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Signature: [Signature]
Date: 20 April 82
DEDICATION

To my mother and father,

- To their sensitive understanding, which has given me the inspiration to always have a dream...
- To their ceaseless encouragement, which has given me the confidence to always accomplish that dream...
- Without them this would not be possible...
IN RESPONSE:
A TOWN HALL IN WEST YELLOWSTONE, MONTANA

by
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A thesis submitted in partial fulfillment
of the requirements for the degree
of
BACHELOR OF ARCHITECTURE

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THESIS STATEMENT

A theme for the creation of architecture, unique to a given region, lies within the perception and utilization of the existing contextual determinants, singular to that region.

THESIS PROJECT

A town hall and related facilities, located in West Yellowstone, Montana.
When first confronted with the concept of a thesis project, there seemed to be several alternatives one could use in approaching the issue. The first and most universal alternative is one of stating an affirmation or proposition to be proved, the second is one of taking a position or proposition and advancing this by maintaining an argument and the third, being the undertaking of a substantial paper or project. The following paper is an attempt at combining the second and third alternative. The proposition set forth is a theory of methodology concerned with the creation of a regional architecture; this methodology involves a series of
analytical surveys ranging from an extensive regional survey, concluding specifically with the selection of the most appropriate site for the project - a town hall located in West Yellowstone, Montana. It is from this sequential survey that the organization of this paper is derived. Establishing the direction of approach, the paper begins with a section concerning general philosophical intentions, followed by a section on case studies. These introductory sections form the basis for a discussion of the actual task: a survey of the regional character, a town analysis, an inventory of the site selected and a project program. Development of a design should follow rationally from these investigations and should produce a regional town hall which is respectful of the characteristics unique to the town and surrounding region.

Since architecture is essentially a visual discipline the quality of the graphic content has been stressed in this paper. Within each section, a series of illustrations consisting of either photographs or drawings will be presented. Directly
adjacent to these will be a verbal explanation of the meaning of the specific illustration or group of illustrations. I am hopeful that through this method of communication, it will become evident that the design methodology being investigated actually became the primary factor in the creation of the final design solution.
As stated previously, the goal of this thesis project is the creation of a building design which is truthfully regional in its essence. The selection of this topic originated from a problem which has continually surfaced throughout my five years of architectural education as well as in work related experience. There seems to be little or no importance given to a building's being of the site, in other words, to a work of architecture which honestly fits the immediate site as well as the surrounding community and region. The average building seems to have been designed within a total vacuum. For this reason, the decision was made to investigate the criteria a building must meet in order to be considered a part of or within this network of surrounding
systems. In order to define the regional character of the West Yellowstone area, I have chosen to analyze several specific buildings which adapt well to their region. By analyzing these case studies I will be able to define what it is about these projects which makes them "regional architecture". From the analysis of these projects I will be better equipped to study the West Yellowstone region and in this light, define its unique characteristics.
An appraisal of Aalto's Town Hall at Saynatsalo (plates 1 & 2), reveals the careful consideration given to a solution which is not an isolated element within a system, but rather an architectural statement which becomes one with the surrounding systems. Through the sensitive use of the most abundant building material, brick, the building becomes one with the natural environment, reflecting and complimenting the textural qualities of the site. The natural environment is again echoed within the interior space by the sensual utilization of wood, both in details as well as in primary structural elements. (plate 1) The roof truss in the council chamber becomes an abstraction of the branching system of the local pine trees as well as evidence of the existing climatic conditions.
Within the overall Town Hall complex, Aalto has again paid tribute to the existing natural site conditions. Through the use of precisely placed openings within the interior courtyard he has capitalized on the distant vistas as well as allowing penetration of the low northern light. This courtyard, which is artificially raised by the use of fill taken from the building's foundation excavation\(^1\) develops a feeling of contrast between the exterior uncontrolled landscape and the finely manicured internal environment. The introverted sensation which the courtyard conveys is responsive to the specific programmatic requirements of the Town Hall: the enclosure is symbolic both of the bureaucratic functions of the building and of its accessibility to the general public. With this, the monumentality required by the program is achieved, while the overall building retains the more intimate scale of the surrounding village.\(^2\)

The most important aspect of the Town Hall, is not that it has grown out of contrived ideals, but rather out of Aalto's sensitivity to the existing conditions, in both a physical as well as spiritual sense.
Situated on the isolated Pacific coastline, The Sea Ranch Complex (plates 3, 4, & 5) has become a major source of inspiration for much of the architecture built today. However, the inspiration is habitually used in the wrong manner. Rather than as a lesson in stylistic imitation, Sea Ranch should be carefully analyzed for an understanding of the evolution of the actual buildings. From a rational design process, beginning with a comprehensive study of the existing natural environment and their interactions, the unique visual characteristics of the site were established. It from this process that the design of the buildings evolved: their siting and form responding to the prevailing wind direction and sun angle, the materials derived from their weathering characteristics and availability.\(^3\) (plate 5) Thus the buildings begin to form a partnership in which neither the architecture or land is dominant.\(^4\)

In conclusion, the predominating factor in considering Sea Ranch as architecture possessing regional integrity evolves from its creation. A creation not based on stylistic imitation but rather in response to the existing local and regional environmental conditions.
In concluding this investigation of case studies concerning the creation of regional architecture, several important points have become apparent. First, that as regional architecture existed in the past (plates 6 & 7), it continues to prevail today (plates 3, 4 & 5) and will always have the potential to exist in the future. Second, that as the man-made environment continues to gain in complexity, so will the need to research and distinguish the network of surrounding systems that regional architecture is realized through.

It is with these tools, that the investigation and analysis of the West Yellowstone region will be approached, with the attempt to discover its unique regional character.
THE REGION
The Yellowstone Region (plate 8 & 9), located in Montana, Idaho, and Wyoming, falls within a sixty mile radius of West Yellowstone. The region begins at the northern gateway of the Gallatin Canyon, continues through the entire canyon and terminates in the area of Island Park, Idaho. Due to the climatic conditions acting as the boundary for this region, the actual limits are not precisely definable. The primary climatic determinant is snowfall (plate 11), which normally begins in late October and usually continues until early April; however, snowstorms of several inches have occurred in during the summer months. The snowfall is more substantial along the mountain slopes with up to 500 or more inches annually, with large variations happening along the lower valleys.
10. REGIONAL PHOTOGRAPHIC SITES
The midwinter temperatures are extremely cold, with readings of -40 to -50 degrees not uncommon. Summer nights are also cool with temperatures often dipping into the low fifty's.

Wind conditions during the summer months are generally not severe; however, during the winter months, wind causes severe drifting and should be given special consideration in the design of buildings.

The geological formations within the region consist primarily of the Gallatin (plate 12) and Madison Ranges with peaks of 11,000 feet high and more. At the base of the Madison lies the Madison Basin with an elevation of 6,600 feet. (plate 13)

It is within these contextual elements that the following building survey will be analyzed. The images selected to be discussed have been chosen with the idea that they represent the regional character of the area. However, this does not necessarily mean that they are examples of regional architecture. It is for this reason that the following question will be asked - has the building been derived in response to the existing man-made or natural environment or has it simply been contrived?
SOLDIERS CHAPEL

Located approximately forty miles north of West Yellowstone at the Big Sky turnoff, this building responds successfully to several natural and man-made conditions. The Chapel's siting is organized along the axes created by Lone Mountain and U. S. 191, which acts as a visual anchor attaching the building to its site. (plate 14a) Through the use of Lone Mountain in the processional movement, an element of surprise and a focal point has been established, thus further reinforcing the building's reason for existence. (plate 14c) With the use of materials indigenous to the region, the Chapel begins to form a "limited partnership—not a marriage—between the building and the land". (plate 14b) The final response is evident through the use of the sharply pitched roof in reaction to the heavy snowfall associated with the region. (plates 14a & 14b) It is through this element that the upward thrust created by the masonry piers is returned to the earth, thus further reinforcing its coexistence with the land.
KARST RANCH

Located in the Gallatin Canyon, the Karst Ranch is indicative of the principal method of construction associated with this region. Log construction, responding to need to use available materials and unspecialized manpower in the frontier, has led to the stagnating idea that this is the only way in which a building can "fit" in the surrounding landscape. However, with the technology and materials available today, it has become one of the most expensive means of construction. Another characteristic of Karst Ranch is the additive porch element (plates 15a & 15b). Porches are also found throughout the region, and usually occurs as a response to the need to protect the entrance from the large amount of snowfall.

SOLDIERS STATION

Situated in the Madison Basin at Norris, this structure is an example of the psychological feeling common with many of the local buildings. The feeling conveyed is one of introversion with a massive barrier facing the exterior elements in response to the building's functional requirements as well as to the harsh climatic conditions common to the region.
PRIVATE RESIDENCE

Sited on the north slope of Hebgan Lake, within the Madison Basin, this structure is responsive to climatic conditions as well as solar orientation. Being situated on a north-south axis, it takes full advantage of the available sunlight with the south facing windows and provides a large mass with minimal openings on the northern exposure (plates 17a & 17b). The primary form-giving element, the roof, responds to the need for removing the large amount of snowfall as well as acting as a wind deflection device. The major materials, concrete block, begins to recall memory of the heavy masonry type of construction used in the past as well as being an economical building materials.

STOREFRONT

Although not responding to any specific climatic conditions, this storefront in Ennis is typical of many of the buildings located in the proximity of the tourist attractions typical of this region. The log construction, the elk antlers and the "old english" style of writing, all add up to what the tourist desires to see - the rustic west.
OLD FAITHFUL INN

Located within Yellowstone Park, this majestic structure is one of the few structures found within the region which can be thought of as regional architecture. Designed by Robert C. Reamer and built in 1903, the Old Faithful Inn is a statement of the primary climatic conditions present in Yellowstone Park. The roof, in response to the snowfall, gives the building strength to stand against the harsh environment, while the projecting dormers provide natural light for the interior space, (plate 19b) as well as giving the exterior a sense of scale. All of the materials used are indigenous to the region, with the interior structural elements taken from an adjacent forest and hand selected by the architect for specific locations within.

Another important characteristic of Old Faithful Inn, is the role it played in establishing an identity for Yellowstone Park and surrounding areas. Its influence is evident in many of the buildings of the region (plates 35 & 36) and is still thought of as "The" primary building of Yellowstone Park.
GLACIER INN

Although not located within the Yellowstone Region, this structure has been included for its similarities with Old Faithful Inn. The use of materials, native to an area, used in the light tracery details of the porch seem to be similarly used in Old Faithful. This building, located in Glacier Park, has also played a similar role in the creation of an identity for Glacier Park.

LIVESTOCK BARN

Situated at the junction between U. S. 191 and the Ennis Highway, this barn stands as a landmark to one of the Madison Basin's major industries - ranching. Although primarily used as a summer shelter for cattle, the building also has a unique feature responding to the winter snow conditions. It is believed that the break in the roof surface is derived from the necessity to use smaller as well as shorter structural members, while still supporting the same snow load. This and the use of sloped metal roofing, provides an extremely functional roof, while still acting as a graceful formgiver.
THE TOWN
"By using what exists as a stepping stone for what is to come, the architect can reinforce rather than undermine the character of a neighborhood and cities everytime a building is added."

Brent C. Brolin
The Failure of Modern Architecture

Located in the southwest portion of Montana and in the approximate center of the previously discussed Yellowstone Region, lies the town of West Yellowstone. The town, being the southern most community in Gallatin Canyon and adjacent to Yellowstone Park, acts as the western entrance for the National Park. Situated approximately 90 miles south of Bozeman, 110 miles northeast of Idaho Falls and 30 miles west of Old Faithful, it becomes a primary stopping place for the majority of highway traffic. It is for these reasons and the railroad that the town has had its beginning and continues to prosper today. Besides the obvious attraction of Yellowstone Park, the town also functions as a primary recreational center for various winter as well as summer related sporting events.
As mentioned previously the town of West Yellowstone is situated in the Madison Basin area. The Gallatin and Madison Ranges lie directly north with the Continental Divide located approximately ten miles to the west. The latitude is approximately 44° and longitude 111° (plate 22).

The town is bordered on the north, west and south by the Gallatin National Forest with the east side being bounded by Yellowstone National Park (plate 23). The townsite contains an area of approximately 250 acres with the north-south town limits measuring 4200 feet and the east-west side measuring 2,500 feet. Within these borders, the community is divided into 26 blocks measuring 500 feet by 550 feet and 4 blocks on the west side which are 550x600 feet. Within the center of each block is a 200x250 foot park set aside by the Forest Service in 1915 for the specific reason of providing natural recreational areas within the town structure (plates 23 & 26).

Access to West Yellowstone is gained on the north by U. S. 191 from Bozeman, from the west by U. S. 191 from Idaho Falls and on the east from Yellowstone National Park. A more indepth study of the traffic patterns will be discussed later (plates 46-50).
As seen in the Contextual Map (plate 24), West Yellowstone did not exist in 1902. The primary route to Yellowstone Park was by the Oregon Railroad to Monida, from which the primary mode of transportation consisted of stagecoach. The Yellowstone Stage Line made several stops with its point of destination being Swells Hotel located four miles west of the Yellowstone Park Boundary. From here the stage either turned back or proceeded on through Yellowstone Park.

Several factors in 1907 led to the founding of the original townsite. Various leases granted by the Forest Service in 1907 for building lots and the completion of the Oregon Short Line Railroad from Monida to the west boundary of Yellowstone Park, also in 1907, were the primary events leading to incorporation. Immediately following these events, the six-block townsite was surveyed directly adjacent to west side of the park (plate 26). These original 500x550 foot blocks now make up the south-east corner of the present day West Yellowstone (plate 27). Preceeding the establishment of the townsite were an increasing number of applications for building permits for business oriented structures as well as individual residen-
ORIGINAL TOWNSITE  CURRENT TOWNSITE

TOWN CHARACTER - 1915

27.
ces. This was mainly due to the promising future the railroad brought. Among the original leases was the town's first building, the Eagle Store (plate 29). Constructed in 1908, it functioned as the general store and later the town's first Post Office. In following years, the store had numerous additions; among these, one particular element deserves recognition. The addition of the porch on the main entrance solved several problems, primarily it alleviated the winter task of snow removal and secondarily gave formal acknowledgement to the street (plate 30). This devise became somewhat of a tradition in town, and has influenced even present day construction (plates 32, 33 & 34). Another significant building among the original leases is the Railroad Depot. Constructed in 1909, the Depot still stands today and is used as the West Yellowstone Museum (plate 38).

As tourist activity continued to increase in response to Yellowstone Park, so did the need for additional facilities for accommodation. Thus, in 1920 the original townsite of six blocks was expanded to the current existing size (plate 31).
From the 1920's, due to ever increasing tourist activity, West Yellowstone continued to prosper. By the mid 1950's the community began to realize the potential tourist trade affiliated with winter recreation and began to develop accordingly. This formally off-season attraction has been further improved upon and today is continually expanding throughout the surrounding region.

At the present time, West Yellowstone is almost entirely dependent upon the tourist trade for its survival. The increase in trade by winter-related sports has been a benefit for the community; however, with the increase of gasoline prices, the summer trade has suffered. This problem will not be an easy one to overcome, and has forced the community to look into other methods of attracting the clientele necessary for its survival. One possibility currently being considered is the feasibility of holding conventions during the spring and fall. Whether or not this will be a solution, will depend on the manner in which it is implemented.

It is within this context that the following investigation will be conducted.
TOWN CHARACTER - 1980

With the main economy of West Yellowstone oriented toward tourism, it is only natural that the town's buildings reflect this. The principle behind tourism is that of selling merchandise or services, and an essential quality of this is the ability to attract the potential buyer. The combination of the need for marketing and the large number of retailers present in West Yellowstone has resulted in fierce competition. Competition as to who can install the biggest and fanciest sign in order to attract the largest quantity of potential buyers. Because of this, the town has taken on the appearance of a strip development growing along a major thoroughfare. This in itself is not bad; however, when one begins to combine this with the "rustic Old West" imagery, (which is so predominant in the town), a contradiction results which is caused by the speed/scale relationship associated with each. In the past, the "Old West" was always viewed at a relatively slow rate of speed, with the strip development normally associated with a much higher rate of speed. The amalgamation of the two has resulted in the majority of retail establishments taking on a very disorderly appearance.
TEXACO STATION

Before its destruction in the early 1970's, this building stood at the north-west corner of Canyon Street and Yellowstone Avenue. Built in 1916, the building was evident of the influence the Old Faithful Inn had on construction during this time period (plate 19). Another notable characteristic is the contrast between the heavy masonry base and light wood roof structure.

EAGLE STATION AND STORE

Located on the north-east corner of Canyon Street and Yellowstone Avenue, the Eagle Store has continued to act as a town landmark since its construction in the 1920's. Built with local materials and labor, it possesses several characteristics often found in buildings within this region and time period. The primary characteristic is the use of the small, industrial sized window panes acting as the main infill materials between the heavier structural members (plates 35, 37 & 39). This provides a sense of scale and enclosure while confirming the buildings existence within the harsh climatic conditions associated with this region. The second characteristic is the heavy masonry base acting as the transition between the building and the ground.
STAGE COACH INN

Within the existing climatic and visual characteristics of West Yellowstone, the Stage Coach Inn becomes contradictory in two respects. The abruptness of the walls at their connection with the site is a symbolic statement of domination, while the roof design intends to submit to the environment, as well as confirming its imported style.

RAILROAD DEPOT

In this building's siting, it becomes a subjective judgement as to whether or not the primary entrance is oriented in the proper direction; but, the overall form seems to have grown in response to the existing climatic conditions. With the recessed wall planes and extended roof lines, the building becomes one with the site.

CONVENTION CENTER

In terms of siting, the overall forms of the Convention Center seem to be somewhat arbitrary in presenting clues to its origin, leaving the viewer questioning its appropriateness. However, by the use of native natural materials and the attention given to details, this building assumes validity and thus visually reinforces its meaning.
PROFESSIONAL BLOCK

Located on the southern side of Firehole Avenue, this building is an example of the reapplication of past building forms within a new context, without fully understanding the consequences. This specific example functionally denies the original use of the form, which is that of a barn; i.e. ventilation thru proper circulation (plate 21).

MORMON CHAPEL

Built in the late 1950's, this Chapel seems to capture the visual character present within the more permanent buildings of the West Yellowstone Region. The use of indigenous materials, the sharply inclined roof forms and the limited wall openings all help in establishing the building within the context of the town (plates 14 & 35-39).

MORMON CHURCH

This recently finished Church is similar to the previous example with one exception, the steeply pitched roof has been replaced by a flat roof. However, through the use of the wall as an abstraction of the earlier roof form, the visual continuity between the old and new has been preserved (plate 14b & 42).
43. EXISTING LAND USE - 1976

COMMERCIAL □  RESIDENTIAL □  PUBLIC □
EXISTING LAND USE

Previously West Yellowstone had no overall land use plan. This lack of planning coupled with the fact that West Yellowstone is essentially a recreational community primarily serving tourists traveling to and from Yellowstone Park has led to the development of the community into a commercial enterprise. Because of this, residential development has become of secondary importance. This has created many aesthetic conflicts primarily resulting from rising land costs associated with this type of uncontrolled development. With these inflated land costs, the landowners of the community have increased their income substantially by utilizing their excess property for any and all types of profitable ventures. Businesses of all types have arisen, including an excessive number of mobile homes, motels, restaurants and other tourist oriented activities scattered throughout the community.

As a result, West Yellowstone has developed into a community with an over abundance of randomly placed buildings that appear not to have had any thoughtful organization or structuring.
TOWN PLANNING

A proposed Master Plan and Town Expansion, prepared by Rick Mayfield and Associates has not as yet been adopted, although it is expected to be in the near future.

Within this proposal are several alternatives. The selection of one of them will depend on whether the town of West Yellowstone is successful in its application to the Forest Service for additional land. If this application is accepted, the new land would be located on the north-west of the present town (plate 44). The expansion would designate areas zoned primarily for residential uses, however, approximately 20 acres would be used for a future school site, in addition 17 acres would be set aside for parks and assorted greenbelts. Along with this growth, a provision for the relocation of U. S. 191 would be included. As existing today, U. S. 191 from Bozeman enters through the north side, proceeds through town and exits from the east side, continuing on to Idaho Falls (plate 44). With this proposal, the entire existing community would be designated for commercial development.\textsuperscript{11} (plate 44a).
In the event that West Yellowstone is unsuccessful in the application for additional land, several alternatives have been prepared. Option one would be allow the community to continue to develop as it has in the past, with the entire town zoned commercial, while still allowing for residential growth.

Option two would allow for two and one-half blocks located on the west side of town to be allocated for residential zoning, while the remainder of the community would remain commercially zoned. Within the residential area, any commercially used property would revert to residential when the owner abandoned the commercial enterprise.

Option three would designate that the primarily residential areas located currently on the west and north sides of town, would be zoned as exclusively residential. The remaining community would be zoned as commercial while any abandoned property within the residential area would again revert to residential use.
AVAILABLE SITES

Since the primary reason for this thesis is the investigation of a design methodology resulting in the creation of a regional architecture, it is believed that one should not simply select a site at random. Instead, a complete and thorough survey and analysis of the available sites should be conducted and from this, the most appropriate one be selected.

West Yellowstone has two major parcels of property available for public development. Lots 13 and 29 are currently publicly zoned and remain so throughout the proposed town expansion and all phases of future zoning (plates 43-44c). These two lots, for simplicity's sake, shall be labeled as Site One and Site Two throughout the succeeding investigation.

Since both sites meet the physical requirements of the proposed Town Hall (being designed for this thesis project), in terms of size and accessibility, the following sections will be devoted to the process of site selection.
TO BOZEMAN

L MAJOR -1 r 
INTERSECTION

TO YELLOWSTONE PARK

YELLOWSTONE AVE

PRIMARY ROUTE FROM MONTANA TO YELLOWSTONE PARK

46.36

PRIMARY TRAFFIC ROUTES
PRIMARY TRAFFIC ROUTES

Currently, there are three major traffic routes through West Yellowstone. During the eight months of the year that Yellowstone Park is open (April-November), the two primary routes are those which either enter or exit the Park at the west boundary. Access to this boundary is gained by entering or exiting West Yellowstone through the west side from Idaho Falls or through the north from Bozeman. Both routes meet at the intersection of Firehole Avenue and Cayon Street (the location of Site One) and continue along Yellowstone Avenue (location of Site Two). The other major route carries year-round traffic passing through West Yellowstone in the direction of either Bozeman or Idaho Falls. On this course, traffic is again routed past the location of Site One.

Therefore, it has been determined that Site One has the most exposure in terms of vehicular traffic, which is an important consideration in the selection of a site for the location of a town hall.
"The small town designer needs to have a full understanding of the elements and qualities that give a town its character. The image elements identified are: announcement, entry/gate, arrival, link to place, place, and place within place - all are a part of the arrival sequence. Place (exit), link to exit, outlet, exit/gate, departure - all are a part of the departure sequence".15

VISUAL CHARACTER

The following material will be broken into four sections or routes of travel each having a series of photographs illustrating the visual character associated with the specific route. Each section will correspond to the previous Primary Traffic Route Study.

The first route (plate 47), enters West Yellowstone on the north from Bozeman, proceeds through town, and exits on the west for Idaho Falls. Route number two (plate 48), is the reverse of number one, proceeding from west to north. Either one is the course of travel associated with the major flow of through traffic for which West Yellowstone is simply a way station.

Route three (plate 49), corresponds to the major path of travel which one follows in entering Yellowstone Park. Whereas route four (plate 50) is the course of travel one takes when leaving the park.
A. Entry to the town from Bozeman is one of gradual transition, with no distinct separation between town and country.

B. In approaching site one, the viewer becomes overwhelmed by the visual distractions caused by variations within the spatial enclosure.

C. Before making the direction change, one is offered a glimpse of site two, which acts as a termination for the implied axis of Canyon St.

D. As the direction change is made, with site one on the right, one is again confronted with the visual disorder common to West Yellowstone.

E. As the intersection of Fire Hole Avenue and U. S. 191 is approached, the viewer is in a state of confusion as to which is the correct exit route.

F. Arriving at the area of departure, the viewer is unsure whether the transition between town and country lies ahead or has just been completed.
Visual Character - Route Two
A. The entry on U.S. 191 from Idaho is again one of gradual arrival, with the only sense of enclosure created by the presence of the existing structures.

B. In creating the overall impression created by the road system in West Yellowstone, this is one of the few areas which establishes the feeling of enclosure.

C. Once the transition from U.S. 191 to Firehold Ave. has taken place, the disordered undulation between buildings and signage becomes apparent.

D. Site one is located within the deceleration zone of approaching Canyon St., which at this time is not acknowledged by the adjacent structures.

E. As the change in direction is completed, it becomes apparent that site one has the potential of becoming a major turning element in the town structure.

F. Through the axis created by U.S. 191 and adjacent vegetation a feeling of infinity is established, which masks any experience of departure.
SITE 1
• FIREHOLE FROM IDAHO FALLS U.S. 191 TO YELLOWSTONE PARK
• YELLOWSTONE AVE

SITE 2

49. VISUAL CHARACTER - ROUTE THREE
A. Within this route, site one is located in the deceleration zone created by the approach to the stop sign at Canyon Street.

B. In approaching and passing site one, the viewer becomes overwhelmed by the visual distractions caused by variations within the town structure.

C. From the intersection of Canyon St. and Firehole Ave. site two appears as a point of destination possibly bordering on infinity.

D. Upon further approaching site two, one becomes involved in the "downtown" area, this begins to visually distract from the original focal point.

E. Upon arrival, one is confronted with the decision of which direction to turn; through this, site two acts as a buffer, absorbing this indecisiveness.

F. Having made the directional change, the approach to the exit becomes sequential event, ranging from confusion, to anticipation, to surprise.
VISUAL CHARACTER - ROUTE FOUR
A. The entrance experience from Yellowstone Park, is visually more powerful than the other two. A definite inside and outside is felt as one progresses.

B. As one approaches the intersection of Yellowstone Ave. and Canyon St., site two acts as a decelerating element for the initial speed of entry.

C. Passing through the "downtown" area, the viewer becomes overwhelmed by the chaotic visual appearance and tends to become confused as to his location.

D. When departing towards Bozeman the feeling of infinity is again felt, which tends to distract from the acknowledgement of one.

E. While the directional change is being completed, site one is in immediate confrontation, thus presenting an opportunity for distinct visual impact.

F. From this area until final departure is made, the viewer is confronted with this type of visual disorder, confusing any sense of location.
COMMERCIAL ESTABLISHMENTS (stores & shops) • AREAS OF PEDESTRIAN CONCENTRATION

NOTE: DUE TO THE SPEED/SCALE RELATIONSHIP OF EXISTING TRANSPORTATION ROUTES, FUTURE EXPANSION OF THE DOWNTOWN DISTRICT WILL PROBABLY CEASE AT FIREHOLE AVENUE
TOWN STRUCTURE

As stated previously, the majority of the buildings currently existing in West Yellowstone appear to be very disordered both in siting as well as in the vertical dimension. In this investigation into town structure, these two types of visual disorder will be studied within the context of the existing "downtown" area.

As one approaches the intersection of Canyon Street and Yellowstone Avenue, the number of buildings and their density increases. It is through this that the buildings seem to be given additional order. This is also true in reverse, as one increases the distance from this intersection, the buildings become once again highly disorganized, due primarily to the decreasing density.

Within the vertical dimension, the opposite is true; as one approaches this intersection, the density increases, but so does the number of visual distractions (signage primarily). Therefore this becomes orderly disorder in its relationship to the siting.

Within this context it seems possible that a building positioned at site one has more potential than site two in forming an end condition for the existing downtown area.
POTENTIAL VISUAL NODES

As stated in the previous sections, the extensive of signage in West Yellowstone has taken on a very disorganized and visually distracting appearance. Inherent in this, is the confusion and visual disorientation which occurs as an observer travels on the primary as well as the collector streets. Any pre-established point of destination or focal point is soon lost within the town landscape.

There are several possible solutions to this; the first and most obvious is the establishment of zoning regulations which would govern the placement and size of future signs. However, this would still not alleviate the current problem. In answer to this is a proposal for the establishment of one or two visual landmarks located within the existing town fabric. These landmarks would of necessity be vertical in form with the result that visual nodes or focal points would be developed.

In response to traffic flow, the proposed locations are shown on plate 52.
VISUAL CONNECTIONS
VISUAL CONNECTION

Visual Connections (plate 53), is a synthesis of the previous sections concerning visual characteristics. The study involves the identification of both existing as well as potential areas of unique visual character and the impact of this identification on the selection of either site one or two.

Site One is located in an area which has the potential of becoming a nodal point, a point from which reference and orientation can be made. In addition, if site one is combined with site two, in a polar organization, they can both become activity points with the area between acting as a common connecting link.

Site two is located within an area which in the past has had significant historical importance attached to it. In addition, its location as a termination to the axis created by Canyon Street, makes it a natural reference point; together, these factors make site two a focal point within the community. As described within the last paragraph it can also function as an activity area as well as a reference point.
SITE DESIGN ALTERNATIVE ONE

ANTICIPATION OF SENSE OF ENTRY
A COMMUNITY REFERENCE POINT
SITE 1
SITE DESIGN ALTERNATIVES

Within the following three pages will be discussed three alternatives, each dealing with the design implications created by the specific location of the town hall. The alternatives are as follows; the use of site one by itself, the use of site two alone, and a combination using both sites.

SITE DESIGN ALTERNATIVE ONE

If used in isolation, site one acts as a community reference point. With the proper design the town hall could work as a secondary entrance to the town as well as an announcement element for the "downtown" area of West Yellowstone. With its corner siting, a more informal type of structure is implied; compared to the formality of site two as a termination to the axis created by Canyon Street.
SITE DESIGN ALTERNATIVE TWO
SITE DESIGN ALTERNATIVE TWO

Through the axis set up by Canyon Street and the existing vegetation along U. S. 191, site two becomes very formal acting as a visual termination point for the implied movement along the axis. This and its adjacency to the two predominately historical buildings in town (the Railroad Depot and Eagles Station-plate 31), would require a more formal approach to the Town Hall. Since the people of West Yellowstone are very informal it is debatable if this would be the right approach.
SITE DESIGN ALTERNATIVE THREE
SITE DESIGN ALTERNATIVE THREE

Through the combination of site one and two, a definite implied connecting link is created between the two. In terms of building, this link could be reinforced by a separation of civic functions. The Town Hall could be located at either site with another civic-oriented building on the opposite end. This additional building could contain numerous functions ranging from a Fire Station Facility to a Chamber of Commerce. The one other possibility for developing the connection lies in using the existing structures adjacent to site two as the basis for making a node at that point.

This would establish a definite end and beginning for the existing "downtown" area, thus creating a sense of place for the area between the two sites as well as establishing significant importance for the location of the Town Hall.
NATURAL DETERMINANTS - SOLAR

In investigating the climatic conditions in terms of site selection, it is hoped to arrive at a better understanding of how these conditions, in combination with the physical streetscape of each site, can be used in a positive manner in determining building orientation (plate 57).

SOLAR - SITE ONE

With the location of site one at the corner of Canyon Street and Firehole Avenue, the existing streetscape requires that the building address either street or both. In terms of solar orientation, (solar azimuth) this requirement can definitely have a positive influence, since the building's entrance will have southern exposure at all times of the year (plate 57a & 57b).
SOLAR CONSIDERATIONS - SITE TWO

Site two, with its primary axis lying parallel to Yellowstone Avenue, dictates that the buildings major entrance should address this street. With the building entrance located on the north side, (plate 57c & 57d) optimum advantage cannot be taken of the potential solar gains associated with a southern exposure. This fact, combined with the overall cold climate of West Yellowstone, would mitigate against site two as the ideal location for a town hall.
WIND DIRECTION

PREVAILING SUMMER WIND
- AVERAGE SPEEDS OF 10 - 25 mph WITH GUSTS UP TO 45 mph

PREVAILING WINTER WIND AND STORMS
- AVERAGE SPEEDS OF 10 - 20 mph

NOTE:
SUMMER AND WINTER WINDS CONSISTENTLY BEGIN AT 1200 NOON.

SITE 1

SITE 2

PREVAILING DIRECTION

SOUTH

WEST
NATURAL DETERMINANTS - WIND

The primary reason for investigating winter wind conditions is that during the winter months, West Yellowstone is faced with large amounts of drifted snow. These snowdrifts are caused by the prevailing winds out of the west to southwest and generally accumulate on the north and east sides of any large vertical objects within the landscape. This condition, combined with the large amount of snowfall, creates a definite problem if a building has an entry facing north or east (plate 58).

WINTER WINDS - SITE ONE

As stated previously, the streetscape associated with site one dictates that the building should address Canyon Street, Firehole Avenue or both. The winter winds and snow drifting patterns will create a problem only if there is an exposed entrance facing the east or northeast. With the use of some type of wind break on the south to southwest the buildings southern exposed entrance could be easily sheltered (plate 58a & 58b).
WINTER WINDS - SITE TWO

With the winter winds creating snow drifts on the north and northeast side, an entrance located here would present a constant maintenance problem. Since the streetscape seems to require an entrance in this orientation, this site is probably not the ideal location for the town hall.

However, if a structure was to be located here which was primarily to be used in the summer months, there would be no major problem with maintenance.
To conclude the town analysis and site selection, both site one and site two are viable locations for possible building sites. However, in design terms as well as in climatic influences, they both dictate different approaches to the same building type.

In terms of the existing town fabric, site one (plate 59) offers the possibility of a more informal approach to the design, while site two (plate 60) warrants a more formal approach to the town hall. Within the climatic conditions, site one has the potential for use over the entire year. On the other hand, site two should be designated for a building oriented to the milder summer months.

With this information, it seems that site one, as a nodal point best satisfies the criteria for the location of the Town Hall Complex. Site two, with orientation to mild weather and being a town focal point would be best utilized as the Visitor Center Site.

In keeping with the overall concept of this thesis, site one will be discussed and documented in further depth. Site two will be equally investigated, however, due to the similarities in the analytical process it will not be documented.
THE SITE
THE SITE

Located at northwest corner of the intersection between Canyon Street and Firehole Avenue (plate 61) the site is approximately 500 feet long by 250 feet wide and has a 125,000 sq. ft. coverage. At this time, the land is owned by the Town of West Yellowstone. As is typical for the town, there is at present no zoning ordinance governing the site; however, in the near future this will be changed, and the site will be zoned for public use.

Currently, the site is used as a municipal block, with the volunteer fire station and town swimming pool situated on it. Directly adjacent to the north is the town park which is used as a common recreational area by the townspeople (plate 62).
AERIAL VIEW

As is evident in this aerial photograph (plate 63), the site has a sparse covering of Lodgepole Pine located on the northern side. This vegetation varies in height from 30 feet to 45 feet with the branch structure beginning at 5 to 10 feet, depending on the season.

SITE PHOTOGRAPH

This photograph taken from the northeast corner of the site and shows the existing lodgepole pine as well as the existing Fire Station presently located on the south side of the site. Also evident is the large amount of accumulated snowdrifting present in early January.

SITE PHOTOGRAPH

Shown in this view from the west is the existing municipal swimming pool. At the present, the pool is used during the summer months; however, because of its questionable condition, there has been talk of building a new one. However, there has been no definite constructing date or possible site location established at this time.
VEHICULAR CIRCULATION

Due to the heavy amount of traffic on Canyon Street and Firehole Avenue, both of these streets are considered as arterial routes. At the present there is only one stop sign located at the southwest corner. Due to congestion during the summer months there are plans to install caution and stop lights on all sides of the intersection.

SPEED/SCALE RELATIONSHIPS

Because Canyon Street is the major route from the north, it acts as a deceleration zone from 45 to 25 mph. This deceleration occurs at the east end of the site and would consequently require special consideration were the Town Hall located in this area. Along Firehole Avenue the speed is a constant 25 mph, slowing to a stop at Canyon Street.

VEHICULAR ACCESS

Due to the high volume of traffic occurring on Canyon Street and Firehole Avenue, plus the possibility of stop lights at the intersection, on site access should be set back as far from the intersection as possible. The most desirable entrance location occurs from the west via Dunraven Street.
Due to the high volume of tourist oriented traffic on Canyon Street and Firehole Avenue, the east and south side of the site should be designated to house the functions which relate more to the tourist. The Town Hall functions which relate more to the permanent population should occur on the northwest portion of the site.

VIEWS

Because of the heighth of adjacent structures and vegetation, the off-site views are not noticeable until viewed from above 15 feet, with exceptional views occurring at the 40 to 45 foot level. The other possible views are those created by the on site vegetation (plate 63a & 63b).

ON-SITE FEATURES

As stated previously, there are two existing buildings on the site; the municipal swimming pool and the fire station. For this project, they are assumed to be removed, since they are of questionable condition. The topography is approximately 1 in 500 ft., sloping to the northwest.
ADJACENT STRUCTURES

The existing structures adjacent to the site are the basic commercially oriented buildings which have been discussed in previous sections. The majority are motels and tourist shops with a few residential buildings scattered throughout. From a design standpoint, if the Town Hall is to be seen, there will be problems in competing for visual dominence. This is evident in the size and number of existing signs (plate 70a & 70b). The actual influences will be studied further in the design development section.
NOISE CONDITIONS

Again, due to the large amount of traffic on Canyon Street and Firehold Avenue, there is an excessive level of noises on the east and south side of the site. The level subsides as one proceeds toward the center of the site. Consequently, the functions requiring lower noise levels should be positioned towards the northwest end.

UTILITIES

The existing utilities in West Yellowstone consist of electrical and sewer lines. At this time, the water is supplied by on site wells; however, within the next two years a proposed water line will probably be laid parallel to the existing utilities. This water line is expected to bisect the site; however, at this time its exact location is not known.
TOWN HALL

Lobby/Entry Area
- Information/Reception Area
- Lounge with Seating
- Display
- Orientation Space
- Sense of Entry

Administration
- Town Manager/Mayor Office
- Conference Room
- Secretary/Reception
- Staff Offices (2)

Business Office
- Town Clerk
- Assessor
- Support Staff
- Vault Storage
- General Storage & Files

- 700 square feet
- 750 square feet
- 1750 square feet
<table>
<thead>
<tr>
<th>Department</th>
<th>Description</th>
<th>Square Feet</th>
</tr>
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<tbody>
<tr>
<td>Public Works</td>
<td>-Engineer</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>-Building Inspector</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>-Town Planner</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>-Support Staff</td>
<td>200</td>
</tr>
<tr>
<td>Legislative</td>
<td>-Council Chambers</td>
<td>2000</td>
</tr>
<tr>
<td></td>
<td>one manager</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 councilmen</td>
<td></td>
</tr>
<tr>
<td></td>
<td>secretary</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20-30 audience</td>
<td></td>
</tr>
<tr>
<td>Law Enforcement</td>
<td>-Communication/Reception</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>-Detention Room</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>-Officers Room</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>-Garage</td>
<td>600</td>
</tr>
<tr>
<td></td>
<td>2 cars</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 snowmobiles</td>
<td></td>
</tr>
<tr>
<td>Support Areas</td>
<td>-Restrooms</td>
<td>240</td>
</tr>
<tr>
<td></td>
<td>mens</td>
<td></td>
</tr>
<tr>
<td></td>
<td>womens</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Staff Lounge</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>kitchenette</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Janitorial/Maintenance</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>-Mechanical</td>
<td>800</td>
</tr>
<tr>
<td></td>
<td>-Circulation</td>
<td>800</td>
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<tr>
<td>TOTAL TOWN HALL</td>
<td></td>
<td>9000</td>
</tr>
<tr>
<td>PARKING 30 CARS</td>
<td></td>
<td>13000</td>
</tr>
<tr>
<td>Space</td>
<td>Area</td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>Shelving Space</td>
<td>1000 sq ft</td>
<td></td>
</tr>
<tr>
<td>- 10,000 volumes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 1300 linear feet of shelving</td>
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<td></td>
</tr>
<tr>
<td>Reader Space</td>
<td>400 sq ft</td>
<td></td>
</tr>
<tr>
<td>- 13 seats @ 30 sq ft/seat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff/Reception</td>
<td>300 sq ft</td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>300 sq ft</td>
<td></td>
</tr>
<tr>
<td>TOTAL LIBRARY</td>
<td>2000 sq ft</td>
<td></td>
</tr>
<tr>
<td>PARKING 15 CARS</td>
<td>6500 sq ft</td>
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### VISITOR CENTER

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<thead>
<tr>
<th>Component</th>
<th>Area</th>
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</thead>
<tbody>
<tr>
<td>Reception</td>
<td>1200 sq ft</td>
</tr>
<tr>
<td>- Reception lobby</td>
<td></td>
</tr>
<tr>
<td>- Information Area</td>
<td></td>
</tr>
<tr>
<td>- Foyer</td>
<td></td>
</tr>
<tr>
<td>Display</td>
<td>1800 sq ft</td>
</tr>
<tr>
<td>- Gallery Spaces</td>
<td>900 sq ft</td>
</tr>
<tr>
<td></td>
<td>900 sq ft</td>
</tr>
<tr>
<td>Support</td>
<td>1620 sq ft</td>
</tr>
<tr>
<td>- Office/Administration Staff</td>
<td>300</td>
</tr>
<tr>
<td>- Conference/Meeting</td>
<td>200</td>
</tr>
<tr>
<td>- Storage/Work</td>
<td>200</td>
</tr>
<tr>
<td>- Mechanical</td>
<td>100</td>
</tr>
<tr>
<td>- Public Restrooms</td>
<td>400</td>
</tr>
<tr>
<td>- Circulation (10%)</td>
<td>420</td>
</tr>
<tr>
<td><strong>TOTAL VISITOR CENTER</strong></td>
<td>4620 sq ft</td>
</tr>
<tr>
<td>PARKING 30 CARS</td>
<td>13000 sq ft</td>
</tr>
</tbody>
</table>
SCHEMATICS AND DESIGN DEVELOPMENT

As stated previously the format of this thesis begins with the general and narrows to the specific as well as following a linear time progression. Within this schematics and design development section it repeats the same pattern, however, instead of relying on a verbal explanation for the diagrams it primarily concentrates on the visual aspect of the analysis with the explanation existing within the sketch itself.

Beginning where the site analysis left off, this section first begins with several studies which investigates future zoning options which could compliment the Town Hall Complex and Visitor Center as well as the existing town fabric. Within these studies
urban design issues such as positive-negative spaces, overall intersection massing and the social implications arising from creating a sense of order within a very disordered framework were analyzed (pages 78-81).

Following the latter investigations are sketches best representing the beginning conceptual stages leading to the final design solutions of both the Town Hall Complex and Visitors Center. The studies shown were culled from a large number of concepts and themes down to three primary schemes for both groups of building(s), which are documented in the following pages; Town Hall -- pages 82-93 and Visitors Center -- pages 94-97.

Each scheme is in turn broken into two catagories -- conceptual diagrams and development sketches. From the concept diagrams the complexity increases as the development sketches mature, as well as each progressive scheme tends to become more complex -- hopefully arising from a better understanding of the determinants leading to each design. The third scheme for the Town Hall and Visitors Center are the beginnings of the final solution in both cases.
PROPOSED INTERSECTION ZONING OPTIONS
POSITIVE / NEGATIVE SPACES
PROPOSED INTERSECTION ZONING OPTIONS

POSITIVE / NEGATIVE SPACES
PROPOSED INTERSECTION ZONING OPTIONS
POSITIVE / NEGATIVE SPACES
PROGRESSIVE INTERSECTION MASSING & SOCIAL IMPLICATIONS
TOWN HALL COMPLEX - CONCEPTUAL SKETCHES
SCHEME ONE
TOWN HALL COMPLEX - CONCEPTUAL SKETCHES
SCHEME TWO
TOWN HALL COMPLEX - SCHEME TWO DEVELOPMENT

LIBRARY
THE DESIGN
FINAL DESIGN

The final design solution documented on the following pages is presented in the identical format of the latter portions of this thesis. It begins with a general yet very specific visual representation of an idea summarizing this thesis and the affects it could have on the community of West Yellowstone. This idea in turn is translated into a two-dimensional, contextural drawing of the actual city. In a natural progression this narrows down to two overall site plans and narrows yet further to five buildings (projects).

The contextural map and model on page 101 & 102 show the relationships between the Town Hall Complex located at the
THESIS STATEMENT

A theme for the creation of architecture, unique to a given region, lies within the perception and utilization of the existing contextual determinants singular to that region.

THESIS PROJECT

A town hall and related facilities, located in West Yellowstone, Montana.

W. W. NIEHOFF
THESIS 1980
intersection of Canyon Street and Firehole Avenue, and the Visitors Center located on Yellowstone Avenue. In both cases the building and the method in which it is sited form natural but man-made entries and exits for the City of West Yellowstone. The Town Hall Complex (Fire and Police Station, Town Hall, Council Chambers and Library) (page 103) relates primarily to the citizens of West Yellowstone by forming a community reference point to both the local citizens as well as the tourists (attesting to the city's primary source of economic survival; the large tourist population present in West Yellowstone).

The five buildings which have been designed to be an integral part of this framework created through the past investigations are documented with drawings and photographs (pages 103-116). The buildings' three-dimensional qualities, as well as their relationship with the natural environment and the man-made environment existing within the city fabric, are graphically represented, however, the verbal interpretation of their specifics is left to the observer.
VISITOR CENTER
CONCLUSION
In conclusion of this thesis and in response to my thesis statement, I have several thoughts . . .

With any architectural project (especially thesis projects), there is always discussions on the success of the project in relation to the original premise and to the overall goals established in the beginning. In this instance there seems to be controversy existing over whether or not the final design is an example of regional architecture. Some say that within the generalities of the project it is a viable example, while others say when it approaches the specifics, the project seems to stray from the whole notion of regionalism. I have logically questioned this over and over again and have come to the following conclusion, no definite answers exist, only subjective arguments.
The following words in my thesis statement clarify my rational
and approach used in solving the problem: 1) perception, and
2) utilization. I have perceived, interpreted and responded to
the existing contextual determinants (both natural and man-made) in
the manner which I have best seen fit; therefore it is regional.
However to someone else who probably would have perceived, inter­
preted and applied the existing determinants in a different manner,
may think that the solution I presented is not regional. Neither
way is right or wrong, after all where would the state of the art,
in architecture, be if we all thought and perceived our environment
in the same eyes?
FOOTNOTES


5. Ibid. p. 32.


8. Ibid. p. 2.2.


13. Ibid. p. 112.


BIBLIOGRAPHY


Barker, Fazio. *Hidebrant*. The Small Town As An Art Object.


ILLUSTRATIONS

Photographs and drawings by the author except as noted.


4. Ibid. p. 11

5. Ibid. p. 38.

15a. Courtesy of John DeHaas, Professor, Montana State University, School of Architecture.

16. Ibid.

19b. Ibid.

20. Ibid.


26. Ibid. p. 2.1.


29. Ibid. p. 2.12.


32. Courtesy of Jim Gough, Professor, Montana State University, School of Architecture.

35. Ibid.


44. Ibid. p. 118.

44a. Ibid. p. 113.

44b. Ibid. p. 114.

44c. Ibid. p. 115.
The game of architecture is an intricate play with rules that you may break or accept. These rules, like so many knots that cannot be untied, have the erotic significance of bondage: the more numerous and sophisticated the restraints, the greater the pleasure.

ropes and rules
