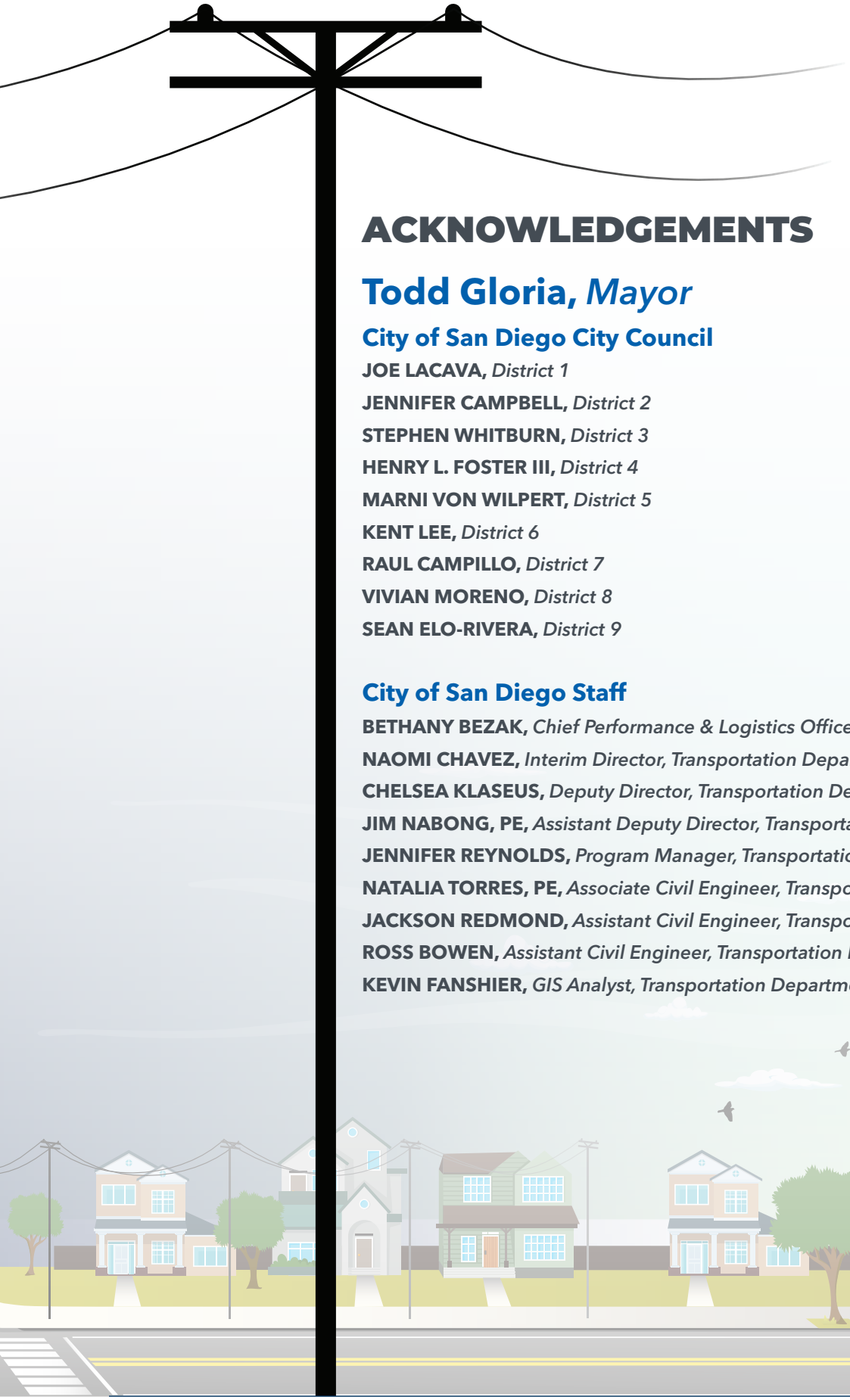
The City of SAN DIEGO AT WORK

TRANSPORTATION

Utilities Undergrounding Program

MASTER PLAN

March 2026



ACKNOWLEDGEMENTS

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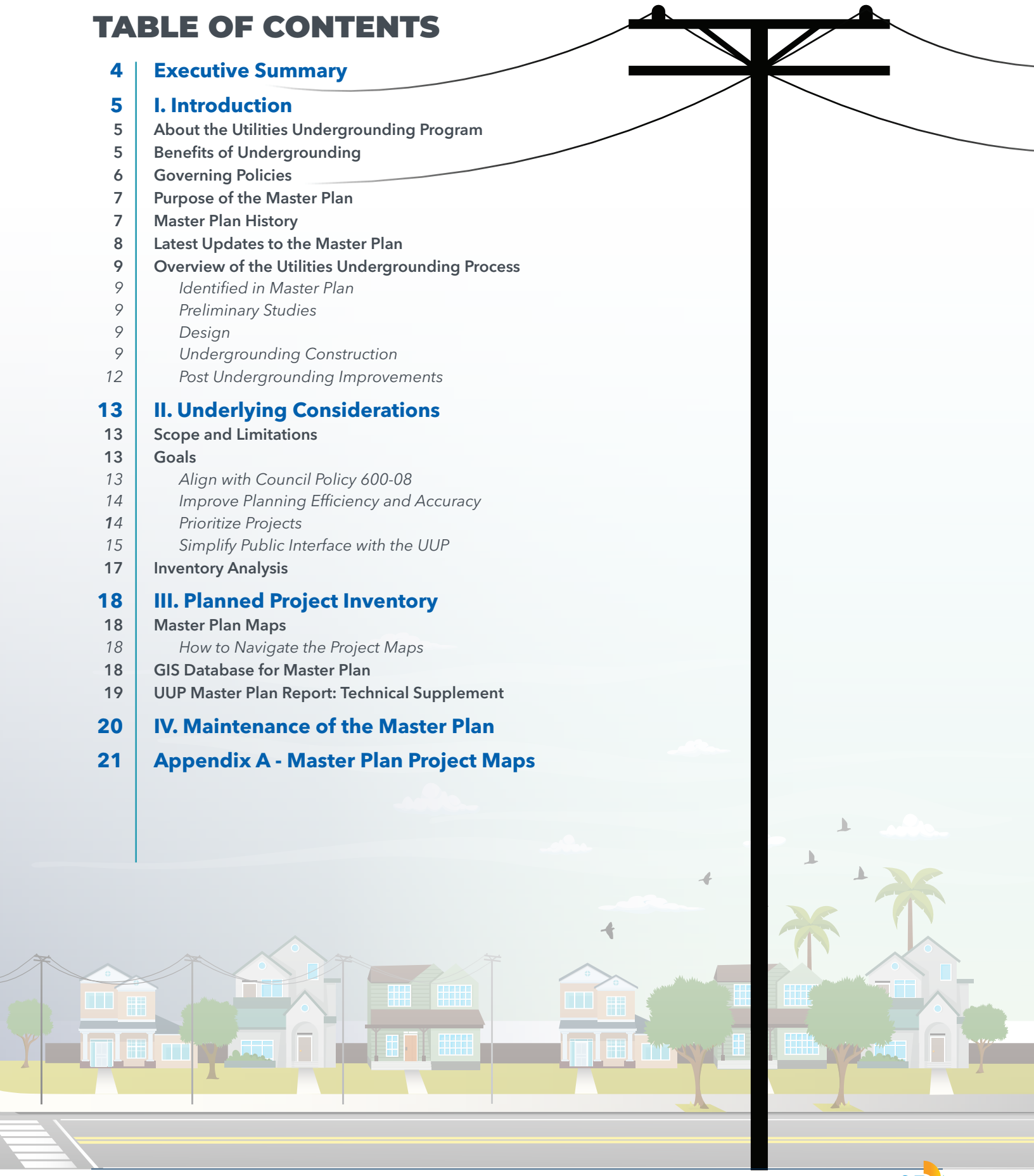


EXECUTIVE SUMMARY

This Master Plan is the governing document for how the Utilities Undergrounding Program (UUP) will execute its future work. This document includes history about the program and previous master plans, program governing policies, and details about the undergrounding process. Within this Utilities Undergrounding Program Master Plan (Master Plan) the geographic boundary, pole removal count, and other parameters are established for future projects covering all areas in the City where undergrounding is needed.

This Master Plan focuses on undergrounding power distribution lines, telephone lines, cable lines, and other communications lines. It excludes electric transmission lines, areas outside the City Limits, locations where undergrounding is currently in progress, areas where undergrounding has already been completed, and areas originally constructed with underground facilities. The goals of this Master Plan are to align with Council Policy 600-08 "Underground Conversion of Utility Lines" (CP 600-08), enhance planning efficiency and accuracy, prioritize projects based on the established criteria, reduce neighborhood disruption, and improve public engagement with the UUP.

This Master Plan refers to other documents and databases that are needed to manage the Program. Master Plan maps and the Master Plan GIS Database were used and will continue to be used for long-term planning.

The UUP previously relied on a five-year planning document to identify which projects would advance over the next five years. This approach has been discontinued due to the variable nature of the Surcharge Fund, which serves as the funding source for all UUP projects. Because the fund's annual revenue can fluctuate, committing to a fixed multi-year project list risks overpromising and underdelivering. To ensure financial responsibility and realistic planning, the City now selects projects on a year-by-year basis. Each year, the UUP evaluates the progress and funding needs of active projects against the current fund balance and projected revenue. Only after confirming that sufficient funds are available to complete ongoing work does the City assign funding to new projects.

UUP's Guiding Principle:

To enhance the public right of way (ROW), mitigate potential overhead hazards, and elevate the community's quality of life by clearing the sky of overhead lines and replacing them with new, safe, and reliable underground electric, telephone, and broadband communication lines.

UUP's Main Goal:

To convert every residential overhead utility line in San Diego to underground service.

I. INTRODUCTION

About the Utilities Undergrounding Program

The City of San Diego (City) launched the Utilities Undergrounding Program (UUP) in 1970. Since its inception, the UUP has made consistent progress replacing overhead infrastructure with modern underground systems across the City. With approximately 1,000 miles of overhead lines still remaining, the scale and complexity of this work will require continued efforts for many decades to come.

The UUP is managed by the City's Transportation Department. While the program coordinates and facilitates undergrounding projects, the majority of the construction work is executed by San Diego Gas and Electric (SDG&E). This work is governed under the City's Franchise Agreement Memorandum of Understanding (MOU) with SDG&E, which was executed in 2022 and outlines how the program is to be implemented. The City has the sole authority to decide which projects to design and construct, and how many to undertake. According to the City's Municipal Code, participation in the conversion of facilities from overhead to underground, including those providing communication services, is mandatory. SDG&E serves as the lead entity when multiple utilities are involved.

Benefits of Undergrounding

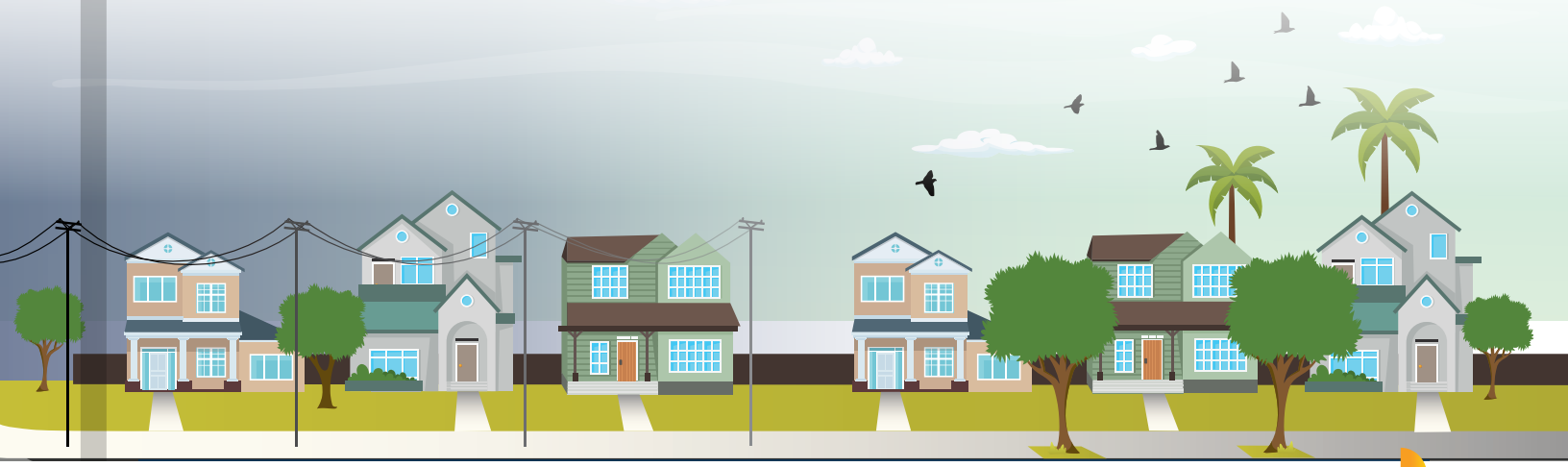
Greater Safety - Undergrounding makes the hazards of downed power lines a thing of the past, greatly reduces fire risk, and improves climate change resiliency by protecting power infrastructure from extreme weather events.

Greater Reliability - Buried utility lines are not exposed to natural elements such as weather and other conditions. This creates a system more reliable than overhead lines, and means less outages for San Diego citizens.

Long-Term Cost Effectiveness - Underground utilities are not subject to external disturbances and are not affected by extreme weather events, leading to lower maintenance costs over time.

Street Improvements and Beautification - Undergrounding utilities also creates opportunities to improve streets, such as restoring pavement, adding new streetlights, upgrading ADA curb ramps, and enhancing neighborhood aesthetics with cleaner, unobstructed views.

Supports the Climate Action Plan - Overhead lines limit space for planting large canopy street trees. Undergrounding utilities opens up room for greenery, allowing for the creation of inviting green spaces.



The following photos demonstrate the difference between above ground and below ground utility lines, showcasing the UUP's impact on creating more visually appealing and welcoming streets.

Before and after photos of Bay Park, Block 6H

Governing Policies

The effort to underground utility lines in California began with California Public Utilities Commission (CPUC) Decision 73078 in 1967, which mandated that all new utility construction be placed underground unless overhead lines already existed. This decision also established Rule 20, a tariff rule requiring investor-owned utilities like San Diego Gas & Electric (SDG&E) to allocate annual funds for converting existing overhead electric lines to underground systems.

Rule 20A, a key component of this policy, required utility companies to fully fund undergrounding projects that met specific public interest criteria, such as being located in areas with high traffic volumes, scenic value, or significant public use. These projects were funded through ratepayer contributions and did not require financial participation from local governments. For decades, the City of San Diego partnered with SDG&E to implement these 20A projects, allowing for significant progress in undergrounding the City's overhead utilities.

In 2002, the CPUC approved Resolution E-3788, which allowed for an additional funding mechanism tailored to the City of San Diego. In response, the City adopted Council Policy 600-08 (CP 600-08), establishing a Surcharge Fund supported by a dedicated undergrounding surcharge on residents' electric bills. This fund, separate from the City's General Fund, enables the City to manage and execute its own undergrounding projects independent of Rule 20A. These Surcharge Projects also include other public improvements resulting from undergrounding projects such as street resurfacing, ADA-compliant curb ramps, new streetlights, and tree planting.

However, the landscape changed dramatically with the CPUC's decision on June 3, 2021, titled "Phase 1 Decision Revising Electric Rule 20 and Enhancing Program Oversight." This decision ended the authorization of new Rule 20A work credits after December 31, 2022, and prohibited municipalities from borrowing against future credits beyond that date. While cities may continue using previously allocated credits until December 31, 2033, no new credits will be issued, effectively sunsetting the Rule 20A program. For perspective, the Rule 20A program brought in approximately $17.5 million in work credits per year, compared to the Surcharge program, which brings in $88 million per year on average.

WIth this change now in effect, the City and SDG&E have coordinated to ensure that the Rule 20A projects already under construction would be completed using the remaining credits. However, 133 planned Rule 20A projects lost their funding as a result of the CPUC's decision. **With the update completed in this Master Plan, these unfunded projects are now included among the City's future undergrounding efforts, which now rely solely on the Surcharge Fund**.

Another key governing document for the Undergrounding Program is the City of San Diego Municipal Code. Chapter 6, Article 1, Division 5 outlines requirements for utility undergrounding, including program responsibilities to residents, coordination with City Council, and definitions related to the process.

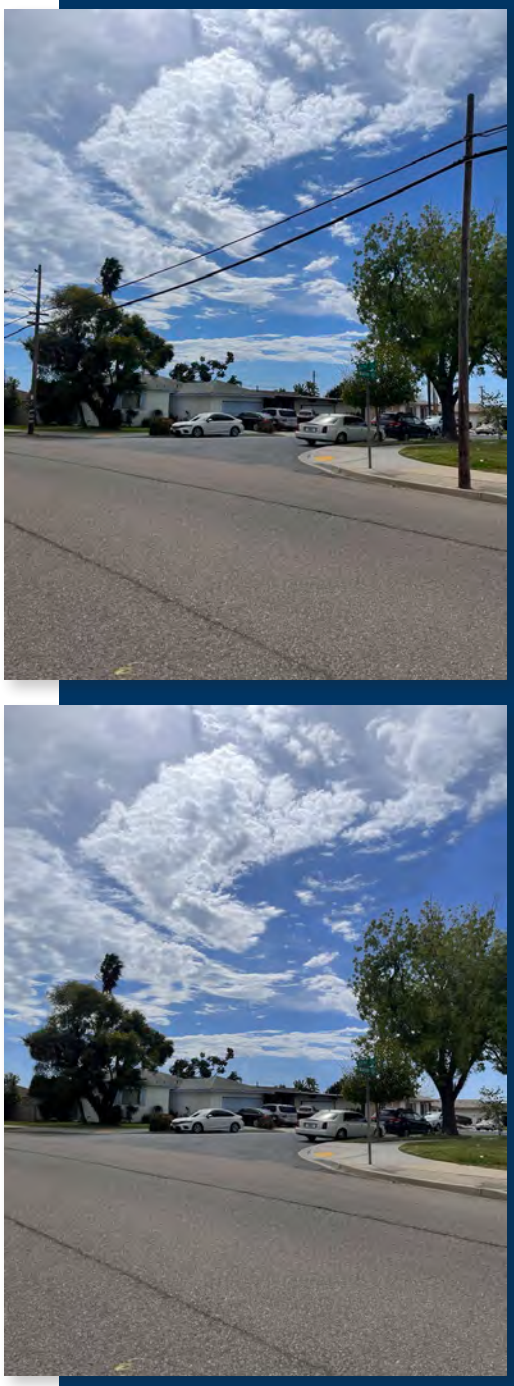
Purpose of the Master Plan

Council Policy 600-08 requires that the City establish and maintain a Master Plan to guide the execution of Surcharge projects for the duration of the program. Within this Master Plan, the geographic boundary and other parameters are established for future projects covering all areas in the City where undergrounding is needed.

Master Plan History

In 2003, the City developed a Master Plan, which was the first comprehensive plan to underground all overhead utilities within the City. It coordinated the construction and project sequence for the entire Undergrounding program. Projects were divided by Council Districts, which were broken into smaller projects. Each project was assigned a ranking for when they would be undergrounded and a cost estimate.

In 2009, a new Master Plan was created using Geographic Information System (GIS) software that allowed for a more detailed analysis of projects while maintaining a similar level of detail to the 2003 Master Plan. The Master Plan was updated again in 2018, further leveraging GIS technology to include detailed maps for each project and summarize key attributes such as pole count, trench length, and approximate project cost. As projects progress through the undergrounding process, their status is continuously updated in the City's GIS database. This real-time tracking enhances project management and promotes transparency, as this information is accessible to the public through an interactive *Webmap* on the *City's website*.



Before and after renderings of overhead line removal

Latest Updates to the Master Plan

Since the 2018 update, several changes to procedures and policies have prompted the need for a new Master Plan. Notably, the 20A projects included in the 2018 plan have since been reclassified as Surcharge projects. The reclassification process was performed by electrical engineers experienced in municipal electrical design with the goal of combining adjacent 20A projects with Surcharge projects logically and efficiently. The workflow of converting these 20A projects to Surcharge used the existing 20A and Surcharge boundaries as a basis, which was then overlaid with detailed electrical system information such as transformer locations, overhead structure locations/types, and distribution line connectivity. Some 20A project boundaries were split into multiple pieces prior to merging with existing Surcharge boundaries. Counts for overhead structures and transformers within the updated boundaries were re-calculated using GIS tools, and trench lengths were re-measured based on roadway lengths (approximated). These results are shown on the newly generated maps contained in this Master Plan. The final step of the conversion process was to ensure all updated Surcharge boundaries aligned with underlying parcel boundaries.

In addition to reclassifying and combining the 20A projects, this Master Plan includes the updated terminology used to describe the phases of the undergrounding process, replacing outdated terms that previously led to confusion. New methods of public communication have also been introduced to provide more effective project updates.

In preparation for this update, the UUP team has engaged in regular coordination with City Council offices. Beginning in 2023, the UUP began issuing newsletters to keep Council members informed and to gather feedback on community needs and concerns. This input has been instrumental in shaping the current Master Plan.

Before and after photos of West Side Alley / South Mission Beach, Block 2S1

Overview of the Utilities Undergrounding Process

The process of undergrounding utilities consists of five stages: **Identified in Master Plan**, **Preliminary Studies**, **Design**, **Undergrounding Construction**, and **Post-Undergrounding Improvements**.

1

IDENTIFIED IN MASTER PLAN

Projects in this phase are those listed within this Master Plan where overhead utility lines still exist that need to be undergrounded and have not yet been selected to start work. While these projects are currently being evaluated through the prioritization process, there is no set timeline for when they will move forward. This phase represents the starting point in the undergrounding process—where projects are acknowledged, documented, and await selection based on the prioritization criteria outlined in this Master Plan.

2

PRELIMINARY STUDIES

Once a project is selected to move forward, it enters the Preliminary Studies phase. During this phase, essential field and office work is completed to prepare the project for design. This includes developing projects maps, conducting environmental reviews, and initiating the formal process of establishing an Underground Utility District—commonly referred to as District Creation. As part of this process, all residents, property owners and utilities within the proposed district receive a Public Hearing Notice and a boundary map outlining the area to be converted to underground. The notice informs property owners that their property falls within a proposed undergrounding project area and explains the potential impacts of the project. A Public Hearing is then held, providing an opportunity for any member of the public to attend and offer input. Following the hearing, all property owners within the newly established district are mailed a copy of the City Council Resolution and the finalized district map.

3

DESIGN

Once City Council establishes an Underground Utility District, the project enters the design phase. A Pre-Design Community Forum is held during this phase, where residents receive a detailed presentation outlining what to expect in the coming months. These meetings also provide an opportunity for residents and community members to share concerns and preferences directly with utility company representatives and the streetlight design team. Feedback gathered during this meeting helps guide decisions on the placement of utility boxes, streetlights, and considerations related to street tree preservation and planting. This is the time when all utility providers collaborate to create a single trench solution, which if successful reduces community impact and enhances the overall public experience.

Throughout the design phase, residents may observe engineers placing marks on the street, surveyors performing field surveys, and other professionals involved in the design process coordinating with property owners to plan the connections from private property to the future underground system.

Prior to the start of construction, property owners will receive a letter requesting permission to enter private property to perform construction necessary for connection to the new underground utility service. If the form is turned in on time and the property's existing electrical panel is up to code, then the property owner will be connected to the new system at no cost.

4

UNDERGROUNDING CONSTRUCTION

When the design is complete, property owners are invited to a Pre-Construction Community Forum. This includes a presentation of what to expect in upcoming months and an opportunity for community members to ask questions.

Construction crews will follow standard practices for notifying the public about upcoming work that affects streets and sidewalks, including distributing door hangers and other communication methods to ensure residents are informed in advance.

I. INTRODUCTION

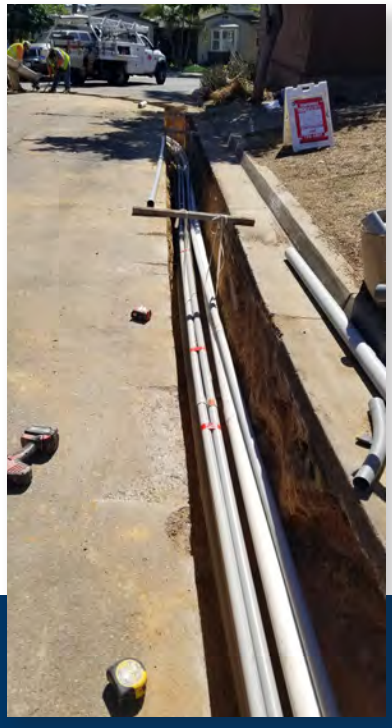
For most large projects, the construction of underground utility systems and the subsequent removal of overhead utility systems typically includes three phases: **trench and conduit**, **cabling and connection**, and **overhead removal**.

Phase I: Trench & Conduit

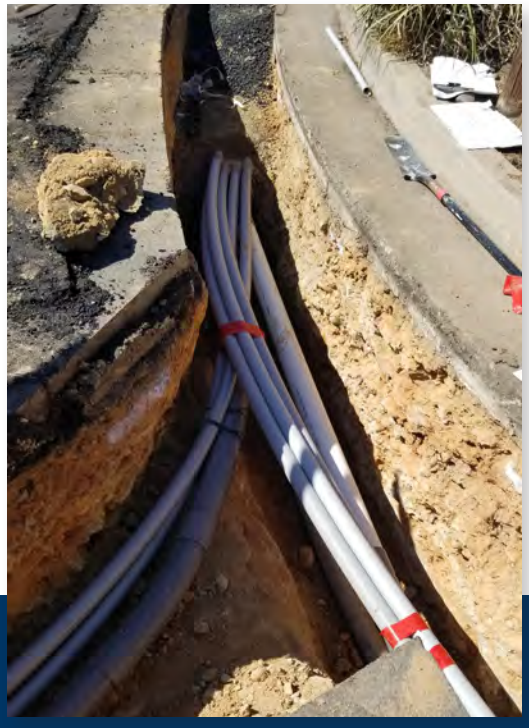
Before trenching, underground utilities like water, sewer, storm drain, and gas are marked and potholed. Trenches are dug along the proposed alignment using open-cut techniques within the street right-of-way. When open trenching isn't feasible, boring is used to avoid existing infrastructure. Steel plates cover trenches to allow vehicle and pedestrian traffic, with traffic controls in place for safety.

Homes and businesses connect to the main distribution line by boring through private property to reach each building's electrical service box. If boring isn't possible, open trenches are used, only after obtaining a Permit to Enter from property owners. If contaminated soil or groundwater is found, testing and disposal follow environmental regulations. Soil disturbing activities are monitored for buried Native American, archaeological, or paleontological resources.

Once trenches are ready, empty PVC conduits are placed and secured with hangers or spacers. The conduit layout is inspected before backfilling. Soil is then compacted, a road base or slurry concrete cap is added, and the road surface is restored as per City standards.



After trench excavation, PVC conduits are suspended at a specified depth to meet clearance requirements. The number and size of conduits vary depending on the utilities sharing the trench—typically including SDG&E electrical lines along with cable and communication lines from various service providers in the neighborhood.

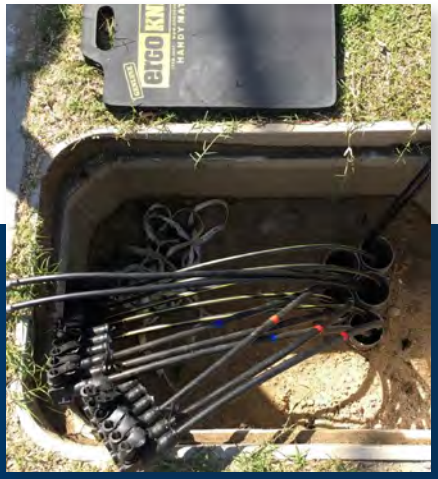


At intersections, the trench curves to follow the alignment of the crossing streets. As shown here, bundled conduits are carefully routed around the corner to maintain proper alignment and spacing for continuing the utility installation onto the next street.

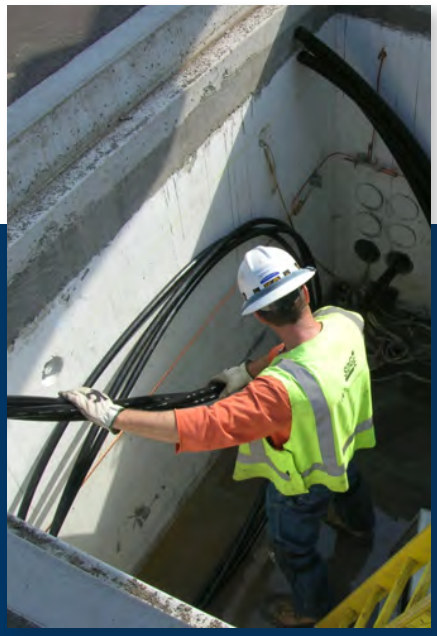
Phase II: Cabling & Connection

After installing the conduit, cables are pulled and spliced at various vaults along the route. During this phase, new transformers, cable boxes and pedestals are installed above ground near the curbs. These boxes are necessary for the underground system and cannot be placed underground for system reliability reasons.

Once a new underground system is in place and energized, and all properties have been prepared to receive underground service, all properties are switched over from the overhead lines to the new underground systems.



Cables are pulled through underground conduits and surface inside a handhole, where they are organized for connection to electrical or communication systems. These enclosures provide accessible points for maintenance and future service connections.



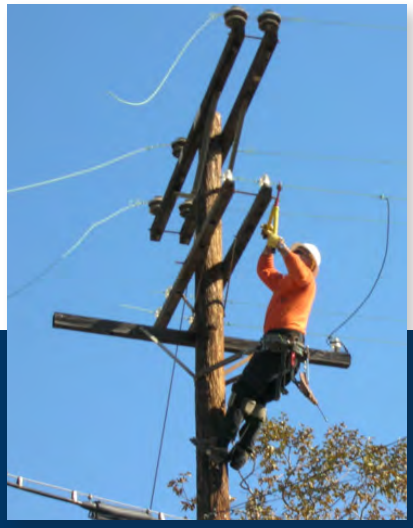
A worker performs cabling operations inside a subsurface vault. Vaults are large underground enclosures that allow personnel entry and are typically used for complex or high-voltage systems. They provide secure access for the installation and connection of electrical and communication cables.

Technicians perform communications splicing work at an above-ground cabinet. These cabinets house critical infrastructure for neighborhood cable and communication services, with splicing ensuring proper connectivity and signal integrity.

Phase III: Overhead Removal

Once all properties have been successfully switched to the new underground system, the existing overhead lines are de-energized and removed. Crews begin by removing hardware from the poles. After the attachments are cleared, the poles are extracted in their entirety and transported to an approved disposal facility.

Sometimes new utility poles may need to be installed at the project boundary to make the transition from the new underground system to a neighboring overhead system. These poles will be removed when the neighboring area is undergrounded in the future.



To remove the overhead system, cables are dismantled and removed, and wires are cut.

Once all cables and wires have been cleared and only poles remain, overhead poles are removed.

5 POST-UNDERGROUNDING IMPROVEMENTS

Once the new underground utility lines are in place, the City will construct the following types of Capital Improvements:

Curb Ramps - Pedestrian curb ramps are installed where required by accessibility regulations.

Streetlights - Old streetlights that were attached to the removed utility poles are replaced with standalone fixtures in accordance with the City's current streetlight standards. In many cases, residents will notice that streetlight locations have shifted and that additional lighting has been added. During the transition from old to new streetlights the impact of streetlight outages is mitigated through construction sequence planning. The community might see a portion of the new streetlights installed and operating to provide some coverage while construction to remove old streetlights and install additional new streetlights is ongoing.

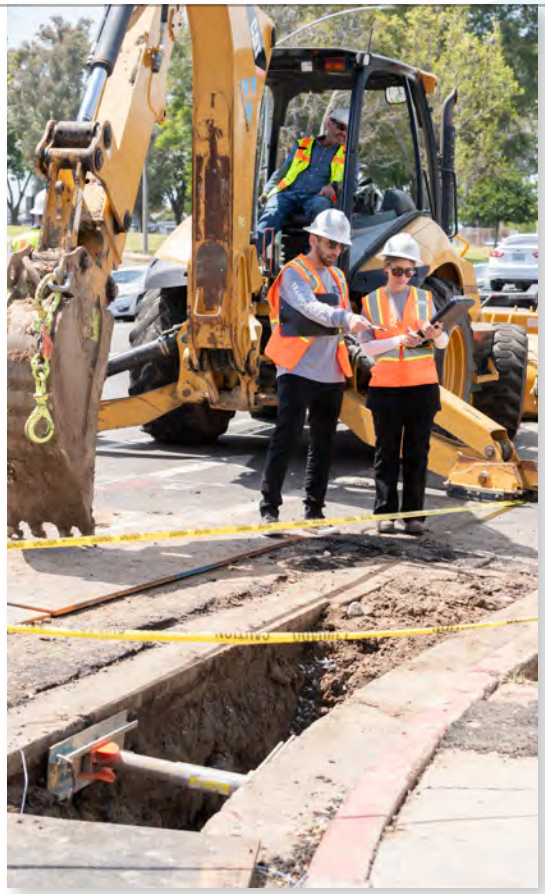
Trees - Efforts are focused on protecting trees during construction. In the rare event that a tree cannot be preserved, decisions are made in coordination with the City's Urban Forestry Program. The program identifies appropriate locations for replanting and ensures new trees receive proper care, including watering and maintenance, until they are fully established.

Pavement Restoration - In accordance with the Street Preservation Ordinance, the City is responsible for restoring streets impacted by construction. Engineering staff evaluate pavement conditions and provide restoration recommendations for each project to ensure compliance and maintain roadway quality.

II. UNDERLYING CONSIDERATIONS

Scope and Limitations

This Master Plan addresses the undergrounding of power distribution, telephone, cable, and other communication lines within City limits. It excludes areas outside the City boundaries, locations where undergrounding is already complete, and projects currently underway. Pursuant to the City's franchise authority as established in the Electrical Franchise Agreement, and consistent with Council Policy 600-08 and Section 61.0504(e) of the City's Procedural Ordinance, this Master Plan prioritizes the undergrounding of overhead utility lines located within public right of way, specifically on City streets, in alleys, and in other areas under City jurisdiction, where such infrastructure is most visible and has the greatest impact on the community.



This Master Plan does not establish a specific project implementation schedule or project order. The former five-year planning model has been discontinued in favor of a year-by-year selection process, which allows the City to respond more flexibly to changes in available funding. Project selection is now based on the rate at which the UUP budget is being expended, which can vary annually depending on revenue from the Surcharge fund. As a result, this plan does not include project implementation rates or timelines.

Goals

The goals of this Master Plan are discussed below.

ALIGN WITH COUNCIL POLICY 600-08

In accordance with Council Policy 600-08, the City of San Diego is committed to undergrounding all overhead utility lines located within the public right-of-way to promote public health, safety, and welfare. This policy establishes the framework for the Utilities Undergrounding Program (UUP), including the requirement for a comprehensive Master Plan that identifies all remaining overhead utility lines to be undergrounded throughout the City.

This updated Master Plan fulfills that requirement by:

Providing a complete inventory of overhead utility lines that have not yet been undergrounded.

Establishing prioritization criteria to ensure projects with the greatest public benefit, such as those within a Community of Concern or severe fire hazard area, are addressed first.

Improving planning efficiency and accuracy through the use of GIS-based mapping and data analysis.

Enhancing transparency and public engagement by making project information accessible through an interactive Webmap and regular updates to stakeholders.

By aligning with Council Policy 600-08, this Master Plan ensures that the UUP continues to operate in a transparent, equitable, and efficient manner, while advancing the City's long-term infrastructure and sustainability goals.

II. UNDERLYING CONSIDERATIONS

IMPROVE PLANNING EFFICIENCY AND ACCURACY

This updated Master Plan introduces several improvements that enhance the efficiency and accuracy of undergrounding project planning.

One major advancement is the integration of SDG&E's latest GIS data. Using this up-to-date utility information, the Master Plan can more precisely identify the remaining overhead infrastructure and incorporate key electrical engineering considerations into project development. With GIS developers working alongside electrical engineers, this Master Plan was compiled with current, location-specific data.

To further improve manageability, project sizes have been optimized. While an ideal project might include approximately 200 electrical services and 6,000 feet of joint trench, actual project dimensions are adjusted based on site-specific factors such as existing circuit configurations, property boundaries, construction feasibility, and coordination requirements with other infrastructure projects.

Additionally, the development of this Master Plan involved verifying that all projects were correctly categorized under the updated phase naming system. This step was essential to ensure that projects previously labeled under outdated terminology were accurately converted to the new standardized phase names, maintaining consistency and clarity across the program.

PRIORITIZE PROJECTS

The UUP uses a data-driven, equity-focused approach to prioritize which projects move forward each year. Rather than following a fixed multi-year schedule, the City evaluates projects annually based on a combination of geographic, environmental, technical, and community-based criteria. Staff apply these criteria to recommend projects, and City Council confirms the selections through District Creation. This flexible, iterative model allows the City to respond to changing conditions, funding availability, and community needs, ensuring decisions are based on the most current information available. As a result, a detailed priorization list is not published with this Master Plan, as it would quickly become outdated.

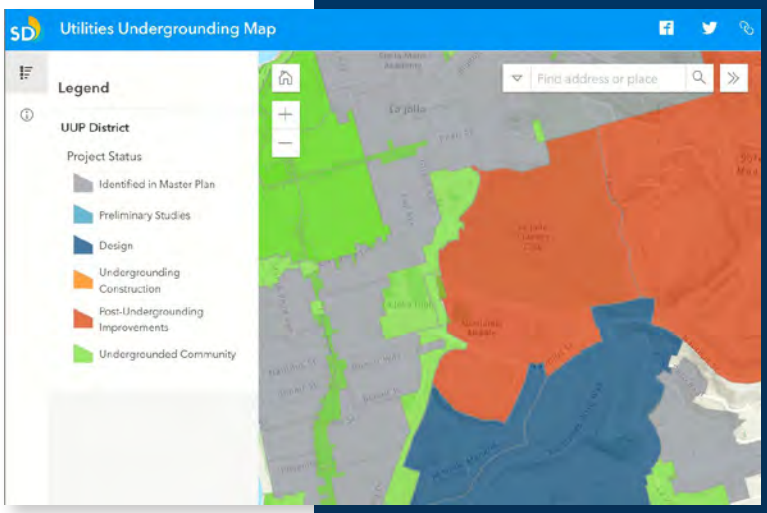
Key factors considered in the prioritization process include:

- **Equity Considerations:** Projects located within a Community of Concern, Community Development Block Grant eligible areas, and areas with fewer recent City infrastructure projects are given higher priority. These communities often face greater environmental and socioeconomic challenges, and prioritizing them supports the City's commitment to equitable infrastructure investment.
- **Fire Risk:** Projects located within Very High Fire Hazard Severity Zones, as designated by CAL FIRE and adopted by the City, are also prioritized. Undergrounding in these areas can reduce the risk of utility-related fire ignition and improve public safety.
- **Multi-Asset Benefit:** Projects that provide multi-asset benefits would be prioritized over those that do not offer such combined infrastructure improvements. For example, a project that both addresses poor street conditions (indicated by low Pavement Condition Index (PCI) scores) and upgrades a streetlight system connected to series circuits would be considered to provide multi-asset benefits.
- **Land Use and Density:** Areas with higher population density or mixed-use development may be prioritized to maximize public benefit and minimize disruption.
- **Budget Alignment:** Each year, the City evaluates the available balance in the Surcharge fund and compares it against the projected costs of active and proposed projects. Only projects that can be fully funded through available and forecasted revenue are selected to move forward.

This prioritization framework ensures that the UUP advances projects that deliver the greatest public benefit, support climate and equity goals, and can be delivered efficiently within available resources.

SIMPLIFY PUBLIC INTERFACE WITH THE UUP

Since the 2018 Master Plan, the UUP has made significant strides in improving how the public interacts with and understands the undergrounding process. These efforts reflect a strong commitment to transparency, accessibility, and community engagement.



Website Enhancements

The UUP website has undergone a comprehensive redesign to better serve residents and stakeholders. Key improvements include:

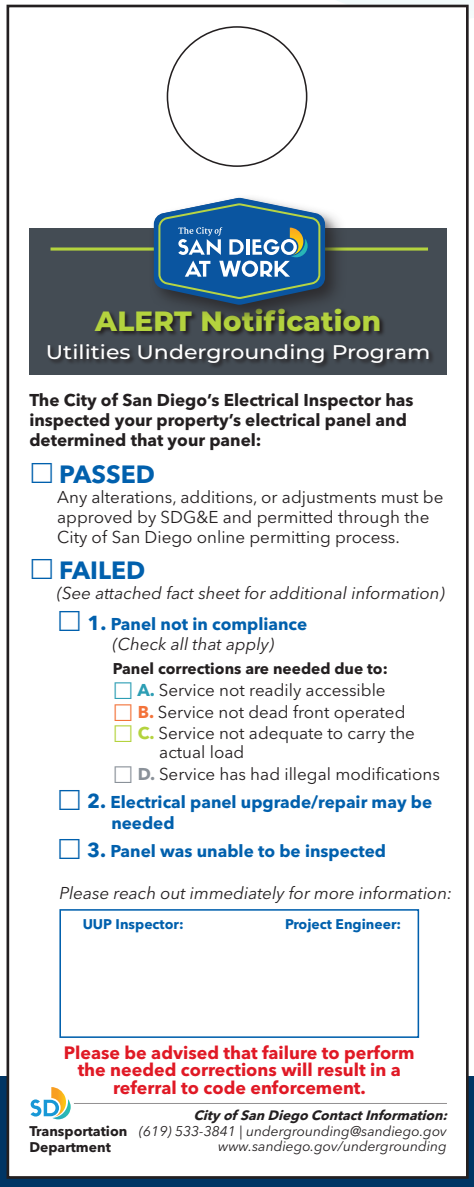
- **Interactive Webmap:** Updated continuously to reflect real-time project status, allowing users to search by address and view detailed information about undergrounding efforts in their neighborhood.
- **New and Updated Website Tabs:**
  - » *Home:* Refreshed with clearer messaging and easier navigation.
  - » *Active Projects (new):* Lists all current projects with searchable filters.
  - » *Overview/History:* Rewritten to include updated program benefits, new "before and after" photos, and the UUP's Main Goal and Guiding Principle.
  - » *Undergrounding Process:* Updated to reflect the new phase naming convention for improved clarity.
  - » *Documents:* Removed outdated materials, added new documents, and reorganized content for easier access.
  - » *FAQs:* Rewritten in its entirety to ensure relevance and accuracy.

Expanded Public Outreach and Branding

In alignment with the City's new "San Diego at Work" branding initiative, the UUP has also refreshed its public-facing materials to ensure consistency and clarity. These updates include:

- Redesigned flyers, fact sheets, business cards, comment cards, and forum invitations to ensure clear, consistent communication with affected property owners. These materials not only reflect the City's updated branding but also serve a dual purpose: inviting residents to participate in community forums and equipping those events with informative, easy-to-understand resources that encourage engagement, feedback, and informed discussion.
- New door hangers, electrical panel alert and warning letters, and postcards to notify residents of upcoming work.
- Updated Permit to Enter (PTE) and Tree Watering Agreement forms to streamline communication and compliance.

These materials not only reflect the City's updated visual identity but also provide clearer, more actionable information about project timelines, impacts, and benefits. The UUP's proactive communication strategy ensures that property owners and residents are well-informed and involved in the process.



The City of SAN DIEGO AT WORK

ALERT Notification

Utilities Undergrounding Program

The City of San Diego's Electrical Inspector has inspected your property's electrical panel and determined that your panel:

☐ **PASSED**

Any alterations, additions, or adjustments must be approved by SDG&E and permitted through the City of San Diego online permitting process.

☐ **FAILED**

(See attached fact sheet for additional information)

☐ **1. Panel not in compliance**

(Check all that apply)

Panel corrections are needed due to:

- ☐ **A.** Service not readily accessible
- ☐ **B.** Service not dead front operated
- ☐ **C.** Service not adequate to carry the actual load
- ☐ **D.** Service has had illegal modifications

☐ **2. Electrical panel upgrade/repair may be needed**

☐ **3. Panel was unable to be inspected**

Please reach out immediately for more information:

UUP Inspector:	Project Engineer:

Please be advised that failure to perform the needed corrections will result in a referral to code enforcement.

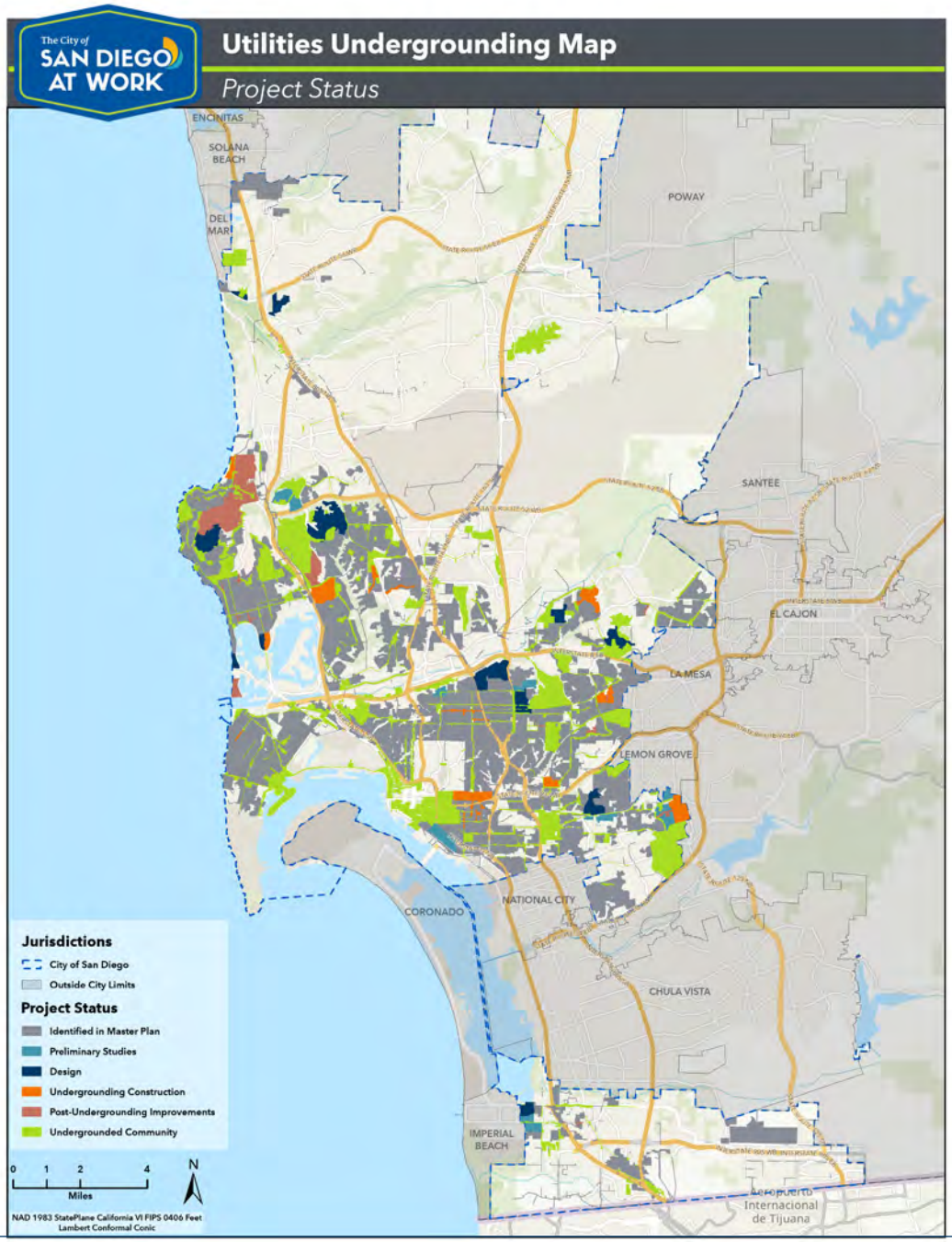
City of San Diego Contact Information:

Transportation Department *(619) 533-3841 | undergrounding@sandiego.gov*
www.sandiego.gov/undergrounding

Inventory Analysis

As part of the update to this Master Plan, an inventory was conducted of all remaining overhead facilities within the City that have not yet been undergrounded. This information was gathered from SDG&E's GIS data and verified through land use verification, aerial imagery, and recent street view imagery. Overhead facilities include SDG&E power poles, guy poles, transmission lines, and distribution lines. Based on this analysis, it was determined that approximately 56% of the City's original overhead lines currently remain to be undergrounded.

A map delineating all projects currently designated as "Identified in Master Plan" is shown below. Areas of the city not classified under any category are either outside the city's jurisdiction or were undergrounded during normal construction (not as a result of the UUP).



III. PLANNED PROJECT INVENTORY

This Master Plan refers to other documents and databases that are needed to manage the Program. Listed below are the various items that were used and will continue to be used by the UUP for long-term planning, outside of this Master Plan itself.

Master Plan Maps

Appendix A of this Master Plan includes comprehensive project maps covering all areas of the City where undergrounding is required. These maps detail the project boundaries, pole and parcel counts, and the major roads within each boundary.

HOW TO NAVIGATE THE PROJECT MAPS

Navigation through the Master Plan maps in Appendix A is described in the paragraphs below.

Key Maps

The Council Districts Key Map, shows each Council District boundary and the page number for each of the neighborhood maps included within.

The Neighborhood Key Map, shows each neighborhood within the district and the page number for the map of each project included within.

Project Map Symbology

For the Project Maps, Surcharge project boundaries are identified with light green shading surrounded by a thick blue outline. Parcel boundaries are identified with a simple black outline.

There are also overhead lines that do not directly service homes or serve very few homes, but still qualify for undergrounding under the Surcharge Program, which are called Segment Projects. These projects include utilities that remain overhead in areas already undergrounded, or utilities that serve as connections across open spaces, canyons, or freeways, or that provide electrical continuity between neighborhoods. Project Maps of segment projects include "Segment" in parentheses alongside the project name at the top of the map.

GIS Database for Master Plan

The City's GIS database was updated during the creation of this Master Plan. The general focus of the GIS database updates was to merge the projects identified as Rule 20A with the projects identified as Surcharge and produce a new GIS dataset that contains only Surcharge projects. The updated UUP Master Plan includes a completely updated set of maps that reflect the new Surcharge project boundaries for all projects in this "Identified in Master Plan" phase. A workflow process was developed to merge Rule 20A boundaries with Surcharge boundaries using the document supplied by the City titled "SOP for Surcharge Change to Include 20A" as a starting point.

Symbol	Value	Label	Count
Project Status	11 symbol classes		
	Identified in Master Plan	Identified in Master Plan	846
	Preliminary Studies	Preliminary Studies	9
	Design	Design	25
	Undergrounding Construction	Undergrounding Construction	36
	Post-Undergrounding Imp	Post-Undergrounding Improvements	24
	Undergrounded Community	Undergrounded Community	605

GIS summary of project phases and counts, which currently includes 846 projects in the 'Identified in Master Plan' phase.

In addition to merging Rule 20A projects into Surcharge projects, project boundaries were checked to ensure they were drawn correctly with respect to parcel lines and/or City right of way. Incorrect boundary polygons and other inconsistencies encountered during the review were corrected.

As part of the process of revising polygons within GIS, an electrical engineering team determined the best solution for each project boundary with regard to the existing electrical system circuit boundaries. Electrical data provided by SDG&E was used to determine existing pole and circuit layouts. Polygons were adjusted to ensure they would not cross two or more circuit boundaries.

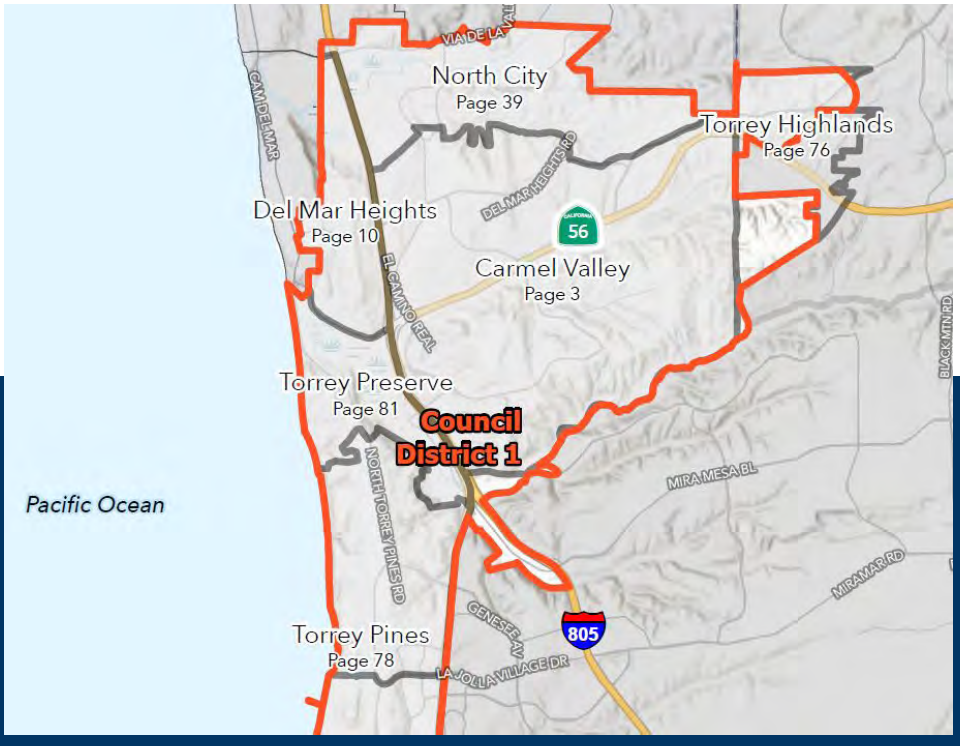
The GIS database includes project boundaries as well as each project's associated attribute fields such as number of overhead pole removals and parcel count. These fields were updated and included within the attributes listed for each project. For each attribute, feature location data was used to summarize total feature count per Surcharge Project.

In addition to polygon and attribute updates, the existing pole locations were used to identify poles outside the City's right of way. The deliverable is a feature class of pole locations with attributes showing whether the pole is outside the right of way, the Surcharge polygon the pole is within, and the distance to the right of way boundary.

The attribute fields discussed above include information necessary to derive priority scores, which will help determine the sequence of project selection in the coming years. Examples of other attribute fields used to make these determinations include the fire hazard severity zone, community of concern designation, number of properties, substations, and the approximate overall project length. The City takes all of these factors into account in prioritizing which projects are selected to move forward.

UUP Master Plan Report: Technical Supplement

The attached technical supplement provides a detailed table of all projects included in this Master Plan. Project information included in the table consists of many of the fields available in the GIS database, including council district, project name, corresponding map page number, number of parcels and overhead poles, trench length, and number of transformers.

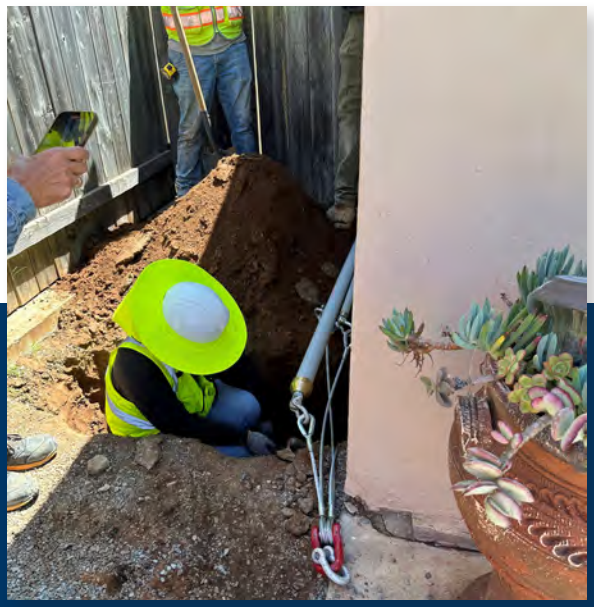


Master Plan maps are organized by Council District and Neighborhood. For example, in Council District 1, the North City neighborhood maps can be found on page 39 of the series, as indicated in this neighborhood key map.

IV. MAINTENANCE OF THE MASTER PLAN

All future substantial changes to the Master Plan must be approved by City Council. Non-substantial changes, such as minor project boundary adjustments or inflation-related adjustments, are approved by City Council during the District Creation process.

The UUP Master Plan Report: Technical Supplement and associated GIS maps and data will be updated regularly as needed by the UUP team, at the discretion of the individual overseeing the program. This ongoing maintenance supports coordination with the City's other planning efforts and projects.



APPENDIX A

Master Plan Project Maps

TRANSPORTATION