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NEWMAN CENTER FOR BOZEMAN, MONTANA

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a thesis report prepared for Architecture 489 by

James A. McArthur

Montana State University

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Introduction

In fulfilling requirements for a Bachelor of Architecture degree at Montana State University, I submit this my thesis, a proposal for a Newman Center for Bozeman, Montana.

The scope of this report covers all preliminary research which any architect would undertake preceding the design of any structure. The physical, economic, and background considerations are placed in this report to the extent of importance I place on each. They form the basis for design decisions I will make in formulating a solution to the needs of the Newman Apostolate at MSU.

There are materials, methods, and imaginations which are capable of solving any and all problems which the conditions and restrictions herein entail. Such solutions in any great detail are beyond the scope of this report.

Proposal

I propose that the Newman Club at Montana State University build facilities under the auspices of the Diocese of Helena which will accommodate all functions of Newman as a club and serve all Catholics on the MSU campus as a parish center.

The facility would provide accommodations which would fulfill their religious obligations, offer aid to intellectual growth, and house social functions.

newman club

History of Newman Centers

The name Newman used as it is here dates back to John Henry Newman (1801-1890), nineteenth century scholar and religious leader in England. A brilliant student at Oxford, trained and ordained in the Anglican Church, Cardinal Newman's path to Rome became certain as a result of his attempt to justify the position of the Church of England when compared to the ancient Church of Rome, an effort commonly called the "Oxford Movement".

A few years after his ordination, Newman was in Dublin to establish a Catholic University. This venture was doomed to failure, but out of it came his monumental work, "The Idea of a University". His idea was to relate the study of religion to higher education in other fields. In 1866 he established an Oratory at Oxford. His philosophy of education has been the foundation stone of the philosophy of the Newman Apostolate in the United States. The Oratory at Oxford was to serve the spiritual and educational needs of Catholic students enrolled at the university. The culmination of his dream was never quite realized during his lifetime. Three years after his death, a group of five medical students banded together at the University of Pennsylvania in Philadelphia and called themselves a Newman Club. Their purpose was to study the literary works of Newman, sponsor lectures on Catholic subjects, and bring the things of Catholic culture into the secular environment. In general they aimed

to represent Catholicism on campus.

For almost fifty years after this first Newman Club was formed , the Church's work on the secular campus was carried out within the framework of student organizations, usually known as Newman Clubs. At times and in some places these clubs might not even have an officially recognized chaplain. Usually, however, a chaplain was appointed by the local Bishop. In too many instances this was an additional job for a busy parish assistant or pastor. But other patterns were beginning to develope.

In 1906, a full time Chaplain was appointed at the University of Wisconsin, and the following year, the Paulists sent a full-time Chaplain to the University of California at Berkeley. Though student organizations were maintained at both campuses, the scope of the work was enlarged to that of a University Parish. In 1919, the Senate of the University of Illinois approved of a plan for the recognition of religion as a subject worthy of academic credit.

In 1927 a somewhat similar plan was established at the University of Iowa, and since then, a growing number of tax supported colleges and universities have adopted similar programs.

In addition to these examples, some 800 Newman Clubs or Centers are active on the secular campus throughout the

United States. Some have chapels, classrooms and libraries, and all have a group of Catholic students eager to preserve and enlarge their faith on the secular campus.

On our own campus at Montana State University, the Newman Club has been organized since 1917. Until 1964, there had never been a chaplain officially assigned to the Newman Club alone. The need became apparent when in 1963, the diocese of Helena purchased a house on South Willson which would act as the Newman Center. The house was needed to act as a library open to all students, a classroom for the three-credit course in religion offered during winter quarter, and a meeting place and social center.

The membership of Newman Club is officially 70, this year, but frequently functions sponsored by the group have drawn as many as 400 guests.

The preceding information is the courtesy of the National Newman Foundation, Washington D. C., and the Reverend Edward Courtney, Newman Chaplain, MSU.

The Purpose of the Newman Apostolate on Campus

As an approach to the needs of students and service to the campus, Newman has developed rapidly since World War II. It now attempts to serve students, faculty, and staff and alumni on the local scene. Collectively, under the national title:Newman Apostolate, these groups cooperate in order to perfect and enlarge these services.

As a student organization, Newman fits into the college or university and its program of student activities. It hopes to supplement campus life by providing for some of the religious, educational and social needs of Catholics--without creating a ghetto, and without excluding students of other religions.

Besides concerning itself with religious formation and services, Newman takes a special interest in the continuing transmission of religious knowledge. It does so both because of the validity of theology as an academic discipline and the manifest needs of students in this area. Where courses in religion are not yet part of the curriculum, Newman works with colleges towards their development. Meanwhile, it makes non-credit courses in religion and related disciplines available to students.

In the social area, Newman concerns itself with inter-group and inter-personal activities which contribute to the mature man and the healthy community.

Israel



View of present Newman Center facilities at 822 South Willson, Bozeman, Montana. . . . .

Conditions Creating A Need For A Newman Center And Chapel

General Conditions

Since 1950, there has been a dramatic growth in the number of students attending secular universities. The college population has grown to the point where there are now some 1.2 million Catholics attending colleges and universities. Of this number, more than .8 million are presently enrolled in secular institutions....Obviously, the religious care and education of so many Catholics, potential leaders of the Church and of secular society, is immense. This realization has led the National Newman Apostolate to make specific recommendations about the needs of these students and the personnel and facilities necessary to satisfy these needs.

At a meeting of Newman chaplains in August of 1962 in Detroit, under the auspices of Archbishop John F. Dearden, then Episcopal Chairman of the Youth Department of the National Catholic Welfare Conference, the following needs of the Newman movement in the United States were specified:

1. There is a need for one full time chaplain on every resident campus with 300 Catholic students and an additional full time priest or staff member for each additional 500 to 700 Catholic students.

2. There is a need for a full time chaplain for every nonresident campus with 500 Catholic students and an additional full time priest or staff member for each additional 500 to 700 students.

3. At smaller resident and nonresident campuses, there is a need for a part time chaplain specifically assigned by his ordinary To spend a definite portion of his time in Newman work, according to the Catholic student population.

4. Adequate facilities (chapel, center and chaplain's residence) are needed whenever a full time chaplain is assigned to the campus.

5. Many bishops have found that work is greatly enhanced when a university parish, territorial or personal, is canonically erected.

There has been a tremendous growth in Newman work in recent years. Many bishops throughout the country have accorded top priority to meeting the challenge of the campus population explosion. This enrollment growth is gaining momentum and allows no time for a relaxation of effort to meet the spiritual needs of the nation's future Catholic leaders.

The preceding was taken from a report to the Bishops of America from the National Newman Chaplain's Association.

According to the National Newman Apostolate, the goals of Newman are: the intellectual and moral development of the Catholic on the secular campus, the religious education of the Catholic, the apostolic formation of the Catholic, the contribution of Catholic culture to the academic community, and the responsible participation of the Catholic in academic and civic communities. The three areas which guide the Catholic student to these goals are his sacramental life, his intellectual life, and his social

life.

Physical Conditions

Recent growth in the MSU enrollment and the corresponding growth of the Catholic student community are pointed out by the figures below:

	MSU enrollment	Catholic students
1955	2799	465
1960	3935	630
1965	5933	1100
1970	7608	1500
1975	10,000	2000

Courtesy of MSU registrar and Rev. James Courtney, Newman chaplain.

Present facilities for the Catholic community at MSU can generally be described as makeshift. The official Newman Center is located at 822 South Willson, about six blocks from the campus. The Center is a former two-story residence in the style of the thirties. The living room, largest in the house, will accommodate about fifty people. The present library is a 10' by 20' room which will hold about 1000 volumes on its wall shelves. Newman chaplain Father Courtney would prefer facilities which would accommodate 5000 volumes.

An upstairs bedroom has been converted into a chapel. It consists of an altar table, two votive candles, and pads placed on the floor to make kneeling more comfortable.

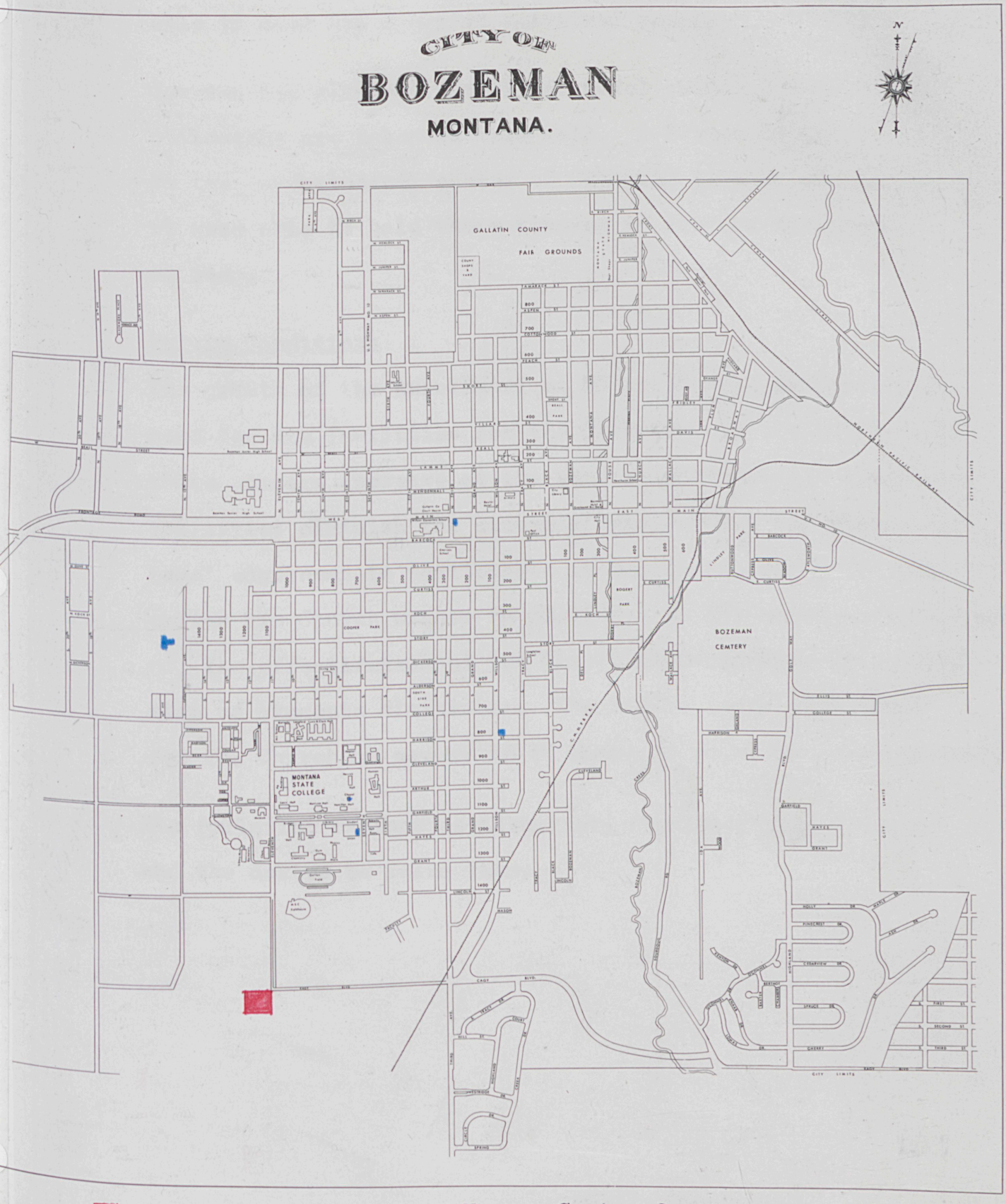
On any given afternoon there may be four or five people meditating there.

The Newman Schedule for Fall 1965 lists Masses to be held at the MSU Student Union Theater, Danforth Chapel, and the Newman Center. Large dinners, banquets, dances, and larger social functions are held in the basement of Holy Rosary Church, Holy Rosary Auditorium, and on the MSU campus. The reason for holding functions and meetings at different locations is the lack of adequate Newman facilities. (See map, next page)

The University of Montana has seen the recent completion of a Newman Center which serves as its campus parish center. The Missoula institution is almost exactly the same size in enrollment and faculty and staff numbers as MSU in Bozeman. The fees, tuition, board and room costs are the same at both State instutions. The percentage of Catholics on both campuses is about the same: one in five. The successful initiation and completion of a similar project at our sister institution would suggest that the Newman Center proposed in this report is a feasible goal.

Psychological Conditions

The accomplishment of the goal of Newman would be the uniting of the Catholic community on campus, the student, faculty, and staff, in a common place of worship. The Church wishes to be a part of the intellectual development of its young, and to be



New site for proposed Newman Center facilities.

Locations where Newman functions are now held.

able to meet his specific spiritual needs.

Courses now offered in religion which pertain to Catholic philosophy are taken in Reid Hall. A Newman Center would be the psychological center of Catholic life on campus if it were able to hold these classes in its own facilities on campus.

Future Conditions

The growth of the enrollment at MSU each year emphasizes the need for new facilities for the Catholics at the University, whose numbers increase at the same relative rate. Inadequate facilities diminish the students' and faculty and staff members' eagerness to participate in continuing religious education his Church wishes to provide. As the enrollment increases, the effectiveness of the Church in continuing its education of students diminishes. The future looks very bleak for the Church on campus if it does not solve its growing needs.

The following enclosures illustrate the conditions of need and the desire to solve them.

NEWMAN CENTER

322 South Willson

Bozeman, Montana

Fall Quarter
1965

Dear Students:

Welcome to the Newman Foundation of Montana State University. As you know the Newman Foundation is the Catholic program for you at the University. For the first time the Chaplain is now assigned full time to the campus work. We will have over 1200 Catholic Students this year so we constitute a large parish. It is our hope and desire to provide as full a parish program for you as is possible and suited to your interests and needs.

With this in mind and looking to the future(next year if all goes well), we will be able to build our own parish church and center on the property across from the Field House that the Diocese of Helena purchased last year. Right now we are a parish without a church.

A parish means first of all the sharing of the Sacramental life -- Baptism, Penance, Eucharist, Confirmation, Matrimony, the Sacrament of the Sick. The Newman Chaplain is responsible for all the single and married students registered at MSU. It is my desire to make these available at YOUR convenience. It will mean mutual cooperation and participation, and sacrifice until we have our own church. If certain times on the schedule are not convenient we can always change them. I am especially interested as to the best time for Mass and Confessions.

The second aspect of parish life is intellectual growth in the Faith. Vatican II, the current interest in Theology and Scripture, the Ecumenical Movement -- all make this an exciting time to be working out our salvation. We will have several Theology and Scripture courses at the Center this year. The Chaplain will teach a credit course in the School of Religion winter quarter. You can arrange informal discussion groups at the dorms, houses or the Center.

Socially we try to have at least one major party each quarter. Other events are scheduled as possible.

The freshman have been contacted at the dinner. The upperclassmen and graduate students will be asked to attend a meeting at the Center to have our program and your responsibility more fully explained. We ask your interest, cooperation and charity in this regard.

I am at your service. We are all in the process of "becoming", of learning the reality of Life and our own existence. Let us ask the Holy Spirit and our patron, John Henry Cardinal Newman to be our inspiration and light this year.

Yours in Christ,

Father Edward Courtney

BISHOP'S HOUSE
600 HARRISON AVENUE
HELENA, MONTANA

September 10, 1965

Dear Students of the Newman Club Montana State University, Bozeman:

As your Bishop and Chief Shepherd it is my responsibility to provide for your spiritual and intellectual growth in the truths and practice of your holy faith while you are at the University.

The Newman Foundation is the Newman Parish at the Campus. To help provide for an intellectual, social and above all, a religious and liturgical program both a Chaplain and a Center have been provided for your use. You will be pleased to know that for the first time Chaplain is now assigned full time to campus work.

When we talk about organization, we are talking about the holy people of God, living God's life. By this we mean every single human being in the campus community - - those who are privileged to have the special graces communicated by the Holy Spirit through the Church; those who have individual graces on their own. This is the reality in which we operate on campus.

To this end then the Newman Foundation sets up a program each year. We hope in the near future to be able to provide a full campus facility, including a campus church. Much of this plan depends on you, your interest, cooperation and support of the program this year.

We are sure that you recognize the need of your spiritual growth and are confident of your whole-hearted interest in the work of Christ in your lives and on the campus this year.

Be assured of our prayers for you and the work of the Newman apostolate. We look forward to a visit to the campus sometime next year.

+ Raymond G. Hunthausen

Raymond G. Hunthausen
Bishop of Helena

THE NEWMAN APOSTOLATE

The work of the Church on the University Campus --
your parish, your responsibility

Patron:

John Henry Cardinal Newman 1801-1890

English convert - chosen at U of Pennsylvania in 1893 because of his saintliness and scholarliness.

Becomes our model in preparing for a full, complete Christian life

He held the convictions of his faith at great cost.

He is considered one of fore-runners of the Vatican Council.

The cause of his canonization asks and deserves our prayers.

Organization ---

National Newman Federation is largest student group in the world. We support this program through our participation in its program and by the $1.00 dues that we send for each dues-paying member here.

We are part of the ROCKY MOUNTAIN PROVINCE which takes in the campuses of Montana and Idaho.

Our local group function, under the direction of the Chaplain, through the officers and committee chairmen.

On campus at MSU we operate through the IRC (InterReligious Council) whcih schedules our campus activities.

Aim ---

"The goal of the Newman Apostolate is no small thing: to bring the spirit and principles of Christianity into your daily lives as students, to bear witness to the importance of spiritual values in every facet of university life. Seeing your organization as part of the Christian Apostolate will also help to insure that you have a living concern for human rights, a dedicated concern for human liberty, our ideals as Americans, and the imperitives of our spiritual commitment."

John F. Kennedy
July 11, 1963

Support ---

We depend entirely for support on your dues, sunday envelope contributions (suggestions for giving are listed in accord with what is being done on other campuses) and the help that we get from your parents and our other friends. Everyone has an obligation in conscience to do their "fair share" in accordance with their means. We ask and need your wholehearted support for your program. If we give this support this year the Diocese of Helena will build us a Campus Church and full facility -- if we show that we want it and will maintain it. We cannot expect more, the ~~diocese~~ cannot ask less.

NEWMAN SCHEDULE ---- FALL 1965

SACRAMENTAL LIFE

Sunday Campus Mass are at 8:30 a.m. and 10:00 a.m. at the Student Union Theatre. These Masses are for all the married and single students, who make up the Newman Campus Parish.

Weekday Mass:
Monday, Tuesday, Wednesday and Friday at Danforth Chapel at 5:00 P.M.

Thursday Mass is at 5:00 p.m. at the Newman Center
Saturday Mass is at 11:15 a.m. at the Newman Center

CONFESSIONS:
Before all the Masses. SATURDAY from 6:30 to 7:30 at Danforth Chapel.

********** ********** ********** **********

INTELLECTUAL LIFE .....

Theology 101 - A basic course in the Dogma, Moral, Sacramental teachings of the Church. Designed to give a foundation in the truths of the Church or to review that foundation. Anyone is welcome to take this course.

101 meets at 8:00 Monday evening and 7:00 Tuesday Evening.

Theology 201 The NEW TESTAMENT -- The historical setting, literary forms of the N.T. and some of the great biblical themes of Word, Revelation, Covenant etc.
201 meets at 7:00 in the Newman Centar on Wednesdays.

Theology 301 ....

Section A -- CFM (Christian Family Movement for Married Sunday at 8. Students) Family life in the 20th Century.

Section B -- Contemporary Theology
Discussion of issues from the Council, current Theological writings. The "New Theology"

Meets Sunday evening at 7 p.m. at the Center.

SOCIAL LIFE

Friday evening at the Center -- FUN AND GAMES -- Bridge, Chess, Canasta, TV , Stereo, Talk etc.

Fall Campuswide Newman Function is November 19th

Other Soical Activities are announced in the Sunday Bulletin.

NEWMAN CENTER --- 822 South Willson --- phone 586-9243

Open each day from 8 a.m. to 10:00 p.m.

Chaplain is available for conferences, instructions.

Library for study, research, reading. over 1,000 volumes

Chapel for a visit, prayer, meditation.

Living room with TV(color) Stereo

Plan to participate in some function and activity of the Newman Apostolate

Economic Considerations

At present, the Newman Club on campus depends entirely on dues of $3.00 per year and upon Sunday envelope contributions along with those of parents and friends. Another source which is becoming important is that which began in November of 1959, when the Bishops of the United States gave their unanimous approval to a national fund to support the work of the Newman Apostolate on the secular campus.

The fund is similar to that set up by Protestant and Jewish groups which support their religious work on a nation-wide basis. The Newman Foundation hopes to support an annual Newman Chaplain's School to train priests for their special mission on the secular campus. The first session was held in the summer of 1962 at the University of Michigan. 38 priests from 24 states attended this first session. Chapels, classrooms, seminar rooms, libraries are desperately needed on most secular campuses. As an example of gifts made to this program, Claire Boothe Luce has provided funds for a chapel at Stanford. The Foundation finances also courses of instruction in Catholic Theology, tours of visiting Catholic lecturers, lay teacher assistants, libraries.

The Diocese of Helena has made available $300,000 for new Newman Center facilities for MSU through the Newman Foundation Fund. These funds will be available to Newman at MSU to effect its status as a serarate parish.

The Newman Club and parish on campus does not have to pay any of this money back and has only to support itself and maintain itself. The land which will house the proposed facilities has already been purchased by the Diocese of Helena.

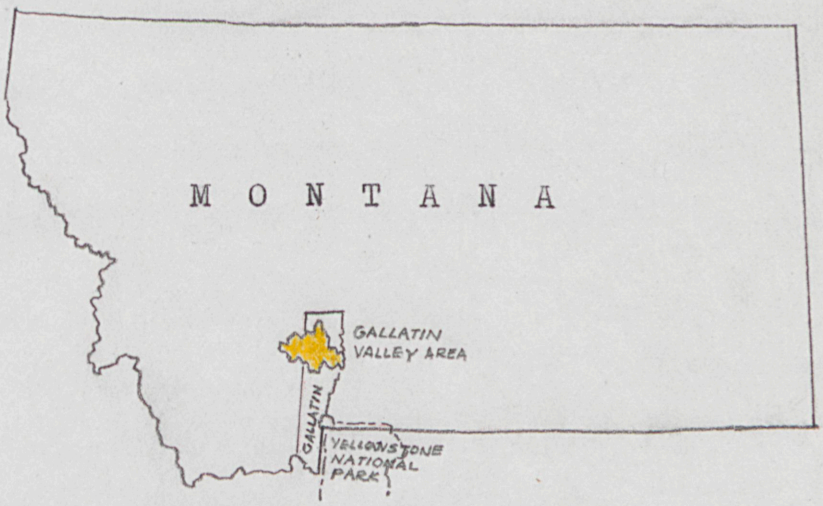
The owner wants first-class modern facilities for the amount he has in his budget. According to the Marshall Evaluating Service, the Newman Chapel and living facilities would be classified Class "A" construction. For Class "A" living or residence facilities, the calculator estimating method lists the typical cost per square foot as $20.80. This cost includes a concrete beam and slab or heavy timber structural system, stone or brick veneers, and expensive finishes. For Class "A" Church costs, the typical costs per square foot is $24.16. Again, this would include the best systems and materials on the market. Using these approximations, the upper limit on the square footage of the proposed Newman Center may be set at about 14,000. This figure should give a rough idea about the size of the building. It will not be as accurate an approximation as a segregated cost method which breaks down the costs according to an itemized list of materials.

The Newman Center will not operate a grade school, as most parishes do. Members will make arrangements with the parochial schools in Bozeman to send their children there. All income will go, therefore, to the maintenance of Newman Center.

local conditions

Geographical Conditions

The Gallatin Valley lies wholly within Gallatin County in southwestern Montana (see map below). Bozeman, the county seat of Gallatin County, is about 90 miles north of the west entrance of Yellowstone National Park and nearly 230 miles south of the Canadian border. The area surveyed covers 802 square miles, or approximately 30 % of the total land area of the county, and includes most of the irrigated and non-irrigated farming and grazing lands of the higher valley slopes or benches and the adjacent foothills that border the mountains. That part of the county outside of this area is largely mountainous.



The Gallatin Valley area is one of the most important agricultural areas of the northern Rocky Mountain states. It occupies a basin partly enclosed by high mountains. Two rivers, Madison and Gallatin, flow through the area in a northwesterly and northerly direction.

They join the Jefferson River near Three Forks to form Missouri River. Jefferson River forms the northwestern boundary of the area.

Nearly one-half the area consists of stream bottoms. The largest body of bottom land is along Gallatin River about 7 miles north of Bozeman. The Madison and Jefferson River valleys range in width from 2 to 3 miles. They are separated from Gallatin Valley and from each other by somewhat higher land. Hills and benches occupy the northern and western parts of the area.

All the main streams that head in the mountains are fed by melting snow and are perennial. These streams, particularly Gallatin River and its larger tributaries, provide water both for domestic purposes and for irrigation. The maximum quantity of water is discharged during May and June, when the water from melting snow is augmented by spring rains.

Geologists describe the Gallatin Valley as a former lake bed during late Tertiary times. It is stated that, following the formation of the lake in the valley, immense showers of fine volcanic dust, probably wind-borne, fell upon the surface of the lake and upon the land. This resulted in the deposition of lake-bottom sediments reaching a thickness of more than 2000 feet. Most of the sediments are fine grained and they have furnished the parent material for the greater part of the present soils.

Since deposition of this material and the formation of an outlet for the release of the impounded waters, considerable surface erosion and cutting by the streams have taken place.

The central part, or floor, of the Gallatin Valley has the appearance of a gently sloping plain. To the south and east rolling hills merge with the mountains. These hills are rather thoroughly dissected by many streams heading in the Gallatin and Bridger Ranges.

The Gallatin Valley is a rather high intermountain area, in which wide differences in elevation exist between the lower parts of the valley and the higher benches and foothills and the surrounding mountain peaks. The lowest elevation is near the confluence of Gallatin, Madison, and Jefferson Rivers--about 4000 feet above sea level. The higher levels that are being farmed lie at an elevation of about 5800 feet. South of Bozeman, there is a rather large body of irrigated land ranging from 5000 to 5600 feet in elevation. Many of the nearby mountain peaks rise from 3000 to 4000 feet above the Valley. The higher peaks of the Bridger Range have an elevation above sea level of about 9000 feet, and the higher peaks of the Gallatin Range to the south average between 10,000 and 11,000 feet.

Located at the base of the Bridger Mountain Range at a point where the valley is about 10 miles wide east to west, Bozeman experiences essentially a mountain valley climate. In the vicinity of the University the ground slopes downward to the north at a rate of about 80 ft. to a mile, but the valley flattens and broadens to the northwest for several miles before narrowing into a shallow canyon near Logan. Except for the narrow Gallatin River opening at Logan, the Bozeman section of the Gallatin Valley is surrounded by mountains.

Because of rather wide variations in climate and terrain within rather short distances in the Gallatin Valley, the distribution of the plants making up the vegetal cover is rather complex. Around the eastern and southern boundaries of the area an increase in elevation and nearness to the mountains causes an increase in annual precipitation which is accompanied by a more abundant plant growth.

Between elevations of 5400 and 6000 feet, the open grassland cover of the higher hills and benches is replaced by a growth of brush and evergreen timber. A dense growth of small Douglas fir (Pseudotsuga douglasi) occurs in most places on the northern and eastern exposures of the mountain slopes and a more sparse cover of fir, Colorado juniper (Juniperus scopulorum), and brush of various kinds on the south and west slopes.

For some distance below this zone, many mountain shrubs and herbs are mingled with the grass and sagebrush cover of the lower benches and the valley floor. The more abundant and conspicuous of these plants are the balsam-root (Balsamorhiza sagittata); sticky geranium (Geranium viscosissimum); western wild bergamot (Monarda menthaefolia) locally known as "horsemint"; wild salsify (Tragopogan porrifolius); several lupines; and a number of Potentillas.

Groves of cottonwood, both the common western species and the narrow-leaved mountain species, border the major stream channels, together with some dense thickets of willows, as well as black haw, red haw, chokecherry, service berry, and red-osier dogwood (cornus stolonifera). Most of the intermittent drainage courses of the higher parts of the area are choked with a dense growth of the same species. Wild rose and western snowberry (Symphoricarpus occidentalis), commonly known as buckbush, are very common, generally bordering the roads, old ditch or canal banks, and stream and coulee bottoms in the more moist sections and extending westward and northward in favored locations in the arid sections. The common sagebrush (Artemisia tridentata) originally covered most of the uplands of the more arid sections, and it is still a dominant plant on the more eroded slopes and the rough lands.

The native grass associations have become modified and confused with the introduced grasses since settlement and irrigation. Previous to settlement and irrigation, a moderate growth of silver (white) sagebrush (Artemisia cana) and an abundant grass growth covered the open hill slopes, benches, and parts of the lower lands of the eastern and southern subhumid sections of the area. A thick stand of the dominant grass association, consisting principally of bluebunch (Idaho) fescue (Festuca idahoensis), bluebunch wheatgrass Agropyron spicatum), junegrass (Koeleria cristata), with some western wheatgrass (A. pauciflorum), and other less abundant species is still growing on the unplowed hill lands above the influence of irrigation. Introduced species of the cultivated grasses, principally Kentucky bluegrass and common timothy, have become widely distributed and have completely replaced the native grasses in many places.

On the seeped alkaline lands north of Central Park the saltgrasses (Distichlis spicata and Puccinella nuttaliana) are dominant.

The main line of the Northern Pacific Railway crosses the area from east to west, and the main line of the Union Pacific Railroad serves the northern and western parts. Branch lines of both railways serve agricultural communities as freight lines.

The main public roads are well improved. A transcontinental highway, United States Highway No. 10, crosses the area.

The foregoing information is the courtesy of William DeYoung and L.H. Smith of Montana Agriculture Experiment Station and the United States Department of Agriculture in their report titled "Soil Survey of The Gallatin Valley Area, Montana"; and courtesy of R. A. Dightman, State Climatologist.

Narrative Climatological Summary

The climate of the Gallatin Valley in general is similar to that of other intermountain valleys of the Northwest. It is continental in character and is subject to wide extremes of seasonal and daily temperatures, a difference of 30 degrees F. sometimes occurring within 24 hours. Winds are variable in both movement and direction; in the daytime the winds may be prevailingly from the west or southwest, and at night they very often shift to the southeast. Locally some of the coldest winds in winter are from the east. During the winter, warm "chinook" winds are also of variable occurrence, at times causing the sudden disappearance of snow by direct evaporation.

The mean annual temperature at MSU is 43 degrees F., Extreme periods of cold weather (-20 to -30 degrees) may last a week or more. In the 30 years summarized, there have been 4 winter months (1 month in 7 years on the average) during which Bozeman temperature averaged less than 10 degrees F., and 2 months which averaged below zero. During the same period, however, the January temperature average twice has exceeded 30 degrees F., so mild weather is not unusual. Most winter precipitation falls as snow. Although very hot days occur frequently during the summer, the nights are invariably cool and pleasant. The temperatures of either the hot days of summer or the intense cold periods of winter are not so severe as temperatures in the more humid parts of the

United States, probably because of differences in atmospheric pressure, humidity, or both.

The last killing frost may be expected the latter part of May; however, it may occur considerably earlier or even as late as the latter part of June. The first killing frost generally occurs about the middle of September, but it has been known to occur early in August at Three Forks and about the middle of July at Bozeman. The average frost-free season extends over a period of 114 days at Bozeman.

The average annual precipitation at Bozeman is 17.35 inches, much of which comes in the form of snow, the average snowfall being 73.1 inches. The color of the surface soils and the character of the vegetation indicate considerable decrease in precipitation both to the north and west of Bozeman. This is substantiated by incomplete records obtained near Three Forks and at Ennis in Madison County, where the annual precipitation is about 10 inches.

The Gallatin Range to the south of Bozeman and to less extent the Bridger Range on the east border of the valley seems to influence or control many local showers, especially during the summer. Hailstorms are of infrequent occurrence but may do much damage to crops. The greater part of the annual rainfall comes during late spring and early summer. May and June are normally the months of heaviest rainfall.

The following table is courtesy of the U.S. Department of Commerce and the Weather Bureau in cooperation with Montana State University climatography of The United States No. 20-24.

Latitude 45° 40'
Longitude 111° 03'
Elev. (ground) 4856 Ft.

Station Bozeman, Montana
Station No.: 24-1044-2

CLIMATOLOGICAL SUMMARY

means and extremes for period 1931- 1960 (30 years)

month	Temperature (°F)					
	Means			Extremes		
	daily maximum	daily minimum	monthly	record highest	record lowest	
Jan.	30.2	10.3	20.3	57	-36	
Feb.	33.8	13.8	23.8	63	-43	
Mar.	40.6	19.6	30.1	70	-27	
Apr.	53.8	30.6	42.2	80	-10	
May	63.7	38.8	51.3	89	16	
June	70.5	44.9	57.7	92	26	
July	81.5	51.3	66.4	100	32	
Aug.	80.3	49.5	64.9	96	31	
Sept.	70.0	41.6	55.8	95	18	
Oct.	58.4	33.6	46.0	82	-10	
Nov.	41.8	21.9	31.9	67	-26	
Dec.	35.0	15.8	25.4	62	-35	
Year	55.0	31.0	43.0	1oo	-43	

Summary is continued on the next page.

Precipitation Totals (inches)

month	mean	greatest daily	Snow, Sleet			
			mean	maximum monthly	Greatest daily	
Jan.	.90	.77	13.8	32.0	10.0	
Feb.	.74	.88	10.9	22.1	10.0	
Mar.	1.52	1.01	16.3	41.7	12.0	
Apr.	1.73	1.53	5.9	37.0	14.0	
May	2.34	2.37	1.2	15.0	15.0	
June	2.95	2.08	.4	6.0	6.0	
July	1.14	.97	0	0	0	
Aug.	1.17	1.10	0	0	0	
Sept.	1.57	1.69	1.0	7.0	7.0	
Oct.	1.40	1.66	3.0	18.9	7.0	
Nov.	1.05	.91	8.1	25.5	8.0	
Dec.	.87	.88	12.5	26.0	10.5	
Year	17.38	2.37	73.1	41.7	15.0	

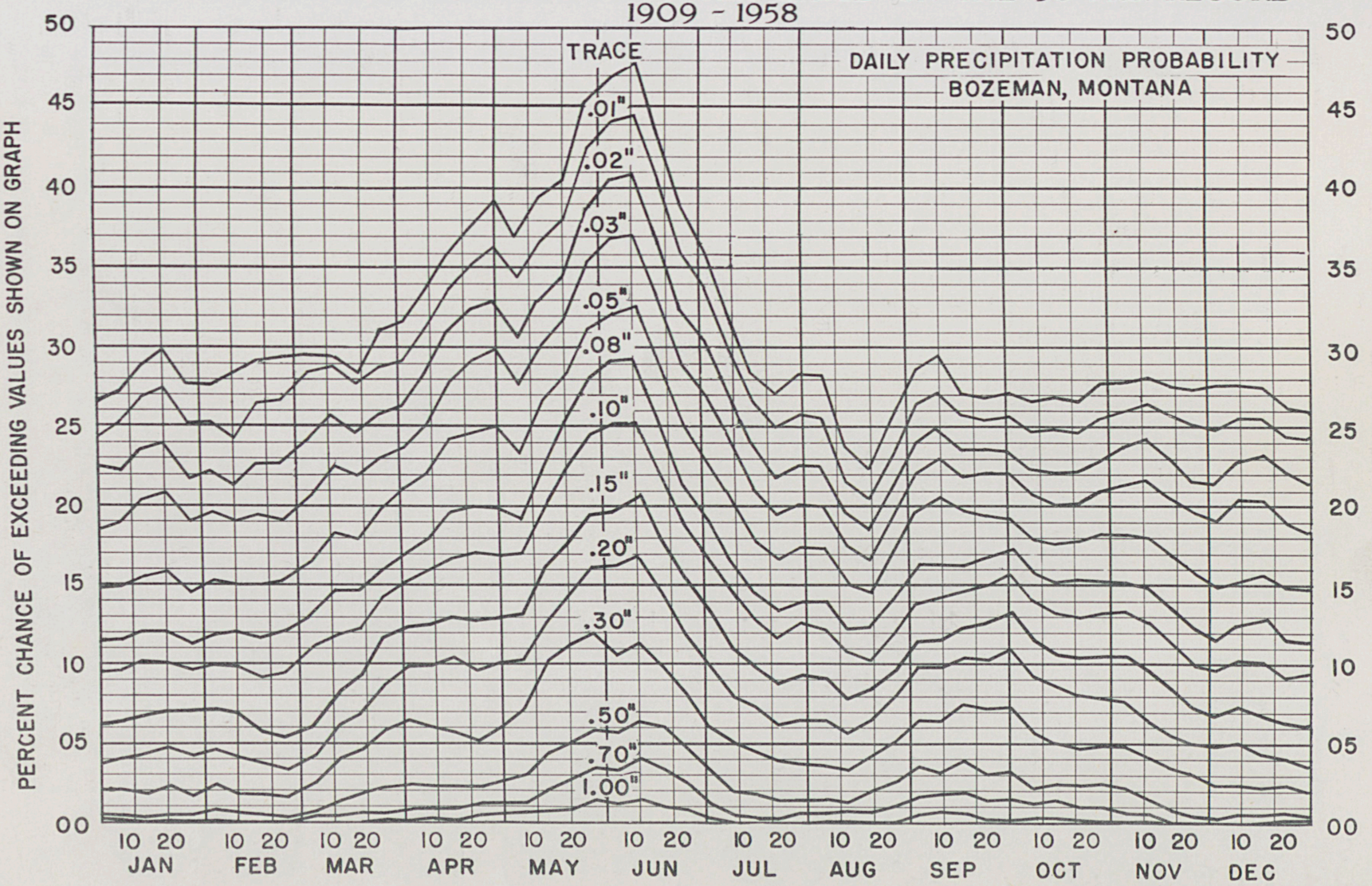
Mean number of days

month	Precip. .10 inch or more	Temperature				
		maximum		minimum		
		90° or above	32° and below	32° and below	0° and below	
Jan.	3	0	15	30	7	
Feb.	3	0	11	27	4	
Mar.	5	0	6	28	2	
Apr.	5	0	1	18	0	
May.	6	0	0	6	0	
June	7	0	0	0	0	
July	3	3	0	0	0	
Aug.	3	2	0	0	0	
Sept.	4	0	0	3	0	
Oct.	4	0	0	13	0	
Nov.	4	0	6	26	2	
Dec.	3	0	11	29	3	

The preceding climatic information is the courtesy of MSU climatologist Mr. Caprio and the United States Weather Bureau.

The following page with its probability curve offers some guide to the choice of design materials.

BOZEMAN, MONTANA
DAILY PRECIPITATION PROBABILITY COMPUTED WEEKLY
FOR THREE WEEK RUNNING INTERVALS BASED ON THE 50 YRS. RECORD
1909 - 1958



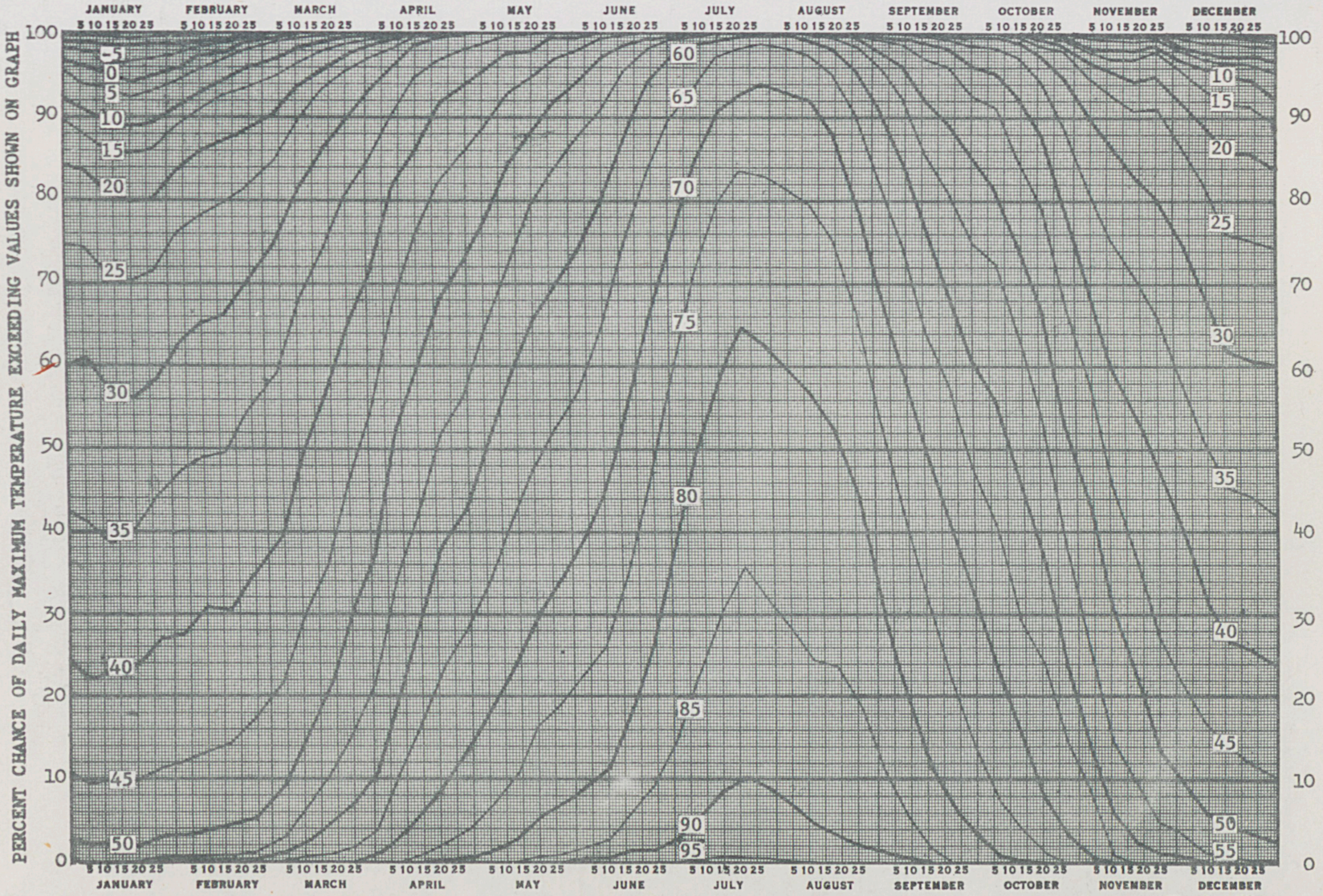
Mont. Agr. Expt. Sta.
JMC 6-27-64

BOZEMAN, MONTANA

DAILY MAXIMUM TEMPERATURE (°F) PROBABILITY COMPUTED WEEKLY

FOR THREE WEEK RUNNING INTERVALS BASED ON THE 50 YRS. RECORD

1909-1958



Mont. Agr. Expt. Sta.

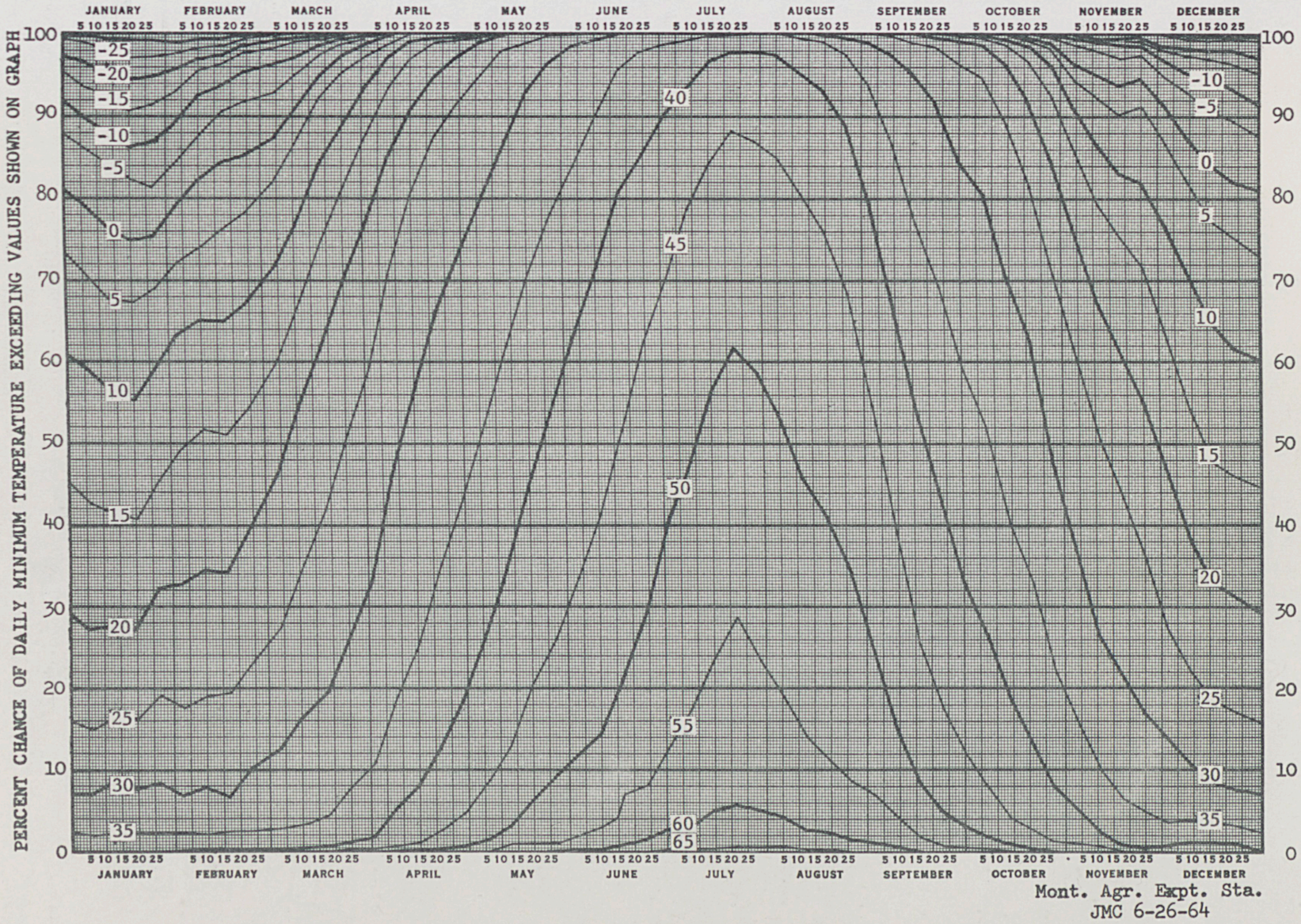
JMC 6-26-64

BOZEMAN. MONTANA

DAILY MINIMUM TEMPERATURE (°F) PROBABILITY COMPUTED WEEKLY

FOR THREE WEEK RUNNING INTERVALS BASED ON THE 50 YRS. RECORD

1909-1958



Mont. Agr. Expt. Sta.

JMC 6-26-64

site conditions

Orientation of Site

The site, 85,000 square feet, or 1.97 acres lies in section E 1/2, NE 1/4, SE 1/4, S13, T2S, R5E, MPM in Gallatin County, Montana. It is situated at the end of 11th avenue (see map).

The elevation at the center of the site sighted from BM #2, East door of old Chemistry Building, MSU is 4907 ft., according to Earl R. Best, Registered Engineer.

Adjacent environment

To the northeast lies the fieldhouse parking lot. The only street at present is Eleventh Avenue, which turns into Kagy Blvd. at the Northeast corner of the site. No other buildings, streets, or residences are near the site and it is surrounded on three sides by grazing land. The only encumbrance at present is a stream crossing its west end about 40 feet inside the property line.

Topography

The site is relatively barren and slopes to the northwest at about one foot in twenty, downward. Affew wild shrubs and grasses are the only cover for some distance around the site as well as the site itself. Some cottonwood trees are scattered sparsely in the area, with no evergreens to be seen for about a half mile from the site.

Zoning Regulations

The Newman Center structure as proposed would be classified as a Class A use, subject to zoning ordinances set down by the Bozeman Municipality in The Bozeman Municipal Code:

Minimum lot area required .....7500 sq. ft.
Minimum property frontage ..... 60 ft.
Minimum distance between main buildings, wings..20 ft.
Minimum front yard ..... 25 ft.
Minimum side yard ..... 25 ft.
Minimum rear yard ..... 30 ft.
Minimum street side yard, corner lot ..... 25 ft.
Required yards for accessory buildings ..... 20 ft.

Other provisions: Vacant lots shall be used for gardening, tennis courts, playground or other recreational facilities only, and shall be kept free of all rubbish and garbage at all times; provided, that other uses of vacant lots may be permitted by written consent of the Director of Public Safety with the continuing consent of the owners of 80% of the property within 300 ft. of the vacant lot or lots.

Soil Analysis

The soil on this site is classified as dark-colored, well-drained farming soil. This type soil occurs only in the area bordering the Gallatin and the Bridger Ranges on the southeastern border of Gallatin Valley. The topsoil ranges in color from dark brown to black and in texture from coarse loam to silty clay, but they are dominantly silty.

The soil contains little or no free lime within a depth of 3 feet, and may be slightly acid in reaction at the surface. The soil in this area is called Bozeman silt loam and contains no gravel to a depth of 6 feet. It is presumably wind blown or loess material of local origin.

Bozeman silt loam's surface layer is very dark grayish-brown somewhat laminated or fine granular silt loam from 8 to 12 inches thick. The 5 or 6- inch subsurface layer is medium- brown fine silt loam or silty clay loam, that is rather compact, coarsely granular, and faintly prismatic. Below this material the subsoil is yellowish-brown silty clay loam which in most places is rather friable and porous. In some places the material in this layer is brown, hard, compact, prismatic silty clay. Beginning at a depth ranging from 20 to 30 inches below the surface the lower subsoil layer is light-gray coarse silt loam which is very calcareous.

The deep, fairly compact, silty character of this soil, together with its northern-slope exposure, does not facilitate warming up early in the spring, hence bacterial action and nitrification are somewhat retarded.

Immediate and Distant Views

The only immediate view available to this site is the campus of MSU to the North. To the South and East are some handsome and high mountains of the Bridger and Gallatin Ranges. The view West is long with jagged mountain peaks forming the horizon miles away. (See photographs)

Utilities are readily accessible from Eleventh Avenue and the MSU campus, and although the site is outside of Bozeman's City Limits, there is no reason why the utilities wouldn't be available to it. The Zoning Code is given above because the owner intends to avoid problems which may arise from his failure to observe them.

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Status of Newman Center

Newman Center, as proposed, would be erected as a Semipublic Oratory at Montana State University in Bozeman, Montana. The Semipublic Oratory would be built for the convenience of a certain community or group of people, but is not open to all the faithful indiscriminately. The membership of a semipublic oratory is restricted to a specified class of people, in this case, to the academic community and staff of Montana State University. The rest of the faithful cannot set up a claim to be admitted as parishioners of the Newman Oratory.

All the faithful can, however, fulfill their Sunday obligation at Holy Mass in the Newman Oratory.

Chaplain

The spiritual and temporal administration of the Newman Center is entrusted to the Reverend Chaplains appointed by the Bishop of Helena.

The Chaplains shall take care of the Masses Pro Populo.

Membership

The following would be parishioners of the Newman Oratory:

1) All students enrolled at Montana State University, during the period of enrollment, whether married or single, and whether they live on or off campus.

2) Faculty and staff members of MSU. Faculty members are those who enjoy the rank of lecturers, instructors, assistant, associate professors, or professors.

Staff members are those who are employed by the University in connection with the managing and functioning of the University.
3) All Catholic students are expected to participate in the spiritual, instructional and academic program of the Newman Center.

Parochial grade or high schools

The Newman Center will not operate a parochial grade or high school. Married students, faculty or staff members who are parishioners of the Newman Oratory will make arrangements at the local Catholic grade or high school to use their facilities.

The Sacrament of Baptism

A Baptismal font is to be provided in the Newman Oratory. The Sacrament of Baptism will be administered in the Newman Oratory to: 1) the children of the students at the University;

2) the children of the faculty and staff members who are parishioners of the Newman Oratory.

3) Converts to the Catholic Church who have received their instructions at the Newman Center.

4) A Baptismal register shall be kept in the Newman Center Oratory.

The Sacrament of Matrimony

The Sacrament of Holy Matrimony would be celebrated in the Newman Oratory. Faculty, staff, and students may receive this sacrament in the Newman Oratory.

Funerals

Those who are actual members of the Newman Center at the time of death, and who have wished to be buried from the Newman Oratory may have their funerals at the Newman Oratory.

Masses

Several Masses each Sunday, as well as a daily Mass will be offered in the Newman Oratory. The owner would like to accommodate 500 people at Mass.

Penance

Two booths are needed to hear confessions. Each booth would accommodate a Confessor and a repentent sinner, concealed in some way from each other.

The Chapel

The Newman Oratory is expected to provide a vestibule, or entry, A Narthex which will include a sunken Baptistry area, a mothers' room, or crying room, and a vestment area. A nave will be required to accommodate 500 parishioners with pews and kneelers. A sanctuary must be provided with two Communion stations, two lectern stations, an altar and altar reservation, and 3 chairs for Celebrants. A sacristy will be needed which will provide storage for vestments, equipment and area for medition, preparation and a small toilet room.

Living Area Requirements

An apartment for each of the two resident Chaplains is required. Each apartment is to provide a study, a bedroom, a bath, and accommodations for one guest each. A resident housekeeper must be provided with a bedroom and bath. Two basement apartments similar to those above would house nuns who may be attending MSU in any capacity such as a visiting lecturer, student, or just a visitor. All those permanent residents will share kitchen, dining, and living room facilities. A three-car garage is needed by the residents.

Educational and social area requirements

Newman Chaplain Father Courtney says that a Newman Library should hold 5000 volumes, including catagories of philosophy, theology, Church history, Church literature, and reference books.

A lounge area is essential for visitors. It would accommodate a fireplace, TV, stereo, and conversation area.

An educational area which would accommodate three separate classes or meetings, but which could be opened up into one large area which could act as a dance floor or dining hall. With this area would necessarily go storage of chairs and tables, in a closed area.

A kitchen which would serve the large dining area would not be expected to accommodate all facilities needed to cook a meal for very large groups, since catering services have

proved quite satisfactory in other locations. The kitchen is to be of the type which would serve a small snack bar.

A large coat room is needed by those using the dining room facilities.

A Men's room, a Women's room and Powder room with a janitor's closet together will serve the entire visitors' area.

An office area is to accommodate an office for each of the resident chaplains and a permanent secretary with a workroom and mimeograph facilities. Another office is to serve the Newman Club officers. It will provide 3 desks andstorage space.

The Newman Club wishes to have an identifying tower. It would be a bell tower and may be part of a fountain area near the entry of the Church .

Building Requirements Summarized

Religious:

A chapel which will seat 500;

Two confessionals;

An altar area;

A sacristy;

A vestibule;

A Baptismal area and font;

An organ

Living :

Two Chaplain apartments: these must include a study, two bedrooms, and a bath in each.

Two nuns' apartments, each of which must include a study, a bedroom, and a bath. Perhaps one bath could serve both.

One kitchen;

One dining space;

One living room;

One apartment for the resident housekeeper which will include a bedroom and a bath;

Closets and storage space as required;

Educational and social area;

A library with 5000 volumes;

A lounge;

A dining hall which may be diveded into three separate areas;

Chair and table storage; Provide for 400 people.

A kitchen and service bar; this need serve only small groups.

A coat room; this should accommodate coats of 400 people.

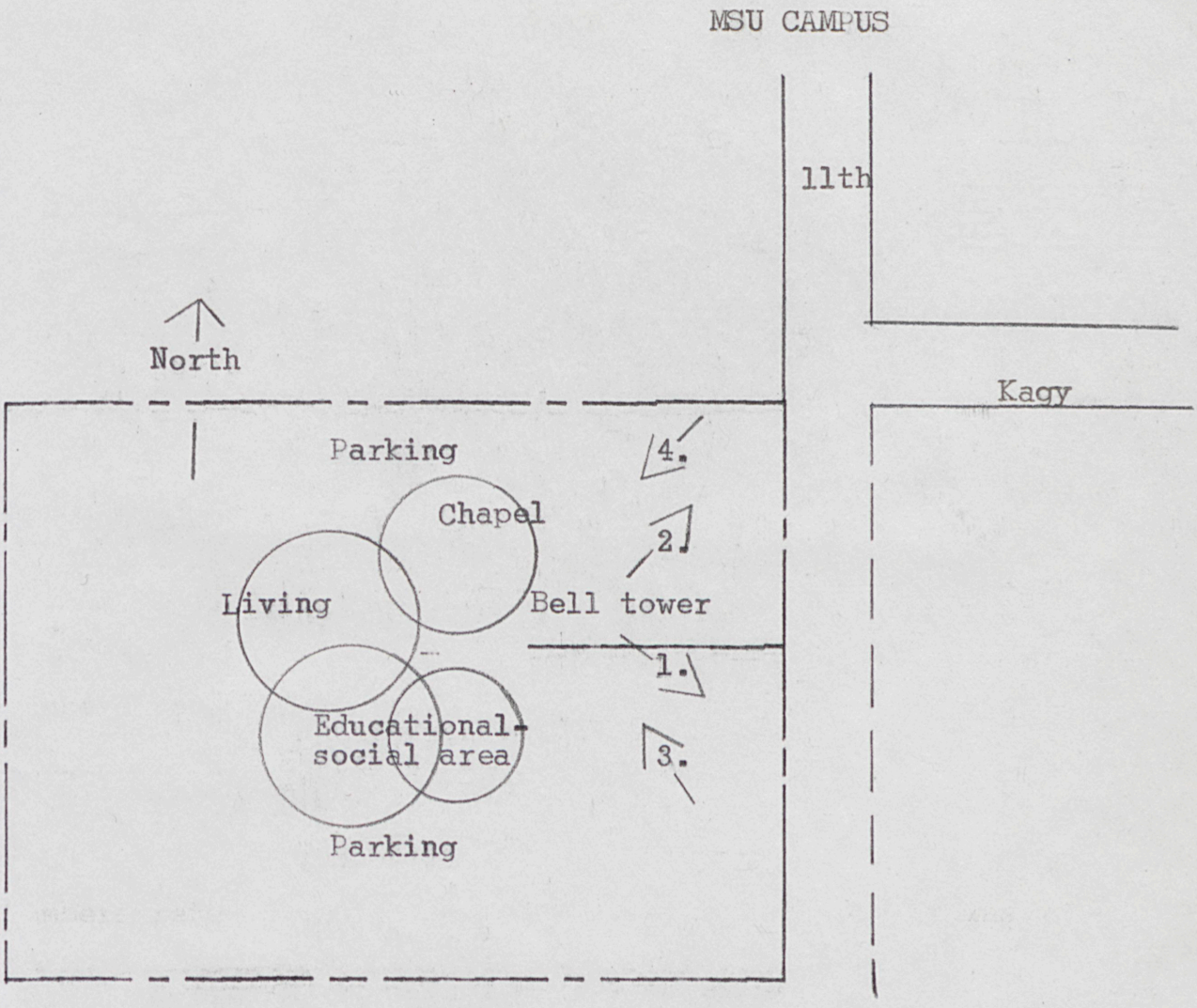
A mens' and womens' room and powder room to serve above area;

A janitors' closet;

Four offices: two for resident chaplains and one for Newman officers; one will be used by a secretary;

A bell tower and fountain near entry;

Schematic Solution:



Plan

Numbers refer to position of camera and direction it was facing. (See next two pages)

THE SITE



1. Looking southeast from the site. . . . .



2. Looking northeast from the site. . . . .

THE SITE



3. View of site looking northwest



4. View of site looking southwest

Aesthetic Considerations

In general, although the Newman Apostolate intends Newman Center to be a part of MSU campus life, I don't believe it essential to choose materials or colors which would "identify" it with the nearby fieldhouse or any other building on campus. I agree with Jane Jacobs when she says in "The Death And Life Of Great American Cities" that variety in shapes, patterns, and colors in American and any other cities is an essential factor in successfully avoiding monotony and ending up with a pleasing total design. The fact remains that there is variety in life and life in variety. Variety in exterior colors and materials on buildings at MSU is sorely lacking.

The materials, shapes, and colors of Newman should be indigenous with those in the natural environment. The trees, rocks, and jagged horizon should find some reflection or blend with the building. But harmony may also be concluded from variety, and if a total departure from the shapes and colors suggested from the landscape is made, this may also be a valid solution. By this I mean the lack of jagged shapes, only rectangular or circular shapes, lack of colors found in the landscape, using blacks,whites, and perhaps one strong color; Structural steel instead of wood.

More specifically, let us consider the chapel in its aesthetic setting. The primary purpose of the church is to serve the sacred liturgy. The church is the home of the risen Christ,

who under sacramental sign and sacred rite, continues His redemptive work among us. In this sacred enclosure the glorified Christ expiates sin, heals, sanctifies, announces the gospel of salvation. The church is also the dwelling place of God's holy people--Christ's Mystical Body. In this sacred ediface the whole Christ, Head and members, offers perfect worship to the Father in Heaven. The baptized laity, ordained ministers, offers perfect worship to the Father in Heaven. The baptized laity, ordained ministers of the altar and priest form this one body of which the visible church is the unique symbol.

The church ediface must be inspired by these profound truths to be truly beautiful, meaningful, and functional on a supernatural level. Unless these truths are the guiding principle of sacred building, church architecture cannot escape a static and lifeless expression. The Christian church will convey a message to the men of our day only to the extent that the builders have understood the nature and spirit of Christian worship. No architect, therefore, ought to presume to build a church without first becoming acquainted with the meaning and spirit of Christian worship. No architect, therefore, ought to presume to build a church without first becoming acquainted with the meaning and spirit of the sacred liturgy.

The decoration of the church should be simple, organic and unpretentious. All deceit and false enrichment of the basic

structure should be strictly avoided. The structural qualities of the basic structure should carry the weight of beauty and purpose.

The church of today finds it terribly difficult to shed the "striving for appearance" which has characterized churches since medieval times. The Catholic Church of today feels that churches should look more like simple houses than like churches of today or yesterday. They must find again and express the basic value of any really human house: the quality of hospitality. The most interesting solution in recent years is the "one room house" with its interior partitions. It displays, by and large, a functional character of adaptability, a normal amount of honest, "organic"building materials, and a genuine spirit of simplicity, of quiet harmony, of human transparency and openness-qualities all of which are capable of inspiring human souls and bodies to those higher values of prayer and celebration which constitute church worship. The solution developed from a country house designed by Richard Neutra.

The chapel at Newman Center may be the model for the living and social-educational facilities. All may resemble a home as a whole, or a cluster of homes. No separation would be necessary, save interior partitions with doors and glass.

Summary

The result of the foregoing research is a design for a facility which will provide for all the functions required. My solution centers around the religious center as a focus. The entire site is used as part of the design. A brick wall surrounds the building, in some cases becoming one of its walls. This unusual situation indicates the basic concept from which the rest of the design springs.

"Transition"-- this is what I had in mind as I sought to bring the visitor through several stages of involvement in the design. Perhaps a better word would be awareness. The east elevation or "front" is only partially visible from the street. This is owing to the six-foot high brick wall, broken in the center by a 30-foot opening, the entry to the bell-tower campanile. The campanile is actually a circular drive, trimmed by a five-foot wide walk. At the center of the campanile is a 40-foot bell-tower over a fountain. The tower is an arch facing four directions. It is 13-feet wide. This area is the first stage of transition from the outside world into the house of God. Plants and trees form an important part of the design. The are placed carefully to soften harsh building lines.

Just as one passes through a yard surrounded by a fence before entering the porch or atrium of a friend's home, so does one pass through a similar transition in this design for a house of God.

The campanile faces on a cloister of arches and 20-foot high walls, or arms which welcome the guest into the house. Passing through the arches and then through the glass wall, the visitor is inside a lobby 99-feet long, the width of the campanile , by 20-feet deep. The ceiling is 13-feet high. This transition is comparable to the entry hall of a layman's home The interior of the Church is visible through a sculptured metal screen in front of glass. Continuing inside, pass by the baptismal font under a ceiling much diminished in height, only eight-feet high, but increasing in height as the floor slopes downward to the altar, some 60-feet away. After only 20-feet of this lower ceiling, the roof soars into a dome 60-feet wide. The circular opening in the ceiling symbolizes the community spirit of the Church. The altar and seats are beneath the dome. The brick wall behind the altar visually and actually forms the culmination of transition. The house of God is the center of the site, the center of attention in the design. Once inside the solid wall which surrounds the site, the solid walls are not opaque when standing between the observer and the chancel.

Other functions surround the chancel. On the South , there are the offices and the library. On the North there are meeting rooms and a kitchen. In the rear are the living quarters, sacristy , and some parking spaces.

Another function of the wall as a physical and visual barrier is the completion of the formation of courtyards around various areas which face on them. Without being able to see the entire structure at once, I contend that the passerby will be tempted to see for himself and go in. The Church desires visitors. Perhaps they will find something there which they need.

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