

## APPENDIX A

### **Memorial-Spaulding Outdoor Classroom *"Kayla's Garden"***

**The opportunities for bringing the students to the outdoor classroom are many. The science curriculum for the Newton Public Schools sets desired Outcomes for students' learning and topics for achieving these Outcomes. We have pulled from these curriculum documents to suggest how the Memorial-Spaulding garden might be used to achieve the classroom Outcomes. These possibilities are listed in Appendix A. Similar possibilities will be developed for other curriculum areas.**

*APPENDIX A Newton Public Schools Science Curriculum Outcomes (partial)*

**Students will engage in activities that develop inquiry and critical thinking skills as well as an understanding of how scientific knowledge may develop.**

Grade K:

Using the 5 senses  
Observing with a hand lens  
Observe weather phenomena, bulb growth  
Compare/contrast properties  
Use drawing to record observations  
Make predictions

Grade 1: the above plus

Make quantitative measurements using thermometer, ruler, meter tape  
Sequence pictures of plant growth based on personal observations

Grade 2: the above plus

Use hand lens to observe, draw, and identify insect and plant structures  
Journal skills  
Sequence life-cycle events

Grade 3: the above plus

Make inferences based on observations of tracks, tree rings

Grade 4: the above plus

Compile data obtained from multi-session observation of... plant propagation

Grade 5: the above plus

Construct an instrument to collect data, e.g. wind vane

**Students will organize and classify objects and natural events based on their properties.**

Grade K:

Begin to sort objects by observable (attributes) properties

Grade 1:

Realize objects, e.g. shadows, have physical properties that can be observed and described  
Understand that all living things need food, water, air, and an appropriate habitat  
Understand that all living things have structures and functions specific to their group (plants have roots, leaves, and flowers).

Grade 2: the above plus

Classify objects by their properties e.g. seed dispersal method  
List the characteristics of living things  
Identify the physical characteristics common to most flowering plants

Grade 3: the above plus

Distinguish at least two New England habitats by their characteristics  
Recognize that plants make their own food and animals do not  
Begin to construct and use keys to identify objects, e.g. leaves, trees  
Identify some common New England plants and animals and their habitats

Grade 4: the above plus

Demonstrate an understanding that under specified conditions, rock materials form igneous, sedimentary, and metamorphic rock  
Identify the structures in plants that are responsible for food making, reproduction, growth, and protection.

Grade 5: the above plus

Distinguish among various forms of precipitation, making connection to weather in a particular place and time.  
Classify plants and animals by their energy source

**Students will recognize that there is a relationship between an object's structure and its properties or function.**

Grade K:

Begin to recognize that each plant and animal structure has a function, e.g. a stem holds leaves...  
Observe changes in external features of a plant or animal over time  
Compare the properties of liquid water, ice, and snow

Grade 1: the above plus

Observe that the liquid in a thermometer expands as the temperature increases

Grade 2: the above plus

Classify objects by their properties e.g. seed dispersal method  
Identify the physical characteristics common to most flowering plants

Grade 3: the above plus

Give examples of the structures of some New England plants and animals which help them survive  
Describe the function of different parts of a tree  
Infer an animal's behavior from its tracks and/or body structure

Grade 4: the above plus

Explain how plant and animal structures are adaptations that help them survive in the environment

Grade 5: the above plus

Relate sky observations and weather phenomena e.g. cloud type and type of precipitation

**Students will understand that natural events occur in a predictable manner under defined conditions.**

Grade K:

Observe that weather changes from day to day  
Become aware of weather conditions and different seasons

Grade 1:

Observe seasonal weather changes

Grade 4:

Demonstrate how light travels, can be reflected, refracted, and absorbed

Grade 5:

Demonstrate that weather is caused by changes in the atmosphere...  
State function of weather instruments e.g. anemometer, barometer, thermometer, rain gauge

**Students will investigate and understand natural processes and cycles.**

Grade K:

Observe, measure, and record the growth of a living thing  
Record daily and seasonal weather changes

Grade 1:

Understand that all living things have life cycles and that the cycle may vary for different living things  
Understand that the same kind of seed always produces the same kind of plant  
Give examples of changes in appearance of plants and animals in different seasons  
Record the sun's movement using a fixed object (shadow)  
Give examples that support the idea that the sun gives heat and light  
Note temperature and hours of daylight patterns at different seasons  
Recognize that air is all around us and that wind is moving air

Grade 2:

Recognize that a seed...contains a young plant, and it's food supply within a protective seed coat  
Describe ways a young plant resembles it's parents in physical appearance

Grade 3:

Document seasonal changes e.g. trees, weather conditions  
Describe how water on earth cycles in different forms

Grade 4:

Propagate plants from seeds, stems, bulbs...  
Recognize plant behaviors  
Explain how rocks form

Grade 5:

Describe how energy derived from the sun is transferred within a food chain ...

Collect quantitative weather data e.g. temperature, rainfall

Recognize that the seasonal pattern of New England's weather is from west to east

**Students will understand that the components of a system are interdependent. The entire system may be altered by a change in even one component.**

Grade K:

Plant bulbs and observe what happens when something changes, e.g., water only, no light

Grade 1:

Recognize changes in appearance of animals and plants in different seasons

Grade 2

Demonstrate how a change in the amount of a material affects what happens e.g. fertilizer, number of seeds, water

Grade 3:

Begin to show an understanding that plants and animals are connected in a food chain/web

Give an example that illustrates the interaction of living/non-living parts of an environment, e.g., amount of rain and growth of a tree

Give examples of how animals change the environment

Become aware that the process of decay is a form of recycling

Grade 4:

Explain how temperature, moisture, wind speed, and direction and precipitation make up the weather in a particular time and place

**SUPPORTING MATERIALS**

**Memorial-Spaulling Outdoor Classroom**  
***“Kayla’s Garden”***

**Proposed Plant Lists**

**Sculptor Gary Price Details**

**Memorial-Spaulling Site Plan, showing Garden Area**

**Plant List for Kayla's Garden**  
(proposed)

**Winter Garden Plants**

1 Juniperus scopulorum  
"Skyrocket"

Blue-gray foliage, narrow, up to 20ft

5 Azaleas

Spring flowering

5 Cotoneaster congestus or dammeri

Small flowers in spring, berries, .5-2.5 ft

3 Red Osier dogwood bushes

Attracts animals and birds; bright red branches in winter

3 Holly trees 1 male, 2 female  
"Winterberry"

Drought and shade tolerant; food all winter,  
Up to 10 ft.

"American Holly"  
"Inkberry"

3 Viburnum  
"Mapleleaf"

Semi-evergreen  
Blooms May/June, yellow flowers, black fruit  
Pink/purple fall color 4-6 ft

"Hobblebush"

White May flowers, red berries, red/purple foliage  
Good understory for moist shade, 7-8 ft

"American Cranberry"

White May flowers, red berries, yellow/burgundy foliage, 8-12 ft.

5 Low bush blueberries

Ground cover, great berries for birds and animals

**Other possible plants and ground cover**

Vinca Minor  
"Periwinkle"

Ground cover, spring flowers

1 Forsythia

Early bloomer

Non-invasive, native ornamental grasses

**Memorial-Spaulling  
Butterfly Garden  
Plant List**

Achillea (Yarrow) 'summer shades mix'	June-Sept	24 in	12/\$62.95
Alcea (Hollyhock) 'Apple blossom'	June-Aug	6-8 ft	12/\$62.95
Anemone sylvestris	May and Sept	18 in	6/\$57.95
Angelica gigas	Aug-Sept	60-72 in	6/\$67.95
Aquilegia 'Blue butterflies'	May-June	30-36 in	6/\$52.95
Asclepias (Butterfly weed) 'Gay butterflies mix'	June-July	24-30 in	6/\$57.95
Aster Novae-angliae (New England Aster) 'Purple Dome'	Sept-Oct	18-24 in	6/\$52.95
Aster pyrenaeus 'Lutetia'	Aug-Oct	18 in	6/\$52.95
Baptisia australis	June	36-48 in	3/\$27.95
Chrysanthemum x superbum 'Becky'	July-Sept	36-48 in	6/\$52.95
Chrysanthemum x superbum 'Christine Hagemann'	July-Sept	30 in	6/\$52.95
Coreopsis grandiflora 'Early Sunrise'	June-Oct	24 in	6/\$33.95
Daylily 'Johnny one note'	June-Oct	18 in	2 Collections/\$56.00 (18 plants/collection)
Dianthus carthusianorum	June-July	24-36 in	3/\$24.95
Digitalis grandiflora (foxglove)	June-Sept	30 in	6/\$46.95
Digitalis laevigata (foxglove)	June-Aug	30-36 in	6/\$46.95
Echinacea (coneflower) 'White swan'	June-Sept	40 in	6/\$46.95
Echinacea (coneflower) 'WWF strain'	June-Sept	40 in	6/\$46.95
Eupatorium maculatum 'Gateway'	Aug-Sept	5-6 ft	3/\$27.95
Lavender Patch	June-Sept	12-36 in	2 Collections/\$74.95 (5 plants/collection)
Liatris ligulistylis (gayfeather)	July-Sept	36-60 in	3/\$30.95
Lupinus 'Popsicle mix'	June-July	18-24 in	6/\$33.95
Malva moschata 'Alba'	July-Sept	24-36 in	6/\$46.95
Malva sylvestris mauritanica	July-Oct	48-60 in	6/\$52.95
Monarda 'Scorpio' (bee balm)	July-Aug	48 in	6/\$46.95
Penstemon 'Sour grapes'	June-Sep	24 in	6/\$57.95
Phlox paniculata 'David'	July-Sep	40 in	6/\$46.95
Rudbeckia (Black-eyed Susan)	July-Oct	30-40 in	6/\$46.95
Scabiosa 'Butterfly blue'	May-Nov	15 in	6/\$46.95
Sedum 'Autumn joy'	Aug-Oct	24 in	6/\$41.95
Solidago 'Fireworks' (Goldenrod)	Aug-Sep	30-36 in	6/\$52.95
Stokesia 'Honeysong purple'	June-Sept	12 in	3/\$27.95
Viola 'Rebecca'	May-Oct	6-10 in	6/\$41.95
Viola cornuta 'Cuty'	June-Nov	8-10 in	12/\$52.95
Buddleia davidii 'Potters purple'	July-Sept	72-84 in	2/\$30.95



**CIRCLE OF PEACE - 7 CHILDREN**

Price: \$99,000.00

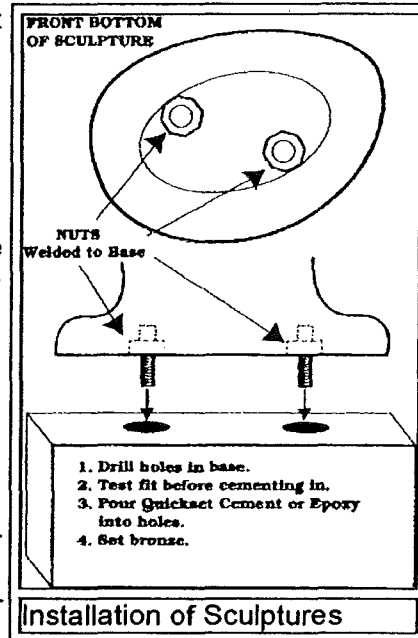
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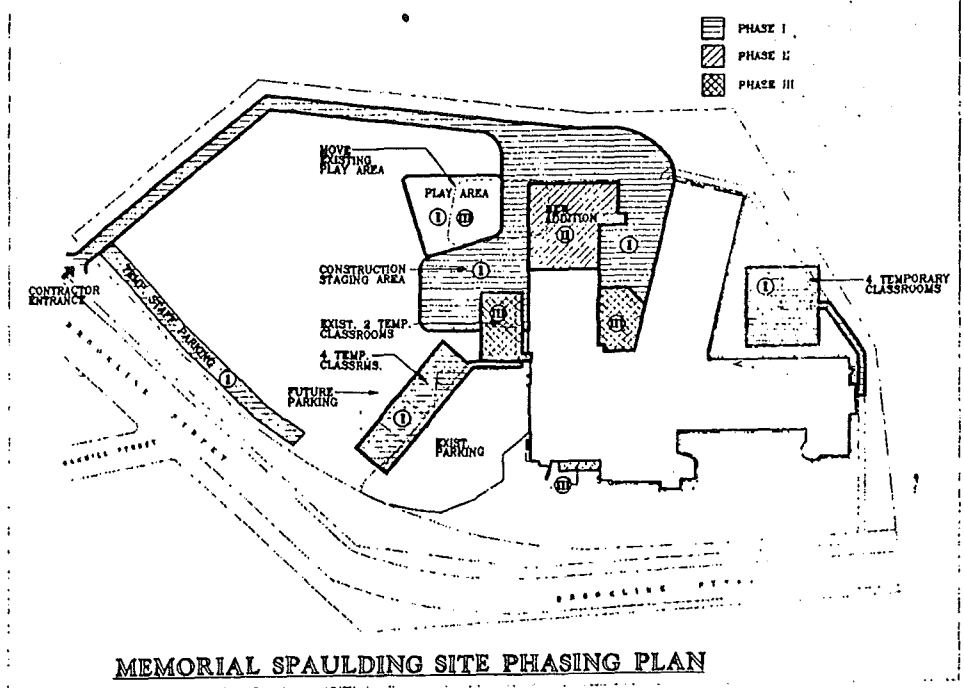
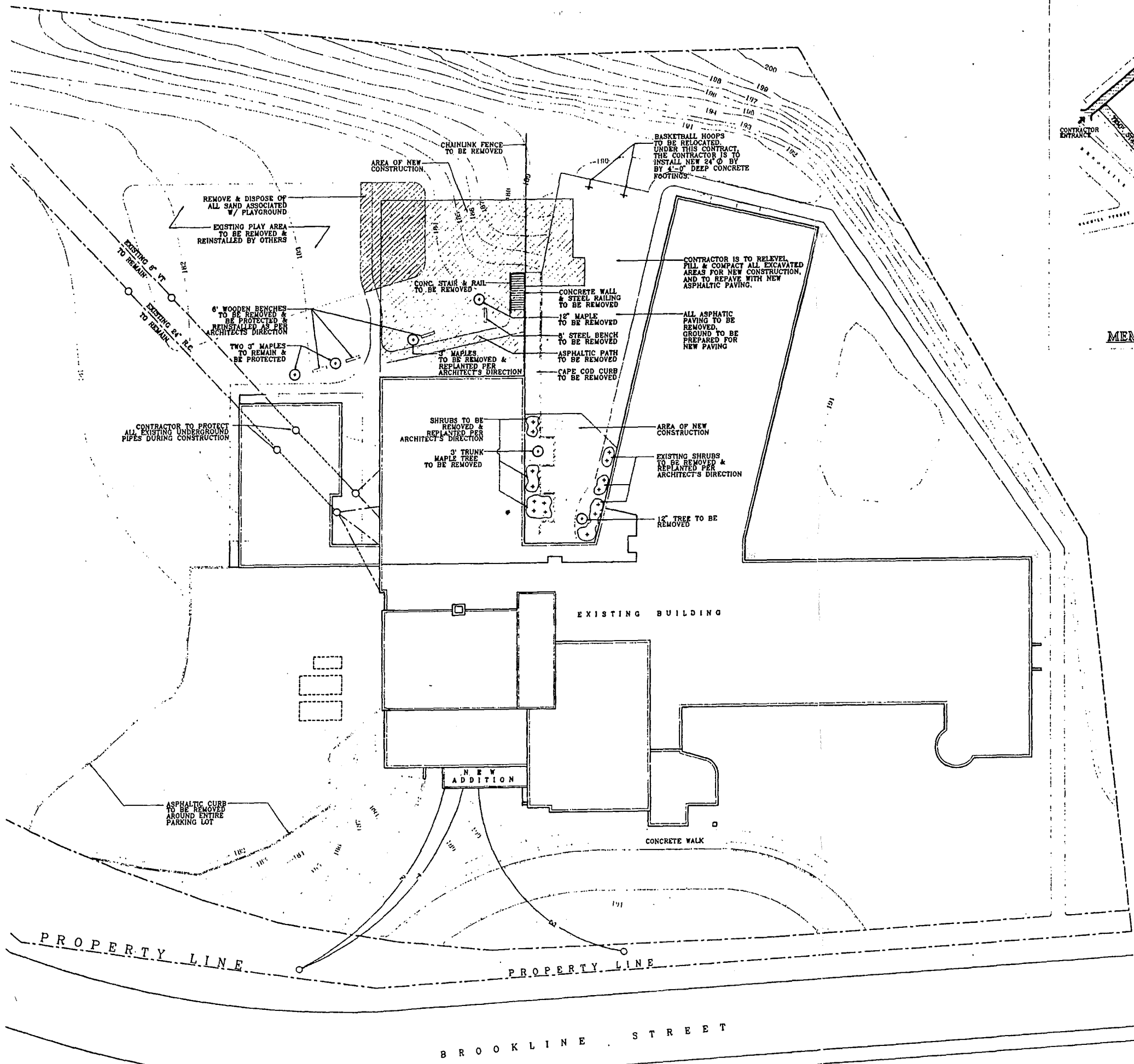
48" H X 10 ft. W, Edition of 50, 1999. Also available with 3 or 5 children. My latest piece "Circle of Peace is a symbol and a participatory teaching aid for life. Let me explain why. I recently watched an interview on T.V. with a former white supremacist. At age 18 he was imprisoned because of his violent anti-racial acts. The interview got extremely interesting as he recounted his reformation while in prison. He said that prior to his sentence he vehemently avoided other races. They were to be hated, abhorred and despised. Overnight he was placed in an environment where interaction with all of mankind was a welcome experience to solitary confinement. Play was introduced in the form of team sports. Relationships developed, bias subsided and upon release from prison he was free from the prejudices and bondage that had tied his hands and soul. Today he takes a radical stand against his sordid past by speaking out in public forums exposing the violence and thought processes of hate groups. Today he coaches youth hockey to multi-cultural kids. The story is fascinating to me. The prejudice could only occur when there was no interaction. When the associations occurred the barriers went down and friendships happened. To me, that's what this piece represents. Rather than "Ring Around the Rosie" I feel comfortable naming this sculpture "Circle of Peace" for it depicts children from all walks of life playing and enjoying each other. The circle the children form represents the continuum of humanity. The clasped hands represents the interaction and cooperation that engenders a humanity full of compassion and respect. Respect for each others uniqueness and compassion that bridges the gap between any indifference. You'll notice I created a space in the circle. It's fascinating to watch children interact with the piece. The second they notice the gap they automatically clasp the two out-stretched hands and complete the circle! Exactly so! Each and every child is a vital link in this wonderful circle of life we call humanity! - Gary Price

**"How do I permanently install a sculpture?"**

When installing a sculpture, we feel it is important to have the piece on hand so you can better see how to install it. Each sculpture has nuts welded on the bottom, to which you can attach threaded rods. To get the exact placement of the holes, put chalk or pencil lead around the inside of the nuts under the piece and place the bronze exactly where you want it to be on the rock or cement base. Tap the sculpture and the chalk will fall and mark the drill holes. Drill the holes about ½ inch deeper than the longest rod. Give the holes plenty of width as some of the nuts will not likely be at a perfect right angle. Pour epoxy or quick set cement into each hole and place the sculpture. Another way to install the piece is to use a template such as a piece of paper to create an outline of the underside of the sculpture and mark where each nut is located. Place the template on the base and mark where each hole needs to be drilled for the rods.



**ALWAYS WEAR YOUR SAFETY GEAR**



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