

# **TOWN OF PARADISE VALLEY**

## **BUILDING PAD HEIGHT**

**May 14, 2020**



# AGENDA

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## Agenda

1. Town Code Fill Under Pad Overview
2. Staff Interpretation
3. Municipal Cut & Fill Regulations
4. Visual Impacts
5. Potential Code Amendments & Examples
6. Landscaping Fill



# TOWN CODE OVERVIEW

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One of the most frequently asked questions associated with new residential construction is in regards to how the building pad heights are determined and what affects it has in the overall allowable height of a structure.

Town Code Section 5: Building & Construction

Town Code Section 5-10-5: Grading & Dust Control Regulations

Town Code Section 5-10-5, B: Grading Permits Required For Land Disturbance

- *“Filling” means dumping or depositing earthen material resulting in raising of the grade at that location.*
- *“Earthen Material” means any rock, natural soil or any combination thereof.*



# TOWN CODE OVERVIEW

Town Code Section 5-10-5, B,2, a: Grading Plans prepared by a Civil Engineer

- *The grading plan shall contain the preparing engineers certification of the 100 year water surface elevation and finished floor elevation.*
- *The building pad shall not exceed two (2) feet in height except where required to protect the building against flooding, in which case the pad shall be one (1) foot above the water surface elevation of the 100 year event*

Concrete Slab (Finished Floor)

Building Pad



# STAFF INTERPRETATION

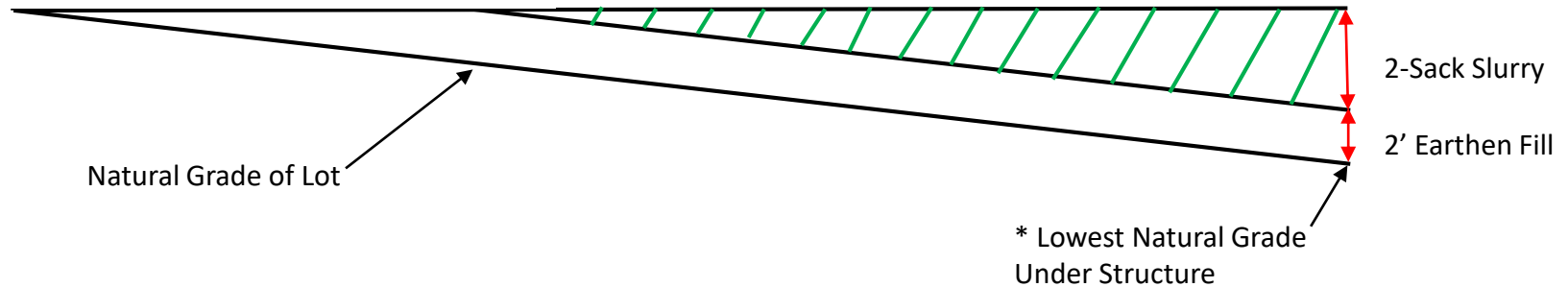
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*The building pad shall not exceed two (2) feet in height except where required to protect the building against flooding...*

- Engineering staff interprets this section of the Town Code to mean that no more than 2 feet of earthen material may be placed following the natural contour of a property to raise up the building pad unless it is needed to protect the home from flooding.
- Developers and/or property owners desiring a single level home may achieve a level building pad by:
  - a. Addition of non-earthen material such as thickening the slab with 2-sack slurry
  - b. Use stem walls and framed floor with crawl space
  - c. Thickened concrete slab
- Building height measurement is taken from same location (lowest natural grade)



# EXAMPLE (BUILDING PAD)



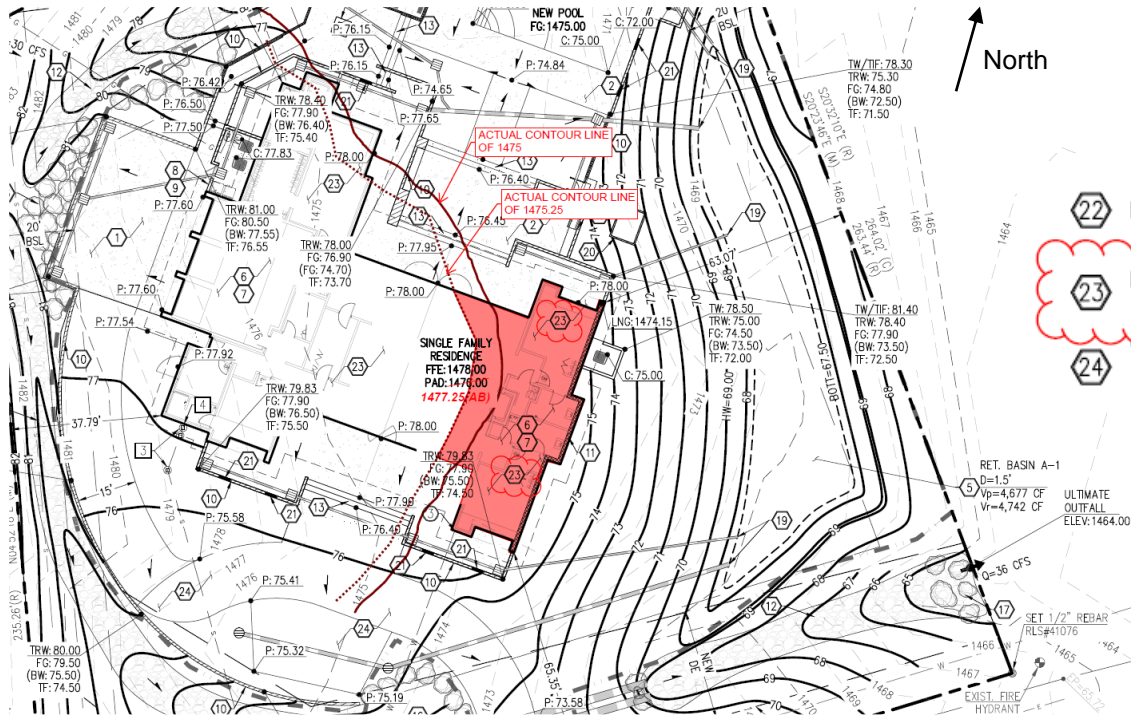
\* Building height is measured from Lowest Natural Grade Under Structure

Not To Scale





## EXAMPLE (1 ACRE LOT)



INSTALL ANGULAR RIP-RAP D50=8", 1.5' THICK PLACED ON  
NONWOVEN GEOTEXTILE FABRIC (MIRAFI N-SERIES OR APPROVED  
EQUAL). SEE GRADATION TABLE ON THIS SHEET.

POUR 2-SACK SLURRY MIX UP TO 8" BELOW FINISH FLOOR ELEVATION  
TO LIMIT EARTH FILL UNDER SLAB TO 2 FEET MAX.

CONSTRUCT STABILIZED DG PAVEMENT ON COMPACTED SUBGRADE PER LANDSCAPE AND ARCHITECTURAL PLANS AND SPECIFICATIONS.

**Shaded area indicates use of 2-sack slurry to limit earthen fill under slab to a maximum of 2 feet.**



# MUNICIPAL FILL & HEIGHT REQUIREMENTS

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## Fill Limits

No other municipalities were found to have restrictions as to how much fill may be added to raise the pad elevation above natural grade.

## Building Height Limits (excludes any HOA restrictions)

- Paradise Valley 24' from lowest natural grade and open space criteria
- Prescott 24' from rolling plane from natural grade (% of roof area may be raised up to 28')
- Cave Creek 25' adjacent natural grade
- Phoenix 30' from adjacent natural grade
- Glendale 30' from rolling plane from natural grade
- Scottsdale 30' from rolling plane from natural grade





# VISUAL IMPACT

**Pad  
Elevated 5'  
9" above  
LNG**

Visual impacts of limiting finished floor elevations.



# VISUAL IMPACTS

**Pad  
Elevated 3'  
9" above  
LNG**



Visual impacts of limiting finished floor elevations.



# VISUAL IMPACTS

Pad  
Elevated 1'  
9" above  
LNG



Visual impacts of limiting finished floor elevations.





# VISUAL IMPACTS

**Pad  
Elevated  
9" above  
LNG**



Visual impacts of limiting finished floor elevations.



# FILL & HEIGHT REQUIREMENTS

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Potential Town Code amendments to require non-hillside residential structures to follow the contour of the land.

- Remove maximum 2' fill limitation
- Add maximum finished floor height to 3' above natural grade
- Continue to measure height from lowest natural grade under structure
- Continue to require open space criteria
- Require building pad height certification and possibly rough grading inspection as part of pre-slab inspection



# EXAMPLE #1

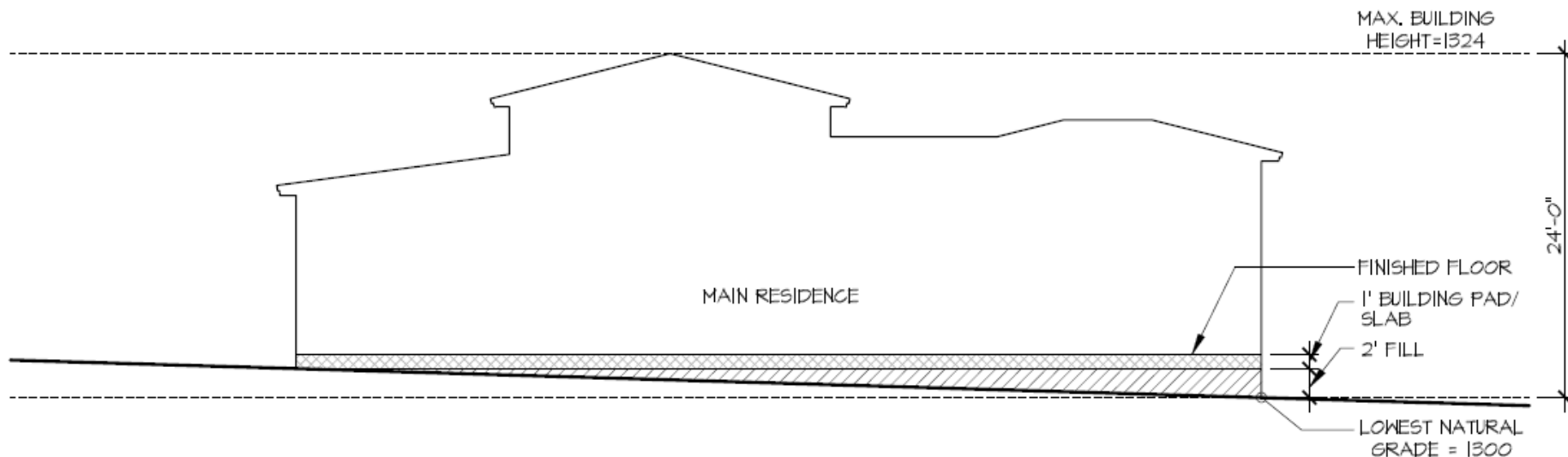


DIAGRAM NO.1  
3% SLOPE W/ 2' FILL & 1' BUILDING PAD/SLAB (FLAT FINISHED FLOOR)

Current Code (typical)





# EXAMPLE #2

MAX. BUILDING  
HEIGHT=1324

24'-0"

FINISHED FLOOR

1' BUILDING PAD/  
SLAB

SLURRY BACKFILL

2' FILL

LOWEST NATURAL  
GRADE = 1300

MAIN RESIDENCE

DIAGRAM NO.2

4%-5% SLOPE W/ 2' FILL , SLURRY BACKFILL & SLAB (FLAT FINISHED FLOOR)

Current Code Allows (caused concerns)



# EXAMPLE #3

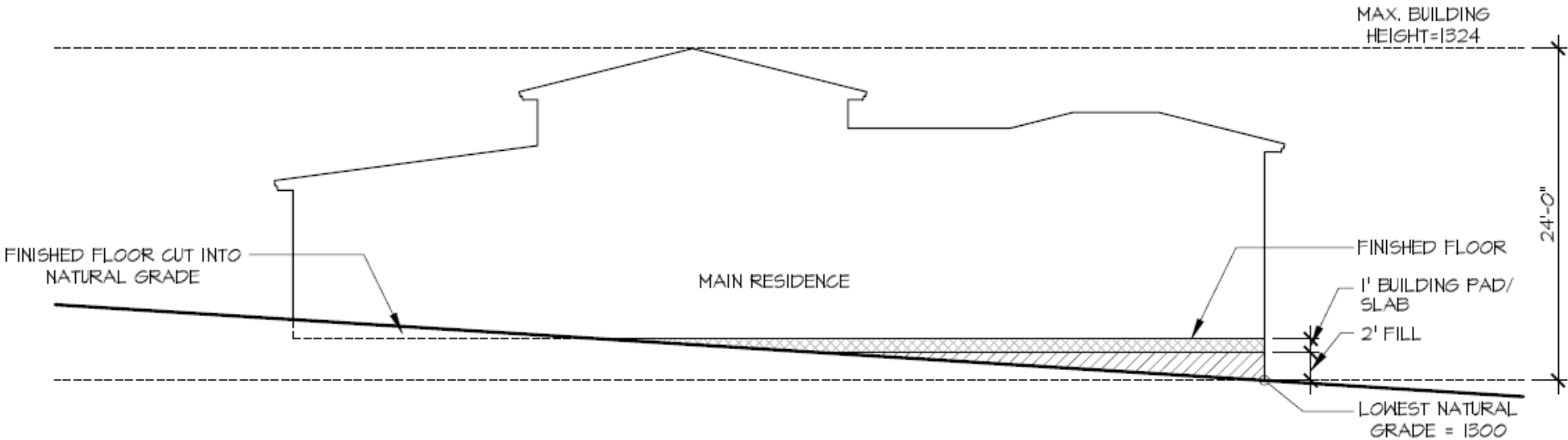


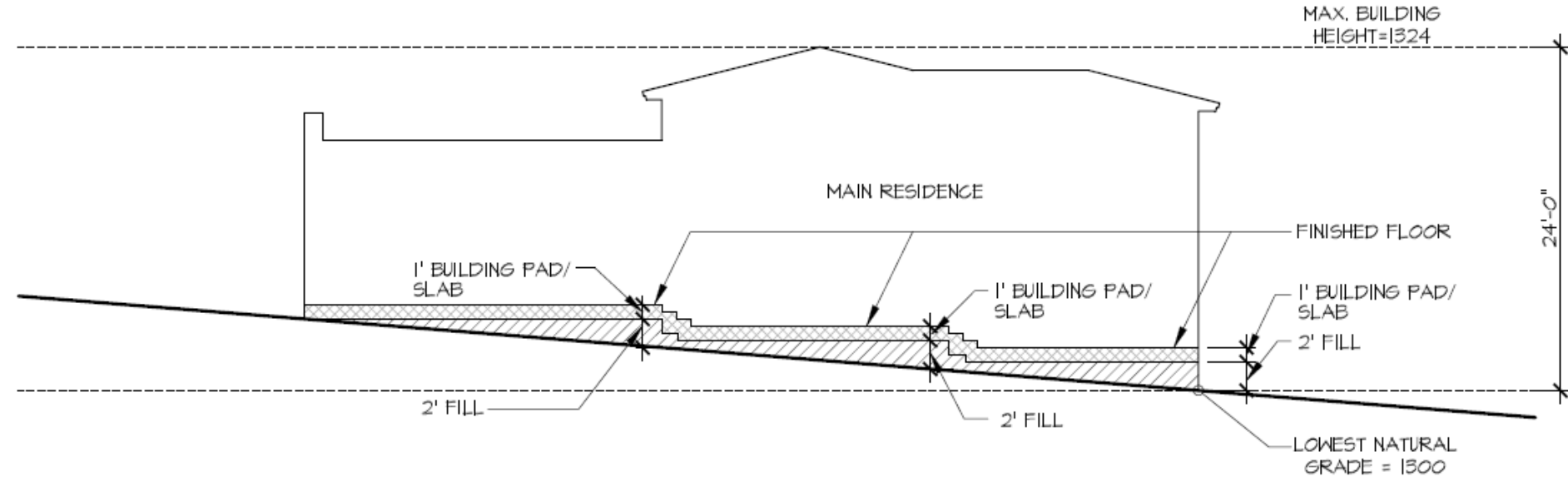
DIAGRAM NO.3

4%-5% SLOPE W/ 2' FILL & 1' BUILDING PAD/SLAB (FLAT FINISHED FLOOR,  
WILL REQUIRE NOTCHED OUT)

Current Code Allows



# EXAMPLE #4



**DIAGRAM NO.4**  
**7%-8% SLOPE W/ 2' FILL & 1' BUILDING PAD/SLAB (STEPPED**  
**FINISHED FLOOR)**

**Possible Code Amendment (3' max finished floor from natural grade)**



# FILL & HEIGHT REQUIREMENTS

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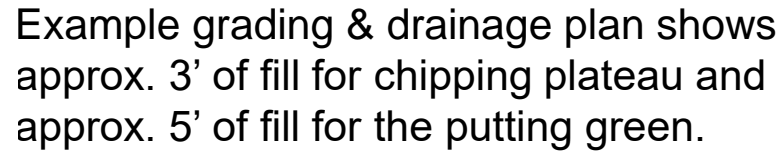
## Concerns with Town Code amendments to limit finished floor heights:

- Added costs for drainage systems around “notched” or “stepped” finished floors
- Single level floor plans are more desirable
- Development community input would be recommended before any potential amendments to the Town Code

## Additional items that may be considered:

- Limits of fill material for patios, pools, landscaped areas, etc.
- Timing of building height certification (currently required prior to certificate of occupancy)
- Require building pad elevation certification prior to pre-slab inspection
- Require finished floor elevation certification prior to framing inspection





# QUESTIONS?

