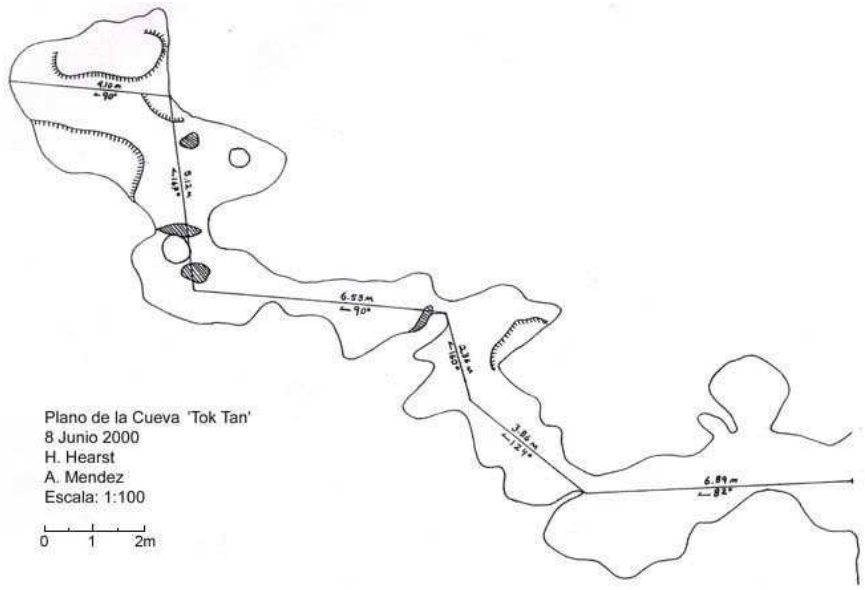
The Palenque Mapping Project, 1998 - 2000 Final Report

And The Waters of Lakam Ha: A Survey of Palenque's Water Management
by Kirk D. French



Research Year: 2000
Culture: Maya
Chronology: Classic
Location: Chiapas, México
Site: Palenque

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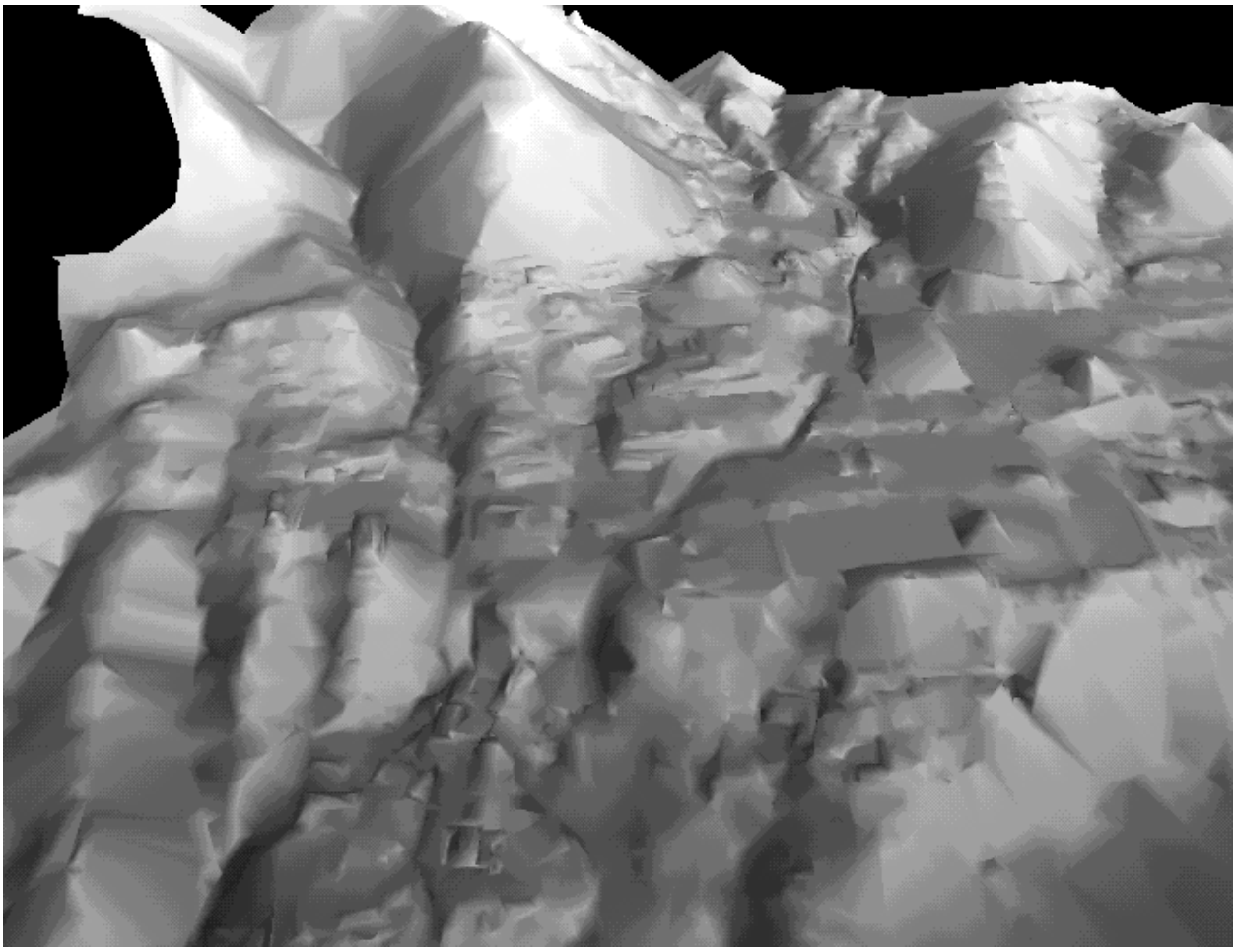
Introduction

The ruins of Palenque, nestled in the foothills of Northern Chiapas, were once a major capital of the Classic Period Maya (A.D. 250-900). Today they are visited by over 200,000 tourists per year and have become one of the world's most celebrated archaeological sites. The last 100 years of archaeology at Palenque has focused on exploring and restoring its beautiful ceremonial center. Thanks to a 1997 agreement between México's Instituto Nacional de Antropología y Historia (INAH) and the California-based Pre-Columbian Art Research Institute (PARI), we are now beginning to improve our understanding of Palenque's outer regions. A new, intensive survey was commissioned that year and the necessary funding was provided by the Foundation for

the Advancement of Mesoamerican Studies, Inc. (FAMSI). Your author was asked to direct the survey.



The Palenque Mapping Project (1998-2000) was completed in August of 2000. In total, 1478 structures were identified and recorded. The site's previous map (Robertson 1983), while covering essentially the same area, contained only 329 structures. During the course of 18 months in the forests surrounding Palenque an area of 220 hectares was investigated and determined to be over four times more densely settled than previously understood. The new map was created from over 24,500 individual data points taken at every building corner, river's edge and topography change. Accuracy was one of the project's major goals and as a result the locations of features on the map are correct within ±20 centimeters of error. The over 1000 structures newly recorded range from small half meter tall platforms to the largest structure ever found in Palenque, the Escondido Temple.

Previous Research

The most complete Palenque map to date is included in Volume I of Merle Greene Robertson's *Sculpture of Palenque* series (1983). Though the best available, it contains large areas marked as "unmapped buildings". It covers roughly three square kilometers and was created through the compilation of seven separate mapping projects dating from 1891 to 1980. The earliest of those map sources was a map of the central precinct made by H.W. Price (Maudslay 1889-1902). While Price's work was accurate and detailed, it covered only a small portion of the ruins. Franz Blom conducted the first wide reaching survey at Palenque in the 1920's (Blom and La Farge 1926-7). He identified many architectural groups outside the central precinct, giving each an alphabetic designation. Unfortunately, Blom never published a complete map showing the location of individual groups in relation to the site as a whole. Then in 1974 Linda Schele, Jay Johnson, and Robert Rands carried out a pace and compass survey which finally joined the outer groups and the center into one map. Though never published, Schele' drawing from that 1974 survey was a major portion of Robertson's 1983 map. Since 1983 until present, the only publication pertinent to the current survey effort appears in the December 1997 *National Geographic Magazine*. A fold out insert within that issue presents a full color reconstruction view of Palenque's central precinct as it would have looked in the Classic Period. While the artist's reconstruction is detailed and well researched, the work of the PMP has changed our understanding of that same area considerably.

Methodology

Survey/Mapping

The survey methodology was designed to achieve 100% coverage of the project area. Computer software allowed the survey crew to have daily-generated maps of what they covered and which areas needed further documentation. Water-resistant notebooks were used to record the data and accompanying field sketches. The survey instrument, a GTS-211D total station on loan from the Topcon Corporation, records data points by bouncing light off a movable prism. The prism is placed in a desired location and the instrument records its position in reference to its own. Locations where the instrument was set up were given individual station numbers and marked with five-inch steel nails. Each new station was established by sighting it from the prior station. The crew moved the instrument in loops of stations, regularly returning to previously established locations in order to monitor and control the accumulation of error.

The data entered from the survey was recorded as three-dimensional points, one for each shot taken in the field. Those 3-D points were then manipulated in *Foresight*, a professional survey software package, to create a map of contour lines and structure footprints. This process allowed the map to be field checked as it was generated,

ensuring accuracy and completeness. At the conclusion of the season, the Foresight file was transferred to AutoCAD, computer aided drafting software, and combined with digital architectural drawings to create the final maps.

The coordinate grid begun in the 1998 season was expanded as the survey continued out. The grid's point of origin, designated 8000N, 8000E, is located on the west side of the Temple of the Cross. Its location was chosen to link with a small grid of benchmarks placed in the Cross Group by INAH archaeologist Rosalva Nieto in the 1980's. New benchmarks have been and will continue to be placed in outlying groups as an aid to future investigations at Palenque.

Structure Designation

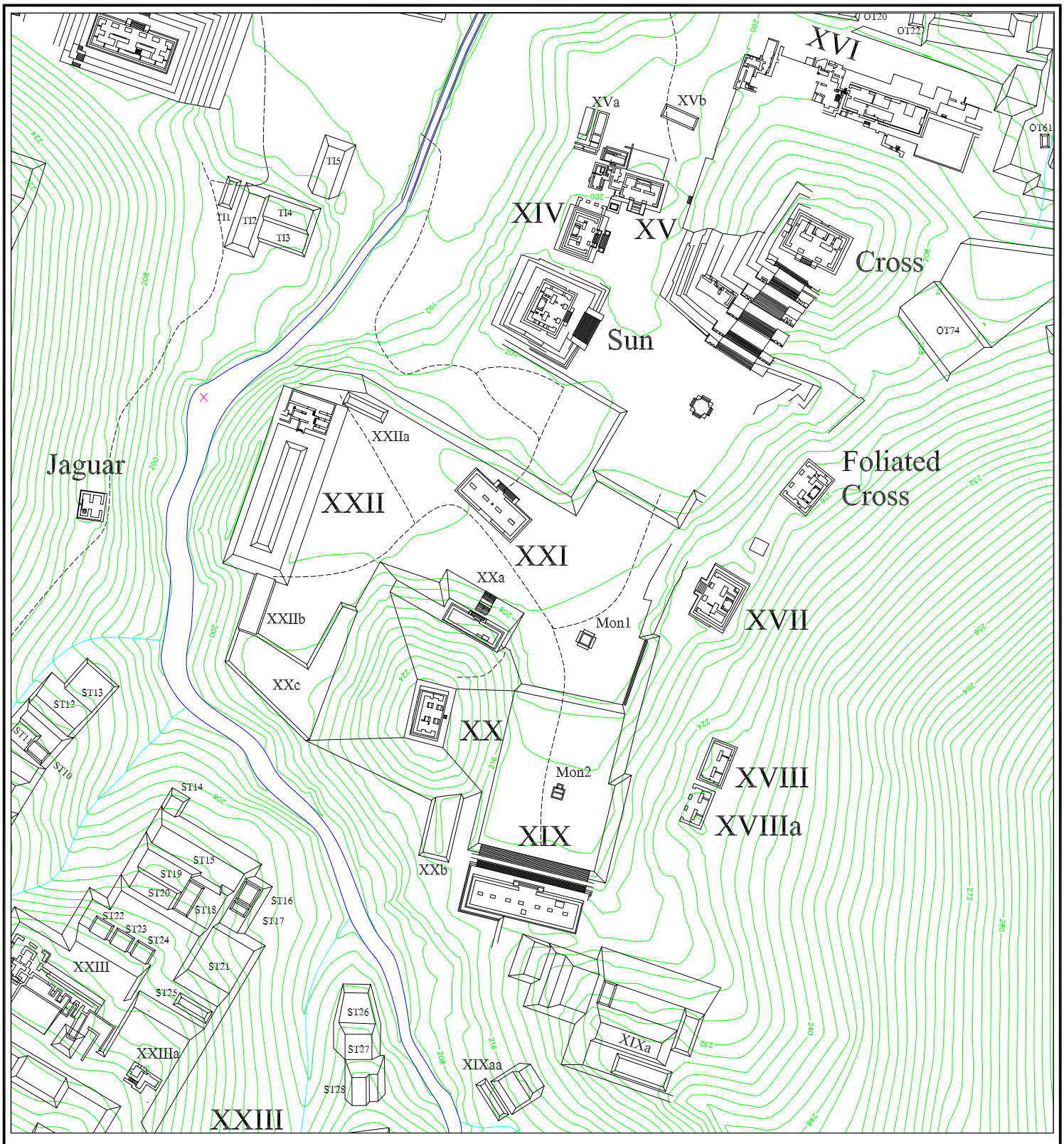
Each structure encountered during survey must be given a designation. In the case of Palenque, this presents a methodological problem. The major structures of the site already have designations, mostly roman numeral. The groups of the periphery, however, were named during different projects resulting in a mixing of designation systems. Some groups have received more than one designation, creating confusion in the literature. The task of the PMP is to use a designation system that does not require changing existing names and at the same time builds upon an existing system. It was decided that going with the oldest, most expansive designation system is the best solution. The first project to map Palenque's periphery was in the 1920's, conducted by Franz Blom. His system was to identify peripheral structures by group, giving each group an alphabetic designation. Eventually, they became known as Blom's Groups A through J. The PMP chose to build from the Blom's Group system, designating each structure with a letter reflecting its group affiliation and a number individualizing it within the group. Outer groups that neither Blom nor Robertson clearly identified were assigned new names.

Discussions by Group

In keeping with the designation system begun by Blom in the 1920's, discrete regions of Palenque have been divided into groups. The process of establishing group boundaries was made difficult by the extremely dense settlement pattern encountered. As a general rule, rivers and arroyos were used as group boundaries. Some boundaries were established along monumental terrace faces. In a few cases (i.e. Group J West and the Piedras Bolas Group) modern trails and roads were used as boundaries. While not an ideal system of sub-division, the groupings presented in this report were considered the best solution to the issue of previous publication compatibility. A list of dimensions for each structure mapped appears in Appendix A.

The Cross Group

Richard Bidstrup, chief topographer for the Proyecto Grupo de Las Cruces in 1997 and 1998, oversaw the survey of the Cross Group. Measured drawings of each exposed structure were made for the PGC by Studio Mexico, lead by Logan Wagner of the University of Texas at Austin. Those drawings, with additions by Ed Barnhart to identify buried architecture, were incorporated into the new site map. The small structures named Monticulo 1 and 2 were uncovered by the PGC in August of 1998 and added to the current map. Excavations in 1999 and 2000 focused on Temple XIX and the current map also illustrates the XIX's architecture as revealed and consolidated by the PGC.



Cross Group

Palenque Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

20 0 20 40

Meters

Edwin L. Barnhart
2000

Central Palenque

The central precinct of Palenque is the most extensively studied portion of the site. As early as 1891, H.W. Price had made architectural drawings and a beautiful topography map of the center (Maudslay 1889-1902). Subsequent maps of the center were published by Noguera (1926), Escalona (1933), Fernandez (1936), and Berlin (1940). The most updated map available is published in the *Sculpture of Palenque*, Volume I (Robertson 1983).

In the late 1980's and 1990's Palenque Site Director Arnoldo Gonzalez Cruz conducted multiple consolidation projects in the center, including the east side of the Palace, Temples XII and XIII, Temple X, the Ballcourt, and the Ignorado. Each of these recently restored architectural features were measured, drawn, and incorporated into the current map.

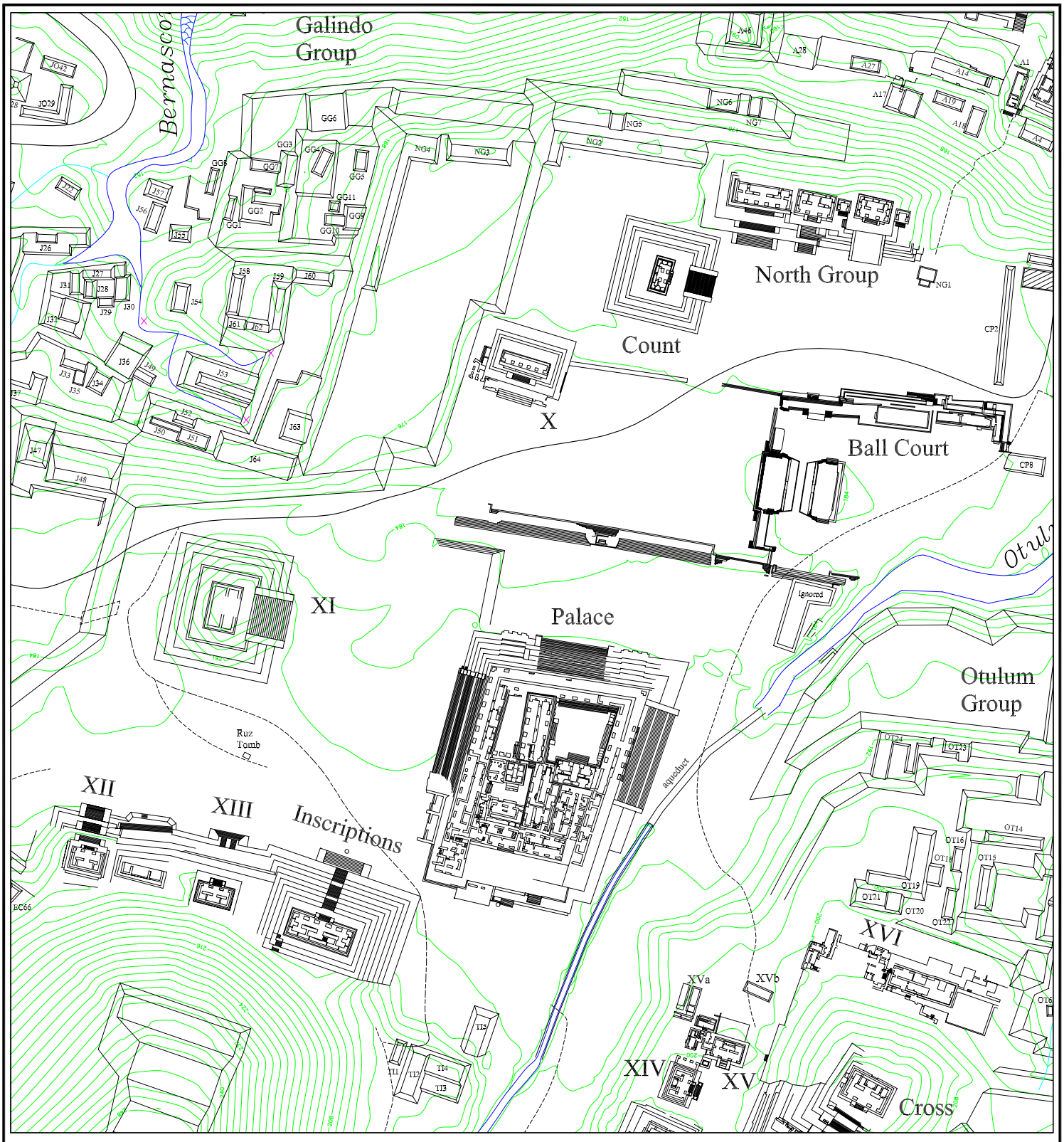
Aside from monumental architecture, three smaller groups of structures were identified as directly associated with the center; the Camp Group, the Temple of the Inscriptions Group and the small buildings around the North Group.

The Camp Group is thus named because it occupies the same area as the modern INAH archaeological camp. H.W. Price's 1891 map shows a security guard structure in the same location. Later, in the 1950's, the site museum was built there. In the 1970's the museum was converted into archaeological team quarters, lab spaces, and storage facilities and has remained that ever since. The group within which the camp sits consists of eight small structures arranged around an irregularly shaped courtyard. The Camp Group's north end is bounded by the edge of the Casteneda Escarpment. On its east side flows the Otulum, falling off the same escarpment into cascades and the Queen's Bath. A bridge in the Camp Group allows the tourist trail to cross the Otulum, providing access down to the Murcielagos Group and the modern museum. Though the top of this bridge is reinforced concrete, its architecture underneath is a corbelled arch tunnel built in the Maya Classic Period. Known since at least H.W. Price's 1891 map, it stands as a rare example of a still functioning Classic Maya bridge.

The Temple of Inscriptions Group is located directly east of the temple itself, at the head of the trail leading up to the Temple of the Jaguar. Four of the group's five structures are arranged interconnected on a small plateau six meters above the plaza's elevation. The fifth structure, built into the plateau at plaza level, has been partial consolidated but never given a formal designation. This current map identifies it as structure T15.

The North Group has been historically defined as the five temples standing upon one platform designated collectively as Temple VIII. In addition to these temples, there are seven other structures of lesser size associated with the group, now designated NG1-7. NG1, located at the southeast corner of the North Group platform, is consolidated and has a south-facing staircase. A series of two meter tall range structures extend from the North Group's west side for 110 meters. These structures, designated NG2, 3, and 4,

bound the north edge of two open plazas, one wrapping around the Temple of the Count, the other extending south to Temple XI. Structures NG6 and 7 are low-lying platforms, less than ½ meter in height, located upon a terrace linking the North Group to the western edge of Group A.



Central Palenque

Palenque Chiapas, Mexico

Edwin L. Barnhart
2000

South Central Palenque

South Central Palenque includes the Temple of the Jaguar and the areas designated the Blue Wood Group and the Schele Terraces. The foot trail leading to the village of Naranjo cuts between the groups as it winds up the mountainside.

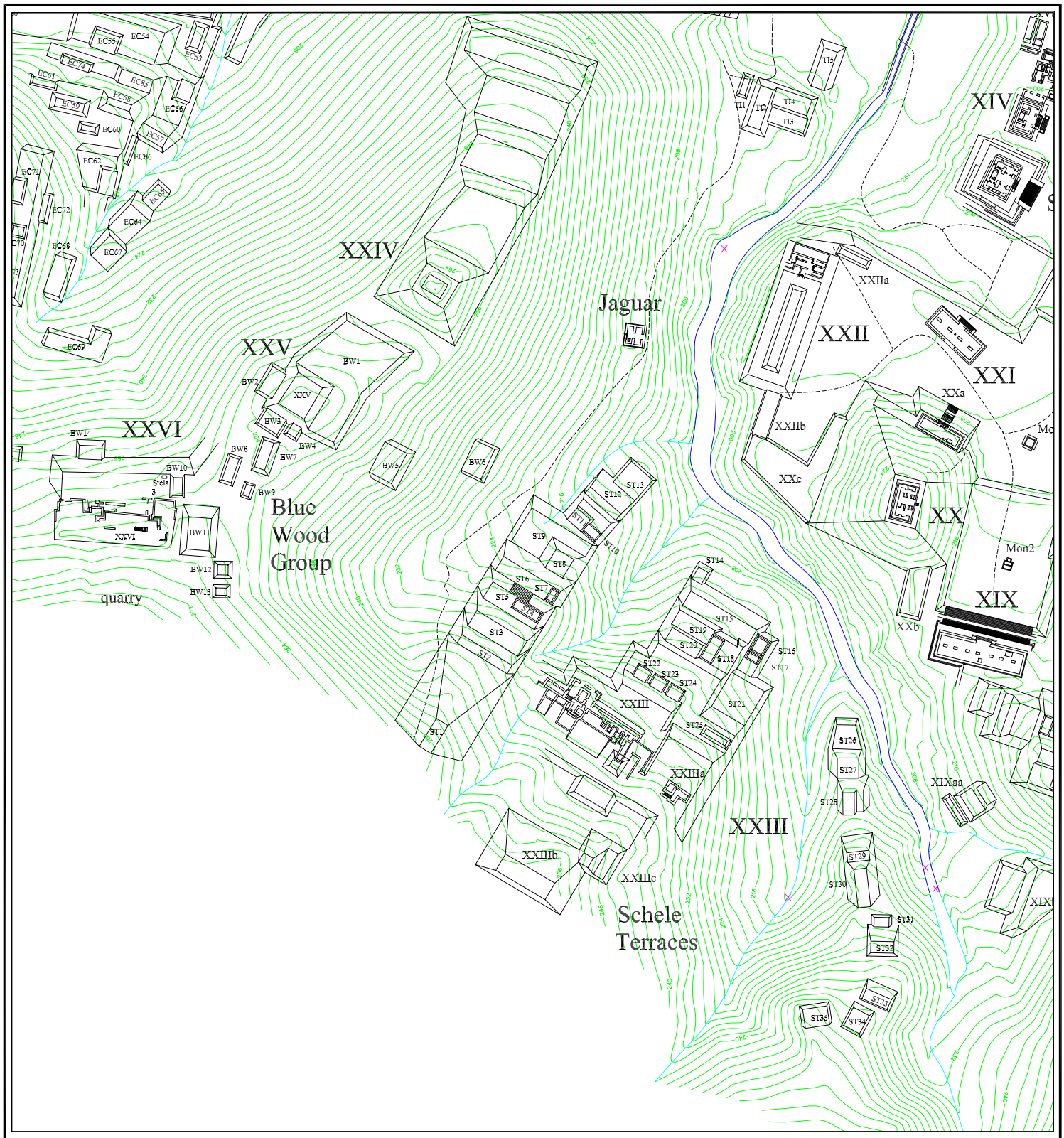
At the northern end of the Blue Wood Group, Temple XXIV stands twelve meters in height. Descriptively named "Inscriptions Prospect", Temple XXIV looks down over the Temple of the Inscriptions. Extending from its north side are four large terraces that stair-step down the steep hillside to the back of Temple XII. Today, when one stands in front of the Temple of Inscriptions they see the temple's roof comb with wooded hillside towering above. Temple XXIV and its northern terraces, now covered, would have made the entire hillside appear as one massive temple, dwarfing the Temple of Inscriptions below.

The rest of the Blue Wood Group snakes back to the south following the shape of the flat ridge top and arranged around two main structures, Temples XXV and XXVI. Temple XXVI is in an excellent state of preservation. A measured drawing of its exposed architecture was made and incorporated into the map. A similar drawing made by Blom demonstrates the building was in the same condition at least as early as 1923. On the northeast corner of Temple XXVI's frontal patio lies Stela 3. Broken, fallen, and uncarved, it was easily over looked by earlier projects. Though fragmented and eroded, its dimensions can be estimated at 2.5m high, 70cm wide, and 40cm thick. Directly south of Temple XXVI, on the hillside above, lies the first limestone quarry identified at Palenque. An outcrop of limestone, approximately 30m in length, has partially carved blocks strewn in front of it. It stands to reason that the Blue Wood Group was connected in some way to the exploitation of this nearby resource.

The Schele Terraces, named after the late Linda Schele, are a monumental set of terraces never before recorded. Temple XXIII has always been depicted as a single structure (Maudslay 1889-1902, Robertson 1983). We now know that XXIII is in fact one part of a complex of stepped terraces reaching up from the Otulum far below. Two deep arroyos feeding down into the Otulum divide the Schele Terraces into three sections, the central section being the most massive. The western section has eleven levels and reaches a total vertical height of thirty-five meters. The central section has six terraces leading up to Temple XXIII. Temple XXIII has been known for some time due to its great extent of exposed architecture. The structure has a central room with a long colonnade extending to the east containing the entrances to five looted tomb shafts. Blom's 1923 drawing depicts Temple XXIII in the same condition it stands in today.

Structures XXIIIa, b, and c were located to the east and south of Temple XXIII. XXIIIa has three sections of exposed architecture revealing two rooms and a staircase leading down. XXIIIb and c are interconnected and built into the mountainside. At a frontal height of ten meters, XXIIIc was a surprising structure to have been overlooked by previous surveys.

The ten structures of the Schele Terrace's eastern section are more loosely organized not completely interconnected as they climb up the hillside. Though geographically connected to the Schele Terraces, this eastern section appears to be oriented east towards the Otulurn spring and the back end of the Southern Acropolis.


XXIV
Jaguar
XXV
XXVI
XXII
XXIIa
XXIIb
XXI
XXa
XXc
XX
XIV
XIX
XXb
Mon2
Blue
Wood
Group
quarry
XXIII
XXIIIa
XXIIIb
XXIIIc
Schele
Terraces
XIXaa
Stela
3
EC53
EC54
EC55
EC56
EC57
EC58
EC59
EC60
EC61
EC62
EC63
EC64
EC65
EC66
EC67
EC68
EC69
EC71
EC72
EC74
EC86
BW1
BW2
BW3
BW4
BW5
BW6
BW7
BW8
BW9
BW10
BW11
BW12
BW13
BW14
T1
T2
T3
T4
T5
S11
S12
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S18
S19
S110
S111
S112
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S119
S120
S121
S122
S123
S124
S125
S126
S127
S128
S129
S130
S131
S133
S134
S135
Legend
ancient architecture
modern architecture
road
footpath
perennial
seasonal
cascades
springs
25 0 25 50
Meters
N
South Central
Palenque Chiapas, Mexico
Edwin L. Barnhart
2000

Encantado Group

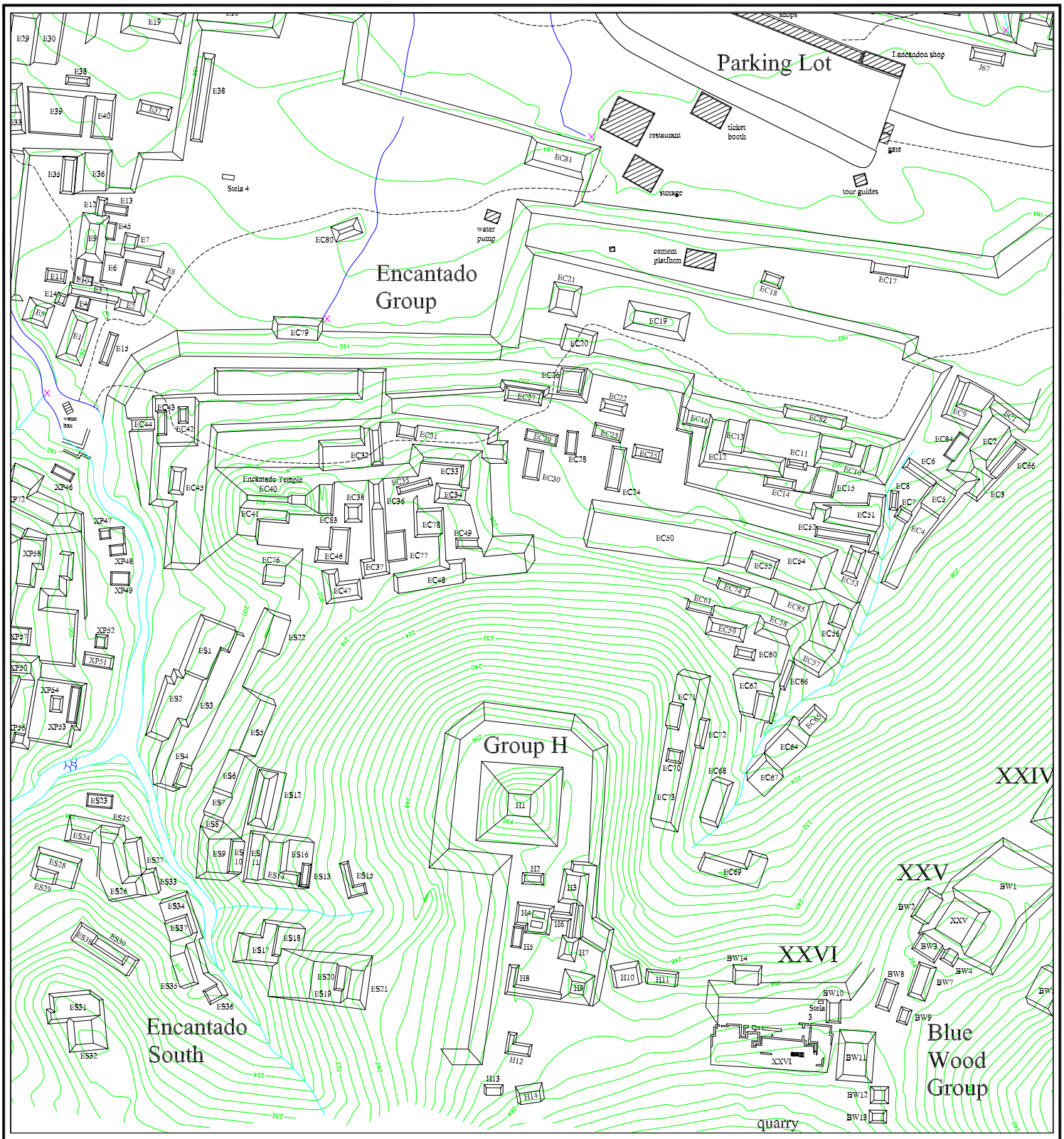
The Encantado Group is arranged around the base of a fifty-meter tall hill. There are eighty-six structures in the Encantado group, most of which are completely buried. Two structures, EC27 and EC41, were excavated by Acosta in the 1970's (unpublished) and as a result have significant areas of exposed architecture. Acosta also excavated a trench into the north face of the Encantado Temple (EC40) exposing the wall of an interior building phase.

Stretching out in front of the Encantado Group are three wide plazas, each relatively devoid of structures. The western of the three plazas contains only one structure, EC80. In seeming opposition to the 19 degrees E of N orientation common to many of the structures in the central precinct, EC80 has an orientation of 19 degrees W of N. Stela 4 was found forty meters west of EC80, fallen and uncarved. It is 3m in length, 1m wide, and 50cm thick.

The western Encantado Group plaza also contains a small creek originating underneath the northwest corner of structure EC79. The creek runs north to the edge of the plaza where it drains underneath a terrace wall and then resurfaces, continuing north to join another creek. While no surface evidence indicates the creek is man made, it's path across the plaza suggests there may be a defunct drainage system underneath the surface.

Encantado South

The structures of the Encantado South were recorded for the first time in 1998 and then expanded upon in 2000. They are a complex of terraces and structures built into the steep hillsides of a tributary of the Motiepa. All structures in the group are completely buried except structure ES12 which has exposed sections of a superstructure and ES24 which has a window of collapse leading into an intact interior chamber.



Group H, Encantado and Encantado South Palenque Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

25 0 25 50

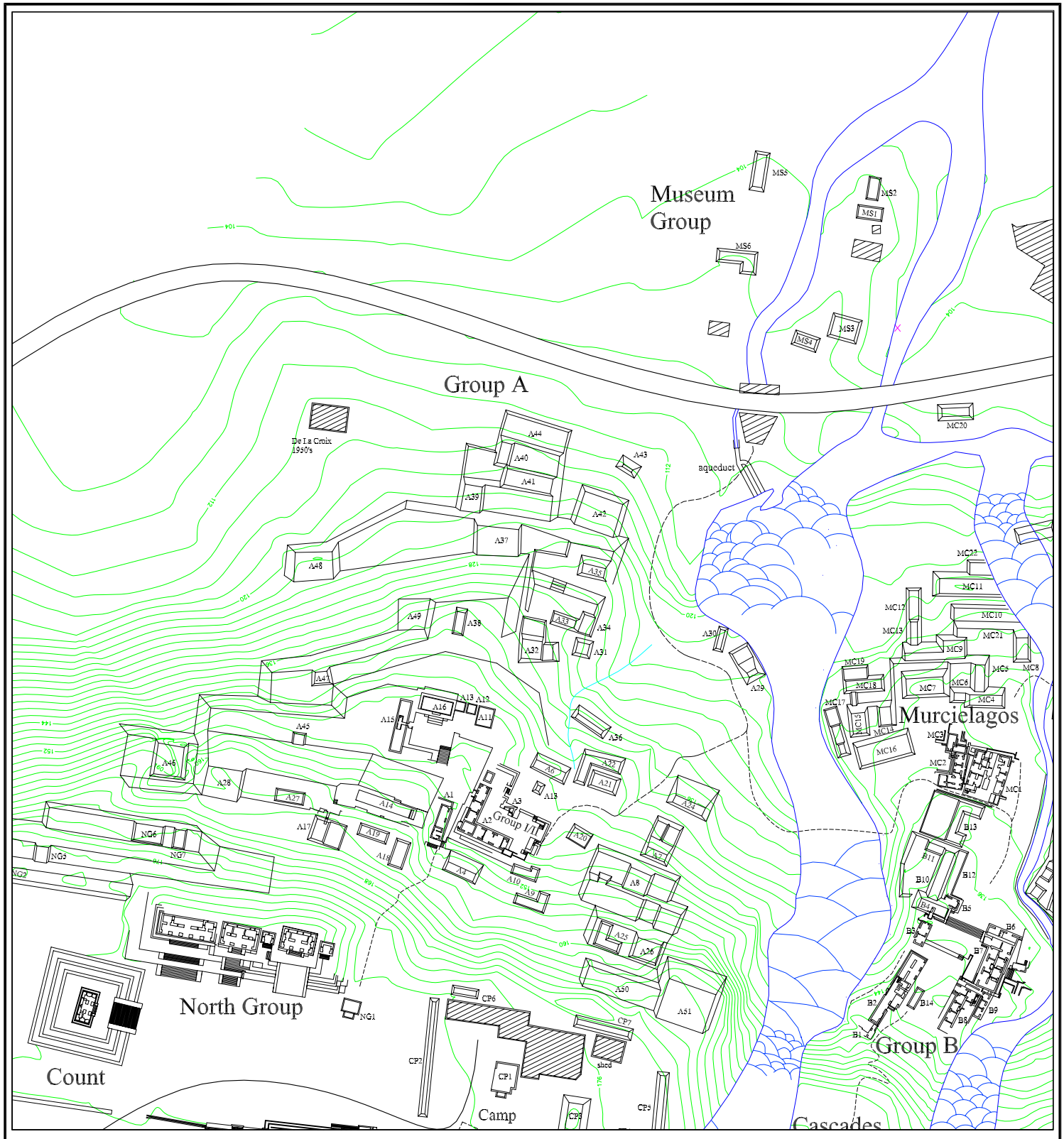
Meters

Edwin L. Barnhart
2000

Group A

Group A extends north along the west side of the Otulum from the base of the Casteneda Escarpment down to the modern paved road. Previous maps of Group A have focused in on the area called Group I and II, a group of eleven consolidated structures, designated here as A1-3, A5, and A11-17. The PMP recorded fifty-one structures in Group A, the majority of which were built into the slope of the hillside. At this juncture in the PMP survey, they appear to form the primary ancient access way from the flat plains to the north up into Palenque's central precinct.

The location in which Group A was built provides insight into Classic Period Palenque land use strategies. In the group's northwest section is a wide, flat area of land. Though flat land is clearly easier to build on then slopes, the flat area is completely devoid of Maya structures. Today the area is called "Los Mangos" due to the mango grove growing there and contains only a single modern cement platform. Local informants say the structure was once the home of a German rancher named Delacroix who lived in Palenque during the 1950's. It seems likely that Palenque left Los Mangos clear for agricultural purposes, choosing to build instead on the slopes above.


Museum Group
Group A
De La Croix 1950's
aqueduct
Murcielagos
Group B
North Group
Count
Camp
Cascades
Group I/II
shed
MS1
MS2
MS3
MS4
MS5
MS6
MC20
A1
A2
A3
A4
A7
A8
A10
A13
A15
A16
A17
A18
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NG1
NG2
NG3
NG5
NG6
NG7
CP1
CP2
CP3
CP5
CP6
CP7
MC1
MC2
MC3
MC4
MC5
MC6
MC7
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MC12
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MC15
MC16
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MC18
MC19
MC21
B1
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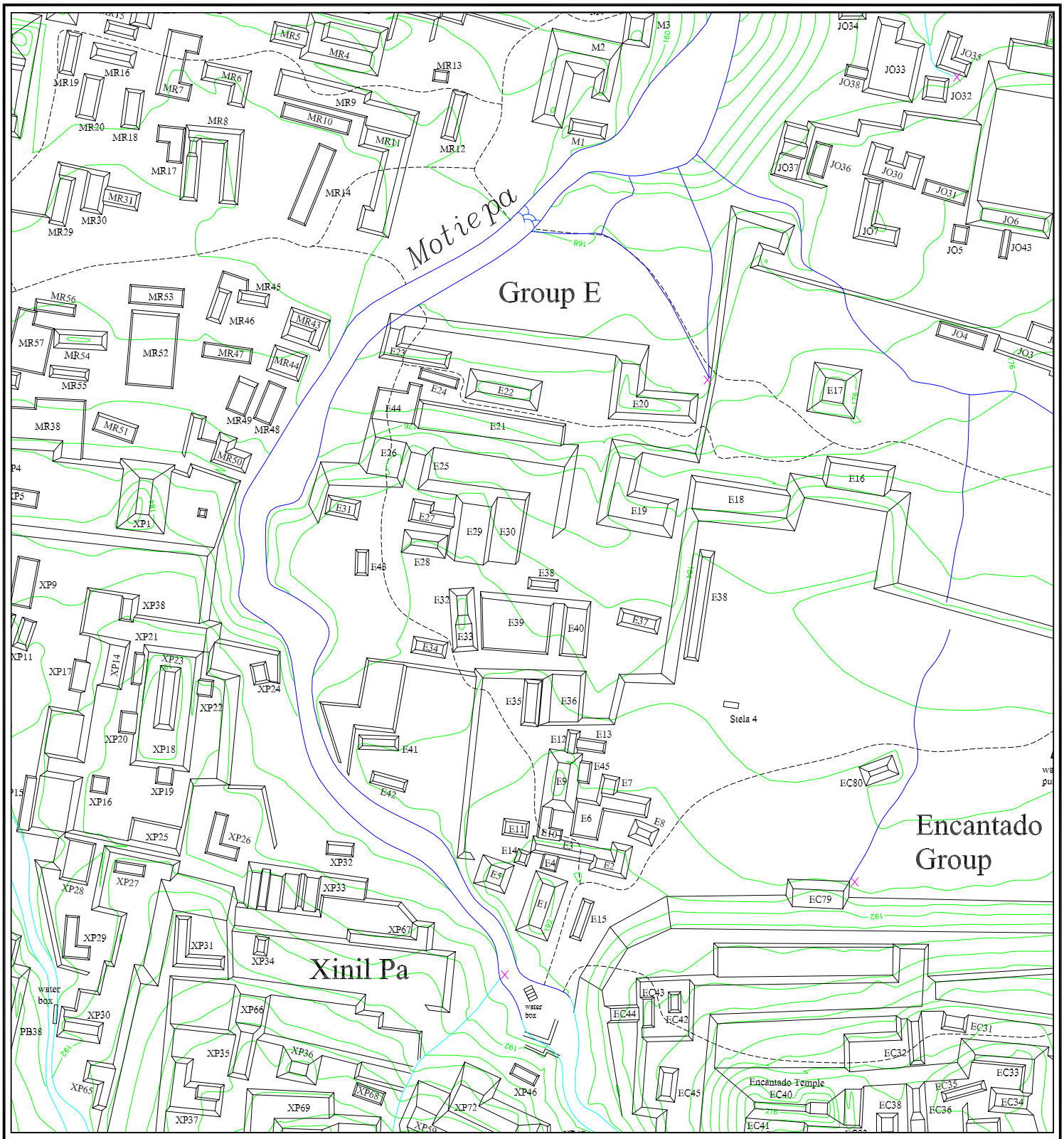
B13
B14
Group A and The Museum Group
Palenque Chiapas, Mexico
Legend
ancient architecture
modern architecture
road
footpath
perennial
seasonal
cascades
springs
25 0 25 50
Meters
Edwin L. Barnhart 2000

Group E

Group E is arranged loosely along the east side of the Motiepa, north of the Encantado Temple. The group's largest architecture is located on its north end where large platforms are built out of the hillside and follow the contour of the land where it takes a natural step down. Structures E19 and E20 are the only structures in the area retaining exposed architecture. Structure E20 is in especially good condition with multiple plastered standing columns. Directly in front of E20 a perennial spring wells up from the ground and creates a small stream feeding down into the Motiepa.


Motiepa
Group E
Xinil Pa
Encantado Group
Encantado Temple
Stela 4
water box
water box
MR1
MR2
MR3
MR4
MR5
MR6
MR7
MR8
MR9
MR10
MR11
MR12
MR13
MR14
MR15
MR16
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XP69
XP72
PB38
EC31
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EC38
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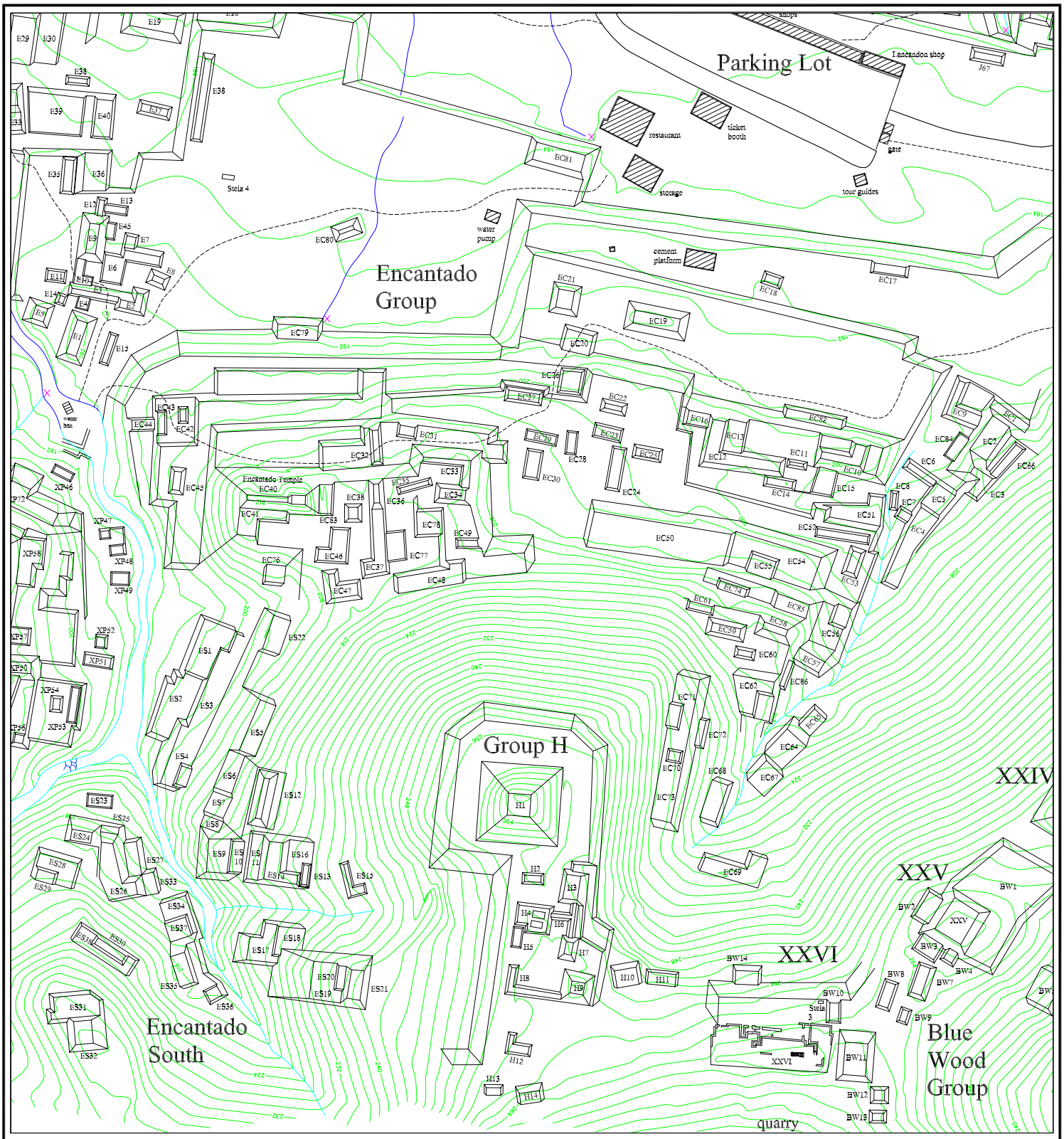
EC41
EC42
EC43
EC44
EC45
EC79
EC80
JO3
JO4
JO5
JO6
JO7
JO30
JO31
JO32
JO33
JO34
JO35
JO36
JO37
JO38
JO43
Group E
Palenque Chiapas, Mexico
Legend
ancient architecture
modern architecture
road
footpath
perennial
seasonal
cascades
springs
25 0 25 50
Meters
N
Edwin L. Barnhart
2000

Group H

Perched atop the hill above the Encantado Group, Group H is linked with the Blue Wood group on the hilltop just to the east. Both groups have large temples constructed on their northern edges, over looking the central precinct and the plains below. The view must have been breath taking when the area was mostly cleared. Structure H1, Group H's main temple, is roughly the same size as its counterpart, Temple XXIV. The structure in the best state of preservation is H3. Due to a tree fall in its east side, three rooms can be detected in H3's floor plan. The north room (3x4m) retains its roof and can be entered through a collapsed outer wall.

The flat land in southern end of Group H is littered with large limestone chunks, most with evidence of shaping. They appear to be large architectural blocks or monuments in progress. The quarry behind Temple XXVI is less than fifty meters away and is probably the stones' point of origin.



Group H, Encantado and Encantado South Palenque Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

25 0 25 50

Meters

Edwin L. Barnhart
2000

Group J

Group J is more commonly known as Group IV. Group IV is defined in past literature as the courtyard group identified here as structures J1-J8. Group J includes Group IV but extends to include the dense area of structures now recorded to its immediate east. Structures J1, J6, and J7 were partial consolidated by INAH in the 1980-90's. Most of Group J's 67 structures are completely buried. J28, J59, and J61 are the only structures in the area that have significant portions of architecture exposed. Group J's most interesting feature is its canal system. There are four separate canals, all of which join up on Group J's north side to fall off the Bernasconi Cascades. Each canal has sections of standing walls and begins at the base of a terrace, apparently at the mouth of an underground spring. While the heads of the canals were not producing water during the dry season, each canal contains multiple sections where spring water was welling up and flowing. The surface evidence suggests that Group J began as an area of land riddled with bubbling springs and that the canals were built as a way to confine their flow and open land for architecture.

Galindo Group

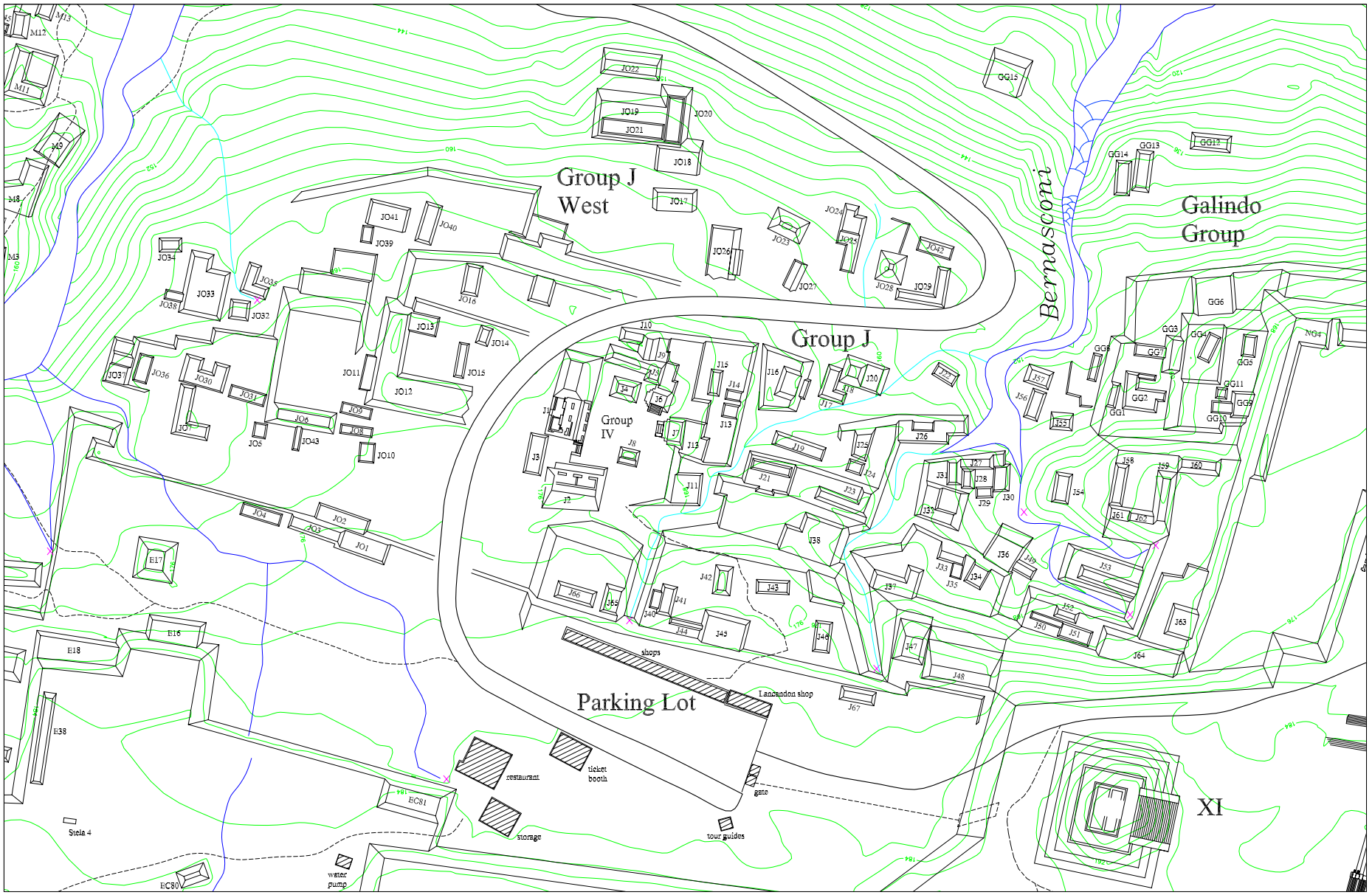
First identified in Robertson's map (1983), the Galindo Group is separated from Group J by the tall hill topped by structures J58-J62. It consists of a large platform extending off the northwest corner of Palenque's central precinct. The platform mounds are small and completely buried. On the Galindo Group's north side the hill drops off fifteen meters to a tiny group of structures straddling the Bernasconi Cascades.

Group J West

Group J West was clearly part of Group J but has now been physically separated from it by the road to the ruins parking lot. The road cuts off two large structures, JO12 and JO26, and four east-west running terraces. The group sits upon land sloping gently down to the north. There are a total of forty-three structures, ten courtyards and seven terraces in Group J West. Exposed architecture exists within structures JO7, 12, 20, 22, 26, and 33. No looting evidence was found. The southernmost terrace (connected to structures JO1 -4) is part of a series of interconnected terraces running almost 300 meters from the site center all the way to the Motiepa River. Only two structures, JO26 and JO28, are strongly suspected as being non-residential in function. Their form and size are more suggestive of the lineage ancestor worship shrines commonly found in association with residential courtyard groups.

There are two locations of water management evidence in Group J West. The first is an arroyo originating next to JO35, suggesting construction around a seasonally active

spring. The second is the arroyo at the group's southern end which drops off a terrace, passes through architecture without destroying it and which seems to feed a diversion pool inside the elbow of a "L" shaped terrace extension. Structure JO12, now cut by the modern road, seems to have once been connected to structure J1, the Group IV residence of Chac Zutz', the K'ak' Ahaw of one of Palenque's last kings, Akal Mo' Nab III.



Group J, Group J West and The Galindo Group Palenque Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

25 0 25 50

Meters

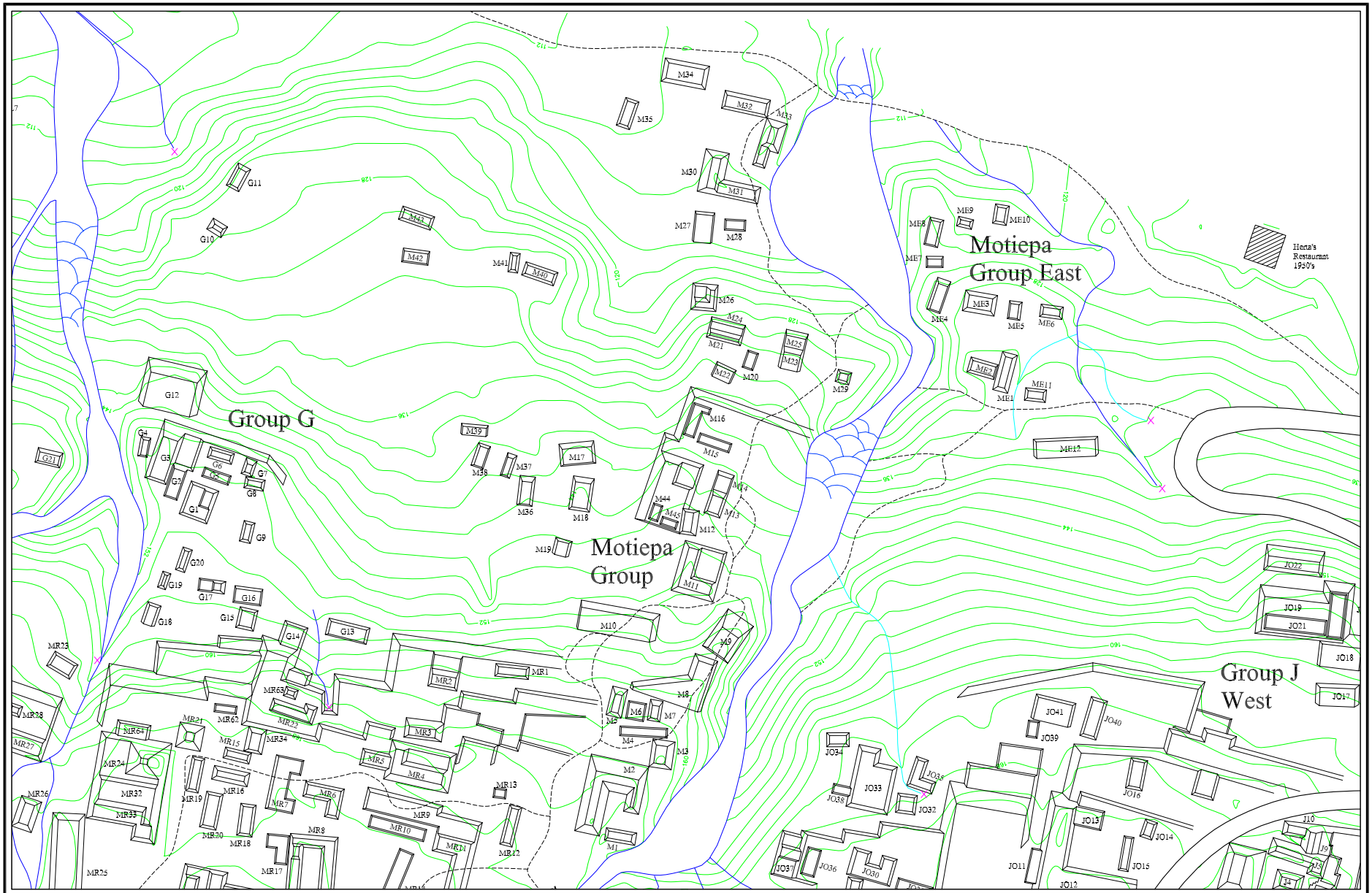
Edwin L. Barnhart
2000

The Motiepa East Group

The Motiepa East Group is situated on two natural plateaus stepping down to the north above the Motiepa's eastern bank. Many of its structures have an unobstructed view of the Motiepa cascades. The group is quite small; only twelve structures arranged around two irregularly shaped patios. No constructed terracing was detected. The architecture is small and low-lying, probably all residential. No exposed architecture was found and only one looter's pit, in ME1. While no clear water management evidence was found, the three arroyos that join within the group seem to have been redirected. Artificial leveling done during the construction of the close by modern road may have affected the course of the easternmost of those arroyos, further confusing the surface evidence. To the south of the Motiepa East Group, situated on top of a large limestone outcrop, sits a ruined modern structure. A staircase carved into the outcrop's face quite near the path provides access to the structure. Through discussions with long time Palenque resident Moises Morales it was learned that a German woman named Herta had once owned the structure. Herta lived in Palenque during the 1960's and used the structure as a restaurant and bar. A gas explosion is rumored to have been the structure's demise. It is now little more than a cement platform and some crumbing red brick walls.

The Motiepa Group

The Motiepa Group is arranged on the hillside from Palenque's main plateau down to the edge of the plains. Topography that appears to be an approximately twenty meter wide, dried watercourse runs down through the middle of the group. Calcified ledges stepping down the hillside, much like those in the Motiepa and Otulum cascades, are the evidence that water once flowed through the area in large quantity. There are forty-five structures and ten residential courtyards. Exposed architecture exists on the surfaces of structures M2, 11 and 13. In addition, a subterranean chamber of unknown character was detected in between structures M42 and M41. Looters have dug two separate pits into structure M2, one revealing an entrance into an intact inner chamber. While no water management features were securely identified, the aforementioned dried watercourse running through the Motiepa Group seems controlled in its placement. While surveying at the top of the dried watercourse, just below structure M10 the team noticed many bats flying around in the middle of the day. As bats are nocturnal, the presence of a cave or underground opening was suspected to be nearby. Though none was found, the possibility that it exists is still quite high. An extinct spring emerging from a cave would neatly explain the presence of the dried watercourse.



Group G, Motiepa Group and Motiepa Group East Palenque Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

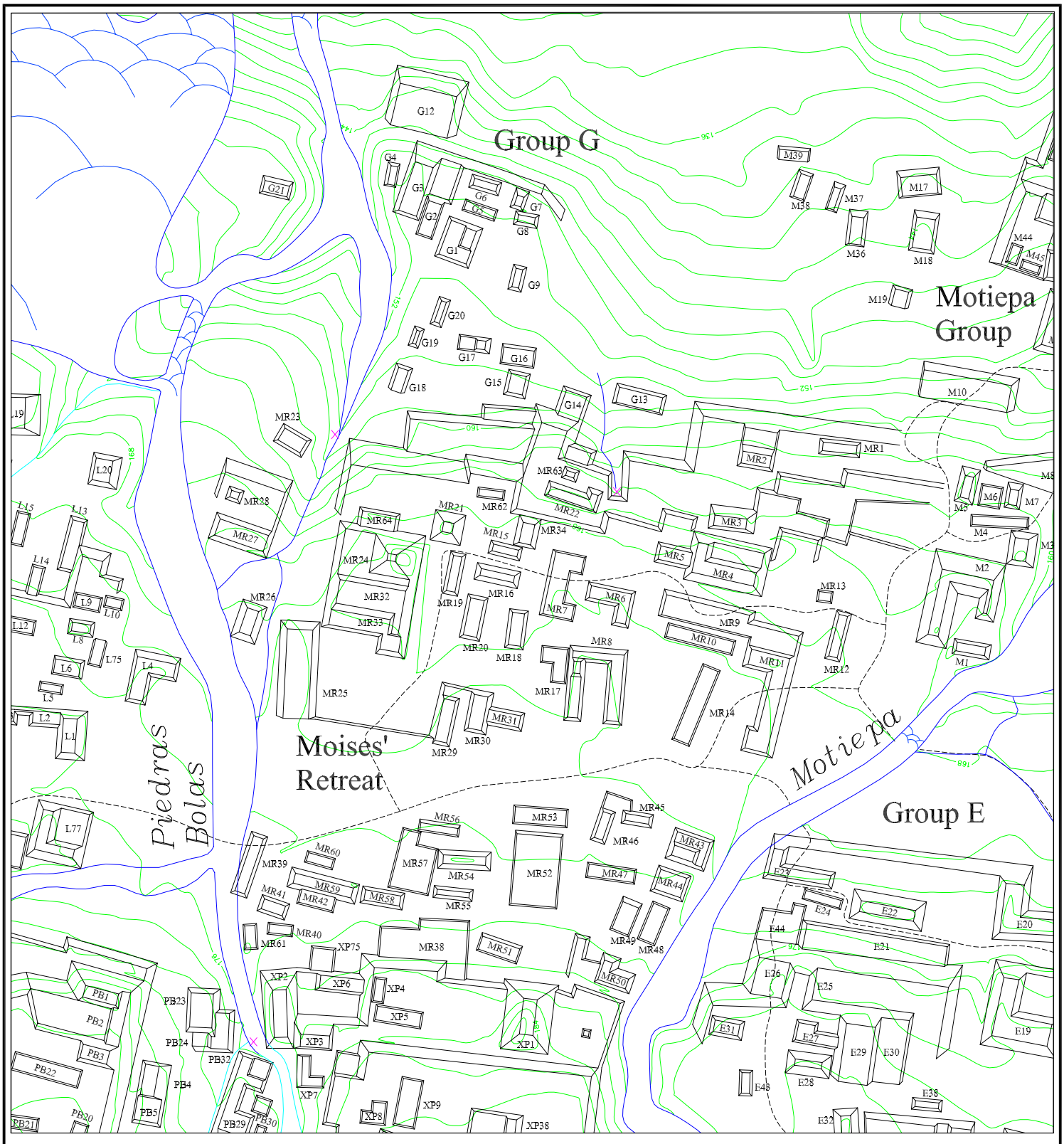
25 0 25 50
Meters

Edwin L. Barnhart
2000

Moises' Retreat

This group was named after Don Moises Morales, long-time advocate of the ruins and Palenque's most knowledgeable tour guide. The editors of Robertson's 1983 map gave the group its name. Though originally identified as the group's central large complex (the platform unifying structures MR21, 24, 32 and 33) the PMP has expanded its definition to include the surrounding smaller structures as well. Moises' Retreat sits upon almost completely flat land and commands a beautiful view of the plains below. There are sixty structures in the group and nineteen small courtyards. Tall terraces bound the group to the north and south, architecturally separating it from the G and Xinil Pa' Groups. Within the group there are three low-lying terraces in its eastern section. The central complex (comprised of structures MR21, 24, 32 and 33) sits upon a single large platform containing subterranean architecture. Much of the complex has exposed architecture, allowing interior investigation. Project members Jim Eckhardt and Heather Hurst crawled inside each subterranean chamber and passageway in order to record dimensions and descriptions. The long dark corridors encountered inside are reminiscent of those underneath Palenque's central Palace. Elsewhere in the group, exposed architecture was found on the surfaces of structures MR4, 5, 8, 25, 26 and 28. MR4, in particular, is in a very good state of preservation. In addition, intact walls were found along the face of Moises' Retreat's northern terrace, held in place by calcification. A small tomb chamber has collapsed in, revealing its internal architecture two meters to the east of structure MR28. Evidence of looting was recorded in structures MR21, 24, 26, 32 and on the platform directly north of MR34.

Two separate areas of water management were detected within Moises' Retreat. The smaller of the two is a seasonally flowing spring two meters to the east of structure MR22. The terrace there appears to have been intentionally in-set to provide an architectural opening from which the spring could flow downhill in a controlled fashion. The second, larger area of water management is located to the west of the group's main complex and flows out of the nearby Piedras Bolas. There are two tributaries that appear to have been redirected to flow in between structures, one in between MR25 and 26 and the other in between MR26 and 27. Both join together just before dropping off into a small ravine that curves to rejoin the Piedras Bolas downstream. Sporadic areas of wet and dry along the courses of the tributaries indicate water is seeping under the patio they cross, likely re-emerging from a spring detected at the base of the ravine. This area is one of the best examples of Palenque's architecture harmonizing with its natural setting.



Moises' Retreat

Palenque Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

20 0 20 40

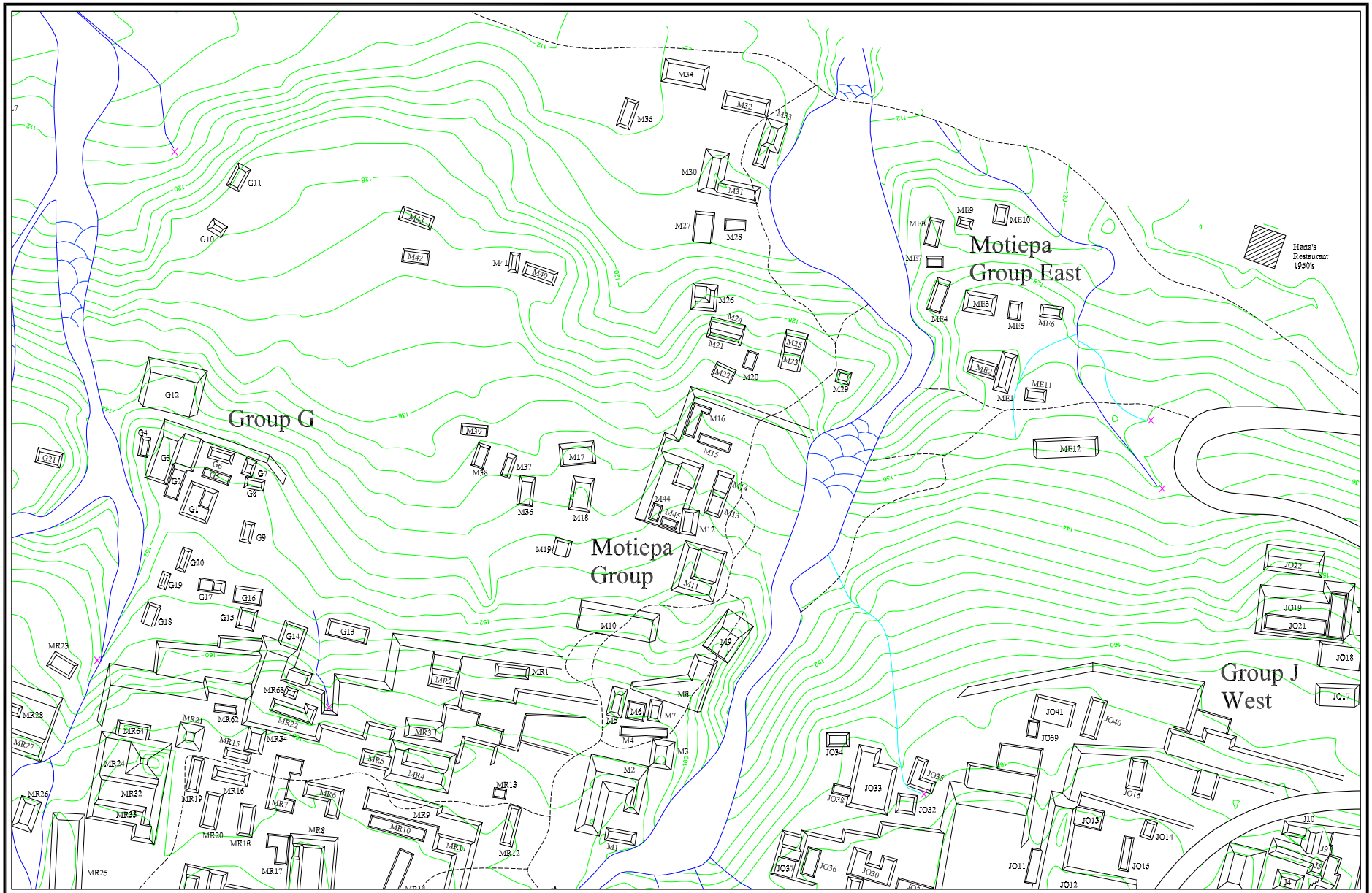
Meters

Edwin L. Barnhart
2000

Group G

Group G, also called "Blom's Group G", was one of the locations identified during the 1920's expedition of Franz Blom. As with most of Blom's identified groups, his attention was given to the group due to its accessible tombs. While Blom's drawing of Group G (1927) identified only two structures, the PMP map identifies twenty structures and five small courtyards. One large platform, structure G12, forms the step down in between Group G's two flat areas. Structures G3, 6, 12 and 17 have exposed architecture. G17's visible architecture is accessed through a hole in its half-meter tall platform and appears to be a pair of small tomb chambers. G3, recorded first by Blom, is a two meters tall structure with a collapse hole in its top. The structure's interior is still in good condition with stucco on the walls and two intact doorways (one sealed up).

The wide plateau below and to the north of Group G is an area of unique character. Though it is a flat, upland plateau, ideal for residential construction, the land is completely empty of buildings. The 1983 Robertson map identifies it as a "1968 milpa". The area's north end drops sharply off an approximately ten-meter tall limestone cliff. The face of that cliff is highly eroded and calcified, indicating prolonged exposure to flowing water. This water run-off evidence combined with the plateau's oddly empty state, lead the survey team to suspect it may have been a small, inner-city milpa. Unfortunately, its use as a milpa in modern times may have precluded phosphate soil testing to confirm or deny its ancient identity.



Group G, Motiepa Group and Motiepa Group East Palenque Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

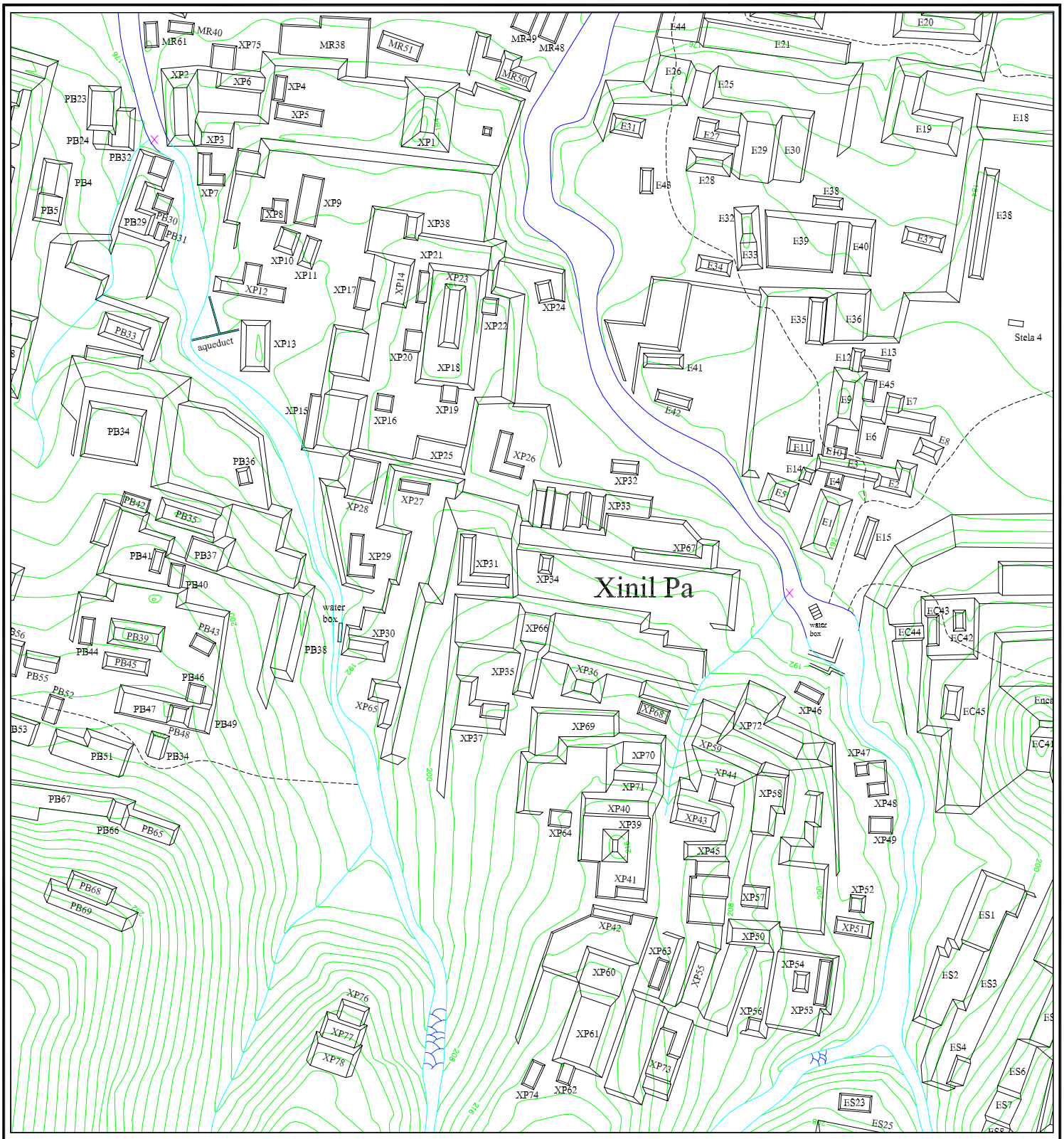
25 0 25 50
Meters

Edwin L. Barnhart
2000

The Xinil Pa' Group

The Xinil Pa' group is a densely arranged group of structures climbing up hill in between the Piedras Bolas and Motiepa Rivers. A series of eight terraces step forty-two meters up the hillside creating flat surfaces for Xinil Pa's seventy-eight structures and fifteen small courtyards. The two largest structures in Xinil Pa', XP1 and 2, are located at its northernmost edge, bordering Moises' Retreat. XP1 is the largest and has an associated altar-like feature on its eastern side patio. XP2 flanks the Piedras Bolas and has an almost completely intact western wall. The southern section of the Xinil Pa' group, containing the highest density of structures, may be the area of Robertson's map named the "Great House Group". Location discrepancies make map comparisons less than clear. Considering the interconnected nature of the construction as it climbs up the hillside, the entire area was included under the Xinil Pa' Group name. Robertson's map also records a large structure named "Bates Pyramid". Though map comparison was again unclear, structure XP36 appears to be the most likely candidate for Bates Pyramid.

Inaccessibility and many small structures arranged around private courtyards give the area a highly residential character. Eleven structures in the Xinil Pa' Group have exposed architecture, including structures XP2, 3, 13, 18, 31, 33, 35, 43, 55, 69 and 72. Looter's pits were found in only two structures, XP40 and 54. Water management evidence in the Xinil Pa' Group is concentrated around the Piedras Bolas River. Drainlike features are visible in the river's bank west of structures XP13 and 30. Large amounts of cut stone lie strewn around in the Piedras Bolas River from structure XP12 down to Moises' Retreat structure MR61. On the opposite side of the group, the dry arroyo between structures XP40 and 43 feeds down into the Motiepa River without cutting into the surrounding architecture, suggesting at minimum that its course was accounted for during construction, if not created by the construction. Lastly, a word on the Xinil Pa' terraces. At their great size and the fact that they are the platforms for most of the group's residential courtyards, they seem to be evidence of a large communal labor force.



Xinal Pa' Group

Palenque Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

20 0 20 40

Meters

Edwin L. Barnhart
2000

The Piedras Bolas Group

Like the nearby Xinil Pa' Group, the Piedras Bolas Group climbs up the hillside partially using four wide terraces as leveled building surfaces. The group runs primarily along the western bank of the Piedras Bolas River, hence its given name. There are sixty seven structures and twelve small courtyards contained within the group. None of the structures appear obviously non-residential. Exposed architecture was documented on structures PB1, 7, 9, 15, 18, 31, 32, 39 and 48. Looter's pits were found in only three structures, PB1, 15 and 35. The southernmost structures of the Piedras Bolas Group are built into a steep hillside as long, narrow platforms. Above those platforms the hill rises another fifty meters to a flat, natural plateau. Though the plateau was fully searched, no structures were found. The plateau did, however, contain three interesting pits, ten meters in average diameter and one to two meters in depth, with large limestone chunks scattered around their edges. Their form suggests quarry pits. Thick vegetation patches growing on the plateau may be concealing other small pits.

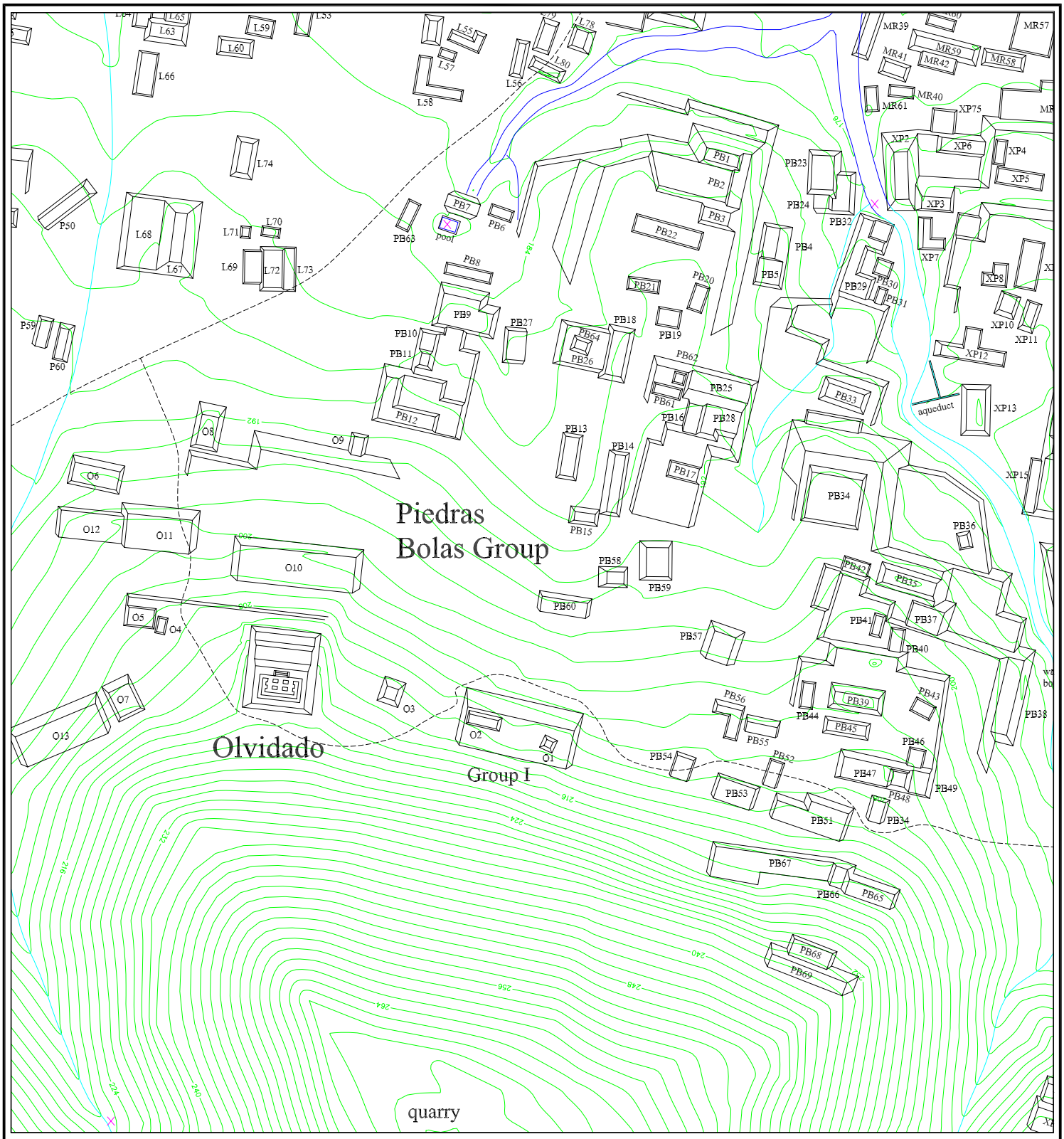
One of Palenque's more interesting water management features was documented in the northwest part of the Piedras Bolas Group. Structure PB7 has a pool connected to its southern side. The pool is walled on all four sides and has a spring welling up from its, southwest corner. The pool drains by a conduit traveling underneath structure PB7. The water flows out of the structure's north side, travels under an arroyo level stone-covered channel (2m in length) and then winds eastward to join the Piedras Bolas. At that point of the Piedras Bolas' course most of its water is being fed into it via this small arroyo. The pool at the arroyo's origin still functions to collect water from the spring that it was built around.

The Olvidado Group

The Olvidado Group is a small group of structures arranged around the well known Olvidado Temple. The Olvidado Temple was first recorded by Blom in the 1920's and excavated by Berlin in the 1940's. Including the Olvidado Temple, there are ten structures and four wide platforms in the group. Thirty meters to the east of the Olvidado Temple lies a large platform identified by Blom as "Group I". The Group I platform was built into the hillside and has two small structures on top. The eastern of those two structures, O1, has a collapse hole on its top revealing a chamber some two meters down, inside the large platform. Blom's report (1926) records a burial chamber was found there.

Generally speaking, the Olvidado Group does not appear to be residential. The Group I platform and the Olvidado Temple seem too visible to have functioned as private quarters. The smaller associated structures, especially the low terraces, seem to be supporting architecture rather than private spaces. None of the patios or courtyards typically associated with residential activities were found in the Olvidado Group. The

next section, discussing the Picota Group, will discuss a connection between the Olvidado and Picota Groups.



Olvidado and The Piedras Bolas Group Palenque Chiapas, Mexico

Edwin L. Barnhart
2000

The Picota Group

The Picota Group includes a diverse collection of structures, both public and residential. Its boundaries were drawn by the use of watercourses as borders. There are a total of ninety-one structures and fourteen small courtyards within the Picota Group. Exposed architecture exists on the surfaces of structures P3, 5, 12, 26, 37, 61 and 81. No looter's pits were found in direct contact with the structures of the Picota Group but one pit was dug into the terrace directly in front of structure P37.

The structures and features encountered within the group differed from those recorded in previous maps to such an extent that, besides the Picota's stela and aqueduct, the PMP map presents entirely new information.

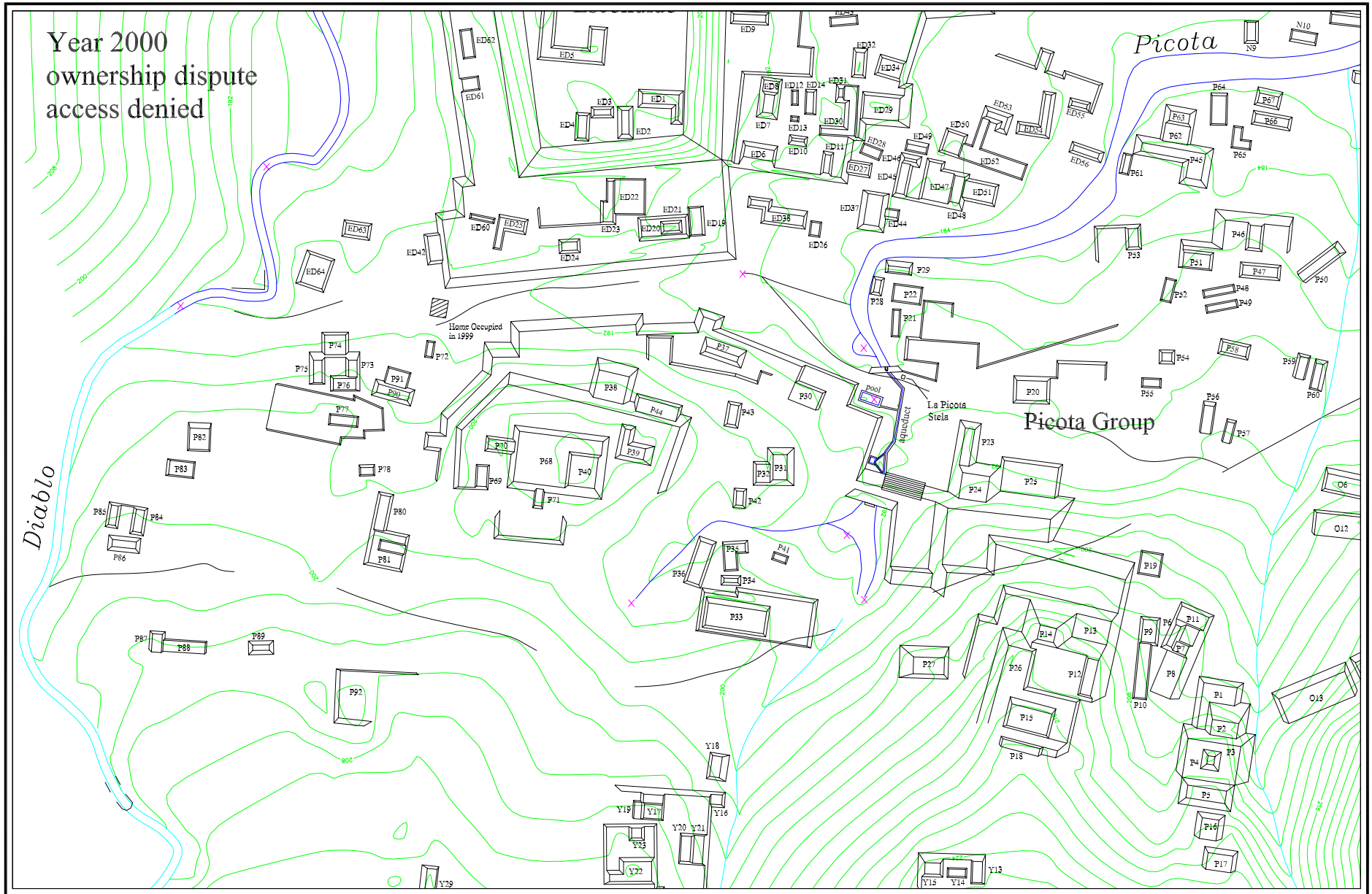
The heart of the Picota Group is the irregularly shaped Picota Plaza. The irregular shape is caused by the protrusion of structures P23, 24 and 25 into the plaza, creating two distinct sections of plaza space. The western part of the plaza contains the La Picota Stela (the feature for which the area is named), the Picota aqueduct, and a well-preserved staircase climbing nine steps up from its southern boundary. Towering above the Picota Plaza to the south are a series of three terraces topped by structure P14 and its associated courtyard group. Structure P12, located five meters to the southeast of P14 has an area of collapse in its top revealing a subterranean tomb chamber below.

In form and geographic placement, the line of temple-like structures running from the structure P14 eastward to the Group I platform are reminiscent of the line of structures in Palenque's primary center created by Temple XII, XIII and the Inscriptions. Both areas have temples built into the hillside overlooking a plaza. Acknowledging that XII, XIII and the Inscriptions are funerary monuments, a similar function is suspected for these southern temples of the Picota Group. Collectively, the presence of a large plaza, a stela, an elaborate aqueduct and a line of funerary temples along the south edge give the Picota area a distinctly "central precinct" character. The large nearby structure designated the Escondido Platform further supports that conclusion. Palenque appears to have had not one, but two "centers".

The Picota Group's northeastern section is more residential in character, comprised of smaller buildings arranged around courtyards and open patio spaces. Though included spatially as part of the Picota Group, this area of residential settlement also seems associated with the Lemon Group's settlement just to the east.

The water management of the Picota Group is arguably Palenque's most sophisticated example. The aqueduct is built of tightly fitted stones and fed by multiple springs. Its state of preservation is superior to that of the aqueduct in Palenque's central precinct. With the exception of a few capstones that have fallen in, the Picota aqueduct is completely intact and functional. As the water spills from the aqueduct's exit, it forms the watercourse known as the Picota River. The course of this river turns sharply to the east, passing through the Lemon and Nauyaka residential zones, and ultimately joining

the Piedras Bolas River via a wide area of shallow cascades. The fact that the Picota, unlike Palenque's other rivers, does not follow gravity and flow straight north towards the floodplains below strongly suggests its course was altered to flow through the residential areas. The Arroyo Diablo, bounding the Picota Group's western side, contains two springs and sporadic evidence of canal walls.



Picota Group

Palenque Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

25 0 25 50

Meters

Edwin L. Barnhart
2000

The Lemon Group

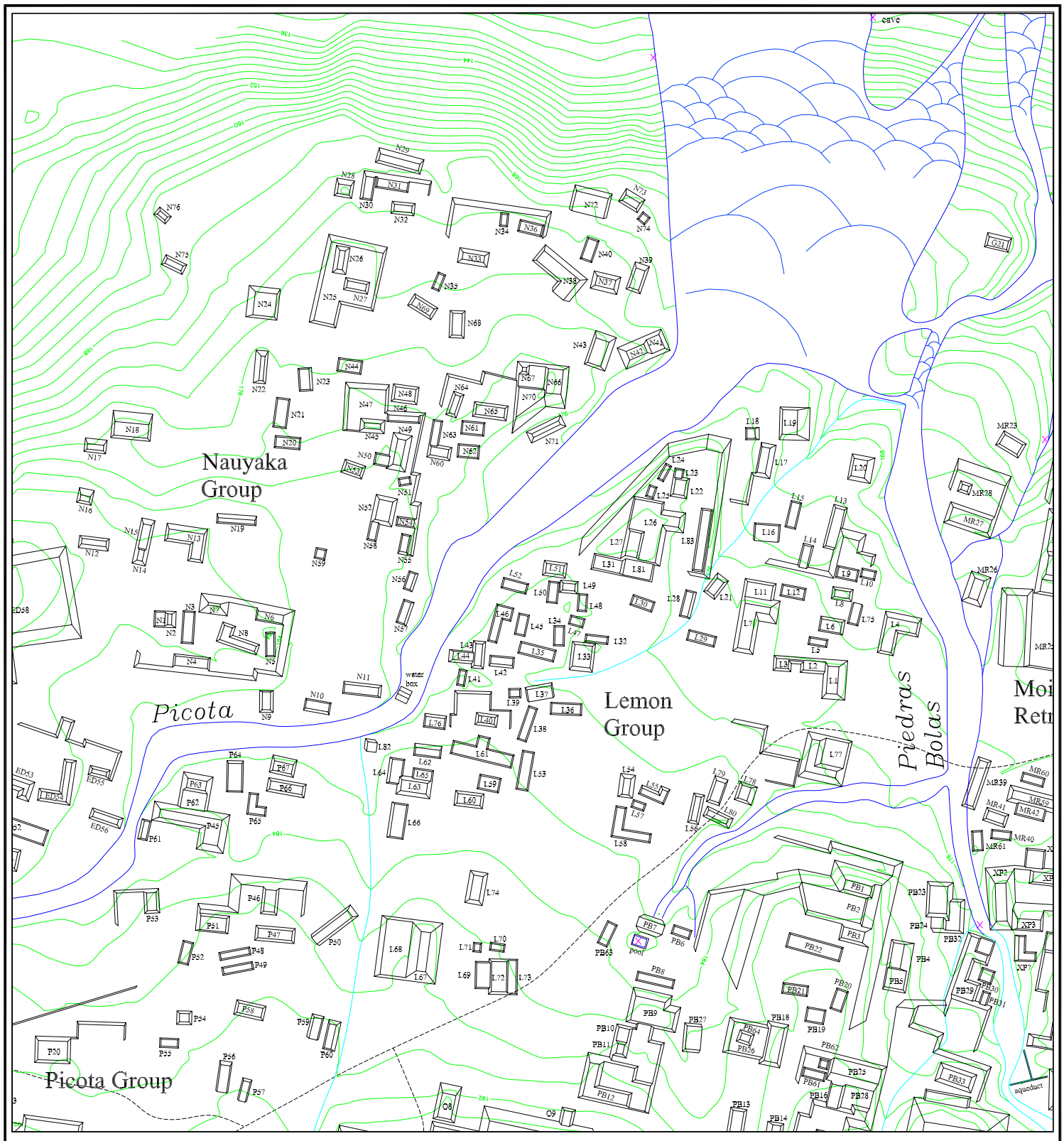
The Lemon Group sits on almost completely flat land along the southern side of the Picota River. The vegetation surrounding the group is extremely dense as a result of its former use as cattleland. The group's name comes from the presence of many lemon (not lime) trees sporadically found within its boundaries. Since they are not indigenous to the area it is assumed the former landowner planted them. The groups named Hochol Bi' and Atotob in the Robertson map could not be clearly identified but were probably found within what is now defined as the Lemon Group. There are eighty-three structures and fifteen residential courtyards within the group, most of which were built along the southern bank of the Picota River. The majority of the group's structures are small and tightly clustered. Architecture exposed at the surface was documented on structures L4 and 7. The single looter's pit of the Lemon Group is located one meter north of structure L10. The group's largest structure, L67, was found less than ten meters from the main footpath through the area. Though the structure is over four meters in height and thirty meters long, the dense vegetation covering it had completely hidden it from view. Unlike other groups found in Palenque's western region, the Lemon Group appears to have a large open area in its center, linking all the individual courtyard groups to one communal space. There seems to have been a communal agreement to leave the area free of buildings.

The Nauyaka Group

Except for its very northern end, the Nauyaka Group sits on flat land. It is bounded on the south by the Picota River and on the north by a steep hillside, as yet unrecorded by the PMP. Like the Lemon Group, many of its structures line the Picota River. The inspiration for the group's name came from the large number of poisonous snakes encountered within its boundaries, five in the course of two weeks. Nauyaka is the local name for the snake more commonly called the Fer-de-Lance. A total of seventy-six structures and seventeen courtyards were found within the Nauyaka Group. In a pattern not seen in other sections of Palenque, most of the residential groups in this area are connected by elevated platforms. The looting evidence in the Nauyaka Group is by far the worst the PMP has encountered in Palenque. A total of eighteen looter's pits were found, primarily in the groups on elevated platforms. Looted structures include structures N26, 29, 43, 45, 46, 47, 65 and 70. The very thick vegetation of the area combined with the noise of nearby rushing water made it a perfect place for clandestine looting. Evidence around the pits in structure N25 indicates the looting was relatively recent. In July of 1999 coke cans, chip bags and cigarette packs were found lying about still in good condition, as yet unaffected by the fast acting elements of a rain forest environment.

Structure N70 has a uniquely triangular basal form. A terrace on the other side of the Picota also has a side of odd orientation, mirroring N70's riverside wall. The two

structures together seem to bracket the Picota's end as it falls into the Piedras Bolas River. Sitting in the Picota River next to structure N11 lays an interesting water management feature of indeterminate function. Though partially destroyed, it appears to be similar to the feature in the Motiepa River next to the Encantado Temple. It is a stone slab constructed box that has openings on either side through which water can pass. The similar Motiepa example was loosely termed an aqueduct in the Robertson map.



Nauyaka Group and The Lemon Group Palenque Chiapas, Mexico

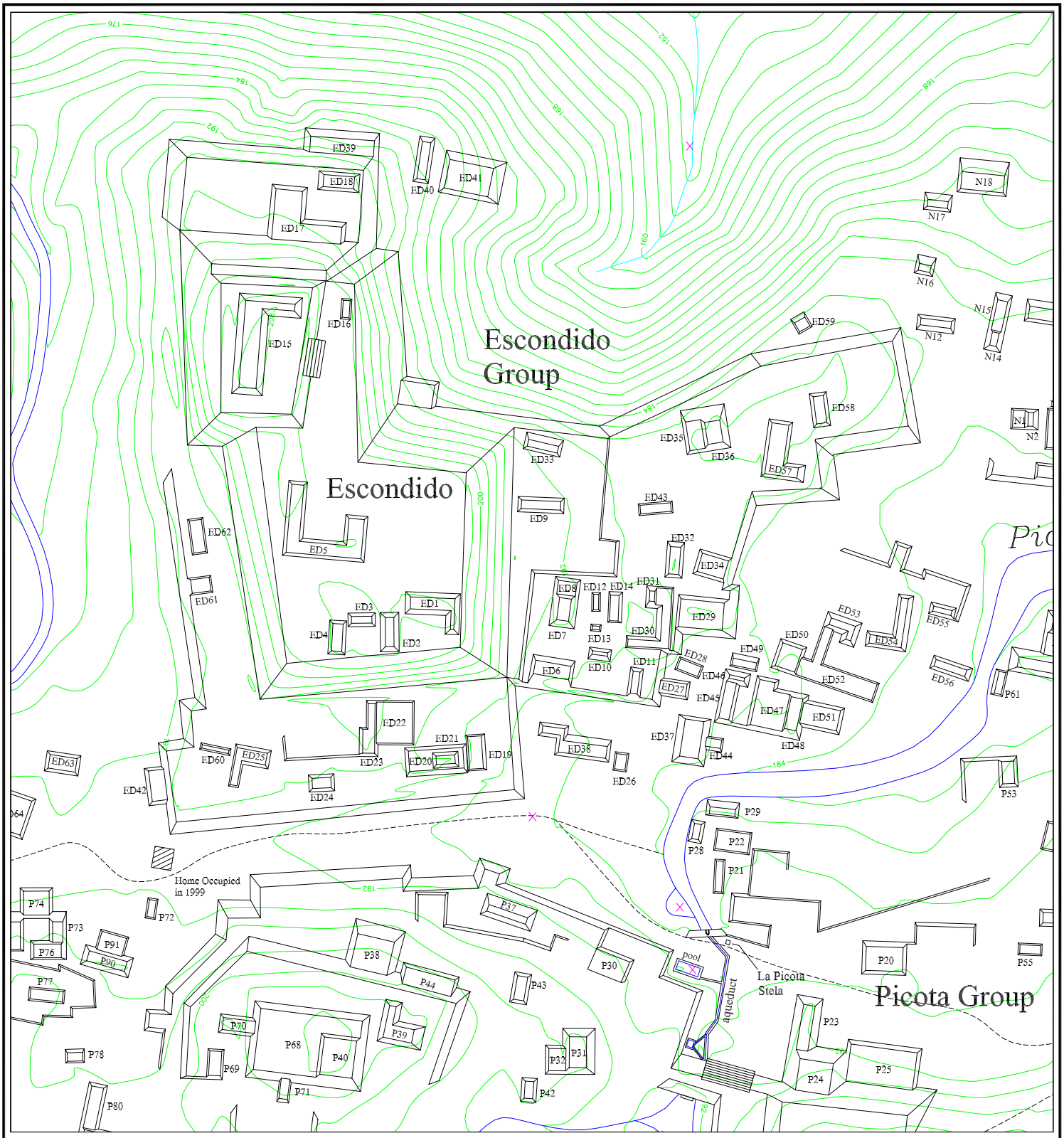
Edwin L. Barnhart
2000

The Escondido Group

The Escondido Group is arranged around a massive platform documented for the first time by the PMP. The name "Escondido" was chosen to denote the platform's amazingly hidden status until now. Most of the group's sixty-seven structures, though associated with the Escondido Temple, are arranged around residential-type courtyards. Almost all the structures on its east side are arranged in small courtyard groups. Looter's pits were encountered in structures ED15, 37, 38 and 46. Exposed architecture exists on structures ED15, 36 and 57. The Escondido Group as a whole was built on flat ground with a commanding northern view of the plains below. The view from the Escondido Platform is one of the most far reaching in all of Palenque.

The Escondido Temple itself measures 80x140m at its base, making it slightly larger than Palenque's Palace. Though no surface evidence indicates entrances into the platform itself, Palenque's predilection towards subterranean chambers suggests the presence of internal rooms and passageways. The structures encountered on top of the Escondido Platform are humble and arranged much in the way of typical residential patio groups. Structure ED15 is the largest structure on top of the platform. It is "L" shaped and has a stone feature on top that appears most like a destroyed bench. A partially intact stairway steps down off ED15's eastern side patio. Lower platforms supporting smaller structures extend off the Escondido' north, south and east sides. To the west is the Arroyo Diablo and a cleared, presently inhabited hill. To the north, platforms step downhill twice before ending at the edge of a shear cliff dropping off over fifty meters to a wide ledge and then plains below.

The modern structure located off the southwest corner of the Escondido Temple was built on the property of Don Heber, an INAH employed guard of the ruins. The structure was the home of the land's caretakers in 1999, a man named Cristóbal and his family. Don Heber also owns the milpa growing on top of the Escondido Platform.


Escondido Group
Escondido
Picota Group
La Picota Stela
aqueduct
pool
Home Occupied in 1999
ED1
ED2
ED3
ED4
ED5
ED6
ED7
ED8
ED9
ED10
ED11
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ED14
ED15
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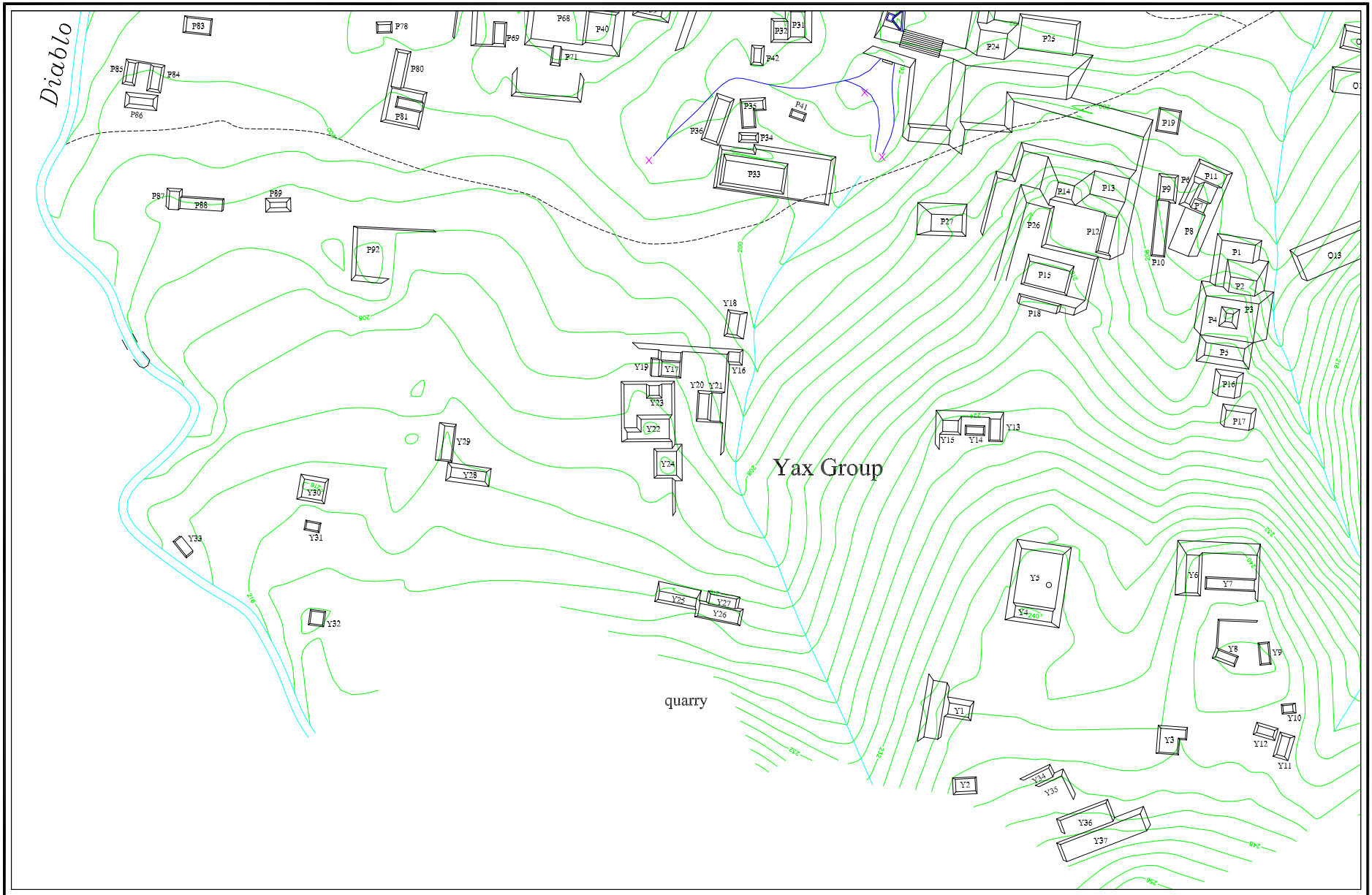
P91
Legend
ancient architecture
modern architecture
road
footpath
perennial
seasonal
cascades
springs
20 0 20 40
Meters
N
Escondido Group
Palenque Chiapas, Mexico
Edwin L. Barnhart
2000

Yax Group

The Yax Group is located on the hills south of the Picota Group and on the gently sloping land south of the Naranjo Trail in between the Picota and Diablo Arroyos. Thirty-seven structures and seven small courtyards were found in the Yax Group. Structures Y1, 6, 22, 25, 26, 27 and 30 have exposed architecture.

Survey of the gently sloping land was complicated by a corn field being grown on it at the time of the survey. None of the structures in the milpa had been looted and the land's caretaker allowed the team to survey it with the agreement that no lines of sight would be cut. Though more structures were seen on the west side of the Arroyo Diablo year 2000 land ownership disputes prevented the team from surveying there.

During the last two weeks of the year 2000 survey a well-preserved platform was found just to the west of the Arroyo Picota and some 140 meters south of the Naranjo Trail. This platform, holding structures Y25, 26 and 27, has exceptionally large cut blocks, some over two meters in length. Though its entire front face is intact there was no evidence of doors or interior spaces. Based on location and matching characteristics it is likely Franz Blom wrote about this platform as a single building and referred to it as the Selado or "sealed" structure.



Yax Group

Palenque Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

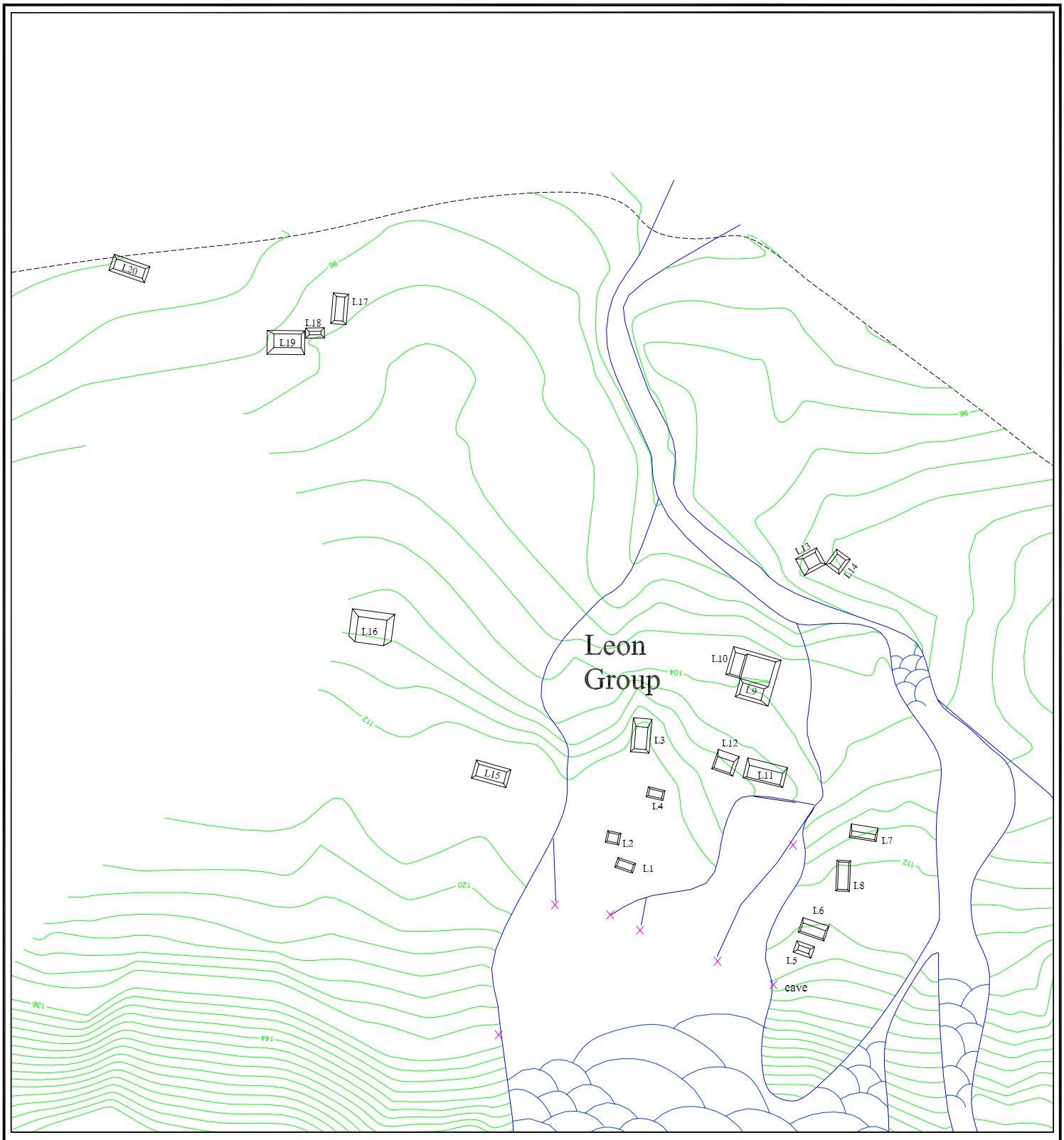
25 0 25 50

Meters

Edwin L. Barnhart
2000

The Picota Falls and the León Group

The lower falls of the Picota were a challenge to map and one of Palenque's most pristine areas of forest. The Picota Falls drop forty meters and are over one hundred meters across. Their eastern side cascades down into the Arroyo Piedras Bolas. The water of the Picota Falls is perennial but much of it flows just under the surface, dropping into sporadic holes in the limestone shelf and reemerging at lower points along the hillside. At the base of the falls much of the water re-emerges from four active springs and separates into small streams. Two small, water formed caves were also found at the base of the cascades. Around the streams, all of which flow down into the Piedras Bolas, is a small group of twenty structures, none of which are more than two meters in height. That group has been designated the "León Group" after Mario León. Mr. León was Palenque's first Head of Site Security in the 1950's and in 1997 he donated the neighboring parcel of land to the National Park for reforestation.



Leon Group

Palenque Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

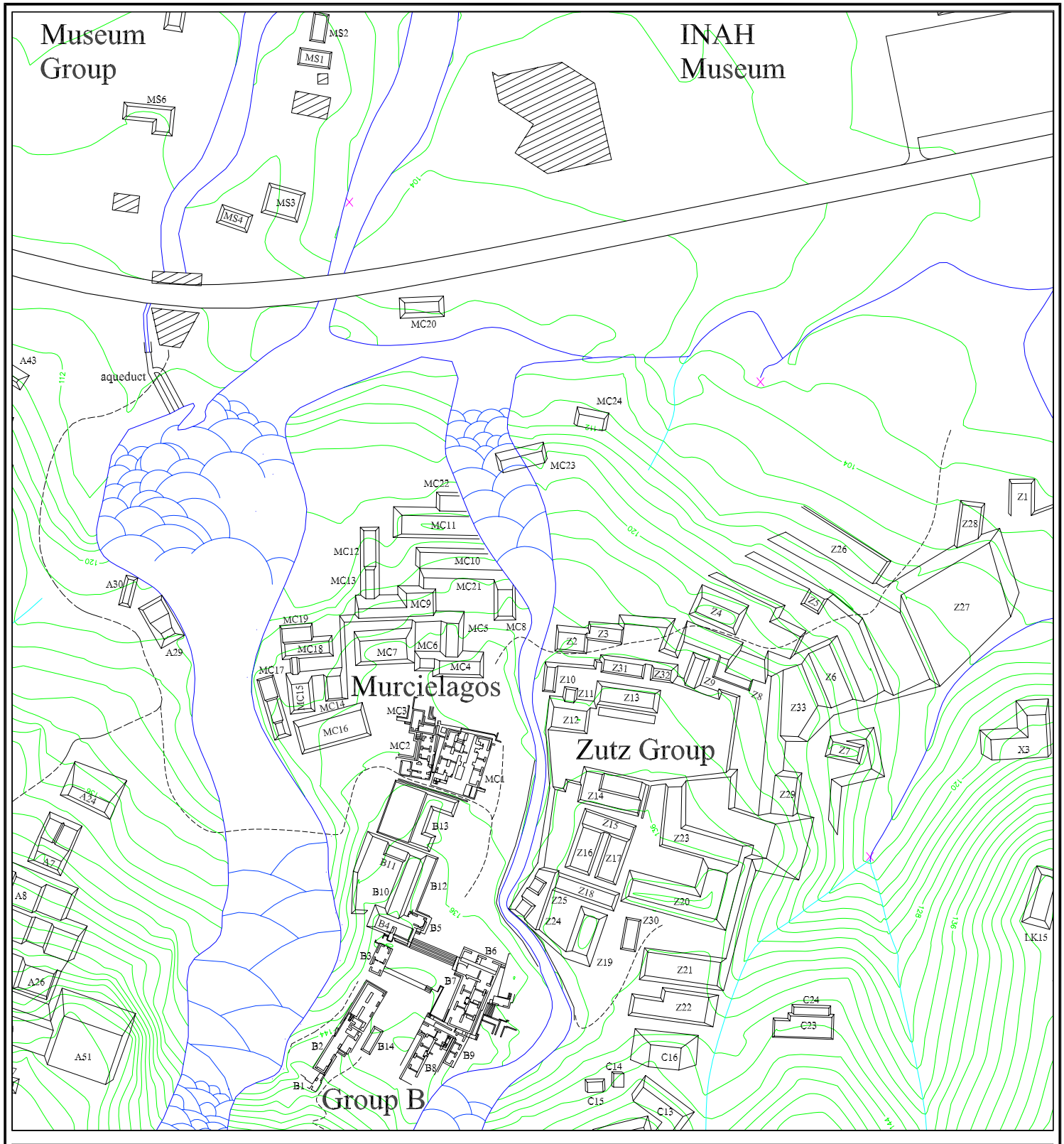
25 0 25 50

Meters

Edwin L. Barnhart
2000

Group B and Murcielagos

Work in the east began in 2000 with Group B and the Murcielagos Group. Unable to find published drawings, new plan view drawings were made of all structures consolidated during the major excavation projects of the early 1990's. The Arroyo Murcielagos has partially intact canal walls extending from the base of its cascades all the way to the top of the drop off to the modern road, some one hundred thirty meters of construction. The Murcielagos Group was found to extend north down the hillside following the east bank of the Arroyo Otulum's lowest tier. In all, twenty-two new buildings were added to the Murcielagos Group and six to Group B.



Group B, Murcielagos and The Zutz' Group Palenque Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

20 0 20 40

Meters

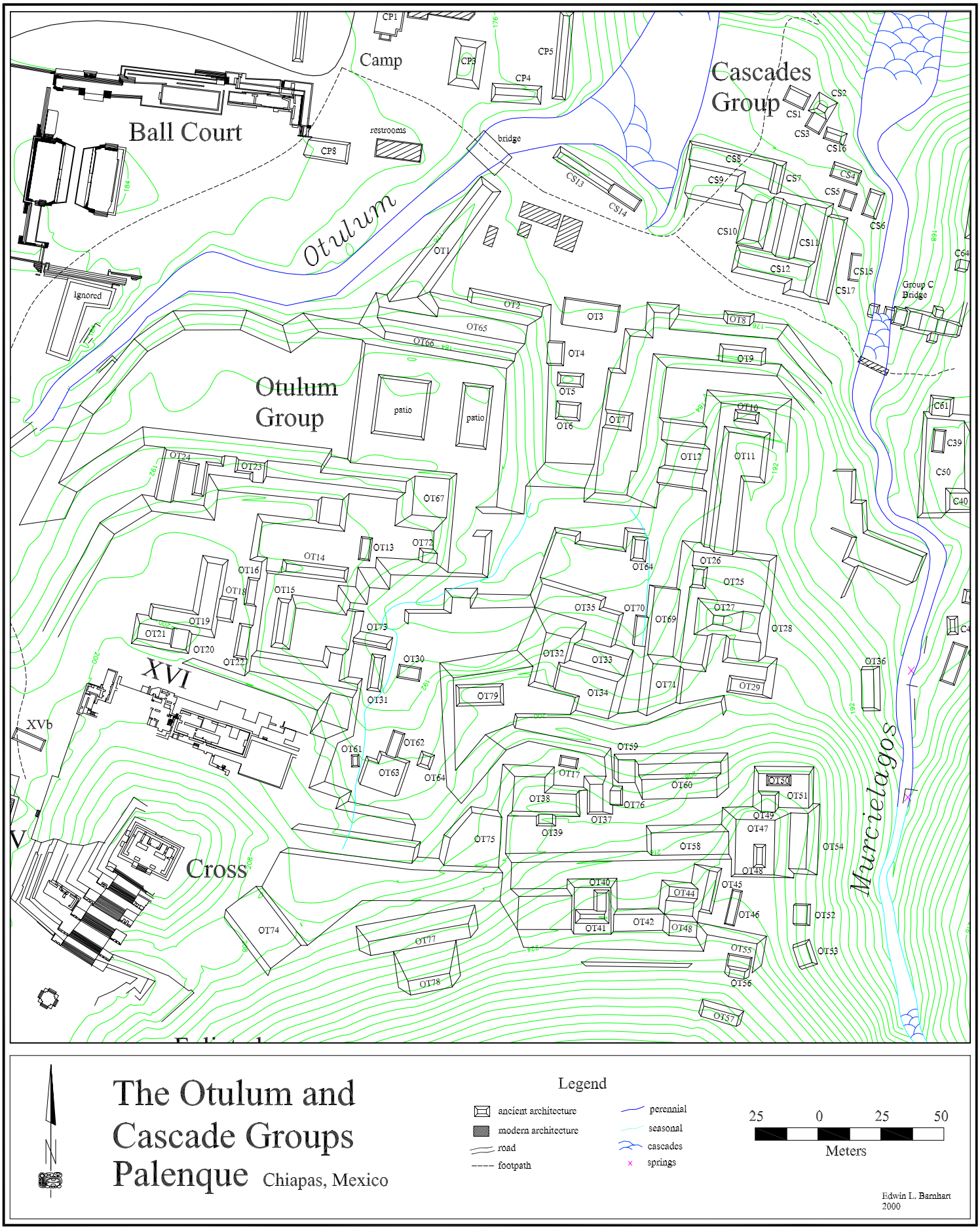
Edwin L. Barnhart
2000

Cascade Group

Surveying south and uphill from Group B a small group was encountered just atop the extinct falls between the Otulum and Murcielagos cascades. Designated the Cascade Group, seventeen structures seem to be built directly on top of cascade calcification. It is possible that the ancient Palenqueños themselves shut this section of the falls down prior to the building of both the Cascade and B Groups.

Otulum Group

Separated by an irregularly shaped plaza, the terraces of the newly recorded Otulum Group lie just to the south of the Cascade Group. The Otulum Group includes seventy-eight individual structures, almost all of which are interconnected by terraces as they climb up to the north face of El Mirador. On its southern end the Otulum Group has a few platforms on the steeply rising base of El Mirador and other structures that lead up to the back of the Temple of the Cross. The group's northern section is arranged around a rectangular plaza roughly equal in size to that of the Southern Acropolis. Throughout this group are large sections of intact walls. Though few interior chambers were encountered, the Otulum Group is overall one of the better-preserved sections of the ruins. Given this group's connection to the Cross Group and its proximity to the Palace, it may well come to be considered a neglected part of the city's central precinct.



The Otulum and Cascade Groups Palenque Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

25 0 25 50

Meters

Edwin L. Barnhart
2000

Group D

El Mirador, the hill towering one hundred fifty-two meters over the Cross Group, was intensively survey on all three sides producing no evidence of architecture on its steep slopes. Its summit holds one modestly sized structure seated upon a ground-leveling platform. A looter's hole on its top appears to have been back-filled. Moving south from El Mirador's summit structure one travels along a flat narrow ridge, averaging ten meters in width and reaching a distance of approximately one hundred fifty meters. An overgrown trail said to have lead to the village of Babylonia follows that same ridge going south and then southeast. The ridge itself terminates into the taller southern hillsides.

The area around the Otulum spring, just south of the Southern Acropolis, was further investigated by the 2000 survey. A narrow ridge was found in between the Otulum's main course and an unnamed arroyo just to the west. On that ridge sit a series of structures terracing up to the south, the largest of which seems to be facing east towards the XIXa, XIXaa area. It was decided they would defined as the eastern section of the Schele Terraces.

South of the Otulum spring the arroyo continues uphill as a dry watercourse. Some fifty meters south of the spring begins another dry arroyo splitting off to the southeast. This side arroyo climbs one hundred sixty meters further uphill becoming increasingly full of large boulders and finally terminating in a twenty-five meter tall cliff.

Within the cliff's face are two caves, one tall enough to walk into and the other with an opening approximately one meter in diameter. Both caves have multiple rooms and extend roughly thirty meters back into the earth. The taller of the two caves was drawn in plan and profile (Figure 1 and Figure 2).

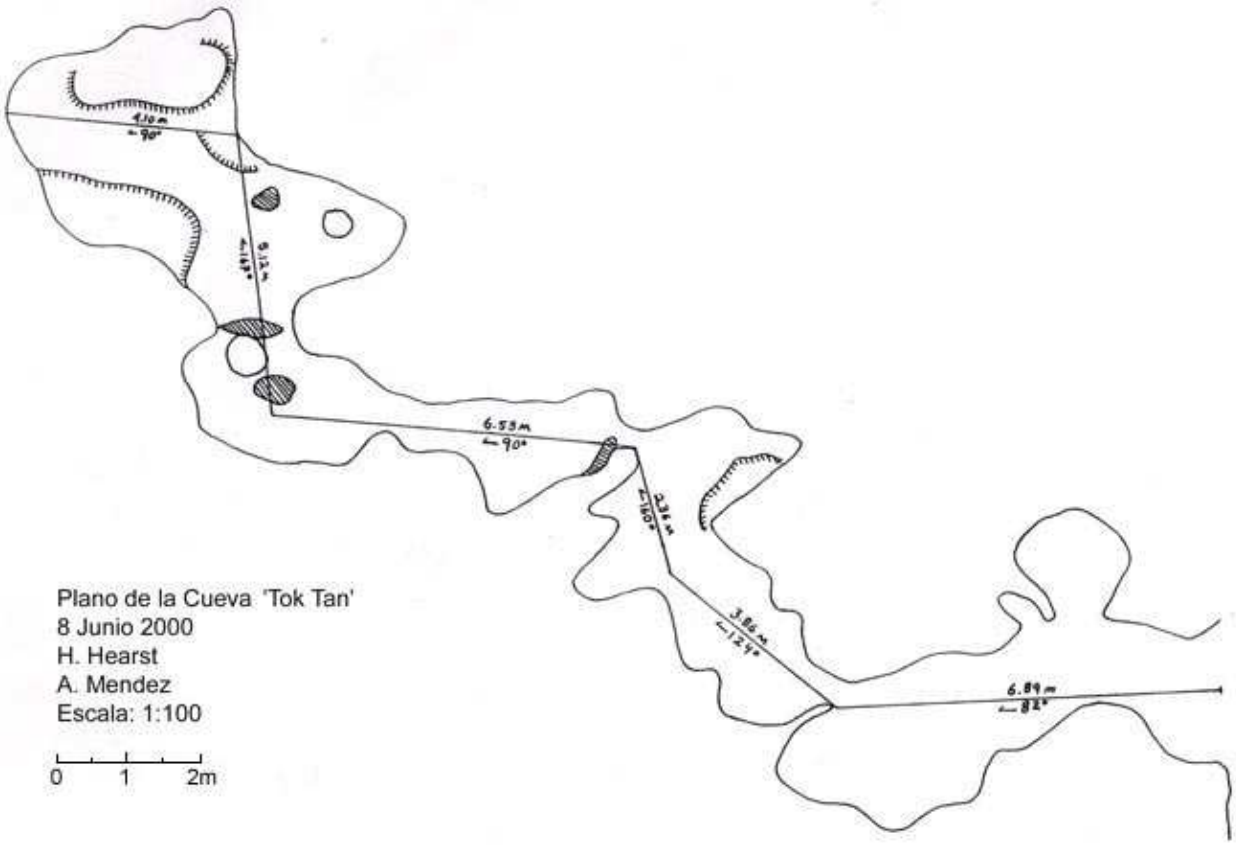


Figure 1. Drawing in plan of Tok Tan Cave drawn by H. Hurst and A. Mendez.

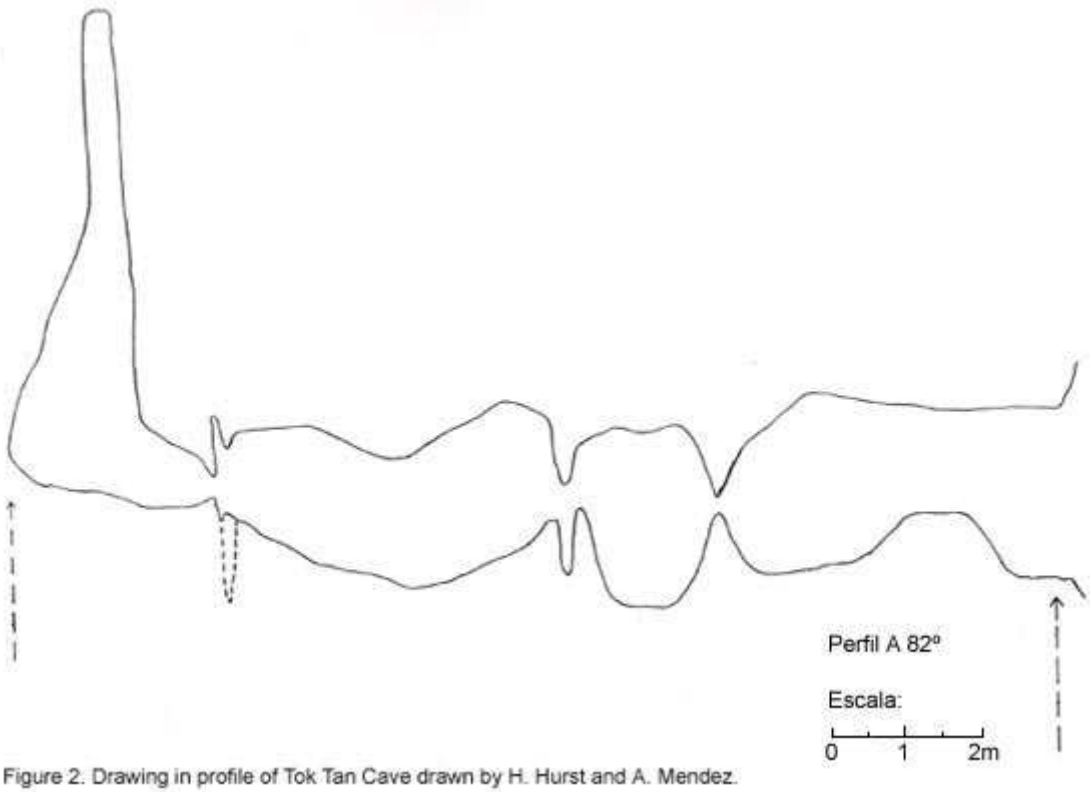
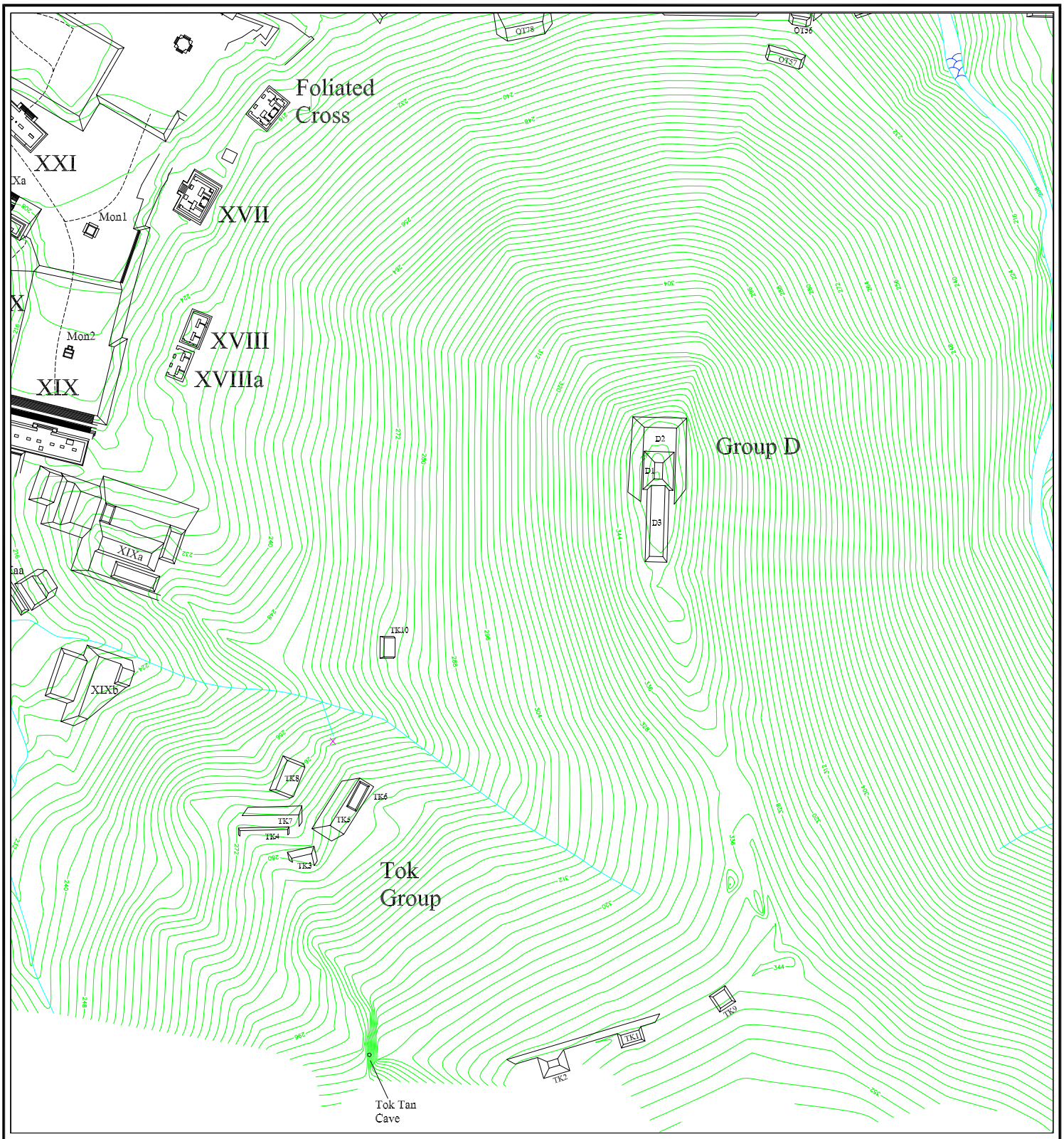


Figure 2. Drawing in profile of Tok Tan Cave drawn by H. Hurst and A. Mendez.

Tok Group

Just below Tok Tan Cave and to the northeast sits a small cluster of structures. Ten structures in total, all but one are low-lying platforms. The tenth may not be a building at all. A partially fallen wall on the north face of Structure TK3 reveals an interior consisting of yet more faced stones, not the typical rubble core. Considering its proximity to the cave's limestone cliff, this "building" may in fact be a pile of quarried stones stacked for temporary storage.



Group D and The Tok Group Palenque Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

25 0 25 50

Meters

Edwin L. Barnhart
2000

Group C

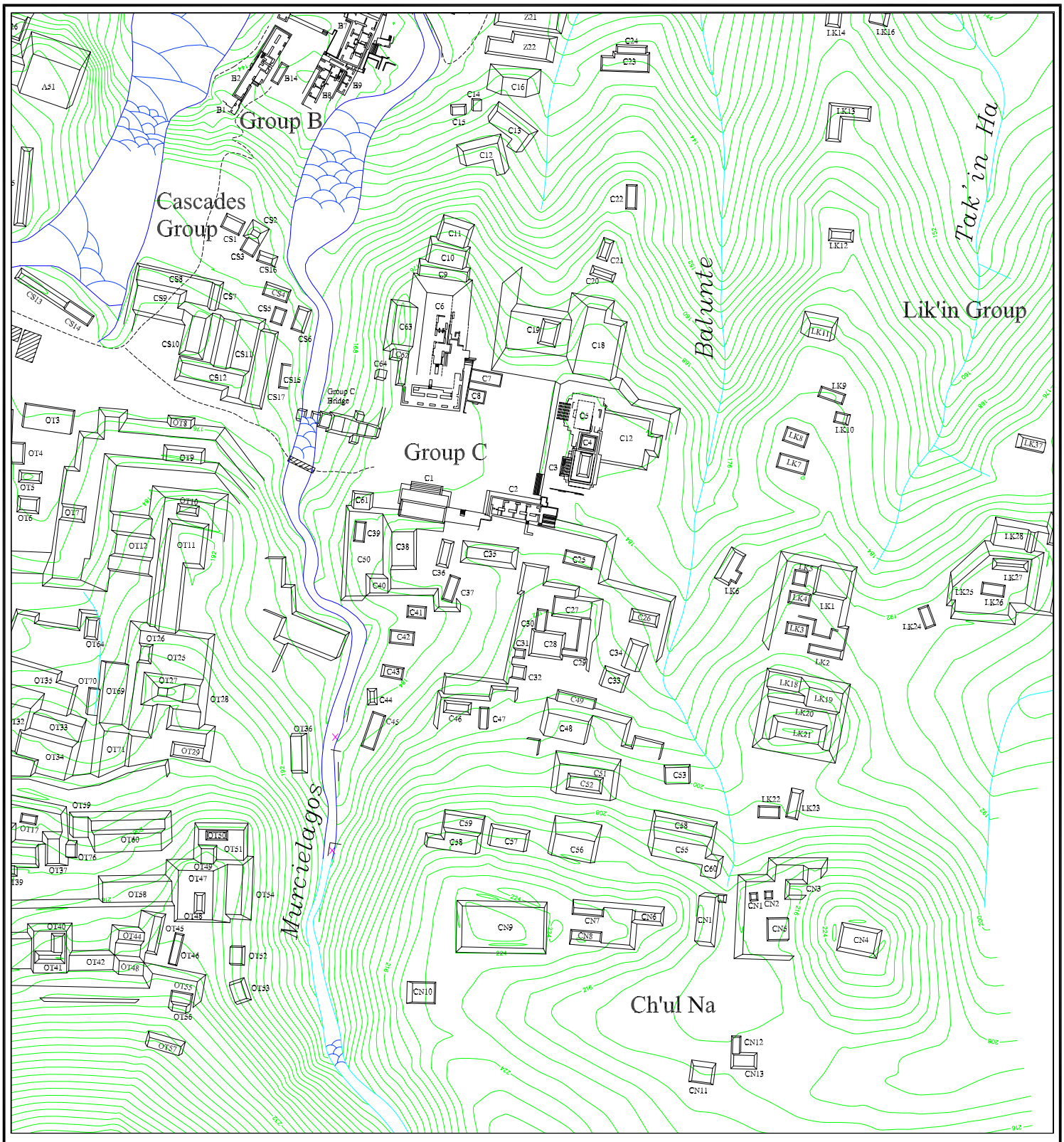
The area in between the Arroyos Murcielagos and Balunte is densely covered in ruins. In the middle of this densely built-up area lies Group C's large open plaza. The structures flanking the Group C plaza were excavated and consolidated by INAH in the early 1990's (Gonzalez 1993). Ceramics collected during their excavations were late, ascribed primarily to the Balunte Phase, A.D. 770-850 (Rands 1974). As with Group B, new plan views were drawn for each consolidated structure as part of the survey process.

Just north of the tourist trail's wooden bridge crossing the Murcielagos the survey identified the pillars an ancient bridge. Connected to that bridge was a staircase with two landings leading up to the Group C's plaza. This discovery marks only the second stone constructed bridge identified in Palenque.

Group C's central plaza is bordered by smaller arrangements of structures to the north and south. To the north, platforms step down the hillside to the southern edge of the Zutz' Group. To the south, structures arranged in multiple patio groups climb up hill some one hundred thirty meters to the Ch'ul Na Group. Along the Murcielagos, a few Group C structures are located in close proximity to a section of canal walls remnants and two springs. Sixty-four structures were recorded in Group C and, excluding the consolidated section, three structures exhibit exposed architecture; C37, C58 and C60.

Ch'ul Na

The Ch'ul Na Group is built around and on top of two large limestone outcrops straddling the uppermost point of the Arroyo Balunte. Its western portion sits atop its outcrop and includes five small structures and one large platform. The large platform's western edge looks down on the Arroyo Murcielagos some thirty-four meters below. Ch'ul Na's eastern outcrop is built up along its northern and western sides. The outcrop itself is thirteen meters tall and has a one-meter tall platform covering its flat-topped summit. South of the Ch'ul Na Group lies a wide flat area some 120x70 meters in size. Only three small structures were encountered there leaving a large amount of the area open, perhaps for agricultural purposes. The Arroyo Murcielagos flows alongside and below that wide flat area at the base of a deep canyon. Following the Murcielagos up some 380 meters past Ch'ul Na takes one to a dry cascade wall, ten meter tall and almost completely vertical.



Group C and Ch'ul Na Palenque

Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

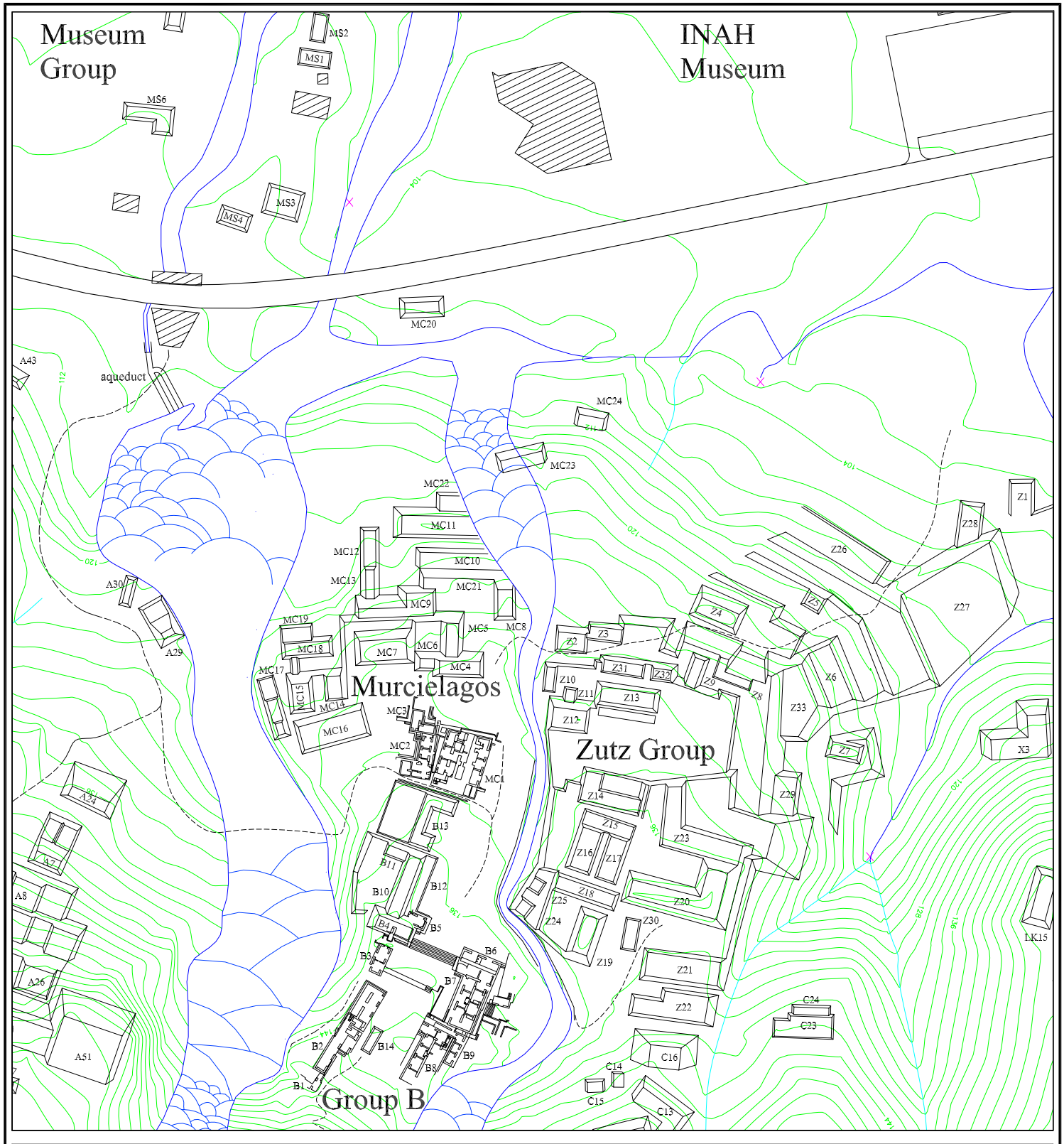
25 0 25 50

Meters

Edwin L. Barnhart
2000

Zutz' Group

Just across the Arroyo Murcielagos from Group B lies the southernmost section of the Zutz' Group. The Arroyo Balunte bounds the Zutz' Group on its eastern side. Building density in the Zutz' Group is high. Patios and platforms cover areas not covered by structures. The group reaches from Group C's northern part down to a point where the Arroyo Murcielagos begins to fan out towards the east and covers a wide area of land with calcified cascade formations. Within those partially wet formations lies a structure almost entirely buried by calcification. Located just fifty meters south of the modern road, this building has doors opening to the north and two intact interior chambers. Though found in a slightly different location, this building is probably the same one named "Santa Domingo" in Robertson's 1980 map.



Group B, Murcielagos and The Zutz' Group Palenque Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

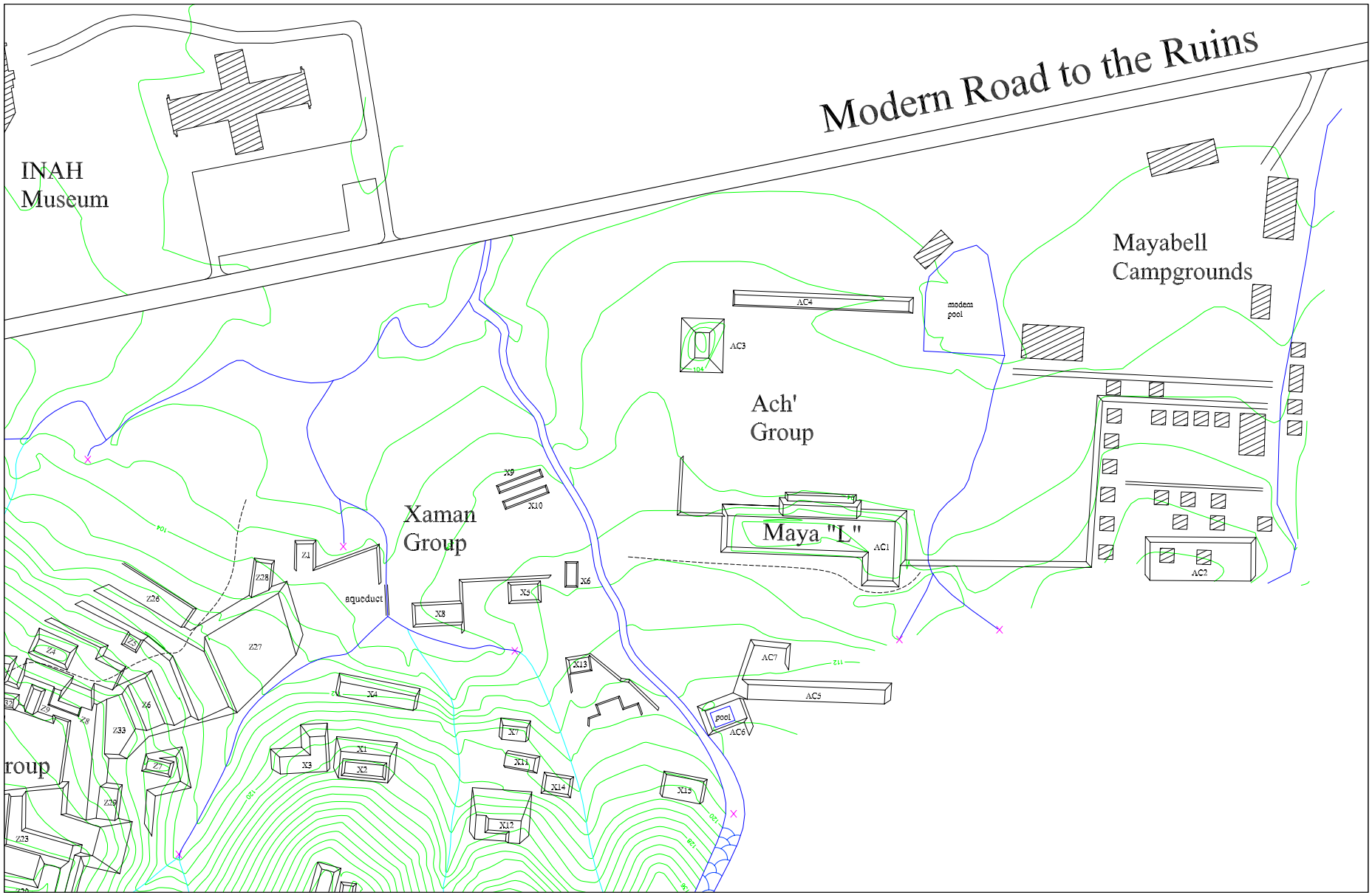
20 0 20 40

Meters

Edwin L. Barnhart
2000

Xaman Group

The southeastern edge of the Zutz' Group reaches down to the beginning of the flat plains and a group called the Xaman Group. As the watercourses of the Arroyos Murcielagos, Balunte and Ach' connect to the flat land of the plains they fragment into multiple small streams. The Xaman Group is a small group of modestly sized structures arranged around those streams. The modern road and its associated drainage features have permanently altered the original courses of the streams at their northern extents. At the base of the Balunte, at a point where it connects to another small spring-fed stream, an intact aqueduct was encountered. The Xaman Aqueduct takes the two watercourses through its ten-meter length and sends them out its other end as one. A section of canal walls extends a short distance past the aqueduct's exit. The largest structures of the Xaman Group are built into the hillside just east of the Balunte and north of the Lik'in Group.



Xaman Group and The Ach' Group Palenque Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

25 0 25 50

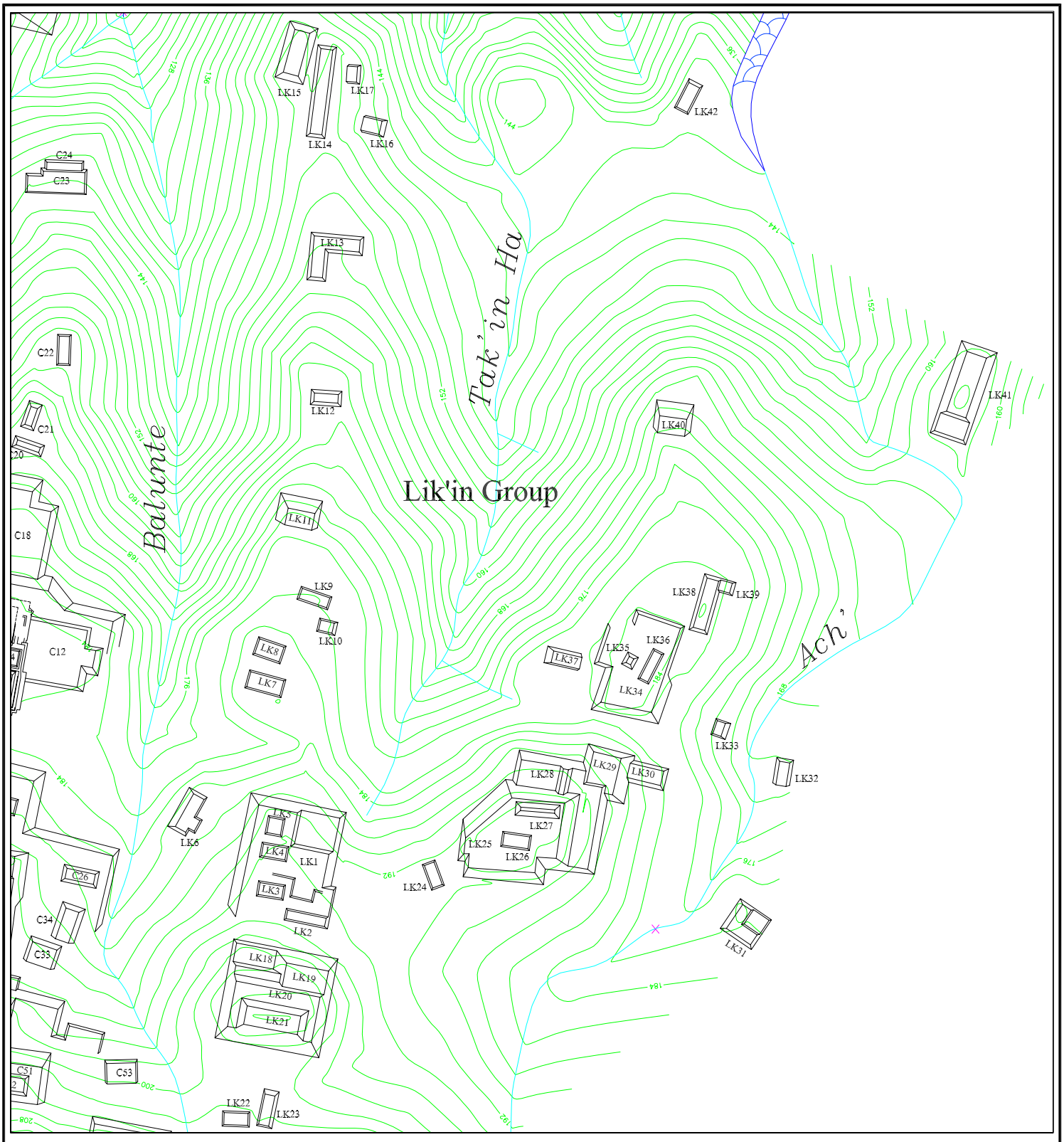
Meters

Edwin L. Barnhart
2000

Lik'in Group

The Lik'in Group is built upon and around two narrow, north-south running ridges, one high above the east bank of the Arroyo Balunte and the other above the west bank of the Arroyo Ach'. A dry but deep arroyo bed running down between the ridges was named Arroyo Tak'in Ha. The ridges connect at their southern ends but the Lik'in Group continues to extend all the way to the base of the Ch'ul Na Group. Despite the narrowness of the ridges, the Lik'in Group contains forty-two structures.

The Lik'in Group is bordered by the easternmost arroyo surveyed in the year 2000, the Ach'. This arroyo's northern section hits the modern road, flows underneath it, and gets combined into the Michol, as all of Palenque's arroyos eventually do. Its course is perennial only up to its first cascade, 220 meters south of the road. Above the cascade it winds through a rocky bed and finally dies out on the east side of the Ch'ul Na Group. An area without a clear riverbed was encountered 420 meters up its course from the modern road. The same area is flanked by two isolated structures of the Lik'in Group. It is strongly suspected that a collapsed aqueduct lies just under the surface here running some seventy meters in length. Above this suspected aqueduct the soil contains a dark red pigment tested by Proyecto de Las Cruces Director Alfonso Morales and found to be suitable for use as paint.



Lik'in Group

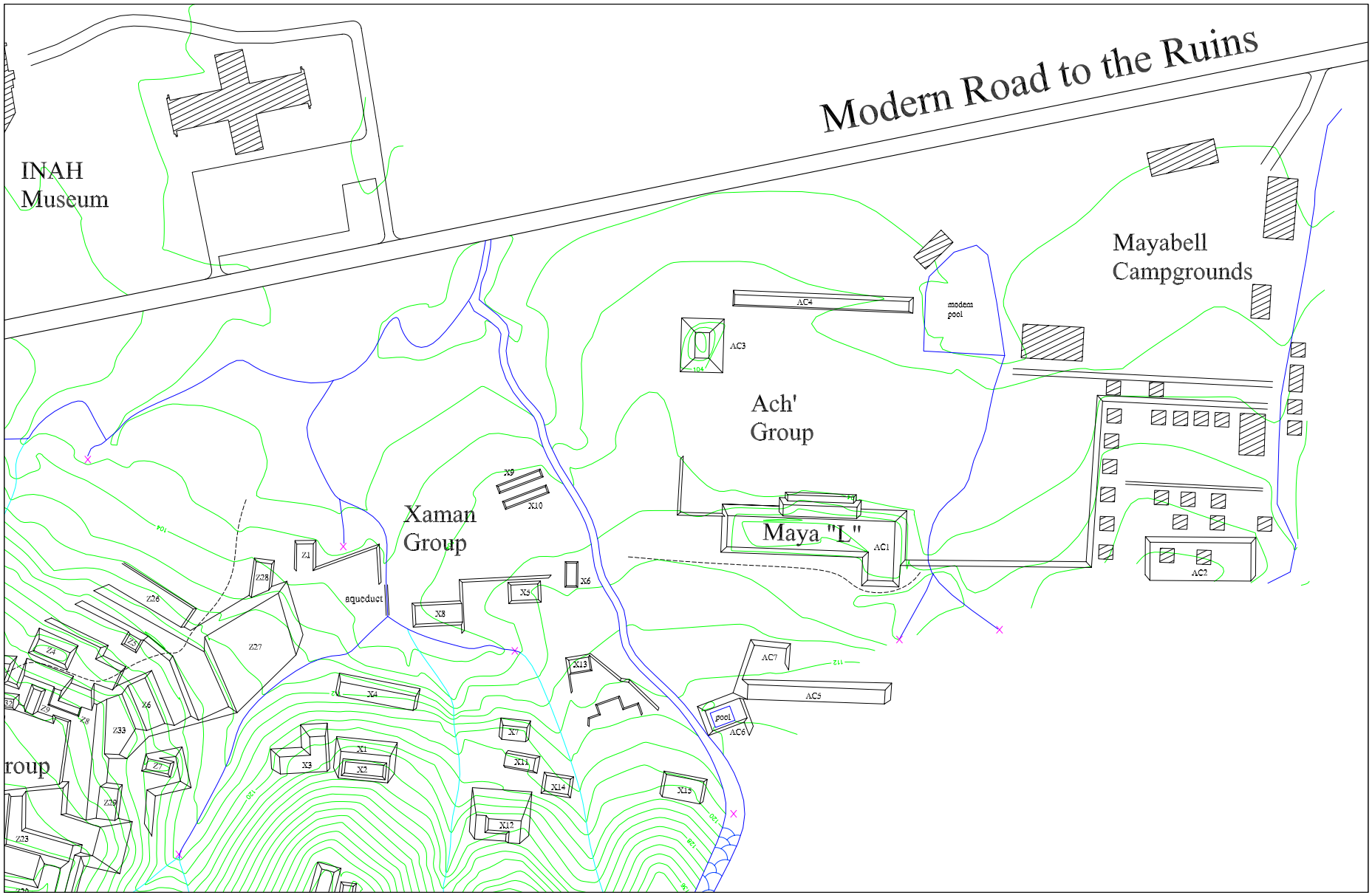
Palenque Chiapas, Mexico

Edwin L. Barnhart
2000

Ach' Group

The group furthest east to have been covered was newly documented and named the Ach' Group. Located between the Arroyo Ach' and the Mayabell campgrounds, the Ach' Group is arranged around a 70 X 70 meter open plaza. The group's main building is a sixty-seven meter long "L" shaped structure standing five meters in height. Its top still contained the stub bases of fifty columns and its front has a partially intact two-tier staircase leading down to the plaza. Initial impressions of the group suggest it may have been an administrative area connected to farming commerce in the plains. Connected to this group and extending out towards the east are three wide terraces stepping up the hillside within what is now the Mayabell campground. Having no structures atop them as higher elevation terraces in Palenque do, these examples are suspected of being some of the few agricultural terraces yet located at the site.

While structures east of Mayabell do exist they are different in character than those of the urban center. Specifically, they are larger, isolated platforms built at the intersection of the plains and the hills and/or along narrow ridges between deep arroyo cuts. Settlement frequency decreases dramatically east of Mayabell.



Xaman Group and The Ach' Group Palenque Chiapas, Mexico

Legend

- ancient architecture
- modern architecture
- road
- footpath
- perennial
- seasonal
- cascades
- springs

25 0 25 50

Meters

Edwin L. Barnhart
2000

Water Management

Palenque has long been known for its amazing aqueducts. The PMP survey has now expanded our understanding of water management to the residential areas of Palenque. Within the 220 hectares covered by the survey nine perennial arroyos and fifty-six springs were encountered. With few exceptions, every flowing water source, be it spring or rain fed, in central Palenque was managed and harnessed to serve the people who lived there.

Water management architecture recorded over the course of the survey includes four aqueducts, three "waterboxes", two bridges, the remnants of canal walls in segments of virtually every arroyo in Palenque. Two more aqueducts may be buried under the calcified beds of the Arroyos Ach' and Motiepa. Drains, while usually difficult to detect without excavation, were found in most of Palenque outer groups.

Palenque's practical choice to settle an area of such abundant resources provides modern archaeologists with research opportunities otherwise unavailable in the Maya culture area. Palenque, unlike many other classic period sites, demonstrates the ancient Maya capacity to engineer water management features in a variety of forms. Now that the PMP has identified the locations of some of these features an in-depth study of their forms and functions can be planned and initiated. For a more detailed discussion of Palenque's water management refer to *Kirk French's analysis in Part 2* of this report.

Summary

Thanks to the efforts of the PMP we now know that Palenque's settlement density was much greater than previously believed. While the 2.2 square kilometer area surveyed does not include every ancient structure in the Palenque's sphere of influence, we feel confident it accurately depicts the city's urban center. Geography restricted Palenque's expansion pattern. To the north are the plains, seasonally flooded and better suited for agricultural activities. To the south were increasingly steep hillsides, difficult to securely build upon. To the east and west the plateau that the majority of Palenque is built upon begins to die out, converting into narrow ridge-tops divided by deep arroyo cuts. While settlement appears to continue in all those directions, its character makes it something separate from what has been identified on the PMP map as the "urban center". The areas of settlement outside of this new map's boundaries are different in nature; more spread out, large single platforms and few interconnected groups. For the most part this seems again to have been a product of geography - where land suitable for building was located. If any parts of the urban core were missed they lie to the west-southwest where PMP access was denied.

The overall city plan of Palenque is one made up of major and minor communal focal points. The wide open plazas and large temples surrounding the Palace have long been

identified as the city's central precinct and now the Picota Plaza may come to be recognized as the center from an earlier epic in the city's history. At minimum, its monumental architecture classifies it a city focus point. In addition to these two obviously public zones of Palenque, many of the outer groups mapped by the PMP have small centers of their own. The centers of Groups IV, I / II, C, B and Murcielagos have all excavated and consolidated by INAH (Gonzalez 1993) and are clearly the most monumental sections of their respective areas. The Encantado Group has the Encantado Temple standing tall over the group's closest arroyo, the Motiepa. Moises' Retreat has a large elevated platform holding a square based temple and four other structures. The platform is flanked by open courtyards and again located next to a perennial arroyo. Located a half kilometer northeast of and over seventy meters below Palenque's center, a clearly public plaza group, the Ach' Group, was identified for the first time in July of 2000. The plaza is 80x80m and a structure named the Maya L bounds its south side standing five meters tall and measuring sixty-seven meters across its front side. A wide staircase with two tiers climbs up to the structure's top where the stubs of fifty columns testify to the Maya L's open colonnade architecture. The Ach' Group is one of the strongest examples that Palenque, in addition to its ceremonial center, had a multiple foci pattern of city development.

Structure density was found to be greatest in Palenque's western region, specifically in between the Arroyos Picota and Motiepa. Structure density is also quite high in between the Arroyos Otulum and Balunte. Examples of water management architecture and landscape alteration found throughout those densely settled zones seem to be primarily focused on freeing habitable lands from seasonal inundation.

The second center on Palenque's western edge, located around the Picota Plaza, is suspected of being older than the city's much larger primary center for the following reasons. First, the ceramic sequence defined by Dr. Robert Rands has identified specimens from the Picota area as some of the oldest at the site (1964). Second, data points collected in the Picota Plaza were found to be less than 50cm (on average) in elevation difference from those recorded in the plaza surrounding Palenque's Palace. The central complex of Moises' Retreat, though located along the same central plateau as the two big plazas, sits at an elevation seventeen meters lower. If the identical elevation of the two, almost one-kilometer apart plazas is not a coincidence then one must have patterned itself upon the other.

Two facts combine to point to the central plaza as the emulator. First, the Picota Plaza slopes almost imperceptibly down to the river that defines its northern boundary. Since the river is shallow and at essentially plaza level we can assume the Picota Plaza was neither built up nor dug down to any large extent. In contrast, Palenque's central plaza sits upon a terrace, built up as much as four meters in places. Clearly, if one plaza emulated the other, the smaller Picota Plaza was the original.

The discovery of this second center at Palenque leads to a hypothesis with potential to answer a growing question regarding the members of Palenque's early royal lineage. Despite decades of excavation in Palenque's central precinct archaeologists have found

little evidence of royal family activities earlier than the time of Pakal. The exceptions, the XVIIIa tomb (Berlin 1943) and the Reyna Roja (Gonzalez Cruz 1998), are still under debate as to the antiquity of their time periods. David Stuart has read Palenque hieroglyphic texts referring to a place named "Tok Tan" as the origin place of the Palenque lineage, a place he believes to be separate from the primary center (personal communication). Could the Picota Plaza be the center of the dynasty's original family members? Its size, suspected age, and obvious association with the site's residential community make it a possibility worthy of further archaeological investigation.

The year 2000 survey planned to expand investigation in the west by surveying to the north, south and further west of the Escondido Platform. While that work was partially completed, land ownership conflicts prevented a full investigation of the area. Despite the setbacks, eighty new structures were recorded in the west.

The mapping work done by the PMP in 1998-2000, while extensive, should be considered the initial phase of an ongoing process to better understand Palenque's outer regions. It is the foundation from which excavation strategies can now be devised. In late 1999 the National Park surrounding Palenque announced plans to finally buy off all privately owned lands within parks boundaries and to establish a network of tourist trails leading to outer regions of the ruins. The purchase of the surrounding lands, scheduled for completion by 2002, should end the ownership disputes and allow survey access to the currently restricted area to the west and north of Palenque. If the Palenque Mapping Project is to continue into a second phase its approach should be two part - survey expansion coupled with the initiation of a test pit program. With plans in the works to expand the boundaries of the tourist accessible sections of the park the need for establishing the chronology and architectural forms of the outer regions has become a priority for the future of archaeology at Palenque. This information can be retrieved through the implementation of a test pit program involving 50-100 pits of no more than 2x2m in a selected sample structures, a few in each one of Palenque's outer groups. A test pit strategy of this type focused around the Picota Plaza could quickly confirm or deny the growing evidence of its early dates. As the test pit program brought the recently mapped groups to the next level of investigation and collected diagnostic ceramic data, a second crew would work to expand the map past its currently presented limits. The team members of the Palenque Mapping Project hope to continue their good relationship with INAH and their sound work at Palenque by initiating such a plan in mid-2002.

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Appendix A - Dimensions of Each Structure Recorded by the Palenque Mapping Project

STRUCTURE	DIMENSIONS (length x width x height)
Group A	
A1	13x4x2
A2	(22x5)(22x5)x2
A3	(20x5)(18x5)x3.5/0
A4	13x8x3.5
A5	4x3x.5
A6	11x7x.5
A7	11x6x3.5/1.5
A8	13x1x1.5/.5
A9	(16x3)(11x5)x2/1
A10	(7x3)(7x4)x1
A11	7.5x6x2/.5
A12	4x3.5x2/.5
A13	4x3.5x2/.5
A14	22x4x1
A15	20x5x2.5/1
A16	13x6x2.5/1
A17	14x13x3.5/2
A18	10x5x.5
A19	16x9x2/.5
A20	5x5x.5
A21	11x6x1/.5
A22	(15x3)(14x4)x.5
A23	5x5x.5
A24	17x11x3/.5
A25	(10x4)(10x4)x1
A26	11x10x3/1
A27	11x5x.5
A28	13x13x.5
A29	8x8x1
A30	9x3x.5
A31	6x6x1
A32	10x10x1.5
A33	10x5x1
A34	8x4x.5
A35	13x7x3/1
A36	16x7x3/1
A37	18x13x2/1
A38	13x6x1
A39	8x8x1
A40	8x5x2/1
A41	17x5x1.5/1
A42	9x8x2
A43	8x5x1.5/1
A44	25x8x1
A45	5x5x.5
A46	13x13x2/1
A47	6x5x2/.5
A48	15x12x2/1
A49	12x12x1

STRUCTURE	DIMENSIONS (length x width x height)
A50	25x10x2/0
A51	25x20x4/0

Group E	
E1	19x9x3
E2	(11x5)(8x5)x2.5/1.5
E3	18x3x1.5/.5
E4	6x6x.5
E5	12x9x2.5/2
E6	(24x4)(13x10)x1.5/.5
E7	6x4x1
E8	5x5x1
E9	13x8x3
E10	(10x3)(8x3)x.5
E11	8x5x.5
E12	7x4x1
E13	8x4x.5
E14	5x3x.5
E15	20x4x1.5
E16	34x10x1.5
E17	16x16x4.5
E18	28x12x1
E19	(29x10)(25x13)x4/2
E20	(22x11)(20x9)x2.5
E21	43x6x1
E22	20x10x3
E23	(20x6)(13x5)x1
E24	12x6x.5
E25	12x9x2
E26	15x12x3/0
E27	(14x4)(7x7)x.5
E28	16x9x1
E29	23x11x3/2.5/2
E30	20x9x1
E31	11x5x.5
E32	9x9x2.5
E33	9x8x1.5
E34	9x4x1
E35	12x5x.5
E36	15x9x2/1
E37	12x6x1
E38	10x5x.5
E39	20x20x2/.5
E40	20x6x2/.5
E41	13x5x1
E42	12x4x1
E43	8x5x.5
E44	12x10x1
E45	5x2x1

Group H	
H1	30x30x10

STRUCTURE	DIMENSIONS (length x width x height)
H2	8x4x1
H3	12x9x3/1.5
H4	(15x8)(10x9)x1.5
H5	8x4x.5
H6	(13x3)(6x3)x1
H7	9x5x2
H8	(20x4)(11x4)x1.5
H9	13x13x4
H10	11x9x2/0
H11	12x5x1/0
H12	(10x4)(7x3)x1
H13	6x4x1/0
H14	10x7x2/0

Group J	
J1	30x13x4/1
J2	8x4x1
J3	12x9x3/1.5
J4	9x7x2
J5	(19x6)(9x5)x2
J6	8x8x3.5
J7	10.5x8.5x3.5
J8	6x5x1
J9	9x4.5x2/1
J10	9x4x.5
J11	13x7.5x1.5
J12	5x3.5x1
J13	5x3.5x1
J14	5x3.5x1
J15	8.5x3x.5
J16	25x12x2
J17	(14x4)(9x4)x2/1
J18	13x9x4.5
J19	18x4x.5
J20	13x7x1.5
J21	16x7x2/.5
J22	10x7x1
J23	(18x6)(8x5)x1.5
J24	6.5x4.5x.5
J25	8x6.5x1.5
J26	7x4.5x.5
J27	10x6x2/1.5
J28	7x4x1.5
J29	6x4.5x1.5/.5
J30	9x5x2/.5
J31	10x7x2/.5
J32	(14x6)(14x6)x1
J33	11x6x3/.5
J34	10x6x3/.5
J35	3x3x.5
J36	13x10x2
J37	(16x5)(8x5)x2/.5
J38	(15x11)(15x8)x1

STRUCTURE	DIMENSIONS (length x width x height)
J39	9x7x2/.5
J40	6.5x4x.5
J41	10x7x1
J42	11x7.5x1.5
J43	9.5x5x1
J44	10x3x.5
J45	17x9x1
J46	9x7x.5
J47	14x10x4/1
J48	25x14x4/1.5
J49	9x6x2.5/.5
J50	12x2x.5
J51	11x5x1
J52	9x4x1
J53	20x6.5x1
J54	8x4x1/.5
J55	8x6x2/.5
J56	10x5x1
J57	9x5x1
J58	14x7x1
J59	23x8x3
J60	14x13x5/2
J61	10x8x2/.5
J62	8x6x3/1
J63	8x7x.5
J64	25x8x2/0
J65	10x7x2
J66	14x5x1
J67	15x5x.5

Galindo Group	
GG1	13x8x3/.5
GG2	(13x4)(12x7)x1
GG3	13x10x3
GG4	9x4x1
GG5	8x4x.5
GG6	18x13x2/1
GG7	8x5x.5
GG8	8x3x.5
GG9	7x4x1
GG10	5x3.5x.5
GG11	4x4x.5
GG12	12x5x1
GG13	15x5x1
GG14	12x5x1
GG15	15x15x2.5/0

Encantado Group	
EC1	18x6x1.5
EC2	19x8x1.5
EC3	(11x6.5)(13x5)x3/.5
EC4	30x7x1

STRUCTURE	DIMENSIONS (length x width x height)
EC5	9x6x1
EC6	10x5x.5
EC7	4x3x.5
EC8	7x4x1.5
EC9	(15x5)(13x7)x1.5
EC10	27x18x7
EC11	7x5x1
EC12	(29x8)(20x7)x2
EC13	12x7x.5
EC14	12x4x1.5/.5
EC15	11x8x1.5
EC16	8x8x.5
EC17	14x4x.5
EC18	8x5x1
EC19	23x10x1.5
EC20	13x9x1
EC21	11x10x1.5
EC22	10x4x1
EC23	10x5x1
EC24	12x5.5x.5
EC25	12x5.5x.5
EC26	7x6x1.5
EC27	20x7x2.5/.5
EC28	9x4x.5
EC29	10x5x.5
EC30	12x6x.5
EC31	9x4x1.5/.5
EC32	15x7x1
EC33	(18x3)(10x3)x.5
EC34	11x7x1
EC35	14x6x1
EC36	8x5x2/1
EC37	(21x5)(9x7)x1
EC38	6x6x1
EC39	16x3x1
EC40	32x15x9/7/5
EC41	(9x8)(9x6)x2
EC42	6x3x.5
EC43	8x4x.5
EC44	7x5x1
EC45	12x6x1
EC46	(11x5)(8x5)x1
EC47	(12x5)(11x5)x1
EC48	(15x5)(8x5)x.5
EC49	11x4x.5
EC50	56x14x3/0
EC51	10x6x1
EC52	21x5x.5
EC53	9x5x1/.5
EC54	40x14x2
EC55	12x6x1
EC56	(20x8)(16x12)x1
EC57	17x6.5x2.5/.5
EC58	12x5x1

STRUCTURE	DIMENSIONS (length x width x height)
EC59	15x6x1.5
EC60	9x5x.5
EC61	8x4x.5
EC62	(19x7)(13x6)x1
EC63	9x3x1.5
EC64	15x10x1.5
EC65	7x5x.5
EC66	15x4x.5
EC67	17x12x2
EC68	25x13x2.5
EC69	(19x7)(12x7)x1.5
EC70	6x5x1
EC71	10x4x.5
EC72	15x4x.5
EC73	65x10x2/0
EC74	7x4x1.5
EC75	13x7x2
EC76	10x7x2
EC77	10x8x.5
EC78	8x6x.5
EC79	20x8x2
EC80	10x5x2.5
EC81	22x10x3/1
EC82	21x4x1.5
EC83	12x5x3/1
EC84	12x4x.5

Encantado South	
ES1	18x10x2
ES2	23x12x2
ES3	50x10x3/1
ES4	8x3x1
ES5	26x7x2.5/0
ES6	13x5x1.5
ES7	10x9x2
ES8	8x5x1
ES9	20x11x4
ES10	20x5x1
ES11	23x4x1
ES12	24x10x4/2
ES13	8x4x1
ES14	20x8x2
ES15	(13x4)(9x5)x1.5
ES16	11x10x1
ES17	(14x10)(16x5)x4/1.5
ES18	10x9x1
ES19	12x4x4
ES20	11x5x1
ES21	11x6x2
ES22	13x7x2/0
ES23	12x7x.5
ES24	12x12x4/.5
ES25	7x6x1

STRUCTURE	DIMENSIONS (length x width x height)
ES26	(27x7)(17x8)x4/3/.5
ES27	19x10x1
ES28	23x14x1.5
ES29	10x6x1
ES30	13x5x.5
ES31	23x15x.5
ES32	17x12x2
ES33	9x8x1
ES34	17x11x1
ES35	18x8x1.5
ES36	10x5x1/.5
ES37	8x6x1
ES38	37x8x1.5

Blue Wood Group	
BW1	(28x22)(45x15)x2
BW2	12x5x1.5
BW3	10x5x1
BW4	4x4x1
BW5	15x11x2
BW6	15x8x1.5
BW7	12x5x2/1
BW8	12x4x1
BW9	5x4x1
BW10	10x5x1.5/1
BW11	17x9x3/1.5
BW12	5x5x1
BW13	5x4x1
BW14	10x5x1.5

Schele Terraces	
ST1	35x27x5/0
ST2	25x5x4
ST3	27x12x5
ST4	11x4x.5
ST5	27x11x4
ST6	30x12x6
ST7	5x3x.5
ST8	15x10x3
ST9	25x15x2
ST10	7x3x.5
ST11	7x5x1
ST12	17x5x3
ST13	12x10x1
ST14	6x6x2
ST15	34x10x5
ST16	6x5x.5
ST17	5x3x.5
ST18	10x5x.5
ST19	17x6x2
ST20	17x6x1
ST21	15x12x2

STRUCTURE	DIMENSIONS (length x width x height)
ST22	6x5x.5
ST23	6x5x.5
ST24	6x5x.5
ST25	12x4x1.5/.5
ST26	12x10x2
ST27	14x9x2
ST28	16x10x2
ST29	7x5x4
ST30	15x4x6
ST31	4x4x1
ST32	12x10x4
ST33	12x9x2/1
ST34	10x6x1.5/.5
ST35	10x6x2/0
XXXIIIa	13x10x3
XXXIIIb	15x15x7
XXXIIIc	30x18x10/2

Temple of the Inscriptions Group	
TI1	9x4x1
TI2	20x9x2/1
TI3	14x9x1.5/1
TI4	14x6x1
TI5	9x5x2

Camp Group	
CP1	10x7x1
CP2	42x4x1
CP3	13x9x2
CP4	13x5x2/1
CP5	30x5x1
CP6	10x4x1
CP7	21x5x1
CP8	12x6x1

North Group	
NG1	6x5x2
NG2	(55x10)(16x8)x2.5/1
NG3	22x8x3/1
NG4	(57x6)(12x10)x3/1
NG5	5x4x1
NG6	12x7x1
NG7	7x4x1

Motiepa East Group	
ME1	12x5x1.5
ME2	8x6x1.5
ME3	12x6x1.5
ME4	11x6x3.5/.5
ME5	8x5x1.5

STRUCTURE	DIMENSIONS (length x width x height)
ME6	10x5x1
ME7	5x5x.5
ME8	10x4x.5
ME9	6x4x1
ME10	8x5x1
ME11	8x6x1
ME12	18x6x2/1

Group J West	
JO1	12x4x1.5/.5
JO2	12x5x1/0
JO3	20x5x1
JO4	13x4x.5
JO5	5x5x.5
JO6	22x7x2
JO7	(14x6)(10x5)x2/1
JO8	11x4x.5
JO9	11x5x.5
JO10	9x4x.5
JO11	12x5x2/1
JO12	(31x10)(27x11)x3/2
JO13	10x7x1
JO14	4x4x1
JO15	18x5x1
JO16	7x5x1
JO17	12x6x2/0
JO18	15x7x1
JO19	29x14x3.5
JO20	10x5x1
JO21	24x4x.5
JO22	19x9x3/1
JO23	15x10x5/3
JO24	(12x8)(12x5)x2
JO25	10x10x1
JO26	18x8x2/.5
JO27	8x5x2/1
JO28	10x10x4
JO29	13x4x1
JO30	13x10x2/1
JO31	13x5x.5
JO32	8x8x1
JO33	(22x8)(17x15)x2/1
JO34	9x6x1/.5
JO35	(12x4)(9x4)x.5
JO36	12x7x1/.5
JO37	19x8x1
JO38	8x4x1/.5
JO39	5x5x.5
JO40	12x6x1
JO41	9x4x1/0
JO42	9x5x.5
JO43	7x2x.5

STRUCTURE	DIMENSIONS (length x width x height)
Motiepa Group	
M1	10x5x1
M2	(25x9)(20x15)x5/3/2
M3	9x6x2/.5
M4	18x4x.5
M5	13x7x3/2
M6	9x6x1/0
M7	10x6x2/1
M8	(20x16)(7x6)x2/.5
M9	14x10x3/.5
M10	11x7x2
M11	(18x7)(17x7)x3/2/1
M12	9x7x2/1
M13	6x5x2/1
M14	8x5x2/1
M15	18x4x.5
M16	(13x4)(8x3)x.5
M17	12x9x3/2
M18	12x9x2/1
M19	8x5x1
M20	7x4x.5
M21	14x6x2/1
M22	9x5x1/0
M23	10x5x2/0
M24	14x8x3/0
M25	12x7x2/0
M26	(12x4)(8x4)x4/3/2/1
M27	9x5x1
M28	10x4x.5
M29	6x6x2/1
M30	19x8x3/2
M31	12x8x2/1
M32	22x9x1
M33	7x7x2
M34	18x10x2/1
M35	10x5x1
M36	12x7x1.5/.5
M37	10x4x1
M38	10x5x1
M39	10x5x1
M40	12x5x1
M41	9x5x1
M42	10x5x1
M43	12x5x1
M44	4x2x.5
M45	4x2x.5

Group G	
G1	12x12x1/.5
G2	12x5x.5
G3	16x8x5/2
G4	7x5x2/.5

STRUCTURE	DIMENSIONS (length x width x height)
G5	12x4x.5
G6	12x7x1
G7	6x4x2/1
G8	8x5x1
G9	10x5x1/.5
G10	6x4x2/1
G11	10x5x1
G12	28x24x4/2
G13	8x4x.5
G14	7x4x.5
G15	19x5x1
G16	(27x12)(12x12)x.5
G17	6x4x.5
G18	4x3x1
G19	15x7x.5

Moises' Retreat	
MR1	13x5x1
MR2	10x6x2/1
MR3	16x7x3/1
MR4	25x13x3/2/1
MR5	9x5x1
MR6	(15x6)(12x4)x1
MR7	18x10x5x.5
MR8	(26x12x5)x1
MR9	25x10x1.5/.5
MR10	20x5x1
MR11	(25x10)(16x7)x2/1
MR12	16x6x1
MR13	7x4x.5
MR14	26x6x1/.5
MR15	10x4x1
MR16	15x6x1/.5
MR17	(10x4)(8x5)x1
MR18	12x5x1
MR19	13x6x1
MR20	13x5x1
MR21	9x9x5/4
MR22	(14x5)(7x4)x1.5/.5
MR23	10x5x1
MR24	18x18x10/6
MR25	27x14x2/0
MR26	12x9x2
MR27	21x11x1.5
MR28	5x5x1
MR29	15x7x2/.5
MR30	13x6x2/1
MR31	10x5x.5
MR32	26x7x1.5
MR33	(14x10)(19x7)x1.5
MR34	8x6x2/1
MR35	9x9x1
MR36	12x7x1/.5

STRUCTURE	DIMENSIONS (length x width x height)
MR37	10x5x1.5/1/.5
MR38	8x4x.5
MR39	8x4x1
MR40	8x5x1/0
MR41	21x8x1/.5
MR42	10x8x1/0
MR43	13x10x.5
MR44	8x6x1
MR45	7x4x.5
MR46	9x4x1
MR47	13x5x.5
MR48	14x5x.5
MR49	12x7x1.5/.5
MR50	(12x6)(9x5)x2/1
MR51	12x5x1
MR52	25x15x1/.5
MR53	15x6x.5
MR54	16x6x1.5
MR55	13x5x1
MR56	12x5x1/.5
MR57	19x10x.5
MR58	11x5x1
MR59	20x6x1
MR60	12x4x.5
MR61	10x7x.5

Xinil Pa' Group	
XP1	20x16x6/5
XP2	20x13x5/3
XP3	13x8x3/1.5
XP4	7x4x.5
XP5	12x5x.5
XP6	10x5x.5
XP7	(13x5)(11x7)x2/1
XP8	(8x5)(8x5)x.5
XP9	18x6x.5
XP10	6x5x1.5/1
XP11	8x5x1.5/1
XP12	(18x4)(9x5)x1/.5
XP13	14x7x1.5
XP14	14x7x2/.5
XP15	18x8x1
XP16	5x5x.5
XP17	9x6x1
XP18	32x18x2
XP19	5x4x1.5
XP20	7x7x.5
XP21	7x3x1.5
XP22	8x5x.5
XP23	17x8x1.5
XP24	8x5x1
XP25	15x7x.5
XP26	(10x4)(8x4)x.5

STRUCTURE	DIMENSIONS (length x width x height)
XP27	8x4x.5
XP28	14x9x.5
XP29	(12x5)(9x4)x.5
XP30	13x6x1.5
XP31	(17x5)(16x5)x1
XP32	10x6x.5
XP33	30x10x2/1.5
XP34	8x5x1/.5
XP35	16x8x2
XP36	13x11x3.5
XP37	(13x5)(12x9)x1
XP38	13x7x1.5/.5
XP39	11x9x3
XP40	20x5x1
XP41	13x5x.5
XP42	11x4x1/.5
XP43	14x6x1
XP44	9x9x3/.5
XP45	14x6x1
XP46	9x4x.5
XP47	5x4x.5
XP48	8x5x.5
XP49	8x5x.5
XP50	15x10x4/2
XP51	9x4x1
XP52	5x4x1.5
XP53	14x4x.5
XP54	7x5x1
XP55	15x7x2/1
XP56	5x5x.5
XP57	11x11x1
XP58	(22x8)(17x12)x2.5
XP59	(19x5)(11x7)x2
XP60	13x7x3/2
XP61	26x13x3/2/1
XP62	5x4x.5
XP63	8x5x2/.5
XP64	8x6x.5
XP65	(14x6)(9x6)x1
XP66	10x10x2/1
XP67	(25x4)(9x4)x1
XP68	9x4x.5
XP69	(24x8)(14x9)x2/0
XP70	10x10x1.5/0
XP71	9x4x1
XP72	(22x9)(16x10)x3/0
XP73	(21x4)(11x8)x.5
XP74	9x5x.5
XP75	8x5x.5
XP76	7x5x1/0
XP77	12x6x1.5/0
XP78	14x7x2/0

STRUCTURE	DIMENSIONS (length x width x height)
Piedras Bolas Group	
PB1	15x10x4/2
PB2	17x5x1
PB3	9x6x1.5/.5
PB4	12x10x3/1
PB5	10x10x2/0
PB6	6x4x.5
PB7	12x6x2
PB8	15x3x1
PB9	(19x10)(15x13)x2/1
PB10	7x6x1
PB11	6x6x1.5
PB12	(23x6)(20x6)x2/1
PB13	15x7x.5
PB14	14x10x2/.5
PB15	8x6x1.5
PB16	8x5x1
PB17	9x6x1/.5
PB18	14x7x2/1
PB19	8x6x.5
PB20	9x5x.5
PB21	12x9x.5
PB22	26x5x.5
PB23	13x9x2/0
PB24	6x6x1.5/0
PB25	20x7x1/0
PB26	20x13x2/1
PB27	10x7x1/0
PB28	(16x8)(9x6)x3/2/1
PB29	31x10x1
PB30	9x8x1
PB31	7x5x.5
PB32	(13x9)(10x7)x2/1
PB33	15x8x1.5
PB34	20x20x2/.5
PB35	16x6x3/2/1.5
PB36	5x3x1
PB37	14x8x2/.5
PB38	20x12x2/0
PB39	20x10x2
PB40	7x4x.5
PB41	7x4x.5
PB42	11x3x1
PB43	7x5x.5
PB44	10x5x.5
PB45	21x6x1
PB46	10x9x1
PB47	26x12x3/1
PB48	8x7x1
PB49	12x9x2/1
PB50	7x6x1/0
PB51	(27x8)(16x12)x2/1/0
PB52	11x5x1/0
PB53	18x9x1.5/0

STRUCTURE	DIMENSIONS (length x width x height)
PB54	8x8x1/0
PB55	17x5x1/0
PB56	(10x5)(12x5)x1
PB57	13x8x1.5/.5
PB58	10x6x2/.5
PB59	16x11x2/.5
PB60	24x7x1
PB61	10x5x1
PB62	4x4x.5
PB63	12x6x1
PB64	10x5x1
PB65	14x8x2/0
PB66	9x4x1.5/0
PB67	35x9(7)x1.5/0

Olvidado Group	
O1	5x5x1
O2	11x5x1
O3	8x6x2/1.5
O4	6x4x.5
O5	9x6x1.5/.5
O6	17x10x2/1
O7	12x7x2/.5
O8	16x6x2/.5
O9	7x5x1

Lemon Group	
L1	14x10x3/2
L2	8x6x2/1.5
L3	6x6x1.5
L4	(21x6)(13x6)x1
L5	7x4x.5
L6	11x7x1/.5
L7	(17x5)(15x8)x2/1
L8	9x5x1
L9	9x4x.5
L10	6x4x.5
L11	13x6x1
L12	8x4x.5
L13	14(13)x6x1
L14	8x4x.5
L15	12x4x.5
L16	10x8x.5
L17	13x6x2/.5
L18	5x4x1.5/.5
L19	9x7x3/2/1
L20	17x14x2/1
L21	13x6x1
L22	7x7x1
L23	5x3x.5
L24	7x4x.5
L25	5x3x.5

STRUCTURE	DIMENSIONS (length x width x height)
L26	(28x8)(22x21)x3/2/1
L27	9x6x1
L28	10x5x1/.5
L29	13x5x.5
L30	11x6x.5
L31	15x5x1
L32	12x4x.5
L33	15x10x1/.5
L34	8x5x.5
L35	10x4x.5
L36	12x6x.5
L37	10x6x1/0
L38	20x5x.5
L39	5x4x.5
L40	9x5x1
L41	7x5x1
L42	9x5x1/.5
L43	12x5x1
L44	10x5x1
L45	10x4x.5
L46	(15x4)(7x5)x.5
L47	4x2x.5
L48	7x4x.5
L49	7x5x1
L50	10x5x1
L51	13x5x1
L52	10x5x.5
L53	14x7x.5
L54	10x7x1.5
L55	(6x4)(10x4)x1.5
L56	11x5x1
L57	7x4x.5
L58	(17x5)(17x5)x.5
L59	10x7x.5
L60	12x8x1
L61	(18x5)(5x4)x.5
L62	11x7x1.5/1
L63	13x7x1.5
L64	10x7x1
L65	8x5x.5
L66	13x5x.5
L67	28x14x4
L68	28x10x1
L69	12x4x.5
L70	6x4x.5
L71	4x4x.5
L72	13x10x2
L73	13x5x1
L74	15x10x1.5
L75	6x4x1
L76	10x7x1/.5
L77	(19x6)(16x6)x1.5
L78	8x8x1
L79	9x7x1

STRUCTURE	DIMENSIONS (length x width x height)
L80	10x5x1
L81	15x8x1
L82	5x5x1
L83	27x4x.5

Picota Group	
P1	16x9x1.5
P2	16x8x3.5
P3	14x12x5/2
P4	7x7x1.5
P5	15x9x2/1
P6	9x5x.5
P7	5x4x.5
P8	22x12x2/1/0
P9	9x8x1.5x.5
P10	16x5x1/0
P11	14x9x2/1
P12	17x5x1
P13	14x14x4/2
P14	15x14x8/3/1
P15	20x10x2/1
P16	11x7x1.5/0
P17	9x9x2/0
P18	18x5x1/0
P19	9x5x.5
P20	12x10x1
P21	6x4x.5
P22	10x5x.5
P23	17x9x2
P24	12x8x1.5
P25	20x12x1
P26	(40x15)(26x17)x3/1
P27	21x12x2/1
P28	11x5x1
P29	9x4x1
P30	12x10x1.5/0
P31	15x10x2
P32	12x7x1
P33	25x12x2/1
P34	10x6x1/.5
P35	(8x3)(6x3)x1
P36	16x7x1
P37	18x6x2/1
P38	15x12x3/0
P39	(15x8)(11x5)x3/2/1
P40	15x15x3/2/1
P41	6x4x.5
P42	9x6x1
P43	10x5x1/.5
P44	12x4x3/1
P45	(19x10)(35x9)x2.5/1.5
P46	10x6x1
P47	17x7x1

STRUCTURE	DIMENSIONS (length x width x height)
P48	13x4x.5
P49	13x4x.5
P50	15x5x1/.5
P51	14x7x1.5/.5
P52	12x6x.5
P53	9x6x1
P54	5x5x1
P55	6x3x.5
P56	13x6x1/.5
P57	15x5x.5
P58	12x5x1
P59	12x8x1
P60	16x10x2
P61	9x5x2/.5
P62	12x11x1
P63	12x5x3/1
P64	12x6x.5
P65	(8x4)(10x4)x1
P66	15x5x1
P67	8x6x2/1
P68	33x28x1.5
P69	9x5x.5
P70	11x5x.5
P71	6x5x.5
P72	7x4x.5
P73	6x4x1
P74	11x7x1
P75	11x4x1.5/.5
P76	12x4x1.5/.5
P77	13x4x1
P78	10x8x1
P79	6x5x1.5
P80	12x7x1
P81	16x14x1
P82	16x10x2/1
P83	11x7x1
P84	11x4x1
P85	11x4x1
P86	12x7x1.5
P87	10x7x2/1/0
P88	11x8x1.5/0
P89	12x8x1/.5
P90	15x7x1.5
P91	9x5x.5

Escondido Group	
ED1	(20x7)(13x7)x1.5
ED2	16x8x1.5
ED3	9x5x1
ED4	11x6x1
ED5	(30x5)(28x5)(15x6)x.5
ED6	15x5x1
ED7	8x7x2/1

STRUCTURE	DIMENSIONS (length x width x height)
ED8	7x6x1
ED9	10x8x1
ED10	9x6x2/1
ED11	12x8x2/1
ED12	6x4x.5
ED13	4x3x.5
ED14	10x5x1.5
ED15	(31x12)(21x8)x2/1
ED16	6x4x1
ED17	(14x10)(19x7)x1
ED18	12x5x1
ED19	10x9x1
ED20	22x10x1
ED21	8x4x.5
ED22	15x12x.5
ED23	(18x5)(11x7)x1
ED24	11x5x1
ED25	(12x7)(12x4)x1
ED26	6x4x.5
ED27	9x5x.5
ED28	10x3x.5
ED29	13x10x1
ED30	(13x4)(15x9)x2/1
ED31	5x3x2/1
ED32	12x6x1
ED33	12x6x2/.5
ED34	8x7x.5
ED35	8x5x1
ED36	8x6x1
ED37	13x11x2/1
ED38	(12x8)(8x4)x2/1
ED39	31x9x2/0
ED40	18x5x1
ED41	20x12x2/1
ED42	12x7x1
ED43	9x5x.5
ED44	5x4x.5
ED45	(25x5)(10x7)x2/1
ED46	7x5x1.5
ED47	(16x7)(14x9)x1
ED48	16x6x2/1
ED49	10x5x1.5/.5
ED50	10x10x.5
ED51	12x10x1
ED52	(30x8)(10x5)x2/1
ED53	(13x7)(11x5)x1.5
ED54	(18x5)(14x5)x1.5/1
ED55	9x5x1
ED56	17x5x.5
ED57	(14x6)(10x5)x2/1
ED58	11x5x1
ED59	5x5x1
ED60	9x2x.5
ED61	5x5x1

STRUCTURE	DIMENSIONS (length x width x height)
ED62	8x5x1
ED63	10x5x1
ED64	15x8x1.5
ED65	5x6x1
ED66	8x4x1
ED67	6x4x1

Nauyaka Group	
N1	10x5x.5
N2	10x5x.5
N3	12x6x.5
N4	15x5x2/1
N5	12x5x.5
N6	16x7x2/1/.5
N7	12x8x3
N8	(12x5)(8x4)x1.5
N9	12x6x1.5/.5
N10	12x6x1/.5
N11	15x6x1
N12	14x5x1.5/1
N13	(17x8)(14x8)x2/1
N14	10x6x1
N15	12x6x2/1
N16	8x6x2/.5
N17	9x7x2/1
N18	17x12x3/1
N19	16x5x2/.5
N20	8x5x.5
N21	12x5x.5
N22	14x7x2/1
N23	12x5x.5
N24	16x12x2/1
N25	(33x10)(25x19)x3/1
N26	14x6x2
N27	8x5x.5
N28	7x7x2.5/1.5
N29	17x8x2/1
N30	14x6x2/1
N31	14x5x2/.5
N32	10x4x.5
N33	14x8x1.5
N34	5x3x.5
N35	7x5x1
N36	14x5x.5
N37	12x8x1.5
N38	(20x6)(10x10)x2/1
N39	13x7x2/1
N40	10x6x.5
N41	12x10x2
N42	16x12x3/2/1
N43	18x7x2.5/1
N44	10x6x.5
N45	12x7x1.5

STRUCTURE	DIMENSIONS (length x width x height)
N46	16x5x2.5/.5
N47	18x18x2
N48	12x10x1
N49	15x9x1.5
N50	5x4x1
N51	6x3x.5
N52	13x10x1.5
N53	10x5x.5
N54	10x5x.5
N55	10x5x.5
N56	10x5x.5
N57	12x5x1/.5
N58	9x4x.5
N59	6x6x.5
N60	10x7x1
N61	13x5x.5
N62	13x5x1
N63	9x5x.5
N64	10x10x1
N65	15x6x1
N66	19x10x3/1
N67	4x4x1
N68	13x5x1
N69	13x5x1
N70	22x7x2.5/1
N71	13x5x1
N72	15x10x2/0
N73	10x5x2/.5
N74	5x5x1
N75	12x6x1
N76	7x5x1

Group B	
B1	10x5x1
B2	35x12x4
B3	12x7x2
B4	18x8x2.5/2
B5	8x5x2
B6	14x6x2
B7	(25x12)x(14x6)x3/2
B8	(25x12)x(13x6)x3/2
B9	12x5x2
B10	16x12x2.5
B11	7x5x1.5
B12	15x6x1.5
B13	(14x7)x(14x5)x2

Murcielagos Group	
M4	13x6x3/1
M5	11x6x3/1.5
M6	5x4x1
M7	16x9x2/1

STRUCTURE	DIMENSIONS (length x width x height)
M8	10x5x2.5/1
M9	(27x7)x(12x9)x1.5/0
M10	27x6x1.5/0
M11	27x9x3/1
M12	9x7x1
M13	10x7x3/2/0
M14	10x6x2/1
M15	10x8x2/1
M16	20x9x2/1
M17	19x6x2/1
M18	16x5x2/1
M19	10x6x1/0
M20	13x6x2/1
M21	20x4x1
M22	6x5x1
M23	25x10x3
M24	12x10x2/0

Cascades Group	
CS1	8x6x1/.5
CS2	8x7x3/2
CS3	5x4x.5
CS4	13x6x2/1
CS5	7x5x.5
CS6	10x5x1/1.5
CS7	10x4x2/1
CS8	(29x7)x(11x5)x1.5
CS9	19x10x2
CS10	17x8x4/2
CS11	17x5x4/1.5
CS12	(29x18)x(12x6)x2
CS13	24x6x1
CS14	10x6x.5
CS15	9x4x.5
CS16	10x5x2/.5
CS17	28x9x1

Otulum Group	
OT1	43x7x2
OT2	27x5x1.5
OT3	19x7x.5
OT4	9x6x1
OT5	9x6x1.5
OT6	11x6x1.5
OT7	10x7x.5
OT8	10x5x1
OT9	11x6x1.5
OT10	8x4x1
OT11	(40x10)x(21x18)x2/1
OT12	15x7x1
OT13	10x4x.5
OT14	20x6x1

STRUCTURE	DIMENSIONS (length x width x height)
OT15	17x4x1
OT16	11x5x.5
OT17	18x4x1
OT18	5x5x.5
OT19	(25x7)x(19x7)x2
OT20	5x5x.5
OT21	14x7x2
OT22	15x5x.5
OT23	(5x3)x(5x3)x.5
OT24	(18x4)x(13x5)x2
OT25	19x19x1.5
OT26	7x5x1
OT27	12x12x5
OT28	12x10x2
OT29	15x7x2/1
OT30	9x4x.5
OT31	13x5x1
OT32	20x20x4/1/0
OT33	18x9x3/0
OT34	16x9x1.5
OT35	(25x9)x(11x10)x1
OT36	20x8x2/0
OT37	13x10x2
OT38	(22x10)x(13x12)x3/1
OT39	6x4x.5
OT40	6x4x1
OT41	12x5x2
OT42	16x9x2/1
OT43	12x8x2/0
OT44	12x5x2
OT45	14x6x2/.5
OT46	14x3x.5
OT47	23x19x3/.5
OT48	9x4x1
OT49	8x6x2
OT50	9x4x.5
OT51	22x16x2/0
OT52	11x6x1.5/0
OT53	12x6x1.5/0
OT54	18x7x2/0
OT55	12x4x1
OT56	12x5x2
OT57	22x10x2
OT58	24x10x2
OT59	9x7x.5
OT60	14x10x4
OT61	4x3x1
OT62	9x5x.5
OT63	(18x8)x(13x10)x1
OT64	5x5x1
OT65	45x7x2/0
OT66	40x3x2/0
OT67	15x11x1
OT68	10x4x.5

STRUCTURE	DIMENSIONS (length x width x height)
OT69	20x5x1.5
OT70	8x4x.5
OT71	10x9x1
OT72	10x6x3/0
OT73	11x4x2/1
OT74	42x20x1.5
OT75	25x21x2/0
OT76	10x7x1/0
OT77	45x12x3/0
OT78	23x11x6/0
OT79	22x8x1
OT80	20x17x1
OT81	21x10x1

Museum Group	
MS1	11x5x.5
MS2	8x4x.5
MS3	9x9x1
MS4	8x4x1
MS5	12x11x1
MS6	(10x4)x(7x5)x1

Group D	
D1	13x10x4
D2	30x12x4
D3	22x8x2

Tok Group	
TK1	5x5x1
TK2	9x9x2.5
TK3	12x3x2.5
TK4	16x2x1
TK5	22x7x3/0
TK6	12x5x.5
TK7	13x8x3
TK8	15x8x2/0
TK9	7x5x1

Leon Group	
LE1	8x4x.5
LE2	6x4x.5
LE3	8x4x2/1
LE4	7x4x1
LE5	4x4x1
LE6	10x3x.5
LE7	9x5x2/.5
LE8	8x4x.5
LE9	8x5x1
LE10	7x4x1
LE11	12x5x2/.5

STRUCTURE	DIMENSIONS (length x width x height)
LE12	7x5x2/.5
LE13	7x5x2/.5
LE14	8x5x1
LE15	10x3x1
LE16	14x12x2/0
LE17	8x4x1
LE18	6x4x1
LE19	12x8x2/1
LE20	8x4x1

Zutz' Group	
Z1	12x8x1.5
Z2	10x6x2/1
Z3	11x6x2/.5
Z4	18x8x2/1.5
Z5	5x5x1
Z6	25x9x2/1
Z7	10x5x1.5
Z8	(12x4)x(6x4)x.5
Z9	10x5x1.5
Z10	10x4x.5
Z11	4x4x1
Z12	14x5x1.5
Z13	22x6x1.5
Z14	16x6x2/.5
Z15	15x4x1
Z16	17x7x1
Z17	17x7x1
Z18	21x4x1
Z19	14x5x2/.5
Z20	(33x10)x(22x10)x4/3
Z21	24x10x2.5/2/1.5
Z22	(26x8)x(19x12)x3/1
Z23	(33x5)x(16x7)x2/1
Z24	6x4x.5
Z25	5x3x.5
Z26	24x8x1
Z27	33x27x3
Z28	12x8x1.5
Z29	12x8x1.5
Z30	13x5x.5
Z31	7x2x.5
Z32	3x3x.5
Z33	28x8x2/0

Group C	
C1	20x13x3
C2	23x15x4.5
C3	15x12x5
C4	15x10x4.5
C5	17x15x6
C6	47x24x5/3

STRUCTURE	DIMENSIONS (length x width x height)
C7	13x5x1
C8	8x5x1
C9	21x3x1.5
C10	16x7x2
C11	11x7x2
C12	(26x11)x(15x7)x4
C13	(23x9)x(16x9)x3
C14	9x7x1.5
C15	7x5x2/.5
C16	25x10x3
C17	21x18x1.5
C18	(25x13)x(19x18)x3/0
C19	8x5x.5
C20	7x5x1
C21	10x4x1
C22	12x6x.5
C23	(28x10)x(22x14)x1.5/1
C24	18x6x2/0
C25	15x9x.5
C26	11x5x1
C27	18x9x2/1
C28	10x10x1
C29	11x3x.5
C30	10x4x.5
C31	4x3x.5
C32	7x6x1
C33	10x8x2/1/0
C34	8x8x1.5/0
C35	22x7x2
C36	11x5x1
C37	10x4x.5
C38	13x11x3/1
C39	9x4x.5
C40	3x3x1
C41	7x5x.5
C42	9x5x.5
C43	12x6x.5
C44	8x4x.5
C45	20x5x1.5
C46	10x6x.5
C47	7x4x.5
C48	19x11x3/1/0
C49	18x4x1
C50	10x10x1/0
C51	25x12x2/0
C52	12x6x1
C53	12x7x1/0
C54	25x6x1.5
C55	23x9x3.5
C56	24x9x2.5
C57	15x7x1/0
C58	(19x5)x(15x8)x2
C59	15x6x1.5
C60	6x6x1.5

STRUCTURE	DIMENSIONS (length x width x height)
C61	10x5x1
C62	(16x5)x(8x7)x2/0
C63	19x10x3/0
C64	6x6x1/0

Xaman Group	
X1	24x11x4/0
X2	17x4x1
X3	(22x9)x(15x10)x3
X4	24x5x2/0
X5	14x8x1.5
X6	8x5x.5
X7	11x7x2/0
X8	20x9x1
X9	16x3x.5
X10	16x3x.5
X11	11x5x2/0
X12	21x12x3.5
X13	8x4x1
X14	10x5x1
X15	15x7x1.5/0

Ch'ul Na	
CN1	3x3x.5
CN2	4x3x.5
CN3	(15x10)x(11x9)x2.5
CN4	20x10x1.5/.5
CN5	9x9x.5
CN6	16x9x2
CN7	12x5x2/.5
CN8	12x7x2.5/1
CN9	48x22x2
CN10	10x8x2/.5
CN11	10x7x2/0
CN12	7x4x.5
CN13	9x5x1
CN14	17x9x2

Lik'in Group	
LK1	30x26x3/2/1
LK2	15x3x.5
LK3	5x4x.5
LK4	10x5x.5
LK5	6x5x.5
LK6	(10x5)x(7x4)x2.5/.5
LK7	16x5x.5
LK8	10x7x.5
LK9	10x4x.5
LK10	7x4x1/.5
LK11	14x8x3/0
LK12	10x5x1

STRUCTURE	DIMENSIONS (length x width x height)
LK13	6x5x1
LK14	25x6x1.5
LK15	14x6x1.5
LK16	8x6x1.5/0
LK17	5x5x1.5/0
LK18	17x13x2
LK19	19x11x3/1/0
LK20	33x19x3
LK21	18x10x2
LK22	10x6x.5
LK23	8x4x1.5/.5
LK24	6x4x.5
LK25	39x33x2
LK26	11x7x.5
LK27	12x7x1.5
LK28	5x4x1
LK29	(12x7)x(12x4)x3
LK30	7x5x1
LK31	(15x6)x(15x6)x2/1
LK32	8x5x1
LK33	5x4x1.5/0
LK34	35x20x3/1.5
LK35	14x5x1
LK36	11x5x.5
LK37	14x7x2/.5
LK38	5x4x1
LK39	7x4x1.5
LK40	7x6x2/1
LK41	36x14x2.5
LK42	8x5x.5

Ach' Group	
AC1	(65x17)x(26x15)x5/3/2
AC2	37x13x1/0
AC3	22x14x5
AC4	62x8x2.5/1
AC5	31x6x2/0
AC6	15x11x2/.5
AC7	12x10x1

Yax Group	
Y1	9x9x2.5/1
Y2	10x8x2/1
Y3	(11x7)x(11x5)x1.5/.5
Y4	20x6x2
Y5	37x20x2.5
Y6	17x8x3/2
Y7	20x5x.5
Y8	8x4x.5
Y9	8x4x.5
Y10	6x4x.5
Y11	8x6x1/.5

STRUCTURE	DIMENSIONS (length x width x height)
Y12	7x4x1
Y13	12x4x2/.5
Y14	8x5x.5
Y15	7x6x2/1
Y16	8x8x2.5/1.5
Y17	14x10x1.5/1
Y18	12x6x2/1
Y19	10x6x1/0
Y20	12x5x1
Y21	12x4x3/.5
Y22	(17x5)x(13x10)x3/2/1
Y23	6x5x1.5/1
Y24	10x10x3/1
Y25	20x7x3/.5
Y26	16x7x2/1
Y27	11x4x1.5/0
Y28	15x10x1.5/0
Y29	15x10x1.5/.5
Y30	11x8x1.5
Y31	6x4x.5
Y32	8x4x.5
Y33	8x4x.5
Y34	10x5x1
Y35	10x10x1.5
Y36	14x7x1.5/1
Y37	32x8x2/1