LIFE OF THE LENS
A 21st Century Take on the 50x50 Glass House

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TIMELINE
SITE RESEARCH
PLANT FACTORS:
- The locale features a variety of native Low Desert flora.
- Visually dominated by Creosote Bush and Brittlebush.
- The average daily incident shortwave solar energy experiences extreme seasonal variation over the course of the year.
- The gently undulating slopes of the canyon floor are currently threatened by mass grading and terracing. Once disturbed, this delicate ecosystem has little chance of recovery.

CLIMATE FACTORS:
- It ranges from 0 mm (0 in) in the driest months (April, May, June) to 30 mm (1.2 in) in the wettest ones (January, February).
- The climate is sub-tropical desert, with very mild winters and very hot summers.
- An average of 360 or more days a year. On average, there are around 3,790 sunshine hours per year.
- On the coldest nights of the year, the temperature generally drops to 0/3 °C (32/37 °F).
- On the hottest days of the year, the temperature generally reaches 47/48 °C (117/118 °F).

/FLORA DATA RESEARCH

INLAND:
- Adiantum capillus-veneris - Southern Maiden Hair
- Equisetum hyemale - Scouring Rush Horsetail
- Equisetum laevigatum - Horsetail
- Myriopteris covillei - Coville’s Lipfern
- Notholaena californica - California Cloak-fern
- Pellaea mucronata - Birdfoot Cliffbrake
- Pellaea mucronata var. mucronata - Bird’s-foot Fern
- Pentagramma triangularis - Goldenback Fern
- Selaginella bigelovii - Spike Moss
- Selaginella eremophila - Desert Spike-moss
- Thelypteris puberula - Showy Maiden Fern
- Thelypteris puberula var. sonorensis - Sonoran Maiden Fern

/FERNS+MOSS (SPORES)

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/GYNOESPERMS (CONES)

INLAND:
- Juniperus californica - California Juniper
- Ephedra asper - Boundary Ephedra
- Ephedra californica - California Jointfirt
- Ephedra nevadensis - Nevada Jointfirt
- Ephedra viridis - Mountain Ephedra

/ANGIOSPERMS (FLOWERS)

TREES
- Abrus rhombifolia - White Alder
- Parkinsonia florinda - Blue Palo Verde
- Parkinsonia microphylla - Yellow Palo Verde
- Platanus racemosa - Western Sycamore
- Populus fremontii - Fremont Cottonwood
- Populus fremontii ssp. fremontii - Fremont Cottonwood
- Prosopis glandulosa - Honey Mesquite
- Prosopis glandulosa var. torreyana - Mesquite
- Prosopis pubescens - Screwbean Mesquite
- Prunus fasciculata - Desert Raisin Almond
- Prunus fremontii - Desert Apricot
- Pionothamnus spinulosus - Smoke Tree
- Salix exigua - Sandbar Willow
- Salix exigua var. exigua - Narrow-leaved Willow
- Salix gooddingii - Goodding’s Black Willow
- Salix laevigata - Red Willow
- Washingtonia filifera - Fan Palm

SHRUBS/SUCULENTS [WOODY]

INLAND:
- Acamptopappus sphaerocephalus - Goldenhead
- Ambrosia dumosa - White Bursage
- Ambrosia ericoides - Woolly Bursage
- Ambrosia salsola - Cheesebush
- Ambrosia salsola var. pentalepis - Five-scaled Bursage
- Amorpha fruticosa - Western False Indigo
- Atriplex canescens - Shadscale
- Atriplex canescens var. canescens - Wingscale
- Atriplex hymenelytra - Desert Holly
- Atriplex polyacantha - Catla Saltbush
- Artemisia californica - California Sagebrush
- Artemisia spinifolia - Brushy
- Baccharis brachyphylla - Shortleaf Baccharis
- Baccharis salicifolia - Mulefat
- Baccharis salicifolia var. salicifolia - Mule Fat

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- Baccharis salicifolia var. salicifolia - Mule Fat
Baccharis salicina - Emory’s Baccharis
Baccharis sarothroides - Desert Baccharis
Baccharis sergiloides - Desert Baccharis
Bahiopsis parishii - Parish’s Goldeneye
Bebbia juncea - Sweetbush
Bebbia juncea var. aspera - Rough Sweetbush
Bernardia incana
Brockelia acracystoides - Spearleaf Brickellbush
Brockelia abradcytoides var. arguta - Pungent Brickellbush
Brockelia desertorum - Desert Brickellbush
Ceanothus perplexans - Cup-leaved Ceanothus
Chilopsis linearis - Desert Willow
Chilopsis linearis ssp. arcuata - Desert Willow
Condea emoryi - Desert Lavender
Crossosoma bigelovii - Rock Crossosoma
Cylindropuntia bigelovii - Jumping Cholla
Cylindropuntia echinocarpa - Golden Cholla
Echinocereus engelmannii - Calico Cactus
Encelia acctoni - Acton Encelia
Encelia farinosa - Brittlebush
Encelia frutescens - Button Brittlebush
Ephedra aspera - Boundary Ephedra
Ephedra californica - California Jointfir
Ephedra nevadensis - Nevada Jointfir
Ephedra trifurca - Longleaf Jointfir
Ephedra viridis - Mountain Ephedra
Eriodictyon crassifolium - Thickleaf Yerba Santa
Eriogonum fasciculatum - California Buckwheat
Eriogonum plumatella - Yucca Wild Buckwheat
Fagonia laevis - California Fagonbush
Ferocactus cylindraceus - California Barrel Cactus
Fouquieria splendens - Ocotillo
Galium stellatum - Starry Bedstraw
Gutierrezia californica - California Matchweed
Hoffmannseggia microphylla - Wand Holdback
Isocoma acradenia - Alkali Goldenbush
Justicia californica - Chuparosa
Keckiella antirrhinoides - Yellow Bush Penstemon
Keckiella cordifolia - Climbing Penstemon
Keckiella corymbosa - Keckiella
Krameria bicolor - White Rhatany
Krameria erecta - Pima Rhatany
Larrea tridentata - Creosote Bush
Lepidocorys saxatilis - Scale Broom
Linanthus californicus - California Pickly Phlox
Lycoctonum latispathum - Water Jacket
Lycoctonum macrophyllum - Wand Holdback
Mammillaria dioica - Fish Hook Cactus
Mammillaria tetrancistra - Common Fishhook Cactus
Opuntia basilaris - Beavertail Pricklypear
Pentonia arborescens - California Dalea
Pentonia emoryi - Dyebush
Pentonia fremontii - Fremont’s Dalea
Pentonia schottii - Schott Indigo bush
Phoradendron californicum - Desert Mistletoe
Pleuroncodes pluricaulis - Bush Arrowleaf
Pluchea sericea - Arrow Weed
Psorothamnus arborensens - California Dalea
Psorothamnus emoryi - Dyebush
Psorothamnus fremontii - Fremont’s Dalea
Psorothamnus schottii - Schott Indigo bush
Purshia tridentata - Antelope Bitterbrush
Quercus cornelius-mulleri - Muller Oak
Rhus ovata - Sugar Bush
Salvia apiana - White Sage
Salvia maifera - Black Sage
Salvia pachyphylla - Blue Sage
Salvia vassai - Scallop Leaf Sage
Simmondsia chinensis - Jojoba
Thamnosma montana - Turpentinebroom
Trixis californica - American Threefoot
Trixis californica var. californica - Trixis
Vitis girdana - Desert Wild Grape
Yucca baccata - Banana Yucca
Yucca schidigera - Mojave Yucca
Ziziphus parryi - Parry’s Jujube
Ziziphus parryi var. parryi - Parry’s Jujube
GRASSES

INLAND:
- Andropogon glomeratus - Bushy Bluets
- Aristida advena - Sixweeks Dropseed
- Aristida californica - California Three-awn
- Aristida purpurea - Purple Three-awn
- Aristida purpurea var. fendleri - Fendler's Dropseed
- Aristida purpurea var. parishii - Parish's Dropseed
- Aristida purpurea var. purpurea - Purple Three-awn
- Bobolus maritimus - Alkalai Bulrush
- Bouteloua barbata - Sixweeks Sedge
- Bouteloua barbata var. barbata - Sixweeks Sedge
- Bromus arizonicus - Arizona Brome
- Carex alpina - Sluety Sedge
- Cyperus eragrostis - Sturdy Sedge
- Dasyochloa pulchella - Desert Fluffgrass
- Eleocharis geniculata - Canada Spikesedge
- Eleocharis montevideensis - Sand Spikesedge
- Eleocharis parishii - Parish's Spikesedge
- Festuca octoflora - Six Weeks Fescue
- Hilaria rigida - Big Galleta
- Imperata brevidens - Satinal
- Juncus acutus sp. leopoldii - Leopold's Rush
- Muhlenbergia microsperma - Littleseed Muhly
- Muhlenbergia rigens - Deergress
- Panicum capillare - One-Sided Blue Grass
- Panicum viride - Silky Panic Grass
- Phragmites australis - Common Reed
- Poa bigelovii - Bigelow's Bluegrass
- Poa secunda - One Sided Blue Grass
- Puccinellia maritima - Nutta's Spikesedge
- Schoenoplectus americanus - Olney's Bulrush
- Sporobolus cryptandrus - Spikes Droppedseed
- Stipa hymenoides
- Sporobolus contractus - Spike Droppedseed
- Stipa inermis
- Stipa capillata
- Semaena capensis
- Spheterium latifolium
- Stipa capensis
- Stipa capillata

PERENNIAL HERBS

INLAND:
- Astragalus argophyllus - Silver Bird's-foot Trefoil
- Astragalus glaber - Deeweed
- Astragalus nigricans - Shrubby Deerweeds
- Astragalus longistylus - San Felipe Dogweed
- Allium incanum - Trailing Windmills
- Argyrodes murida - Chickalea
- Artemisia ludoviciana - Silver Wormwood
- Artemisia ludoviciana ssp. albula - White Mugwort
- Acrepotria erosa - Desert Milkweed
- Acrepotria subulata - Skeleton Milkweed
- Astraagalus cocoricoides - Scarlet Milkweeth
- Astraagalus cristatinus - Salton Milkweeth
- Astraagalus douglasii - Douglas' Milkweeth
- Astraagalus lentiginosus var. fremontii - Fremont's Milkweeth
- Astraagalus magdalenae - Sixweeks Milkweeth
- Astraagalus magdalenae var. parishii - Parish's Milkweeth
- Astraagalus palmeri - Palmer's Milkweeth
- Astraagalus microcephalus - Common Reed
- Astraagalus crotalariae - Yellow Cups
- Astraagalus cotonii - Common Reed
- Astraagalus lentiginosus var. fremontii - Fremont's Milkweeth
- Astraagalus palmeri - Palmer's Milkweeth
- Astraagalus megacephalus - Desert Chilnualna
- Astraagalus microcephalus - Small Leaved Clematis
- Astraagalus palmeri - Palmer's Milkweeth
- Astraagalus microcephalus - Common Reed
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- Astraagalus palmeri - Palmer's Milkweeth

FLORA RESEARCH_arce 415-01_prof sattler+saliklis_spring 2021

andrew hensen
- *Gnaphalium palustre*
- *Loeseliastrum matthewsii*
- *Loeflingia squarrosa*
- *Linanthus jonesii - Linanthus dianthiflorus*
- *Leptosiphon liniflorus*
- *Lasthenia gracilis*
- *Lasthenia californica*
- *Langloisia setosissima ssp. setosissima*
- *Gilia stellata*
- *Gilia scopulorum*
- *Loeseliastrum schottii*
- *Gilia latiflora ssp. latiflora*
- *Gilia diegensis*
- *Gilia capitata*
- *Geraea canescens*
- *Euphorbia serpyllifolia*
- *Eulobus californicus*
- *Eucrypta micrantha*
- *Eschscholzia minutiflora*
- *Eschscholzia glyptosperma*
- *Erodium texanum*
- *Eriophyllum wallacei*
- *Eriophyllum lanosum*
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- *Eschscholzia glyptosperma*
- *Erodium texanum*
- *Eriophyllum wallacei*
- *Eriophyllum lanosum*
Plantago erecta - Dotseed Plantain
Plantago ovata - Woolly Plantain
Plantago ovata var. fastigiata
Plantago patagonica - Woolly Plantain
Pterostegia drymarioides - Woodland Threadstem
Rafinesquia californica - California Plumseed
Rafinesquia neomexicana - New Mexico Plumseed
Salvina columbariae - Chia
Stephanomeria exigua - Small Wirelettuce
Streptanthella longirostris - Longbeak Streptanthella
Stylocline gnaphaloides - Everlasting Neststraw
Stylocline micropoides - Desert Neststraw
Thysanocarpus curvipes - Hairy Lacepod
Thysanocarpus curvipes ssp. curvipes
Talestronia suffrutcosa - Shrubby Honeysweet
Talestronia suffrutcosa var. oblongifolia - Honeysweet
Trianthema portulacastrum - Desert Horsepurslane
Trichopilium incisum - Yellowdome
Tropidocarpum gracile - Dobie Pod
Xanthium strumarium - Cocklebur
Zeltnera venusta - Canchalagua
# Flora Data Research

## Low < 1’

<table>
<thead>
<tr>
<th>Herb</th>
<th>Common Name</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mammillaria dioica</td>
<td>Fishhook Cactus</td>
<td>2-6’</td>
</tr>
<tr>
<td>Euphorbia setiloba</td>
<td>Fishhook Euphorbia</td>
<td></td>
</tr>
<tr>
<td>Euphorbia micromera</td>
<td>Mottled Euphorbia</td>
<td></td>
</tr>
<tr>
<td>Pluchea sericea</td>
<td>Scallopleaf Sage</td>
<td></td>
</tr>
</tbody>
</table>

## Short 1-3’

<table>
<thead>
<tr>
<th>Herb</th>
<th>Common Name</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Torrey Wolfberry</td>
<td>Lycium torreyi</td>
<td>1-3’</td>
</tr>
<tr>
<td>Arrow Weed</td>
<td>Antennaria menziesii</td>
<td></td>
</tr>
<tr>
<td>Water Jacket</td>
<td>Lepidospartum squamatum</td>
<td></td>
</tr>
<tr>
<td>Water Jacket</td>
<td>Psorothamnus schottii</td>
<td></td>
</tr>
<tr>
<td>Water Jacket</td>
<td>Krameria bicolor</td>
<td></td>
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## Medium 3-15’

<table>
<thead>
<tr>
<th>Herb</th>
<th>Common Name</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jojoba</td>
<td>Simmondsia macrocarpa</td>
<td>3-12’</td>
</tr>
<tr>
<td>Jojoba</td>
<td>Dodonaea viscosa</td>
<td></td>
</tr>
<tr>
<td>Jojoba</td>
<td>Eriolobus azoricus</td>
<td></td>
</tr>
<tr>
<td>Jojoba</td>
<td>Cylindropuntia bigelovii</td>
<td></td>
</tr>
</tbody>
</table>

## Tall 15+’

<table>
<thead>
<tr>
<th>Tree</th>
<th>Common Name</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indian Paintbrush</td>
<td>Keckiella</td>
<td>3-7’</td>
</tr>
<tr>
<td>Indian Paintbrush</td>
<td>Fagonia laevis</td>
<td></td>
</tr>
<tr>
<td>Indian Paintbrush</td>
<td>Baccharis sarothroides</td>
<td></td>
</tr>
<tr>
<td>Indian Paintbrush</td>
<td>Baccharis salicina</td>
<td></td>
</tr>
<tr>
<td>Indian Paintbrush</td>
<td>Baccharis salicifolia</td>
<td></td>
</tr>
<tr>
<td>Indian Paintbrush</td>
<td>Atriplex polycarpa</td>
<td></td>
</tr>
<tr>
<td>Indian Paintbrush</td>
<td>Amaranthus hypochondriacus</td>
<td></td>
</tr>
<tr>
<td>Indian Paintbrush</td>
<td>Prunus fasciculata</td>
<td></td>
</tr>
<tr>
<td>Indian Paintbrush</td>
<td>Prosopis glandulosa var. torreyana</td>
<td>6-12'</td>
</tr>
</tbody>
</table>

## Notes

- **Low < 1’**: Euphorbia setiloba, Euphorbia micromera
- **Short 1-3’**: Torrey Wolfberry, Arrow Weed, Water Jacket
- **Medium 3-15’**: Jojoba, Dodonaea viscosa, Cylindropuntia bigelovii
- **Tall 15+’**: Indian Paintbrush, Fagonia laevis, Baccharis sarothroides

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### Vegetation Zones

- **Low < 1’**: Succulents, Herbs
- **Short 1-3’**: Grasses, Ferns
- **Medium 3-15’**: Shrubs, Ferns
- **Tall 15+’**: Trees

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### Locations

- **33.83° N 116.55° W**

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### Additional Information

- **Flora Data Research**
- **Palm Springs, CA**
- **12.33° N 116.55° W**
INITIAL INTERVIEW

Meeting 1 - 4/11/2021

TRANSCRIPT:

MORGAN: We want a house in Palm Springs that feels like, like super Honey, “you know”. But also like modern.

ANDRE: Yeah, modern for sure. Sleek and clean.

MORGAN: I don’t know if you know this, I mean you probably don’t know this. We are content creators.

ENGINEER: What does that mean?

MORGAN: Oh yeah we create content through social media like Instagram. You know Instagram? We post what we are doing everyday on Instagram, like pictures and videos. I promote a lot of cool clothing brands, and health and wellness brands. Like see this outfit I’m wearing, I got it for free.

ENGINEER: I understand. Good for you. So, are you going to be using this home for “content”?

MORGAN: Yes! Exactly. I want to be able to take lots of cute pictures. Pictures of me, my house, the desert. Desert lightning is the best.

ANDRE: I am a photographer so I want to be able to have a space for some cool shots. The sunsets here are awesome.

MORGAN: Oh and we want a pool! Of course - we are in the desert, we love pool parties. Our creative team will be over here a lot. Like yeah this is our home, but also a place where our whole team can meet up. We want our friends to be comfortable coming here whenever.

ARCHITECT: So what you are saying is you are looking for a space that looks sleek and contemporary. You need a space for entertaining, but also acts as a home base. How big are the groups you are looking to host on average? Is this more of a family space or large parties?

ANDRE: Well... we do collaborate with our marketing crew on the regular. At the least, we need to make sure there is enough space for all of them. I do not want to feel like people are sitting on top of eachother. Haha. Its gotta feel spacious!

ENGINEER: Spacious. Ok. How do you feel about glass? We could do a minimally framed structure with lots of openings and glass to create less of a divide between the interior of the home and the outdoors.

ARCHITECT: Before we get into those details real quick, let’s sketch some things out. Seeing as you guys have an “image”, right? What are your thoughts on having a house that has never been done before, but could make you famous in the design world? I’ve got this idea that popped into my head, but it will be a challenge to get it perfect. It will truly be one-of-a-kind.

MORGAN: Yes, yes!

ANDRE: Depends. Is it practical and could it fit the needs we are looking for?

ENGINEER: Like I said, it is not going to be easy, but with our team, I think we can do something really amazing. My engineers will be the backbone of this house. I am positive we can do this.

ANDRE: So this space has to embody our image. We have worked in tons of other spaces, and I mean tons, and I know what it is I am looking for. Working with Morgan and our team, we have seen the good, the bad, and absolutely disgusting! If we are to drop some serious cabbage on this space, we won’t settle for anything less than perfect.

MORGAN: Oh relax. I am sure these guys know what they’re doing, but for real though, this space has to blow all the others away. We really want something unique but also fits our brand.

ARCHITECT: So we have a space like no other, a pool, an area to host, and an area to work. Any other big needs or wants?

MORGAN: That sounds like the most important things to me. I am really excited. I can’t wait to update our followers of our big news! what do you think Andre?

ANDRE: Yeah, I think if we all understand the look we are trying to go for.

ARCHITECT: So this idea that I am thinking about is called the Glass House. I am going to throw some big names out like Ludwig Mies Van der Rohe, Pernick Goldsmith, and Philip Johnson. These architects were legends in the architecture world, but that’s not important for you to remember. So this is a famous concept, it was never completed, and you could possibly become the centerpiece of the design world. I’m talking about the 5000 glass house. Our engineer is gonna kill me for going this direction, but I think it will be fun. You’re familiar, right?

ENGINEER: Hey, we always like a challenge. This project is ambitious, but like you said - one of a kind. I think we can have a lot of fun here. Materiality will be important for this project. I think minimalism and simplicity is going to be the goal here. I’m thinking steel will dominate the structure. If we are drawing inspiration from Mies we could really challenge ourselves and eliminate any corner columns - that will accomplish the goals of creating more space in the house.

MORGAN: You are saying some crazy things that are like, going way over my head. I can see you guys got excited all of a sudden, so I know the enthusiasm is there. It kinda reminds me of how our team gets when we think of the best idea for a new vlog. You know what a vlog is, right?

ARCHITECT: Even if I did or didn’t, you are sure to be the talk of the town with this house. The next important question, what are we thinking about budget wise?

ANDRE: Our brand is already wildly popular and I’m not gonna lie, our marketing team has done crazy well. As of now, money is not an issue, and if this hype you speak of lives up to all its glory, there’s nothing you need to worry about. That being said, you gotta get it right.

MORGAN: I hate to end things early, but I just get a message from someone crazy important and we’ve gotta go like, right now. Next time around, you guys bring some more ideas to the table? I got some of the idea, but I still have like, no idea what you are even talking about.

ARCHITECT: Until next time then. Do not worry, you won’t be disappointed.

ENGINEER: Thank you, Morgan and Andre. I am looking forward to working with you both and tackling this project - this will be an adventure.
ARCHITECT: It's great to see you again after our last interview. How that we've gotten a sense of each other, let's get down to the nitty gritty. To think big picture, what is your 5-year, 10-year, and long-term plan for this space?

ANDRE: I see our brand really taking off in the next five years. I'm planning some pretty epic trips where I am going to be taking a ton of photos. Planning on putting some really great albums together. So, we aren't going to be here all the time, but when we are here we are going to have a lot of work to do. That work space is going to be crucial.

MORGAN: I want our team to think of this as a place they can call home too - a place we can all hangout and have fun, while working. I really want to be comfortable here. This is our first home together. It's a big deal.

ARCHITECT: Thinking about your brand, is there a message or feeling you want the house to convey since your lives are essentially on display? Do you want any specific areas to convey a more nature-friendly atmosphere, like calm or energizing?

MORGAN: I want most of our house to be inspiring since we will be doing most of our work at this house. We just need good vibes to create good content.

ANDRE: Our studio space definitely needs to be energizing. There can be some late nights, so it is important that space is not too calming. But yeah I definitely need to be inspired to work in my home and not feel so trapped inside a house.

ARCHITECT: Thinking programmatically, what do you envision your daily routine being?

MORGAN: Our daily routine in our house would consist of waking up and getting ready then eating breakfast. You getta start the day off right with a good meal and positive attitude. We usually spend the mornings planning and filming / photographing content for our social media. Andres usually spends the afternoon editing anything we want to post. Usually the afternoons and evenings are when the crew would possibly come over and hang out.

ARCHITECT: Within these spaces, how much time do you think you'll spend in the different areas of your home, both indoors and outdoors?

MORGAN: Like, well it's super important that we spend lots of time outside in the sun, you know. You don't get skin like this sitting indoors all day. It is crucial to have a good balance of indoor work and outdoor relaxing. I do not wear stress well. If I were to guess. It's like a 60/40 balance in our routines. 60% being strictly outside time. I do a morning walk everyday.

ANDRE: For me, it's important to have a space where I can do my digital work, but also not feel cramped up in an indoor office. That classic office vibe really kills my creativity. I want to feel like I am basically outside, but still be at my desk editing vids and whatnot.

MORGAN: Andres is a great photographer, we have to show you some of his work. He takes the most beautiful photos of the places he's traveled to; he really captures the beauty in nature. He's honestly made me become such an outdoorsy person, I love it.

ARCHITECT: On that note, what do you think you'll spend the majority of your time while doing those activities? We need to think ahead on how to support those functions.
INITIAL IDEATION
- Garden Bed
  - 48"
  - 36" - For Rain

- Cut Path

- Space for Garden
  - Path x Pool
  - Space for Breakfast
  - Shaded Area
  - Space for Self
  - Walled Lawn
  - Space for Hen
  - Vegetable Garden

- Has Garden + Cleaning Staff
### ARCE 415
845 W Chino Canyon Rd, Palm Springs, CA 92262, USA

Latitude, Longitude: 33.846331, -116.5575528

**Date:** 4/17/2021, 4:26:36 PM

**Design Code Reference Document:** ASCE7-16

**Risk Category:** II

**Site Class:** D - Default (See Section 11.4.3)

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**C$_a$ Determination**

\[
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S_{02} = 1.471 \quad S_{01} = 1.471 \quad S_{02} = 1.471 \\
\]

**ASCE 7-16**

**Latitude, Longitude:** 33.846331, -116.5575528
MIDREVIEW
**#MATERIALITY [EXTERIOR]**

**TEXTURES & VIBES**

- Soft
- Trendy
- Natural
- Unforgettable

**#PRIVATE VS PUBLIC**

**VISUALLY & PHYSICALLY**

- More Privacy
- Less Privacy

---

1. Main House
2. Front Yard/Curb Appeal
3. Driveway/Main Entrance
4. Shaded Garden
5. Site Path/Second Entrance
6. Greenhouse/Main Garden
7. Open Lawn
8. Garbage Cans
# FLOOR PLAN
1 - Main Entry
2 - Secondary Entry
3 - Living Room
4 - Bedroom
5 - Bathrooms
6 - Kitchen
7 - Collaboration/Office Space
8 - Gym/Workout Area
9 - Pool Area
10 - Pathway To Outdoor Area
Remove concrete fill as it's too heavy. Depict current structural member, footing, and slab sizes until changes are finalized. 3" steel decking will be bolted to members.


Pool acts as heat sink & reintroduces humidity. Need to introduce an intervention that will address and tackle phase changes internally (condensation).

Explore alternatives to curtain wall system as we're working with a single story structure. Parapet not needed - will bolt to roof. Design exterior perimeter drainage.

Fasteners would have to be excessively long to keep current wall profile. Rotating column benefits connection and glass deflection.

Investigate how to keep illusion of single solid mass with internally exposed structure. Veneer front? Slope of roof would only need to be 1/2" or so.

Column sizes are imbalanced compared to the rest of the structural members and project scale - resize. Column welded onto base plate connecting to the slab.
GRAVITY_DEFLECTIONS

GRAVITY_DEFLECTIONS

#GRAVITY_DEFLECTIONS
FINAL REVIEW
Working with a 5 foot grid we began organizing the spaces based on Morgan and Andres desires for their glass house in Palm Springs. Privacy was not considered as they want their daily lives/routines to be on display. This allowed for an open floor plan creating mostly public spaces within the interior of the house. The bedroom and bathroom spaces are separated from the public spaces by a 9ft interior wall that does not touch the ceiling. An open concept living and kitchen space allow for gatherings between the crew also offering views and a pathway from these spaces into the garden area. A sunken collaboration/office space addition that extends to the outdoor deck creates work space for the crew to upload their content. With views from the sunken space to the rest of Palm Springs, a bar next to the pool that is extending into the collaboration area, who wouldn't want to occupy this space? The sunken space extends out into the outdoor deck and the pool area further strengthening the indoor outdoor living condition.
Working with the grid, a 10 ft wide pathway in the center of the plan extending from the exterior into the interior connects the clients and the crew to every space within the house. Smaller pathways leading them into the more private spaces. In the diagram the thick lines represent this primary circulation path and the thinner lines the connections to the rest of the spaces.
This diagram shows the 50x50 boundary in contrast to the outdoor spaces and the rest of the site. As privacy not being considered one can see about 25% of the house being private and the other 75% being public further connecting to the outdoors.
This Axon shows the overall spatial arrangements within the house along with the roof and structural systems. Also an approach to our glass to mullion connection which consists of a pressure plate that is screwed to a mullion and rubber gaskets between these two elements supporting our glass units.
TheSpacesarewellshadedthroughoutsommerdaysgiveno2feasteast-west
overhangsandour10feetoverhangextendingoutfromthesunkenspace.Inthewinter
dayslightisallowedintotheinteriorspacesabsorbingheatthroughout
dayandreleasingitatinight.ThecompletelyshadedplaninDecember
at4pmshownowthesunisblockedbytheSanJacintomountains.Abetter
representationofthisonthenextslide.

ThisshowstheterrainsurroundingtheElvisPresley
estates.Oursitelocationishownwiththeorange
dotinthecenter.Ontheseconddiagramonecansee
themountainsblockingthesun,shadingmostofthe
neighborhoodandoursiteashownontheprevious
planviewinthewintermonthsat4pm.
This image shows the entrance to the glass house. The shot is taken from the path where the clients and visitors entry ways meet. This 10 ft pathway continues into the house connecting the client and the crew to the interior spaces. One can get a feel of transparency through the house with views to the rest of palm springs and its surroundings.
This view is taken from the pathway that connects the side garden to the house. Also showing a visual of the Mt Jacinto mountains sitting in the background of our site.
This view from the pool deck is what puts the crew on display as it faces panorama road, one of the main streets in the presley estates. Also showing the extension of the sunken space to the outdoor deck blending the outdoor indoor spaces.
This image shows the exposed structural members throughout the interior of the house along with the portion of the pool coming into the collaboration space. Also showing the views of the surrounding landscape from the interior spaces.
Despite the dramatic terrain of the neighboring peak, the site itself has a manageable grade, and in section, you can better see how the pool is incorporated into our building on the slope. This not only reintroduces humidity but breaks down the formal delineation between the external and internal spaces and formal programming.
The collaboration space takes center stage in our programming. With its retro homage, it has been sunken to promote the intimacy and focus work-from-home influencers need in their daily grind. Central to the purpose of the home, it is connected to all main paths of circulation from the bedroom, kitchen, entryways, and pool.
Barring the internal core that separates the bedroom and bathroom from the public spaces, the circulation is open and linear to promote continuous lines of sight to the viewsheds through the project. This was done with the intention of continuing a theme of transparency and integration of site and building.
ROOF DEAD LOAD: 21 PSF
ROOF LIVE LOAD: 20 PSF
#FOUNDATION

CONC S.O.G.

#PAD_FOOTINGS
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loading: response spectra

Maximum displacement = 1.97"
loading: response spectra

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Calculations:

\[ f_{ab} = 800 \times 10^6 \quad \text{Vmax=3.84 kip=17.08 kN} \quad \text{Vmax=1.28 kip= 5.7 kN} \]

**B23, B24 and B15 connection**

\[
F_{c,rd} = n_a \times n_p \times \frac{f_{ab} \times A_e}{Y_{M2}} = 2 \times 1 \times \frac{0.6 \times 800 \times 10^6 \times 58 \times 10^{-6} \text{m}^2}{1.25} = 44.54 \text{kN}
\]

Glemžioji galia (EN 1993-1-8, 3.4 lentelė)

\[
F_{h,rd} = n_b \times \frac{k_1 \times a_b \times f_{ab} \times d \times t_{min}}{Y_{M2}} = 2 \times \frac{2.5 \times 1 \times 360 \times 10^6 \times 10 \times 5.8 \text{ mm} \times 10^{-6}}{1.25} = 83.52 \text{kN}
\]

**Varžtų grupinis išplėšimas (EN 1993-1-8, 3.10.2)**

\[
V_{ed} = \frac{17.08 \text{kN}}{44.54 \text{kN}} = 0.3834 < 1.0
\]

**B24 to B15**  \( V = 5.7 \text{kN} \ M10 \ 8.8 \)

\[
F_{c,rd} = n_a \times n_p \times \frac{f_{ab} \times A_e}{Y_{M2}} = 2 \times 1 \times \frac{0.6 \times 800 \times 10^6 \times 58 \times 10^{-6} \text{m}^2}{1.25} = 44.54 \text{kN}
\]

Glemžioji galia (EN 1993-1-8, 3.4 lentelė)

\[
F_{h,rd} = n_b \times \frac{k_1 \times a_b \times f_{ab} \times d \times t_{min}}{Y_{M2}} = 2 \times \frac{2.5 \times 1 \times 360 \times 10^6 \times 10 \times 4.83 \text{ mm} \times 10^{-6}}{1.25} = 69.55 \text{kN}
\]

**Varžtų grupinis išplėšimas (EN 1993-1-8, 3.10.2)**

\[
V_{ed} = \frac{5.7 \text{kN}}{44.54 \text{kN}} = 0.128 < 1.0
\]

**B24 to B15**  \( V = 5.7 \text{kN} \ M10 \ 8.8 \)

Kur:

- a = 0.6 * t = 8 * 0.6 = 5 mm

**Varžtų grupinis išplėšimas (EN 1993-1-8, 3.10.2)**

\[
V_{eff,rd} = \frac{0.5 \times f_e \times A_{ad} + f_e \times A_{we}}{Y_{M2}} = \frac{0.5 \times 360 \times 10^6 \times 690.2 \times 10^{-6} + 235 \times 10^6 \times 012 \times 10^{-6}}{\sqrt{3} \times 1.0} = 210 \text{kN}
\]

**Varžtų grupinis išplėšimas (EN 1993-1-8, 3.10.2)**

\[
V_{eff,rd} = \frac{0.5 \times f_e \times A_{ad} + f_e \times A_{we}}{Y_{M2}} = \frac{0.5 \times 360 \times 10^6 \times 541 \times 10^{-6} + 235 \times 10^6 \times 676.2 \times 10^{-6}}{\sqrt{3} \times 1.0} = 210 \text{kN}
\]

Kur:

- neto tempiamas plotas:
  \[ A_{ad} = (131 \text{ mm} - 12 \text{ mm}) \times 5.8 \text{ mm} = 690.2 \text{ mm}^2 \]

- neto kerpamias plotas:
  \[ A_{av} = (76 - 6) \times 2 \times 5.8 \text{ mm} = 812 \text{ mm}^2 \]
**B17, B18 and B15 connection (welding)**

M = 80 knm  V = 18.6 kn  Steel - 420J2

\[
\sigma = \frac{M_{ed}}{W} = \frac{80}{0.006 \times (0.56)^2} = 255.1 \text{ MPa}
\]

\[
\tau_{n} = \frac{V_{ed}}{A} = \frac{18.6 \times 10^3}{0.006 \times 0.56} = 2.8 \text{ MPA}
\]

\[
\sigma = \frac{t_{p}}{\sin(90)} = \frac{t_{p}}{\sin(45)} = \frac{\sigma_{a}}{\sin(45)}
\]

\[
\tau_{n} = 181 \text{ MPA} < 0.9 \times \frac{f_{u}}{f_{y}} = 0.9 \times \frac{520}{1.125} = 374.4 \text{ MPA}
\]

Skaiciuotine kertines virintines siules laikomoji galia (EN 1993-1-1, 4.5.3.2)

\[
\sqrt{\sigma_{u}^2 + 3 \times (\tau_{n}^2 + \tau_{m}^2)} = \sqrt{255.1^2 + 3 \times (181^2 + 2.85^2)} = 404.2 \text{ MPa} < \frac{f_{u}}{\beta_{w} \times f_{y}} = \frac{520}{1.125} = 461 \text{ MPa}
\]

Išvada: kertinės virintines siūlės galia pakankama.

---

**B18 to B15**  M = 80 knm  V = 18.6 kn  Steel - 420J2

\[
\sigma = \frac{M_{ed}}{W} = \frac{80}{0.006 \times (0.544)^2} = 270.3 \text{ MPa}
\]

\[
\tau_{n} = \frac{V_{ed}}{A} = \frac{18.6 \times 10^3}{0.006 \times 0.544} = 2.85 \text{ MPA}
\]

\[
\sigma = \frac{t_{p}}{\sin(90)} = \frac{t_{p}}{\sin(45)} = \frac{\sigma_{a}}{\sin(45)}
\]

\[
\tau_{n} = 191 \text{ MPA} < 0.9 \times \frac{f_{u}}{f_{y}} = 0.9 \times \frac{520}{1.125} = 374.4 \text{ MPA}
\]

---

**B15 to C15**  M = 1.7 = 2.3 knm  V = 0.4 = 1.8 kN

\[
\sigma = \frac{M_{ed}}{W} = \frac{2.3}{0.006 \times (0.2)^2} = 86.25 \text{ MPa}
\]

\[
\tau_{n} = \frac{V_{ed}}{A} = \frac{1.8 \times 10^3}{0.006 \times 0.2} = 1.2 \text{ MPA}
\]

\[
\sigma = \frac{t_{p}}{\sin(90)} = \frac{t_{p}}{\sin(45)} = \frac{\sigma_{a}}{\sin(45)}
\]

\[
\tau_{n} = 61 \text{ MPA} < 0.9 \times \frac{f_{u}}{f_{y}} = 0.9 \times \frac{360}{1.125} = 260 \text{ MPa}
\]

Išvada: kertinės virintines siūlės galia pakankama, jos ilgis po 10 cm iš abiejų pusii.
Skaičiuotinė kertinės virintinės siūlės laikomoji galia (EN 1993-1-1, 4.5.3.2)

\[
\sqrt{\sigma_x^2 + 3 \left( \tau_x^2 + \tau_y^2 \right)} = \sqrt{80^2 + 3 \left( 61^2 + 1.25^2 \right)} = 137 \text{ MPa} < \frac{f_u}{\gamma_M} = \frac{360}{0.8 \times 1.25} = 360 \text{ MPa}
\]

Išvada: kertinės virintinės siūlės galia pakankama, ji bus 10 cm ilgio iš kiekvienos pusės

\[a = 4 \text{ mm}\]

B8 to C15  M = 4.5 = 6 kNm  V= 6 = 27 kN

\[
\sigma = \frac{M_{\text{ed}}}{W} = \frac{6}{\left( a + h + \frac{b}{6} \right)} = \frac{6}{0.005 \times (0.3m)^2} = 80 \text{ MPa}
\]

\[
\tau_{\text{ht}} = \frac{V_{\text{ed}}}{A} = \frac{27 \times 10^3}{0.005 \times 0.3} = 0.5 = 9 \text{ MPa}
\]

\[
\frac{\sigma \times \tau_p}{\sin(90)} = \frac{\tau_{\text{ht}} \times a}{\sin(45)} = \frac{\tau_{\text{ht}} \times a}{\sin(45)} = \frac{80}{\sqrt{2}} = 56.57 \text{ MPa} < 0.9 \times \frac{f_u}{\gamma_M} = 0.9 \times \frac{360}{1.25} = 260 \text{ MPa}
\]

Skaičiuotinė kertinės virintinės siūlės laikomoji galia (EN 1993-1-1, 4.5.3.2)

\[
\sqrt{\sigma_x^2 + 3 \left( \tau_x^2 + \tau_y^2 \right)} = \sqrt{80^2 + 3 \left( 9^2 + 56.57^2 \right)} = 127 \text{ MPa} < \frac{f_u}{\gamma_M} = \frac{360}{0.8 \times 1.25} = 360 \text{ MPa}
\]

Išvada: kertinės virintinės siūlės galia pakankama, ji bus 15 cm ilgio iš kiekvienos pusės
FINAL FANTASY
As social media continues to metamorphize, this pastime activity is becoming an overburdening chore. Entire careers can be made by curating the perfect snippets of audio, video, and imagery. To not be overwhelmed, some take it to the next level by going all-in on their brand. Friends, The Office, Seinfeld, and several other staples in our pop culture have made lasting impressions that continue strong, some 20+ years later. They are simply perfect and 100% fake. To be remembered, it needs to be flawless. This ploppable campus ensures your life behind glass will be sure to wow. The sitcom of a lifetime is guaranteed to bring you happiness... right?
ARTIFACT
Through my Artifact I explored and questioned the idea and possibility of a glass and tensile structural system. A glass box serving as an exhibit space is floating, being supported by tensile members. Our clients always wanting to be on display led me on creating my artifact with an exhibit feel. The wooden structure representing the steel columns are aligned to the center of each wall compared to having them in the corner, relating it to the structure of the glass house.
This piece is an overall reflection of a quarter getting fully immersed in the native flora of the Palm Springs region. My journey in the Glass House looked to combine ideas of modernist minimalism and a sophisticated landscape to create a lush oasis. The vase’s base is inspired by the California Fan Palms found in abundance across the Elvis Estates neighborhood. The landscape was given clean lines and muted colors. Any variation came from the additions of flowering herbs, tall succulents, evergreen shrubs, and a deciduous canopy. The color pallet is muted, but also jumps out from the surrounding desert. This piece can display cutting obtained from our Palm Spring Oasis.
I created a joint Instagram account for our clients Andre & Morgan for my artifact. This work pokes fun at how the influencer couple’s travel experiences lead them to pursuing their own glass house in Palm Springs. I wanted the couple to seem very intrigued by the idea of living in a glass house and their affluent lifestyle to be emphasized. I wanted to explore a perspective of our Glass House project free from the technical issues it poses. This artifact made me realize the importance of getting to know the client and their priorities in any project.


[@suitcase]. “Joshua Tree National Park.” Instagram, 4 May 2021.

[@visitpalmsprings]. “Palm Springs Poolside.” Instagram.

For my artifact I created a collage of photos taken looking into my bedroom where I have done all my work for this project. I wanted to study what I have looked like from the outside as our project focused heavily on our clients' desire to be seen by the outside world. Even though I do not live in a glass house, I do have large windows that allow people to see into my room from the street. I chose to study what my room looks like under different lighting conditions as I moved around the space. This gave me an idea of what it might be like to live inside a glass house and a better understanding of the properties of glass.
An exploration of the color scheme of the Red Team's Glass House Project. An exploration of what our clients will wear at the house. How does the glass house influence fashion? An exploration of cocktails and drink mixtures that reflect the materials of the glass house as well as the inspiration of the idea of Mies Van der Rohe and Myron Goldsmith.
The cube is see-through just like the personal lives of the clients. This idea occurred to me because of the piece „We“ by Yevgeny Zamyatin, where everyone knows what you’re doing, who you are. The glass cube and the whole world of the influencers is held by regular people, like you and me. Inside the cube we have the influencers themselves, they differ from the mass in their size and color. They are bigger because most of the time we see them as superior to us yet their heads are grey which represents that their mindset is not that different from the rest of ours. The strings attached to the influencers show that these popular opinionated people are controlled by a puppeteer. Even though he has all this power the person on top is still sitting on the same cube, held by the grey mass. Its exclusiveness is the red head which symbolises power, it’s his mind that puts him in a position above all others. Not only does this artifact represent our glass house and our influencers, but it also puts a mirror up to our society.
Initially, I wished to explore a paradoxical interaction with glass and the human experience to relate to the dystopian tones of this course. Thus came to mind the jarring idea of eating “glass". The variety of textures and colors in my first experiments with sugar glass soon reminded me of Chihuly’s works - enchanting and fanciful... so I refined my work to the creation of an edible vessel, reflecting on thresholds between food and utensil in a manner akin to architectural explorations between material essence and structure. Some 30 iterations of different colors, textures, and shapes later, light casts through the curved “glass" to showcase the desserts inside before all can melt.
THE PERFECT ESCAPE FOR THOSE THAT WANT TO BE SEEN...