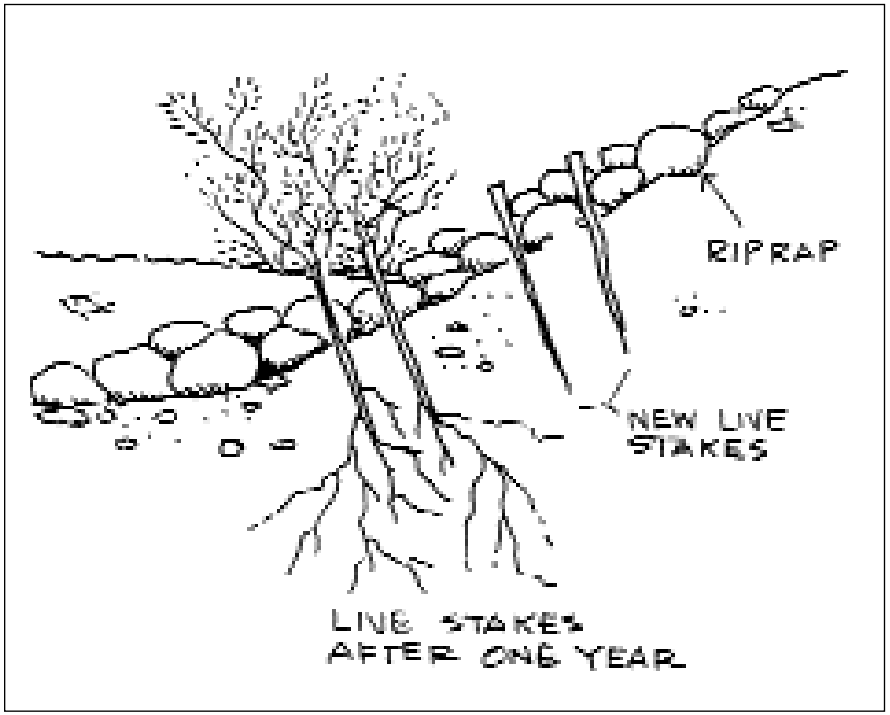

Figure 5

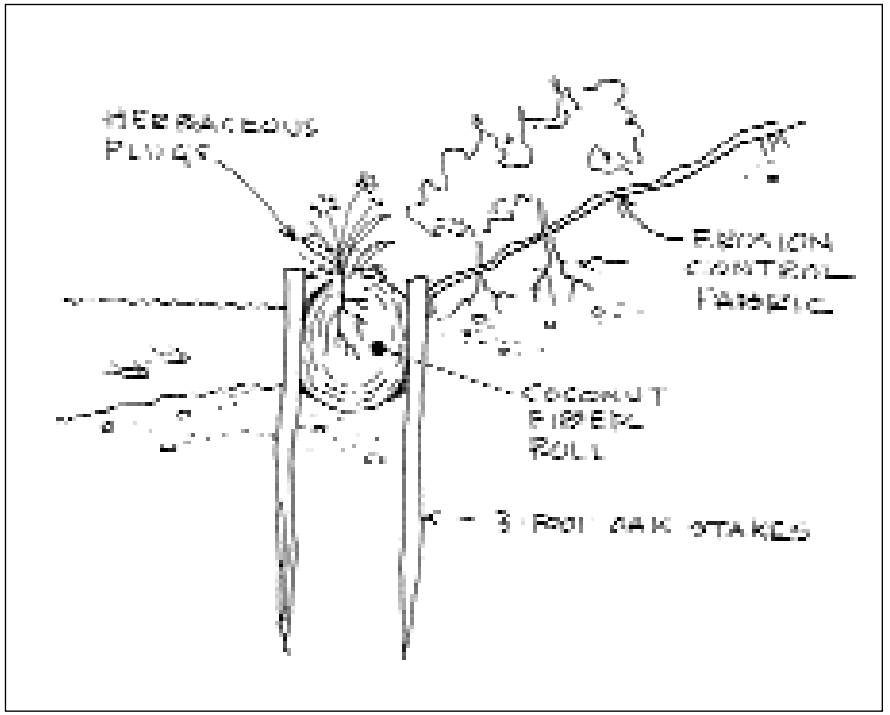

Figure 6

Vegetated geogrids are one of the best river bank revegetation methods available involving the application of layers of dormant cuttings and native plantings (Fig. 7). This technique can secure the river bank in difficult situations. The layers of brush cuttings provide for fish habitat as well as reinforcements by holding the soil substrate in place with its developing roots at different levels in the slope. The toe of the bank can be further stabilized with lunkers (overhanging shelves), boulders, or rock fill beneath the water line. In addition, native vegetation can be placed at the top of the river bank and on the geogrid to enhance the natural character and ecological function of the river bank.

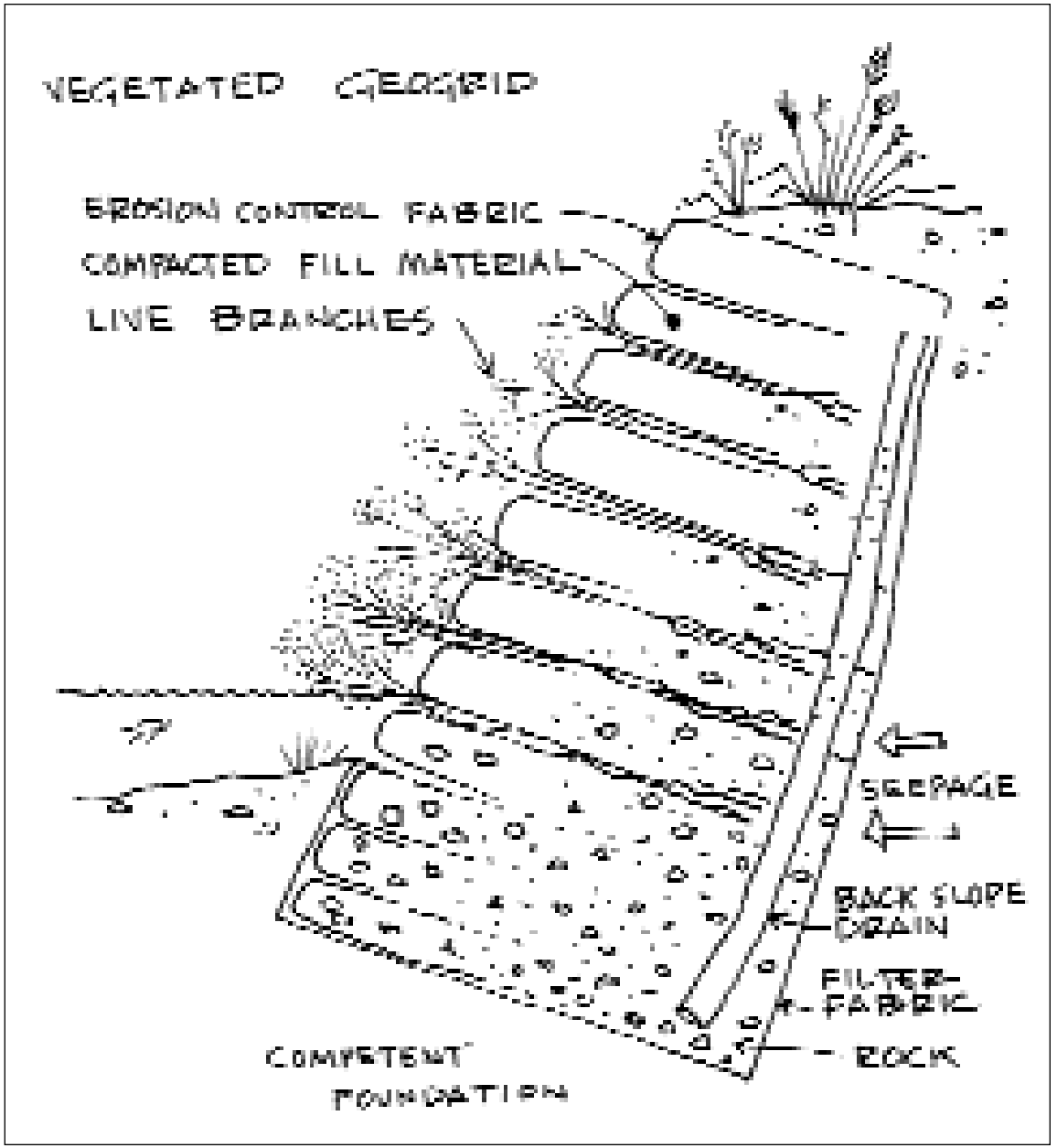

Figure 7

Overlook Concept

Overlooks are important landscape features which bring people up to the immediate river front. They can serve as interpretive opportunities, scenic vistas, wildlife outlooks, fishing areas, community gateways, greenway connectors, and informal meeting areas. Overlooks also provide continuity for public open space and greenways along the river, as they function as gateways to the river. Of course, the shelter and shade that overlooks can provide for aquatic life is also important.

Illustrated is an example of a natural landscaped overlook (Fig. 8). The shoreline is undulating and irregular, as it would be along a natural stream. Boulders (glacial erratics, which occur naturally in this part of the Midwest) are incorporated into the design at the base of the vegetated slope along the river edge and function in a number of different ways. First, strategically placed boulders deflect and diffuse wave energy from boat wakes. Second, boulders stabilize the base of the slope by acting as anchors holding the earthen bank slope together. Third, their uneven surfaces and more or less random placement along the shoreline provide variable habitat for aquatic organisms. Such organisms are food for foraging and migratory birds and fish along the Chicago River. Another important feature of overlooks is that they provide important shade areas underneath their cantilevered structures which will attract fish, frogs, and turtles.

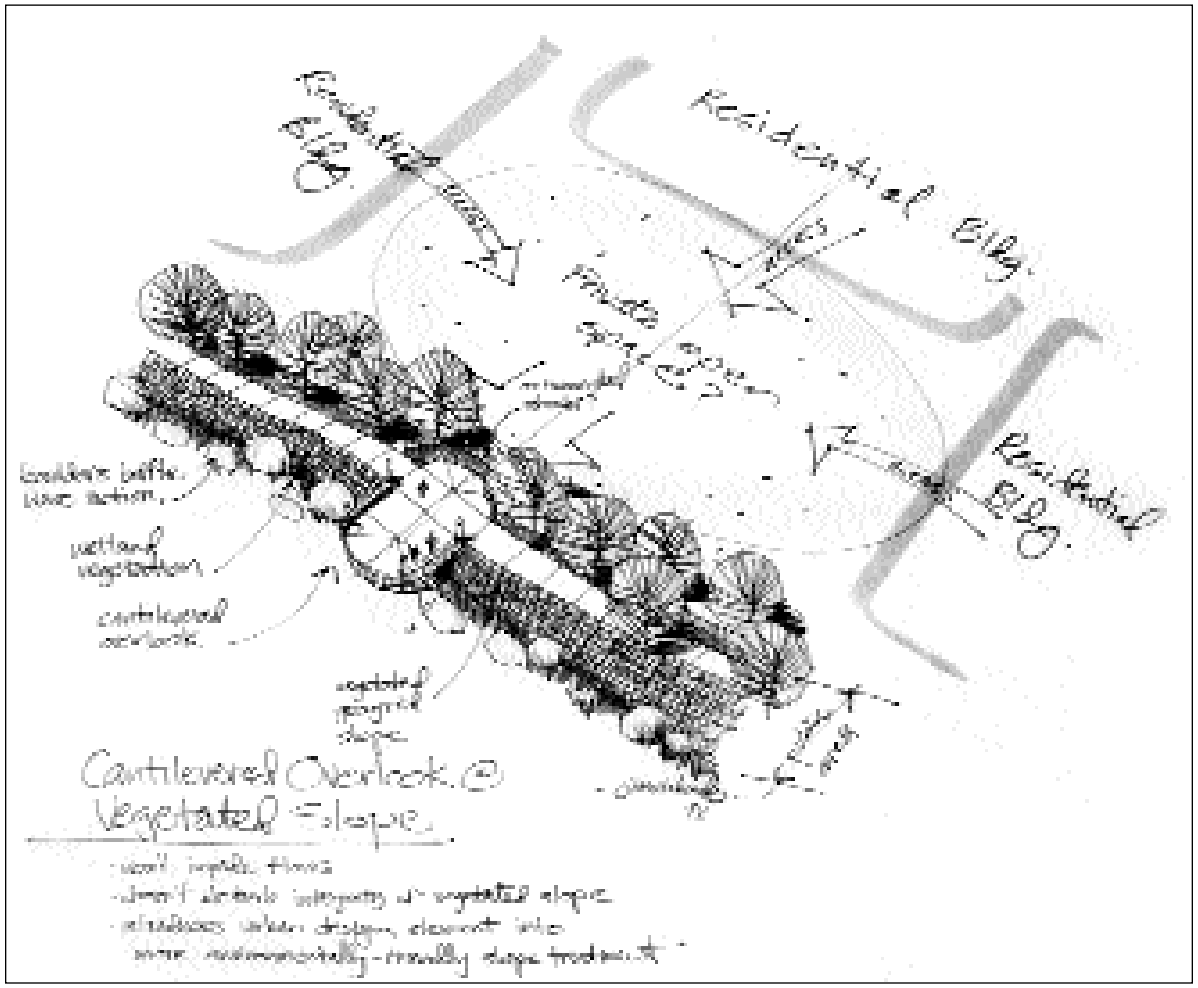

Figure 8

Techniques for Creating and Restoring Wildlife Habitat

There are a number of different techniques which can be utilized in river bank restoration projects to enhance and promote wildlife habitat. These designs would be more typical for more natural stretches along the Chicago River. One method involves creating a terrace just below the water line (Fig. 9). This terrace or shelf functions as a narrow riparian wetland, sustaining emergent wetland vegetation such as cat tails, sedges, arrowhead, and irises. The new wetland habitat will attract wildlife, including insects, crayfish, snails, shorebirds, fish, etc. Anchored by a boulder, the reconstructed river bank above the waterline can be revegetated with native plants, gradually blending into the public greenway. Overhanging vegetation at the river bank also serves to provide cover for wildlife adjacent to the water's edge. This type of a riverbank restoration project can serve as an excellent interpretive river site to illustrate the natural and cultural aspects of the river.

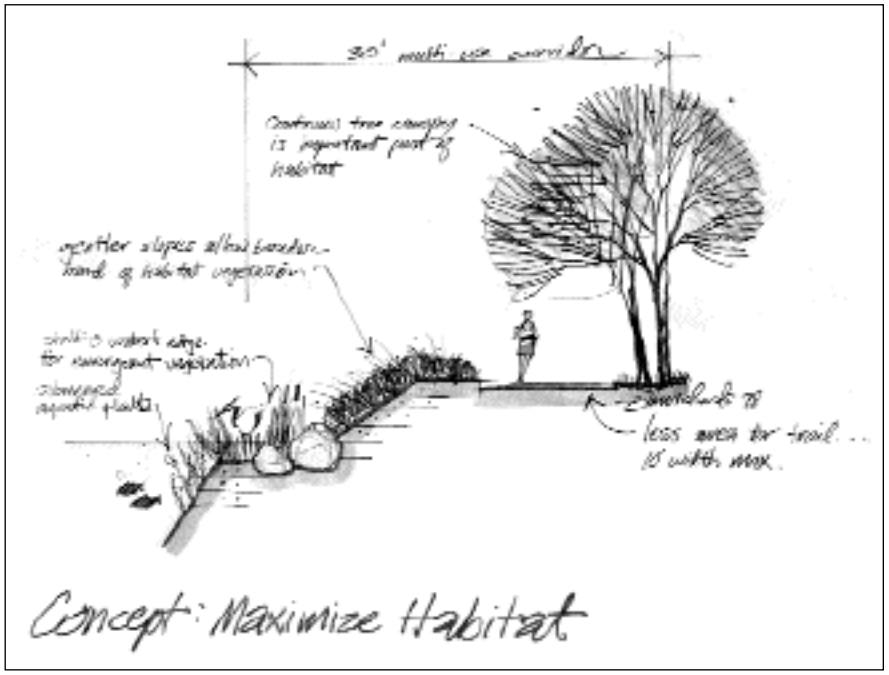

Figure 9

To enhance and promote fish habitat, a rock-filled cavity can be incorporated into the river bank at and below the water level to create shallows (Fig. 10). This niche serves as a spawning area for fish, as well as habitat for insects which normally occur in gravel stream beds -- caddis flies, may flies -- which fish eat. Again, wetland vegetation and shrubs are crucial to provide shelter and cover for fish attracted to the rock cavity. The benefit of this design is that it presents an opportunity to create wildlife habitat in a bank restoration project.

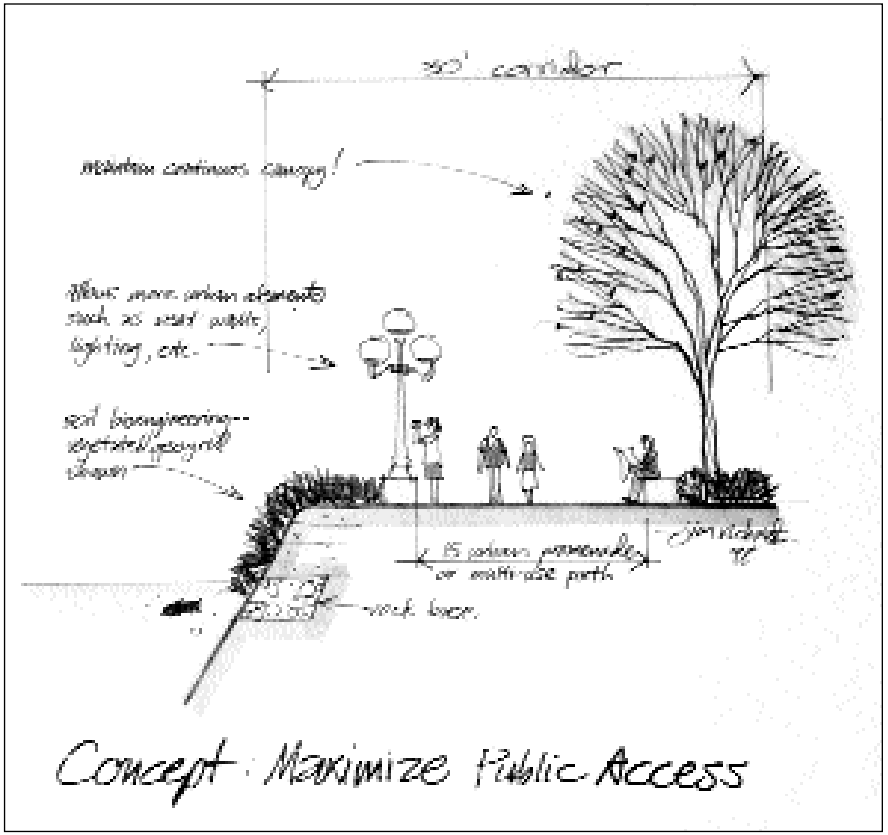

Figure 10

Floating Islands

The concept of floating islands is relatively new to the Midwest, although other parts of the world use them to provide habitat in otherwise inhospitable and difficult circumstances. This technique is well-suited for situations where the natural river bank is steep, unstable, or eroding at a fast rate. Anchored to the bottom, a series of floating islands near the shore can provide bank protection from the waves and wakes. Constructed of plastic pipe, with permeable geotextile fabric suspended between the support pipes, the floating platform acts as a substrate medium for plants. Over time, vegetation from the shoreline and floating island will come together, creating a large wetland habitat complex. Figure 11 shows how the island can function as a foraging area and nesting site, and will even attract fish from below. As this structure develops into a wetland, the shoreline will re-establish itself as it would normally through ecological succession.

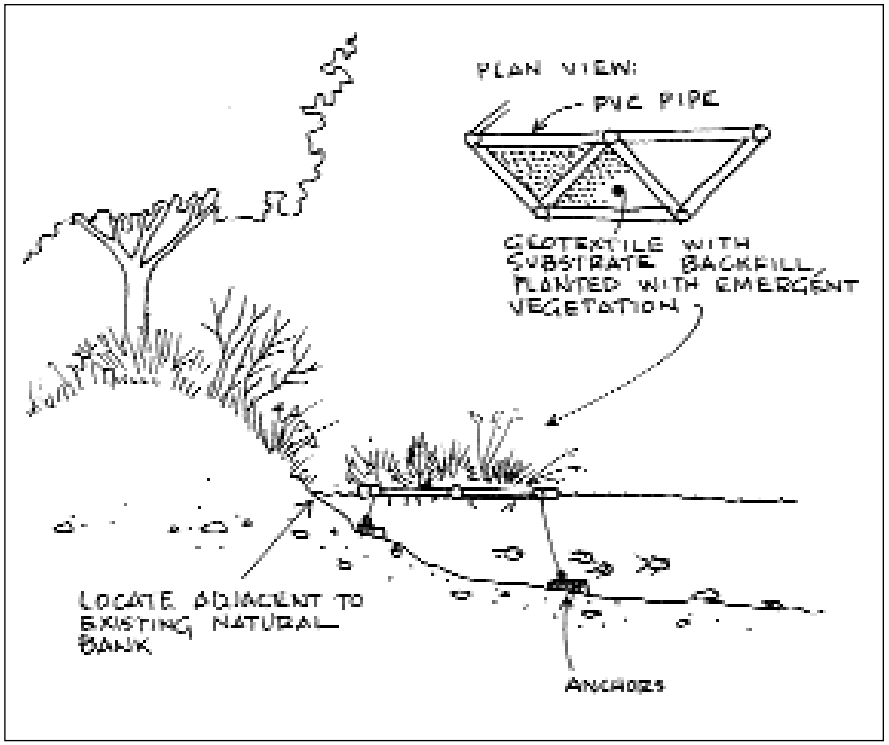

Figure 11

A fish ladder built into a culvert in California.

Strawberry Creek in Berkeley, California had been buried in a pipe until it was dug out and turned into a creek and public park.

On the St. Charles River in Quebec concrete walls were replaced with a living river edge.

A steep river bank was regraded and stabilized with habitat enhancing boulders at Clark Park on Chicago's north side.

A steep eroded wall was rebuilt with plants and a "live crib wall" on Johnson Creek, Portland, Oregon.

Recommended Native Plant List For Riverbank Restoration Projects Along The Chicago River

Lower Bank Stream Stabilization *(Adapted from Native Plant Guide for Streams and Stormwater Facilities in Northeastern Illinois)*

Common Name	Scientific Name	Preferred Water Depth	Color	Blooms	Mature Height	Plant Type	Nutrient Tolerance	Salt Tolerance	Siltation Tolerance	Light Preference
Water Plantain	Alisma subcordatum	0-6 in	white	May-Sep	.3-3.3 ft	emerg herb	mod	mod	high	full sun
Fox Sedge	Carex vulpinoidea	6 in or less	green	May-Jun	1-3 ft	sedge	mod-high	low-mod	mod	part-full sun
Hackberry	Celtis occidentalis	moist soil	green-yellow	Apr-May	80 ft	tree	mod	mod	low-mod	shade tolerant
Buttonbush	Cephalanthus occidentalis	2-3 ft	white	Jun-Aug	3-10 ft	shrub	mod	mod-high	mod	part-full sun
Gray Dogwood	Cornus racemosa	moist	white	Jun-Aug	8 ft	shrub	mod-high	low	mod-high	part-full sun
Red-Osier Dogwood	Cornus stolonifera	saturated	white	May-Aug	3-9 ft	shrub	mod-high	not tolerant	mod-high	part-full sun
Blunt Spike Rush	Eleocharis obtusa	saturated	brown	Jun-Oct	12-18 in	herb	mod-high	low-mod	low	full sun
Creeping Spike Rush	Eleocharis acicularis	saturated	brown	Jun-Sep	12-18 in	herb	low	mod	low	full sun
Nodding Wild Rye	Elymus canadensis	mesic	tan	Jul-Oct	3-6 ft	grass	low	n/a	low	part-full sun
Virginia Wild Rye	Elymus virginicus	moist	tan	Jun-Oct	3 ft	grass	mod	n/a	mod	shade-full sun
Green Ash	Fraxinus pennsylvanica	moist	green	Apr-May	60 ft	tree	high	mod	high	shade tolerant
Fowl Mana Grass	Glyceria striata	moist	green	May-Aug	1-4 ft	grass	low-mod	low	mod	shade-part sun
Common Sneezeweed	Helenium autumnale	moist	yellow	Aug-Nov	3-5 ft	herb	mod-high	n/a	mod-high	part-full sun
Rice Cut Grass	Leersia oryzoides	moist	green	Jun-Oct	3-5 ft	grass	mod-high	low	mod	part-full sun
Switch Grass	Panicum virgatum	mesic	beige	Jul-Oct	6 ft	grass	low-mod	mod	low-mod	full sun
Peachleaf Willow	Salix amygdaloides	moist	green	Apr-Jun	40 ft	tree	low-mod	mod	low-mod	part-full sun
Black Willow	Salix nigra	moist	green	Apr-May	90 ft	tree	mod-high	low	mod	full sun
Chairmaker's Rush	Scirpus americanus	saturated	brown	May-Sep	4 ft	herb	low	high	low-mod	full sun
Late goldenrod	Solidago gigantia	moist	yellow	Jul-Oct	8 ft	herb	mod-high	n/a	mod	full sun
Prairie Cordgrass	Spartina pectinata	saturated	green	Jul-Aug	5-7 ft	grass	mod-high	low-mod	mod	full sun
Blue Vervain	Verbena hastata	saturated	blue	Jul-Sep	5 ft	herb	mod-high	mod-high	mod-high	full sun
Nannyberry	Viburnum lentago	moist	white	May-Jun	15-35 ft	shrub	mod	low	low	part-full sun

Nutrient Tolerance: measure of the ability of plant species to tolerate excess nutrient inputs such as lawn fertilizer, septic loads, etc.
Salt Tolerance: qualitative measure of tolerance of plant species to salt.
Siltation Tolerance: qualitative measure of the tolerance mature plants have for siltation and sedimentation due to upstream erosion.
Refer to The Chicago River corridor Design Guidelines and Standards for more information on recommended plants.

Recommended Native Plant List For Riverbank Restoration Projects Along The Chicago River

Upper Bank and Riparian Zone Stream Stabilization

Common name	Scientific Name	Preferred Moisture Regime	Color	Bloom Time	Mature Height	Plant Type	Nutrient Tolerance	Salt Tolerance	Silt Tolerance	Light Preference
Big Bluestem	Andropogon gerardi	mesic	brown	Jul-Sep	3-9 ft	grass	low	low	low	full sun
Little Bluestem	Andropogon scoparium	dry	brown	Aug-Sep	2-3 ft	grass	low	n/a	low	full sun
Smooth Blue Aster	Aster laevis	dry-mesic	blue	Aug-Oct	3-5 ft	herb	low	low	low-mod	part-full sun
Panicled Aster	Aster lanceolatus	moist	white	Aug-Sep	2-4 ft	herb	mod	mod	high	part-full sun
New England Aster	Aster novae-angliae	moist-mesic	purple	Aug-Oct	1-6 ft	herb	mod	low	mod	part-full sun
Common Beggar's Ticks	Bidens frondosa	moist	yellow	Aug-Oct	.5-4 ft	herb	mod	mod-high	high	part-full sun
Side-oats Grama	Bouteloua curtipendula	dry	purple	Jul-Sep	1-3 ft	grass	low	not tolerant	low	full sun
Hackberry	Celtis occidentalis	moist	green	Apr-May	80 ft	tree	mod	mod	low-mod	shade tolerant
Tall Coreopsis	Coreopsis tripteris	mesic	yellow	Jul-Oct	3-10 ft	her	low	n/a	low	part-full sun
Gray Dogwood	Cornus racemosa	moist	white	Jun-Aug	8 ft	shrub	mod-high	low	mod-high	part-full sun
Red Osier Dogwood	Cornus stolonifera	saturated	white	May-Aug	3-9 ft	shrub	mod-high	not tolerant	mod-high	part-full sun
Nodding Wild Rye	Elymus canadensis	mesic	tan	Jul-Oct	3-6 ft	grass	low	n/a	low	part-full sun
Virginia Wild Rye	Elymus virginicus	moist	tan	Jun-Oct	3 ft	grass	mod	n/a	mod	shade-full sun
Green Ash	Fraxinus pennsylvanica	moist	green	Apr-May	60 ft	tree	high	mod	high	shade tolerant
Wild Bergamot	Monarda fistulosa	mesic	purple	Aug-Oct	3 ft	herb	mod	n/a	low-mod	part-full sun
Switch Grass	Panicum virgatum	mesic	beige	Jul-Oct	6 ft	grass	low-mod	mod	low-mod	full sun
Purple Prairie Clover	Petalostemum purpureum	dry-mesic	purple	Jul-Sep	1-3 ft	herb	low	n/a	low	full sun
Common Mountain Mint	Pycanthemum virginianum	moist	white	Jul-Aug	1.5-3 ft	herb	mod	n/a	low-mod	full sun
Swamp White Oak	Quercus bicolor	moist	green	May	50-70 ft	tree	low	low	low	full sun
Bur Oak	Quercus macrocarpa	mesic	green	Apr-May	60-70 ft	tree	low-high	low	low-mod	full sun
Pin Oak	Quercus palustris	moist	yellow	Jul-Sep	75 ft	tree	low	low-mod	low	full sun
Yellow Coneflower	Ratabida pinnata	mesic	yellow	Jul-Sep	3 ft	herb	low-mod	n/a	low	full sun
Black-eyed Susan	Rudbeckia hirta	mesic	yellow	Jun-Jul	1-2 ft	herb	low-mod	n/a	low	part-full sun
Compass Plant	Silphium laciniatum	mesic	yellow	Jul-Sep	10 ft	herb	low	n/a	low	full sun
Prairie Dock	Silphium terebinthinaceum	mesic	yellow	Jul-Sep	10 ft	herb	low-mod	low	low-mod	full sun
Stiff Goldenrod	Solidago rigida	dry-mesic	yellow	Jul-Aug	6 ft	herb	low-mod	low	low	full sun
Indian Grass	Sorgastrum nutans	mesic	brown	Aug-Sep	4-8 ft	grass	low	n/a	low-mod	full sun
Prairie Cord Grass	Spartina pectinata	saturated	green	Jul-Aug	5-7 ft	grass	mod-high	low-mod	mod	full sun
Spiderwort	Tradescantia ohioensis	dry-mesic	purple	May-Oct	1-3 ft	herb	mod	n/a	mod	part-full sun
Common Ironweed	Veronia fasciculata	moist	purple	Jul-Aug	6 ft	herb	low-mod	n/a	mod	full sun
Arrow-wood Viburnum	Viburnum dentatum lucidum	dry-mesic	white	May-Jun	10 ft	shrub	low-mod	n/a	low-mod	part-full sun
Nannyberry	Viburnum lentago	moist	white	May-Jun	15-35 ft	shrub	mod	low	low	part-full sun

Recommended Sources For Further Information

Chicago Wilderness: An Atlas of Biodiversity. Chicago Region Biodiversity Council. 2000.

Chicago River Corridor Development Plan and Design Guidelines. Chicago Department of Planning and Development.

A Citizen's Stream Restoration Handbook. Isaac Walton League of America. 1995.

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Restoring and Managing Stream Greenways: A Landowner's Handbook. Prepared by the Northeastern Illinois Planning Commission with funding from the Chicago Region Biodiversity Council. 1998.

Restoring Streams in Cities: A Guide for Planners, Policymakers, and Citizens. Ann L. Riley. 1998.

Participants In The Chicago River Charrette

A grant from Chicago Wilderness made it possible to convene a group of thirteen individuals with reputations for thoughtful and innovative landscape design and engineering. They included architects, landscape architects, city planners, hydrologists, engineers, and ecologists. They are identified below along with their affiliations at the time of the charrette. Working pro-bono and meeting in an intense two-day workshop format, they devised the designs which are presented in this handbook. We are very grateful to them.

Jean Roberge
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Quebec City, Quebec

Jim Richards
James Richards Studios
Arlington, Texas

Craig Fischenich
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Vicksburg, Mississippi

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Dennis O'Connor
Portland, Oregon

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Tim Pollowy
Applied Ecological Services
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Troy McPeak
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City of Chicago Department of Planning and Development

121 N. LaSalle Street, Room 1000
Chicago, Illinois 60602

The Department of Planning and Development is the city agency responsible for steering and guiding the economic, industrial, commercial, and open space development in the City of Chicago. This Department is responsible for directing the overall development of the Chicago River into a recreational, economic, cultural, and natural amenity for the City of Chicago.

Friends of the Chicago River

407 S. Dearborn Street, Suite 1580
Chicago, Illinois 60605

The Friends of the Chicago River is a non profit membership organization whose mission is to foster the vitality of the Chicago River for the human, animal, and plant communities within its watershed. Friends' priorities are to provide public access to the Chicago River and to show that the Chicago River can be both ecologically healthy and a catalyst for community revitalization.

Northeastern Illinois Planning Commission

222 S. Riverside Plaza, Suite 1800
Chicago, Illinois 60606

Created in 1957 by the Illinois State Legislature, the mission of the Northeastern Illinois Planning Commission (NIPC) is to conduct research and collect data for planning, assist local government, and prepare comprehensive plans and policies to guide the development of the six-county northeastern Illinois region. NIPC has been a regional leader in promoting innovative river restoration and protection strategies.

Chicago Wilderness

8 S. Michigan Avenue, Suite 900
Chicago, Illinois 60603

Formed in 1996, the Chicago Region Biodiversity Council is a partnership of over 130 public and private organizations. This coalition is devoted to the protection, restoration, and management of more than 200,000 acres of natural areas in northeastern Illinois, northwestern Indiana, and southeastern Wisconsin. The Council funds projects which address critical conservation needs in the region according to criteria established in the Biodiversity Recovery Plan.