THE VULCAN ESTATE
The Incorporation of Environmental Art in an Open Space Design
Anderson, Ind.

QUITNO 96
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and most importantly ...

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ABSTRACT

The following report is a detailed examination and summary of a fifth year comprehensive study involving the use of environmental art in an open space design. The ultimate goal of this exploration is the creation of a park master plan using earth sculpture and environmental principles. The project incorporates all stages of development from initial background information to case study to final master planning and detailing. Although this exploration is developed as a hypothetical scenario, the issues and site locale are real. The potentials for a project of this scope and magnitude are endless, and this particular study provides a fantastic foundation for continued study in this field.
# TABLE OF CONTENTS

Title Page ................................................................. i
Acknowledgments ......................................................... i
Abstract ........................................................................ ii

**INTRODUCTION** ....................................................... 1
- Introduction ................................................................ 2
- Background ................................................................ 3
  - Anderson, Indiana ................................................. 3
  - Anderson Greenway Corridor .............................. 4
  - The Vulcan Estate ................................................ 6

**SITE INVENTORY** .................................................... 9
- Existing Site Conditions .......................................... 10

**PROBLEM STATEMENT** ........................................... 15
- Statement of the Problem ....................................... 16
- Project Assumptions ............................................... 17

**PROGRAMMATIC DEVELOPMENT** ...................... 19
- Users .................................................................... 20
- Goals .................................................................... 20
- Program Elements ............................................... 22

**SITE ANALYSIS** ..................................................... 23
- Opportunities and Constraints ............................. 24

**LITERATURE REVIEW** ........................................... 28
<table>
<thead>
<tr>
<th>Case Studies</th>
<th>29</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andy Goldsworthy</td>
<td>31</td>
</tr>
<tr>
<td>Michael Heizer</td>
<td>32</td>
</tr>
<tr>
<td>Nancy Holt</td>
<td>33</td>
</tr>
<tr>
<td>Stanley Herd</td>
<td>34</td>
</tr>
<tr>
<td>Site Inc</td>
<td>35</td>
</tr>
</tbody>
</table>

**CONCEPTUAL DEVELOPMENT**

<table>
<thead>
<tr>
<th>Process</th>
<th>36</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artist Studies</td>
<td>37</td>
</tr>
<tr>
<td>Andy Goldsworthy</td>
<td>37</td>
</tr>
<tr>
<td>Michael Heizer</td>
<td>41</td>
</tr>
<tr>
<td>Stanley Herd</td>
<td>44</td>
</tr>
<tr>
<td>Nancy Holt</td>
<td>44</td>
</tr>
<tr>
<td>Site Inc</td>
<td>47</td>
</tr>
</tbody>
</table>

**THEMATIC DEVELOPMENT**

| Site Forces                               | 50 |
| Water Color Studies                       | 51 |
| Study #1                                  | 52 |
| Study #2                                  | 53 |
| Study #3                                  | 54 |

**MASTER PLAN DEVELOPMENT**

| Gestalt                                    | 58 |
| Celebration Areas                          | 59 |
| Landfills and Methane                      | 61 |
| Orchards and Maple Syrup                   | 64 |
| Shapes in Nature                           | 64 |
| Tree vs. Rock                              | 68 |
| Meadow to Wetland                          | 70 |
Earth Levees and Flood Control ......................... 72
Erosion and Deposition .................................. 72

CONCLUSION .................................................. 76
Final Considerations ..................................... 77

Works Cited .................................................. 80
Related Readings .......................................... 80
INTRODUCTION

BACKGROUND
INTRODUCTION

The natural landscape has forever been an inspiration for artists who marvel at its beauty and fertility. Sculptors and painters throughout the centuries have adapted nature as both subject and canvas when expressing their artistic notions. Until recently, however, the act of using the land as a media for artistic expression has been a relatively scarce phenomenon. Throughout the last several decades, a handful of artists have abandoned the conventional studio space and engaged the landscape, using its materials and features rather than simply depicting them. Their art is not merely of the landscape, it is the landscape.

Land projects of this variety -- commonly referred to as "earthworks" or "land art" -- occupy a broad spectrum of classifications, from monumental to ephemeral. Unfortunately, the complex nature, remote locale and fleeting quality of many contemporary earth projects has inhibited public acknowledgment and understanding of such endeavors. Incorporating environmental art as a design strategy in the development of public open space provides artists the perfect opportunity to express the cultural and natural dimensions of the landscape, while immersing the public in their explorations. This concept of assimilation is tailored to the landscape architect.
BACKGROUND

Today, environmental artists are addressing wider ranges of environmental and social concerns in their work, integrating their projects with larger development schemes. The *Buffalo Rock Effigy Tumuli*, by sculptor Michael Heizer, is a prime example of this consolidation. The project, which employs earthworks primarily as a means for reclaiming abandoned coal mining lands, was undertaken with minimal consideration of future site usage. However, the site was developed as an extension of Buffalo Rock State Park, a recreation area that serves the largest population center in the state. As a result, the *Effigy Tumuli* attracts considerable attention and affords a variety of unique uses (Massie 70-71).

Obviously, the popularity of Heizer’s sculpture should be primarily contributed to the quality and significance of the work itself. On the other hand, had the *Effigy Tumuli* been developed on an isolated piece of land, knowledge of its existence would likely be limited. Many artists emphasize isolation as a theme in their work. For projects such as these, remote locales are ideal. The emphasis of this thesis exploration, however, is the assimilation of landscape, artist, and audience in open space design. Therefore, the site chosen for development is part of a greater, established recreation system.

*Anderson, Indiana.* Situated in East-central Indiana, the city of Anderson is a mid-sized municipality located along the White River corridor in Madison County (Fig. 1).
As a bedroom community to nearby Indianapolis, Anderson accommodates over 60,000 residents (Anderson Planning Department 1991). Among these citizens, recreation, and the improvement and growth of the local park system, has become a priority (Figure 2 -- Anderson, IN).

The Parks and Recreation Department, responsible for park development and maintenance in Anderson, recognizes the city's potential to be a major node in the growing statewide trail system. Rails to Trails is a growing concept in Indiana, and nationwide, in which abandoned railroad beds are converted into linear park systems. Because the railroads do not reach every town in the state, many counties have also begun developing secondary trails along river and stream corridors. In Anderson, a pedestrian path has already been established along a portion of the White River corridor.

**Anderson Greenway Corridor.** The current Anderson Greenway is still immature in its development. However, interest in this project has reached the Department
of Landscape Architecture at Ball State University. During the fall semester of 1995, professor Martha Hunt’s fourth year design studio analyzed the opportunities apparent along the White River corridor in Madison County and presented their results in a comprehensive master plan (Figure 3).

The goals of the Anderson Greenway project are multi-faceted and far-reaching. One intention in particular warrants the promotion of further regional and community awareness, interest, and use of the White River Greenway and the system of parks and open space it unites. By supporting an established system of paths, the Anderson Greenway provides an ideal foundation for the further development of open space along its corridor. Previously undeveloped land situated along this new system is destined for future acquisition by the Parks Department. An opportunity exists to engage this land in a unique and innovative manner, and to avoid the mundane qualities that epitomize development in the region.

_The Vulcan Estate._ One site along the future Anderson Greenway particularly suited for development is the Vulcan property (Figure 4). Currently used as a dumping site for brush, the 185 acre site was previously quarried for aggregate stone materials. Since being abandoned, the land has been acquired by the Parks and Recreation Department. The city of Anderson is currently exploring development opportunities, and has considered proposals ranging from a trailer park to a wildlife preserve. This site has the potential to
entertain more innovative uses. Because of its location within the growing regional trail system, and the nature of previous on-site operations, the Vulcan property is an ideal locale for experimentation in the integration of environmental art and open space design (Fig. 5).

Figure 3. Anderson Greenway Corridor (Proposal developed by L.A. 401 Regional Design studio. Martha Hunt, Ball State University)

Figure 4. Vulcan Property (In box.)
Figure 5. Site Map of Vulcan Property (Anderson Parks Department)
SITE INVENTORY
EXISTING CONDITIONS
EXISTING SITE CONDITIONS

The Vulcan Property exists along the White River corridor in the eastern half of Anderson proper. Rangeline Road, a two lane county highway with moderate traffic volumes, provides the eastern boundary of the site and the only automobile access to the Vulcan Property. Single-family residential neighborhoods form the north and west borders. To the south, the site is confined by the river corridor.

The land east of Rangeline Road supports, from north to south, an active landfill, agricultural cropland, and junkyard. Several single-family homes are interspersed among these features. Mounds State Park lies only one-half mile east of the Vulcan Property along the White River corridor.

The 185 acre Vulcan Estate accommodates a variety of ecosystems and natural and man-made site features. The following list of site conditions corresponds to the map in Figure 7 (Page 11).

Upland Forest. The northwest corner of the site is occupied by a quality wood stand consisting of oak, hickory, beech, and maple tree species (Fig. 6).
The mature forest area is characterized by significant topographic change and dense overhead canopy.

*Quarry Spoils.* Much of the northern half of the site exists as quarry spoils. Previously exploited for aggregate supplies, the spoil areas have since been abandoned and re-occupied by successional woodlots. These areas are characterized by thick undergrowth consisting of sycamore, maple, beech, and ash species, and varied topography. Many of the depressions left from the quarrying process are inundated.

*Inactive Landfill.* Two inactive landfill areas lie in the northeast corner of the property. The landfills are adjacent to a significant high point on site and are surrounded by steep slopes. The existing site entrance is located along this high point. The city of Anderson is currently using the open space areas formerly occupied by the landfills as dumping sites for brush (Figure 8).

*Canal and Lake.* Immediately to the south of the existing entrance, a 1500' long canal remaining
from the quarry operations extends south and empties into a 15-acre lake. The lake is also a product of previous on-site mining practices. This significant water feature is sporting ground for local fishermen as it inhabits several species of fish. The lake and canal are surrounded by dense vegetation (Figure 9).

**Floodplain Forest.** All land lying south of the 846' contour lies in the 100-year floodzone. This floodplain is characterized by both open meadow and mature forest. The floodplain forest occupies extreme south and southwest portions of the property. The area is dominated by sycamore, cottonwood, maple, and hackberry tree species, many of which have been stripped of bark up to the level of past flood waters. Several man-made earthen levees exist in the forest zone and create a boundary for the floodplain meadow.

**Floodplain Meadow.** An area of dense grass/weed growth exists between the floodplain forest and existing lake. This open space lies within the 100-year flood and thus contains moist soils. This zone may be most appropriately labeled as a wet meadow (Fig. 10).
**Vulcan Estate Ruins.** The final significant feature of the Vulcan Property is located in the center of the site. In ruins now, the foundations of the former estate buildings occupy a high point overlooking the floodplain areas. A moderately sloped open meadow lies immediately south of the estate ruins and leads to one of the aforementioned inundated quarry spoils.

**White River Corridor.** The White River corridor lies along the southern border of the site and connects the property with Mounds State Park. The river, only one to two feet deep at this point, is navigable by canoes and supports a variety of wildlife. Much of the Vulcan property lies in the northern floodplain of the White River (Figure 11).
PROBLEM STATEMENT
STATEMENT OF THE PROBLEM
PROJECT ASSUMPTIONS
STATEMENT OF THE PROBLEM

Throughout the last several decades, the majority of the work of landscape architects has been perceived as devoid of significant meaning, and preoccupied with functionality. George Hargreaves, a visionary in the field of landscape architecture, relates the feelings of “the intelligentsia,” stating that “the open space they get from an architect is a podium, what they get from a landscape architect is an outdoor cafeteria.” Artists, on the other hand, are continually praised for the meaning that accompanies their work. Hargreaves believes that landscape architects need to follow the artists lead, and consider aspects beyond functionality by exploring the subject and meaning in open spaces more intimately (Hargreaves 52-3).

One method in which landscape architects, and artists alike, might enhance the meaning in their work is by engaging the landscape rather than merely using it as their stage or canvas. By utilizing the land as a palette, environmental artists create works which take their character from the site on which they are constructed. The creations elaborate the landscape while the landscape reveals the works. Boundaries are indeterminable where the work ends and the landscape begins.

Artists who engage the environment in their work reveal aspects of the landscape that are not only natural, but cultural as well. In order to be successful, environmental art must engross the culture which it represents. In other words, art composed in the landscape
should represent the social and natural processes that influence it (Friedman, *Words on the Environment*). Ultimately, the thrust of this thesis investigation is to explore the opportunities evident in open space design by engaging the natural and cultural features of a landscape and acknowledging them through environmental art.

**PROJECT ASSUMPTIONS**

The development of the Vulcan Estate in Anderson, Indiana, is being pursued as a Bachelor of Landscape Architecture comprehensive project. Due to time and budget constraints, and the lack of professional facilities and specialities, several assumptions have been developed to enable the completion of this project:

The community of Anderson lacks or desires the open space opportunities proposed by the project, and thus a mutual interest in the development of the site exists.

The site is owned and maintained by the Department of Parks and Recreation and funding for future development is accessible.

The zoning ordinances of the township or county in which the site is located presently allow, or can be altered to accommodate, the proposed land uses.
Ultimately, this investigation is limited to the development of site design strategies and will not attempt to determine the social and physical impacts of environmental art and recreation on the community or region in consideration. Conceived merely as a conceptual design problem, this study will not include the development of a construction or maintenance program.
PROGRAMMATIC DEVELOPMENT

USERS
GOALS
PROGRAM ELEMENTS
USERS

The targeted user groups for the Vulcan Estate park development are categorized under two broad headings: families and artists. As an extension and destination along the future Anderson Greenway system, the Vulcan Estate attracts a variety of family activity. Surrounded by residential communities, and situated near Mounds State Park, the park is ideally located to draw local and regional users seeking recreational opportunities offered through open space design. Recreational uses of the site include picnicking, interactive play, contemplation, group gathering, and unlimited experimenting.

Besides families, the site is also intended for use by local and regional artists as a palette and canvas for their work. Whether through personal or group exploration, children and adults are encouraged to interpret, create, and interact on the site on a professional or recreational basis.

GOALS

The intended final uses of the Vulcan Estate park are difficult to outline, primarily because the site is intended to be an interpretive experience. The greatest attraction of nature and the human culture is that they are continually changing, evolving, and growing.
To dictate the final design of a site developed as an abstraction of these processes would be a fundamental injustice. Therefore, the following broad-based site goals are included to merely provide structure and guidance to the design process:

*Ecosystems.* Appreciate and utilize existing ecosystems and on-site conditions as unique artistic palettes.

*Art Forms.* Promote the development of interpretive art forms with strong thematic qualities and unique material characteristics.

*Spatial variety.* Offer a variety of spaces for personal play, creation and contemplation as well as areas for group gathering and interaction.

*Nature and Art.* Encourage a complementary relationship between nature and art.

*Context.* Display sensitivity to the regional, cultural, and natural context during site development.

*Site Dynamics.* Promote dynamics of environmental art by encouraging natural and reconstructive evolution of site features.

*Permanence.* Provide permanent site features to maintain organization and functionality for users.
PROGRAM ELEMENTS

Although the developmental emphasis for this site relies heavily on the dynamic nature of environmental art, the site must ultimately maintain a level of permanence in order to attract the passive user. Familiarity is often a less intimidating, and thus more attractive feature of a place than continual change. The following design elements are included to provide an underlying organization to the site, and would be implemented during the detail study for this development:

* Walking trail(s)
* Raised viewing areas
* Gathering/display area
* Water features (existing)
* Vehicular access
* Parking: 15-30 spaces
* Staging areas
* Restroom facilities
SITE ANALYSIS

OPPORTUNITIES AND CONSTRAINTS
OPPORTUNITIES AND CONSTRAINTS

Within and beyond the existing site boundaries, several opportunities and constraints exist that directly influence the design concepts. These conclusions are established according to the goals and design elements defined in the programmatic statement. The following information is an attempt to summarize those site features which most significantly influence the design process. These items are also located on the map in Figure 12.

Existing Entry. The existing entry, located off Rangeline Road, is the most suitable area for entry into the Vulcan Estate because it exists on a high point with good visibility. The inactive landfills to the north and southwest of this entry area are adequate for accommodating 15-30 automobiles and could possibly be reactivated to accommodate excess city waste accumulations.

Lookout Area. The vista adjacent to the existing entry is ideal as the location for a lookout area. With removal of some vegetation, this area offers an overview of the entire site.

Amphitheater/Gathering. The steep slopes which form the above lookout area are ideal for a natural amphitheatre or display area. The open space provided by the inactive landfill is a possible staging area for art pieces requiring aerial viewing. This zone is
Figure 12. Opportunities and Constraints Mapping

- Single-family Housing
- Pedestrian Entry (typ.)
- Quarry Spoils (typ.)
- Deciduous Forest
- Lookout Area
- Existing Entry
- Vulcan Estate Ruins
- Amphitheatre/Gathering
- Quarry Spoils (typ.)
- Floodplain (100-yr flood line - 846')
- Quarry Spoils (typ.)
- Floodplain Forest
- Lake and Canal
- Vistas (typ)
- River Corridor
- Single-family Housing
adequately sized and located for large group gatherings.

**Quarry Spoils.** The north-central portion of the site includes a variety of spaces created by past mining operations. Being a disturbed area, development in this zone is unlimited. The history of the site suggests that the quarry spoils are ideal for art projects involving stone and excavated earth, possibly engrossing a social statement about mining.

**Deciduous Forest.** The mature upland forest on the northwest portion of the site is an ideal location for low-impact sculpture pieces. This area should be exploited for its existing character features, topography, and canopy.

**Vulcan Estate Ruins.** The ruin area, equipped with water lines, is a good location for restroom facilities as it exists on a high point overlooking the floodplain. The hillside meadow immediately south of the ruins is ideal for group gathering.

**Lake and Canal.** The lake and canal already attract a variety of users, and should not be dramatically altered. Potential exists in this area to stage water-oriented art works. Both of these features are remnants of past mining operations, and do not exist naturally. When altering the size and shape of the lake or canal, consideration should be given to the preservation of all aquatic species inhabiting the area.

**River Corridor and Floodplain.** The lower third of the property lies in the floodplain of the White River. Because of frequent flooding, these zones are ideal for the staging of water-based art pieces, including erosion and deposition studies. Existing vistas
south of the river and in the ruins area overlook the wet meadow, making the floodplain a potential site for aerial art works. Land immediately adjacent to the river is ideal for the extension of the proposed greenway as it connects the Vulcan property with Mounds State Park.

**Floodplain Forest.** The mature forest existing along the river and on the western half of the site should be utilized for the strong canopy and mature species it already provides.

**Single-family Housing.** On all borders except the east, the Vulcan property is neighbored by single-family housing. The people living here, as well as greenway users, provide the majority of potential site users. Therefore, direct connections should be provided to these neighborhoods at convenient locations.
CASE STUDIES

Most conventional design projects follow a relatively strict process that can be described in specific steps. First, a problem is defined. Then, the proposed site is inventoried and analyzed according to pre-determined programmatic considerations. After analysis, the designer develops several conceptual proposals, and finally chooses one of the concepts to study in detail. This project, however, approaches the conceptual process with a variation on the norm by employing the use of case studies as a means of inspiration and direction.

Undergraduate landscape architecture students receive very little instruction or exposure to the subject of environmental art. Traditional programs focus the majority of attention on the fundamental issues of design, engineering, and practical applications. Very little consideration is afforded, often because of time issues, to the aspects of design that deviate from the norm, including environmental art. Land art has ties extending to ancient cultures. Until recently, however, the environmental palette has been neglected. In the last several decades, many artists and landscape architects have once again begun to embrace nature as their inspiration and media. The work of these artists is fascinating as well as inspirational. By studying the philosophies of contemporary artists, valuable insight can be gained about the "nature" of environmental art.

For this project, five contemporary environmental artists have been chosen and
their works and theories are analyzed and summarized. The chosen individuals encompass a variety of philosophies and interests. Two artists, Andy Goldsworthy and Stanley Herd, work with the ephemeral qualities of the natural palette. In contrast, Michael Heizer and Nancy Holt embrace the permanent and monumental qualities of their site and the environment. In a further twist, the final "artist," Site Inc., considers the numerous qualities inherent in the natural and man-made world and expresses these musings through satire.

While all of the artists mentioned above embrace distinct philosophies, the work of each ultimately conveys a common theme. Richard Hansen, in a lecture at Ball State University, described this theme as the poetics of joining. He said that any artist attempting to work on or within the landscape must first determine the "life energy of the site." Every piece of land has an underlying influence or "poetic character," whether it be natural or cultural. This character, expressed through the metaphoric qualities of environmental art, was and is an essential aspect in the work of all of the artists overviewed on the following pages.

* Andy Goldsworthy (Figure 13)
* Michael Heizer (Figure 14)
* Nancy Holt (Figure 15)
* Stanley Herd (Figure 16)
* Site Inc. (Figure 17)
Andy Goldsworthy

"My strongest work is so rooted in place that it cannot be separated from where it is made - the work is the place. Atmosphere and feeling now direct me more than the picking up of a leaf, stick, stone..." (Goldsworthy 6)

"I am interested in the binding of time in materials and places that reveals the nature that is in all things" (Goldsworthy 6).
Michael Heizer

"When you make a sculpture by digging out dirt, you're negating all of the materialist concepts. You change the definition of material and material usage, and you redefine what an object is. [My work] is spiritual and mystical and oriented toward the earth" (Heizer 11).

"The work is not put in a place, it is that place" (Heizer 10).
Nancy Holt

"From within these sculptures, one's principal vista is up, from the darkened interior out to the sky. Shafts of light are thrown upon the inner walls by perforations... forms in light are caught and projected."

John Beardsley (Beardsley 114)

"Day is turned into night, and an inversion of the sky takes place: Stars are cast down to earth, spots of warmth in cool tunnels."

Nancy Holt (Beardsley 34)
Stanley Herd

"If one can presume any connection in spirit to the past, I believe my earthworks are in part an effort to communicate to that same power, to somehow connect me with this ancient world. All artists today are products of an era without precedence in noise, hype, and art as an article of commerce. Our motives can never really be compared with artists of the past" (Herd 63).
Site Inc.

Reaction to works of Site, Inc:
"There is something about the works of SITE that one finds difficult to understand at first... whatever it is deceives the eye and confuses. The intent to confuse is obvious. The works make fun of ideas and values that an observer brings with him" (Site 6)

James Wines:
"There is no intention to confuse ... there is the intention to communicate. An artist often communicates ambiguous ideas. This is what makes art interesting" (Site 6)
PROCESS

Researching a group of artists and simply defining or listing their work limits the extent to which a full understanding of their philosophies and processes can be obtained. This project seeks to broaden the case study approach by actually applying the philosophies of each featured artist to the Vulcan Estate. In other words, concepts are developed as if each artist has been commissioned to actually create a work of art or design the Vulcan Property for the Anderson Parks Commission.

The ideas presented on the next several pages are interpretations of the artists' philosophies, and are not intended to literally represent their work. Many of the ideas developed through this study are directly related to past and present art projects undertaken by the actual artists. In each scenario, an effort is made to understand the artist's processes, and redefine them according to the influences present on the Vulcan Estate. The primary goal of each concept includes the determination and representation of the "life energy of the site," as explained by Richard Hansen and mentioned in a previous section (See page 30).

ARTIST STUDIES

Andy Goldsworthy. The primary motivation for the conceptual study of Andy
Goldsworthy is found in his autobiographical collection titled *Stone*. Goldsworthy is primarily an ephemeral artist. Much of his work relies on the immediacy of nature and the incredible diversity found within and around a natural site. Unlike other environmental artists, who are often commissioned to create permanent work in a defined locale, Goldsworthy works without the inhibiting realization of an actual predetermined goal or project location. Most often, the artist simply visits a site, such as a forest or mountain, and creates impermanent art pieces with the native materials. As he describes, his work is so ingrained with the site that it is often difficult to tell one from the other. The majority of Goldsworthy's work must be captured with photography due to its ephemeral nature.

The ideas presented in two of Goldsworthy's projects are applied to the Vulcan Property. The first example involves the covering of river stone with clay, and observation of the subsequent drying and cracking. As the clay dries, the underlying stone is ultimately revealed. This idea metaphorically represents the nature of the Vulcan Property. By pealing away the layers of topsoil and aggregate on site, the limestone bedrock that characterizes the region is ultimately revealed. This idea of cracking and revealing is displayed in Figure 17.

The second study developed in the spirit of Andy Goldsworthy is an adaptation of his work with piled materials. Called cairms, the artist's conal constructions are produced with piled stone, wood, or even ice, depending on the location of the work itself. Within
the quarry spoil region of the Vulcan Property, a unique water tower structure still remains as a remnant of past quarrying practices. In a fashion representative of Goldsworthy's cairns, this site feature is recreated by piling materials in a form similar to the existing.

Figure 17. Andy Goldsworthy – Case Study 1
structure. The materials used are determined by locale, and resemble the many existing ecosystems that occupy the site. The potential structures are portrayed in Figure 18.

Figure 18. Andy Goldsworthy -- Case Study 2
Michael Heizer. In direct contrast to Andy Goldsworthy, the work of Michael Heizer is characterized by a sense of monumentality. Although Heizer is known for large-scale, permanent earth sculpture, the basic philosophy that underlies all of his creations is similar to that of his ephemeral counterpart. In all of his work, Heizer continually strives to represent the inherent life of the project through indigenous materials and themes. Many of his masterpieces base their success on location.

The first conceptual study presented using a "Heizer mentality" is indirectly associated with two of the artist's early works. In the art piece Displaced/Replaced Mass, Heizer intentionally placed a large excavated boulder in a foreign void space (See page 32). The symbolism revealed by this work speaks directly to the processes of mining. Since the Vulcan Property was previously used for quarrying aggregates, the idea of displacement and replacement has been a common theme in the site's history.

Heizer also completed a study on the relationship of replaced rock masses, called Adjacent, Against, Upon (See page 32). In an effort to combine both of these ideas, and represent them on site, a study is presented concerning solid/void relationships as applied to the Vulcan site. This study is displayed in Figure 19.

Study two, under Heizer, represents another large-scale project that is completely unrelated to the two previous works. The Effigy Tumuli, mentioned in the Background section of this report, is a combination of earthwork and reclamation strategies.
The project involves the use of large-scale landforms, shaped as indigenous land animals, in the reclamation of former coal lands. In a similar effort, study two (Figure 20) utilizes large earth sculptures to represent the native animal species of the many ecosystems which

Figure 19. Michael Heizer - Case Study 1
exist on the Vulcan site. Each landform is developed within the associated ecosystem and utilizes the native palette for materials.
**Stanley Herd.** The work of Stanley Herd combines both the monumental and ephemeral qualities of the previous artists. Known as "crop art," Herd's art pieces are developed in the Kansas and Nebraskan plains, and utilize the Native American culture as subject and theme. In essence, Herd develops giant portraits using crops and other vegetation as his color palette. With the progression of seasons, the art pieces thrive on continual change and truly represent the dynamics of environmental art.

Because of the regional identity and difficulty in viewing that characterizes Herd's work, it is difficult to duplicate his processes. In an effort to adapt the artist's philosophies on the Vulcan site, a portrait of Chief Anderson is depicted using the native plant palettes existing within the property. This particular effort lacks in the cultural and historical significance that is associated with Herd's work, and is therefore one of the weaker concepts (Figure 21).

**Nancy Holt.** Nancy Holt, like Heizer and Herd, is considered more of a "monumental" artist. In essence, the majority of Holt's work is permanent in nature. Unlike the previous artists, however, Nancy Holt emphasizes the natural site forces in her creations rather than simply utilizing natural palettes. For example, the sun and celestial bodies are frequently subjects in Holt's work. Creating shadow patterns, capturing sun angles, and simply playing with light are all fascinations that epitomize many of Nancy Holt's contemporary projects.
In an effort to emulate Holt's style on the Vulcan site, and pay tribute to the nearby Mounds State Park, a concept is presented that celebrates the sun during the equinoxes. At each equinox, a certain shadow pattern exists that does not occur on any
other day during that calendar year. The patterns utilized for the structure emulate the forms developed by the mounds Indians at Mounds State Park (Figure 22).
Site Inc. The final conceptual study is based on the work of Site Inc., a company known for its peculiar design approach and fascinating sense of humor. Much of the work completed by Site in the late 1970s and early 80s was for the chain of department stores known as Best. The designs that this group create flirt with the sublime, and actively challenge accepted design ideas. For instance, one Best store developed by Site is entered where a corner of the building has literally been torn away (See page 35). Other structures feature crumbling facades or missing walls.

The primary influence of Site on this project is the sense of humor that is portrayed in every one of their designs. While masterful at the practical issues of design, the Site group is even more adept in the presentation of these issues in a satirical manner. Their projects, while often clouded in controversy, evoke a mystical feeling which intrigues the user, and challenges the foundations of design.

In order to appeal to the sublime, the following studies attempt to convey some important contextual issues through the use of humor. The first example illustrates the complex layering system that characterizes the landscape of the region. By literally removing a giant wedge of earth, and showcasing the solid and void that remains, this concept is created to illustrate the earth's layers. In essence, this wedge symbolizes a piece of the pie that is known as Earth (Figure 23).

Study two is an effort to satirize the condition of the Indiana landscape as it so
often exists. Simply travelling through the immediate region of the Vulcan site reveals an abundance of abandoned cars and trucks nestled in the front yards of local residents. These nesting autos, similar to the native birds of the Vulcan property, are represented in Figure 23. Site Inc. - Case Study 1
study two during their migration to the neighboring junkyard. The cars are literally placed on spikes in a migrating formation and point toward their final destination (Figure 24).
THEMATIC DEVELOPMENT
SITE FORCES
WATER COLOR STUDIES
SITE FORCES

The use of case studies for guidance in this project is an invaluable approach. By studying the work of established artists, it becomes evident that certain issues must be confronted in order to make this project successful. Primarily, an assessment of the "life energy" inherent within this site must be established. All five artists emphasize the importance of determining the essence of the project before attacking any design issues.

The Vulcan site was formerly utilized as a source for aggregate stone materials. Many of the areas within the property still remain as quarry spoils. However, since the completion of all mining processes, the site has begun to reestablish its natural beauty and now maintains a variety of ecosystems. Large stands of maple and beech trees, open prairie and tracts of wetland growth, and vast areas of fresh water stands now characterize the once barren site. In addition to the native plant species, animal species inhabit the land, making the Vulcan property a potential nature sanctuary. In those areas devastated by quarrying, processes such as waste disposal currently utilize the barren lands.

All of the issues listed above contribute to the life energy of the Vulcan Property. As a result, these natural and man-made site forces are utilized in the development of a theme for this park development. Through the use of environmental art, the Vulcan Estate Park celebrates the past and present site forces acting within and upon it. These forces determine the life energy of the site.
WATER COLOR STUDIES

The use of case studies contributes to more than just the thematic development of this project. Studying the processes of other artists also encourages the utilization of a unique approach to the master planning efforts for the Vulcan property. The artists profiled on the previous pages use a variety of techniques when developing their masterpieces. Some work directly on site with the materials that will actually be used in construction, while others create images in sketchbooks or in study models.

For this stage of the Vulcan project, however, it is necessary to abandon the methodologies of contemporary artists and explore a process unique to this study. Duplicating the work of others is simply a catalyst for creative thinking, and is appropriate for the conceptual stages of development.

In actuality, the process utilized for the Vulcan project is not completely unique. In fact, it is partially contrived from a lecture presented by Travis Rice, a landscape architect and graduate of Ball State University, during the LABASH convention held at Ball State in 1996. During this lecture, Rice presented a project in which he had literally taken his paintings and applied them to a three-dimensional site. The resulting master plan was developed in greater detail as a sustainable community.

A similar process is used in the development of the Vulcan Estate. However, instead of creating art and then applying it to a site, the Vulcan study actually considers
areas of development, and the natural forces associated with these areas, and then considers the related art work.

Three studies are presented in watercolor and colored pencil, each representing a different region and process on the site. Watercolor is used because of the natural properties of the media. Synthetic material such as oil or acrylic seems inappropriate for the study, even though one of the celebration areas emphasizes landfills and methane.

Although each study represents a different theme, an underlying similarity is developed in all three paintings. In general, each painting contains a series of geometric shapes juxtaposed against a chaotic, or natural background. This phenomenon symbolically represents the concept of quarrying. In mining, rocks and minerals are removed from the earth and fundamentally reorganized into geometric shapes. These newly shaped materials are used as building bases in the human world. The quarrying process was and is a vital influence on the current condition of the Vulcan property.

Water Color Study #1. The first water color is developed in consideration of the natural amphitheatre and landfill areas located in the northeast portion of the site. The large white circle represents a potential amphitheatre and gathering space surrounded by woody vegetation and naturally occurring vista areas. The adjusted grid of squares symbolizes the burnoff of methane produced by the landfill. Actual pipes would be placed at gridded intervals to burn the methane and naturally light the amphitheatre (Figure 25).
Water Color Study #2. The second study is developed as a celebration area to be located in the hillside meadow adjacent to the Vulcan Estate ruins. Titled Shapes in Nature, this painting depicts the natural shapes that exist within nature in a contrived, almost gridded pattern. The waves of color represent several images, including water ripples and furrowing patterns. Intended to be planted as wild flowers, the colors in these waves correspond with the colors in the spiral shapes. Located on large mounds, the spirals are indicative of wildflower patterns. In the background of the painting, the wing and honeycomb patterns represent the insects of the meadow environment (Figure 26).

Water Color Study #3. The final water color study considers the floodplain, river, and lake located on the southern half of the site. The geometric patterns along the bottom half of the painting represent celebration areas associated with the natural forces and forms of water. These forces, explained in greater detail in the following section, include erosion, flooding, wetlands, and competition. In each individual conglomeration of shapes, a single entity is missing. The three missing components reappear at the top of the painting. This phenomenon once again represents the quarrying processes that characterized past development on site by establishing a displacement and replacement theme (Figure 27).
Figure 25. Water Color Study #1 -- Landfills and Methane
Figure 27. Water Color Study #3 - Water Forces and Displacement
MASTER PLAN
DEVELOPMENT
GESTALT
CELEBRATION AREAS
GESTALT

As individual identities, the water color studies provide a schematic base for
details to be located on site. However, without incorporating the studies into a whole,
singular composition, they do little for the ultimate development of the site. In order to
accommodate the entire site, a fourth painting is presented in which the three previous
studies are schematically placed according to their location on site (Figure 28). This
"gestalt" painting portrays the master plan of the Vulcan property.

For the most part, the individual studies are applied to the site in the same form
they are depicted in the previous section. Some variations are made to incorporate
existing site features and accommodate any overlapping. Large background shapes and
color schemes are added to represent the existing ecosystems previously mentioned.

Several additional areas not included in the individual studies are added in the
master plan painting and warrant some explanation. The diagonal strip of geometric
shapes, described previously as celebration areas in the floodplain and lake areas, is
continued beyond the detail paintings. This continuation signifies further detail studies, all
of which are summarized in the following pages. In the north-central portion of the site,
gridded circles are placed in the background areas of the painting and continue into two
of the detail studies. These circles represent a mature maple orchard. Explanation of the
development and function of this orchard is expanded upon in the following section.
CELEBRATION AREAS

In order to more clearly present the master plan, specific detail areas are highlighted and further developed. In the following explanations and illustrations, the number to the left of the text represents the location of the celebration area within the master plan and is referenced in Figure 29. Additional illustrations portray the zones both three-dimensionally and in detailed plan.

*Landfills and Methane.*

The first detailed section is located in the northeast portion of the site and includes the landfills and overlook areas (Figure 30). Parking is provided adjacent to the entry overlook, and laid out in a diagonal pattern similar to the gridded
landfill area. Below the overlook, a grass amphitheater space encircles a large gathering area. Within this zone, reused telephone poles are positioned in a bleacher-like fashion. The landfill plots, represented by the large squares on the detail plan, are developed as

Figure 30. Landfills and Methane
debris is added to the site. After each plot is filled to capacity, it is covered with a soil/gravel fill and a methane burning mechanism is installed. These methane burners vary in height and intensity according to location (Figure 31).
Orchards and Maple Syrup. The area immediately south of the upland forest is reserved for the planting of a maple orchard. The maple species is common throughout the Vulcan Property, and produces a unique tasting syrup. In this orchard, the trees are planted in an adjusted grid system similar to the one utilized for the previously mentioned landfill plots. This particular celebration space is considered a long term proposal. After years of growth, when the maple trees have matured and begun producing sap, the community is invited to collect and market the sugary product. The collection buckets are already designed in a fashion that resembles the existing water tower located on site (Figure 32). The staging of the syrup collection is depicted in Figure 33.

Shapes in Nature. In the open meadow directly south of the Vulcan Estate ruins, a celebration study is presented involving patterns and shapes that exist in nature. First, spiral mounds created by various colors of wildflowers are located in a gridded fashion along the hillside. Each wildflower planting corresponds with a larger cluster of similar plantings laid out in a rippling or furrowing pattern. The wildflower clusters are surrounded by the existing meadow grasses that occupy the hillside location. Within these grasses, quarried boulders are heaped in a pattern resembling the honeycomb. The negative spaces created by the overall patterning of rocks represents the sectioned wing of the insect. In the center of the space, a square gravel pattern provides a hardscape for activities such as picnicking or group gathering.
The *Shapes in Nature* celebration space is presented in plan and section on the following two pages (Figures 34 and 35). In the northwest corner of the plan, a portion of the orchard area is depicted. The features presented on site are intended to overlap and
work as a whole, as well as serve individual functions. This theory is the underlying principle for the entire master plan development.
*Tree vs. Rock.* The first celebration feature situated within the floodplain actually bears no relationship to water. Instead, water is used merely as a stage for the display of the tree vs. rock composition. As evident in the plan and section on the following pages,
this feature is most accurately described as competition between nature's forces (Figure 36 and 37). More specifically, on a series of grass island stages, the tree is pitted against the rock in a battle for superiority. The "winner" of each contest is anyone's guess.

Figure 37. Tree vs. Rock - Character View
Meadow to Wetland. The meadow to wetland feature is a simple celebration of the wetland ecosystem which exists along the river's edge. A series of wetland squares provides the transition from the meadow to the lake, while simultaneously providing a

Figure 38. Meadow to Wetland
habitat for various marine creatures. A wooden pier allows park visitors to engage the water and the wetlands directly, while still providing a buffer between the two. This feature is the first to employ the concept of misplacement and replacement. The wetland
square missing to the south reappears at a different location on site. This location changes every five to ten years in order to maintain the dynamics of the park. Finding the missing square is an intriguing challenge for the visitor. The wetland idea is presented on the previous pages in Figures 38 and 39.

*Earth Levees and Flood Control.* A series of earthen levees that exists along the tree line of the floodplain forest serves as a flood control device. Celebration area number six emulates the function of these earth levees in a slightly different form. Directly southwest of the wetland squares, a series of earthen mounds are juxtaposed against the existing earthen levees. These mounds provide flood control, and create interesting protrusions when the entire basin is flooded. The center feature in the study is a depression rather than a mound. This phenomenon symbolizes the displacement and replacement theory established in the previous wetland study. The dislocated mound reappears elsewhere on site. Figure 40 illustrates this celebration area in detail.

*Erosion and Deposition.* The final celebration area directly involves the erosive power of the river. In a continuation of the pattern presented in the two previous features, a series of limestone squares are positioned near and in the river. These limestone blocks provide seating space for local fishermen and other interested users. More importantly, however, through the course of time the blocks demonstrate the erosion and deposition that naturally occurs in river beds. Sand and silt deposits eventually form on the east and
west side of the blocks creating a sand bar effect. The waters that deposit this sediment simultaneously devour the walls of the rocks and ultimately alter their shape (Figures 41 and 42). In the spirit of the previous celebration areas, a single group of blocks is
missing from the overall layout. This missing link reappears in another location on site. However, in a slight twist from the previous scenario, the replaced masses are reformed and utilized as the park facilities. This process symbolizes the ultimate principle associated

**Figure 41: Erosion and Deposition**

[Diagram of erosion and deposition with labeled directions]
with quarrying, and represents the underlying motivation of the Vulcan Estate Park.

Figure 42. Erosion and Deposition -- Character View
FINAL CONSIDERATIONS

All of the details presented in the previous master plan share a characteristic that unites the entire development as a whole. Rather than simply existing for aesthetic purposes, the celebration areas invite the user to interact upon and within the landscape. Interaction is one of the many dynamic qualities of environmental art, and is outlined as a major issue in the programmatic statement. Park users are encouraged to experiment anywhere within the property boundaries, and experience the celebration areas in an interpretive manner. This unstructured functionality defines the essence of the Vulcan Estate Park.

However, because the Vulcan site serves as a municipal park space, issues of functionality will undoubtedly arise. The ideas presented in this report are still very conceptual in their development. The next step in the design process would include concentrated study of the details and an assessment of their feasibility in terms of functionality. In order for this proposal to function as a park, questions need to be answered concerning path systems, facilities, maintenance, and a host of other issues. Delving into this area of design seemed to hinder the design process by removing the mysticism of the individual art pieces through an over-saturation in practicality. Determining the functionality of the proposal, therefore, is left for future consideration.

Further investigation of the proposed celebration areas reveals that this master
plan thrives on continual change. In fact, many of the pieces presented in detail will take ten to fifteen years to develop, such as the maple orchard, erosion and deposition, and the landfill area. Other areas, including the tree vs. rock proposal, may even take fifty years to develop. This quality is one of the more intriguing aspects of the Vulcan Estate Park. It directly symbolizes the dynamics of environmental art.

In order to accommodate the "interim" periods that occur as the site grows, free experimentation is encouraged on the property. Spaces are provided for large group gathering or personal interaction. The amphitheater area provides a large space for artistic presentations or small concerts and performances. Ultimately, the Vulcan Estate Park thrives on variability and change, and provides a variety of experiences for the single or group user.

The Vulcan Estate Park development is an experimentation in the principles of environmental art. All of the pieces detailed in the previous pages are intended to express the life energy of the site both individually and as a whole. Since the first quarry operations began on the Vulcan property, the site has been affected by countless forces. These forces characterize the Vulcan Estate, and are celebrated through this master planning effort.

Regardless of the level of development attained through this study, it is still valu-
able in representing the dynamics of environmental art. The use of the natural palette as a source of inspiration, and more importantly as a design tool, is a phenomenon that receives too little attention. Landscape architects and artists of all types need to embrace the environment and exploit its many opportunities. Sharing this common ground between the two professions serves to cloud the distinctions that have mistakenly been drawn between these disciplines, and unites artist and architect.

By taking an initial leap into the world of environmental art, this comprehensive project provides a basis for future experimentation. Ultimately, it is the hope of the author that this work encourages others, especially artists and landscape architects, to continually explore the relationship of nature and art.
WORKS CITED


(Excerpt cited: Friedman, Kenneth S. *Words on the Environment*. 253-6.)

RELATED READINGS


