

CRISTOBAL SUBDIVISION

SPRING VALLEY, SAN DIEGO, CA



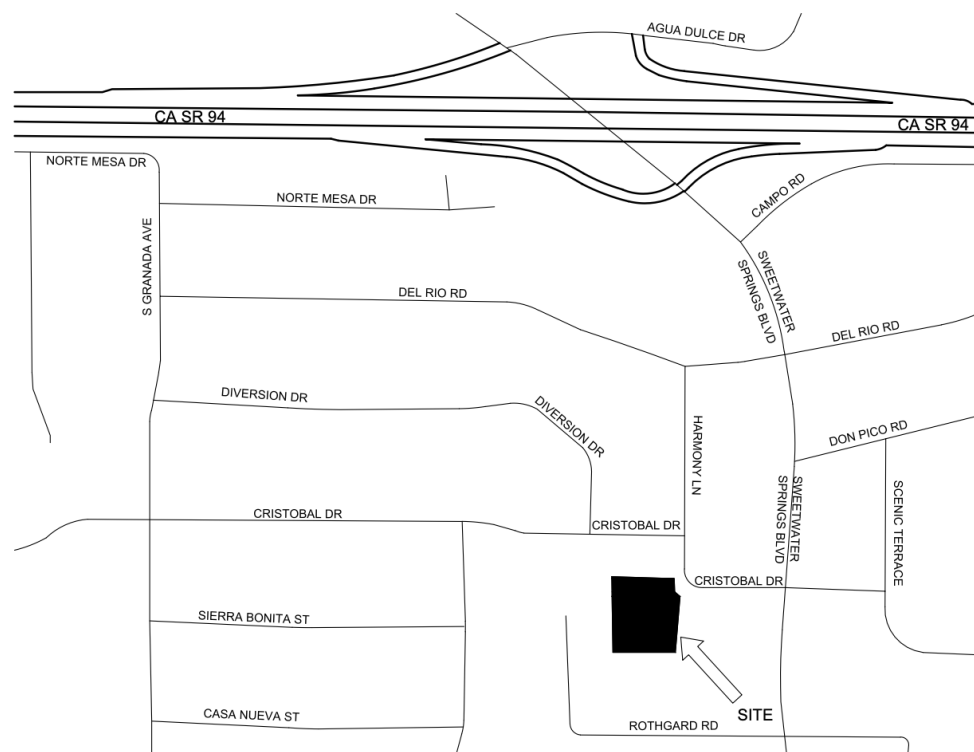
ARÊTE ENGINEERING

The site is a single lot that will be subdivided, the details are as follows:

- Located on Cristobal Drive in Spring Valley, CA
 - APN: 505-140-20
 - 1.12 acre lot
- General Plan Designation: SR-0.5
Subdivision restrictions based on slope
 - Average slope: 17.59%
- Per County of SD Zoning Division

The site is permitted to be subdivided with 2 DU/gross acre

- The site will be subdivided, resulting in 2 DU's and 2 ADU's



VICINITY MAP
NO SCALE

Land Development

The properties will share a 16' wide private driveway

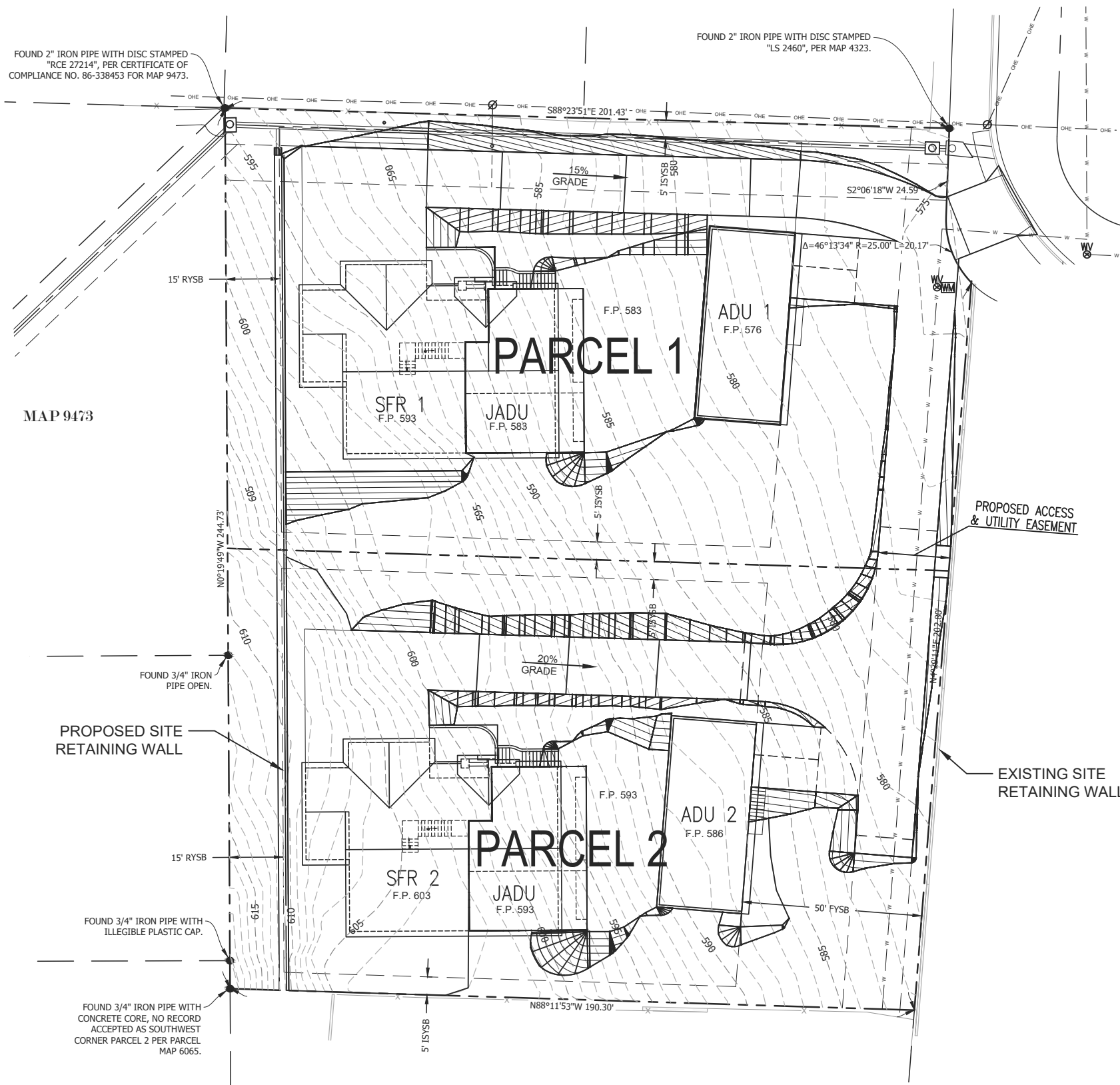
- Proposed access and utility easement along the eastern property line

Parcel 1 (Northern Lot)

- Average driveway slope of 15%
- Upper pad elevation of 593.00
- Lower pad elevation of 583.00
- ADU pad elevation of 576.00

Parcel 2 (Southern Lot)

- Average driveway slope of 20%
- Upper pad elevation of 603.00
- Lower pad elevation of 593.00
- ADU pad elevation of 586.00



Geotechnical

Soil is comprised of sand, silt, and clay

Foundations

- Post-tensioned slab-on-grade
- One for main floor, lower floor, and ADU

Retaining Walls

- One along the western side of the property
- Another to connect the main floor to the lower floor

Other Considerations

- Seismic
 - Risk Factor II (dependant on building occupancy)
 - Soil type E (due to the fine-grained soils present)
- Settlement
 - Important due to the liquefiable soils & mixture of different soil types
 - Use of a tamping foot roller & a smooth roller for compaction will help mitigate this

Stormwater

Existing Conditions

- Subdivision soil hydrologic group: D
- Rainfall intensity 100-year storm: 5.58 in/hr
- Average slope of the terrain: 17.59%
- Underground easement pipe maximum capacity: 12.90 cfs
- Total drainage basins: 2

Proposed Conditions

- Increase in impervious area: About 50 %
- Total drainage basins: 3
- Recommended on-site detention basin

Our Team



Shane Cole
Project Manager



Chaston Stewart
Land Development Engineer



Isabel Bishop
Geotechnical Engineer



Cole Saenz
Construction Engineer



Flavia DePlachett
Stormwater Engineer



Philip Kist
Water Resources Engineer

Water/Sewer

Existing Water System

- Pipe pressure at 100 psi
- No pipe system accessing subdivision

Proposed Pipe System

- Two 1" PVC pipes
- Connection to four different residentials
- Velocity and pressure heads are sufficient
- 1200 GPD to area (100 GPD per person)

Existing Sewer Main

- Terminates at the manhole on the corner of Cristobal Dr. and Harmony Ln.
- 8" Vitrified Clay (V.C.) pipe

Proposed Extended Sewer Main

- 148' southbound extension at 4.91% slope
- Average GPD per EDU wastewater = 240 GPD
 - Per Report of the San Diego Local Agency
 - Total demand = 960 GPD
- 8" V.C. pipe
- Install manhole and two 4" sewer laterals

