



2-402.29

1535

**Department of Energy**

**Ohio Field Office  
Fernald Area Office**  
P. O. Box 538705  
Cincinnati, Ohio 45253-8705  
(513) 648-3155



**JUN 23 1998**

**DOE-0905-98**

**Mr. James A. Saric, Remedial Project Manager  
U.S. Environmental Protection Agency  
Region V-SRF-5J  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590**

**Mr. Tom Schneider, Project Manager  
Ohio Environmental Protection Agency  
401 East 5<sup>th</sup> Street  
Dayton, Ohio 45402-2911**

**Dear Mr. Saric and Mr. Schneider:**

**TRANSMITTAL OF REVISED AESTHETIC BARRIER WORK PLAN**

The Aesthetic Barrier Work Plan has been revised based on Ohio Environmental Protection Agency (OEPA) comments dated April 13, 1998. The final work plan and comment response document is enclosed for your review and approval. The U.S. Environmental Protection Agency (U.S. EPA) approved the work plan on April 23, 1998. The Aesthetic Barrier project is planned for implementation in the Fall of 1998.

If you have any questions or require additional information, please contact Robert Janke at (513) 648-3124.

Sincerely,

**Johnny W. Reising  
Fernald Remedial Action  
Project Manager**

FEMP:Nickel

Enclosure: As Stated

cc w/enc:

G. Jablonowski, USEPA-V, SRF-5J  
R. Beaumier, TPSS/DERR, OEPA-Columbus  
T. Schneider, OEPA-Dayton (total of 3 copies of enc.)  
F. Bell, ATSDR  
M. Schupe, HSI GeoTrans  
R. Vandegrift, ODH  
F. Barker, Tetra Tech  
AR Coordinator, FDF/78

cc w/o enc:

N. Hallein, EM-42/CLOV  
D. Carr, FDF/52-2  
J. Chiou, FDF/52-0  
J. Foster, FDF/16-1  
T. Hagen, FDF/65-2  
J. Harmon, FDF/90  
R. Heck, FDF/2  
S. Hinnefeld, FDF/2  
J. Homer, FDF/65-2  
C. Straub, FDF/65-2  
W. Woods, FDF/65-2  
EDC, FDF/52-7

**DRAFT RESPONSES TO THE OHIO EPA COMMENTS ON THE  
INSTALLATION OF AESTHETIC BARRIER WORK PLAN  
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT**

Commenting Organization: Ohio EPA  
Section #: Table 1                      Pg #:                      Line #:                      Commentor: OFFO/DSW  
Original Comment #: 1                      Code: C

**Comment:** Ohio EPA recommends using native species whenever possible for restoration related projects at Fernald. With regards to the proposed barrier, the objective would appear to be more barrier than restoration supporting the use of non-native species such as white pines. Ohio EPA does recommend avoiding what appears to be a monoculture of white pines. Monocultures are less aesthetically pleasing than mixed cultures, they are more susceptible to disease, and should soil and growing conditions not be optimum for the selected cultivar/species, the entire stand is jeopardized. Perhaps a mixture of conifers is more desirable (spruces, pines, cedars, etc.) similar to that proposed for the flowering trees.

**Response:** DOE agrees with Ohio EPA's recommendation for using native species wherever possible as part of site restoration. Eastern redcedar is the only native coniferous tree in this part of Ohio. Therefore, DOE has proposed the use of white pines due to their fast growth, success in adjacent areas, and availability. DOE will consider other species such as spruce and cedar in the design of the project.

**Action:** The work plan will be revised to reflect a mix of coniferous trees as part of the design of the Aesthetic Barrier Project.

Commenting Organization: Ohio EPA  
Section #: Table 1                      Pg #:                      Line #:                      Commentor: OFFO/DSW  
Original Comment #: 2                      Code: C

**Comment:** The selection of river birch may not be desirable. Although attractive, Ohio EPA expects they will be difficult to grow, especially away from a river. A better wet suited species may be sycamore. Another possible replacement species is redbud for aesthetic qualities and to fit with the existing mix. A few of each may be desirable. In any event, an alternative that is easier to grow is advised in place of the river birch.

**Response:** It is agreed that river birch does prefer moist soils, but should survive in the soils in the project area. River birch was selected due to its dense branching pattern and vivid fall color. However, redbud will be considered as a replacement for river birch in the design.

**Action:** The work plan will be revised to reflect the use of eastern redbud in place of river birch.

Commenting Organization: Ohio EPA

Commentor: OFFO

Section #: Figure 2

Pg #:

Line #:

Code: C

Original Comment #: 3

Comment: Ohio EPA recommends termination of mowing between the barrier and the property boundary. Seeding of the area with native grasses and forbs is a good alternative to the proposed old field.

Response: DOE will refrain from mowing between the barrier and the existing gravel road used for access to groundwater wells, however, mowing will be necessary between the gravel road and Willey Road for safety reasons.

Action: DOE will eliminate of mowing between the barrier and the existing gravel road and revise the work plan to reflect this.

# INSTALLATION OF AESTHETIC BARRIER WORK PLAN

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT  
FERNALD, OHIO



JUNE 1998

U.S. DEPARTMENT OF ENERGY  
FERNALD AREA OFFICE

20900-WP-0001  
REVISION 0  
FINAL

**TABLE OF CONTENTS**

1.0 Introduction ..... 1-1

2.0 Alternatives Considered ..... 2-1

    2.1 Location of Selected Alternative ..... 2-1

3.0 Barrier Design ..... 3-1

4.0 Cost and Schedule ..... 4-1

5.0 Health and Safety Requirements ..... 5-1

6.0 Stakeholder Input ..... 6-1

**TABLES AND FIGURES**

- Table 1      Specification List for Trees
- Figure 1      Considered Locations of Aesthetic Barrier
- Figure 2      Aesthetic Barrier Along Willey Road

**ACRONYMS AND ABBREVIATIONS**

<b>DOE</b>	Department of Energy
<b>FCAB</b>	Fernald Citizens Advisory Board
<b>FEMP</b>	Fernald Environmental Management Project
<b>FRESH</b>	Fernald Residents for Environmental Safety and Health
<b>OSDF</b>	On-Site Disposal Facility

## 1.0 INTRODUCTION

The Fernald Environmental Management Project (FEMP) is proceeding with the design and implementation of many aspects of site remediation. Throughout the process of site remediation, more areas of the FEMP will be disturbed due to excavation and construction activities. Some disturbed areas will be visible to residents living and traveling around the FEMP. The Fernald Citizens Advisory Board (FCAB) recommended in a letter dated February 19, 1997 that steps be taken to minimize the visual impact of site remediation surrounding the site. After receipt of the FCAB recommendation, other stakeholder groups were consulted about the possibility of planting trees as an aesthetic barrier to restrict the view to some areas of the site that will be undergoing extensive excavation. Considering the generally favorable input that has been received, this work plan has been developed to outline a plan for installing the barrier.

## 2.0 ALTERNATIVES CONSIDERED

Three alternatives were considered to provide aesthetic appeal and restrict the view of remediated site areas. The three alternatives considered were: Alternative 1 - Structural Barrier; Alternative 2 - Aesthetic Barrier With Berm; and Alternative 3 - Aesthetic Barrier Without Berm.

Alternative 1 would consist of constructing a structure similar to a highway noise barrier. Alternative 1 was not considered desirable due to the high cost of purchase and installation and lack of aesthetic appeal. Alternative 2 would consist of planting coniferous and flowering trees in alternating frequency on a soil berm. The construction of a soil berm to support vegetation as an aesthetic barrier was considered, but was not selected due to lack of soil on-property in the near-term and the expense of importing soil to the site. Alternative 3 would consist of planting coniferous and flowering trees in alternating frequency without a constructed soil berm. Alternative 3 was selected, since the planting of woody overstory would provide sufficient height to serve as an aesthetic barrier in the near-term.

### 2.1 LOCATION OF SELECTED ALTERNATIVE

The area selected for the implementation of Alternative 3 is adjacent to Willey Road and east of the South Access Road (Figure 1). This area will be used as a borrow area for the On-Site Disposal Facility (OSDF) starting in FY 1999. Both the Borrow Area and OSDF area are visible from Willey Road. Therefore, this area was considered the highest priority for installing an aesthetic barrier.

Other locations of the site were also considered for implementing the selected alternative, but were not selected based on impracticality. These areas consist of the northeast portion of the site (south of the intersection of State Route 126 and the North Access Road) and west of the South Access Road (Figure 1). The OSDF and site preparation activities are visible from State Route 126 in the area near the North Access Road. However, elevations in this area preclude restriction of viewing site activities. As construction of the OSDF proceeds and final elevations are established in these areas, future restoration projects will evaluate the practicality of utilizing woody overstory to provide an aesthetic barrier. However, no action is being proposed at this time. The area west of the South Access Road was also considered for installation of an aesthetic barrier. However, few long-term activities are proposed in this area. Currently, the installation of a pipeline to support the Aquifer Restoration Project's extraction well system is underway west of the South Access Road. However, once the

pipeline is completed, there are no plans for large scale excavation in this area. If this area is later used for borrow material or some other ground-disturbing activity, then the installation of an aesthetic barrier will be revisited.

### 3.0 BARRIER DESIGN

The aesthetic barrier will be installed after the completion of soil certification in the southernmost portion of Area 1, Phase II (Figure 1). The general approach for installing the aesthetic barrier is to utilize the existing grade to support the installation of trees. Coniferous and deciduous trees will be of sufficient height to provide some immediate screening from site activities. The conifers (i.e., evergreen) will provide an immediate year-round barrier with deciduous flowering trees providing diversity of species and aesthetic appeal.

Coniferous trees approximately 10 - 12 feet in height will be planted in two alternating rows approximately 10 feet apart (Figure 2). The coniferous trees will consist primarily of white pines; however, Norway spruce and eastern redcedar will also be considered in the design to provide diversity, depending on their availability. Alternating rows will provide for little separation between each tree. The coniferous trees will not be planted any closer than 10 feet to avoid overcrowding, which could lessen the stand's chances for survival. In addition, two alternating rows of deciduous trees will be planted to the south of the coniferous trees (i.e., the side visible from Willey Road) to provide the stand with diversity of species and color. A combination of trees that flower in the spring (eastern redbud, crabapple) and provide vivid color in the fall (e.g., red maple, red oak) will be planted in a random pattern to enhance the aesthetics of the barrier (Table 1).

Standard planting methods will be used to optimize survival of the trees. A hole approximately twice the width of the root ball will be excavated utilizing a mechanical auger. The trees will be planted with the top of the root ball slightly above the surface of the ground. Peat moss, fertilizer, and water will be added to the soil removed from the hole as part of backfilling. After backfilling, the trees will be staked for approximately one year. During dry periods, the trees will be watered as labor becomes available to improve the chances for survival. During periods of adequate rainfall, no additional water will be added. The area around the trees will be reseeded with prairie grasses out to the existing gravel road. The seeded area between the Aesthetic Barrier and the gravel road will only be mowed to the extent necessary to manage the prairie grasses.

#### 4.0 COST AND SCHEDULE

The installation of the aesthetic barrier is estimated to cost approximately \$45,000. The installation of the aesthetic barrier is targeted for September of 1998. The completion of certification activities in the southern portion of Area 1, Phase II is scheduled to be complete in June 1998. If certification activities are not complete, the installation of the barrier will be delayed until certification of that portion of the site is complete. The optimal time for planting trees is in the fall and winter months (if weather permits) when trees are focusing on root growth, therefore, installation of the trees in September will optimize the chances for survival of the trees. However, the trees could be planted in the spring if delays preclude fall planting.

## 5.0 HEALTH AND SAFETY REQUIREMENTS

All personnel working on this project will be briefed on and comply with the Project-Specific Health and Safety Matrix. The Field Safety Contact will ensure that each participant has been briefed on the applicable permits and the Project-Specific Health and Safety Matrix, as applicable.

### 6.0 STAKEHOLDER INPUT

As stated previously, the FCAB initially made recommendations regarding the installation of an aesthetic barrier. After the recommendation was made, the Department of Energy (DOE) discussed the idea with a number of additional stakeholder groups. The Ross Township Trustees and several local landowners were consulted regarding the idea of a barrier. Discussions are pending with the Crosby Township Trustees, Community Reuse Organization and FRESH. While views did vary on the configuration and types of trees that should be utilized, no single group or individual opposed the idea of an aesthetic barrier.

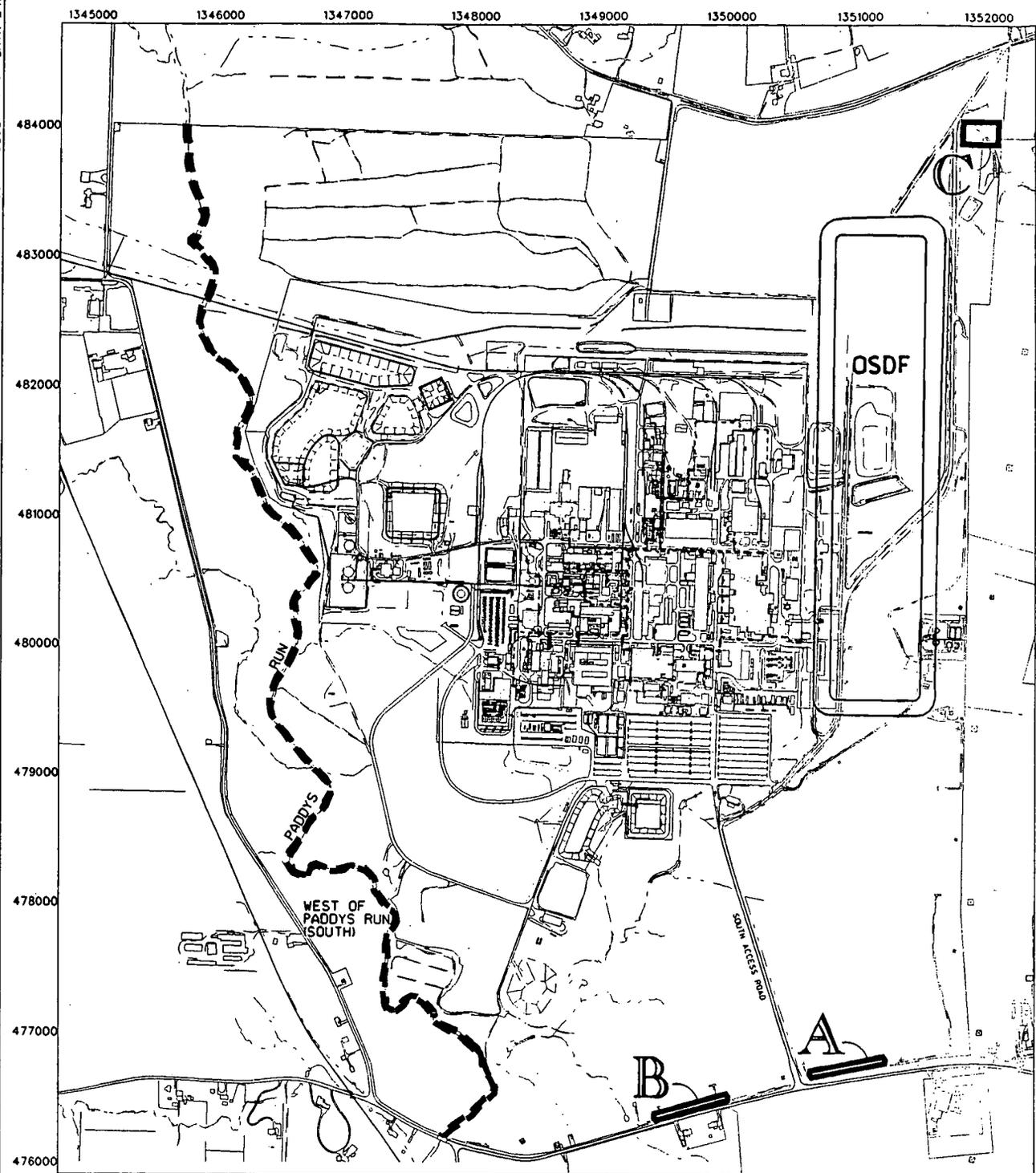
**TABLE 1  
TREE SPECIFICATION LIST**

Scientific Name	Common Name	Size	Quantity
<i>Pinus strobus</i>	White Pine	1.5" caliper	117 <sup>a</sup>
<i>Picea abies</i>	Norway Spruce	1.5" caliper	TBD
<i>Juniperus virginiana</i>	Eastern Redcedar	1.5" caliper	TBD
<i>Malus coronaria</i>	American Crabapple	1.5" caliper	10
<i>Acer rubrum</i>	Red Maple	1.5" caliper	10
<i>Liriodendron tulipifera</i>	Tulip Poplar	1.5" caliper	10
<i>Cercis canadensis</i>	Eastern Redbud	1.5" caliper	10
<i>Quercus rubra</i>	Red Oak	1.5" caliper	10
<i>Fraxinus pennsylvanica</i>	Green Ash	1.5" caliper	10
<i>Crataegus phaenopyrum</i>	Washington Hawthorn	1.5" caliper	11
<i>Cornus florida</i>	Flowering Dogwood	1.5" caliper	7

TBD - To Be Determined

<sup>a</sup> A total of 117 coniferous trees will be used. A portion of the total will consist of Norway Spruce and Eastern Redcedar.

FILE NAME j:\res\3256\skg26a.dgn FER QUS 1/12/98 GES STATE PLANNAR COORDINATE SYSTEM 1983

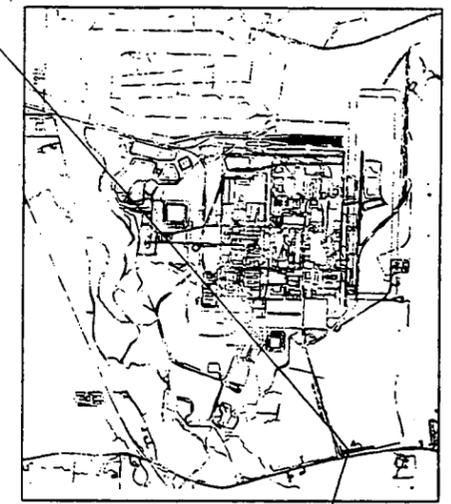


LEGEND:

- A SELECTED LOCATION OF AESTHETIC BARRIER
- B WEST OF SOUTH ACCESS ROAD
- C NORTH EAST PORTION OF THE SITE NORTH ACCESS ROAD



FIGURE 1. CONSIDERED LOCATIONS OF AESTHETIC BARRIER

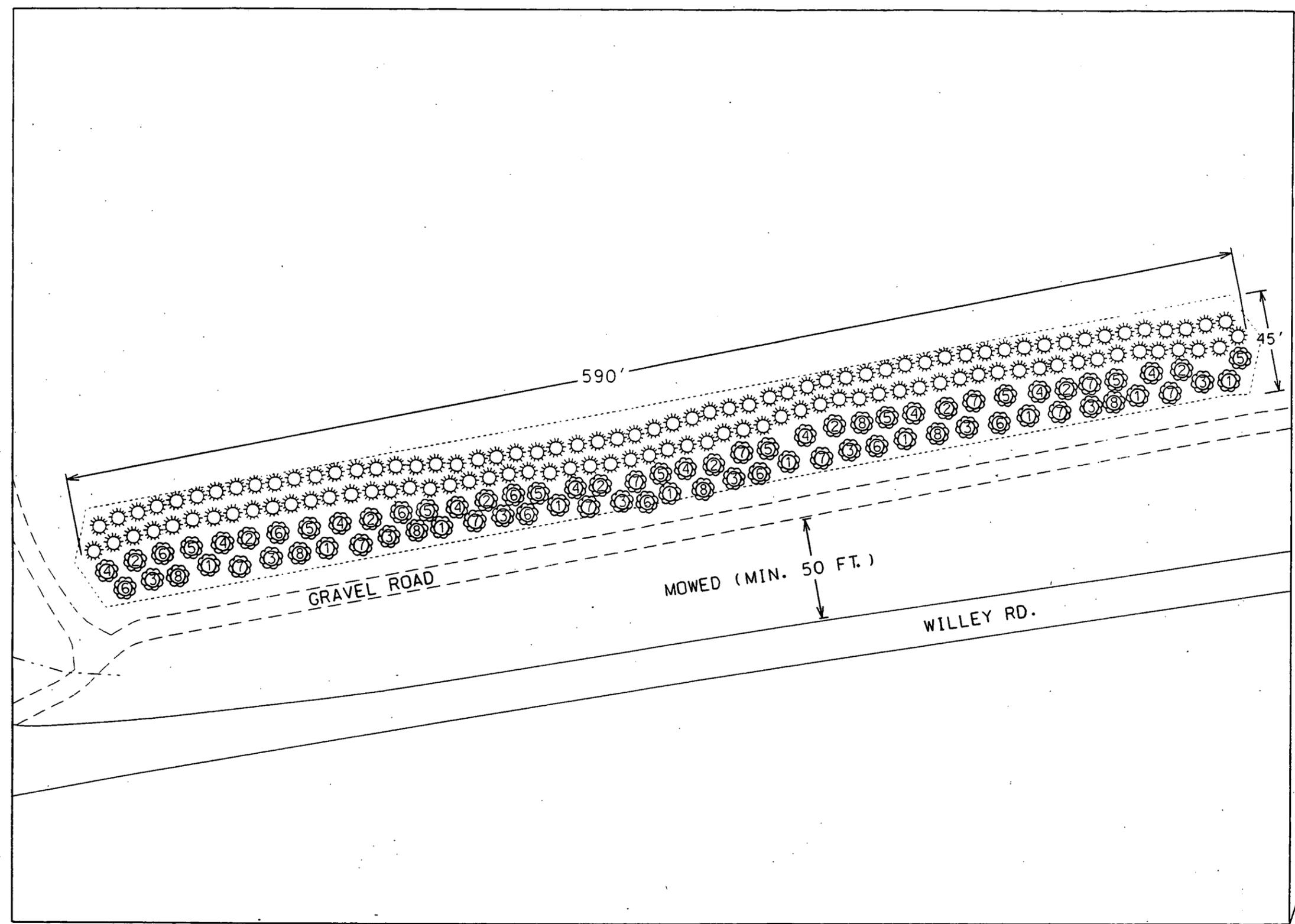


KEY PLAN

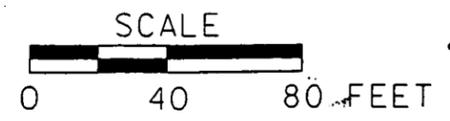


LEGEND:

- RESTORATION PROJECT AREA
- EVERGREENS:
  - WHITE PINE
  - NORWAY SPRUCE
  - EASTERN REDCEDAR
- FLOWERING/VIVID COLOR TREES
  - 1- AMERICAN CRABAPPLE
  - 2- RED MAPLE
  - 3- TULIP POPLAR
  - 4- RIVER BIRCH
  - 5- RED OAK
  - 6- GREEN ASH
  - 7- HAWTHORN
  - 8- FLOWERING DOGWOOD



DRAFT



FILE NAME usr1/res/res3256/skg10b.dgn 11x17 cru5 11-18-97 GES

FIGURE 2. AESTHETIC BARRIER ALONG WILLEY ROAD