

DOCUMENT RECEIPT AND APPROVAL

Purchase Contract Reference Date: Nov. 2, 2019 Property: 99-1757 Welelau Place
Seller(s): Alvin Toda and Kathleen Hashiguchi Buyer(s): _____

Condominium/Subdivision/Homeowner Association Documents:

- | | |
|---|---|
| ☐ Declaration and Amendments | ☐ Current House Rules |
| ☐ Current and/or Proposed Budget | ☐ Minutes of Last Annual Meeting |
| ☐ By-laws and Amendments | ☐ Current Financial Statement |
| ☐ Reserve Study or Summary | ☐ Design Standards and/or Guidelines |
| ☐ Covenants, Conditions and Restrictions (CC&R's) | ☐ Insurance Summary |
| ☐ Lenders Disclosures, if obtainable | ☐ Planned Community Documents |
| ☐ Project Information Form RR105c, if obtainable | ☐ Subdivision and/or title documents |
| ☐ Board of Directors and Association minutes issued during the escrow period | |
| ☐ Approved Minutes of the last three (3) Board of Directors Meetings | |
| ☐ Articles of Incorporation/Association and Amendments | |
| ☐ Approval and Violation notices of AOA/Community Association. | |
| ☐ Copies of any and all pending litigation filed by or against the Association and/or its directors that are currently unresolved. | |
| ☐ Other: _____ | |

Reports and Other Documents:

- | |
|---|
| ☐ Inventory of Furniture and Furnishings |
| ☐ Preliminary Title Report |
| ☐ Professional Inspection Report |
| ☐ Survey Report |
| ☐ Termite Inspection Report (TIR) |
| ☐ Professional Building Permit Package |
| ☐ Restrictive Covenants (CC&R's) or deed restrictions |
| ☐ HAR RR209 – Residential Leasehold Property Disclosure (if Leasehold). |
| ☐ Updated Seller's Real Property Disclosure Statement dated _____ |
| ☐ Rental Agreement(s). Check applicable items: ☐ Inventory/condition form, ☐ existing lease, ☐ rental management contract, ☐ short-term vacation rental reservations, ☐ other: _____. |
| ☒ Other: <u>C & C acceptance of metes and bounds and survey/ Conceptual plan</u> |

RECEIPT: The undersigned acknowledges receipt of the aforementioned documents and agrees to return all documents in a timely manner should the transaction be terminated for any reason by either Buyer or Seller. Buyer/Buyer's Representative acknowledges receipt of the above check-marked items.

_____	_____	_____	AM/PM
BUYER/BUYER'S REPRESENTATIVE'S SIGNATURE	DATE	TIME	

_____	_____	_____	AM/PM
BUYER/BUYER'S REPRESENTATIVE'S SIGNATURE	DATE	TIME	

APPROVAL: Buyer and/or his attorney have read and hereby approve the documents/reports received.

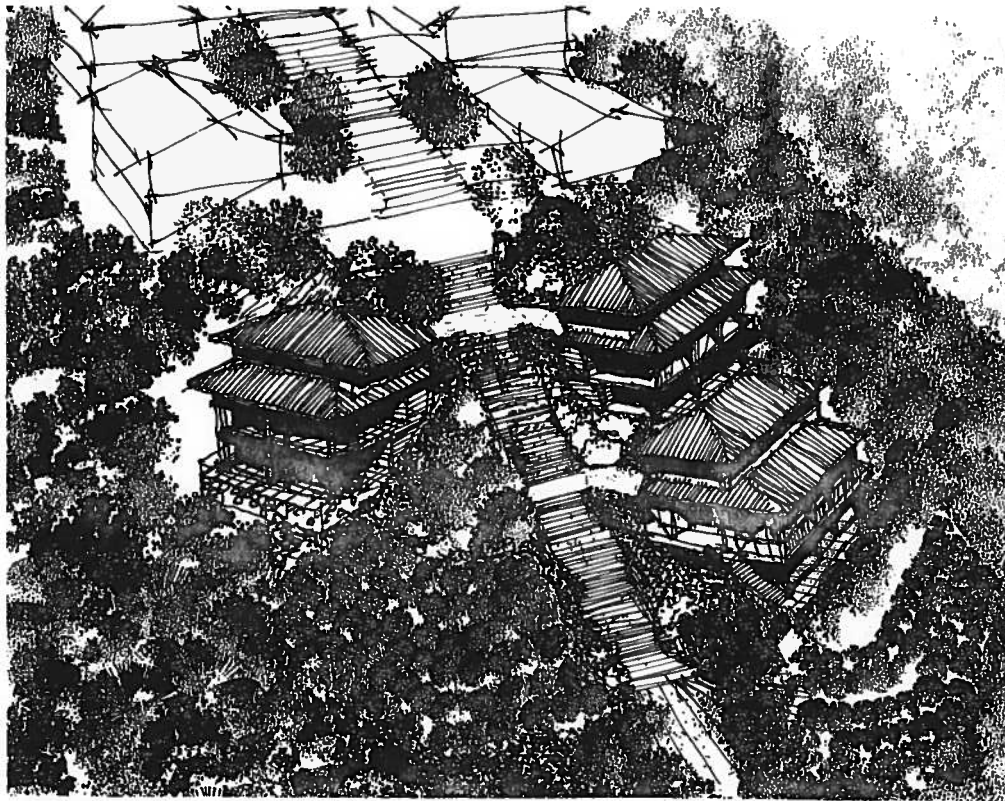
_____	_____	_____	AM/PM
BUYER'S SIGNATURE	DATE	TIME	

_____	_____	_____	AM/PM
BUYER'S SIGNATURE	DATE	TIME	

CDS International Planners and Architects

REPORT

A Planning Study of 99-1757 Welelau Place



Prepared for:

Owners Alvin Toda and Kathleen Hashiguchi

1363 Hoowali Street, Pearl City, Hawaii, 96782

June 28, 2018



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SENIOR ASSOCIATES

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June 28, 2018

Owners Alvin Toda and Kathleen Hashiguchi
1363 Hoowali Street
Pearl City, Hawaii 96782

Subject: Report on the Conceptual Plan for Developing the Residential and
Preservation Zoned Land of this Split Zoned Parcel
Address: 99-1757 Welelau Place- Aiea Heights
TMK: 9-9-019:001

Dear Alvin Toda and Kathleen Hashiguchi,

This report addresses the development potential of this parcel on Welelau Place. The 4.68 acre property is split zoned by the City and County of Honolulu into approximately one acre, or 43,560 sf, zoned R-10 and 160,283 sf zoned P-2.

CDS International (CDS) first looked at the number of residential units the Land Use Ordinance (LUO) would allow on the one acre R-10 zoned parcel. This was followed by a review of the availability of water, wastewater treatment and electrical power for these residential units. CDS also assessed the fire prevention needs. These findings, or parameters, became the basis of design that governed the conceptual planning for this property. In the final section of this report, six optional conceptual plans for this property are presented that reflect this basis of design.

Number of Residential Units Allowed on the R-10 Portion on this TMK

The total number of residential units allowed by the LUO for this TMK is four. This is based on the parcel being split zoned into a one acre portion of R-10 residential zone and 3.68 acres of P-2 Preservation zone. Residential units are allowed only on the R-10 zoned portion, according to the LUO Master Use Table. See Exhibit A. Table 21-3 Master Use Table and Definitions of "Vacation Cabins" and "Outdoor Recreational Facilities." Per this same table, no residential units are allowed on the preservation zoned portion of the lot.

This TMK parcel cannot be subdivided into smaller parcels, each with its own TMK, as the Wastewater Branch of the Department of Health will not

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approve a subdivision of a lot located in a "No Pass" zone. This is explained in detail in the Wastewater availability discussion section in this report.

The calculation to determine the number of dwelling units allowed on this parcel is as follows:

Number of dwelling units allowed on this parcel= the size of the parcel divided by 10,000 sf for R-10 zoning.

Thus, 43,560 sf divided by 10,000 sf = 4 dwelling units. Since the one acre parcel cannot be subdivided into four separate 10,000 sf lots, each with its own separate TMK, CDS looked at a development concept based on a condominium property regime approach, or a CPR. A CPR would allow for the placement of four dwelling units connected with a private road on the one acre parcel with a single TMK.

It is emphasized that although four dwelling units are allowed on this parcel by Department of Planning and Permitting (DPP) square footage and CPR standards, the approving agencies governing the infrastructure capacity of this site, along with the Honolulu Fire Department, will ultimately determine how many dwelling units are finally allowed on this site. This is further discussed in the following sections on the infrastructure availability for this site.

Water Availability for a Residential CPR Development

There is an existing water main line serving the subject parcel coming from the hammerhead at the end of Welelau Place at the top of the site. This water line enters the site at the hammerhead then turns in the Diamond Head direction and heads down to the stream in a 10 foot wide easement on the parcel. The water pressure in this line is approximately 150 psi, according to the Board of Water Supply. This water pressure is in excess of the normal residential home requirement of only 75 psi. Therefore, a pressure reducing valve will be needed to reduce the pressure for normal residential use. Should there be a need for an onsite fire hydrant or fire sprinklers for the homes, this pressure is more than adequate.

All findings, data and decisions must be confirmed with the appropriate authorizing agencies.

Electrical Power Availability for a Residential CPR Development

Hawaiian Electric Company (HECO) would provide power to the area with overhead electrical lines for the four CPR homes. A plan must be provided to HECO for them to develop a HECO approved proposal on how to power this development. This process will take several months for HECO to respond with a design and approved plan. This has not been vetted with HECO but is information resulting from a consultation with an electrical engineer familiar with HECO's process of design and approval. Procedures and requirements must be confirmed with HECO.

Fire Prevention Requirements for a Residential CPR Development

The Fire Department looks at where the paved road ends. In the case of the Welelau property, the road ends in the shape of a hammerhead. This is important because the road meets City and County standards in terms of its width, its ability to support a fire truck's weight, its all-weather asphalt surface, and lastly, the hammerhead shape's purpose of enabling a fire truck to turn around at the end of Welelau Place.

It is at this hammerhead point that the fire fighters will park their truck and connect to a hydrant and drag the other end down the hill to fight any fires occurring on the property. Location of an accessible fire hydrant is a factor, but feasible parking for the fire truck is also critical. This becomes the base line for the Fire Department's measure of a safe distance to any residential dwelling or vacation cabin.

The Fire Department may require a fire hydrant be placed on the site with the caveat that a fire truck can reasonably traverse the slope and meet all the maximum distances allowed by their standards to reach all points of any habitable structure. A fire truck is capable of driving up and down a slope of a maximum of 19%.

Roughly calculated, the current R-10 parcel slopes from an elevation of 649 feet to a lower elevation of 600 feet. The difference of the 49 feet between the lowest portion of the R-10 site to the highest portion is achieved in an approximate distance of 211.5 feet in length. The resulting slope ends up being an estimated 23.1% incline. This rough estimate exceeds the 19% slope requirement, making it difficult for a fire truck to access the homes in the event of a fire.

Should the central access road exceed a 19% slope and preclude firetruck accessibility, the second alternative would involve providing the homes with fire sprinkler systems. Therefore, to address fire safety in this development, the homes must rely on fire sprinkling, unless the road can be designed to conform to the 19% slope requirement. There is enough water pressure in the existing water main to

fire sprinkle the homes. Fire sprinkling of the homes is looked upon favorably by the Honolulu Fire Department who will allow increased distances from all points of the homes to the road accessible by the fire truck which is essentially the hammer-head at the end of Welelau Place. The Honolulu Fire Department located in DPP must review any early plans for this site and gain their preliminary approval for any layout on the R-10 and P-2 portion of this TMK.

Topographic and Geotechnical Surveys

A topographic survey was done for the 1 acre R-10 parcel only. There is no topographic of the 3.68 acre P-2 parcel. Also there is no Geotechnical Survey of the entire lot, nor a percolation test. (The PDF of the topographic survey of the R-10 portion is available upon request.)

Wastewater Treatment Availability for a Residential CPR Development

Several scenarios were generated to address the wastewater situation for this TMK. These scenarios were generated on the following basis of design:

1. This TMK is a split zoned lot comprised of a 1 acre R-10 portion and a 3.68 acre P-2 portion. A 2016 appraisal of the property determined the highest and best use of the property to range as follows: A maximum of 4 dwellings in the R-10 zoned area and a maximum of 3 vacation cabins in the P-2 zoned area that are accessory to an outdoor recreation facility. "However, it should be clearly understood that both highest and best use estimates may represent the maximum number of developable urban property uses. Development of the subject parcel, however, is subject to numerous discretionary decisions that are controlled by the DPP and Building Department of the City and County of Honolulu. These land use alternatives are considered reasonable by the real estate appraiser. The actual land uses permitted by the DPP and Building Department must be thoroughly researched and investigated by the appraisal report user." (2016 Appraisal Report available upon special request.)
2. There is no public wastewater system serving this TMK or in any close proximity of this TMK. The closest public wastewater line is beyond the state-owned land situated above the north fork of Aiea Stream. See Exhibit B showing the location of the closest public wastewater line. An easement would have to be secured from the state to make this connection to the closest public wastewater line.

To our knowledge, there are no plans for a public wastewater system to service this area or TMK. The last public hearing on the matter was held in 2012, resulting in no action. On July 10, 2017, Governor David Ige signed Act 125 relating to cesspools. Implementation is pending funding.

3. This TMK is in the "no pass zone" according to the Department of Health (DOH) Wastewater Branch. DOH designated certain restrictive areas of the island to be in a red colored "no pass" zone where an area lacked a public wastewater system and where effluent from a septic system or an individual wastewater system could possibly contaminate the ground water/drinking water located in close proximity. See Exhibit C, the overall map showing the DOH "no pass zone" in red and an enlarged map of the "no pass zone" and the Welelau property.

DOH allows only one conventional septic system with leach field for each TMK in a no pass zone. Per DOH one septic system will accommodate only 1000 gallons of wastewater and a maximum of 5 bedrooms. Five bedrooms could be accommodated in one home. See Drawing 1 of 10. Optional Plan 1 at the end of this report. It can also be divided between two homes where one home can have two bedrooms and the other home could have 3 bedrooms. See Drawing 2 of 10. Optional Plan 2. There can be no more than two homes on the same septic system if this wastewater treatment scenario is pursued.

4. DOH will not allow this 1 acre R-10 parcel to be subdivided to create four separate TMK lots of minimum 10,000 sf, until there is a way to connect to a public wastewater system. In addition, the P-2 portion of this split zone cannot be subdivided because it is only 3.68 acres, and DPP requires a minimum of 5 acres of P-2 for subdivision.
5. A second 5 bedroom home can be placed on the R-10 portion of this TMK provided its wastewater is handled with an Individual Wastewater System (IWS) with an Evapo-transpirational Field (ET field) to handle the effluent coming out of the system. See Drawing 3 of 10. Optional Plan 2A.

(An ET field uses an aerobic bacterial action tank which is smaller and more efficient than an anaerobic bacterial action septic tank with the effluent going into a leach field. The ET field has a plastic liner impervious to water which holds the water in the ET field soil. Therefore, ET fields do not have as great an effect on the environment because the water does not drain into the soil below the liner. The primary way a leach field discharges the treated

blackwater is to drain it into the soil. The primary ways that the treated blackwater is discharged in the ET field is for the water to be evaporated or transpired into the atmosphere.)

An IWS with an ET field must be designed by a licensed civil engineer in the State of Hawaii. This civil engineer will determine the required size of the ET field based on the rate of precipitation and the rate of transpiration. The design of the field must show that rate of precipitation is less than the rate of evaporation/transpiration from the ET field.

6. A maximum of 4 homes are allowed on the 1 acre (43,560 sf) R-10 portion. However, due to the undetermined size of the required ET field that is based upon calculations of rates of precipitation and evaporation/transpiration by a licensed engineer, only 3 homes were designed on the R-10 portion as a conservative proposal: *One home with an IWS and ET field. One two bedroom home and another three bedroom home sharing the same septic system.* See Drawing 4 of 10. Optional Plan 3. A fourth home could be a possibility, contingent upon the size of the required ET field. However, as stated previously, the calculation must be done by a licensed engineer.
7. In addition, when two 5-bedroom homes are connected to one IWS or individual wastewater system, that system must be expanded into a wastewater treatment plant with an ET field that requires a 100% backup ET field.
8. DPP will not allow any wastewater treatment--septic/leach field or IWS/treatment plant/ET field—to service the homes located on the R-10 portion of the TMK to be located on the P-2 portion, because DPP views the treatment as an accessory use to the residential use. Therefore, all systems related to wastewater treatment for dwellings on the R-10 portion must remain on the R-10 portion of the TMK. See Exhibit D. Letter to Joyce Shoji of DPP requesting use of the P-2 Preservation Zone for wastewater treatment, followed by DPP formal response from Acting Director Kathy Sokugawa.
9. In order to build four homes on the R-10 area, CDS looked into dividing up the wastewater treatment process into black water and gray water systems from each home to determine if it would be acceptable to locate a shallow irrigation field on the P-2 area as a means to utilize gray water for P-2 approved uses. In reply, DOH stated, “if these uses are established within the P-2 Preservation District and it can be shown that the gray water is being distributed as a water source to these uses, it would be permitted in the P-2 District as an accessory use.” However, when exceeding the 5 bedroom maximum on a system, DOH required that the gray water have an overflow

connected to the blackwater treatment tank and required an additional 100% backup to the ET field to accommodate the additional home. See Exhibit E. Letter to Joyce Shoji of DPP requesting use of the P-2 property for irrigation of crop production, aquaculture, and forestry with gray wastewater generated by the homes on the R-10 portion of this TMK. This is followed by the response from Acting Director Kathy Sokugawa.

Per Department of Health Guidelines for the Resuse of Gray Water Dated June 22, 2009:

***Blackwater** is discharge from: 1) Toilet and Urinals; 2) Food Preparations from typically the kitchen sinks. If blackwater is mixed with water discharged from other sources through a single wastewater line, then all of this water will be considered blackwater.*

*The Department of Health defines **gray water** as wastewater discharged from: 1. Showers and bathtubs; 2) Hand-washing lavatories; 3) Wastewater that has not contacted toilet waste; 4) Sinks (not used for disposal of hazardous, toxic materials, food preparation or food disposal) and 5) Clothes-washing machines (excluding wash water with human excreta e.g. diapers). To our knowledge, gray water can be used for forestry or crop production providing that all irrigation is underground and directly to the soil/roots and not exposed to humans.*

See Exhibit F. Guidelines for the Reuse of Gray Water prepared by the Department of Health Waste Water Branch dated June 22, 2009. The City and County of Honolulu does not define Gray water.

10. Vacation cabins, forestry, crop production and aquaculture are permitted uses on P-2 zoned land per the Master Use Table. Refer to Exhibit B. Master Use Table and the Definitions for "Vacation Cabins" and "Outdoor Recreational Facilities."
11. A vacation cabin is a permitted use per DPP Master Use Table but will require securing a conditional use permit Minor from the Department of Planning and Permitting. Only one cabin is allowed per 1 acre. For the 3.68 acre P-2 site, 3 vacation cabins are allowed. Refer to Exhibit B. Master Use Table and the Definitions for "Vacation Cabins" and "Outdoor Recreational Facilities."
12. A vacation cabin can have a maximum of 800 sf and must be accompanied by an approved outdoor recreation facility per DPP. Refer to Exhibit B. Master Use Table and the Definitions for "Vacation Cabins" and "Outdoor Recreational Facilities."

13. The same DOH rules for wastewater treatment for the homes on the R-10 area apply to these vacation cabins on P-2 zoned land: A septic system is allowed provided it has not been used in the R-10 portion of the TMK. Per DOH only one septic system is permitted for each TMK in a no pass zone. A maximum of 5 bedrooms are allowed for the IWS/ET field. An additional home connected to one wastewater treatment system require expansion into a wastewater treatment plant with an ET field expanded to a 100% backup ET field.
14. Allowable uses of the P-2 zoned land that are shown in the attached plans are conceptual in nature and based upon consideration of the residential use on the R-10, the terrain, the infrastructure and the context of the overall community surrounding the Welelau property. See Drawing 5 of 10. Optional Plan 4 and Drawing 6 of 10. Optional Plan 5.

With the above items comprising the basis of design, CDS generated 6 schematic scenarios for development of the Welelau property provided in the attached optional plans. All plans are not to scale and images and elements showing the homes and wastewater treatment systems from Septic with Leach Fields, to Individual Wastewater Systems with ET fields, to larger wastewater treatment plants with ET fields utilize conceptual sizes and do not represent the engineered (by a licensed civil engineer) DOH approved layout. The buyer must secure his or her own civil engineer to design an integrated wastewater system that meets all city and county, state, and federal codes and regulations. See Exhibit G for DOH compiled list of Oahu engineers, contractors, and suppliers

Conceptual Home Designs

Two conceptual home designs have been provided in this report to show how a 5 bedroom home and a 3 bedroom home can be achieved on this sloping site. Each of these homes shows a bedroom on the main floor to allow accessibility of the main living area from the garage allowing occupants to age in place. We have also included a conceptual site section showing how the home can work within the building envelope which is set at 30 feet above and parallel to the existing grade. See Drawing 7 of 10 Conceptual Plan of a 3 BR Home and Drawing 8 of 10 Conceptual Section for a 3 BR Home. See also Drawing 9 of 10 Conceptual Plan of a 5 BR Home and Drawing 10 of 10 Conceptual Section for a 5 BR Home.

The Department of Health bases the design of a septic system and an IWS on the number of bedrooms in a home. Per their regulations set forth in Title 11 of the Hawaii Administrative Rules "Amendments to Title 11 dated March 21, 2016, chapter 62 on "Wastewater System", a bedroom is defined as follows:

"Bedroom" means any room within a dwelling that is or might reasonably be used as a sleeping room. A room is presumed to be a bedroom if it has a superficial floor area not less than 70 sf and is provided with windows or skylights with an area of not less than one-tenth of the floor area or 10 sf, whichever is greater." (According to DOH, a room will not be considered a bedroom if it has an opening to the adjoining room of 6 linear feet. Therefore, if you do not want a study or den to be considered a bedroom, plan on having an opening of 6 feet in length connecting the den to the adjoining room).

Closing Comments

This report is information intended for the use of the owners Alvin Toda and Kathleen Hashiguchi. Information provided in this report and the applicability of the design concepts is limited to the six months following the date of this report, in consideration of the constantly changing nature of regulations.

Persons investing in or purchasing this lot must do their proper due diligence with all city and county, state and federal agencies having authority over the development of this parcel.

These plans and the report are conceptual in nature and it is the buyer's responsibility to verify and confirm the information, findings, and plans presented in the report. In the design of the site plan and the homes shown, no civil engineers or geotechnical engineer were consulted on the placement of the homes in respect to the topographic contours, soils bearing capacity, storm water runoffs, or wastewater treatment and any other site-related items to support the design presented in this report.

In addition, the number of homes and the siting of the homes presented in this report must be verified at the very minimum with the Department of Planning and Permitting, the Department of Health and the Honolulu Fire Department.

Final Report for Development of 99-1757 Welelau Place
June 28, 2018
Page 10 of 10

Finally, all findings, decisions, and data gathered for this report must be verified with the agencies mentioned in this report, or as further delineated by the agencies.

Respectfully Submitted by
CDS INTERNATIONAL

A handwritten signature in black ink, appearing to read "Glenn K. Miura", with a stylized flourish at the end.

Glenn K. Miura, AIA, LEED AP
Principal

Link to CDS International website: www.cdsintl.com

CDS International is a Kamaaina firm that has been practicing Planning and Architecture in Hawaii and countries around the Pacific for 60 years. It has to its credit many significant projects, including the Grand Wailea Hotel, a 900 room hotel in Wailea, Maui, the Mary Dillingham Frear Hall, an 800 bed Student Housing on the UH Manoa campus, and most recently, Ke Kilohana, a 400 unit affordable condo for Howard Hughes Corporation in Kakaako, Hawaii.

WELELAU
PLACE

Central Access Road

5 BR Home

Septic System
with Leach Field

R-10
1 ACRE

P-2
3.68 ACRE

DISCLAIMER:
ALL DRAWINGS ARE
NOT TO SCALE AND
SHOWN FOR CONCEPT
PURPOSES ONLY.
ALL ELEMENTS OF THE
DESIGN AND LAYOUT
MUST BE VERIFIED
WITH THE APPROPRIATE
DESIGN CONSULTANTS &
APPROVING AGENCIES.

DESCRIPTION:
ONE 5 BEDROOM SINGLE
FAMILY HOME WITH A
SEPTIC SYSTEM INCLUDING
A LEACH FIELD. SEPTIC SYSTEM
TO ACCOMMODATE MAX OF
1000 GALS AND 5 BEDROOMS.

REMARKS:
DOH ALLOWS ONE SEPTIC
TANK FOR EACH TMK. ONE
SEPTIC TANK ACCOMMODATES
ONE 1000 GAL TANK AND 5 BDRM.

HOME IS PLACED ON EASTERN SLOPE
OR ON THE DIAMOND HEAD SIDE OF THE
CENTRAL ACCESS RIDGE TO ALLOW THE
CONTINUATION OF AN ACCESS ROAD TO
THE P-2 ZONED LOT TO ALLOW THE FUTURE
DEVELOPMENT OPTIONS FOR THIS LOT PER
THE LAND USE ORDINANCE.

1 HOME SCHEME

1-5 BR HOME ON A SEPTIC SYSTEM

Optional Plan 1

JUNE 28, 2018 CDS INTERNATIONAL

DRAWING 1
OF 10

WELELAU
PLACE

Central Access Road

2 BR Max

3 BR Max

R-10
1 ACRE

Septic System
with Leach Field

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DESCRIPTION:

1 HOME WITH 2 BEDROOM
MAX AND 1 HOME WITH 3
BEDROOM MAX BOTH ON A
SEPTIC SYSTEM AND A
LEACH FIELD.

REMARKS:

DOH WILL ALLOW TWO HOMES
MAX ON ONE SEPTIC SYSTEM
PROVIDING THE TOTAL MAX
NUMBER OF BEDROOMS AMOUNT
TO 5 BEDROOMS. BOTH LOCATED ON
EAST SIDE OF ACCESS ROAD TO
ALLOW ANOTHER HOME TO BE PLACED
ON THE WEST SIDE OF THE ROAD IN
THE FUTURE.

HOMES ARE PLACED ON EASTERN SLOPE
OR ON THE DIAMOND HEAD SIDE OF THE
CENTRAL ACCESS ROAD TO ALLOW THE
CONTINUATION OF AN ACCESS ROAD TO
THE P-2 ZONED LOT TO ALLOW THE FUTURE
DEVELOPMENT OPTIONS FOR THIS LOT PER
THE LAND USE ORDINANCE.

P-2
3.68 ACRE

2 HOMES SCHEME

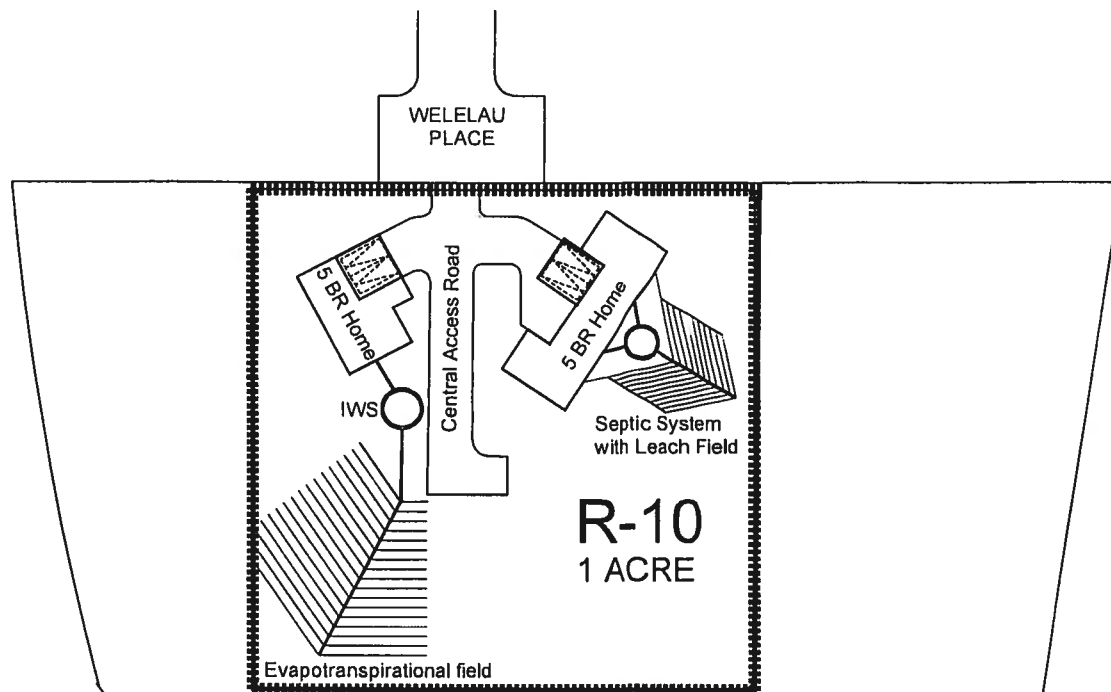
2 BDRM & 3 BDRM BOTH ON SEPTIC SYSTEM

Optional Plan 2

JUNE 28, 2018 CDS INTERNATIONAL

DRAWING 2
OF 10

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DESCRIPTION:
ONE 5 BEDROOM HOME
CONNECTED TO A SEPTIC
SYSTEM AND ONE 5 BDRM
HOME CONNECTED TO AN
IWS (INDIVIDUAL WASTEWATER
SYSTEM) AND AN ET FIELD
(EVAPOTRANSPIRATIONAL FIELD)

REMARKS:
EACH HOME TO HAVE A 5 BEDROOM
MAX AND A 1000 GAL WASTEWATER
DISCHARGE. DUE TO SINGLE HOME
ON IWS, THE ET FIELD IS NOT
REQUIRED TO HAVE 100% BACK-UP
FIELD. IF TWO HOMES ARE PLACED
ON AN IWS THE SYSTEM WOULD REQUIRE
A 100% BACK UP ET FIELD ESSENTIALLY
DOUBLING THE SIZE OF THE ET FIELD.

THE INDIVIDUAL WASTEWATER SYSTEM MUST BE
DESIGNED BY A LICENSED CIVIL ENGINEER WHO WILL
DETERMINE THE SIZE OF THE ET FIELD BASED ON THE
RATE OF PRECIPITATION VERSUS THE RATE OF EVA-
PORATION/ TRANSPIRATION.

2 HOMES SCHEME

1-5 BR ON IWS/ 1-5 BR ON ONE SEPTIC SYSTEM

Optional Plan 2A

JUNE 28, 2018 CDS INTERNATIONAL

DRAWING 3
OF 10

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DESIGN CONSULTANTS &
APPROVING AGENCIES.

DESCRIPTION:

ONE 5 BEDROOM HOME ON
IWS AND ET FIELD, ONE
2 BEDROOM HOME AND ONE
3 BEDROOM HOME ON SEPTIC
SYSTEM WITH A MAX TOTAL
OF 5 BEDROOMS ON ONE SEPTIC
SYSTEM.

REMARKS:

DOH ALLOWS ONE SEPTIC SYSTEM
PER EACH TMK WITH EACH SEPTIC SYSTEM
SERVICING A MAXIMUM OF 5 BEDROOMS.
THE 5 BEDROOMS CAN BE DIVIDED INTO TWO
HOMES WITH ONE HOME HAVING 2 BRs AND THE
OTHER HOME HAVING 3 BRs OR IT CAN BE 4 BRs
IN ONE HOME AND 1 BR IN THE OTHER.

ALL OTHER HOMES FOR THIS TMK TO
HAVE AN IWS WITH AN ET FIELD.
SINCE THE ET FIELD SIZE IS LARGE,
IT MAY NOT BE POSSIBLE TO HAVE
ANOTHER 5 BR HOME ON THIS ONE
ACRE LOT. IF TWO HOMES ARE PLACED
ON AN IWS THE SYSTEM WOULD REQUIRE
A 100% BACK UP ET FIELD ESSENTIALLY
DOUBLING THE SIZE OF THE ET FIELD.

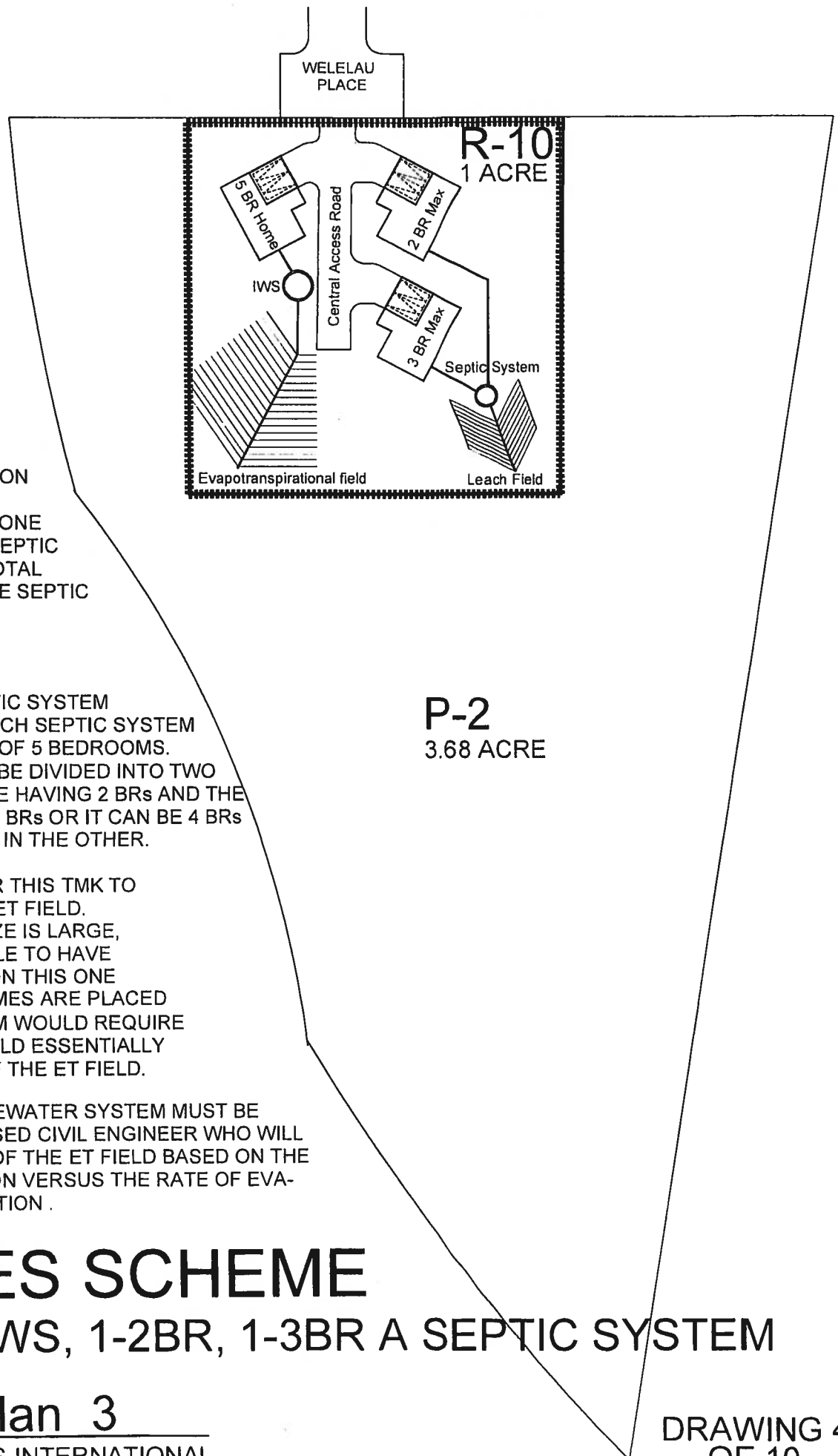
ANY INDIVIDUAL WASTEWATER SYSTEM MUST BE
DESIGNED BY A LICENSED CIVIL ENGINEER WHO WILL
DETERMINE THE SIZE OF THE ET FIELD BASED ON THE
RATE OF PRECIPITATION VERSUS THE RATE OF EVA-
PORATION/TRANSPIRATION .

3 HOMES SCHEME

1-5BR ON IWS, 1-2BR, 1-3BR A SEPTIC SYSTEM

Optional Plan 3

JUNE 28, 2018 CDS INTERNATIONAL



DRAWING 4
OF 10

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DESIGN CONSULTANTS &
APPROVING AGENCIES.

DESCRIPTION:

1-5 BR HOME ON IWS WITH AN
ET FIELD AND TWO HOMES
(1-2 BR AND 1-3 BR) ON SEPTIC
AND LEACH FIELD. P-2 ZONE LAND
ACCOMMODATES AQUACULTURE,
CROP PRODUCTION, OR FORESTRY.

REMARKS:

CONCEPTUAL GREEN HOUSES THAT ARE
PLACED PARALLEL TO THE TERRAIN.
PER THE LAND USE ORDINANCE, FORESTRY,
AQUACULTURE AND CROP PRODUCTION
ARE PERMITTED USES ON P-2 ZONED LAND.
GREEN HOUSES BUILDING AREA IS LIMITED TO 5%
OF THE P-2 TOTAL AREA. ANY DEVELOPMENT OF
OF THE P-2 LAND NEEDS ADDITIONAL PLANNING &
IS NOT COVERED IN THE SCOPE OF THIS DOCUMENT.
A MEETING WITH THE FIRE DEPARTMENT IS HIGHLY
RECOMMENDED IN THE EARLY PLANNING STAGES
REGARDING STRUCTURES IN BOTH THE R-10 AND P-2
ZONE.

THE INDIVIDUAL WASTEWATER SYSTEM MUST BE
DESIGNED BY A LICENSED CIVIL ENGINEER WHO WILL
DETERMINE THE SIZE OF THE ET FIELD BASED ON THE
RATE OF PRECIPITATION VERSUS THE RATE OF EVA-
PORATION/ TRANSPIRATION.

CROP PRODUCTION/ AQUACULTURE ON P-2

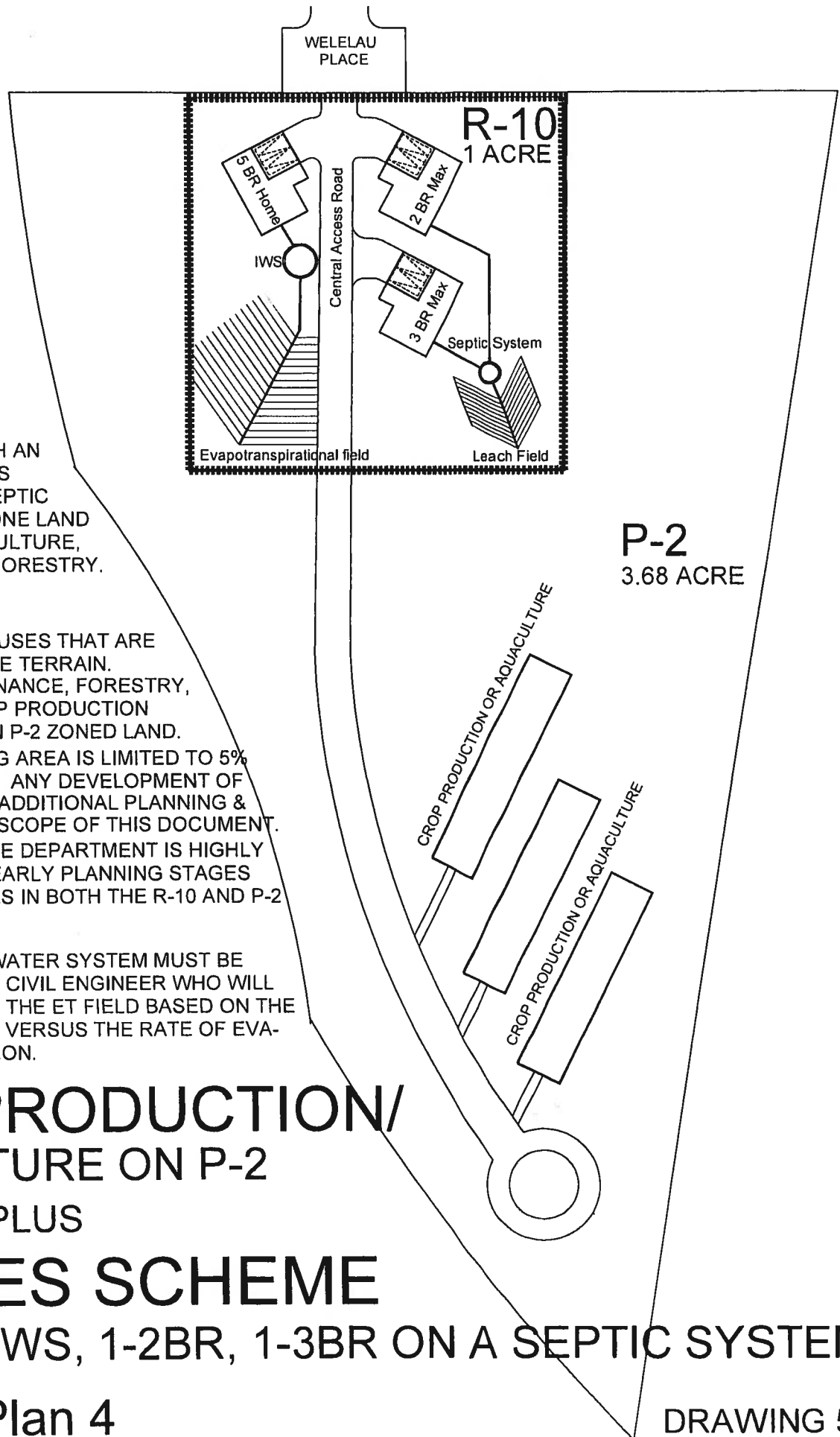
PLUS

3 HOMES SCHEME

1-5BR ON IWS, 1-2BR, 1-3BR ON A SEPTIC SYSTEM

Optional Plan 4

JUNE 28, 2018 CDS INTERNATIONAL



DRAWING 5
OF 10

DISCLAIMER:
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NOT TO SCALE AND
SHOWN FOR CONCEPT
PURPOSES ONLY.
ALL ELEMENTS OF THE
DESIGN AND LAYOUT
MUST BE VERIFIED
WITH THE APPROPRIATE
DESIGN CONSULTANTS &
APPROVING AGENCIES.

DESCRIPTION:

1-5 BR HOME ON IWS WITH AN
ET FIELD AND TWO HOMES
(1-2 BR AND 1-3 BR) ON SEPTIC
AND LEACH FIELD. P-2 ZONED
LAND TO HAVE 2-800 SF VACATION
CABINS ON AN IWS WITH AN ET FIELD.

REMARKS:

PER DPP GUIDELINES, VACATION CABINS
HAVE A MAXIMUM AREA OF 800 SF. FOR
THIS LAYOUT, ONE CABIN TO HAVE 2 BR
AND OTHER CABIN TO HAVE 3 BR MAXIMUM.
CABINS REQUIRE INCLUSION OF
AN OUTDOOR RECREATION COMPONENT
ON THE P-2 ZONED LAND. MAX AMOUNT OF
CABINS BASED ON 1-CABIN PER ACRE. 3 ARE
ALLOWED BUT DOH ALLOWS ONLY TWO PER IWS.
VACATION CABINS AND OUTDOOR RECREATION
FACILITIES REQUIRE A CONDITIONAL USE PERMIT
MINOR (Cm) ON A P-2 ZONED LAND. ANY
DEVELOPMENT OF THE P-2 LAND REQUIRES
ADDITIONAL PLANNING & IS NOT COVERED IN THE
SCOPE OF THIS DOCUMENT. MEETING WITH THE
FIRE DEPT IS HIGHLY RECOMMENDED DUE TO THE
DISTANCE OF THE CABINS ON THE P-2 FROM WELELAU PL.

THE INDIVIDUAL WASTEWATER SYSTEM MUST BE
DESIGNED BY A LICENSED CIVIL ENGINEER WHO WILL
DETERMINE THE SIZE OF THE ET FIELD BASED ON THE
RATE OF PRECIPITATION VERSUS THE RATE OF EVA-
PORATION/ TRANSPIRATION.

3 HOMES SCHEME

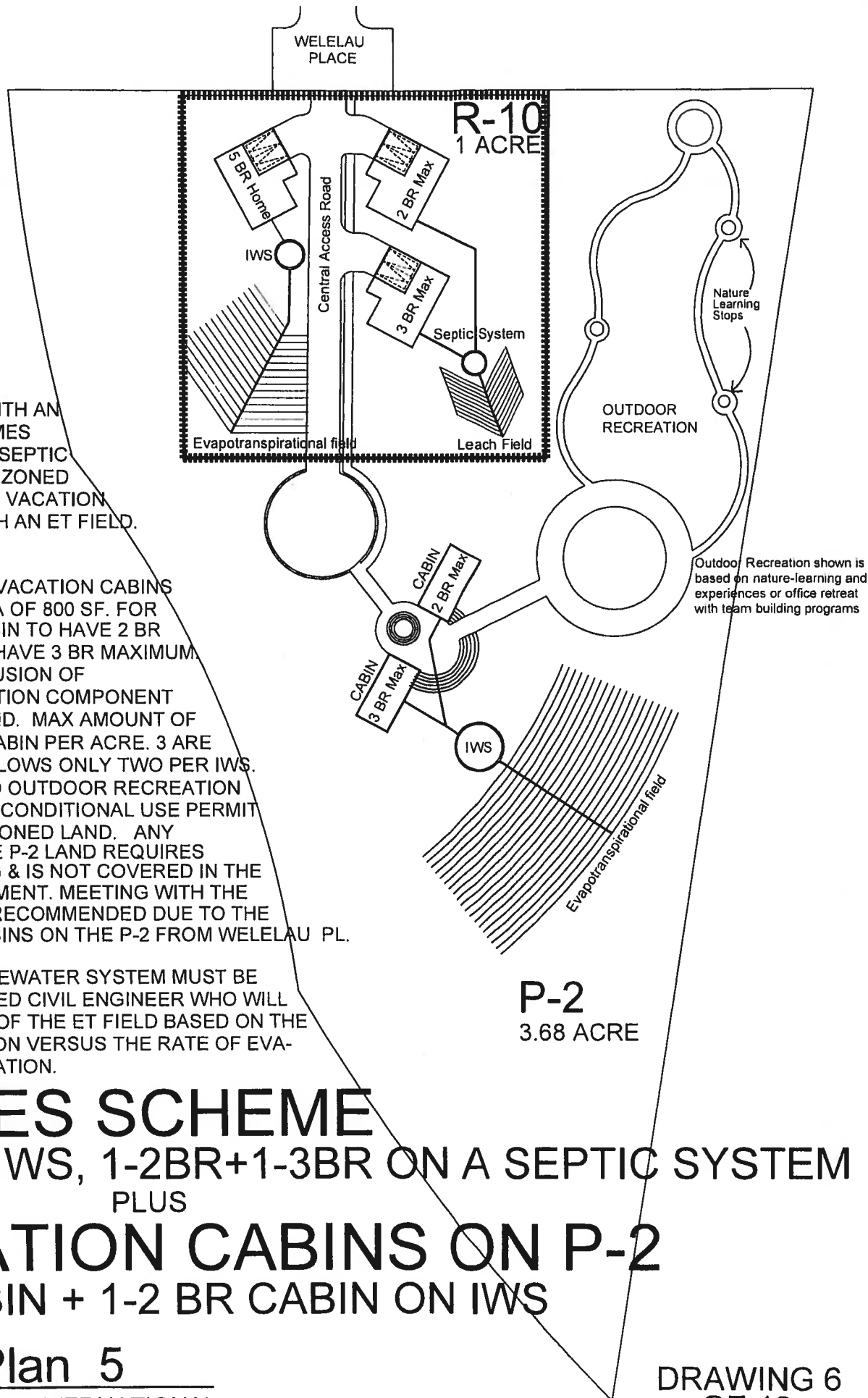
1-5BR ON IWS, 1-2BR+1-3BR ON A SEPTIC SYSTEM
PLUS

2 VACATION CABINS ON P-2

1-3BR CABIN + 1-2 BR CABIN ON IWS

Optional Plan 5

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DRAWING 6
OF 10

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ZONING AND BUILDING
CODES AND REGULATIONS.

FLOOR AREA SUMMARY:

MAIN LEVEL:	1160 SF
LOWER LEVEL:	1325 SF
GARAGE:	434 SF
LANAI:	192 SF
TOTAL:	3,111 SF

HOUSE DESIGN CONCEPT:

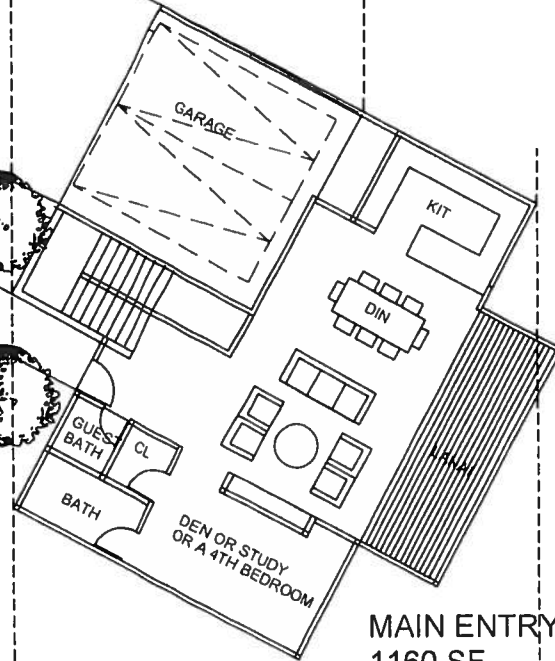
THE HOME DESIGN IS DRIVEN BY THE SLOPE OF THE LAND AND THE 30 FOOT HEIGHT ENVELOPE FOR SLOPED TERRAIN. DUE TO THIS, THE MAIN LEVEL IS LOCATED ON THE UPPER LEVEL OF THE HOME SO THIS CAN BE TIED INTO THE GARAGE AND ENTRY TO THE HOME.

WITH THE MAIN LEVEL TIED INTO THE GARAGE/ENTRY, A BEDROOM CAN BE DESIGNED INTO THIS LEVEL SO AN ELDERLY NEEDING CARE AND ACCESSIBILITY CAN LIVE ON THIS LEVEL WITH ACCESS TO THE BATH, KITCHEN, DINING AND LIVING PLUS THE BENEFITS OF THE VIEW, LIGHT AND AIR. A LANAI CAN ALSO BE DESIGNED INTO THIS LEVEL.

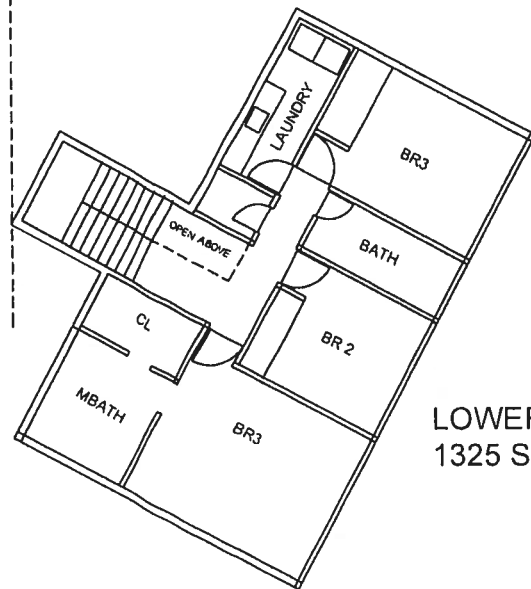
CONCEPTUAL PLAN OF OF A 3 BR HOME

NOT TO SCALE

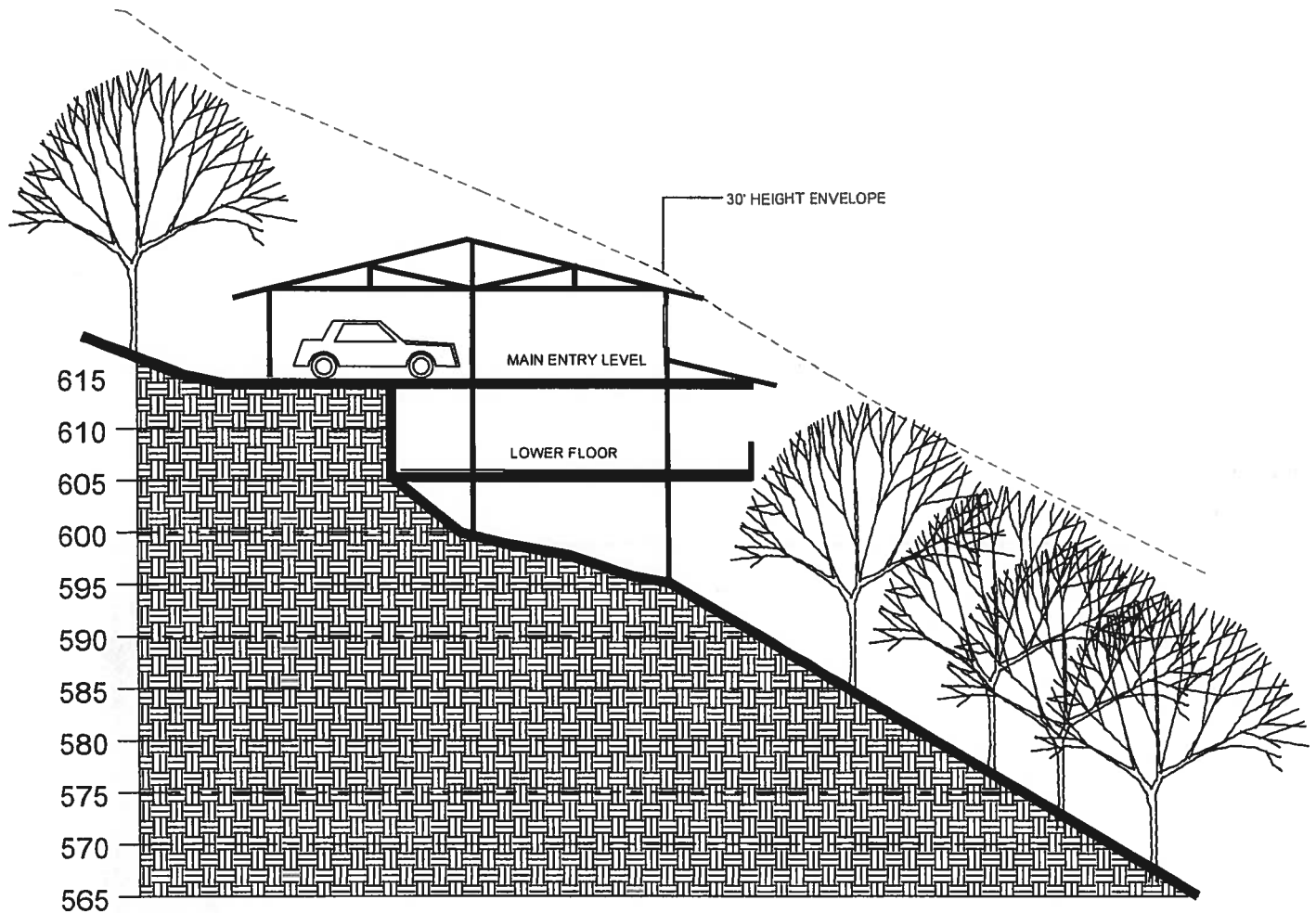
JUNE 28, 2018 CDS INTERNATIONAL



MAIN ENTRY LEVEL
1160 SF
NOT TO SCALE



LOWER FLOOR
1325 SF



TYPICAL SECTION THROUGH HOME AND SLOPING TERRAIN
NOT TO SCALE

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CONCEPTUAL SECTION FOR A 3 BR HOME

NOT TO SCALE

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DRAWING 8
OF 10

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CODES AND REGULATIONS.

FLOOR AREA SUMMARY:

MAIN LEVEL: 1160 SF

LOWER LEVEL: 1325 SF

GARAGE: 434 SF

LANAI: 192 SF

TOTAL: 3,111 SF

OPTIONAL 5 BR: 416 SF

TOTAL w/5th BR: 3,527 SF

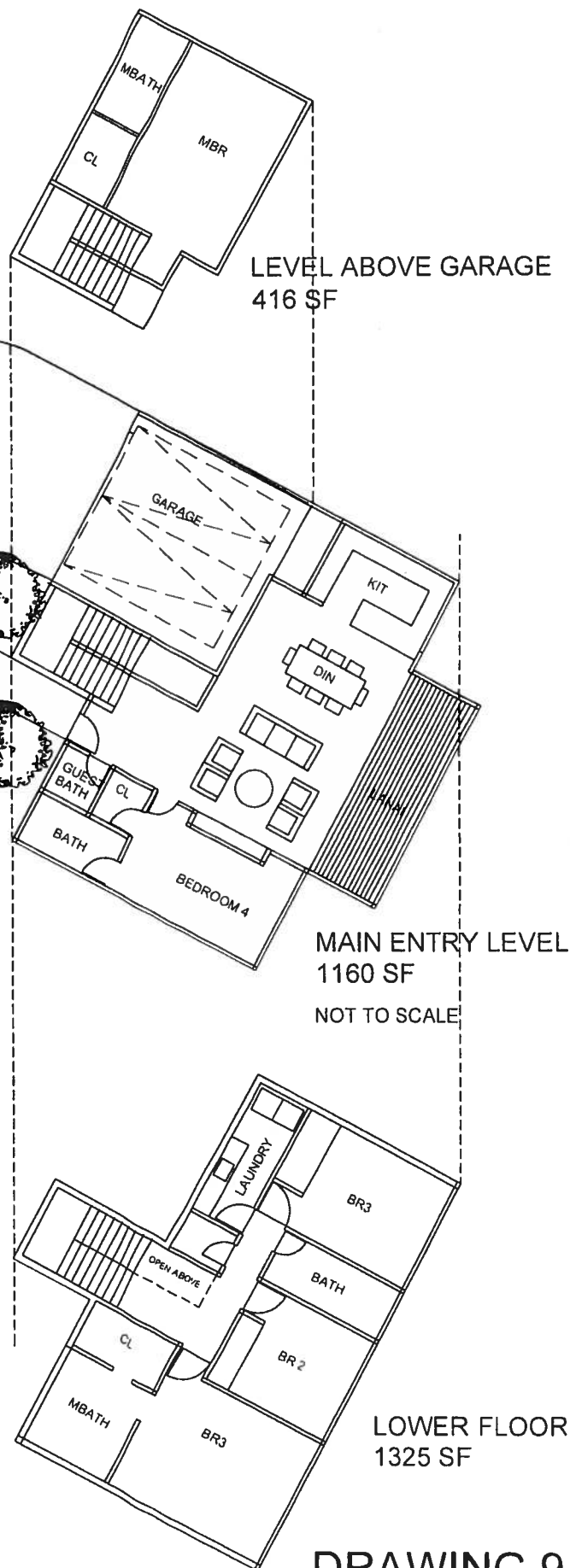
HOUSE DESIGN CONCEPT:

THIS HOME DESIGN UTILIZES THE 3 BEDROOM DESIGN
PREVIOUSLY MENTIONED BY PLACING THE MASTER-
BEDROOM SUITE ABOVE THE GARAGE OF THE 3 BEDROOM
DESIGN. ALL THE DESIGN ELEMENTS FOR AGING IN PLACE
ALSO APPLIES TO THIS HOME SINCE A BEDROOM IS LOCATED
ON THE MAIN ENTRY LEVEL OF THIS HOME.

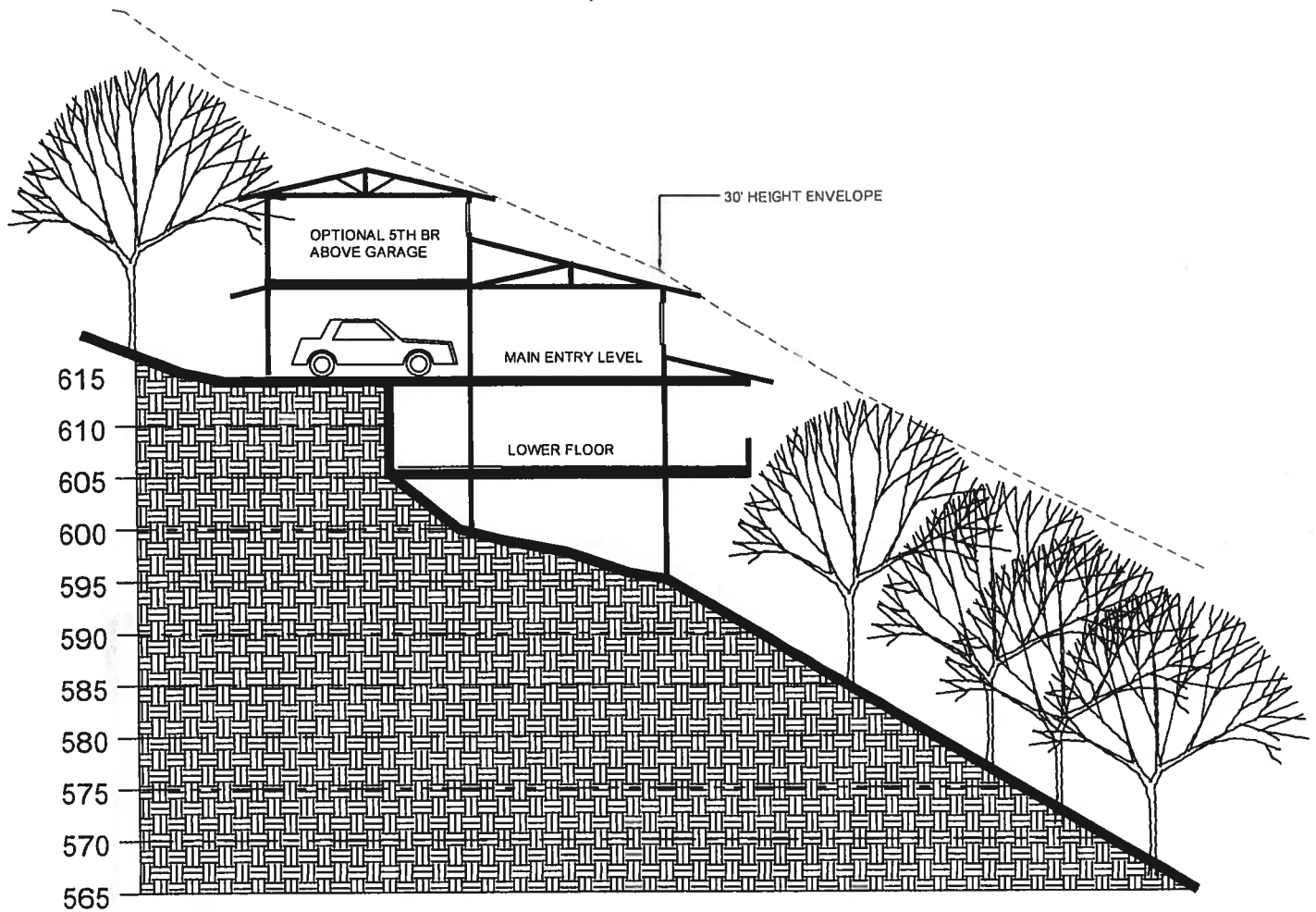
CONCEPTUAL PLAN OF OF A 5 BR HOME

NOT TO SCALE

JUNE 28, 2018 CDS INTERNATIONAL



DRAWING 9
OF 10



TYPICAL SECTION THROUGH HOME AND SLOPING TERRAIN
NOT TO SCALE

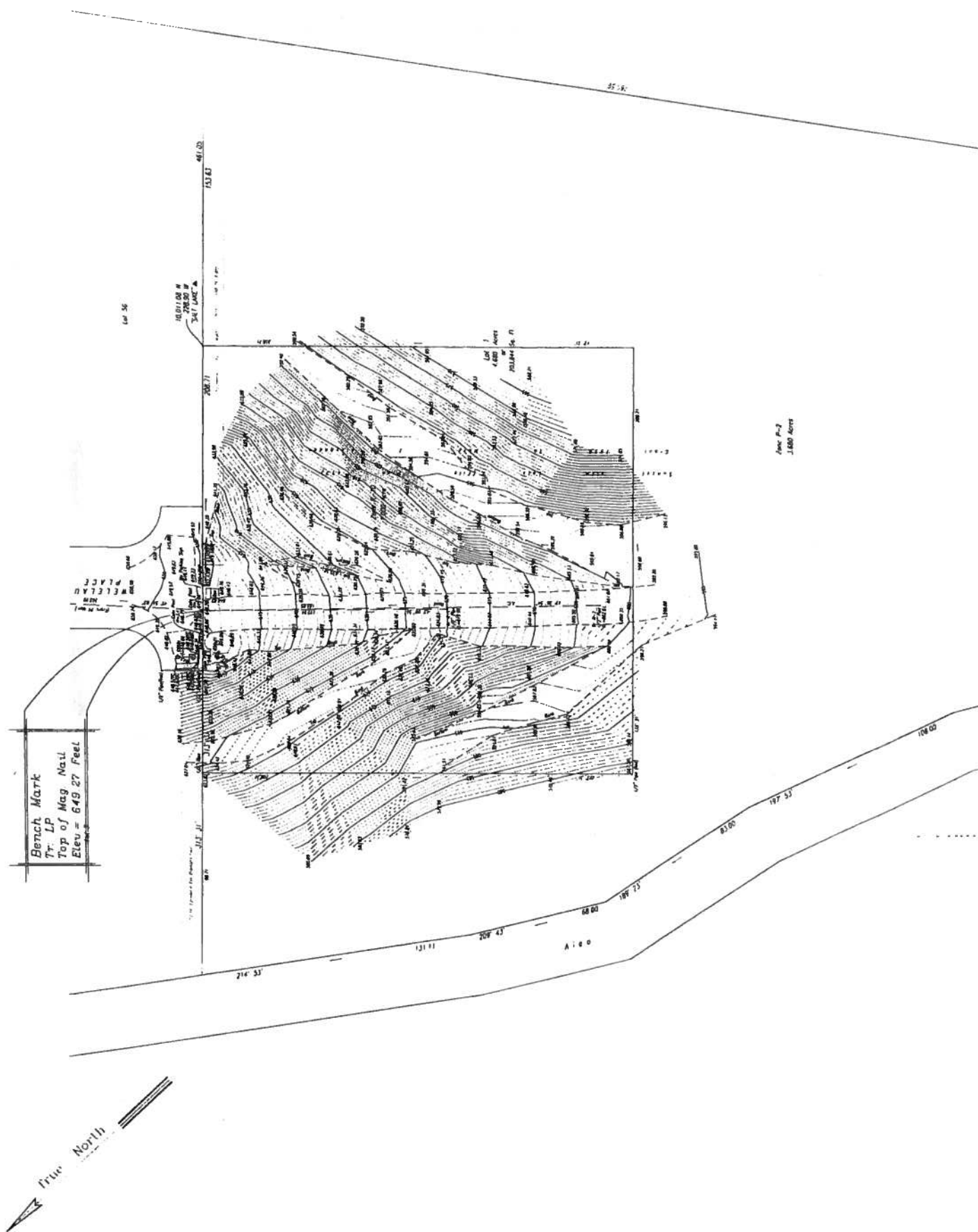
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CONCEPTUAL SECTION FOR A 5 BR HOME

NOT TO SCALE

JUNE 28, 2018 CDS INTERNATIONAL

DRAWING 10
OF 10



Lot 2

Bench Mark
Tr: LP
Top of Mag. Nail
Elev. = 649.27 Feet

(From: PT Mon.)
26599
WELLAU
PIACE

