



# SANTA CLARA MASTER PLAN ADDENDUM REPORT

Updated June 2022

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COMMITMENT & INTEGRITY DRIVE RESULTS

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City of Santa Clara

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 Appendix D: Capacity Improvement Project Cost Estimates

## 1. INTRODUCTION

The City of Santa Clara (City or CSC) has contracted with Woodard & Curran to develop an addendum to the City's 2016 Sanitary Sewer Master Plan Update (2016 Master Plan) to update the capacity improvement project E1 (Tracy Drive Sewer Improvement) and address capacity deficiencies along the Calabazas Creek trunk and Great America Parkway (GAP) west trunk. The purpose of this addendum is to update project E1, identify a solution to the Calabazas Creek trunk capacity deficiency resulting from the lined portion of the 24-inch Calabazas Creek trunk and 19-inch unlined restriction, and identify a solution to the GAP west trunk deficiency.

### 1.1 Wastewater Collection System Updates

The City has completed multiple sewer improvement projects in the past few years affecting flow in the Calabazas Creek trunk as well as high priority projects recommended in the 2016 Master Plan. In addition, estimated future flows in the Calabazas Creek trunk will also be affected by modifications to the proposed upstream 2016 Master Plan capacity improvement project E-1. **Figure 1-1** shows the City's sewer system and locations of these projects. A description of each project follows.

#### 1.1.1 Completed Projects

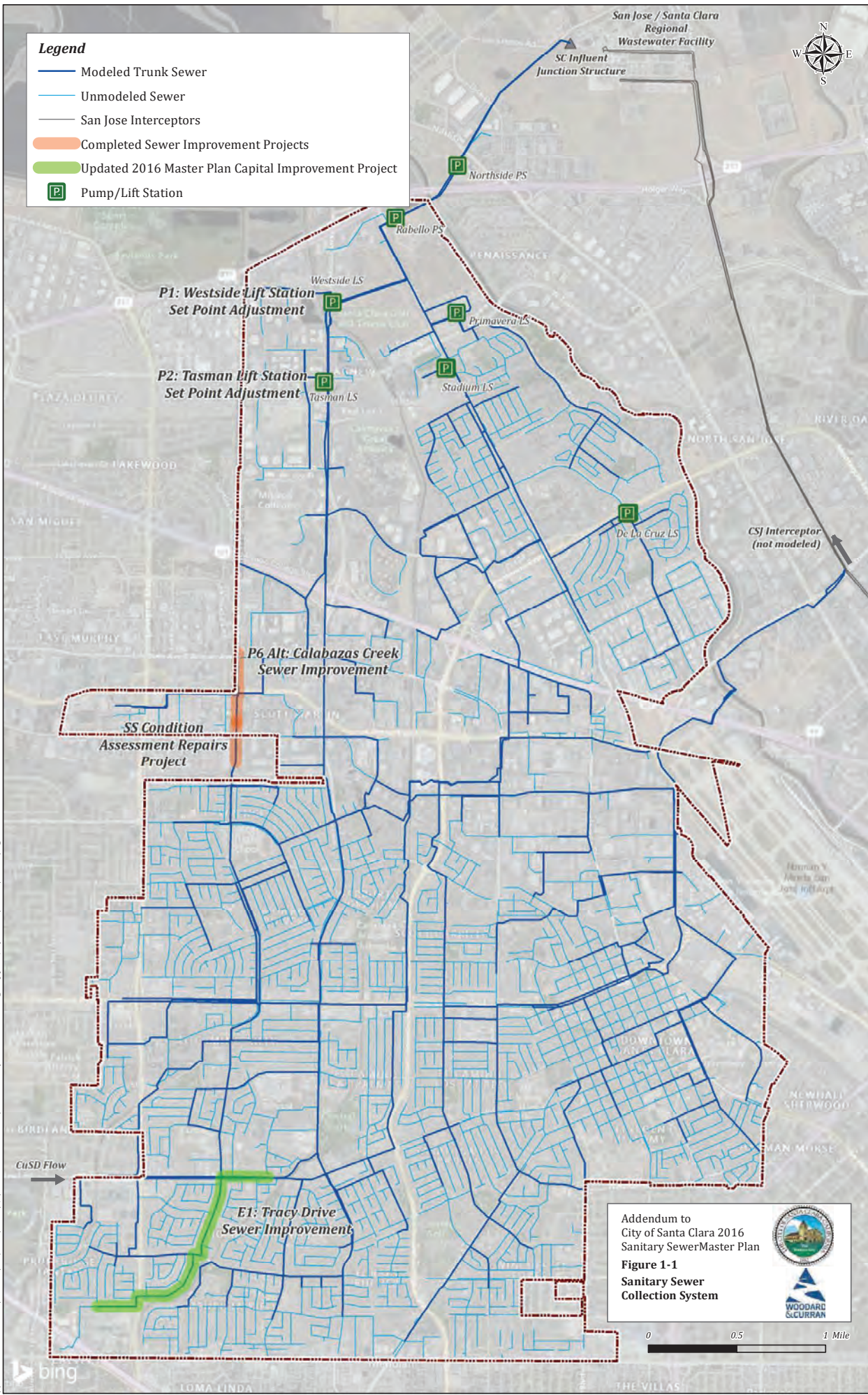
Project P6-Alt (CSC tracking number 12,175-D) was recommended in the City's 2016 Master Plan and was completed in the summer of 2020 by a developer as a condition of approval. The project record drawings are included in **Appendix A**. The project upsized approximately 2,040 linear feet of existing 24-inch sewer to a 27-inch (inside diameter) high density polyethylene (DR21 HDPE) and polyvinyl chloride (PVC SDR26) sewer. **Figure 1-2** and **Figure 1-3** show a plan and profile view of the project, respectively. Construction mostly utilized pipe bursting methods, and therefore the 27-inch sewer vertical alignment followed the slope of the existing trunk. However, it should be noted that the first 386-foot segment of the new 27-inch (from sanitary sewer manhole 12175-D\_SSMH11 to 12175-D\_SSMH11) was constructed at a reduced pipe slope of 0.041 percent (compared to the original slope of 0.2 percent). The City recently re-surveyed the project manholes in November 2021 to obtain rim and invert elevations. The profile shown on **Figure 1-3** reflects the surveyed manhole rim elevations and sewer invert elevations (adjusted to the NGVD29 vertical datum to match the hydraulic model's vertical datum). The survey confirmed the flat slope of that initial segment (surveyed slope is 0.047 percent).

The Sanitary Sewer Condition Assessment Repairs Project (CSC tracking number 12,291-D) is located immediately upstream of project P6-Alt and was completed in Spring 2020. The project record drawings are included in **Appendix A**. The project included cured-in-place pipe (CIPP) lining of a few segments of the Calabazas Creek trunk, and a 19-inch constriction was discovered just downstream of Kifer Road. The constriction is due to a 27-inch reinforced concrete pipe (RCP) storm drain (SD) crossing over the sanitary sewer and continuing down a maintenance ramp to the Calabazas Creek. The downsized 19-inch segment was likely put in place to provide enough clearance between the sewer and the storm drain. **Figure 1-4** and **Figure 1-5** show a plan and profile view of the project, respectively. **Figure 1-4** includes a screenshot of the record drawings (refer to sheet number C-27 of CSC tracking number 12,291-D in **Appendix A**) showing the 27-inch RCP storm drain (shown highlighted in yellow) crossing over the 19-inch sewer (shown highlighted in green). It should be noted that the 19-inch diameter was field verified during the project construction.

The City recently implemented the 2016 Master Plan projects P1 (Westside Lift Station Adjustment) and P2 (Tasman Lift Station Adjustment) to address deficiencies in the influent sewers caused by pump on/off set point levels. Set point levels at both pump stations were adjusted to a lower elevation to eliminate the backup surcharge occurring in the upstream influent sewers.

**Legend**

- Modeled Trunk Sewer
- Unmodeled Sewer
- San Jose Interceptors
- Completed Sewer Improvement Projects
- Updated 2016 Master Plan Capital Improvement Project
- Pump/Lift Station



\\woodardcurran.net\shared\Projects\RMCS\149 SANTA CLARA\00110916 Hydraulic Modeling\_Support\_July 2018\GIS\MXDs\Figure 1-1.mxd

Addendum to  
City of Santa Clara  
Sanitary Sewer Master Plan  
**Figure 1-1**  
Sanitary Sewer  
Collection System

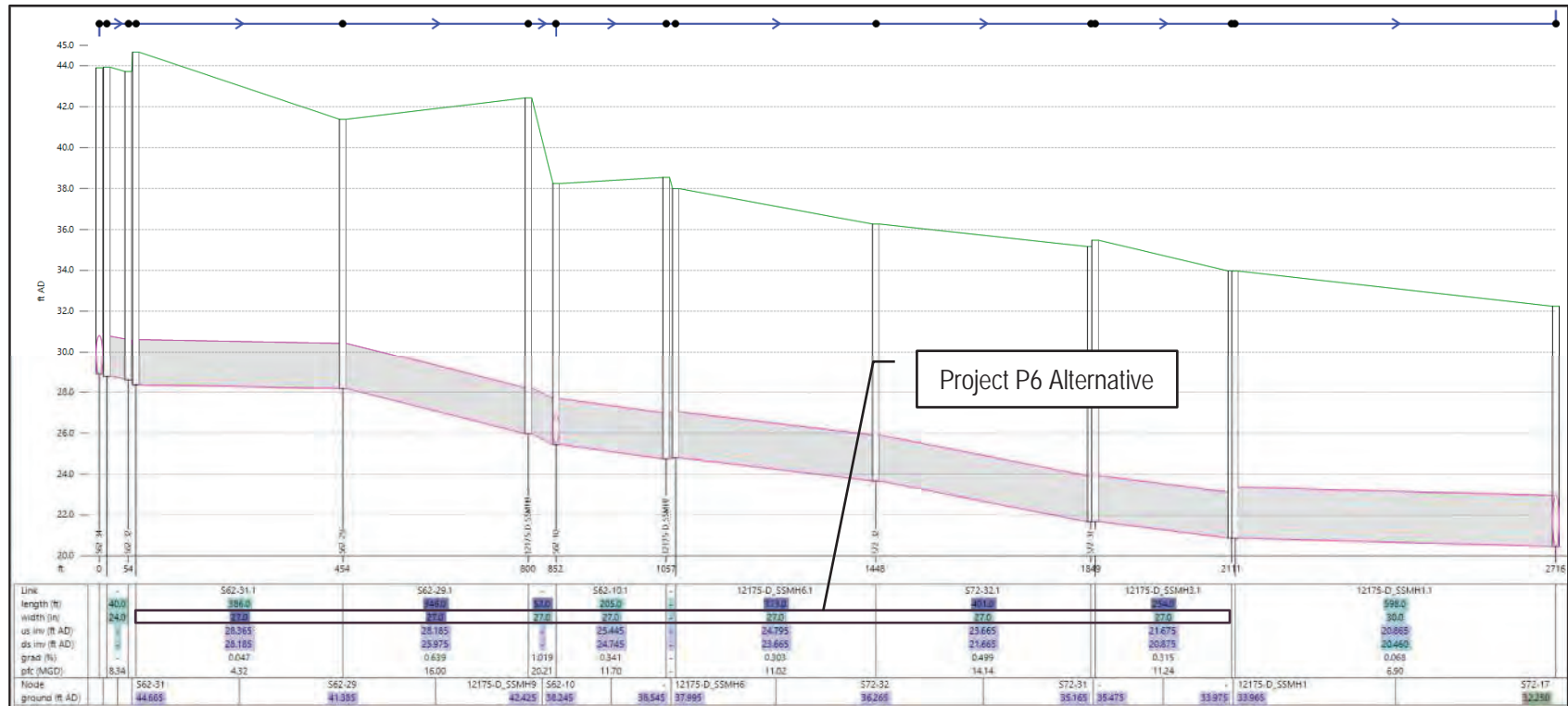


0 0.5 1 Mile

Figure 1-2: Project P6-Alt Plan View



Figure 1-3: Project P6-Alt Profile View<sup>1</sup>



<sup>1</sup> In November 2021, the City conducted a survey of the manholes shown on this profile. This profile incorporates this latest survey data. The model used for the analysis (as reflected in this Report) includes this Calabazas Creek trunk survey data.

Figure 1-4: Calabazas Creek Trunk Sanitary Sewer Condition Assessment Repairs Project Plan View

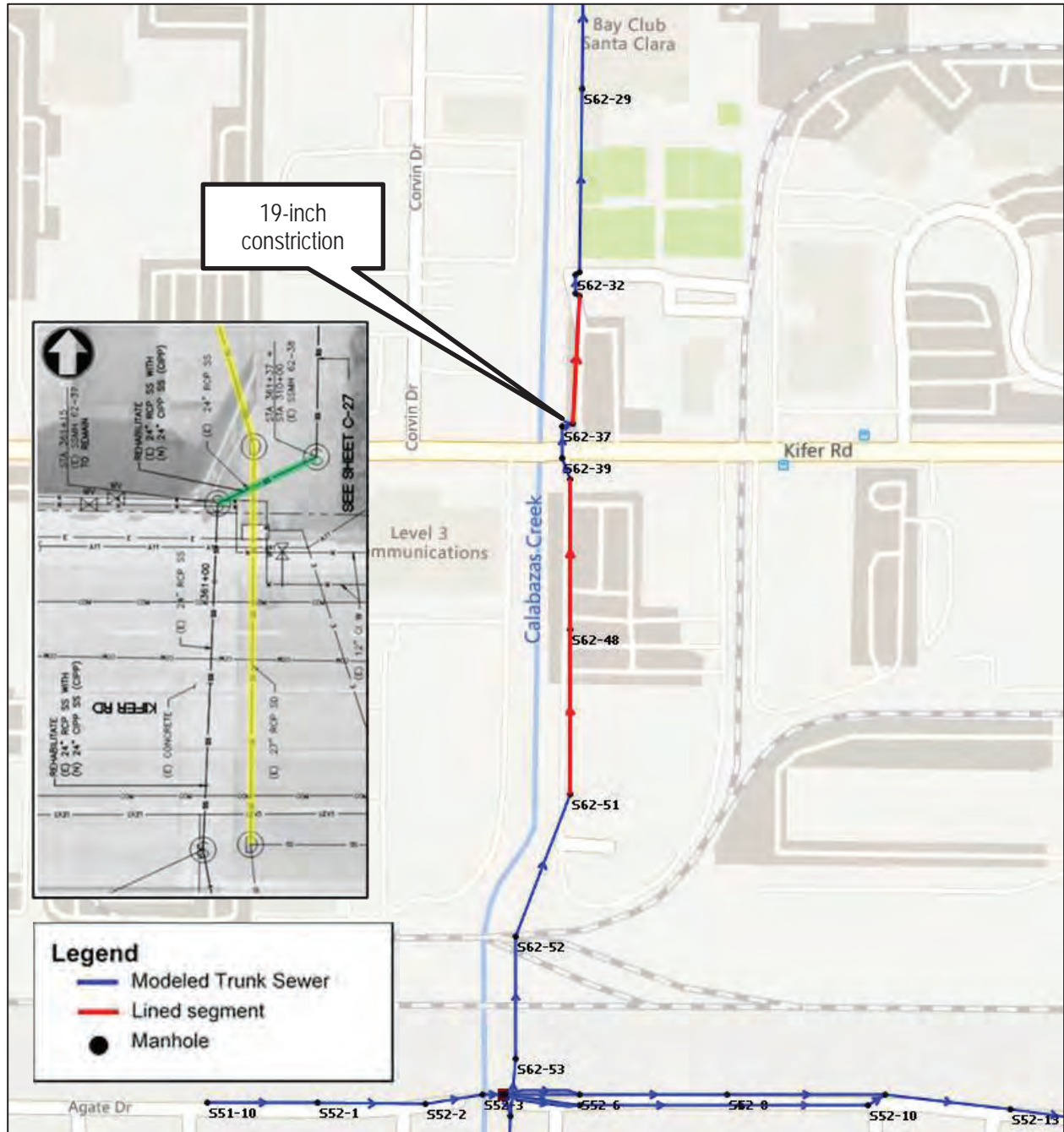
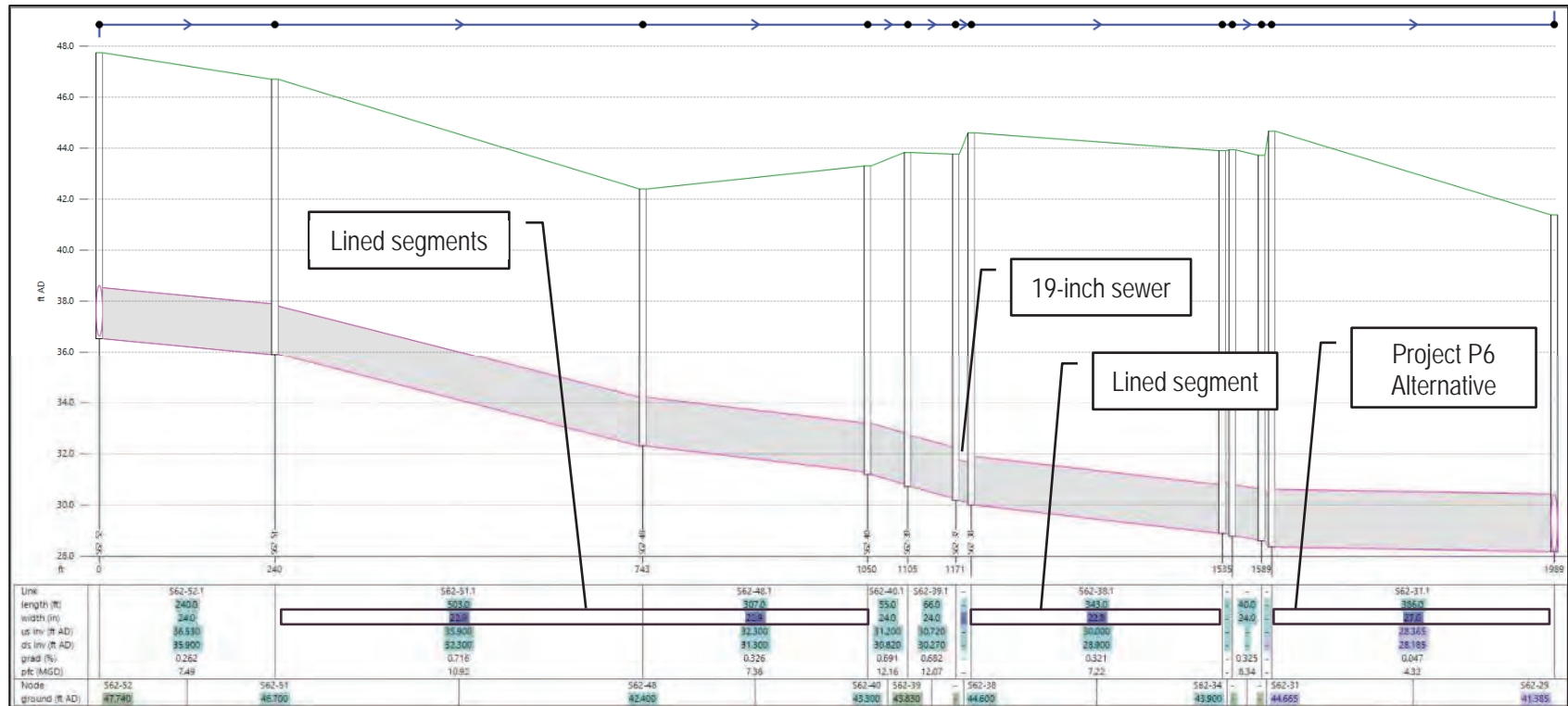


Figure 1-5: Calabazas Creek Trunk Sanitary Sewer Condition Assessment Repairs Project Profile View



Although the City intends for this to be a permanent change, it is unclear what impacts, if any, may be experienced by the existing pump station equipment. The City will continue to monitor the pump station equipment and may readjust these set levels in the future if the pump station equipment begins to experience any accelerated wear and tear or a decline in performance.

### 1.1.2 Future Projects

The City recently updated the 2016 Master Plan capacity improvement project E1 (Tracy Drive Sewer Improvement). As shown on Figure 1-1, Project E1 is located along Tracy Drive, Pomeroy Avenue, and Homestead Road. The project proposes to upsize approximately 6,600 feet of 10- to 12-inch sewer in Tracy Drive and Pomeroy Avenue to a 15-inch sewer. In addition, the project proposes to install a new diversion sewer at manhole S22-55 to divert flow from Pomeroy Avenue to Homestead Road. The project would also upsize approximately 1,400 feet of 18-inch sewer on Homestead Road to a 21-inch. **Figure 1-6** and **Figure 1-7** show a plan and profile view of the project, respectively. The recent project E1 model update raised the proposed diversion at manhole S22-55 such that more flow continues north to Pomeroy Avenue and eventually to the Calabazas Creek trunk. The proposed diversion was raised to divert slightly less flow into Homestead Road to ensure that the downstream sewers along Homestead Road (upsized by Project E1 from 18- to 21-inches) meet the Master Plan's sizing criteria for new sewer facilities (i.e., maximum allowable depth-to-diameter ratio or  $d/D$  of 0.75 under peak design wet weather flow conditions). The revision results in more flow being conveyed down Pomeroy Avenue and eventually reaching the Calabazas Creek trunk.

The City also recently developed a project along the GAP west trunk to address improvements needed to convey flows from the Patrick Henry Drive (PHD) Specific Plan development. These improvements are described in detail in the recently completed PHD Evaluation of Capacity Improvement Project Alternatives TM (dated December 3, 2021 and included in Appendix A). The improvements (based on the selected Alternative 3 or Gravity Scenario E) include upsizing and lowering a portion of the GAP west trunk (from manhole S83-5 at PHD to manhole S93-50 located immediately upstream of Old Glory Lane). The City is also proposing to line certain segments of the GAP and Lafayette Street trunks with Cured In Place (CIPP) lining. Details on the proposed lining project (e.g., segments to be CIPP lined and minimum liner thickness) were obtained from the project's 95% design drawings (CSC tracking number 12350-D) and a spreadsheet provided by the City on September 16, 2021. Both references are included in Appendix A. **Figure 1-8** shows a plan view of the proposed projects. **Figure 1-9** and **Figure 1-10** show GAP trunk profile views. The City recently surveyed manholes along the GAP trunks in June 2021 to obtain rim and invert elevations. The profiles shown reflect the surveyed manhole rim and sewer invert elevations (elevations in NGVD29 vertical datum to match the hydraulic model's vertical datum). Elevations shown in purple indicate surveyed data.

Figure 1-6: Proposed Capacity Improvement Project E1 Plan View

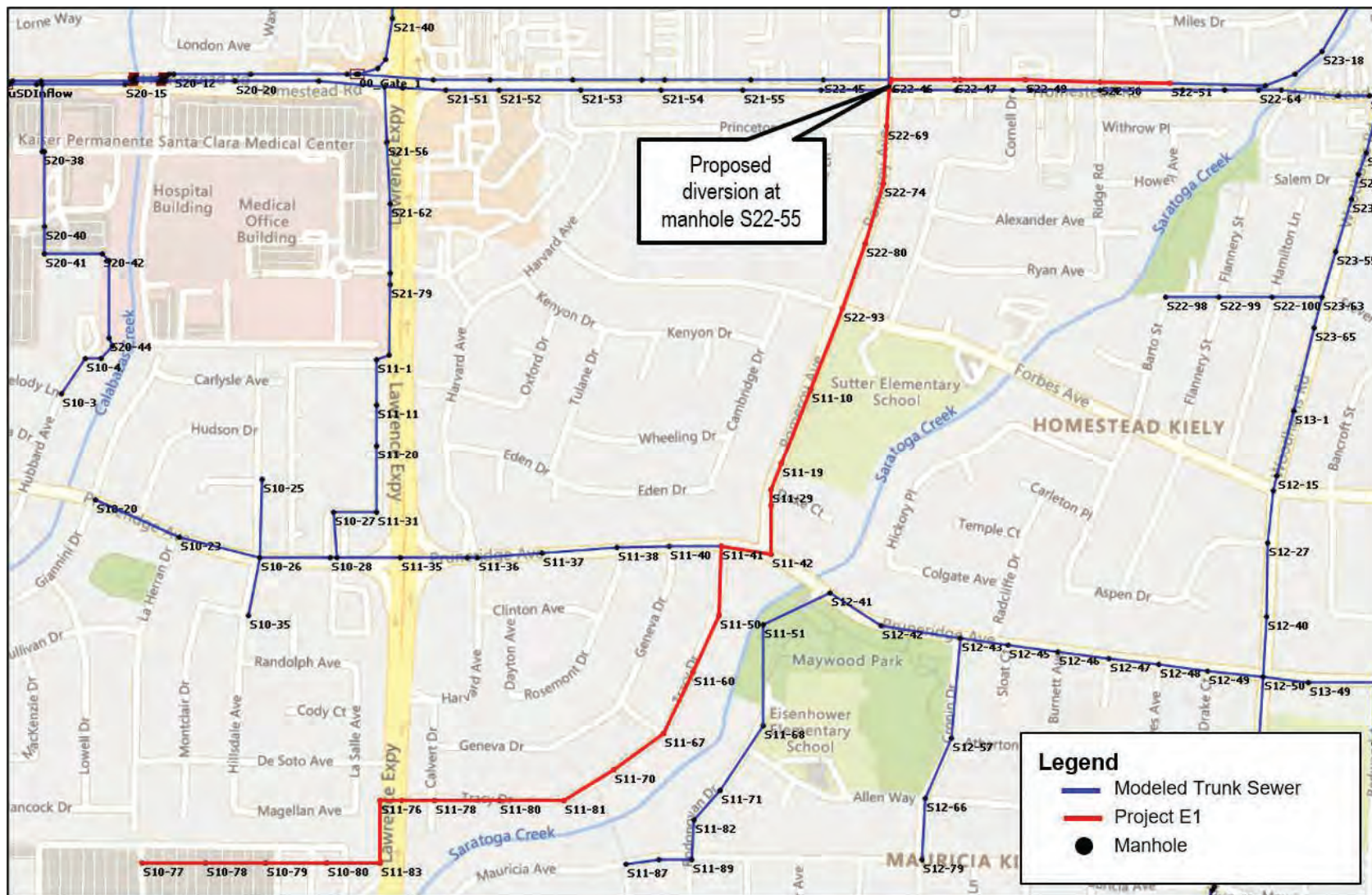


Figure 1-7: Proposed Capacity Improvement Project E1 Profile View

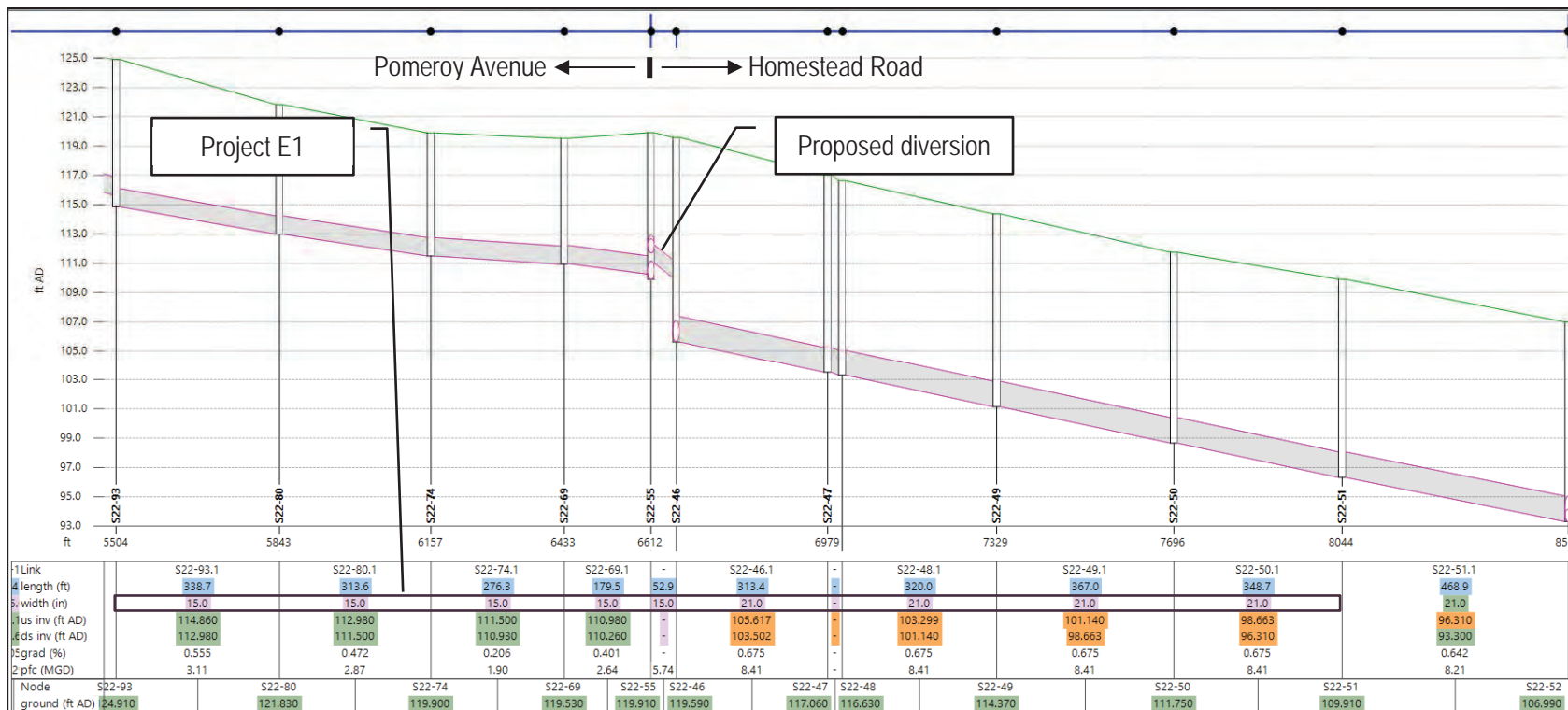


Figure 1-8: Proposed Improvement Projects along GAP and Lafayette Street Trunks

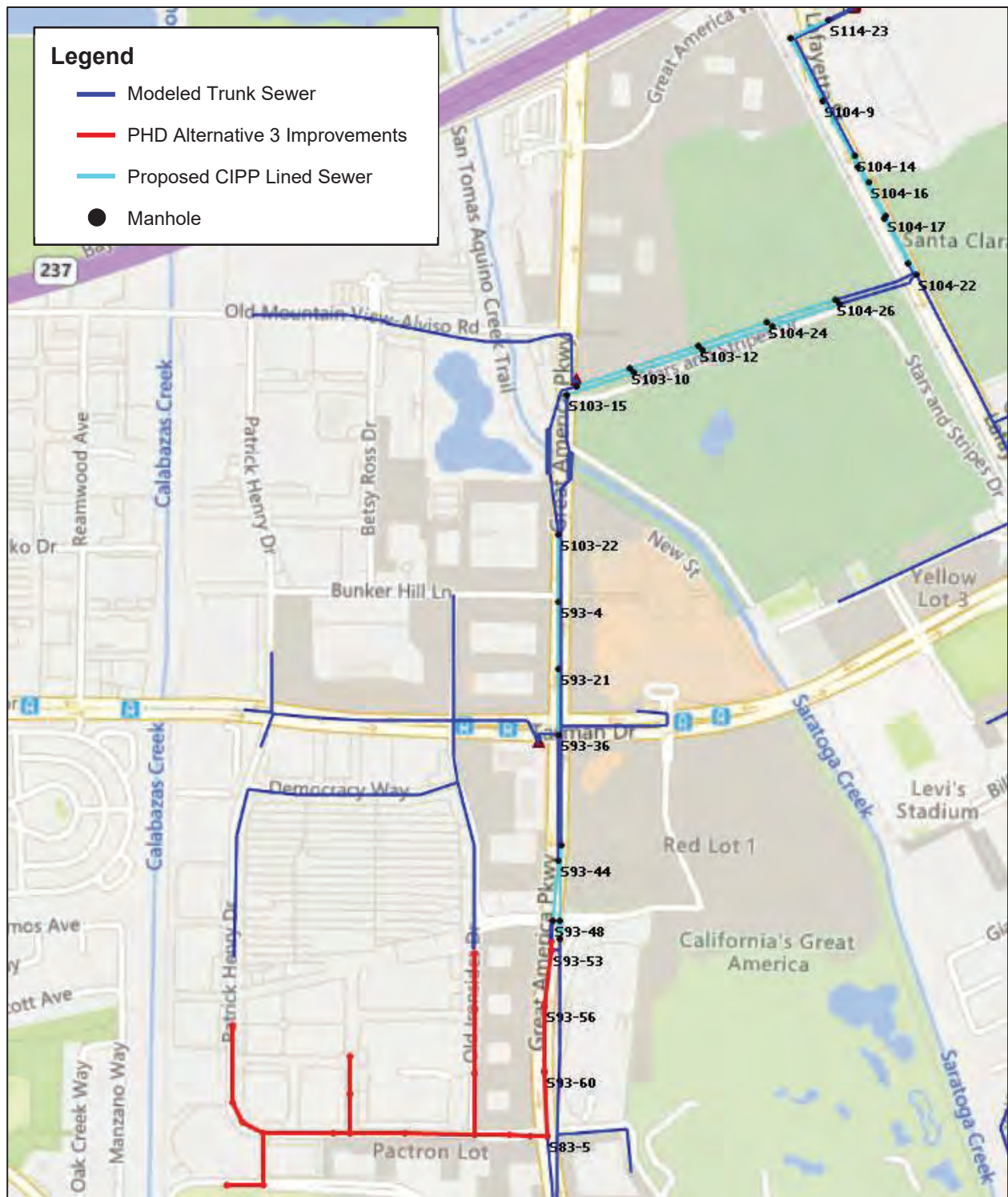


Figure 1-9: Proposed Improvement Projects along GAP West Trunk Profile View

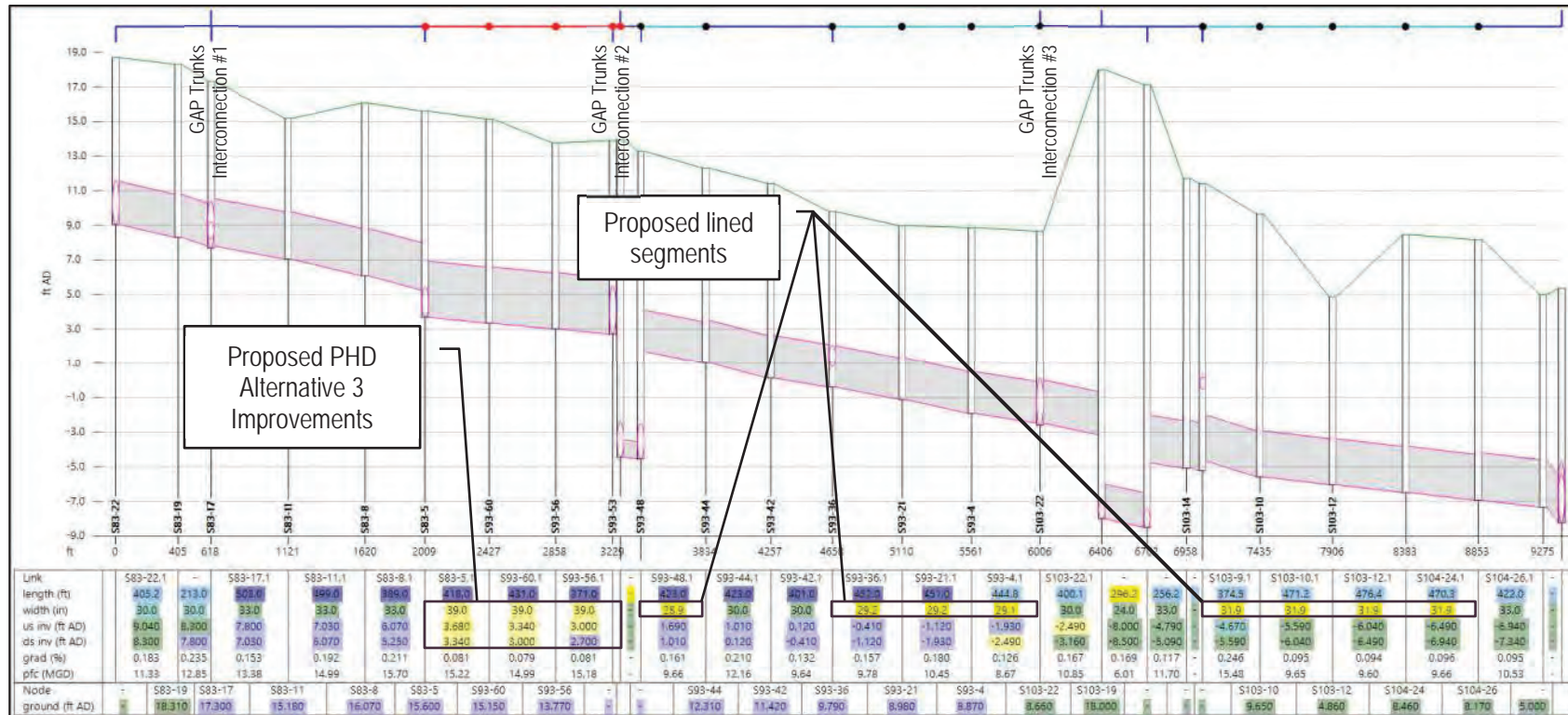
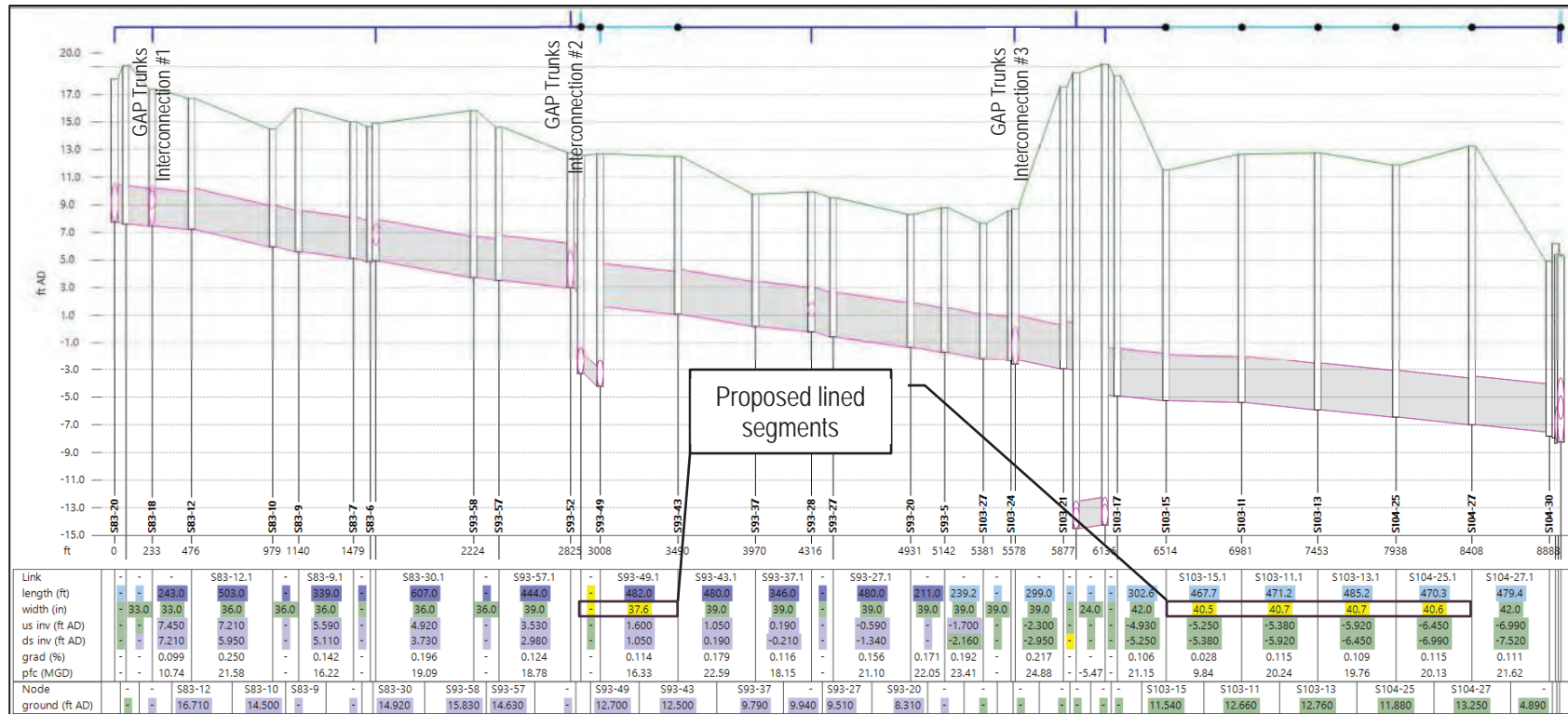


Figure 1-10: Proposed Lining along GAP East Trunk Profile View



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## 2. CAPACITY EVALUATION

Sewer system capacity was evaluated for specific flow conditions in combination with system performance (capacity deficiency) criteria. The City's design flow and capacity deficiency criteria for both dry and wet weather flow conditions are detailed in the 2016 Master Plan. This section summarizes the design flow conditions for both existing (2015) and future (2035) scenarios, summarizes the City's capacity deficiency criteria, and presents the results of the capacity evaluation.

### 2.1 Capacity Analysis Scenarios

The capacity analysis was performed under peak dry weather and wet weather (10-year design storm) flow conditions for the existing (2015) and future (2035) flow scenarios. The future (2035) flow scenario represents the planning horizon for the City's 2035 General Plan. The future (2035) scenario therefore includes:

- Existing (2015) flows (based on the average water use during the four winter periods between December 2010 and February 2014);
- Updated development assumptions consistent with the City's 2035 General Plan;
- Projected loads for additional developments that were approved between 2009 (after the completion of the original 2035 load estimates) and the completion of the 2016 Master Plan (and not yet constructed by the winter of 2014 nor included in the original 2035 General Plan projections);
- Cupertino Sanitary District (CuSD) contractual maximum flows (13.8 million gallons per day or mgd) for future peak wet weather flow (PWWF) conditions; CuSD's future peak dry weather flow (PDWF) was set to 12.2 mgd. Existing CuSD PDWF and PWWF were set to 6.2 and 12.7 mgd, respectively.
- Projected loads from developments that have been evaluated since completion of the 2016 Master Plan including developments reviewed through April 2022 (e.g., PHD Specific Plan and Freedom Circle Focus Area and Greystar General Plan Amendment (GPA)). A complete list and accompanying figure of these developments is included in Appendix A.

The wet weather flow condition used the same 10-year design storm that was used for the 2016 Master Plan.

The model network used in the existing (2015) scenario was based on the City's current sewers including the constructed project P6-Alt, the Calabazas Creek trunk Sanitary Sewer Condition Assessment Repairs Project, and the 2016 Master Plan projects P1 (Westside Lift Station Adjustment) and P2 (Tasman Lift Station Adjustment). The model network used in the future (2035) scenario was based on the City's 2016 Master Plan solutions network. The solutions network includes the improvements recommended in the 2016 Master Plan but not yet constructed (projects P3, P4, and P5) as well as the recently modified project E1, recently constructed projects P6-Alt, Calabazas Creek trunk Sanitary Sewer Condition Assessment Repairs Project, and 2016 Master Plan projects P1 and P2. It should be noted that except for capacity improvement project P3 (Cabrillo Avenue Sewer Improvement), all other yet to be constructed 2016 Master Plan projects are only needed to convey the future (2035) flows. The solutions network also includes improvements associated with specific developments including the PHD Specific Plan and the Freedom Circle Focus Area and Greystar GPA. Since these improvements are associated with these specific developments, they have also not been constructed to-date.

## 2.2 Capacity Deficiency Criteria

The City's 2016 Master Plan capacity deficiency criteria were used to determine which sewer pipes should be relieved or replaced (i.e., are deficient) due to inadequate capacity to convey sewer flows. Deficiencies are often expressed as the pipe flow depth-to-diameter ratio (called  $d/D$ , where "d" is the flow depth, and "D" is the pipe diameter). Surcharging occurs when the  $d/D$  of a given pipe is greater than 1.0, indicating that the water surface (i.e., hydraulic grade line) is higher than the pipe crown. The deficiency criteria are as follows:

- Peak Dry Weather Flow (PDWF): No surcharge allowed ( $d/D \leq 1$ )
- Peak Wet Weather Flow (PWWF):
  - Gravity sewer with less than 6 feet of cover: no surcharge allowed ( $d/D \leq 1$ )
  - Gravity sewer with 6 feet or more of cover: surcharge up to 1 foot above the pipe crown.

## 2.3 Capacity Deficiencies

The figures on the following pages document all the identified capacity deficiencies based on the system deficiency criteria discussed above. The deficiencies shown and listed are the pipes that would need some type of capacity relief, either to increase their capacity (e.g., upsize to larger diameter) or to reduce the flow (e.g., divert flow away from the pipe). The figures also show where surcharging is predicted to occur. Two types of surcharge are shown:

- Surcharging caused by "throttle" conditions (e.g., the full pipe capacity is less than the peak flow).
- Surcharging caused by backwater effects.

It is important to note that surcharge due to backwater effects does not necessarily indicate a capacity restriction at that location since a downstream capacity restriction may be causing the backwater and resulting in surcharge further upstream. In addition, a surcharged sewer does not necessarily mean it is deficient since the City allows for up to 1 foot of surcharge above the pipe crown (as previously discussed in Section 2.2).

**Figure 2-1** through **Figure 2-4** illustrate the performance of the system, including where deficiencies (i.e., surcharge conditions exceed the deficiency criteria outlined in Section 2.2) occur under existing (2015) and future (2035) PDWF and PWWF conditions. **Appendix B** includes model hydraulic profiles of the deficient locations. An example model hydraulic profile and legend is also included in Appendix B. It is important to keep in mind that the network used to identify deficiencies under future (2035) conditions was based on the City's 2016 Master Plan solutions plus development specific improvements network. The deficiencies shown therefore reflect updated hydraulic conditions in the system assuming all 2016 Master Plan capacity improvement projects and development specific improvements are constructed. As discussed in Section 1, three 2016 Master Plan capacity improvement projects (P1, P2, and P6-Alt) have been implemented to-date.

### 2.3.1 Existing (2015) Flow Scenario

As shown in **Figure 2-1**, there are no predicted deficiencies under existing PDWF conditions. The implementation of 2016 Master Plan projects P1 and P2 addressed the previous deficiency IDs D1 and D2 (as shown on **Table 4-2** and **Figure 4-3** of the 2016 Master Plan).

Under existing PWWF conditions, a few segments of the Calabazas Creek trunk would be deficient where the surcharge level is 1 foot or more above pipe crown (refer to deficiency ID D6 as shown on **Figure 2-2**). A profile view of this deficiency is shown in **Appendix B** (**Figure B-1** and **Figure B-2**). This deficiency was not identified in the 2016

Master Plan because it is caused by the newly CIPP-lined downstream segment (between manholes S62-38 and S62-34) being throttled. The surcharge would also be exacerbated by the 19-inch constriction at Kifer Road which would cause further backwater surcharge upstream. The CIPP-lined segment between manholes S62-48 and S62-40 would also be throttled.

Deficiency ID D3 was identified in the City's 2016 Master Plan (refer to Table 4-2 and Figure 4-3 of the 2016 Master Plan). The proposed capacity improvement project P3 (Cabrillo Avenue Sewer Improvement) would address this deficiency. Figure B-3 in Appendix B shows a profile of this deficiency under existing (2015) PWWF conditions. Figure 5-1 in the 2016 Master Plan shows the location of project P3.

### 2.3.2 Future (2035 with 2016 Master Plan and Development Specific Solutions) Flow Scenario

As discussed in Section 2.1, the model network used in the future (2035) scenario was based on the City's 2016 Master Plan solutions network which includes improvements that have yet to be constructed (e.g., 2016 Master Plan projects P3, P4, P5, and modified E1); improvements associated with specific developments; the proposed CIPP lining of the GAP and Lafayette Street trunks; as well as recently constructed improvements (e.g., project P6-Alt, Calabazas Creek trunk Sanitary Sewer Condition Assessment Repairs Project, and 2016 Master Plan projects P1 and P2).

As shown on **Figure 2-3**, there are two deficiencies under future (2035) PDWF conditions. A profile of deficiency ID D6 on the Calabazas Creek trunk is included in Appendix B (Figure B-4). The deficiency is due to the throttled 19-inch constriction at Kifer Road. Deficiency ID D8 (Great America Parkway West Trunk) is caused by throttled segments immediately downstream of Tasman Drive. It should be noted that the predicted future (2035) flow in the Great America Parkway (GAP) trunks has increased since the 2016 Master Plan. The increase is due to various proposed developments that have been evaluated since completion of the 2016 Master Plan including various data center developments, the Freedom Circle Focus Area and Greystar GPA, and the PHD Specific Plan. A profile of deficiency ID D8 is included in Appendix B (Figure B-5). The profile also shows the proposed PHD Specific Plan improvements and soon to be lined segments along the GAP West Trunk. The PHD Alternative 3/Gravity Scenario E Improvements along PHD and Old Ironside Drive are shown to be backwater surcharged. The backwater surcharge is caused by the hydraulic grade line in the GAP West Trunk backing into the PHD sewers since they meet at matching inverts. These conditions are documented in the recently completed PHD Evaluation of Capacity Improvement Project Alternatives TM (dated December 3, 2021 and included in Appendix A).

It should be noted that the City is currently working on a focused study related to data centers (Citywide Data Centers Discharge Study). The purpose of the Data Center Study is to assess the potential capacity impact of peak discharges from existing data centers on the City's collection system. Outcomes from this study could affect predicted flows in the GAP trunks.

Under future (2035) PWWF conditions, the deficiency on the Calabazas Creek trunk (deficiency ID D6) would extend further upstream due to backwater surcharge (refer to **Figure 2-4**). A profile view of the deficiency and a more detailed view of the downstream deficient segments are shown in Appendix B (Figure B-6 and Figure B-7). As shown on this profile, the very flat slope in the first (upstream) segment of Project P6-Alt would cause the hydraulic grade line to steepen. In addition, a few lined segments would be throttled. The 19-inch constriction would also raise the hydraulic grade line further.

The deficiency along the GAP West Trunk (deficiency ID8) would also be exacerbated by the future PWWF with surcharge levels greater than 1 foot above crown from manhole S93-48 (immediately downstream of the siphons) to manhole S103-22 (at interconnection #3). A profile of this deficiency is shown in Figure B-8 in Appendix B. Most of the sewers along this deficient segment would be surcharged due to throttle conditions. The PHD sewer improvements along the GAP west trunk would also be surcharged, although this would be caused by backwater from the downstream throttled segments. The PHD Alternative 3/Gravity Scenario E Improvements along PHD and Old Ironside Drive would

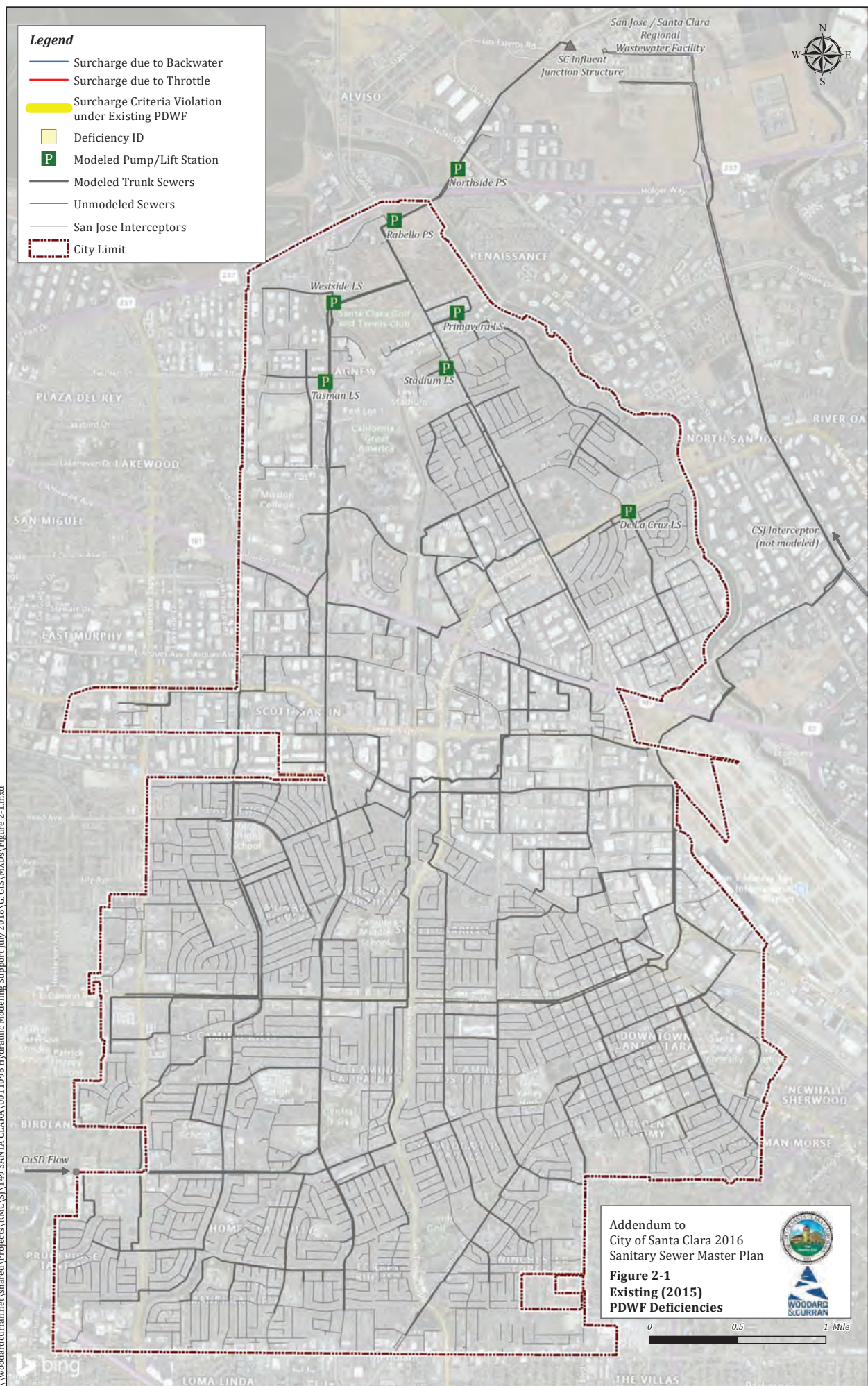
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still be backwater surcharged (again due to the smaller sewers meeting the GAP west trunk at matching inverts). These conditions are documented in the recently completed PHD Evaluation of Capacity Improvement Project Alternatives TM (dated December 3, 2021 and included in Appendix A).

Appendix B also shows a profile of the proposed modified Project E1 under future (2035) PWWF conditions (refer to Figure B-9). As shown on the profile, the upsized 21-inch sewers (shown highlighted in purple) would be just within the project sizing criteria (i.e.,  $d/D \leq 0.75$ ).

It should be noted that CuSD recently provided the City with an update to their projected (future) PWWF discharge into the Santa Clara system. The updated PWWF is 14.5 mgd, which is higher than the 13.8 mgd PWWF assumed for the City's 2016 Master Plan (equivalent to CuSD's current contractual maximum flow rate). CuSD flows impact both the Calabazas Creek and Great America Parkway trunks. The City is currently in discussions with CuSD to determine next steps. Impacts of the updated CuSD future flows on the City's system will be analyzed and any resulting deficiencies addressed by the City's future Sewer Master Plan Update.

- Legend**
- Surge due to Backwater
  - Surge due to Throttle
  - Surge Criteria Violation under Existing PDWF
  - Deficiency ID
  - P Modeled Pump/Lift Station
  - Modeled Trunk Sewers
  - Unmodeled Sewers
  - San Jose Interceptors
  - City Limit



Addendum to  
 City of Santa Clara 2016  
 Sanitary Sewer Master Plan

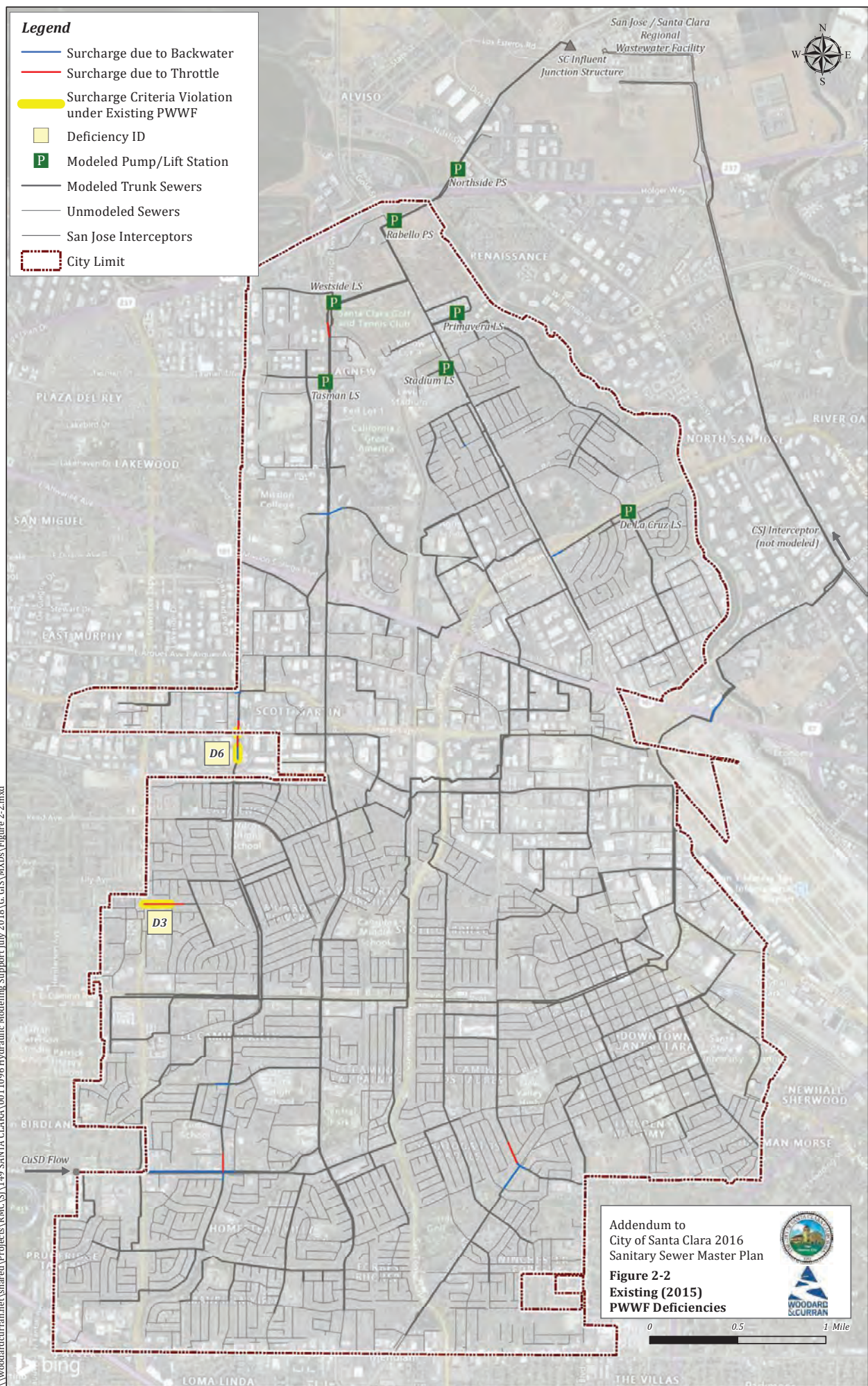
**Figure 2-1  
 Existing (2015)  
 PDWF Deficiencies**

0 0.5 1 Mile

\\woodardcurran.net\shared\Projects\RMCS\149 SANTA CLARA\00110916 Hydraulic Modeling\_Support\_July 2018\G. GIS\MXDs\Figure 2-1.mxd

**Legend**

- Surcharge due to Backwater
- Surcharge due to Throttle
- Surcharge Criteria Violation under Existing PWWF
- Deficiency ID
- P Modeled Pump/Lift Station
- Modeled Trunk Sewers
- Unmodeled Sewers
- San Jose Interceptors
- City Limit



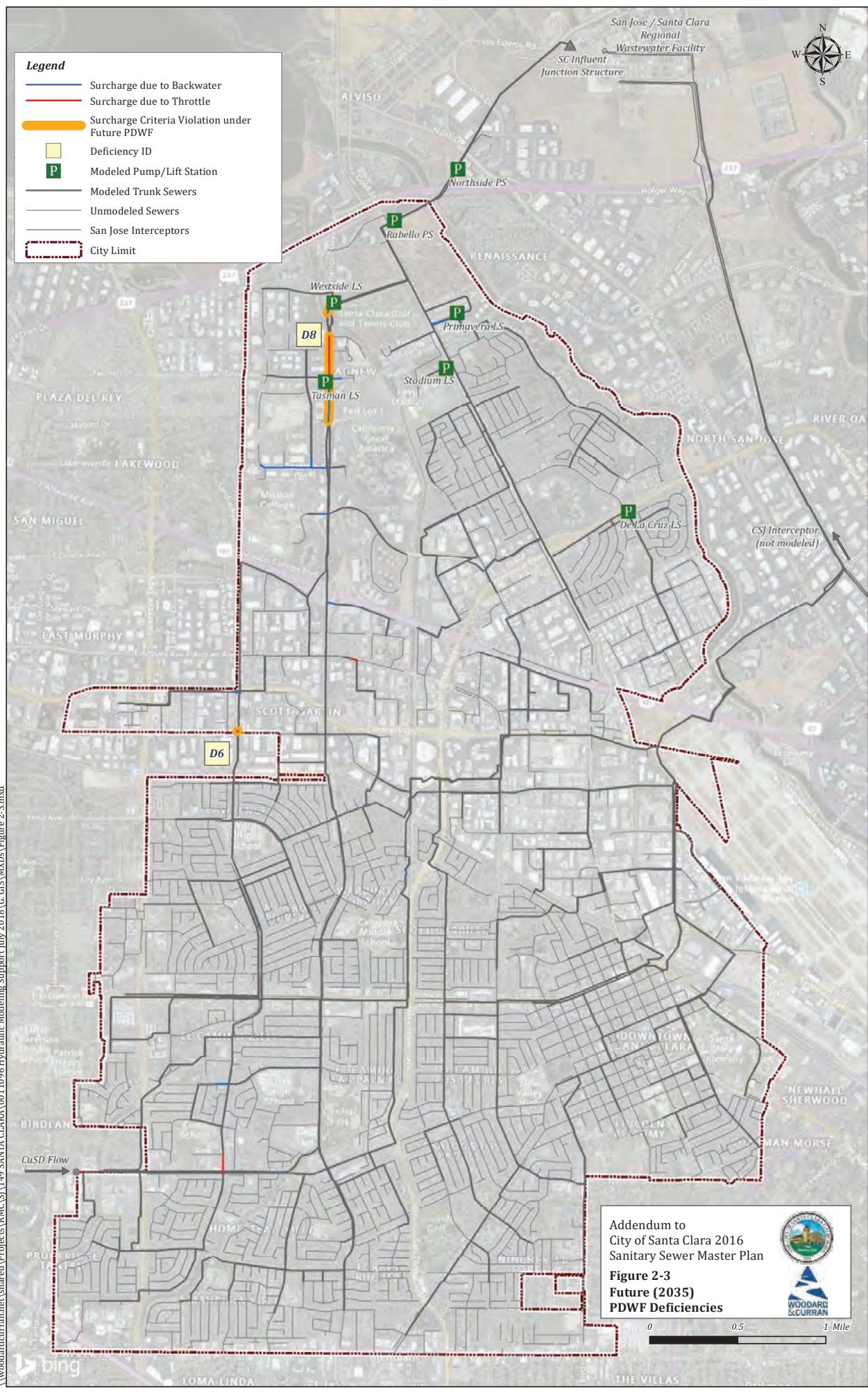
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Addendum to  
City of Santa Clara 2016  
Sanitary Sewer Master Plan  
**Figure 2-2**  
**Existing (2015)**  
**PWWF Deficiencies**



0 0.5 1 Mile


- Legend**
- Surcharge due to Backwater
  - Surcharge due to Throttle
  - Surcharge Criteria Violation under Future PDWF
  - Deficiency ID
  - P Modeled Pump/Lift Station
  - Modeled Trunk Sewers
  - Unmodeled Sewers
  - San Jose Interceptors
  - City Limit



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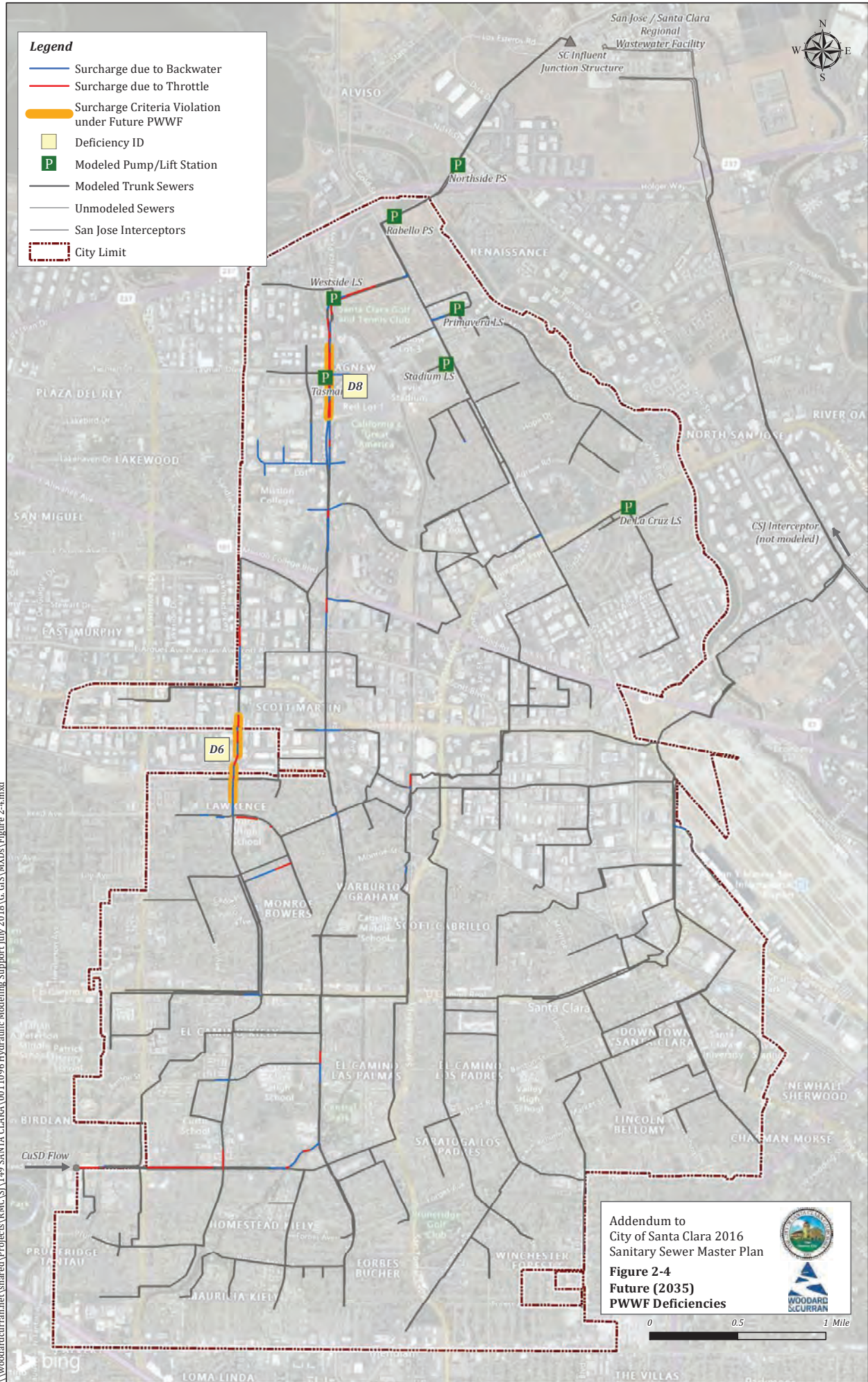
Addendum to  
City of Santa Clara 2016  
Sanitary Sewer Master Plan

**Figure 2-3  
Future (2035)  
PDWF Deficiencies**



0 0.5 1 Mile


- Legend**
- Surcharge due to Backwater
  - Surcharge due to Throttle
  - Surcharge Criteria Violation under Future PWWF
  - Deficiency ID
  - P Modeled Pump/Lift Station
  - Modeled Trunk Sewers
  - Unmodeled Sewers
  - San Jose Interceptors
  - City Limit



\\woodardcurran\shared\Projects\RMCS\149 SANTA CLARA\00110916 Hydraulic Modeling\_Support\_July 2018\GIS\MXDs\Figure 2-4.mxd

Addendum to  
City of Santa Clara 2016  
Sanitary Sewer Master Plan

**Figure 2-4  
Future (2035)  
PWWF Deficiencies**



0 0.5 1 Mile

### 3. CAPACITY IMPROVEMENT ALTERNATIVES

This section presents the alternatives evaluated to alleviate the capacity deficiency identified in the Calabazas Creek and GAP west trunks (deficiency ID D6 and D8) and presented in Section 2. The alternatives were designed to relieve the deficiencies either by upsizing the capacity deficient pipes or identifying potential rerouting of flows. The alternatives were tested in the model to confirm that they would provide the needed capacity relief and to determine the pipe sizes needed for the relief sewers. In some cases, the alternative would result in capacity deficiencies further downstream, since peak flows reaching downstream pipes would increase, causing additional surcharging downstream. In these cases, the scope of the proposed improvements was expanded to include improvements needed to alleviate the new downstream deficiencies. Only viable alternatives are recommended for further consideration for potential inclusion in the City's capital improvement plan (CIP) (as discussed in the following **Section 4**).

#### 3.1 Design Criteria

New pipes were sized according to the City's design criteria. Design criteria differ from the capacity deficiency criteria discussed in Section 2 in that design criteria are specific to new facilities, while capacity deficiency criteria define the minimum acceptable performance level of existing facilities. The key design criteria used at this planning stage are as follows:

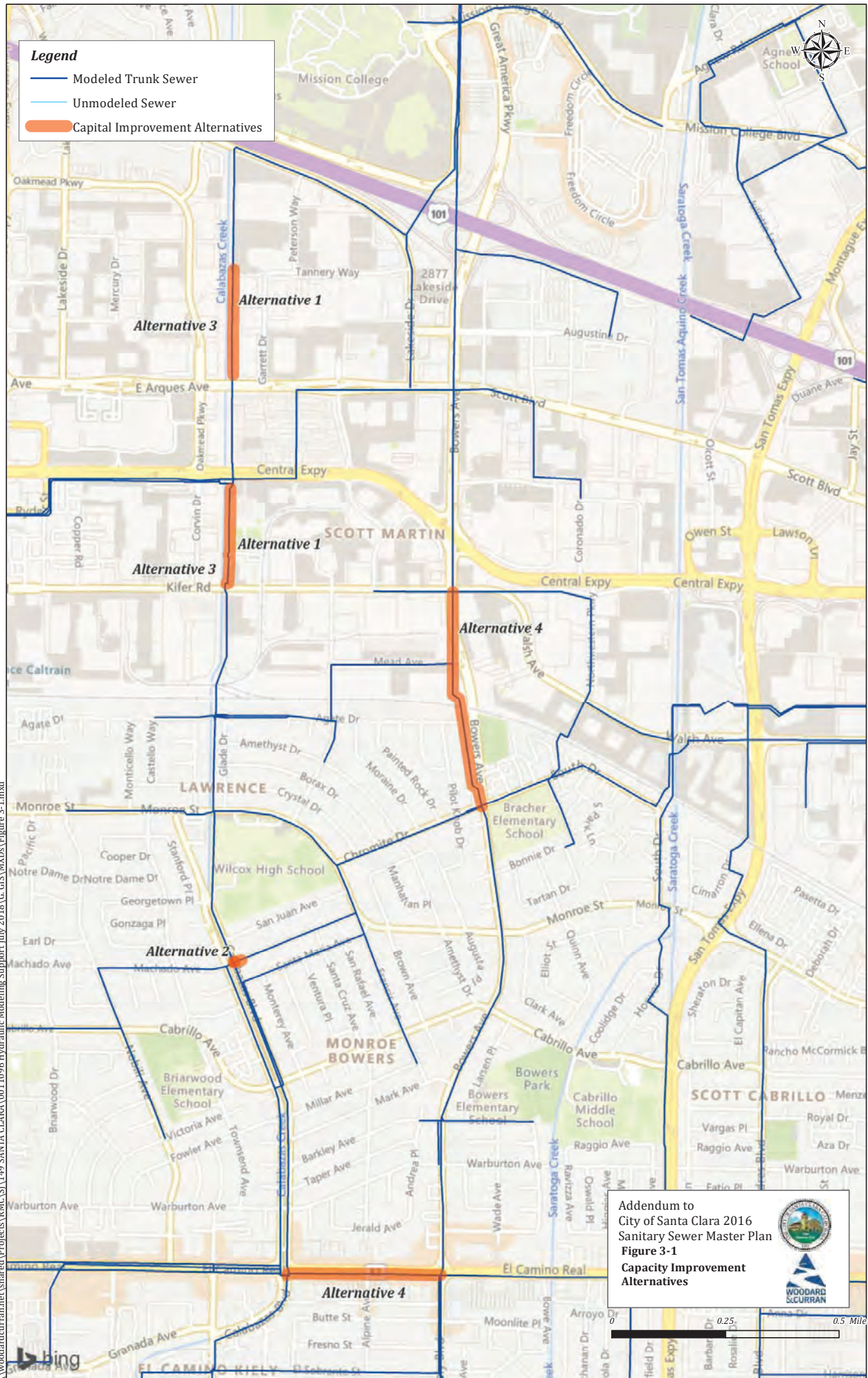
- All new facilities were sized for the future (2035) PWWF condition.
- New pipes were sized not to exceed approximately 75% full (d/D less than or equal to 0.75) under future (2035) PWWF.
- Replacement (upsized) pipes were sized assuming the existing pipe was replaced with a larger pipe at the same slope.
- New pipes, excluding pipes being upsized at the same slope, should have a minimum velocity of 2 feet per second (fps) at half-full pipe.
- A Manning's "n" of 0.013 was assumed for all pipes.

#### 3.2 Capacity Improvement Alternatives

Four potential alternatives to the Calabazas Creek trunk capacity deficiency were identified. **Figure 3-1** shows the extent and locations of the alternatives. Each alternative is discussed in further detail in the sections below. A plan view of the alternative showing deficiency results under future (2035) PWWF is included in the discussion. Profile views showing the deficiency and more detailed hydraulic conditions are included in **Appendix C**.

**Legend**

- Modeled Trunk Sewer
- Unmodeled Sewer
- Capital Improvement Alternatives



\\woodardcurran\shared\Projects\RMCS\SV\149 SANTA CLARA\00110956 Hydraulic Modeling Support July 2018\GIS\MXDs\Figure 3-1.mxd

Addendum to  
City of Santa Clara 2016  
Sanitary Sewer Master Plan  
**Figure 3-1**  
Capacity Improvement  
Alternatives



## Alternative 1 – Calabazas Creek Trunk Upsize and Installation of Parallel 18-Inch Sewer Under the Existing 27-Inch Storm Drain

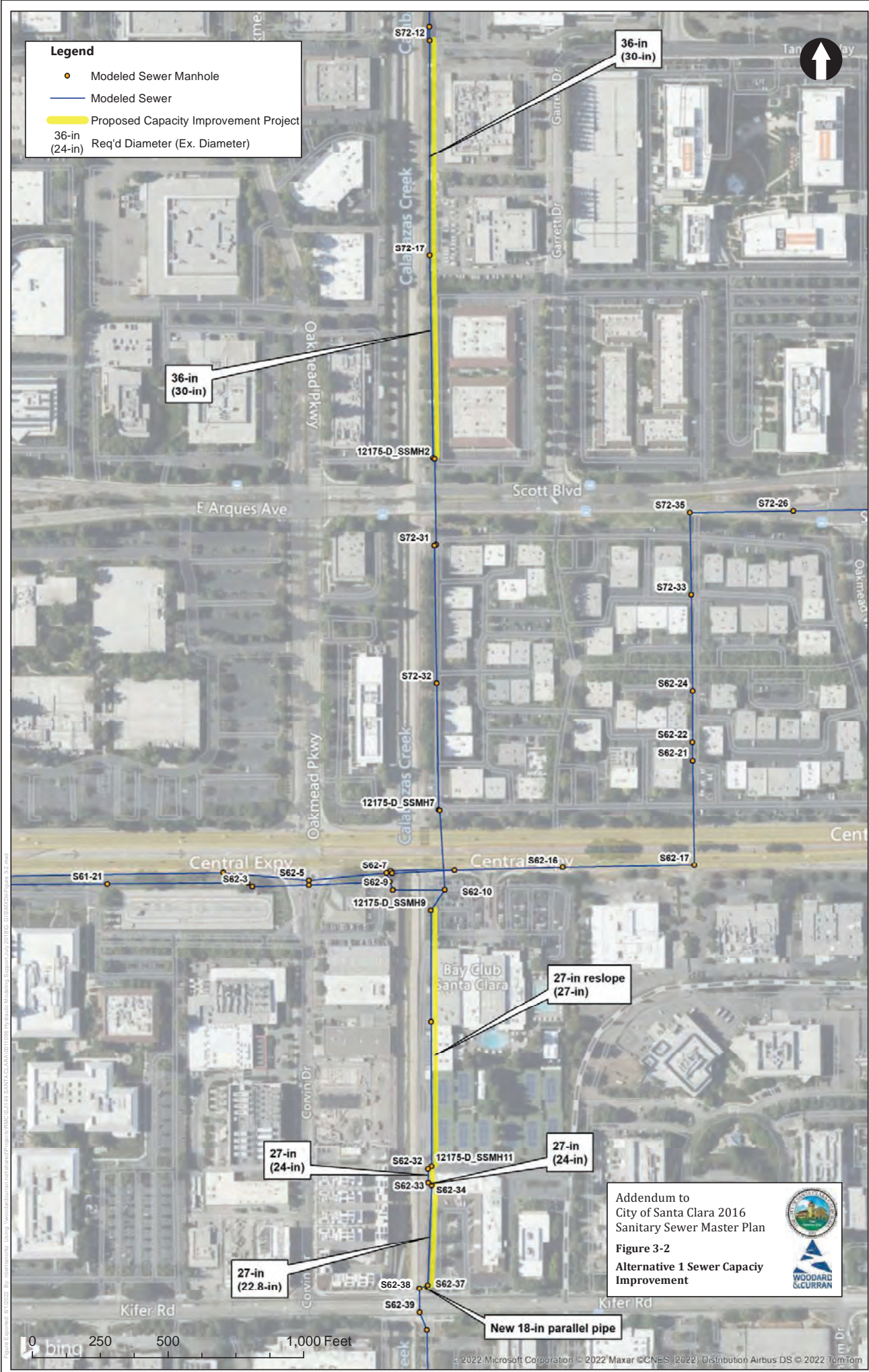
This alternative would upsize the deficient sections of the Calabazas Creek trunk and would install a new 18-inch sewer parallel to the existing 19-inch sewer constriction under the storm drain. In addition, the alternative would redo the vertical alignment of the first two 27-inch segments of project P6-Alt. As discussed in Section 1 (and shown on Figure 1-3), the first segment of project P6-Alt has a very flat slope (0.047 percent) which results in a reduced pipe full capacity (pfc) of 4.32 mgd. In contrast, the segment immediately downstream has a much steeper slope (0.639 percent), resulting in a much greater pfc of 16.0 mgd. As shown on Figure B-6 (in Appendix B), the reduced pipe capacity in the first segment results in a steepening of the hydraulic grade line, which then results in backwater surcharge in upstream segments. Addressing this flat slope is key to preventing future backup into upstream segments. The record drawings for project P6-Alt did not identify any utility conflicts that would make this option infeasible. However, further investigation of utilities should be conducted during the design phase of the project to confirm its feasibility. **Figure 3-2** shows a plan view of the alternative. Alternately, depending on the condition of the existing 19-inch segment, it could be replaced with two new parallel 18-inch sewers. **Figure 3-3** and **Figure 3-4** illustrate the two potential configurations for the new 18-inch sewer(s).

It should be noted that the original alternative was limited to the segments immediately downstream of Kifer Road (from manhole S62-37 to new P6-Alt manhole SSMH9 located immediately upstream of manhole S62-10). However, these upsized sewers increased the flow conveyed, which caused a deficiency further downstream between sanitary sewer manhole S72-32 and new P6-Alt manhole SSMH1 (located in the vicinity of the abandoned manhole S72-20). A profile of the hydraulic conditions of this original alternative is included in **Appendix C** (refer to Figure C-1). To alleviate this new downstream deficiency, two additional sewer segments (between manhole SSMH1 and S72-12) were upsized from a 30- to a 36-inch sewer. The updated profile including this downstream upsized segment is included in **Appendix C** (Figure C-2). It should be noted that the existing slope of these two new upsized sewers (0.07 to 0.14 percent) is very flat. Increasing the slope of the two segments would increase capacity. However, utility conflicts may make this option infeasible. Potential utility conflicts should be evaluated during the design phase of this project. The sewers downstream of the siphon (between manhole S72-11 and S82-9) would be surcharged due to throttle conditions. Although the surcharge level would not exceed 1 foot above crown (maximum surcharge level is 2.7 inches above pipe crown at manhole S72-8), these sewers are shallow, as they have less than six (6) feet of cover. As a result, they would also be considered deficient (per the City's deficiency criteria discussed in Section 2). The minimum freeboard would be approximately 3.3 ft (at manhole S82-10). It is recommended the City survey the manholes along this section of the Calabazas Creek trunk (all manholes between and including S72-17 and S73-6) to confirm the pipe cover and resulting potential deficiency. Should the shallow pipe cover be confirmed, the proposed project would have to be extended to include these downstream segments.

As an alternative to upsizing existing sewers, the City may opt to install parallel sewers instead. This option would eliminate the need for bypass pumping and could therefore save the City money during construction. However, due to potential utility conflicts, it is not clear that there would be enough room between existing properties and the creek to allow for parallel trunks. In addition, the City would now have to maintain twice the length of sewers along this alignment.

**Legend**

- Modeled Sewer Manhole
- Modeled Sewer
- Proposed Capacity Improvement Project
- 36-in (24-in) Req'd Diameter (Ex. Diameter)



Addendum to  
City of Santa Clara 2016  
Sanitary Sewer Master Plan

**Figure 3-2**  
Alternative 1 Sewer Capacity  
Improvement

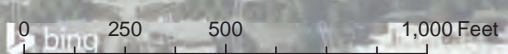


Figure 3-3: New Parallel 18-Inch Sewer

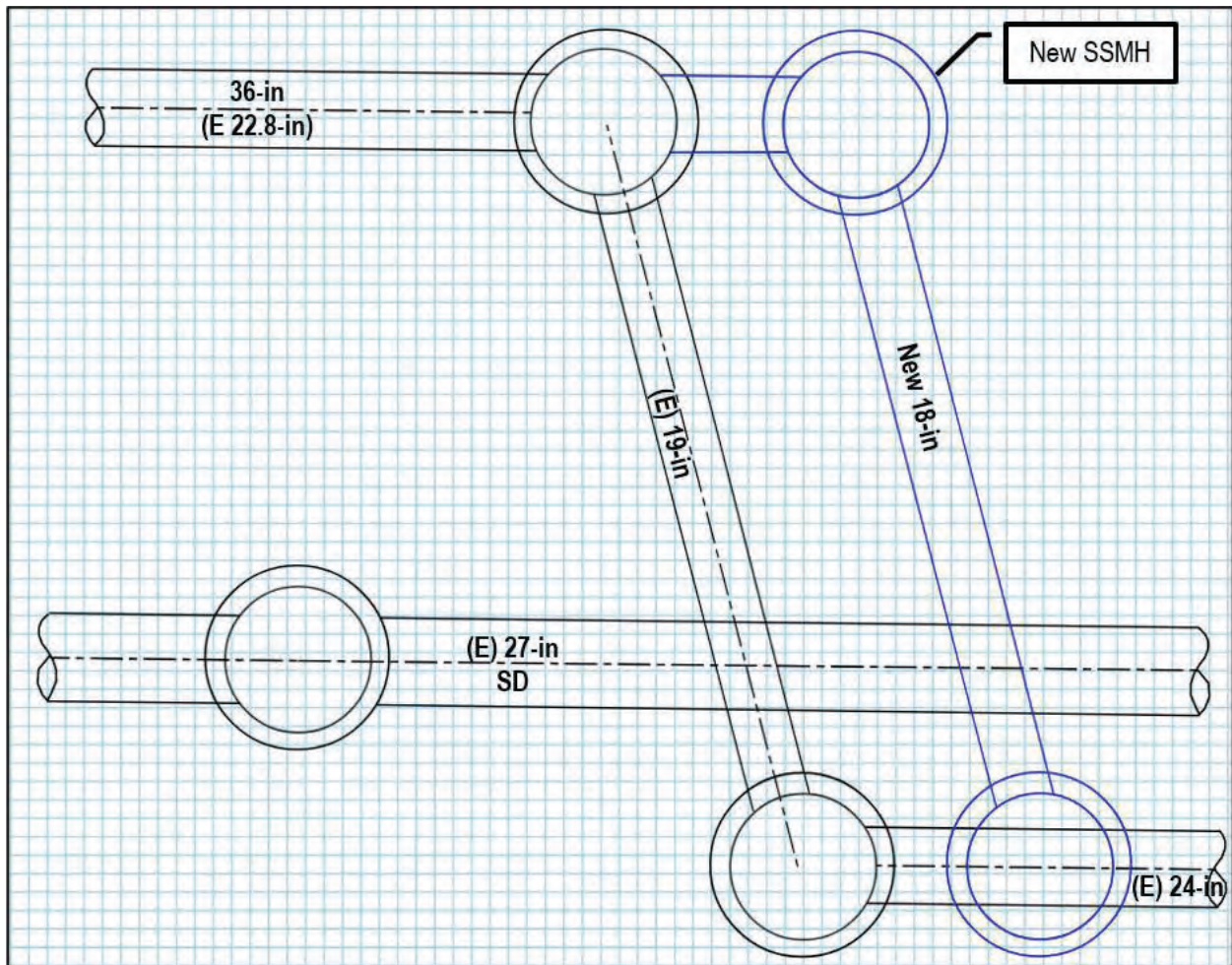
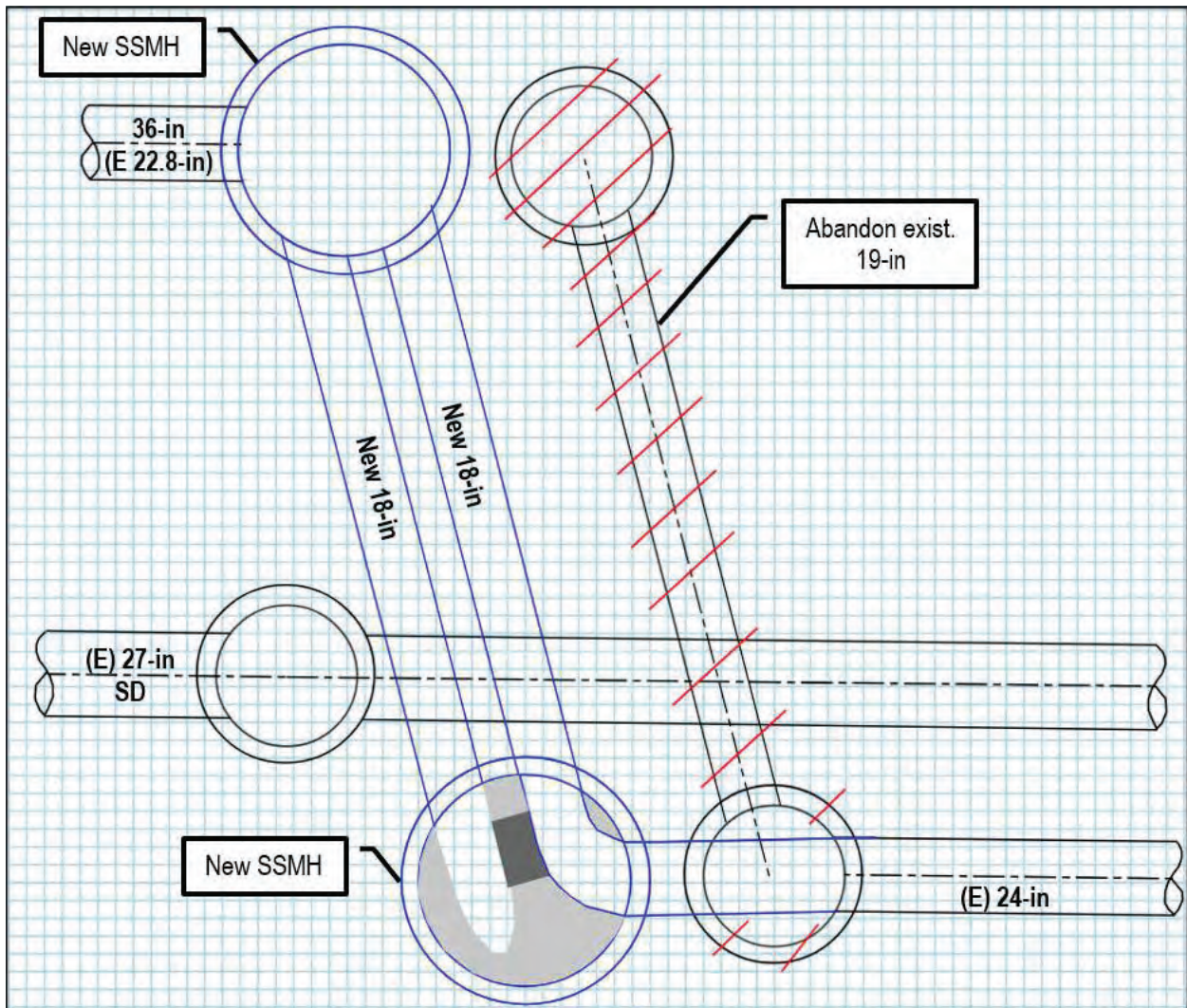


Figure 3-4: New Parallel 18-inch Twin Sewers



## Alternative 2 – Diversion to Machado Avenue and Chromite Drive

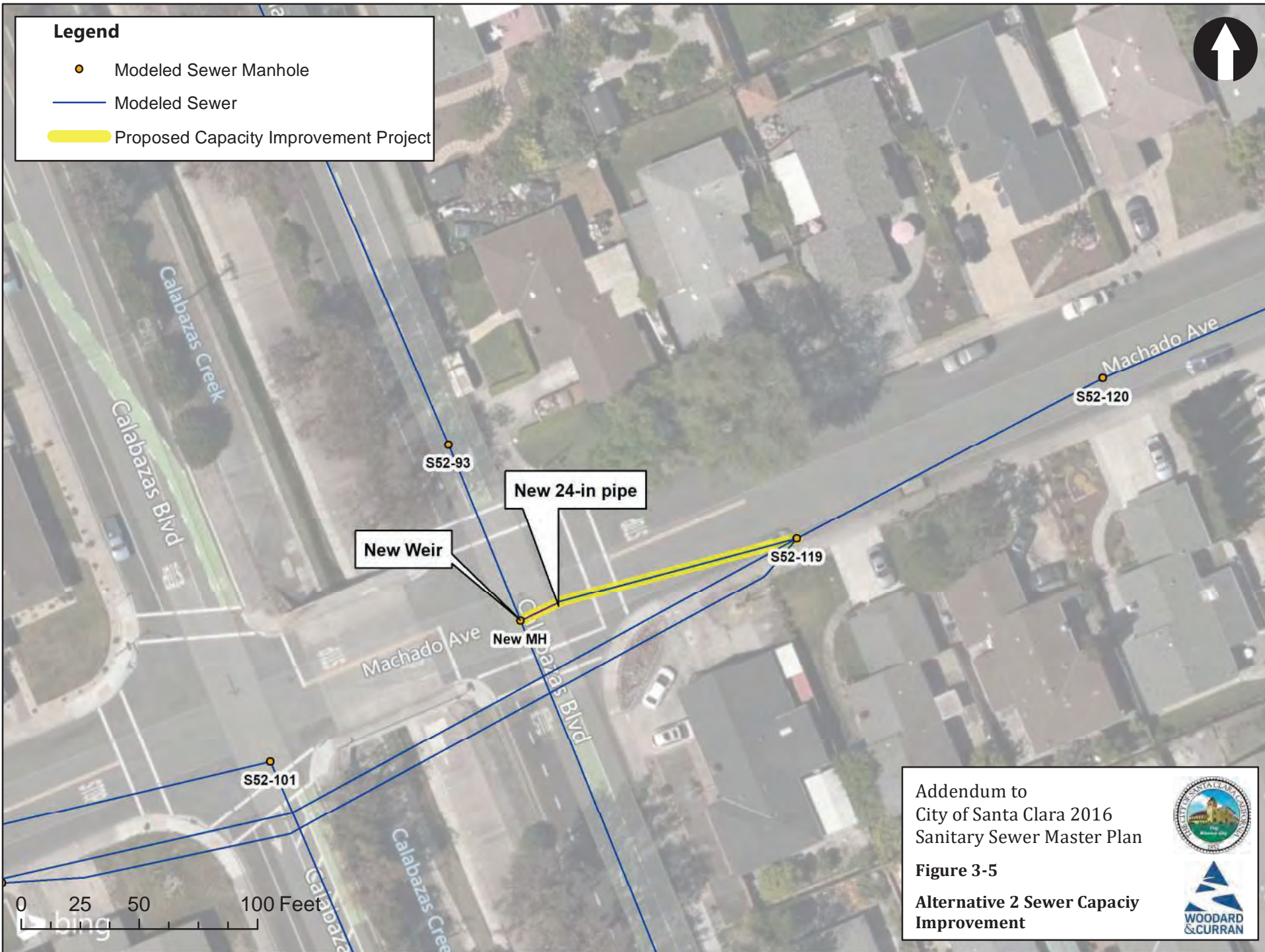
This alternative would include construction of a new manhole at the Calabazas Boulevard and Machado Avenue intersection and a new sewer going east on Machado Avenue and connecting to the existing Machado Avenue 21-inch trunk. The new manhole would have a weir or high-level diversion to divert peak flows to the 21-inch Machado Avenue trunk, thereby reducing flows going north in the Calabazas Creek trunk. This alternative was proposed in the City's 2016 Master Plan as capacity improvement project P6 (Sewer Diversion at Calabazas Boulevard and Machado Avenue). **Figure 3-5** shows a plan view of the alternative.

This alternative would relieve the capacity deficiency along the Calabazas Creek trunk. Profiles showing hydraulic conditions for the Calabazas Creek trunk, as well as for the Machado Avenue/Chromite Drive trunks, are included in Appendix C (Figure C-3 and Figure C-4, respectively). As shown on the profiles, the Calabazas Creek trunk would no longer be deficient. However, the trunk would still be flowing full in the lined segments and slightly surcharged, although the surcharge level would not exceed the City's PWWF deficiency criteria. The 21-inch Machado Avenue trunk downstream of the diversion would still have capacity, although the downstream 24-inch Chromite Drive trunk would be full although not deficient.

The primary flow direction at the Chromite Drive and Bowers Avenue intersection is to continue east along Chromite Drive and South Drive, eventually discharging into the Walsh Avenue trunk. There is a diversion structure at the Chromite/Bowers intersection (at manhole S53-105) with a weir, which (should flows overtop the weir crest) could divert flows north to the Bowers Avenue trunk. However, as shown on the profile, under future (2035) PWWF conditions, the flow depth at this manhole would not reach the weir crest and, as a result, all flow would continue east to the Chromite Drive/South Drive 24- and 27-inch trunk. As shown on Figure C-5, immediately east of Kentworth Way (to the San Tomas Aquino Creek siphon), the 27- and 30-inch trunk would have enough capacity to accommodate the additional flow (the depth to diameter ratio (d/D) would range from 0.6 to 0.84). Downstream of the siphon, the 27- and 30-inch Walsh Avenue trunk could also accommodate the additional flow (d/D would range from 0.74 to 0.77). Diverting flow away from the Calabazas Creek trunk into the Machado Avenue/Chromite Drive trunks would also divert flow away from the downstream GAP west trunk. Figure C-6 shows the resulting hydraulic conditions in the GAP west trunk. The trunk between manholes S93-48 and S103-12 would still be surcharged. There would still be three deficient segments; however, the maximum surcharge level (1.02 ft at manhole S93-42) would just slightly exceed the deficiency criteria. The minimum freeboard would be 6.7 ft at manhole S93-36.



The City recently conducted an Inflow/Infiltration (I/I) Study in the Chromite/Machado/Cabrillo (CMC) Basin. The CMC Basin drains to the 21-inch Machado Avenue and 24-inch Chromite Drive trunks. The I/I Study included flow monitoring in the CMC Basin and concluded that the I/I is concentrated in a relatively small area. The 2016 Master Plan I/I estimates for this area are based on the flow meter 10 basin (as presented in Figure 3-3 of the 2016 Master Plan). As such, the estimated I/I is evenly distributed in the area tributary to flow meter 10. Incorporating results of the flow monitoring conducted for the recent I/I Study could result in a refinement of the I/I distribution in this flow meter basin, which could impact modeled hydraulic conditions in the Machado Avenue and Chromite Drive trunks. The City will update the model calibration based on this flow monitoring data and re-evaluate this alternative in its upcoming Master Plan Update.

\\woodardcurran.net\shared\Projects\RMC\S\1149 SANTA CLARA\0011096 Hydraulic Modeling Support July 2018\G. GIS\MXD\Figure 3-6.mxd



Addendum to  
City of Santa Clara  
Sanitary Sewer Master Plan

**Figure 3-5**  
**Alternative 2 Sewer Capacity  
Improvement**

### Alternative 3 – Calabazas Creek Trunk Upsize and Relocation of Existing 27-Inch Storm Drain

This alternative would upsize the deficient sections of the Calabazas Creek Trunk including the 19-inch constriction. **Figure 3-6** shows a plan view of the alternative. The alternative would relocate the existing 27-inch RCP storm drain. A new storm drain drop manhole would be constructed at the intersection to re-route the storm drain west to discharge into the creek through the culvert wall. **Figure 3-7** and **Figure 3-8** demonstrate examples of the potential new drop storm drain manhole. The storm drain would be sized to be able to convey the stormwater into the creek. This alternative is essentially the same as Alternative 1 except it would also include modifications to the storm drain and associated creek outfall structure.

This alternative would eliminate the Calabazas Creek trunk deficiency. However, as with Alternative 1, the original upsized segments were limited to the upstream segments from manhole S62-37 to new P6-Alt manhole SSMH9 located immediately upstream of manhole S62-10. However, these upsized segments would increase the flow conveyed, which caused a new deficiency further downstream between new manhole S72-32 and new P6-Alt manhole SSMH1 (located in the vicinity of the abandoned manhole S72-20). A profile of the hydraulic conditions of this original alternative is included in Appendix C (Figure C-7). As in Alternative 1, to alleviate this new downstream deficiency, two additional sewer segments (between manhole SSMH1 and S72-12) would be upsized from a 30- to a 36-inch sewer. The updated profile of the final Alternative 3 is included in Appendix C (Figure C-8). It should be noted that the existing slope of these two new upsized sewers (0.07 to 0.14 percent) is very flat. Increasing the slope of the two segments would increase the capacity and reduce the upsized diameter required. However, utility conflicts may make this slope improvement infeasible. Potential utility conflicts should be evaluated during the design phase of this project. As in Alternative 1, the sewers downstream of the siphon (between manhole S72-11 and S82-9) would be surcharged due to throttle conditions. Although the surcharge level would not exceed 1 foot above crown (maximum surcharge level is 2.7 inches above pipe crown at manhole S72-8), these sewers are shallow, as they have less than six (6) feet of cover. As a result, they would also be considered deficient (per the City's deficiency criteria discussed in Section 2). The minimum freeboard would be approximately 3.3 ft (at manhole S82-10). It is recommended the City survey the manholes along this section of the Calabazas Creek trunk (all manholes between and including S72-17 and S73-6) to confirm the pipe cover and resulting potential deficiency. Should the shallow pipe cover be confirmed, the proposed project would have to be extended to include these downstream segments.

This alternative would require close coordination with Santa Clara Valley Water District (Valley Water). The District would have to approve the relocation of the 27-inch storm drain outlet and modifications to the existing culvert structure. Because of the added regulatory and coordination complexity, this alternative was deemed less viable than the similar Alternative 1.

**Legend**

- Modeled Sewer Manhole
- Modeled Sewer
- Proposed Capacity Improvement Project
- 36-in (24-in) Req'd Diameter (Ex. Diameter)



New 27-in SD discharges to creek

New Drop SDMH

Note: location of SD approximate. Exact location to be field verified prior to design phase.

Addendum to  
City of Santa Clara 2016  
Sanitary Sewer Master Plan

**Figure 3-6**  
Alternative 3 Sewer Capacity  
Improvement

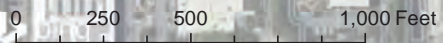
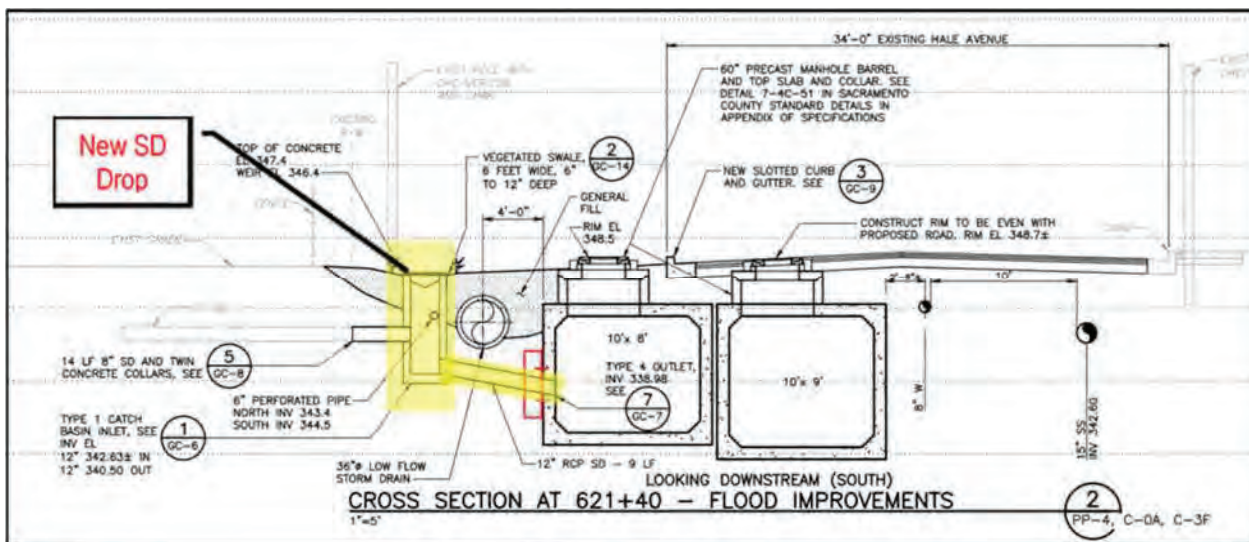




Figure 3-8: Cross Section Example of Potential Drop SD Manhole and 27-inch SD



#### Alternative 4 – Diversion to El Camino Real (ECR) and Bowers Avenue

Alternative 4 would divert flow away from the Calabazas Creek trunk at El Camino Real (ECR) to relieve the capacity deficiency in the trunk. The current connection at manhole S32-102 (located in the southeast corner of the ECR and Calabazas Boulevard intersection) would be eliminated such that all ECR flow would continue east on ECR to eventually discharge to the Bowers Avenue trunk (at manhole S33-5). The alternative would upsize the existing 10-inch to a 15-inch sewer along ECR (from the Calabazas Boulevard to the Bowers Avenue intersections). Figure 3-9 shows a plan view of the initial alternative.

Figure 3-10 illustrates the performance of the system under this initial alternative, including where deficiencies (i.e., surcharge conditions exceed the deficiency criteria outlined in Section 2.2) would occur. As shown, the initial alternative would relieve most of the deficiency along the Calabazas Creek trunk, although a small segment would still be deficient (from manhole S62-39 to S62-37). However, the added flow diverted away from the Calabazas Creek trunk and into the new upsized ECR trunk (1.6 mgd) would cause a deficiency in the downstream segments of the Bowers Avenue trunk. Profiles of the hydraulic conditions of this initial alternative are included in Appendix C. Figure C-9 shows a profile view of the upsized 15-inch sewer along ECR. Figures C-10 and C-11 show a profile of the Calabazas Creek trunk. As shown, the deficiency occurs at manhole S62-37 where the surcharge level (1.06 feet above pipe crown) barely exceeds the 1 foot above pipe crown deficiency criteria. The deficiency is again due to backwater surcharge from the 19-inch constriction located immediately downstream of manhole S62-37. Figure C-12 shows a profile of the Bowers Avenue trunk including the deficient segments. The maximum surcharge level (1.9 ft above pipe crown) and minimum freeboard (7.5 ft) would occur at manhole S53-22. Figure C-13 shows a profile of the downstream segments of the Bowers Avenue trunk as it transitions into the GAP east trunk. As shown, these downstream sewers would also be flowing full, and several segments would be surcharged due to throttle conditions.

Construction along the busy ECR would be challenging. In addition, the alternative would cause more severe surcharge conditions in the downstream segments of the Bowers Avenue trunk. To address the deficient Bowers Avenue trunk, the Alternative 4 improvements would have to be extended to include upsizing approximately 2,590 linear feet (LF) of 27 to 30-inch pipe from manhole S53-34 to S63-20. A profile view of the Bowers Avenue trunk showing the proposed improvements and resulting hydraulic conditions is shown on Figure C-14. To address the one

deficient segment along the Calabazas Creek trunk, a new 18-inch sewer could be constructed parallel to the existing 19-inch constriction. Alternately, depending on the condition of the existing 19-inch segment, it could be replaced with two new parallel 18-inch sewers. These two configurations were shown on Figure 3-3 and Figure 3-4, respectively. A profile view of the Calabazas Creek trunk showing the proposed improvements and resulting hydraulic conditions is shown on Figure C-15 and Figure C-16. **Figure 3-11** shows a plan view of the ultimate Alternative 4 including all required improvements along the Calabazas Creek, ECR and Bowers Avenue.

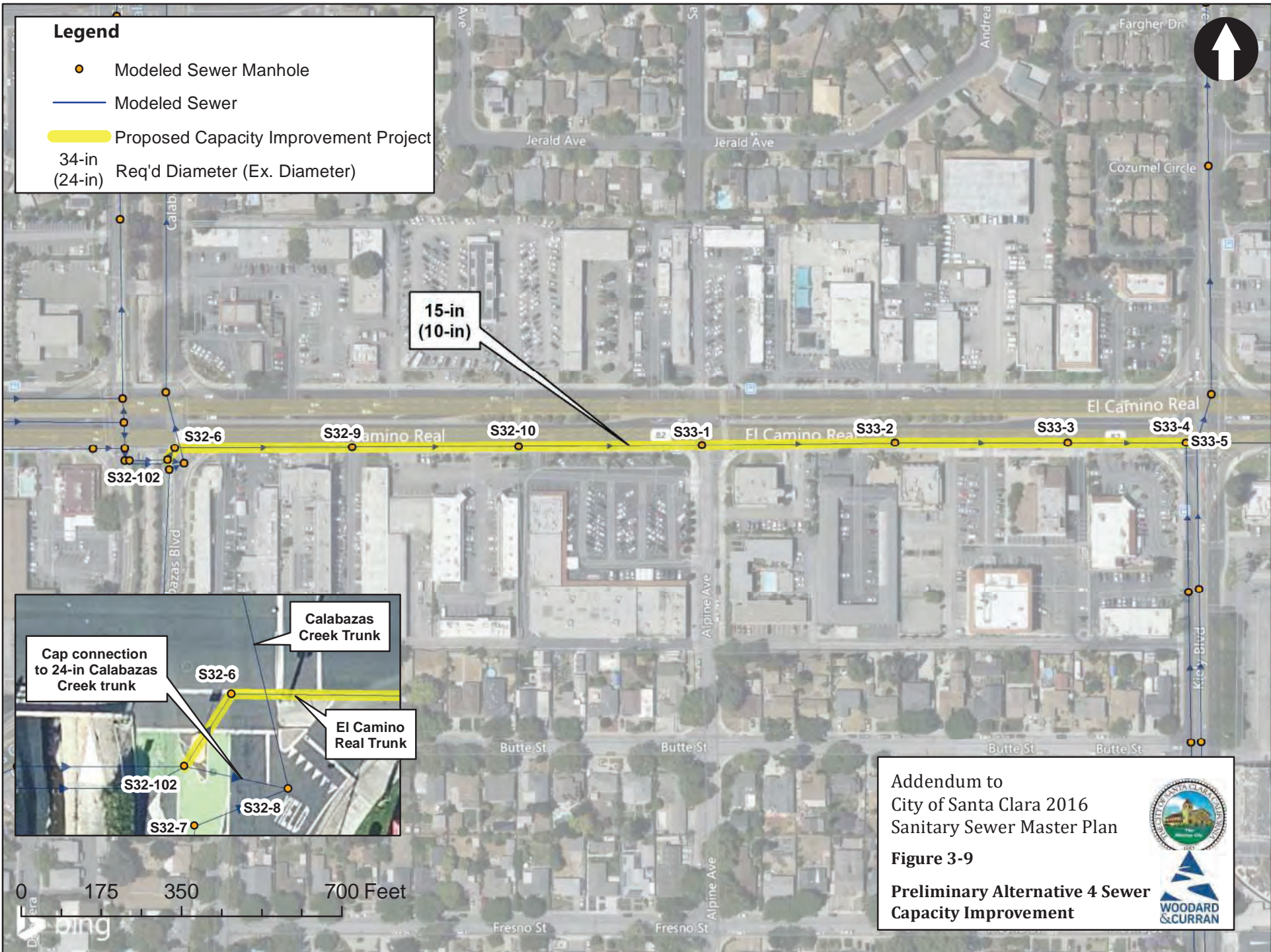
Figure C-17 shows a profile of the GAP west trunk. Because the GAP trunks are interconnected, this alternative would still result in surcharge conditions and deficiencies along the GAP west trunk.

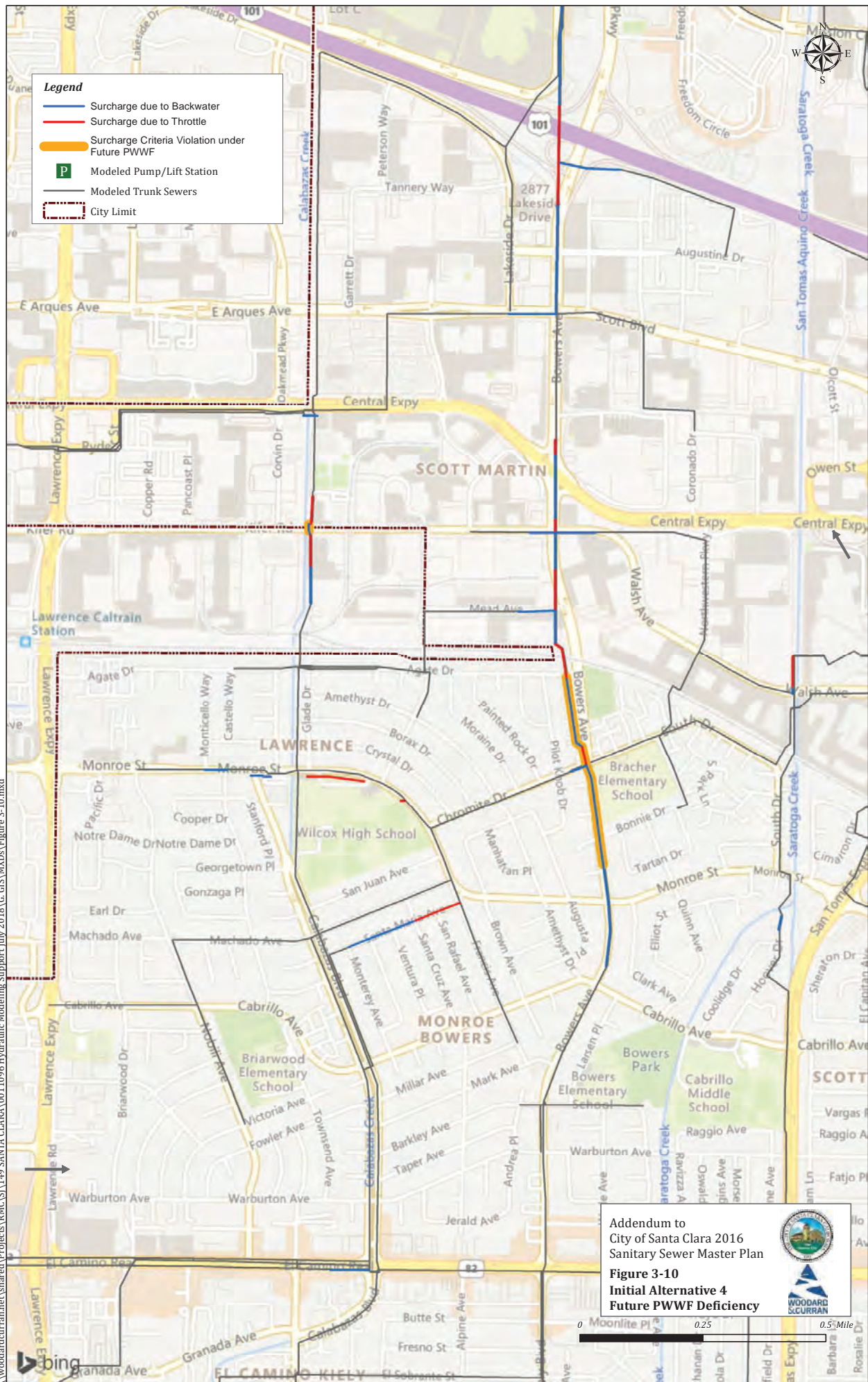
Additional sub-alternatives to Alternative 4 could include diverting flow away from the Calabazas Creek trunk and into the Bowers Avenue trunk through a new sewer along Warburton Avenue or Barkley Avenue. Since the Calabazas Creek trunk is approximately 9 feet higher than the Bowers Avenue trunk, there would likely be enough fall to provide the minimum slope required on the new West to East (W-E) trunk along Warburton Avenue or Barkley Avenue.

These “sub-alternatives to Alternative 4” are also shown on Figure 3-11. These new alignments would have several benefits including:

- 1) Avoiding construction along ECR. ECR is already a very busy road with numerous utilities and heavy traffic usage. Construction would also require coordination and permitting from Caltrans.
- 2) Avoiding modification to the existing siphons under the Calabazas Creek at manhole S32-102. Alternative 4 would require some modifications at this manhole to plug the existing connection to the Calabazas Creek trunk.
- 3) Ability to divert more than the 1.6 mgd PWWF assumed to be diverted under Alternative 4. Diverting more flow away from the Calabazas Creek trunk would completely address the downstream deficiency at the 19-inch constriction and possibly the surcharge conditions in the adjacent lined sewers. However, the additional flow diverted into the Bowers Avenue trunk would likely result in additional improvements required (in addition to the Alternative 4 Bowers Avenue trunk improvements). The sub-alternatives would have to be modeled in order to identify the PWWF diverted into the Bowers Avenue trunk and the resulting improvements required.
- 4) Added flexibility in the sewer system to divert flow away from a major North to South (N-S) trunk (Calabazas Creek trunk) into another major N-S trunk (Bowers Avenue trunk) via a new West to East (W-E) trunk.

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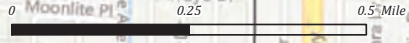




**Legend**

- Surcharge due to Backwater
- Surcharge due to Throttle
- Surcharge Criteria Violation under Future PWWF
- P Modeled Pump/Lift Station
- Modeled Trunk Sewers
- City Limit

Addendum to  
 City of Santa Clara  
 2016 Sanitary Sewer Master Plan  
**Figure 3-10**  
**Initial Alternative 4**  
**Future PWWF Deficiency**



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New 18-in parallel pipe

30-in  
(27-in)



15-in  
(10-in)

**Legend**

- Modeled Sewer Manhole
- Modeled Sewer
- Proposed Capacity Improvement Project  
36-in Req'd Diameter (Ex. Diameter)
- - - Warburton Alternate Diversion Alignment
- - - Barkley Alternate Diversion Alignment

Addendum to  
City of Santa Clara  
Sanitary Sewer Master Plan

**Figure 3-11**  
Alternative 4 Sewer Capacity  
Improvement

## Great America Parkway (GAP) West Trunk

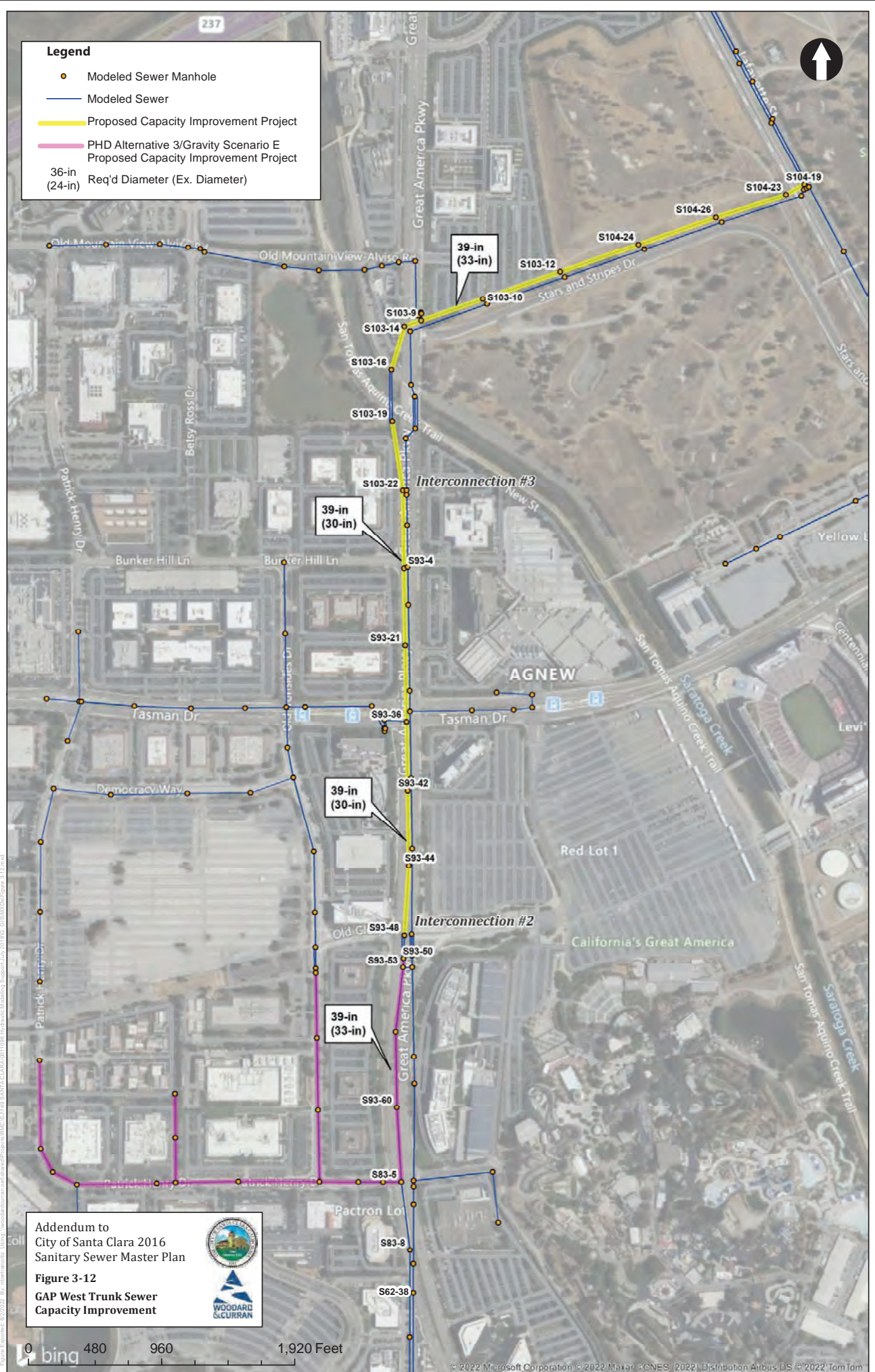
Except for Alternative 2, all remaining Calabazas Creek trunk alternatives include predicted deficiencies along the GAP West Trunk. The deficiencies are due to a combination of increased flows in the trunk due to recent large development proposals as well as the effect of the proposed lining along certain segments of the West trunk. It should be noted that the GAP west trunk was shown to experience throttle and backwater surcharge conditions (although not deficient) prior to modeling the proposed GAP lining project (as shown on Figure 4-3 of the 2016 Master Plan Update). Profile views of the GAP West and East trunks assuming the Calabazas Creek trunk Alternative 1 is constructed are shown in Figure C-18 and C-19, respectively. As shown on the profiles, the GAP West trunk would mostly be surcharged due to throttle conditions from manhole S93-48 to S104-24. The GAP East trunk would also show throttle surcharge along similar segments from manhole S93-49 to S103-11. However, unlike in the GAP West trunk, the surcharge in the East trunk would not exceed the City's deficiency criteria. It should be noted that the GAP East trunk is larger (39- and 42-inch) than the GAP West trunk (30- and 33-inch). In addition, the GAP East trunk invert elevations are slightly higher than the GAP West trunk. As a result, the GAP West trunk will always experience higher surcharge levels than the GAP East trunk downstream of Interconnection #2.

The proposed GAP West trunk improvements would be in addition to those proposed as part of the PHD Alternative 3/Gravity Scenario E project (as detailed in the PHD Evaluation of Capacity Improvement Project Alternatives TM included in Appendix A). The proposed improvements would include upsizing approximately 5,690 LF of 30-in (29.2-in if CIPP lined) and 33-in (31.9-in if CIPP lined) sewer to a 39-inch sewer. A plan view of the proposed GAP West Trunk project is shown in **Figure 3-12**. Figure C-20 (in Appendix C) shows a profile view of the upsized 39-inch GAP West trunk. Since the GAP trunk are interconnected, improvements in the GAP West trunk will also affect the hydraulic conditions in the GAP East trunk. Figure C-21 shows a profile of the GAP East trunk. Lowering the hydraulic grade line in the West trunk also lowers it in the East trunk and as a result, the trunk gains some additional capacity (new d/D downstream of Interconnection #2 ranges from 0.73 to 0.94). Lowering the hydraulic grade line in the West Trunk also has the benefit of lowering the level of surcharge in the PHD Alternative 3/Gravity Scenario E improvements along PHD and Old Ironside Drive. There is still backwater surcharge in these sewers. However, the maximum surcharge level (at the connecting manhole S83-5 with the GAP West Trunk) is 0.8 feet (below the 1 foot above pipe crown deficiency criteria). Profiles of the GAP West trunk improvements and the GAP East trunk assuming the Calabazas Creek trunk Alternative 4 is constructed are shown in Figures C-22 and C-23, respectively.

**Legend**


- Modeled Sewer Manhole
- Modeled Sewer
- Proposed Capacity Improvement Project
- PHD Alternative 3/Gravity Scenario E Proposed Capacity Improvement Project

36-in (24-in) Req'd Diameter (Ex. Diameter)



Addendum to  
City of Santa Clara 2016  
Sanitary Sewer Master Plan

**Figure 3-12**  
GAP West Trunk Sewer  
Capacity Improvement



### 3.3 Alternatives for Further Analysis

Of the four alternatives analyzed, Alternatives 1, 2, and 4 were selected for further analysis. The three alternatives would address the Calabazas Creek trunk deficiency while adhering to the City's approach to future collection system capacity. Alternative 2 would divert flow away from the Calabazas Creek trunk, thereby maximizing use of existing system capacity by utilizing capacity in the Machado Avenue, Chromite Drive, and Walsh Avenue trunks (although these other trunks might otherwise be used/needed in the future for as-yet-unidentified future development). Alternative 4 would also divert flow away from the Calabazas Creek trunk, although it would require significant improvements along the ECR and Bowers Avenue trunks. This alternative would become more viable should the proposed capacity improvements coincide with the need for rehabilitation due to pipe condition, especially along the Bowers Avenue trunk. Alternative 1 would upsize the Calabazas Creek trunk and maintain capacity in these other trunks, thereby retaining flexibility to convey additional future flows.

Alternative 2 would be a much smaller construction project and would give the City time to implement capacity improvements in the future. However, Alternative 1 would better retain the capacity in the other trunks for additional future flows. Alternative 4 would be a significant capital investment, and construction would need to occur along busy thoroughfares (ECR and Bowers Avenue) (although the sub-alternatives described previously could eliminate the need for construction along ECR). However, as noted above, Alternative 4 may be more viable should the Bowers Avenue trunk sewer require rehabilitation (due to pipe condition and/or age) and it would add capacity to one of the City's major North-to-South trunks.

The recommended solution will be reviewed and refined as part of the City's upcoming Master Plan Update. The Master Plan Update will reflect updated existing and future loads including updates to future flows of parcels with entitlement requirements (e.g., Agilent property), CuSD flows, and updates to the CMC Basin I/I estimate, which could impact results of Alternative 2 (by modifying predicted PWWF in the Chromite Drive/Machado Avenue trunks).

For the purposes of consolidating these three alternatives into the City's overall list of capacity improvement projects, Alternative 1 was renamed to project P7 (Calabazas Creek Trunk Upsize), Alternative 2 was renamed to project P7-Alt 1 (Calabazas Creek Trunk Diversion to Machado Avenue and Chromite Drive), and Alternative 4 was renamed to project P7-Alt 2 (Diversion to El Camino Real and Bowers Avenue). The GAP West Trunk improvements were named project P8 (Great America Parkway West Trunk Improvements).

#### 3.3.1 Cost Estimates

Planning level cost estimates were developed for the selected capacity improvement project alternatives and GAP West Trunk Improvements. The costs are conceptual level estimates, considered to have an estimated accuracy range of -30 to +50 percent, suitable for use for budget forecasting, capital improvement program development, and project evaluations, with the understanding that refinements to project details and costs would be necessary as projects proceed to design and construction. Material and labor price fluctuations are likely to affect project cost at the time of scheduled construction.

The cost index used for escalation of past bid prices is the Engineering News Records Construction Cost Index (ENR CCI) for the San Francisco area as of April 2022 (ENR CCI of 15104). It should be noted there have been recent significant increases in the ENR CCI due to recent inflation.

Cost criteria include baseline construction costs for gravity trunk sewers using pipe open-cut construction. Unit costs for gravity trunk sewers vary with pipe diameter and depth. Baseline costs include all standard materials, equipment, and labor to construct a pipeline project, except for site-specific items (e.g., possible dewatering and shoring needs).

Allowances of 10 percent of baseline construction costs were provided for remove and replace factor, traffic control, and bypass pumping (as needed). Traffic control for construction along major roadways has an allowance of 20 percent of baseline construction costs. The total construction cost for each project also includes an allowance for mobilization/demobilization (5 percent of subtotal), plus an additional allowance for contingencies and unknown conditions (30 percent of construction cost subtotal). Additional cost items include an allowance for engineering, administration, and legal of 25 percent.

At the City's request, the estimated capital improvement costs for all other capacity improvement projects (as presented in the 2016 Master Plan) were updated to the April 2022 ENR CCI.

**Table 3-1** presents the planning-level cost estimate for the selected alternatives, GAP West Trunk Improvements, as well as the updated costs of the 2016 Master Plan capacity improvement projects. The itemized cost estimate for each project is detailed in the individual project information sheets included in Appendix D. Note that all costs presented in this Master Plan Addendum represent April 2022 costs for the San Francisco Area and are not escalated for future years. The costs for the GAP West Trunk Improvements do not include the improvements associated with the PHD Alternative 3/Gravity Scenario E project.

**Table 3-1: Updated Capacity Improvement Projects Planning-Level Cost Estimates**

Project ID	Priority	Project Name	U/S MHID	D/S MHID	Description	Est. Capital Improvement Cost <sup>1</sup>
P1	1	Westside Lift Station Adjustment	N/A	N/A	Adjust the set points for the pumps to a lower elevation to eliminate unnecessary backups in the influent line.	Project Complete
P2	2	Tasman Lift Station Adjustment	N/A	N/A	Adjust the set points for the pumps to a lower elevation to eliminate unnecessary backups in the influent line.	Project Complete
P3	2	Cabrillo Avenue Sewer Improvement	S41-13	S41-20	Upsize 1,600 feet of 8-inch line in Cabrillo Ave. between Lawrence Expressway and Nobili Ave. to a 12-inch line.	\$2,390,000
P4	3	Tasman Drive Sewer Improvement	S93-24	S93-35	Upsize 600 feet of 12-inch line in Tasman Dr. between Old Ironsides Dr. and Great America Pkwy. to a 15-inch line.	\$832,000
P5	4	Sewer Diversion at Los Padres Boulevard and Saratoga Avenue	S25-85	S25-85	Install a weir in manhole S25-85 located in the intersection of Padres Blvd. and Saratoga Ave. to divert flow northwest to the existing 12-in line in Los Padres Blvd.	\$94,000
P6	4	Sewer Diversion at Calabazas Boulevard and Machado Avenue	U/S of S52-93	S52-120	Install a new manhole upstream of S52-93 in the intersection of Calabazas Blvd. and Machado Ave., and install a new 15-inch high-level diversion line (approximately 200 feet) to divert excess flow from the existing 24-inch line in Calabazas Blvd. to the 21-inch line in Machado Ave. The diversion line should be about 6 inches higher than the invert of the 24-inch line.	Project Replaced by P7-Alt 1
P6-Alt.	4	Calabazas Creek Sewer Improvement	S62-31	S72-20	Upsize 1,800 feet of 24-inch line next to Calabazas Creek between Kifer Rd. and Scott Blvd. to a 27-inch line.	Project Complete
P7		Calabazas Creek Trunk Upsize and Installation of Parallel 18-Inch Sewer Under the Existing 27-Inch Storm Drain	S62-37	S72-12	Upsize 2,400 feet of CIPP lined 22.8-inch sewer, 24, 27, and 30-inch sewer next to Calabazas Creek between Kifer Road and downstream of Scott Boulevard to a 27, and 36-inch sewer. Install approximately 20 feet of 18-inch sewer between existing manholes S62-37 and S62-38 under the existing 27-inch storm drain line.	\$4,170,000
P7-Alt 1		Calabazas Creek Trunk Diversion to Machado Avenue and Chromite Drive	U/S of S52-93	S52-119	Install a new manhole upstream of existing manhole S52-93 at the intersection of Calabazas Boulevard and Machado Avenue. Install a weir or high-level diversion sewer (approximately 120 feet) to divert excess flow from the existing 24-inch Calabazas Creek trunk to the 21-inch Machado Avenue trunk. The diversion line should be approximately 9 inches higher than the invert of the 24-inch trunk.	\$315,000

Project ID	Priority	Project Name	U/S MHID	D/S MHID	Description	Est. Capital Improvement Cost <sup>1</sup>
P7-Alt 2		Diversion to El Camino Real (ECR) and Bowers Avenue	S32-102 S53-34	S33-5 S63-20	Upsize 1,800 feet of 10-inch line along ECR between Calabazas Boulevard and Bowers Avenue to a 15-inch. Upsize 2,600 feet of 27-inch along Bowers Avenue between Chromite Drive and Kifer Road to a 30-inch. Install approximately 20 feet of 18-inch sewer on the Calabazas Creek Trunk between existing manholes S62-37 and S62-38 under the existing 27-inch storm drain line.	\$7,008,000
P8 <sup>2</sup>		Great America Parkway West Trunk Improvements	S93-48	S104-19	Upsize 5,700 feet of 30-inch line along Great America Parkway between Old Glory Lane and Lafayette Street to a 39-inch. Improvements exclude the existing siphons.	\$12,993,000
<b>Estimated Total Cost for Projects P3, P4, P5, P7 and P8:</b> <b>Estimated Total Cost for Projects P3, P4, P5, P7-Alt 1 and P8:</b> <b>Estimated Total Cost for Projects P3, P4, P5, P7-Alt 2 and P8:</b>						<b>\$20,479,000</b> <b>\$16,624,000</b> <b>\$23,317,000</b>
E1 <sup>3</sup>	N/A	Tracy Drive Sewer Improvement	S10-77	S22-51	Upsize approximately 6,600 feet of 10- to 12-inch line in Tracy Dr. and Pomeroy Ave. to a 15-inch line; install a new 15-inch line between manholes S22-55 and S22-46 in Pomeroy Ave. and Homestead Rd. (approximately 50 feet) to divert flow into Homestead Rd. and upsize approximately 1,400 feet of 18-inch line downstream to a 21-inch.	\$10,693,000
<b>Estimated Total Cost for All Projects (assuming P7):</b> <b>Estimated Total Cost for All Projects (assuming P7-Alt 1):</b> <b>Estimated Total Cost for All Projects (assuming P7-Alt 2):</b>						<b>\$31,172,000</b> <b>\$27,317,000</b> <b>\$34,010,000</b>

1. All costs are presented in 2022 dollars and include 30 percent allowance for contingencies for unknown conditions and 25 percent for engineering, administration, and legal costs.
2. Project P8 costs do not include improvements associated with the PHD Alternative 3/Gravity Scenario E project.
3. Project E1 addresses the potential capacity deficiency when parcel APN 316-17-018 begins to discharge its entitled flow of 0.95 mgd into the City's system.

## **Appendix A**

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**ABBREVIATIONS**

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
AB	AGGREGATE BASE	MA	MATCH
AC	ASPHALT CONCRETE	MAX	MAXIMUM
ADA	AMERICAN DISABILITY ACT	MIN	MINIMUM
AE	ACCESS EASEMENT	NTS	NOT TO SCALE
APPROX	APPROXIMATE	OD	OUTSIDE DIAMETER
AVE	AVENUE	PAE	PRIVATE ACCESS EASEMENT
BLDG	BUILDING	PL P/L	PROPERTY LINE
BWG	BACK OF WALK	PM	POINT ON CURVE
CB	CATCH BASIN	PRC	POINT OF REVERSE CURVE
CD	CONSTRUCTION DOCUMENT	PR-PROP	PROPOSED
C&G	CURB AND GUTTER	PSDE	PRIVATE STORM DRAIN EASEMENT
CL/C/L	CENTERLINE	PT	POINT
CONC/CC	CONCRETE	PUE	PUBLIC UTILITY EASEMENT
COUSD	CITY OF SANTA CLARA STANDARD DETAILS	ROP	ROUND OVER CURVE R.P.S.E.
DV	DETECTOR CHECK VALVE	ROM	ROOM ELEVATION
DIA	DIAMETER	R/W	RIGHT OF WAY
DW	DOMESTIC WATER	S	SLOPE
D/W/DWY	DRIVEWAY	SD	STORM DRAIN
EB	ELECTRICAL BOX	SDCB	STORM DRAIN CATCH BASIN
EMUD	EAST BAY MUNICIPAL UTILITY DISTRICT	SDCI	STORM DRAIN CURB INLET
EG	EXISTING GRADE	SDOI	STORM DRAIN DROP INLET
ELEV.	ELEVATION	SDE	PUBLIC STORM DRAIN EASEMENT
EP	EDGE OF PAVEMENT	SOBH	STORM DRAIN MANHOLE
EVAE	EMERGENCY VEHICLE ACCESS EASEMENT	SDC	SIGNAL INTERCONNECT CONDUIT
EX-EXIST.(E)	EXISTING	SL	STREET LIGHT
(F)	FUTURE	SS	SANITARY SEWER
FCF/C	FACE OF CURB	SSCO	SANITARY SEWER LATERAL CLEANOUT
FG	FINISHED FLOOR ELEVATION	SSE	SANITARY SEWER EASEMENT
FG	FINISHED GRADE	SSMH	SANITARY SEWER MANHOLE
PH	FIRE GB GRADE BREAK	SFA	STATION
GC	GRADE CURB	STD	STANDARD
FL	FLOW LINE	SVP	SILICON VALLEY POWER
FW	FINISHED PAVEMENT	SW	SEWER
FT	FIRE PROTECTION WATER	SWPPP	STORM WATER POLLUTION PREVENTION PLAN
FS	FIRE SERVICE	TC	TOP OF CURB
FS	FINISHED SURFACE	TEMP	TEMPORARY
FT	FEET	TOP	TOP OF FOOTING
GR	GRATE	TG	TOP OF GRADE
GR/GRND	GRADING	THRU	THROUGH
HORIZ_H	HORIZONTAL	TOP	TOP OF PAVEMENT
HP	HIGH POINT	TS	TOP OF SLOPE
IMPROV.	IMPROVEMENTS	TW	TOP OF WALL
INV	INVERT	TYP	TYPICAL
IRR	IRRIGATION	VTA	SANTA CLARA VALLEY TRANSPORTATION AUTHORITY
JP	JOINT POLE	W/L	WATERLINE
JT	JOINT TRENCH	WLE	WATER LINE EASEMENT
LT	LENGTH	WM	WATER METER
LT	LEFT	WS	WATER SERVICE
LG	LINEAR FEET	WV	WATER VALVE
LG	LIP OF GUTTER		

**LEGEND**

	PROPOSED	EXISTING
PROPERTY LINE	---	---
CENTERLINE LINE	---	---
CONTOUR LINE	---	---
STORM DRAIN MAIN	---	---
SANITARY SEWER MAIN	---	---
WATER MAIN	---	---
JOINT TRENCH	---	---
FIBER OPTIC	---	---
SANITARY SEWER MANHOLE PER DETAIL DS-1, SHEET CS.1	⊙	⊙
STORM DRAIN MANHOLE	⊙	⊙
PROTECT TREE	⊙	⊙
REMOVE TREE	X	X
REMOVE EXISTING UTILITIES	X	X
UNDERGROUND ELECTRICAL DUCT BANK	---	---

# CITY OF SANTA CLARA

## SANITARY SEWER IMPROVEMENT PROJECT

### SCOTT BOULEVARD TO KIFER ROAD

TOTAL PROJECT LENGTH APPROXIMATELY 0.4 MILES  
SANTA CLARA COUNTY, CALIFORNIA

**RECORD DRAWINGS**

PROJECT NO. FP 16746

DATE ACCEPTED 06/22/2020

INSPECTOR Allen Nichols

REVISIONS BY Prestone Pipeline DATE 06/22/2020



**BENCHMARK**

- ⊕ CITY OF SANTA CLARA BENCHMARK (E-1 ELEV. = 48.48' (NAVD 88-2011 CITY DATUM) FOUND AT WALSH AVE & CALABAZAS CREEK; TOP OF SCVWD BRASS DISK (BM 444), 7' SIDEWALK AT NE CORNER OF BRIDGE.
- ⊕ SCVWD BRASS DISK BM 1822 ELEV. = 6.00' (NAVD 88) FOUND ON THE TOP NW HEADWALL OF CALABAZAS CREEK AT ARQUES AVE

**GENERAL NOTES**

- CONTRACTOR SHALL COMPLY WITH THE CITY'S SOLID WASTE AND RECYCLING ORDINANCE.
- CONTRACTOR SHALL COMPLY WITH THE CITY'S CONSTRUCTION & DEMOLITION DEBRIS RECYCLING MODEL ORDINANCE.
- WORKING HOURS FOR SCOTT BOULEVARD: 9:00 PM-5:00 AM EXCLUDING HOLIDAYS. MUST MAINTAIN ONE TRAVEL LANE IN EACH DIRECTION.
- WORKING HOURS FOR CENTRAL EXPRESSWAY: 9:00 PM-5:00 AM EXCLUDING HOLIDAYS. MUST MAINTAIN ONE TRAVEL LANE IN EACH DIRECTION.

**SHEET INDEX**

SHT	DWG NO.	SHEET NAME
1	C1.0	TITLE SHEET
2	C1.1	GENERAL NOTES
3-4	C2.0-2.1	PLAN AND PROFILE
5	C2.2	SIGN MODIFICATION
6	C3.0	ENLARGED VIEW
7	C3.1	PROJECT AND CITY DETAILS
8	C3.2	COUNTY DETAILS

**PROJECT CONTACTS**

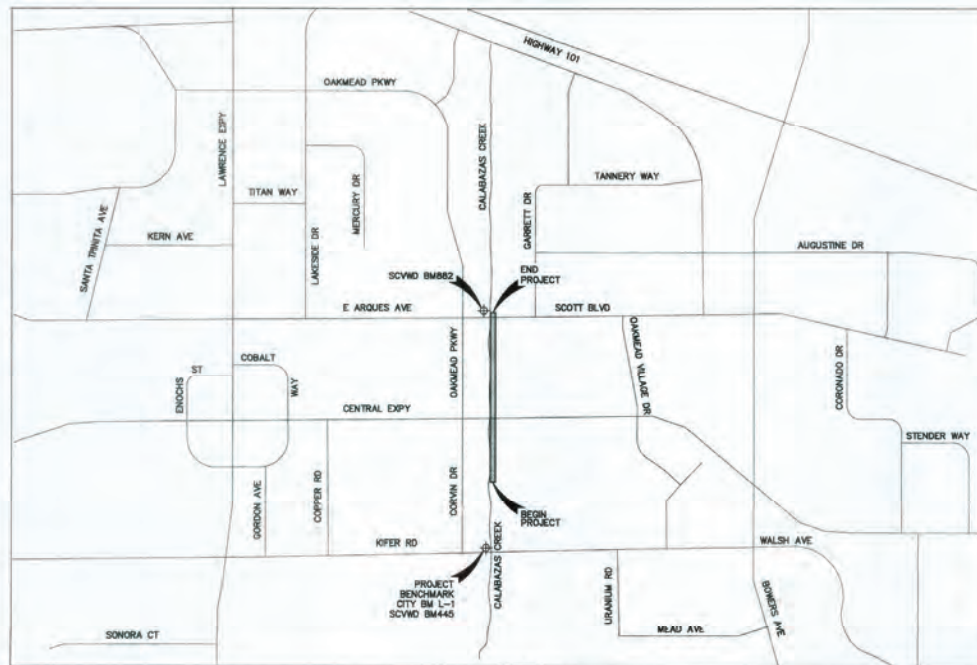
**CIVIL ENGINEER/SURVEYOR:** BKF ENGINEERS  
1730 N. FIRST STREET, SUITE 600  
SAN JOSE, CA 95112  
CONTACT: PATRICK CHAN  
PHONE: (408) 497-9100

**WATER/SEWER SERVICE:** SANTA CLARA WATER & SEWER UTILITIES  
1500 WARBURTON AVENUE  
SANTA CLARA, CA 95050  
PHONE: (408) 615-2000

CITY APPROVAL	
APPROVED:	
MICHAEL JACK LIW ASSISTANT DIRECTOR OF PUBLIC WORKS/CITY ENGINEER CITY OF SANTA CLARA	
PUBLIC WORKS DEPARTMENT	DATE 9/6/19
REVIEWED:	
LAND AND PROPERTY DEVELOPMENT DIVISION	DATE 9/5/19
ELECTRIC DEPARTMENT	DATE 9/5/19
STREET MAINTENANCE & AUTOMOTIVE SERVICES DIVISION	DATE 9/10/19
TRAFFIC ENGINEERING DIVISION	DATE 9/10/19
WATER AND SEWER UTILITIES DEPARTMENT	DATE

NOTE: THIS APPROVAL DOES NOT MEAN THE CITY ENGINEER NOR THE CITY CAN ACCEPT ANY PART OR PARTS OF THE WORK DONE UNDER OR IN CONJUNCTION WITH THESE PLANS THAT HAVE NOT BEEN PROPERLY INDICATED.

UNAUTHORIZED CHANGES & USES: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.



**LOCATION MAP**  
NTS

AS-BUILTS for the CALABAZAS CREEK SEWER UPGRADE PROJECT submitted by PRESTON PIPELINES - 06.19.20

**ENGINEER'S STATEMENT**

THESE PLANS HAVE BEEN PREPARED BY ME OR UNDER MY DIRECTION IN ACCORDANCE WITH STANDARD ENGINEERING PRACTICE.

PATRICK CHAN  
 CIVIL ENGINEER  
 BKF ENGINEERS  
 DATE 9/6/19



SCOTT BOULEVARD TO KIFER ROAD  
 SANITARY SEWER IMPROVEMENT PLANS  
 TITLE SHEET  
 CITY OF SANTA CLARA    SANTA CLARA COUNTY    STATE OF CALIFORNIA

City/County	Resubmission
No.	
Date	
Scale	
Drawn By	
Checked By	
Approval/PC	

Drawing Number:  
**C1.0**  
1 of 8

Record Drawings

CSC TRACING NO. 12,175-D



Know what's below.  
Call before you dig.

**BKF NOTES**

- I. GENERAL NOTES
  1. ARRANGE FOR REQUIRED INSPECTIONS BY CITY ENGINEER. NO DELAY OF WORK CLAIM WILL BE ALLOWED DUE TO CONTRACTOR'S FAILURE TO ARRANGE FOR REQUIRED CITY INSPECTIONS IN ADVANCE. PROVIDE NOTICE TO CITY ENGINEER A MINIMUM OF 2 WORKING DAYS IN ADVANCE OF REQUIRED INSPECTIONS.
  2. REVISIONS TO THESE PLANS MUST BE REVIEWED AND APPROVED IN WRITING BY ENGINEER WHO WILL OBTAIN APPROVAL FROM CITY ENGINEER PRIOR TO CONSTRUCTION OF AFFECTED ITEMS. REVISIONS SHALL BE ACCURATELY SHOWN ON REVISED PLANS WHICH SHALL BE REVIEWED AND APPROVED BY THE ENGINEER AND CITY ENGINEER PRIOR TO INSTALLATION OF THE IMPROVEMENTS.
  3. REPLACE OR REPAIR EXISTING UTILITIES, IMPROVEMENTS OR FEATURES DAMAGED, REMOVED OR DISTURBED BY CONSTRUCTION TO THEIR ORIGINAL CONDITION, WHETHER SHOWN ON PLANS OR NOT.
  4. REPLACE STREET MONUMENTS, LOT CORNERS PIPES AND OTHER PERMANENT MONUMENTS DISTURBED DURING CONSTRUCTION. MONUMENTS SHALL BE SET BY A SURVEYOR REGISTERED IN THE STATE OF CALIFORNIA (SEE CITY'S GENERAL NOTES NO. 11 FOR CORNER RECORD REQUIREMENTS).
  5. PREPARE VEHICULAR TRAFFIC CONTROL PLAN AND OBTAIN APPROVAL FROM CITY ENGINEER BEFORE COMMENCING WORK. PROVIDE FLAG MEN, CONES, BARRICADES AND OTHER TRAFFIC CONTROL MEASURES NECESSARY TO PROVIDE SAFE LANE CLOSURE IN CONFORMANCE WITH CALTRANS STANDARDS AND AS APPROVED BY CITY ENGINEER.
  6. PEDESTRIAN TRAFFIC CONTROL TO BE PROVIDED WHEN EXISTING SIDEWALKS CANNOT BE MAINTAINED DURING CONSTRUCTION.
  7. DO NOT LEAVE TRENCHES OPEN OVERNIGHT IN EXISTING STREET AREAS. BACKFILL OR COVER OPEN TRENCHES AT THE END OF WORK EVERY WORK DAY.
  8. IMPLEMENT CONSTRUCTION DUST CONTROL MEASURES TO REDUCE PARTICULATE GENERATION TO A LESS THAN SIGNIFICANT LEVEL. PROVIDE DUST CONTROL IN CONFORMANCE WITH BAY AREA AIR QUALITY MANAGEMENT DISTRICT MINIMUM REQUIREMENTS. IMPLEMENT THE FOLLOWING CONSTRUCTION PRACTICES EXCEPT WHEN IT IS RAINING.
    - A. WATER ACTIVE EXTERIOR SOIL AREAS AT LEAST TWICE A DAY.
    - B. COVER TRUCKS HAULING SOIL, SAND AND OTHER LOOSE MATERIAL OR PROVIDE 2 FEET OF FREEBOARD.
    - C. PAVE, APPLY WATER THREE TIMES DAILY OR APPLY NON-TOXIC SOIL STABILIZER ON UNPAVED ACCESS ROADS, PARKING AREAS AND STAGING AREAS.
    - D. SWEEP PAVED ACCESS ROADS, PARKING AREAS AND STAGING AREAS DAILY.
    - E. APPLY HYDROSEED OR NON-TOXIC SOIL STABILIZER TO INACTIVE CONSTRUCTION AREAS.
    - F. ENCLOSE COVER WATER TRENCH DAILY OR APPLY NON-TOXIC SOIL STABILIZER TO EXPOSED SOIL STOCKPILES.
    - G. INSTALL SANDBAGS AND OTHER EROSION CONTROL MEASURES TO PREVENT SILT RUNOFF TO PUBLIC ROADWAYS.
    - H. REPLANT VEGETATION IN DISTURBED AREAS AS QUICKLY AS POSSIBLE.
9. KEEP STREETS CLEAN OF DIRT, MUD AND OTHER CONSTRUCTION DEBRIS. CLEAN AND SWEEP STREETS ON A DAILY BASIS DURING THE WORK WEEK.
10. SHOULD IT APPEAR THAT THE WORK IS NOT SUFFICIENTLY DETAILED OR SPECIFIED IN CONSTRUCTION DOCUMENTS, NOTIFY ENGINEER AND OBTAIN CLARIFICATION BEFORE PROCEEDING WITH WORK IN QUESTION.
11. CONSTRUCTION STAKING SHALL BE DONE BY A CIVIL ENGINEER OR LAND SURVEYOR REGISTERED IN THE STATE OF CALIFORNIA.
12. IF BKF ENGINEERS IS RETAINED TO PROVIDE CONSTRUCTION STAKING SERVICES, CONTRACTOR WILL BE PROVIDED WITH ONE SET OF SURVEY STAKES FOR LAYOUT PURPOSES. PRESERVE AND PROTECT THESE STAKES UNTIL THEY ARE NO LONGER NEEDED. RESTRIKING SHALL BE AT CONTRACTOR'S EXPENSE.
13. MATCH EXISTING PAVEMENT, CURB AND GUTTER, SIDEWALK, ADJACENT LANDSCAPE AND OTHER IMPROVEMENTS WITH SMOOTH TRANSITION TO AVOID ABRUPT OR APPARENT CHANGES IN GRADES, CROSS SLOPES, LOW SPOTS OR HAZARDOUS CONDITIONS.
14. VISIT SITE TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND OVERALL PROJECT REQUIREMENT PRIOR TO BIDDING PROJECT.
15. PROTECT ADJOINING PREMISES, TREES, LANDSCAPING, UTILITIES, SIDEWALKS, STREETS AND OTHER FEATURES FROM DAMAGE BY CONTRACTOR'S OPERATIONS. REPAIR OR CLEAN ADJOINING PREMISES, TREES, LANDSCAPING, UTILITIES, SIDEWALKS, STREETS AND OTHER FEATURES TO SATISFACTION OF OWNER.
16. COMPLY WITH REQUIREMENTS OF THE STORM WATER POLLUTION PREVENTION (SWPPP) FOR THE SITE. MAINTAIN AND MANAGE CONSTRUCTION MATERIALS, EQUIPMENT AND VEHICLES AT THE CONSTRUCTION SITE IN ACCORDANCE WITH THE SWPPP.
17. NOTIFY CITY ENGINEER MINIMUM 24 HOURS PRIOR TO STARTING WORK ON ON-SITE DRAINAGE FACILITIES, GRADING, PAVING OR WORK IN THE CITY RIGHT-OF-WAY.
18. UTILITY INFORMATION SHOWN ON THESE PLANS IS BASED ON A FIELD SURVEY OF THE SURFACE UTILITIES, POTHOLE OF UNDERGROUND UTILITIES, AND AVAILABLE EXISTING RECORD INFORMATION PROVIDED BY THE DEVELOPER, TAM AND THE CITY OF SANTA CLARA. SHOULD FIELD CONDITIONS DIFFER FROM WHAT IS SHOWN ON THESE PLANS, CONTACT THE ENGINEER FOR DIRECTION AND CLARIFICATION PRIOR TO PROCEEDING WITH CONSTRUCTION ACTIVITIES.

- II. EXISTING CONDITIONS
  1. EXISTING TOPOGRAPHIC INFORMATION SHOWN ON THESE PLANS IS BASED ON AERIAL PHOTOGRAPHY PERFORMED BY 360 AERIAL SURVEYS DATED AUGUST 2016 AND SUPPLEMENTAL FIELD SURVEY PERFORMED BY BKF ENGINEERS DATED SEPTEMBER 2016. CONDITIONS ENCOUNTERED ON SITE MAY VARY FROM THOSE SHOWN. REVISION CONSTRUCTION DOCUMENTS AND CONDUCT INVESTIGATIONS TO UNDERSTAND AND VERIFY EXISTING CONDITIONS AT THE SITE.
  2. EXISTING SUBSURFACE IMPROVEMENTS AND UTILITIES SHOWN ON THESE PLANS WERE TAKEN FROM RECORD INFORMATION KNOWN TO THE ENGINEER AND FIELD SURVEY OF ABOVE GRADE FEATURES. THESE PLANS ARE NOT MEANT TO BE A FULL CATALOG OF EXISTING SUBSURFACE CONDITIONS. CONDUCT FIELD INVESTIGATION TO VERIFY THE LOCATIONS AND ELEVATIONS OF EXISTING SUBSURFACE IMPROVEMENTS AND UTILITIES, WHETHER SHOWN ON PLANS OR NOT, PRIOR TO START OF EXCAVATION. IF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS ARE DISCOVERED, NOTIFY ENGINEER IMMEDIATELY AND REQUEST DISCREPANCY BE RESOLVED.
  3. VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION AFFECTING UTILITIES, POTHOLES WHERE NEEDED TO VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES.
  4. CONTACT USA (UNDERGROUND SERVICES ALERT) AT 1-800-227-2600, AND AFFECTED UTILITY COMPANIES. A MINIMUM OF 2 WORKING DAYS PRIOR TO STARTING WORK TO REQUEST UTILITIES BE MARKED.
- III. DEMOLITION
  1. EXISTING STRUCTURES, UTILITIES, AND OTHER FEATURES ENCOUNTERED DURING WORK SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
- IV. UTILITIES
  1. TRENCHING
    - A. ALL TRENCHES SHALL BE SHORED OR PROTECTED IN ACCORDANCE WITH OSHA AND OTHER STATE AND FEDERAL SAFETY CODES, REGULATIONS AND ORDINANCES.
    - B. MINIMUM 48 HOURS NOTICE SHALL BE REQUIRED FOR ALL CITY INSPECTIONS.
    - C. EXCAVATIONS SHALL BE ADEQUATELY SHORED, BRACED, AND SHEATHED SO THAT THE EARTH WILL NOT SLIDE OR SETTLE, AND SO THAT ALL EXISTING IMPROVEMENTS OF ANY KIND WILL BE FULLY PROTECTED FROM DAMAGE. ANY DAMAGE RESULTING FROM A LACK OF ADEQUATE SHORING, BRACING, AND SHEATHING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND HE SHALL COMPLETE NECESSARY REPAIRS OR RECONSTRUCTION AT HIS OWN EXPENSE. WHERE THE EXCAVATION IS FOR A CONDUIT TRENCH AND/OR THE STRUCTURE IS FIVE (5) FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL PROVIDE SHEATHING AND BRACING IN CONFORMANCE WITH THE APPLICABLE CONSTRUCTION SAFETY ORDERS OF THE DIVISION OF INDUSTRIAL SAFETY OF THE STATE OF CALIFORNIA. THE CONTRACTOR SHALL COMPLY WITH OSHA REQUIREMENTS AT ALL TIMES.
  2. PIPE MATERIAL
    - A. SEWER PIPE SHALL BE HDPE OR POLYVINYL CHLORIDE (PVC) SDR-26 CELL CLASSIFICATION 12454-B CONFORMING TO THE REQUIREMENTS OF ASTM DESIGNATION D3034, CONTRACTOR TO REFER TO THE CITY OF SANTA CLARA SPECIFICATIONS.
- V. RECORD DRAWINGS
  1. KEEP ACCURATE RECORD OF THE FINAL LOCATION, ELEVATION AND DESCRIPTION OF WORK ON A COPY OF THE FINAL APPROVED CONSTRUCTION DOCUMENTS. NOTE THE LOCATIONS AND ELEVATIONS OF EXISTING IMPROVEMENTS ENCOUNTERED THAT VARY FROM THE LOCATIONS SHOWN ON THE IMPROVEMENT PLANS. PROVIDE A COPY OF RECORD INFORMATION TO THE OWNER AT THE COMPLETION OF THE PROJECT AND WHEN REQUESTED.
- VI. STATEMENT OF RESPONSIBILITY
  1. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD THE DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.
- VII. UNAUTHORIZED CHANGES AND USES
  1. THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND REQUIRE WRITTEN APPROVAL OF THE CITY ENGINEER AND THE PREPARER OF THESE PLANS.
- VIII. DRAWING LANGUAGE
  1. NOTES AND CALLOUTS ON DRAWINGS MAY USE IMPERATIVE LANGUAGE. REQUIREMENTS EXPRESSED IMPERATIVELY ARE TO BE PERFORMED BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

**SANTA CLARA COUNTY NOTES**

- STANDARD LANGUAGE FOR ROADWAY ROAD OPERATIONS'**
1. THERE IS A 5-YR WARRANTY WHEN THE PROJECT IS COMPLETED. CONFERENCE DRAWING SECTION 0177-36.4) COUNTY'S ROADS OPERATIONS ENGINEERING SHALL BE THE ONE TO DETERMINE WHAT CONSTITUTE FAILURE BASED ON ACCEPTABLE INDUSTRY STANDARD. RECONSTRUCTION AND SEPARATION IN THE CURBSIDE, SETTLEMENT WHERE THE TRENCH REPAIRS TOOK PLACE, DAMAGED PAVEMENT EDGES ALONG THE TRENCHES ARE CONSIDERED FAILURES.
  2. WHEN TRENCHING IS TO OCCUR ON COUNTY MAINTAIN ROADS, TRENCH PLATES ARE TO BE H-20 LOAD RATED, SKID RESISTANT, AND RECESSED FLUSH TO THE EXISTING PAVED SURFACE. CUT-BACK AND/OR COLD MIX WILL NOT BE ALLOWED AS TEMPORARY ROADWAY SURFACE BACKFILL IN TRAVELED WAYS UNLESS PRIOR APPROVAL IS GIVEN.
  3. WHEN ANY PAVEMENT RESTORATION AT THIS SITE, MUST BE CURB TO CURB/LANE LINE AND MICROFACED USING A TYPE II SLURRY MIX PER COUNTY STANDARDS, "11-12-09 MICROFACING, TYPE II", THE MICRO-SURFACING MIXTURE SHALL BE OF THE PROPER CONSISTENCY AT ALL TIMES, SO AS TO PROVIDE THE APPLICATION RATE REQUIRED BY THE SURFACE CONDITION. THE AVERAGE SINGLE APPLICATION RATE, AS MEASURED BY THE COUNTY, SHALL BE 15 LB/SY/111.1 LB/SY).
  4. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING PAVEMENT TO LIKE OR BETTER CONDITION. ANY STRIPING IN COUNTY ROAD SHALL BE THERMOPLASTIC AND REPLACED PER EXISTING STRIPING. ALL ASPHALT CUTS MUST BE TACK COATED PRIOR TO ASPHALT PLACEMENT.
- STANDARD LANGUAGE FOR SIGNAL & ELECTRICAL OPERATIONS**
1. EXISTING COUNTY COMMUNICATION AND ELECTRICAL FACILITIES ARE LOCATED IN THE PROJECT AREA. COMMUNICATION FIBER OPTIC CABLE DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE TEMPORARILY RESTORED AND THEN REPLACED IN ACCORDANCE WITH CSS 86.01.06. DAMAGED FIBER OPTIC CABLE SHALL BE REPLACED FOR THE ENTIRE LENGTH BETWEEN EXISTING END-TO-END SPICES.
  2. EXISTING ELECTRICAL OR COMMUNICATION SYSTEM SUCH AS LOOP DETECTORS AND FIBER OPTICS SHALL BE TEMPORARILY RESTORED TO FULL OPERATION OR VIA DISCONNECT/NEED DETECTION IMMEDIATELY AND REPLACED PRIOR TO PROJECT CLOSURE.
  3. ALL DESIGN WITHIN COUNTY'S RIGHT-OF-WAY SHALL COMPLY WITH COUNTY STANDARDS.
  4. INFORMATION SHOWN ON AS-BUILT PLANS IS SUBJECT TO CHANGE. FIELD-VERIFY AND UPDATE CONDUCTOR SCHEDULE ACCORDINGLY. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE PERTAINING TO LOOPS/FIBER. CONTRACTOR NEEDS TO REPLACE DETECTOR LOOPS WITHIN 24HRS. IF DAMAGED, CONTRACTOR NEEDS TO PROVIDE TEMPORARY VIBRO DETECTION DURING THE CONSTRUCTION PERIOD, AND CALL USA BEFORE DIGGING.
- EROSION AND SEDIMENT CONTROL NOTES:**
1. THE UTILITY COMPANY, THEIR EMPLOYEES, SUBCONTRACTORS, AND/OR ANY PERSON PERFORMING CONSTRUCTION ACTIVITIES SHALL INSTALL AND MAINTAIN CONSTRUCTION BEST MANAGEMENT PRACTICES (BMPs) ON THE PROJECT SITE AND WITHIN THE SANTA CLARA COUNTY ROAD RIGHT-OF-WAY THROUGHOUT THE DURATION OF CONSTRUCTION AND UNTIL THE ESTABLISHMENT OF PERMANENT STABILIZATION AND SEDIMENT CONTROL TO PREVENT THE DISCHARGE OF POLLUTANTS INTO PUBLIC ROAD RIGHT OF WAY. EXCAVATED MATERIALS, WASTE MATERIALS INTO THE SANTA CLARA COUNTY ROAD RIGHT OF WAY, STORM SEWER WATERWAYS, AND ROADWAY INFRASTRUCTURE. BMPs SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
    - A. PREVENTION OF POLLUTANTS IN STORM WATER DISCHARGES FROM THE CONSTRUCTION SITE AND THE CONTRACTOR'S MATERIAL AND EQUIPMENT LAYOUT/STAGING AREAS.
    - B. PREVENTION OF TRACKING OF MUD, DIRT AND CONSTRUCTION MATERIALS ONTO PUBLIC ROAD RIGHT OF WAY, AND
    - C. PREVENTION OF DISCHARGE OF WATER RUNOFF DURING DRY AND WET WEATHER CONDITIONS ONTO PUBLIC ROAD RIGHT OF WAY.
  2. THE UTILITY COMPANY, THEIR EMPLOYEES, SUBCONTRACTORS, AND/OR ANY PERSON PERFORMING CONSTRUCTION ACTIVITIES SHALL ENSURE THAT ALL TEMPORARY CONSTRUCTION FACILITIES, INCLUDING BUT NOT LIMITED TO CONSTRUCTION MATERIALS, DELIVERIES, HAZARDOUS AND NON-HAZARDOUS MATERIAL STORAGE, EQUIPMENT, TOOLS, PORTABLE TOILETS, CONCRETE WASHOUT, GARBAGE CONTAINERS, LAYDOWN YARDS, SECONDARY CONTAINMENT AREAS, ETC. ARE LOCATED OUTSIDE THE SANTA CLARA COUNTY ROAD RIGHT OF WAY.
- PERMANENT MONUMENTS/MONUMENT PRESERVATION:**
- THE LANDOWNER, CONTRACTOR AND/OR ANY PERSON PERFORMING CONSTRUCTION ACTIVITIES THAT WILL OR MAY DISTURB AN EXISTING MONUMENT, CORNER STAKE, OR ANY OTHER PERMANENT SURVEYED MONUMENT SHALL BE RESPONSIBLE FOR IDENTIFYING, MARKING, AND/OR CIVIL ENGINEER, AUTHORIZED TO PRACTICE SURVEYING, ENSURE THAT A CORNER RECORD AND/OR RECORD OF SURVEY ARE FILED WITH THE COUNTY SURVEYOR'S OFFICE PRIOR TO DISTURBING SAID MONUMENTS AND RESET PERMANENT MONUMENT(S) IN THE SURFACE OF THE NEW CONSTRUCTION OR SET A WITNESS MONUMENT(S) TO PERPETUATE THE LOCATION IF ANY PERMANENT MONUMENT COULD BE DESTROYED, DAMAGED, COVERED, DISTURBED, OR OTHERWISE OBLITERATED. THE LICENSED LAND SURVEYOR OR CIVIL ENGINEER SHALL BE RESPONSIBLE FOR OBTAINING A CORNER RECORD OF SURVEY WITH COUNTY SURVEYOR PRIOR TO FINAL CLOSE-OUT OF THE ENDOACHMENT PERMIT BY THE ROADS & AIRPORTS INSPECTOR.
- IMPROVEMENT PLAN CONSTRUCTION NOTES:**
- ALL WORK IN THE COUNTY ROAD RIGHT OF WAY REQUIRES AN ENDOACHMENT PERMIT FROM THE ROADS AND AIRPORTS DEPARTMENT. EACH INDIVIDUAL ACTIVE REQUIRES A SEPARATE PERMIT - I.E. RETAINING WALLS, DRIVEWAY APPROACHES, TEMPORARY CONSTRUCTION ENTRANCES, FENCES, LANDSCAPING, TREE REMOVAL, STORAGE ORANGE IMPROVEMENTS, ALL UTILITY OPERATIONS (RELOCATIONS, REPLACEMENTS, ABANDONMENTS, TEMPORARY FACILITIES, AND/OR NEW FACILITIES FOR CABLE, ELECTRIC, GAS, SEWER, WATER), ETC.

**SCVWD NOTES**

- GENERAL NOTES**
1. CONTRACTOR MUST OBTAIN A DISTRICT ENCROACHMENT PERMIT PRIOR TO START OF CONSTRUCTION WITHIN DISTRICT RIGHT OF WAY AND MAINTAIN A COPY OF THE PERMIT ON THE PROJECT SITE AT ALL TIMES.
  2. NOTIFY THE DISTRICT'S INSPECTOR AT LEAST 2 DAYS PRIOR TO BEGINNING ANY WORK WITHIN THE DISTRICT'S RIGHT OF WAY.
  3. ANY DAMAGE TO DISTRICT'S STRUCTURES, EQUIPMENT, MATERIALS, VEGETATION, AND/OR PROPERTY SHALL BE REPLACED AND/OR REPAIRED IN KIND TO THE SATISFACTION OF THE DISTRICT.
  4. UNDERGROUND SERVICE ALERT MUST BE NOTIFIED A MINIMUM OF 2 DAYS PRIOR TO SCHEDULED START OF CONSTRUCTION AT 1-800-227-2600 OR BY CALLING "811."

**CSC BYPASSING NOTES**

1. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN SANITARY SEWER SERVICE AT ALL TIMES. CONTRACTOR SHALL HAVE ON-SITE AT ALL TIMES 100% REDUNDANCY OF ITS PUMPING AND STANDBY PUMP EQUIPMENT. THE STANDBY PUMP SHALL BE OPERATIONAL AND SHALL BE CONNECTED TO THE BYPASS PIPING TO ALLOW IMMEDIATE STANDBY SERVICE AT ALL TIMES. THE CONTRACTOR IS RESPONSIBLE FOR REGULATORY AGENCY FINES AND/OR PROPERTY DAMAGE COSTS IF SANITARY SEWER OVERFLOWS OR BACKUPS OCCUR.
2. THE PUMPING SYSTEM SHALL BE OF SUFFICIENT CAPACITY TO MANAGE EXISTING PEAK FLOWS PLUS ADDITIONAL FLOW THAT MAY OCCUR DURING A RAINSTORM. THE CONTRACTOR SHALL PROVIDE PERSONNEL TO OBSERVE, FUEL AND MAINTAIN THE BYPASS PUMPING SYSTEM AT ALL TIMES THAT IT IS OPERATING. AN AUDIBLE ALARM SHALL BE PROVIDED TO SIGNAL HIGH LEVEL AT THE BYPASS POINT. A HIGH LEVEL SETTING WILL BE AT A MINIMUM OF SEVEN (7) FEET DEEP AT EACH POINT, UNLESS DIRECTED BY THE CITY OTHERWISE.
3. THE CONTRACTOR SHALL NOTIFY THE CITY A MINIMUM OF 5 WORKING DAYS BEFORE INITIATING AND A MINIMUM OF 1 WORKING DAY PRIOR TO STOPPING ANY SEWER FLOW CONTROL ACTIVITY.
4. DISCHARGING OF SEWAGE, FREE FLOW OF SEWAGE, OR LEAKING OR DRIPPING OF SEWAGE FROM BYPASS EQUIPMENT, HOSES, OR PUMPS INTO PRIVATE PROPERTY, GUTTERS, STREETS, SIDEWALKS, OR INTO STORM DRAINS OR CREEKS IS PROHIBITED. FLUSHING SEWAGE FROM SPILLS OR FROM BYPASS EQUIPMENT LEAKAGE INTO STORM DRAINS, CREEKS, OR SLOUGHS IS PROHIBITED. THE CONTRACTOR SHALL BE LIABLE FOR ALL DAMAGES ASSOCIATED WITH THIS WORK, INCLUDING FINES IMPOSED ON THE CITY FOR SPILLED SEWAGE.

**GENERAL NOTES**

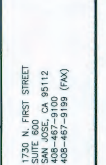
1. All materials and workmanship shall conform to the City's Standard Details, Standard Specifications, and General Requirements.
2. Contractor shall secure an Encroachment Permit from the City Engineering Department and pay appropriate fee prior to commencement of work. All work within the public right-of-way shall be done under a single Encroachment Permit.
3. It is the Contractor's responsibility to verify the location of all existing utilities with the appropriate utility agencies prior to the commencement of construction. Contractor shall notify all public and private utility owners 48 hours prior to commencement of work adjacent to the utility. Contact Underground Service Alert (USA) at 911 or 800-227-2600.
4. The Contractor shall notify, by circular, all business establishments and residences located in areas affected by the work at least forty-eight (48) hours prior to start of construction. Circular shall be subject to the approval of the City Engineer.
5. Unless otherwise directed by the City Engineer in the field, at each location where new curb/gutter is to be installed on an existing street (driveaway installation, driveway abandonment, curb ramp installation, curb face drainage installation, etc.) pavement reconstruction shall be required. An 18-inch wide band of pavement shall be removed and replaced along the entire length of curb/gutter installation. Removal depth (saw cuts required) shall be to the base material on streets with A.C. or P.C.C. pavement four (4) inches or less in thickness. Removal depth shall be two (2) inches minimum on streets with A.C. (grind) and four (4) inches minimum on streets with P.C.C. (saw cut) pavement thickness greater than four (4) inches. Replace with A.C. or P.C.C. (towels required) to match existing pavement.
6. All sidewalk, curb, and gutter damaged as a result of the project shall be removed and replaced to the nearest storm mark or as directed by the City Engineer. Installation of new sidewalk, curb and gutter against existing improvements shall require a sidewalk contact joint (dowels required).
7. Partial replacement of a driveway is not allowed. A driveway that has been cut or damaged must be replaced in its entirety. The new replacement driveway must meet current City Standards which may affect on-site improvements and/or require a sidewalk easement.
8. Slurry seal shall be required on all new street pavement (e.g., trench work, potholes, and street widenings). Slurry seal shall extend twelve inches beyond the limit of pavement reconstruction.
9. All manholes, valve boxes, monument boxes, and other structures in the pavement area shall be adjusted to finish grade before paving final lift.
10. Grade breaks on curbs and sidewalks are to be rounded off on form work and finished surfacing.
11. The Contractor shall be responsible for the preservation and/or perpetuation of existing survey monuments (curb tags, iron pipes, street monuments, etc.) noted on the plans or found during construction per Section 0771 of the California Business and Professions Code. If a survey monument has the potential of being disturbed or within 3 feet of the work, the monument shall be located, referenced, and a corner record shall be filed with the Santa Clara County Surveyor, and a duplicate of the corner record shall be submitted to the City Engineer prior to the start of construction. Should any survey monument be damaged or destroyed during construction, the contractor shall re-establish said monument per City standard, file a corner record with the Santa Clara County Surveyor, and submit a duplicate of the corner record to the City Engineer prior to final project notice of completion issued by the Department of Public Works. The contractor shall, at his/her expense, hire a licensed professional civil engineer authorized to practice land surveying or land surveying to perform the work.
12. All surplus and unsuitable material shall be removed from public right-of-way.
13. Contractor shall provide adequate dust control and keep mud and debris off the public right-of-way at all times.
14. All trenches and excavations shall be constructed in strict compliance with the applicable sections of California and Federal O.S.H.A. requirements and other applicable safety ordinances. Contractor shall bear full responsibility for trench shoring design and installation.
15. Existing utilities shown are based upon record information and are approximate in location and depth. The contractor shall pothole all existing utilities that may be affected by new facilities in this contract, verify actual location and depth, and report potential conflicts to the Engineer prior to excavating for new facilities.
16. Contractor shall perform his construction and operation in a manner, which will and will not allow harmful pollutants to enter the storm drain system. To ensure compliance, the Contractor shall implement the appropriate Best Management Practice (BMP) as outlined in the brochures entitled "Best Management Practice for the Construction Industry" issued by the Santa Clara Valley Nonpoint Source Pollution Control Program, to suit the construction site and job condition.
17. Overnight parking of construction equipment in the public right-of-way shall not be permitted, except at location(s) approved by the City Traffic Engineer.
18. All sanitary sewer and/or storm drain manholes to be abandoned shall be filled with sand or control density fill (CDF) and plugged at each end with a 6" thick wall of Class "A" P.C.C.
19. Abandonment of sanitary sewer lateral at the property line shall include the complete removal of the Christy Box, all vertical pipes and the 45" Wye. The remaining lateral ends shall be plugged with 6" thick wall of Class "A" P.C.C., ensuring no concrete enters the main. Abandonment of sanitary sewer lateral at the main will occur when lateral connects at a manhole or as determined by the City. Plug the lateral end with 6" thick wall of Class "A" P.C.C., and fill lateral with sand or control density fill (CDF), making a smooth trench finish on the inside wall of the manhole for manhole connections.
20. Unless otherwise noted, Class 2 A.B. under curb, gutter, and street sections paved with asphalt concrete shall be compacted to 95% relative compaction (minimum).
21. Near completion of the Project, contractor shall replace damaged curb and gutter along Project frontage as directed by the City Engineer.



DRAWN BY: K. TRAN  
 CHECKED BY: F. AMIN  
 APPROVED BY: G. GOMEZ  
 DATE: MAY 2015

APPENDIX A  
 GENERAL NOTES  
 AP-A  
 CITY OF SANTA CLARA  
 Record Drawings  
 PAGE: 83

No.  
 Date: 09/04/15  
 Issue AS SHOWN  
 Design: PK  
 Drawn: JF  
 Approved: PC  
 Job No: 20150113-20  
 Drawing Number:  
**C1.1**



SCOTT BOULEVARD TO KIEFER ROAD  
 SANITARY SEWER IMPROVEMENT PLANS  
 GENERAL NOTES  
 STATE OF CALIFORNIA  
 CITY OF SANTA CLARA  
 SANTA CLARA COUNTY



SCOTT BOULEVARD TO KIFER ROAD  
SANITARY SEWER IMPROVEMENT PLANS  
PLAN & PROFILE

CITY OF SANTA CLARA SANTA CLARA COUNTY STATE OF CALIFORNIA

City	San Jose
Project	
Revision	
No.	

Drawn By	AS
Checked By	PK
Design By	JH
Drawn By	JH
Approved By	PC
Job No.	2012/0113-30

Drawing Number:  
**C2.0**  
3 of 8

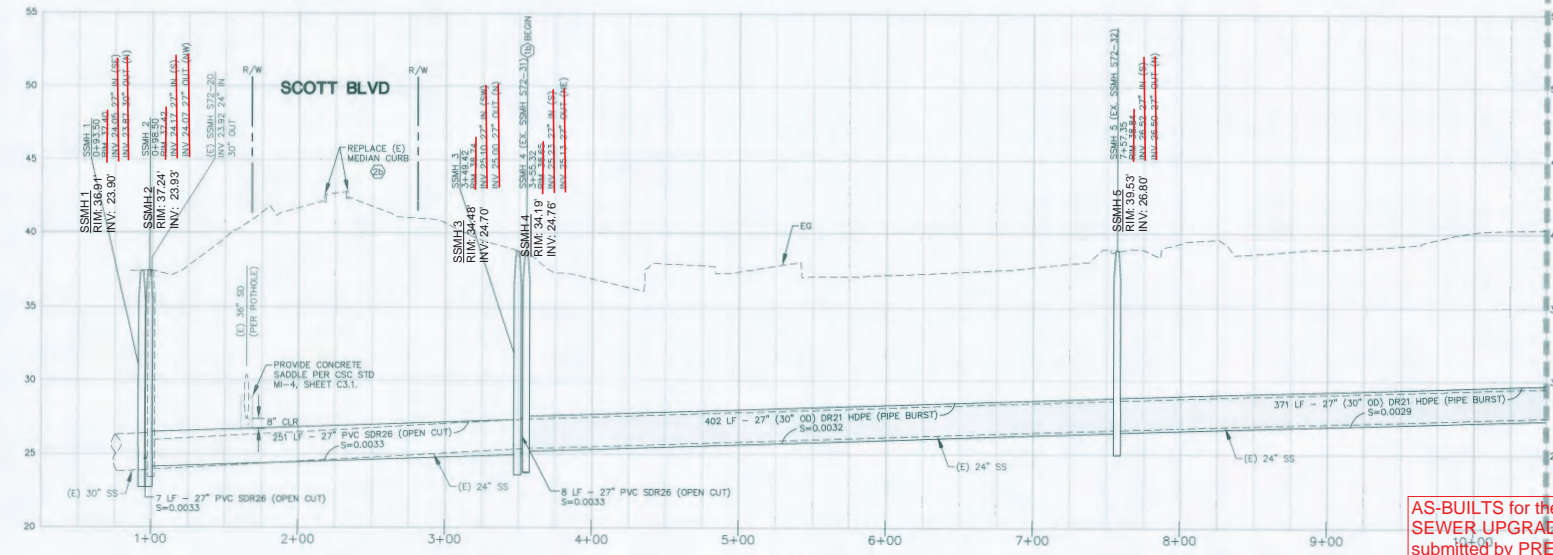
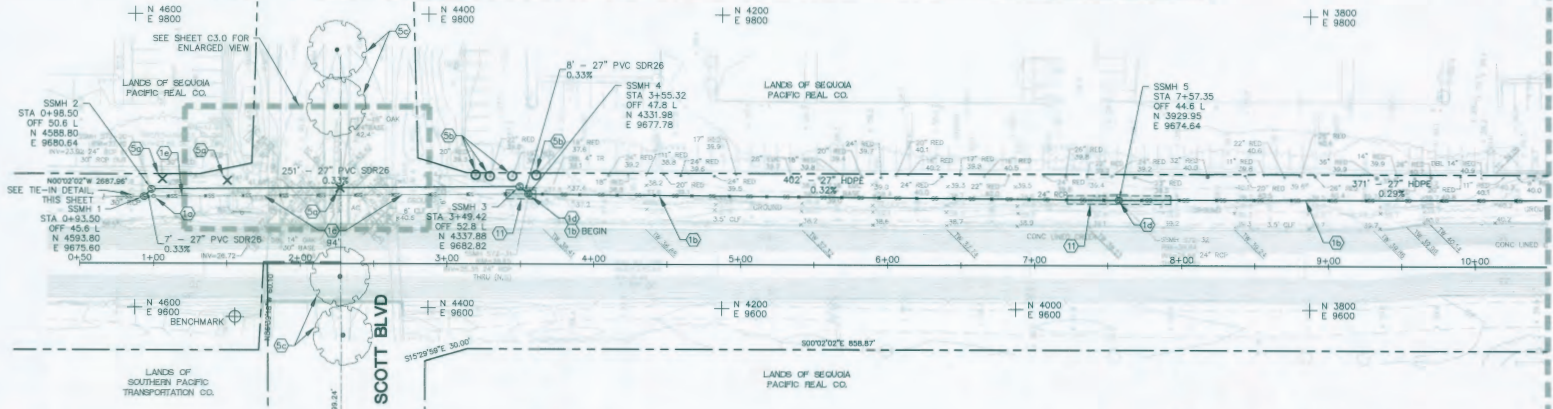
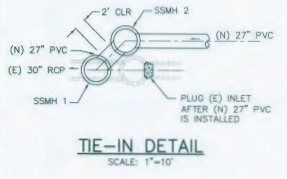
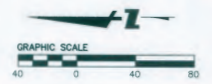
**KEYNOTES**

- (1a) REMOVE MANHOLE, IF MANHOLE CANNOT BE REMOVED, OBTAIN APPROVAL FROM CITY ENGINEER TO CAP MANHOLE PER DETAIL 1, SHEET C3.1.
- (1b) PIPE BURST 27" HDPE PIPE THROUGH EXISTING 24" RCP PIPE.
- (1c) ABANDON IN PLACE, BACKFILL PIPE WITH ONE OF THE FOLLOWING:  
(c) SAND THAT IS CLEAN, FREE DRAINING, AND FREE FROM ROOTS  
(b) CONTROLLED LOW-STRENGTH MATERIAL  
(c) SLURRY CEMENT BACKFILL  
(d) CAP BOTH ENDS WITH 8" THICK WALL OF CLASS A PCC
- (1d) REMOVE AND REPLACE 48" MANHOLE.
- (1e) REMOVE (E) 24" RCP, IF PIPE CANNOT BE REMOVED AND IT'S NOT CALLED OUT TO BE ABANDONED ON THE PLANS, OBTAIN APPROVAL FROM CITY ENGINEER TO ABANDON IN PLACE.
- (2a) RECONSTRUCT CURB & GUTTER PER CITY DETAIL ST-11 (MOD), SHEET C3.1.
- (2b) RECONSTRUCT CURB PER CALTRANS A1-6.
- (3) RESTORE PAVEMENT PER CITY DETAIL ST-24, SHEET C3.1.
- (4) RECONSTRUCT DRIVEWAY PER CITY DETAIL ST-6, SHEET C3.1.

- (5) REMOVE TREE.
- (6) PROTECT TREE.
- (7) INSTALL EIGHT NEW 24" BOX SIZE TREES ON CENTER MEDIAN OF SCOTT BLVD. CONTRACTOR TO COORDINATE WITH CITY ARBORIST, RON JANZING, AT (408) 815-3083 FOR EXACT LOCATIONS.
- (8) 2" WIDE AC DEEPLIFT PER COUNTY DETAIL B-12, SHEET C3.2.
- (7) TYPE A2-6 CURB & GUTTER PER COUNTY DETAIL B-13, SHEET C3.2.
- (9) RECONSTRUCT CURB CUT PER COUNTY DETAIL B-8A, SHEET C3.2.
- (10) 4" WHITE STRIPE PER CALTRANS DETAIL 27B. ALL STRIPING SHALL BE THERMOPLASTIC.
- (10) 4" YELLOW STRIPE PER CALTRANS DETAIL 24. ALL STRIPING SHALL BE THERMOPLASTIC.
- (10) RECONSTRUCT (E) CHAIN LINK FENCE AND GATE AS NEEDED.
- (11) ENTRY/RECEIVING PIT FOR PIPE BURSTING. PIT SIZE TBD IN FIELD BY CONTRACTOR.
- (12) 8" WHITE STRIPE PER CALTRANS DETAIL 38. ALL STRIPING SHALL BE THERMOPLASTIC.

**SS PIPE SCHEDULE**

- SSMH 1 TO SSMH 4: OPEN CUT (27" PVC SDR26)
- SSMH 4 TO SSMH 6: PIPE BURST (27" HDPE-LIGHT GRAY)
- SSMH 6 TO SSMH 10: OPEN CUT (27" PVC SDR26)
- SSMH 10 TO SSMH 12: PIPE BURST (27" HDPE-LIGHT GRAY)



AS-BUILTS for the CALABAZAS CREEK  
SEWER UPGRADE PROJECT  
submitted by PRESTON PIPELINES -  
06.19.20

Record Drawings CSC TRACING NO. 12,175-D

DATE PLOTTED: 11/11/2014 10:58:11 AM PLOTTER: HP DesignJet T1100PS



1330 N. FIRST STREET  
SUITE 600 SAN JOSE, CA 95112  
408-487-9100  
408-487-9199 (FAX)



SCOTT BOULEVARD TO KIFER ROAD  
SANITARY SEWER IMPROVEMENT PLANS  
PLAN & PROFILE  
CITY OF SANTA CLARA SANTA CLARA COUNTY STATE OF CALIFORNIA

DATE	DESCRIPTION
07/20/19	ISSUED FOR PERMITS
07/20/19	ISSUED FOR CONSTRUCTION
07/20/19	ISSUED FOR RECORDS
07/20/19	ISSUED FOR AS-BUILTS

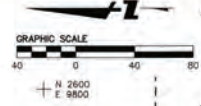
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4 OF 8

**KEYNOTES**

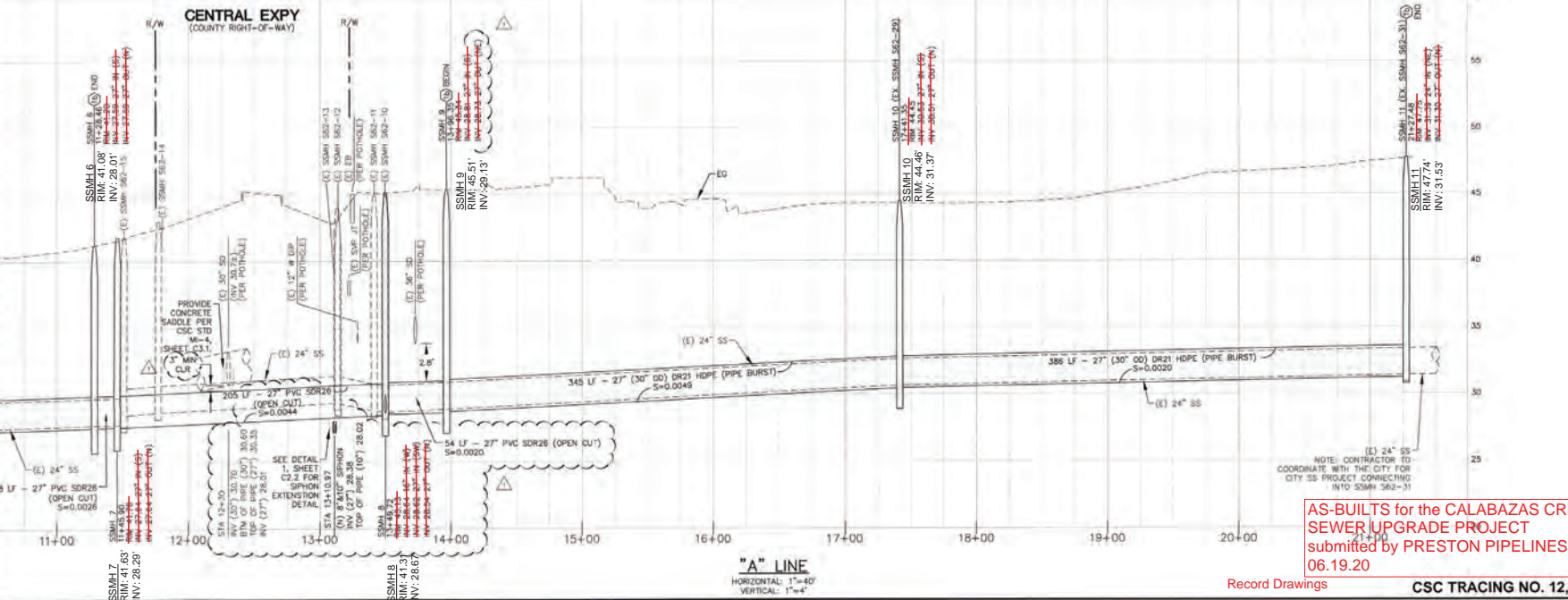
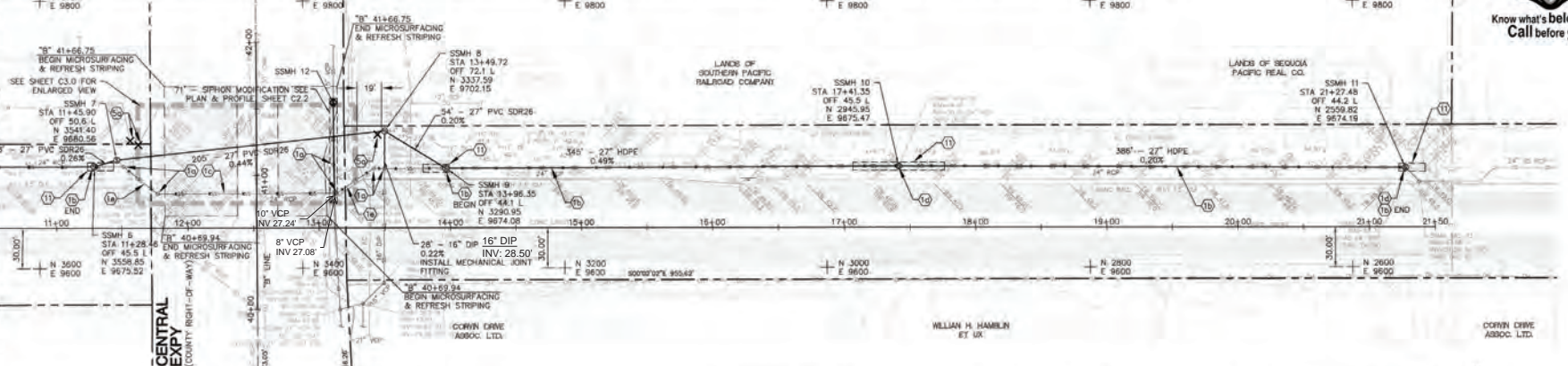
- (17) REMOVE MANHOLE IF MANHOLE CANNOT BE REMOVED. OBTAIN APPROVAL FROM CITY ENGINEER TO CAP MANHOLE PER DETAIL 1, SHEET C3.1.
- (18) PIPE BURST 27" HDPE PIPE THROUGH EXISTING 24" RCP PIPE.
- (19) ABANDON IN PLACE, BACKFILL PIPE WITH ONE OF THE FOLLOWING:  
(a) SAND THAT IS CLEAN, FREE DRAINING, AND FREE FROM ROOTS  
(b) CONTROLLED LOW-STRENGTH MATERIAL  
(c) SLURRY CEMENT BACKFILL  
(d) CAP BOTH ENDS WITH 8" THICK WALL OF CLASS A RCC
- (20) REMOVE AND REPLACE 48" MANHOLE.
- (21) REMOVE (E) 24" RCP IF PIPE CANNOT BE REMOVED AND IT'S NOT CALLED OUT TO BE ABANDONED ON THE PLANS. OBTAIN APPROVAL FROM CITY ENGINEER TO ABANDON IN PLACE.
- (22) RECONSTRUCT CURB & GUTTER PER CITY DETAIL ST-11 (MOD), SHEET C3.1.
- (23) RECONSTRUCT CURB PER CALTRANS A1-6.
- (24) RESTORE PAVEMENT PER CITY DETAIL ST-24, SHEET C3.1.
- (25) RECONSTRUCT DRIVEWAY PER CITY DETAIL ST-6, SHEET C3.1.
- (26) REMOVE TREE.
- (27) NOT USED.
- (28) INSTALL 24" BOX SIZE REPLACEMENT TREES ON CENTER MEDIAN OF SCOTT BLVD. CONTRACTOR COORDINATE WITH CITY ARBORIST, RON JANZING, AT (408) 615-3063 FOR EXACT LOCATIONS.
- (29) 2' WIDE AC DEEPLUF PER COUNTY DETAIL B-12, SHEET C3.2.
- (30) TYPE A2-6 CURB & GUTTER PER COUNTY DETAIL B-13, SHEET C3.2.
- (31) RECONSTRUCT CURB CUT PER COUNTY DETAIL B-8A, SHEET C3.2.
- (32) 4" WHITE STRIPE PER CALTRANS DETAIL 27B. ALL STRIPING SHALL BE THERMOPLASTIC.
- (33) 4" YELLOW STRIPE PER CALTRANS DETAIL 24. ALL STRIPING SHALL BE THERMOPLASTIC.
- (34) RECONSTRUCT (E) CHAIN LINK FENCE AND GATE AS NEEDED.
- (35) ENTRY/RECEIVING PIT FOR PIPE BURSTING. PIT SIZE TBD IN FIELD BY CONTRACTOR.
- (36) 8" WHITE STRIPE PER CALTRANS DETAIL 38. ALL STRIPING SHALL BE THERMOPLASTIC.

**SS PIPE SCHEDULE**

- SSMH 1 TO SSMH 4: OPEN CUT (27" PVC SDR26)
- SSMH 4 TO SSMH 8: PIPE BURST (27" HDPE-LIGHT GRAY)
- SSMH 8 TO SSMH 10: OPEN CUT (27" PVC SDR26)
- SSMH 10 TO SSMH 12: PIPE BURST (27" HDPE-LIGHT GRAY)



MATCHLINE SEE SHEET C2.0

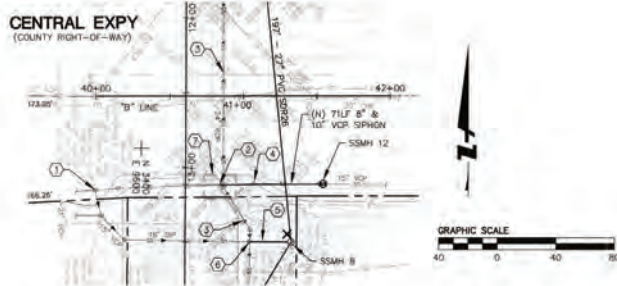


AS-BUILTS for the CALABAZAS CREEK  
SEWER UPGRADE PROJECT  
submitted by PRESTON PIPELINES -  
06.19.20

Record Drawings CSC TRACING NO. 12,175-D



1730 N. BIRCH STREET  
SUITE 200  
SAN JOSE, CA 95132  
408-487-9100  
408-487-9199 (fax)



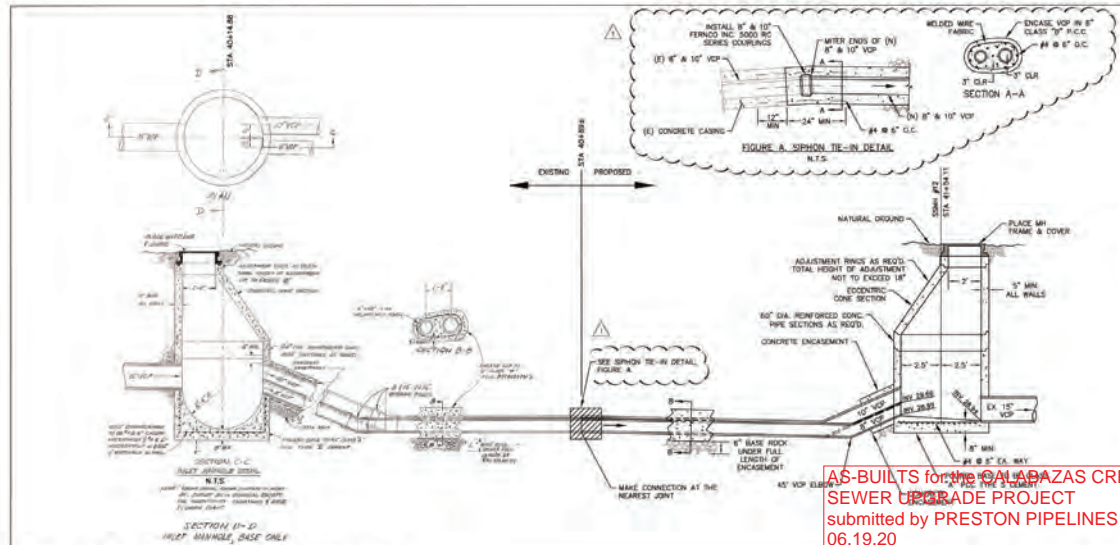
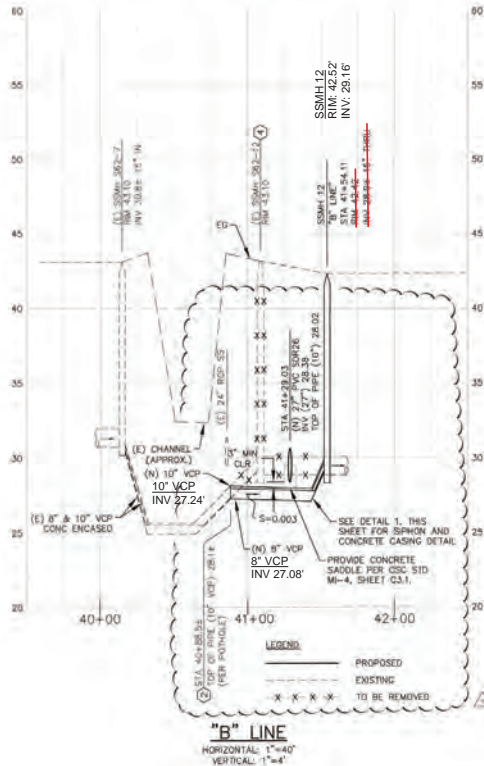
### CENTRAL EXPRESSWAY SANITARY SEWER BYPASS NOTES

THE PURPOSE OF THIS PLAN IS TO PROVIDE TEMPORARY BYPASS DURING CONSTRUCTION OF THE SIPHON EXTENSION.

- SEQUENCE OF WORK:
1. BYPASS EXISTING SIPHON PER PRESTON PIPELINES TEMPORARY BYPASS PLAN DATED 8/23/19.
  2. EXTEND EXISTING SIPHON BY 71'± AS SHOWN ON SHEET C2.1.
  3. REACTIVATE CENTRAL EXPRESSWAY SIPHON.
  4. CONSTRUCT 27' SS MAIN ABOVE NEW SIPHON.

### KEYNOTES (THIS SHEET ONLY)

- 1 PROVIDE DIVERSION. SEE BYPASS NOTES.
- 2 CONNECT TO (E) VCP'S AT NEAREST JOINTS.
- 3 (E) 24" SS TO REMAIN OPERATIONAL UNTIL SEWER MAIN UPGRADE AND SIPHON EXTENSION WORK ARE COMPLETED.
- 4 REMOVE (C) SSMH.
- 5 EXTEND AND CONNECT 18" DIA TO SSMH 8.
- 6 INSTALL 16" TYLER/JUNION MECHANICAL JOINT SOLID SLEEVE (LONG) OR APPROVED EQUAL.
- 7 CONTRACTOR TO VERIFY THE EXACT LOCATION OF SIPHON EXTENSION POINT AT THE (E) SIPHON BEND. CONTRACTOR TO PROVIDE SHORING PLAN PRIOR TO THIS WORK TO ENSURE STRUCTURAL INTEGRITY OF CREEK WALLS AND MAINTAIN OPERABILITY OF (C) SSMH 362-13 PER TEMPORARY BYPASS PLAN DATED 8/23/19.



AS-BUILTS for the CALIFORNIA AZAZAS CREEK  
SEWER UPGRADE PROJECT  
submitted by PRESTON PIPELINES -  
06.19.20

1 SIPHON EXTENSION AT CENTRAL EXPWY

Record Drawings

CSC TRACING NO. 12,175-D

SCOTT BOULEVARD TO KIFER ROAD  
SANITARY SEWER IMPROVEMENT PLANS  
SIPHON MODIFICATION  
CITY OF SANTA CLARA SANTA CLARA COUNTY STATE OF CALIFORNIA

NO.	DATE	DESCRIPTION	BY	CHECKED
1	06/19/20	AS-BUILT	PRESTON PIPELINES	PRESTON PIPELINES

Drawing Number:  
**C2.2**  
5 OF 8

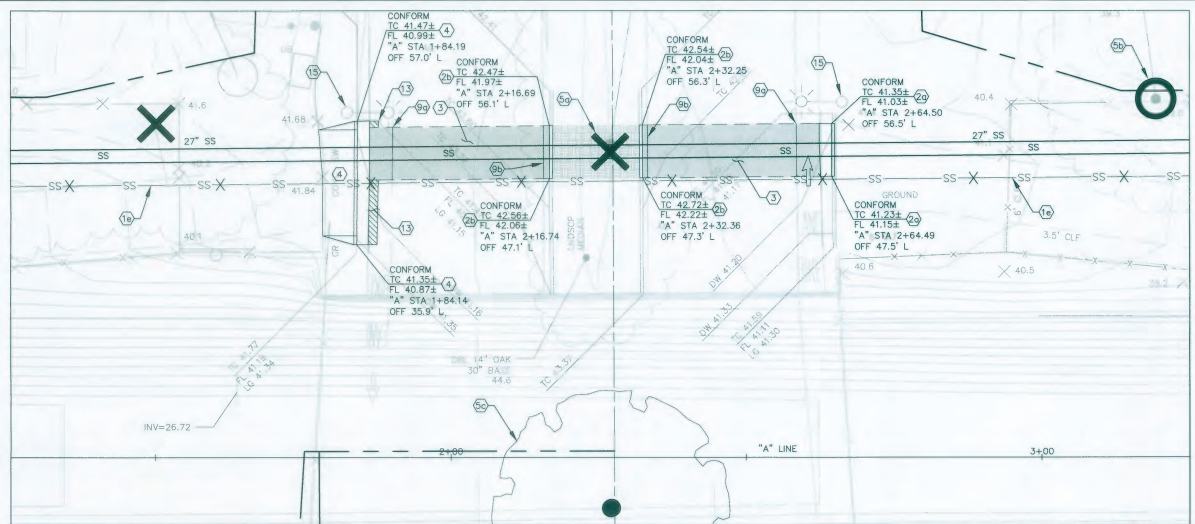


1700 N. FIRST STREET  
SUN JOSE, CA 95112  
408-287-9199 (FX)  
408-287-9199 (FX)

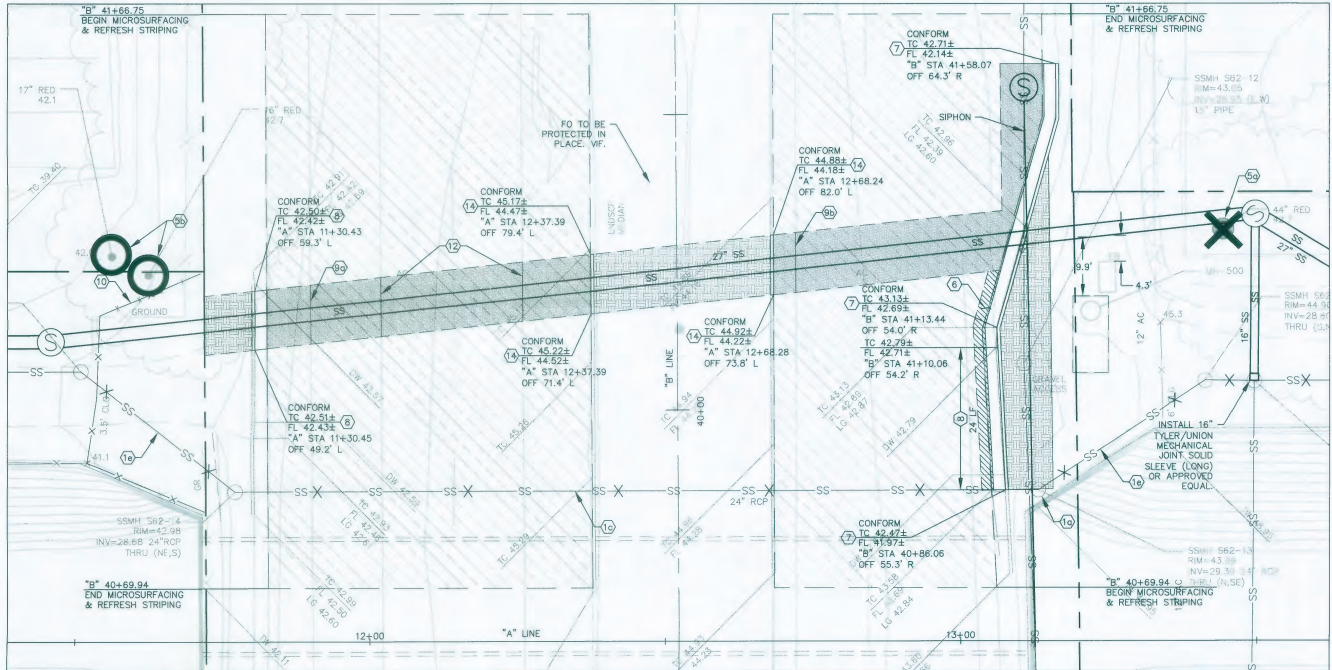


**SCOTT BOULEVARD TO KIFER ROAD  
SANITARY SEWER IMPROVEMENT PLANS  
ENLARGED VIEW**

STATE OF CALIFORNIA  
SANTA CLARA COUNTY  
CITY OF SANTA CLARA



**SCOTT BOULEVARD**  
1"=10'



**CENTRAL EXPRESSWAY**  
1"=10'

**KEYNOTES**

- 16 REMOVE MANHOLE. IF MANHOLE CANNOT BE REMOVED, OBTAIN APPROVAL FROM CITY ENGINEER TO CAP MANHOLE PER DETAIL 1, SHEET C3.1.
- 16B PIPE BURST 27" HDPE PIPE THROUGH EXISTING 24" RCP PIPE.
- 16C ABANDON IN PLACE, BACKFILL PIPE WITH ONE OF THE FOLLOWING:
  - (a) SAND THAT IS CLEAN, FREE DRAINING, AND FREE FROM ROOTS
  - (b) CONTROLLED LOW-STRENGTH MATERIAL
  - (c) SLURRY CEMENT BACKFILL
  - (d) CAP BOTH ENDS WITH 8" THICK WALL OF CLASS A PCC
- 16D REMOVE AND REPLACE 48" MANHOLE.
- 16E REMOVE (E) 24" RCP. IF PIPE CANNOT BE REMOVED AND IT'S NOT CALLED OUT TO BE ABANDONED ON THE PLANS, OBTAIN APPROVAL FROM CITY ENGINEER TO ABANDON IN PLACE.
- 22B RECONSTRUCT CURB & GUTTER PER CITY DETAIL ST-11 (MOD), SHEET C3.1.
- 22C RECONSTRUCT CURB PER CALTRANS DETAIL A1-6.
- 3 RESTORE PAVEMENT PER CITY DETAIL ST-24, SHEET C3.1.
- 4 RECONSTRUCT DRIVEWAY PER CITY DETAIL ST-6, SHEET C3.1.
- 5 REMOVE TREE.
- 5B PROTECT TREE.
- 5C INSTALL EIGHT NEW 24" BOX SIZE TREES ON CENTER MEDIAN OF SCOTT BLVD. CONTRACTOR TO COORDINATE WITH CITY ARBORIST, RON JANZING, AT (408) 615-3083 FOR EXACT LOCATIONS.
- 6 2' WIDE AC DEEPLIFT PER COUNTY DETAIL B-12, SHEET C3.2.
- 7 TYPE A2-6 CURB & GUTTER PER COUNTY DETAIL B-13, SHEET C3.2.
- 8 RECONSTRUCT CURB CUT PER COUNTY DETAIL B-8A, SHEET C3.2.
- 9A 4" WHITE STRIPE PER CALTRANS DETAIL 27B. ALL STRIPING SHALL BE THERMOPLASTIC.
- 9B 4" YELLOW STRIPE PER CALTRANS DETAIL 24. ALL STRIPING SHALL BE THERMOPLASTIC.
- 10 RECONSTRUCT (E) CHAIN LINK FENCE AND GATE AS NEEDED.
- 11 ENTRY/RECEIVING PIT FOR PIPE BURSTING. PIT SIZE TBD IN FIELD BY CONTRACTOR.
- 12 8" WHITE STRIPE PER CALTRANS DETAIL 38. ALL STRIPING SHALL BE THERMOPLASTIC.
- 13 18" BAND PER AP-A NOTE 5, SHEET C1.1.
- 14 RECONSTRUCT 8" TYPE B3 CURB PER COUNTY DETAIL B-13, SHEET C3.2.
- 15 CONTACT DAVE PADILLA, ELECTRIC T&D MANAGER AT (408) 615-5630, A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION TO DETERMINE THE NEED TO SUPPORT THE EXISTING STREET LIGHT POLES ADJACENT TO THE PROPOSED TRENCH.
- 16 4" WHITE STRIPE PER CALTRANS DETAIL 12. ALL STRIPING SHALL BE THERMOPLASTIC.

**LEGEND**

- PROPERTY LINE
- VERTICAL CURB AND GUTTER
- VERTICAL CURB
- AC STRUCTURAL PAVEMENT SECTION RESTORATION
- REPLACE LANDSCAPING IN KIND
- 2' WIDE AC DEEPLIFT
- BIKE LANE ARROW PER CALTRANS STD PLAN A24A

Record Drawings

CSC TRACING NO. 12,175-D

DATE PLOTTED: 11/11/2014 11:00:00 AM



1720 N. FIRST STREET  
SAN JOSE, CA 95128  
408-467-8199 (FAX)



STATE OF CALIFORNIA  
SANTA CLARA COUNTY  
CITY OF SANTA CLARA  
**SCOTT BOULEVARD TO KIFER ROAD  
SANITARY SEWER IMPROVEMENT PLANS  
PROJECT AND CITY DETAILS**

Date	By	Checked	Approved
09/24/13	AS SHOWN	PK	JH
10/20/13	AS SHOWN	PK	JH

9/14/19  
Drawing Number: **C3.1**

**DEPRESSED DRIVEWAY FOR EX. 5' ATTACHED SIDEWALK**

ST-6

CITY OF SANTA CLARA

PAGE: 6

DATE: MAY 2015

DESIGNED BY: K. TRAN  
CHECKED BY: F. AMIN  
APPROVED BY: G. GOMEZ

**MONOLITHIC CURB AND GUTTER (MOD)**

ST-11

CITY OF SANTA CLARA

PAGE: 11

DATE: OCTOBER 2013

DESIGNED BY: K. TRAN  
CHECKED BY: F. AMIN  
APPROVED BY: G. GOMEZ

**MANHOLE**

DS-1

CITY OF SANTA CLARA

PAGE: 43

DATE: OCTOBER 2013

DESIGNED BY: K. TRAN  
CHECKED BY: F. AMIN  
APPROVED BY: G. GOMEZ

**TRENCH BACKFILL AND PAVEMENT REPLACEMENT**

ST-24

CITY OF SANTA CLARA

PAGE: 24

DATE: DECEMBER 2014

DESIGNED BY: K. TRAN  
CHECKED BY: F. AMIN  
APPROVED BY: G. GOMEZ

**STREETS REQUIRING 15 INCHES OF ASPHALT CONCRETE FOR PAVEMENT RESTORATION**

ST-26

CITY OF SANTA CLARA

PAGE: 26

DATE: DECEMBER 2014

DESIGNED BY: K. TRAN  
CHECKED BY: F. AMIN  
APPROVED BY: G. GOMEZ

**CONCRETE SADDLE LOWER PIPE INSTALLATION**

MI-4

CITY OF SANTA CLARA

PAGE: 82

DATE: OCTOBER 2013

DESIGNED BY: K. TRAN  
CHECKED BY: F. AMIN  
APPROVED BY: G. GOMEZ

**CAP EXISTING MANHOLE**

Record Drawings

CSC TRACING NO. 12,175-D



1730 N. FIRST STREET  
SAN JOSE, CA 95112  
408-487-9100  
408-487-9101 (FAX)



SCOTT BOULEVARD TO KIFER ROAD  
SANITARY SEWER IMPROVEMENT PLANS  
COUNTY DETAILS  
CITY OF SANTA CLARA STATE OF CALIFORNIA  
SANTA CLARA COUNTY

Revision	Date	By	Check

Date: 09/04/19  
Scale: AS SHOWN  
Drawing: PK  
Drawn: JH  
Approved: PC  
Job No: 20180113-30

Drawing Number: **C3.2** OF **8**

**NOTES:**

- SAW CUT FACE AND TOP OF REMAINING CURB AND GUTTER AND SIDEWALK TO A DEPTH OF 50 MM (2") AT MATCH LINE WITH NEW IMPROVEMENTS AND CURB CONCRETE TO A VERTICAL PLANE BELOW SAW CUT.
- SHADED AREA INDICATES LIMITS OF NEW CONSTRUCTION.
- INSTALL 10M (#3) BARS 300 MM (12") C.C. EACH WAY OR 100 MM X 100 MM (#4x4) - W4 X 94 WELDED WIRE FABRIC FOR COMMERCIAL DRIVEWAYS.
- DRIVEWAY SHALL MEET STANDARDS OF USE. REFER TO OTHER DETAILS FOR ADDITIONAL REQUIREMENTS.
- EDGE OF DRIVEWAY 610 MM (24") MIN. FROM ROADSIDE FACILITY.
- NEW IMPROVEMENTS SHALL CONFORM TO EXISTING ONES.
- SIDEWALK TAPER AS PER DETAIL B/7 SHALL BE PROVIDED IF:
  - A. ADJACENT MONOLITHIC SIDEWALK WIDTH IS LESS THAN 2.7 M (9') MEASURED FROM BACK OF CURB.
  - B. ADJACENT DETACHED SIDEWALK WIDTH IS LESS THAN 1.2 M (4')
- CONCRETE MIX TO BE MIN. 8 SACK PCC, 19 MM (#2) AGGREGATE, NATURAL GRAY, I.E. NO COLOR ADDED; LIGHT BROWN FINISH.
- INSTALL 2-13M (#4) REBAR MIN. 457 MM (18") LONG, DOWELS MIN. 150 MM (6") INTO EXISTING GUTTER.
- CONCRETE TO BE PLACED ON 100 MM (4") MIN. CLASS 2 A.S. WITH NO LESS THAN 95% COMPACTION (BOX IF OUTSIDE THE ROADWAY'S STRUCTURAL SECTION).
- CONCRETE THICKNESS AT CURB, GUTTER AND APPROACH SHALL BE 150 MM (6") MIN.
- SIDEWALK THICKNESS SHALL BE 100 MM (4") MIN.
- WHERE PRACTICAL, SIDEWALK DIMENSION AT APPROACH SHALL BE 1.2 M (48") WIDE WITH 2% MAX. CROSS SLOPE.
- INSTALL DEEP JOINTS AT MAXIMUM 3.0 M (12') SPACING ALONG ENTIRE LENGTH OF NEW APPROACH AND SIDEWALK - DEEP JOINTS TO EXTEND FROM BACK OF SIDEWALK/APPROACH TO LEADING EDGE OF GUTTER PAN AT ASPHALT. MATCH EXISTING SIDEWALK SCORING.
- ASPHALT TO BE SAW-CUT MIN. 300 MM (12") FROM EDGE OF GUTTER PAN AND TO BE REPLACED WITH 12 MM (1/2") MEDIUM HOT-MIX ASPHALT MATCHING EXISTING AS DEPTH (75 MM OR 3" MIN.) NOTE: ASPHALT EMULSION/SEALER SHALL BE APPLIED ALONG EDGES OF EXISTING ASPHALT CONCRETE (AC) PRIOR TO PLACEMENT OF NEW AC.

**METRIC (& ENGLISH) UNITS**

UNIT	METRIC	ENGLISH
LENGTH	mm	mm
LENGTH	m	ft
AREA	m <sup>2</sup>	sq ft
VOLUME	m <sup>3</sup>	cu yd
WEIGHT	kg	lb

SANTA CLARA COUNTY ROADS AND AIRPORTS DEPARTMENT  
STANDARD DETAILS  
NEW DRIVEWAY APPROACH  
AT EXISTING VERTICAL CURB, GUTTER & SIDEWALK  
SECTION A-A

**NOTES:**

- This detail applies where existing asphalt concrete pavement is cut to install new curb and gutter which is 910 mm (36") x 305 mm (12") from the edge of existing asphalt concrete pavement.
- Cross slope shall conform to existing pavement slope.

**METRIC (& ENGLISH) UNITS**

UNIT	METRIC	ENGLISH
LENGTH	mm	mm
LENGTH	m	ft
AREA	m <sup>2</sup>	sq ft
VOLUME	m <sup>3</sup>	cu yd
WEIGHT	kg	lb

SANTA CLARA COUNTY ROADS AND AIRPORTS DEPARTMENT  
STANDARD DETAILS  
SECTION BETWEEN NEW CURB AND GUTTER  
AND EXISTING SECTION  
SECTION B-B

TYPE	sq/lin	C. Y. PER LN. FT
A2-6	0.14807	0.05903
B-2	0.15479	0.06171
B-3	0.02894	0.01074

**NOTES:**

- Curb and gutter shall be placed on 100 mm (4") class 3 App. Base or 150 mm (6") D. 2 A.S.B. unless otherwise specified on the project plans.
- Curb may be produced per Section 73-1.06, Estimated Curb Construction, State Standard Specifications or its latest revision.
- Use only under extreme condition as approved by Road Commissioner.

**METRIC (& ENGLISH) UNITS**

UNIT	METRIC	ENGLISH
LENGTH	mm	mm
LENGTH	m	ft
AREA	m <sup>2</sup>	sq ft
VOLUME	m <sup>3</sup>	cu yd
WEIGHT	kg	lb

SANTA CLARA COUNTY ROADS AND AIRPORTS DEPARTMENT  
STANDARD DETAILS  
CURB & GUTTER  
SECTION C-C

Record Drawings

CSC TRACING NO. 12,175-D

RECOMMENDED PRIORITIZATION LIST  
Page 1 of 2

504100093 - Annual Sanitary Sewer Condition Assessment Repairs - 2021 Project

DATE: 6/2/2022

**Abbreviations**

LR = Localized Repair, CIPP = Cured-in-Place-Pipe Liner, PB = Pipe Burst, PReam = Pipe Ream,  
OC = Open Cut,  
PR = Point Repair (in conjunction with noted rehabilitation method)

**Highlight Notes**

- The 2035 Model predicts surcharge, but below acceptable limit of 1-foot surcharge
- The 2035 Model predicts a max. WWF double the capacity, but no surcharge due to higher slopes downstream
- The 2035 Model predicts max. WWFs potentially slightly exceeding capacity, but no surcharge is predicted

SHEET	PIPE SEGMENT/ITEM	USMH	DSMH	STREET NAME	DIA. (IN)	REHAB METHOD	PIPE FULL CAPACITY (MGD)	MAX SURCHARGE (FT)	MAX PREDICTED FLOW (MGD)	Min. CIPP Liner Thickness (inches) (REFER TO NOTE 1)	Min. CIPP Liner Thickness (mm) (REFER TO NOTE 1)	W&C MODEL DIA. (IN)	W&C ADJUSTED DIA. (IN)
<b>BASE BID ITEMS</b>													
C-50	240	104-16	104-14	Lafayette St	42	CIPP	26.19	0.71	22.04	0.63	16.0	42	40.7
C-51	241	104-17	104-16	Lafayette St	42	CIPP	26.19	0.72	22.05	0.63	16.0	42	40.7
C-51													
C-52	242	104-22	104-17	Lafayette St	42	CIPP	26.19	0.72	22.05	0.63	16.0	42	40.7
C-51	235	104-50	104-18	Lafayette St	42	CIPP	N/A*	N/A*	N/A*	0.63	16.0	42	40.7
C-50													
C-51	234	104-18	104-15	Lafayette St	42	CIPP	26.6	0.68	21.32	0.63	16.0	42	40.7
C-49													
C-50	233	104-15	104-9	Lafayette St	42	CIPP	26.52	0.67	21.49	0.65	16.5	42	40.7
C-49	232	104-9	114-14	Lafayette St	42	CIPP	29.03	0.66	21.49	0.65	16.5	42	40.7
C-48	231	114-14	114-23	Lafayette St	42	CIPP	29.03	0.62	21.49	0.66	16.8	42	40.7
C-47	228	103-5	103-6	Great America Pkwy	15	1 Joint Infiltration Grouting	1.75	0.57	0.55				
C-44													
C-45	226	104-25	104-27	Easement	42	CIPP	22.04	0.73	20.44	0.69	17.5	42	40.6
C-44	225	103-13	104-25	Easement	42	CIPP	21.49	0.74	19.3	0.67	17.0	42	40.7
C-43	224	103-11	103-13	Easement	42	CIPP (Contractor shall review joints at 320' and 429' to determine if infiltration grouting is necessary)	22.01	0.74	19.31	0.67	17.0	42	40.7
C-42	223	103-15	103-11	Easement	42	CIPP	10.84	0.84	19.31	0.73	18.5	42	40.5
C-44	211	104-24	104-26	Easement	33	CIPP	10.57	0.82	11.43	0.54	13.7	33	31.9
C-44	210	103-12	104-24	Easement	33	CIPP	10.51	0.87	11.5	0.53	13.5	33	31.9
C-43													
C-44	209	103-10	103-12	Easement	33	CIPP	10.56	0.92	11.63	0.55	14.0	33	31.9
C-42													
C-43	208	103-9	103-10	Great America Pkwy (Start of Easement)	33	CIPP	10.84	0.93	19.31	0.56	14.2	33	31.9
C-39													
C-40	205	93-4	103-22	Great America Pkwy	30	CIPP	8.8	2	11.06	0.44	11.2	30	29.1
C-38													
C-39	204	93-21	93-4	Great America Pkwy	30	CIPP	10.79	2	11.05	0.42	10.7	30	29.2
C-38	203	93-36	93-21	Great America Pkwy	30	CIPP	11.66	1	11.04	0.42	10.7	30	29.2
C-37	202	93-51	93-49	Great America Pkwy	18	Joint infiltration grouting at all joints, partial open cut replacement, and CIPP	46.73	1	7.14	0.33	8.4	18	17.3
C-37	202	93-51	93-49	Great America Pkwy	24	Joint infiltration grouting at all joints, partial open cut replacement, and CIPP	45.05	1	5.77	0.43	10.9	24	23.1
C-37	202	93-51	93-49	Great America Pkwy	24	Joint infiltration grouting at all joints, partial open cut replacement, and CIPP	44.86	1	5.82	0.43	10.9	24	23.1
C-28	136	58-9	58-7	De la Cruz Blvd.	24	CIPP (w/ 1 internal gasket cutting)	6.49	0.53	3.64	0.34	8.6	24	23.3
C-29	134	58-7	58-4	De la Cruz Blvd.	24	CIPP (w/ 6 internal gasket cutting)	8.61	0.64	4.22	0.34	8.6	24	23.3
C-30	132	58-4	58-3	De la Cruz Blvd.	24	CIPP (w/ 1 internal gasket cutting)	6.15	0.72	4.21	0.34	8.6	24	23.3
C-26	130	58-21	58-17	De la Cruz Blvd.	24	CIPP (w/ 1 internal gasket cutting)	6.61	0.49	3.21	0.34	8.6	24	23.3
C-27	122	58-14	58-12	De la Cruz Blvd.	24	CIPP	8.05	0.49	3.31	0.34	8.6	24	23.3

RECOMMENDED PRIORITIZATION LIST  
Page 2 of 2

SHEET	PIPE SEGMENT/ITEM	USMH	DSMH	STREET NAME	DIA. (IN)	REHAB METHOD	PIPE FULL CAPACITY (MGD)	MAX SURCHARGE (FT)	MAX PREDICTED FLOW (MGD)	Min. CIPP Liner Thickness (Inches) (REFER TO NOTE 1)	Min. CIPP Liner Thickness (mm) (REFER TO NOTE 1)	W&C MODEL DIA. (IN)	W&C ADJUSTED DIA. (IN)
C-27 C-28	120	58-12	58-9	De la Cruz Blvd.	24	CIPP (w/ 3 internal gasket cutting)	7.79	0.54	3.64	0.34	8.6	24	23.3
<b>ALTERNATE 1 - MATHEW STREET</b>													
C-24	100	57-35	57-39	Mathew St.	18	Open Cut	4.52	0.49	1.53		0.0		
C-25	112	57-39	58-21	Mathew St.	15	Open Cut	3.22	0.49	1.53		0.0		
C-23	101	57-36	57-37	Mathew St.	18	Open Cut	4.21	0.42	1.52		0.0		
C-24	109	57-38	57-35	Mathew St.	18	Open Cut	3.51	0.46	1.53		0.0		
C-23	96	57-34	57-36	Mathew St. (under UPRR tracks)	18	CIPP (w/ 2 PRs)	5.4	0.42	1.18	0.33	8.4	18	17.3
C-22	95	57-31	57-32	Mathew St	15	CIPP (w/ 3 PRs)	2.05	0.52	0.87	0.21	5.3	15	14.6
<b>ALTERNATE 2 - WALSH AVENUE</b>													
C-34	86	57-2	57-3	Walsh Ave	15	Pipe Ream	2.24	0.28	0.37		0		
C-35	91	57-3	57-4	Walsh Ave	15	Pipe Ream (w/ 1 PR)	2.3	0.28	0.38		0		
C-35	115	57-4	57-55	Walsh Ave	15	Slip line	2.28	2.28	0.38		0		
C-33	80	56-8	57-1	Walsh Ave	15	CIPP (w/ 4 PRs)	2.41	0.25	0.31	0.21	5.3		
C-33	77	56-7	56-8	Walsh Ave	15	Open Cut	3.05	0.26	0.34		0		
C-33C-34	85	57-1	57-2	Walsh Ave	15	CIPP (w/ 4 PRs)	2.45	0.28	0.34	0.21	5.3		
<b>ALTERNATE 3 - DE LA CRUZ BLVD</b>													
C-14	31	47-64	48-29	De La Cruz Blvd.	15	CIPP (w/ 1 PR)	3.53	0.42	1.26	0.32	8.1	15	14.4
C-14	45	48-29	48-18	De La Cruz Blvd.	15	8' CIPP Spot Liner	3.3	0.43	1.26	0.32	8.1		

\* Flow data for this segment not available

AEGION

**Note:**

1.CIPP liner thicknesses calculated with Aegion CIPP Wall Thickness Calculator for Gravity Pipes (<https://www.aegion.com/about/resources/cipp-design-guide>). Thicknesses shown in this table are preliminary; actual liner thickness to be selected by the Contractor to conform to construction needs per the Contract Documents.

**LEGEND SYMBOLS**

**LEGEND SYMBOLS CONTINUED**

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY LINE
		CURB, GUTTER, SIDEWALK & DRIVEWAY
		WATER MAIN & VALVE
		STORM DRAIN, MANHOLE & CATCH BASIN
		CENTER LINE & MONUMENT
		SANITARY SEWER & MANHOLE
		GAS MAIN & VALVE
		LEVEL 3 FIBER OPTICS
		ELECTRIC CONDUIT & PULL BOX
		XO FIBER OPTIC
		TELEVISION CABLE
		RECYCLED WATER
		AT&T FIBER OPTICS
		ELECTRICAL OVER HEAD
		ABANDONED UTILITY LINE
		LIMIT OF WORK LINE
		IRRIGATION

EXISTING	PROPOSED	DESCRIPTION
		SS LATERAL AND CLEANOUT
		SS LATERAL RECONNECTION

NO. \_\_\_\_\_ DETAIL NO.  
X-1 \_\_\_\_\_ SHEET NO.



**PUBLIC WORKS DEPARTMENT**

**SANITARY SEWER CONDITION ASSESSMENT  
REPAIRS PROJECT - PHASE 1**

**SHEET INDEX**

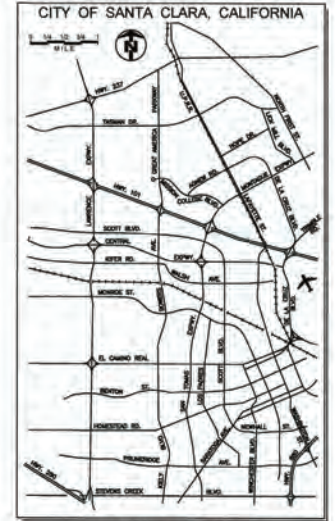
SHEET NO.	DESCRIPTION
1	G-01 COVER SHEET
2	G-02 KEY MAPS
3	G-03 GENERAL & MONUMENT NOTES
4	G-04 TRAFFIC & ARBORIST NOTES
5	G-05 PIPE SEGMENT FLOW INFORMATION
6	C-01 SEGMENT 01 - MAURICIA AVE PLAN AND PROFILE
7	C-02 SEGMENT 02 - FERNANDEZ CT PLAN AND PROFILE
	C-03 NOT IN CONTRACT
8	C-04 SEGMENT 04 - WOODLAND AVE PLAN AND PROFILE
	C-05 NOT IN CONTRACT
	C-06 NOT IN CONTRACT
	C-07 NOT IN CONTRACT
	C-08 NOT IN CONTRACT
	C-09 NOT IN CONTRACT
9	C-10 SEGMENT 10 - GREAT AMERICA PKWY PLAN AND PROFILE

SHEET NO.	DESCRIPTION
10	C-11 SEGMENT 11 - LAFAYETTE ST PLAN AND PROFILE
	C-12 NOT IN CONTRACT
	C-13 NOT IN CONTRACT
	C-14 NOT IN CONTRACT
11	C-15 SEGMENT 15 - WALSH AVE PLAN AND PROFILE
12	C-16 SEGMENTS 17 & 18 - SAN TOMAS EXPY PLAN AND PROFILE
13	C-17 SEGMENTS 18 & 19 - SAN TOMAS EXPY PLAN AND PROFILE
	C-18 NOT USED
14	C-19 SEGMENTS 20, 21 & 22 - SAN TOMAS EXPY PLAN AND PROFILE
15	C-20 SEGMENT 23 - SARATOGA AVE PLAN AND PROFILE
	C-21 NOT IN CONTRACT
	C-22 NOT IN CONTRACT
	C-23 NOT IN CONTRACT
	C-24 NOT IN CONTRACT

SHEET NO.	DESCRIPTION
16	C-25 SEGMENT 29 - KIFER RD (1) PLAN AND PROFILE
17	C-26 SEGMENTS 29 & 30 - KIFER RD (2) PLAN AND PROFILE
18	C-27 SEGMENT 31 - KIFER RD (3) PLAN AND PROFILE
19	C-28 SEGMENT 32 - MONROE ST PLAN AND PROFILE
20	C-29 SEGMENT 33 - LAKESIDE DR PLAN AND PROFILE
21	C-30 SEGMENT 34 - GREAT AMERICA PKWY PLAN AND PROFILE
22	C-30.1 SEGMENT 34 - GREAT AMERICA PKWY PLAN
23	C-31 SEGMENT 35 - GUADALUPE RIVER PLAN AND PROFILE
24	C-32 TRAIL DETOUR - WALSH AVE
25	C-33 TRAIL DETOUR PLAN - SAN TOMAS EXPY (1)
26	C-34 TRAIL DETOUR PLAN - SAN TOMAS EXPY (2)
27	C-35 TRAIL DETOUR PLAN - SAN TOMAS EXPY (3)
28	C-36 SEGMENTS 36, 37 & 38 - KIFER RD.
29	C-37 SEGMENTS 39, 40 & 41 - KIFER RD.
30	D-1 TYPICAL DETAILS

**RECORD DRAWING**  
THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
DATE PREPARED:  
JUNE 15, 2020

**RECORD DRAWINGS**  
PROJECT NO. CE 18-19-08  
DATE ACCEPTED 07/17/2020  
INSPECTOR Brent Erkel  
REVISIONS BY Mott MacDonald DATE 07/22/2020



**VICINITY MAP**  
N.T.S.

**CERTIFICATION OF PEER REVIEW**  
THE UNDERSIGNED HEREBY CERTIFIES THAT A PROFESSIONAL PEER REVIEW OF THESE PLANS AND THE REQUIRED DESIGN WAS CONDUCTED BY ME, A PROFESSIONAL ENGINEER WITH EXPERTISE AND EXPERIENCE IN THE APPROPRIATE FIELD OF ENGINEERING EQUAL TO OR GREATER THAN THE ENGINEER OF RECORD, AND THAT APPROPRIATE CORRECTIONS HAVE BEEN MADE:

THOMAS G. DRAU	<i>Thomas Drau</i>	06/19/2019
PRINT NAME	SIGNATURE	DATE
<b>APPROVED BY:</b>		
<i>[Signature]</i>		DATE: 7/2/19
<b>REVIEWED BY:</b>		
<i>[Signature]</i>		DATE: 6/26/19
<i>[Signature]</i>		DATE: 6/25/19
<i>[Signature]</i>		DATE: 6/28/19
<i>[Signature]</i>		DATE: 6/25/19
<i>[Signature]</i>		DATE: 7/2/19

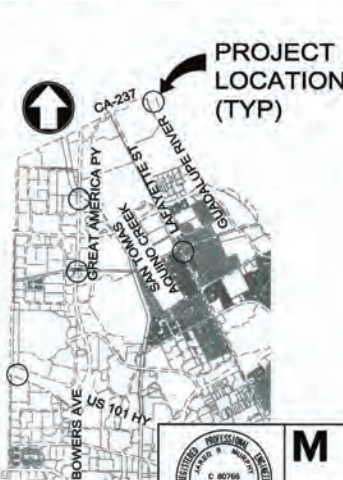
**ABBREVIATIONS**

AB	AGGREGATE BASE	HP	HIGH POINT, HIGH PRESSURE	SL	STREET LIGHT
AC	ASPHALT CONCRETE	INV	INVERT	SS	SANITARY SEWER
ASB	AGGREGATE SUB BASE	L	LENGTH	SSMH	SANITARY SEWER MANHOLE
BC	BEGIN CURVE	LF	LINEAR FEET	STL	STEEL
BW	BACK OF WALK	LOG	LR OF GUTTER	ST	STREET
BTW	BETWEEN	LT	LEFT	STA	STATION
CB	CATCH BASIN	MAX	MAXIMUM	STD	STANDARD
CI	CAST IRON	MH	MANHOLE	SW	SIDEWALK
CP	CAST IRON PIPE	MNL	MINIMUM	TAC	TOP OF CURB
CPRP	CURED IN PLACE PIPE	MW	MONITORING WELL	TBS	TRAFFIC SIGNAL BOX
CG	CURB AND GUTTER	N	NORTH	TSS	TRAFFIC SIGNAL SENSORS
CL	CENTER LINE	(N)	NEW	TYP. (TYP)	TYPICAL
CLSM	CONTROLLED LOW STRENGTH MATERIAL	OG	ORIGINAL GRADE	VCP	VITRIFIED CLAY PIPE
		PCC	PORTLAND CEMENT CONCRETE	W	WEST, WATER
		PC#PB	PENINSULA CORRIDOR JOINT POWERS BOARD	WV	WATER VALVE
CS	CONCRETE SLAB	PG	PROFILE GRADE		
DTL	DETAIL	PL	PLASTIC		
DR	DRIVE	R	RADIUS		
DW	DRIVEWAY	RCF	REINFORCED CONCRETE PIPE		
E	EAST	ROW	RIGHT-OF-WAY		
EB	ELECTRICAL BOX	RR	RAILROAD		
EC	END CURVE	RT	RIGHT		
ELEV. EL.	ELEVATION	S	SOUTH, SLOPE		
EX. EXIST. (E)	EXISTING	SCWD	SANTA CLARA WATER VALLEY DISTRICT		
FG	FINISH GRADE	SD	STORM DRAIN		
FL	FLOW LINE	SDMH	STORM DRAIN MANHOLE		
FH	FIRE HYDRANT	SEG	SEGMENT		
FDC	FACE OF CURB	SFPMC	SAN FRANCISCO PUBLIC UTILITIES COMMISSION		
GB	GRADE BREAK				
HDPE	HIGH-DENSITY POLYETHYLENE				

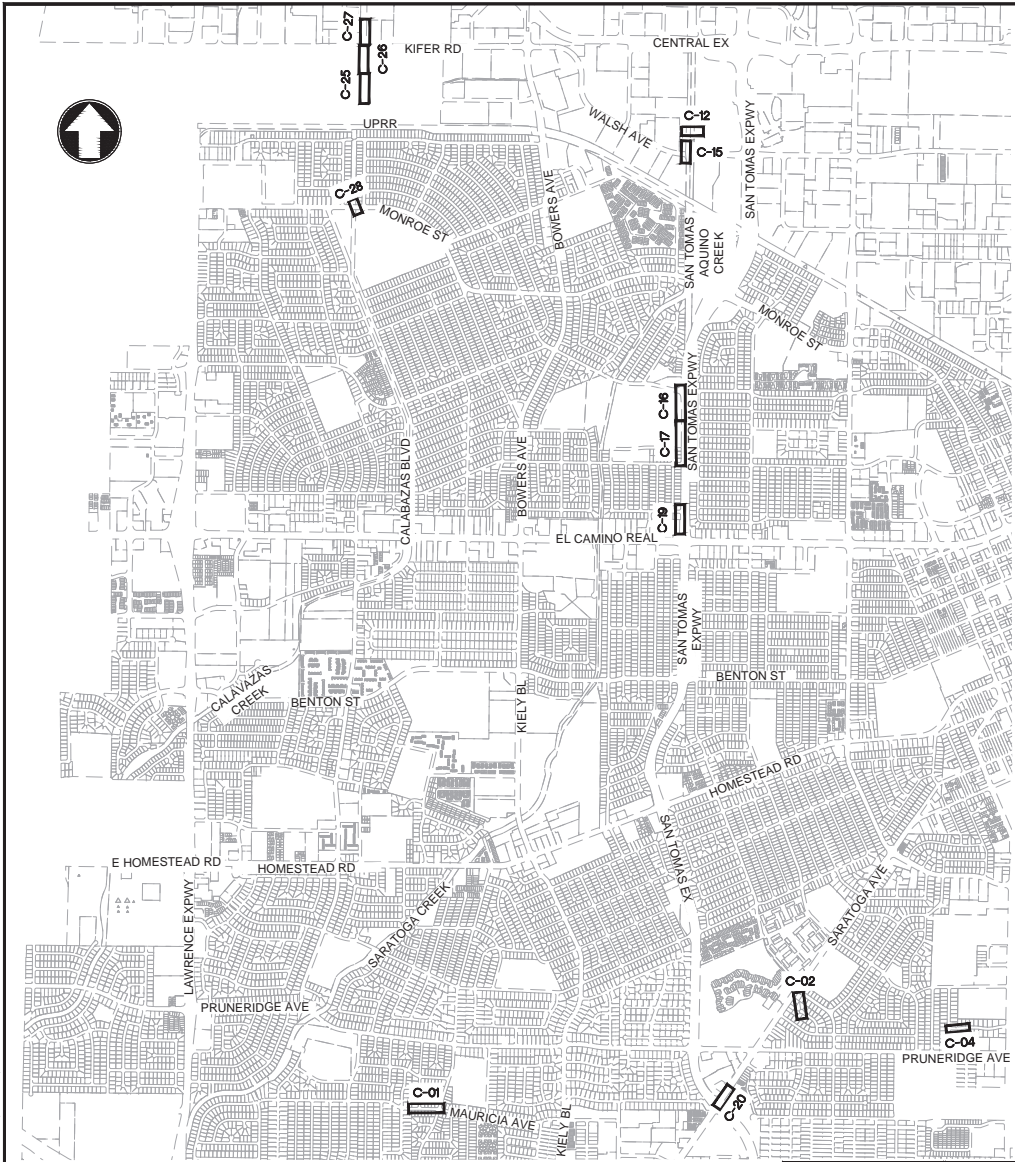
**CRATUS INC**  
AS-BUILT  
DATE: 3/9/2020  
SIGNATURE: *[Signature]*



**LOCATION MAPS**  
N.T.S.



<b>SANITARY SEWER CONDITION ASSESSMENT REPAIRS PROJECT - PHASE 1</b>	
PROJECT No. CE 18-19-08	TRACING No. 12291-D
ACCOUNT No. 594-4443-80300-1012	SHEET 1 OF 30



**CRATUS INC**  
 AS-BUILT  
 DATE: 3/9/2020  
 SIGNATURE:

**KEY MAPS**  
 N.T.S.



PROJECT No.	CE	18-19-08
ACCOUNT No.	594-4443-80300-1912	
DATE	No.	REVISION
6/15/20	Δ	RECORD PLAN
		BY
		OP

**CITY OF SANTA CLARA**  
 PUBLIC WORKS DEPARTMENT  
**SANITARY SEWER CONDITION**  
**ASSESSMENT REPAIRS PROJECT-PHASE 1**  
**KEY MAPS**

APPROVED BY		TITLE	
DATE		R.C.E. No.	
DESIGNED BY	INITIAL	DATE	Survey No.
JSM		02/19	N/A
DRAWN BY	TPF	02/19	TRACING No.
CHECKED BY	TGG	02/19	
AS BUILT BY	JSM	06/20	

SHEET No. **G-02**

**12291-D**  
 SHEET 2 OF 30

HORIZONTAL SCALE: NTS VERTICAL SCALE: NTS

**GENERAL NOTES:**

- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CITY'S STANDARD DETAILS, STANDARD SPECIFICATIONS, AND GENERAL REQUIREMENTS.
- NOT USED.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITH THE APPROPRIATE UTILITY AGENCIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. CONTRACTOR SHALL NOTIFY ALL PUBLIC AND PRIVATE UTILITY OWNERS 48 HOURS PRIOR TO COMMENCEMENT OF WORK ADJACENT TO THE UTILITY. CONTACT UNDERGROUND SERVICE ALERT (USA) AT 811 OR 800-227-2600.
- NOT USED.
- UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER IN THE FIELD: AT EACH LOCATION WHERE NEW CURB/GUTTER IS TO BE INSTALLED ON AN EXISTING STREET (DRIVEWAY INSTALLATION, DRIVEWAY ABANDONMENT, CURB RAMP INSTALLATION, CURB FACE DRAINAGE INSTALLATION, ETC.) PAVEMENT RECONSTRUCTION SHALL BE REQUIRED. AN 18-INCH WIDE BAND OF PAVEMENT SHALL BE REMOVED AND REPLACED ALONG THE ENTIRE LENGTH OF CURB/GUTTER INSTALLATION. REMOVAL DEPTH (SAW CUTS REQUIRED) SHALL BE TO THE BASE MATERIAL ON STREETS WITH A.C. OR P.C.C. PAVEMENT FOUR (4) INCHES OR LESS IN THICKNESS. REMOVAL DEPTH SHALL BE TWO (2) INCHES MINIMUM ON STREETS WITH A.C. (GRIND) AND FOUR (4) INCHES MINIMUM ON STREETS WITH P.C.C. (SAW CUT) PAVEMENT THICKNESS GREATER THAN FOUR (4) INCHES. REPLACE WITH A.C. OR P.C.C. (DOWELS REQUIRED) TO MATCH EXISTING PAVEMENT.
- ALL SIDEWALK, CURB, AND GUTTER DAMAGED AS A RESULT OF THE PROJECT SHALL BE REMOVED AND REPLACED TO THE NEAREST SCORE MARK OR AS DIRECTED BY THE CITY ENGINEER. INSTALLATION OF NEW SIDEWALK, CURB AND GUTTER AGAINST EXISTING IMPROVEMENTS SHALL REQUIRE A SIDEWALK CONTACT JOINT (DOWELS REQUIRED).
- PARTIAL REPLACEMENT OF A DRIVEWAY IS NOT ALLOWED, UNLESS OTHERWISE NOTED ON THESE PLANS. A DRIVEWAY THAT HAS BEEN CUT OR DAMAGED MUST BE REPLACED IN ITS ENTIRETY. THE NEW REPLACEMENT DRIVEWAY MUST MEET CURRENT CITY STANDARDS WHICH MAY AFFECT ON-SITE IMPROVEMENTS AND/OR REQUIRE A SIDEWALK EASEMENT.
- SLURRY SEAL SHALL BE REQUIRED ON ALL NEW STREET PAVEMENT (E.G., TRENCH WORK, POTHOLE, AND STREET WIDENINGS). SLURRY SEAL SHALL EXTEND TWELVE INCHES BEYOND THE LIMIT OF PAVEMENT RECONSTRUCTION.
- ALL MANHOLES, VALVE BOXES, MONUMENT BOXES, AND OTHER STRUCTURES IN THE PAVEMENT AREA SHALL BE ADJUSTED TO FINISH GRADE BEFORE PAVING FINAL LIFT.
- GRADE BREAKS ON CURBS AND SIDEWALKS ARE TO BE ROUNDED OFF ON FORM WORK AND FINISHED SURFACING.
- CONTRACTOR IS ALERTED TO MONUMENT NOTES PROVIDED ON SHEET G-04.
- ALL SURPLUS AND UNSUITABLE MATERIAL SHALL BE REMOVED FROM PUBLIC RIGHT-OF-WAY.
- CONTRACTOR SHALL PROVIDE ADEQUATE DUST CONTROL AND KEEP MUD AND DEBRIS OFF THE PUBLIC RIGHT-OF-WAY AT ALL TIMES.
- ALL TRENCHES AND EXCAVATIONS SHALL BE CONSTRUCTED IN STRICT COMPLIANCE WITH THE APPLICABLE SECTIONS OF CALIFORNIA AND FEDERAL O.S.H.A. REQUIREMENTS AND OTHER APPLICABLE SAFETY ORDINANCES. CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR TRENCH SHORING DESIGN AND INSTALLATION.
- EXISTING UTILITIES SHOWN ARE BASED UPON RECORD INFORMATION AND ARE APPROXIMATE IN LOCATION AND DEPTH. THE CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES THAT MAY BE AFFECTED BY NEW FACILITIES IN THIS CONTRACT, VERIFY ACTUAL LOCATION AND DEPTH, AND REPORT POTENTIAL CONFLICTS TO THE ENGINEER PRIOR TO EXCAVATING FOR NEW FACILITIES.
- CONTRACTOR SHALL PERFORM HIS CONSTRUCTION AND OPERATION IN A MANNER, WHICH WILL NOT ALLOW HARMFUL POLLUTANTS TO ENTER THE STORM DRAIN SYSTEM. TO ENSURE COMPLIANCE, THE CONTRACTOR SHALL IMPLEMENT THE APPROPRIATE BEST MANAGEMENT PRACTICE (BMP) AS OUTLINED IN THE BROCHURES ENTITLED "BEST MANAGEMENT PRACTICE FOR THE CONSTRUCTION INDUSTRY" ISSUED BY THE SANTA CLARA VALLEY NONPOINT SOURCE POLLUTION CONTROL PROGRAM, TO SUIT THE CONSTRUCTION SITE AND JOB CONDITION.
- OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT IN THE PUBLIC RIGHT-OF-WAY SHALL NOT BE PERMITTED, EXCEPT AT LOCATION(S) APPROVED BY THE CITY TRAFFIC ENGINEER.
- ALL SANITARY SEWER AND/OR STORM DRAIN MAINS TO BE ABANDONED SHALL BE FILLED WITH SAND OR CONTROL DENSITY FILL (CDF) AND PLUGGED AT EACH END WITH A 6" THICK WALL OF CLASS "A" P.C.C.
- ABANDONMENT OF SANITARY SEWER LATERAL AT THE PROPERTY LINE SHALL INCLUDE THE COMPLETE REMOVAL OF THE CHRISTY BOX, ALL VERTICAL PIPES AND THE 45° WYE. THE REMAINING LATERAL ENDS SHALL BE PLUGGED WITH 6" THICK WALL OF CLASS "A" P.C.C., ENSURING NO CONCRETE ENTERS THE MAIN. ABANDONMENT OF SANITARY SEWER LATERAL AT THE MAIN WILL OCCUR WHEN LATERAL CONNECTS AT A MANHOLE OR AS DETERMINED BY THE CITY. PLUG THE LATERAL END WITH 6" THICK WALL OF CLASS "A" P.C.C., AND FILL LATERAL WITH SAND OR CONTROL DENSITY FILL (CDF), MAKING A SMOOTH TROWEL FINISH ON THE INSIDE WALL OF THE MANHOLE FOR MANHOLE CONNECTIONS.
- UNLESS OTHERWISE NOTED, CLASS 2 A.B. UNDER CURB, GUTTER, AND STREET SECTIONS PAVED WITH ASPHALT CONCRETE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION (MINIMUM).
- NOT USED.
- NOT USED.
- FOR OPEN CUT SEWER INSTALLATION OR REPLACEMENT, PROVIDE SHOP DRAWINGS WITH POTHOLED

- UTILITY INFORMATION DISPLAYED FOR REVIEW BY THE ENGINEER 72 HOURS MINIMUM PRIOR TO COMMENCEMENT OF ANY EXCAVATION OF THESE SEGMENTS.
- PROVIDE TEMPORARY UTILITY SUPPORT USING CONTROLLED LOW STRENGTH MATERIAL TO PROTECT EXISTING UTILITIES AND APPURTENANCES IN PLACE DURING SEWER CONSTRUCTION. SEE SPECIFICATION SECTION 03350.
- NO STORAGE OF MATERIALS OR EQUIPMENT SHALL BE PERMITTED ON ROADWAYS AFTER WORK HOURS WITHOUT WRITTEN PERMISSION FROM CITY.
- TRAFFIC CONTROL MEASURES SHALL BE IMPLEMENTED PER APPROVED TRAFFIC CONTROL PLANS AT ALL TIMES DURING THE CONSTRUCTION PERIOD IN COMPLIANCE WITH SPECIFICATION SECTION 03320 (TRAFFIC CONTROL) OF THE SPECIAL PROVISIONS.
- APPROVED PROTECTIVE MEASURES SHALL BE USED FOR ALL EXCAVATIONS PER SECTION 02200 "EARTHWORK", AND SECTION 02350 "EXCAVATION SUPPORT, SHORING AND BRACING."
- ALL MONUMENTS DISTURBED BY CONSTRUCTION SHALL BE REPLACED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF CALIFORNIA. REPLACEMENT WORK SHALL BE COORDINATED AND DOCUMENTED WITH THE CITY ENGINEER.
- RE-STRIPE ALL PAVED AREAS IN KIND OR AS REQUIRED BY THE CITY. ALL PAVEMENT MARKINGS AND MARKERS SHALL BE REPLACED IN ACCORDANCE WITH CITY STANDARD TECHNICAL SPECIFICATIONS SECTION 02084.
- THE CONTRACTOR SHALL REMOVE ALL USA PAINT MARKINGS FROM PAVEMENT, SIDEWALKS, AND CONCRETE WITHIN THE PROJECT BOUNDARY FOLLOWING THE COMPLETION OF CONSTRUCTION. COVERING MARKINGS WITH PAINT WILL NOT BE ALLOWED.
- DAMAGE TO STREET LIGHTING, TRAFFIC SIGNAL OR TRAFFIC LOOP FACILITIES DURING CONSTRUCTION SHALL BE REPAIRED IN ACCORDANCE WITH CALTRANS STANDARDS SECTION 86. TRAFFIC SIGNAL LOOPS DAMAGED BY THE WORK SHALL BE REPLACED WITH TYPE "O" DETECTOR LOOPS PER CITY STANDARD DETAIL TR-7.
- THE CONTRACTOR SHALL BE REQUIRED TO COORDINATE THEIR CONSTRUCTION SCHEDULE WITH PG&E. A PG&E INSPECTOR SHALL BE ONSITE DURING PRECONSTRUCTION SUBSURFACE UTILITY EXPLORATION POTHOLING AND DURING PIPELINE CONSTRUCTION WITHIN TEN (10) FEET OF GAS TRANSMISSION LINES.
- NOT USED.
- IN OPEN CUT SEWER REPLACEMENT SECTIONS, EXISTING SEWER PIPE SHALL BE REMOVED AND DISPOSED OF AT CONTRACTOR'S EXPENSE.
- NEW SEWER PIPE SHALL BE THE MATERIAL AS NOTED ON THE DRAWINGS.
- REPLACEMENT AND REPAIR OF CITY OWNED FACILITIES NOT SPECIFICALLY DETAILED IN THE PLANS SHALL BE IN ACCORDANCE WITH APPLICABLE CITY STANDARD SPECIFICATIONS AND DETAILS.
- SEWER LATERAL REPAIR OR INSTALLATION SHALL BE IN ACCORDANCE WITH THE CITY STANDARD DETAILS.
- NOT USED.
- RIGHT OF WAY AND PROPERTY LINES WHERE SHOWN ARE BASED UPON RECORD DATA AND ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.
- NOT USED.
- CONTRACTOR TO BROOM SWEEP CONSTRUCTION AREA EACH NIGHT PRIOR TO LEAVING THE JOB SITE. REFER TO THE SPECIAL PROVISIONS.
- CONCRETE SADDLE SHALL BE USED FOR UTILITY CROSSINGS WITH LESS THAN 12 INCHES OF VERTICAL SEPARATION. REFER TO CITY STANDARD DETAILS MI-3 & MI-4.
- NOT USED.
- CONTRACTOR SHALL PROTECT EXISTING TREES.
- CONTRACTOR TO AIR GAP ALL EXISTING UTILITIES AT ALL CROSSING POINTS PRIOR TO PIPE BURSTING.
- CONTRACTOR SHALL INCLUDE COST TO PROTECT UTILITY POLE OR FOR SVP TO BRACE AND SUPPORT UTILITY POLES AND GUYS, INCLUDING THE USE OF A UTILITY POLE HOLDING TRUCK OR CRANE RIG OPERATED BY UTILITY PERSONNEL, IN THE UNIT PRICE BID FOR MANHOLE, LATERAL, OR PIPE INSTALLATION/REHABILITATION WHERE EXCAVATION IS REQUIRED WITHIN 5 FEET OF UTILITY POLES.
- ALL INFORMATION PRESENTED HAS BEEN OBTAINED FROM FIELD INVESTIGATION AND RECORD INFORMATION. NO TOPOGRAPHIC SURVEY DATA HAS BEEN USED. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND OTHER NECESSARY INFORMATION TO CONSTRUCT THE PROPOSED WORK.
- CONTRACTORS SHALL VISIT ALL SITES DURING THE BID PREPARATION PHASE AND FULLY INFORM THEMSELVES OF SITE CONSTRAINTS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE PRESENCE OF TREES, UTILITY POLES, AND GAS MAINS IN, AND ADJACENT TO THE STREETS AND EASEMENTS WHERE WORK IS TO BE PERFORMED.
- POINT REPAIRS SHALL BE CONDUCTED THROUGH STANDARD OPEN TRENCH EXCAVATION METHODS INCLUDING ALL WORK NECESSARY TO REPLACE THE EXISTING PIPE WITH NEW PIPE OF THE SAME MATERIAL. POINT REPAIRS PERFORMED ON MAINS TO BE REHABILITATED OR REPLACED BY PIPE BURSTING DO NOT REQUIRE A TYPICAL COUPLING PER DETAIL 1, SHEET D-1.
- THE CONTRACTOR IS RESPONSIBLE IN VERIFYING THE SPOT REPAIR LOCATION, INCLUDING IDENTIFICATION FROM GROUND SURFACE BEFORE BEGINNING ANY EXCAVATION.
- THE CONTRACTOR IS RESPONSIBLE TO KEEP SEWER MANHOLES AND PIPES FREE AND CLEAR OF CONSTRUCTION DEBRIS, AND SHALL BE INCIDENTAL TO THE COST OF THE SEGMENT.
- THE CONTRACTOR IS LIABLE FOR SEWER SPILLS ASSOCIATED WITH THIS PROJECT. THIS INCLUDES,

- NOT LIMITED TO SPILLS FROM BYPASSING, MOBILIZATION, DEMOBILIZATION, EXCAVATION, REMOVALS, ETC. ALL SPILLS SHALL ADHERE TO ALL SPECIFICATIONS IMMEDIATELY FOR ANY QUANTIFICATION, TREATMENT, HANDLING, AND REPORTING, ETC. ALL REPARATIONS FOR SPILLS AT NO ADDITIONAL COST TO THE CITY.
- THE CONTRACTOR SHALL IDENTIFY ALL EXISTING LATERAL CONNECTIONS BEFORE PERFORMING A PIPE BURSTING. AFTER PERFORMING A PIPE BURSTING, THE CONTRACTOR WILL ENSURE ALL EXISTING LATERAL CONNECTIONS ARE RE-ESTABLISHED AND ARE IN GOOD WORKING ORDER. THE CONTRACTOR WILL BE HELD LIABLE FOR ANY LATERAL NOT RECONNECTED AND IN GOOD WORKING ORDER AND WILL MAKE ALL RESTORATIONS AT NO ADDITIONAL COST TO THE CITY.
- THE CONTRACTOR IS TO ENSURE THAT ALL CONNECTIONS TO EXISTING PIPE ARE MADE AT GOOD SECTIONS OF PIPE. A PIPE SHALL BE DEEMED AS GOOD IF IT IS FOUND WITHOUT ANY BREAKS, CRACKS, RUPTURES, DENTS, OR ANY OTHER VISIBLE DAMAGE.
- EACH SEGMENT SHALL PERFORM POINT REPAIR AND INFILTRATION GROUTING OPERATIONS BEFORE PERFORMING CIPP OR PIPE BURSTING OPERATIONS, UNLESS OTHERWISE INDICATED.
- SHALLOW UTILITIES MAY BE PRESENT IN PROJECT AREAS. CONTRACTOR SHALL VERIFY UTILITY DEPTHS OF ANY UTILITY IN CONFLICT WITH WORK BEFORE ANY EXCAVATION OR TRENCH WORK.
- THE CONTRACTOR SHALL PROTECT IN PLACE ALL EXPOSED UTILITIES. THE CONTRACTOR WILL RESTORE ANY UTILITIES DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL EXPENSE TO THE CITY.
- CONTRACTOR SHALL REFERENCE THE CITY SEWER BLOCK BOOKS FOR LOCATIONS OF ALL MANHOLES NOT SHOWN ON PLANS.

**MONUMENT NOTES:**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION AND/OR PERPETUATION OF EXISTING SURVEY MONUMENTS (CURB TAGS, IRON PIPES, STREET MONUMENTS, ETC.) NOTED ON THE PLANS OR FOUND DURING CONSTRUCTION PER SECTION 8771 OF THE CALIFORNIA BUSINESS AND PROFESSIONAL CODE. IF A SURVEY MONUMENT HAS POTENTIAL OF BEING DISTURBED OR WITHIN 3 FEET OF THE WORK, THE MONUMENT SHALL BE LOCATED, REFERENCED, AND A CORNER RECORD SHALL BE FILED WITH THE SANTA CLARA COUNTY SURVEYOR, AND DUPLICATE OF THE CORNER RECORD SHALL BE SUBMITTED TO THE CITY ENGINEER PRIOR TO THE START OF CONSTRUCTION. SHOULD ANY SURVEY MONUMENT BE DAMAGED OR DESTROYED DURING CONSTRUCTION, THE CONTRACTOR SHALL RE-ESTABLISH SAID MONUMENT PER CITY STANDARD. FILE A CORNER RECORD WITH THE SANTA CLARA COUNTY SURVEYOR, AND SUBMIT A DUPLICATE OF THE CORNER RECORD TO THE CITY ENGINEER PRIOR TO FINAL PROJECT NOTICE OF COMPLETION ISSUED BY THE DEPARTMENT OF PUBLIC WORKS. THE CONTRACTOR SHALL, AT HIS/HER EXPENSE, HIRE A LICENSED PROFESSIONAL CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING OR LAND SURVEYOR TO PERFORM THE WORK.
- MONUMENTS WITHIN THE WORK AREA SHALL BE PRESERVED AS SHOWN IN THE TABLE BELOW. REFER TO PLANS FOR LOCATIONS OF MONUMENTS.

SHEET	LOCATION	NOTE
C-01	CENTER OF MAURICIA AVE AND WOODHAMS RD INTERSECTION	NOTE b
C-01	CENTER OF MAURICIA AVE	NOTE a
C-02	MIDDLE OF FERNANDEZ CUL DE SAC	NOTE a
C-04	CENTER OF WOODLAND AVE AND CRESTVIEW DR INTERSECTION	NOTE b
C-04	CENTER OF WOODLAND AVE (NEAR STA. 41+50)	NOTE b
C-04	CENTER OF WOODLAND AVE (NEAR STA. 42+95)	NOTE a
C-10	CENTER OF GREAT AMERICA PKWY AND OLD GLORY LN INTERSECTION	NOTE a
C-15	CENTER OF WALSH AVE AND SAN TOMAS AQUINO CREEK TRAIL	NOTE a
C-20	CENTER OF SARATOGA AVE AND SAN TOMAS EXPY INTERSECTION	NOTE a
C-29	CENTER OF LAKESIDE DR	NOTE a

- LOCATION OF FOUND MONUMENT IN MONUMENT BOX. PROTECT (E) MONUMENT IN PLACE.
- LOCATION OF FOUND MONUMENT IN MONUMENT BOX. CORNER RECORD REQUIRED PRIOR TO CONSTRUCTION. PROTECT (E) MONUMENT IN PLACE.



SHEET No. **G-03**



PROFESSIONAL SURVEYOR  
 REGISTERED 5 - MARCH 2018  
 C 80788

M M

MOTT  
MACDONALD

PROJECT No.	CE	18-19-08
ACCOUNT No.	594-4443-80300-1912	
DATE	No.	REVISION
6/15/20	Δ	RECORD PLAN

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

**SANITARY SEWER CONDITION  
ASSESSMENT REPAIRS PROJECT-PHASE I**

**GENERAL AND MONUMENT NOTES**

HORIZONTAL SCALE: NTS VERTICAL SCALE: NTS

APPROVED BY			
TITLE			
DATE	INITIAL	DATE	Survey No.
	JSM	02/19	N/A
DESIGNED BY	TRACING No.		
DRAWN BY	TPF	02/19	12291-D
CHECKED BY	TGG	02/19	
AS BUILT BY	JSM	06/20	SHEET 3 OF 30

SHEET NO. 1, TOTAL SHEETS: 1

DATE: JUN 15, 2020, 1:20pm by: HNTB0560  
FILE: C:\Users\juni7680\Documents\juni7680\San Joaquin Record Phase-Phase 1\0-04-1.dwg  
PLOT: \\net-usw-pw-ibentify-commit-user-pw-14\Documents\393484-Santa Clara Design\_SS\_Condition Assessment\_Report\Drawings-Models\01\_C\_General\0-04-1.dwg  
VENDOR: HNTB PH 1

**TRAFFIC CONTROL NOTES:**

- CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE TRAFFIC CONTROL PLANS FOR ALL PHASES OF WORK BASED ON THE LATEST CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND CALTRANS STANDARD PLANS. CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC CONTROL PLANS FULL IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL DEVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO MAINTAIN ALL TRAFFIC CONTROL DEVICES DURING CONSTRUCTION, AS REQUIRED BY THE CITY ENGINEER/INSPECTOR. A 24-HOUR "ON-CALL" TELEPHONE NUMBER SHALL ALSO BE PROVIDED TO THE CITY BY THE CONTRACTOR FOR SERVICES REQUIRED BEYOND NORMAL WORKDAY OPERATIONS.
- ACTUAL SIGN INSTALLATION LOCATIONS ARE TO BE DETERMINED IN THE FIELD. SIGN LOCATIONS SHALL BE APPROVED BY THE CITY ENGINEER/INSPECTOR PRIOR TO ANY INSTALLATION WORK.
- SIGNS SHALL BE INSTALLED/PLACED AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS AND AS DIRECTED BY THE CITY.
- CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SIGNS, STRIPING, AND/OR PAVEMENT MARKINGS THAT CONFLICT WITH THESE TRAFFIC CONTROL PLANS DURING CONSTRUCTION. REMOVAL OF ROADWAY STRIPING AND/OR PAVEMENT MARKINGS SHALL BE DONE IN ACCORDANCE WITH CURRENT CALTRANS AND CA MUTCD STANDARDS. SIGNS, STRIPING, AND/OR PAVEMENT MARKINGS SHALL BE RESTORED TO EXISTING CONDITIONS TO THE SATISFACTION OF THE CITY ENGINEER/INSPECTOR ONCE CONSTRUCTION IS COMPLETE.
- A MINIMUM OF ONE 10' WIDE TRAVEL LANE PER DIRECTION OF TRAVEL (UNLESS OTHERWISE NOTED ON PLANS) SHALL REMAIN OPEN AT ALL TIMES DURING CONSTRUCTION.
- TEMPORARY TRAFFIC CONTROL DEVICES SHALL MAINTAIN ACCESS TO FIRE HYDRANTS, BUILDING STANDPIPES AND OTHER EMERGENCY FACILITIES WITHIN THE CONSTRUCTION ZONE.
- ALL TRAFFIC CONTROL DEVICES (SIGNS, CHANNELIZERS, ETC.) SHALL BE RETROREFLECTIVE AND/OR ILLUMINATED DURING NIGHTTIME TRAFFIC CONTROL.
- CONTRACTOR SHALL DISPLAY ON ITS BARRICADES COMPANY NAME AND 24-HOUR EMERGENCY TELEPHONE NUMBER IN CASE OF EMERGENCY CALLOUTS.
- CONTRACTOR SHALL FURNISH, ERECT, AND MAINTAIN BARRICADES AND OTHER SAFETY MEASURES TO GIVE ADEQUATE PROTECTION TO THE PUBLIC AT ALL TIMES.
- THE PARKING OF ANY CONSTRUCTION-RELATED VEHICLES OR STORAGE OF ANY MATERIAL IS NOT ALLOWED ON A PUBLIC STREET OR SIDEWALK UNLESS APPROVED IN ADVANCE BY THE CITY ENGINEER.
- CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE ANY TRAFFIC STRIPING, PAVEMENT MARKINGS, PAVEMENT SURFACE, ETC. DAMAGED OR DESTROYED DURING CONSTRUCTION TO THE SATISFACTION OF THE CITY ENGINEER AT ITS SOLE EXPENSE.
- CONTRACTOR SHALL COORDINATE, FOR ANY ONGOING PROJECTS IN THE VICINITY OF THIS PROJECT, THE ROUTING OF PEDESTRIANS, VEHICLES, AND CONSTRUCTION TRUCKS WITH OTHER CONTRACTORS TO MINIMIZE PUBLIC INCONVENIENCE.
- SIDEWALKS AND TRAFFIC LANES SHALL REMAIN OPEN WHEN NO ACTIVITY IS PLANNED AND/OR BETWEEN SCHEDULED CLOSURES. SIDEWALKS AND TRAFFIC LANES SHALL BE OPENED AT THE END OF EACH WORKDAY.
- WHEN USED FOR VEHICULAR AND/OR PEDESTRIAN TRAFFIC CONTROL, STEEL PLATES SHALL BE INSTALLED FLUSH WITH ADJACENT GRADE.
- CONTRACTOR SHALL DETERMINE PROJECT PHASING AND ACTUAL DURATION OF EACH PHASE AND SHALL SUBMIT AN ACTIVITY DURATION TABLE TO THE CITY PUBLIC WORKS INSPECTOR PRIOR TO START OF CONSTRUCTION.
- AT THE END OF EACH WORK DAY THE CONTRACTOR SHALL BE RESPONSIBLE FOR BACKFILLING THE TRENCHES AND PLACING TRAFFIC-RATED STEEL PLATES TO REOPEN THE TRAFFIC LANES TO TRAFFIC DURING NON-WORK HOURS. STEEL PLATES SHALL BE INSTALLED FLUSH WITH ADJACENT GRADE TO PROVIDE SMOOTH AND SAFE DRIVING CONDITIONS.
- SANDBAGS AND/OR GRAVEL BAGS SHALL BE PLACED OVER THE BASE LEGS OF BARRICADE-MOUNTED SIGNS TO PREVENT ANY OVERTURNING.
- NOT USED.
- PROVIDE CONTINUOUS TEMPORARY ACCESS TO ALL SIDE STREETS, ALLEYS, DRIVEWAYS, BUS STOPS, AND PARKING LOTS
- CONTRACTOR SHALL PREPARE PEDESTRIANS DETOUR PLANS WHEREVER THE SIDEWALK IS CLOSED DUE TO CONSTRUCTION.
- CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLAN OF ROADWAY CLOSURE FOR REVIEW AND APPROVAL PRIOR TO ANY CLOSURE AND CONSTRUCTION. COORDINATE WITH SCC ROAD AND AIRPORTS FOR ANY CLOSURE AND CONSTRUCTION ACTIVITIES ON SAN TOMAS EXPRESSWAY.
- BARRICADES SHALL BE INSTALLED AROUND EXCAVATED AREAS.

**ARBORIST NOTES:**

- GENERAL**
  - NO CUTTING OF ANY PART OF CITY TREES, INCLUDING ROOTS, SHALL BE DONE WITHOUT SECURING APPROVAL AND DIRECT SUPERVISION FROM THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY (408) 615-3080.
  - NO CUTTING OF ANY PART OF PRIVATE TREES, INCLUDING ROOTS, SHALL BE DONE WITHOUT DIRECT SUPERVISION OF AN INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) CERTIFIED ARBORIST.
  - WHEN CONSTRUCTION OCCURS WITHIN THE DRIP LINE OF EXISTING TREES, CONTRACTOR SHALL PILE THE SOIL ON THE SIDE AWAY FROM THE TREE. WHEN THIS IS NOT POSSIBLE, PLACE SOIL ON PLYWOOD, TARP, OR 4" - 5" THICK BED OF MULCH. THIS IS TO PREVENT CUTTING INTO THE SOIL SURFACE WHEN THE BACKHOE OR TRACTOR BLADE REFILLS THE TRENCH.
  - REFILL OPEN TRENCHES QUICKLY WITHIN HOURS OF EXCAVATION WHEN THEY OCCUR WITHIN THE DRIP LINE OF EXISTING TREES. IF THIS IS NOT POSSIBLE AND THE WEATHER IS HOT, DRY, OR WINDY, CONTRACTOR MUST KEEP ROOT ENDS MOIST BY COVERING THEM WITH WET BURLAP. IF THE TEMPERATURE IS 80°F OR GREATER, THE BURLAP MUST BE INSPECTED EVERY HOUR, AND RE-WET AS NECESSARY TO MAINTAIN A CONSTANT COOL MOIST CONDITION. SMALL ROOTS CAN DRY OUT AND DIE IN 10-15 MINUTES. LARGER ROOTS CAN SUCCUMB IN AN HOUR OR LESS UNDER UNFAVORABLE WEATHER CONDITIONS.
  - WHEN ROOTS 2" OR LARGER ARE REQUIRED TO BE CUT, SHOVEL BY HAND NEAR THE ROOTS AND PRUNE THE ROOTS WITH AN INDUSTRY-APPROVED PRUNING TOOL. ROOTS THAT ARE ACCIDENTALLY BROKEN SHOULD BE PRUNED TWO INCHES FROM THE DAMAGED END. CRUSHED OR TORN ROOTS ARE MORE LIKELY TO ALLOW DECAY TO BEGIN. SHARPLY CUT ROOTS PRODUCE A FLUSH OF NEW ROOTS HELPING THE TREE TO RECOVER FROM ITS INJURY.
  - CONTRACTOR SHALL NOTIFY THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY 72 HOURS IN ADVANCE OF ANY WORK REQUIRING DIGGING AROUND OR WITHIN THE DRIP LINE OF EXISTING TREES.
  - A CLEAR SYSTEM OF FLAGGING MUST BE PROVIDED AROUND TREES WITHIN 20' OF THE PROPOSED GRADING. CONTRACTOR SHALL SECURE APPROVAL OF SUCH SYSTEM FROM THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY.
  - MATERIALS, EQUIPMENT, TEMPORARY BUILDINGS, FUELS, PAINTS, AND OTHER CONSTRUCTION ITEMS SHALL NOT BE PLACED WITHIN THE DRIP LINE OF EXISTING TREES.
  - FENCE ALL TREES TO BE RETAINED TO COMPLETELY ENCLOSE THE TREE PROTECTION ZONE PRIOR TO DEMOLITION, GRUBBING, OR GRADING. FENCING SHALL BE PLACED AT THE DRIP LINE OF EXISTING TREES OR, IF POSSIBLE, 1.5 TIMES THE RADIUS OF THE DRIP LINE OUT FROM THE TRUNK OF THE TREE. A WARNING SIGN SHALL BE PROMINENTLY DISPLAYED ON EACH FENCE. THE SIGN SHALL BE A MINIMUM OF 8.5"x11" AND CLEARLY STATE "WARNING - TREE PROTECTION ZONE THIS FENCE SHALL NOT BE REMOVED WITHOUT APPROVAL FROM THE CITY ARBORIST/PROJECT ARBORIST." FENCES SHALL BE 6-FOOT TALL CHAINLINK OR EQUIVALENT, AS APPROVED BY THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY. FENCES SHALL REMAIN UNTIL ALL GRADING AND CONSTRUCTION WORK IS COMPLETED. IN ADDITION, WRAP ALL TREES WITH STRAW WADDLE UP TO THE FIRST MAIN BRANCH, THEN WRAP SNOW FENCING AROUND THE WADDLE ON ALL TREES IN THE CONSTRUCTION ZONE TO PROTECT THEM FROM BARK DAMAGE CAUSED BY THE WORK.
  - NO TRENCHING SHALL BE DONE WITHIN THE DRIP LINE OF EXISTING TREES WITHOUT THE APPROVAL OF THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY. OPEN TRENCHING IN THE ROOT ZONE OF A PUBLIC TREE IS PROHIBITED EXCEPT IN CASES WHERE THE TRENCHING FALLS OUTSIDE THE DRIP LINE OF THE TREE INVOLVED. EXCEPTIONS MAYBE ALLOWED IF, IN THE OPINION OF THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY, THE IMPACT OF TRENCHING ON THE TREE WILL BE NEGLIGIBLE.
  - ANY CUTTING OF EXISTING ROOTS OF CITY TREES SHALL BE DONE WITH APPROVED LIGHT EQUIPMENT UNDER THE DIRECT SUPERVISION OF THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY. ANY CUTTING OF EXISTING ROOTS OF PRIVATE TREES SHALL BE DONE WITH APPROVED EQUIPMENT UNDER THE DIRECT SUPERVISION OF AN ISA-CERTIFIED ARBORIST.
  - GRADING SHOULD NOT CREATE DRAINAGE PROBLEMS FOR TREES BY CHANNELING WATER INTO THEM, OR CREATING SUNKEN AREAS.
  - ALL GRADING WITHIN THE DRIP LINE OF CITY TREES SHALL BE DONE WITH APPROVED LIGHT EQUIPMENT UNDER THE DIRECT SUPERVISION OF THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY. ALL GRADING WITHIN THE DRIP LINE OF PRIVATE TREES SHALL BE DONE WITH APPROVED EQUIPMENT UNDER THE DIRECT SUPERVISION OF AN ISA-CERTIFIED ARBORIST. THE ORIGINAL GRADE AT THE BASE OF EXISTING TREES SHALL NOT BE MODIFIED. IF A GRADE INCREASE IS NECESSARY, DRY WELLS SHOULD BE USED.
  - WHEN TRENCHING IS ALLOWED WITHIN THE DRIP LINE OF EXISTING TREES, THE CONTRACTOR MUST FIRST CUT ROOTS WITH A VERMEER ROOT CUTTER PRIOR TO ANY TRENCHING TO AVOID TUGGING OR PULLING OF ROOTS.
  - TREES THAT ARE DETERMINED TO BE REMOVED BY THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY DUE TO AN UNFORESEEN CIRCUMSTANCE DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR. THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY SHALL DETERMINE THE REPLACEMENT SPECIES, SIZE, QUANTITY, AND SPACING.
  - PLACE 4"-5" THICK MULCH AROUND ALL EXISTING TREES (OUT TO THEIR DRIP LINE) THAT ARE TO BE RETAINED PRIOR TO ANY CONSTRUCTION. THIS WILL HELP MAINTAIN MOISTURE UNDER THE TREE WITHIN THE FENCING AREA.
  - BORE PITS ARE NOT ALLOWED WITHIN THE DRIP LINE OF ANY TREE.
- BORING (NOT USED)**
- TREE PROTECTION**
  - CONTRACTOR SHALL TAG AND IDENTIFY EXISTING TREES WHICH ARE TO REMAIN WITHIN THE PROJECT LIMITS AND ON THE PUBLIC RIGHT-OF-WAY PRIOR TO START OF WORK. PROTECT ALL TAGGED TREES AT ALL TIMES FROM DAMAGE BY THE WORK. TREATMENT OF ALL MINOR DAMAGES TO TAGGED TREES SHALL BE PERFORMED BY ISA-CERTIFIED ARBORIST OR OTHER PERSONNEL APPROVED BY THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY. IF A TAGGED TREE IS PERMANENTLY DISFIGURED OR KILLED AS A RESULT OF THE WORK, CONTRACTOR SHALL REMOVE THE TREE, INCLUDING ITS ROOTS, FROM THE SITE AND REPLACE EACH REMOVED TREE WITH AN EQUAL-SIZED TREE. IF SUCH REPLACEMENT IS NOT POSSIBLE, THE CONTRACTOR SHALL REIMBURSE TO THE TREE OWNER THE AMOUNT LISTED IN THE TABLE BELOW. THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY SHALL BE THE SOLE JUDGE OF THE CONDITION OF ANY TREE. CONTRACTOR SHALL PROVIDE REGULAR WATERING OF EXISTING LANDSCAPING WITHIN THE CONSTRUCTION AREA THROUGHOUT THE CONSTRUCTION PERIOD.
  - CONTRACTOR SHALL PAY THE TREE OWNER THE VALUE OF EXISTING TREES TO REMAIN THAT DIED OR WERE DAMAGED BECAUSE OF THE CONTRACTOR'S FAILURE TO PROVIDE ADEQUATE PROTECTION AND MAINTENANCE. THE PAYMENT AMOUNT SHALL BE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE OF VALUES, USING "TREE CALIPER" METHOD ESTABLISHED IN THE MOST RECENT ISSUE OF THE "GUIDE FOR ESTABLISHING VALUES OF TREES AND OTHER PLANTS," PREPARED BY THE COUNCIL OF TREE AND LANDSCAPE ARCHITECTS.



7 INCHES	2,400	14 INCHES	9,200
8 INCHES	3,400	15 INCHES	10,000
9 INCHES	4,400	16 INCHES	11,000
10 INCHES	5,200	17 INCHES	12,000
11 INCHES	6,200		
12 INCHES	7,200	18 INCHES AND OVER:	
13 INCHES	8,200	ADD FOR EACH CALIPER INCH	\$ 1,200

SHEET NO. **G-04**



PROJECT No.	CE 18-19-08
ACCOUNT No.	594-4443-80300-1912
DATE	No. REVISION BY
6/15/20	Δ RECORD PLAN OP

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

**SANITARY SEWER CONDITION**  
ASSESSMENT REPAIRS PROJECT-PHASE 1

**TRAFFIC & ARBORIST NOTES**

HORIZONTAL SCALE: NTS VERTICAL SCALE: NTS

APPROVED BY	TITLE
DATE	R.C.E. No.
DESIGNED BY	INITIAL DATE SURVEY No.
DRAWN BY	TPF 02/19 TRACING No.
CHECKED BY	TGG 02/19
AS BUILT BY	JSM 06/20

**12291-D**

SHEET 4 OF 30

PIPE SEGMENT ESTIMATED FLOW INFORMATION

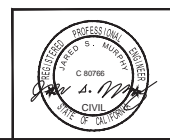
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1	8	VCP	SEE NOTE 8	SEE NOTE 8	SEE NOTE 8	SEE NOTE 8
2	8	VCP	SEE NOTE 8	SEE NOTE 8	SEE NOTE 8	SEE NOTE 8
4	6	VCP	SEE NOTE 8	SEE NOTE 8	SEE NOTE 8	SEE NOTE 8
10-WEST	24	VCP	0.71	1.21	3.47	44.86
10-CENTER	18	VCP	0.88	1.40	4.34	46.73
10-EAST	24	VCP	0.71	1.21	3.44	45.05
11-WEST	15	VCP	0.53	0.64	1.08	0.00
11-CENTER	18	VCP	0.87	1.07	1.80	0.00
11-EAST	18	VCP	1.21	1.48	2.51	0.00
15	15	VCP	0.02	0.03	0.10	1.93
17	15	VCP	0.44	0.66	1.20	3.37
18	15	VCP	0.44	0.66	1.20	1.91
19	15	VCP	0.40	0.60	1.08	2.32
20	15	VCP	0.18	0.28	0.51	7.42
21	12	VCP	0.18	0.28	0.51	2.27
22	12	VCP	0.18	0.28	0.51	2.06
23	10	VCP	0.14	0.21	0.24	0.77
29	24	RCP	2.18	3.57	7.70	11.37
30	24	RCP	2.18	3.57	7.67	9.64
31	24	RCP	2.18	3.57	7.66	8.84
32	24	RCP	2.12	3.49	7.55	9.31
33	30	RCP	2.30	3.70	7.79	11.19
34	30	RCP	3.66	5.24	9.39	10.85
35	45	VCP	SEE NOTE 8	SEE NOTE 8	SEE NOTE 8	SEE NOTE 8
36	24	RCP	2.18	3.57	7.66	7.55
37	24	RCP	2.18	3.57	7.66	11.65
38	24	RCP	2.18	3.57	7.66	12
39	24	RCP	2.18	3.57	7.66	9.22
40	24	RCP	2.18	3.57	7.66	8.34
41	24	RCP	2.18	3.57	7.66	9.39

DELETED FROM CONTRACT

- NOTES:
- THE ABOVE TABLE PRESENTS FLOW ESTIMATE DATA TAKEN FROM THE CITY OF SANTA CLARA'S SEWER SYSTEM MODEL AND IS PRESENTED FOR THE CONTRACTOR'S REFERENCE IN PREPARING BYPASS PUMPING PLANS FOR EACH SEWER SEGMENT DESIGNATED FOR REHABILITATION UNDER THIS CONTRACT.
  - AS A MINIMUM, BYPASS PUMPING SYSTEMS SHALL INCLUDE A PRIMARY PUMP AND A BACKUP STANDBY PUMP, EACH SIZED TO HANDLE THE ESTIMATED PEAK DRY WEATHER FLOW WHEN SEWER BYPASSING OCCURS BETWEEN MAY 1ST AND SEPTEMBER 30TH. FOR SEWAGE BYPASSING WHICH OCCURS BETWEEN OCTOBER 1ST AND APRIL 30TH, THE TOTAL COMBINED INSTALLED BYPASS PUMPING CAPACITY SHALL BE EQUAL OR EXCEED THE ESTIMATED MAX WET WEATHER FLOW.
  - FOR ALL SEWER SEGMENTS 12-INCHES AND LARGER IN DIAMETER, THE BACKUP STANDBY PUMP AND ITS DRIVER SHALL BE INSTALLED AND IMMEDIATELY READY TO OPERATE IN THE CASE OF A FAILURE OR INABILITY OF THE PRIMARY PUMP TO PASS FLOWS WITHOUT CAUSING SURCHARGING OF THE SEWER LINES UPSTREAM OF THE SECTION OF SEWER BEING BYPASSED.
  - FOR ALL SEWER SEGMENTS 12-INCHES AND SMALLER IN DIAMETER, THE BACKUP STANDBY PUMP (AND ITS DRIVER) SHALL BE AT THE SITE OF THE BYPASSING AND READY TO INSTALL IN THE CASE OF A FAILURE OR INABILITY OF THE PRIMARY PUMP TO PASS FLOWS WITHOUT CAUSING SURCHARGING OR THE SEWER LINES UPSTREAM OF THE SECTION OF SEWER BEING BYPASSED.
  - SEWAGE BYPASS LINES FOR SEWER SEGMENTS 12-INCHES AND LARGER SHALL BE RIGID PIPE OR HARD SUCTION HOSE. ALL BYPASSING LINES SHALL BE LEAK FREE. HOSES WILL NOT BE PERMITTED WHERE VEHICLES CAN CROSS OVER THE BYPASS LINES. PROVIDE DRIVEWAY APRON RAMP SECTIONS WHERE BYPASS LINES CROSS IN FRONT OF ANY ACCESSWAY TO A PROPERTY. BYPASS LINES PASSING ACROSS STREETS AND INTERSECTIONS WHICH CANNOT BE DETOURED ARE TO BE INSTALLED IN SLIT TRENCHES.
  - REFER TO TECHNICAL SPECIFICATION SECTION 03220 SEWAGE FLOW CONTROL, FOR BYPASS PUMPING PLAN SUBMITTAL REQUIREMENTS AND FOR MINIMUM EQUIPMENT REQUIREMENTS PERTAINING TO SEWAGE BYPASSING.
  - REFER TO NOTES ON THE INDIVIDUAL PLAN OVER PROFILE SHEETS RELATING TO SITE SPECIFIC REQUIREMENTS, RESTRICTIONS, AND RELATED DATA WHICH ARE TO BE REFLECTED IN THE BYPASS PUMPING SYSTEMS TO BE EMPLOYED AT EACH SITE.
  - FLOW INFORMATION NOT INCLUDED IN CITY OF SANTA CLARA'S SEWER MODEL. CONTRACTOR SHALL USE OWN CALCULATIONS TO ESTIMATE BYPASS NEEDS BASED ON PIPE SEGMENT'S PIPE DIAMETER AND SLOPE, AND SHALL BE CAPABLE OF HANDLING EXISTING FLOWS PLUS ADDITIONAL WET WEATHER FLOW. FOR BIDDING PURPOSES, CONTRACTOR SHALL ASSUME THEY WILL NEED SUFFICIENT BYPASSING CAPACITY (INSTALLED AND STANDBY) TO HANDLE THE PIPE'S FULL CAPACITY.

**CRATUS INC**  
AS-BUILT  
DATE: 3/9/2020  
SIGNATURE:

SHEET No. **G-05**



PROJECT No.	CE 18-19-08
ACCOUNT No.	594-4443-80300-1912
DATE	6/12/20
No.	Δ
REVISION	RECORD PLAN
BY	OP

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
SANITARY SEWER CONDITION  
ASSESSMENT REPAIRS PROJECT-PHASE 1  
PIPE SEG. FLOW INFORMATION

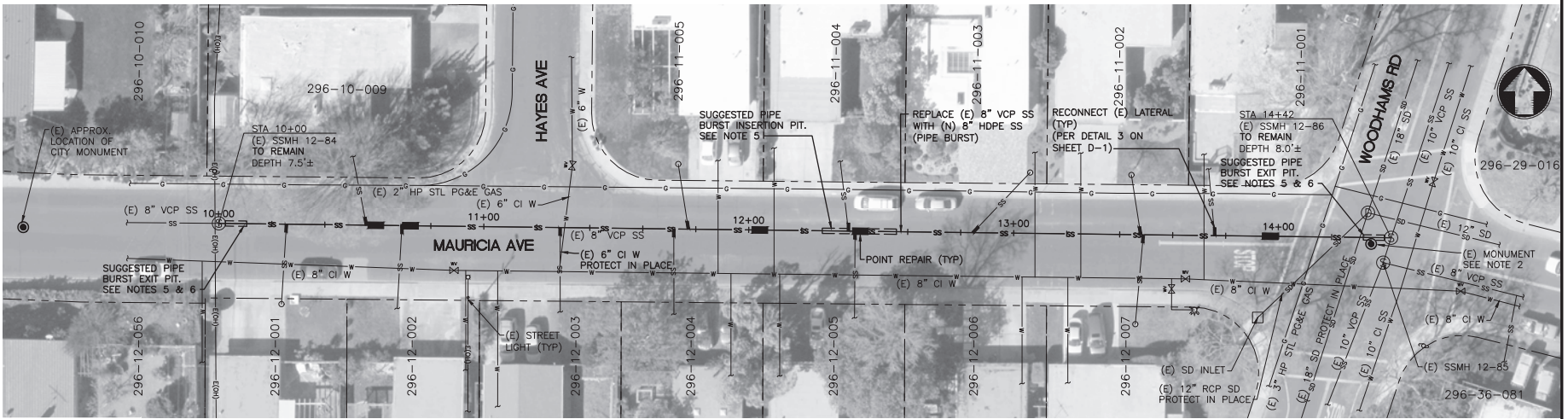
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DESIGNED BY	INITIAL	DATE	Survey No.
DRAWN BY	TPF	02/19	N/A
CHECKED BY	TGG	02/19	TRACING No.
AS BUILT BY	JSM	08/20	12291-D

HORIZONTAL SCALE: NTS VERTICAL SCALE: NTS SHEET 5 OF 30

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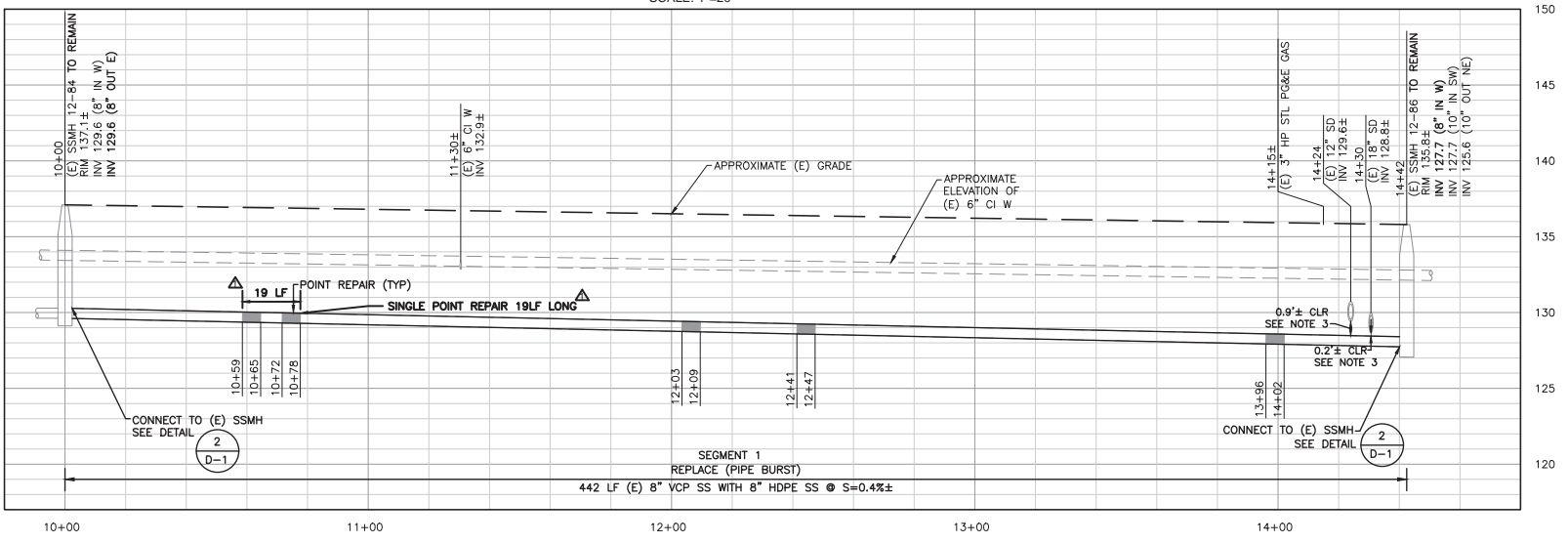
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PLAN  
SCALE: 1"=20'

NOTES:

- ELEVATIONS ARE BASED ON AS-BUILT DRAWINGS WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
- CONTRACTOR SHALL PROTECT IN PLACE. IF MONUMENT IS DISTURBED BY CONSTRUCTION, MONUMENT SHALL BE REPLACED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF CALIFORNIA. REPLACEMENT WORK SHALL BE COORDINATED AND DOCUMENTED WITH THE CITY ENGINEER. REFER TO SHEET G-04 FOR ADDITIONAL MONUMENT NOTES.
- FOR CLEARANCES LESS THAN 12", REFER TO CITY STANDARD DETAILS M1-3 OR M2-4.
- PAVEMENT REPLACEMENT SHALL BE AS SHOWN IN CITY STANDARD DETAIL ST-24 AND THICKNESS SHALL MATCH EXISTING OR MINIMUM THICKNESS STATED IN CITY STANDARD DETAIL ST-26, WHICHEVER IS GREATER.
- SUGGESTED PIPE-BURSTING PITS ARE SHOWN FOR SCHEMATIC PURPOSES ONLY. CONTRACTOR SHALL LOCATE AND PROVIDE PITS AT THEIR OWN DISCRETION AND RISK. ALL PIT SITES SHOWN ARE ESTIMATED AND APPROXIMATE. CONTRACTOR SHALL PROVIDE THEIR OWN PIPE BURST OPERATIONS, EQUIPMENT, CALCULATIONS, AND PIT EXCAVATIONS FOR REVIEW BY THE ENGINEER AND IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. CONTRACTOR MAY USE MANHOLES FOR BURSTING HEAD REMOVAL. EXIT PIT OR MANHOLE MODIFICATIONS AND EQUIPMENT USED SHALL BE INCLUDED IN CONTRACT SUBMITTALS.
- ENGINEER CALCULATIONS INDICATE A NEED FOR AN INTERMEDIATE PIT TO PREVENT EXCEEDING SAFE PULLING FORCES OF DR17 HDPE PIPE. CONTRACTOR MAY PROPOSE ALTERNATIVE METHODS TO PREVENT EXCEEDING PIPE TENSILE STRENGTH DURING BURSTING OPERATIONS FOR ENGINEER REVIEW.
- CONTRACTOR SHALL POST TEMPORARY "NO PARKING" SIGNS ALONG STREET FRONTAGE, WHERE APPLICABLE, A MINIMUM 48 HOURS PRIOR TO COMMENCEMENT OF WORK AND SHALL NOTIFY THE POLICE DEPARTMENT. SIGNS SHALL STATE DATES AND HOURS WHEN RESTRICTIONS ARE IN EFFECT.
- ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTY ACCESS. ACCESS TO ALL AFFECTED PROPERTIES SHALL BE MAINTAINED OPEN DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.
- BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 12-84 TO MH 12-86 LOCATED ADJACENT TO ROAD CENTER LINE, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.



PROFILE  
SCALE: 1"=20' HORIZ  
1"=4' VERT

**CRATUS INC**  
AS-BUILT  
DATE: 3/9/2020  
SIGNATURE: *[Signature]*



**M M**  
**MOTT**  
**MACDONALD**

PROJECT No.	CE 18-19-08
ACCOUNT No.	594-4443-80300-1912
DATE	No. REVISION BY
6/15/20	Δ RECORD PLAN OP

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
**SANITARY SEWER CONDITION**  
**ASSESSMENT REPAIRS PROJECT-PHASE 1**  
**SEGMENT 01 - MAURICIA AVE**

APPROVED BY	TITLE
DATE	R.C.E. No.
DESIGNED BY	DATE
DRAWN BY	DATE
CHECKED BY	DATE
AS BUILT BY	DATE
SHEET 6 OF 30	

SHEET No. C-01

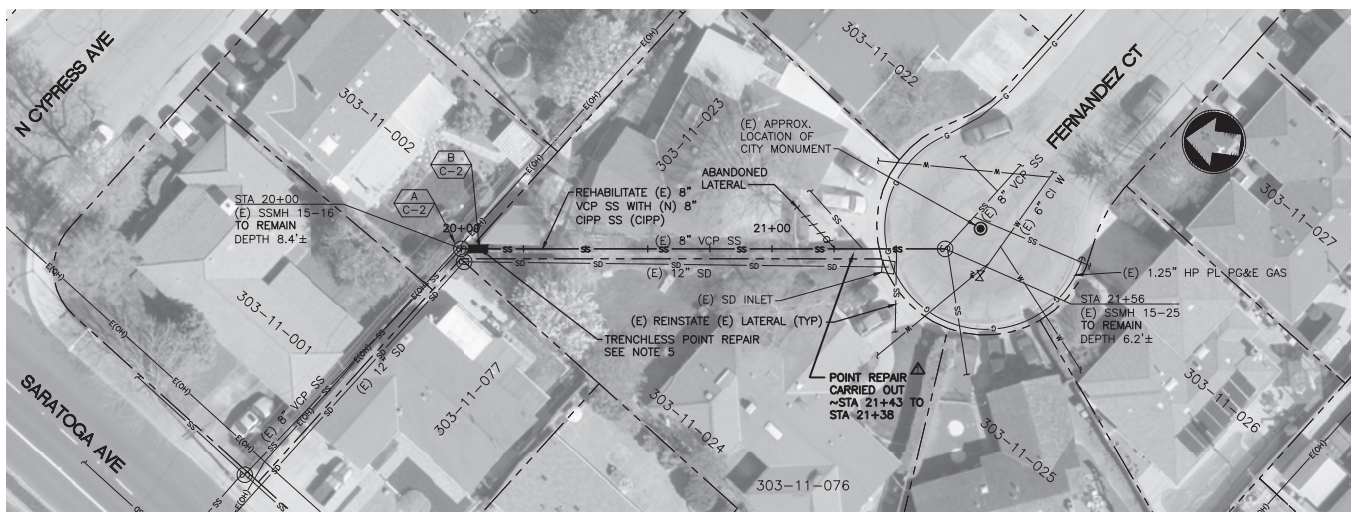
12291-D

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Project: Jun 15, 2020, 1:15pm by PWR0550

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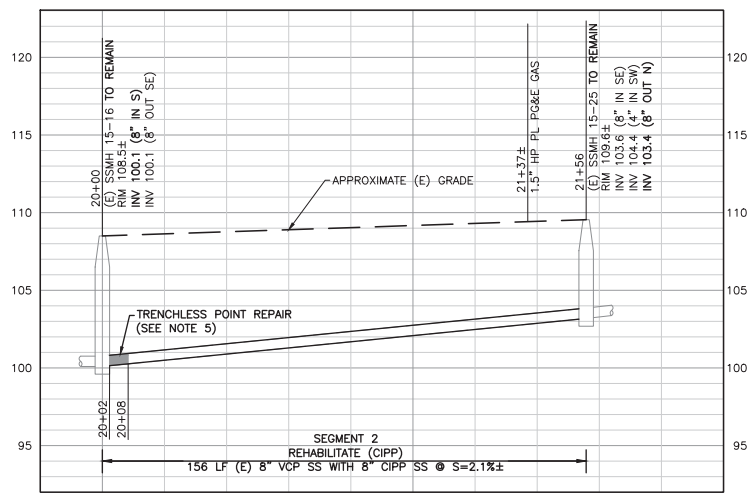


**PLAN**  
SCALE: 1"=20'

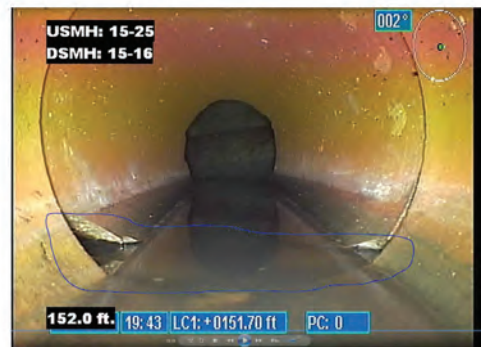


**A**  
**C-2** MH 15-16 GROUND SURFACE

- NOTES:**
- ELEVATIONS ARE BASED ON AS-BUILT DRAWINGS WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - ACCESS TO SSMH 15-16 IS LIMITED TO PRIVATE BACKYARD PATHWAYS. CONTRACTOR SHALL COORDINATE ALL ACCESS WITH AFFECTED HOME OWNERS AND RESIDENTS IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
  - CONTRACTOR SHALL POST TEMPORARY "NO PARKING" SIGNS ALONG STREET FRONTAGE, WHEN APPLICABLE, A MINIMUM 48 HOURS PRIOR TO COMMENCEMENT OF WORK AND SHALL NOTIFY THE POLICE DEPARTMENT. SIGNS SHALL STATE DAYS AND HOURS WHEN RESTRICTIONS ARE IN EFFECT.
  - ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTY ACCESS. ACCESS TO ALL AFFECTED PROPERTIES SHALL BE MAINTAINED OPEN DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.
  - CONTRACTOR SHALL FILL VOID LOCATED 2.5 FT FROM MH 15-16 WITH NON-SHRINK GROUT PRIOR TO PERFORMING ANY CIPP OPERATIONS FROM WITHIN MANHOLE AND EXISTING SEWER. PAYMENT FOR TRENCHLESS POINT REPAIR SHALL BE CONSIDERED AS INCLUDED IN THE COSTS TO CIPP THE EXISTING 8-INCH SANITARY SEWER MAIN. NO ADDITIONAL PAYMENT SHALL BE MADE THEREFORE.
  - BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 15-25 TO MH 15-16 LOCATED ADJACENT TO PROPERTY LINE, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.



**PROFILE**  
SCALE: 1"=20' HORIZ  
1"=4' VERT



**B**  
**C-2** 2.5 FT FROM MH 15-16

**CRATUS INC**  
AS-BUILT  
DATE: 3/9/2020  
SIGNATURE: *[Signature]*



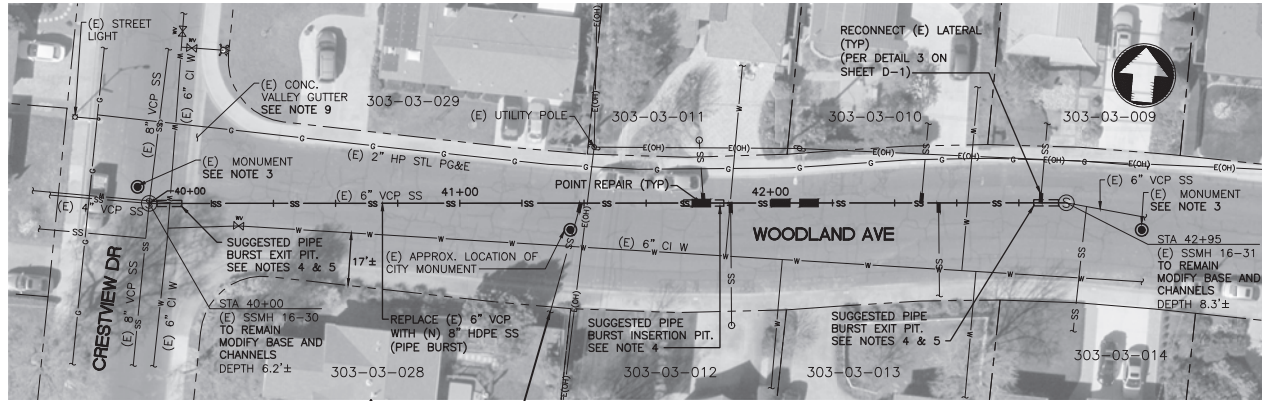
PROJECT No.	CE 18-19-08
ACCOUNT No.	594-4443-80300-1912
DATE	6/15/20
REVISION	RECORD PLAN
BY	OP

<b>CITY OF SANTA CLARA</b>	
PUBLIC WORKS DEPARTMENT	
SANITARY SEWER CONDITION ASSESSMENT REPAIRS PROJECT-PHASE 1	
SEGMENT 02 - FERNANDEZ CT	

APPROVED BY	TITLE	DATE	R.C.E. No.
DESIGNED BY	INITIAL	DATE	Survey No.
DRAWN BY	INITIAL	DATE	TRACING No.
CHECKED BY	INITIAL	DATE	
AS BUILT BY	INITIAL	DATE	

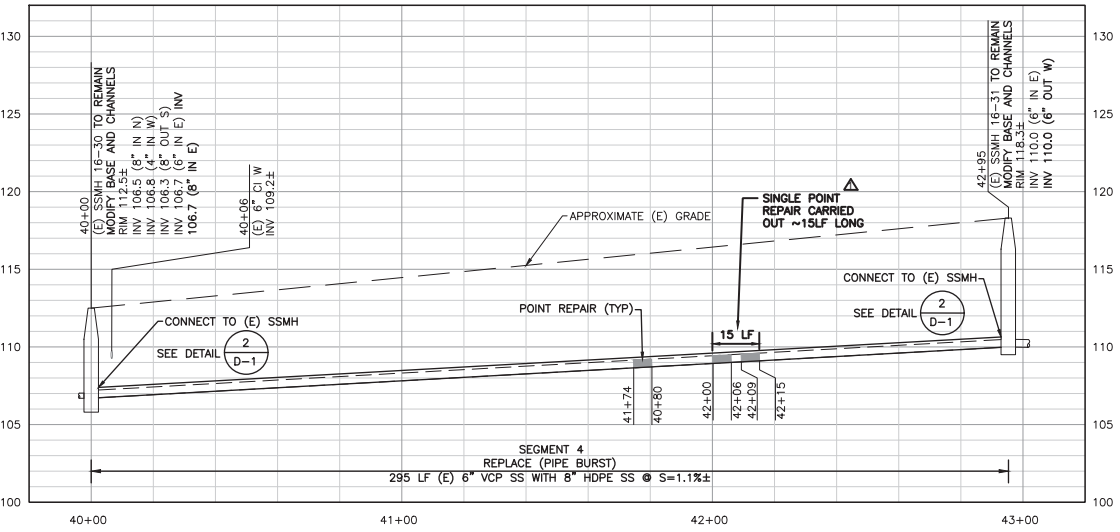
SHEET No. **C-02**

12291-D  
SHEET 7 OF 30



PLAN SCALE: 1"=20'

- NOTES:**
- ELEVATIONS ARE BASED ON CITY SURVEY INFORMATION WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - PAVEMENT REPLACEMENT SHALL BE AS SHOWN IN CITY STANDARD DETAIL ST-24 AND THICKNESS SHALL MATCH EXISTING OR MINIMUM THICKNESS STATED IN CITY STANDARD DETAIL ST-26, WHICHEVER IS GREATER.
  - CONTRACTOR SHALL PROTECT (E) CITY MONUMENT IN PLACE. IF MONUMENT IS DISTURBED BY CONSTRUCTION, MONUMENT SHALL BE REPLACED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF CALIFORNIA. REPLACEMENT WORK SHALL BE COORDINATED AND DOCUMENTED WITH THE CITY ENGINEER. REFER TO SHEET G-04 FOR ADDITIONAL MONUMENT NOTES.
  - SUGGESTED PIPE-BURSTING PITS ARE SHOWN FOR SCHEMATIC PURPOSES ONLY. CONTRACTOR SHALL LOCATE AND PROVIDE PITS AT THEIR OWN DISCRETION AND RISK. ALL PIT SITES SHOWN ARE ESTIMATED AND APPROXIMATE. CONTRACTOR SHALL PROVIDE THEIR OWN PIPE BURST OPERATIONS, EQUIPMENT CALCULATIONS, AND PIT EXCAVATIONS FOR REVIEW BY THE ENGINEER AND IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
  - CONTRACTOR MAY USE MANHOLES FOR BURSTING HEAD REMOVAL, EXIT PIT OR MANHOLE MODIFICATIONS AND EQUIPMENT USED SHALL BE INCLUDED IN CONTRACT SUBMITTALS.
  - ENGINEER CALCULATIONS INDICATE A NEED FOR AN INTERMEDIATE PIT TO PREVENT EXCEEDING SAFE PULLING FORCES OF DRI17 HDPE PIPE. CONTRACTOR MAY PROPOSE ALTERNATIVE METHODS TO PREVENT EXCEEDING PIPE TENSILE STRENGTH DURING BURSTING OPERATIONS FOR ENGINEER REVIEW.
  - CONTRACTOR SHALL POST TEMPORARY "NO PARKING" SIGNS ALONG STREET FRONTAGE, WHERE APPLICABLE, A MINIMUM 48 HOURS PRIOR TO COMMENCEMENT OF WORK AND SHALL NOTIFY THE POLICE DEPARTMENT. SIGNS SHALL STATE DAYS AND HOURS WHEN RESTRICTIONS ARE IN EFFECT.
  - ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTY ACCESS. ACCESS TO ALL AFFECTED PROPERTIES SHALL BE MAINTAINED OPEN DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.
  - CONTRACTOR TO REPLACE VALLEY GUTTER IN KIND BETWEEN (E) NEAREST CONSTRUCTION JOINTS IF DISTURBED. COST TO REPLACE DISTURBED VALLEY GUTTER SHALL BE INCLUDED IN COSTS TO COMPLETE. PIPE BURSTING AND NO SEPARATE PAYMENT SHALL BE MADE. REFER TO CITY STANDARD DETAIL ST-13.
  - BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 16-31 TO MH 16-30 LOCATED ADJACENT TO AND NORTH OF EXISTING SEWER LINE, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.



PROFILE SCALE: 1"=20' HORIZ 1"=4' VERT



**CRATUS INC**  
AS-BUILT  
DATE: 3/9/2020  
SIGNATURE:

SHEET No. **C-04**



PROJECT No.	CE 18-19-08
ACCOUNT No.	594-4443-80300-1912
DATE	6/15/20
No.	Δ
REVISION	RECORD PLAN
BY	OP

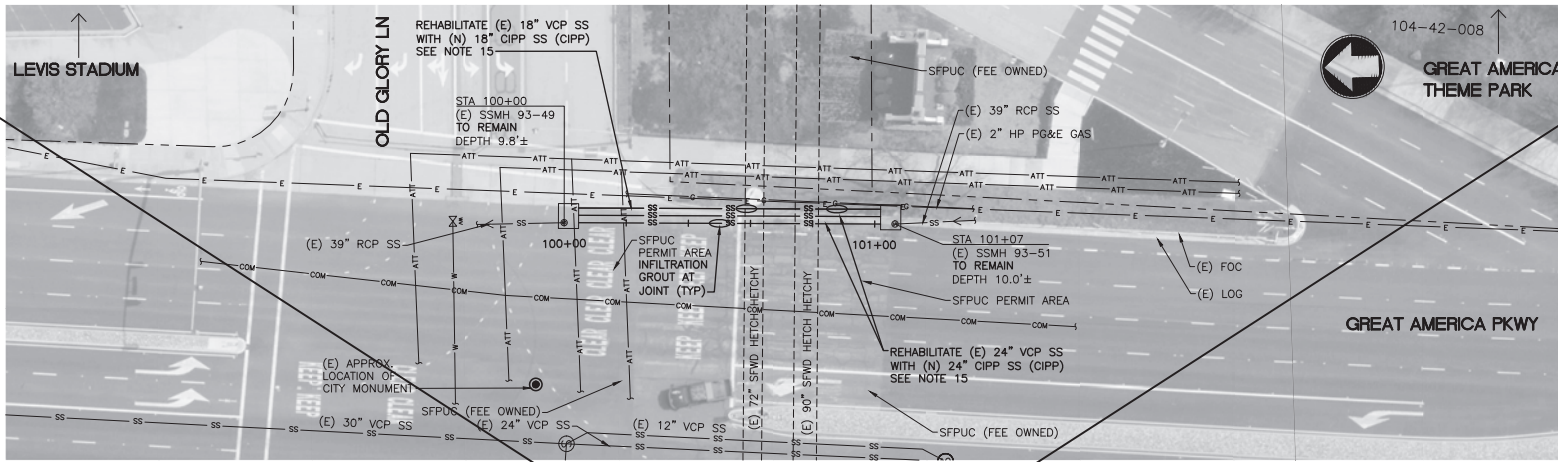
**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
**SANITARY SEWER CONDITION ASSESSMENT REPAIRS PROJECT-PHASE 1**  
**SEGMENT 04 - WOODLAND AVE**

APPROVED BY	TITLE	DATE	INITIAL	DATE	Survey No.
			JSM	02/19	N/A
DESIGNED BY	TRACING No.				
DRAWN BY					
CHECKED BY					
AS BUILT BY					

12291-D

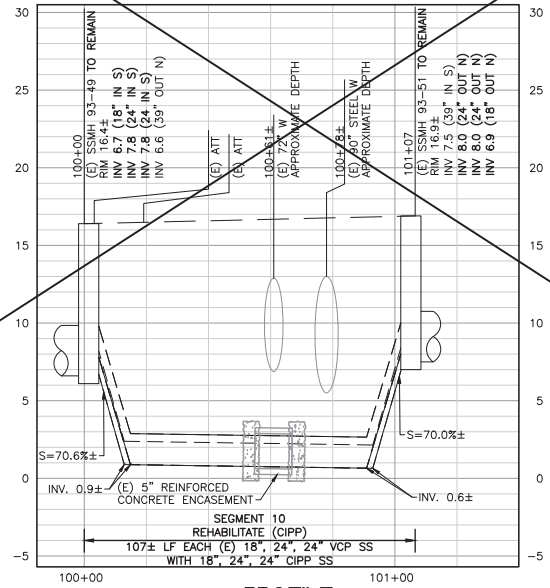
HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4' SHEET 8 OF 30

Project: Jul 16, 2020, 12:26pm by RUP6590  
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**PLAN**  
SCALE: 1"=20'

- NOTES:**
- CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC CONTROL PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION WORK AREA.
  - ELEVATIONS ARE BASED ON CITY PROVIDED AS-BUILT DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR MAY REFER TO CITY TRACING NO. 1408 DATED JUNE, 1960 FOR RECORD INFORMATION.
  - PAVEMENT REPLACEMENT SHALL BE AS SHOWN IN CITY STANDARD DETAIL ST-24 AND THICKNESS SHALL MATCH EXISTING OR MINIMUM THICKNESS STATED IN CITY STANDARD DETAIL ST-26, WHICHEVER IS GREATER.
  - CONTRACTOR SHALL POST TEMPORARY "NO PARKING" SIGNS ALONG STREET FRONTAGE, WHERE APPLICABLE, A MINIMUM 48 HOURS PRIOR TO COMMENCEMENT OF WORK AND SHALL NOTIFY THE POLICE DEPARTMENT. SIGNS SHALL STATE DAYS AND HOURS WHEN RESTRICTIONS ARE IN EFFECT.
  - ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTY ACCESS. ACCESS TO ALL AFFECTED PROPERTIES SHALL BE MAINTAINED OPEN DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.
  - CONSTRUCTION ACTIVITIES SHALL NOT OVERLAP WITH ANY MAJOR EVENT AT SANTA CLARA CONVENTION CENTER, LEVI'S STADIUM AND CALIFORNIA GREAT AMERICA THEME PARK.
  - BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED WITHIN MH 93-51 AND WITHIN MH 93-43 AS NEEDED TO ROUTE FLOWS OUT OF AND AWAY FROM PIPE SIPHONS TO OTHER PIPE SIPHONS DURING REHABILITATION OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.
  - NIGHT WORK IS PERMITTED AND PREFERRED FOR SEGMENT 10.
  - INFILTRATION GROUTING SHALL BE PERFORMED BEFORE PERFORMING CIPP.
  - THE CITY AND COUNTY OF SAN FRANCISCO ACTING BY AND THROUGH ITS PUBLIC UTILITIES COMMISSION, WATER SUPPLY AND TREATMENT DIVISION ("SFPUC") OWNS AND OPERATES TWO WATER AQUEDUCTS THAT CROSS THE PROJECT ALIGNMENT. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICES ALERT (USA) 48 HOURS BEFORE ANY CONSTRUCTION IN THE VICINITY OF THE SFPUC AQUEDUCTS. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE SFPUC CONSTRUCTION INSPECTOR, MR. ALBERT HAO, AT (650) 871-3015, AT LEAST TEN (10) CALENDAR DAYS PRIOR TO THE START OF ON-SITE CONSTRUCTION IN THE VICINITY OF THE SFDW ROW. IN THE EVENT OF EMERGENCY INVOLVING SFPUC FACILITIES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY SFPUC BY CALLING SFPUC MILLBRAE DISPATCH AT 650-872-5900.
  - NO MECHANICAL EXCAVATION IS ALLOWED WITHIN 24 INCHES OF SFPUC PIPELINES. DIGGING WITHIN 24 INCHES OF PIPELINE MUST BE DONE WITH HAND TOOLS. NO VIBRATORY COMPACTION EQUIPMENT SHALL BE USED WITHOUT PRIOR WRITTEN APPROVAL OF THE SFPUC.
  - CONTRACTOR SHALL OBTAIN CONSENT FROM THE SFPUC TO POTHOLE SFPUC PIPELINE TO DETERMINE THE PIPE DEPTH PRIOR TO ANY EXCAVATION. THE POTHOLING SHALL BE CARRIED OUT BY SOIL VACUUM EXTRACTION METHOD.
  - MAXIMUM EXTERNAL LOADING OVER SFPUC PIPELINE IS ASHOTO H-10 LOADING WITH A MINIMUM OF 3 FEET SOIL COVER (OR H-20 LOADING WITH A MINIMUM OF 4 FEET SOIL COVER). IF LOADING CONDITIONS EXCEED ABOVE, ENGINEERING CALCULATIONS AS SHOWN IN WMA, M9 MUST BE SUBMITTED TO THE SFPUC TO SHOW THAT PROPOSED CONDITIONS WOULD IMPOSE A LOAD OF LESS THAN 500 PSF ONTO THE PIPELINE.
  - CONTRACTOR TO FIELD VERIFY CORRECT LOCATION FOR EACH SIPHON DIAMETER AS SHOWN. AS-BUILT AND CCTV INFORMATION DIFFERED ON THE LOCATION OF THE 18-INCH SIPHON.
  - THE CONTRACTOR SHALL NOTIFY THE TRAFFIC ENGINEER 48 HOURS PRIOR TO COMMENCING WORK AT THIS INTERSECTION.



**PROFILE**  
SCALE: 1"=20' HORIZ  
1"=4' VERT

**SEGMENT 10  
DELETED FROM CONTRACT**

INFILTRATION GROUT REPAIR LOCATIONS		
PIPE SEGMENT	PIPE DIAMETER	INFILTRATION GROUT LOCATION
WEST	24"	100+50.1
EAST	18"	100+58.5
EAST	18"	100+87.6



PROJECT No.	CE 18-19-08
ACCOUNT No.	594-4443-80300-1912
DATE	6/12/20
REVISION	RECORD PLAN
BY	OP

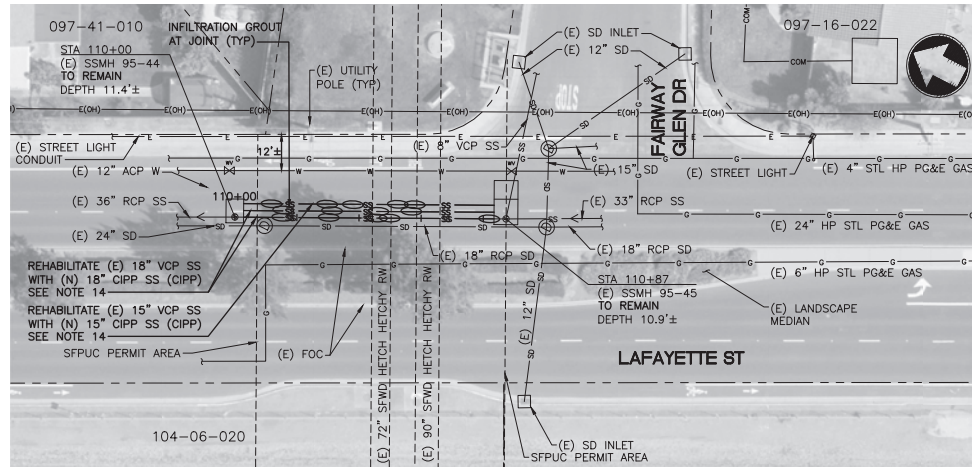
**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
SANITARY SEWER CONDITION  
ASSESSMENT REPAIRS PROJECT-PHASE 1  
SEG. 10 - GREAT AMERICA PKWY

APPROVED BY	TITLE	DATE	INITIAL	DATE	REVISION
JSM		02/19	JSM	02/19	
DRAWN BY	TPF	02/19	CHECKED BY	TGG	02/19
AS BUILT BY	JSM	06/20			

SHEET No. **C-10**

12291-D  
SHEET 9 OF 30

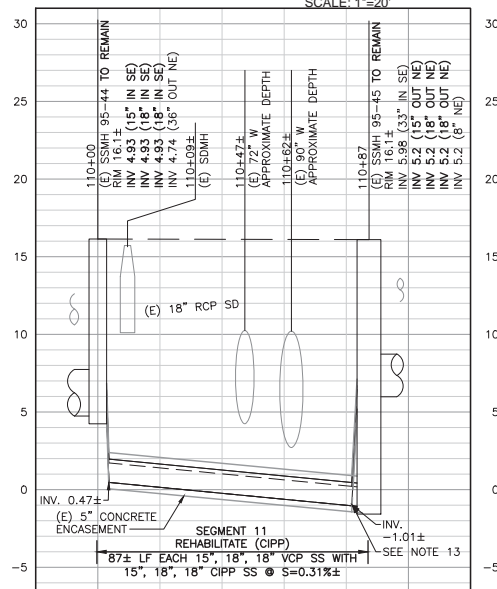
HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'



PLAN

PIPE SEGMENT	PIPE DIAMETER	INFILTRATION GROUT LOCATION
WEST	18"	110+12.4
WEST	18"	110+27.5
WEST	18"	110+42.9
WEST	18"	110+47.2
WEST	18"	110+79.3
CENTER	18"	110+13.1
CENTER	18"	110+28.6
CENTER	18"	110+43.6
CENTER	18"	110+54.0
EAST	15"	110+8.9
EAST	15"	110+26.8
EAST	15"	110+35.4
EAST	15"	110+49.8
EAST	15"	110+55.2

INFILTRATION GROUT PERFORMED ON ALL JOINTS



PROFILE  
SCALE: 1"=20' HORIZ  
1"=4' VERT



NOTES:

- CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC CONTROL PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
- ELEVATIONS ARE BASED ON CITY PROVIDED AS-BUILT DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
- CONTRACTOR MAY REFER TO CITY TRACING NUMBER 7075, DATED JULY 1956 FOR RECORD INFORMATION.
- PAVEMENT REPLACEMENT SHALL BE AS SHOWN IN CITY STANDARD DETAIL ST-24 AND THICKNESS SHALL MATCH EXISTING OR MINIMUM THICKNESS STATED IN CITY STANDARD DETAIL ST-26, WHICHEVER IS GREATER.
- CONSTRUCTION ACTIVITIES SHALL NOT OVERLAP WITH ANY MAJOR EVENT AT SANTA CLARA CONVENTION CENTER, LEVI'S STADIUM AND CALIFORNIA GREAT AMERICA THEME PARK.
- BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED WITHIN MH 95-45 AND WITHIN MH 95-44 AS NEEDED TO ROUTE FLOWS OUT OF AND AWAY FROM PIPE SIPHON TO OTHER PIPE SIPHONS DURING REHABILITATION OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.
- NIGHT WORK IS PERMITTED AND PREFERRED FOR SEGMENT 11.
- INFILTRATION GROUTING SHALL BE PERFORMED BEFORE PERFORMING CIPP OPERATIONS.
- THE CITY AND COUNTY OF SAN FRANCISCO ACTING BY AND THROUGH ITS PUBLIC UTILITIES COMMISSION, WATER SUPPLY AND TREATMENT DIVISION ("SFPUC") OWNS AND OPERATES TWO WATER AQUEUCTS THAT CROSS THE PROJECT ALIGNMENT. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICES ALERT (USA) 48 HOURS BEFORE ANY CONSTRUCTION IN THE VICINITY OF THE SFPUC AQUEUCTS. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE SFPUC CONSTRUCTION INSPECTOR, MR. ALBERT HAO, AT (650) 871-3015, AT LEAST TEN (10) CALENDAR DAYS PRIOR TO THE START OF ON-SITE CONSTRUCTION IN THE VICINITY OF THE SFWD ROW. IN THE EVENT OF EMERGENCY INVOLVING SFPUC FACILITIES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY SFPUC BY CALLING SFPUC MILLBRAE DISPATCH AT 650-872-5900.
- NO MECHANICAL EXCAVATION IS ALLOWED WITHIN 24 INCHES OF SFPUC PIPELINES, DIGGING WITHIN 24 INCHES OF PIPELINE MUST BE DONE WITH HAND TOOLS. NO VIBRATORY COMPACTION EQUIPMENT SHALL BE USED WITHOUT PRIOR WRITTEN APPROVAL OF THE SFPUC.
- CONTRACTOR SHALL OBTAIN CONSENT FROM THE SFPUC TO POTHOLE SFPUC PIPELINE TO DETERMINE THE PIPE DEPTH PRIOR TO ANY EXCAVATION. THE POTHOLING SHALL BE CARRIED OUT BY SOIL VACUUM EXTRACTION METHOD.
- MAXIMUM EXTERNAL LOADING OVER SFPUC PIPELINE IS AASHTO H-10 LOADING WITH A MINIMUM OF 3 FEET SOIL COVER (OR H-20 LOADING WITH A MINIMUM OF 4 FEET SOIL COVER). IF LOADING CONDITIONS EXCEED ABOVE, ENGINEERING CALCULATIONS AS SHOWN IN AWWA, M9 MUST BE SUBMITTED TO THE SFPUC TO SHOW THAT PROPOSED CONDITIONS WOULD IMPOSE A LOAD OF LESS THAN 500 PSF ONTO THE PIPELINE.
- CONTRACTOR IS MADE AWARE OF THE EXTENSION IN THE SIPHON THAT ENDS AT BULKHEAD ON THE EXISTING STRUCTURE. ACCESS TO THIS EXTENSION DOES NOT NEED TO BE REINSTATED AND SHALL BE ABANDONED.
- CONTRACTOR TO FIELD VERIFY CORRECT LOCATION FOR EACH SIPHON DIAMETER AS SHOWN. AS-BUILT AND CCTV INFORMATION DIFFERED ON THE LOCATION OF THE 18-INCH SIPHON.

SHEET No. C-11



PROJECT No.	CE	18-19-08
ACCOUNT No.	594-4443-80300-1912	
DATE	No.	REVISION
6/12/20	Δ	RECORD PLAN
		BY
		OP

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
**SANITARY SEWER CONDITION ASSESSMENT REPAIRS PROJECT-PHASE 1**  
**SEGMENT 11 - LAFAYETTE ST**

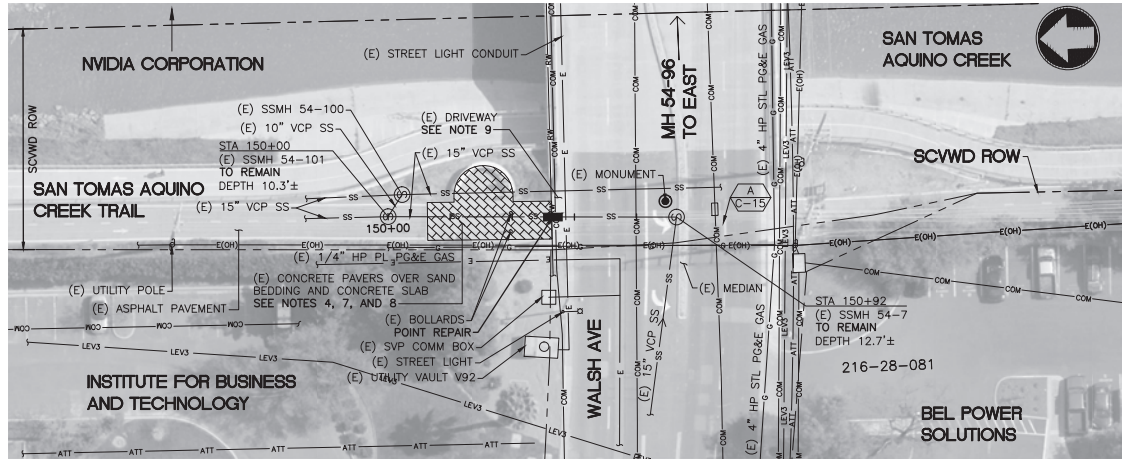
APPROVED BY	TITLE
DATE	R.C.E. No.
DESIGNED BY	INITIAL
JSM	02/19
DATE	TRACING No.
02/19	
DRAWN BY	DATE
TPF	02/19
CHECKED BY	DATE
TGG	02/19
AS BUILT BY	DATE
JSM	06/20
SHEET	10 OF 30

12291-D

HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'

SSW: 10826101-1, PLS SCALE=1, L1 SCALE=1

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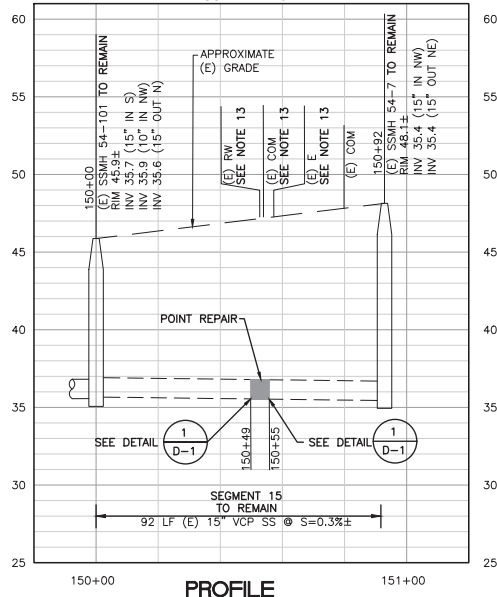


PLAN  
SCALE: 1"=20'



A C-15 MH 54-7 GROUND SURFACE

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC CONTROL PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - CONTRACTOR SHALL USE FLEXIBLE REPAIR COUPLING TO CONNECT TO EXISTING SANITARY SEWER TO REMAIN.
  - CONTRACTOR SHALL REPLACE IN KIND ANY CURB, CURB RAMPS, SIDEWALK, OR PAVERS DAMAGED DURING CONSTRUCTION. REPLACEMENT COSTS SHALL BE INCLUDED IN THE COST OF THE POINT REPAIR.
  - PAVEMENT REPLACEMENT SHALL BE AS SHOWN IN CITY STANDARD DETAIL ST-24 AND THICKNESS SHALL MATCH EXISTING OR MINIMUM THICKNESS STATED IN CITY STANDARD DETAIL ST-26, WHICHEVER IS GREATER.
  - CONTRACTOR SHALL NOTIFY SCWD INSPECTOR AT 408-630-2650 A MINIMUM OF 48 HOURS PRIOR TO BEGINNING WORK.
  - CONTRACTOR SHALL CAREFULLY REMOVE AND TEMPORARILY STORE PAVERS AS NEEDED FOR THE POINT REPAIR. RESTORATION SHALL MATCH EXISTING CONDITIONS WITH TEMPORARILY STORED PAVERS RE-INSTALLED ON TOP OF 1" SAND SETTING BED, ABOVE 6" THICK CONCRETE SLAB WITH #4 REBAR REINFORCEMENT AT 12" ON CENTER EACH WAY, INCLUDING 12" #4 DOWELS IN EXISTING CONCRETE SLAB. CONCRETE SLAB SHALL BE UNDERLAIN BY 6" COMPACTED AGGREGATE BASEROCK. JOINTS BETWEEN PAVERS SHALL BE 1/16" MAXIMUM WITH CLEAN SAND SWEEP IN. MORTAR JOINTS AROUND OUTER MOST COURSE.
  - DAMAGED PAVERS SHALL BE REPLACED IN KIND AT NO ADDITIONAL COST WITH PAVING STONES MANUFACTURED BY PACIFIC INTERLOCKING PAVING STONE, SAN JOSE, CA (408) 797-1436. PAVERS SHALL BE 'HOLLAND' STYLE, 4'X8'X2'-3/8" CONCRETE PAVERS. BAND COLOR: 'RED-TAN', FIELD COLOR: 'BROWN' OR APPROVED EQUAL.
  - AT THIS LOCATION, PARTIAL DRIVEWAY REPLACEMENT IS ACCEPTABLE AND MAY BE LIMITED TO TRENCH WIDTH IN ACCORDANCE WITH CITY STANDARD DETAIL ST-24. INSTALLATION SHALL INCLUDE CONTACT JOINTS (DOWELS REQUIRED) AND MATCH EXISTING REINFORCEMENT.
  - CONTRACTOR SHALL POST TEMPORARY "NO PARKING" SIGNS ALONG STREET FRONTAGE, WHERE APPLICABLE, A MINIMUM 48 HOURS PRIOR TO COMMENCEMENT OF WORK AND SHALL NOTIFY THE POLICE DEPARTMENT. SIGNS SHALL STATE DAYS AND HOURS WHEN RESTRICTIONS ARE IN EFFECT.
  - ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTY ACCESS. ACCESS TO ALL AFFECTED PROPERTIES SHALL BE MAINTAINED OPEN DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.
  - BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 54-7 TO MH 54-96 LOCATED THRU EAST BOUND LEFT TURN POCKET, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. MH 54-96 IS LOCATED APPROXIMATELY 154 FEET TO THE EAST OF MH 54-7.
  - CONTRACTOR TO PROVIDE TEMPORARY SUPPORT OF ALL UTILITIES ACROSS SHEETED EXCAVATION. BED AND BACKFILL PER UTILITY OWNER REQUIREMENTS FOLLOWING COMPLETION OF POINT REPAIR.



PROFILE  
SCALE: 1"=20' HORIZ  
1"=4' VERT



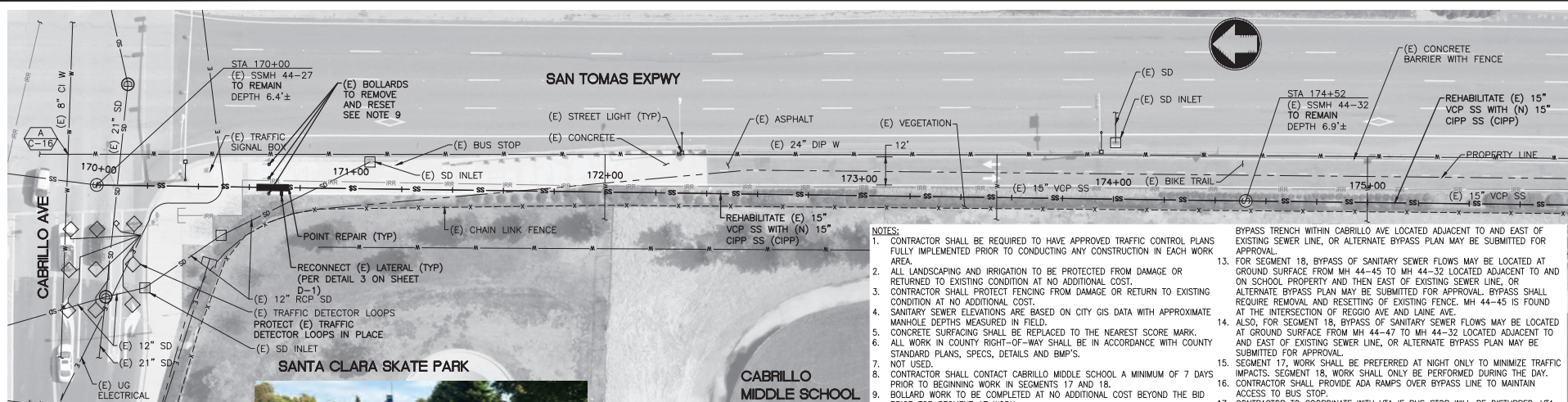
PROJECT No.	CE 18-19-08
ACCOUNT No.	594-4443-80300-1912
DATE	No. REVISION BY
6/15/20	Δ RECORD PLAN OP

<b>CITY OF SANTA CLARA</b> PUBLIC WORKS DEPARTMENT		APPROVED BY DATE
<b>SANITARY SEWER CONDITION</b> ASSESSMENT REPAIRS PROJECT-PHASE 1		INITIAL DATE JSM 02/19
<b>SEGMENT 15 - WALSH AVE</b>		Survey No. N/A TRACING No.
DESIGNED BY JSM	DATE 02/19	<b>12291-D</b> SHEET 11 OF 30
DRAWN BY TPF	DATE 02/19	
CHECKED BY TGG	DATE 02/19	
AS BUILT BY JSM		DATE 06/20

CONSTRUCTION AT THIS LOCATION SHALL BE COMPLETED BY DECEMBER 12, 2019 AS REQUIRED BY CONTRACT SPECIFICATIONS AND RIVER WATCH SETTLEMENT AGREEMENT. SHEET No. C-15



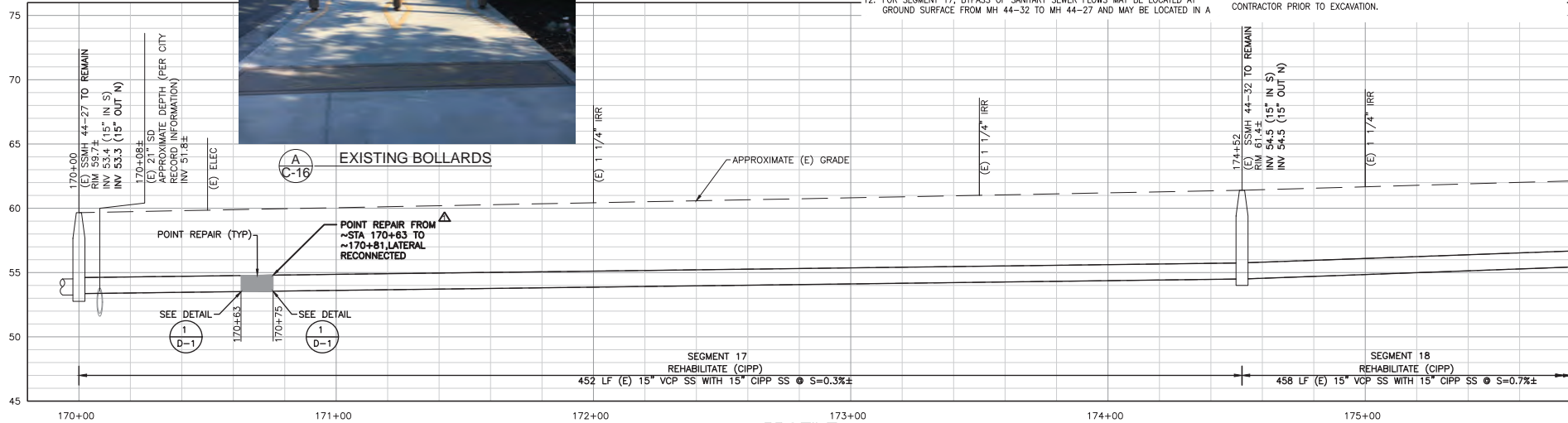
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**CABRILLO MIDDLE SCHOOL PLAN**  
 SCALE: 1"=20'

- NOTES:**
- CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC CONTROL PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - ALL LANDSCAPING AND IRRIGATION TO BE PROTECTED FROM DAMAGE OR RETURNED TO EXISTING CONDITION AT NO ADDITIONAL COST.
  - CONTRACTOR SHALL PROTECT FENCING FROM DAMAGE OR RETURN TO EXISTING CONDITION AT NO ADDITIONAL COST.
  - SANITARY SEWER ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONCRETE SURFACING SHALL BE REPLACED TO THE NEAREST SCORE MARK.
  - ALL WORK IN COUNTY RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH COUNTY STANDARD PLANS, SPECS, DETAILS AND BMP'S.
  - NOT USED.
  - CONTRACTOR SHALL CONTACT CABRILLO MIDDLE SCHOOL A MINIMUM OF 7 DAYS PRIOR TO BEGINNING WORK IN SEGMENTS 17 AND 18.
  - BOLLARD WORK TO BE COMPLETED AT NO ADDITIONAL COST BEYOND THE BID PRICE FOR SEGMENT 17 WORK.
  - ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTY ACCESS: ACCESS TO ALL AFFECTED PROPERTIES SHALL BE MAINTAINED OPEN DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.
  - PAVEMENT REPLACEMENT SHALL BE 0.33' PCC OVER 0.33' CL 2 AB IN AREAS OF CONCRETE AND 0.33' HMA (TYPE A) OVER 0.33' CL 2 AB IN AREAS OF ASPHALT OR THICKNESS SHALL MATCH EXISTING, WHICHEVER IS GREATER.
  - FOR SEGMENT 17, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 44-32 TO MH 44-27 AND MAY BE LOCATED IN A

- BYPASS TRENCH WITHIN CABRILLO AVE LOCATED ADJACENT TO AND EAST OF EXISTING SEWER LINE, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.
- FOR SEGMENT 18, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 44-45 TO MH 44-32 LOCATED ADJACENT TO AND ON SCHOOL PROPERTY AND THEN EAST OF EXISTING SEWER LINE, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. BYPASS SHALL REQUIRE REMOVAL AND RESETTING OF EXISTING FENCE. MH 44-45 IS FOUND AT THE INTERSECTION OF REGGIO AVE AND LAINE AVE.
- ALSO, FOR SEGMENT 18, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 44-47 TO MH 44-32 LOCATED ADJACENT TO AND EAST OF EXISTING SEWER LINE, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.
- SEGMENT 17, WORK SHALL BE PREFERRED AT NIGHT ONLY TO MINIMIZE TRAFFIC IMPACTS: SEGMENT 18, WORK SHALL ONLY BE PERFORMED DURING THE DAY.
- CONTRACTOR SHALL PROVIDE ADA RAMPS OVER BYPASS LINE TO MAINTAIN ACCESS TO BUS STOP.
- CONTRACTOR TO COORDINATE WITH VTA IF BUS STOP WILL BE DISTURBED. VTA NUMBER IS 408-321-5800.
- BYPASS TRENCH SHALL ACCOMMODATE THE WIDTH AND DEPTH NEEDED FOR BYPASS PIPING WITHIN TRENCH. THE COVER OVER THE TRENCH SHALL BE PLATED WITHIN THE TRAFFIC AREAS OR OTHER APPROVED HS20 TRAFFIC LOADING METHODS.
- IRRIGATION LINES ARE APPROXIMATE AND BASED ON RECORD DRAWINGS FOR CITY TRACING NO. 11,829-D FOR SAN TOMAS AQUINO CREEK SPUR TRAIL PROJECT. ACTUAL LOCATIONS MAY DIFFER AND ARE TO BE CONFIRMED BY CONTRACTOR PRIOR TO EXCAVATION.



**CRATUS INC**  
 AS-BUILT

DATE: 3/9/2020  
 SIGNATURE: *[Signature]*

PROFESSIONAL ENGINEER  
 CIVIL  
 STATE OF CALIFORNIA  
 C 80788  
*[Signature]*

**MOTT MACDONALD**

PROJECT No. CE 18-19-08			
ACCOUNT No. 594-4443-80300-1912			
DATE	No.	REVISION	BY
6/15/20	Δ	RECORD PLAN	OP

<b>CITY OF SANTA CLARA</b> PUBLIC WORKS DEPARTMENT			
APPROVED BY			
TITLE		R.C.E. No.	
DATE		Survey No. N/A	
DESIGNED BY	JSM	DATE	02/19
TRACING No.		12291-D	
DRAWN BY	TPF	DATE	02/19
CHECKED BY	TGG	DATE	02/19
AS BUILT BY		JSM	06/20
SHEET		12 OF 30	

MATCH LINE STA 175+80 SEE SHEET C-17

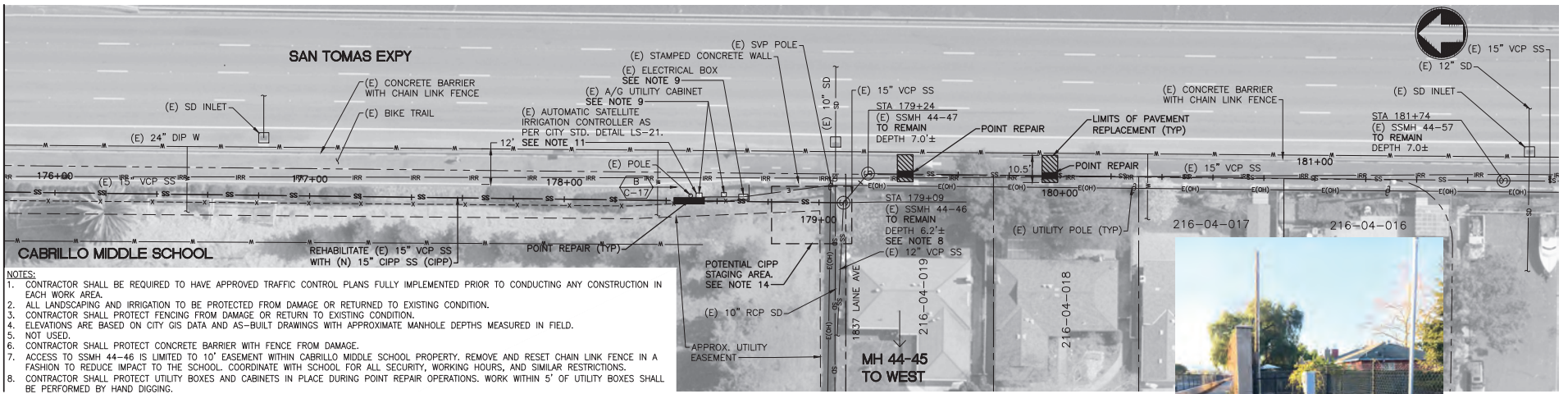
MATCH LINE STA 175+80 SEE SHEET C-17

CONSTRUCTION AT THIS LOCATION SHALL BE COMPLETED BY DECEMBER 15, 2019 AS REQUIRED BY CONTRACT SPECIFICATIONS AND RIVER WATCH SETTLEMENT AGREEMENT.

SHEET No. **C-16**

MATCH LINE STA 175+80 SEE SHEET C-16

MATCH LINE STA 175+80 SEE SHEET C-16

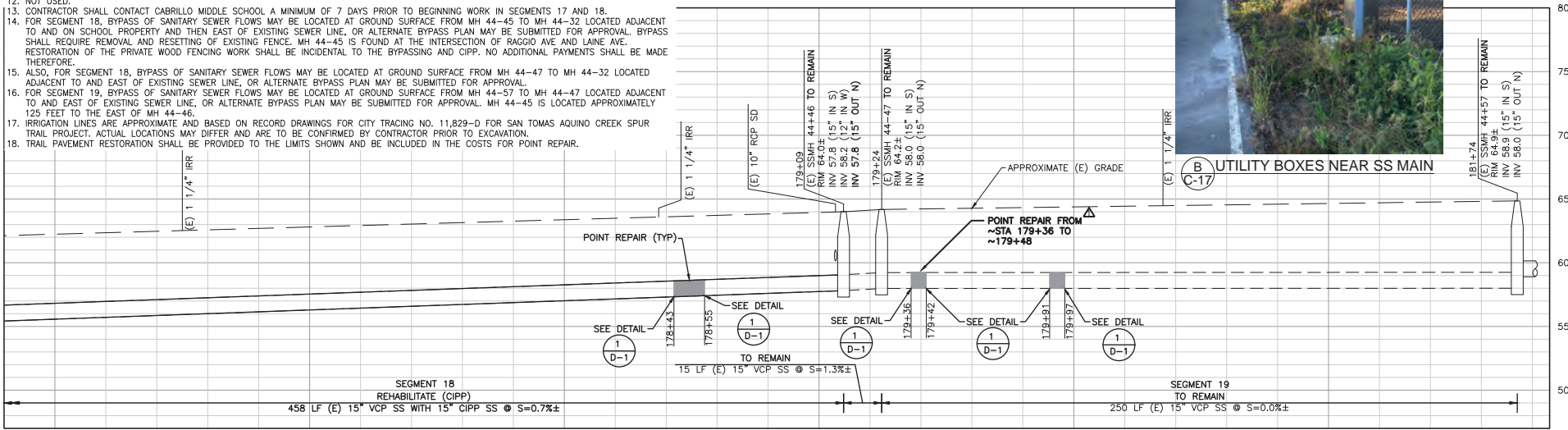


PLAN SCALE: 1"=20'

- NOTES:
- CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC CONTROL PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - ALL LANDSCAPING AND IRRIGATION TO BE PROTECTED FROM DAMAGE OR RETURNED TO EXISTING CONDITION.
  - CONTRACTOR SHALL PROTECT FENCING FROM DAMAGE OR RETURN TO EXISTING CONDITION.
  - ELEVATIONS ARE BASED ON CITY GIS DATA AND AS-BUILT DRAWINGS WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - NOT USED.
  - CONTRACTOR SHALL PROTECT CONCRETE BARRIER WITH FENCE FROM DAMAGE.
  - ACCESS TO SSMH 44-46 IS LIMITED TO 10' EASEMENT WITHIN CABRILLO MIDDLE SCHOOL PROPERTY. REMOVE AND RESET CHAIN LINK FENCE IN A FASHION TO REDUCE IMPACT TO THE SCHOOL. COORDINATE WITH SCHOOL FOR ALL SECURITY, WORKING HOURS, AND SIMILAR RESTRICTIONS.
  - CONTRACTOR SHALL PROTECT UTILITY BOXES AND CABINETS IN PLACE DURING POINT REPAIR OPERATIONS. WORK WITHIN 5' OF UTILITY BOXES SHALL BE PERFORMED BY HAND DIGGING.
  - ELECTRICAL SERVICE LOCATION TO UTILITY CABINET IS UNKNOWN. HAND EXCAVATION REQUIRED.
  - ALL WORK IN COUNTY RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH COUNTY STANDARD PLANS, SPECS, DETAILS AND BMP'S.
  - CONTRACTOR SHALL REMOVE, TEMPORARILY STORE, AND REINSTATE EXISTING AUTOMATIC SATELLITE IRRIGATION CONTROLLER WITH RADIO HIGH GAIN ANTENNAE AND RAIN SENSOR PER CITY STANDARD DETAIL LS-21. CONTRACTOR MAY ALSO REFER TO RECORD DRAWING TRACING NO. 114829-D
  - NOT USED.
  - CONTRACTOR SHALL CONTACT CABRILLO MIDDLE SCHOOL A MINIMUM OF 7 DAYS PRIOR TO BEGINNING WORK IN SEGMENTS 17 AND 18.
  - FOR SEGMENT 18, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 44-45 TO MH 44-32 LOCATED ADJACENT TO AND ON SCHOOL PROPERTY AND THEN EAST OF EXISTING SEWER LINE, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. BYPASS SHALL REQUIRE REMOVAL AND RESETTING OF EXISTING FENCE. MH 44-45 IS FOUND AT THE INTERSECTION OF BAGGIO AVE AND LAINE AVE. RESTORATION OF THE PRIVATE WOOD FENCING WORK SHALL BE INCIDENTAL TO THE BYPASSING AND CIPP. NO ADDITIONAL PAYMENTS SHALL BE MADE THEREFORE.
  - ALSO, FOR SEGMENT 18, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 44-47 TO MH 44-32 LOCATED ADJACENT TO AND EAST OF EXISTING SEWER LINE, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.
  - FOR SEGMENT 19, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 44-57 TO MH 44-47 LOCATED ADJACENT TO AND EAST OF EXISTING SEWER LINE, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. MH 44-45 IS LOCATED APPROXIMATELY 125 FEET TO THE EAST OF MH 44-46.
  - IRRIGATION LINES ARE APPROXIMATE AND BASED ON RECORD DRAWINGS FOR CITY TRACING NO. 11,829-D FOR SAN TOMAS AQUINO CREEK SPUR TRAIL PROJECT. ACTUAL LOCATIONS MAY DIFFER AND ARE TO BE CONFIRMED BY CONTRACTOR PRIOR TO EXCAVATION.
  - TRAIL PAVEMENT RESTORATION SHALL BE PROVIDED TO THE LIMITS SHOWN AND BE INCLUDED IN THE COSTS FOR POINT REPAIR.



UTILITY BOXES NEAR SS MAIN



PROFILE SCALE: 1"=20' HORIZ 1"=4' VERT

CONSTRUCTION AT THIS LOCATION FOR SEGMENT 18 SHALL BE COMPLETED BY DECEMBER 15, 2019 AS REQUIRED BY CONTRACT SPECIFICATIONS AND RIVER WATCH SETTLEMENT AGREEMENT.  
 CONSTRUCTION AT THIS LOCATION FOR SEGMENT 19 SHALL BE COMPLETED BY DECEMBER 16, 2019 AS REQUIRED BY CONTRACT SPECIFICATIONS AND RIVER WATCH SETTLEMENT AGREEMENT.

SHEET No. C-17



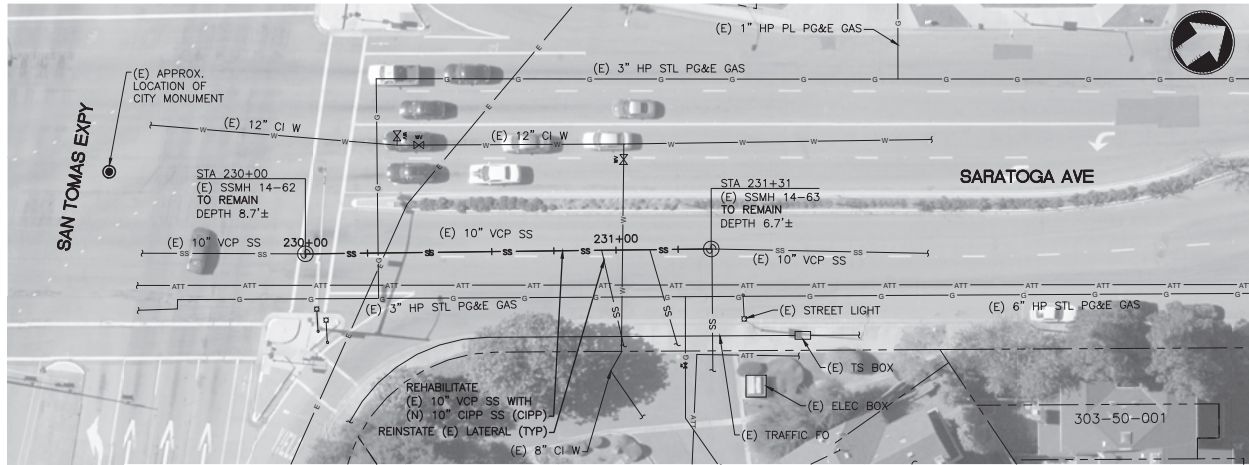
PROJECT No.	CE 18-19-08
ACCOUNT No.	594-4443-80300-1912
DATE	No. REVISION BY
6/15/20	Δ RECORD PLAN OP

**CITY OF SANTA CLARA**  
 PUBLIC WORKS DEPARTMENT  
**SANITARY SEWER CONDITION**  
**ASSESSMENT REPAIRS PROJECT-PHASE 1**  
 SEGMENT 18 & 19 - SAN TOMAS EXPY

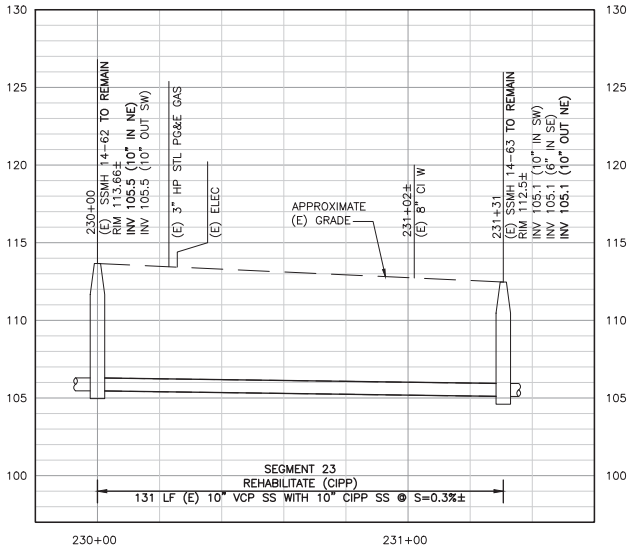
APPROVED BY	TITLE	DATE	R.C.E. No.
JSM	ASSESSMENT REPAIRS PROJECT-PHASE 1	02/19	N/A
DESIGNED BY	TRACING No.	DATE	
TPF		02/19	
CHECKED BY		DATE	
TGG		02/19	
AS BUILT BY		DATE	
JSM		06/20	

12291-D SHEET 13 OF 30





- NOTES:**
- CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC CONTROL PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - TRENCHING AND PAVEMENT RESTORATION IN COUNTY RIGHT-OF-WAY SHALL BE PROVIDED IN ACCORDANCE WITH SANTA CLARA COUNTY DETAILS U/3A AND U/3C (CASE 1).
  - MANHOLE FRAME AND COVER REPLACEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH SANTA CLARA COUNTY STANDARD DETAIL C/9A.
  - ALL WORK IN COUNTY RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH COUNTY STANDARD PLANS, SPECS, DETAILS AND BMP'S.
  - BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 14-62 TO MH 14-63 LOCATED ADJACENT TO AND NORTHWEST OF EXISTING SANITARY SEWER, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.
  - NIGHT WORK IS PERMITTED AND PREFERRED FOR SEGMENT 23.



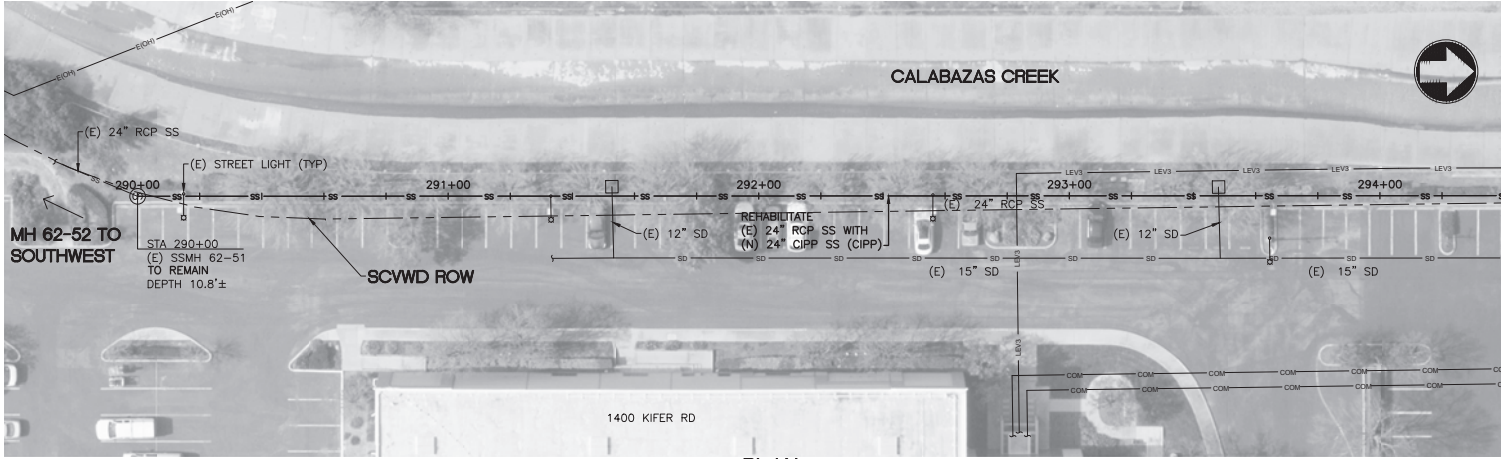
CONSTRUCTION AT THIS LOCATION SHALL BE COMPLETED BY JANUARY 9, 2020 AS REQUIRED BY CONTRACT SPECIFICATIONS AND RIVER WATCH SETTLEMENT AGREEMENT. SHEET No. C-20



PROJECT No.	CE	18-19-08
ACCOUNT No.	594-4443-80300-1912	
DATE	No.	REVISION
6/15/20	Δ	RECORD PLAN
		BY
		OP

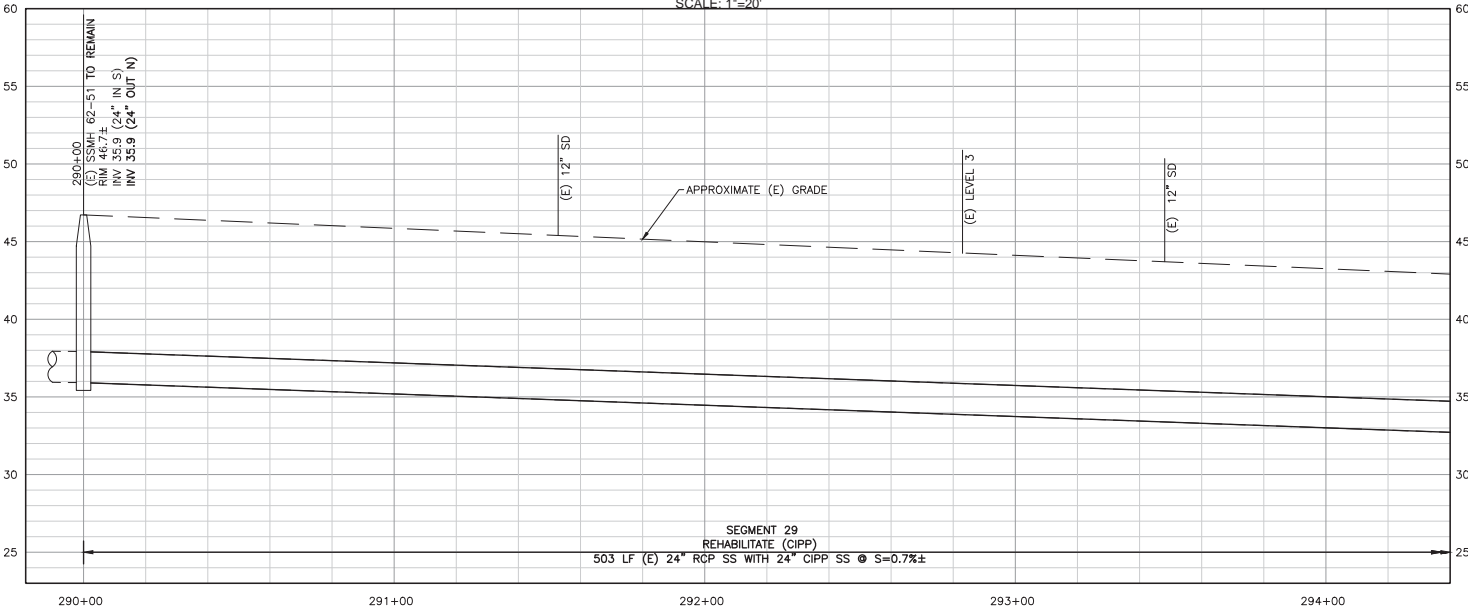
**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
**SANITARY SEWER CONDITION ASSESSMENT REPAIRS PROJECT-PHASE 1**  
**SEGMENT 23 - SARATOGA AVE**

APPROVED BY		TITLE	
DATE	INITIAL	DATE	Survey No.
	JSM	02/19	N/A
DESIGNED BY		TRACING No.	
DRAWN BY		12291-D	
CHECKED BY		AS BUILT BY	
TGG		JSM	
02/19		06/20	
SHEET		OF 30	



MATCH LINE STA 294+40 SEE SHEET C-26

PLAN  
SCALE: 1"=20'



MATCH LINE STA 294+40 SEE SHEET C-26

PROFILE  
SCALE: 1"=20' HORIZ  
1"=4' VERT

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - NOT USED.
  - NOT USED.
  - CONTRACTOR SHALL POST TEMPORARY "NO PARKING" SIGNS ALONG IMPACTED PARKING STALL. CONTRACTOR SHALL COORDINATE STALL CLOSURES WITH PROPERTY OWNER.
  - ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTY ACCESS. ACCESS TO ALL AFFECTED PROPERTIES SHALL BE MAINTAINED OPEN DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.
  - BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 62-52 TO MH 62-48 LOCATED ADJACENT TO AND EAST OF EXISTING SEWER LINE, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. MH 62-52 IS LOCATED APPROXIMATELY 252 FEET TO THE SOUTHWEST OF MH 62-51.
  - CONTRACTOR SHALL NOTIFY SCWD INSPECTOR AT 408-630-2650 A MINIMUM OF 48 HOURS PRIOR TO BEGINNING WORK.
  - ANY DAMAGE TO SANTA CLARA VALLEY WATER DISTRICT'S STRUCTURES, EQUIPMENT, MATERIALS, VEGETATION, AND/OR PROPERTY SHALL BE REPLACED AND/OR REPAIRED IN KIND TO THE SATISFACTION OF THE DISTRICT.
  - CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH SCWD PERMIT REQUIREMENTS. REFER TO CONTRACT SPECIFICATION APPENDICES FOR SCWD PERMIT.
  - CONTRACTOR MUST COMPLY WITH AVOIDANCE AND MITIGATION MEASURES IN CONTRACT APPENDIX D. COMPENSATION FOR COMPLIANCE IS INCLUDED IN VARIOUS ITEMS OF WORK.

**CRATUS INC**  
AS-BUILT  
DATE: 3/9/2020  
SIGNATURE:



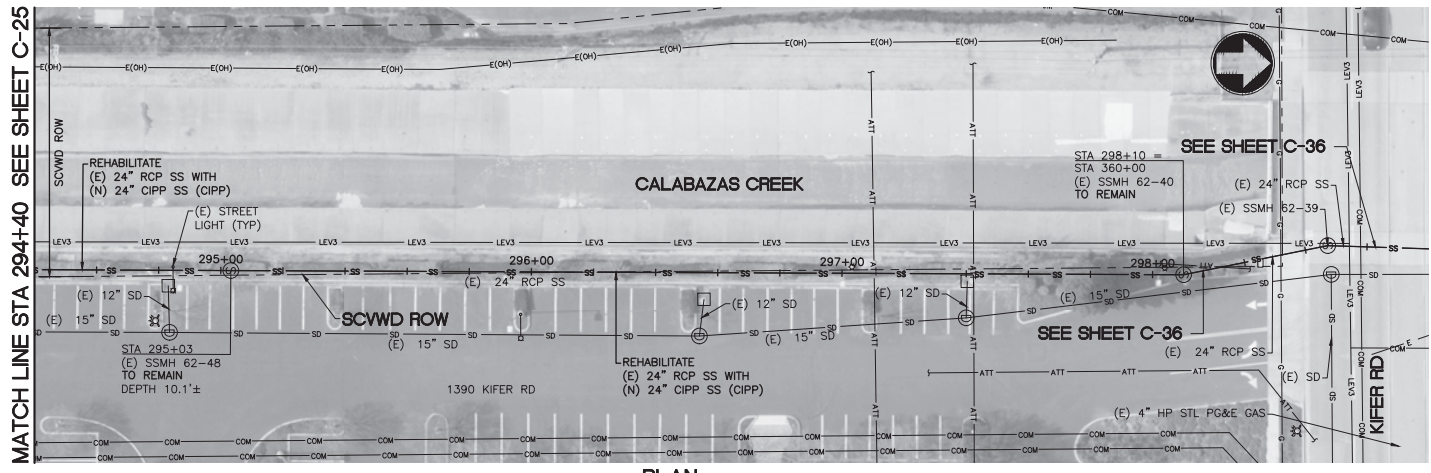
**M M**  
**MOTT MACDONALD**

PROJECT No.	CE 18-19-08
ACCOUNT No.	594-4443-80300-1912
DATE	6/15/20
No.	Δ
REVISION	RECORD PLAN
BY	OP

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
**SANITARY SEWER CONDITION ASSESSMENT REPAIRS PROJECT-PHASE 1**  
SEGMENT 29 - KIFER RD (1)

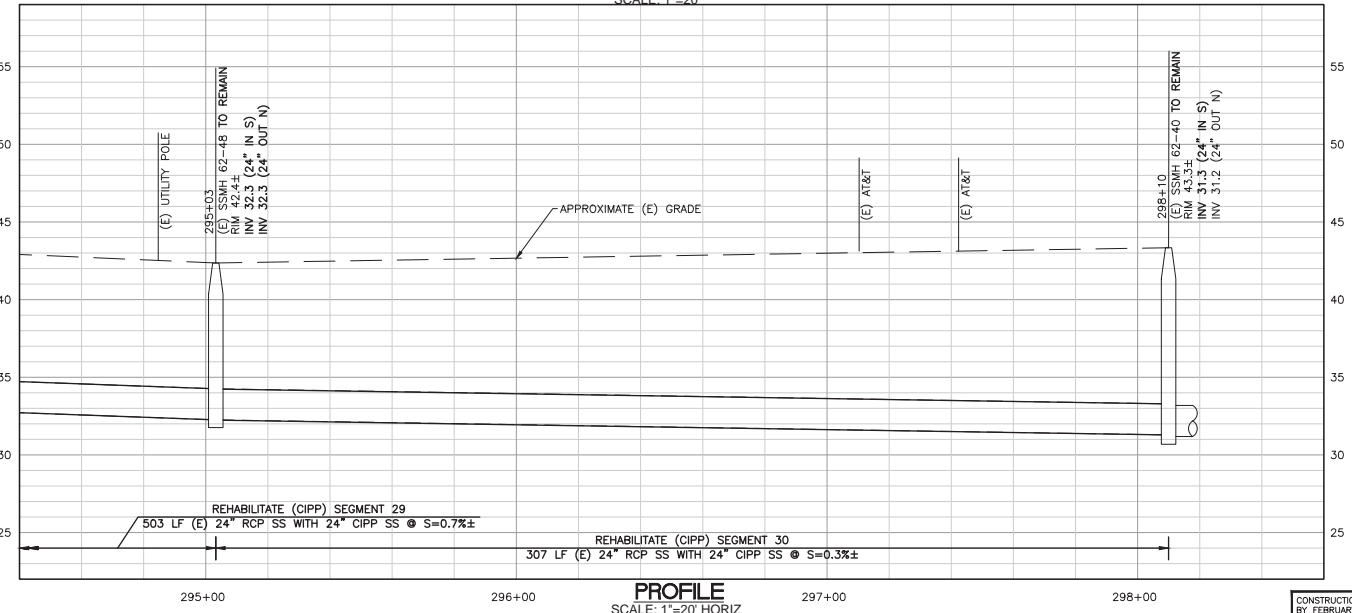
APPROVED BY			
TITLE			
DATE	INITIAL	DATE	R.C.E. No.
	JSM	02/19	N/A
DESIGNED BY	JSM	02/19	TRACING No.
DRAWN BY	TPF	02/19	12291-D
CHECKED BY	TGG	02/19	
AS BUILT BY	JSM	06/20	SHEET 16 OF 30

CONSTRUCTION AT THIS LOCATION SHALL BE COMPLETED BY FEBRUARY 17, 2020 AS REQUIRED BY CONTRACT SPECIFICATIONS AND RIVER WATCH SETTLEMENT AGREEMENT. SHEET No. **C-25**



PLAN  
SCALE: 1"=20'

MATCH LINE STA 294+40 SEE SHEET C-25



PROFILE  
SCALE: 1"=20' HORIZ  
1"=4' VERT

NOTES:

- ELEVATIONS ARE BASED ON AS-BUILT DRAWINGS WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
- NOT USED.
- NOT USED.
- DRIVEWAY ACCESS TO 1390 KIFER RD. SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION OPERATIONS.
- FOR SEGMENT 29, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 62-52 TO MH 62-48 LOCATED ADJACENT TO AND EAST OF EXISTING SEWER LINE, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.
- FOR SEGMENT 30, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 62-51 TO MH 62-40 LOCATED ADJACENT TO AND EAST OF EXISTING SEWER LINE, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.
- CONTRACTOR SHALL POST TEMPORARY "NO PARKING" SIGNS ALONG IMPACTED PARKING STALLS. CONTRACTOR SHALL COORDINATE STALL CLOSURES WITH PROPERTY OWNER.
- ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTY ACCESS. ACCESS TO ALL AFFECTED PROPERTIES SHALL BE MAINTAINED OPEN DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL NOTIFY SCVWD INSPECTOR AT 408-630-2650 A MINIMUM OF 48 HOURS PRIOR TO BEGINNING WORK.
- ANY DAMAGE TO SANTA CLARA VALLEY WATER DISTRICT'S STRUCTURES, EQUIPMENT, MATERIALS, VEGETATION, AND/OR PROPERTY SHALL BE REPLACED AND/OR REPAIRED IN KIND TO THE SATISFACTION OF THE DISTRICT.
- CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH SCVWD PERMIT REQUIREMENTS. REFER TO CONTRACT SPECIFICATION APPENDICES FOR SCVWD PERMIT.
- CONTRACTOR MUST COMPLY WITH AVOIDANCE AND MITIGATION MEASURES IN CONTRACT APPENDIX D. COMPENSATION FOR COMPLIANCE IS INCLUDED IN VARIOUS ITEMS OF WORK.

CONSTRUCTION AT THIS LOCATION SHALL BE COMPLETED BY FEBRUARY 18, 2020 AS REQUIRED BY CONTRACT SPECIFICATIONS AND RIVER WATCH SETTLEMENT AGREEMENT.

SHEET No. **C-26**

**CRATUS INC**  
AS-BUILT  
DATE: 3/9/2020  
SIGNATURE:



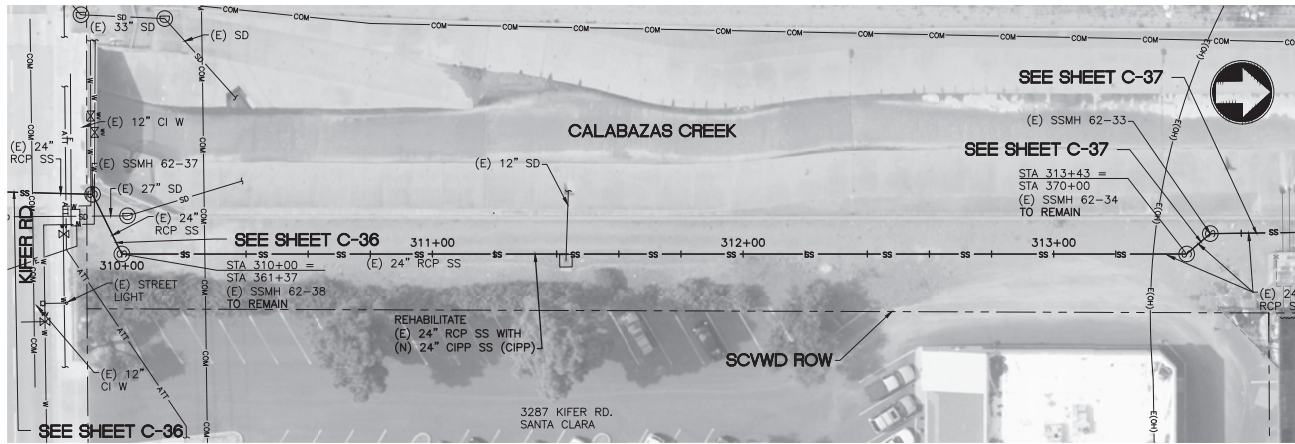
**M M**  
**MOTT MACDONALD**

PROJECT No.	CE 18-19-08
ACCOUNT No.	594-4443-80300-1912
DATE	6/15/20
REVISION	RECORD PLAN
BY	OP

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
**SANITARY SEWER CONDITION**  
ASSESSMENT REPAIRS PROJECT-PHASE I  
**SEGMENT 29, 30 - KIFER RD (2)**

APPROVED BY	TITLE	R.C.E. No.
DATE	DATE	Survey No.
DESIGNED BY	INITIAL	DATE
DRAWN BY	TPF	02/19
CHECKED BY	TGG	02/19
AS BUILT BY	JSM	06/20
TRACING No.	12291-D	
SHEET	17 OF 30	

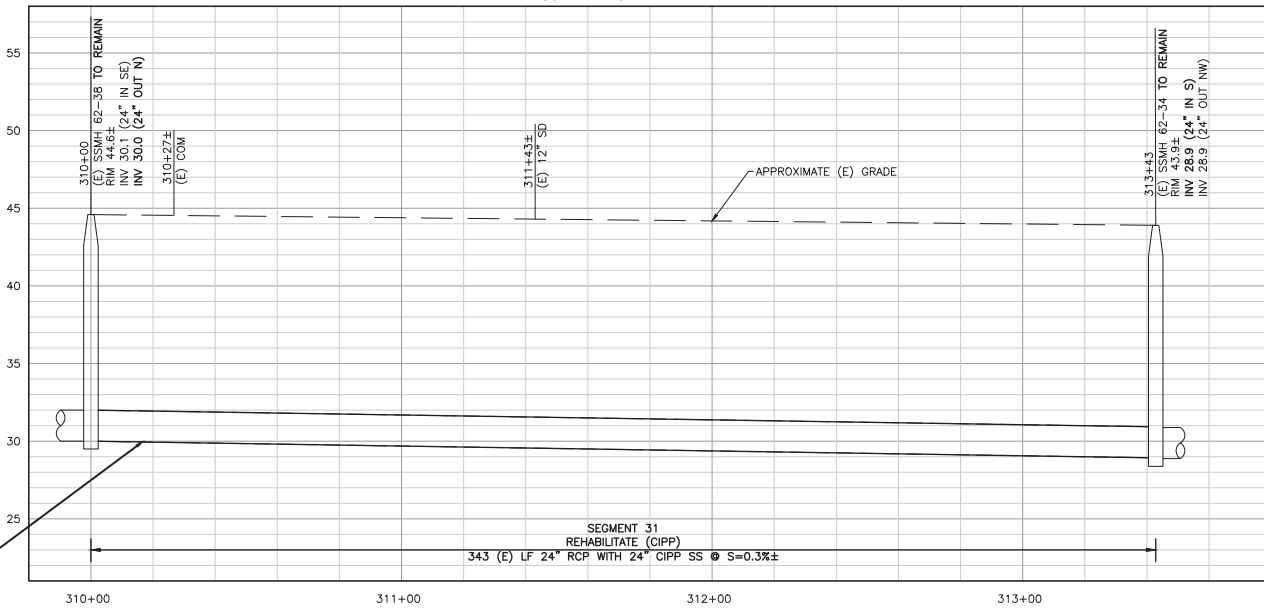
HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'



**PLAN**  
SCALE: 1"=20'

**NOTES:**

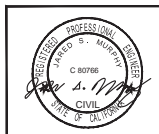
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
- NOT USED.
- NOT USED.
- CONTRACTOR SHALL NOTIFY SCVD INSPECTOR AT 408-630-2650 A MINIMUM OF 48 HOURS PRIOR TO BEGINNING WORK.
- NOT USED.
- ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTIES SHALL BE MAINTAINED OPEN DURING CONSTRUCTION, UNLESS OTHERWISE NOTED. BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 62-37 TO MH 62-33 LOCATED ADJACENT TO AND WEST OF EXISTING SEWER LINE, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.
- ANY DAMAGE TO SANTA CLARA VALLEY WATER DISTRICT'S STRUCTURES, EQUIPMENT, MATERIALS, VEGETATION, AND OR PROPERTY SHALL BE REPLACED AND OR REPAIRED IN KIND TO THE SATISFACTION OF THE DISTRICT.
- CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH SCVD PERMIT REQUIREMENTS. REFER TO CONTRACT SPECIFICATION APPENDICES FOR SCVD PERMIT.
- CONTRACTOR MUST COMPLY WITH AVOIDANCE AND MITIGATION MEASURES IN CONTRACT APPENDIX D. COMPENSATION FOR COMPLIANCE IS INCLUDED IN VARIOUS ITEMS OF WORK.



**PROFILE**  
SCALE: 1"=20' HORIZ  
1"=4' VERT

▲ FULL LENGTH PRELINER INSTALLED DUE TO INFILTRATION

**CRATUS INC**  
AS-BUILT  
DATE: 3/9/2020  
SIGNATURE: *[Signature]*



**M MOTT MACDONALD**

PROJECT No.	CE 18-19-08	
ACCOUNT No.	594-4443-80300-1912	
DATE	No. REVISION BY	
08/28/19	▲ ADDENDUM 1	
6/15/20	▲ RECORD PLAN	

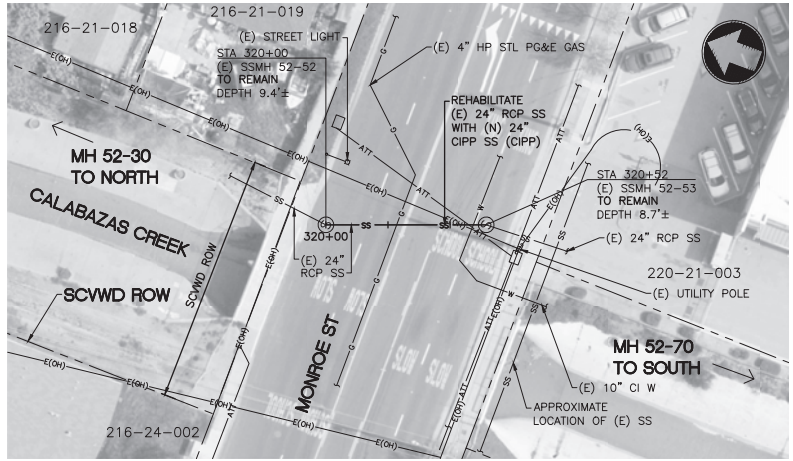
**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
**SANITARY SEWER CONDITION ASSESSMENT REPAIRS PROJECT-PHASE 1**  
**SEGMENT 31 - KIFER RD (3)**

HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'

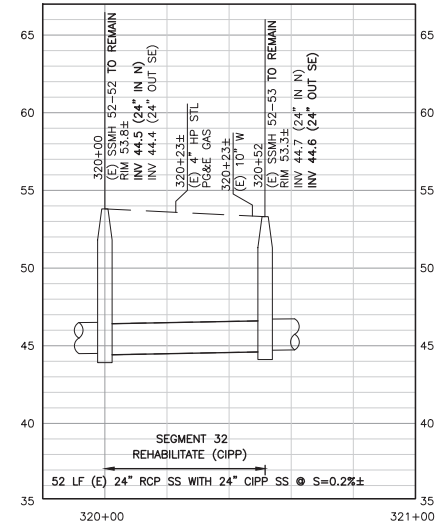
CONSTRUCTION AT THIS LOCATION SHALL BE COMPLETED BY FEBRUARY 22, 2020 AS REQUIRED BY CONTRACT SPECIFICATIONS AND RIVER WATCH SETTLEMENT AGREEMENT.

SHEET No. **C-27**

APPROVED BY	TITLE
DATE	DATE
R.C.E. No.	Survey No. N/A
DESIGNED BY JSM	02/19
DRAWN BY TPF	02/19
CHECKED BY TGG	02/19
AS BUILT BY JSM	06/20
<b>12291-D</b>	
SHEET 18 OF 30	



**PLAN**  
SCALE: 1"=20'



**PROFILE**  
SCALE: 1"=20' HORIZ  
1"=4' VERT

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - PAVEMENT REPLACEMENT SHALL BE AS SHOWN IN CITY STANDARD DETAIL ST-24 AND THICKNESS SHALL MATCH EXISTING OR MINIMUM THICKNESS STATED IN CITY STANDARD DETAIL ST-26, WHICHEVER IS GREATER.
  - NOT USED.
  - CONTRACTOR SHALL POST TEMPORARY "NO PARKING" SIGNS ALONG STREET FRONTAGE, WHERE APPLICABLE, A MINIMUM 48 HOURS PRIOR TO COMMENCEMENT OF WORK AND SHALL NOTIFY THE POLICE DEPARTMENT. SIGNS SHALL STATE DATES AND HOURS WHEN RESTRICTIONS ARE IN EFFECT.
  - ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTY ACCESS. ACCESS TO ALL AFFECTED PROPERTIES SHALL BE MAINTAINED OPEN DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.
  - BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED IN TEMPORARY TRENCH FROM MH 52-70 TO MH 52-30 WITHIN ROADWAY AND MAY BE LOCATED AT GROUND SURFACE FROM MH 52-70 TO MH 52-30 OUTSIDE ROADWAY, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. MH 52-30 IS LOCATED APPROXIMATELY 446 FEET TO THE NORTH OF MH 52-52. MH 52-70 IS LOCATED APPROXIMATELY 488 FEET TO THE SOUTH OF MH 52-53.
  - ALL TRENCHING SHALL PROTECT IN PLACE THE EXISTING BRIDGE.
  - CONTRACTOR SHALL PROVIDE ADA RAMPS OVER BYPASS LINE TO MAINTAIN ACCESS TO SIDEWALKS AS NECESSARY.
  - CONTRACTOR SHALL NOTIFY SCVWD INSPECTOR AT 408-630-2650 A MINIMUM OF 48 HOURS PRIOR TO BEGINNING WORK.
  - ANY DAMAGE TO SANTA CLARA VALLEY WATER DISTRICT'S STRUCTURES, EQUIPMENT, MATERIALS, VEGETATION, AND/OR PROPERTY SHALL BE REPLACED AND/OR REPAIRED IN KIND TO THE SATISFACTION OF THE DISTRICT.
  - CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH SCVWD PERMIT REQUIREMENTS. REFER TO CONTRACT SPECIFICATION APPENDICES FOR SCVWD PERMIT.
  - BYPASS TRENCH SHALL ACCOMMODATE THE WIDTH AND DEPTH NEEDED FOR BYPASS PIPING WITHIN TRENCH. THE COVER OVER THE TRENCH SHALL BE PLATED WITHIN TRAFFIC AREAS OR OTHER APPROVED HS20 TRAFFIC LOADING METHODS.

**CRATUS INC**  
AS-BUILT

DATE: 3/9/2020  
SIGNATURE: *[Signature]*



PROJECT No.	CE	18-19-08
ACCOUNT No.	594-4443-80300-1912	
DATE	No.	REVISION
6/15/20	Δ	RECORD PLAN
		BY
		OP

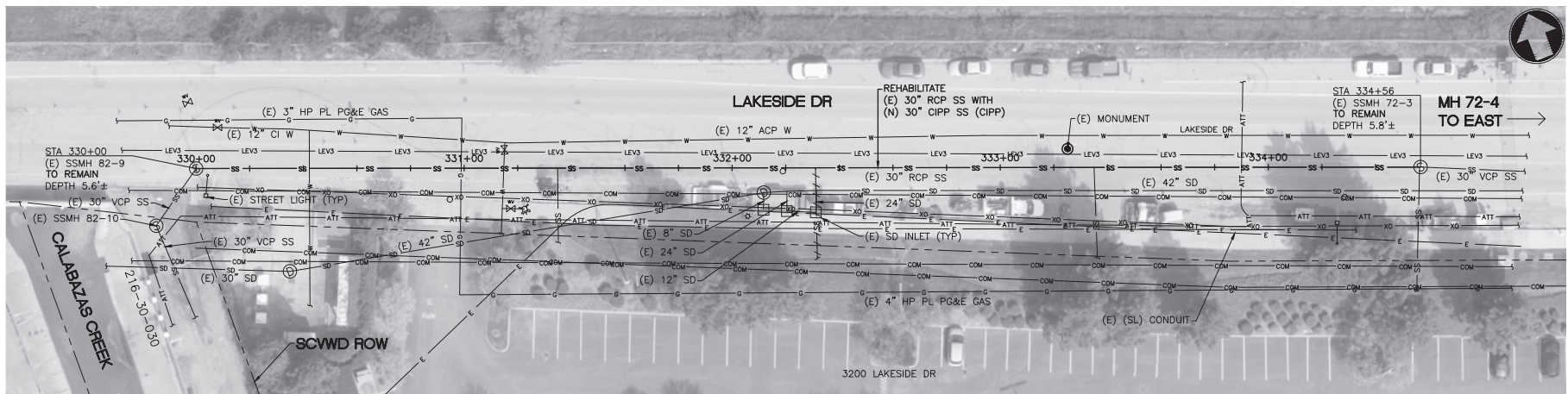
<b>CITY OF SANTA CLARA</b> PUBLIC WORKS DEPARTMENT		APPROVED BY	
		TITLE	
SANITARY SEWER CONDITION ASSESSMENT REPAIRS PROJECT-PHASE 1		DESIGNED BY	JSM 02/19
SEGMENT 32 - MONROE ST		DRAWN BY	TPF 02/19
HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'		CHECKED BY	TGG 02/19
		AS BUILT BY	JSM 06/20
CONSTRUCTION AT THIS LOCATION SHALL BE COMPLETED BY FEBRUARY 28, 2020 AS REQUIRED BY CONTRACT SPECIFICATIONS AND RIVER WATCH SETTLEMENT AGREEMENT.		DATE	Survey No.
			N/A
		TRACING No.	
			<b>12291-D</b>
		SHEET	19 OF 30

SHEET No. **C-28**

SS: HORZ=1, VERT=1, LSCALE=1

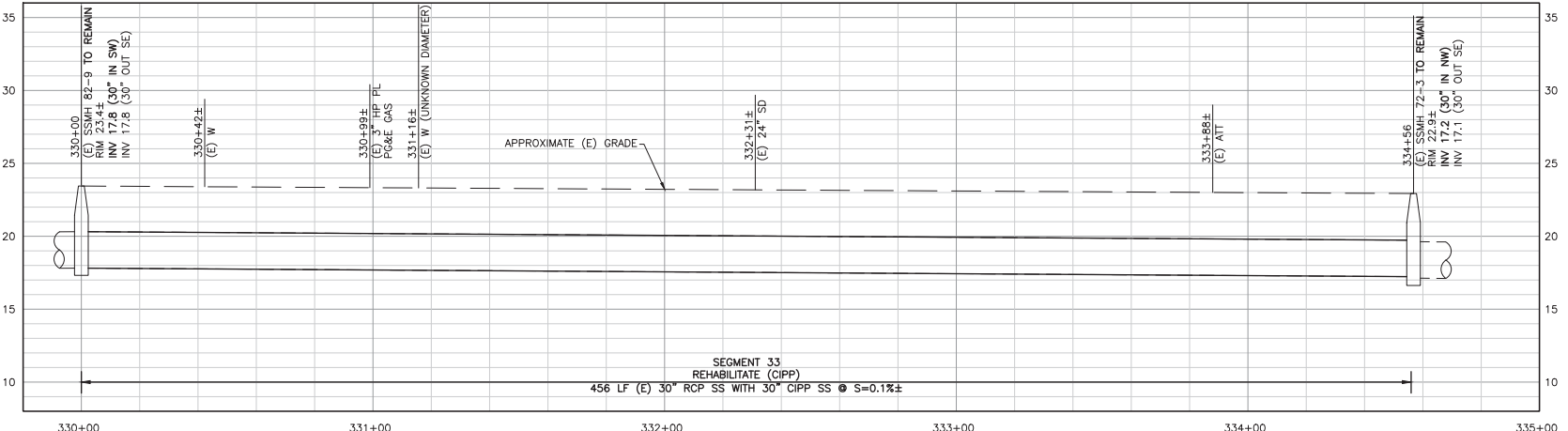
Local Scale: Jun 12, 2020, 12:58pm by PRR5550

Project: Jun 15, 2020, 2:58pm by PRR5550  
 File: C:\Users\jpr60\OneDrive\Documents\392484-Santa Clara Design SS Condition Assessment Repair\Drawings\_Models\02\_C\_DivA-C-29.dwg  
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PLAN  
SCALE: 1"=20'

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - PAVEMENT REPLACEMENT SHALL BE AS SHOWN IN CITY STANDARD DETAIL ST-24 AND THICKNESS SHALL MATCH EXISTING OR MINIMUM THICKNESS STATED IN CITY STANDARD DETAIL ST-26, WHICHEVER IS GREATER.
  - CONTRACTOR SHALL NOTIFY SCVWD INSPECTOR AT 408-630-2650 A MINIMUM OF 48 HOURS PRIOR TO BEGINNING WORK.
  - CONTRACTOR SHALL POST TEMPORARY "NO PARKING" SIGNS ALONG STREET FRONTAGE, WHERE APPLICABLE, A MINIMUM 48 HOURS PRIOR TO COMMENCEMENT OF WORK AND SHALL NOTIFY THE POLICE DEPARTMENT. SIGNS SHALL STATE DAYS AND HOURS WHEN RESTRICTIONS ARE IN EFFECT. ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTY ACCESS. ACCESS TO ALL AFFECTED PROPERTIES SHALL BE MAINTAINED AS LIMITED DRIVEWAY ACCESS TO BUSINESS FROM LAKESIDE DRIVE DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.
  - BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 82-10 TO MH 72-4 LOCATED ADJACENT TO AND NORTHWEST OF EXISTING SANITARY SEWER OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. BYPASSING OF SANITARY SEWAGE FLOW IS ANTICIPATED TO BE LOCATED IN SCVWD RIGHT OF WAY. MH 72-4 IS LOCATED APPROXIMATELY 392 FEET TO THE EAST OF MH 72-3.
  - NIGHT WORK IS PERMITTED AND PREFERRED FOR SEGMENT 33.
  - CONTRACTOR SHALL NOTIFY SCVWD INSPECTOR AT LEAST 2 DAYS PRIOR TO BEGINNING ANY WORK WITHIN THE DISTRICT'S RIGHT OF WAY.
  - ANY DAMAGE TO SANTA CLARA VALLEY WATER DISTRICT'S STRUCTURES, EQUIPMENT, MATERIALS, VEGETATION, AND OR PROPERTY SHALL BE REPLACED AND OR REPAIRED IN KIND TO THE SATISFACTION OF THE DISTRICT.
  - CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH SCVWD PERMIT REQUIREMENTS. REFER TO CONTRACT SPECIFICATION APPENDICES FOR SCVWD PERMIT.



PROFILE  
SCALE: 1"=20' HORIZ  
1"=4' VERT

**CRATUS INC**  
AS-BUILT  
DATE: 3/9/2020  
SIGNATURE: *[Signature]*



**M M**  
**MOTT MACDONALD**

PROJECT No.	CE 18-19-08
ACCOUNT No.	594-4443-80300-1912
DATE	No. REVISION BY
6/15/20	Δ RECORD PLAN OP

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
**SANITARY SEWER CONDITION ASSESSMENT REPAIRS PROJECT-PHASE 1**  
**SEGMENT 33 - LAKESIDE DR**

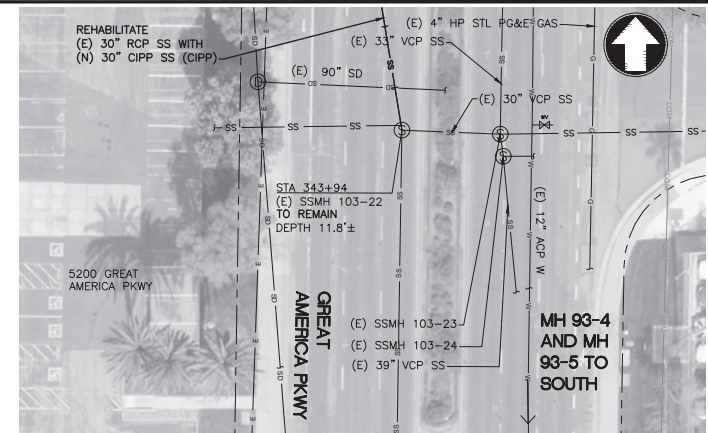
APPROVED BY		DATE		R.C.E. No.
TITLE		DATE		Survey No. N/A
DESIGNED BY	JSM	DATE	02/19	TRACING No.
DRAWN BY	TPF	DATE	02/19	12291-D
CHECKED BY	TGG	DATE	02/19	
AS BUILT BY	JSM	DATE	06/20	SHEET 20 OF 30

CONSTRUCTION AT THIS LOCATION SHALL BE COMPLETED BY MARCH 1, 2020 AS REQUIRED BY CONTRACT SPECIFICATIONS AND RIVER WATCH SETTLEMENT AGREEMENT.

SHEET No. **C-29**

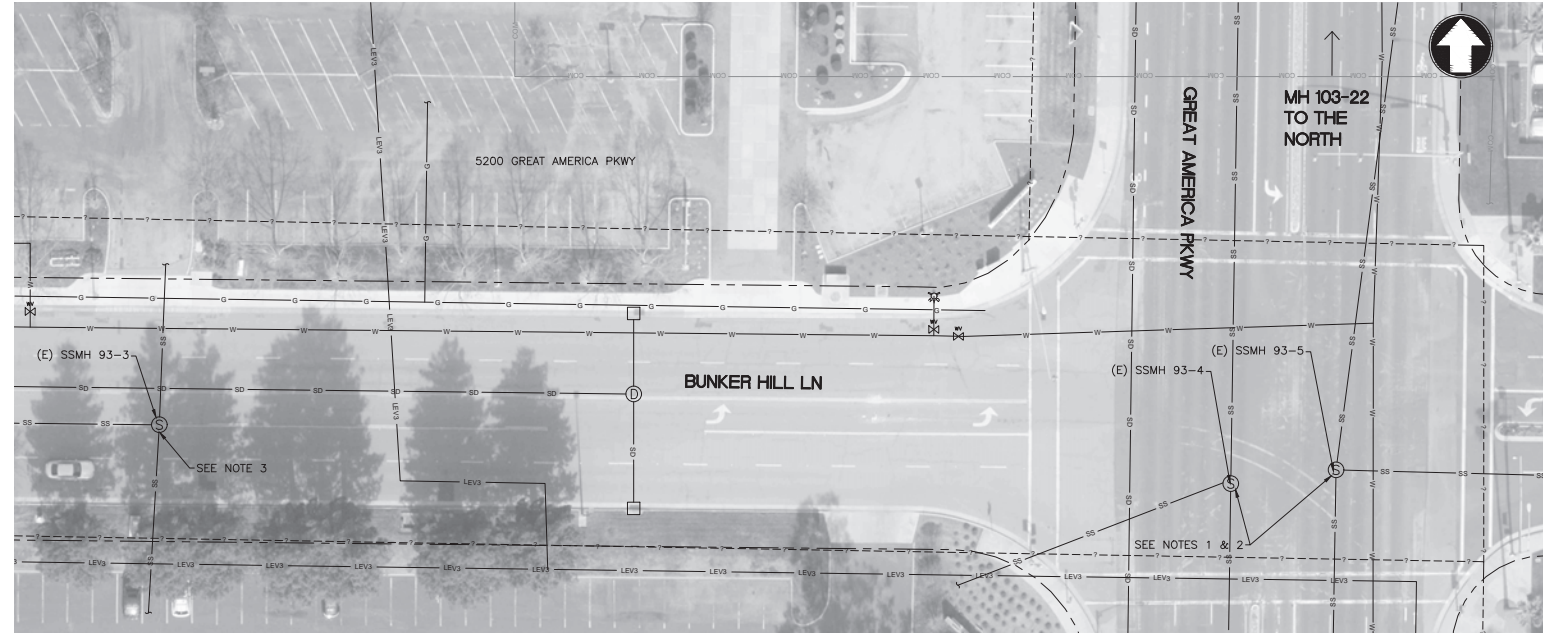






**PLAN**  
 SCALE: 1"=20'

- NOTES:**
1. ALL CONTRIBUTING FLOWS BETWEEN 93-4 AND 103-22 SHALL BE BYPASSED TO PARALLEL SANITARY SEWER ON EASTERN SIDE OF GREAT AMERICA PARKWAY.
  2. BYPASS TRENCH SHALL ACCOMMODATE THE WIDTH AND DEPTH NEEDED FOR BYPASS PIPING WITHIN THE TRENCH. THE COVER OVER THE TRENCH SHALL BE PLATED WITHIN THE TRAFFIC AREAS OR OTHER APPROVED HS20 TRAFFIC LOADING METHODS.
  3. ALL CONTRIBUTING SANITARY SEWER FLOW FROM 5200 GREAT AMERICA PKWY SHALL BE ROUTED TO SSMH 93-3 IN BUNKER HILL LN, OR OTHER SSMH IN BUNKER HILL LN OR BETSY ROSS DR.



**PLAN**  
 SCALE: 1"=20'



PROJECT No.	CE 18-19-08
ACCOUNT No.	594-4443-80300-1912
DATE	No. REVISION BY
6/15/20	Δ RECORD PLAN OP

**CITY OF SANTA CLARA**  
 PUBLIC WORKS DEPARTMENT

**SANITARY SEWER CONDITION ASSESSMENT REPAIRS PROJECT-PHASE 1**

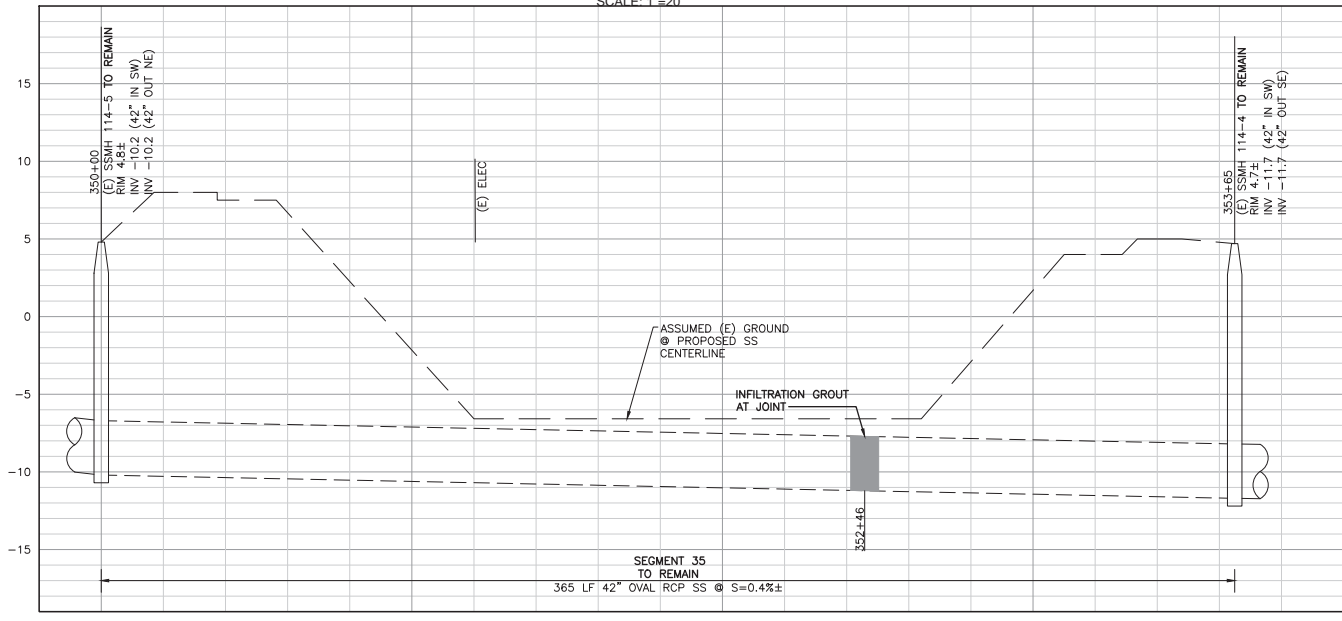
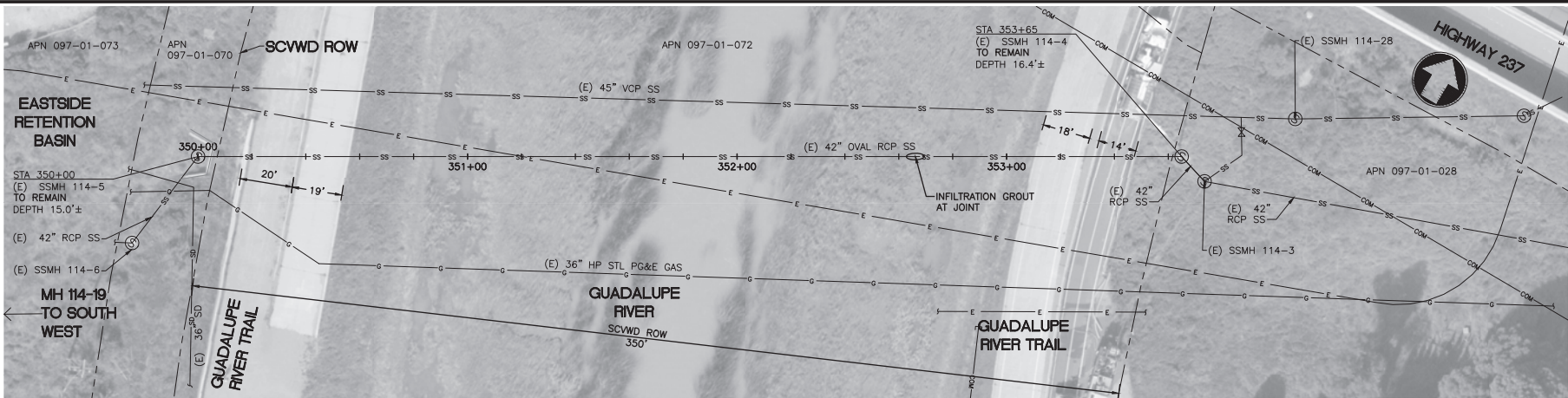
**SEG. 34 - GREAT AMERICA PKWY**

HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'

CONSTRUCTION AT THIS LOCATION SHALL BE COMPLETED BY MARCH 14, 2020 AS REQUIRED BY CONTRACT SPECIFICATIONS AND RIVER WATCH SETTLEMENT AGREEMENT.		SHEET No.	C-30.1
APPROVED BY	TITLE	DATE	R.C.E. No.
DESIGNED BY	INITIAL	DATE	Survey No.
DESIGNED BY	JSM	02/19	N/A
DRAWN BY	TPF	02/19	12291-D
CHECKED BY	TGG	02/19	
AS BUILT BY	JSM	06/20	SHEET 22 OF 30

S:\04 - MISC\11 - PROJECTS\11 - LITIGAL-1

Plotted: Jun 15, 2020, 2:16pm by: RMR16560  
 User: RMR16560  
 File: C:\Users\jrm\OneDrive\Documents\11-03-2020\11-03-2020.dwg  
 Plot: 11-03-2020.dwg  
 Plot Device: HP DesignJet T1100e  
 Plot Style: HP-Plotter.ctb  
 Plot Range: Full  
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 Plot Orientation: Landscape  
 Plot Color: Black  
 Plot Lineweight: Default  
 Plot Linetype: Default  
 Plot Font: Arial, 10  
 Plot Title: 11-03-2020.dwg



- NOTES:**
- CONTRACTOR IS TO MAINTAIN ACCESS FOR PUBLIC USE OF TRAIL AND SHALL USE SHOULDER TURNOUT AREAS FOR STAGING.
  - ELEVATIONS ARE BASED ON AS-BUILT DRAWINGS WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - ACCESS FOR INFILTRATION GROUTING WORK SHALL BE FROM INSIDE MANHOLES AND PIPELINE ONLY.
  - CONTRACTOR SHALL COORDINATE WITH CITY TO REDUCE/STOP INFLOW TO SEWER LINE. CONTRACTOR SHALL NOTIFY CITY AT LEAST 2 BUSINESS DAYS PRIOR TO WORKING ON THIS SEGMENT.
  - CONTRACTOR MUST OBTAIN A DISTRICT ENCROACHMENT PERMIT PRIOR TO START OF CONSTRUCTION WITHIN DISTRICT RIGHT OF WAY AND MAINTAIN A COPY OF THE PERMIT ON THE PROJECT SITE AT ALL TIMES.
  - CONTRACTOR SHALL NOTIFY SCVWD INSPECTOR AT 408-630-2650 A MINIMUM OF 48 HOURS PRIOR TO BEGINNING WORK.
  - UNDERGROUND SERVICE ALERT MUST BE NOTIFIED A MINIMUM OF 2 DAYS PRIOR TO SCHEDULED START OF CONSTRUCTION AT 1-800-227-2600 OR BY CALLING "811".
  - CONTRACTOR MAY REFER TO CITY PROJECT NO. 94/2034, DATED JUNE 25, 1963 FOR RECORD INFORMATION.
  - SCVWD ROW LIMITS ARE SHOWN BASED ON SANITARY SEWER RECORD DRAWINGS PROVIDED BY THE CITY.
  - NOT USED.
  - NOT USED.
  - SEWER VALVES SHALL BE CLOSED IN SSMH 114-19 FOR SEWER BYPASS. COORDINATE VALVE CLOSURE WITH CITY. ADDITIONALLY, PLUG PIPE SEGMENT WITHIN SSMH 114-19.
  - INSTALL PLUG AND MONITOR AT SSMH 114-5 AS A SAFETY MEASURE AGAINST FAILURE.
  - CONTRACTOR SHALL NOTIFY SCVWD INSPECTOR AT LEAST 2 DAYS PRIOR TO BEGINNING ANY WORK WITHIN THE DISTRICT'S RIGHT OF WAY.
  - ANY DAMAGE TO SANTA CLARA VALLEY WATER DISTRICT'S STRUCTURES, EQUIPMENT, MATERIALS, VEGETATION, AND/OR PROPERTY SHALL BE REPLACED AND OR REPAIRED IN KIND TO THE SATISFACTION OF THE DISTRICT.
  - CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH SCVWD PERMIT REQUIREMENTS. REFER TO CONTRACT SPECIFICATION APPENDICES FOR SCVWD PERMIT.
  - SSMH 114-19 IS LOCATED APPROXIMATELY 1000 FEET TO THE SOUTHWEST OF SSMH 114-5.
  - CONTRACTOR MUST COMPLY WITH AVOIDANCE AND MITIGATION MEASURES IN CONTRACT APPENDIX D. COMPENSATION FOR COMPLIANCE IS INCLUDED IN VARIOUS ITEMS OF WORK.

CONSTRUCTION AT THIS LOCATION SHALL BE COMPLETED BY MARCH 21, 2020 AS REQUIRED BY CONTRACT SPECIFICATIONS AND RIVER WATCH SETTLEMENT AGREEMENT. SHEET No. **C-31**

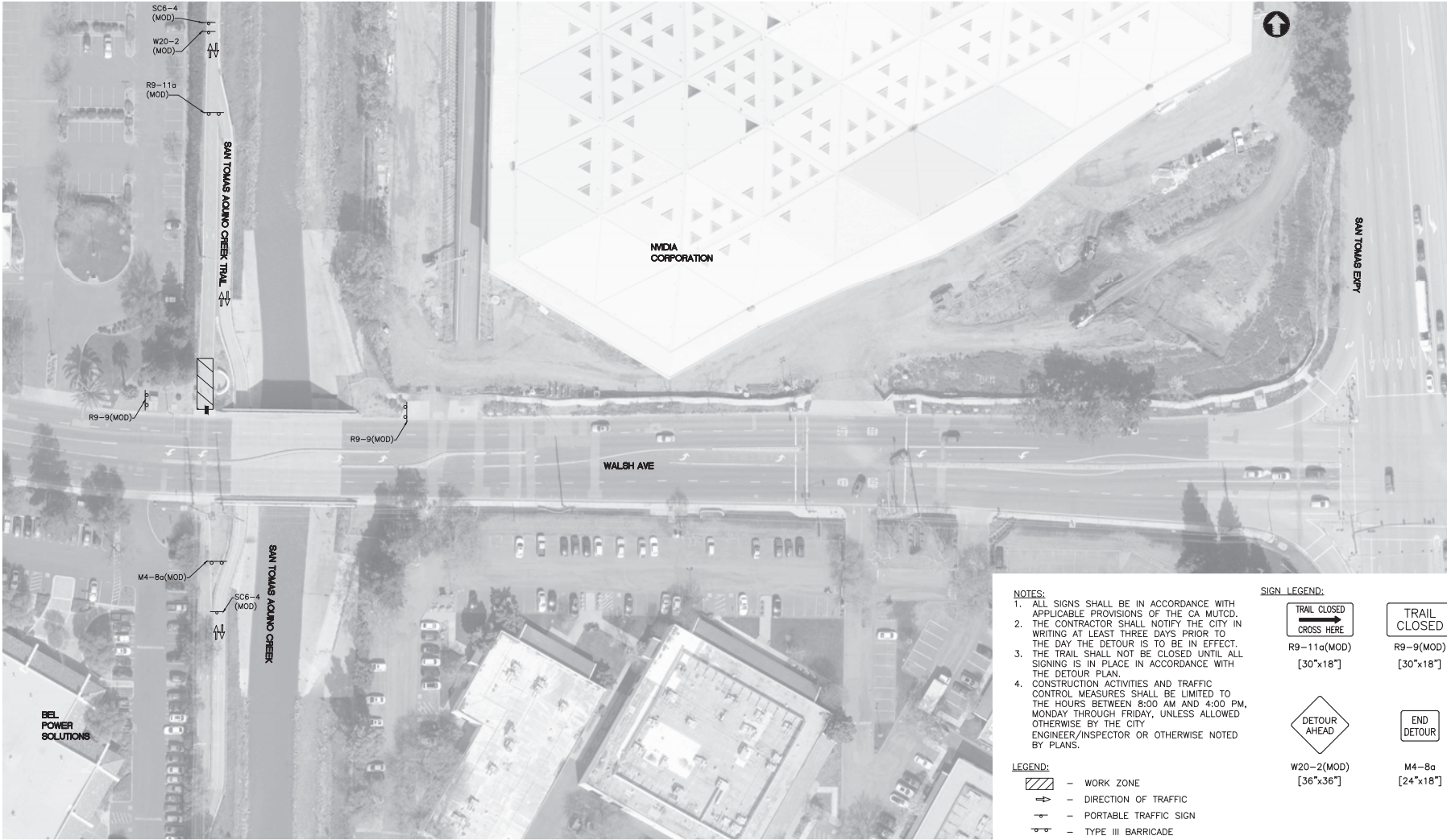
**CRATUS INC**  
AS-BUILT

DATE: 3/9/2020  
SIGNATURE:



PROJECT No.	CE 18-19-08
ACCOUNT No.	594-4443-80300-1912
DATE	6/15/20
No.	Δ
REVISION	RECORD PLAN
BY	OP

<b>CITY OF SANTA CLARA</b> PUBLIC WORKS DEPARTMENT			
APPROVED BY			
TITLE	INITIAL	DATE	R.C.E. No.
DESIGNED BY	JSM	02/19	Survey No. N/A
DRAWN BY	TPF	02/19	
CHECKED BY	TGG	02/19	
AS BUILT BY	JSM	06/20	
SANITARY SEWER CONDITION ASSESSMENT REPAIRS PROJECT-PHASE 1 SEG. 35 - GUADALUPE RIVER			<b>12291-D</b>
HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'			SHEET 23 OF 30



**NOTES:**

1. ALL SIGNS SHALL BE IN ACCORDANCE WITH APPLICABLE PROVISIONS OF THE CA MUTCD.
2. THE CONTRACTOR SHALL NOTIFY THE CITY IN WRITING AT LEAST THREE DAYS PRIOR TO THE DAY THE DETOUR IS TO BE IN EFFECT.
3. THE TRAIL SHALL NOT BE CLOSED UNTIL ALL SIGNING IS IN PLACE IN ACCORDANCE WITH THE DETOUR PLAN.
4. CONSTRUCTION ACTIVITIES AND TRAFFIC CONTROL MEASURES SHALL BE LIMITED TO THE HOURS BETWEEN 8:00 AM AND 4:00 PM, MONDAY THROUGH FRIDAY, UNLESS ALLOWED OTHERWISE BY THE CITY ENGINEER/INSPECTOR OR OTHERWISE NOTED BY PLANS.

**LEGEND:**

- WORK ZONE
- DIRECTION OF TRAFFIC
- PORTABLE TRAFFIC SIGN
- TYPE III BARRICADE

**SIGN LEGEND:**

 TRAIL CLOSED CROSS HERE R9-11a(MOD) [30"x18"]	 TRAIL CLOSED R9-9(MOD) [30"x18"]	 TRAIL CLOSED MON JAN 00 THRU FRI JAN 00 SC6-4(CA) [48"x18"]
 DETOUR AHEAD W20-2(MOD) [36"x36"]	 END DETOUR M4-8a [24"x18"]	

**PLAN**  
SCALE: 1"=40'



**M M**  
**MOTT**  
**MACDONALD**

PROJECT No.	CE	18-19-08
ACCOUNT No.	594-4443-80300-1912	
DATE	No.	REVISION
6/15/20	Δ	RECORD PLAN

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

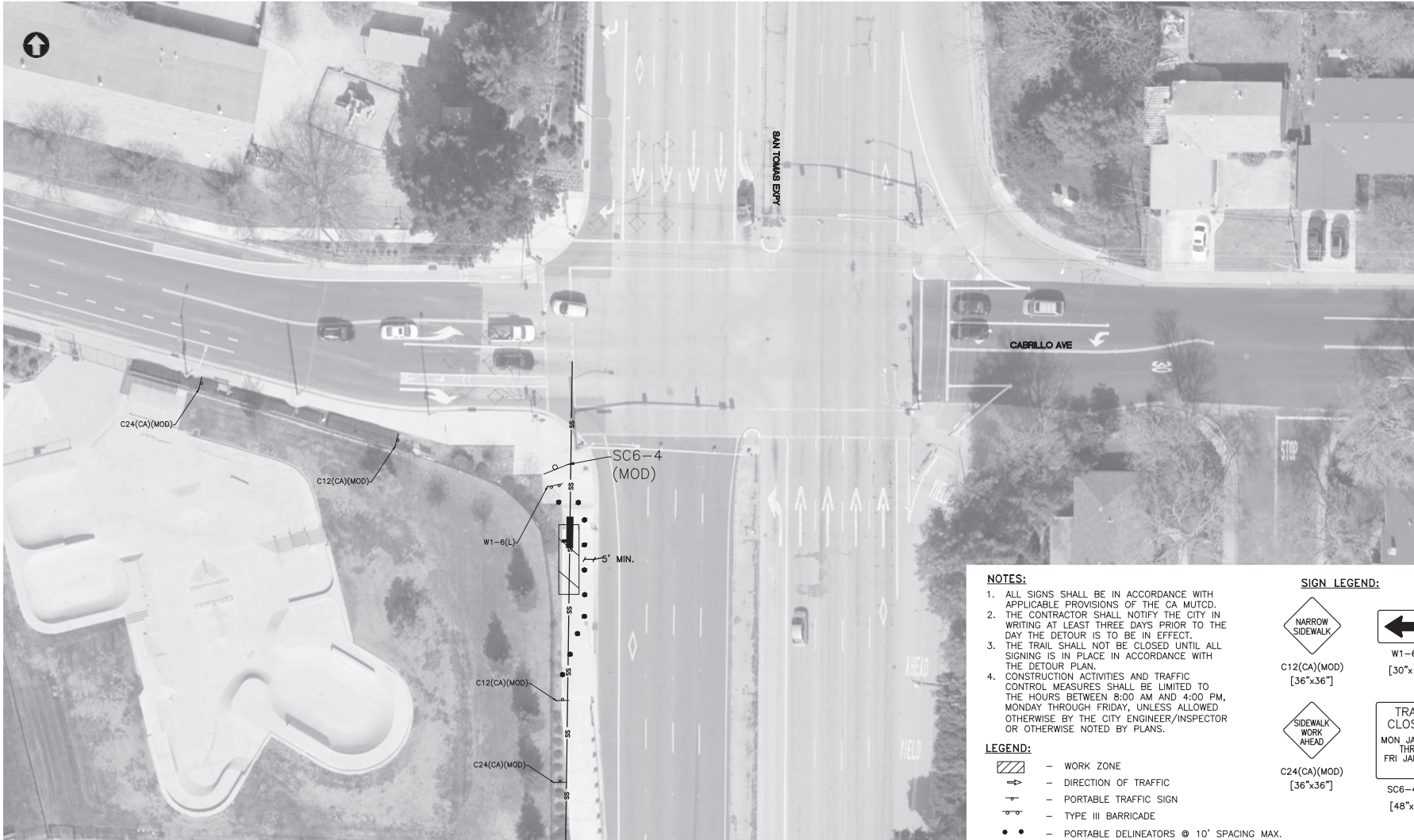
**SANITARY SEWER CONDITION  
ASSESSMENT REPAIRS PROJECT-PHASE 1**

**TRAIL DETOUR - WALSH AVE**

HORIZONTAL SCALE: 1"=40' VERTICAL SCALE: 1"=4'

APPROVED BY		TITLE	
DATE	INITIAL	DATE	Survey No.
	DA	02/19	N/A
DESIGNED BY	MG	CHECKED BY	12291-D
AS BUILT BY	JSM	DATE	06/20
SHEET 24		OF 30	

SHEET No.  
**C-32**



PLAN  
SCALE: 1"=20'



PROJECT No.	CE	18-19-08
ACCOUNT No.	594-4443-80300-1912	
DATE	No.	REVISION
6/15/20	Δ	RECORD PLAN

<b>CITY OF SANTA CLARA</b>	
PUBLIC WORKS DEPARTMENT	
SANITARY SEWER CONDITION ASSESSMENT REPAIRS PROJECT-PHASE 1	
TRAIL DETOUR - SAN TOMAS TRAIL (1)	
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE:	

APPROVED BY		R.C.E. No.	
TITLE		Survey No. N/A	
DESIGNED BY	DA	DATE	02/19
DRAWN BY	EJ	DATE	02/19
CHECKED BY			
AS BUILT BY	JSM	DATE	06/20
TRACING No.		12291-D	
SHEET		25 OF 30	

**NOTES:**

1. ALL SIGNS SHALL BE IN ACCORDANCE WITH APPLICABLE PROVISIONS OF THE CA MUTCD.
2. THE CONTRACTOR SHALL NOTIFY THE CITY IN WRITING AT LEAST THREE DAYS PRIOR TO THE DAY THE DETOUR IS TO BE IN EFFECT.
3. THE TRAIL SHALL NOT BE CLOSED UNTIL ALL SIGNING IS IN PLACE IN ACCORDANCE WITH THE DETOUR PLAN.
4. CONSTRUCTION ACTIVITIES AND TRAFFIC CONTROL MEASURES SHALL BE LIMITED TO THE HOURS BETWEEN 8:00 AM AND 4:00 PM, MONDAY THROUGH FRIDAY, UNLESS ALLOWED OTHERWISE BY THE CITY ENGINEER/INSPECTOR OR OTHERWISE NOTED BY PLANS.

**LEGEND:**

- WORK ZONE
- DIRECTION OF TRAFFIC
- PORTABLE TRAFFIC SIGN
- TYPE III BARRICADE
- PORTABLE DELINEATORS @ 10' SPACING MAX.

**SIGN LEGEND:**

C12(CA)(MOD) [36"x36"]	W1-6(L) [30"x18"]
C24(CA)(MOD) [36"x36"]	TRAIL CLOSED MON JAN 00 THRU FRI JAN 00
	SC6-4(CA) [48"x18"]



**PLAN**  
SCALE: 1"=40'



PROJECT No.	CE	18-19-08
ACCOUNT No.	594-4443-80300-1912	
DATE	No.	REVISION
6/15/20	Δ	RECORD PLAN

<b>CITY OF SANTA CLARA</b>	
PUBLIC WORKS DEPARTMENT	
SANITARY SEWER CONDITION ASSESSMENT REPAIRS PROJECT-PHASE 1	
TRAIL DETOUR - SAN TOMAS TRAIL (2)	
HORIZONTAL SCALE: 1"=40' VERTICAL SCALE:	

APPROVED BY		DATE		R.C.E. No.	
TITLE		DESIGNED BY		Survey No.	
DATE		DA		02/19	
DRAWN BY		EJ		02/19	
CHECKED BY		JSM		06/20	
AS BUILT BY		JSM		06/20	
SHEET 26 OF 30		12291-D		TRACING No.	

SHEET No. C-34

**NOTES:**

1. ALL SIGNS SHALL BE IN ACCORDANCE WITH APPLICABLE PROVISIONS OF THE CA MUTCD.
2. THE CONTRACTOR SHALL NOTIFY THE CITY IN WRITING AT LEAST THREE DAYS PRIOR TO THE DAY THE DETOUR IS TO BE IN EFFECT.
3. THE TRAIL SHALL NOT BE CLOSED UNTIL ALL SIGNING IS IN PLACE IN ACCORDANCE WITH THE DETOUR PLAN.
4. CONSTRUCTION ACTIVITIES AND TRAFFIC CONTROL MEASURES SHALL BE LIMITED TO THE HOURS BETWEEN 8:00 AM AND 4:00 PM, MONDAY THROUGH FRIDAY, UNLESS ALLOWED OTHERWISE BY THE CITY ENGINEER/INSPECTOR OR OTHERWISE NOTED BY PLANS.
5. THIS DETOUR PLAN SHALL BE IMPLEMENTED DURING SEGMENTS 17 TO 22 WORK ACTIVITIES.

**LEGEND:**

- WORK ZONE
- DIRECTION OF TRAFFIC
- PORTABLE TRAFFIC SIGN
- TYPE III BARRICADE
- PORTABLE DELINEATORS @ 10' SPACING MAX.

**SIGN LEGEND:**

R9-11a [30"x18"]	R9-11a(R) [30"x18"]	M4-8a [24"x18"]	C30(CA)(MOD) [36"x36"]
W20-1(MOD) [36"x36"]	W20-3(MOD) [36"x36"]	M4-9a [30"x24"]	M4-9a(R) [30"x24"]
SC6-4(CA) [48"x18"]			



- NOTES:**
1. ALL SIGNS SHALL BE IN ACCORDANCE WITH APPLICABLE PROVISIONS OF THE CA MUTCD.
  2. THE CONTRACTOR SHALL NOTIFY THE CITY IN WRITING AT LEAST THREE DAYS PRIOR TO THE DAY THE DETOUR IS TO BE IN EFFECT.
  3. THE TRAIL SHALL NOT BE CLOSED UNTIL ALL SIGNING IS IN PLACE IN ACCORDANCE WITH THE DETOUR PLAN.
  4. CONSTRUCTION ACTIVITIES AND TRAFFIC CONTROL MEASURES SHALL BE LIMITED TO THE HOURS BETWEEN 8:00 AM AND 4:00 PM, MONDAY THROUGH FRIDAY, UNLESS ALLOWED OTHERWISE BY THE CITY ENGINEER/INSPECTOR OR OTHERWISE NOTED BY PLANS.
  5. THIS DETOUR PLAN SHALL BE IMPLEMENTED DURING SEGMENTS 17 TO 22 WORK ACTIVITIES.

**SIGN LEGEND:**

M4-9a	M4-9a(R)	M4-9b(R)	M4-9c(R)	SC3(CA)	W20-3(MOD)	R9-11a	SC6-4(CA)
[30"x24"]	[30"x24"]	[30"x24"]	[30"x24"]	[36"x12"]	[36"x36"]	[30"x18"]	[48"x18"]

**LEGEND:**

- WORK ZONE
- DIRECTION OF TRAFFIC
- PORTABLE TRAFFIC SIGN
- TYPE III BARRICADE
- PORTABLE DELINEATORS @ 10' SPACING MAX.



PROJECT No.	CE	18-19-08	
ACCOUNT No.	594-4443-80300-1912		
DATE	No.	REVISION	BY
6/15/20	Δ	RECORD PLAN	OP

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

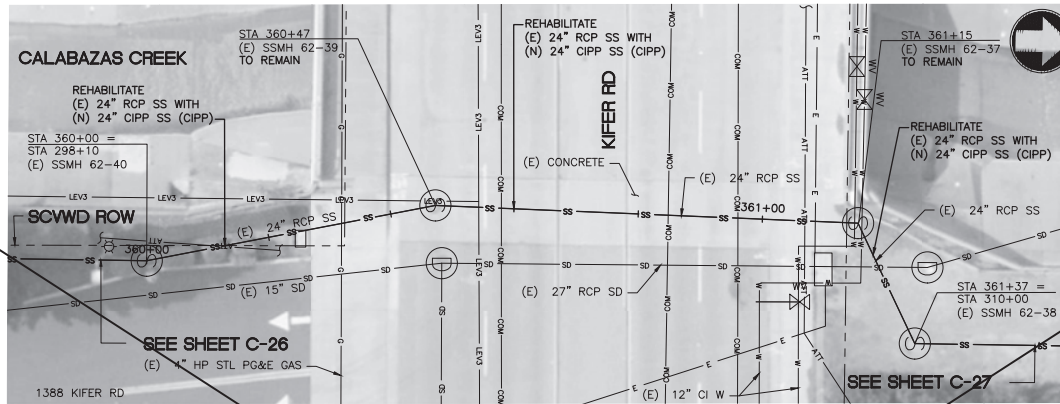
**SANITARY SEWER CONDITION ASSESSMENT REPAIRS PROJECT-PHASE 1**

**TRAIL DETOUR - SAN TOMAS TR. (3)**

HORIZONTAL SCALE: 1"=100' VERTICAL SCALE:

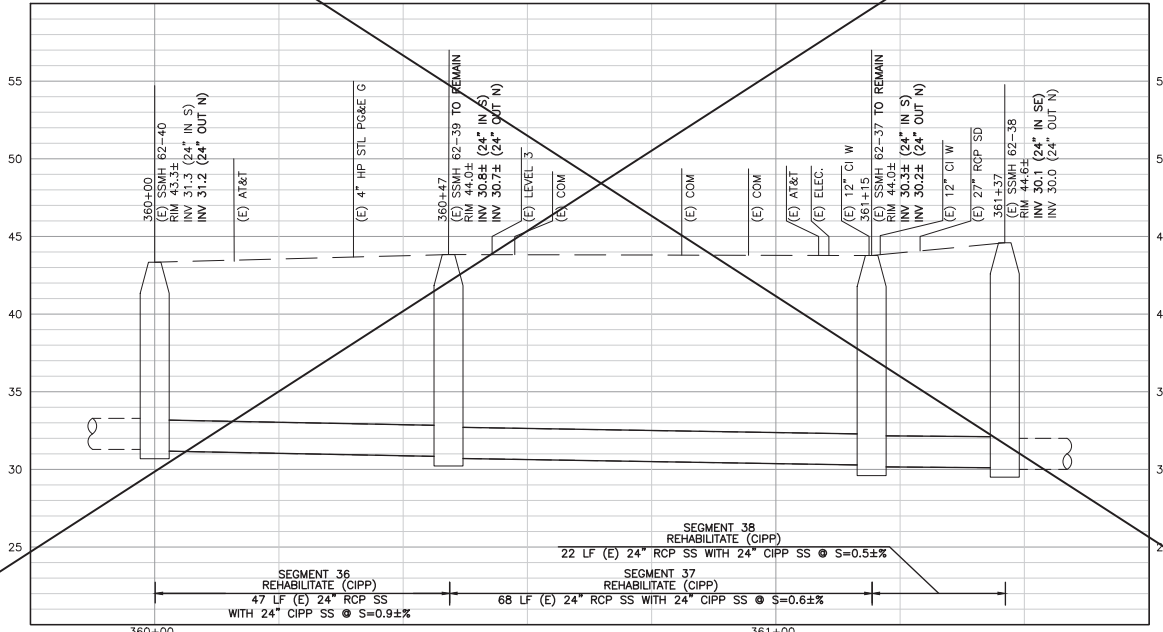
APPROVED BY		TITLE	
DATE	INITIAL	DATE	Survey No.
	DA	02/19	N/A
DESIGNED BY	TRACING No.		
DRAWN BY	12291-D		
CHECKED BY	AS BUILT BY		
	JSM	08/20	SHEET 27 OF 30

SHEET No. **C-35**



**PLAN**  
SCALE: 1"=10'

SEGMENTS 36, 37, 38,  
DELETED FROM CONTRACT



**PROFILE**  
SCALE: 1"=10' HORIZ  
1"=4' VERT

- NOTES:**
- ELEVATIONS ARE BASED ON AS-BUILT DRAWINGS.
  - NOT USED.
  - NOT USED.
  - DRIVEWAY ACCESS TO 1388 KIFER RD. SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION OPERATIONS.
  - FOR SEGMENTS 36, 37 & 38, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED IN TEMPORARY TRENCH FROM MH 62-48 TO MH 62-34 WITHIN ROADWAY AND MAY BE LOCATED AT GROUND SURFACE FROM MH 62-48 TO MH 62-34 OUTSIDE ROADWAY, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. MH 62-34 IS LOCATED APPROXIMATELY 343 FEET TO THE NORTH OF MH 62-38. MH 62-48 IS LOCATED APPROXIMATELY 307 FEET TO THE SOUTH OF MH 62-40.
  - NOT USED.
  - ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTY ACCESS. ACCESS TO ALL AFFECTED PROPERTIES SHALL BE MAINTAINED OPEN DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.
  - CONTRACTOR SHALL NOTIFY SCWWD INSPECTOR AT LEAST 2 DAYS PRIOR TO BEGINNING ANY WORK WITHIN THE DISTRICT'S RIGHT-OF-WAY.
  - ANY DAMAGE TO SANTA CLARA VALLEY WATER DISTRICT'S STRUCTURES, EQUIPMENT, MATERIALS, VEGETATION, AND/OR PROPERTY SHALL BE REPLACED AND/OR REPAIRED IN KIND TO THE SATISFACTION OF THE DISTRICT.
  - CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH SCWWD PERMIT REQUIREMENTS. REFER TO CONTRACT SPECIFICATION APPENDICES FOR SCWWD PERMIT.
  - CONTRACTOR MUST COMPLY WITH AVOIDANCE AND MITIGATION MEASURES IN CONTRACT APPENDIX D. COMPENSATION FOR COMPLIANCE IS INCLUDED IN VARIOUS ITEMS OF WORK.



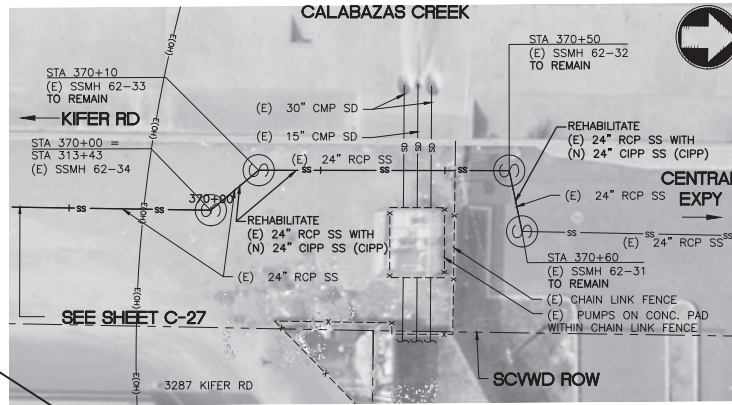
PROJECT No.	CE 18-19-08
ACCOUNT No.	594-4443-80300-1912
DATE	6/15/20
REVISION	RECORD PLAN
BY	OP

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
SANITARY SEWER CONDITION  
ASSESSMENT REPAIRS PROJECT-PHASE 1  
SEG. 36, 37 & 38 - KIFER RD.

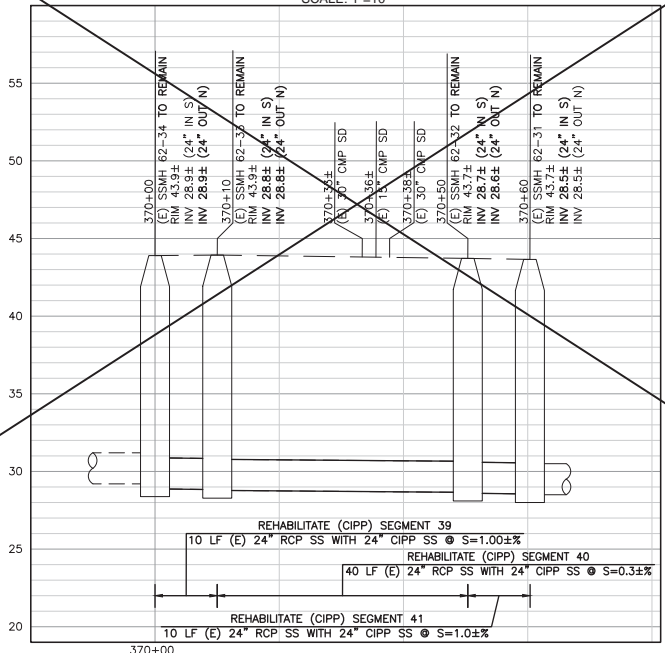
APPROVED BY	TITLE	R.C.E. No.
DATE	DESIGNED BY	Survey No. N/A
INITIAL	JSM 06/25	TRACING No.
DATE	LAV 06/25	12291-D
CHECKED BY	TGG 06/25	AS BUILT BY
JSM 06/20		SHEET 28 OF 30

SHEET No. **C-36**

HORIZONTAL SCALE: 1"=10' VERTICAL SCALE: 1"=4'



SEGMENTS 39,40,41,  
DELETED FROM CONTRACT



- NOTES:
- ELEVATIONS ARE BASED ON AS-BUILT DRAWINGS.
  - NOT USED.
  - NOT USED.
  - DRIVEWAY ACCESS TO 3287 KIFER RD. SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION OPERATIONS.
  - ANY DAMAGE TO SANTA CLARA VALLEY WATER DISTRICT'S STRUCTURES, EQUIPMENT, MATERIALS, VEGETATION, AND/OR PROPERTY SHALL BE REPLACED AND/OR REPAIRED IN KIND TO THE SATISFACTION OF THE DISTRICT.
  - CONTRACTOR SHALL NOTIFY SCWCD INSPECTOR AT LEAST 2 DAYS PRIOR TO BEGINNING ANY WORK WITHIN THE DISTRICT'S RIGHT-OF-WAY.
  - CONTRACTOR SHALL NOTIFY SCWCD INSPECTOR AT LEAST 2 DAYS PRIOR TO BEGINNING ANY WORK WITHIN THE DISTRICT'S RIGHT-OF-WAY.
  - CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH SCWCD PERMIT REQUIREMENTS. REFER TO CONTRACT SPECIFICATION APPENDICES FOR SCWCD PERMIT.
  - CONTRACTOR MUST COMPLY WITH AVOIDANCE AND MITIGATION MEASURES IN CONTRACT APPENDIX D. COMPENSATION FOR COMPLIANCE IS INCLUDED IN VARIOUS ITEMS OF WORK.



**M M**  
**MOTT**  
**MACDONALD**

PROJECT No.	CE 18-19-08
ACCOUNT No.	594-4443-80300-1912
DATE	6/15/20
REVISION	RECORD PLAN
BY	OP

**CITY OF SANTA CLARA**  
 PUBLIC WORKS DEPARTMENT  
**SANITARY SEWER CONDITION**  
**ASSESSMENT REPAIRS PROJECT-PHASE 1**  
**SEG. 39, 40 & 41 - KIFER RD.**

APPROVED BY	TITLE
DATE	R.C.E. No.
DESIGNED BY	TRACING No.
DRAWN BY	DATE
CHECKED BY	DATE
AS BUILT BY	DATE

SHEET No.  
**C-37**

**12291-D**

HORIZONTAL SCALE: 1"=10' VERTICAL SCALE: 1"=4'  
 SHEET 29 OF 30



# Technical Memorandum

**Subject:** Patrick Henry Drive Specific Plan Evaluation of Capacity Improvement Project Alternatives

**Prepared for:** Evelyn Liang, City of Santa Clara

**Prepared by:** Jehan Anketell, P.E. California License No. C89904  
Mike Matson, P.E. California License No. C42546  
Nuria Bertran-Ortiz, P.E. California License No. C68537

**Reviewed by:** Glenn Hermanson, P.E. California License No. C46659

**Reference:** Project 0011096, Task 2.22

**Date:** December 3, 2021

## 1. Background and Approach

At the request of the City of Santa Clara (City), Woodard & Curran identified and developed capacity improvement project alternatives for addressing capacity deficiencies resulting from the proposed Patrick Henry Drive (PHD) Specific Plan development proposal.

The PHD Specific Plan proposes to develop parcels bounded by Calabazas Creek to the west, Mission College Boulevard to the south, Great America Parkway to the east, and the Hetch Hetchy (City of San Francisco Public Utilities Commission Bay Division Pipelines [SFPUC BDPL]) right-of-way to the north. Potential sanitary sewer capacity impacts of the proposed PHD Specific Plan were evaluated and summarized in a development review technical memorandum prepared by Woodard & Curran for the City (Sanitary Sewer Capacity Evaluation for Proposed Patrick Henry Drive Specific Plan, May 7, 2020).

This Technical Memorandum (TM) presents an overview of deficiencies within the existing sewer system within the Specific Plan area and tributary to the existing Tasman Lift Station, which serves the Specific Plan area among other areas. **Figure 1** shows the proposed development area and surrounding sewers modeled in that analysis.

This TM presents the development of sewer capacity improvement alternatives and the evaluation and recommendations for improvements that meet the Specific Plan development needs. The approach taken for this study consists of the following steps:

- 1) Determine whether the existing Tasman Lift Station footprint can accommodate lift station capacity improvements to meet the needs of the PHD Specific Plan development
- 2) Identify gravity and pumped alternatives to accommodate the additional flows generated from the PHD Specific Plan development.
- 3) Conduct hydraulic analyses of the proposed gravity concepts and select the three best concepts for further development.
- 4) Develop a set of alternatives evaluation criteria and evaluation approach to evaluate the alternatives and determine the best alternative for further development.

This TM is organized as follows:

### 1.1 Contents

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2	Alternatives Development.....	2

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**Appendices**

- Appendix A – Hydraulic Modeling Results
- Appendix B – Alternative Concept Plans
- Appendix C – Lift Station Concept Layouts
- Appendix D – Conceptual Cost Estimates
- Appendix E – Utility Crossing Tables

**2. Alternatives Development**

A total of eleven alternatives were identified as part of the development process including:

- One capacity improvement alternative at the existing Tasman Lift Station
- Eight gravity sewer alternatives (described as six horizontal alignment scenarios (A thru F))
- Two sewer lift station alternatives

**2.1 Capacity Improvements at Existing Tasman Lift Station**

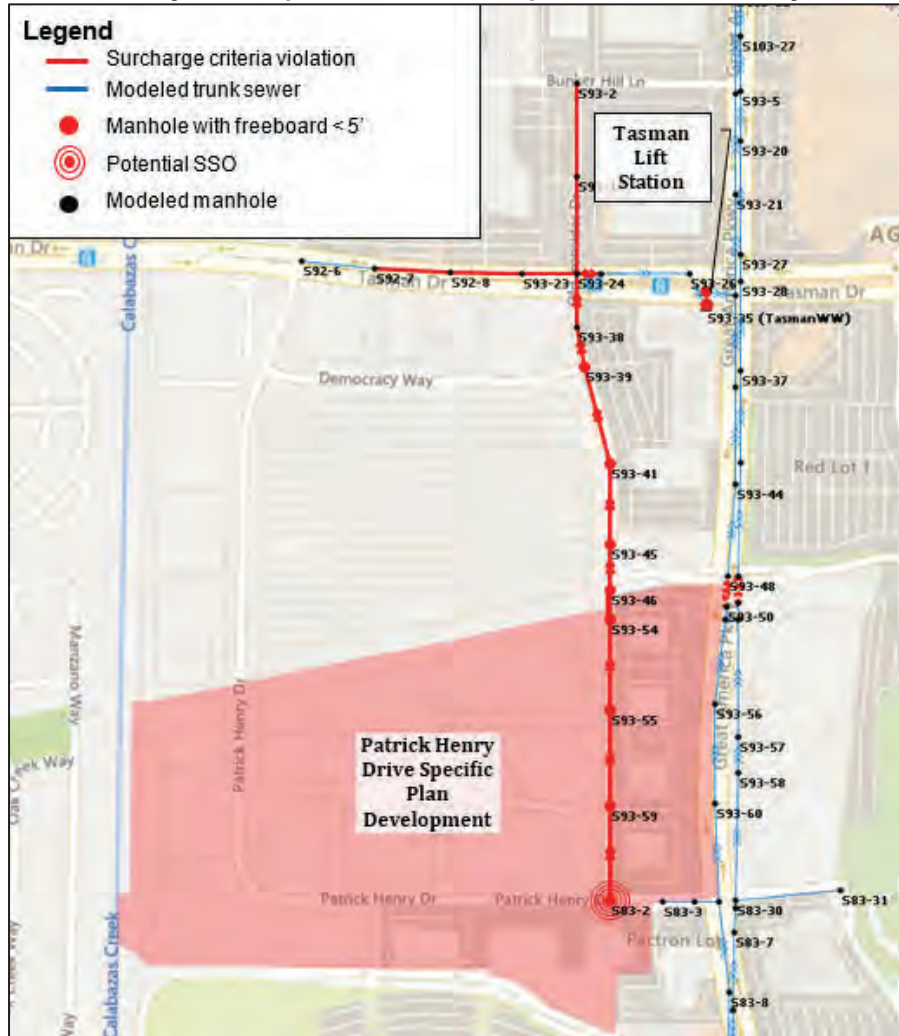
A summary of the existing Tasman Lift Station is provided in **Table 1**.

**Table 1: Existing Tasman Lift Station**

Type	Capacity	Pumps	Wet Well Size	Lift Station Easement
Submersible	1.5 MGD	Two 10 hp pumps (duty/standby)	8' diameter approx.	10'x10' approx.

A review of the as-builts drawings for the lift station and a site visit were performed to identify whether additional capacity could be added within its existing footprint to handle an increase in flow tributary to the lift station from the Patrick Henry Drive Specific Plan development area. Modeling results presented in the

Figure 1: Patrick Henry Drive Specific Plan Development and Previously Modeled Sewers



May 2020 TM determined that the capacity of the Tasman Lift Station would need to be increased from 1.5 MGD to 4.25 MGD to serve the PHD development.

As a first step, Woodard & Curran contacted Flygt, the submersible pump manufacturer of the existing Tasman Lift Station pumps, on June 11<sup>th</sup> 2021. Flygt’s applications engineer provided a recommended configuration for a 4.25 MGD (25 hp) duplex pump arrangement that could handle the projected flows. The recommended wet well size for two 4.25 MGD submersible pumps is a 10-foot diameter wet well, which would require acquisition of an additional easement for a larger facility.

Woodard & Curran then visited the Tasman Lift Station and met with City operations staff. The lift station cover hatches were opened to observe a pumping cycle. The existing 1.5 MGD submersible pump started when the wet well reached the “Start Pump” level and very quickly pumped down the wet well level to the “Pump Off” level, even before the influent sewer, which was surcharged while the pump was off, emptied into the wet well. The hydraulic conditions during pump operation were turbulent and likely resulted in entrained air into the pump, which can cause performance issues and damage over time. The observed conditions suggest that the existing 8-foot diameter wet well may be too small for optimal suction hydraulics.

Given the observed operation of the existing 1.5 MGD pump operating in an 8-foot diameter wet well, it is clear that a pump nearly three times the capacity would not perform well in the existing wet well. Operating

the larger pump within the existing 8-foot diameter wet well will cause there to be very quick drawdown, a short minimum operating time and high number of starts per hour leading to increased wear and potential damage to the pumps due to turbulent suction conditions, frequent pump cycling and incremental additional surcharging of the influent sewer.

The City identified a constraint for modifications to the existing Tasman Lift Station. Any modifications that would expand the 10-foot square site should be considered a fatal flaw. Because the recommended 10-foot diameter wet well would occupy a footprint greater than 10-foot square, this alternative is fatally flawed and will not be considered further.

## 2.2 Gravity Sewer Concepts and Initial Screening

Woodard & Curran and the City developed eight gravity sewer concepts (using six horizontal alignments) through a series of teleconference workshops, as follows:

**Scenario A** – In this scenario, all PHD development flows drain to the Great America Parkway (GAP) West trunk at manhole S83-5, at the intersection of Patrick Henry Drive and Great America Parkway. **Figure 3** shows the sewer configuration for Scenario A. Scenario A was modeled with three alternate profiles, as described in **Appendix A**.

**Scenario B** – In this scenario, all PHD flows drain to the GAP West trunk at manhole S93-53, on Great America Parkway south of Old Glory Lane, constructing a new sewer through private property associated with the PHD Specific Plan development area. **Figure 4** shows the sewer configuration for Scenario B.

**Scenario C** – In this scenario, part of the PHD development drains north to the GAP West trunk manhole S93-54 while the remaining development flows drain south and east along PHD to the GAP West trunk manhole S83-5. **Figure 5** shows the sewer configuration for Scenario C.

**Scenario D** – This scenario drains most of the PHD development flows to the GAP West Trunk just north (downstream) of the existing GAP siphons crossing under the existing SFPUC BDPL, via new sewer siphons under the SFPUC BDPL on Old Ironsides Drive and a new sewer in Old Glory Lane. A plan view of this scenario is shown on **Figure 6**.

**Scenario E** – This scenario drains most of the PHD development flows to the GAP West Trunk at Patrick Henry Drive. The scenario also proposes to upsize and lower a portion of the GAP West Trunk (from Patrick Henry Drive to manhole S93-53 (manhole acting as bridge between the West and East GAP trunks)). A plan view of this scenario is shown on **Figure 7**.

**Scenario F** – This scenario drains all the PHD development flows via a new local sewer located along GAP and parallel to the GAP West Trunk. The new sewer would discharge to the GAP West Trunk at manhole S93-53 (manhole acting as bridge between the West and East GAP trunks located just south of the existing GAP trunk siphons under the existing SFPUC BDPL). A plan view of this scenario is shown on **Figure 8**.

### 2.2.1 Hydraulic Modeling

Each of the concepts was initially developed using the hydraulic model. Flows representing the proposed PHD Specific Plan area development were used to size the sewers based on maximum d/D criteria of 0.75 under peak wet weather flow conditions and assuming no backwater on each pipe segment. The model was run to assess hydraulic performance and degree to which a scenario meets the City's performance criteria for gravity sewers.

The hydraulic performance of the scenarios to gravity drain to the GAP West trunk was analyzed under peak wet weather flow (PWWF) and peak dry weather flow (PDWF) conditions, assuming buildout loads into the collection system, including the PHD Specific Plan development loads. The results of the analysis are summarized in **Table 2** and **Table 3**, and a more detailed summary of the modeling analysis is provided in **Appendix A**. Based on the model results, none of the proposed gravity sewer concepts met the City's criteria for sewers, which includes:

- Minimum sewer pipe cover of 6 feet from finished grade.
- Sufficient flow and/or slope to provide a minimum flow of 2 feet per second when flowing full or half full.
- No backwater effects from the GAP West trunk (note that the GAP is itself surcharged and under capacity, meaning any gravity alternative is likely to be surcharge).

## 2.2.2 Initial Screening

The City indicated that a gravity alternative can still be a viable solution despite not meeting all City criteria if advantages of a gravity alternative outweigh the drawbacks of another solution. Meetings were held with the City on July 8 and September 1, 2021, to discuss the results of the gravity alternatives analysis and to screen the gravity concepts down to three gravity alternatives for further development. The City team reached consensus that Scenarios B, D, and E were the better scenarios to move into alternatives development and evaluation.

**Table 2: Hydraulic Modeling Results – Patrick Henry Drive**

Gravity Scenario	Patrick Henry Drive <sup>4</sup>				
	Slope	Min. Pipe Cover (ft)	Max Surcharge Level <sup>1</sup> (ft)	Min Freeboard <sup>1</sup> (ft)	Max Velocity <sup>2</sup> (fps)
A.1	0.001	4	0.9	4.7	0.43 - 2.2
A.2	0.001	3	No surcharge	4	0.44 - 4.4
A.3	0.0018 - 0.0005	3.3	0.4	4	0.73 - 4.1
B	0.0036 - 0.0009	4	0.1	4.4	1.5 - 2.2
C	0.0022 - 0.0009	4	0.4	4.6	0.7 - 3.1
D	0.0036 - 0.001	4	0.1	4.4	1.5 - 2.2
E	0.0036 - 0.001	4	2.7	4.4	1.1 - 1.9
F <sup>3</sup>	0.0036 - 0.0008	4	1.1	4.5	1.2 - 2.5

<sup>1</sup> Maximum surcharge level and minimum freeboard under future (2035) PWWF conditions.

<sup>2</sup> Maximum velocity during dry weather flow conditions, under future (2035) PDWF conditions.

<sup>3</sup> Data shown for Scenario F under the Patrick Henry Drive columns includes results for the local parallel sewer segments along GAP trunk.

<sup>4</sup> Red denotes criteria not met. Orange denotes criteria partially met. Green denotes criteria met.

**Table 3: Hydraulic Modeling Results – Old Ironsides Drive**

Gravity Scenario	Old Ironsides Drive <sup>4</sup>				
	Slope	Min. Pipe Cover (ft)	Max Surcharge Level <sup>1</sup> (ft)	Min Freeboard <sup>1</sup> (ft)	Max Velocity <sup>2</sup> (fps)
A.1	0.0018	3	1	4.2	0.93 - 1.2
A.2	0.0018	2.3	0.3	3.8	0.85 - 1.2
A.3	0.0018	3	1	4.2	0.80 - 1.2
B	0.0009	7.2	1.2	6.4	1.9 - 2.5
C	0.0034	5.7	1.5	6	1.6 - 1.9
D	0.001	7.1	1.1	6.0	1.9 - 2.5
E	0.002 - 0.0028	4	2.5	3.7	1 - 2.3
F <sup>3</sup>	0.0035 - 0.002	4	0.68	4.7	1 - 1.8

<sup>1</sup> Maximum surcharge level and minimum freeboard under future (2035) PWWF conditions.

<sup>2</sup> Maximum velocity during dry weather flow conditions, under future (2035) PDWF conditions.

<sup>3</sup> Data shown for Scenario F under the Patrick Henry Drive columns includes results for the sewer segments along GAP.

<sup>4</sup> Red denotes criteria not met. Orange denotes criteria partially met. Green denotes criteria met.

## 2.3 Gravity Sewer Alternatives Development

At the direction of the City, Scenarios B, D and E have been carried forward for further development and evaluation. Concept plans for the three alternatives were developed and are provided in **Appendix B**.

### 2.3.1 Utility Crossings

Mapping of existing utilities in the project area consists of a preliminary utility investigation conducted by BKF Engineers, which was provided by the City, along with as-builts for relevant City-owned utilities. The utility information was compared with the proposed alignments for the selected scenarios to identify potential conflicts and key crossings. Where depth information of utilities was available the crossing was checked against the proposed vertical profiles of the sewers generated by the hydraulic model to identify potential conflicts. For crossings with an identified conflict a mitigation measure was proposed to avoid the conflict. Several crossings with potential conflicts were identified where proposed mitigation measures may not be feasible to implement and additional investigation is required to determine if the crossing conflict can be mitigated. For example, where a storm drain lateral would need to be raised above the proposed sewer to avoid a conflict, the potential upstream impacts of raising the storm drain needs to be further evaluated to identify other conflicts that might be created and impacts on the upstream drainage inlet or curb inlet. Field utility locating and potholing of critical crossings is needed to confirm fatal flaws or mitigations to avoid conflicts. Crossings where the utility depth information is not available were identified as “undetermined” conflict needing further investigation. A summary table of the utility crossings and proposed conflict mitigations are shown in **Appendix E**, with crossing identification tags (e.g. 1, 2, 3) correlating to those shown in the concept plans in **Appendix B**. A list of the utilities providing record mapping in the project area is also included on the concept plans in **Appendix B**.

#### Scenario B Alternative

A summary of the utility crossings for Scenario B are presented in **Table 4**. Five storm drain laterals were identified as a potential conflict with the proposed alignment. For three of the conflicting storm drain laterals, the available as-built information indicates adequate fall to the storm drain main to allow the storm drain laterals to be relocated below the proposed sewer. It is assumed that the lower storm drain lateral would not conflict with other utilities. For two of the conflicting storm drain laterals (IDs 34 and 37) on Old Ironsides Dr it is not feasible to relocate below the sewer and the storm drain laterals would have to be raised above the sewer. Further evaluation is needed to evaluate upstream impacts from raising the laterals to validate the feasibility of this mitigation measure. Instead of raising the storm drain laterals and the upstream and on-site drainage pipelines, it may be possible to construct a new storm drain in Patrick Henry Drive parallel to the proposed sewer and cross the proposed sewer at a different location.

**Table 4 Scenario B Utility Crossings Summary**

Identified Conflict	Count
Resolvable <sup>1</sup>	3
Requires Further Evaluation <sup>2</sup>	2
Undetermined <sup>3</sup>	39
<i>Total</i>	<i>47</i>

<sup>1</sup> Conflict can be resolved by lowering storm drain. Assumes lower storm drain does not conflict with other utilities.

<sup>2</sup> Requires further evaluation to determine upstream impacts of raising storm drain.

<sup>3</sup> Insufficient information to determine whether there is a conflict.

#### Scenario D Alternative

A summary of the utility crossings for Scenario D are presented in **Table 5**. Five storm drain laterals and one storm drain main were identified as a potential conflict with the proposed alignment. For three of the conflicting storm drain laterals the available as-built information indicates adequate fall to the storm drain main to allow for the laterals to be relocated below the proposed sewer. It is assumed that the lower storm drain lateral would not conflict with other utilities. For two of the conflicting storm drain laterals (IDs 34 and 37) on Old Ironsides Dr., it is not feasible to relocate below the sewer. The storm drain lateral would

have to be raised above the sewer. Further evaluation is needed to determine upstream impacts of raising the lateral to validate this mitigation measure. One crossing of a 24-inch storm drain main (ID 53) was identified as a likely partial conflict with the proposed sewer based on as-built information. Field locating of the utility would assist in determining a conflict avoidance design for the sewer to avoid the existing storm drain. Scenario D also involves upsizing the SFPUC BDPL sewer crossing and converting it into a double barrel siphon. The existing 12-inch sewer splits into two 8-inch sewers to cross directly under the BDPLs and any new construction would require larger pipes and increased vertical clearance.

**Table 5 Scenario D Utility Crossings Summary**

Identified Conflict	Count
Resolvable <sup>1</sup>	3
Requires Further Evaluation <sup>2</sup>	3
Undetermined <sup>3</sup>	42
<i>Total</i>	<i>52</i>

<sup>1</sup> Conflict can be resolved by lowering storm drain. Assumes lower storm drain does not conflict with other utilities.

<sup>2</sup> Requires further evaluation to determine upstream impacts of raising storm drain lateral; confirm storm drain depth where available data indicates near conflict.

<sup>3</sup> Insufficient information to determine whether there is a conflict.

### **Scenario E Alternative**

A summary of the utility crossings for Scenario E are presented in **Table 6**. Four storm drain laterals and one storm drain main were identified as a potential conflict with the proposed alignment. For three of the conflicting storm drain laterals, the available as-built information indicates adequate fall to the storm drain main to allow for the laterals to be relocated below the proposed sewer. It is assumed that a lower storm drain lateral would not conflict with other utilities. For one of the conflicting storm drain laterals (ID 40) on Old Ironsides Dr it is not feasible to relocate below the sewer and the storm drain lateral would have to be raised to cross over the sewer. Further evaluation is needed to determine upstream impacts of raising the lateral to validate this mitigation measure. A conflict with a 72-inch storm drain (ID 61) on Great America Parkway was also identified. A potential mitigation for this conflict is to reconstruct the existing 72-inch storm drain to transition to 3-53"x34" oval pipes to pass under the proposed sewer. A similar solution has been implemented on the same storm drain further downstream at the crossing of the SFPUC BDPLs. Preliminary analysis of this crossing indicates this would provide a small amount of separation between the sewer and storm drain, on the order of inches. Potholing of the utility would be needed in inform the design of the sewer profile and storm drain modifications to eliminate the conflict.

**Table 6 Scenario E Utility Crossings Summary**

Identified Conflict	Count
Resolvable <sup>1</sup>	3
Requires Further Evaluation <sup>2</sup>	2
Undetermined <sup>3</sup>	42
<i>Total</i>	<i>52</i>

<sup>1</sup> Conflict can be resolved by lowering storm drain. Assumes lower storm drain does not conflict with other utilities.

<sup>2</sup> Requires further evaluation to determine upstream impacts of raising storm drain lateral; confirm storm drain depth and proposed sewer depth to validate existing storm drain can be reconstructed as 3-54x34" lines to pass under the proposed sewer.

<sup>3</sup> Insufficient information to determine whether there is a conflict.

The significant number of “undetermined” utility crossings is a risk that can be mitigated through potholing and close coordination with the utility owners. All three gravity alternatives also include two crossings of a 24-inch high pressure PG&E gas transmission pipeline, which will require special clearances and coordination with the PG&E. Coordination with PG&E and other utility owners will be needed to perform potholing and design the sewer improvements, which will impact the design schedule.

Figure 2: Existing Sewers Around the Patrick Henry Drive Development

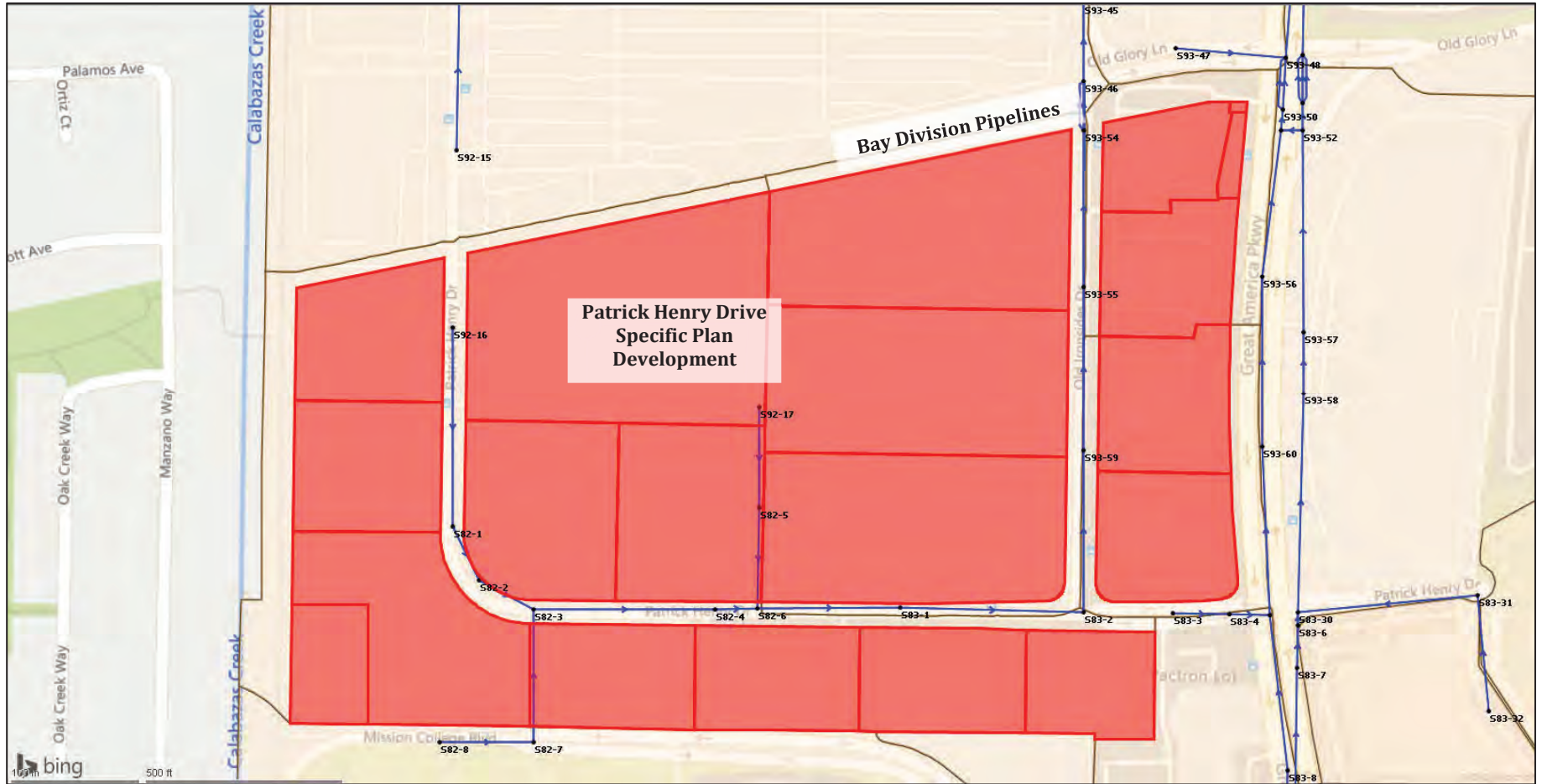


Figure 3: Scenario A Overview

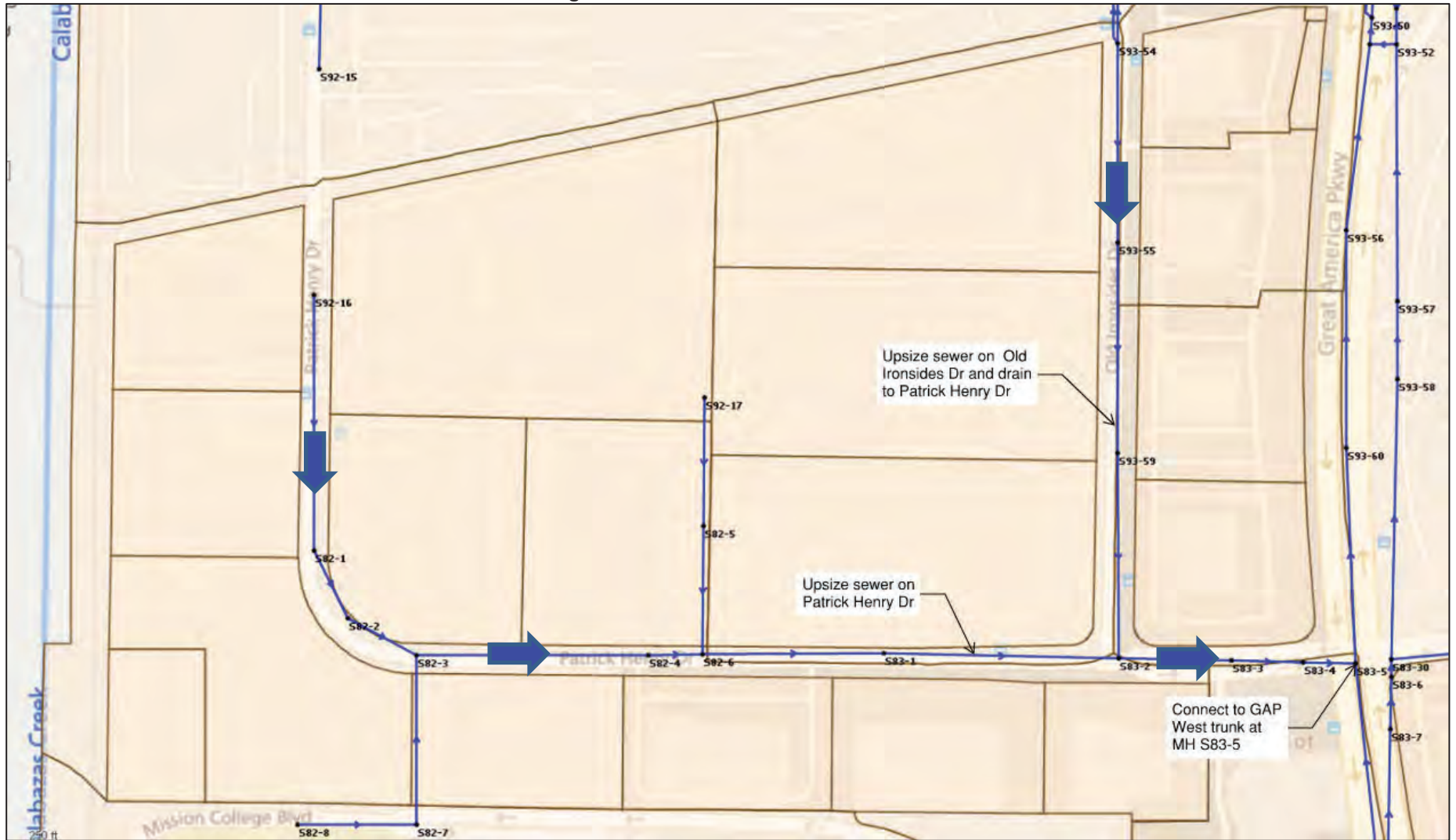


Figure 4: Scenario B Overview

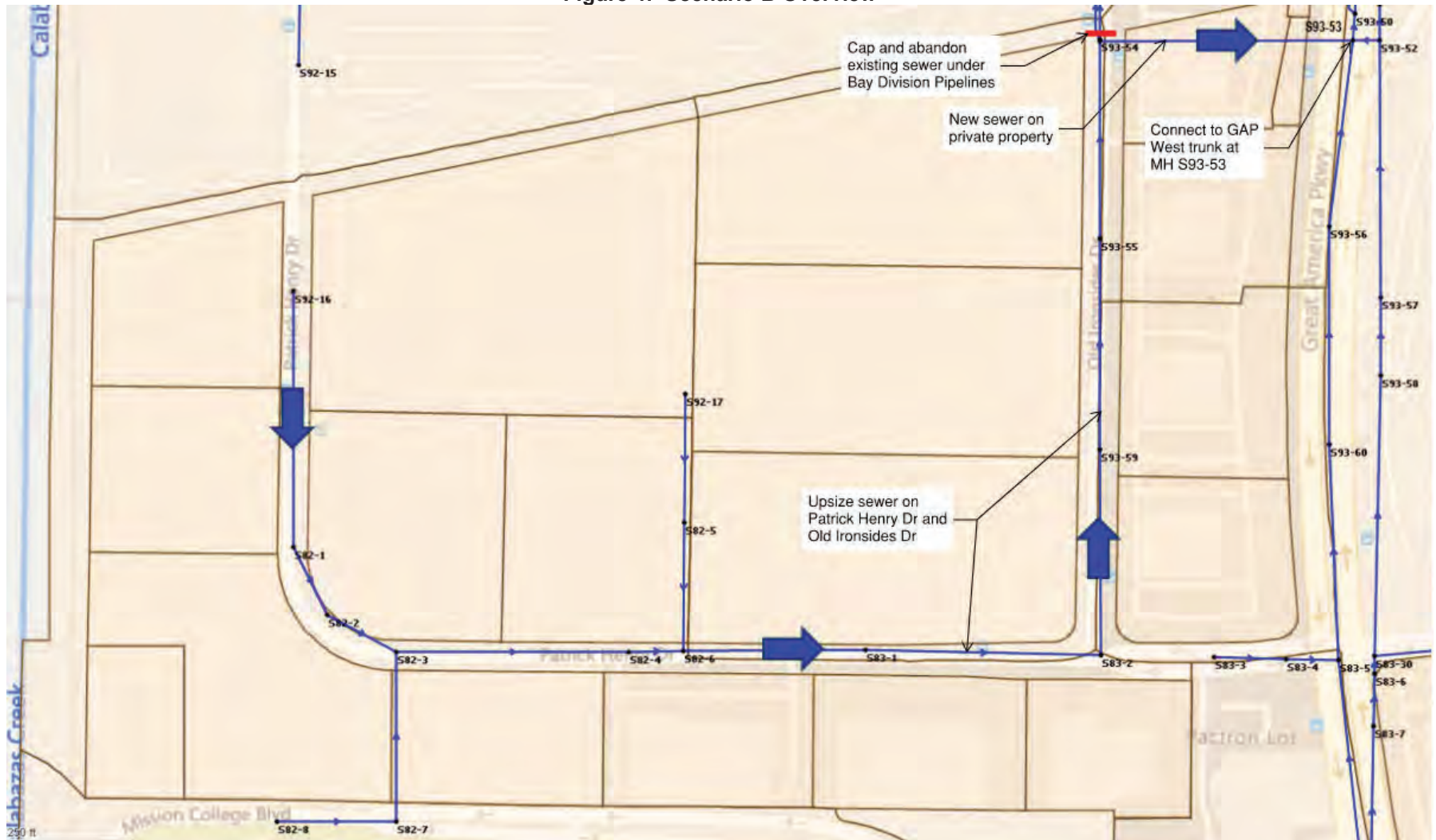


Figure 5: Scenario C Overview

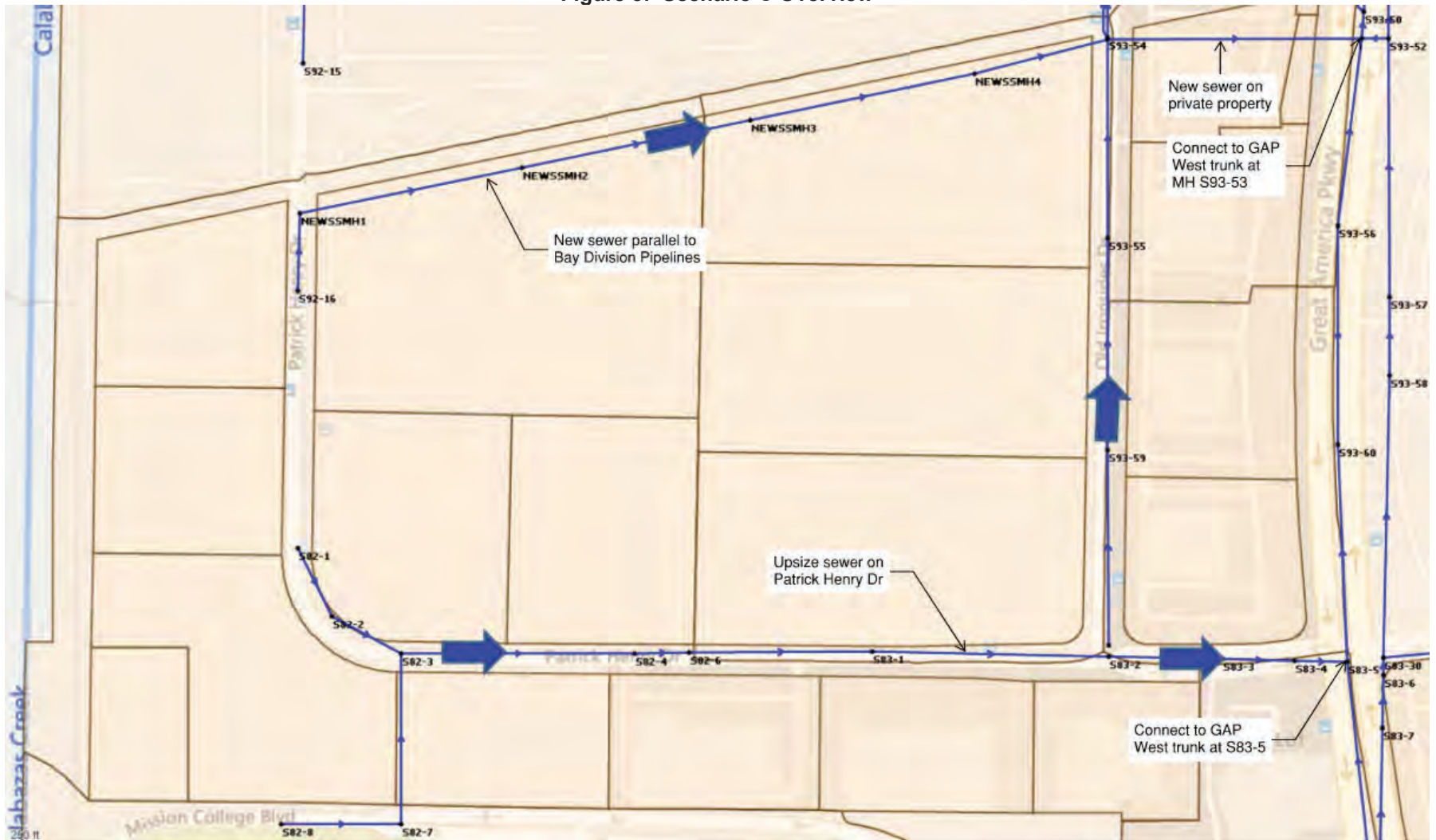


Figure 6: Scenario D Overview

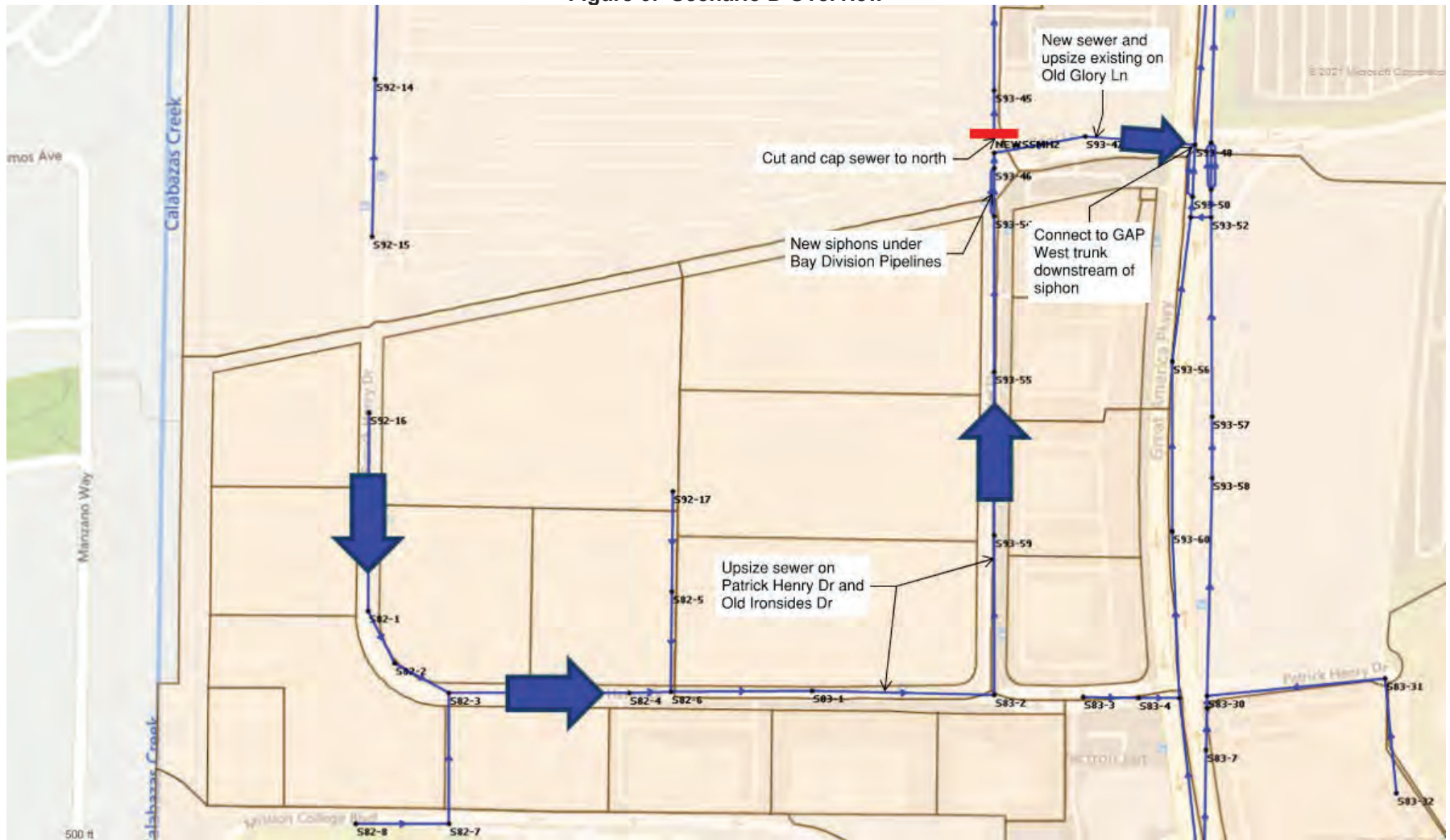


Figure 7: Scenario E Overview

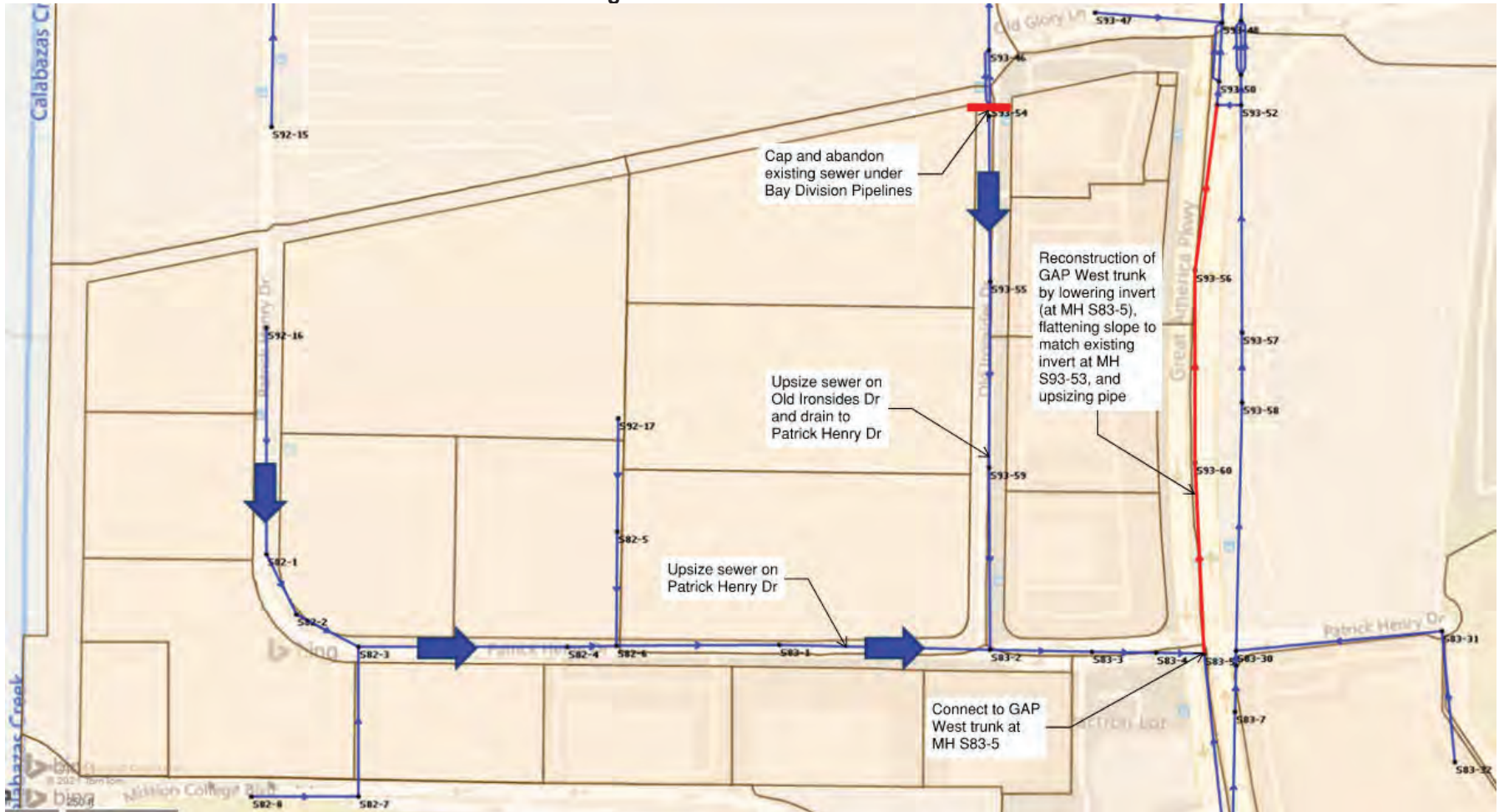
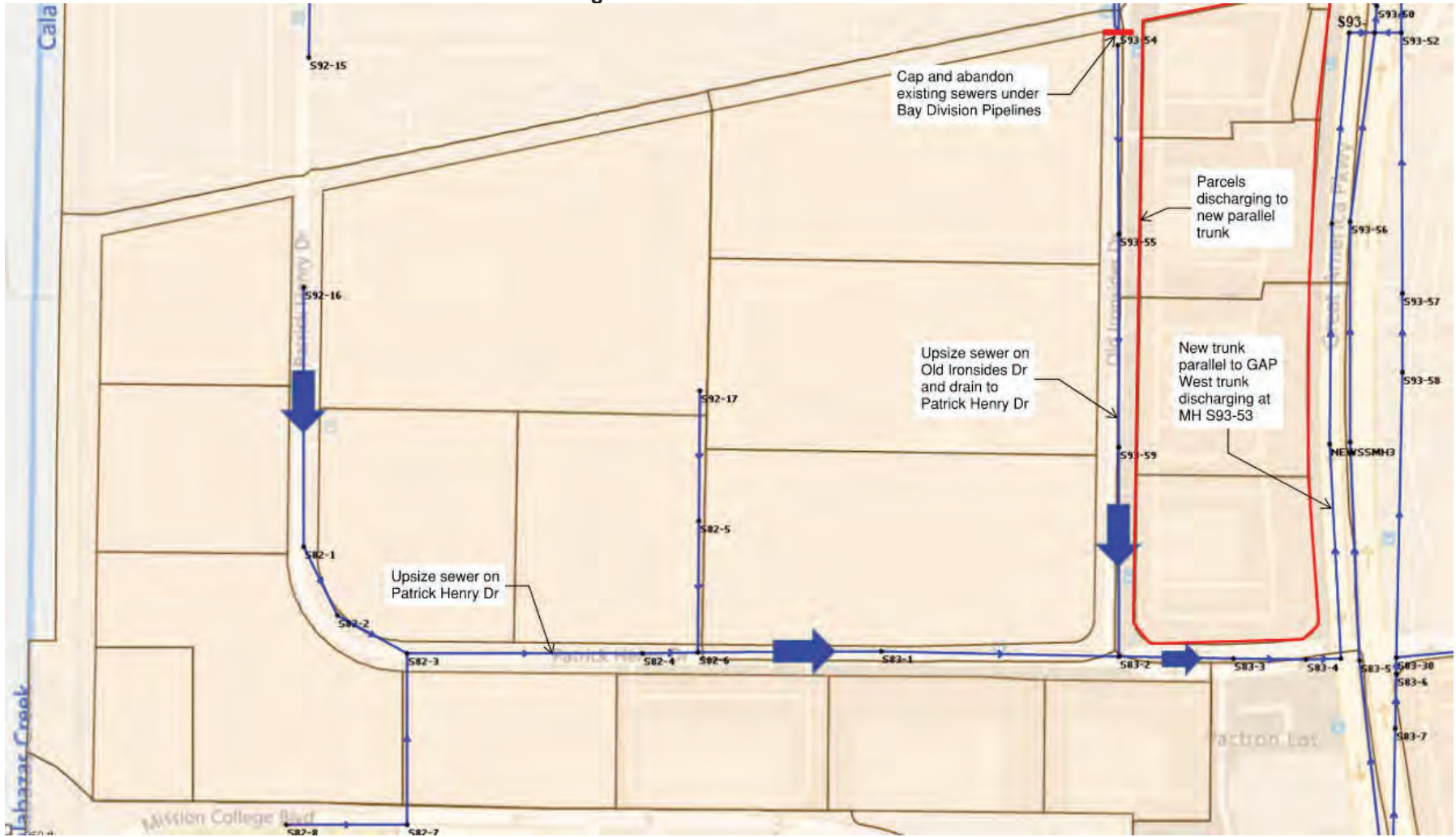


Figure 8: Scenario F Overview



## 2.3 Pumped Alternatives

Two pumped alternatives were identified and developed for evaluation. As directed by City staff, a new lift station should be fully outfitted similar to the Stadium Pump Station at Levi Stadium, including adequate space for operations and maintenance vehicles and access, gantry crane for pump removal and replacement, fencing and security, and a standby power generator for backup power.

### 2.3.1 Dedicated PHD Lift Station

The first alternative consists of a lift station located in the PHD Specific Plan area that is dedicated to PHD development flows and discharges into the Great America Parkway west trunk. The proposed location is on the parcel on the north side of Patrick Henry Drive between Old Ironsides Drive and Great America Parkway. This alternative includes upsizing sewers in Patrick Henry Drive and Old Ironsides Drive draining to the lift station. A plan view of this alternative is shown on **Figure 9**.

### 2.3.2 New Tasman Lift Station

The second pumped alternative consists of a replacement lift station for the existing Tasman Lift Station, fully outfitted similar to the Stadium Lift Station, to handle both currently planned flows into Tasman Lift Station and future PHD development flows, discharging to the trunk in Great America Parkway. The proposed location is on the parcel on the south side of Tasman Drive adjacent to Old Ironsides Drive. This alternative includes upsizing sewers in Patrick Henry Drive and Old Ironsides Drive, and rerouting flow from northern/western sewers to the new lift station. A plan view of this alternative is shown on **Figure 10**.

Conceptual plans and layouts of the lift stations showing further detail on the pumped alternatives are presented in **Appendix B** and **Appendix C** respectively.

The gravity sewers feeding the lift stations were not reviewed for potential conflicts with existing utilities. Any potential conflict can be mitigated by lowering the sewer below the crossing utility. The impact of this mitigation has been considered relative to cost of sewer installation and deeper lift station wet wells. Lift station gravity overflows were also not reviewed for potential conflicts. Relocation of existing utilities may be required for installation of an overflow line.

Figure 9: Dedicated PHD Lift Station Overview

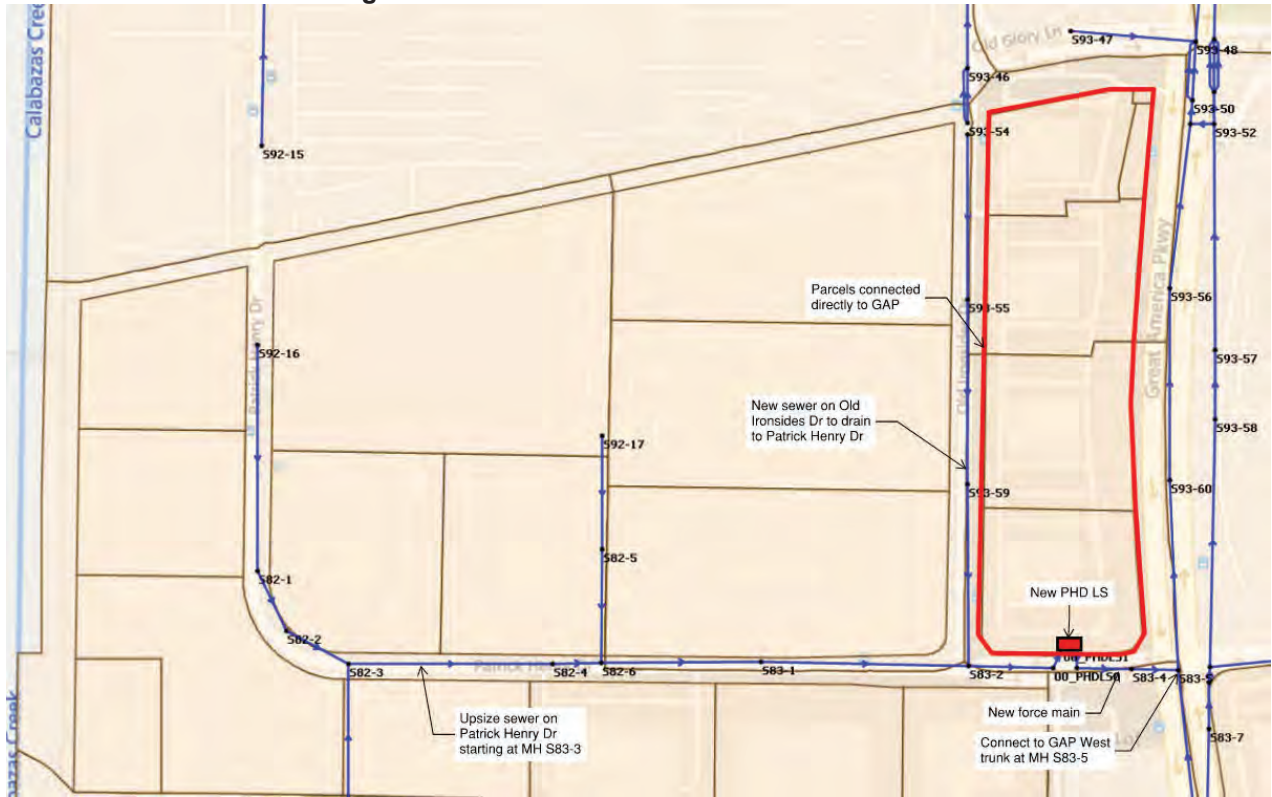


Figure 10: New Tasman Lift Station Overview



### 3. Alternatives Evaluation Methodology

The methodology to evaluate three gravity and two pumped alternatives for the PHD Specific Plan area sewer improvements has been developed around specific evaluation criteria in a typical matrix format. The evaluation criteria were used to define and describe each alternative, then to evaluate and score the alternatives. This section describes the criterion/sub-criterion scoring approach, the criteria, and the method of comparing alternative scores.

#### 3.1 Criterion and Sub-Criterion Scoring

Each alternative is scored from 0 to 5 points under each criterion (where no sub-criterion further breakdown the criterion) or sub-criterion based on the degree to which the alternative meets the objective of the criterion or sub-criterion. An alternative with a higher score equates to the alternative better meeting the objective compared to another alternative. Scoring can also be considered in 3 more qualitative categories as discussed under each criterion or sub-criterion:

- High degree of achieving objective (5 points)
- Medium degree of achieving objective (3 to 4 points)
- Low degree of achieving objective (0 to 2 points)

## 3.2 Alternative Scores

Once each criterion or sub-criterion has been scored, the scores are normalized to a 100 total point system for comparison amongst the alternatives. The maximum possible 100-point total is divided into seven weighted maximum scores for each criterion. The weighting was assigned based on discussion with the City on the relative importance of each criterion compared with the others. Within the criterion where there are multiple sub-criteria, the sub-criteria are assigned a weighted number of possible points, with all sub-criterion points totaling the maximum possible score of the overall criterion.

The alternative score is a summation of the sub-criterion scores to the criterion level. Then the criterion level scores are summed, with a maximum possible score of 100 points.

The totals of each alternative are compared, with the highest point total equating to the better of all alternatives.

## 3.3 Evaluation Criteria

Criteria used in the evaluation are described below.

### 3.3.1 Easements and Right-of-Way

For each alternative, the availability of right-of-way, jurisdiction over the right-of-way, and easement requirements were identified. Where the alignment crosses private property, it was assumed that an easement would be necessary. If easements are required, they are potentially subject to easement acquisition costs and there is a risk of not being able to secure the necessary easements or delaying the sewer improvements. Easement requirements outside of City right-of-way were used to assign scores for each alternative. Scores were based on number of easements required.

High score was assigned if none are required with all construction in City right-of-way. Medium score was assigned if minor easements are anticipated, such as for temporary construction easements. Low score was assigned if property purchase or utility easement are anticipated, such as for construction of a lift station or major easement across private properties.

### 3.3.2 Hydraulic Performance/City Design Criteria

A hydraulic evaluation of each alternative identified whether each met the City's sewer criteria for hydraulic performance and cover depth as well as any benefits to the regional sewer system, outside of the PHD Specific Plan area, that are likely with implementation of the improvements.

#### Hydraulic Performance

The hydraulic performance of each alternative was evaluated using the modeling results based on meeting the City's sewer performance criteria described earlier. High score was assigned if the entire alignment meets the hydraulic criteria. Medium score was assigned if moderate segments of the alignment are deficient on the hydraulic criteria (<2000 LF with backwater effects or under 2 feet per second max daily velocity). Low score was assigned if significant segments of the alignment are deficient on the hydraulic criteria (>2000 LF with backwater effects or under 2 feet per second max daily velocity).

#### Cover Depth

The City's criteria for cover depth is 6 feet minimum cover from finished grade. Scores were based on the length of sewer that does not meet the minimum cover criteria. High score was assigned if the entire alignment meets the minimum 6-foot cover criteria. Medium score was assigned if segments with less than

6-foot cover totaled <1000 LF. Low score was assigned if segments with less than 6-foot cover totaled more than 1000 LF.

### **Regional Benefits**

Consideration was given for alternatives that provide benefits for the regional sewer system beyond the Patrick Henry Drive Specific Plan area. These include capacity improvements for facilities which are currently hydraulically deficient or will be based on anticipated development. Incorporating improvements that benefit the regional system under this project can provide cost savings on future projects.

High score was assigned if significant enhancements to the regional system are incorporated into the alternative (e.g. upsizing the GAP West trunk). Medium score was assigned if moderate enhancements to the regional system are incorporated into the alternative. Low score was assigned if alignment is anticipated to have only localized benefits to the immediate local sewershed (e.g. new Tasman LS). A score of zero was received if no regional benefits are anticipated.

## **3.3 Utility Crossings**

A review of the provided utility information was compared with the proposed alignments to identify potential conflicts and key crossings (e.g. storm drains, high pressure gas, etc). Several crossings with potential conflicts were identified where proposed mitigation measures may not be feasible to implement and additional examination is required to determine viability of the alternative. Crossings where the utility depth information is not available were noted as crossing undetermined. Separation requirements were also considered, such as separation from a new sewer to an existing potable water line. For the pumped alternatives it was assumed that the sewer alignments can be lowered as needed to avoid utility conflicts. A summary table of the utility crossings and proposed conflict mitigations are shown in **Appendix E**.

High score was assigned if no significant utility crossings or conflicts or separation issues are anticipated. Medium score was assigned if 3 or fewer critical utility crossings potentially affecting viability were identified; some smaller utility relocation required, and minor separation issues. Low score was assigned if alignment is anticipated to have more than 3 critical utility crossings; significant smaller utility relocation required; significant separation issues; or Project needs to construct a new siphon to avoid utility (or major reconstruction of utility).

## **3.4 Constructability**

The constructability of each of the alternatives was considered based on various factors affecting the difficulty of construction including likely construction methods, traffic control, and bypass pumping.

### **3.4.1 Construction Method**

Trenchless construction methods carry a higher risk of construction issues than traditional open-cut construction. High score was assigned if traditional open-cut construction method for entire alignment. Medium score was assigned if one segment of the alignment requires trenchless construction methods (<300-LF). Low score was assigned if more than one segment of the alignment requires trenchless construction methods (>300-LF).

### **3.4.2 Traffic Control**

High score was assigned if anticipated traffic control measures (closure of lanes) is only required for short period of time and does not impact commercial business or residences. Medium score was assigned if anticipated traffic control measures (closure of lanes) is required primarily on non-arterial streets located within the PHD development area; short duration closures on arterial streets (e.g. Great America Parkway and Tustin Drive). Low score was assigned if anticipated traffic control measures (closure of lanes) is required for extended durations on arterial streets.

### 3.4.3 Bypass Pumping

Bypass pumping carries both construction challenges and operational challenges. In addition, bypass pumping will require street crossings and driveway crossings, as well as continuous operations and maintenance throughout the construction to maintain pumps and control odor.

High score was assigned if minimal or no bypassing pumping is anticipated; bypassing <3,000-LF. Medium score was assigned if bypass pumping is anticipated for short-time duration; bypassing <4,000-LF. Low score was assigned if bypass pumping is anticipated for extended-period; bypassing >4,000-LF.

## 3.5 Operation and Maintenance

The operation and maintenance considerations were evaluated for each of the alternatives including safety and access, and long-term operational maintenance impact of proposed facilities.

### 3.5.1 Safety/Access

Consideration is given for alternatives involving the construction of a new pipelines that will facilitate accessibility for pipe repairs, and for operational safety.

High score was assigned if improved safety is anticipated through access for manhole tripods or manhole location improved to allow for simpler traffic control set-up. Medium score was assigned if minor improvements for safety and access (e.g. shallower sewer) to no change from existing in terms of safety and access (status-quo). Low score was assigned if pipeline is anticipated to be located in area that impedes access for repairs (e.g. new pipeline on private property), or safety (e.g. unsafe manhole location, significant increase in sewer depth)

### 3.5.2 O&M Impact/Addition

Consideration is given for alternatives involving addition of new pipelines beyond current LF maintained by the City, anticipated hydraulic performance leading to additional maintenance, or construction of facilities that would add an additional asset requiring maintenance.

**High** score was received if no additional assets or improved O&M capabilities. **Medium** score was received if increased O&M for new pipelines to be maintained; segments of alignment anticipated to have low velocities requiring more frequent maintenance. **Low** score was received if new lift station for increased cost for maintenance of facility; new siphon requiring maintenance.

## 3.6 Permitting

The permitting requirements, other than encroachment, were identified for each alignment. High score was assigned if no special permitting is anticipated, assuming normal level of coordination other utilities. Medium score was assigned if additional processing time for one special permit is anticipated, such as San Francisco Public Utilities Commission (Bay Division Pipeline Crossing) or Santa Clara Valley Transportation Authority (light rail crossing). Low score was assigned if more than one special permit is anticipated.

## 3.7 Capital Construction Cost

Conceptual level construction cost estimates were developed to assess the relative cost of each alternative. Detailed cost estimates for each alternative are presented in **Appendix D**. Contractor overhead and profit, sales tax, and shipping costs are embedded in unit costs. Unit costs were derived from the following sources:

- Bid unit price tabulations from various Woodard & Curran Projects
- Cost curves for lift stations developed from Pumping Station Design (Sanks et al., 1989)
- Engineering allowances for undefined items

Cost estimates at this stage are Class 4 estimates in accordance with the Association for the Advancement of Cost Engineering (AACE) International Publication 56R-08 Cost Estimate Classification System for a concept level project with early definition with an expected accuracy range of -15% to +30%. A 30% contingency has been applied at this level to account for unknown conditions.

Costs are reported in October 2021 dollars. The corresponding cost index benchmark is the Engineering News Record Construction Cost Index for the San Francisco Area (ENR SF CCI) for October 2021, which is 14451.919.

The alternatives were assigned a score by normalizing each alternative’s cost against the lowest cost alternative.

## 4. Alternatives Evaluation Results

This section summarizes the scoring and results of the alternatives evaluation. A summary of the analysis is presented in **Table 8**, with the scores summarized in **Table 7**.

**Table 7: Alternatives Evaluation Scores**

Max Score	100	Alt 1 Gravity Scenario B	Alt 2 Gravity Scenario D	Alt 3 Gravity Scenario E	Alt 4 Dedicated PHD LS	Alt 5 New Tasman LS
<b>TOTAL SCORE</b>		52.0	65.2	74.2	52.4	48.6

### 4.1 Findings and Next Steps

The evaluation results indicate that Gravity Scenario E was the highest scoring alternative. Its benefits are that it does not involve construction and maintenance of a new siphon such as in Scenario D and minimizes easement/property requirements compared with Scenario B and the pumped alternatives. Additional evaluation is also needed to determine the impacts of raising storm drain laterals which have been identified as potential conflicts with the proposed sewer as well as to confirm the storm drain depth and proposed sewer depth to validate the existing storm drain on Great America Parkway can be reconstructed as 3-54x34” lines to pass under the proposed sewer. This alternative does not meet all City criteria for some segments regarding minimum cover depth, minimum flow velocity, and surcharge. Hydraulic issues relating to surcharge, as with the other alternatives, can be mitigated by addressing capacity issues in the downstream GAP trunk.

The results of the analysis indicate that Gravity Scenario E is the recommended alternative. The next steps would be to conduct further field utility locating and potholing to evaluate whether the identified “undetermined” utility conflicts can be mitigated reasonably.

**Table 8: Alternatives Analysis Summary**

Highest score = Highest-Ranking alternative. Criteria are scored from 0 - 5 based on the total number of alternatives.													
TOTAL SCORE		52.0			65.2			74.2		52.4		48.6	
100		Alt 1 Gravity Scenario B			Alt 2 Gravity Scenario D			Alt 3 Gravity Scenario E		Alt 4 Dedicated PHD LS		Alt 5 New Tasman LS	
Objective	Max Score	Score	Criterion	Score	Criterion	Score	Criterion	Score	Criterion	Score	Criterion		
<b>1. Easement &amp; Right-of-Way Encroachments</b>	20.0	0.0			20.0			20.0		0.0		4.0	
1.1 Potential easements, Right-of-Way encroachments	20.0	0	Easement through private property	5	Public right-of-way only	5	Public right-of-way only	0	Property purchase for LS site	1	Property purchase for LS site		
<b>2. Hydraulic Performance/City Design Criteria</b>	20.0	6.6			6.6			14.0		10.0		12.6	
2.1 Hydraulic Performance	7.0	3	1000'+ surcharged during PWWF, some segments < 2fps max velocity	3	1000'+ surcharged during PWWF, some segments < 2fps max velocity	2	3000'+ surcharged during PWWF, some segments < 2fps max velocity	5	Meets all sewer criteria	4	Deficient segments of GAP West trunk and Tasman		
2.2 Cover Depth	3.0	4	500' segment < 6' cover	4	500' segment < 6' cover	2	1000'+ < 6' cover	5	Meets min cover depth criteria	5	Meets min cover depth criteria		
2.3 Regional Benefits	10.0	0	No regional benefit	0	No regional benefit	5	Upsized GAP trunk	0	No regional benefit	2	Upgraded Tasman LS		
<b>3. Utility Crossings</b>	10.0	6.0			4.0			2.0		10.0		8.0	
3.1 Utility Crossings	10.0	3	Two SD lateral crossings need further examination+high pressure gas. (5 total) SD laterals require relocation, other small utilities likely	2	One SD main may require relocation, two SD lateral crossings need further examination+high pressure gas. (6 total) SD laterals/main require relocation, other small utilities likely	1	Reconstruction of 72" SD to 3-53"x34" in GAP required. (5 total) SD laterals require relocation, other small utilities likely. High pressure gas crossing	5	Alignment can be lowered as needed to avoid conflicts	4	Alignment can be lowered as needed to avoid conflicts. Separation issues for FM on Tasman		
<b>4. Constructability</b>	10.0	7.4			6.6			4.2		8.4		4.0	
4.1 Construction method	2.0	5	Open-cut only	3	Trenchless under BDPL	5	Open-cut only	5	Open-cut only	3	Trenchless under light rail		
4.2 Traffic Control	3.0	4	Typical TC all in PHD SP area streets	4	Typical TC all in PHD SP area streets	2	Extended impacts to GAP	4	Typical TC all in PHD SP area streets	3	Impacts to Tasman Dr		
4.3 Bypass Pumping Required	5.0	3	Bypass: 3,400 LF	3	Bypass: 3,600 LF	1	Bypass 4,900 LF, 1,200 of which larger dia (ex 33")	4	Bypass: 3,100 LF	1	Bypass: 4,800 LF		
<b>5. Operation and Maintenance</b>	20.0	12.0			12.0			16.0		8.0		12.0	
5.1 Safety/Access	10.0	2	Reduced accessibility for pipe on private property	4	Minimal changes, sewer depth shallower	4	Minimal changes, sewer depth shallower	3	No changes to safety/access	3	No changes to safety/access		
5.2 O&M Impact/Addition	10.0	4	Minimal addition of new pipe: adds sewer on private property	2	New siphon under BDPL, minimal addition of new pipe to maintain	4	Minimal addition of new pipe to maintain. Segments have low PDWF velocity	1	Adding new LS to maintain	3	Upsized LS/new equipment to maintain; new FM		
<b>6. Permitting</b>	10.0	10.0			6.0			10.0		10.0		4.0	
6.1 Permitting	10.0	5	No additional permitting	3	Permitting for SFPUC BDPL crossing required	5	No additional permitting	5	No additional permitting	2	Permitting for SFPUC BDPL crossing and VTA light rail crossings required		
<b>7. Capital Construction Costs</b>	10.0	10.0			10.0			8.0		6.0		4.0	
7.1 Capital Construction Cost (\$M)	10.0	5	\$ 6,183,000	5	\$ 5,997,000	4	\$ 6,595,000	3	\$ 7,925,000	2	\$ 12,396,000		

## Appendix A – Hydraulic Modeling Results

## **Appendix B – Alternative Concept Plans**

## Appendix C – Lift Station Concept Layouts

## Appendix D – Conceptual Cost Estimates

## Appendix E – Utility Crossing Tables

**LEGEND SYMBOLS**

EXISTING	PROPOSED	DESCRIPTION
---	---	PROPERTY LINE
---	---	CURB, GUTTER, SIDEWALK & DRIVEWAY
---	---	WATER MAIN & VALVE
---	---	STORM DRAIN, MANHOLE & CATCH BASIN
---	---	CENTER LINE & MONUMENT
---	---	SANITARY SEWER & MANHOLE
---	---	GAS MAIN & VALVE
---	---	LEVEL 3 FIBER OPTICS
---	---	ELECTRIC CONDUIT & PULL BOX
---	---	XO FIBER OPTIC
---	---	TELEVISION CABLE
---	---	RECYCLED WATER
---	---	AT&T FIBER OPTICS
---	---	ELECTRICAL OVER HEAD
---	---	ABANDONED UTILITY LINE
---	---	LIMIT OF WORK LINE
---	---	IRRIGATION

**LEGEND SYMBOLS CONTINUED**

EXISTING	PROPOSED	DESCRIPTION
---	---	SS LATERAL AND CLEANOUT
---	---	SS LATERAL RECONNECTION
---	---	DETAIL NO.
---	---	SHEET NO.

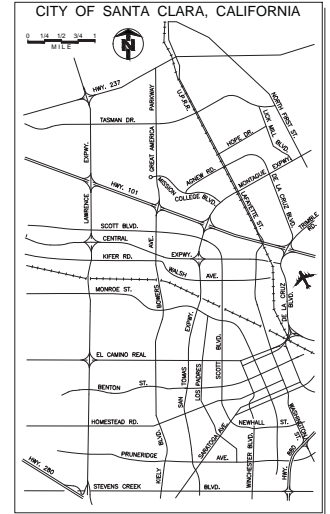


**PUBLIC WORKS DEPARTMENT**

**ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS PROJECT - 2021 PROJECT**

**SHEET INDEX**

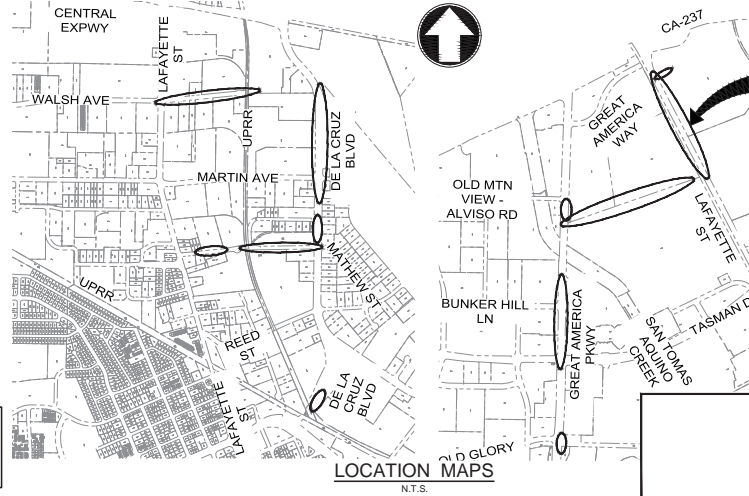
SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION
1	G-01 COVER SHEET	15	C-29 SEGMENTS 132,134,136 - DE LA CRUZ BLVD PLAN AND PROFILE	28	C-44 SEGMENTS 209-211,224-226 - PLAN	41	C-58 TRAFFIC CONTROL PLAN
2	G-02 KEY MAPS	16	C-30 SEGMENT 132 - DE LA CRUZ BLVD PLAN AND PROFILE	29	C-44,1 SEGMENTS 209-211,224-226 - PROFILE	42	C-59 TRAFFIC CONTROL PLAN
3	G-03 GENERAL & MONUMENT NOTES	C-31	THROUGH C-32 - NOT IN CONTRACT	30	C-45 SEGMENTS 211,226 - PLAN	43	C-60 BYPASSING DETAILS
4	G-04 TRAFFIC & ARBORIST NOTES	17	C-33 SEGMENTS 77,80,85 - WALSH AVE PLAN AND PROFILE (ALT. 2)	31	C-45,1 SEGMENTS 211,226 - PROFILE	44	C-61 BYPASSING FLOW INFORMATION
5	G-05 PIPE SEGMENT FLOW INFORMATION	18	C-34 SEGMENTS 85,86,91 - WALSH AVE PLAN AND PROFILE (ALT. 2)	C-46	THROUGH C-46,1 - NOT IN CONTRACT	45	D-1 TYPICAL DETAILS
C-01	THROUGH C-13 - NOT IN CONTRACT	19	C-35 SEGMENTS 91,115 - WALSH AVE PLAN AND PROFILE (ALT. 2)	32	C-47 SEGMENT 228 - GREAT AMERICA PKWY PLAN AND PROFILE		
6	C-14 SEGMENTS 31,45 - DE LA CRUZ BLVD PLAN (ALT. 3)	C-36	NOT IN CONTRACT	33	C-48 SEGMENT 231 - LAFAYETTE ST PLAN AND PROFILE		
7	C-14,1 SEGMENTS 31,45 - DE LA CRUZ BLVD PROFILE (ALT. 3)	20	C-37 SEGMENT 202 - GREAT AMERICA PKWY PLAN AND PROFILE	34	C-49 SEGMENTS 232,233 - LAFAYETTE ST PLAN AND PROFILE		
C-15	THROUGH C-21 - NOT IN CONTRACT	21	C-38 SEGMENTS 203,204 - GREAT AMERICA PKWY PLAN AND PROFILE	35	C-50 SEGMENTS 233,234,240 - LAFAYETTE ST PLAN		
8	C-22 SEGMENT 95 - MATHEW ST PLAN AND PROFILE (ALT. 1)	22	C-39 SEGMENTS 204,205 - GREAT AMERICA PKWY PLAN AND PROFILE	36	C-50,1 SEGMENTS 233,234,240 - LAFAYETTE ST PROFILE		
9	C-23 SEGMENTS 96,101 - MATHEW ST PLAN AND PROFILE (ALT. 1)	23	C-40 SEGMENT 205 - GREAT AMERICA PKWY PLAN AND PROFILE	37	C-51 SEGMENTS 234,235,240-242 - LAFAYETTE ST PLAN		
10	C-24 SEGMENTS 100,109,112 - MATHEW ST PLAN AND PROFILE (ALT. 1)	C-41	NOT IN CONTRACT	38	C-51,1 SEGMENTS 234,235,240-242 - LAFAYETTE ST PROFILE		
11	C-25 SEGMENT 112 - MATHEW ST PLAN AND PROFILE (ALT. 1)	24	C-42 SEGMENTS 208,223 - PLAN	39	C-52 SEGMENTS 235,242 - LAFAYETTE ST PLAN AND PROFILE		
12	C-26 SEGMENT 130 - DE LA CRUZ BLVD PLAN AND PROFILE	25	C-42,1 SEGMENTS 208,223 - PROFILE	C-53	THROUGH C-56 - NOT IN CONTRACT		
13	C-27 SEGMENTS 120,122 - DE LA CRUZ BLVD PLAN AND PROFILE	26	C-43 SEGMENTS 208,209,223,224 - PLAN	40	C-57 TRAFFIC CONTROL GENERAL NOTES & SIGN LEGEND		
14	C-28 SEGMENTS 120,136 - DE LA CRUZ BLVD PLAN AND PROFILE	27	C-43,1 SEGMENTS 208,209,223,224 - PROFILE				



**VICINITY MAP**  
N.T.S.

**ABBREVIATIONS**

MB	MATERIAL	GB	GRADE BREAK	SFPUC	SAN FRANCISCO PUBLIC UTILITIES COMMISSION
HP	HIGH POINT	HP	HIGH-DENSITY POLYETHYLENE	SL	STREET LIGHT
HP	HIGH POINT, HIGH PRESSURE	HP	HIGH-DENSITY POLYETHYLENE	SS	SANITARY SEWER
INV	INVERT	INV	INVERT	SSM	SANITARY SEWER MANHOLE
L	LENGTH	L	LENGTH	STL	STEEL
LF	LINEAR FEET	LF	LINEAR FEET	ST	STREET
LOG	LIP OF GUTTER	LOG	LIP OF GUTTER	STA	STATION
LT	LEFT	LT	LEFT	STD	STANDARD
MAX	MAXIMUM	MAX	MAXIMUM	SVFO	SILICON VALLEY FIBER OPTIC
MH	MANHOLE	MH	MANHOLE	SVP	SILICON VALLEY POWER
MIN	MINIMUM	MIN	MINIMUM	SW	SIDEWALK
MW	MONITORING WELL	MW	MONITORING WELL	T/C	TOP OF CURB
N	NORTH	N	NORTH	TSS	TRAFFIC SIGNAL BOX
(N)	NEW	(N)	NEW	TSS	TRAFFIC SIGNAL SENSORS
OG	ORIGINAL GRADE	OG	ORIGINAL GRADE	TYP, (TYP)	TYPICAL
PCC	PORTLAND CEMENT CONCRETE	PCC	PORTLAND CEMENT CONCRETE	VCP	VITRIFIED CLAY PIPE
PCJPB	PENINSULA CORRIDOR JOINT	PCJPB	PENINSULA CORRIDOR JOINT	W	WEST, WATER
PB	POWERS BOARD	PB	POWERS BOARD	W	WEST, WATER
PG	PROFILE GRADE	PG	PROFILE GRADE	Z	ZAYO
PL	PLASTIC	PL	PLASTIC		
R	RADIUS	R	RADIUS		
RCP	REINFORCED CONCRETE PIPE	RCP	REINFORCED CONCRETE PIPE		
ROW	RIGHT-OF-WAY	ROW	RIGHT-OF-WAY		
RR	RAILROAD	RR	RAILROAD		
RT	RIGHT	RT	RIGHT		
S	SOUTH, SLOPE	S	SOUTH, SLOPE		
SCWD	SANTA CLARA VALLEY WATER DISTRICT	SCWD	SANTA CLARA VALLEY WATER DISTRICT		
SD	STORM DRAIN	SD	STORM DRAIN		
SDMH	STORM DRAIN MANHOLE	SDMH	STORM DRAIN MANHOLE		
SEG	SEGMENT	SEG	SEGMENT		



**LOCATION MAPS**  
N.T.S.

**PROJECT LOCATION (TYP)**

CERTIFICATION OF PEER REVIEW  
THE UNDERSIGNED HEREBY CERTIFIES THAT A PROFESSIONAL PEER REVIEW OF THESE PLANS AND THE REQUIRED DESIGN WAS CONDUCTED BY ME, A PROFESSIONAL ENGINEER WITH EXPERTISE AND EXPERIENCE IN THE APPROPRIATE FIELD OF ENGINEERING EQUAL TO OR GREATER THAN THE ENGINEER OF RECORD, AND THAT APPROPRIATE CORRECTIONS HAVE BEEN MADE.

XXXX SIGNATURE XXXXXXXX DATE

APPROVED BY: \_\_\_\_\_

REVIEWED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_

WATER AND SEWER UTILITIES DEPARTMENT DATE: \_\_\_\_\_

STREET MAINTENANCE DATE: \_\_\_\_\_

ELECTRIC DEPARTMENT DATE: \_\_\_\_\_

TRAFFIC ENGINEERING DIVISION DATE: \_\_\_\_\_

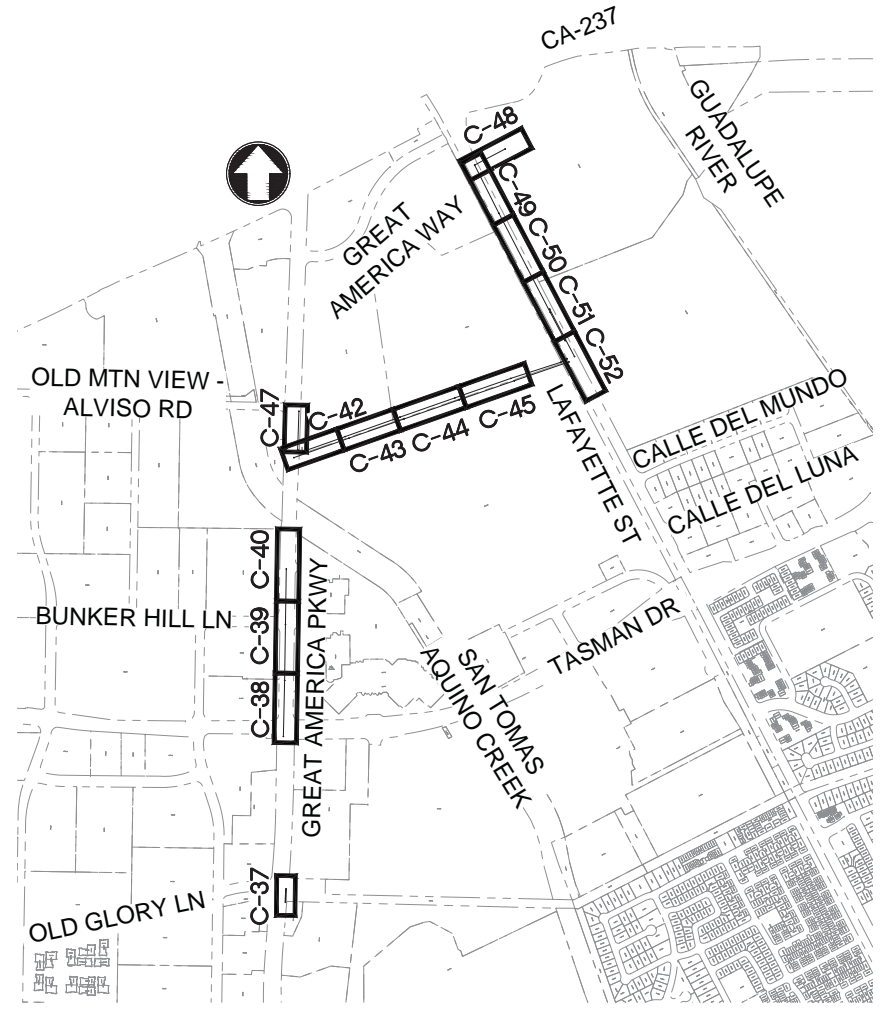
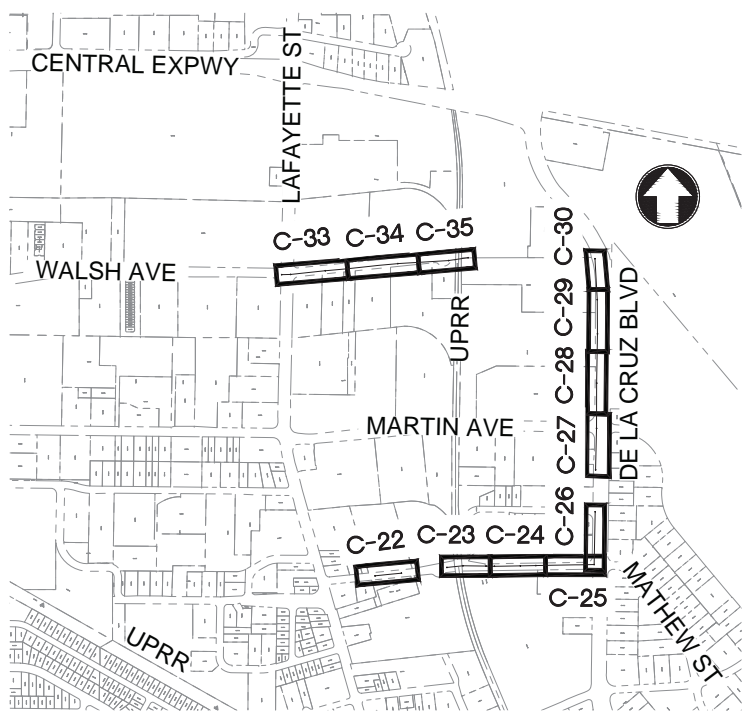
DESIGN DIVISION DATE: \_\_\_\_\_

**95% PLANS  
NOT FOR CONSTRUCTION**



ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS PROJECT - 2021 PROJECT	
PROJECT No. CE 202103	TRACING No. 12350-D
ACCOUNT No. XXXXXXXXXXXXXXXX	SHEET 1 OF 45

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**95% PLANS  
NOT FOR CONSTRUCTION**



**KEY MAP**  
N.T.S.

PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXXXXXX	
DATE	No.	REVISION

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

**ANNUAL SANITARY SEWER CONDITION  
ASSESSMENT REPAIRS - 2021 PROJECT**

KEY MAP

HORIZONTAL SCALE: N.T.S. VERTICAL SCALE: N.T.S.

APPROVED BY			
TITLE			
DATE			
DESIGNED BY	INITIAL	DATE	R.C.E. No.
DRAWN BY	KG		Survey No. N/A
CHECKED BY	OP		TRACING No. 12350-D
AS BUILT BY	TS		SHEET 2 OF 45

SHEET No. **G-02**



SHEET NO. 1 OF 4

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pct:\root-user-pw\jmm16500\jmm16500\16250103\16250-04.dwg  
User: jmm16500

**TRAFFIC CONTROL NOTES:**

- CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE TRAFFIC CONTROL PLANS FOR ALL PHASES OF WORK BASED ON THE LATEST CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND CALTRANS STANDARD PLANS. CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC CONTROL PLANS FULL IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL DEVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO MAINTAIN ALL TRAFFIC CONTROL DEVICES DURING CONSTRUCTION, AS REQUIRED BY THE CITY ENGINEER/INSPECTOR. A 24-HOUR "ON-CALL" TELEPHONE NUMBER SHALL ALSO BE PROVIDED TO THE CITY BY THE CONTRACTOR FOR SERVICES REQUIRED BEYOND NORMAL WORKDAY OPERATIONS.
- ACTUAL SIGN INSTALLATION LOCATIONS ARE TO BE DETERMINED IN THE FIELD. SIGN LOCATIONS SHALL BE APPROVED BY THE CITY ENGINEER/INSPECTOR PRIOR TO ANY INSTALLATION WORK.
- SIGNS SHALL BE INSTALLED/PLACED AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS AND AS DIRECTED BY THE CITY.
- CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SIGNS, STRIPING, AND/OR PAVEMENT MARKINGS THAT CONFLICT WITH THESE TRAFFIC CONTROL PLANS DURING CONSTRUCTION. REMOVAL OF ROADWAY STRIPING AND/OR PAVEMENT MARKINGS SHALL BE DONE IN ACCORDANCE WITH CURRENT CALTRANS AND CA MUTCD STANDARDS. SIGNS, STRIPING, AND/OR PAVEMENT MARKINGS SHALL BE RESTORED TO EXISTING CONDITIONS TO THE SATISFACTION OF THE CITY ENGINEER/INSPECTOR ONCE CONSTRUCTION IS COMPLETE.
- A MINIMUM OF ONE 10' WIDE TRAVEL LANE PER DIRECTION OF TRAVEL (UNLESS OTHERWISE NOTED ON PLANS) SHALL REMAIN OPEN AT ALL TIMES DURING CONSTRUCTION.
- TEMPORARY TRAFFIC CONTROL DEVICES SHALL MAINTAIN ACCESS TO FIRE HYDRANTS, BUILDING STANDPIPES AND OTHER EMERGENCY FACILITIES WITHIN THE CONSTRUCTION ZONE.
- ALL TRAFFIC CONTROL DEVICES (SIGNS, CHANNELIZERS, ETC.) SHALL BE RETROREFLECTIVE AND/OR ILLUMINATED DURING NIGHTTIME TRAFFIC CONTROL.
- CONTRACTOR SHALL DISPLAY ON ITS BARRICADES COMPANY NAME AND 24-HOUR EMERGENCY TELEPHONE NUMBER IN CASE OF EMERGENCY CALLOUTS.
- CONTRACTOR SHALL FURNISH, ERECT, AND MAINTAIN BARRICADES AND OTHER SAFETY MEASURES TO GIVE ADEQUATE PROTECTION TO THE PUBLIC AT ALL TIMES.
- THE PARKING OF ANY CONSTRUCTION-RELATED VEHICLES OR STORAGE OF ANY MATERIAL IS NOT ALLOWED ON A PUBLIC STREET OR SIDEWALK UNLESS APPROVED IN ADVANCE BY THE CITY ENGINEER.
- CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE ANY TRAFFIC STRIPING, PAVEMENT MARKINGS, PAVEMENT SURFACE, ETC. DAMAGED OR DESTROYED DURING CONSTRUCTION TO THE SATISFACTION OF THE CITY ENGINEER AT ITS SOLE EXPENSE.
- CONTRACTOR SHALL COORDINATE, FOR ANY ONGOING PROJECTS IN THE VICINITY OF THIS PROJECT, THE ROUTING OF PEDESTRIANS, VEHICLES, AND CONSTRUCTION TRUCKS WITH OTHER CONTRACTORS TO MINIMIZE PUBLIC INCONVENIENCE.
- SIDEWALKS AND TRAFFIC LANES SHALL REMAIN OPEN WHEN NO ACTIVITY IS PLANNED AND/OR BETWEEN SCHEDULED CLOSURES. SIDEWALKS AND TRAFFIC LANES SHALL BE OPENED AT THE END OF EACH WORKDAY.
- WHEN USED FOR VEHICULAR AND/OR PEDESTRIAN TRAFFIC CONTROL, STEEL PLATES SHALL BE INSTALLED FLUSH WITH ADJACENT GRADE.
- CONTRACTOR SHALL DETERMINE PROJECT PHASING AND ACTUAL DURATION OF EACH PHASE AND SHALL SUBMIT AN ACTIVITY DURATION TABLE TO THE CITY PUBLIC WORKS INSPECTOR PRIOR TO START OF CONSTRUCTION.
- AT THE END OF EACH WORK DAY THE CONTRACTOR SHALL BE RESPONSIBLE FOR BACKFILLING THE TRENCHES AND PLACING TRAFFIC-RATED STEEL PLATES TO REOPEN THE TRAFFIC LANES TO TRAFFIC DURING NON-WORK HOURS. STEEL PLATES SHALL BE INSTALLED FLUSH WITH ADJACENT GRADE TO PROVIDE SMOOTH AND SAFE DRIVING CONDITIONS.
- SANDBAGS AND/OR GRAVEL BAGS SHALL BE PLACED OVER THE BASE LEGS OF BARRICADE-MOUNTED SIGNS TO PREVENT ANY OVERTURNING.
- PROVIDE CONTINUOUS TEMPORARY ACCESS TO ALL SIDE STREETS, ALLEYS, DRIVEWAYS, BUS STOPS, AND PARKING LOTS.
- CONTRACTOR SHALL PREPARE PEDESTRIANS DETOUR PLANS WHEREVER THE SIDEWALK IS CLOSED DUE TO CONSTRUCTION.
- CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLAN OF ROADWAY CLOSURE FOR REVIEW AND APPROVAL PRIOR TO ANY CLOSURE AND CONSTRUCTION.
- BARRICADES SHALL BE INSTALLED AROUND EXCAVATED AREAS.
- SEE SHEET C-57 FOR ADDITIONAL TRAFFIC CONTROL NOTES.

**ARBORIST NOTES:**

**I. GENERAL**

- NO CUTTING OF ANY PART OF CITY TREES, INCLUDING ROOTS, SHALL BE DONE WITHOUT SECURING APPROVAL AND DIRECT SUPERVISION FROM THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY (408) 615-3080.
- NO CUTTING OF ANY PART OF PRIVATE TREES, INCLUDING ROOTS, SHALL BE DONE WITHOUT DIRECT SUPERVISION OF AN INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) CERTIFIED ARBORIST.
- WHEN CONSTRUCTION OCCURS WITHIN THE DRIP LINE OF EXISTING TREES, CONTRACTOR SHALL PILE THE SOIL ON THE SIDE AWAY FROM THE TREE. WHEN THIS IS NOT POSSIBLE, PLACE SOIL ON PLYWOOD, TARP, OR 4" - 5" THICK BED OF MULCH. THIS IS TO PREVENT CUTTING INTO THE SOIL SURFACE WHEN THE BACKHOE OR TRACTOR BLADE REFILLS THE TRENCH.
- REFILL OPEN TRENCHES QUICKLY WITHIN HOURS OF EXCAVATION WHEN THEY OCCUR WITHIN THE DRIP LINE OF EXISTING TREES. IF THIS IS NOT POSSIBLE AND THE WEATHER IS HOT, DRY, OR WINDY, CONTRACTOR MUST KEEP ROOT ENDS MOIST BY COVERING THEM WITH WET BURLAP. IF THE TEMPERATURE IS 80°F OR GREATER, THE BURLAP MUST BE INSPECTED EVERY HOUR, AND RE-WET AS NECESSARY TO MAINTAIN A CONSTANT COOL MOIST CONDITION. SMALL ROOTS CAN DRY OUT AND DIE IN 10-15 MINUTES. LARGER ROOTS CAN SUCCEUMB IN AN HOUR OR LESS UNDER UNFAVORABLE WEATHER CONDITIONS.
- WHEN ROOTS 2" OR LARGER ARE REQUIRED TO BE CUT, SHOVEL BY HAND NEAR THE ROOTS AND PRUNE THE ROOTS WITH AN INDUSTRY-APPROVED PRUNING TOOL. ROOTS THAT ARE ACCIDENTALLY BROKEN SHOULD BE PRUNED TWO INCHES FROM THE DAMAGED END. CRUSHED OR TORN ROOTS ARE MORE LIKELY TO ALLOW DECAY TO BEGIN. SHARPLY CUT ROOTS PRODUCE A FLUSH OF NEW ROOTS HELPING THE TREE TO RECOVER FROM ITS INJURY.
- CONTRACTOR SHALL NOTIFY THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY 72 HOURS IN ADVANCE OF ANY WORK REQUIRING DIGGING AROUND OR WITHIN THE DRIP LINE OF EXISTING TREES.
- A CLEAR SYSTEM OF FLAGGING MUST BE PROVIDED AROUND TREES WITHIN 20' OF THE PROPOSED GRADING. CONTRACTOR SHALL SECURE APPROVAL OF SUCH SYSTEM FROM THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY.
- MATERIALS, EQUIPMENT, TEMPORARY BUILDINGS, FUELS, PAINTS, AND OTHER CONSTRUCTION ITEMS SHALL NOT BE PLACED WITHIN THE DRIP LINE OF EXISTING TREES.
- FENCE ALL TREES TO BE RETAINED TO COMPLETELY ENCLOSE THE TREE PROTECTION ZONE PRIOR TO DEMOLITION, GRUBBING, OR GRADING. FENCING SHALL BE PLACED AT THE DRIP LINE OF EXISTING TREES OR, IF POSSIBLE, 1.5 TIMES THE RADIUS OF THE DRIP LINE OUT FROM THE TRUNK OF THE TREE. A WARNING SIGN SHALL BE PROMINENTLY DISPLAYED ON EACH FENCE. THE SIGN SHALL BE A MINIMUM OF 8.5"x11" AND CLEARLY STATE "WARNING - TREE PROTECTION ZONE THIS FENCE SHALL NOT BE REMOVED WITHOUT APPROVAL FROM THE CITY ARBORIST/PROJECT ARBORIST." FENCES SHALL BE 6-FOOT TALL CHAINLINK OR EQUIVALENT, AS APPROVED BY THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY. FENCES SHALL REMAIN UNTIL ALL GRADING AND CONSTRUCTION WORK IS COMPLETED. IN ADDITION, WRAP ALL TREES WITH STRAW WADDLE UP TO THE FIRST MAIN BRANCH, THEN WRAP SNOW FENCING AROUND THE WADDLE ON ALL TREES IN THE CONSTRUCTION ZONE TO PROTECT THEM FROM BARK DAMAGE CAUSED BY THE WORK.
- NO TRENCHING SHALL BE DONE WITHIN THE DRIP LINE OF EXISTING TREES WITHOUT THE APPROVAL OF THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY. OPEN TRENCHING IN THE ROOT ZONE OF A PUBLIC TREE IS PROHIBITED EXCEPT IN CASES WHERE THE TRENCHING FALLS OUTSIDE THE DRIP LINE OF THE TREE INVOLVED. EXCEPTIONS MAYBE ALLOWED IF, IN THE OPINION OF THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY, THE IMPACT OF TRENCHING ON THE TREE WILL BE NEGLIGIBLE.
- ANY CUTTING OF EXISTING ROOTS OF CITY TREES SHALL BE DONE WITH APPROVED LIGHT EQUIPMENT UNDER THE DIRECT SUPERVISION OF THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY. ANY CUTTING OF EXISTING ROOTS OF PRIVATE TREES SHALL BE DONE WITH APPROVED EQUIPMENT UNDER THE DIRECT SUPERVISION OF AN ISA-CERTIFIED ARBORIST.
- GRADING SHOULD NOT CREATE DRAINAGE PROBLEMS FOR TREES BY CHANNELING WATER INTO THEM, OR CREATING SUNKEN AREAS.
- ALL GRADING WITHIN THE DRIP LINE OF CITY TREES SHALL BE DONE WITH APPROVED LIGHT EQUIPMENT UNDER THE DIRECT SUPERVISION OF THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY. ALL GRADING WITHIN THE DRIP LINE OF PRIVATE TREES SHALL BE DONE WITH APPROVED EQUIPMENT UNDER THE DIRECT SUPERVISION OF AN ISA-CERTIFIED ARBORIST. THE ORIGINAL GRADE AT THE BASE OF EXISTING TREES SHALL NOT BE MODIFIED. IF A GRADE INCREASE IS NECESSARY, DRY WELLS SHOULD BE USED.
- WHEN TRENCHING IS ALLOWED WITHIN THE DRIPLINE OF EXISTING TREES, THE CONTRACTOR MUST FIRST CUT ROOTS WITH A VERMEER ROOT CUTTER PRIOR TO ANY TRENCHING TO AVOID TUGGING OR PULLING OF ROOTS.
- TREES THAT ARE DETERMINED TO BE REMOVED BY THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY DUE TO AN UNFORESEEN CIRCUMSTANCE DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR. THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY SHALL DETERMINE THE REPLACEMENT SPECIES, SIZE, QUANTITY, AND SPACING.
- PLACE 4"-5" THICK MULCH AROUND ALL EXISTING TREES (OUT TO THEIR DRIP LINE) THAT ARE TO BE RETAINED PRIOR TO ANY CONSTRUCTION. THIS WILL HELP MAINTAIN MOISTURE UNDER THE TREE WITHIN THE FENCING AREA.
- BORE PITS ARE NOT ALLOWED WITHIN THE DRIP LINE OF ANY TREE.

**II. BORING (NOT USED)**

**III. TREE PROTECTION**

- CONTRACTOR SHALL TAG AND IDENTIFY EXISTING TREES WHICH ARE TO REMAIN WITHIN THE PROJECT LIMITS AND ON THE PUBLIC RIGHT-OF-WAY PRIOR TO START OF WORK. PROTECT ALL TAGGED TREES AT ALL TIMES FROM DAMAGE BY THE WORK. TREATMENT OF ALL MINOR DAMAGE TO TAGGED TREES SHALL BE PERFORMED BY ISA-CERTIFIED ARBORIST OR OTHER PERSONNEL APPROVED BY THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY. IF A TAGGED TREE IS PERMANENTLY DISFIGURED OR KILLED AS A RESULT OF THE WORK, CONTRACTOR SHALL REMOVE THE TREE, INCLUDING ITS ROOTS, FROM THE SITE AND REPLACE EACH REMOVED TREE WITH AN EQUAL-SIZED TREE. IF SUCH REPLACEMENT IS NOT POSSIBLE, THE CONTRACTOR SHALL REIMBURSE TO THE TREE OWNER THE AMOUNT LISTED IN THE TABLE BELOW. THE CITY ARBORIST OR ARBORIST EMPLOYED BY CITY SHALL BE THE SOLE JUDGE OF THE CONDITION OF ANY TREE. CONTRACTOR SHALL PROVIDE REGULAR WATERING OF EXISTING LANDSCAPING WITHIN THE CONSTRUCTION AREA THROUGH THE CONSTRUCTION PERIOD.
- CONTRACTOR SHALL PAY THE TREE OWNER THE VALUE OF EXISTING TREES TO REMAIN THAT DIED OR WERE DAMAGED BECAUSE OF THE CONTRACTOR'S FAILURE TO PROVIDE ADEQUATE PROTECTION AND MAINTENANCE. THE PAYMENT AMOUNT SHALL BE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE OF VALUES, USING "TREE CALIPER" METHOD ESTABLISHED IN THE MOST RECENT ISSUE OF THE "GUIDE FOR ESTABLISHING VALUES OF TREES AND OTHER PLANTS," PREPARED BY THE COUNCIL OF TREE AND LANDSCAPE ARCHITECTS.

7 INCHES	2,400	14 INCHES	9,200
8 INCHES	3,400	15 INCHES	10,000
9 INCHES	4,400	16 INCHES	11,000
10 INCHES	5,200	17 INCHES	12,000
11 INCHES	6,200		
12 INCHES	7,200		
13 INCHES	8,200		
		18 INCHES AND OVER:	\$ 1,200
		ADD FOR EACH CALIPER INCH	

SHEET NO. **G-04**

**95% PLANS  
NOT FOR CONSTRUCTION**



PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXXXXXX	
DATE	No.	REVISION

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT

**TRAFFIC & ARBORIST NOTES**

HORIZONTAL SCALE: NTS VERTICAL SCALE: NTS

APPROVED BY	TITLE
DATE	R.C.E. No.
DESIGNED BY	INITIAL
DRAWN BY	DATE
CHECKED BY	Survey No.
AS BUILT BY	TRACING No.
	<b>12350-D</b>
	SHEET 4 OF 45

**PIPE SEGMENT ESTIMATED FLOW INFORMATION**

SEGMENT #	EXISTING PIPE DIAMETER (IN)	EXISTING PIPE MATERIAL	ESTIMATED AVERAGE DRY WEATHER FLOW (MGD)	ESTIMATED PEAK DRY WEATHER FLOW (MGD)	ESTIMATED MAX WET WEATHER FLOW (MGD)	PIPE PEAK FLOW CAPACITY (MGD)
31	15	VCP	0.19	0.71	1.26	3.53
45	15	VCP	0.19	0.71	1.26	3.30
77	15	VCP	0.23	0.29	0.34	3.05
80	15	VCP	0.23	0.29	0.34	2.41
85	15	VCP	0.23	0.30	0.34	2.45
86	15	VCP	0.25	0.32	0.37	2.24
91	15	VCP	0.25	0.32	0.38	2.30
95	15	VCP	0.26	0.47	0.87	2.05
96	18	VCP	0.31	0.74	1.18	5.40
100	18	VCP	0.32	1.05	1.53	4.52
101	18	VCP	0.32	1.05	1.52	4.21
109	18	VCP	0.32	1.05	1.53	4.48
112	15	VCP	0.32	1.05	1.53	4.48
115	15	VCP	0.25	0.32	0.38	2.28
120	24	RCP	0.53	1.99	3.64	7.79
122	24	RCP	0.52	1.90	3.31	8.05
130	24	RCP	0.45	1.82	3.21	9.06
132	24	RCP	1.06	2.52	4.21	6.15
134	24	RCP	1.06	2.52	4.22	8.61
136	24	RCP	0.53	1.99	3.64	6.49
202-WEST	24	VCP	0.71	1.21	3.47	44.86
202-CENTER	18	VCP	0.80	1.40	4.34	46.73
202-EAST	24	VCP	0.71	1.21	3.44	45.05
203	30	RCP	4.63	10.74	11.04	11.66
204	30	RCP	4.63	10.74	11.05	10.79
205	30	RCP	4.63	10.75	11.06	8.80
208	33	RCP	3.73	11.24	12.04	16.94
209	33	VCP	3.73	10.99	11.63	10.56
210	33	RCP	3.73	10.88	11.50	10.51
211	33	RCP	3.73	10.82	11.43	10.57
212	33	RCP	3.73	10.82	11.41	10.53
213	33	RCP	3.73	10.80	11.41	29.51
223	42	RCP	3.27	14.79	19.31	10.84
224	42	RCP	3.27	14.78	19.31	22.01
225	42	RCP	3.27	14.78	19.3	21.49
226	42	RCP	3.27	16.01	20.44	22.04
227	42	RCP	3.28	10.36	20.55	21.62
228	15	VCP	0.07	0.44	0.55	1.75
231	42	RCP	4.12	18.19	21.49	28.36
232	42	RCP	4.12	18.19	21.49	25.94
233	42	RCP	4.12	18.19	21.49	26.52
234	42	RCP	4.12	18.02	21.32	26.60
235	42	RCP	SEE NOTE 7	SEE NOTE 7	SEE NOTE 7	SEE NOTE 7
240	42	RCP	6.37	18.12	22.04	25.19
241	42	RCP	6.37	18.13	22.05	24.73
242	42	RCP	6.37	18.13	22.05	24.37

**NOTES:**

1. THE TABLE ON THE LEFT PRESENTS FLOW ESTIMATE DATA TAKEN FROM THE CITY OF SANTA CLARA'S SEWER SYSTEM MODEL AND IS PRESENTED FOR THE CONTRACTOR'S REFERENCE IN PREPARING BYPASS PUMPING PLANS FOR EACH SEWER SEGMENT DESIGNATED FOR REHABILITATION UNDER THIS CONTRACT.
2. AT A MINIMUM, BYPASS PUMPING SYSTEMS SHALL INCLUDE A PRIMARY PUMP AND A BACKUP STANDBY PUMP, EACH SIZED TO HANDLE THE ESTIMATED PEAK DRY WEATHER FLOW WHEN SEWER BYPASSING OCCURS BETWEEN MAY 1ST AND SEPTEMBER 30TH. FOR SEWAGE BYPASSING WHICH OCCURS BETWEEN OCTOBER 1ST AND APRIL 30TH, THE TOTAL COMBINED INSTALLED BYPASS PUMPING CAPACITY SHALL BE EQUAL OR EXCEED THE ESTIMATED MAX WET WEATHER FLOW.
3. FOR ALL SEWER SEGMENTS 12-INCHES AND LARGER IN DIAMETER, THE BACKUP STANDBY PUMP AND ITS DRIVER SHALL BE INSTALLED AND IMMEDIATELY READY TO OPERATE IN THE CASE OF A FAILURE OR INABILITY OF THE PRIMARY PUMP TO PASS FLOWS WITHOUT CAUSING SURCHARGING OF THE SEWER LINES UPSTREAM OF THE SECTION OF SEWER BEING BYPASSED.
4. SEWAGE BYPASS LINES FOR SEWER SEGMENTS 12-INCHES AND LARGER SHALL BE RIGID PIPE OR HARD SUCTION HOSE. ALL BYPASSING LINES SHALL BE LEAK FREE. HOSES WILL NOT BE PERMITTED WHERE VEHICLES CAN CROSS OVER THE BYPASS LINES. PROVIDE DRIVEWAY APRON RAMP SECTIONS WHERE BYPASS LINES CROSS IN FRONT OF ANY ACCESSWAY TO A PROPERTY. BYPASS LINES PASSING ACROSS STREETS AND INTERSECTIONS WHICH CANNOT BE DETOURED ARE TO BE INSTALLED IN SLIT TRENCHES.
5. REFER TO TECHNICAL SPECIFICATION SECTION 03220 SEWAGE FLOW CONTROL, FOR BYPASS PUMPING PLAN SUBMITTAL REQUIREMENTS AND FOR MINIMUM EQUIPMENT REQUIREMENTS PERTAINING TO SEWAGE BYPASSING.
6. REFER TO NOTES ON THE INDIVIDUAL PLAN OVER PROFILE SHEETS RELATING TO SITE SPECIFIC REQUIREMENTS, RESTRICTIONS, AND RELATED DATA WHICH ARE TO BE REFLECTED IN THE BYPASS PUMPING SYSTEMS TO BE EMPLOYED AT EACH SITE.
7. FLOW INFORMATION NOT INCLUDED IN CITY OF SANTA CLARA'S SEWER MODEL. CONTRACTOR SHALL USE OWN CALCULATIONS TO ESTIMATE BYPASS NEEDS BASED ON PIPE SEGMENT'S PIPE DIAMETER AND SLOPE, AND SHALL BE CAPABLE OF HANDLING EXISTING FLOWS PLUS ADDITIONAL WET WEATHER FLOW. FOR BIDDING PURPOSES, CONTRACTOR SHALL ASSUME THEY WILL NEED SUFFICIENT BYPASSING CAPACITY (INSTALLED AND STANDBY) TO HANDLE THE PIPE'S FULL CAPACITY. CONTRACTOR CAN ALSO USE AVAILABLE DATA FROM PIPES WITHIN THREE (3) DOWNSTREAM SEGMENTS OF PIPE THAT DOES NOT HAVE FLOW INFORMATION.

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 User: | C-ITB

**95% PLANS  
NOT FOR CONSTRUCTION**



PROJECT No. <b>CE</b> 202103	
ACCOUNT No. XXXXXXXXXXXXXXXX	
DATE	REVISION

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

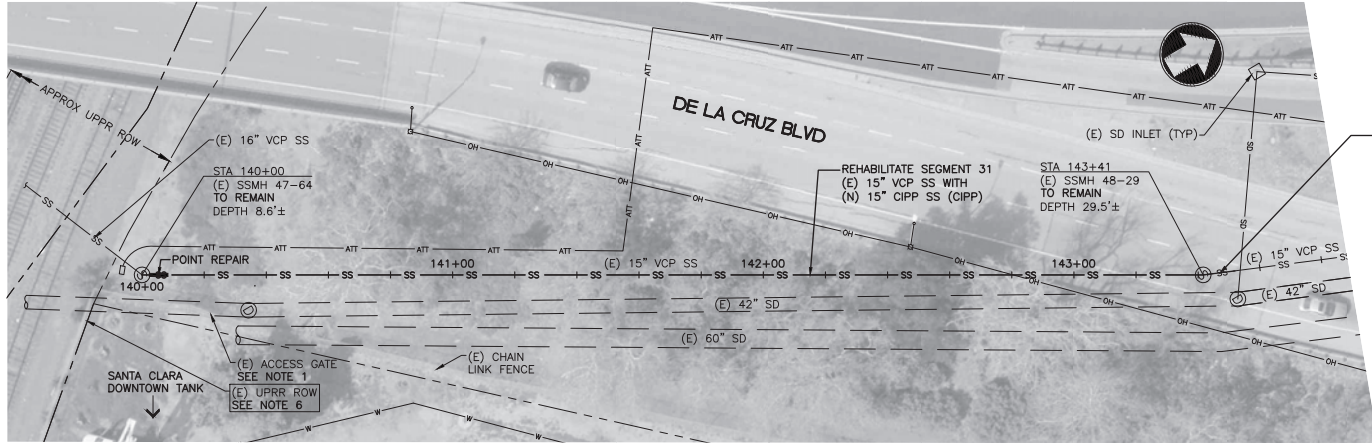
**ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT**

**PIPE SEG. FLOW INFORMATION**

HORIZONTAL SCALE: NTS VERTICAL SCALE: NTS

APPROVED BY			
TITLE			
DATE	INITIAL	DATE	R.C.E. No.
DESIGNED BY	KG		Survey No. <b>N/A</b>
DRAWN BY	OP		<b>12350-D</b>
CHECKED BY	TS		
AS BUILT BY			SHEET 5 OF 45

SHEET No. **G-05**



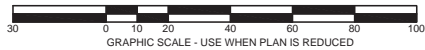
PLAN  
SCALE: 1"=20'

NOTES:

1. SSMH 47-64 ACCESSIBLE FROM 351 BROKAW RD.
2. ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
3. CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
4. CONTRACTOR SHALL USE FLEXIBLE REPAIR COUPLING TO CONNECT TO EXISTING SANITARY SEWER TO REMAIN.
5. CONTRACTOR SHALL REPLACE IN KIND ANY CURB, CURB RAMPS, SIDEWALK, OR PAVERS DAMAGED DURING CONSTRUCTION. REPLACEMENT COSTS SHALL BE INCLUDED IN THE COST OF THE POINT REPAIR.
6. NO ENTRY ONTO UPRR ROW WILL BE ALLOWED. CONTRACTOR MUST KEEP ALL WORK EQUIPMENT AND MATERIALS OUT OF UPRR ROW.
7. BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 47-64 TO MH 48-29 LOCATED ADJACENT TO AND EAST OF EXISTING SEWER LINE, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.

FOR PIPE PROFILE, SEE SHEET C-14.1

**95% PLANS  
NOT FOR CONSTRUCTION**



PROJECT No. <b>CE</b> 202103			
ACCOUNT No. XXXXXXXXXXXXXXX			
DATE	No.	REVISION	BY

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT

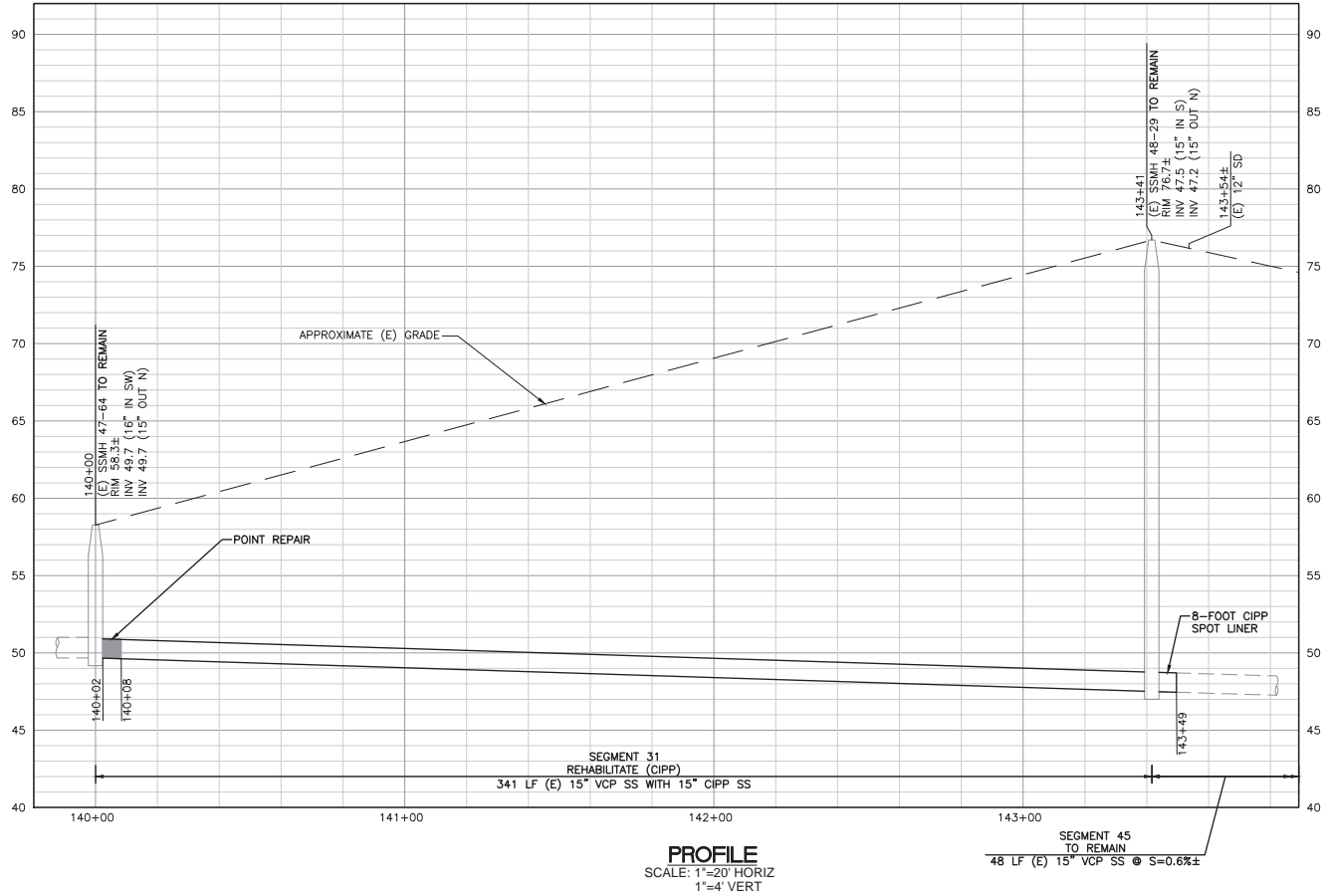
SEG 31, 45 - DE LA CRUZ BLVD (1)

HORIZONTAL SCALE: 1"=20" VERTICAL SCALE: 1"=4'

APPROVED BY			
TITLE			
DATE	INITIAL	DATE	R.C.E. No.
			N/A
DESIGNED BY	PR/KG	TRACING No.	
DRAWN BY	DS		
CHECKED BY	TS		
AS BUILT BY			
			SHEET 6 OF 45

SHEET No.  
**C-14 (ALT. 3)**

12350-D



PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXXXX	
DATE	No.	REVISION

**CITY OF SANTA CLARA**  
 PUBLIC WORKS DEPARTMENT

ANNUAL SANITARY SEWER CONDITION  
 ASSESSMENT REPAIRS - 2021 PROJECT

SEG 31, 45 - DE LA CRUZ BLVD (1)

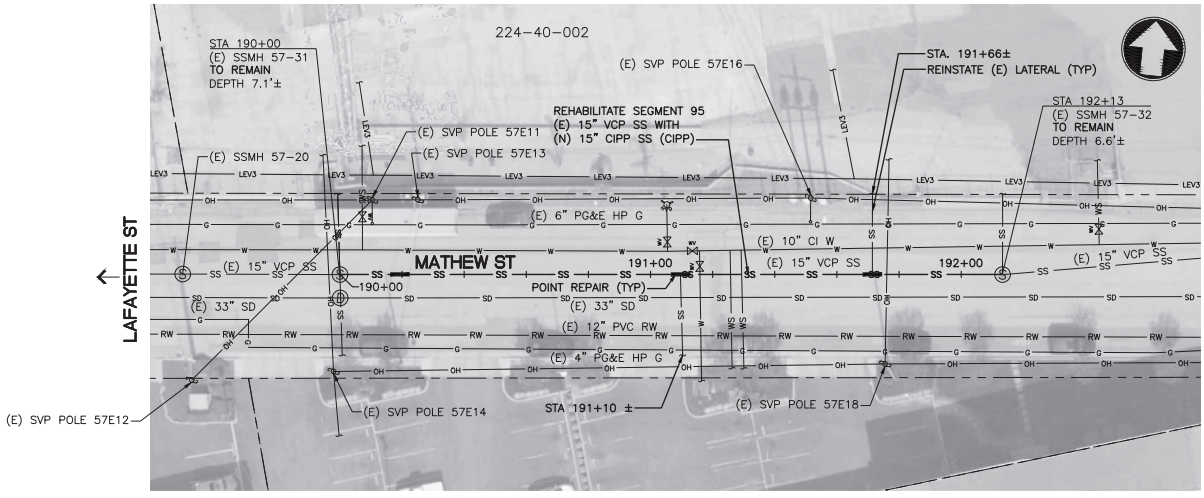
HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'

APPROVED BY			
TITLE			
DATE	INITIAL	DATE	R.C.E. No.
	PR/KG		Survey No. N/A
DESIGNED BY	PR/KG	TRACING No.	
DRAWN BY	DS	12350-D	
CHECKED BY	TS		
AS BUILT BY		SHEET 7 OF 45	

SHEET No.  
**C-14.1 (ALT. 3)**

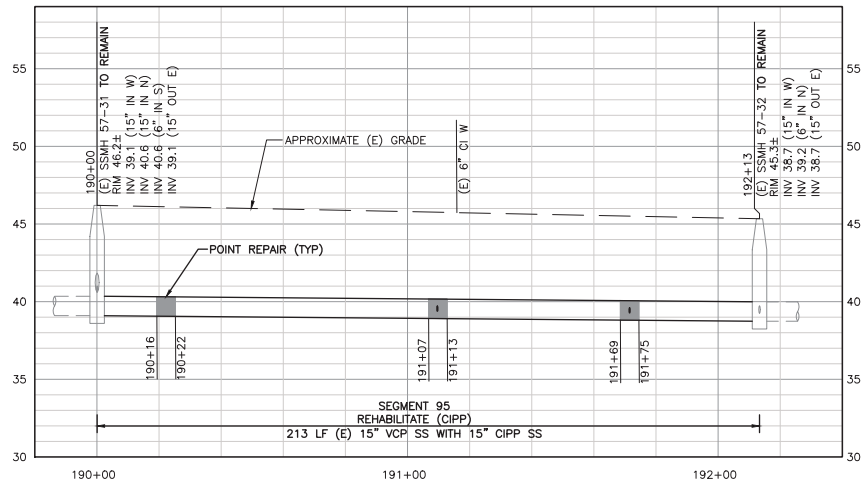
**95% PLANS**  
**NOT FOR CONSTRUCTION**

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**PLAN**  
SCALE: 1"=20'

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - CONTRACTOR SHALL USE FLEXIBLE REPAIR COUPLING TO CONNECT TO EXISTING SANITARY SEWER TO REMAIN.
  - CONTRACTOR SHALL REPLACE IN KIND ANY CURB, CURB RAMPS, SIDEWALK, OR PAVERS DAMAGED DURING CONSTRUCTION. REPLACEMENT COSTS SHALL BE INCLUDED IN THE COST OF THE POINT REPAIR.
  - BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 57-20 TO MH 57-32 LOCATED ADJACENT TO AND SOUTH OF EXISTING SEWER LINE, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.



**PROFILE**  
SCALE: 1"=20' HORIZ  
1"=4' VERT

**95% PLANS**  
**NOT FOR CONSTRUCTION**



PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXXXX	
DATE	No.	REVISION

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

**ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT**

**SEGMENT 95 - MATHEW ST**

HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'

APPROVED BY			
TITLE			
DATE	INITIAL	DATE	R.C.E. No.
DESIGNED BY	PR/KG	TRACING No.	N/A
DRAWN BY	DS	<b>12350-D</b>	
CHECKED BY	TS		
AS BUILT BY			

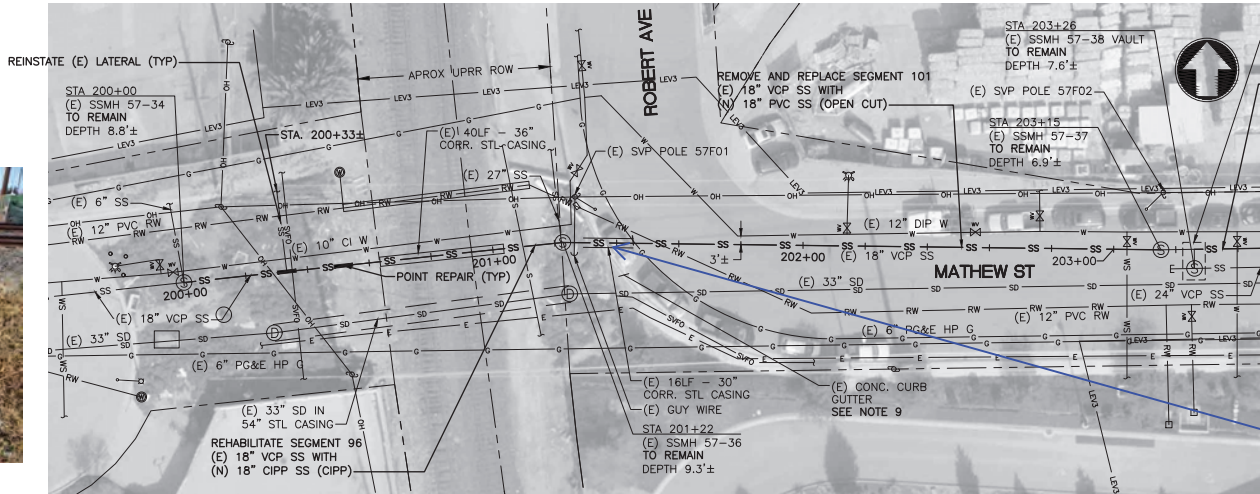
SHEET No.  
**C-22 (ALT. 1)**

SOS: HSE/ENR-1, PLS/SCALE-1, US/SCALE-1

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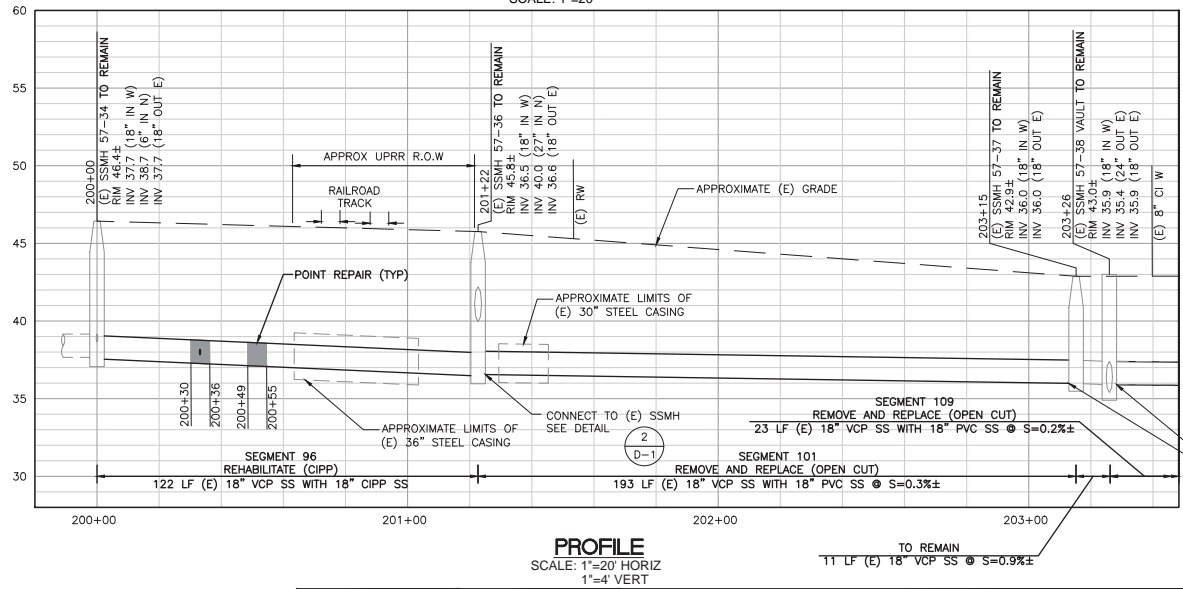


**A**  
C-23  
MH 57-36 GROUND SURFACE



**PLAN**  
SCALE: 1"=20'

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - CONTRACTOR SHALL USE FLEXIBLE REPAIR COUPLING TO CONNECT TO EXISTING SANITARY SEWER TO REMAIN.
  - CONTRACTOR SHALL REPLACE IN KIND ANY CURB, CURB RAMPS, SIDEWALK, OR PAVERS DAMAGED DURING CONSTRUCTION. REPLACEMENT COSTS SHALL BE INCLUDED IN THE COST OF THE POINT REPAIR.
  - THE PROPOSED POINT REPAIRS ON SEGMENT 96 ARE WITHIN CLOSE PROXIMITY TO THE ADJACENT 10" CI WATER MAIN AND PROPOSED OPEN CUT REPLACEMENT OF SEGMENT 101 IS WITHIN CLOSE PROXIMITY TO ADJACENT 12" DIP WATER MAIN. CONTRACTOR SHALL BE REQUIRED TO COORDINATE THEIR CONSTRUCTION SCHEDULE WITH THE CITY OF SANTA CLARA WATER DEPARTMENT. CONTRACTOR IS ADVISED THAT SUPERVISION OF THE WORK BY THE CITY WATER DEPARTMENT OR A TEMPORARY SHUT DOWN OF THE WATER MAINS MAY BE REQUIRED.
  - CONTRACTOR SHALL POST TEMPORARY "NO PARKING" SIGNS ALONG STREET FRONTAGE, WHERE APPLICABLE, A MINIMUM 48 HOURS PRIOR TO COMMENCEMENT OF WORK AND SHALL NOTIFY THE POLICE DEPARTMENT. SIGNS SHALL STATE DAYS AND HOURS WHEN RESTRICTIONS ARE IN EFFECT.
  - ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTY ACCESS. ACCESS TO ALL AFFECTED PROPERTIES SHALL BE MAINTAINED OPEN DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.
  - FOR SEGMENT 96, SEE SHEET C-60 FOR SUGGESTED BYPASS PLAN AND SHEET C-61 FOR FLOW INFORMATION OF PARALLEL SANITARY SEWER LINES.
  - FOR SEGMENT 101, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 57-36 TO MH 57-38 LOCATED ADJACENT TO NORTH CURB LINE OF MATHEW STREET AND MAY BE LOCATED IN BYPASS TRENCH WHEN CROSSING ROBERT AVENUE, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.
  - FOR SEGMENT 109, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 57-37 TO MH 57-38 AND DIVERTING FLOW TO ADJACENT 24-INCH VCP SEWER, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SEE DETAIL-1 ON SHEET C-60 FOR AS-BUILT SCHEMATIC DRAWING OF MH 57-38 VAULT. SEE SHEET C-61 FOR FLOW INFORMATION OF PARALLEL SANITARY SEWER LINES.
  - CONTRACTOR TO REPLACE CURB GUTTER IN KIND BETWEEN (E) NEAREST CONSTRUCTION JOINTS IF DISTURBED. COST TO REPLACE DISTURBED CURB GUTTER SHALL BE INCLUDED IN COSTS TO COMPLETE OPEN CUT INSTALLATION AND NO SEPARATE PAYMENT SHALL BE MADE. REFER TO CITY STANDARD DETAIL ST-11.



**PROFILE**  
SCALE: 1"=20' HORIZ  
1"=4' VERT

APPROX. VAULT LIMITS  
 REMOVE AND REPLACE SEGMENT 109  
 (E) 18" VCP SS WITH  
 (N) 18" PVC SS (OPEN CUT)

MATCH LINE STA 203+49  
 SEE SHEET C-24

**NOTE TO CITY SANTA CLARA REVIEWER:**

We believe this (E) 16 LF of 30" casing was for a railroad spur track that has been demolished. As such, we are not calling for this casing to be reinstated.

Does the City have any reason for the casing to be reinstated?

MATCH LINE STA 203+49  
 SEE SHEET C-24

CONNECT TO (E) SSMH/VAULT SEE DETAIL 2 D-1

**95% PLANS**  
**NOT FOR CONSTRUCTION**



PROJECT No. CE 202103	
ACCOUNT No. XXXXXXXXXXXXXXX	
DATE	BY

**CITY OF SANTA CLARA**  
 PUBLIC WORKS DEPARTMENT  
 ANNUAL SANITARY SEWER CONDITION  
 ASSESSMENT REPAIRS - 2021 PROJECT  
 SEGMENT 96, 101, 109 - MATHEW ST (1)

APPROVED BY		TITLE	
DATE	R.C.E. No.		
DESIGNED BY PRR/KG	DATE	Survey No.	N/A
DRAWN BY DS		TRACING No.	12350-D
CHECKED BY TS			
AS BUILT BY		SHEET 9	OF 45

SHEET No.  
**C-23 (ALT. 1)**

SOS: HSECMH-1, PLSSCALE=1, USSCALE=1

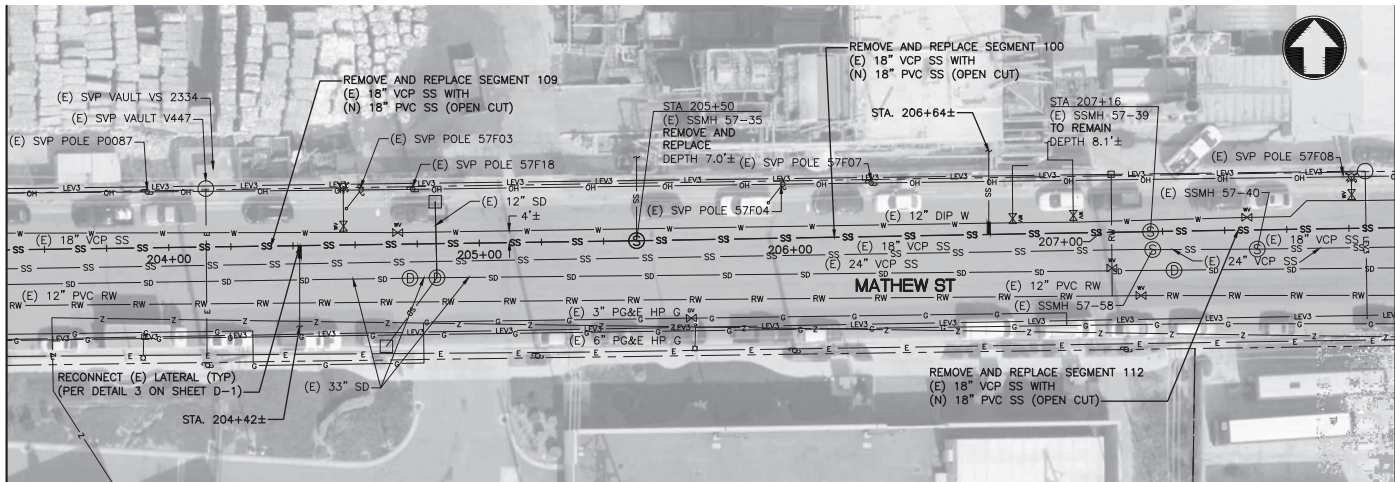
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- NOTES:
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - FOR CLEARANCES LESS THAN 12", REFER TO CITY STANDARD DETAIL M-4.
  - CONTRACTOR SHALL POST TEMPORARY "NO PARKING" SIGNS ALONG STREET FRONTAGE, WHERE APPLICABLE, A MINIMUM 48 HOURS PRIOR TO COMMENCEMENT OF WORK AND SHALL NOTIFY THE POLICE DEPARTMENT. SIGNS SHALL STATE DAYS AND HOURS WHEN RESTRICTIONS ARE IN EFFECT.
  - ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTY ACCESS. ACCESS TO ALL AFFECTED PROPERTIES SHALL BE MAINTAINED OPEN DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.
  - FOR SEGMENT 109, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 57-37 TO MH 57-38 AND DIVERTING FLOW TO ADJACENT 24-INCH VCP SEWER, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SEE DETAIL-1 ON SHEET C-60 FOR AS-BUILT SCHEMATIC DRAWING OF MH 57-38 VAULT. SEE SHEET C-61 FOR FLOW INFORMATION OF PARALLEL SANITARY SEWER LINES.
  - FOR SEGMENT 100, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 57-35 TO MH 57-39 ALONG NORTHERN CURB LINE OF MATHEW STREET, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.
  - FOR SEGMENT 112, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 57-58, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SEE SHEET C-61 FOR FLOW INFORMATION OF PARALLEL SANITARY SEWER LINES. CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION METHOD SUCH AS OPEN CUTTING.

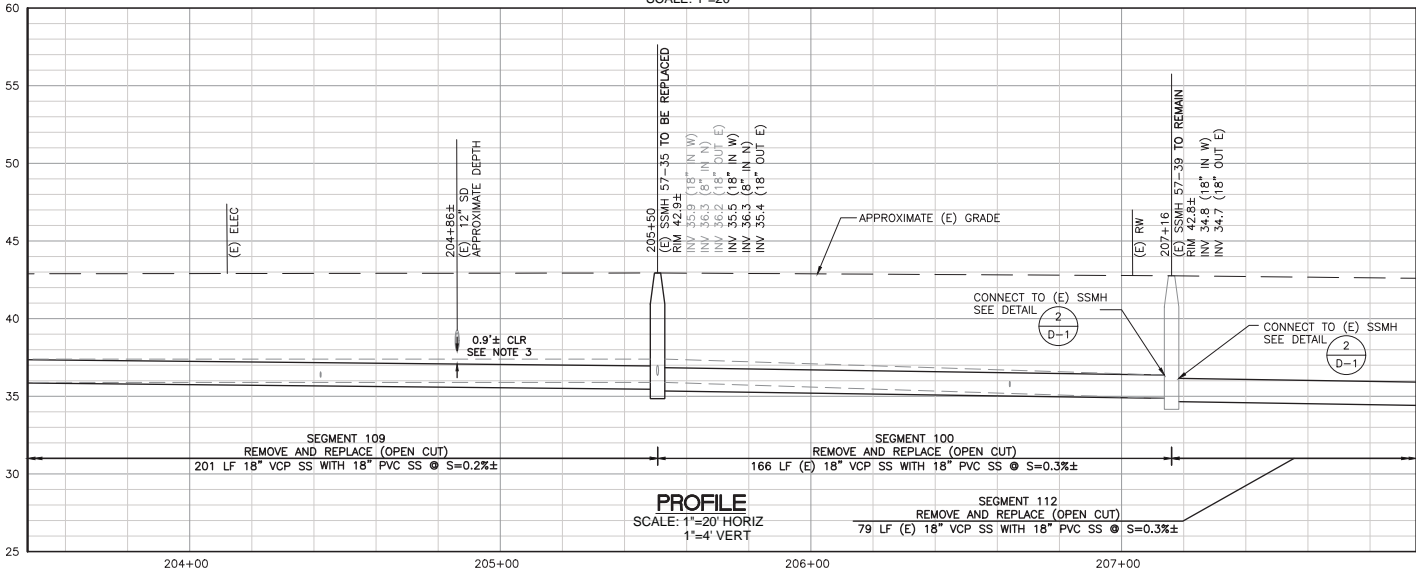
MATCH LINE STA 203+49 SEE SHEET C-23



MATCH LINE STA 207+95 SEE SHEET C-25

PLAN SCALE: 1"=20'

MATCH LINE STA 203+49 SEE SHEET C-23



MATCH LINE STA 207+95 SEE SHEET C-25

PROFILE SCALE: 1"=20' HORIZ 1"=4' VERT

**95% PLANS**  
**NOT FOR CONSTRUCTION**



PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXX	
DATE	No.	REVISION
		BY

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT

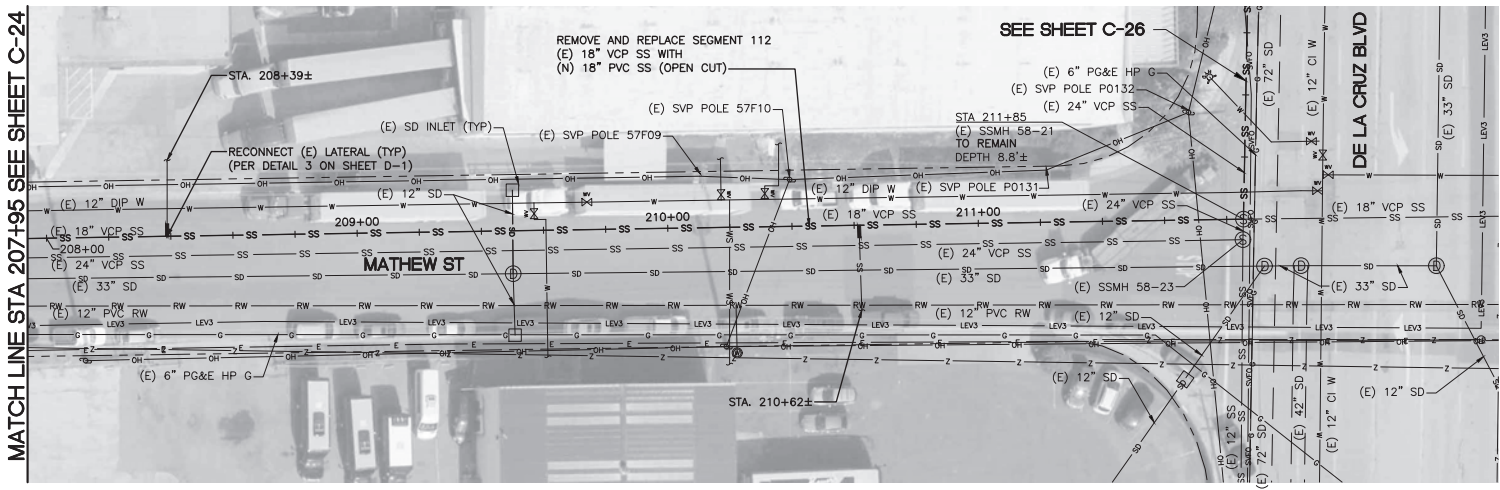
SEG 109, 100, 112 - MATHEW ST (2)

HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'

APPROVED BY	TITLE	
DATE	INITIAL	DATE
R.C.E. No.	Survey No. N/A	
DESIGNED BY	PR/KG	TRACING No.
DRAWN BY	DS	12350-D
CHECKED BY	TS	
AS BUILT BY	SHEET 10 OF 45	

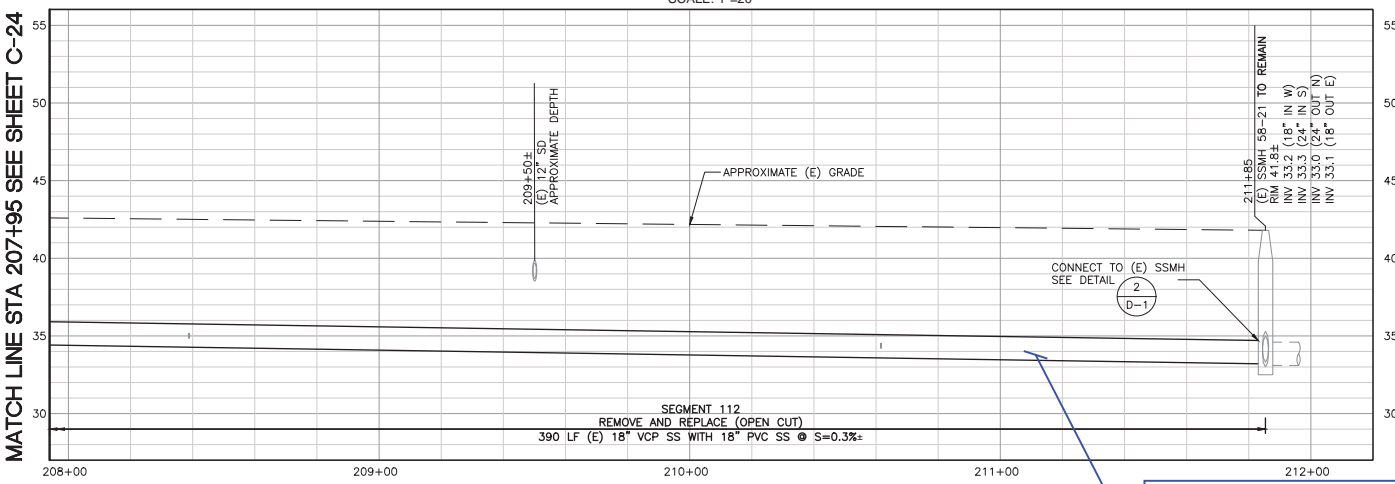
SHEET No. C-24 (ALT. 1)

Date: Aug 06, 2021, 1:47pm by: PWR16580  
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 User: jgm16580



**PLAN**  
SCALE: 1"=20'

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - CONTRACTOR SHALL POST TEMPORARY "NO PARKING" SIGNS ALONG STREET FRONTAGE, WHERE APPLICABLE, A MINIMUM 48 HOURS PRIOR TO COMMENCEMENT OF WORK AND SHALL NOTIFY THE POLICE DEPARTMENT. SIGNS SHALL STATE DAYS AND HOURS WHEN RESTRICTIONS ARE IN EFFECT.
  - ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTY ACCESS. ACCESS TO ALL AFFECTED PROPERTIES SHALL BE MAINTAINED OPEN DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.
  - BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 57-39 TO MH 57-58, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SEE SHEET C-61 FOR FLOW INFORMATION OF PARALLEL SANITARY SEWER LINES.



**PROFILE**  
SCALE: 1"=20' HORIZ  
1"=4' VERT

**NOTE TO CITY SANTA CLARA REVIEWER:**  
Length of Segment 112 from MH to MH is **469 LF**.  
Does the City want an intermediate manhole installed?

SHEET No.  
**C-25 (ALT. 1)**

**95% PLANS**  
**NOT FOR CONSTRUCTION**

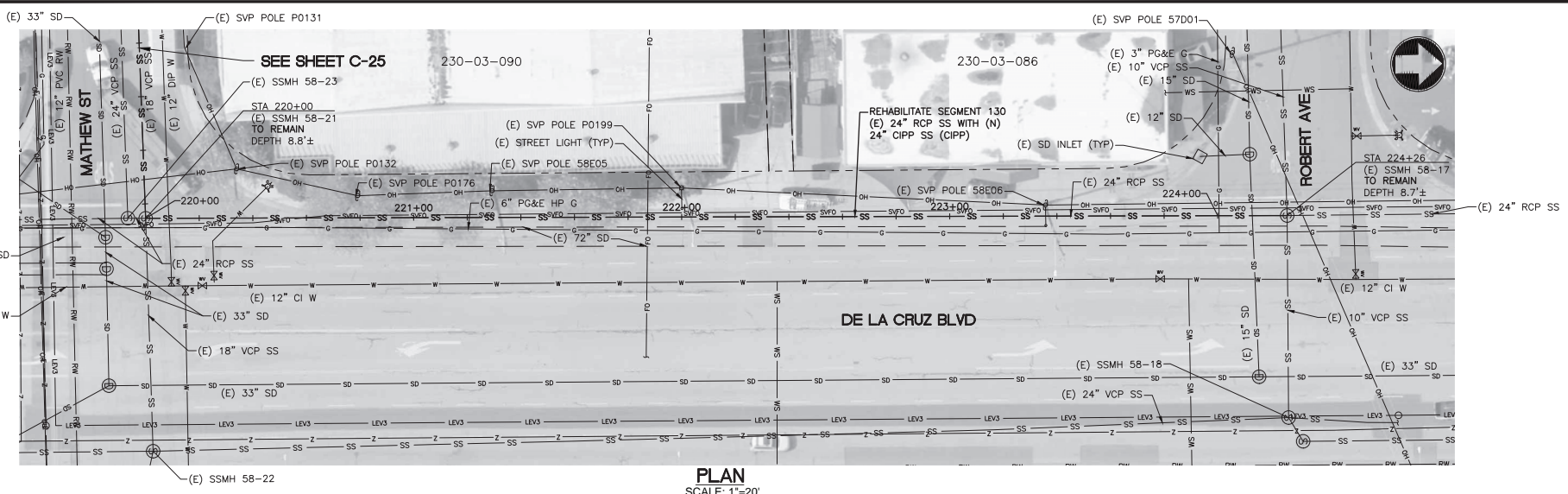


PROJECT No. <b>CE</b> 202103	
ACCOUNT No. XXXXXXXXXXXXXXXX	
DATE	REVISION

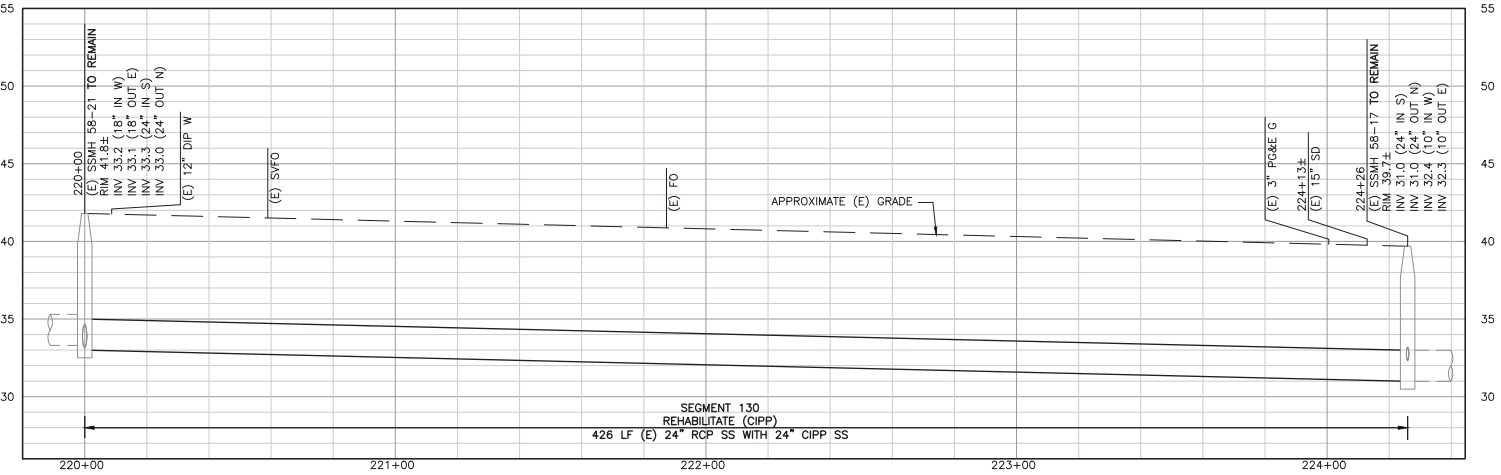
**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
ANNUAL SANITARY SEWER CONDITION  
ASSESSMENT REPAIRS - 2021 PROJECT  
SEG 101, 109, 100 - MATHEW ST (3)

APPROVED BY		TITLE	
DATE	R.C.E. No.	Survey No. N/A	
DESIGNED BY PR/KG	DATE	TRACING No.	
DRAWN BY DS		<b>12350-D</b>	
CHECKED BY TS			
AS BUILT BY		SHEET 11 OF 45	

Plotfile: Aug 06, 2021, 1:49pm by PWR16590  
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**PLAN**  
SCALE: 1"=20'



**PROFILE**  
SCALE: 1"=20' HORIZ  
1"=4' VERT

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ALONG THE WESTERN CURB LINE OF DE LA CRUZ BOULEVARD AND IN A BYPASS TRENCH WHEN CROSSING ROBERT AVENUE FROM MH 58-21 TO MH 58-14, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. REFER TO SHEET C-27 FOR LOCATION OF MH 58-14.

**95% PLANS**  
**NOT FOR CONSTRUCTION**



PROJECT No. <b>CE</b> 202103	
ACCOUNT No. XXXXXXXXXXXXXXX	
DATE	REVISION

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

**ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT**

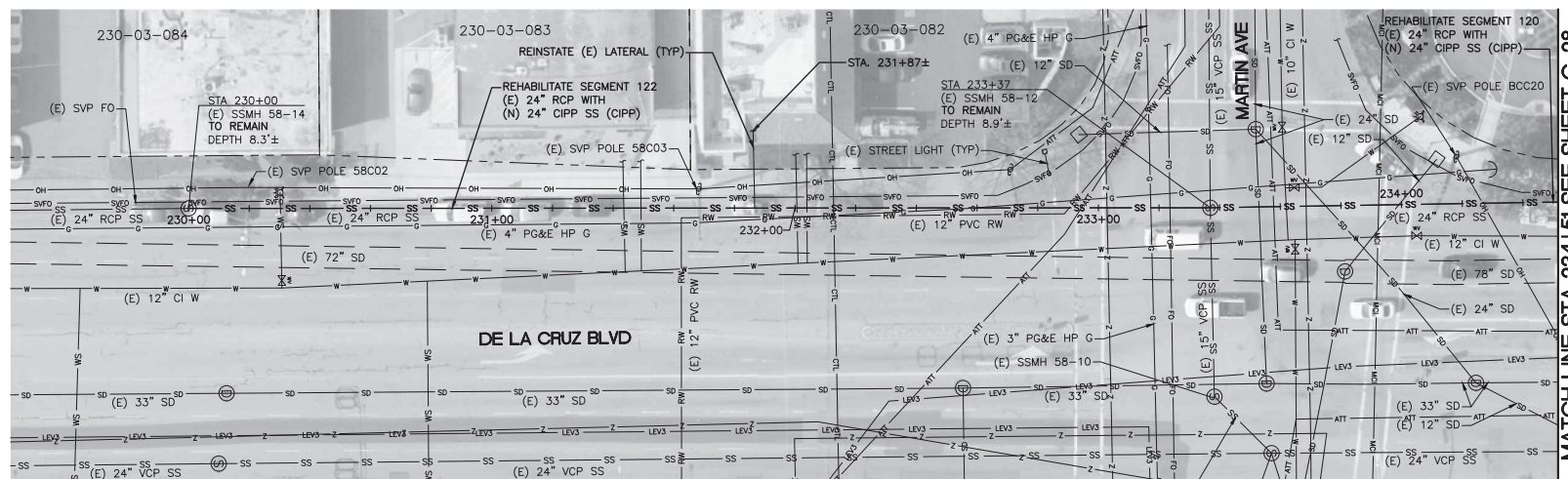
**DE LA CRUZ BLVD (1)**

HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'

APPROVED BY		TITLE	
DATE	R.C.E. No.	Survey No. <b>N/A</b>	
DESIGNED BY <b>PR/KG</b>	TRACING No.	<b>12350-D</b>	
DRAWN BY <b>DS</b>			
CHECKED BY <b>TS</b>			
AS BUILT BY		SHEET <b>12</b> OF <b>45</b>	

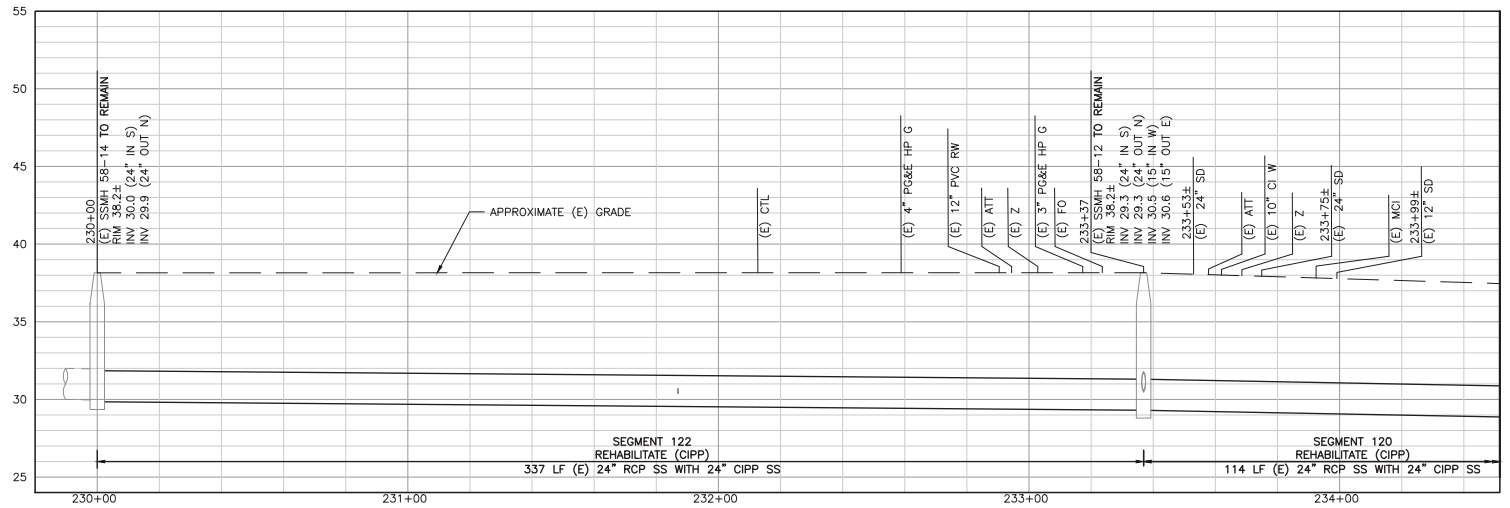
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**PLAN**  
SCALE: 1"=20'

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - FOR SEGMENT 122, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ALONG THE WESTERN CURB OF DE LA CRUZ BOULEVARD AND MAY BE LOCATED IN A BYPASS TRENCH WHEN CROSSING ROBERT AVENUE AND MARTIN AVENUE, FROM MH 58-17 TO MH 58-12, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. REFER TO SHEET C-26 FOR LOCATION OF MH 58-17.
  - FOR SEGMENT 120, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ALONG THE WESTERN CURB OF DE LA CRUZ BOULEVARD AND MAY BE LOCATED IN A BYPASS TRENCH WHEN CROSSING MARTIN AVENUE, FROM MH 58-14 TO MH 58-9, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. REFER TO SHEET C-28 FOR LOCATION OF MH 58-9.



**PROFILE**  
SCALE: 1"=20' HORIZ  
1"=4' VERT

MATCH LINE STA 234+51 SEE SHEET C-28

MATCH LINE STA 234+51 SEE SHEET C-28

**95% PLANS**  
**NOT FOR CONSTRUCTION**



PROJECT No. <b>CE</b> 202103	
ACCOUNT No. XXXXXXXXXXXXXXXX	
DATE	NO. REVISION

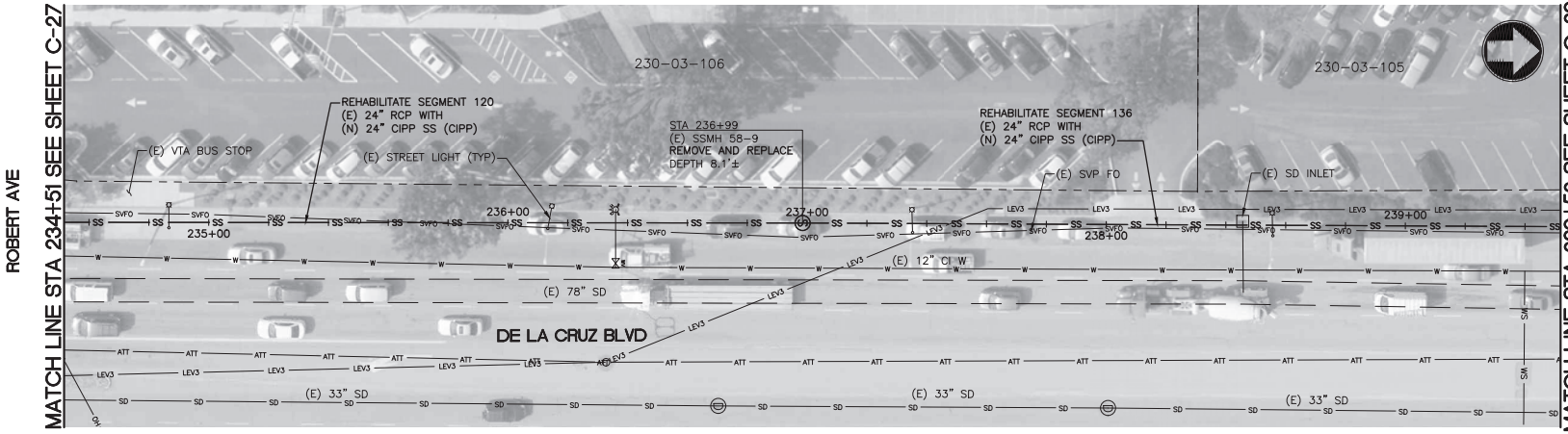
**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
ANNUAL SANITARY SEWER CONDITION  
ASSESSMENT REPAIRS - 2021 PROJECT  
SEG 122 - DE LA CRUZ BLVD (2)

APPROVED BY		TITLE	
DATE	INITIAL	DATE	Survey No. N/A
DESIGNED BY PR/KG	DATE	TRACING No.	
DRAWN BY DS			
CHECKED BY TS			
AS BUILT BY			

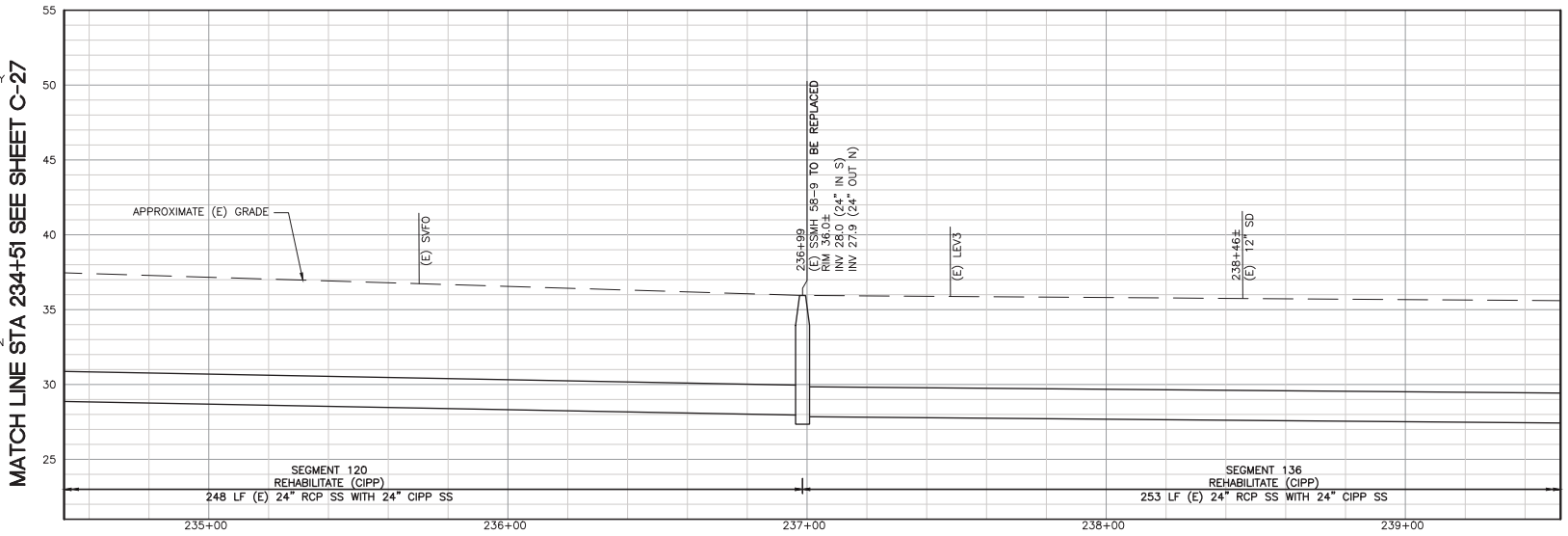
SHEET No. **C-27**

12350-D  
SHEET 13 OF 45

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**PLAN**  
SCALE: 1"=20'



**PROFILE**  
SCALE: 1"=20' HORIZ  
1"=4' VERT

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - FOR SEGMENT 120, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ALONG THE WESTERN CURB OF DE LA CRUZ BOULEVARD AND MAY BE LOCATED IN A BYPASS TRENCH WHEN CROSSING MARTIN AVENUE, FROM MH 58-14 TO MH 58-9, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. REFER TO SHEET C-27 FOR LOCATION OF MH 58-14.
  - FOR SEGMENT 136, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ALONG THE WESTERN CURB OF DE LA CRUZ BOULEVARD, FROM MH 58-9 TO MH 58-4, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. REFER TO SHEET C-29 FOR LOCATION OF MH 58-4.

MATCH LINE STA 234+51 SEE SHEET C-27  
 MATCH LINE STA 239+52 SEE SHEET C-29

MATCH LINE STA 239+52 SEE SHEET C-29  
 AIRPORT TECHNOLOGY PARK

**95% PLANS**  
**NOT FOR CONSTRUCTION**



PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXXXXXX	
DATE	No.	REVISION

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

**ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT**

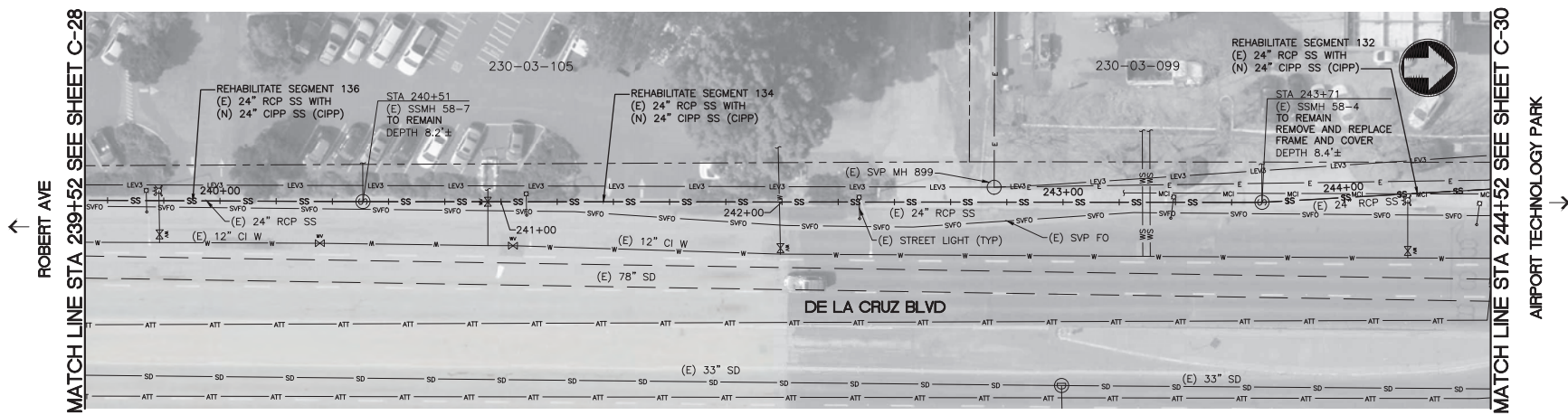
SEG 120, 136 - DE LA CRUZ BLVD (3)

HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'

APPROVED BY		TITLE	
DATE	INITIAL	DATE	R.C.E. No.
	PR/KG		Survey No. N/A
DESIGNED BY	PR/KG	TRACING No.	
DRAWN BY	DS	12350-D	
CHECKED BY	TS	SHEET 14 OF 45	
AS BUILT BY			

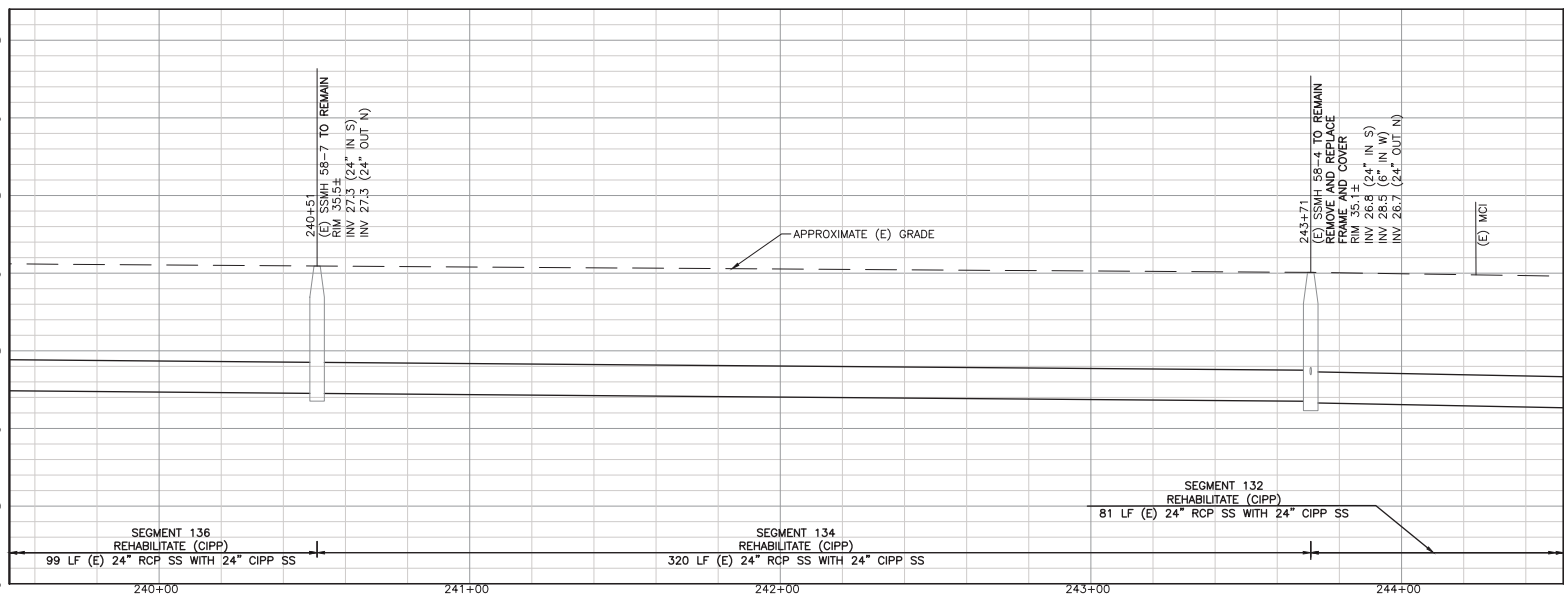
SHEET No.  
**C-28**

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**PLAN**  
SCALE: 1"=20'

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - FOR SEGMENT 136, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ALONG THE WESTERN CURB OF DE LA CRUZ BOULEVARD, FROM MH 58-9 TO MH 58-4, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. REFER TO SHEET C-28 FOR LOCATION OF MH 58-9.
  - FOR SEGMENTS 134 AND 132, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ALONG THE WESTERN CURB OF DE LA CRUZ BOULEVARD, FROM MH 58-7 TO MH 58-3, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. REFER TO SHEET C-30 FOR LOCATION OF MH 58-3.



**PROFILE**  
SCALE: 1"=20' HORIZ  
1"=4' VERT

**95% PLANS**  
**NOT FOR CONSTRUCTION**



PROJECT No. <b>CE</b> 202103	
ACCOUNT No. XXXXXXXXXXXXXXX	
DATE	REVISION

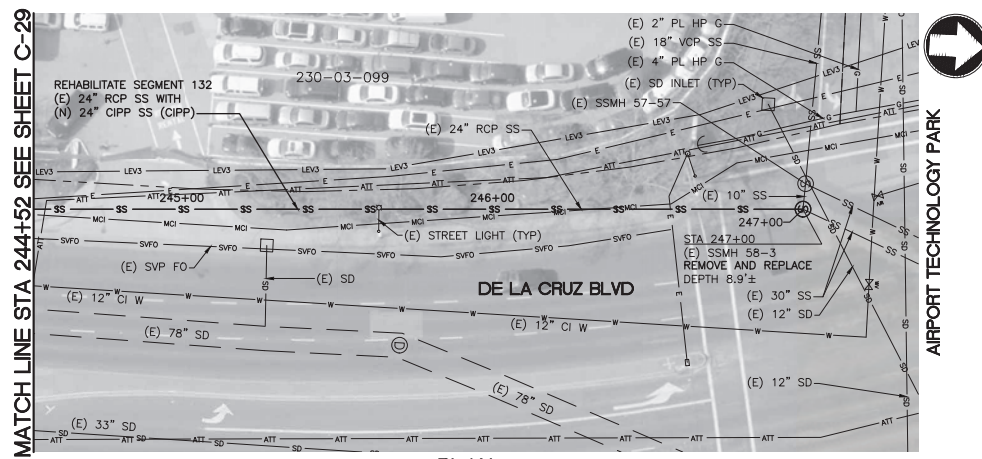
<b>CITY OF SANTA CLARA</b>	
PUBLIC WORKS DEPARTMENT	
ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT	
SEG 134, 132 - DE LA CRUZ BLVD (4)	
HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'	

APPROVED BY		TITLE	
DATE	INITIAL	DATE	R.C.E. No.
DESIGNED BY	PR/KG		
DRAWN BY	DS		
CHECKED BY	TS		
AS BUILT BY			

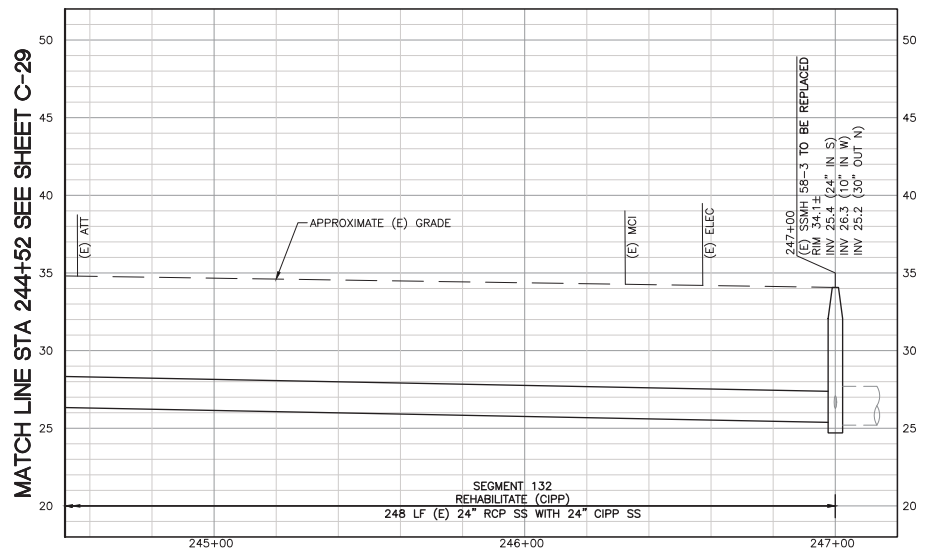
SHEET No. **C-29**

TRACING No. **12350-D**  
SHEET 15 OF 45

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**PLAN**  
SCALE: 1"=20'



**PROFILE**  
SCALE: 1"=20' HORIZ  
1"=4' VERT

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ALONG THE WESTERN CURB OF DE LA CRUZ BOULEVARD, FROM MH 58-7 TO MH 58-3, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. REFER TO SHEET C-29 FOR LOCATION OF MH 58-7.

**95% PLANS**  
**NOT FOR CONSTRUCTION**



PROJECT No. <b>CE</b> 202103	
ACCOUNT No. XXXXXXXXXXXXXXXX	
DATE	REVISION

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
ANNUAL SANITARY SEWER CONDITION  
ASSESSMENT REPAIRS - 2021 PROJECT  
SEG 132 - DE LA CRUZ BLVD (5)

APPROVED BY			
TITLE			
DATE	INITIAL	DATE	R.C.E. No.
DESIGNED BY	PR/KG	DATE	Survey No. N/A
DRAWN BY	DS		
CHECKED BY	TS		
AS BUILT BY			
			TRACING No. <b>12350-D</b>
			SHEET 16 OF 45

SHEET No. **C-30**

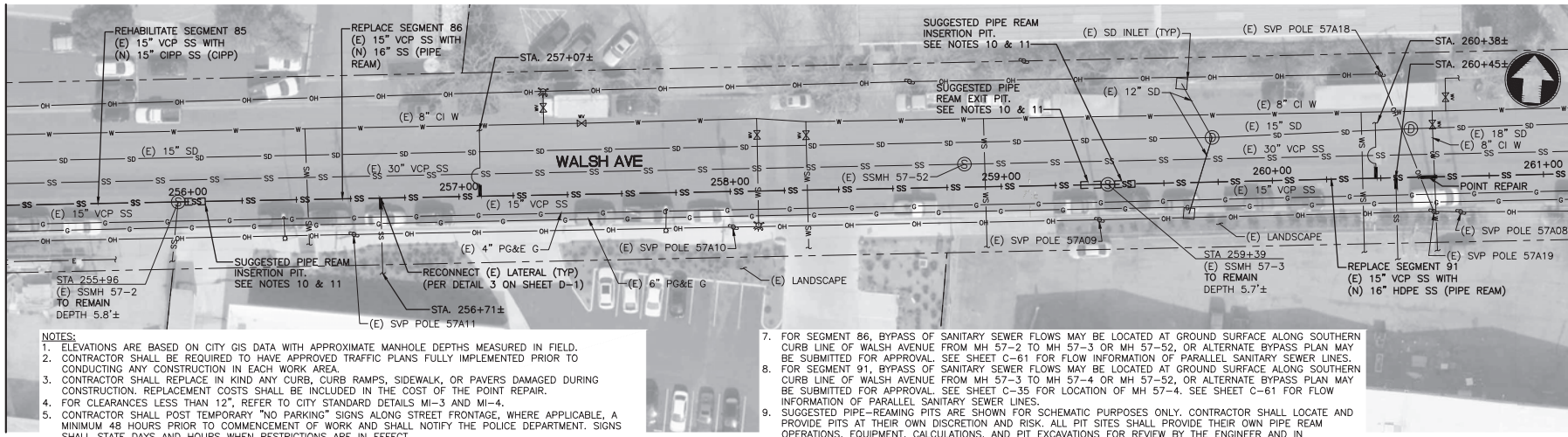


AIRPORT TECHNOLOGY PARK



Project: Aug. 06, 2021, 1:53pm by PWR16590  
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MATCH LINE STA 255+34 SEE SHEET C-33

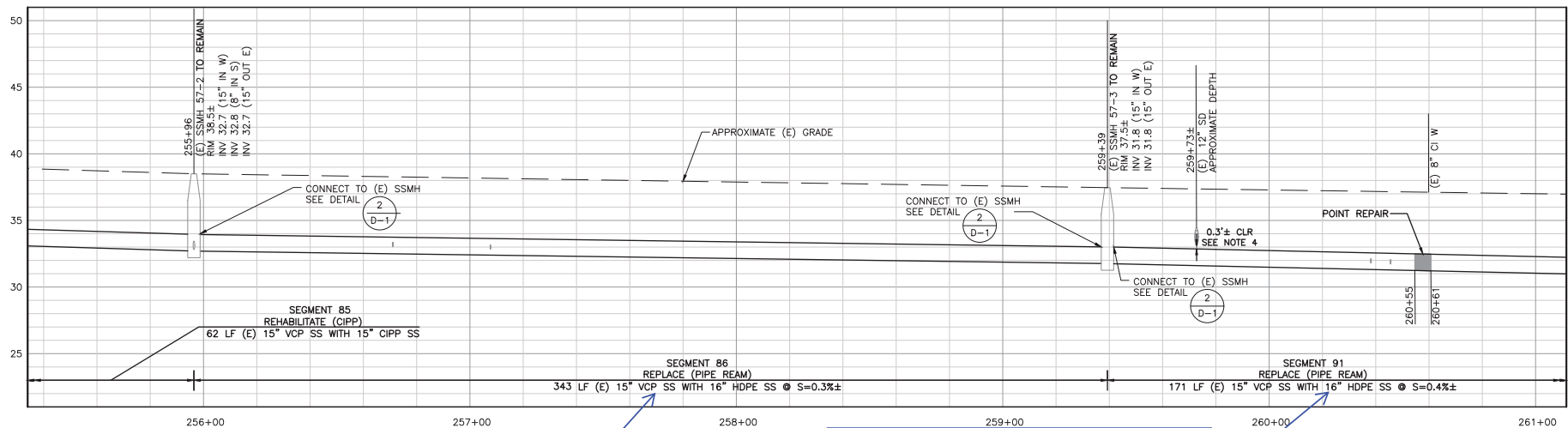


- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - CONTRACTOR SHALL REPLACE IN KIND ANY CURB, CURB RAMPS, SIDEWALK, OR PAVERS DAMAGED DURING CONSTRUCTION. REPLACEMENT COSTS SHALL BE INCLUDED IN THE COST OF THE POINT REPAIR.
  - FOR CLEARANCES LESS THAN 12", REFER TO CITY STANDARD DETAILS MI-3 AND MI-4.
  - CONTRACTOR SHALL POST TEMPORARY "NO PARKING" SIGNS ALONG STREET FRONTAGE, WHERE APPLICABLE, A MINIMUM 48 HOURS PRIOR TO COMMENCEMENT OF WORK AND SHALL NOTIFY THE POLICE DEPARTMENT. SIGNS SHALL STATE DATES AND HOURS WHEN RESTRICTIONS ARE IN EFFECT.
  - ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTY ACCESS. ACCESS TO ALL AFFECTED PROPERTIES SHALL BE MAINTAINED OPEN DURING PROPERTIES SHALL BE MAINTAINED OPEN DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.
  - FOR SEGMENT 85, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 57-1 TO MH 57-51, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED. SEE SHEET C-61 FOR FLOW INFORMATION OF PARALLEL SANITARY SEWER LINES AND SHEET C-33 FOR LOCATION OF MH 57-1 AND 57-51.

- FOR SEGMENT 86, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ALONG SOUTHERN CURB LINE OF WALSH AVENUE FROM MH 57-2 TO MH 57-3 OR MH 57-52, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SEE SHEET C-61 FOR FLOW INFORMATION OF PARALLEL SANITARY SEWER LINES.
- FOR SEGMENT 91, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ALONG SOUTHERN CURB LINE OF WALSH AVENUE FROM MH 57-3 TO MH 57-4 OR MH 57-52, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SEE SHEET C-35 FOR LOCATION OF MH 57-4. SEE SHEET C-61 FOR FLOW INFORMATION OF PARALLEL SANITARY SEWER LINES.
- SUGGESTED PIPE-REAMING PITS ARE SHOWN FOR SCHEMATIC PURPOSES ONLY. CONTRACTOR SHALL LOCATE AND PROVIDE PITS AT THEIR OWN DISCRETION AND RISK. ALL PIT SITES SHALL PROVIDE THEIR OWN PIPE REAM OPERATIONS, EQUIPMENT, CALCULATIONS, AND PIT EXCAVATIONS FOR REVIEW BY THE ENGINEER AND IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- CONTRACTOR MAY USE MANHOLE FOR REAMING HEAD REMOVAL. EXIT PIT OR MANHOLE MODIFICATIONS AND EQUIPMENT USED SHALL BE INCLUDED IN CONTRACT SUBMITTALS.

**PLAN**  
SCALE: 1"=20'

MATCH LINE STA 255+34 SEE SHEET C-33



**NOTE TO CITY OF SANTA CLARA REVIEWER:**  
 The pipe capacity of a 16" HDPE SS (I.D. = 14" for DR 17) @ S=0.3% is 1.93 MGD. This greatly exceeds the anticipated max wet weather flow of 0.37 MGD.

**NOTE TO CITY OF SANTA CLARA REVIEWER:**  
 The pipe capacity of a 16" HDPE SS (I.D. = 14" for DR 17) @ S=0.4% is 2.53 MGD. This greatly exceeds the anticipated max wet weather flow of 0.38 MGD.

**PROFILE**  
SCALE: 1"=20' HORIZ  
1"=4' VERT

**95% PLANS**  
**NOT FOR CONSTRUCTION**



ACCOUNT No.	XXXXXXXXXXXXXXXXXX		
DATE	No.	REVISION	BY

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT  
SEG 85, 86 - WALSH AVE (2)

APPROVED BY			
TITLE			
DATE	INITIAL	DATE	R.C.E. No.
DESIGNED BY	PR/KG		Survey No. N/A
DRAWN BY	DS		
CHECKED BY	TS		
AS BUILT BY			

SHEET No.  
**C-34 (ALT. 2)**

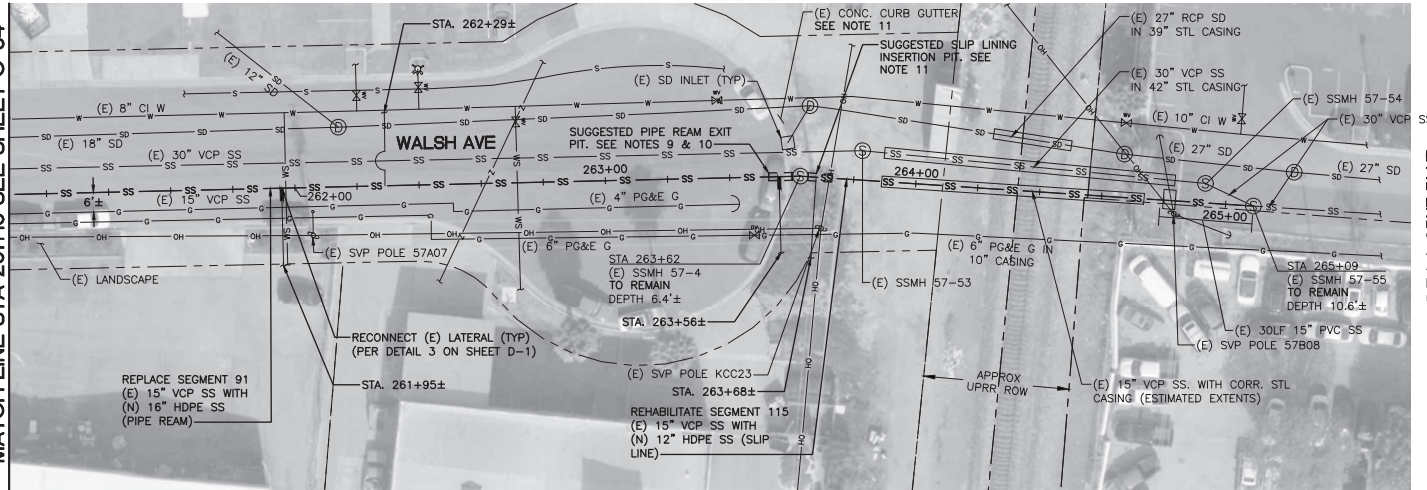
**12350-D**

SHEET 18 OF 45

MATCH LINE STA 261+10 SEE SHEET C-35

MATCH LINE STA 261+10 SEE SHEET C-35

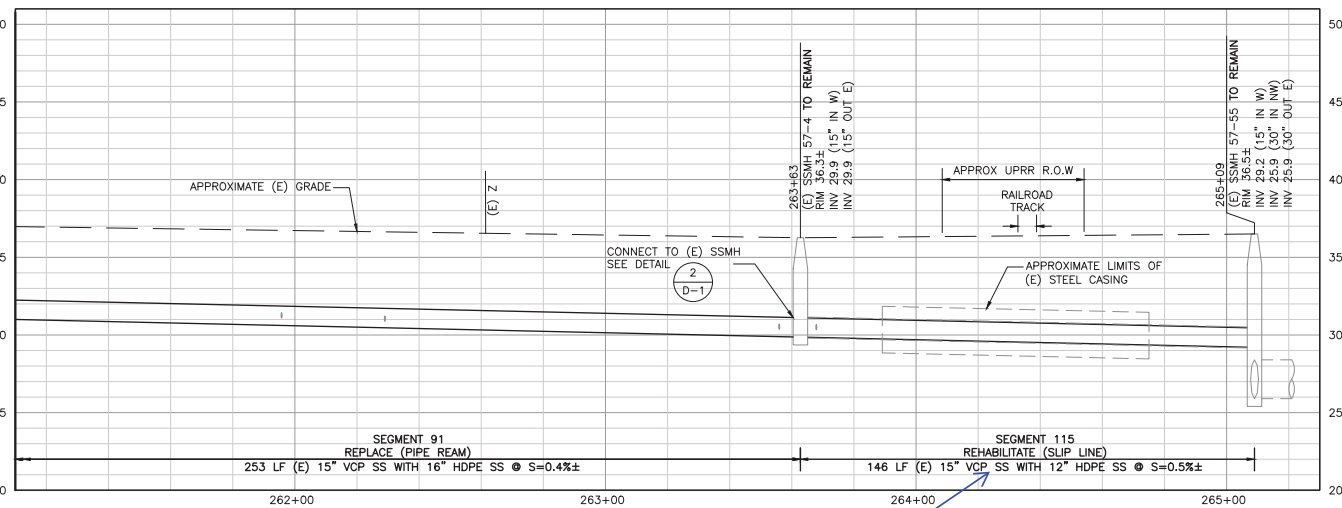
MATCH LINE STA 261+10 SEE SHEET C-34



PLAN  
SCALE: 1"=20'

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - CONTRACTOR SHALL REPLACE IN KIND ANY CURB, CURB RAMPS, SIDEWALK, OR PAVERS DAMAGED DURING CONSTRUCTION. REPLACEMENT COSTS SHALL BE INCLUDED IN THE COST OF THE POINT REPAIR.
  - CONTRACTOR SHALL USE FLEXIBLE REPAIR COUPLING TO CONNECT TO EXISTING SANITARY SEWER TO REMAIN.
  - CONTRACTOR SHALL POST TEMPORARY "NO PARKING" SIGNS ALONG STREET FRONTAGE, WHERE APPLICABLE, A MINIMUM 48 HOURS PRIOR TO COMMENCEMENT OF WORK AND SHALL NOTIFY THE POLICE DEPARTMENT. SIGNS SHALL STATE DAYS AND HOURS WHEN RESTRICTIONS ARE IN EFFECT.
  - ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTY ACCESS. ACCESS TO ALL AFFECTED PROPERTIES SHALL BE MAINTAINED OPEN DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.
  - FOR SEGMENT 91, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ALONG SOUTHERN CURB LINE OF WALSH AVENUE FROM MH 57-3 TO MH 57-4 OR MH 57-52, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SEE SHEET C-34 FOR LOCATION OF MH 57-3, SEE SHEET C-61 FOR FLOW INFORMATION OF PARALLEL SANITARY SEWER LINES.
  - FOR SEGMENT 115, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE FROM MH 57-4 TO MH 57-53, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. MATERIALS, EQUIPMENT, OR WORKERS SHALL NOT BE ALLOWED IN THE UPRR ROW LOCATED EAST OF MH 57-53. SEE SHEET C-61 FOR FLOW INFORMATION OF PARALLEL SANITARY SEWER LINES.
  - SUGGESTED PIPE-REAMING PITS ARE SHOWN FOR SCHEMATIC PURPOSES ONLY. CONTRACTOR SHALL LOCATE AND PROVIDE PITS AT THEIR OWN DISCRETION AND RISK. ALL PIT SITES SHALL PROVIDE THEIR OWN PIPE REAM OPERATIONS, EQUIPMENT, CALCULATIONS, AND PIT EXCAVATIONS FOR REVIEW BY THE ENGINEER AND IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
  - CONTRACTOR MAY USE MANHOLE FOR REAMING HEAD REMOVAL. EXIT PIT OR MANHOLE MODIFICATIONS AND EQUIPMENT USED SHALL BE INCLUDED IN CONTRACT SUBMITTALS.
  - SUGGESTED SLIP LINING PIT IS SHOWN FOR SCHEMATIC PURPOSES ONLY. CONTRACTOR SHALL LOCATE AND PROVIDE PIT AT THEIR OWN DISCRETION AND RISK. ALL PIT SITES SHALL PROVIDE THEIR OWN SLIP LINE OPERATIONS, EQUIPMENT, CALCULATIONS, AND PIT EXCAVATIONS FOR REVIEW BY THE ENGINEER AND IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
  - CONTRACTOR TO REPLACE CURB GUTTER IN KIND BETWEEN (E) NEAREST CONSTRUCTION JOINTS IF DISTURBED. COST TO REPLACE DISTURBED CURB GUTTER SHALL BE INCLUDED IN COSTS TO COMPLETE OPEN CUT INSTALLATION AND NO SEPARATE PAYMENT SHALL BE MADE. REFER TO CITY STANDARD DETAIL ST-11.

MATCH LINE STA 261+10 SEE SHEET C-34



PROFILE  
SCALE: 1"=20' HORIZ  
1"=4' VERT

**NOTE TO SANTA CLARA REVIEWER:**

The pipe capacity of a 12" HDPE SS (I.D. = 11.60' for DR 17) @ S=0.48% is 1.73 MGD. This greatly exceeds the anticipated max wet weather flow of 0.38 MGD.

SHEET No.  
C-35 (ALT. 2)

**95% PLANS  
NOT FOR CONSTRUCTION**



PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXXXXXX	
DATE	No.	REVISION
		BY

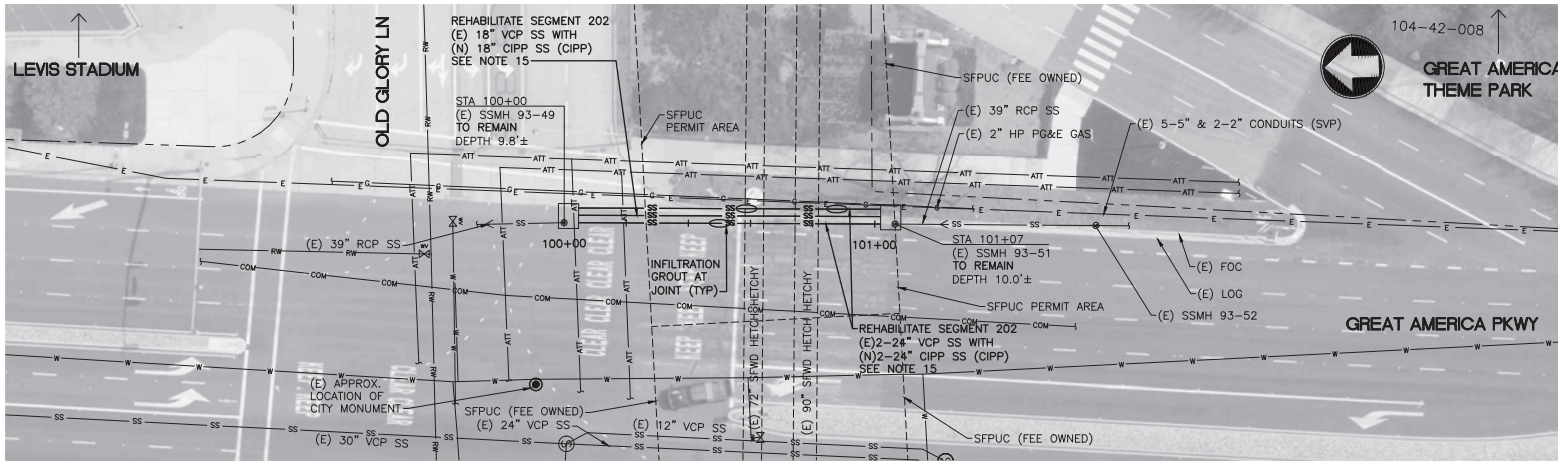
**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

**ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT**

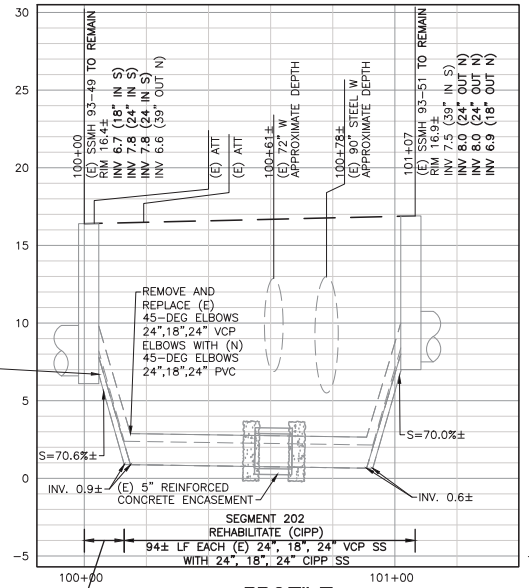
**SEG 91, 115 - WALSH AVE (3)**

HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'

APPROVED BY	TITLE	R.C.E. No.
DATE		Survey No. N/A
DESIGNED BY	PR/KG	TRACING No.
DRAWN BY	DS	<b>12350-D</b>
CHECKED BY	TS	
AS BUILT BY		SHEET 19 OF 45



PLAN SCALE: 1"=20'



PROFILE SCALE: 1"=20' HORIZ 1"=4' VERT

- NOTES:
- CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC CONTROL PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - ELEVATIONS ARE BASED ON CITY PROVIDED AS-BUILT DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR MAY REFER TO CITY TRACING NO. 1408 DATED JUNE, 1960 FOR RECORD INFORMATION.
  - PAVEMENT REPLACEMENT SHALL BE AS SHOWN IN CITY STANDARD DETAIL ST-24 AND THICKNESS SHALL MATCH EXISTING OR MINIMUM THICKNESS STATED IN CITY STANDARD DETAIL ST-26, WHICHEVER IS GREATER.
  - CONTRACTOR SHALL POST TEMPORARY "NO PARKING" SIGNS ALONG STREET FRONTAGE, WHERE APPLICABLE, A MINIMUM 48 HOURS PRIOR TO COMMENCEMENT OF WORK AND SHALL NOTIFY THE POLICE DEPARTMENT. SIGNS SHALL STATE DAYS AND HOURS WHEN RESTRICTIONS ARE IN EFFECT.
  - ALL PROPERTY OWNERS SHALL BE NOTIFIED ONE WEEK IN ADVANCE TO ANY CONSTRUCTION THAT MAY AFFECT PROPERTY ACCESS. ACCESS TO ALL AFFECTED PROPERTIES SHALL BE MAINTAINED OPEN DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.
  - CONSTRUCTION ACTIVITIES SHALL NOT OVERLAP WITH ANY MAJOR EVENT AT SANTA CLARA CONVENTION CENTER, LEVI'S STADIUM AND CALIFORNIA GREAT AMERICA THEME PARK.
  - BYPASS OF SANITARY FLOWS MAY BE LOCATED AT GROUND SURFACE ALONG THE EASTERN CURB OF GREAT AMERICA PARKWAY FROM MH 93-52 TO MH 93-49, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.
  - NIGHT WORK IS PERMITTED AND PREFERRED FOR SEGMENT 202.
  - INFILTRATION GROUTING SHALL BE PERFORMED BEFORE PERFORMING CIPP.
  - THE CITY AND COUNTY OF SAN FRANCISCO ACTING BY AND THROUGH ITS PUBLIC UTILITIES COMMISSION, WATER SUPPLY AND TREATMENT DIVISION ("SFPUC") OWNS AND OPERATES TWO WATER AQUEDUCTS THAT CROSS THE PROJECT ALIGNMENT. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICES ALERT (USA) 48 HOURS BEFORE ANY CONSTRUCTION IN THE VICINITY OF THE SFPUC AQUEDUCTS. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE SFPUC CONSTRUCTION INSPECTOR, MR. ALBERT HAO, AT (650) 871-3015, AT LEAST TEN (10) CALENDAR DAYS PRIOR TO THE START OF ON-SITE CONSTRUCTION IN THE VICINITY OF THE SFPUC ROW. IN THE EVENT OF EMERGENCY INVOLVING SFPUC FACILITIES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY SFPUC BY CALLING SFPUC MILLBRAE DISPATCH AT 650-872-5900.
  - NO MECHANICAL EXCAVATION IS ALLOWED WITHIN 24 INCHES OF SFPUC PIPELINES. DIGGING WITHIN 24 INCHES OF PIPELINE MUST BE DONE WITH HAND TOOLS. NO VIBRATORY COMPACTION EQUIPMENT SHALL BE USED WITHOUT PRIOR WRITTEN APPROVAL OF THE SFPUC.
  - CONTRACTOR SHALL OBTAIN CONSENT FROM THE SFPUC TO POTHOLE SFPUC PIPELINE TO DETERMINE THE PIPE DEPTH PRIOR TO ANY EXCAVATION. THE POTHOLES SHALL BE CARRIED OUT BY SOIL VACUUM EXTRACTION METHOD.
  - MAXIMUM EXTERNAL LOADING OVER SFPUC PIPELINE IS AASHTO H-10 LOADING WITH A MINIMUM OF 3 FEET SOIL COVER (OR H-20 LOADING WITH A MINIMUM OF 4 FEET SOIL COVER). IF LOADING CONDITIONS EXCEED ABOVE, ENGINEERING CALCULATIONS AS SHOWN IN AWWA, M9 MUST BE SUBMITTED TO THE SFPUC TO SHOW THAT PROPOSED CONDITIONS WOULD IMPOSE A LOAD OF LESS THAN 500 PSF ONTO THE PIPELINE.
  - CONTRACTOR TO FIELD VERIFY CORRECT LOCATION FOR EACH SIPHON DIAMETER AS SHOWN. AS-BUILT AND CCTV INFORMATION DIFFERED ON THE LOCATION OF THE 18-INCH SIPHON.
  - THE CONTRACTOR SHALL NOTIFY THE TRAFFIC ENGINEER 48 HOURS PRIOR TO COMMENCING WORK AT THIS INTERSECTION.
  - WORK SHALL BE CONDUCTED IN THE FOLLOWING SEQUENCE: (1) REMOVE EXISTING VCP SEWERS AND ELBOWS AS SHOWN; (2) CONDUCT INFILTRATION GROUTING OF JOINTS; (3) PERFORM CIPP LINING OPERATIONS; (4) INSTALL NEW PVC SEWERS AND ELBOWS.
  - INFILTRATION GROUT REPAIR SHALL BE PERFORMED AT ALL EXISTING JOINTS FOR (E) 24", 18" AND 24" VCP SEWERS.

SEGMENT 202 REMOVE AND REPLACE (OPEN CUT)  
13± LF EACH (E) 24", 18", 24" VCP SS WITH 24", 18", 24" PVC SS



**95% PLANS  
NOT FOR CONSTRUCTION**



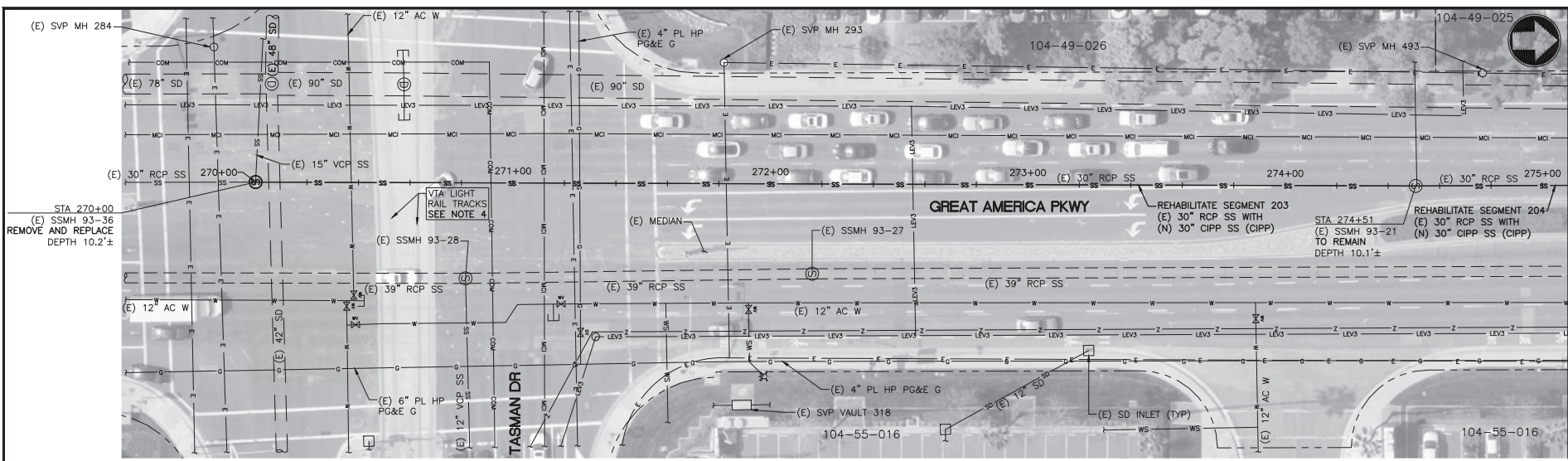
PROJECT No. CE 202103	
ACCOUNT No. XXXXXXXXXXXXXXXX	
DATE	NO. REVISION

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT  
GREAT AMERICA PKWY AT OLD GLORY LANE  
HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'

APPROVED BY			
TITLE			
DATE	INITIAL	DATE	R.C.E. No.
DESIGNED BY	JM		Survey No. N/A
DRAWN BY	TPF		TRACING No. 12350-D
CHECKED BY	TS		
AS BUILT BY			

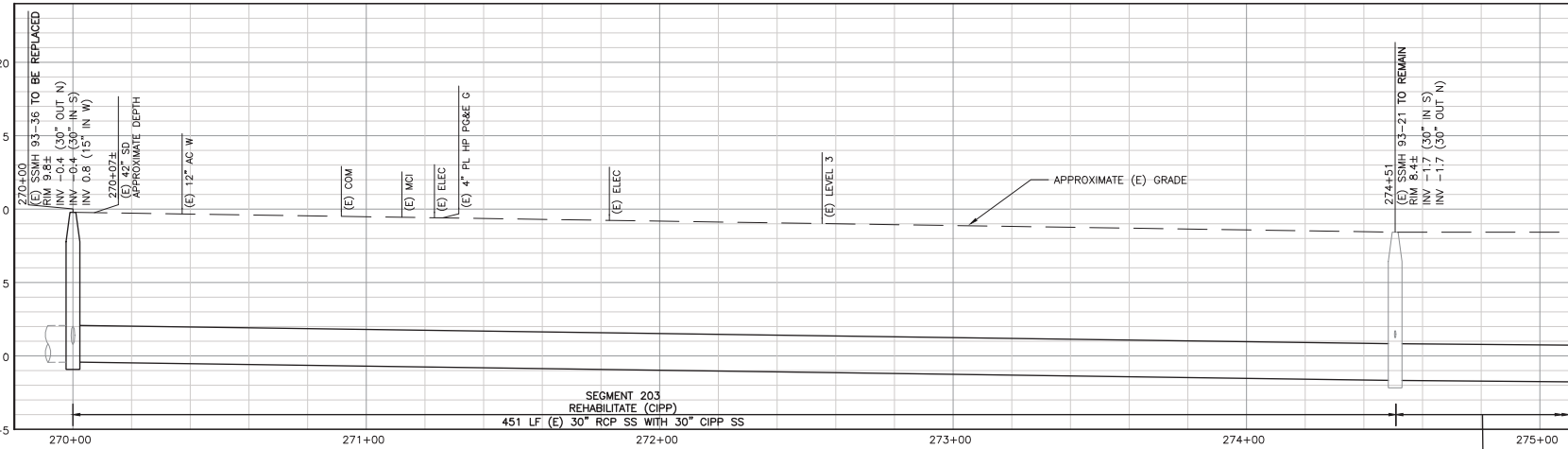
SHEET No. **C-37**

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 Plot: C:\TBL\C-UTL-E-38 | ARDS & BOUNDRIES | W-ARSA SA | C-PROP-E | C-PROP-ARSA



MATCH LINE STA 275+00 SEE SHEET C-39

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - FOR SEGMENTS 203 AND 204, SEE SHEET C-60 FOR SUGGESTED BYPASS PLAN AND SHEET C-61 FOR FLOW INFORMATION OF PARALLEL SANITARY SEWER LINES.
  - MATERIALS, EQUIPMENT, OR WORKERS SHALL NOT BE ALLOWED WITHIN 10 FEET OF VIA LIGHT RAIL TRACKS.



MATCH LINE STA 275+00 SEE SHEET C-39

**95% PLANS  
NOT FOR CONSTRUCTION**



PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXX	
DATE	No.	REVISION

<b>CITY OF SANTA CLARA</b>			
PUBLIC WORKS DEPARTMENT			
APPROVED BY			
TITLE			
DATE	INITIAL	DATE	R.C.E. No.
			N/A
DESIGNED BY	KG/PR	TRACING No.	
DRAWN BY	MG/OP	<b>12350-D</b>	
CHECKED BY	TS	SHEET 21 OF 45	
AS BUILT BY			

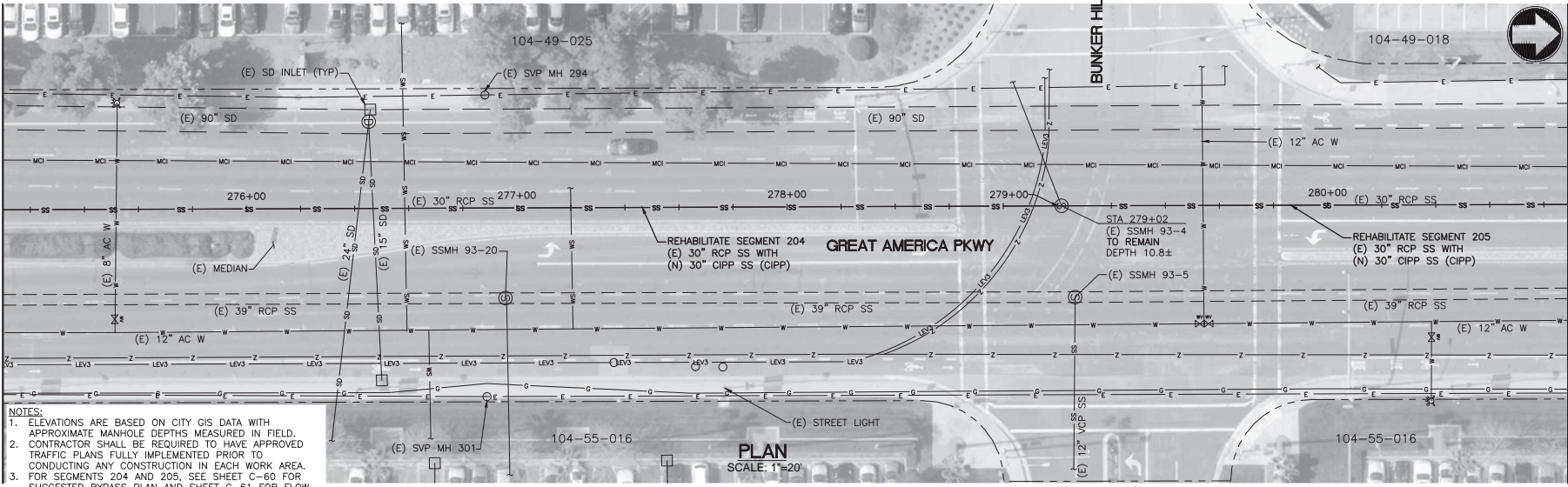
ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT  
SEG 203,204 - GREAT AMERICA PKWY (1)  
HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'

SHEET No. **C-38**

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MATCH LINE STA 275+10 SEE SHEET C-38

MATCH LINE STA 280+89 SEE SHEET C-40

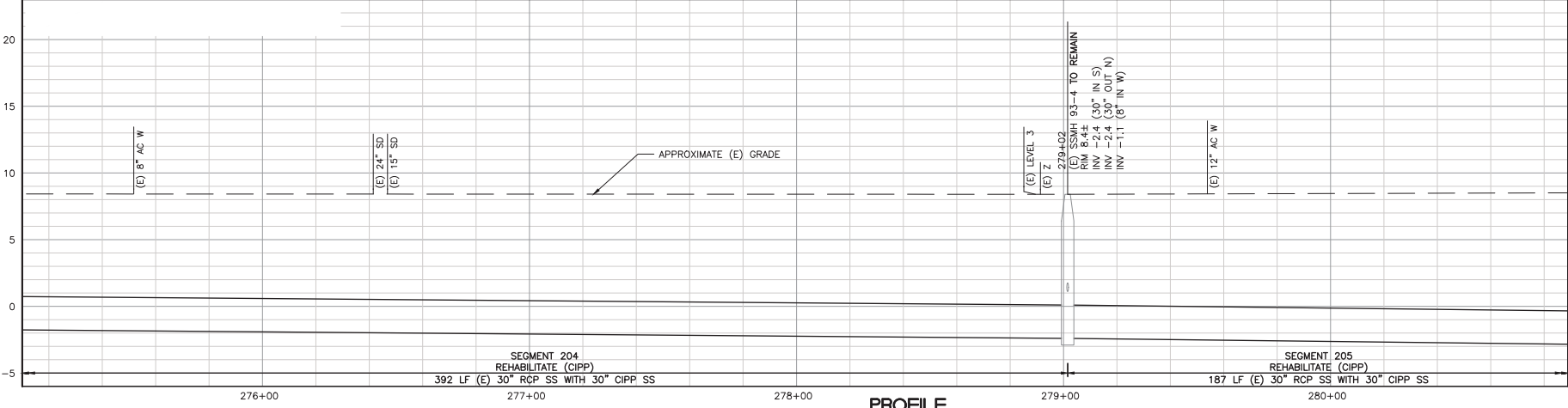


- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA. FOR SEGMENTS 204 AND 205, SEE SHEET C-60 FOR SUGGESTED BYPASS PLAN AND SHEET C-61 FOR FLOW INFORMATION OF PARALLEL SANITARY SEWER LINES.

**PLAN**  
SCALE: 1"=20'

MATCH LINE STA 275+10 SEE SHEET C-38

MATCH LINE STA 280+89 SEE SHEET C-40



**PROFILE**  
SCALE: 1"=20' HORIZ  
1"=4' VERT

SHEET No. **C-39**

**95% PLANS**  
**NOT FOR CONSTRUCTION**



PROJECT No. <b>CE</b> 202103	
ACCOUNT No. XXXXXXXXXXXXXXXX	
DATE	REVISION

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

**ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT**

SEG 204,205 - GREAT AMERICA PKWY (2)

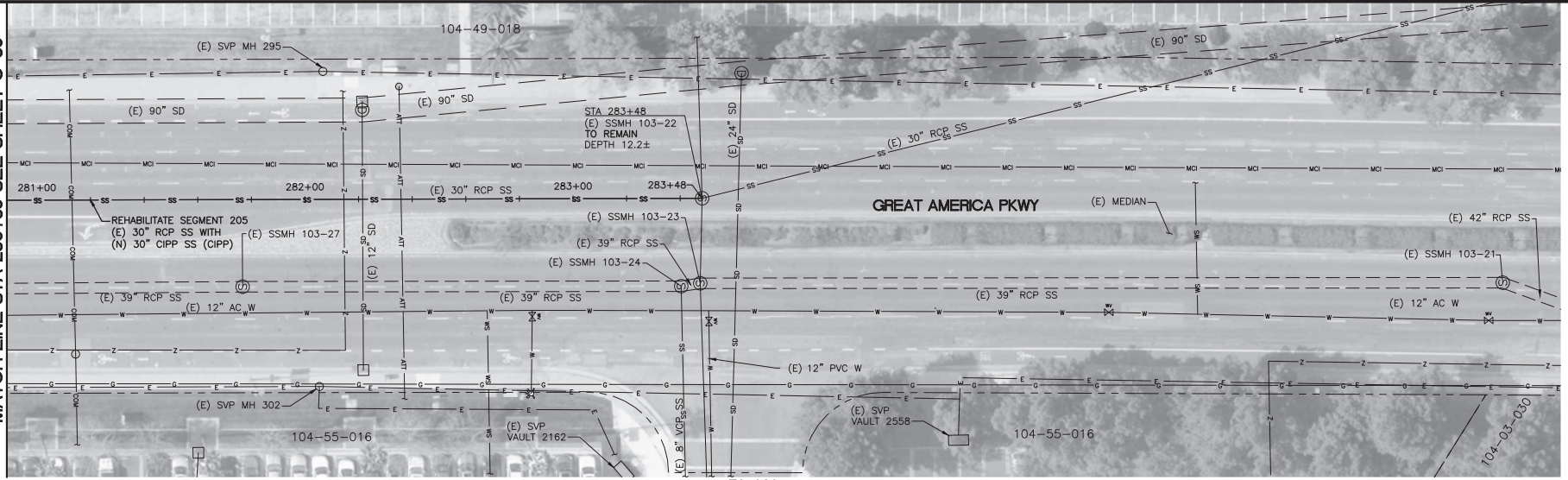
HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'

APPROVED BY		TITLE	
DATE	R.C.E. No.	Survey No. N/A	
DESIGNED BY	INITIAL	DATE	TRACING No.
DRAWN BY	KG/PR		<b>12350-D</b>
CHECKED BY	MG/OP		
AS BUILT BY	TS		

SSR: HSE/DM-1\_P183SCALE=1, USCALE=1

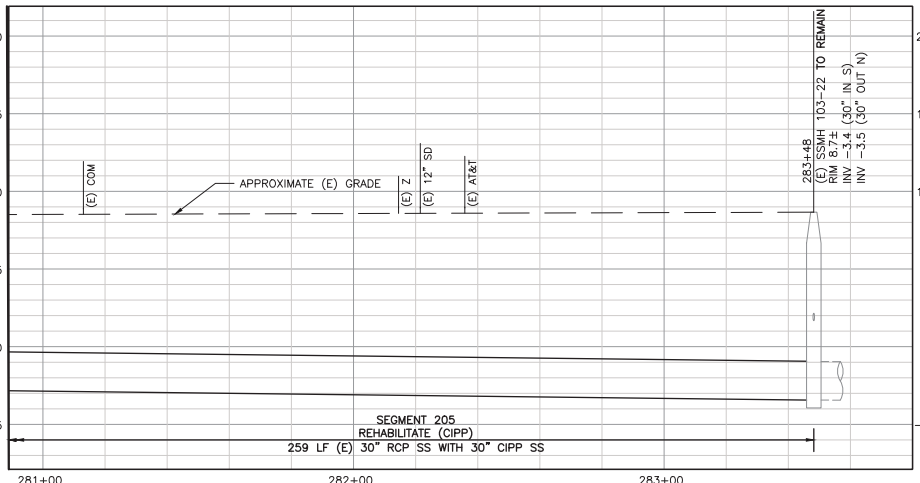
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 User: C:\TBL | C:\TBL-E-34 | ARDS & BOUNDRIES | W:\ARDA 34 | C:\PROJ-E | C:\PROJ-ARDA-34

MATCH LINE STA 280+89 SEE SHEET C-39



PLAN  
SCALE: 1"=20'

MATCH LINE STA 280+89 SEE SHEET C-39



PROFILE  
SCALE: 1"=20' HORIZ  
1"=4' VERT

- NOTES:
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - FOR SEGMENT 205, SEE SHEET C-60 FOR SUGGESTED BYPASS PLAN AND SHEET C-61 FOR FLOW INFORMATION OF PARALLEL SANITARY SEWER LINES.

95% PLANS  
NOT FOR CONSTRUCTION



PROJECT No. CE 202103	
ACCOUNT No. XXXXXXXXXXXXXXXX	
DATE	REVISION

**CITY OF SANTA CLARA**  
 PUBLIC WORKS DEPARTMENT

ANNUAL SANITARY SEWER CONDITION  
 ASSESSMENT REPAIRS - 2021 PROJECT

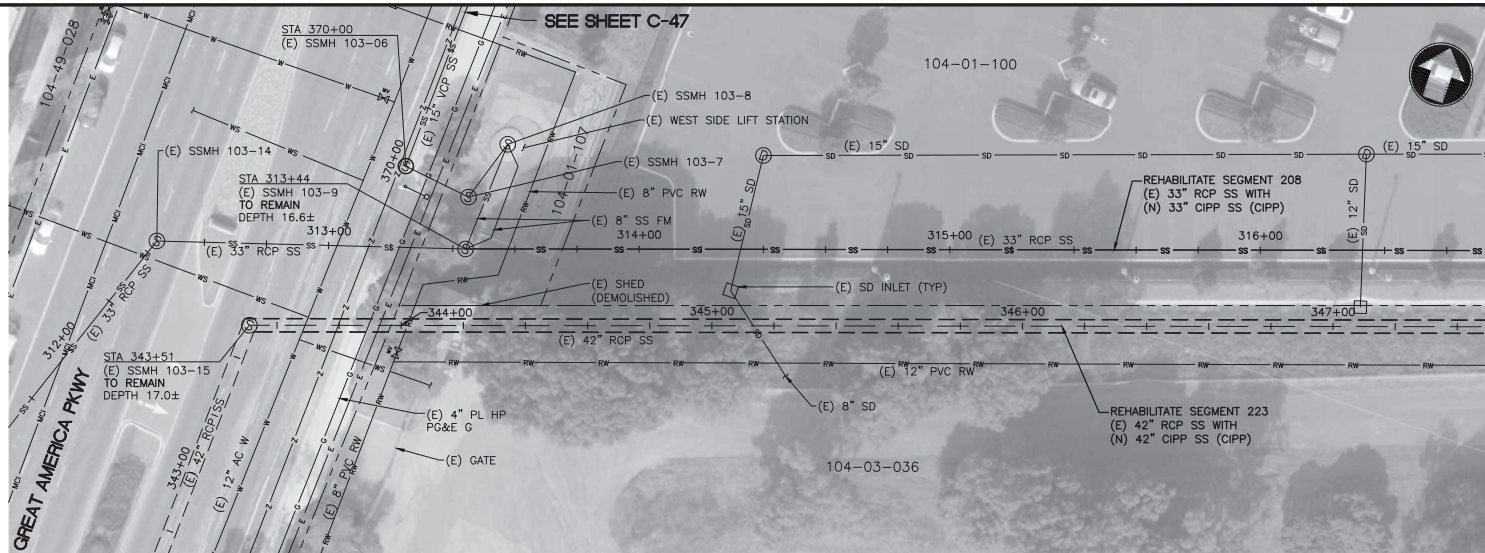
SEG 205 - GREAT AMERICA PKWY (3)

HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'

APPROVED BY		TITLE	
DATE	R.C.E. No.	ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT	
DESIGNED BY	INITIAL	DATE	Survey No. N/A
DRAWN BY	KG/PR		
CHECKED BY	MG/OP		
AS BUILT BY	TS		
		TRACING No. 12350-D	
		SHEET 23 OF 45	

SHEET No. C-40

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**PLAN**  
SCALE: 1"=20'

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - FOR SEGMENT 208, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ADJACENT TO AND SOUTH OF EXISTING SEWER LINE FROM MH 103-14 TO MH 103-15, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.
  - FOR SEGMENT 223, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ADJACENT TO AND NORTH OF EXISTING SEWER LINE FROM MH 103-15 TO MH 103-14, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SHEET C-61 FOR FLOW INFORMATION OF PARALLEL SANITARY SEWER LINES.

**FOR PIPE PROFILES, SEE SHEET C-42.1**

MATCH LINE SEE SHEET C-43

**NOTE TO CITY OF SANTA CLARA REVIEWER:**

Does the City have more recent aerials available showing the new Stars and Stripes Drive road recently built for Sheets C-42 through C-45?

**95% PLANS**  
**NOT FOR CONSTRUCTION**



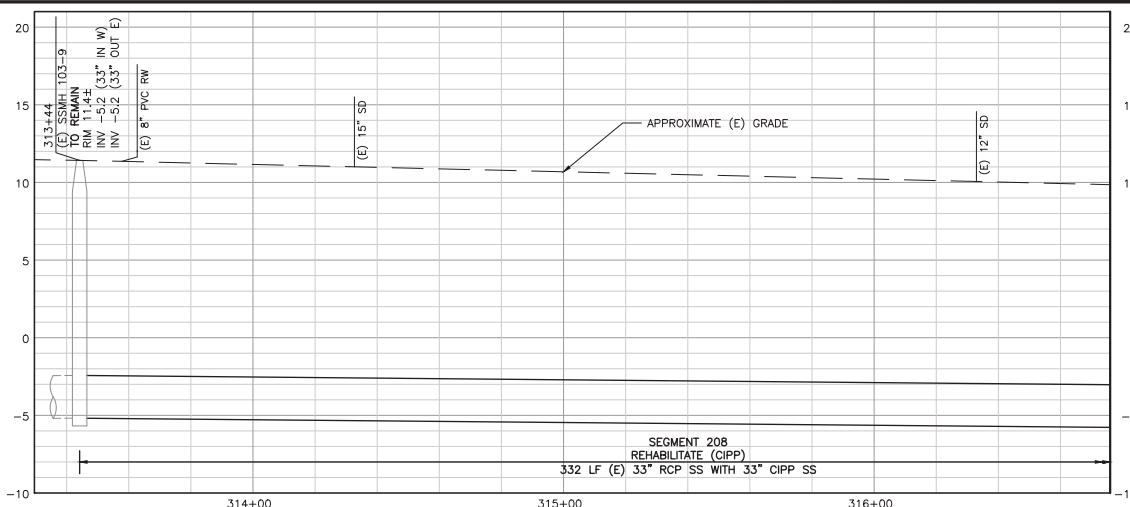
PROJECT No. <b>CE</b> 202103	
ACCOUNT No. XXXXXXXXXXXXXXXX	
DATE	REVISION

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
ANNUAL SANITARY SEWER CONDITION  
ASSESSMENT REPAIRS - 2021 PROJECT  
SEG 208,223 - EASEMENT (1)

APPROVED BY			
TITLE			
DATE	INITIAL	DATE	R.C.E. No.
			Survey No. N/A
DESIGNED BY	KG/PR		TRACING No.
DRAWN BY	MG/OP		<b>12350-D</b>
CHECKED BY	TS		
AS BUILT BY			SHEET 24 OF 45

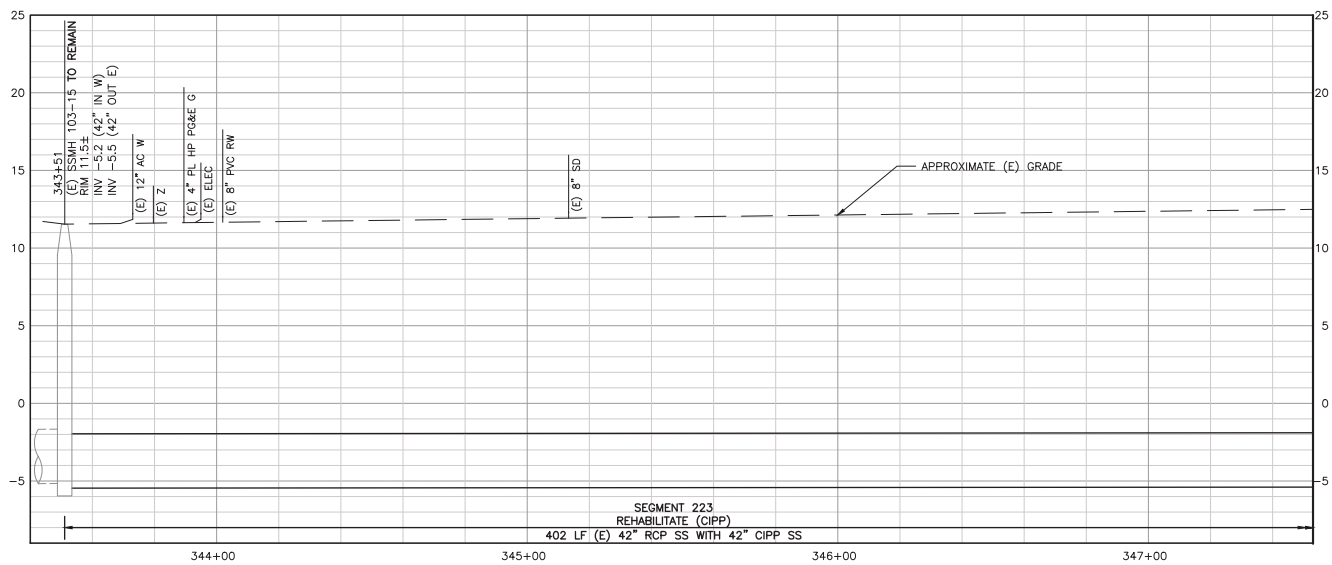
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 Plot User: RUTHERFORD



**PROFILE - SEGMENT 208**  
 SCALE: 1"=20' HORIZ  
 1"=4' VERT

MATCH LINE STA 316+76 SEE SHEET C-43.1



**PROFILE - SEGMENT 223**  
 SCALE: 1"=20' HORIZ  
 1"=4' VERT

MATCH LINE STA 347+53 SEE SHEET C-43.1

SHEET No. **C-42.1**

**95% PLANS**  
**NOT FOR CONSTRUCTION**



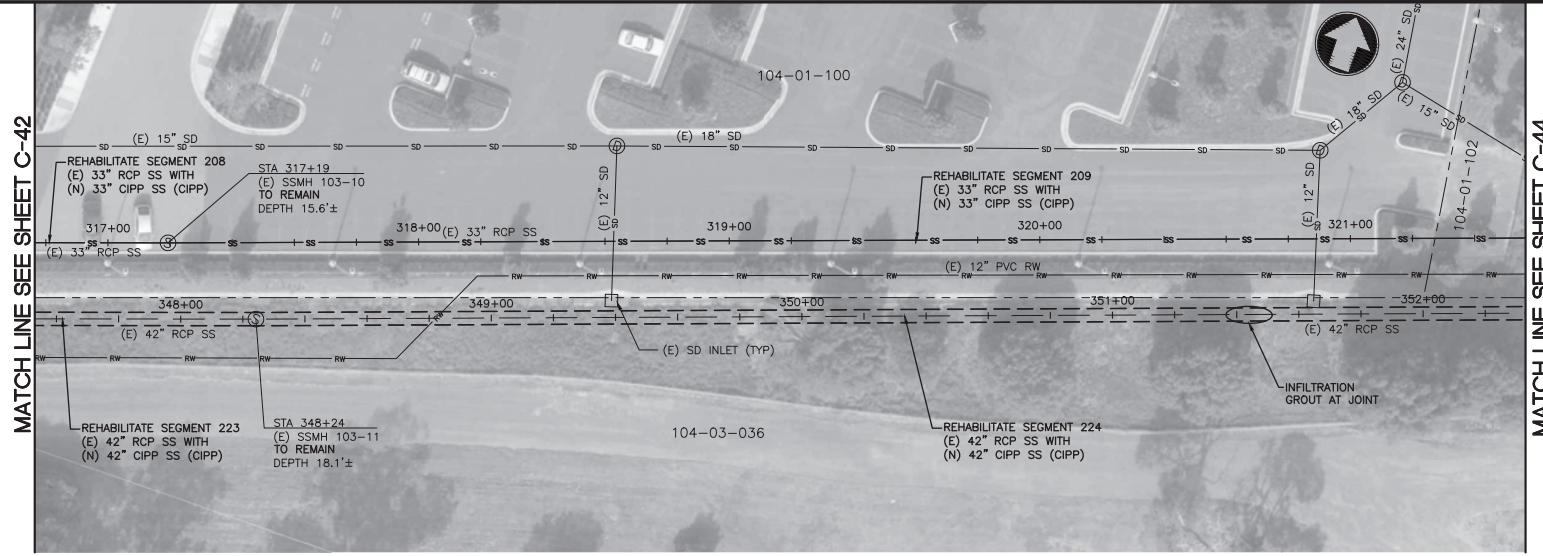
PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXXXXXX	
DATE	No.	REVISION

**CITY OF SANTA CLARA**  
 PUBLIC WORKS DEPARTMENT  
 ANNUAL SANITARY SEWER CONDITION  
 ASSESSMENT REPAIRS - 2021 PROJECT  
 SEG 208,223 - EASEMENT (1)

APPROVED BY		DATE	R.C.E. No.
DESIGNED BY	KG/PR	DATE	Survey No. N/A
DRAWN BY	MG/OP		
CHECKED BY	TS		
AS BUILT BY			
			TRACING No. <b>12350-D</b>
			SHEET 25 OF 45

S:\C:\PROJECTS\2021\1019\1019.dwg by 5/20/2021

Plot Date: Aug 11, 2021, 9:35am by 5/20/2021  
 File: C:\projects\1019\1019.dwg  
 Plot: 1019-PLAN-1.dwg  
 Plot Device: HP DesignJet 5600



PLAN  
SCALE: 1"=20'

- NOTES:
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - ACCESS FOR INFILTRATION GROUTING WORK SHALL BE FROM INSIDE MANHOLES AND PIPELINE ONLY.
  - FOR SEGMENT 209, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ADJACENT TO AND SOUTH OF EXISTING SEWER LINE FROM MH 103-10 TO MH 103-11, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.
  - FOR SEGMENT 224, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ADJACENT TO AND NORTH OF EXISTING SEWER LINE FROM MH 103-11 TO MH 103-10, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.

FOR PIPE PROFILES, SEE SHEET C-43.1

**95% PLANS  
NOT FOR CONSTRUCTION**



PROJECT No. CE 202103	
ACCOUNT No. XXXXXXXXXXXXXXXX	
DATE	NO.
REVISION	
BY	

<b>CITY OF SANTA CLARA</b>	
PUBLIC WORKS DEPARTMENT	
ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT	
SEG 208,209,223,224 - EASEMENT (2)	
HORIZONTAL SCALE: 1"=20' VERTICAL SCALE:	

APPROVED BY		TITLE	
DATE	R.C.E. No.	Survey No. N/A	
DESIGNED BY KG/PR	DATE	TRACING No. 12350-D	
DRAWN BY MG/OP			
CHECKED BY TS			
AS BUILT BY		SHEET 26 OF 45	

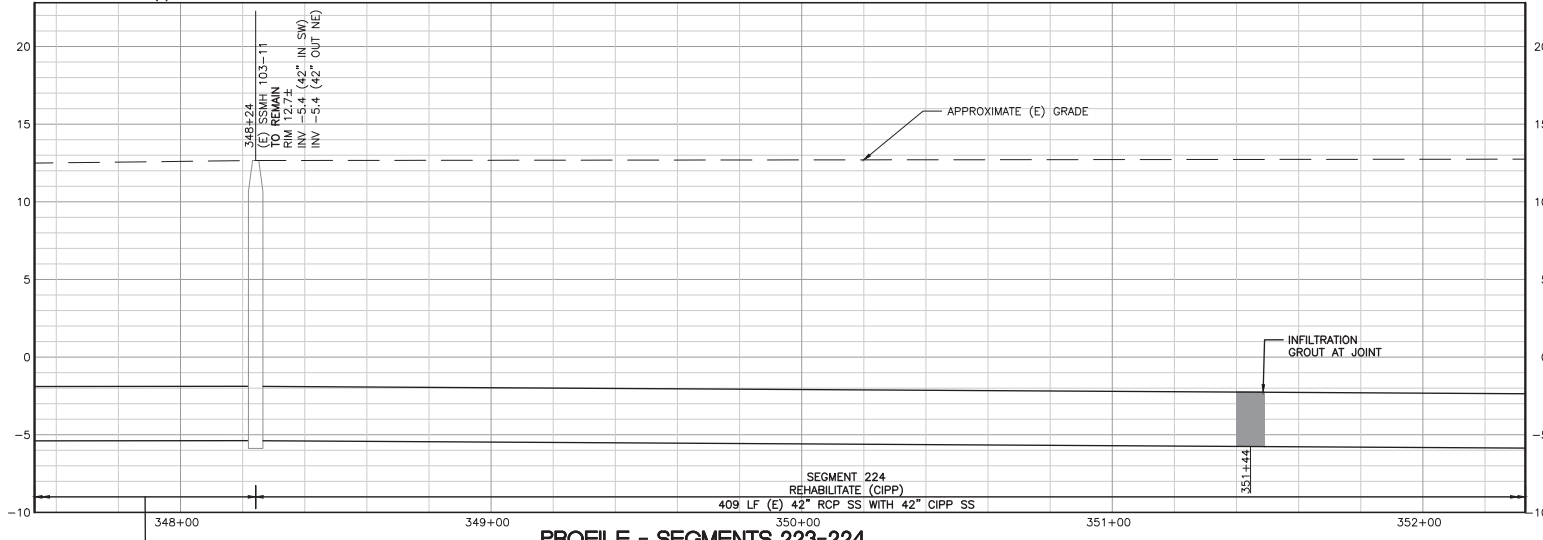
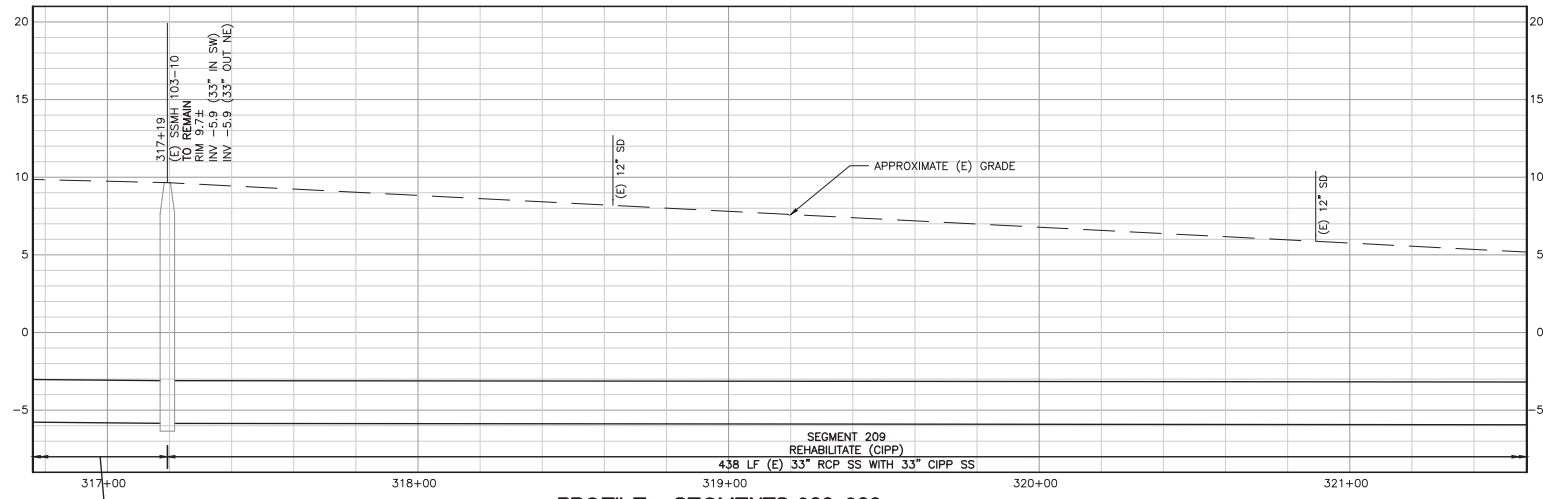
SHEET No. C-43

MATCH LINE STA 316+76 SEE SHEET C-42.1

MATCH LINE STA 347+53 SEE SHEET C-42.1

MATCH LINE STA 321+57 SEE SHEET C-44.1

MATCH LINE STA 352+33 SEE SHEET C-44.1



**95% PLANS  
 NOT FOR CONSTRUCTION**



PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXXXX	
DATE	No.	REVISION

**CITY OF SANTA CLARA**  
 PUBLIC WORKS DEPARTMENT

ANNUAL SANITARY SEWER CONDITION  
 ASSESSMENT REPAIRS - 2021 PROJECT

SEG 208,209,223,224 - EASEMENT (2)

HORIZONTAL SCALE: 1"=20' VERTICAL SCALE:

APPROVED BY			
TITLE			
DATE			
DESIGNED BY	KG/PR	DATE	Survey No. N/A
DRAWN BY	MG/OP		TRACING No. 12350-D
CHECKED BY	TS		
AS BUILT BY			SHEET 27 OF 45

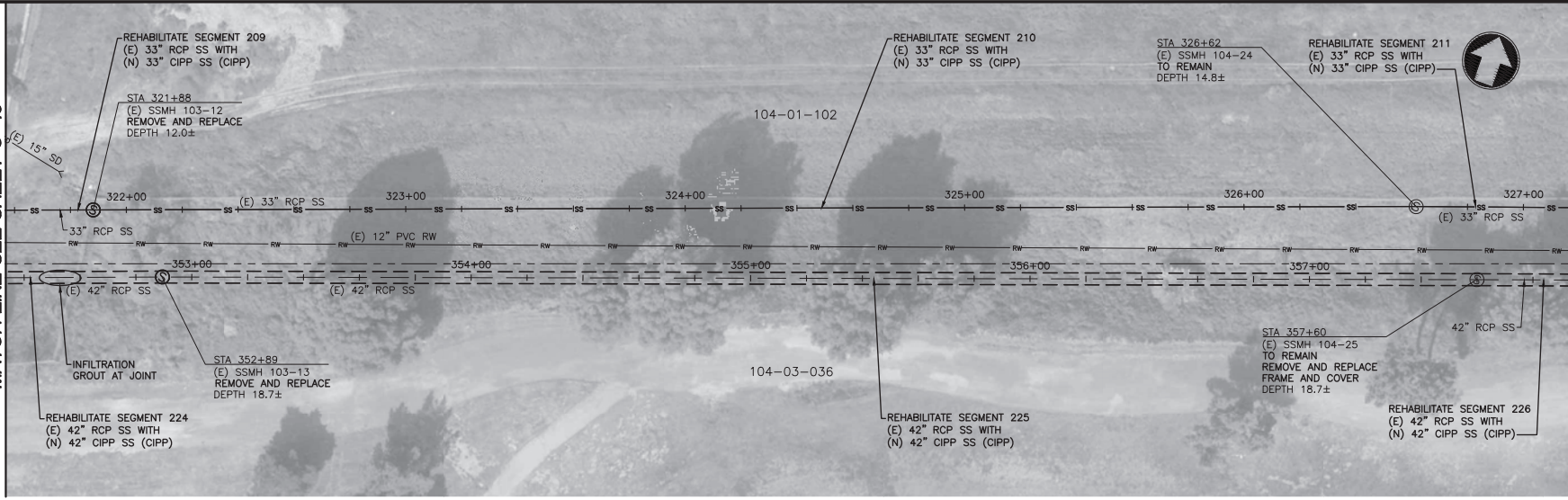
SHEET No. **C-43.1**

S:\03 - WATER\2021 - REPAIRS\1. LITSCALE-1

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MATCH LINE SEE SHEET C-43

MATCH LINE SEE SHEET C-45



**PLAN**  
SCALE: 1"=20'

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - FOR SEGMENTS 209-211, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ADJACENT TO AND SOUTH OF EXISTING SEWER LINE FROM MH 103-10 TO MH 103-11, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SEE SHEET C-43 FOR LOCATION OF MH 103-10 AND MH 103-11.
  - FOR SEGMENTS 224-226, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ADJACENT TO AND NORTH OF EXISTING SEWER LINE FROM MH 103-11 TO MH 103-10, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SEE SHEET C-43 FOR LOCATION OF MH 103-10 AND MH 103-11.
  - BASED ON AVAILABLE INFORMATION FROM VALLEY WATER GIS, DEPTH TO GROUNDWATER IS ANTICIPATED TO BE LESS THAN 10 FEET. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL OF AND PROPER DISPOSAL OF ENCOUNTERED GROUNDWATER.

**FOR PIPE PROFILES, SEE SHEET C-44.1**



**A**  
**C-44** MH 103-12 GROUND SURFACE

**95% PLANS**  
**NOT FOR CONSTRUCTION**



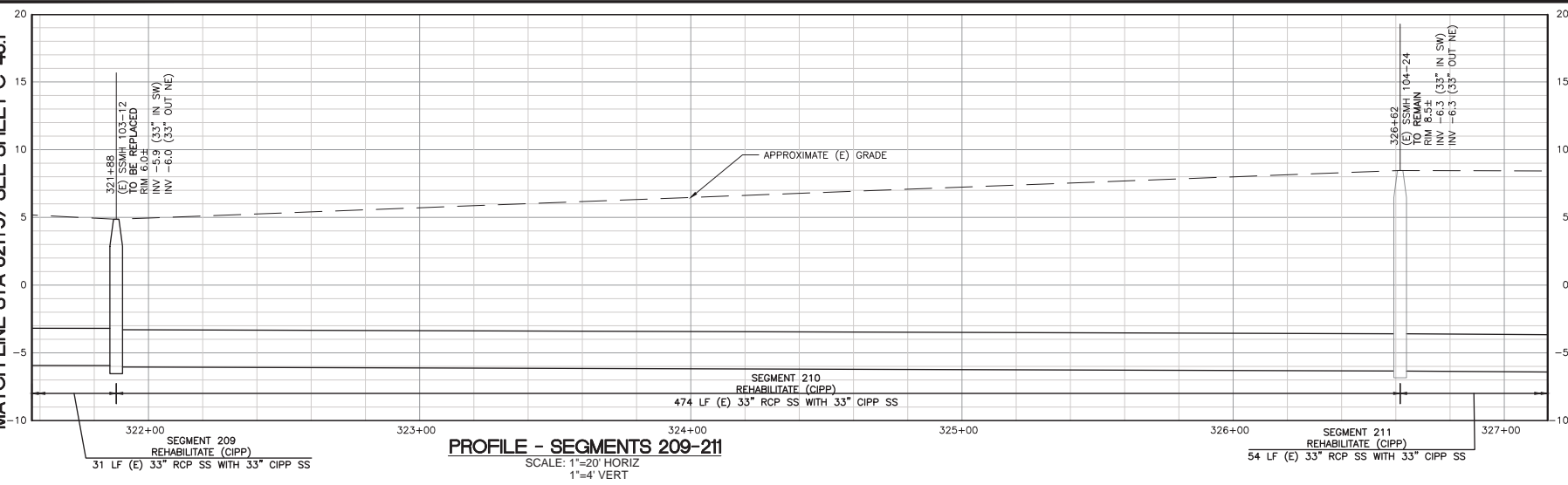
PROJECT No. <b>CE</b> 202103	
ACCOUNT No. XXXXXXXXXXXXXXX	
DATE	REVISION

<b>CITY OF SANTA CLARA</b>	
PUBLIC WORKS DEPARTMENT	
ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT	
SEG 209-211,224-226 - EASEMENT (3)	
HORIZONTAL SCALE: 1"=20' VERTICAL SCALE:	

APPROVED BY			
TITLE			
DATE	INITIAL	DATE	R.C.E. No.
			N/A
DESIGNED BY	KG/PR		TRACING No.
DRAWN BY	MG/OP		<b>12350-D</b>
CHECKED BY	TS		
AS BUILT BY			SHEET 28 OF 45

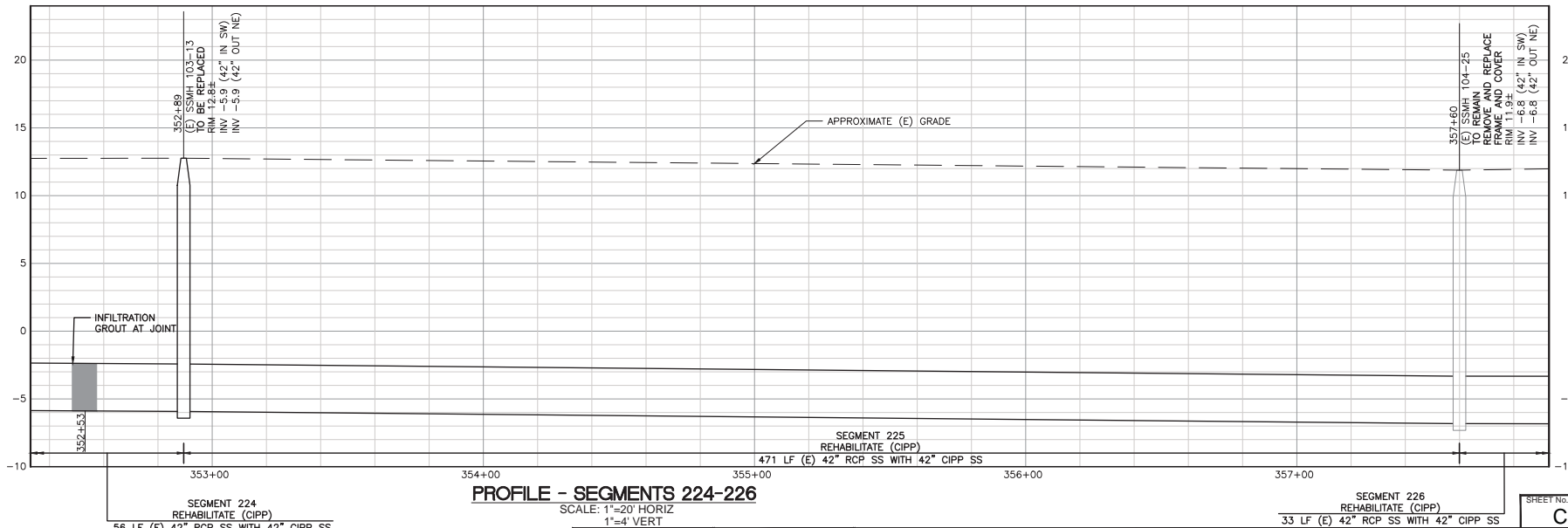
SHEET No. **C-44**

MATCH LINE STA 321+57 SEE SHEET C-43.1



MATCH LINE STA 327+16 SEE SHEET C-45.1

MATCH LINE STA 352+33 SEE SHEET C-43.1



MATCH LINE STA 357+93 SEE SHEET C-45.1

**95% PLANS  
NOT FOR CONSTRUCTION**



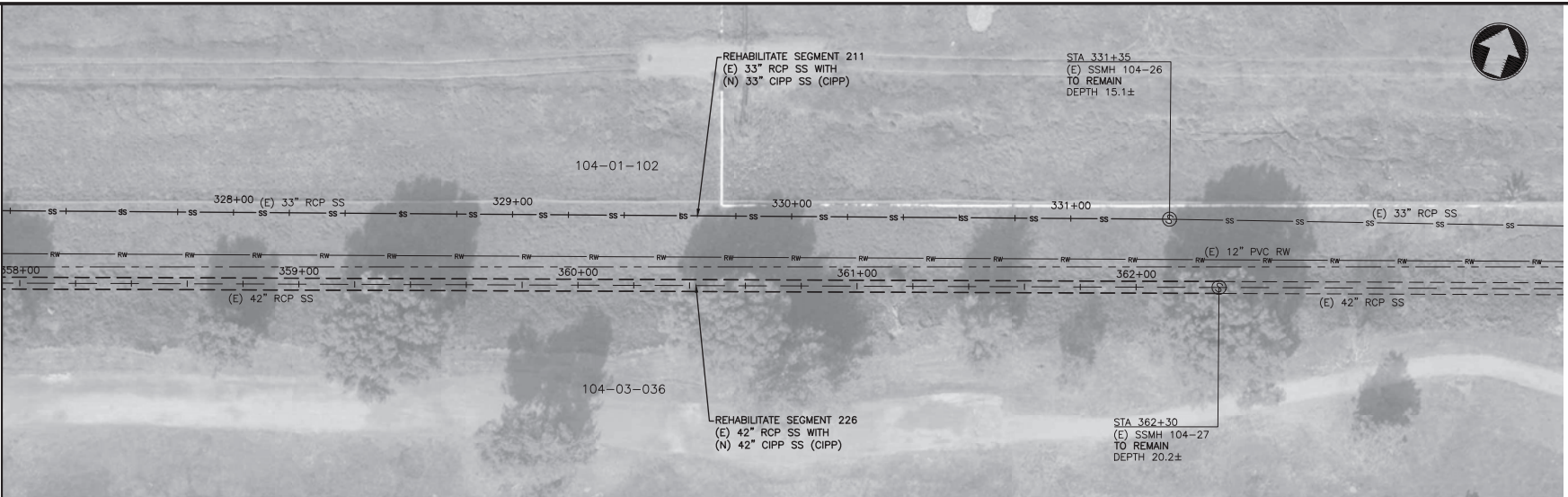
PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXXXX	
DATE	No.	REVISION

**CITY OF SANTA CLARA**  
 PUBLIC WORKS DEPARTMENT  
 ANNUAL SANITARY SEWER CONDITION  
 ASSESSMENT REPAIRS - 2021 PROJECT  
 SEG 209-211,224-226 - EASEMENT (3)  
 HORIZONTAL SCALE: 1"=20' VERTICAL SCALE:

APPROVED BY		TITLE	
DATE	INITIAL	DATE	R.C.E. No.
			N/A
DESIGNED BY	KG/PR	TRACING No.	
DRAWN BY	MG/OP	<b>12350-D</b>	
CHECKED BY	TS	SHEET	29 OF 45
AS BUILT BY			

SHEET No. **C-44.1**

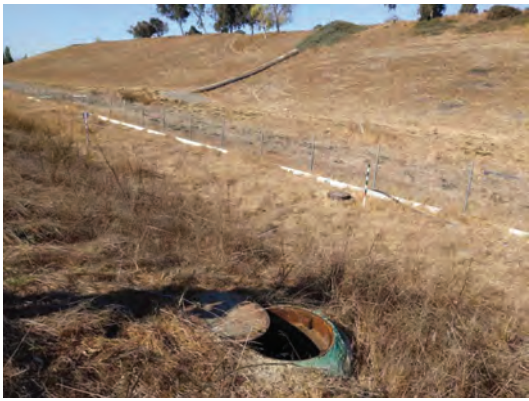
MATCH LINE SEE SHEET C-44



- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - FOR SEGMENT 211, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ADJACENT TO AND SOUTH OF EXISTING SEWER LINE FROM MH 103-10 TO MH 103-11, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SEE SHEET C-43 FOR LOCATION OF MH 103-10 AND MH 103-11.
  - FOR SEGMENT 226, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ADJACENT TO AND NORTH OF EXISTING SEWER LINE FROM MH 103-11 TO MH 103-10, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SEE SHEET C-43 FOR LOCATION OF MH 103-10 AND MH 103-11.

**PLAN**  
SCALE: 1"=20'

FOR PIPE PROFILES, SEE SHEET 45.1



**A C-45** MH 104-27 AND MH 104-26 GROUND SURFACE

**95% PLANS**  
**NOT FOR CONSTRUCTION**



PROJECT No. <b>CE</b> 202103	
ACCOUNT No. XXXXXXXXXXXXXXX	
DATE	No. REVISION

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

**ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT**

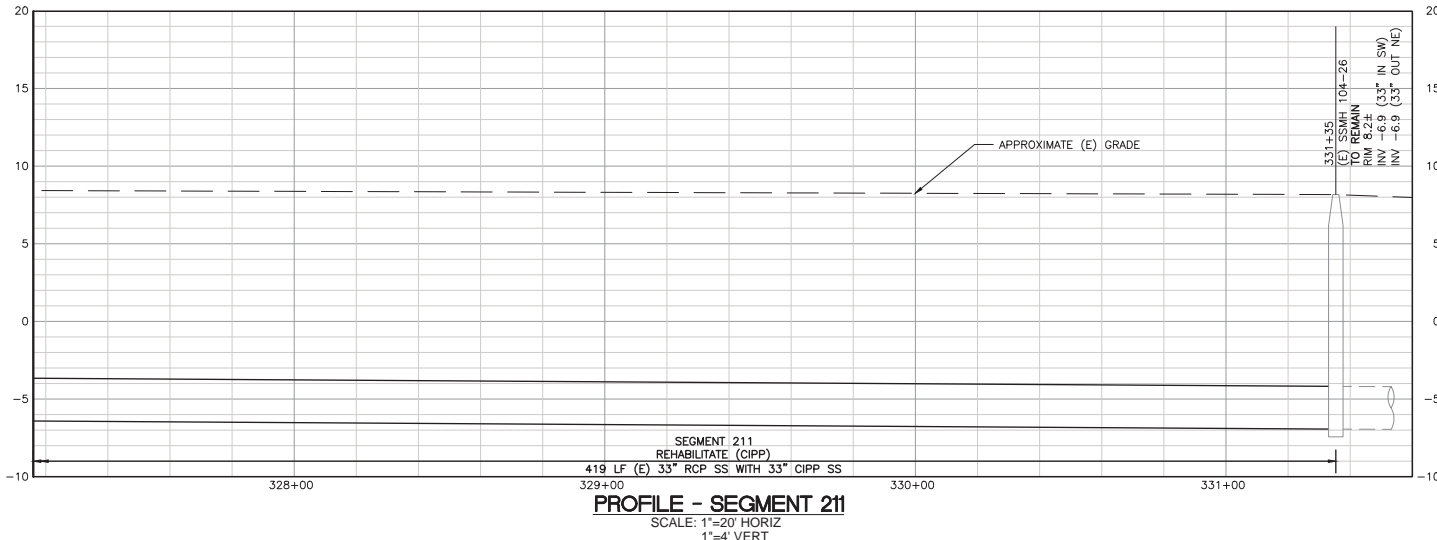
SEG 211,226 - EASEMENT (4)

HORIZONTAL SCALE: 1"=20' VERTICAL SCALE:

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DATE	R.C.E. No.	Survey No. <b>N/A</b>	
DESIGNED BY <b>KG/PR</b>	DATE	TRACING No. <b>12350-D</b>	
DRAWN BY <b>MG/OP</b>			
CHECKED BY <b>TS</b>			
AS BUILT BY			
		SHEET <b>30</b> OF <b>45</b>	

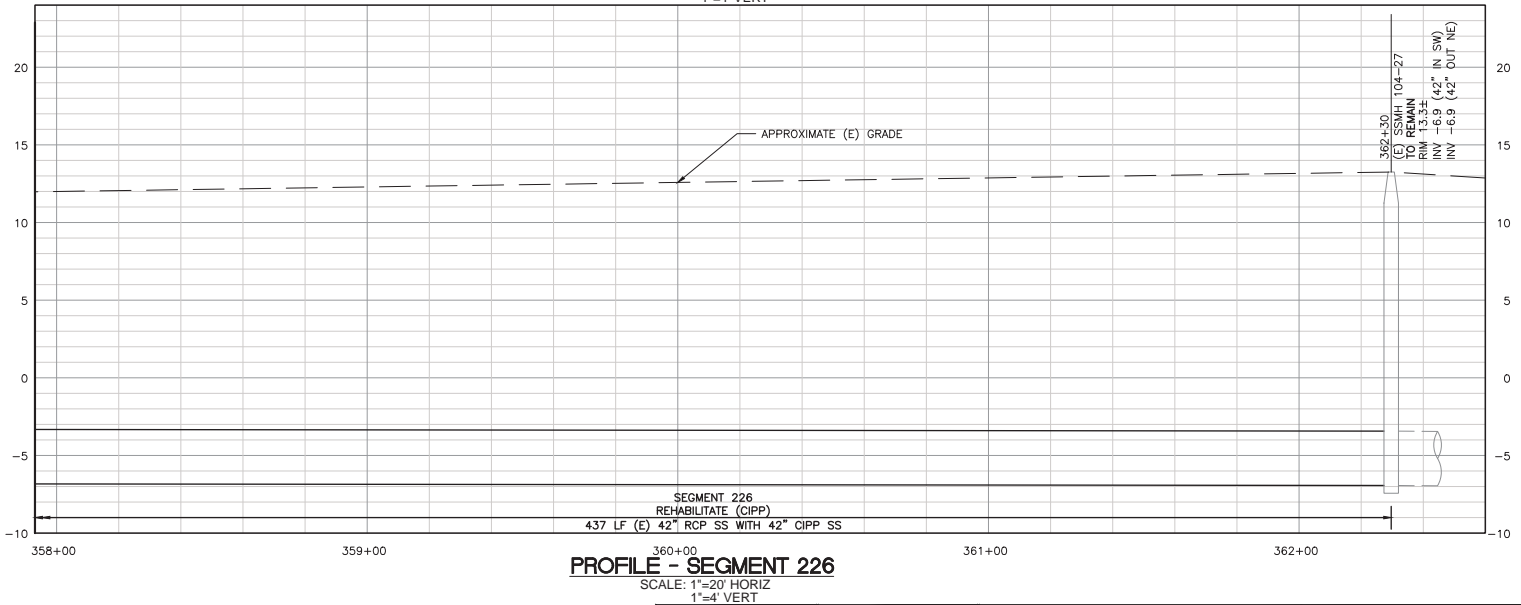
SHEET No. **C-45**

MATCH LINE STA 327+16 SEE SHEET C-44.1



**PROFILE - SEGMENT 211**  
SCALE: 1"=20' HORIZ  
1"=4' VERT

MATCH LINE STA 357+92 SEE SHEET C-44.1



**PROFILE - SEGMENT 226**  
SCALE: 1"=20' HORIZ  
1"=4' VERT

**95% PLANS  
NOT FOR CONSTRUCTION**



PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXXXXXX	
DATE	No.	REVISION

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

**ANNUAL SANITARY SEWER CONDITION  
ASSESSMENT REPAIRS - 2021 PROJECT**

SEG 211,226 - EASEMENT (4)

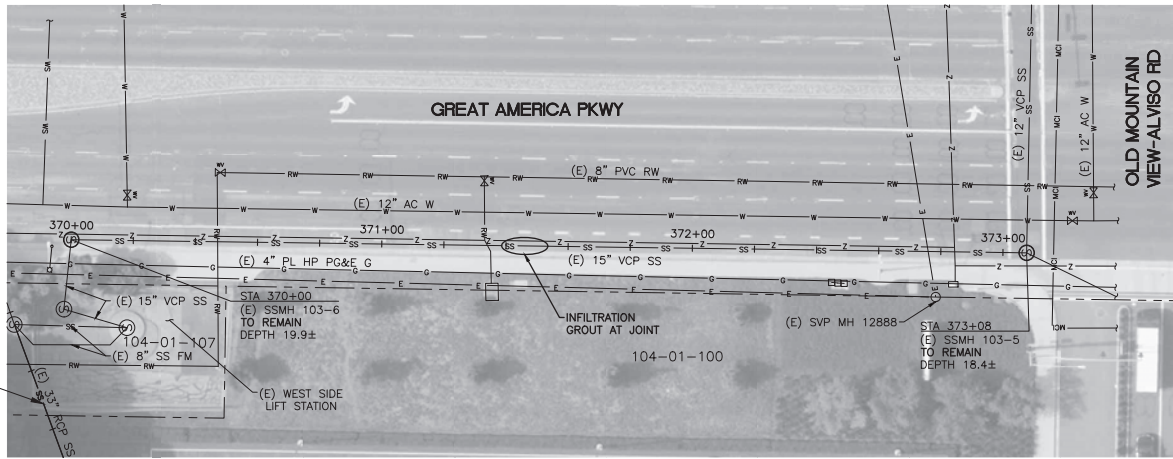
HORIZONTAL SCALE: 1"=20' VERTICAL SCALE:

APPROVED BY			
TITLE			
DATE	INITIAL	DATE	R.C.E. No.
			N/A
DESIGNED BY	KG/PR	TRACING No.	
DRAWN BY	MG/OP	<b>12350-D</b>	
CHECKED BY	TS	SHEET 31 OF 45	
AS BUILT BY			

SHEET No. **C-45.1**

SR: WSECMH-1, PLSSCALE=1, LSCALE=1

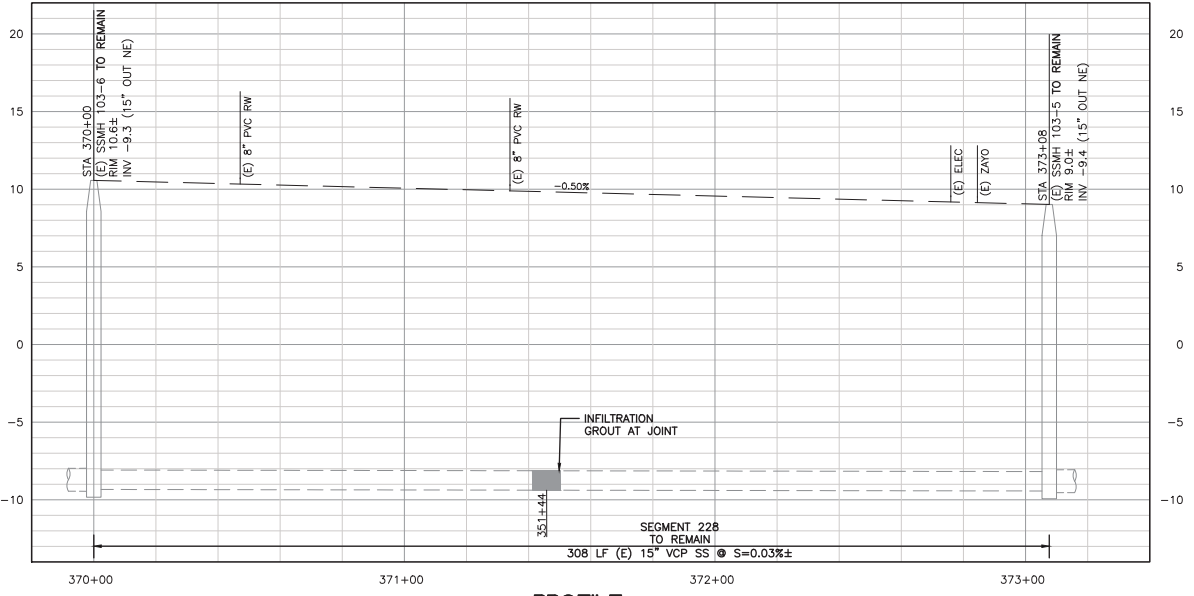
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SEE SHEET C-42

PLAN  
SCALE: 1"=20'

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - ACCESS FOR INFILTRATION GROUTING WORK SHALL BE FROM INSIDE MANHOLES AND PIPELINE ONLY.
  - FOR SEGMENT 228, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE AT GROUND SURFACE ALONG EASTERN CURB LINE OF GREAT AMERICA PARKWAY FROM MH 103-5 TO 103-6, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.



PROFILE  
SCALE: 1"=20' HORIZ  
1"=4' VERT



**95% PLANS  
NOT FOR CONSTRUCTION**



PROJECT No. CE 202103	
ACCOUNT No. XXXXXXXXXXXXXXX	
DATE	REVISION

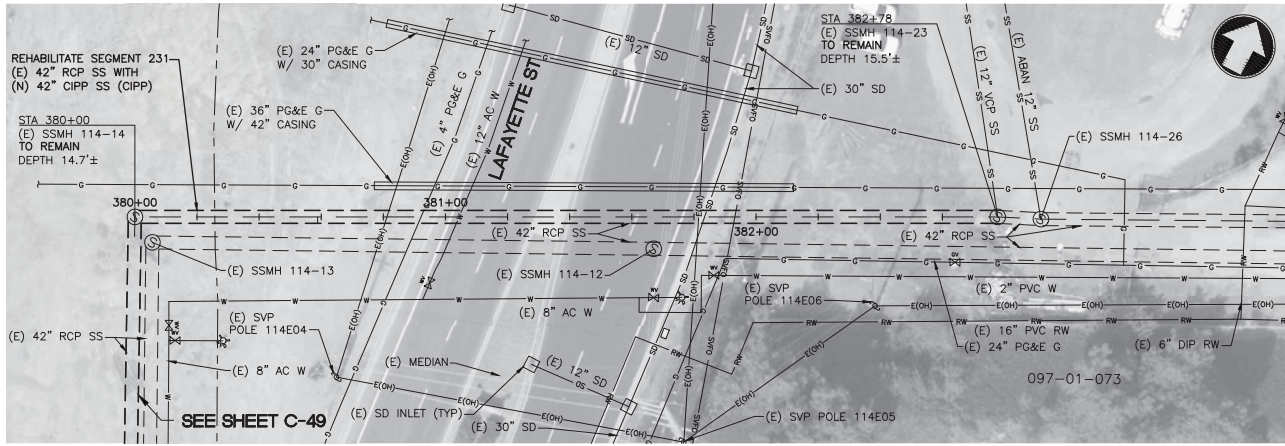
**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT  
SEG 228 - GREAT AMERICA PKWY (5)

APPROVED BY		TITLE	
DATE	R.C.E. No.	DESIGNED BY	Survey No.
			N/A
DRAWN BY	MG/OP	CHECKED BY	TS
AS BUILT BY			

SHEET No. **C-47**

**12350-D**

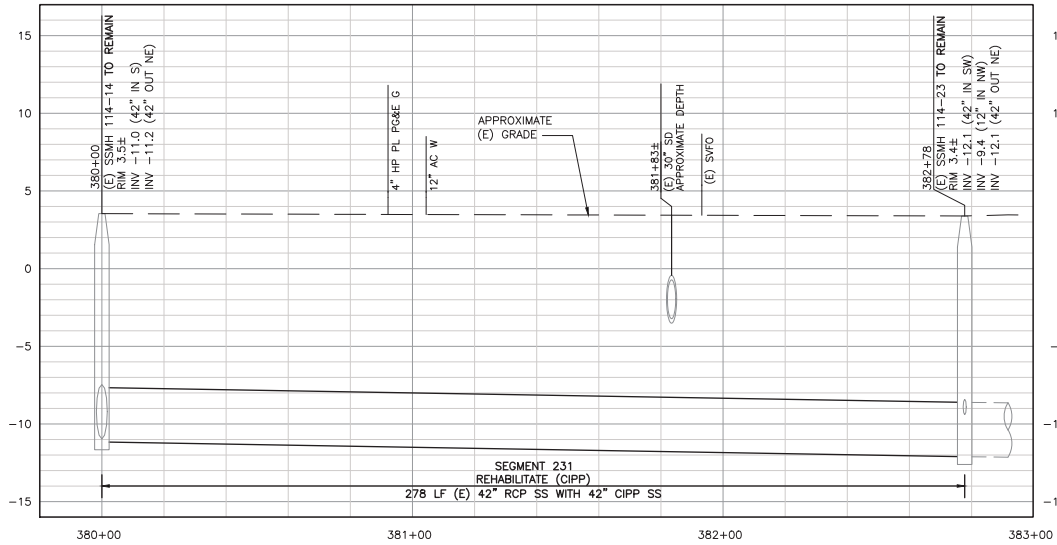
SHEET 32 OF 45



**PLAN**  
SCALE: 1"=20'

**NOTES:**

- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
- CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
- FOR SEGMENT 231, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ADJACENT TO AND NORTH OF EXISTING SEWER LINE LINE FROM MH 104-19 TO 104-22, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SEE SHEET C-52 FOR LOCATION OF MH 104-19 AND MH 104-22, AND SHEET C-61 FOR FLOW INFORMATION OF PARALLEL SANITARY SEWER LINES.



**PROFILE**  
SCALE: 1"=20' HORIZ  
1"=4' VERT

**95% PLANS**  
**NOT FOR CONSTRUCTION**



PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXX	
DATE	No.	REVISION

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
ANNUAL SANITARY SEWER CONDITION  
ASSESSMENT REPAIRS - 2021 PROJECT  
SEG 231 - LAFAYETTE ST (1)

APPROVED BY			
TITLE			
DATE	INITIAL	DATE	R.C.E. No.
			Survey No. N/A
DESIGNED BY	KG/PR		TRACING No.
DRAWN BY	MG		<b>12350-D</b>
CHECKED BY	TS		
AS BUILT BY			SHEET 33 OF 45

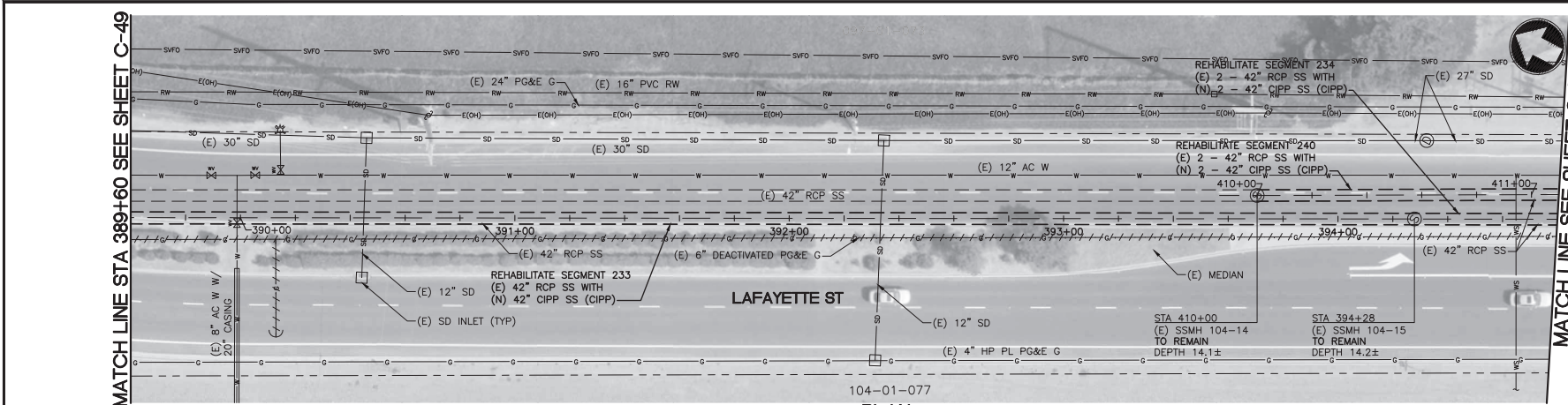
SHEET No. **C-48**

HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'



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MATCH LINE STA 389+60 SEE SHEET C-49

MATCH LINE SEE SHEET C-51

104-01-077  
**PLAN**  
SCALE: 1"=20'

- NOTES:**
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD. CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - FOR SEGMENTS 233-234, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ADJACENT TO AND NORTH OF EXISTING SEWER LINE LINE FROM MH 104-19 TO 104-22, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SEE SHEET C-52 FOR LOCATION OF MH 104-19 AND MH 104-22, AND SHEET C-61 FOR FLOW INFORMATION OF PARALLEL SANITARY SEWER LINES.
  - FOR SEGMENT 240, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ADJACENT TO AND SOUTH OF EXISTING SEWER LINE LINE FROM MH 104-22 TO 104-19, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SEE SHEET C-52 FOR LOCATION OF MH 104-19 AND MH 104-22.

FOR PIPE PROFILES, SEE SHEET C-50.1

**95% PLANS**  
**NOT FOR CONSTRUCTION**



PROJECT No. <b>CE</b> 202103	
ACCOUNT No. XXXXXXXXXXXXXXX	
DATE	REVISION

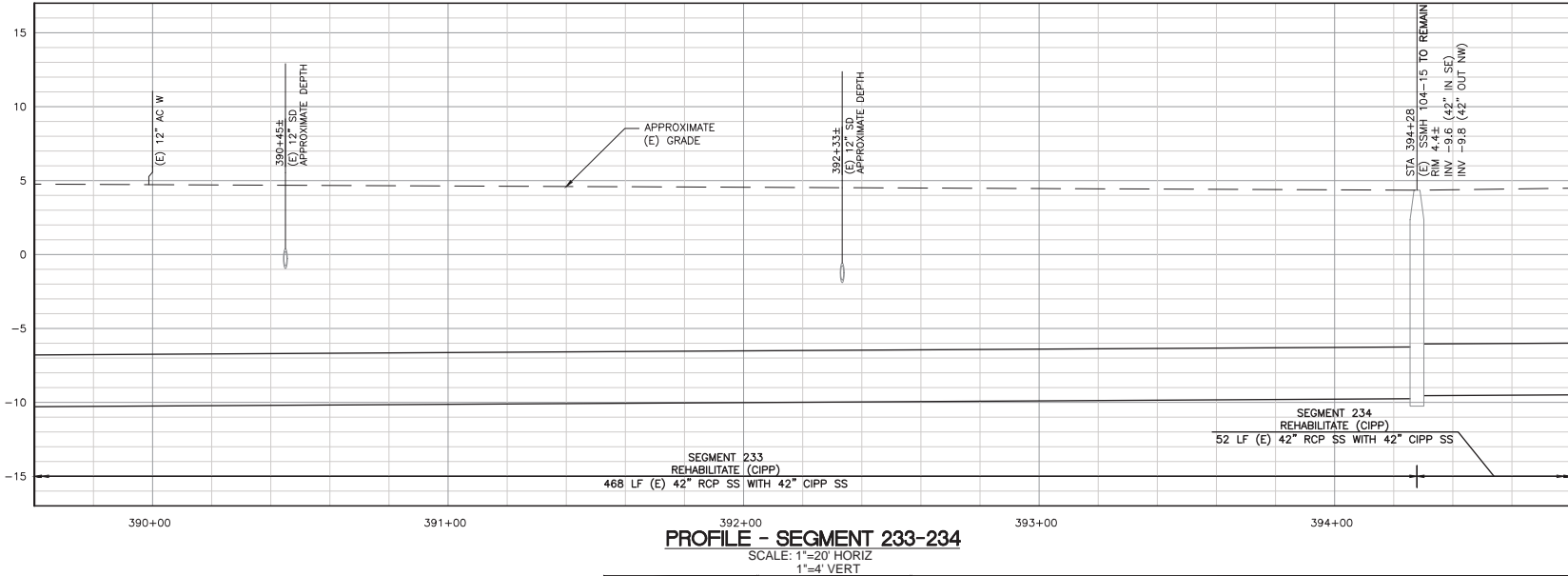
<b>CITY OF SANTA CLARA</b>	
PUBLIC WORKS DEPARTMENT	
ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT	
SEG 233,234,240 - LAFAYETTE ST (3)	
HORIZONTAL SCALE: 1"=20' VERTICAL SCALE:	

APPROVED BY		TITLE	
DATE	R.C.E. No.		
DESIGNED BY	INITIAL	DATE	Survey No. <b>N/A</b>
DRAWN BY	KG/PR		
CHECKED BY	MG	TRACING No. <b>12350-D</b>	
AS BUILT BY	TS		
		SHEET 35 OF 45	

SHEET No. **C-50**

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MATCH LINE STA 389+60 SEE SHEET C-50.1



**PROFILE - SEGMENT 233-234**  
SCALE: 1"=20' HORIZ  
1"=4' VERT



**95% PLANS**  
**NOT FOR CONSTRUCTION**



PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXXXXXX	
DATE	No.	REVISION

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

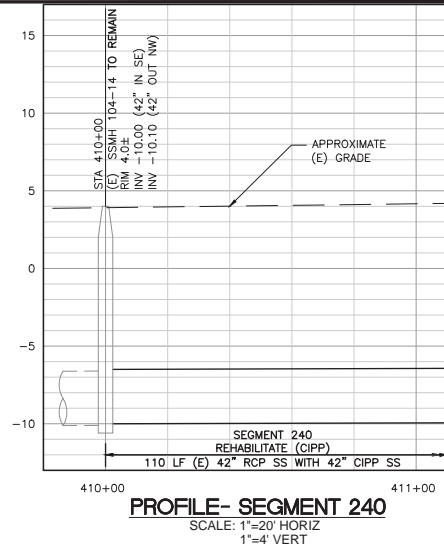
**ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT**

SEG 233,234,240 - LAFAYETTE ST (3)

HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'

APPROVED BY			TITLE		
DATE			DATE		
DESIGNED BY	KG/PR	DATE	Survey No.	N/A	
DRAWN BY	MG		TRACING No.	12350-D	
CHECKED BY	TS		SHEET	36	OF 45
AS BUILT BY					

SHEET No. **C-50.1**



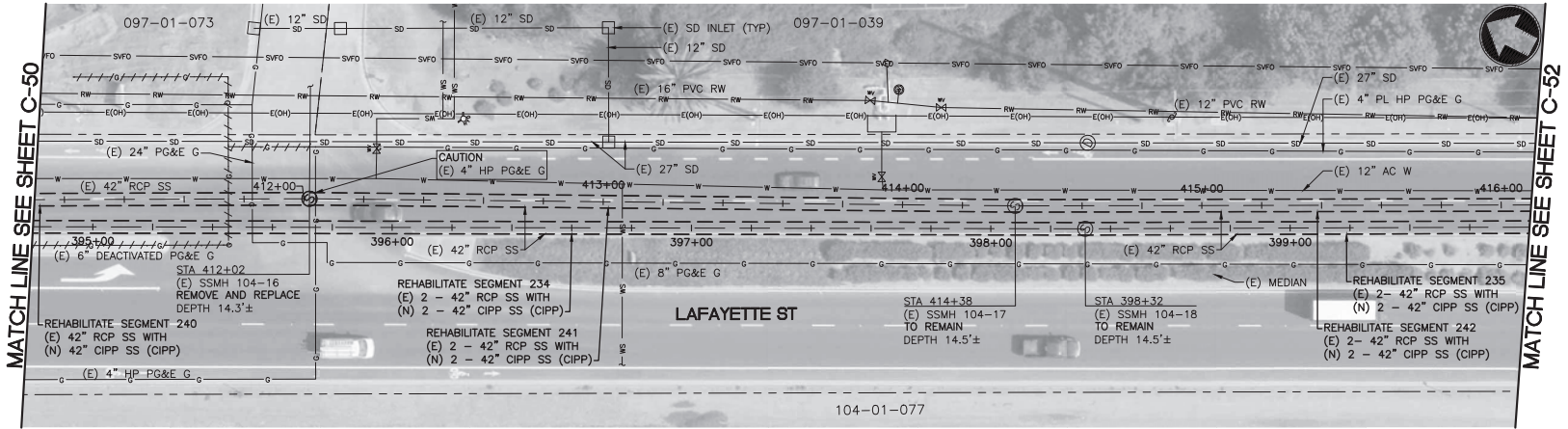
**PROFILE- SEGMENT 240**  
SCALE: 1"=20' HORIZ  
1"=4' VERT

MATCH LINE STA 411+00 SEE SHEET C-51.1

MATCH LINE STA 394+80 SEE SHEET C-51.1

STW: WRETRM-1, PLS04LE-1, LITS4LE-1

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PLAN  
SCALE: 1"=20'

- NOTES:
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - FOR SEGMENTS 234-235, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ADJACENT TO AND NORTH OF EXISTING SEWER LINE FROM MH 104-19 TO 104-22, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SEE SHEET C-52 FOR LOCATION OF MH 104-19 AND MH 104-22.
  - FOR SEGMENTS 240-242, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ADJACENT TO AND SOUTH OF EXISTING SEWER LINE FROM MH 104-22 TO 104-19, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SEE SHEET C-52 FOR LOCATION OF MH 104-19 AND MH 104-22.

FOR PIPE PROFILES, SEE SHEET C-51.1

**95% PLANS  
NOT FOR CONSTRUCTION**



PROJECT No. <b>CE</b> 202103			
ACCOUNT No. XXXXXXXXXXXXXXX			
DATE	No.	REVISION	BY

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

**ANNUAL SANITARY SEWER CONDITION  
ASSESSMENT REPAIRS - 2021 PROJECT**

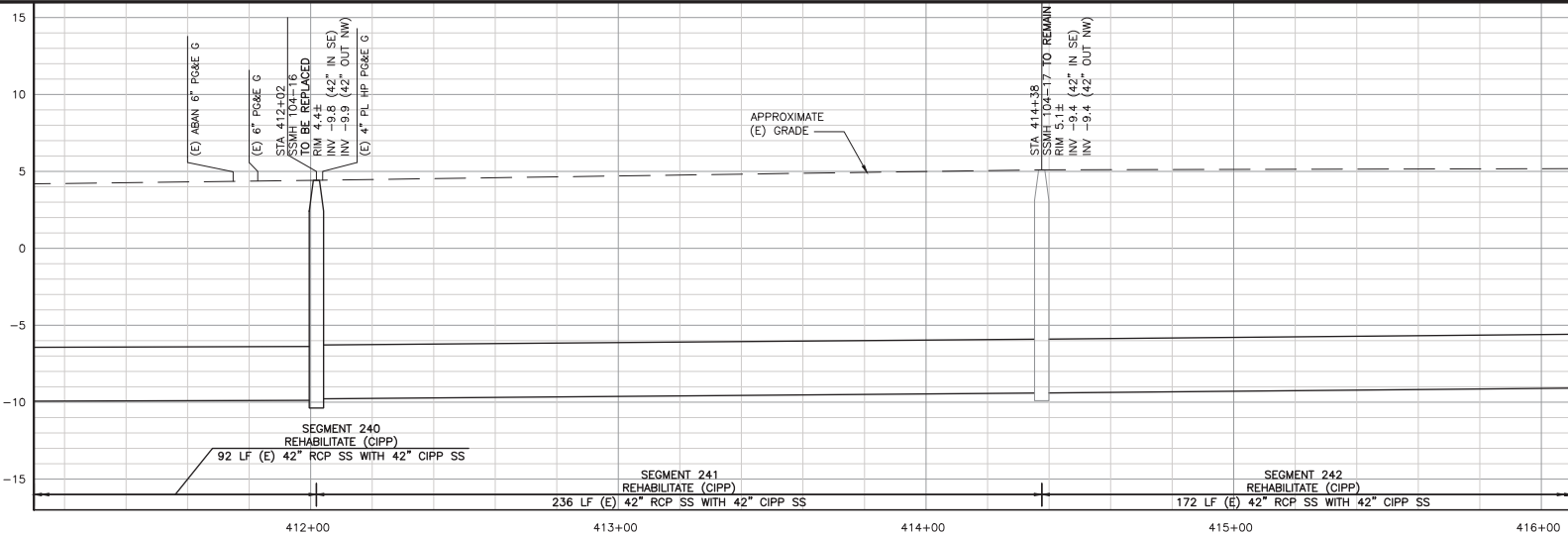
SEG 234,235,240-242 - LAFAYETTE ST (4)

HORIZONTAL SCALE: 1"=20' VERTICAL SCALE:

APPROVED BY			
TITLE			
DATE	INITIAL	DATE	R.C.E. No.
			Survey No. N/A
DESIGNED BY	KG/PR		TRACING No.
DRAWN BY	MG		<b>12350-D</b>
CHECKED BY	TS		
AS BUILT BY			SHEET 37 OF 45

SHEET No. **C-51**

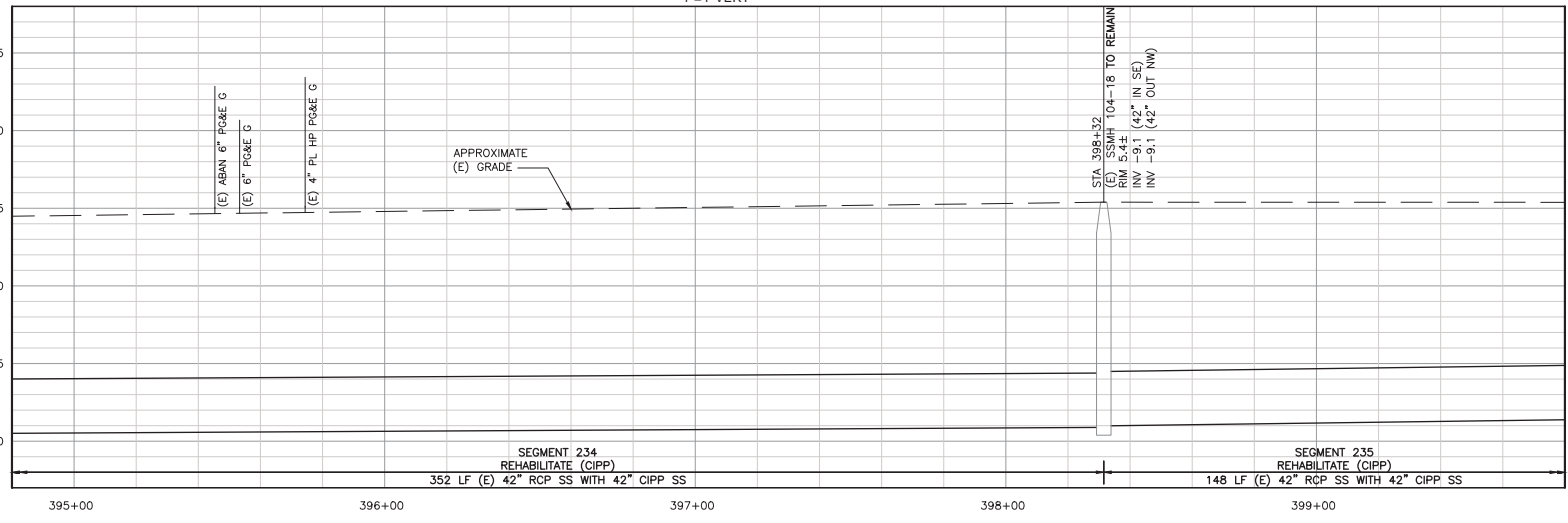
MATCH LINE STA 411+10 SEE SHEET C-50.1



**PROFILE - SEGMENT 240-242**  
 SCALE: 1"=20' HORIZ  
 1"=4' VERT

MATCH LINE STA 416+10 SEE SHEET C-52

MATCH LINE STA 394+80 SEE SHEET C-50.1



**PROFILE - SEGMENT 234-235**  
 SCALE: 1"=20' HORIZ  
 1"=4' VERT

MATCH LINE STA 399+80 SEE SHEET C-52

**95% PLANS**  
**NOT FOR CONSTRUCTION**



PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXXXXXX	
DATE	No.	REVISION

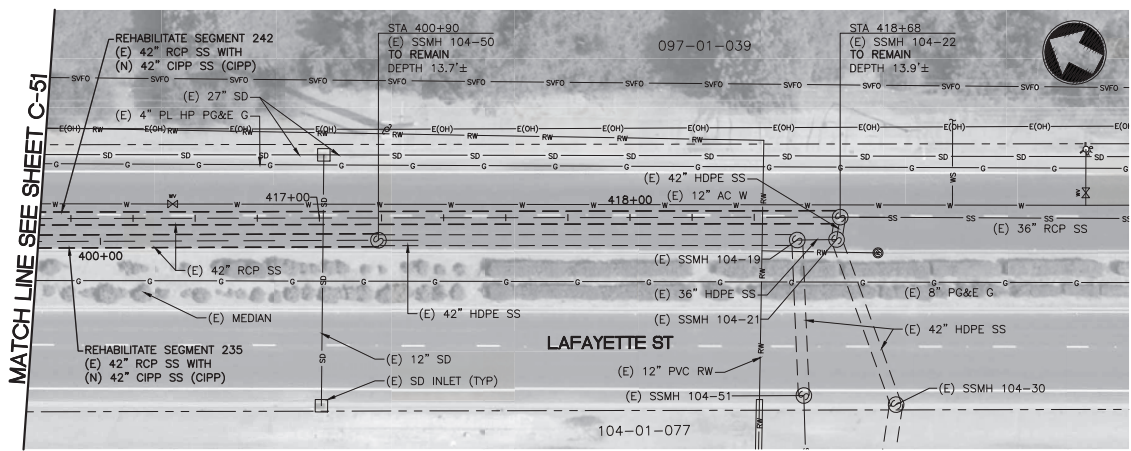
**CITY OF SANTA CLARA**  
 PUBLIC WORKS DEPARTMENT  
 ANNUAL SANITARY SEWER CONDITION  
 ASSESSMENT REPAIRS - 2021 PROJECT  
 SEG 234,235,240-242 - LAFAYETTE ST (4)  
 HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'

APPROVED BY		TITLE	
DATE	R.C.E. No.	Survey No. N/A	
DESIGNED BY	KG/PR	DATE	TRACING No.
DRAWN BY	MG		<b>12350-D</b>
CHECKED BY	TS		
AS BUILT BY			
SHEET 38		OF 45	

SHEET No. **C-51.1**

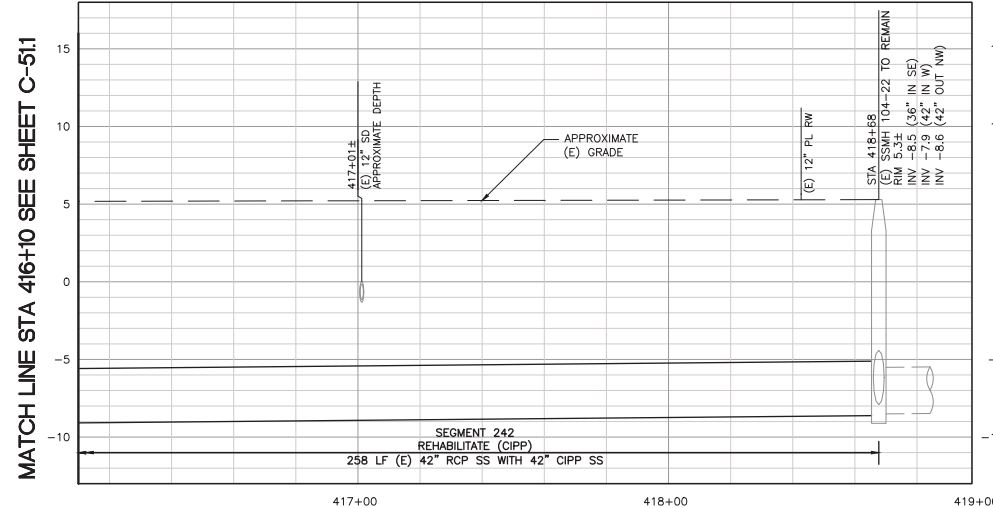
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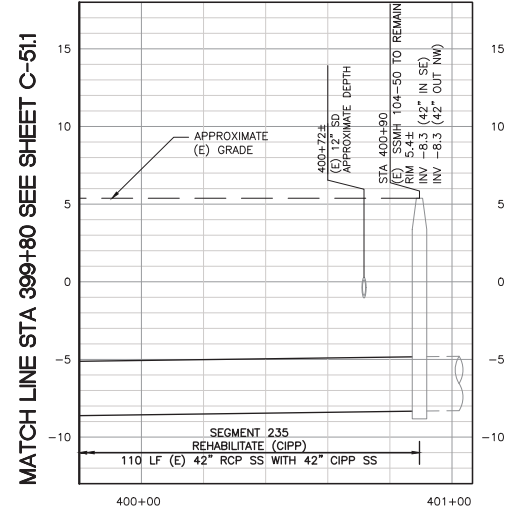


PLAN  
SCALE: 1"=20'

- NOTES:
- ELEVATIONS ARE BASED ON CITY GIS DATA WITH APPROXIMATE MANHOLE DEPTHS MEASURED IN FIELD.
  - CONTRACTOR SHALL BE REQUIRED TO HAVE APPROVED TRAFFIC PLANS FULLY IMPLEMENTED PRIOR TO CONDUCTING ANY CONSTRUCTION IN EACH WORK AREA.
  - FOR SEGMENT 235, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ADJACENT TO AND NORTH OF EXISTING SEWER LINE LINE FROM MH 104-19 TO 104-22, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL.
  - FOR SEGMENT 242, BYPASS OF SANITARY SEWER FLOWS MAY BE LOCATED AT GROUND SURFACE ADJACENT TO AND SOUTH OF EXISTING SEWER LINE LINE FROM MH 104-22 TO 104-19, OR ALTERNATE BYPASS PLAN MAY BE SUBMITTED FOR APPROVAL. SEE SHEET C-61 FOR FLOW INFORMATION OF PARALLEL SANITARY SEWER LINES.



PROFILE - SEGMENT 242  
SCALE: 1"=20' HORIZ  
1"=4' VERT



PROFILE - SEGMENT 235  
SCALE: 1"=20' HORIZ  
1"=4' VERT

**95% PLANS  
NOT FOR CONSTRUCTION**



PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXXXXXX	
DATE	No.	REVISION

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
ANNUAL SANITARY SEWER CONDITION  
ASSESSMENT REPAIRS - 2021 PROJECT  
SEG 235,242 - LAFAYETTE ST (5)

APPROVED BY	TITLE	
DATE	INITIAL	DATE
	KG/PR	Survey No. N/A
DESIGNED BY	TRACING No.	
DRAWN BY	MG	<b>12350-D</b>
CHECKED BY	TS	
AS BUILT BY	SHEET 39 OF 45	

SHEET No. **C-52**

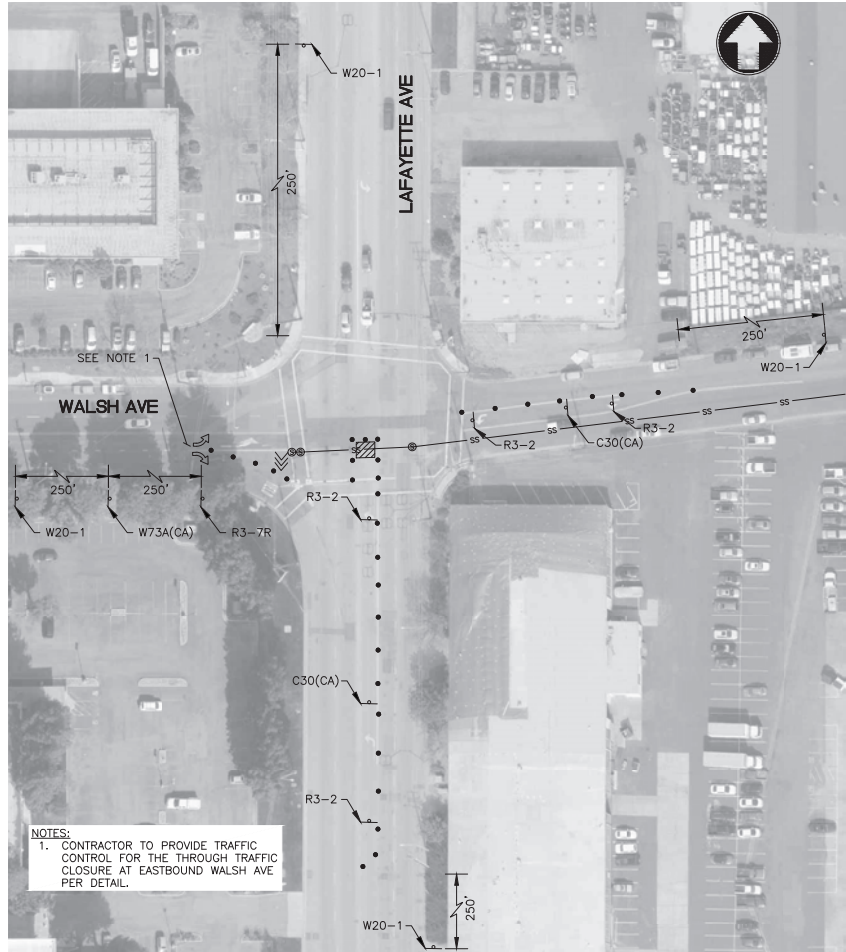
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 User: C:\pawel\pawel\water\assessments\2021\Traffic Control Plans - 2.dwg  
 Plot: C:\pawel\pawel\water\assessments\2021\Traffic Control Plans - 2.dwg



**TRAFFIC CONTROL MEASURE #1:**  
CURED-IN-PLACE PIPE AT INTERSECTION OF DE LA CRUZ BLVD AND MARTIN AVE



**NOTES:**  
1. CONTRACTOR TO PROVIDE TRAFFIC CONTROL FOR THE THROUGH TRAFFIC CLOSURE AT EASTBOUND WALSH AVE PER DETAIL.

**TRAFFIC CONTROL MEASURE #2:**  
OPEN CUT AT INTERSECTION OF WALSH AVE AND LAFAYETTE AVE

**95% PLANS**  
**NOT FOR CONSTRUCTION**



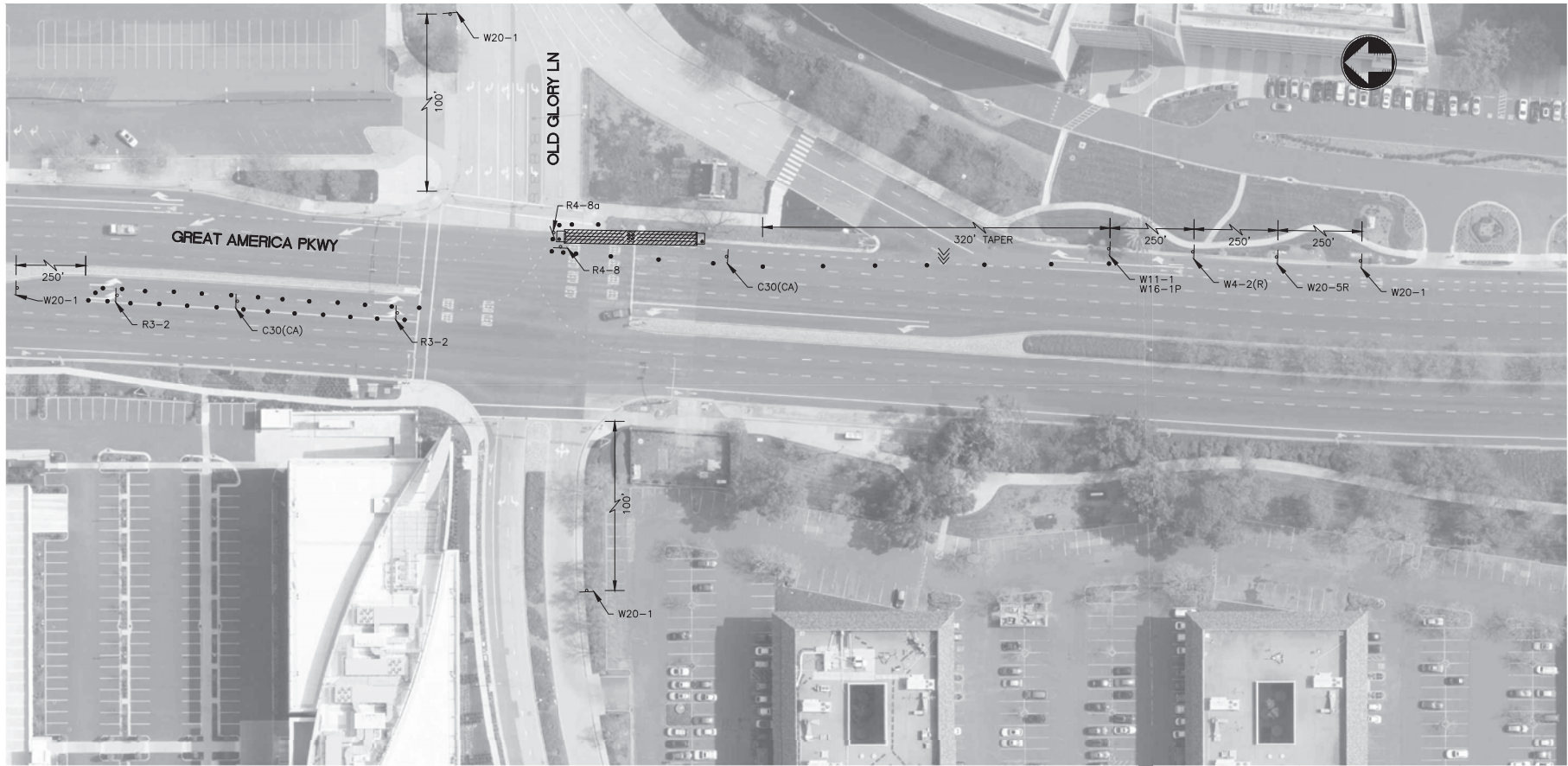
PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXX	
DATE	No.	REVISION

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT  
ANNUAL SANITARY SEWER CONDITION ASSESSMENT REPAIRS - 2021 PROJECT  
TRAFFIC CONTROL PLAN

APPROVED BY		TITLE	
DATE	INITIAL	DATE	R.C.E. No.
	TC		Survey No. N/A
DESIGNED BY	OP	TRACING No. 12350-D	
DRAWN BY	TA		
CHECKED BY			
AS BUILT BY		SHEET 41 OF 45	

SHEET No. C-58

Plotfile: Aug 06, 2021, 2:17pm by: R0165690  
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 User: [C:\TBL] [W:\687.3A] [C:\HPG-E] [0621] [0622]



**TRAFFIC CONTROL MEASURE #3:**  
CIPP AND OPEN CUT AT INTERSECTION OF OLD GLORY LN AND GREAT AMERICA PKWY

**95% PLANS**  
**NOT FOR CONSTRUCTION**



PROJECT No. <b>CE</b> 202103	
ACCOUNT No. XXXXXXXXXXXXXXX	
DATE	BY
No.	REVISION

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

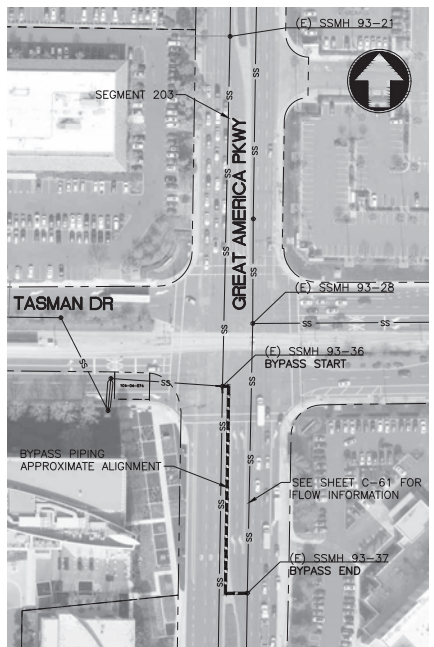
ANNUAL SANITARY SEWER CONDITION  
ASSESSMENT REPAIRS - 2021 PROJECT

**TRAFFIC CONTROL PLAN**

HORIZONTAL SCALE: 1"=40' VERTICAL SCALE:

APPROVED BY		R.C.E. No.	
TITLE		Survey No. <b>N/A</b>	
DESIGNED BY	TC	DATE	TRACING No.
DRAWN BY	OP		<b>12350-D</b>
CHECKED BY	TA		
AS BUILT BY			SHEET 42 OF 45

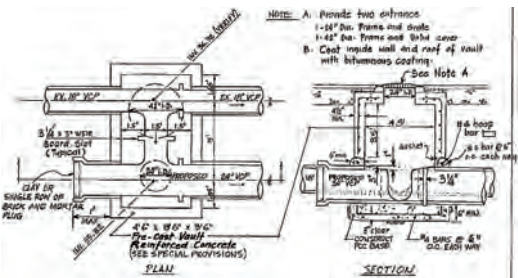
SHEET No. **C-59**



**GREAT AMERICA PKWY SUGGESTED BYPASSING PLAN**  
 SCALE: 1" = 80'



**MATHEW ST SUGGESTED BYPASSING PLAN**  
 SCALE: 1" = 80'



**AS-BUILT SCHEMATIC DRAWING EXCERPT - SSMH 57-38 VAULT**  
 N.T.S.

**NOTE:**  
 1. REFERENCE: CITY TRACING NO. 7880-D DATED JULY 1979.

- NOTES:**
1. BYPASS PLAN SHOWN ON THIS SHEET IS SUGGESTED. CONTRACTOR IS PERMITTED TO SUBMIT ALTERNATIVE BYPASS PLANS IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.
  2. DETAILS OF BYPASS AND MODIFICATION THERETO SHALL CONFORM TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. CONTRACTOR SHALL CONFIRM FIELD CONDITIONS PRIOR TO INSTALLATION OF BYPASS EQUIPMENT.

**95% PLANS**  
**NOT FOR CONSTRUCTION**



PROJECT No.	CE	202103
ACCOUNT No.	XXXXXXXXXXXXXX	
DATE	No.	REVISION

**CITY OF SANTA CLARA**  
 PUBLIC WORKS DEPARTMENT  
 ANNUAL SANITARY SEWER CONDITION  
 ASSESSMENT REPAIRS - 2021 PROJECT  
 SUGGESTED BYPASS PLAN

APPROVED BY		TITLE	
DATE	INITIAL	DATE	Survey No.
	KG		N/A
DRAWN BY	MG	TRACING No.	12350-D
CHECKED BY	TS		
AS BUILT BY		SHEET	43 OF 45

SHEET No. **C-60**

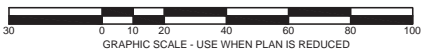
HORIZONTAL SCALE: 1"=80' VERTICAL SCALE:

**PIPE SEGMENT ESTIMATED FLOW INFORMATION**

SHEET #	US MH	DS MH	EXISTING PIPE DIAMETER (IN)	EXISTING PIPE MATERIAL	ESTIMATED AVERAGE DRY WEATHER FLOW (MGD)	ESTIMATED PEAK DRY WEATHER FLOW (MGD)	ESTIMATED MAX WET WEATHER FLOW (MGD)	PIPE PEAK FLOW CAPACITY (MGD)
C-23	56-30	56-21	12	VCP	0.19	0.26	0.29	0.91
C-23	57-38	57-58	18	VCP	0.00	0.00	0.00	12.24
C-24	57-58	57-40	18	VCP	0.00	0.00	0.00	12.24
C-25	57-40	57-23	18	VCP	0.00	0.01	0.00	8.69
C-33	56-58	57-59	15	VCP	1.22	2.26	4.38	4.43
C-33	56-59	57-51	30	VCP	1.22	2.26	4.40	5.89
C-33	57-51	57-52	30	VCP	1.22	2.26	4.40	5.95
C-34	57-52	57-53	30	VCP	1.22	2.26	4.40	5.94
C-35	57-53	57-54	30	VCP	1.22	2.26	4.40	6.03
C-38	93-37	93-28	15	VCP	2.22	13.92	18.72	16.05
C-38	93-28	93-27	39	RCP	2.26	14.02	18.83	26.68
C-38	93-27	93-20	39	RCP	2.26	14.02	18.83	23.59
C-39	93-20	93-5	39	RCP	2.26	14.02	18.83	19.21
C-39	93-5	103-27	39	RCP	2.30	14.37	19.13	20.12
C-40	103-27	103-24	39	RCP	2.30	14.37	19.14	17.27
C-40	103-24	103-23	39	RCP	2.30	14.37	19.14	47.52
C-40	103-23	103-21	39	RCP	3.27	14.80	19.33	24.88
C-42	103-14	103-9	42	RCP	3.66	10.50	11.03	15.10
C-48	114-13	114-12	42	RCP	6.37	18.12	22.04	24.79
C-49	104-8	114-13	42	RCP	6.37	18.12	22.04	24.75
C-50	104-14	104-8	42	RCP	6.37	18.12	22.04	24.75

Plot Date: 06/06/2021 2:17pm by: 6019458  
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 User: C:\BTL

**95% PLANS  
NOT FOR CONSTRUCTION**



PROJECT No. <b>CE</b> 202103	
ACCOUNT No. XXXXXXXXXXXXXXXX	
DATE	BY

**CITY OF SANTA CLARA**  
PUBLIC WORKS DEPARTMENT

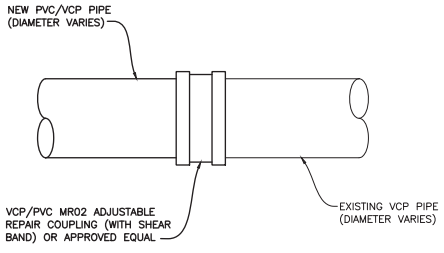
ANNUAL SANITARY SEWER CONDITION  
ASSESSMENT REPAIRS - 2021 PROJECT

**BYPASSING FLOW INFORMATION**

HORIZONTAL SCALE: NTS VERTICAL SCALE: NTS

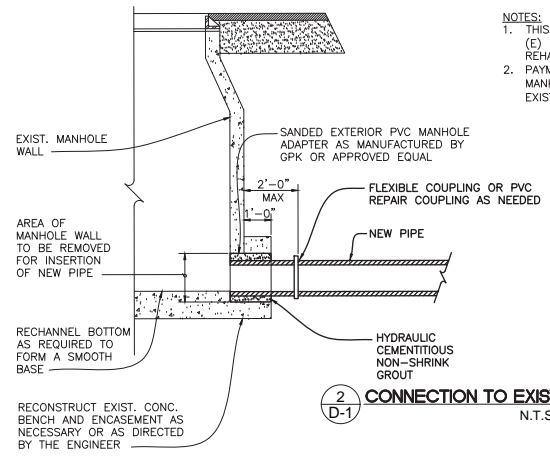
APPROVED BY			
TITLE			
DATE	INITIAL	DATE	R.C.E. No.
DESIGNED BY	KG		Survey No. <b>N/A</b>
DRAWN BY	MG		TRACING No. <b>12350-D</b>
CHECKED BY	TS		
AS BUILT BY			SHEET <b>44</b> OF <b>45</b>

SHEET No. **C-61**



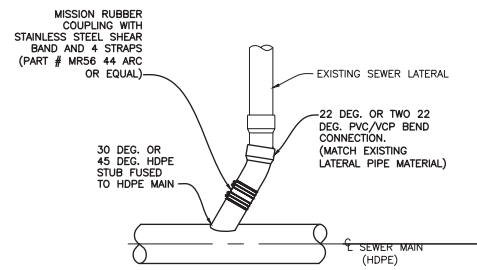
- NOTES:**
1. THIS DETAIL APPLIES TO ALL EXISTING SANITARY SEWER PIPE CONNECTIONS WHETHER REFERENCED OR NOT.
  2. WHERE POSSIBLE, CONTRACTOR SHALL CONNECT TO EXISTING SANITARY SEWER THROUGH BELL AND SPIGOT ON ONE END OF PROPOSED OPEN CUT OR POINT REPAIR AND SHALL USE MISSION RUBBER ARC WITH SHEAR BAND FOR OPPOSITE CONNECTION TO EXISTING SANITARY SEWER IN ACCORDANCE WITH THIS DETAIL.

**1 CONNECTION TO EXISTING VCP SANITARY SEWER DETAIL**  
 N.T.S.



- NOTES:**
1. THIS DETAIL APPLIES TO ALL CONNECTIONS TO (E) MANHOLES OR (E) MANHOLES TO BE REHABILITATED WHETHER REFERENCED OR NOT.
  2. PAYMENT FOR CONNECTING INTO AN (E) MANHOLE SHALL BE PAID UNDER "CONNECT TO EXISTING SANITARY SEWER MANHOLE."

**2 CONNECTION TO EXISTING MANHOLE DETAIL**  
 N.T.S.



**3 EXISTING LATERAL CONNECTION INTO NEW HDPE MAIN**  
 N.T.S.

**95% PLANS  
 NOT FOR CONSTRUCTION**



PROJECT No. <b>CE</b> 202103	
ACCOUNT No. XXXXXXXXXXXXXXXX	
DATE	NO.
REVISION	BY

**CITY OF SANTA CLARA**  
 PUBLIC WORKS DEPARTMENT  
 ANNUAL SANITARY SEWER CONDITION  
 ASSESSMENT REPAIRS - 2021 PROJECT  
 TYPICAL DETAILS

APPROVED BY		TITLE	
DATE	R.C.E. No.	DESIGNED BY	Survey No.
		KG/PR	N/A
DRAWN BY	MG	CHECKED BY	TS
AS BUILT BY			

SHEET No. **D-1**

TRACING No. **12350-D**  
 SHEET 45 OF 45

## Specific Developments Included in the Future (2035) Scenario

ID	Development
0	Agilent entitlement
1	166 Saratoga
2	1890 ECR
3	2525 ECR
4	2585 ECR
5	3000 Bowers
6	3175 ECR
7	3303 Scott Blvd
8	4800 GAP
9	49er Stadium
10	Agnew Homes
11	Artrium Sr. Apt
12	BART
13	Bassett DC
14	Burton BlowDown
15	City Place 5
16	City Ventures
17	CLK Bldg
18	Condensa
19	CORE Apt
20	Coresite DC
21	DuPont Fabrous
22	Gateway Crossing
23	Franklin-Monroe-Benton
24	Hotel
25	Hotel
27	Lafayette DC
28	Laurelwood
29	Lawson Ln
30	LennarComm
31	Lowe Enterprise / Aria
32	Madison Place
33	Martin DC
34	Mission Campus
35	Mission DC
36	Mission TC
37	Monticello
38	NVIDIA
39	Oracle
40	Oracle
41	Pomeroy Houses
42	Prometheus
43	Prometheus Apt
44	Russel Houses








**Specific Developments Included in the Future (2035) Scenario**

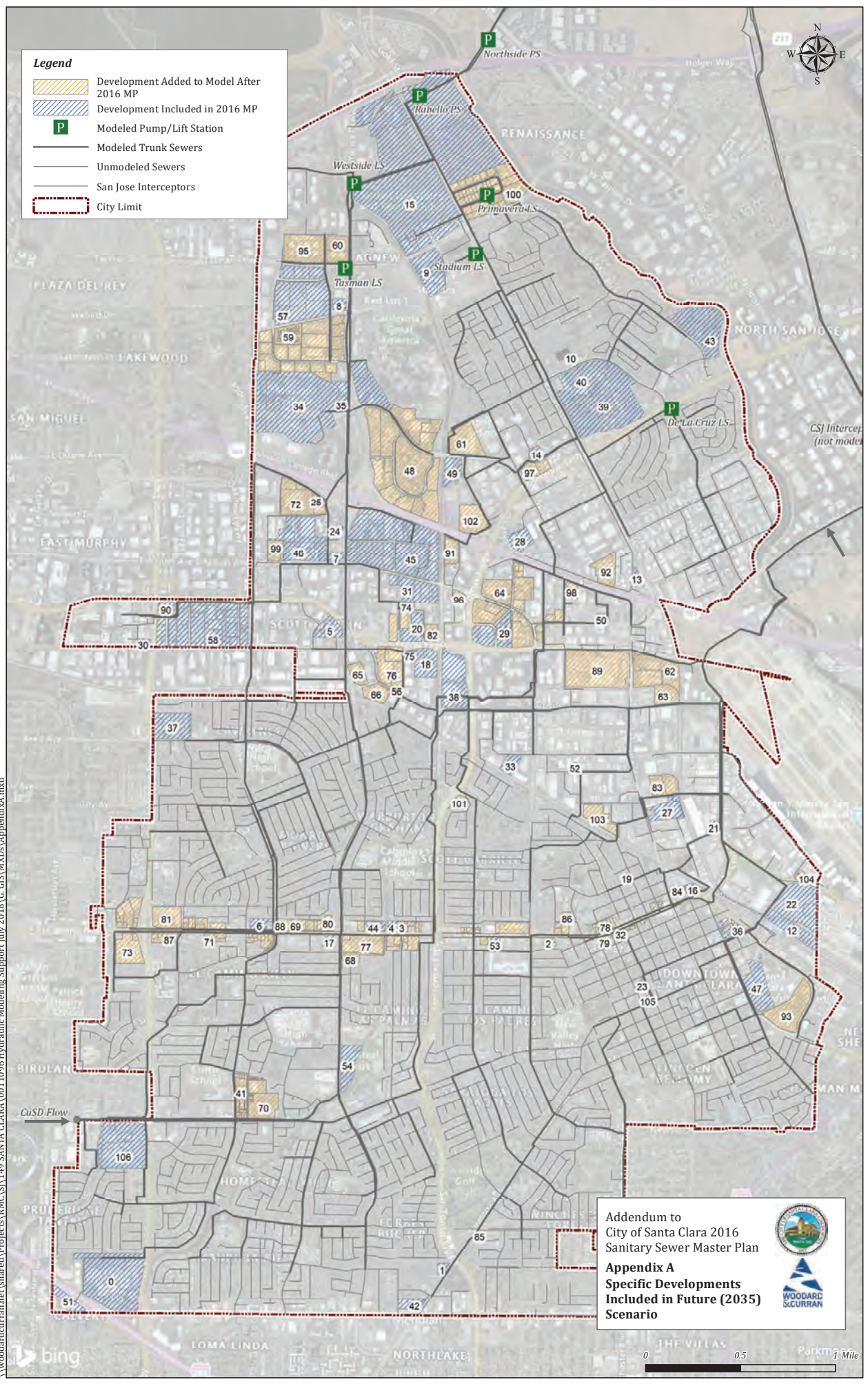
<b>ID</b>	<b>Development</b>
45	SC Square
46	Scott Campus
47	SCU Graham Dorm
48	Freedom Circle
49	South Bay Dvpt
50	Space Park DC
51	Stevens Ck Dvpt
52	Streamline Circuit
53	SummerHill
54	SwimCtr
55	Valley Fair Exp
56	Vantage DC
57	Yahoo
58	Lawrence Station
59	Patrick Henry Drive
60	2901 Tasman
61	2305 Mission College
62	2825 Lafayette Street Data Center
63	651 Walsh Ave Data Center
64	2200 Lawson Lane development
65	2805 Bowers Avenue Data Center
66	2570 ECR
68	2780 ECR
69	3035 ECR
70	3131 Homestead development
71	3410 ECR
72	3625 Peterson Way development
73	3700, 3710 ECR (Gateway Village)
74	3045 Stender Way (Data Center)
75	Vantage V6 data center
76	Vantage V2 and V5 Data Center
77	ECR_CMU
78	1375 ECR
79	1480 Main Street
80	2855-2895 ECR
81	3501 ECR
82	CoreSite SV9 Data Center
83	McLaren Data Center
84	820 CivicCenterDr
85	275 Saratoga Avenue
86	1601 Civic Center Drive
87	3550 ECR
88	3155 ECR
89	960 Central Expressway

## Specific Developments Included in the Future (2035) Scenario

<b>ID</b>	<b>Development</b>
90	3517 Ryder Street
91	Menlo Equities
92	River of Life Church
93	SCU MP
94	Agrihood
95	3001 Tasman Drive
96	3200 Scott Boulevard
97	2041 Mission College (MP Market Place)
98	Golden Cajun (OpenColo SC1) Data Center
99	3375 Scott Blvd
100	Tasman East Specific Plan
101	2330 Monroe Street
102	2201 Laurelwood Data Center
103	1200 Memorex Drive Data Center
104	Santa Clara Dual-Branded Hotel
105	950 Monroe Street
106	Kaiser Entitlement

**Legend**



-  Development Added to Model After 2016 MP
-  Development Included in 2016 MP
-  Modeled Pump/Lift Station
-  Modeled Trunk Sewers
-  Unmodeled Sewers
-  San Jose Interceptors
-  City Limit



\\woodardcurran.net\shared\Projects\RMCS\149 SANTA CLARA\00110916 Hydraulic Modeling\_Support\_July 2018\GIS\MXDs\AppendixA.mxd

Addendum to  
City of Santa Clara 2016  
Sanitary Sewer Master Plan

**Appendix A**  
Specific Developments  
Included in Future (2035)  
Scenario

## **Appendix B – Capacity Deficiency Profiles**

Example Model Hydraulic Profile

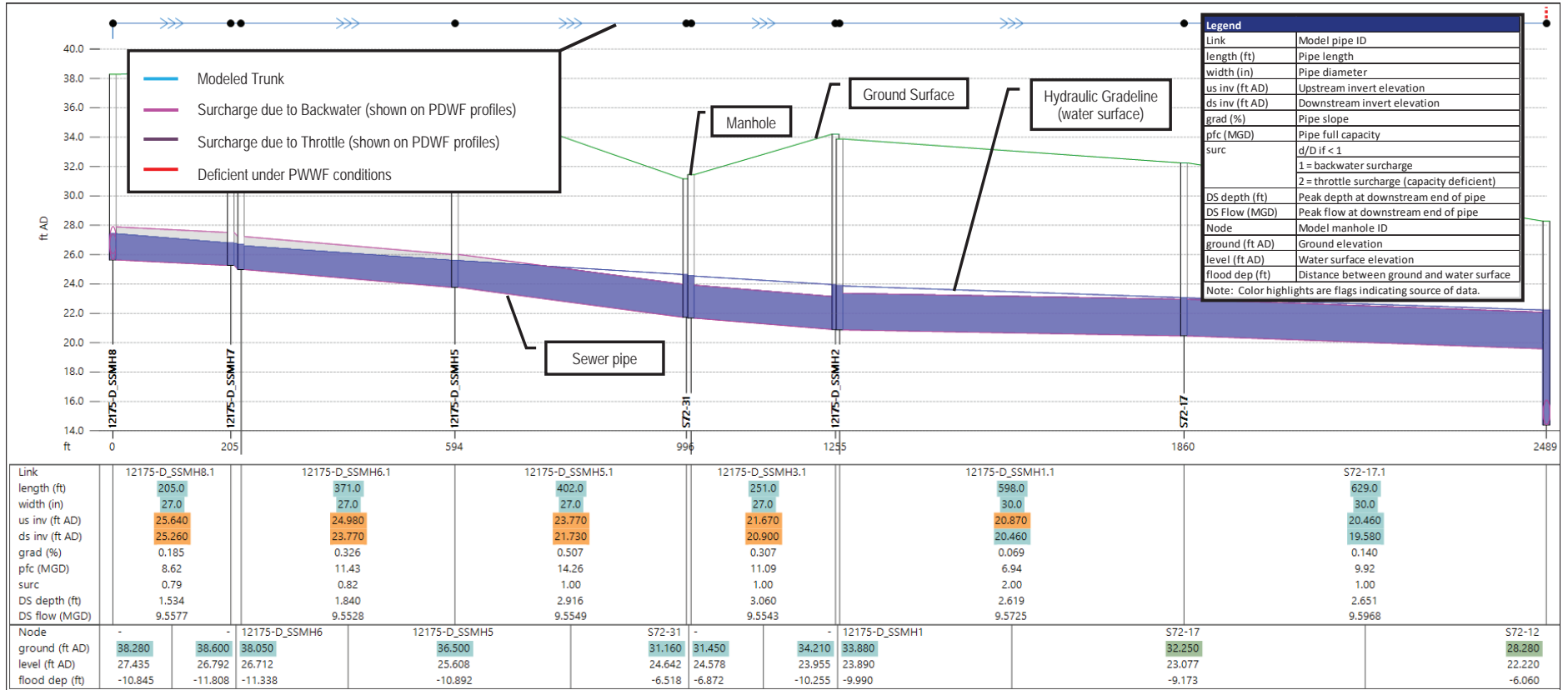


Figure B-1: Deficiency ID D6 Profile 1 of 2 (Existing PWWF) – Calabazas Creek Trunk

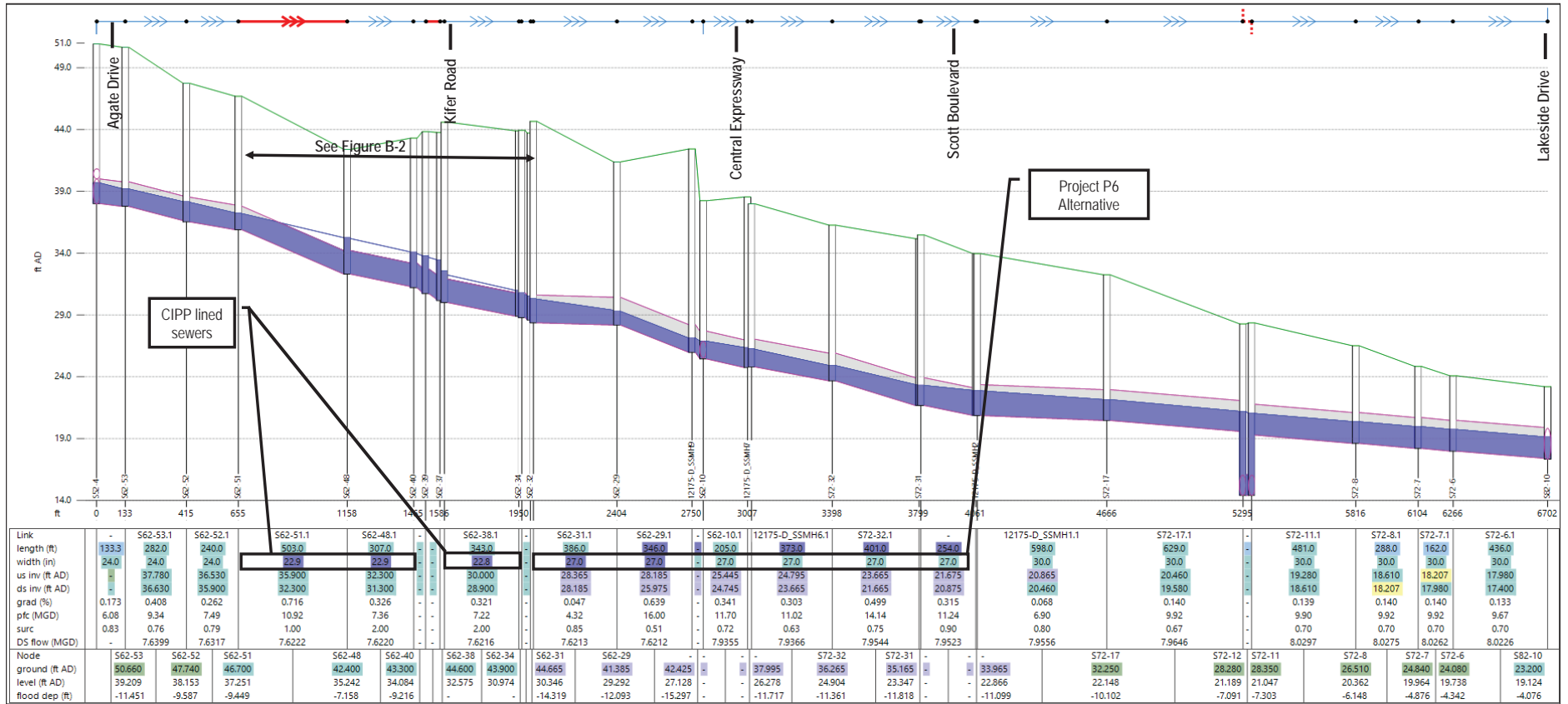


Figure B-2: Deficiency ID D6 Profile 2 of 2 (Existing PWWF) – Calabazas Creek Trunk

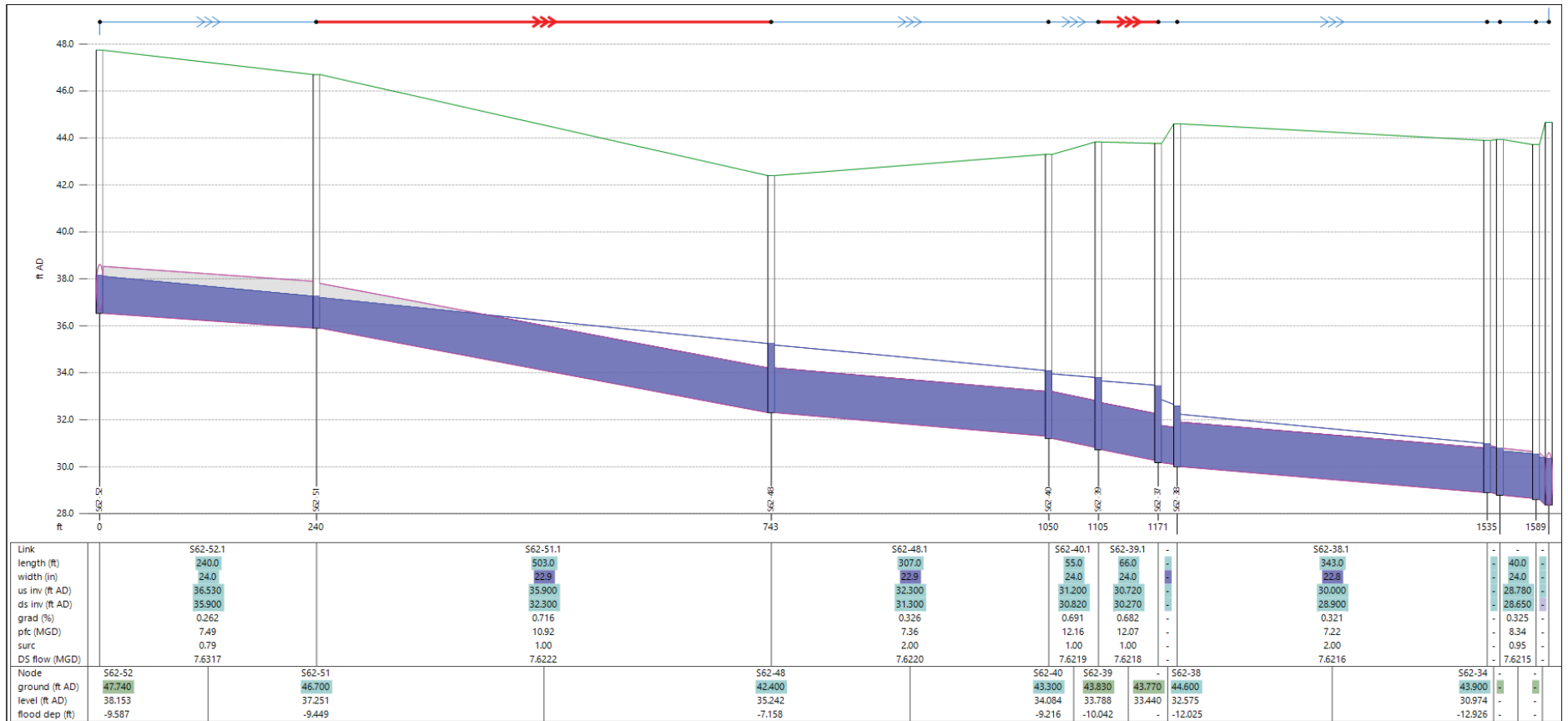


Figure B-3: Deficiency ID D3 Profile (Existing PWWF) – Cabrillo Avenue

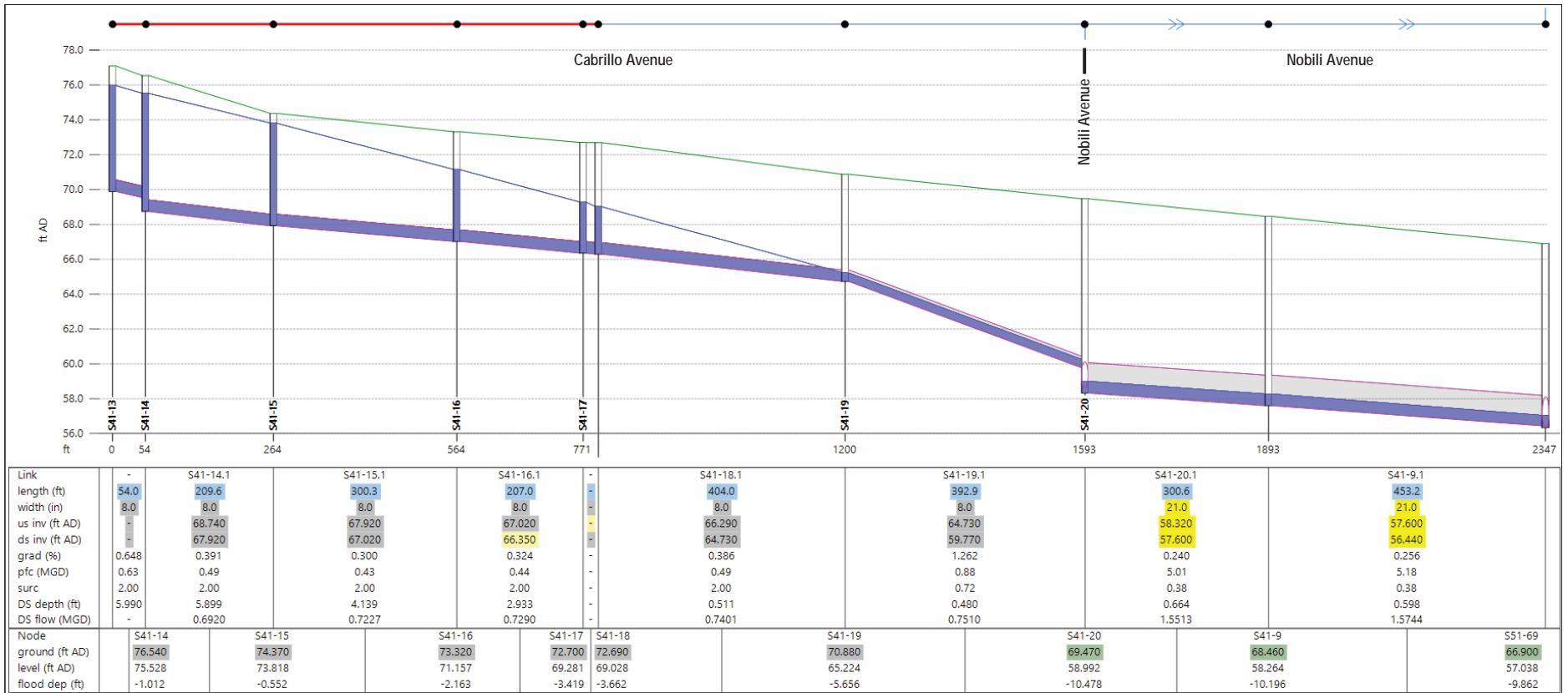


Figure B-4: Deficiency ID D6 (Future PDWF) – Calabazas Creek Trunk

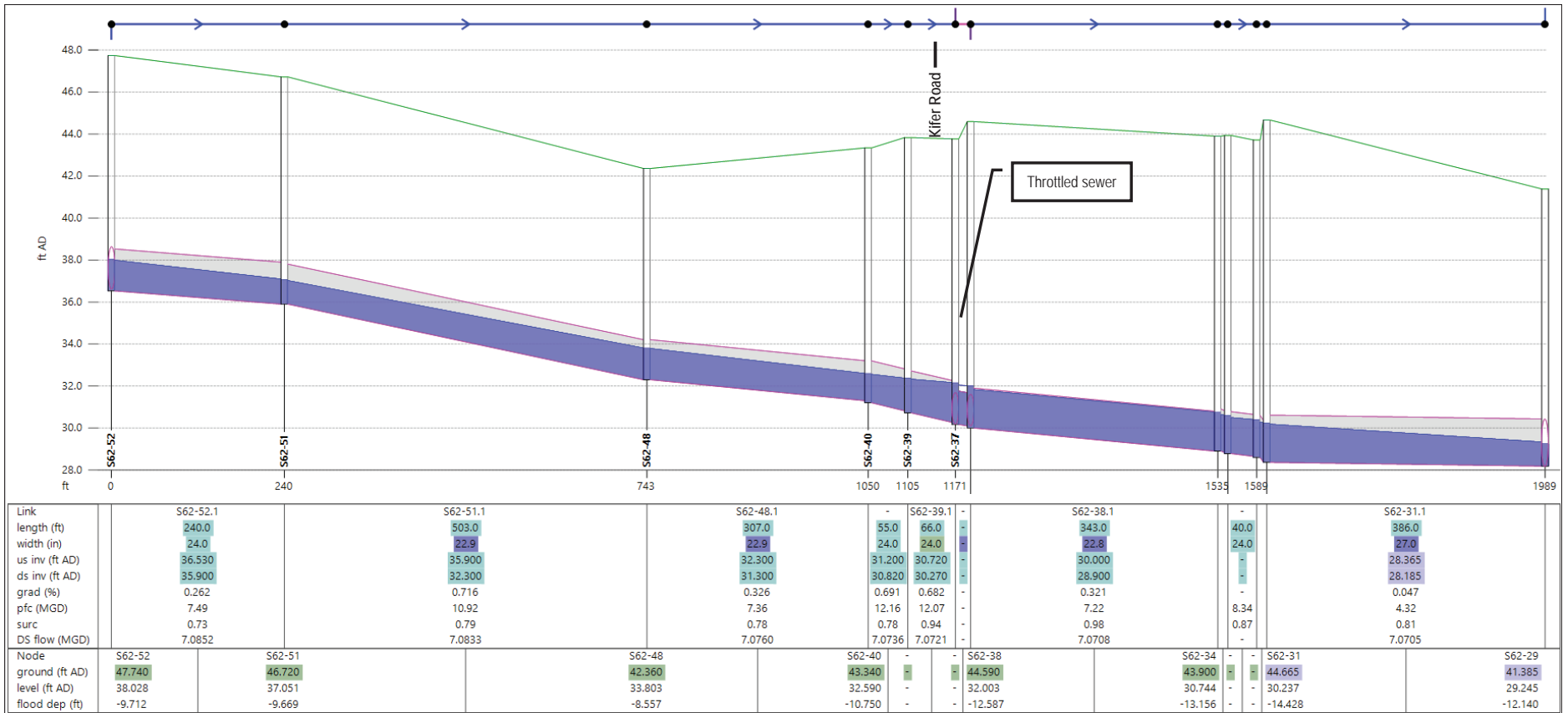


Figure B-5: Deficiency ID D8 (Future PDWF) – Great America Parkway West Trunk

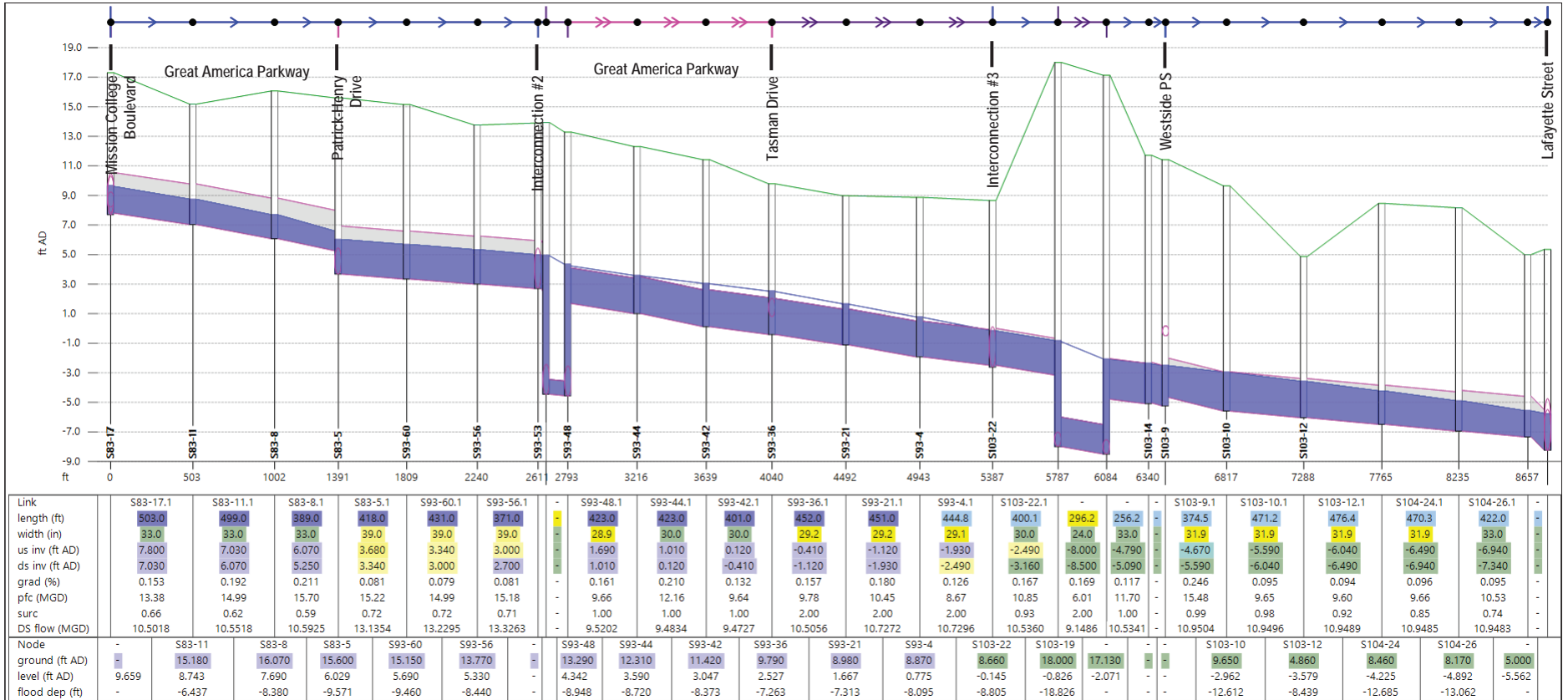


Figure B-6: Deficiency ID D6 (Future PWWF) – Calabazas Creek Trunk

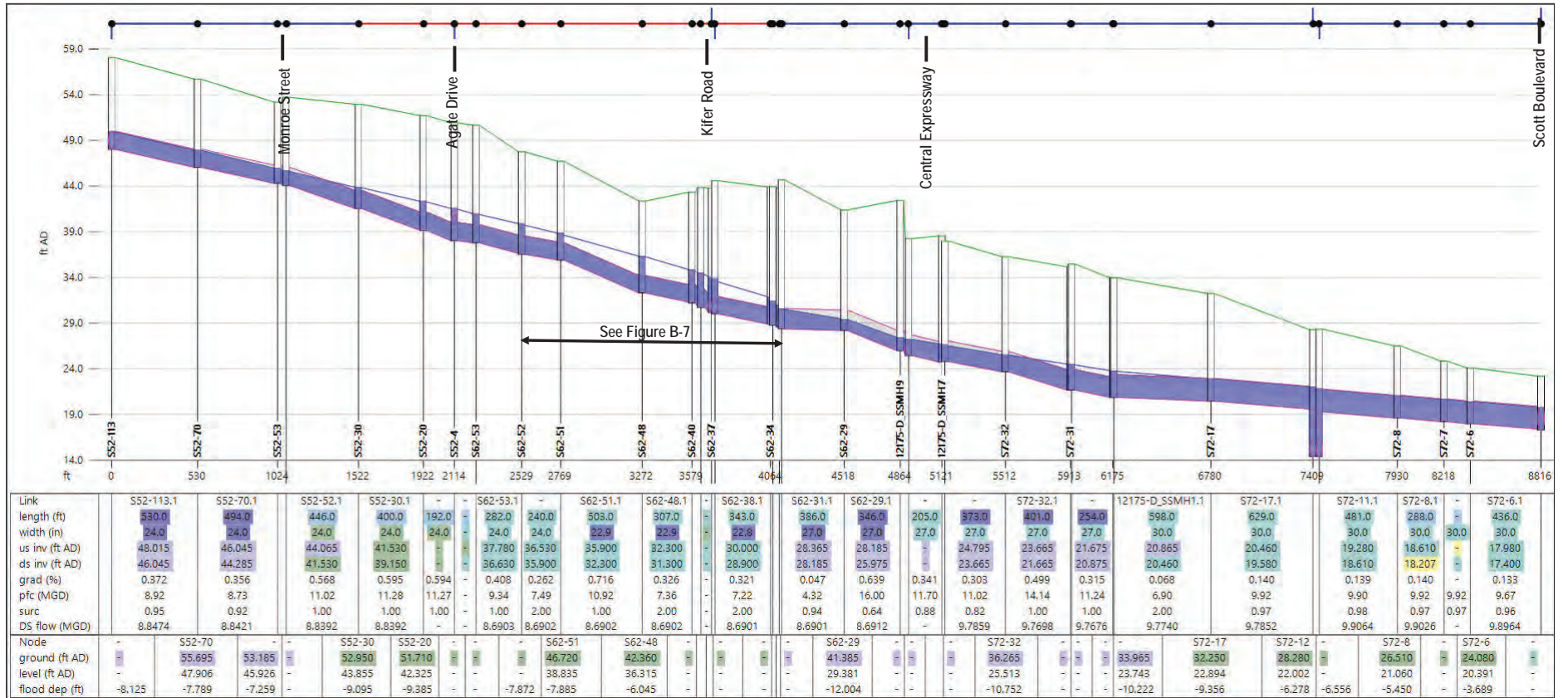


Figure B-7: Deficiency ID D6 (Future PWWF) 2 of 2 – Calabazas Creek Trunk

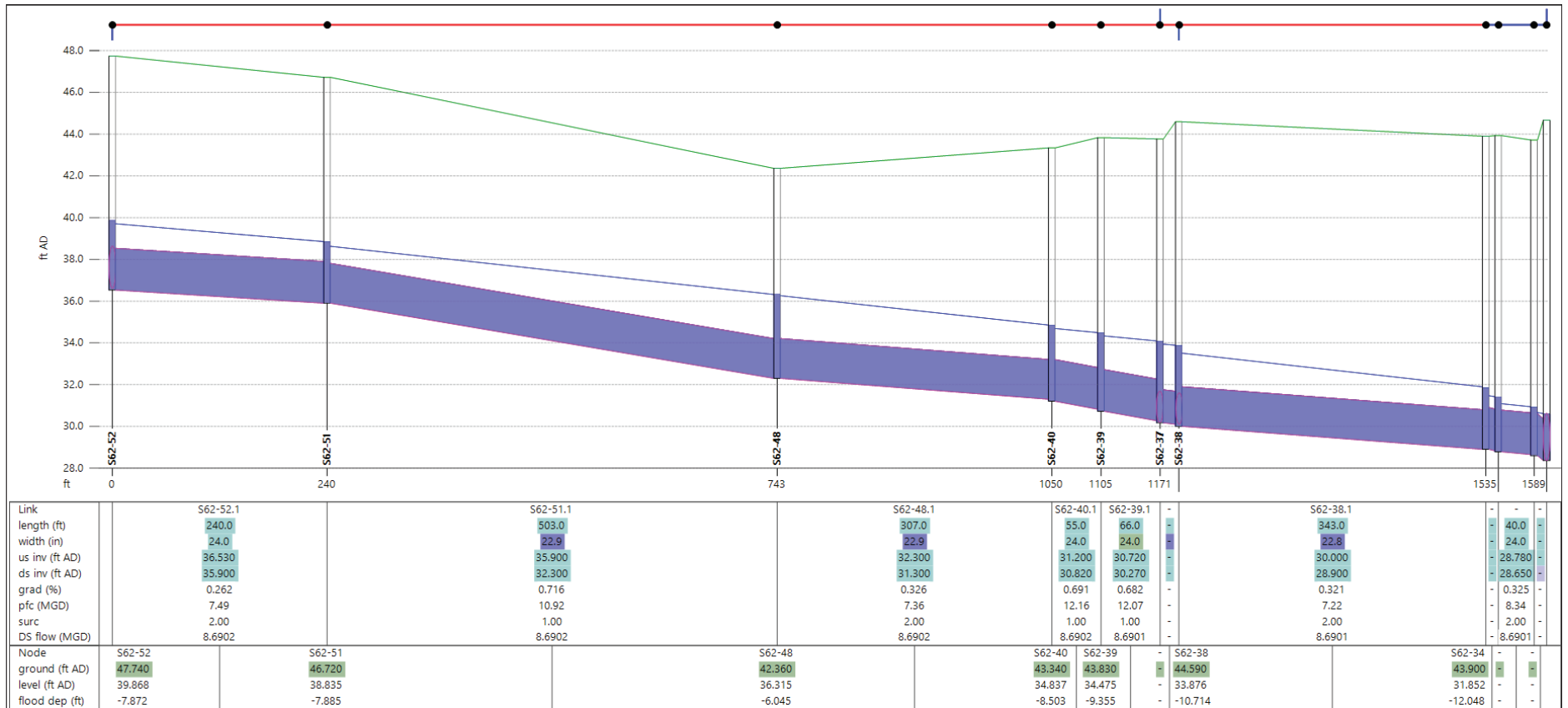


Figure B-8: Deficiency ID D8 (Future PWWF) – Great America Parkway West Trunk

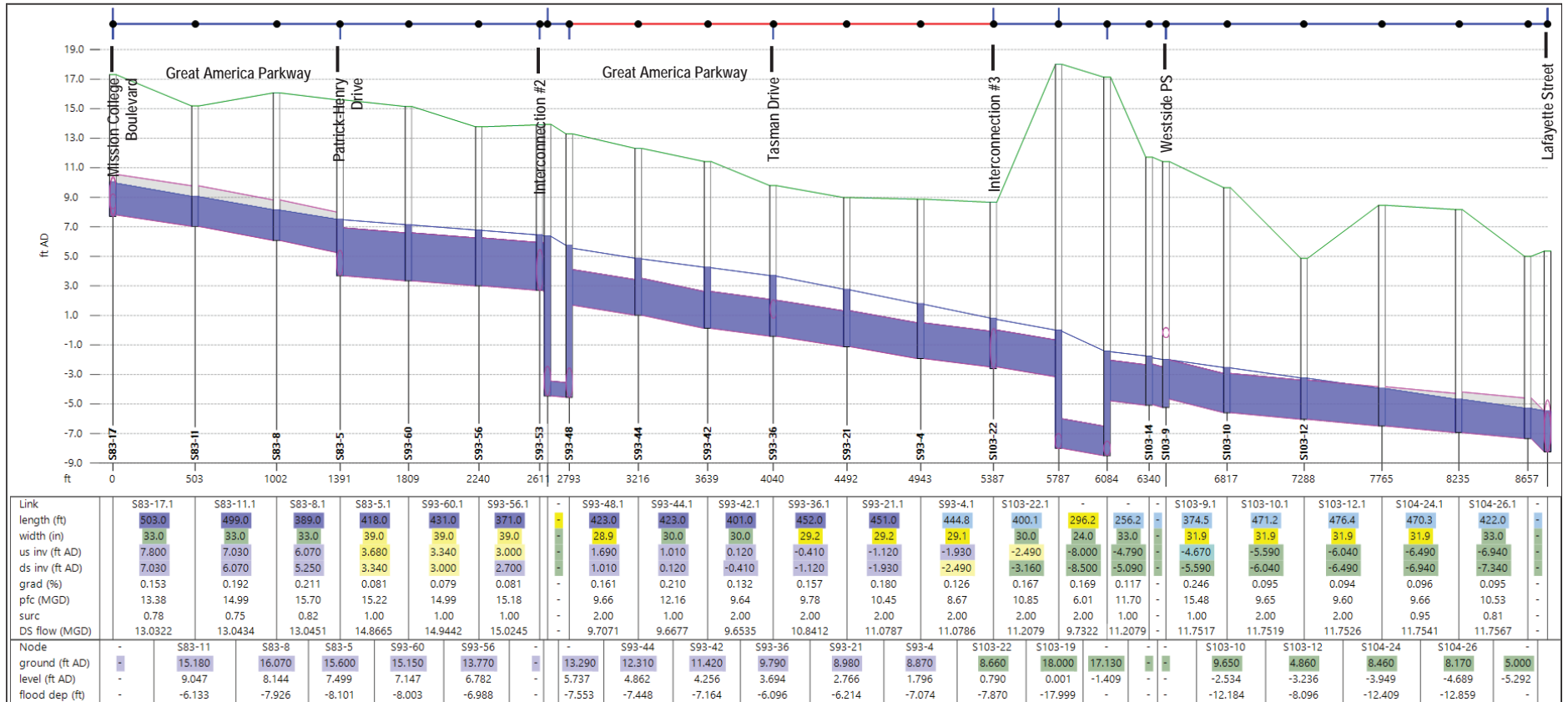
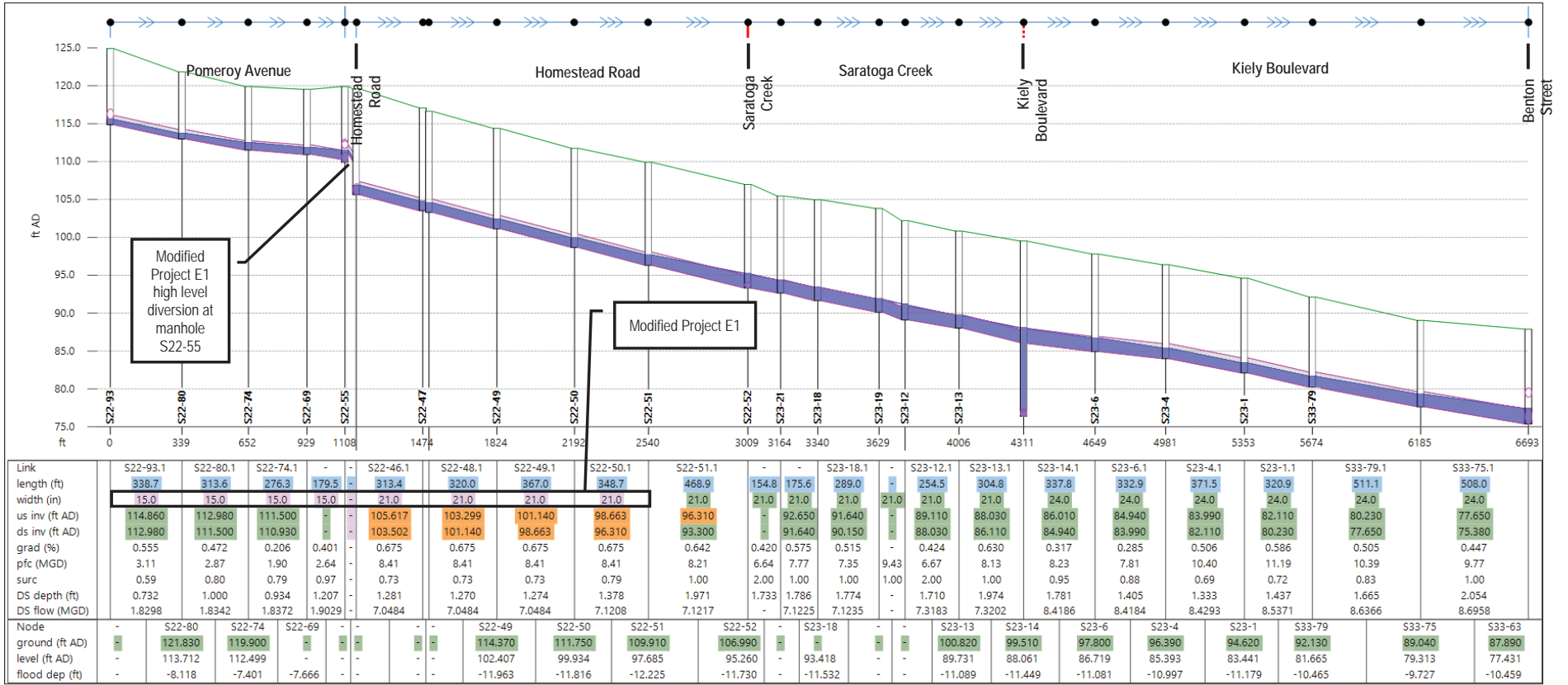


Figure B-9: Modified Project E1 (Future PWWF) – Pomeroy Avenue, Homestead Road, and Kiely Boulevard Trunks



## **Appendix C – Capacity Improvement Alternatives Profiles**

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Figure C-1: Original Alternative 1 Profile Calabazas Creek Trunk (Future 2035 PWWF)

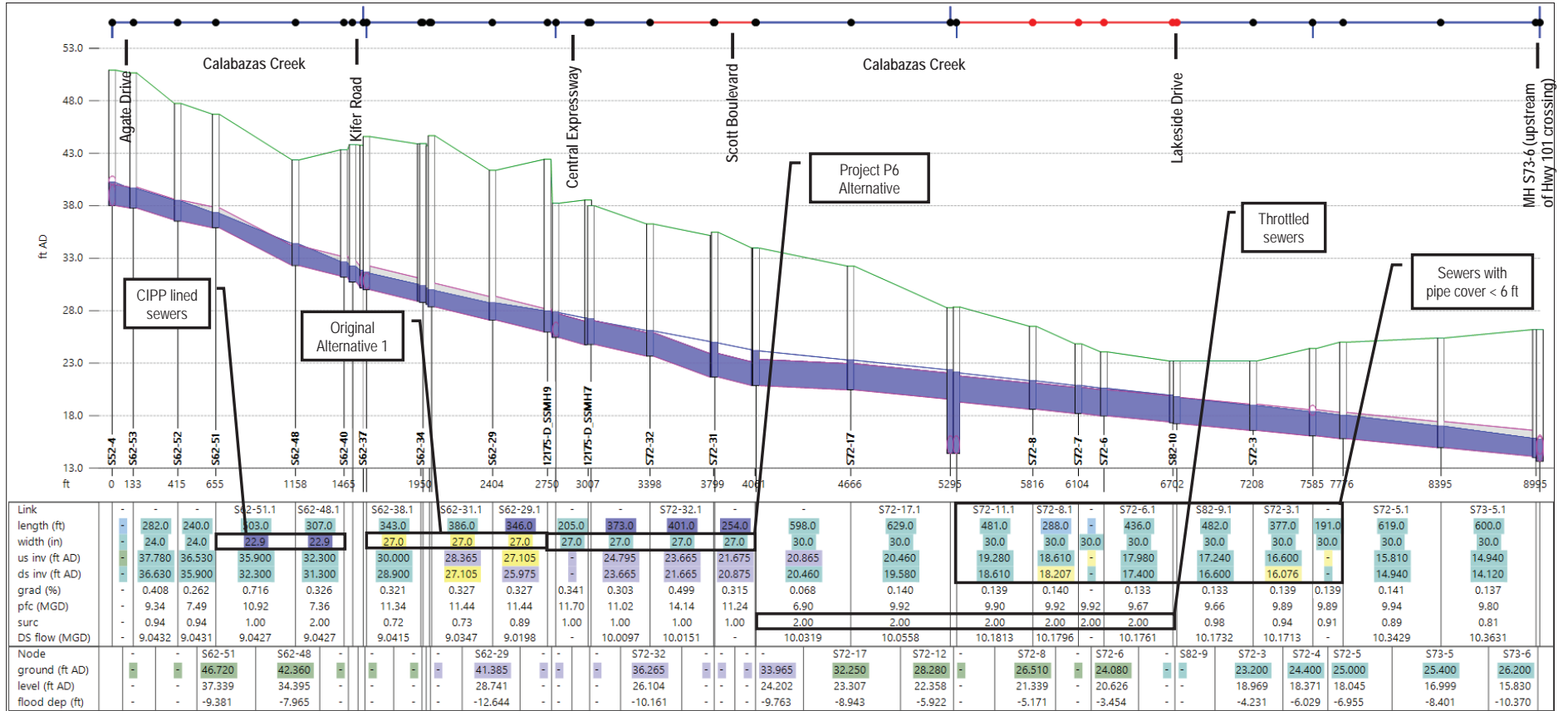


Figure C-2: Final Alternative 1 Profile Calabazas Creek Trunk (Future 2035 PWWF)

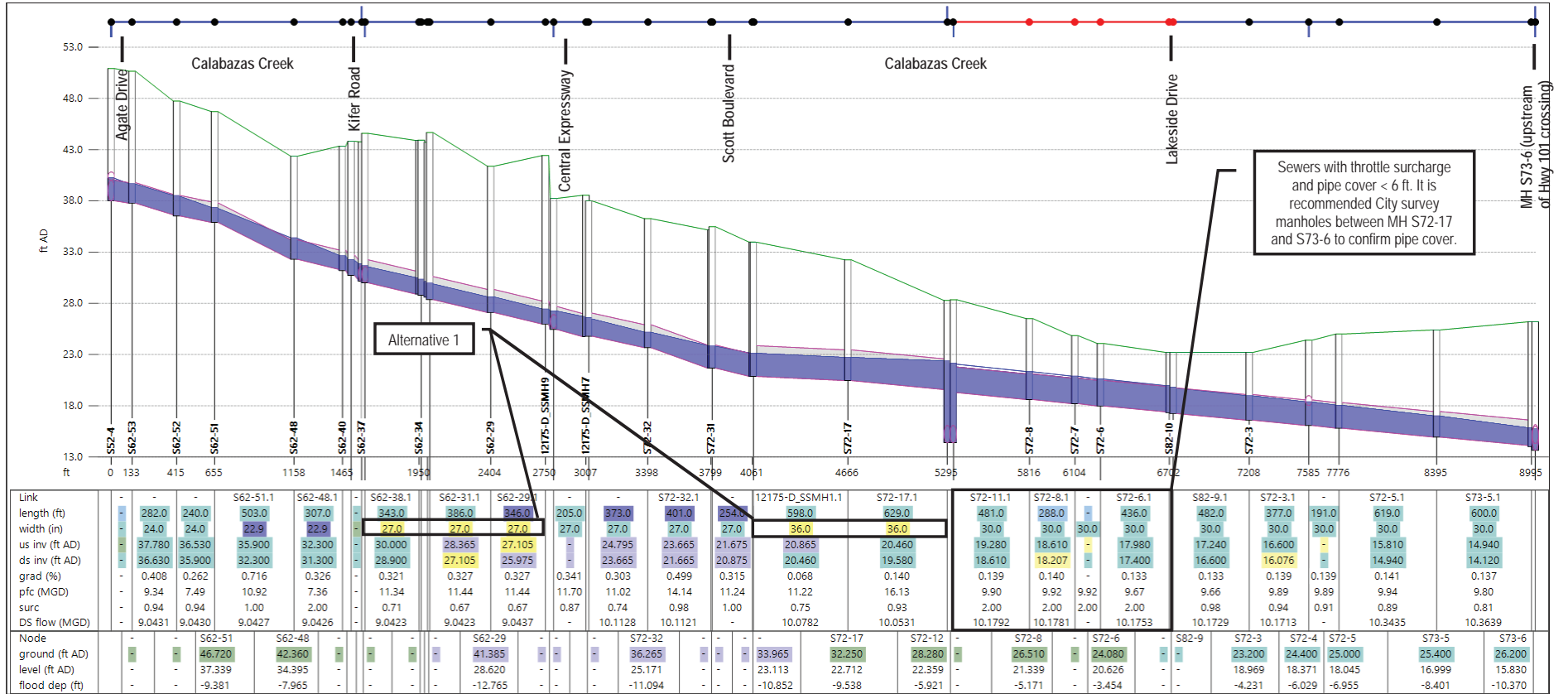


Figure C-3: Alternative 2 Profile Calabazas Creek Trunk (Future 2035 PWWF)

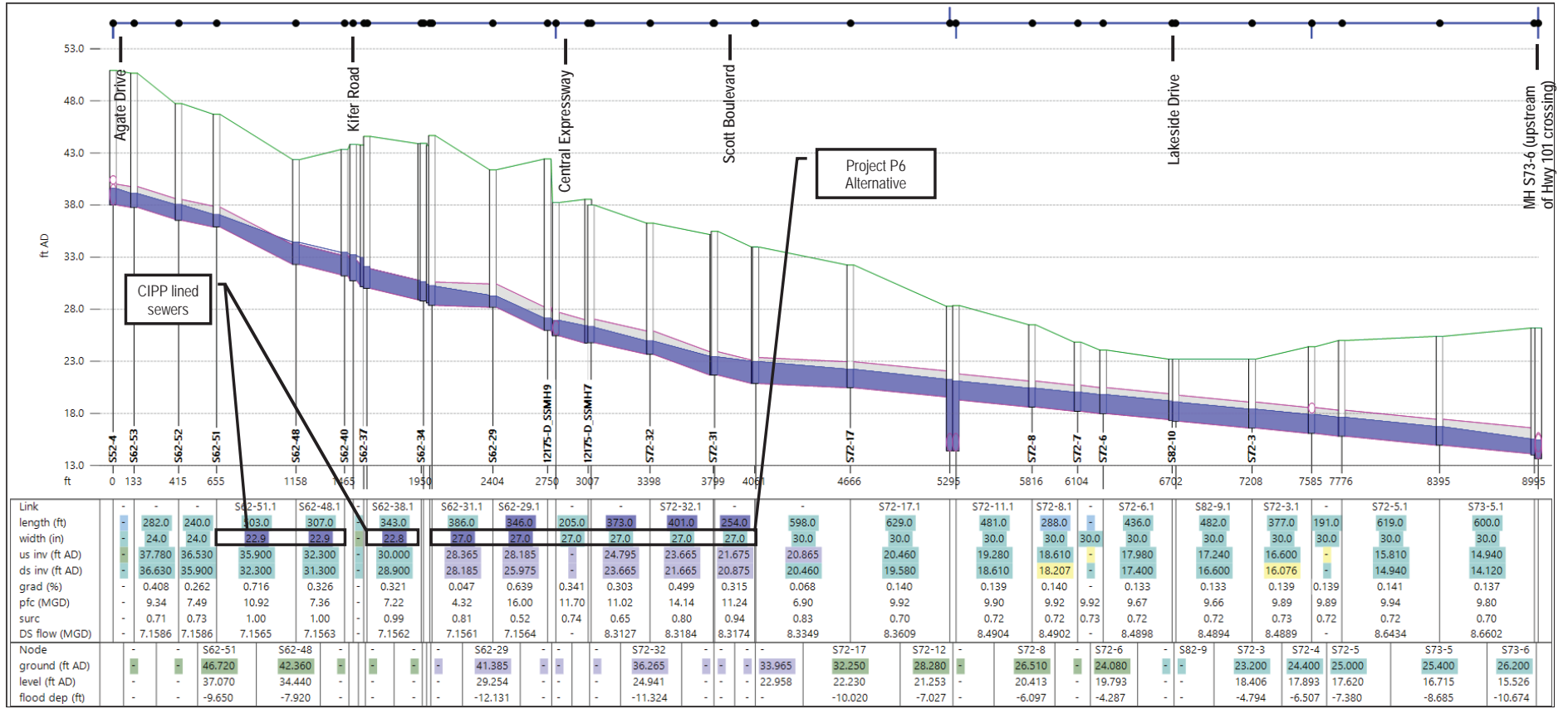


Figure C-4: Alternative 2 Profile Machado Avenue and Chromite Drive Trunks (Future 2035 PWWF)

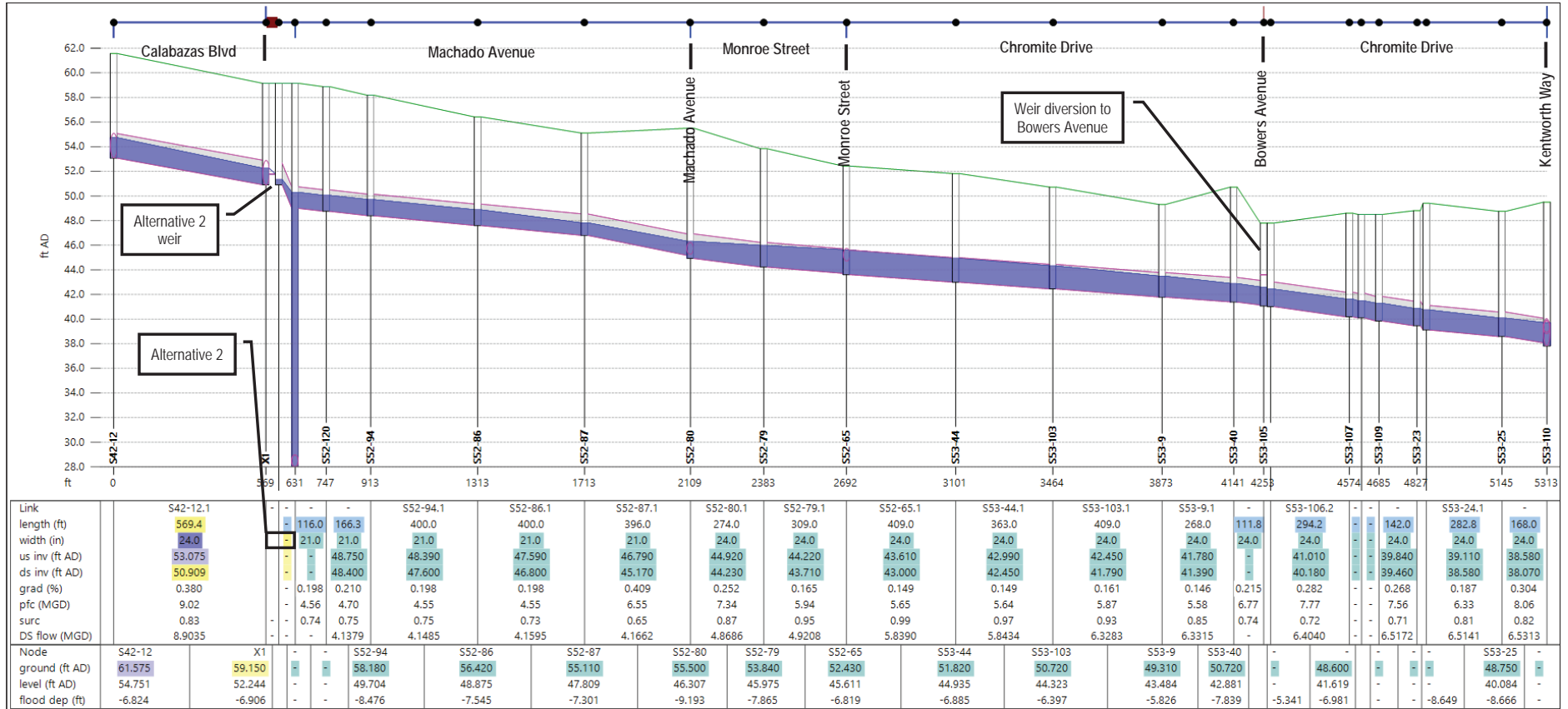


Figure C-5: Alternative 2 Profile Chromite Drive, South Drive, San Tomas Aquino Creek Trail, and Walsh Avenue Trunks (Future 2035 PWWF)

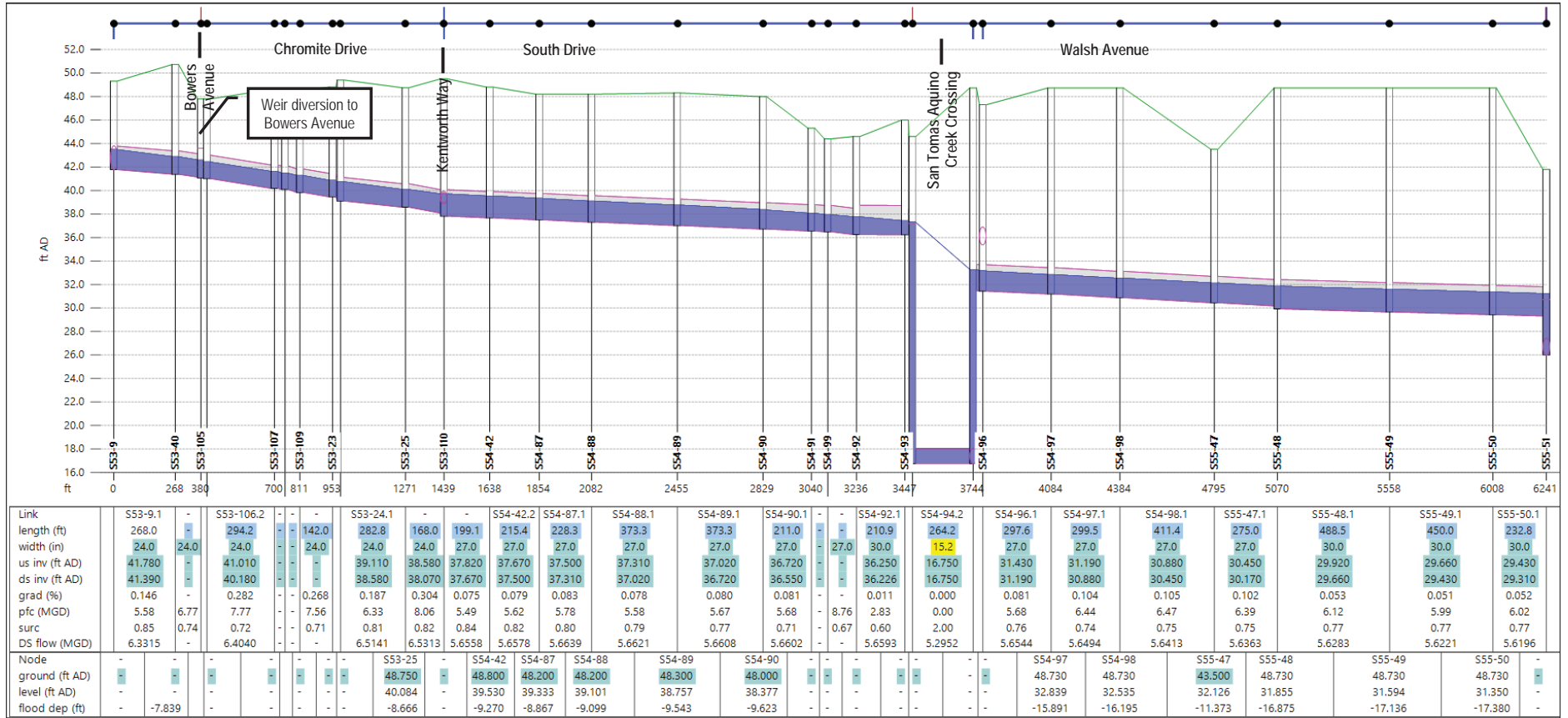


Figure C-6: Alternative 2 Great America Parkway West Trunk (Future 2035 PWWF)

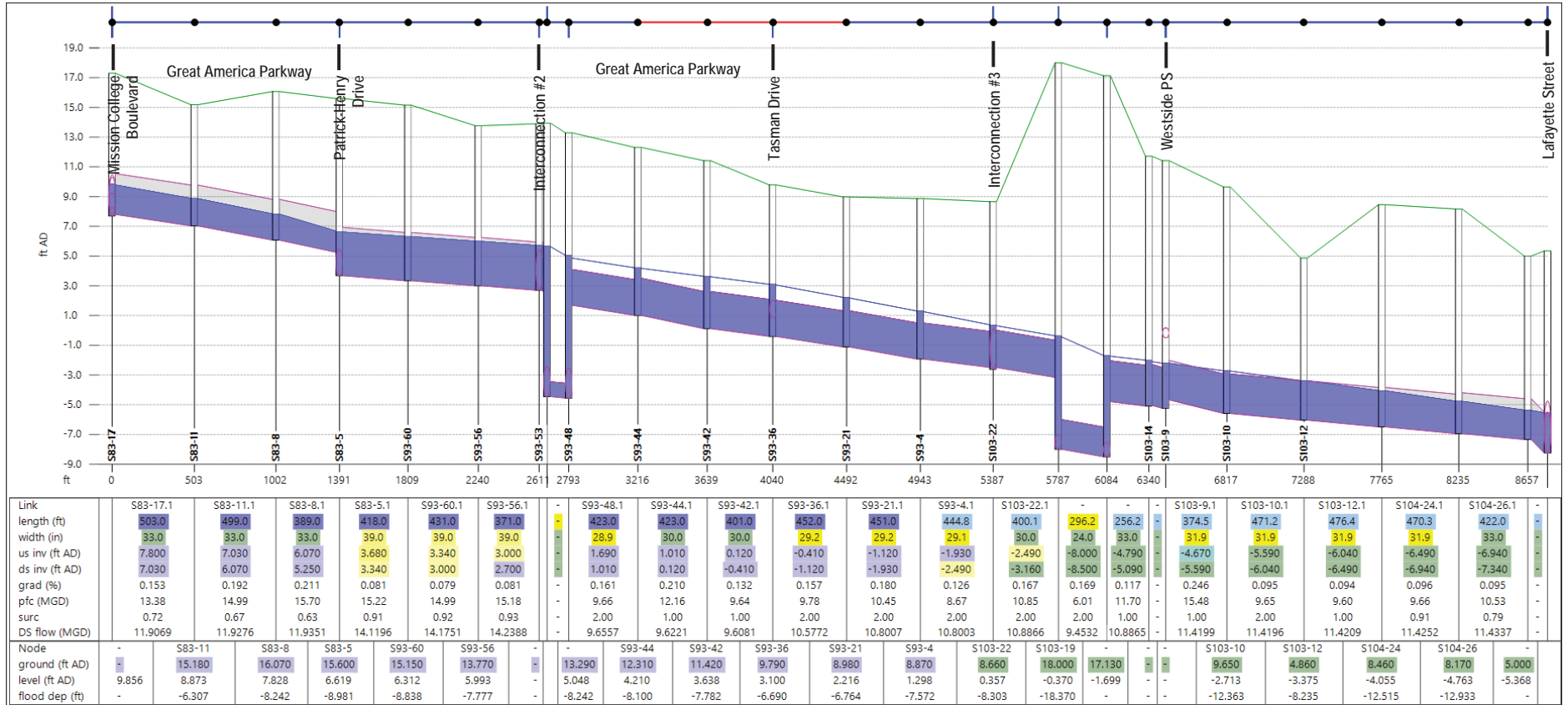


Figure C-7: Original Alternative 3 Calabazas Creek Trunk Profile (Future 2035 PWWF)

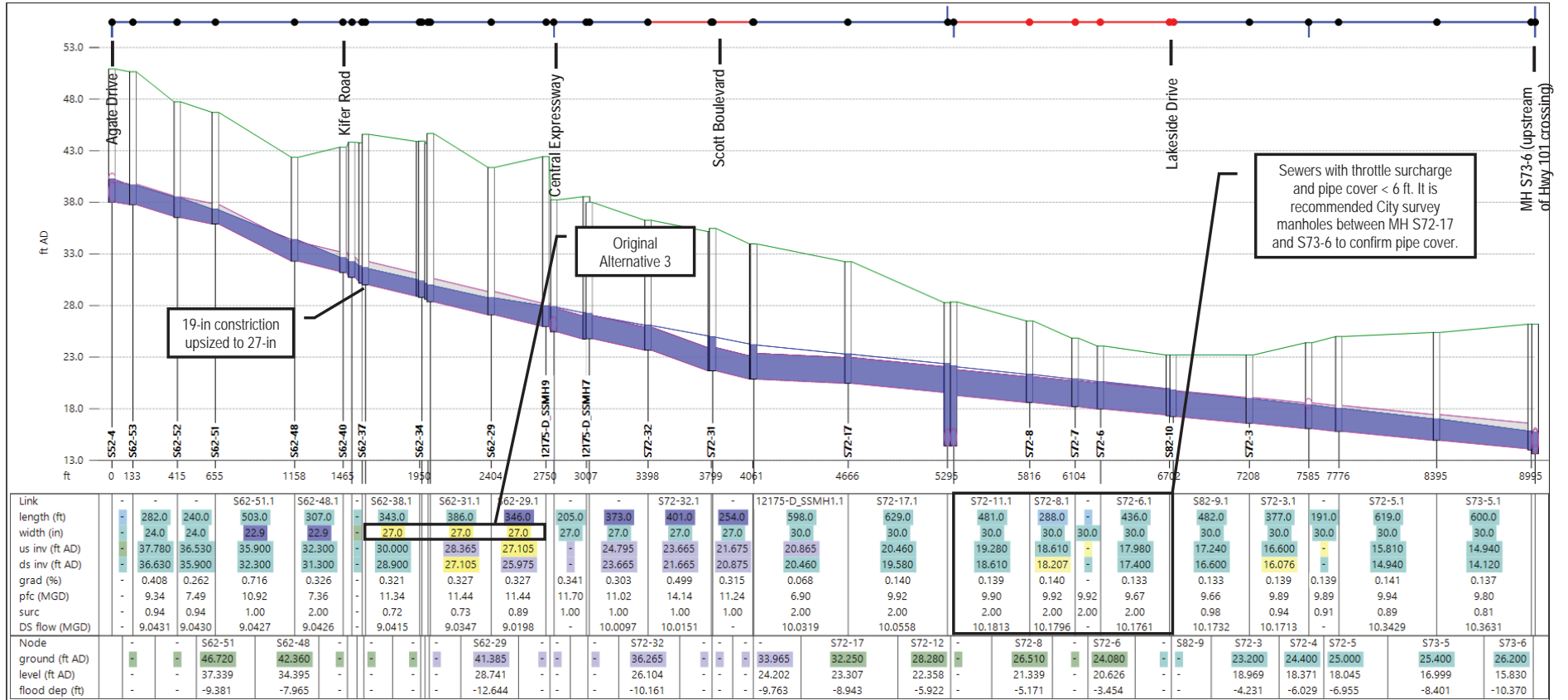


Figure C-8: Final Alternative 3 Calabazas Creek Trunk Profile (Future 2035 PWWF)

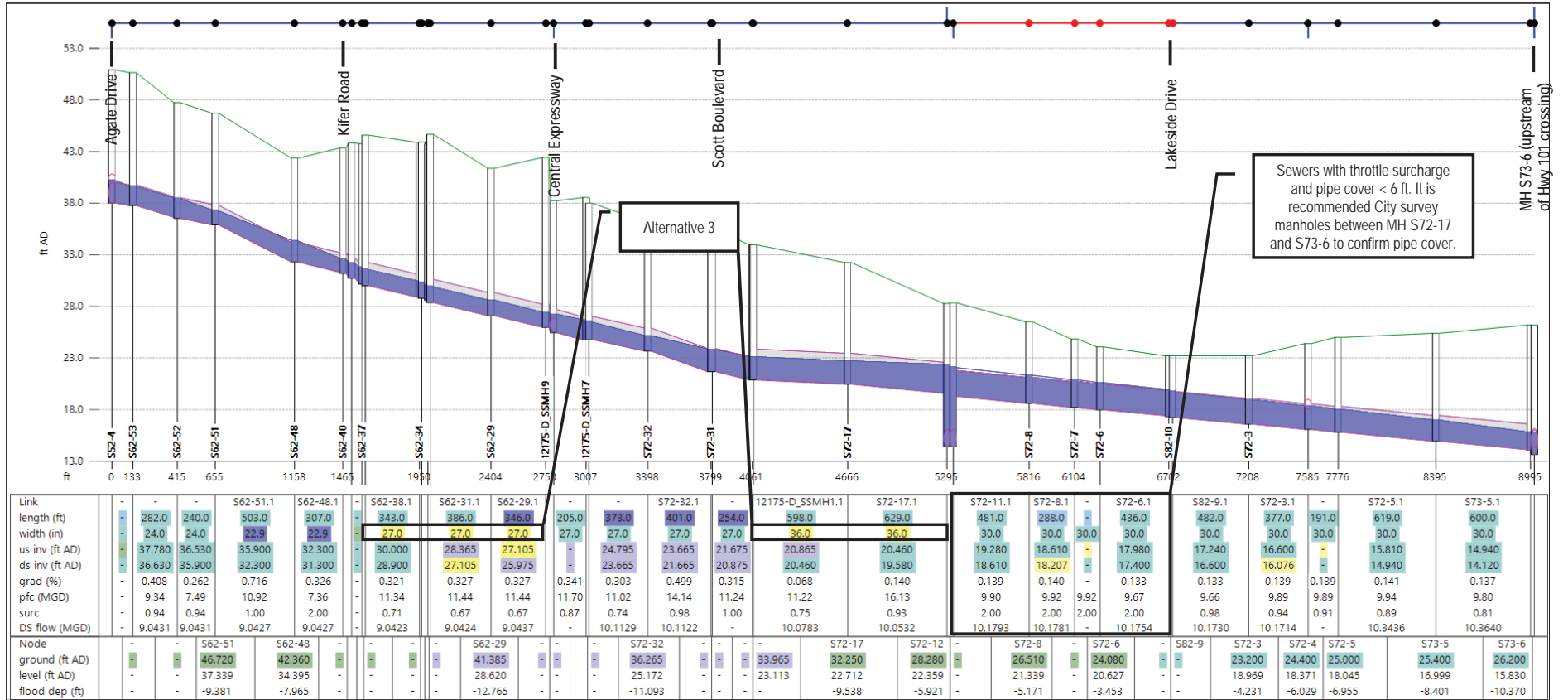


Figure C-9: Alternative 4 Profile El Camino Real Trunk (Future 2035 PWWF)

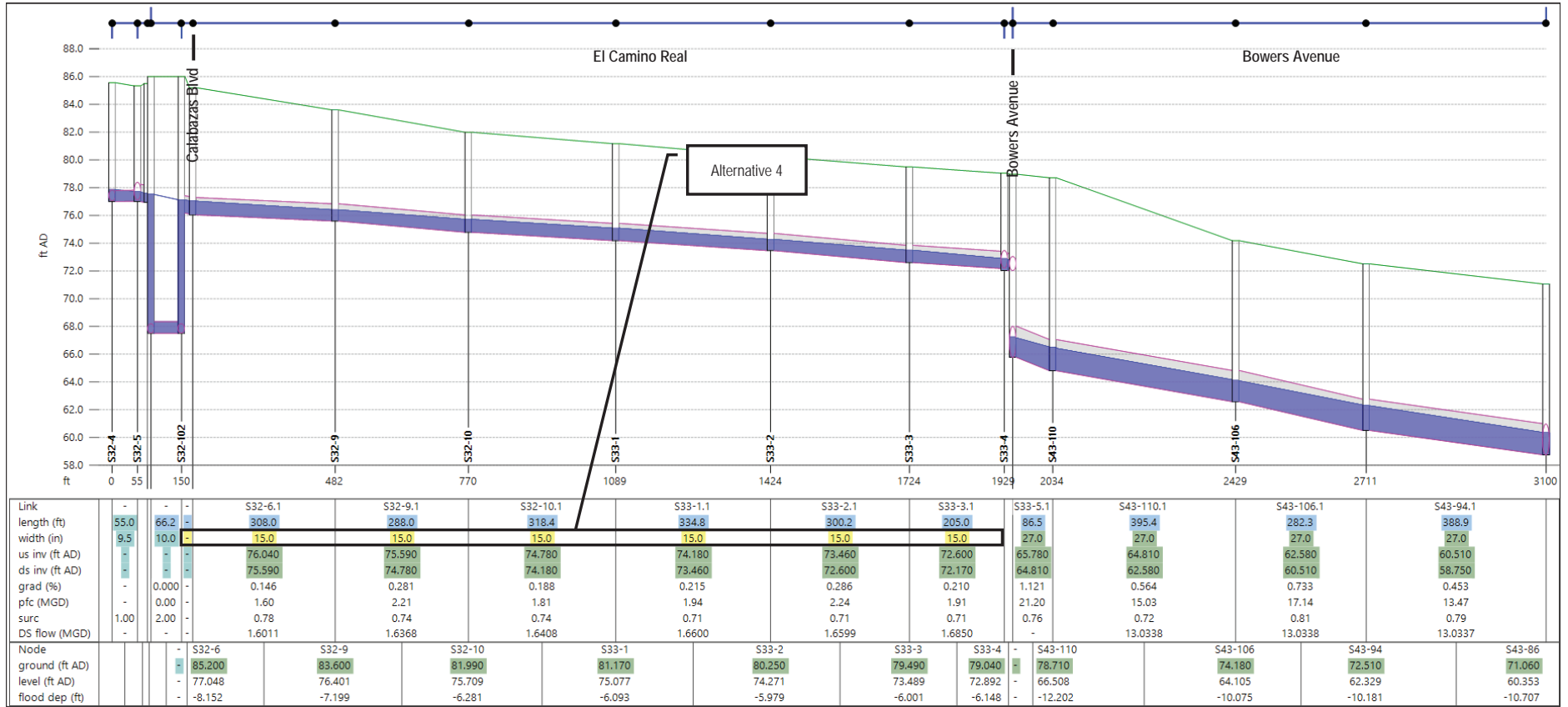


Figure C-10: Initial Alternative 4 Profile (1 of 2) Calabazas Creek Trunk (Future 2035 PWWF)

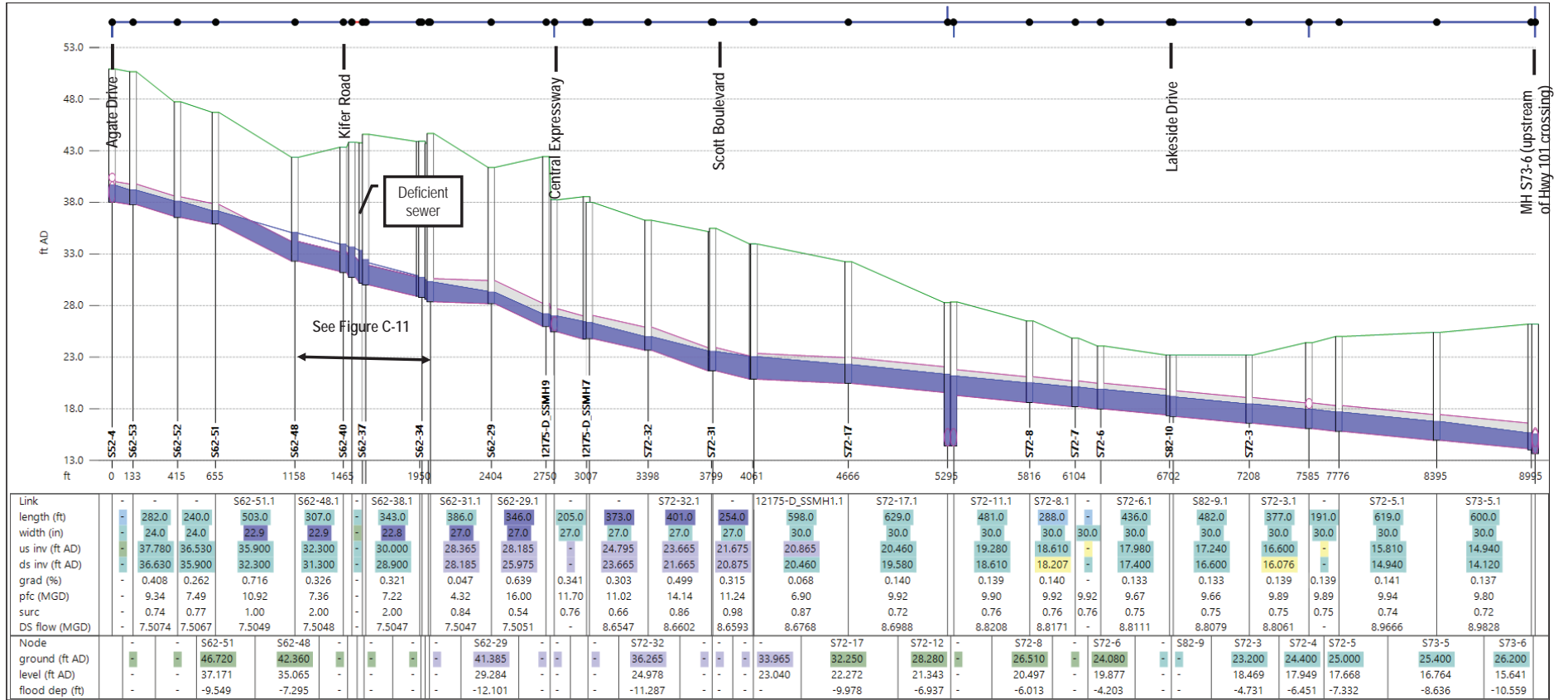


Figure C-11: Initial Alternative 4 Profile (2 of 2) Calabazas Creek Trunk (Future 2035 PWWF)

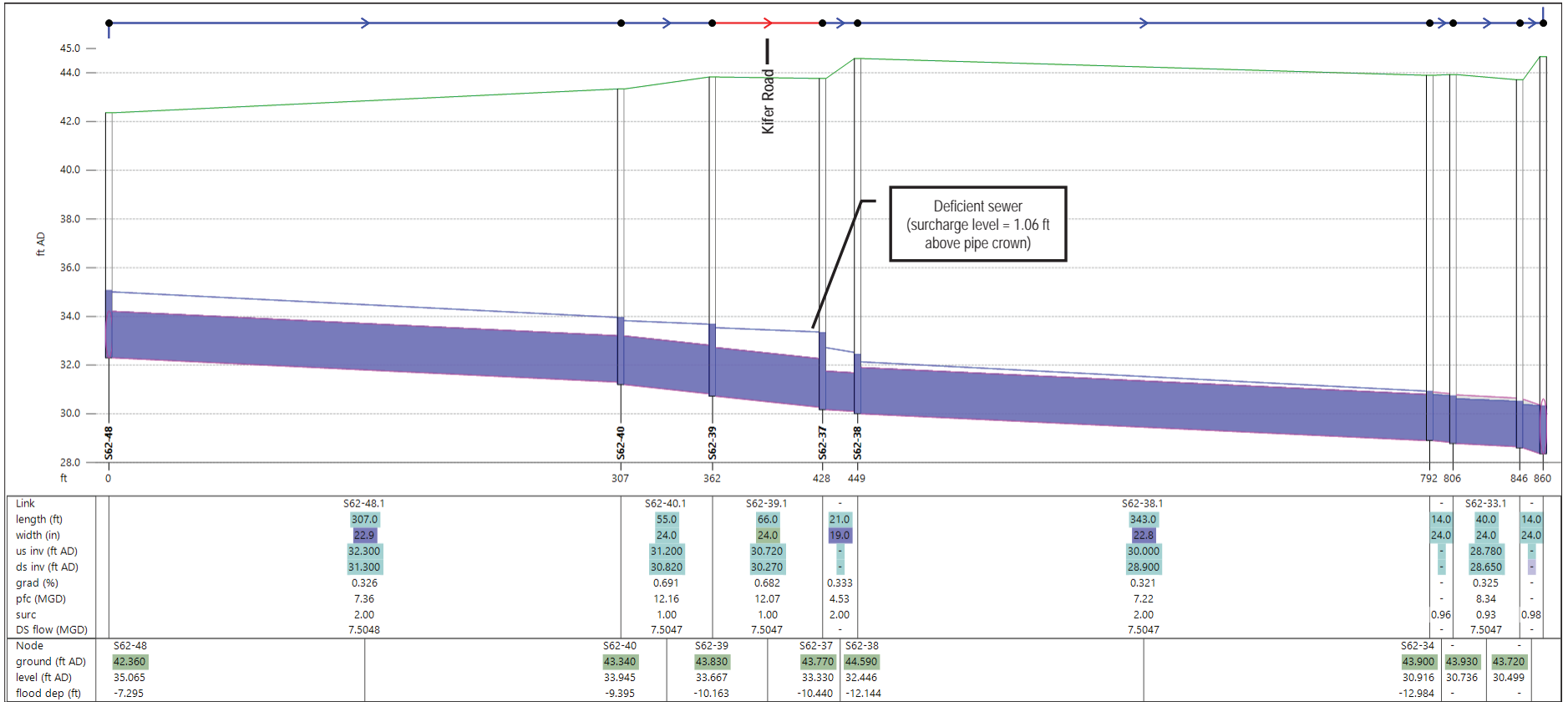


Figure C-12: Initial Alternative 4 Profile Bowers Avenue Trunk (Future 2035 PWWF) 1 of 2

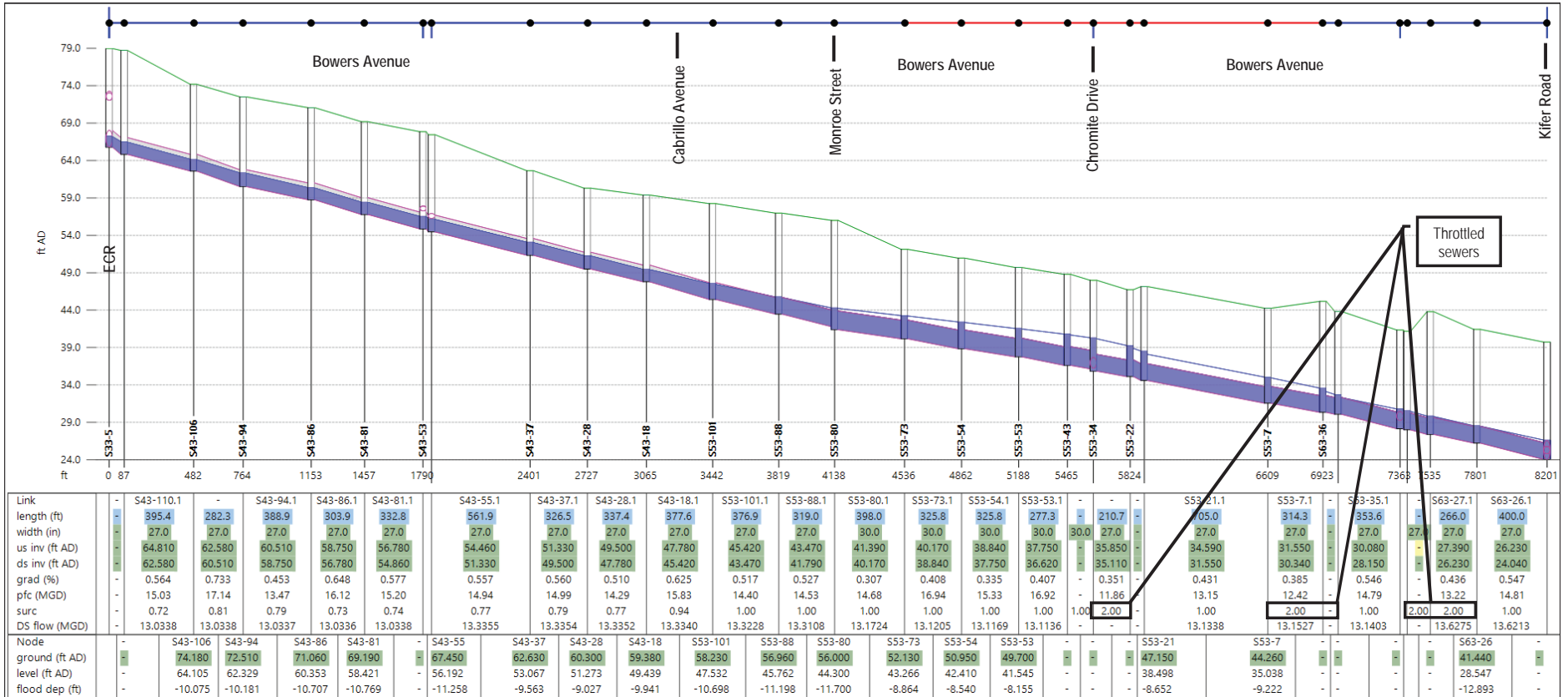


Figure C-13: Final Alternative 4 Profile Bowers Avenue and Great America Parkway East Trunk (Future 2035 PWWF) 2 of 2

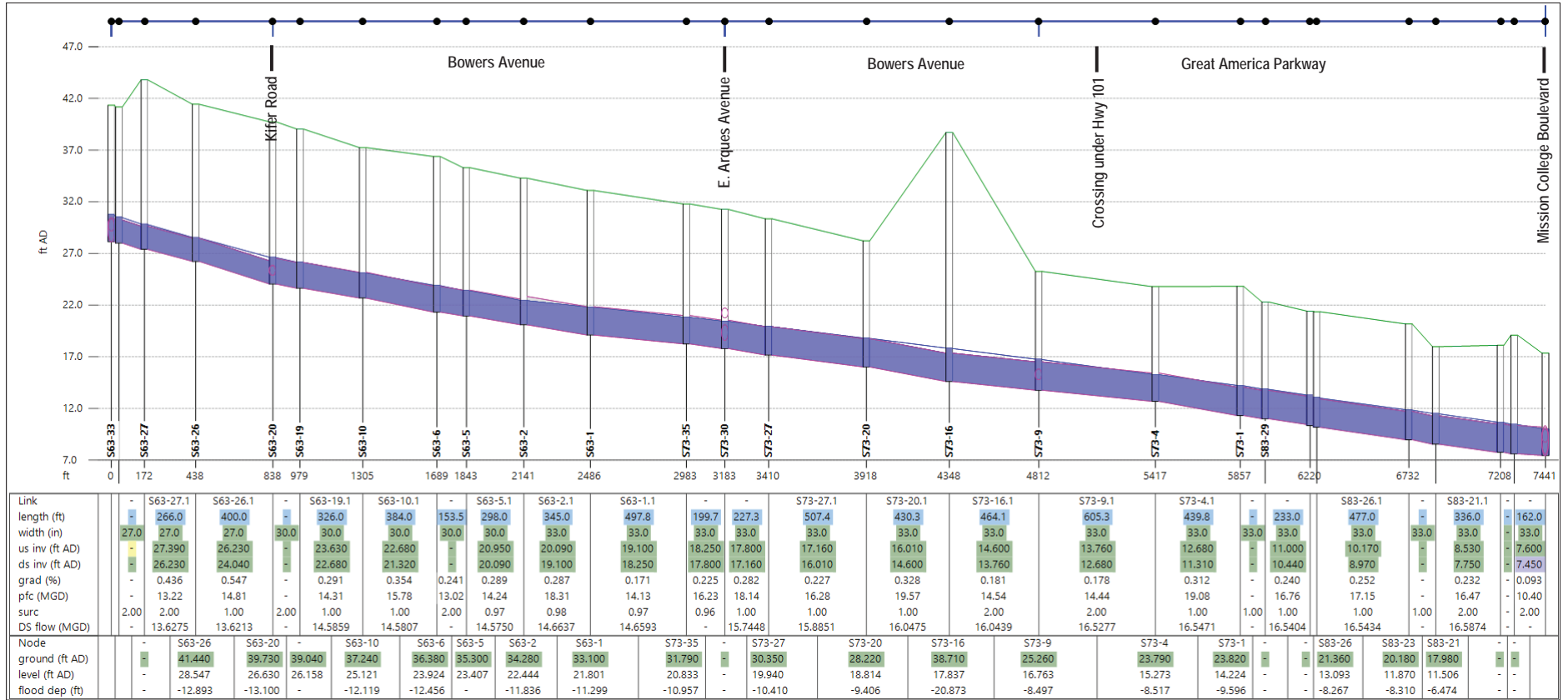


Figure C-14: Final Alternative 4 Profile Bowers Avenue and GAP East Trunk (Future 2035 PWWF)

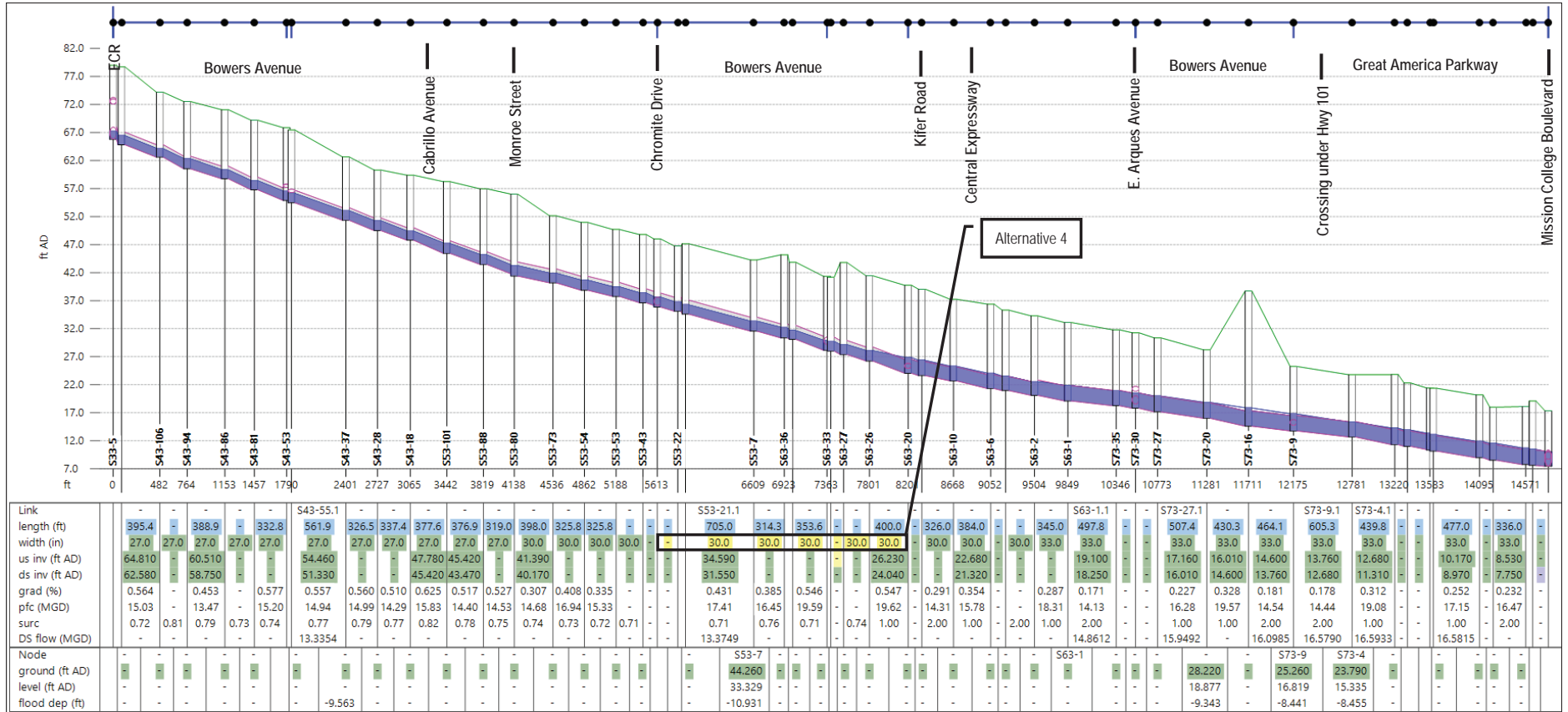


Figure C-15: Final Alternative 4 Profile (1 of 2) Calabazas Creek Trunk (Future 2035 PWWF)

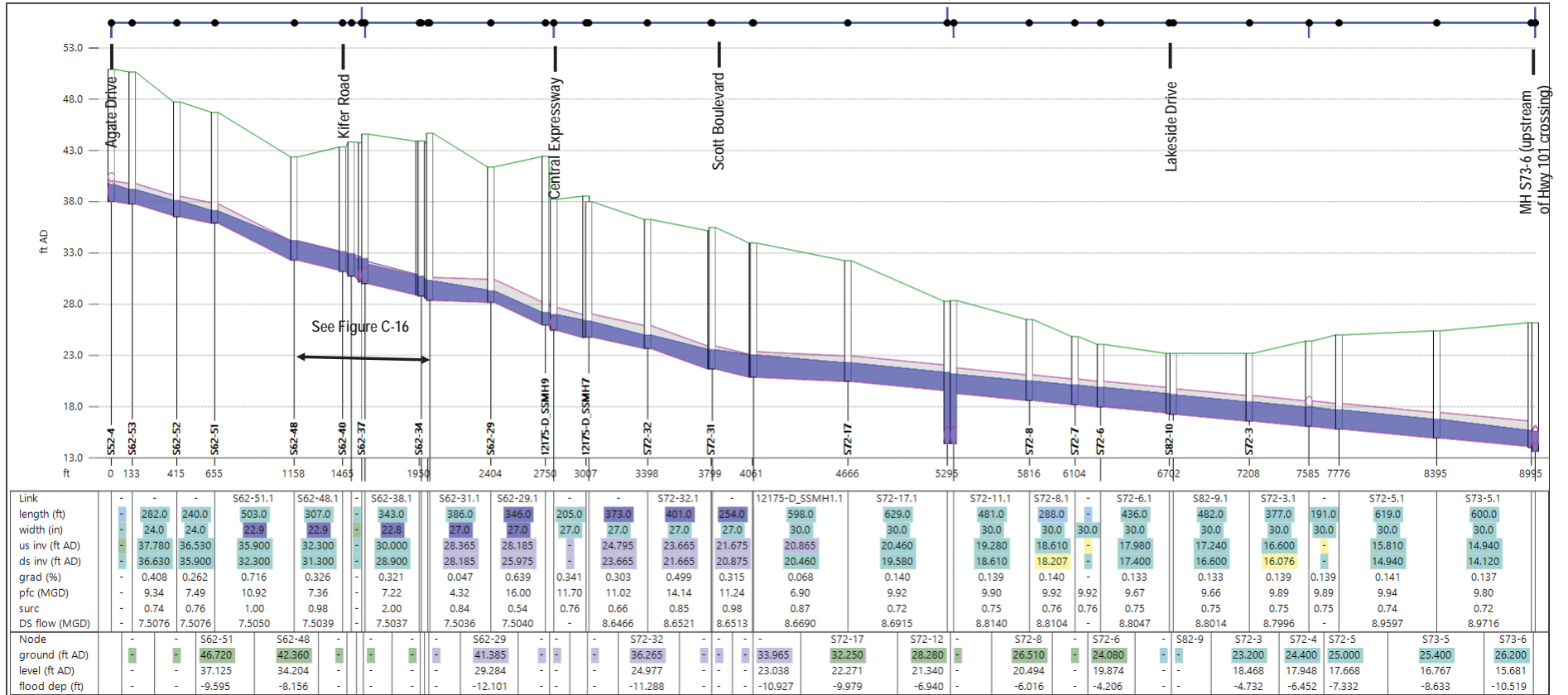


Figure C-16: Final Alternative 4 Profile (2 of 2) Calabazas Creek Trunk (Future 2035 PWWF)

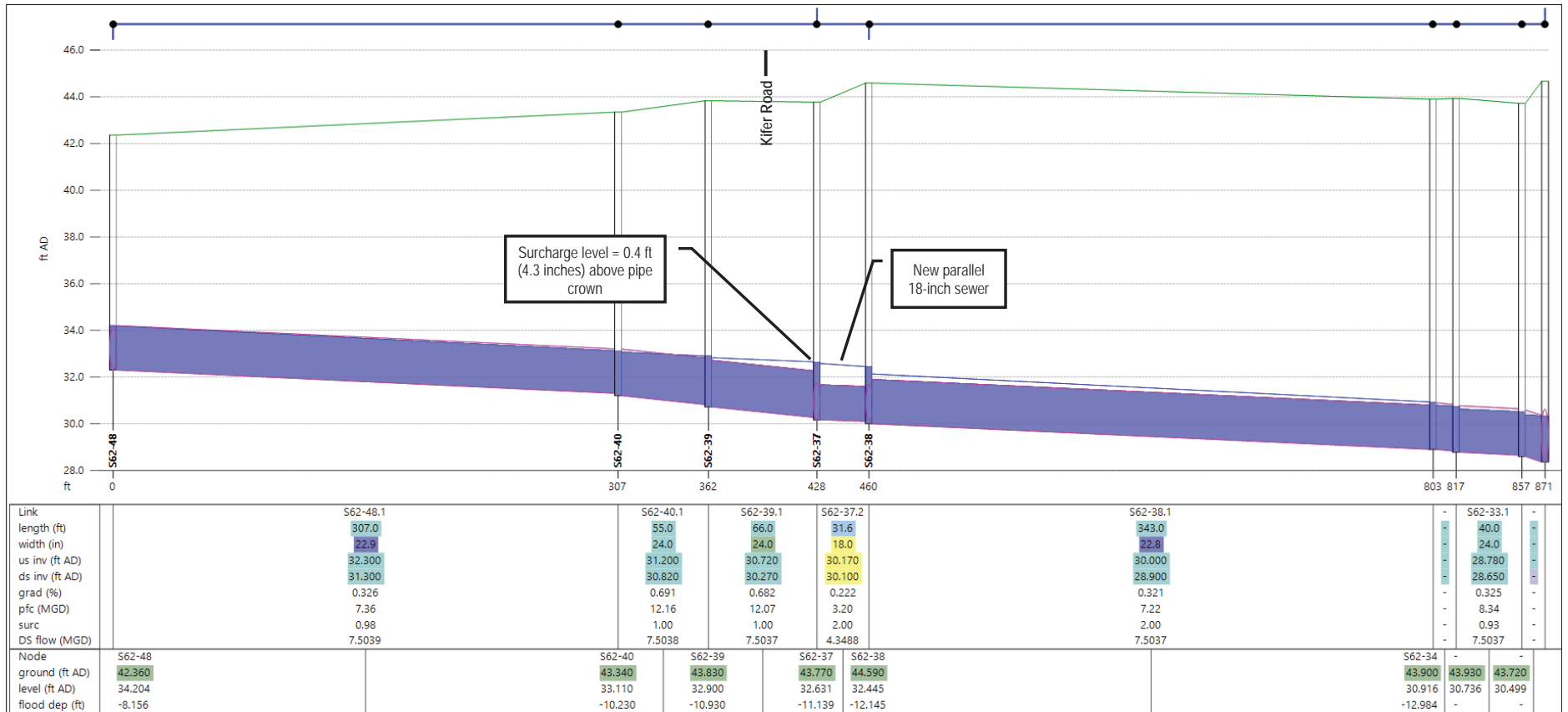


Figure C-17: Final Alternative 4 Profile Great America Parkway West Trunk (Future 2035 PWWF)

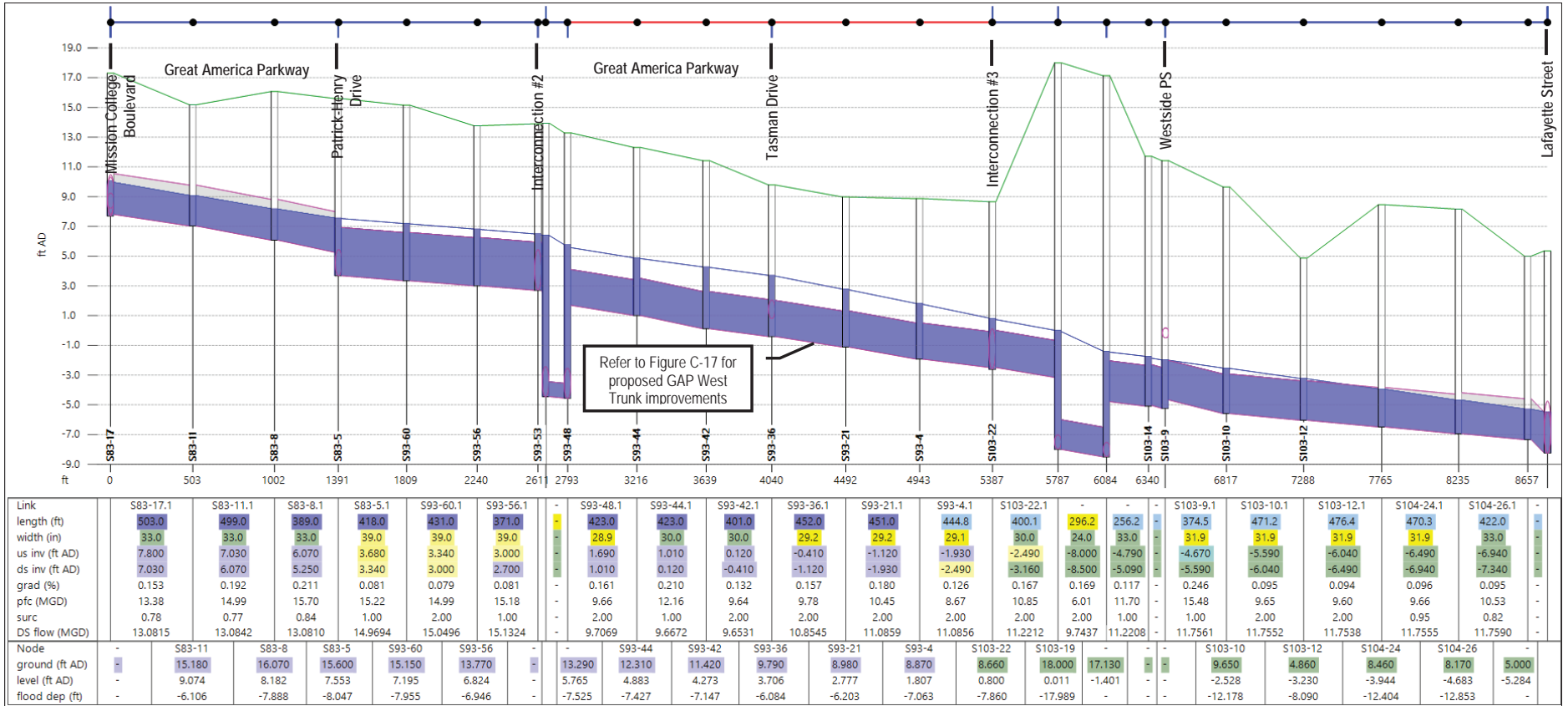


Figure C-18: Alternative 1 Great America Parkway and Lafayette Street West Trunks Profile (Future 2035 PWWF assuming Alternative 1 is constructed)

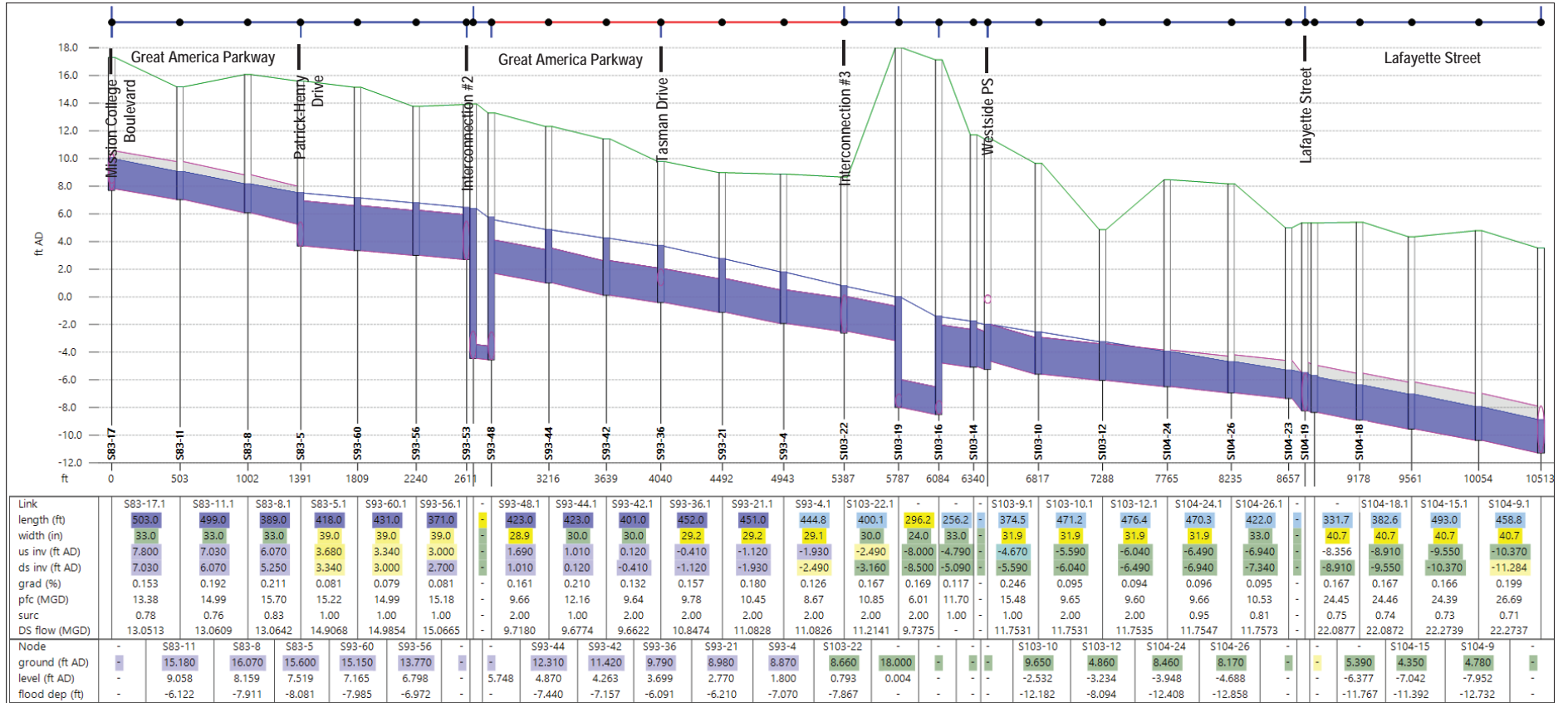


Figure C-19: Alternative 1 Great America Parkway and Lafayette Street East Trunks Profile (Future 2035 PWWF assuming Alternative 1 is constructed)

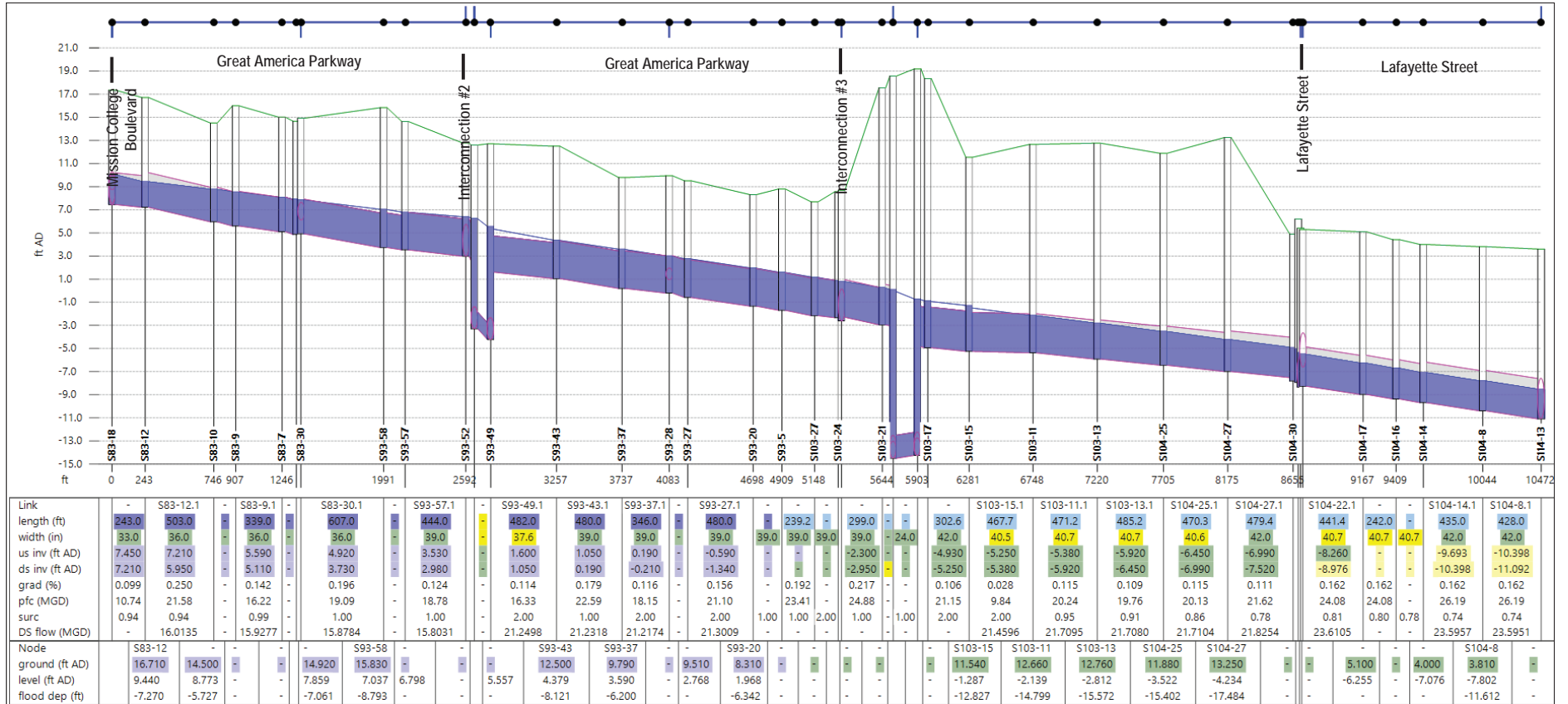


Figure C-20: Great America Parkway West Trunk Improvements Profile (Future 2035 PWWF assuming Alternative 1 is constructed)

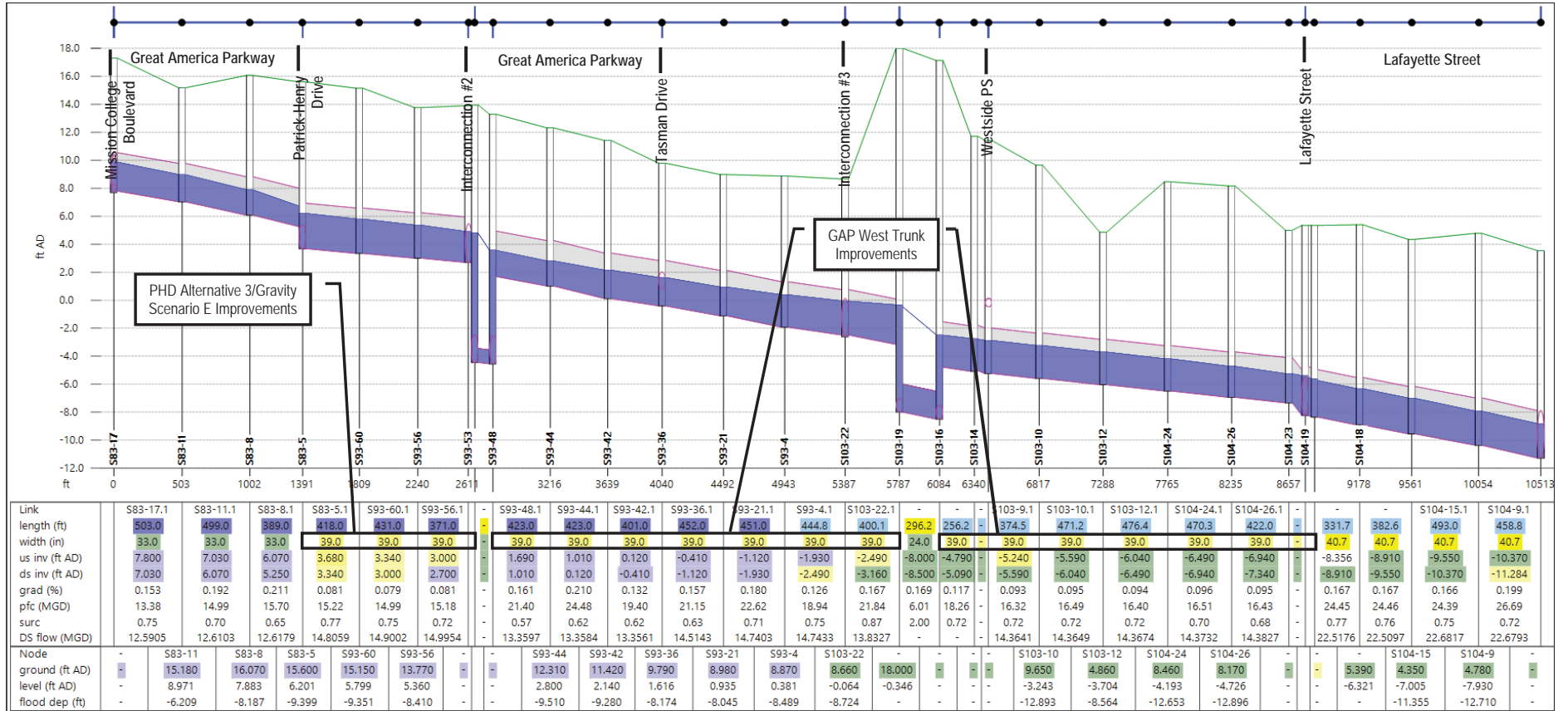


Figure C-21: Great America Parkway East Trunk Improvements Profile (Future 2035 PWWF assuming Alternative 1 is constructed)

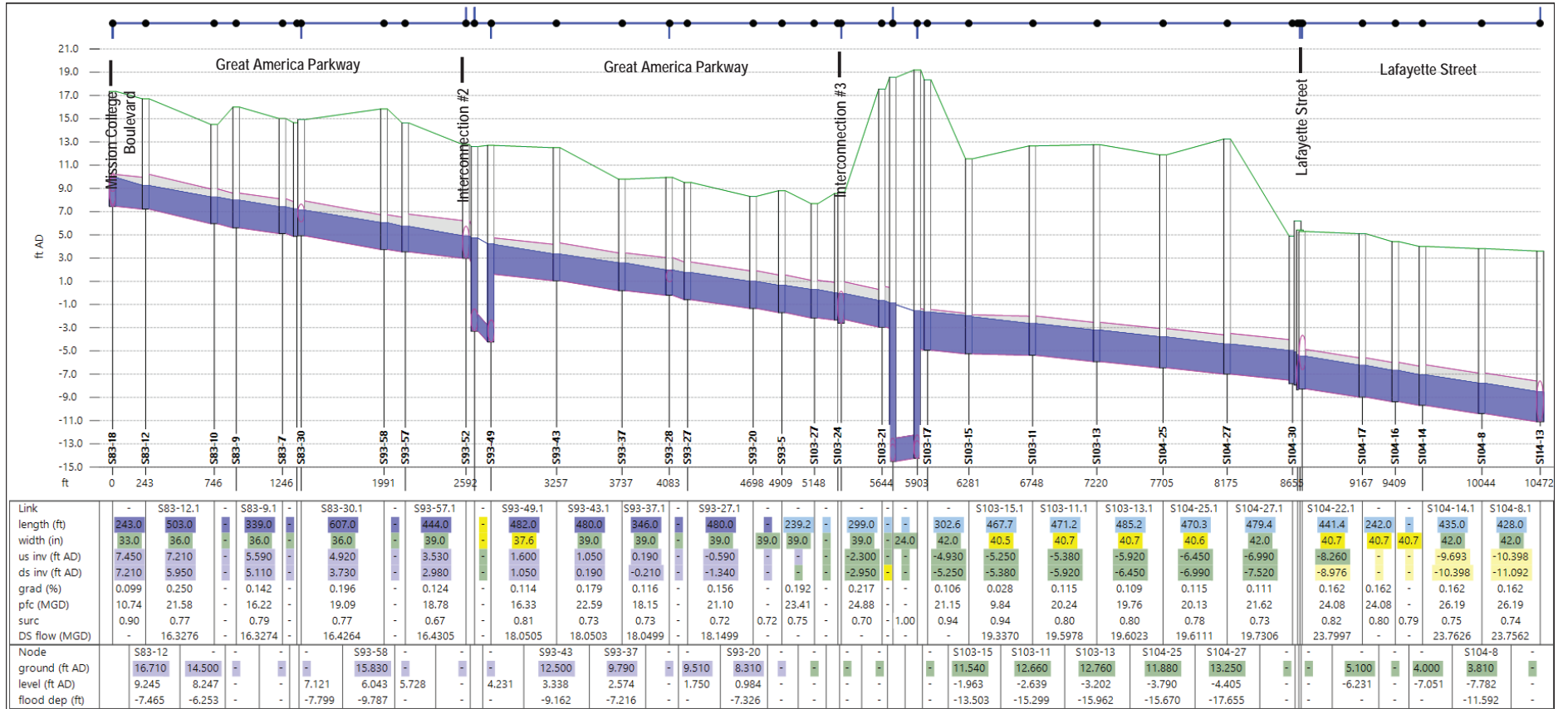


Figure C-22: Great America Parkway West Trunk Improvements Profile (Future 2035 PWWF assuming Alternative 4 is constructed)

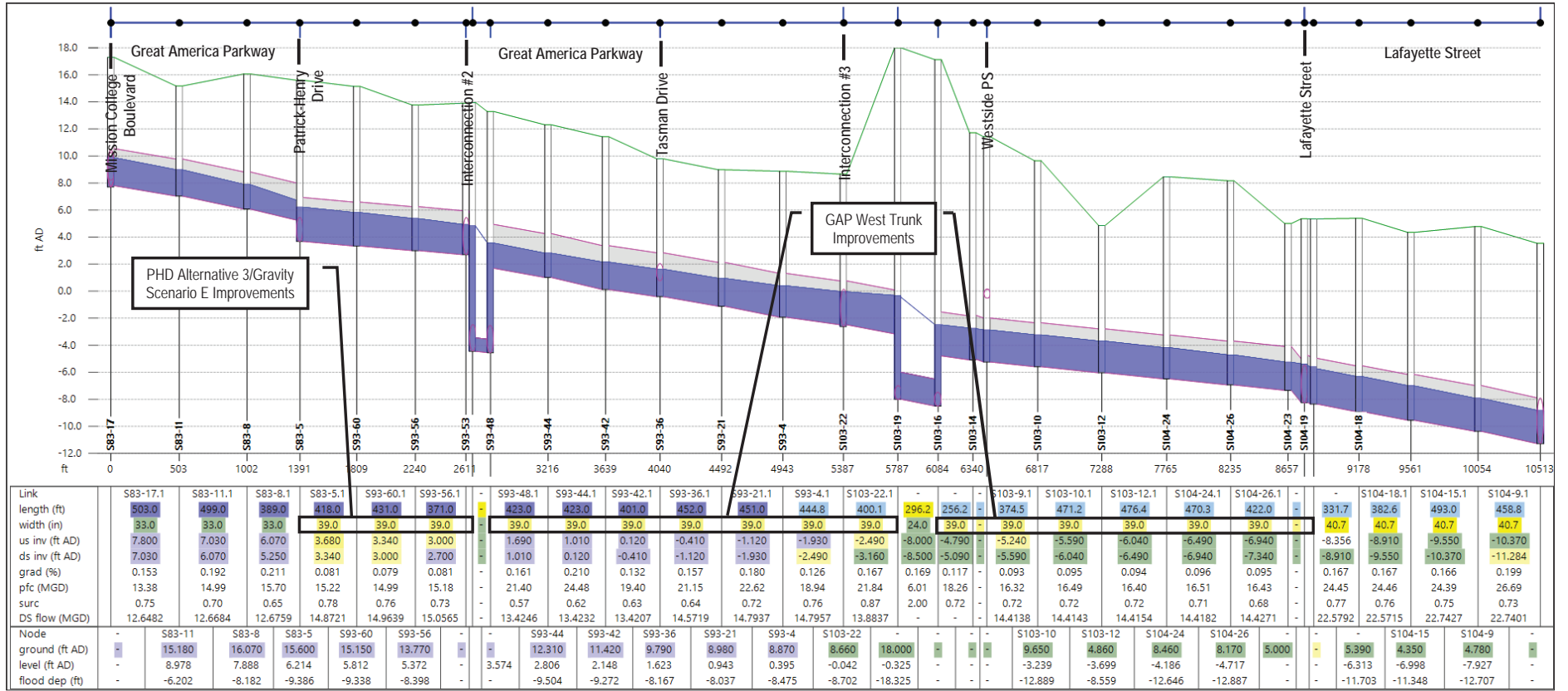
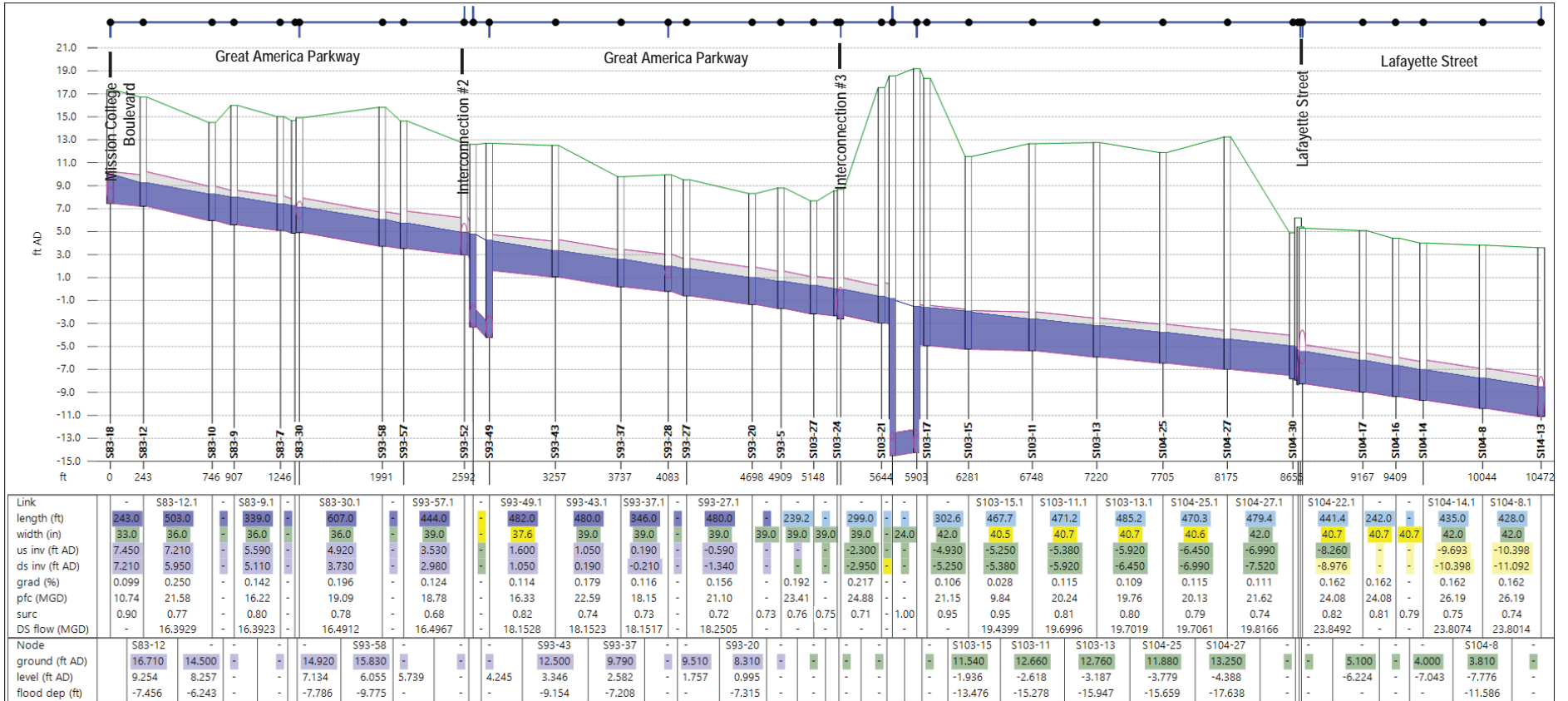


Figure C-23: Great America Parkway East Trunk Improvements Profile (Future 2035 PWWF assuming Alternative 4 is constructed)



**Appendix D –Capacity Improvement  
Project Cost Estimates**

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# Project P3: Cabrillo Avenue Sewer Improvement

PROJECT DESCRIPTION	
Project ID .....	P3
Project Name .....	Cabrillo Avenue Sewer Improvement
Project Location .....	Cabrillo Ave. between Lawrence Expy. and Nobili Ave.
Description .....	Upsize approximately 1,600 feet of 8-in pipe to 12-in pipe
Priority .....	2 - Triggered under Current PWWF
Estimated Capital Imp. Cost .....	\$2,390,000
Comments .....	(i) Pipes are listed in order from upstream to downstream (ii) The City should consider conducting a comprehensive inflow/infiltration (I/I) study with additional flow monitoring and other field investigations (e.g, smoke testing and CCTV inspection) prior to implementing this project. The project is located in an area of very high I/I according to flow data collected during the 2014/15 winter season. A previous flow monitoring program conducted in 2006 also showed similar findings. It is recommended that the City determine if it is cost-effective to identify and address/eliminate the I/I sources, rather than upsizing the sewer lines to accommodate the I/I flow.
Assumptions .....	(i) Cost estimates are based on the (Apr 2022 ENR Cost Index for the San Francisco Area) of 15104 (ii) Cost assumes open-cut replacement
Alternatives .....	(i) Conduct a focused I/I study to identify the possible sources of inflow or/and infiltration, and implement solutions to reduce the I/I for the area. (ii) Install parallel pipe or implement project by pipe bursting.

## PROJECT COST DETAIL

U/S MH ID	D/S MH ID	Existing Diameter (inches)	New Diameter (inches)	Length (feet)	Slope (%)	Pipe Depth (feet BGL)	Construction Method	Unit Cost (\$/LF)	Total Cost (\$)
S41-13	S41-14	8	12	54	0.65	7	Open Cut	\$480	\$ 25,920
S41-14	S41-15	8	12	210	0.39	7	Open Cut	\$480	\$ 100,608
S41-15	S41-16	8	12	300	0.30	6	Open Cut	\$480	\$ 144,144
S41-16	S41-17	8	12	207	0.32	6	Open Cut	\$480	\$ 99,360
S41-17	S41-18	8	12	25	0.24	6	Open Cut	\$480	\$ 12,000
S41-18	S41-19	8	12	404	0.39	6	Open Cut	\$480	\$ 193,920
S41-19	S41-20	8	12	393	1.26	8	Open Cut	\$480	\$ 188,592

Total Baseline Pipe Construction Cost	\$	764,544
New manholes (8)	\$	132,000
Lower lateral replacement and cleanout, Approx. 50	\$	300,000
<b>Baseline Construction Cost:</b>	<b>\$</b>	<b>1,196,544</b>
Bypass Pumping (10% of pipe construction cost)	\$	76,454
Remove & Replace Factor (5% of pipe construction cost)	\$	38,227
Traffic Control (10% of pipe construction cost)	\$	89,654
<b>Subtotal:</b>	<b>\$</b>	<b>1,400,880</b>
Mobilization/Demobilization (5% of subtotal)	\$	70,044
<b>Estimated Construction Cost Subtotal:</b>	<b>\$</b>	<b>1,470,924</b>
Contingencies (30% of construction subtotal)	\$	441,277
<b>Total Estimated Construction Cost:</b>	<b>\$</b>	<b>1,912,201</b>
Engineering, Administration, Legal (25% of construction cost)	\$	478,050
<b>Estimated Capital Improvement Cost:</b>	<b>\$</b>	<b>2,390,000</b>
<b>(Note: Cost estimates are based on April 2022 ENR CCI of 15104)</b>		

# Project P4: Tasman Drive Sewer Improvement

PROJECT DESCRIPTION	
Project ID .....	P4
Project Name .....	Tasman Drive Sewer Improvement
Project Location .....	Tasman Dr. between Old Ironsides Dr. and Great America Pkwy.
Description .....	Upsize approximately 600 feet of 12-in pipe to 15-in pipe
Priority .....	3 - Triggered under Future PWWF
Estimated Capital Imp. Cost .....	\$832,000
Comments .....	(i) Pipes are listed in order from upstream to downstream
Assumptions .....	(i) Cost estimates are based on the (Apr 2022 ENR Cost Index for the San Francisco Area) of 15104
	(ii) Cost assumes pipe will be upsized using open-cut construction method
Alternatives .....	(i) Install parallel pipe

## PROJECT COST DETAIL

U/S MH ID	D/S MH ID	Existing Diameter (inches)	New Diameter (inches)	Length (feet)	Slope (%)	Pipe Depth (feet BGL)	Construction Method	Unit Cost (\$/LF)	Total Cost (\$)
S93-24	S93-25	12	15	108	0.14	13	Open Cut	\$505	\$ 54,540
S93-25	S93-26	12	15	370	0.24	14	Open Cut	\$505	\$ 186,850
S93-26	S93-35	12	15	152	0.20	15	Open Cut	\$505	\$ 76,760

Total Baseline Pipe Construction Cost	\$	318,150
New manholes (4)	\$	66,000
Lower lateral replacement and cleanout, Approx. 4	\$	24,000
<b>Baseline Construction Cost:</b>	<b>\$</b>	<b>408,150</b>
Bypass Pumping (10% of pipe construction cost)	\$	31,815
Remove & Replace Factor (5% of pipe construction cost)	\$	15,908
Traffic Control (10% of pipe construction cost)	\$	31,815
<b>Subtotal:</b>	<b>\$</b>	<b>487,688</b>
Mobilization/Demobilization (5% of subtotal)	\$	24,384
<b>Estimated Construction Cost Subtotal:</b>	<b>\$</b>	<b>512,072</b>
Contingencies (30% of construction subtotal)	\$	153,622
<b>Total Estimated Construction Cost:</b>	<b>\$</b>	<b>665,693</b>
Engineering, Administration, Legal (25% of construction cost)	\$	166,423
<b>Estimated Capital Improvement Cost:</b>	<b>\$</b>	<b>832,000</b>
<b>(Note: Cost estimates are based on April 2022 ENR CCI of 15104)</b>		

# Project P5: Scott Blvd. Sewer Diversion

PROJECT DESCRIPTION	
Project ID .....	P5
Project Name .....	Scott Blvd. Sewer Diversion
Project Location .....	Manhole S25-85 located in the intersection of Los Padres Blvd. and Saratoga Ave.
Description .....	Install a weir in manhole S25-85 to divert flow northwest to Los Padres Blvd.
Priority .....	3 - Triggered under Future PWWF
Estimated Capital Imp. Cost .....	\$94,000
Comments .....	(i) Pipes are listed in order from upstream to downstream
Assumptions .....	(i) Cost estimates are based on the (Apr 2022 ENR Cost Index for the San Francisco Area) of

## PROJECT COST DETAIL

Install Weir	\$	45,000
<b>Baseline Construction Cost:</b>	<b>\$</b>	<b>45,000</b>
Traffic Control	\$	10,000
<b>Subtotal:</b>	<b>\$</b>	<b>55,000</b>
Mobilization/Demobilization (5% of subtotal)	\$	2,750
<b>Estimated Construction Cost Subtotal:</b>	<b>\$</b>	<b>57,750</b>
Contingencies (30% of construction subtotal)	\$	17,325
<b>Total Estimated Construction Cost:</b>	<b>\$</b>	<b>75,075</b>
Engineering, Administration, Legal (25% of construction cost)	\$	18,769
<b>Estimated Capital Improvement Cost:</b>	<b>\$</b>	<b>94,000</b>
<b>(Note: Cost estimates are based on April 2022 ENR CCI of 15104)</b>		

## Project P7: Calabazas Creek Trunk Upsize and Installation of Parallel 18-Inch Sewer under the Existing 27-Inch Storm Drain

PROJECT DESCRIPTION	
Project ID .....	Calabazas Creek Trunk Upsize and Installation of Parallel 18-Inch Sewer under the Existing 27-Inch Storm Drain
Project Location .....	Along Calabazas Creek from Kifer Road to Tannery Way
Description .....	2,400 feet of 18 to 36-inch pipe
WWF Trigger .....	Existing
Estimated Capital Improvement Cost .....	\$4,170,000
Comments .....	(i) Pipes are listed in order from upstream to downstream.
Assumptions .....	(i) New diameter based on open cut. (ii) Cost estimates are based on CCI of 15104 from the April 2022 ENR.
Alternatives .....	P7-Alt 1 and P7-Alt 2 Construct dry overflow sewer on top of the existing deficient sewer.

### PROJECT COST DETAIL

U/S MH ID	D/S MH ID	Existing Diameter (inches)	New Diameter (inches)	Length (feet)	Slope (%)	Pipe Depth (feet BGL)	Construction Method	Unit Cost (\$/LF)	Total Cost (\$)
S62-37	S62-38	NEW PIPE	18	29	0.24%	13	Open Cut	\$530	\$ 15,529
S62-38	S62-34	22.8	27	343	0.32%	13	Open Cut	\$660	\$ 226,380
S62-34	S62-33	24	27	14	0.50%	13	Open Cut	\$660	\$ 9,240
S62-33	S62-32	24	27	40	0.33%	13	Open Cut	\$660	\$ 26,400
S62-32	12175-D_SSMH11	24	27	14	0.71%	12	Open Cut	\$660	\$ 9,240
12175-D_SSMH11	12175-D_SSMH10	27	27	386	0.33%	11	Open Cut	\$660	\$ 254,760
12175-D_SSMH10	12175-D_SSMH9	27	27	345	0.33%	12	Open Cut	\$660	\$ 227,700
12175-D_SSMH1	S72-17	30	36	598	0.07%	9	Open Cut	\$880	\$ 526,240
S72-17	S72-12	30	36	629	0.14%	7	Open Cut	\$880	\$ 553,520

Total Baseline Pipe Construction Cost	\$	1,849,009
Modify Existing Manholes, 11	\$	144,528
<b>Baseline Construction Cost:</b>	<b>\$</b>	<b>1,993,537</b>
Sheeting and Shoring due to Close Building Proximity	\$	65,486
Dewatering	\$	65,790
Bypass Pumping (10% of pipe construction cost)	\$	184,901
Remove & Replace Factor (5% of pipe construction cost)	\$	91,674
<b>Subtotal:</b>	<b>\$</b>	<b>2,401,388</b>
Mobilization/Demobilization (5% of subtotal)	\$	120,069
<b>Estimated Construction Cost Subtotal:</b>	<b>\$</b>	<b>2,521,457</b>
Contingencies (30% of construction subtotal)	\$	756,437
<b>Estimated Construction Cost:</b>	<b>\$</b>	<b>3,277,895</b>
Temporary ROW/Easement Acquisition (\$4/SF)	\$	73,100
Engineering, Administration, Legal (25% of construction cost)	\$	819,474
<b>Estimated Capital Improvement Cost:</b>	<b>\$</b>	<b>4,170,000</b>
(Note: Cost estimates are based on April 2022 ENR CCI of 15104)		

# Project P7-Alt 1: Calabazas Creek Trunk Diversion to Machado Avenue and Chromite Drive

PROJECT DESCRIPTION	
Project ID .....	Calabazas Creek Trunk Diversion to Machado Avenue and Chromite Drive
Project Location .....	Calabazas Boulevard at the Machado Avenue intersection.
Description .....	1 new manhole, a new 21-inch weir, and a new 21-inch pipe on Machado Avenue at the corner of Calabazas Blvd.
WWF Trigger .....	Existing
Estimated Capital Improvement Cost .....	\$315,000
Comments .....	(i) Pipes are listed in order from upstream to downstream.
Assumptions .....	(i) New diameter based on open cut. (ii) Cost estimates are based on CCI of 15104 from the April 2022 ENR.
Alternatives .....	P7 and P7-Alt 2

## PROJECT COST DETAIL

U/S MH ID	D/S MH ID	Existing Diameter (inches)	New Diameter (inches)	Length (feet)	Slope (%)	Pipe Depth (feet BGL)	Construction Method	Unit Cost (\$/LF)	Total Cost (\$)
CIP MH1	S52-119	NEW PIPE	21	110	1.5%	6	Open Cut	\$550	\$ 60,500
									Total Baseline Pipe Construction Cost \$ 60,500
									Installation of New Weir, 1 \$ 44,792
									Modify Existing Manholes, 1 \$ 13,139
									Install New Manholes, 1 \$ 16,500
									<b>Baseline Construction Cost: \$ 134,931</b>
									Bypass Pumping (10% of pipe construction cost) \$ 6,050
									Remove & Replace Factor (5% of pipe construction cost) \$ 3,025
									Traffic Control (10% of pipe construction cost) \$ 6,050
									<b>Subtotal: \$ 150,056</b>
									Mobilization/Demobilization (5% of subtotal) \$ 7,503
									<b>Estimated Construction Cost Subtotal: \$ 157,559</b>
									Contingencies (30% of construction subtotal) \$ 47,268
									Small Project Factor (30% of construction subtotal) \$ 47,268
									<b>Estimated Construction Cost: \$ 252,094</b>
									Engineering, Administration, Legal (25% of construction cost) \$ 63,023
									<b>Estimated Capital Improvement Cost: \$ 315,000</b>

(Note: Cost estimates are based on April 2022 ENR CCI of 15104)

## Project P7-Alt 2: Diversion to El Camino Real (ECR) and Bowers Avenue

PROJECT DESCRIPTION	
Project ID .....	Diversion to El Camino Real (ECR) and Bowers Avenue Along El Camino Real from Calabazas Boulevard to Bowers Avenue.
Project Location .....	Along Bowers Avenue from Chromite Drive to Kifer Road. Along Calabazas Creek at Kifer Road.
Description .....	1,800 feet of 10 to 15-inch pipe 2,600 feet of 27 to 30-inch pipe 30 feet of new 18-inch pipe
WWF Trigger .....	Existing
Estimated Capital Improvement Cost .....	\$7,008,000
Comments .....	(i) Pipes are listed in order from upstream to downstream.
Assumptions .....	(i) New diameter based on open cut. (ii) Cost estimates are based on CCI of 15104 from the April 2022 ENR.
Alternatives .....	P7 and P7-Alt 1

### PROJECT COST DETAIL

U/S MH ID	D/S MH ID	Existing Diameter (inches)	New Diameter (inches)	Length (feet)	Slope (%)	Pipe Depth (feet BGL)	Construction Method	Unit Cost (\$/LF)	Total Cost (\$)
S32-102	S32-6	10	15	24	0.21%	8	Open Cut	\$505	\$ 12,171
S32-6	S32-9	10	15	308	0.15%	7	Open Cut	\$505	\$ 155,540
S32-9	S32-10	10	15	288	0.28%	6	Open Cut	\$505	\$ 145,440
S32-10	S33-1	10	15	318	0.19%	6	Open Cut	\$505	\$ 160,792
S33-1	S33-2	10	15	335	0.22%	6	Open Cut	\$505	\$ 169,074
S33-2	S33-3	10	15	300	0.29%	6	Open Cut	\$505	\$ 151,601
S33-3	S33-4	10	15	205	0.21%	6	Open Cut	\$505	\$ 103,525
S33-4	S33-5	10	15	18	-0.06%	6	Open Cut	\$505	\$ 9,242
S53-34	S53-22	27	30	211	0.35%	9	Open Cut	\$735	\$ 154,865
S53-22	S53-21	27	30	80	0.65%	10	Open Cut	\$735	\$ 58,800
S53-21	S53-7	27	30	705	0.43%	10	Open Cut	\$735	\$ 518,175
S53-7	S63-36	27	30	314	0.39%	11	Open Cut	\$735	\$ 231,011
S63-36	S63-35	27	30	86	0.30%	12	Open Cut	\$735	\$ 63,284
S63-35	S63-33	27	30	354	0.55%	11	Open Cut	\$735	\$ 259,896
S63-33	S63-32	27	30	40	0.38%	11	Open Cut	\$735	\$ 29,400
S63-32	S63-27	27	30	132	0.46%	12	Open Cut	\$735	\$ 97,094
S63-27	S63-26	27	30	266	0.44%	13	Open Cut	\$735	\$ 195,510
S63-26	S63-20	27	30	400	0.55%	13	Open Cut	\$735	\$ 294,000
S62-37	S62-38	NEW PIPE	18	32	0.22%	13	Open Cut	\$735	\$ 23,226

Total Baseline Pipe Construction Cost	\$	2,832,643
Modify Existing Manholes, 22	\$	289,057
<b>Baseline Construction Cost:</b>	<b>\$</b>	<b>3,121,700</b>
Bypass Pumping (10% of pipe construction cost)	\$	283,264
Remove & Replace Factor (5% of pipe construction cost)	\$	140,471
Traffic Control (20% of pipe construction cost)	\$	561,883
<b>Subtotal:</b>	<b>\$</b>	<b>4,107,318</b>
Mobilization/Demobilization (5% of subtotal)	\$	205,366
<b>Estimated Construction Cost Subtotal:</b>	<b>\$</b>	<b>4,312,684</b>
Contingencies (30% of construction subtotal)	\$	1,293,805
<b>Estimated Construction Cost:</b>	<b>\$</b>	<b>5,606,489</b>
Engineering, Administration, Legal (25% of construction cost)	\$	1,401,622
<b>Estimated Capital Improvement Cost:</b>	<b>\$</b>	<b>7,008,000</b>

(Note: Cost estimates are based on April 2022 ENR CCI of 15104)

# Project P8: GAP West Trunk Sewer Capacity Improvement

PROJECT DESCRIPTION	
Project ID .....	GAP West Trunk Sewer Capacity Improvement
Project Location .....	Along Great America Parkway from Old Glory Lane to Start and Stripes Drive. Along Stars and Stripes Drive from Great America Parkway to Lafayette Street.
Description .....	5,700 feet of 30 and 33 to 39-inch pipe
DWF Trigger .....	Future
Estimated Capital Improvement Cost .....	\$12,993,000
Comments .....	(i) Pipes are listed in order from upstream to downstream.
Assumptions .....	(i) New diameter based on open cut. (ii) Cost estimates are based on CCI of 15104 from the April 2022 ENR.
Alternatives .....	NA

## PROJECT COST DETAIL

U/S MH ID	D/S MH ID	Existing Diameter (inches)	New Diameter (inches)	Length (feet)	Slope (%)	Pipe Depth (feet BGL)	Construction Method	Unit Cost (\$/LF)	Total Cost (\$)
S93-48	S93-44	28.9	39	423	0.16%	8	Open Cut	\$955	\$ 403,965
S93-44	S93-42	30	39	423	0.21%	8	Open Cut	\$955	\$ 403,965
S93-42	S93-36	30	39	401	0.13%	8	Open Cut	\$955	\$ 382,955
S93-36	S93-21	30	39	452	0.16%	7	Open Cut	\$955	\$ 431,660
S93-21	S93-4	30	39	451	0.18%	7	Open Cut	\$955	\$ 430,705
S93-4	S103-22	30	39	445	0.13%	8	Open Cut	\$955	\$ 424,784
S103-22	S103-19	28.8	39	400	0.17%	13	Open Cut	\$955	\$ 382,096
S103-16	S103-14	33	39	256	0.12%	16	Open Cut	\$955	\$ 244,671
S103-14	S103-9	33	39	103	0.20%	13	Open Cut	\$955	\$ 97,888
S103-9	S103-10	33	39	375	0.09%	13	Open Cut	\$955	\$ 357,648
S103-10	S103-12	33	39	471	0.10%	10	Open Cut	\$955	\$ 449,996
S103-12	S104-24	33	39	476	0.09%	10	Open Cut	\$955	\$ 454,962
S104-24	S104-26	33	39	470	0.10%	12	Open Cut	\$955	\$ 449,137
S104-26	S104-23	33	39	422	0.10%	10	Open Cut	\$955	\$ 403,010
S104-23	S104-19	33	39	121	0.75%	10	Open Cut	\$955	\$ 115,269

Total Baseline Pipe Construction Cost	\$	5,432,709
New Manholes, 17	\$	280,500
<b>Baseline Construction Cost:</b>	<b>\$</b>	<b>5,713,209</b>
Bypass Pumping (10% of pipe construction cost)	\$	543,271
Remove & Replace Factor (5% of pipe construction cost)	\$	271,635
Traffic Control (20% of pipe construction cost)	\$	1,086,542
<b>Subtotal:</b>	<b>\$</b>	<b>7,614,656</b>
Mobilization/Demobilization (5% of subtotal)	\$	380,733
<b>Estimated Construction Cost Subtotal:</b>	<b>\$</b>	<b>7,995,389</b>
Contingencies (30% of construction subtotal)	\$	2,398,617
<b>Estimated Construction Cost:</b>	<b>\$</b>	<b>10,394,006</b>
Engineering, Administration, Legal (25% of construction cost)	\$	2,598,502
<b>Estimated Capital Improvement Cost:</b>	<b>\$</b>	<b>12,993,000</b>

(Note: Cost estimates are based on April 2022 ENR CCI of 15104)

# Project E1: Tracy Drive Sewer Improvement

PROJECT DESCRIPTION	
Project ID .....	E1
Project Name .....	Tracy Drive Sewer Improvement
Project Location .....	Project begins at manhole S10-77 west of Lawrence Expy. and Tracy Dr., then Pruneridge Ave., Pomeroy Ave., and ends at manhole S22-51 in Homestead Rd. and Pepper Tree Ln.
Description .....	Upsize approximately 8,000 feet of 10-in to 18-in pipe to 15-in to 21-in pipe
Priority .....	N/A
Estimated Capital Imp. Cost .....	\$10,693,000
Comments .....	(i) Pipes are listed in order from upstream to downstream (ii) The City should verify the need and the appropriate timing of implementing this project. This project is triggered by the large sewer discharge assumed for parcel APN 316-17-018, which holds an entitlement agreement to discharge a potential flow of 0.95 mgd; however, it is currently discharging less than 10 percent of the entitled rate. While the City is obligated to provide capacity for entitlement holders, it is important to note that implementing this project may result in oversized sewers where the daily flow is not sufficient to provide the minimum cleaning velocity and thus causing potential debris and odor issues.
Assumptions .....	(i) Cost estimates are based on the (Apr 2022 ENR Cost Index for the San Francisco Area) of 15104
Alternatives .....	(i) Install parallel pipe.

## PROJECT COST DETAIL

U/S MH ID	D/S MH ID	Existing Diameter (inches)	New Diameter (inches)	Length (feet)	Slope (%)	Pipe Depth (feet BGL)	Construction Method	Unit Cost (\$/LF)	Total Cost (\$)
S10-77	S10-78	10	15	315	0.22	10	Open Cut	\$505	\$ 159,075
S10-78	S10-79	10	15	300	0.27	11	Open Cut	\$505	\$ 151,500
S10-79	S10-80	10	15	300	0.16	10	Open Cut	\$505	\$ 151,500
S10-80	S11-83	10	15	262	0.31	8	Open Cut	\$505	\$ 132,058
S11-83	S11-76	10	15	307	0.51	8	Open Cut	\$505	\$ 154,934
S11-76	S11-77	10	15	109	0.43	9	Open Cut	\$505	\$ 55,146
S11-77	S11-78	10	15	164	0.44	8	Open Cut	\$505	\$ 82,820
S11-78	S11-80	10	15	316	0.48	6	Open Cut	\$505	\$ 159,479
S11-80	S11-81	10	15	321	0.54	6	Open Cut	\$505	\$ 162,257
S11-81	S11-70	10	15	286	0.86	6	Open Cut	\$505	\$ 144,178
S11-70	S11-67	10	15	311	1.21	7	Open Cut	\$505	\$ 156,803
S11-67	S11-60	10	15	335	0.68	7	Open Cut	\$505	\$ 169,024
S11-60	S11-50	10	15	308	0.32	6	Open Cut	\$505	\$ 155,692
S11-50	S11-41	10	15	338	0.43	7	Open Cut	\$505	\$ 170,690
S11-41	S11-42	10	15	252	0.28	8	Open Cut	\$505	\$ 127,210
S11-42	S11-30	10	15	240	0.54	7	Open Cut	\$505	\$ 120,998
S11-30	S11-29	10	15	79	0.40	7	Open Cut	\$505	\$ 39,643
S11-29	S11-19	10	15	138	0.66	8	Open Cut	\$505	\$ 69,690
S11-19	S11-10	10	15	401	1.00	8	Open Cut	\$505	\$ 202,657
S11-10	S22-93	10	15	425	1.06	9	Open Cut	\$505	\$ 214,373
S22-93	S22-80	10	15	339	0.56	9	Open Cut	\$505	\$ 171,044
S22-80	S22-74	10	15	314	0.47	9	Open Cut	\$505	\$ 158,368
S22-74	S22-69	10	15	276	0.21	9	Open Cut	\$505	\$ 139,532
S22-69	S22-55	12	15	180	0.40	9	Open Cut	\$505	\$ 90,648
S22-55	S22-46	New Pipe	15	53	0.49	10	Open Cut	\$505	\$ 26,715
S22-46	S22-47	18	21	313	0.68	14	Open Cut	\$550	\$ 172,370
S22-47	S22-48	18	21	30	0.68	13	Open Cut	\$550	\$ 16,500
S22-48	S22-49	18	21	320	0.68	13	Open Cut	\$550	\$ 176,000
S22-49	S22-50	18	21	367	0.68	13	Open Cut	\$550	\$ 201,850
S22-50	S22-51	18	21	349	0.68	13	Open Cut	\$550	\$ 191,730

Total Baseline Pipe Construction Cost	\$	4,124,477
New manholes (31)	\$	511,500
Lower lateral replacement and cleanout, Approx. 100	\$	600,000
<b>Baseline Construction Cost:</b>	<b>\$</b>	<b>5,235,977</b>
Bypass Pumping (10% of pipe construction cost)	\$	412,448
Remove & Replace Factor (5% of pipe construction cost)	\$	206,224
Traffic Control (10% of pipe construction cost)	\$	412,448
<b>Subtotal:</b>	<b>\$</b>	<b>6,267,096</b>
Mobilization/Demobilization (5% of subtotal)	\$	313,355
<b>Estimated Construction Cost Subtotal:</b>	<b>\$</b>	<b>6,580,451</b>
Contingencies (30% of construction subtotal)	\$	1,974,135
<b>Total Estimated Construction Cost:</b>	<b>\$</b>	<b>8,554,586</b>
Engineering, Administration, Legal (25% of construction cost)	\$	2,138,647
<b>Estimated Capital Improvement Cost:</b>	<b>\$</b>	<b>10,693,000</b>

(Note: Cost estimates are based on April 2022 ENR CCI of 15104)



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