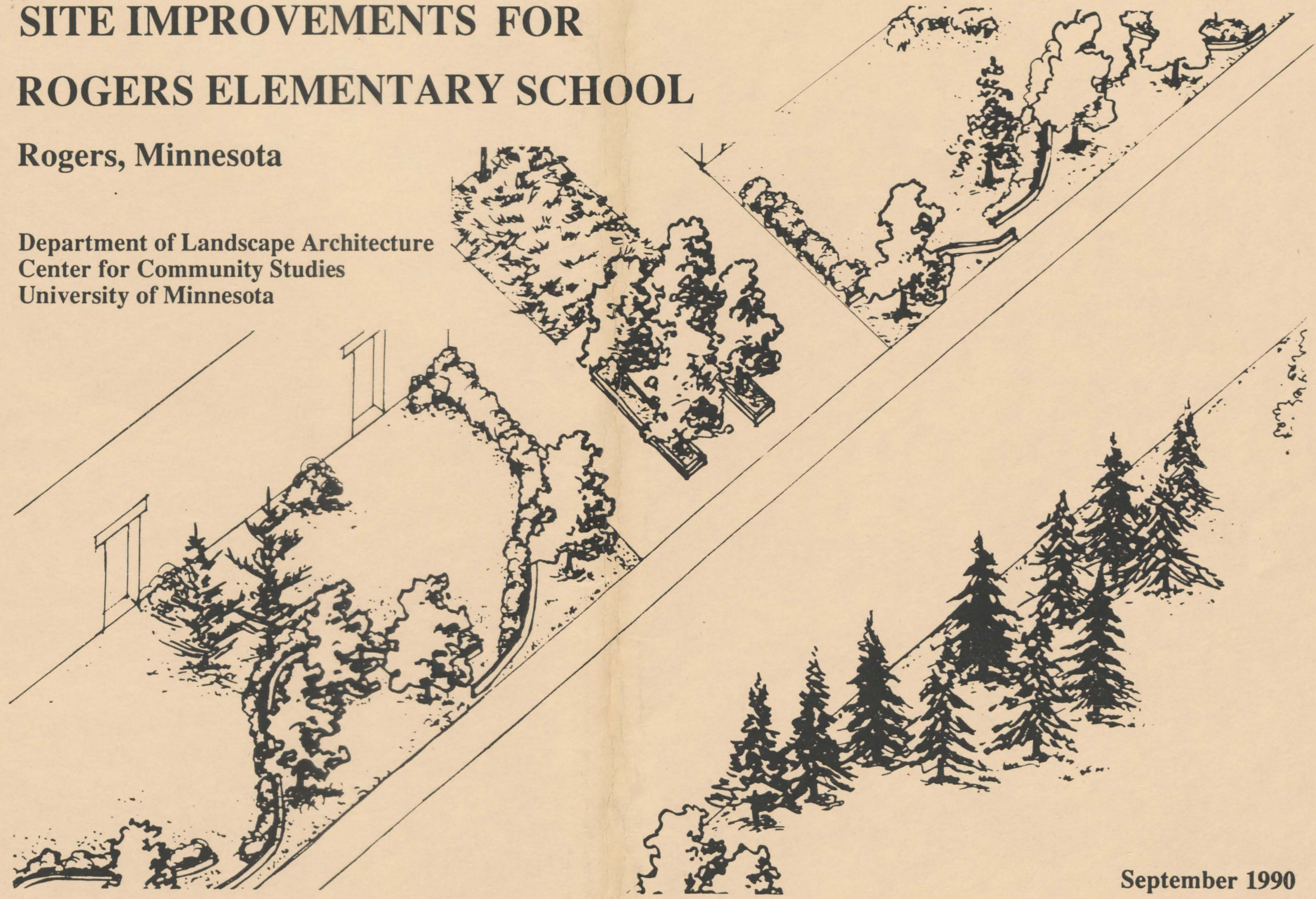


# SITE IMPROVEMENTS FOR ROGERS ELEMENTARY SCHOOL

Rogers, Minnesota

Department of Landscape Architecture  
Center for Community Studies  
University of Minnesota



September 1990

**PROJECT PARTICIPANTS**

Landscape Architecture Graduate Student:  
Mei Kong

CCS Administrator and Faculty Supervisor:  
Margaret (Peggy) Sand

Rogers Elementary School Memorial  
Committee:

Chair Diane Strege (Assistant  
Principal)

Ron Burland (Principal)

Deb Dvorak (PTO President)

Corinne Flatgard (kindergarten  
teacher)

Brenda Hebrink (4th grade teacher)

Sharon Kalmoe (1st grade teacher)

Kim Larson (PTO)

Marlene Thompson (early childhood  
teacher)

**SPONSORING ORGANIZATIONS**

University of Minnesota:

Department of Landscape  
Architecture

Center for Community Studies

## INTRODUCTION

This design project was initiated when teachers at Rogers Elementary School contacted the University of Minnesota's Center for Community Studies (CCS) requesting assistance in the design of a memorial garden. The impetus for garden (as described in the teachers' application) was their desire to create a living memorial to Pam Tinklenberg a Rogers teacher "who has given a lot to both the school and the community" until she regrettably died from cancer in 1989.

## PROJECT PURPOSE & SCOPE

The most appropriate way for the University to provide the desired design assistance was for the Center for Community Studies to arrange a graduate landscape architecture student to undertake this as a special project with the financial support of the Elementary School. As outlined in the design project proposal, the intent was "to undertake a more in depth exploration of how the grounds of Rogers Elementary School can be used more effectively - functionally, environmentally, and aesthetically."

The project would to be carried out by a supervised University student who would "begin with an analysis and documentation of site limitations and constraints ... supplemented by a concurrent investigation of how other projects and sites have designed and implemented school grounds improvements." Then "a range of conceptual designs for Rogers Elementary could be developed exploring what different activity spaces ... might be accommodated on the site, in what arrangements, and how these would be integrated with site functions." And finally this would be "refined by the student into an overall master plan ... and for selected portions of the site, specific proposals will be made listing the plants and other materials needed to achieve the design."

## PROJECT CHRONOLOGY

In June 1990, Mei Kong was selected as the student to work with Rogers Elementary with the faculty guidance of Margaret (Peggy) Sand, a registered landscape architect.

The designers met three times with a committee of Rogers teachers, administrators, and parents to review progress on the project. Presented to the committee were site analysis, examples of other well-developed school grounds in Minnesota and published case studies, conceptual ideas for Rogers Elementary, and the preliminary master plan and detail site plan.

On September 12, a draft of the final plans and illustrations were presented to the entire teaching staff of the school. The following day the same drawings were presented to the Parents and Teachers Organization. Each group was encouraged to make suggestions for improvements to the plans and every effort has been made to incorporate or respond to the suggestions made.

With production of this report and its presentation to the Elk River School District Board on September 25th, the design phase of the project directly involving the University is complete.

## COMMENTS MADE BY SCHOOL PARTICIPANTS

### from the Memorial Committee:

- create safer places for children waiting for buses and parents
- a new running track is needed, perhaps around the perimeter of the ball fields
- alternative ways are needed for children to go from the building to the playgrounds
- don't make hiding places, or security or vandal problems
- create sheltered outdoor classroom spaces including ones for reading and performances
- incorporate an arboretum
- provide places for parents to watch kids and community people to picnic
- smaller existing trees can be moved if necessary
- develop a low maintenance plan without too much garden area
- improve the area between the playground and school
- the dumpster can be a health hazard
- pine trees are available through the school district
- provide shade trees around the ballfields
- the tetherball can be moved
- avoid messy fruit trees which attract wasps
- use trees to shade paved areas
- provide a more aesthetic entry road
- incorporate the entry flagpole
- provide egress from all fire doors out to the driveways
- connect the trail system with a paved walkway to the school
- provide some tables near the playground

### at the teachers and PTO meetings:

- provide a track for 50 yard sprints
- improve the wet areas in the drainage ditch
- provide amphitheater overflow seating on the grass
- move truck access to the side of the building so it is not between the playfields and the building entries
- provide for 12 buslines of 80 children (8 on east and 4 on north)
- how would the outdoor classroom areas be used in winter and how would they be made safe

## SITE ANALYSIS

### TOPOGRAPHY & DRAINAGE

Rogers Elementary School is located on a generally level site. To accommodate drainage around the school building, a drainage ditch exists immediately south of the building and to the west between the playgrounds and athletic fields. This ditch directs surface runoff clockwise - flowing west along the south side of the building, then turning north where the ditch ends northwest of the parking lot. Two culverts allow access over the ditch between the school building area and the athletic fields. The grassed areas of ditch near the culverts tend to stay wet.

To the south and southwest of the ditch (adjoining the agricultural field along the south property line) are the site's steepest slopes of a 6% grade.

### VEGETATION

Nearly all the school grounds are mowed turf. About twenty trees (primarily young maples and evergreens) are scattered between the school building and Main Street to the east. No trees exist now to shade playgrounds, the parking lot, nor the west side of the building.

A naturalized woods exists along the western property line. This presents potential educational value for study of wildlife and flowers. For example, in spring this area is carpeted with native Dutchman's Breeches flowers.

### VEHICULAR ACCESS

Cars, buses, and service vehicles primarily enter the school grounds from Main Street using the driveway at the northeast corner of the site. A large parking lot exists to the north of the building which is receiving increased levels of use.

Presently school buses line up along the north and east sides of the building - four 80 passenger buses on the north side of the building and eight on the east. At the end of each school day children line up for the buses on the grassy areas immediately adjoining the sidewalks along the driveway where the buses pull up. More room exists between the building and the driveway on the east side of the building than on the north side. Parents picking up and dropping off children are urged to use the north entrance.

Delivery and garbage trucks use the northwest service entrance of the school for closest proximity to the school cafeteria. This has created safety hazards when the adjoining doors are used by children for access from the building to the playgrounds and athletic fields. Parking is not permitted in this area during school hours, but receives some use for car parking in the summer when the athletic fields are used. The amount of pavement in this area exceeds what is needed by the delivery trucks. Portions of the paved area have painted markings for four-square and basketball games, but these play areas are not separated physically from the service vehicle use areas.

### BUILDING ENTRIES / PEDESTRIAN CIRCULATION

The designated main entrance to the building leading directly to the school administrative offices is on the center of the east side of the building facing Main Street. However, staff and many others tend to use the north entrances adjoining the parking lot. Numerous building exits exist around the building which are primarily for emergency egress. No sidewalk access is provided from the city street to the building.

Beginning in Fall 1990, the school has decided to limit classes going to/from the play fields to using the door at the center of the west side of the building. This will avoid some concerns about conflicts between children and service vehicles. However, some congestion may occur at this entrance and people must move around one of the temporary classrooms to access the athletic fields.

Sidewalks exist primarily on the east and north sides of the building to facilitate pedestrian movement between the building and the parking and bus dropoff areas. The sidewalk connection between the building and the playgrounds is incomplete. Access to the athletic fields is generally limited to grass crossings over the two culverts adjoining the paved service vehicle area. No wheelchair accessibility is provided to the play areas.

### PLAYGROUNDS & ATHLETIC FACILITIES

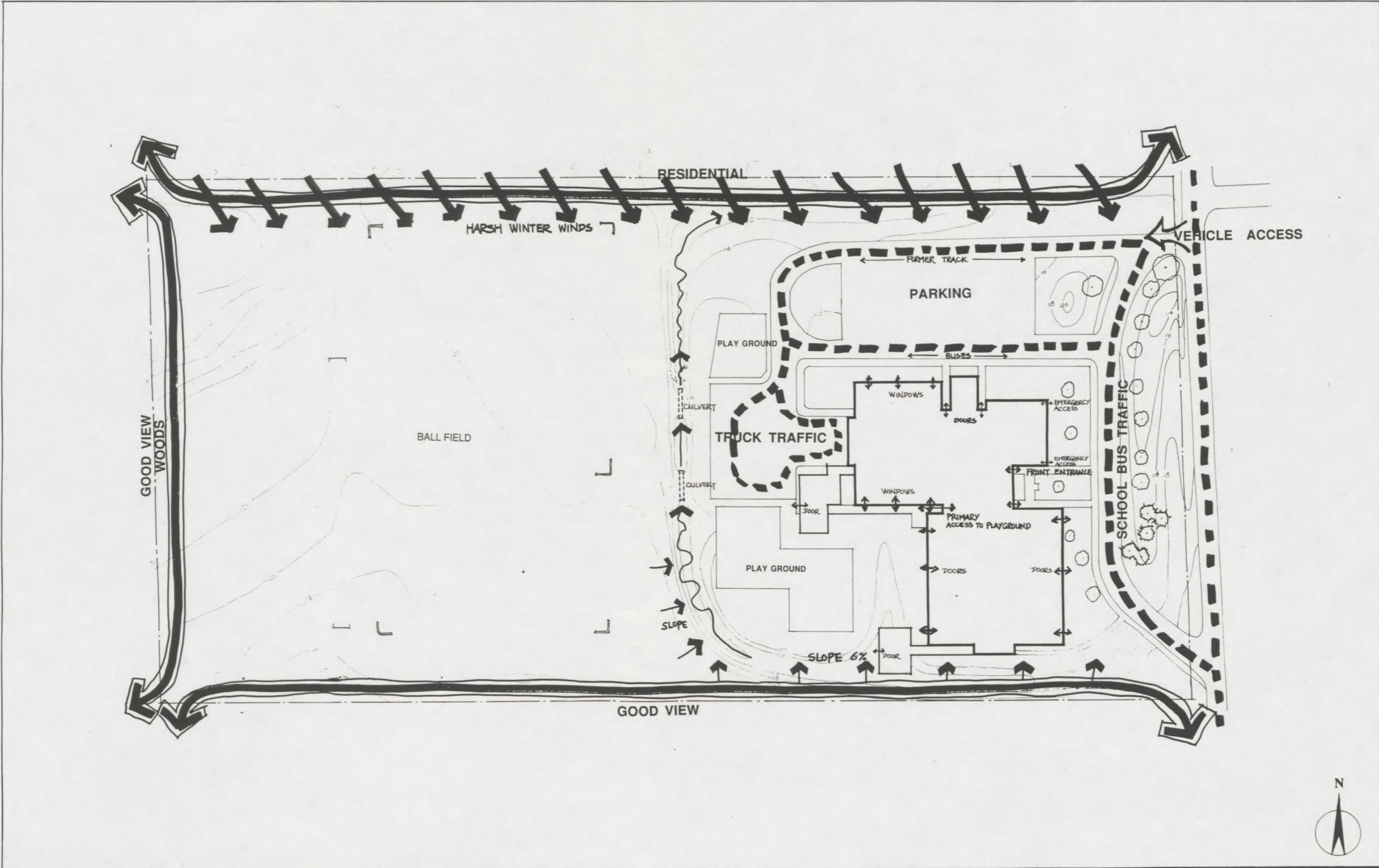
An older playground exists northwest of the service vehicle area. A new larger playground was completed by the Parents and Teachers Organization in 1990. Tetherball exists on the grassy area northeast of the building near the kindergarten. As indicated above, basketball and foursquare courts share the paved service vehicle area. One soccer and five softball fields are in place west of the drainage ditch. Currently reasonably good visibility between the play and athletic facilities permits reasonable visual supervision of classes by limited numbers of teachers.

Until this time, a painted running track in the parking lot has been used. This practice is no longer permitted because of safety concerns. However, to date, no replacement track and sprinting facilities have been provided for use by the school's physical education program.

### VIEWS & CLIMATE

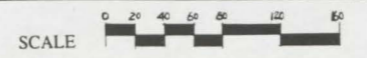
The woodlands to the west and agricultural fields to the south provide attractive views from the school grounds. To the north, housing immediately adjoining the school site is less attractive.

Harsh winds (prevailing from the west and north) are not buffered by any plantings and may lead to user discomfort and discourage use of the play facilities in spring and fall. Strong winds may also increase heating fuel costs for the building.



**ROGERS ELEMENTARY SCHOOL**

**ANALYSIS**



SEPTEMBER 1990

## MASTER PLAN

### MAJOR FEATURES NEAR SCHOOL BUILDING

The master plan suggests that most of the school grounds improvements be concentrated immediately adjoining the school building where they can provide greatest benefit to the education programs of the school. Proposed features include an improved main entrance, creation of eleven outdoor classroom spaces, a new amphitheater, improved athletic and games areas, plantings for shade and wind buffers around the playgrounds, and horticulturally distinct garden and tree plantings. Each of these are described in more detail in the "Detail Plan". Additional improvements extending away from the school building are described here.

### WINDBREAKS

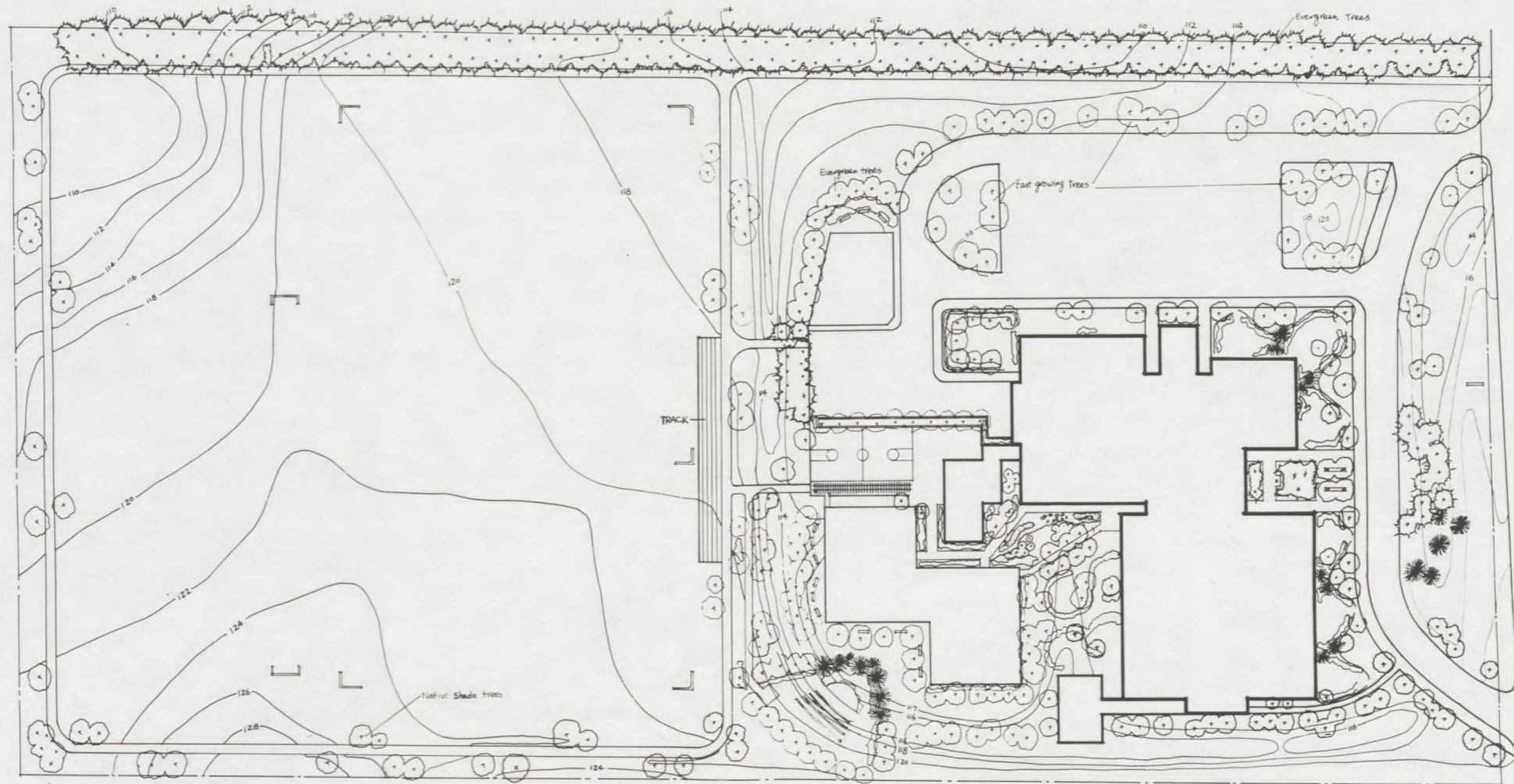
Along the entire northern property line a two-row evergreen shelterbelt is proposed. Pine are recommended for the north row and spruce (which need more sun to retain their lower branches) are suggested for the south row. Austrian Pine and Black Hills Spruce are suggested because they are particularly tough and tolerant. But, a variety of pine and spruce could be used for educational interest if they are adapted to the site. To be most cost effective, classes could plant small seedlings available through various state programs.

Evergreen windbreaks of the elegant Norway Spruce are also suggested to the north and west of the old playground. In addition, shrubs are incorporated with the trees to the north of the old playground to shelter an area proposed for benches and/or picnic tables.

### MULTI-PURPOSE TRAIL

Looping around the athletic field, a multi-purpose trail is proposed. Bicyclists are expected to be the primary users. A high quality compacted crushed stone surface (such as is used in many state bicycle trails) is suggested. This would also make a good surface for walking, jogging, and cross-country skiing. Access to the trail for bicyclists and skiers (arriving by car) is provided at the northwest corner of the service vehicle area over an existing culvert. Access by children in school is provided by a sidewalk over the other culvert connecting the trail to the west building entrance.

The trail would provide a means for classes to reach the western woodlot for nature study. Shade trees are suggested along the trail to create a more interesting and pleasant environment particularly for pedestrians. DNR trail guidelines should be followed to assure that adequate clearance is provided when proposed shade and windbreak trees adjoin the trail.



**ROGERS ELEMENTARY SCHOOL**

**MASTER PLAN**

SCALE



SEPTEMBER 1990



## DETAIL PLAN

Proposed improvements near the school building are shown at a larger scale and described more specifically here.

### MAIN ENTRANCE

The building entrance on the east side facing Main Street needs greater visual emphasis, to more clearly suggest to the public that this is the "main" entrance leading directly to the school office.

Adjoining the driveway a larger sidewalk (entry plaza) is proposed to create a better place for people to meet. A grove of Autumn Purple White Ash with their unique and beautiful fall color are proposed to shade the sidewalks symbolizing the importance of the new school year and creating a comfortable environment. Low walls would surround the trees to provide places to sit and to protect the trees from snow removal equipment.

A low-maintenance area of spreading junipers would replace the grass between the entry plaza and the building. Across the driveway from the entry additional pine trees are proposed. Together these plantings would create an easily maintained yet dramatic main school entrance of year round beauty.

### OUTDOOR CLASSROOMS

Educational activities can extend literally outside the classroom window by creating a series of "outdoor classrooms" around the building.

Eleven multi-purpose outdoor classroom spaces are proposed whose range of functions and features could include:

- reading, studying, and class discussions,
- art studio (from landscape drawings to snow sculptures)
- plant identification and botanical studies including class gardens, and
- safe bus waiting areas separated from traffic along the driveways.

This plan proposes the basic physical frameworks for the outdoor classrooms to function. Each classroom is enclosed by a low growing hedge (needing little, if any, trimming to keep it at 3-4' in height). This hedge would provide enough visual barriers for children seated in the outdoor classroom to reduce the distractions of passing cars or outside play activities. Yet the height of the hedges would be low enough to permit security surveillance by school personnel or passing patrol cars. For classrooms on the east side of the building, pairs of evergreen trees are located to reduce visual and noise interference between adjoining classrooms without interfering with security surveillance from the driveways.

For the classrooms near vehicular areas, a low (two foot tall) curving masonry wall is suggested to run just outside the hedges. This will reduce the chance that children will wander from the classroom spaces to the traffic areas, protect the classrooms from undesired intrusions, and protect young hedge plantings. In addition the wall can be used safely for sitting by children waiting for buses or parents.

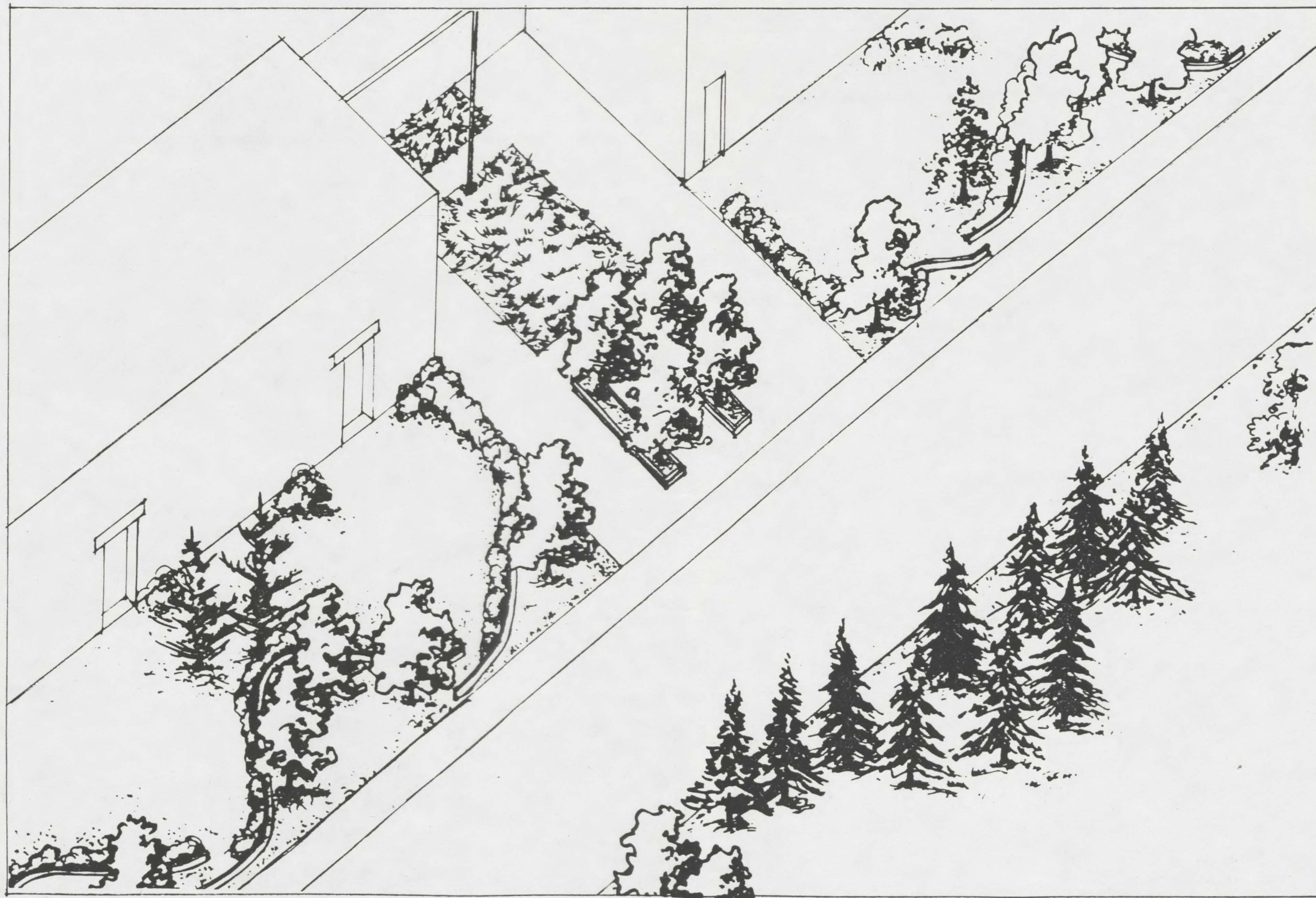
An opening in each classroom provides direct emergency egress from building exits and the outdoor classroom. They also are located to be convenient and safe for children lining up for the buses.

The specific activities and furnishings of each outdoor classroom could be planned by the teachers and classes using each outdoor classroom. If one class in a pod is taking tests, the neighboring class could be in their outdoor classroom actively engaged in a discussion, presentation, or construction project. Movable benches, tables, and easels could be moved from outdoor classroom to classroom as needed.

Now the building's appearance as easily says "manufacturing" as "education". By expressing through site improvements that the building is made of up many classrooms intended for educational activities can help reinforce the value of the school to the community.

Plants are recommended for the outdoor classrooms which give the school a sense of overall order, yet provide the opportunity for each classroom to be somewhat distinct. For example, for the six rooms east (and northeast) of the school, each pair of evergreen trees is a different specie and each class has a unique combination of hedging shrubs and taller accent shrubs next to the building - one providing special spring color and the other providing special fall color. Northern Lights Azalea (created at the Minnesota Landscape Arboretum) are suggested for several classrooms, but each room would choose a different color flower. Shade trees of Schwedler Maple (with red spring foliage), Red Maples and Red Oaks (with bright fall color), and the clump-form of spring flowering Juneberry would further enhance the appeal of the school and the distinctiveness of the classrooms.





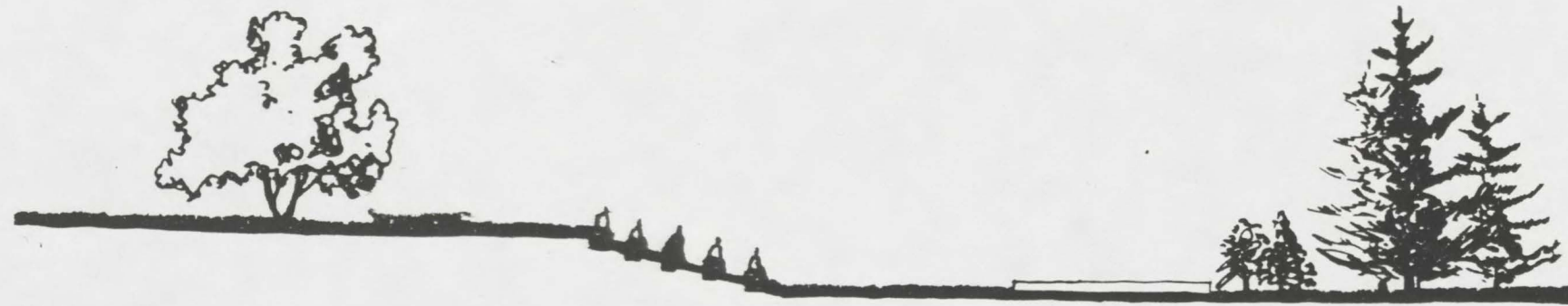
MAIN ENTRANCE AND OUTDOOR CLASSROOMS

## AMPHITHEATER

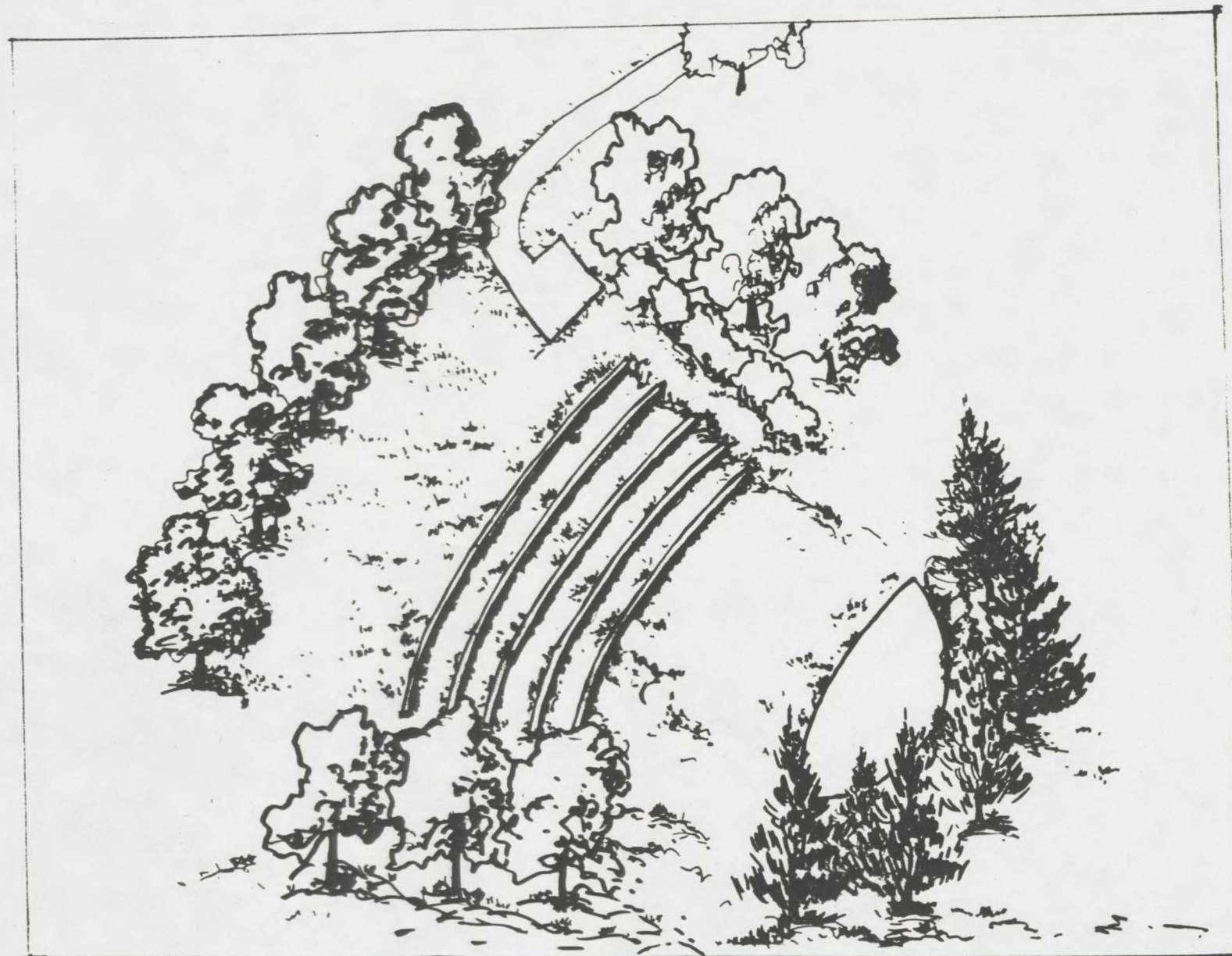
When many classes want to participate together in a performance, choral reading, or similar activity, an outdoor amphitheater would be ideal. The existing slope southwest of the school can readily accommodate about 120 people sitting on benches with substantial additional seating possible on the adjoining grassy areas.

The seating would face a stage fit into the gentler slope on the opposite side of the drainage ditch. A stage backdrop of spruce and redbird dogwood would screen distractions from the playground while providing year round beauty. The seating area is sheltered by native chokeberry shrubs and the Red Splendor flowering crab whose small red fruit hang on throughout the winter.

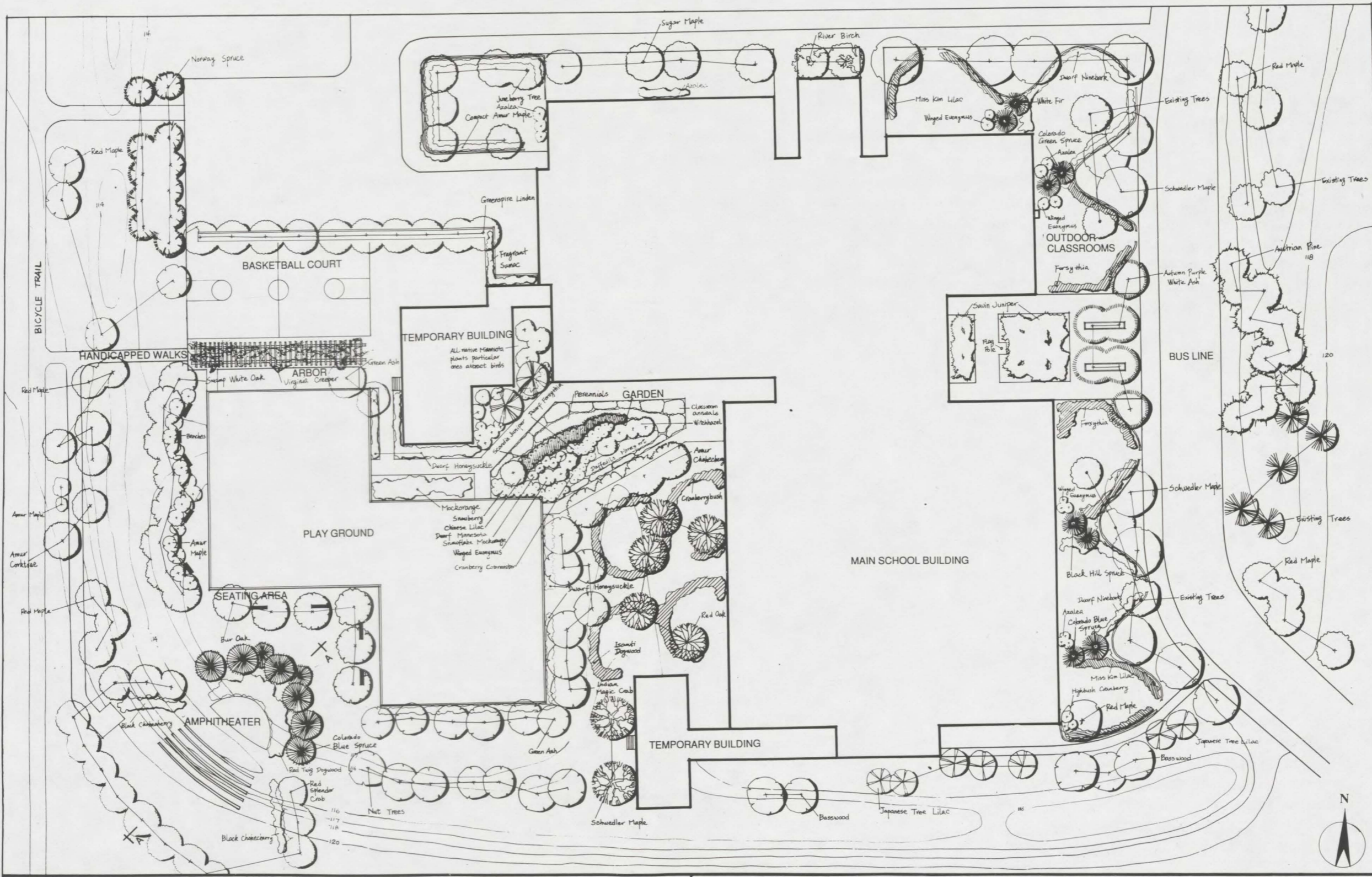
A concrete tree-lined walkway crossing the culvert is suggested to provide reasonably level access to the amphitheater in wet weather as well as for wheelchairs and equipment.



SECTION A-A

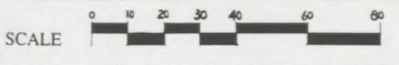


AMPHITHEATER



**ROGERS ELEMENTARY SCHOOL**

**DETAIL PLAN**



SEPTEMBER 1990

## PLAY FACILITIES

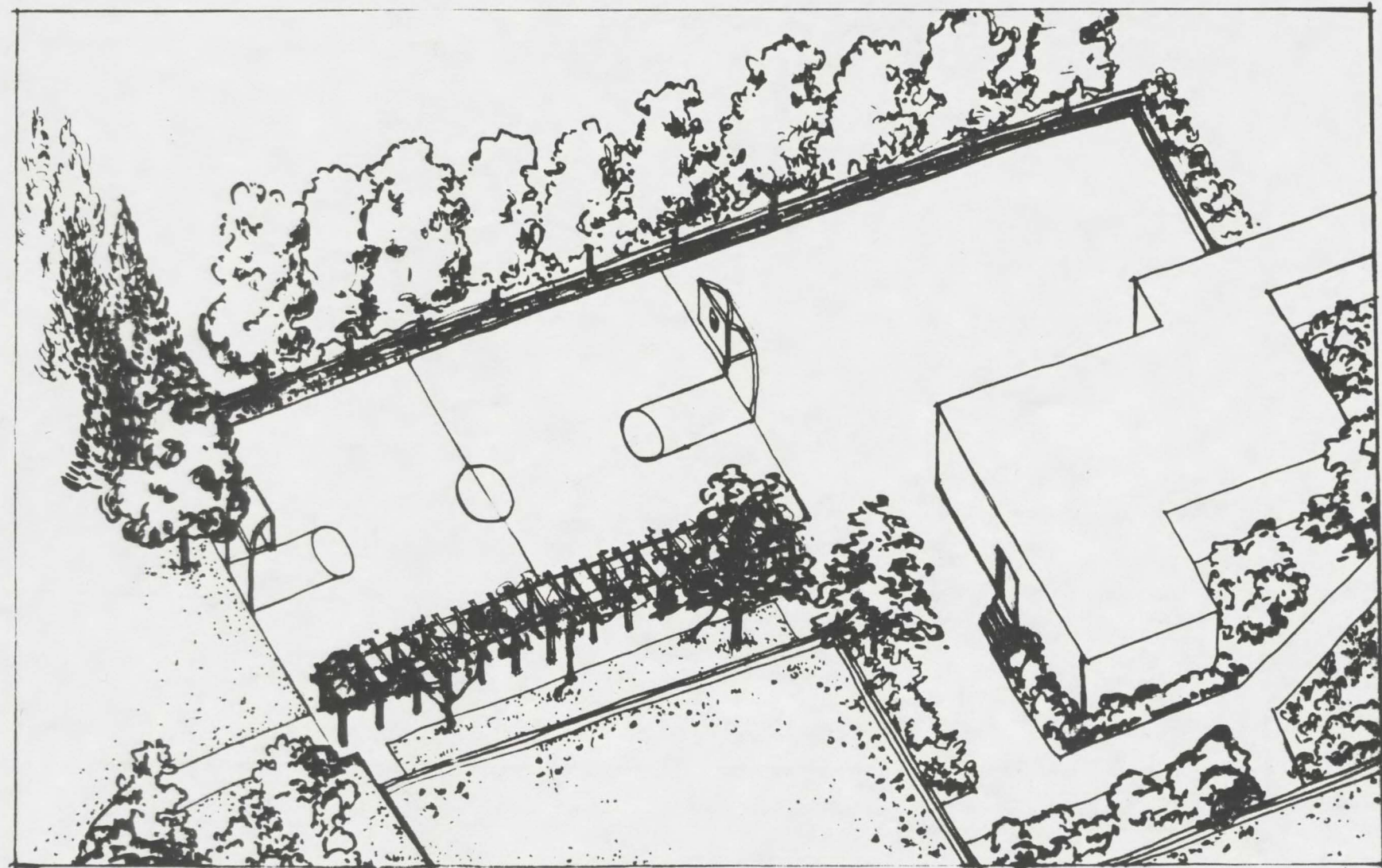
Ball Courts. To create a safer environment for hard surface games and sports events, two areas are suggested for improvements. The southern portion of the existing service vehicle area (except an area retained and screened for the trash dumpster) is separated from the truck use area by a row of shade trees and a heavy timber barrier. No additional pavement is necessary, but a strip of asphalt would need to be removed for the trees and timber barrier. The basketball court would be realigned and foursquare relocated to provide a safer place for the children.

Between the proposed basketball court and the new playground a wooden vine covered arbor is suggested. It would be a unique passageway under which the sidewalk passes going to the amphitheater and athletic fields. Benches for people watching basketball and the playground could be incorporated. From this area and the hard surface ball courts, a single teacher could see under shade trees in the area to watch children in both playgrounds, the ball courts, and the athletic fields.

Track Facilities. The sidewalk under the arbor crosses over the drainage ditch, connects to the multi-purpose trail, and provides immediate access to the suggested site for the new sprinting track. Careful specifications are needed for running surface and to minimize any potential conflict with the adjoining softball fields.

Playground Landscape. The new playground could be significantly enhanced by encircling it with shade trees and providing sheltered areas for benches and/or tables.

To further enrich the educational potential of the site, planting a grove of native nut trees (such as walnut, butternut, and bitternut hickory) is suggested. The children could study the use of trees for food and furniture and potentially grow the trees directly from the nuts. This is particularly possible in this location since it is separated enough from critical activity areas that young seedlings would be appropriate.



BASKETBALL COURT

## GARDENS

Two distinctly different garden plantings each with their own educational and aesthetic values are proposed between the west building entry and the new northern temporary classroom. This area has been recently disturbed and is now designated as the primary building-playground accessway, so it particularly warrants current and careful attention. Even if garden planting does not occur at this time, the walkways could be provided now and the soil added for future gardens.

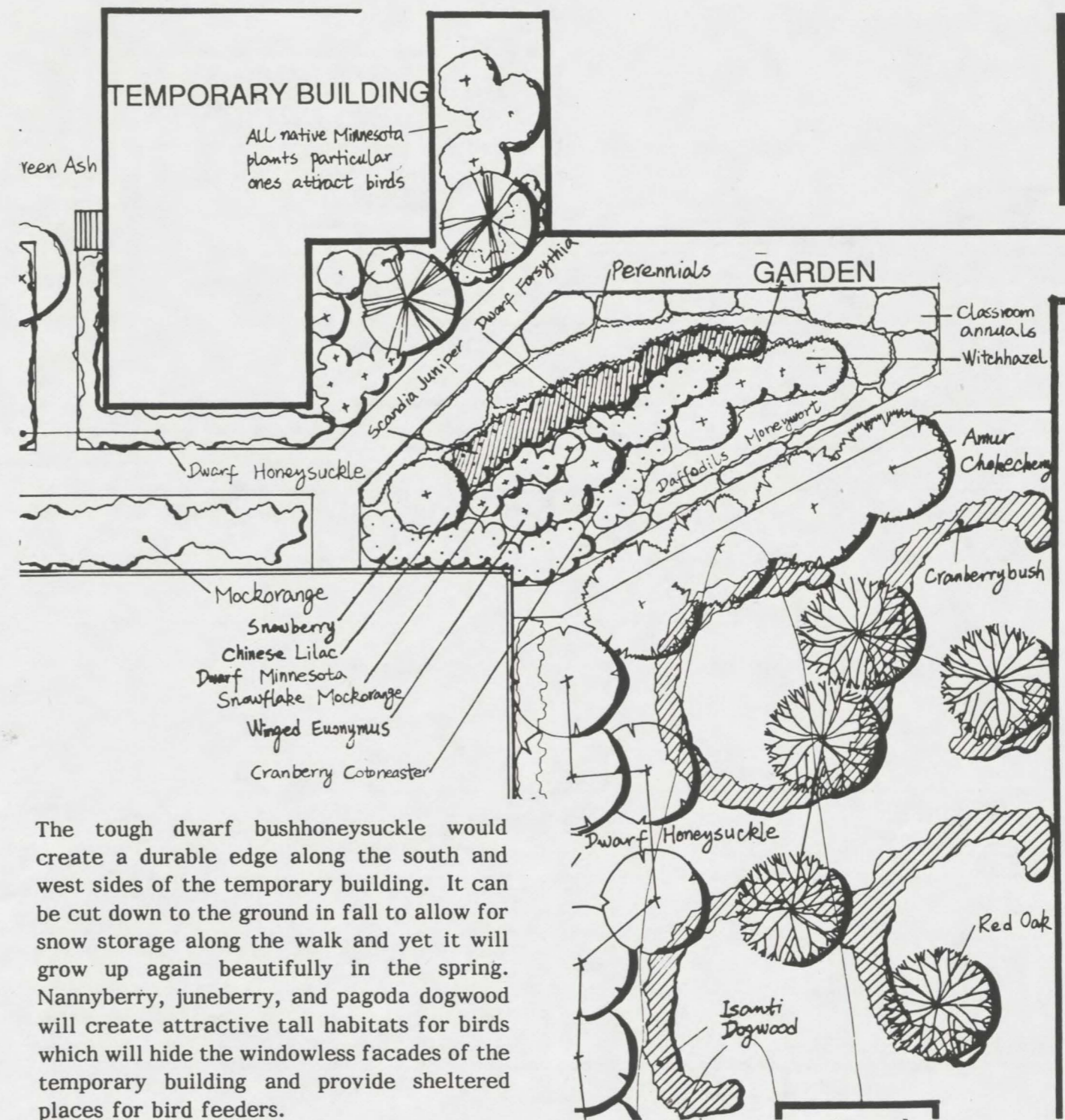
By having good soil and using organic mulch throughout the gardens, only a minimal amount of weeding and care would be needed in the gardens. The annual flower beds would need watering during dry periods which could be achieved through a simple drip irrigation (leaky hose) system. Once the flowers were established and mulched, weeding could be done in 2-3 hours per month.

The Display Garden. Two walkways are suggested to connect the building entry and the new playground to help disperse and organize multiple classes using this space. A display garden of annuals, perennials, and flowering shrubs and trees is suggested between these two walkways where it will have high visibility and potential ease of access for gardeners. The contrasting "warm" walkway along the building in full sun and the "cool" walkway surrounded by green and shaded by trees will allow the children to experience and study firsthand the effects of microclimate.

Most of the display garden is shrubs which flower and/or have beautiful seasonal foliage. This will maximize the rich beauty of the area while minimizing needs for maintenance. A strip each of sun-loving perennial flowers and shade-tolerant flowering ground cover are also suggested. Along the edge of the walkways are small, manageable areas for different classrooms to plant annuals. In winter snow from the sidewalk could be shoveled onto these annual beds.

The trees, shrubs, and perennials are selected for their reliability, compatibility, and visual interest during the school year. Teachers, children, and parents would be welcomed in the fall with blooming hardy mums (as well as the annuals they planted the spring before), bright red cotoneaster berries, and white snowberries, the leaves of the burning bush would turn to flame, and to everyone's surprise the witch hazel would then be covered with delicate yellow flowers. The red and white shrub berries would linger into winter set off against evergreen foliage, while the copper-colored bark of the chokecherry would warm the garden through the winter months. The first signs of spring would be marked with the sunshine of blooming forsythia, followed by a mass of tulips and chokecherry flowers, and then lilacs and mockorange would fill the garden with fragrance as the school year closes.

The Native Wildflower and Wildlife Garden. Between the north temporary building and the sidewalk proposed to its south, plants would be exclusively those growing natively in central Minnesota. Native trees, shrubs, and wildflowers would be selected for the value to birds and butterflies, for their spring or fall colors, as well as their suitability for this landscape.



The tough dwarf bushhoneysuckle would create a durable edge along the south and west sides of the temporary building. It can be cut down to the ground in fall to allow for snow storage along the walk and yet it will grow up again beautifully in the spring. Nannyberry, juneberry, and pagoda dogwood will create attractive tall habitats for birds which will hide the windowless facades of the temporary building and provide sheltered places for bird feeders.

Native wildflowers and ferns could be introduced as ground covers. Preference should be given to low growing plants (1-2 feet tall) with spring or autumn flowers. (See the suggested plant list.) Where legal and under professional guidance these could be dug or seeds collected from the wild.

## PHASING PLAN

### A1 SUBAREA FRONT (EAST) ENTRY

#### PLANTING PLAN

	Botanical Name	Common Name	Quantity/Spacing
Deciduous Trees	Fraxinus americana 'Autumn Purple'	Autumn Purple White Ash	4
Evergreen	Juniperus sabina	Savin Juniper	64 @ 5'o.c.(on center)

#### STRUCTURE PLAN

Item	Suggested Material	Area or Distance
Paved Entry Gathering Space	Concrete	1260 sq.ft
Edging for Planters Seating Walls	Brick to match building with concrete or stone cap.	2 ft. tall by 96 ft. long

### A2 SUBAREA FRONT DRIVEWAY AREA

#### PLANTING PLAN

	Botanical Name	Common Name	Quantity/Spacing
Deciduous Trees	Acer rubrum	Red Maple	6
Evergreen	Pinus nigra	Austrian Pine	11 @ 15-20'o.c.

### A3 SUBAREA NORTH ENTRY AREA

#### PLANTING PLAN

	Botanical Name	Common Name	Quantity/Spacing
Deciduous Trees	Acer saccharum	Sugar Maple	4
	Betula nigra	River Birch (Clump)	2
Shrubs	Rhododendron x 'Northern Lights'	Northern Lights Azalea	4 @ 6' o.c.

### B1 SUBAREA OUTDOOR CLASSROOMS (KINDERGARTEN-NW)

#### PLANTING PLAN

	Botanical Name	Common Name	Quantity/Spacing
Deciduous Trees	Amelanchier laevis	Allegheny Juneberry (Clump)	6-8 @ 15'o.c.
Shrubs	Acer ginnala 'Bailey Compact'	Bailey Compact Amur Maple	32 @ 5'o.c.
	Rhododendron x 'Northern Lights'	Northern Lights Azalea	4 @ 6w.c.

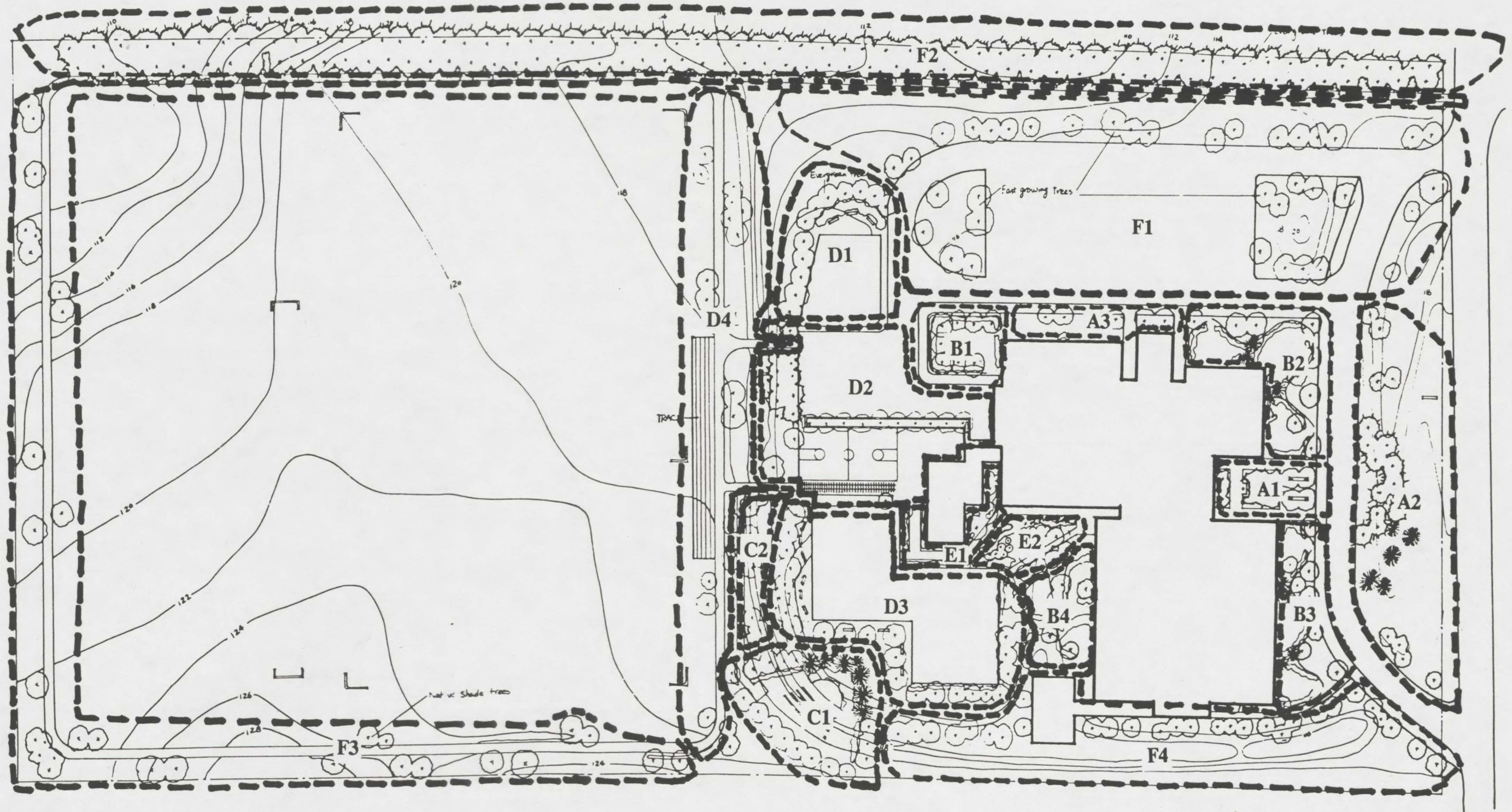
### B2 SUBAREA OUTDOOR CLASSROOMS (BY GYM-NE)

#### PLANTING PLAN

	Botanical Name	Common Name	Quantity/Spacing
Deciduous Trees	Fraxinus americana 'Autumn Purple'	Autumn Purple White Ash	1
	Acer platanoides 'Schwedler'	Schwedler Maple	7
Evergreen	Abies concolor	White Fir	2 @ 12-15' o.c.
	Picea pungens	Colorado Green Spruce	2 @ 12-15' o.c.
Shrubs	Euonymus alata compactus	Dwarf Winged Euonymus	2 @ 5' o.c.
	Rhododendron x 'Northern Lights'	Northern Lights Azalea	2 @ 6' o.c.
	Euonymus alata 'Nordine'	Winged Euonymus	2 @ 8' o.c.
	Syringa patula	Miss Kim Lilac	20 @ 4' o.c.
	Physocarpus opulifolius nanus	Dwarf Ninebark	40 @ 3' o.c.
	Forsythia x 'Arnold Dwarf'	Arnold Dwarf Forsythia	21 @ 4' o.c.

#### STRUCTURE PLAN

Item	Suggested Materials	Area or Distance
Outdoor Classrooms Seating Wall	Brick to match building with concrete or stone cap.	2 ft. tall by 305 ft. long



PHASING MAP

**B3 SUBAREA OUTDOOR CLASSROOMS (SOUTH OF FRONT ENTRY-SE)**

**PLANTING PLAN**

	Botanical Name	Common Name	Quantity/Spacing
Deciduous Trees	Fraxinus americana 'Autumn Purple'	Autumn Purple White Ash	1
	Acer rubrum	Red Maple	1 (relocated from A1)
	Acer platanoides 'Schwedler'	Schwedler Maple	4
Evergreen	Picea glauca densata	Black Hills Spruce	2 @ 12-15' o.c.
	Picea pungens	Colorado Blue Spruce	2 @ 12-15' o.c.
Shrubs	Euonymus alata compactus turkestanica	Dwarf Winged Euonymus	3 @ 5' o.c.
	Rhododendron x 'Northern Lights'	Northern Lights Azalea	3 @ 6' o.c.
	Viburnum sargentii	Sargent Highbush Cranberry	3 @ 8' o.c.
	Forsythia x Arnold Dwarf	Arnold Dwarf Forsythia	21 @ 4' o.c.
	Physocarpus opulifolius nanus	Dwarf Ninebark	26 @ 3' o.c.
	Syringa patula	Miss Kim Lilac	24 @ 4' o.c.

**STRUCTURE PLAN**

Item	Suggested Material	Area or Distance
Outdoor Classroom Seating Wall	Brick to match building with concrete stone cap.	2 ft. tall by 250 ft. long

**B4 SUBAREA OUTDOOR CLASSROOMS (WEST OF BUILDING-SW)**

**PLANTING PLAN**

	Botanical Name	Common Name	Quantity/Spacing
Deciduous Trees	Quercus borealis	Red Oak	4-5
Shrubs	Viburnum trilobum 'Bailey Compact'	Bailey Compact American Cranberrybush	34 @ 5' o.c.
	Cornus sericea 'Isanti'	Isanti Dogwood	30 @ 5' o.c.

**C1 SUBAREA AMPHITHEATER**

**PLANTING PLAN**

	Botanical Name	Common Name	Quantity/Spacing
Deciduous Trees	Malus 'Red Splendor'	Red Splendor Crab	16 @ 15' o.c.
Evergreen	Picea pungens	Colorado Blue Spruce	8 @ 15' o.c.
Shrubs	Cornus baileyi	Bailey Red Twigged Dogwood	12 @ 6'o.c.(staggered)
	Aronia melanocarpa elata	Glossy Black Chokeberry	20 @ 4' o.c.

**STRUCTURE PLAN**

Item	Suggested Materials	Area or Distance
Amphitheater Stage	Concrete	500 sq.ft
Amphitheater Seating	Treated Timber (2x12 on top of 2 stacked 6x6'timbers)	260 Linear ft. total (in 4 tiers)
Handicapped Access	Concrete	220 sq.ft

**C2 SUBAREA WALKWAY TO AMPHITHEATER**

**PLANTING PLAN**

	Botanical Name	Common Name	Quantity/Spacing
Deciduous Trees	Acer rubrum	Red Maple	8
	Phellodendron amurense	Amur Corktree	2
Shrubs	Acer ginnala	Amur Maple	2

**STRUCTURE PLAN**

Item	Suggested Materials	Area or Distance
Handicapped Walk	Concrete	8' wide by 240 Linear ft.



**D1 SUBAREA OLD PLAYGROUND**

**PLANTING PLAN**

	Botanical Name	Common Name	Quantity/Spacing
Evergreen	Pinus nigra	Austrian Pine	12 @ 15' o.c.
Shrubs	Hamamelis virginiana	Witch Hazel	10 @ 3' o.c.

**STRUCTURE PLAN**

Item	Suggested Material	Quantity
Benches	8' long wood benches	3

**D2 SUBAREA BASKETBALL AREA**

**PLANTING PLAN**

	Botanical Name	Common Name	Quantity/Spacing
Deciduous Trees	Tilia cordata	Greenspire Linden	10 @ 15' o.c.
	Fraxinus pennsylvanica	Green Ash	1
	Acer rubrum	Red Maple	2
Evergreen	Picea abies	Norway Spruce	11 @ 18' o.c.
Shrubs	Rhus aromatica	Fragrant Sumac	17 @ 3' o.c.
Vines	Parthenocissus quinquefolia	Virginia Creeper	approx. 10

**STRUCTURE PLAN**

Items	Suggested Materials	Area or Distance
Arbor	Wood structure with benches and overhead vine support ( to be designed)	10' wide by 85' long
Barrier	Heavy timber	3' high by 196 linear ft. long

**D3 AUBAREA NEW PLAYGROUND**

**PLANTING PLAN**

	Botanical Name	Common Name	Quantity/ Spacing
Deciduous Trees	Quercus bicolor	Swamp White Oak	8 @ 20' o.c.
	Quercus macrocarpa	Bur Oak	6 @ 15' o.c.
	Malus 'Indian Magic'	Indian Magic Crab	7 @ 15' o.c.
	Fraxinus pennsylvanica	Green Ash	1
Shrubs	Lonicera x xylosteoides	Clavey's Dwarf Honeysuckle	27 @ 4' o.c.
	Philadelphus 'Minnesota Snowflake'	Minnesota Snowflake Mockorange	10 @ 5' o.c.
	Acer ginnala	Amur Maple	15 @ 8-10' o.c.

**STRUCTURE PLAN**

Item	Suggested Material	Quantity
Benches	8' long wood benches	10

**D4 SUBAREA NEW TRACK AREA**

**PLANTING PLAN**

	Botanical Name	Common Name	Quantity/ Spacing
Deciduous Trees	Acer rubrum	Red Maple	14 @ 20' o.c.

**STRUCTURE PLAN**

Item	Suggested Material	Area or Distance
Bicycle Trail	Compacted crushed stone	8' wide by 660 linear ft. long
5 Lane Track	( to be specified)	20' wide by 200 ft. long

**E1 SUBAREA WIDELIFE GARDERN**

**PLANTING PLAN**

	Botanical Name	Common Name	Quantity/Spacing
Shrubs	Diervilla Lonicera	Dwarf Bushhoneysuckle	32 @ 3' o.c.
	Amelanchier laevis	Allegheny Juneberry (Clump)	2 @ 20' o.c.
	Cornus alternifolia	Pagoda Dogwood	3 @ 10' o.c.
	Viburnum lentago	Nannyberry Viburnum	3 @ 8' o.c.
Wildflower (Species native to central Minnesota such as:)	Anemone patens	Pasque Flower	
	Anemone quinquefolia	Wood Anemone	
	Anemonella thalictroides	Rue Anemone	
	Aguilegia canadensis	Wild Columbine	
	Claytonia virginica	Spring Beauty	
	Dicentra cucullaria	Dutchman's Breeches	
	Geranium maculatum	Wild Geranium	
	Hepatica americana	Round-leaf Liverleaf	
	Phlox divaricata	Wild Blue Phlox	
	Polygonatum canaliculatum	Solomons Seal	
	Sanguinaria canadensis	Blood root	
	Trillium grandiflorum	Large-Flowered Trillium	
	Achillea millefolium	Yarrow	
	Asclepias tuberosa	Butterfly-weed	
	Aster macrophyllus	Large-leaved Aster	
	Campanula rotundifolia	Harebell	
	Liatris aspera	Blazing Star	
	Rudbeckia serotina	Black-Eyed Susan	
	Fern such as:	Adiantum pedatum	Maidenhair Fern
Athyrium filix-femina		Lady Fern	

**STRUCTURE PLAN**

Item	Suggested Material	Area
Pedestrian Path	Concrete	1220 sq.ft.

**E2 SUBAREA FLOWER GARDERN**

**PLANTING PLAN**

	Botanical Name	Common Name	Quantity/Spacing
Deciduous	Syringa chinensis	Chinese Lilac	1
	Prunus maackii	Amur Chokecherry	4 @ 15-18' o.c.
Evergreen	Junipers sabina 'Scandia'	Scandia Juniper	14 @ 3-4' o.c.
Shrub	Philadelphus 'Minnesota Snowflake'	Minnesota Snowflake Mockorange	5 @ 5' o.c.
	Symphoricarpos albus	White Snowberry	22 @ 3-4 o.c.
	Euonymus alata	Winged Euonymus	3 @ 8' o.c.
	Cotoneaster apiculata	Cranberry Cotoneaster	9 @ 4' o.c.
	Forsythia x 'Arnold Dwarf'	Arnold Dwarf Forsythia	14 @ 3-4'o.c.
	Hamamelis virginiana	Witch Hazel	4 @ 6-8' o.c.
Perennials Selected for spring and fall blooms such as:	Tulipa sp.	Tulip	6-12" o.c.
	Chrysanthemum sp.	Hardy Mums	12-18" o.c.
Annuals	Selected by Classroom		6000 sq.ft

**STRUCTURE PLAN**

Item	Suggested Material	Area
Pedestrian Path	Concrete	500 sq.ft.

**F1 SUBAREA PARKING LOT**

**PLANTING PLAN**

	Botanical Name	Common Name	Quantity/Spacing
Deciduous Trees	Populus deltoides 'Siouxland'	Siouxland Poplar	12
	Fraxinus Pennsylvanica	Green Ash	12
	Acer saccharinum	Silver Maple	13

**F2 SUBAREA WINDBREAK**

**PLANTING PLAN**

	Botanical Name	Common Name	Quantity/Spacing
Evergreen	Pinus nigra	Austrian Pine (north row)	62 @ 20' o.c.
	Picea glauca densata	Black Hills Spruce (south row)	61 @ 20' o.c.

**F3 SUBAREA MULTI-PURPOSE TRAIL**

**PLANTING PLAN**

	Botanical Name	Common Name	Quantity/Spacing
Deciduous Trees	Acer rubrum	Red Maple	8
	Acer saccharum	Sugar Maple	8
	Tilia americana	Basswood	9
	Quercus borealis	Red Oak	9

**STRUCTURE PLAN**

Item	Suggested Material	Area or Distance
Bicycle Trail	Compacted crushed rock	8' wide by 2400ft. long

**F4 SUBAREA SOUTH OF SCHOOL**

**PLANTING PLAN**

	Botanical Name	Common Name	Quantity/Spacing
Deciduous Trees	Syringa reticulata	Japanese Tree Lilac	7
	Tilia americana	Basswood	5
	Acer platanoides 'Schwedler'	Schwedler Maple	8
Nut Trees such as:	Carya cordiformis	Bitternut Hickory	2-5 @ 20' o.c.
	Juglans cinerea	Butternut	2-5 @ 20' o.c.
	Juglans nigra	Black walnut	2-5 @ 20' o.c.

## IMPLEMENTATION

The design presented here represents an ambitious yet worthy scheme for future site improvements for Rogers Elementary. If the school grounds are to support the quality of the education and the safety of the school children as well as they could, site improvements are not only desirable, but in many cases necessary. Achievement of these improvements is possible, but will require the cooperation and commitment of the teachers, students, parents, school administration, and the school board.

Planning should proceed in an orderly manner by setting long and short term goals. Construction and planting can be phased incrementally - subareas of the school grounds can be installed one-at-a-time as funding and maintenance support allows. At the same time, each of these steps should fit into an long term vision worthy of the value of the Rogers Elementary as a exemplary place in which to educate the children of Rogers.

## RESOURCES

The following is a partial list of resources which may be of use in implementing school site improvements.

### FUNDING & TECHNICAL ASSISTANCE

MINNESOTA BEAUTIFUL SMALL GRANTS PROGRAM  
MN Dept of Trade & Economic Development  
900 American Ctr Bldg / St Paul, MN 55101  
296-2169  
[grants for school environmental improvement projects]

MINNESOTA DEPARTMENT OF NATURAL RESOURCES / FORESTRY DIVISION  
500 Lafayette Rd / St Paul, MN 55155  
296-4491

MINNESOTA DEPARTMENT OF AGRICULTURE / SHADE TREE PROGRAM & STATE ARBOR DAY COMMITTEE  
90 West Plato Blvd / St Paul, MN 55107  
296-3349

## SCHOOLS & LEARNING CENTERS

MAPLEWOOD MIDDLE SCHOOL  
2410 E Holloway / Maplewood, MN 55109  
770-4690

[large garden and amphitheater done by teachers, children, and parents; collected seeds to start wild flowers]

MARCY-TUTTLE ELEMENTARY SCHOOL  
1042 18th Ave SE / Minneapolis, MN 55414  
627-2271

[has entry plazas with trees & benches; separates playgrounds from busy street with hedges]

CHILDREN'S MUSEUM  
1217 N Bandana Blvd / St. Paul  
644-3818

[raised flower and grain beds, lookout tower, weather station, fountain]

## BOOKS

Feucht, James R. and Jack D. Butler, 1988. Landscape Management. NY: Van Nostrand Reinhold.

Henderson, Carrol L., 1987. Landscaping for Wildlife. St. Paul: Minnesota Department of Natural Resources.

Minnesota Department of Natural Resources. Trail Manual.

Minnesota Department of Agriculture. Tree Owner's Manual.

Scholten, Harold, 1988. Farmstead Shelterbelts: Protection Against Wind and Snow. St. Paul: MN Extension Service. Bulletin CD-BU-0468.

Smyser, Carol A., 1982. Nature's Design: A Practical Guide to Natural Landscaping. Emmaus, PA: Rodale Press. [includes planting, walkway, and wall construction guidance for amateurs]