



CITY COUNCIL REGULAR MEETING

Monday, October 16, 2023 at 5:00 PM

94 N. Washington Street, Sonora, CA 95370

(209) 532-4541

AGENDA

NOTICE IS HEREBY GIVEN that the Sonora City Council will have their regular meeting on Monday, October 16, 2023, at 5:00 PM in the City of Sonora Council Chambers located at 94 N. Washington Street Sonora, CA 95370.

THIS MEETING IS PHYSICALLY OPEN TO THE PUBLIC AND MEMBERS OF THE PUBLIC MAY PARTICIPATE IN THE MEETING VIA VIDEO CONFERENCING AT:

Zoom Meeting Link:

<https://us06web.zoom.us/j/81193397821?pwd=UGdrRTcyaFFac3o0b2JQK2FmMTRyUT09>

Dial: (669) 444-9171

Meeting ID: 811 9339 7821

Passcode: 906625

MEMBERS OF THE PUBLIC WILL BE GIVEN THE OPPORTUNITY TO PROVIDE COMMENTS.

THIS MEETING WILL BE LIVE STREAMED ON THE CITY'S WEBSITE AT www.sonoraca.com.

Written comments can be submitted to be included as part of the administrative record; they will not be read during the meeting. All comments must be received by 3:00 pm on the day of the noticed meeting and can be submitted to the City Clerk at 94 N. Washington Street Sonora, CA 95370, or via email to tskelly@sonoraca.com.

CLOSED SESSION - 4:00 PM

CALL TO ORDER

ROLL CALL

PUBLIC COMMENTS

ADJOURN INTO CLOSED SESSION

1. Conference with Legal Counsel – Anticipated Litigation - Initiation of litigation pursuant to paragraph (4) of subdivision (d) of Section § 54956.9: One (1) Potential Case; Doug White, City Attorney, Melissa Eads, City Administrator.

2. Conference with Legal Counsel – Anticipated Litigation - Initiation of litigation pursuant to paragraph (4) of subdivision (d) of Section § 54956.9: One (1) Potential Case; Doug White, City Attorney, Melissa Eads, City Administrator.

RECONVENE INTO OPEN SESSION

OPEN SESSION - 5:00 PM

REPORT OUT OF CLOSED SESSION

PLEDGE OF ALLEGIANCE

ROLL CALL

CITY CLERK'S REPORT ON AGENDA POSTING

APPROVAL OF THE AGENDA

PUBLIC COMMENT (NON-AGENDA ITEMS)

*The public may address the Council on any item of public interest not otherwise on the agenda that is within the jurisdiction of the City. No action may be taken. Matters to be addressed may be referred to City Staff or placed on a subsequent meeting Agenda. Speakers are limited to a three (3) minute presentation. If participating via Zoom, please raise your hand using the Raise Your Hand feature or dial *9 (*6 to unmute).*

PRESENTATIONS

3. Receive a presentation regarding the Main Drain Field Inspection and Condition Report, direct Staff to continue collaboration with CalTrans on improvements, and report back to the Council within 60 days; Dave Richard, Associate Vice President, Dewberry; Gerard Fuccillo, City Engineer.
4. Receive a presentation regarding Code Enforcement from CSG Consultants; Rachelle Kellogg, Community Development Director, Irma Gowin, Senior Code Enforcement Officer, CSG, and Daisy Gomar, the City's assigned Code Enforcement Officer.

CONSENT CALENDAR

Items on the Consent Calendar are considered routine and will be voted on in one motion unless a Council member or member of the public has a question or wishes to discuss an item. In that case, the item will be removed from the Consent Calendar and considered separately.

5. Consider approval of disbursements in the amount of \$171,030.21 for payroll, including employee salaries, employer and employee taxes, retirement contributions, miscellaneous voluntary employee deductions, holiday pay, and other adjustments, including retro-pay; Tracy Skelly, Administrative Services Officer.
6. Consider approval of Resolution No.10-16-2023-A to authorize the City Administrator to execute an agreement to purchase a Ravo 5 iSeries Street Sweeper; Chris Gorsky, Administrative Services Director.

UNFINISHED BUSINESS

7. Discussion and Community Engagement regarding the Sonora Police Department's Annual Military Equipment Report and the Department's Funding, Acquisition, or Use of Military Equipment; Turu VanderWiel, Police Chief.

NEW BUSINESS

8. Consider recommendation limiting the use of Zoom or other remote meeting attendance platforms during City Council meetings; Melissa Eads, City Administrator, Douglas White, City Attorney.
9. Consider authorization to advertise for public bid on the Woods Creek Park Basketball Court Project; Rachelle Kellogg, Community Development Director.

MONTHLY REPORTS

10. Receive the Sonora Administrative Services Department monthly report for August 2023; Chris Gorsky, Administrative Services Director.
11. Receive the Sonora Fire Department monthly report for September 2023; Aimee New, Fire Chief.
12. Receive the Sonora Police Department monthly report for September 2023; Turu VanderWiel, Police Chief.
13. Receive the Sonora Public Works Department monthly report for September 2023; Michael Lagomarsino, Public Works Supervisor.

COUNCIL MEMBER REPORTS

ADJOURNMENT

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the City Administrator at City Hall (209) 532-4541, meads@sonoraca.com. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting (28 CFR 35.102-35.104 ADA Title II).

Materials related to an item on this Agenda submitted to the City Council after distribution of the agenda packet are available for public inspection in the City Administrator's Office at 94 N. Washington Street, Sonora, CA 95370 during normal business hours (8:00 am - 4:00 pm, Monday through Friday, excluding holidays). The agenda and supporting public documents are also available on our City website www.sonoraca.com listed under the agenda/minutes link on the Government page.



CITY COUNCIL AGENDA REPORT

MEETING DATE: October 16, 2023

TO: City Council Members

FROM: Melissa Eads, City Administrator

SUBJECT: Main Drain Condition Assessment

RECOMMENDATION:

1. Accept Main Drain Field Inspection and Condition Report as complete.
2. Direct staff to continue to collaborate with Caltrans regarding funding/construction of short-term and long-term improvements
3. Direct staff to report back to Council within 60 days on implementation status.

BACKGROUND:

The Main Drain serves as the principal stormwater conveyance system for large areas southeast of Stockton Street and on either side of Washington Street, Stewart Street, and Restano Way. The Main Drain consists of approximately 1,200 ft of stacked rock (stone) tunnel, 650 ft of 18-inch high-density polyethylene (HDPE) pipe, 3,100 ft of 24- to 36-inch corrugated metal pipe (CMP), 75 ft of 36-inch reinforced concrete pipe (RCP), and 100 ft of concrete culvert. The stone tunnel component of the Main Drain is over 150 years old and is now located below SR-49, parking areas, buildings, and City streets.

The City contracted with Dewberry Engineers Inc. to conduct field inspections and to prepare a condition assessment report to provide options for repair, rehabilitation, or replacement of critical areas within the Main Drain.

DISCUSSION / ANALYSIS:

The assessment project was divided into two phases: 1) a confined space drone inspection of the lower Main Drain (stone tunnel) was conducted on 1 June 2023 and 2) a closed-circuit television (CCTV) inspection of the Main Drain storm drain pipelines was conducted on 10 July 2023. Results of the inspections were summarized in two technical memoranda which are included as appendices in the Summary Report that was provided to Council. The Summary Report provides more detail and information on the findings and recommendations. The following are key items for Council's information.

The stone tunnel portion of the Main Drain appears to be in adequate condition considering the tunnel is over 150 years old. It should be noted that the drone was not able to access the full length of the rock lined tunnel. Four different locations with a total of approximately 145 feet were unable to be accessed.

The stone tunnel, however, is starting show its age. The drone inspections revealed five areas of collapse along the length of the stone tunnel. These areas are located as follows, and as indicated on Attachment 1 (Figure 3):

1. 40 ft north of Entry 1
2. 20 ft south of Entry 2

3. 65 ft south of Entry 3
4. 85 ft south of Entry 5
5. 65 ft south of Entry 10

The first four of these collapse areas are minor in nature. The fifth collapse area is of concern because this section of failed tunnel is approximately 10 to 12 ft and the west wall and lid of the tunnel at this location are missing. It appears that only the arching effect of the soil above the tunnel is supporting Stockton Street/ SR-49. At this same location, settlement in the roadway above the tunnel can be seen and has been previously marked by the City as a location of potential tunnel failure. Because Caltrans currently has ongoing construction activities, including the use of heavy machinery and trucks occurring directly adjacent to this section of failed tunnel, a letter was forwarded to Caltrans on 2 June 2023, recommending the portion of the road above this section of collapsed tunnel be blocked off from traffic and this location of the tunnel be exposed and repaired in the very near future.

Fifteen improvements are recommended for rehabilitation or replacement of the Stone Tunnel (ST) or Storm Drain Pipelines (SDP) as follows, and as indicated on Attachment 2 (Figure 10):

Project Designation	Title	Description
ST-1	West Stone Tunnel Rehabilitation	Reconstruction of stone tunnel at collapsed areas and steel door replacement areas
ST-2	West Stone Tunnel Replacement	Replacement of 250 ft of stone tunnel
ST-3	East Stone Tunnel Rehabilitation	Reconstruction of stone tunnel at collapsed areas and steel door replacement areas
ST-4	East Stone Tunnel Replacement	Replacement of 200 ft of stone tunnel
ST-5	Washington Street Stone Tunnel Replacement	Replacement of 380 ft of stone tunnel
ST-6	Stone Tunnel Bypass	Construction of 530 ft of 36-inch CMP
SDP-1	Church Street/Stewart Street/ Stockton Street Relief Storm Drain	Construction of 1,350 ft of 24-inch HDPE and 640 ft of 48-inch HDPE
SDP-2	Washington Street Relief Storm Drain – Phase 1	Construction of 520 ft of 30-inch HDPE
SDP-3	William Street Storm Drain Replacement	Replacement of 20 ft of 12-inch RCP
SDP-4	Central Storm Drain Replacement	Replacement of 150 ft of 36-inch CMP
SDP-5	Washington Street Storm Drain Replacement Phase 1	Replacement of 30 ft of 24-inch CMP
SDP-6	Stewart Street Storm Drain Rehabilitation	Rehabilitation of 90 ft of 12- to 18-inch storm drain
SDP-7	Washington Street Storm Drain Replacement Phase 2	Replacement of 150 ft of 24-inch CMP
SDP-8	Stewart Street East Alley Relief Sewer	Construction of 260 ft of 18-inch HDPE
SDP-9	Washington Street Relief Storm Drain – Phase 2	Construction of 440 ft of 24-inch HDPE

A 10-year capital improvement program (CIP) was developed considering the severity of the existing conditions of the various sections. The CIP is divided into four tiers of projects with Tier 1 focused on repairs/rehabilitation of collapsed sections of the stone tunnel and construction of relief storm drains to alleviate historical street flooding. Reconstruction of the stone tunnel below Stockton Street by Caltrans is assumed during Tier 1. Tiers 2-4 progressively upgrade the Main Drain on either side of Washington Street combined with storm drain pipeline improvements further south along Stewart Street and Washington Street. Complete replacement of the stone tunnel including bypassing of segments beneath buildings is accomplished at the end of Tier 4.

Tier	Project Designation	Title	Timeline, years
1	ST-1	West Stone Tunnel Rehabilitation	1-2
	SDP-1	Church Street/Stewart Street/Stockton Street Relief Storm Drain	1-2
	ST-3	East Stone Tunnel Rehabilitation	1-2
2	ST-2	West Stone Tunnel Replacement	3-4
	SDP-2	Washington Street Relief Storm Drain – Phase 1	3-4
	SDP-3	William Street Storm Drain Replacement	3-4
	SDP-4	Central Storm Drain Replacement	3-4
	SDP-8	Stewart Street East Alley Relief Sewer	3-4
3	SDP-5	Washington Street Storm Drain Replacement - Phase 1	5-6
	SDP-6	Stewart Street Storm Drain Rehabilitation	5-6
	ST-4	East Stone Tunnel Replacement	7-8
	SDP-9	Washington Street Relief Storm Drain – Phase 2	9-10
4	SDP-7	Washington Street Storm Drain Replacement - Phase 2	9-10
	ST-5	Washington Street Stone Tunnel Replacement	9-10
	ST-6	Stone Tunnel Bypass	9-10

Over the 10-year period, based on the findings from the recent inspections, the construction estimate for all projects is \$9.6 million in today's dollars. Estimates by project are located in the Summary Report.

The next steps in the implementation of the Main Drain improvements include the following:

1. Confirmation with Caltrans of the schedule for reconstruction of the stone tunnel beneath Stockton Street and possible collaboration on future storm drain improvements.
2. Preparation of a drainage study to determine the required conveyance capacity of the Main Drain during significant storm events. Sizing of the Main Drain to meet peak flow requirements.
3. Identification of funding sources for the recommended CIP.
4. Comprehensive mapping of the Main Drain to determine vertical/horizontal locations.
5. Development of preliminary engineering documents to more fully define project elements and to refine probable costs.
6. Preparation of environmental documents to support the drainage improvements.

FISCAL IMPACT:

Fiscal impact will be identified as fiscal year budgets and projects (engineering studies, environmental studies, engineering design, and construction) are scheduled as well as determining if any outside funding sources are available to the City.

ATTACHMENTS:

- 1. Attachment 1 (Figure 3) showing Stone Tunnel Route and Entry Points to Stone Tunnel for the Assessment
- 2. Attachment 2.(Figure 10) showing Implementation Plan locations



LEGEND

- 36-IN CMP
- 21-IN CMP (ABANDONED)
- 24-IN CMP
- CONCRETE CULVERT
- 18-IN HDPE
- STONE TUNNEL
- 36-IN RCP
- 12-IN RCP
- 48-IN BY 48-IN RCP
- (X) NARROW LOCATIONS FOR DRONE INSPECTION ENTRANCE

PROPOSED POINTS OF ENTRY

LOCATION NO.	DESCRIPTION
①	DRAINAGE INLET
②	STORM DRAIN MANHOLE
③	DRAINAGE INLET
④	DRAINAGE INLET
⑤	STORM DRAIN MANHOLE
⑥	DRAINAGE INLET
⑦	DRAINAGE INLET
⑧	STORM DRAIN MANHOLE
⑨	DRAINAGE INLET
⑩	CONCRETE OUTLET UNDER BRIDGE -CONCRETE DOOR

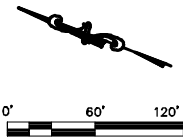
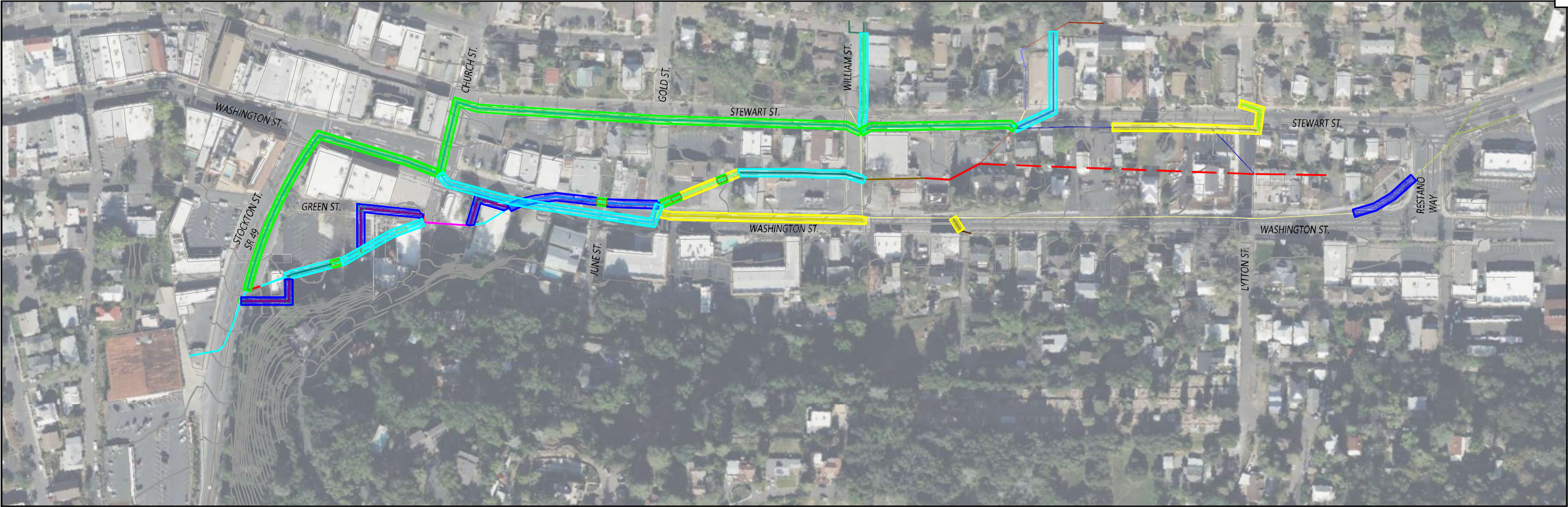


FIGURE 3
CITY OF SONORA MAIN DRAIN
FIELD INSPECTION AND CONDITION ASSESSMENT
TM 3.0R1 - SUMMARY REPORT
ENTRY POINTS TO STONE TUNNEL



LEGEND

- 36-IN CMP
- 21-IN CMP (ABANDONED)
- 18-IN CMP
- 24-IN CMP
- 24-IN HDPE (STORM DRAIN RELIEF PIPELINE)
- 18-IN HDPE
- 30-IN HDPE (STORM DRAIN RELIEF PIPELINE)
- 12-IN RCP
- STONE TUNNEL
- 36-IN RCP
- 8-IN CONCRETE PIPE
- 24-IN CONCRETE PIPE
- 48-IN BY 48-IN RCP
- 18-IN BY 18-IN STONE TUNNEL
- 15-IN CMP
- 24-IN SEGMENTED BLOCK
- 21-IN SEGMENTED BLOCK
- 8-IN CONCRETE PIPE

TIER 1	
PROJECT DESIGNATION	TITLE
ST-1	WEST STONE TUNNEL REHABILITATION
ST-3	EAST STONE TUNNEL REHABILITATION
SDP-1	CHURCH STREET/STEWART STREET/STOCKTON STREET RELIEF STORM DRAIN
TIER 1 PROJECT	
TIER 2	
PROJECT DESIGNATION	TITLE
ST-2	WEST STONE TUNNEL REPLACEMENT
SDP-3	WILLIAM STREET STORM DRAIN REPLACEMENT
SDP-4	CENTRAL STORM DRAIN REPLACEMENT
SDP-2	WASHINGTON STREET RELIEF STORM DRAIN - PHASE 1
SDP-8	STEWART STREET/EAST ALLEY STORM DRAIN
TIER 2 PROJECT	

TIER 3	
PROJECT DESIGNATION	TITLE
SDP-5	WASHINGTON STREET STORM DRAIN REPLACEMENT PHASE 1
SDP-6	STEWART STREET STORM DRAIN REHABILITATION
ST-4	EAST STONE TUNNEL REPLACEMENT
SDP-9	WASHINGTON STREET RELIEF STORM DRAIN - PHASE 2
TIER 3 PROJECT	
TIER 4	
PROJECT DESIGNATION	TITLE
SDP-7	WASHINGTON STREET STORM DRAIN REPLACEMENT PHASE 2
ST-5	WASHINGTON STREET STONE TUNNEL REPLACEMENT
ST-6	STONE TUNNEL BYPASS
TIER 4 PROJECT	



FIGURE 10
CITY OF SONORA MAIN DRAIN
FIELD INSPECTION AND CONDITION ASSESSMENT
TM 3.0R1 - SUMMARY REPORT
IMPLEMENTATION PLAN



CITY OF SONORA

**MAIN DRAIN FIELD INSPECTION
AND CONDITION ASSESSMENT**

TECHNICAL MEMORANDUM 3.0R1

SUMMARY REPORT



October 2023



CITY OF SONORA

**MAIN DRAIN FIELD INSPECTION
AND CONDITION ASSESSMENT**

**TECHNICAL MEMORANDUM 3.0R1
SUMMARY REPORT**



10/2/2023



10/3/2023

October 2023

Submitted to:

City of Sonora
94 North Washington Street
Sonora, CA 95370

Prepared by:

Dewberry Engineers Inc.
11060 White Rock Road, Suite 200
Rancho Cordova, CA 95670
916.363.4210

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CITY OF SONORA
MAIN DRAIN FIELD INSPECTION AND CONDITION ASSESSMENT
TECHNICAL MEMORANDUM 3.0R1
SUMMARY REPORT
October 2023

The Sonora Main Drain (Main Drain) serves as the principal stormwater conveyance system for large areas within the City of Sonora (City), southeast of Stockton Street (SR-49) and on either side of Washington Street, Stewart Street, and Restano Way. The Main Drain consists of approximately 1,200 ft of stacked rock (stone) tunnel, 650 ft of 18-inch high-density polyethylene (HDPE) pipe, 3,100 ft of 24-36 inch corrugated metal pipe (CMP), 75 ft of 36-inch reinforced concrete pipe (RCP), and 100 ft of concrete culvert. The stone tunnel component of the Main Drain is over 150 years old and is now located below a state highway (SR-49), parking areas, buildings, and City streets. The limits of the Main Drain are illustrated in Figure 1.

Certain limited sections of the stone tunnel have experienced collapses based on photographs compiled from authorized and unauthorized individuals accessing the Main Drain. Collapses of the sidewalls of the stone tunnel have prompted concerns regarding the overall integrity of the Main Drain and the possibility of a catastrophic failure of the system, particularly below SR-49. These concerns have been shared with Caltrans staff, resulting in a subsequent action by the City to initiate a field inspection and condition assessment of the Main Drain. The field inspection and condition assessment was accomplished in two stages. During Stage 1, a confined space drone inspection of the lower Main Drain including the stone tunnel was completed (see Appendix A). For the upper reaches of the Main Drain primarily consisting of pipelines, CCTV inspections were accomplished under Stage 2 (see Appendix B).

The City requested assistance from Dewberry Engineers Inc. (Consultant) to conduct the field inspections and to prepare a condition assessment report of the Main Drain which could then serve as a basis for possible repair, rehabilitation, or replacement options.

Utilizing the services of HRL LLC dba Hovrtek (Drone Operator), the Consultant completed Stage 1, a confined space drone inspection of the lower Main Drain on 1 June 2023, with the results of the inspection summarized in TM 1.0, Main Drain Field Inspection and Condition Assessment. TM 1.0 was submitted to the City on 6 July 2023.

The Consultant completed Stage 2, a closed circuit television (CCTV) inspection of the Main Drain storm drain pipelines on 10 July 2023 utilizing the services of 360 Pipelines Inspections, LLC (360 Pipelines). The results of the inspection were summarized in TM 2.0, Field Inspection and Condition Assessment of Storm Drain Pipelines. TM 2.0 was submitted to the City on 24 July 2023.

Figure 1 Overall Layout of Main Drain

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Appendices

Appendix A	Technical Memorandum 1.0R1 – Field Inspection and Condition Assessment of Stone Tunnel
Appendix B	Technical Memorandum 2.0R2 – Field Inspection and Condition Assessment of Storm Drain Pipelines

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CITY OF SONORA
MAIN DRAIN FIELD INSPECTION AND CONDITION ASSESSMENT
TECHNICAL MEMORANDUM 3.0R1
SUMMARY REPORT
October 2023

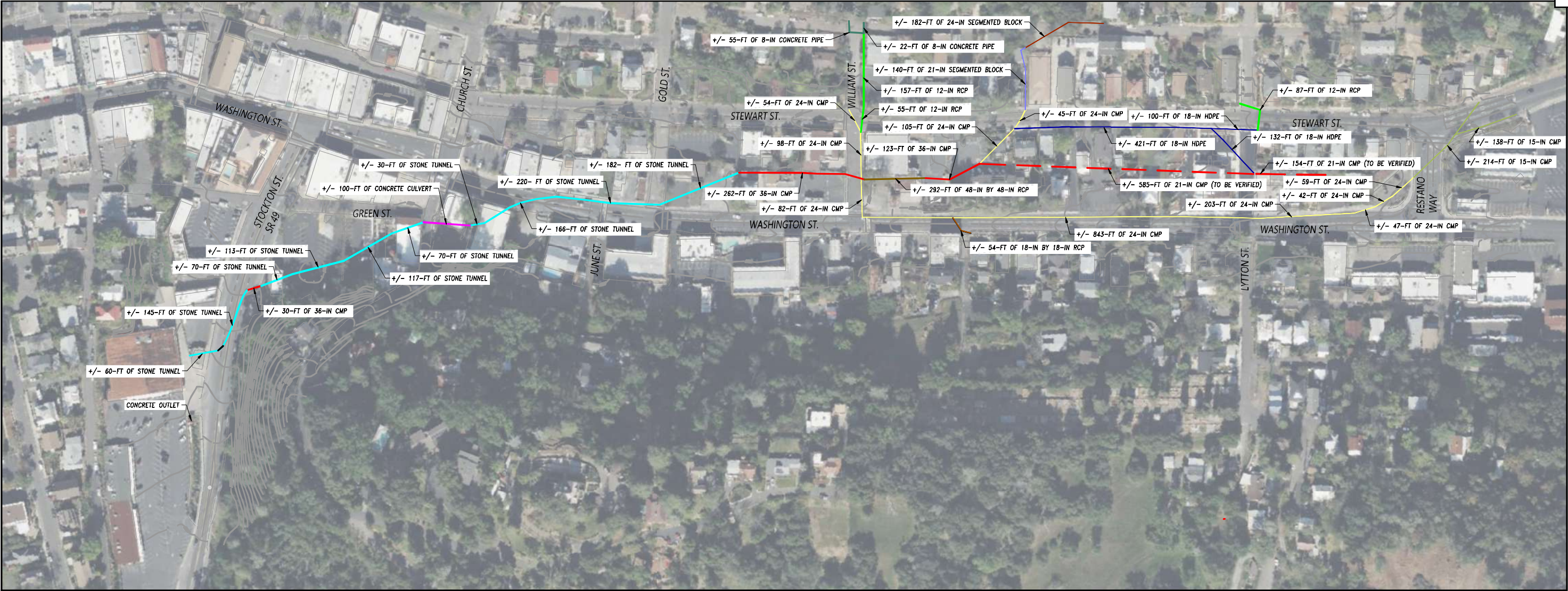
The Sonora Main Drain (Main Drain) serves as the principal stormwater conveyance system for large areas within the City of Sonora (City), southeast of Stockton Street (SR-49) and on either side of Washington Street, Stewart Street, and Restano Way. The Main Drain consists of approximately 1,200 ft of stacked rock (stone) tunnel, 650 ft of 18-inch high-density polyethylene (HDPE) pipe, 3,100 ft of 24-36 inch corrugated metal pipe (CMP), 75 ft of 36-inch reinforced concrete pipe (RCP), and 100 ft of concrete culvert. The stone tunnel component of the Main Drain is over 150 years old and is now located below a state highway (SR-49), parking areas, buildings, and City streets. The limits of the Main Drain are illustrated in Figure 1.

Certain limited sections of the stone tunnel have experienced collapses based on photographs compiled from authorized and unauthorized individuals accessing the Main Drain. Collapses of the sidewalls of the stone tunnel have prompted concerns regarding the overall integrity of the Main Drain and the possibility of a catastrophic failure of the system, particularly below SR-49. These concerns have been shared with Caltrans staff, resulting in a subsequent action by the City to initiate a field inspection and condition assessment of the Main Drain. The field inspection and condition assessment was accomplished in two stages. During Stage 1, a confined space drone inspection of the lower Main Drain including the stone tunnel was completed (see Appendix A). For the upper reaches of the Main Drain primarily consisting of pipelines, CCTV inspections were accomplished under Stage 2 (see Appendix B).

The City requested assistance from Dewberry Engineers Inc. (Consultant) to conduct the field inspections and to prepare a condition assessment report of the Main Drain which could then serve as a basis for possible repair, rehabilitation, or replacement options.

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LEGEND

- 36-IN CMP
- 21-IN CMP (ABANDONED)
- 24-IN CMP
- 18-IN HDPE
- 12-IN RCP
- STONE TUNNEL
- 36-IN RCP
- 8-IN CONCRETE PIPE
- 48-IN BY 48-IN RCP
- 18-IN BY 18-IN STONE TUNNEL
- 15-IN CMP
- 24-IN SEGMENTED BLOCK
- 21-IN SEGMENTED BLOCK
- 8-IN CONCRETE PIPE



FIGURE 1
CITY OF SONORA MAIN DRAIN
FIELD INSPECTION AND CONDITION ASSESSMENT
TM 3.0R1 - SUMMARY REPORT
**OVERALL LAYOUT OF
MAIN DRAIN**


Both TM 1.0 and TM 2.0 were reviewed with City staff on 28 July 2023 with comments incorporated subsequently into TM 3.0, Summary Report for future action by the City. TM 3.0 was submitted to the City in August 2023. TM 3.0R1 reflects City comments and is organized as follows: 1) Summary of Background Information, 2) Overview of Field Inspection Procedures, 3) Results of Main Drain Inspections, 4) Summary of Condition Assessment, 5) Recommended Main Drain Improvements, 6) Implementation Plan. Each element is detailed below.

1.0 SUMMARY OF BACKGROUND INFORMATION

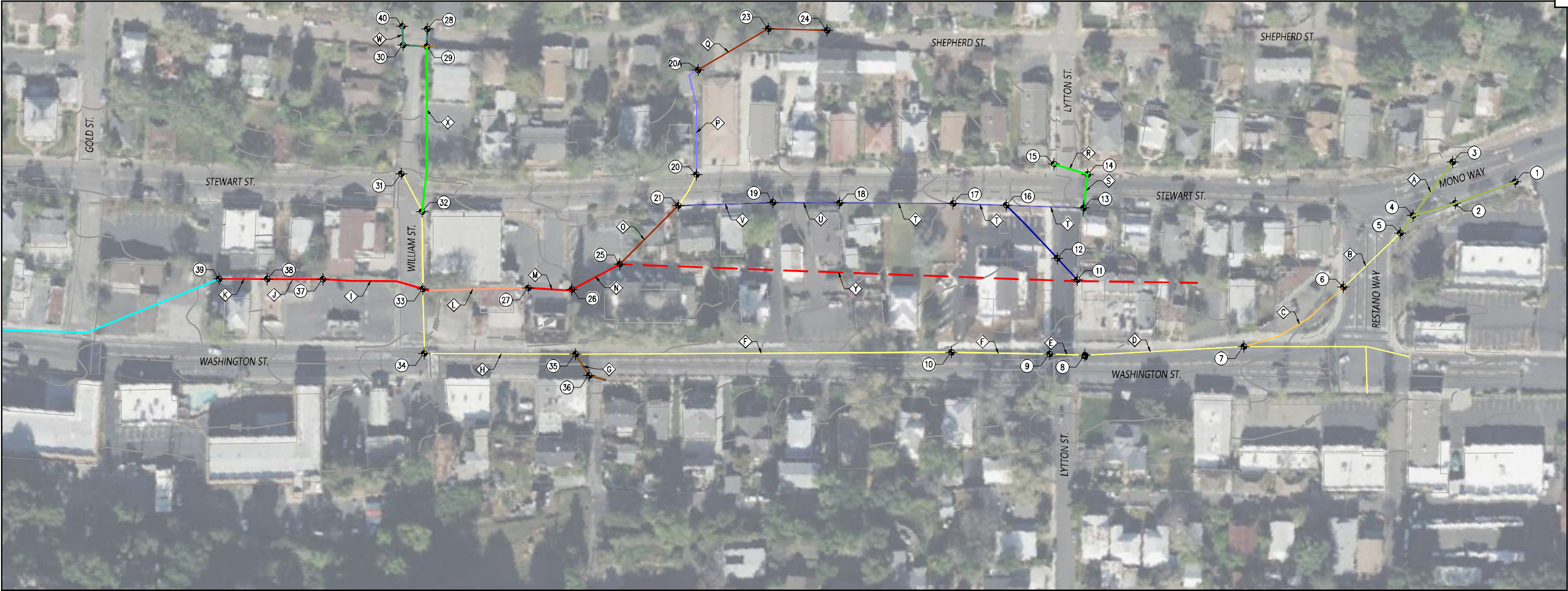
The original construction of the lower end of the Main drain followed the path of a drainage course discharging to Sonora Creek. The alignment of the lower end of the Main Drain falls within Caltrans right of way on Stockton Street (SR-49), crosses City properties, and lies within private properties on either side of Washington Street. Buildings have been constructed over the Main Drain with foundations designed to accommodate the stone tunnel. Elements of the Main Drain have collapsed in the past, most recently in 2019, and required replacement/reconstruction with concrete box culverts or CMP. Despite the age, the Main Drain continues to serve as the principal storm drain conveyance system to Sonora Creek with multiple connections to storm drain laterals and pipelines along Washington Street.

As shown in Figure 1, the network of storm drain pipelines upstream of the stone tunnel element of the Main Drain generally consists of three principal segments of 24- to 36-inch diameter pipelines along Washington Street, Stewart Street, and within private properties east of Stewart Street to Shepherd Street. The three segments converge at William Street with a single 36-inch pipeline connection to the stone tunnel in the rear parking lot of the Sonora Area Foundation Building. Most of the storm drain pipelines are CMP with limited reaches of RCP and HDPE pipe. A summary of the storm drain pipelines is presented in Table 1 as designated in Figure 2.

TABLE 1
CITY OF SONORA MAIN DRAIN FIELD INSPECTION AND CONDITION ASSESSMENT
SUMMARY REPORT
SUMMARY OF STORM DRAIN PIPELINES

Segment ^a	Limits ^a	Size (inch)	Material	Length (ft)
A	5-3	15	CMP	113
B	5-6	24	CMP	100
C	7-6	24	CMP	150
D	7-8	24	CMP	204
E	8-9	24	CMP	45
F	35-9	24	CMP	605
G	36-35	18 x 18	Other	32
H	35-34	24	CMP	194
I	33-37	36	CMP	129
J	37-38	36	RCP	71
K	38-39	36	CMP	61
L	27-33	48 x 48	RCP	136
M	26-27	36	RCP	55
N	26-25	36	CMP	70
O	21-25	24	Segmented Block	140
P	20-20A	21	Segmented Block	132
Q	23-20	24	RCP	104
R	15-14	12	RCP	45
S	14-13	12	RCP	43
T	13-18	18	HDPE	312
U	18-19	18	HDPE	89
V	19-21	18	HDPE	121
W	30-40	8	Concrete Pipe (non-reinforced)	23
X	29-32	12	RCP	173
Y	25-11	21	CMP	586

^a See Figure 2 for locations and limits of pipeline segments.



LEGEND

- 36-IN CMP
- 21-IN CMP (ABANDONED)
- 24-IN CMP
- 18-IN HDPE
- 12-IN RCP
- STONE TUNNEL
- 36-IN RCP
- 8-IN CONCRETE PIPE
- 48-IN BY 48-IN RCP
- 18-IN BY 18-IN STONE TUNNEL
- 15-IN CMP
- 24-IN SEGMENTED BLOCK
- 21-IN SEGMENTED BLOCK
- 8-IN CONCRETE PIPE

STORM DRAIN SEGMENTS	
SEGMENT	LENGTH - FEET
(A)	113
(B)	100
(C)	150
(D)	204
(E)	45
(F)	605
(G)	32
(H)	194
(I)	129
(J)	71
(K)	61
(L)	136
(M)	55
(N)	70
(O)	104

STORM DRAIN SEGMENTS	
SEGMENT	LENGTH - FEET
(P)	132
(Q)	104
(R)	45
(S)	43
(T)	318
(U)	89
(V)	121
(W)	23
(X)	173
(Y)	586

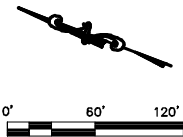


FIGURE 2
CITY OF SONORA MAIN DRAIN
FIELD INSPECTION AND CONDITION ASSESSMENT
TM 3.0 - SUMMARY REPORT
**SUMMARY OF STORM
DRAIN PIPELINES**


2.0 OVERVIEW OF FIELD INSPECTION PROCEDURES

Visual inspection of the stone tunnel was accomplished by a drone piloted by HRL. The drone entered/exited the stone tunnel at multiple access points as illustrated in Figure 3. Although manned confined space inspection was not planned as part of the stone tunnel inspection, because some limited personnel entry at the access points might be required to facilitate the launching/retrieval of an inspection drone and a CCTV camera, a standby confined space rescue team was onsite during all inspection activities. The standby confined space rescue team, furnished by Rescue Solutions, consisted of two rescue technicians (fire department personnel) trained as CPR/EMS first responders and certified in confined space rescues. The confined space rescue team was equipped with ropes and hardware for anchoring and rigging retrieval lines, multi-pod Sked/Stokes litter, SCBA/supplied air, hard line communication, radios, air monitoring equipment, and ventilation fan. The confined space response team was prepared to implement the safety and rescue plan if required during an emergency.

City forces assisted in the removal of grates, storm drain manhole covers, inlet covers, and other obstructions that limited access to the stone tunnel. Any required right of entry to private property to access the stone tunnel was obtained by the City. The drone camera was monitored continuously by the drone pilot and a structural engineer from the Consultant. As the drone inspection work progressed, the structural engineer directed the drone pilot to stop at locations of concern (structure sloughing, blockage, damage, etc.) to mark the location and take additional video of that particular location. The intent of the video feed monitoring was to form an opinion of the overall condition of the tunnel and note the locations and number of areas of concern within the tunnel to determine the overall magnitude of the existing problems. Dimensions of the areas of concern were approximated but not physically measured. A video file of the stone tunnel inspection was created including accompanying narration to highlight key observations and comparisons to historical information regarding the stone tunnel condition.

Field inspections of storm drain pipelines were accomplished by 360 Pipelines using a CCTV camera. The periphery of each storm drain pipeline was televised using a pan and tilt resolution camera with 10x/12x digital zoom with automatic iris, 530 lines of resolution, and one lux sensitivity to light. The camera was attached to a six-wheel, steerable crawler with backeye camera for maneuvering past obstacles. Where sharp bends were encountered, a push/rod reel with high-resolution, digitally zoom 3x self-leveling axial color camera with shadow-less adjustable illumination up to 12K lux with footage counter was employed. Insertion of the CCTV camera into the storm drain system occurred at eleven locations as illustrated in Figure 4.

City forces assisted in the removal of grates, storm drain manhole covers, inlet covers, and other obstructions that limited access to the storm drain system. Any required rights of entry to private properties to access the storm drain were obtained in the City.



LEGEND

- 36-IN CMP
- 21-IN CMP (ABANDONED)
- 24-IN CMP
- CONCRETE CULVERT
- 18-IN HDPE
- STONE TUNNEL
- 36-IN RCP
- 12-IN RCP
- 48-IN BY 48-IN RCP
- (X) NARROW LOCATIONS FOR DRONE INSPECTION ENTRANCE

PROPOSED POINTS OF ENTRY

LOCATION NO.	DESCRIPTION
①	DRAINAGE INLET
②	STORM DRAIN MANHOLE
③	DRAINAGE INLET
④	DRAINAGE INLET
⑤	STORM DRAIN MANHOLE
⑥	DRAINAGE INLET
⑦	DRAINAGE INLET
⑧	STORM DRAIN MANHOLE
⑨	DRAINAGE INLET
⑩	CONCRETE OUTLET UNDER BRIDGE -CONCRETE DOOR

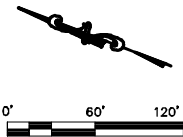


FIGURE 3
CITY OF SONORA MAIN DRAIN
FIELD INSPECTION AND CONDITION ASSESSMENT
TM 3.0R1 - SUMMARY REPORT
ENTRY POINTS TO STONE TUNNEL



LEGEND

- 36-IN CMP
- 21-IN CMP (ABANDONED)
- 24-IN CMP
- 18-IN HDPE
- 12-IN RCP
- STONE TUNNEL
- 36-IN RCP
- 8-IN CONCRETE PIPE
- 48-IN BY 48-IN RCP
- 18-IN BY 18-IN STONE TUNNEL
- 15-IN CMP
- 24-IN SEGMENTED BLOCK
- 21-IN SEGMENTED BLOCK
- 8-IN CONCRETE PIPE

PROPOSED CCTV POINTS OF ENTRY

LOCATION NO.	DESCRIPTION
5	STORM DRAIN MANHOLE
7	DRAINAGE INLET
14	DRAINAGE INLET
18	DRAINAGE INLET
20	STORM DRAIN MANHOLE
23	DRAINAGE INLET
25	STORM DRAIN MANHOLE
29	DRAINAGE INLET
33	DRAINAGE INLET
35	DRAINAGE INLET
40	DRAINAGE INLET

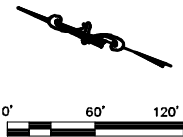


FIGURE 4
CITY OF SONORA MAIN DRAIN
FIELD INSPECTION AND CONDITION ASSESSMENT
TM 3.0R1 - SUMMARY REPORT
**ENTRY POINT TO STORM
DRAIN SYSTEM**

The CCTV inspection team included the 360 Pipelines Inspection Manager, City Engineer, Public Works crew, and Consultant. The City Engineer directed the 360 Pipelines Inspection Manager on what pipe alignments to survey depending on their age and usage history. No parking signs were posted in the areas of CCTV entry by the City prior to the inspection. The City Public Works crew was responsible for opening and closing the entry points of the drainage inlets and manholes. The Public Works crew also barricaded the area around the entry points and redirected traffic as required.

The 360 Pipelines Inspection Manager parked a van next to each opening and inserted the steerable crawler into the entry point. Depending on the pipe material, the steerable crawler had to exchange wheels ranging from largest to smallest. The 360 Pipelines Inspection Manager controlled the vehicle from their van through a computerized system. The 360 Pipelines Inspection Manager then documented the results of the inspection in an electronic, high-resolution MPG-4 color video recording including image files and a National Association of Sewer Service Companies (NASSCO) Pipeline Assessment Certification Program (PACP) defect coding database report. CCTV inspections occurred over a two-day period from July 10-11, 2023. The results of the CCTV inspection are discussed in the remaining sections of the TM.

3.0 RESULTS OF MAIN DRAIN INSPECTIONS

Inspections of the Main Drain stone tunnel and storm drain pipelines were conducted on 1 June and 10 July 2023, respectively. The results of the Main Drain inspections are discussed below.

3.1 Stone Tunnel

A brief summary of observations during the drone inspections for each segment is presented as follows. Minor and major collapses within the stone tunnel are highlighted in Figure 5.

1. Tunnel between Entry 1 – Entry 2

The drone inspection from Entry 1 to Entry 2 was approximately 100 ft long. Pipe crossings and pipe inlets were noted throughout the segment. About 40 ft from Entry 1 and 20 ft from Entry 2 there were minor rock collapsed areas. The collapse is near the top section of the wall and stones were missing.



Minor rock collapse about 40 ft from Entry 1



Minor rock collapse 20 ft from Entry 2

2. Tunnel between Entry 2 – Entry 3

The inspection area from Entry 2 to Entry 3 was approximately 73 ft long. The section included pipe inlets near the ceiling, HDPE pipe connecting to the drainage inlet, and cracks on the stone ceiling. A noteworthy section of the tunnel was the minor rock collapse 65 ft from Entry 3. The collapse was near the bottom half of the wall and segments of stones were missing.



Minor rock collapse 65 ft from Entry 3

3. Tunnel between Entry 3 – Entry 4

Inspection area from Entry 3 to Entry 4 was approximately 47 ft long. The stone tunnel section contained inlets near the ceiling and began to narrow at 30 ft from Entry 3. The drone could not fit through the narrow area and had to turn around. An additional stone tunnel was discovered 2 ft from Entry 4. The additional stone tunnel was significantly smaller than the main drain tunnel being about 1 ft by 1 ft. The additional stone tunnels appeared to serve drainage facilities along Washington Street.



Narrow rock tunnel area 30 ft from Entry 3



Entrance of an additional rock tunnel (1 ft x 1 ft) 2 ft from Entry 4

4. Tunnel between Entry 4 – Entry 5

The segment between Entry 4 and Entry 5 was approximately 85 ft long. There was an additional rock tunnel at the beginning of the entrance, about 1 ft in from the manhole. The rock tunnel was 1 ft by 1 ft. A rock collapse was evident about 85 ft from Entry 5.



Entrance of an additional rock tunnel (1 ft x 1 ft) 2 ft from Entry 4



Minor rock collapse 85 ft from Entry 5

5. Tunnel between Entry 5 – Entry 6

The segment between Entry 5 to Entry 6 was approximately 60 ft long. For a section of 20 ft from Entry 6, there are two sections sprayed with gunite forming a box culvert. An additional rock tunnel was found 12 ft from Entry 6.



Gunite area around stone tunnel creating box culvert south of Entry 6



Entrance of an additional rock tunnel (1 ft x 1 ft) 12 ft from Entry 6

6. Tunnel between Entry 6 – Entry 7

The inspection between Entry 6 and Entry 7 was approximately 80 ft long. The section contained pipe inlets, CMP pipes, and steel doors. About 30 ft from Entry 6 there are rusted/deteriorating steel doors on the ceiling of the tunnel. At 75 ft from Entry 7 there is a crack in the ceiling.



Rusted steel doors 30 ft of Entry 6



Crack on ceiling 75 ft from Entry 7

7. Tunnel between Entry 7 – Entry 8

The section between Entry 7 and Entry 8 was approximately 90 ft long. This section consisted of additional rusted steel doors, metal culverts along the ceiling, and tight sections that have gunite around the surface. Significant sections of the steel surface has deteriorated due to the abundance of rust damage. The Entry 8 is covered in gunite all over the stone walls. The gunite starts 1 ft from Entry 8 and continues for about 15 ft.



Rusted steel doors 1 ft from Entry 7



Gunite surface 1 ft south from Entry 8

8. Tunnel between Entry 8 – Entry 9

The inspection between Entry 8 to 9 was approximately 45 ft long. This section has pipe inlets and gunite on the surface. Pipe inlets were located 20 ft from Entry 8. Gunite covered the stone walls for approximately 15 ft beginning about 1 ft from Entry 8.



Pipe inlets on ceiling 20 ft from Entry 8



Gunite on stone wall surfaces 1 ft from Entry 8

9. Tunnel between Entry 9 – Entry 10

The section between Entry 9 to Entry 10 was approximately 92 ft long. This section consisted of a box culvert, timber wood on the surface, and a major stone tunnel collapse. The box culvert extended for about 26 ft starting 1 ft from Entry 10. Moist timber with water stains was on the surface 36 ft from Entry 10. The major stone tunnel collapse extended about 10 to 12 ft starting 65 ft from Entry 10. Stones covering the floor, the west wall, and the lid of the tunnel are missing and the soil is exposed.



Box culvert 1 ft from Entry 10



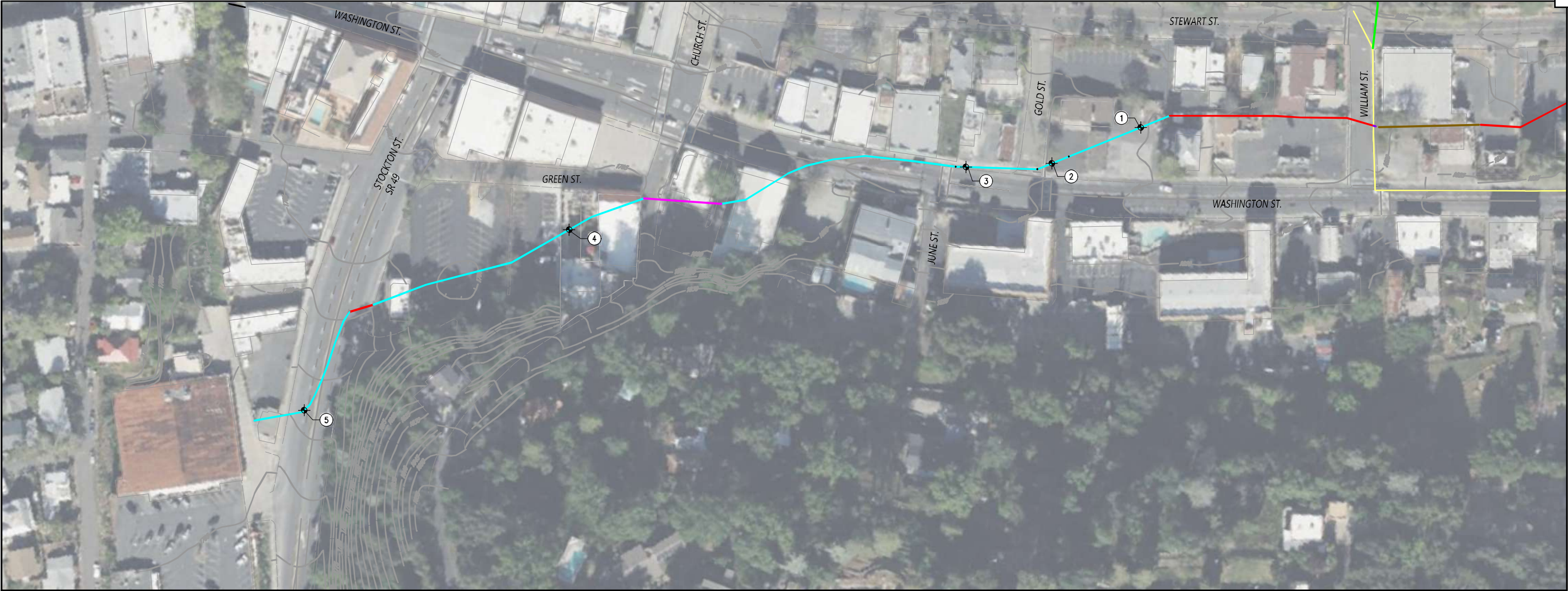
Moist timber with water stains on ceiling 36 ft from Entry 10



Major stone tunnel collapse 65 ft from Entry 10



Major stone tunnel collapse 65 ft from Entry 10



LEGEND

- 36-IN CMP
- 36-IN CMP (TO BE VERIFIED)
- 24-IN CMP
- CONCRETE CULVERT
- 18-IN HDPE
- STONE TUNNEL
- 36-IN RCP
- 12-IN RCP
- 48-IN BY 48-IN RCP

COLLAPSED AREAS NOTED DURING DRONE INSPECTION

LOCATION NO.	DESCRIPTION
①	MINOR COLLAPSE, SEE IMAGE 1, FIGURE 7
②	MINOR COLLAPSE, SEE IMAGE 2, FIGURE 7
③	MINOR COLLAPSE, SEE IMAGE 3, FIGURE 7
④	MINOR COLLAPSE, SEE IMAGE 4, FIGURE 7
⑤	MAJOR COLLAPSE, SEE IMAGE 5, FIGURE 7

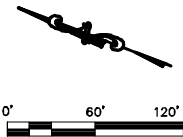


FIGURE 5
CITY OF SONORA MAIN DRAIN
FIELD INSPECTION AND CONDITION ASSESSMENT
TM 3.0R1 - SUMMARY REPORT
**AREAS OF COLLAPSE
WITHIN STONE TUNNEL**

3.2 Storm Drain Pipelines

The CCTV inspection of the storm drain pipelines was a collaborative effort of the 360 Pipelines Inspection Manager, City Engineer, City Public Works Department, and Consultant. While the Inspections Manager documented the condition of the pipelines, the Consultant recorded general observations along the pipeline alignments. In general, the storm drain system is in fair condition with a limited number of significant structural defects. A more detailed discussion of the pipeline condition assessment is found in the following section.

4.0 SUMMARY OF CONDITION ASSESSMENT

A condition assessment of the stone tunnel and storm drain pipeline components of the Main Drain follows below.

4.1 Stone Tunnel

Based on the drone inspections conducted in the field on 1 June 2023, the stone tunnel portion of the Main Drain appears to be in adequate condition considering the tunnel is over 100 years old. It should be noted that the drone was not able to access the full length of the rock lined tunnel. There were four locations where the tunnel was too narrow for the drone. These locations included:

1. 30 ft north of Entry 3
2. 47 ft south of the Entry 4
3. 26 feet north of Entry 4
4. 41 feet north of Entry 9

Over time, portions of the stone tunnel have been:

1. Replaced with a concrete box culvert at the segment between Entry 5 and Entry 6
2. Resurfaced with shotcrete between Entry 7 and Entry 8
3. Replaced with CMP north of Entry 9
4. Replaced with a concrete box culvert south of Entry 10

The stone tunnel is starting show its age. The drone inspections revealed five areas of collapse along the length of the stone tunnel. These areas were described previously and are located as follows:

1. 40 ft north of Entry 1
2. 20 ft south of Entry 2
3. 65 ft south of Entry 3
4. 85 ft south of Entry 5
5. 65 ft south of Entry 10

The first four of these collapse areas are minor in nature. The fifth collapse area is of concern because this section of failed tunnel is approximately 10 to 12 ft and the west wall and lid of the tunnel at this location are missing. At this location, it appears that only the arching effect of the soil above the tunnel is supporting Stockton Street/SR-49. At this same location, settlement in the roadway above the tunnel can be seen and has been previously marked by the City as a location of potential tunnel failure. Because Caltrans currently has ongoing construction activities, including the

use of heavy machinery and trucks occurring directly adjacent to this section of failed tunnel, Consultant submitted a letter to the City which was forwarded to Caltrans on 2 June 2023, recommending the portion of the road above this section of collapsed tunnel be blocked off from traffic and this location of the tunnel be exposed and repaired in the very near future.

In addition to the noted collapsed areas, there are also locations where old steel doors are supporting the top of the tunnel. These steel doors are located:

1. Between Entry 1 and Entry 2
2. Between Entry 6 and Entry 7
3. Between Entry 7 and Entry 8

These steel doors are showing a significant amount of corrosion.

There is also timber planking supporting the top of the tunnel just south of the concrete box culvert located south of Entry 10.

4.2 Storm Drain Pipelines

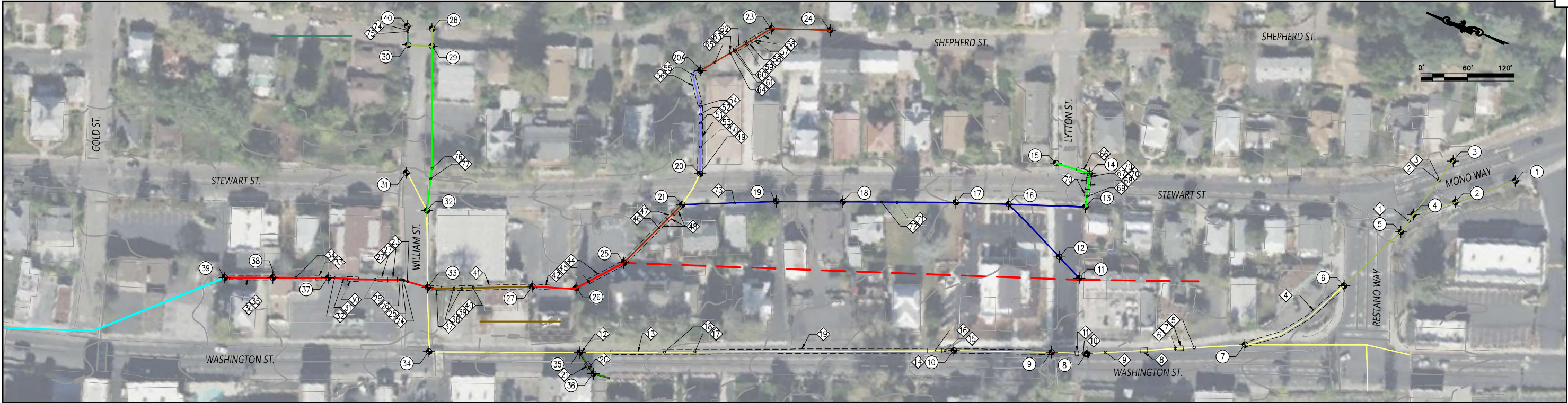
The findings from the CCTV investigation were compiled onto Figure 6. The investigation confirmed existing pipe diameter and conditions. Observations were graded using NASSCO PACP standards including the severity of any structural defects or operation and maintenance defects for each pipe segment. A grade was expressed with a letter followed by a digit. The letter represented the classification of defect. Structural defects were annotated with an “S” and operation and maintenance defects with an “M.” The digit represented the condition of the pipe on a scale of 1-5. A pipe in excellent condition was denoted as a “1,” whereas a pipe that requires immediate attention was denoted with a “5.”

With the overall health of the system documented, areas of possible catastrophic failure were identified in Figure 6. Magenta segments represent poor condition defects graded as “4,” pipe will probably fail in 5-10 years. Red segments represent a grade “5” defect that require immediate attention, either the pipe has failed or likely to fail within the next five years according to NASSCO PACP.

As seen in Figure 7, the deteriorated condition of the following components of the storm drain pipe network are of concern:

- a. 150 ft of 24-inch CMP northeasterly of the intersection of Washington Street and Restano Way (Segment “C,” Figure 2).
- b. 100-150 ft of 36-inch CMP north of William Street, upstream of the connection to the stone tunnel (Segments “I” and “J,” Figure 2).
- c. 20 ft of 12-inch RCP at the southeasterly corner of Stewart Street and William Street (Segment “X,” Figure 2).
- d. 50 ft of 18-inch HDPE along the westerly side of Stewart Street between William Street and Lytton Street (Segment “T,” Figure 2).

- e. 40 ft of 12-inch RCP across Stewart Street, south of the intersection of Stewart Street and Lytton Street (Segment “S,” Figure 2).
- f. 30 ft of 24-inch CMP west of Washington Street, south of the intersection of Washington Street and William Street (Segment “G,” Figure 2).



LOCATION NO.	DESCRIPTION	LOCATION NO.	DESCRIPTION
①	DRAINAGE INLET	②②	STORM DRAIN MANHOLE
②	STORM DRAIN MANHOLE	②③	DRAINAGE INLET
③	DRAINAGE INLET	②④	DRAINAGE INLET
④	DRAINAGE INLET	②⑤	STORM DRAIN MANHOLE
⑤	DRAINAGE INLET	②⑥	DRAINAGE INLET
⑥	STORM DRAIN MANHOLE	②⑦	DRAINAGE INLET
⑦	DRAINAGE INLET	②⑧	STORM DRAIN MANHOLE
⑧	DRAINAGE INLET	②⑨	DRAINAGE INLET
⑨	STORM DRAIN MANHOLE	③①	DRAINAGE INLET
⑩	DRAINAGE INLET	③②	DRAINAGE INLET
⑪	STORM DRAIN MANHOLE	③③	DRAINAGE INLET
⑫	DRAINAGE INLET	③④	STORM DRAIN MANHOLE
⑬	DRAINAGE INLET	③⑤	DRAINAGE INLET
⑭	DRAINAGE INLET	③⑥	STORM DRAIN MANHOLE
⑮	DRAINAGE INLET	③⑦	STORM DRAIN MANHOLE
⑯	DRAINAGE INLET	③⑧	DRAINAGE INLET
⑰	DRAINAGE INLET	③⑨	DRAINAGE INLET
⑱	DRAINAGE INLET	④①	DRAINAGE INLET
⑲	DRAINAGE INLET	②②①	DRAINAGE INLET
⑳	STORM DRAIN MANHOLE		
㉑	DRAINAGE INLET		

CCTV OBSERVATION		
NO.	GRADE	OBSERVATION
①	M2	DEPOSITS SETTLED GRAVEL, 5% OF CROSS SECTIONAL AREA FROM 5:00 TO 7:00
②	M3	DEPOSITS ATTACHED ENCRUSTATION, 15% OF CROSS SECTIONAL AREA FROM 4:00 TO 9:00
③	—	LINE LEFT, CHANGE TO: 50%
④	M4	DEPOSITS SETTLED FINE, 25% OF CROSS SECTIONAL AREA FROM 4:00 TO 8:00
⑤	M2	DEPOSITS SETTLED GRAVEL, 5% OF CROSS SECTIONAL AREA FROM 5:00 TO 7:00
⑥	M2	ROOTS TAP JOINT AT 7:00, 5% OF CROSS SECTIONAL AREA WITHIN 8-IN
⑦	M2	DEPOSITS SETTLED GRAVEL, 5% OF CROSS SECTIONAL AREA FROM 5:00 TO 7:00
⑧	M2	DEPOSITS SETTLED GRAVEL, 5% OF CROSS SECTIONAL AREA FROM 5:00 TO 7:00
⑨	S2	WELD FEATURE CIRCUMFERENTIAL FROM 11:00 TO 1:00
⑩	S5	HOLE SOIL VISIBLE FROM 5:00 TO 7:00
⑪	S5	SURFACE DAMAGE MISSING WALL TO 6:00
⑫	M2	DEPOSITS SETTLED FINE, 5% OF CROSS SECTIONAL AREA FROM 5:00 TO 7:00
⑬	M2	DEPOSITS SETTLED GRAVEL, 5% OF CROSS SECTIONAL AREA AT 6:00
⑭	M4	TAP BREAK-IN INTRUDING AT 1:00, DIA/HEIGHT: 12-IN INTRUDING: 6-IN
⑮	M3	TAP BREAK-IN INTRUDING AT 12:00, DIA/HEIGHT: 12-IN, INTRUDING: 4-IN
⑯	M3	DEPOSITS SETTLED GRAVEL, 15% OF CROSS SECTIONAL AREA FROM 5:00 TO 7:00
⑰	S5	SURFACE DAMAGE MISSING WALL FROM 5:00 TO 7:00
⑱	S2	WELD FEATURE CIRCUMFERENTIAL FROM 11:00 TO 1:00
⑲	S3	SURFACE DAMAGE CORROSION FROM 5:00 TO 7:00
⑳	M5	OBSTRUCTION EXTERNAL PIPE OR CABLE, 35% OF CROSS SECTIONAL AREA FROM 3:00 TO 9:00 (SEWER PIPE)
㉑	S5	HOLE SOIL VISIBLE FROM 5:00 TO 7:00
㉒	M2	OBSTRUCTION ROCKS, 5% OF CROSS SECTIONAL AREA FROM 5:00 TO 7:00
㉓	M2	DEPOSITS ATTACHED ENCRUSTATION, 5% OF CROSS SECTIONAL AREA FROM 6:00 TO 9:00
㉔	S5	HOLE SOIL VISIBLE FROM 12:00 TO 1:00
㉕	S5	SURFACE DAMAGE MISSING WALL FROM 5:00 TO 7:00
㉖	S5	SURFACE DAMAGE MISSING WALL AT 6:00
㉗	S2	MISCELLANEOUS WATER LEVEL, SAG, 10% OF THE VERTICAL DIMENSION
㉘	S5	SURFACE DAMAGE MISSING WALL FROM 6:00 TO 7:00

CCTV OBSERVATION		
NO.	GRADE	OBSERVATION
㉚	M5	TAP BREAK-IN INTRUDING AT 12:00, DIA/HEIGHT: 8-IN, INTRUDING: 24-IN
㉛	M2	DEPOSITS SETTLED GRAVEL, 5% OF CROSS SECTIONAL AREA FROM 4:00 TO 8:00
㉜	M4	TAP BREAK-IN INTRUDING AT 2:00, DIA/HEIGHT: 6-IN, INTRUDING: 10-IN
㉝	S3	SURFACE DAMAGE CORROSION FROM 5:00 TO 7:00
㉞	M4	INFILTRATION RUNNER JOINT FROM 4:00 TO 8:00, WITHIN 8-IN
㉟	M1	INFILTRATION STAIN, WITHIN 8-IN
㊱	S3	SURFACE DAMAGE CORROSION FROM 5:00 TO 7:00
㊲	S5	SURFACE DAMAGE MISSING WALL FROM 5:00 TO 7:00
㊳	M2	OBSTRUCTION ROCKS, 5% OF CROSS SECTIONAL AREA FROM 4:00 TO 8:00
㊴	M2	OBSTRUCTION ROCKS, 5% OF CROSS SECTIONAL AREA FROM 4:00 TO 8:00
㊵	M2	OBSTRUCTION EXTERNAL PIPE/CABLE, 5% OF CROSS SECTIONAL AREA FROM 4:00 TO 8:00
㊶	S2	SURFACE DAMAGE AGGREGATE VISIBLE FROM 4:00 TO 8:00
㊷	S3	CRACK MULTIPLE FROM 8:00 TO 9:00
㊸	—	LINE RIGHT, CHANGE TO 25%
㊹	S5	SURFACE DAMAGE MISSING WALL FROM 5:00 TO 7:00
㊺	S3	SURFACE DAMAGE CORROSION FROM 4:00 TO 8:00
㊻	S4	POINT REPAIR PATCH DEFECTIVE FROM 11:00 TO 3:00
㊼	S3	FRACTURE LONGITUDINAL AT 1:00
㊽	S2	SURFACE DAMAGE AGGREGATE VISIBLE FROM 7:00 TO 6:00
㊾	S4	FRACTURE MULTIPLE FROM 7:00 TO 9:00
㊿	M3	TAP BREAK-IN INTRUDING AT 12:00
①	S2	FRACTURE CIRCUMFERENTIAL FROM 6:00 TO 10:00
②	—	LINE RIGHT, CHANGE TO 25%
③	S2	SURFACE DAMAGE AGGREGATE VISIBLE FROM 7:00 TO 6:00
④	—	LINE LEFT, CHANGE 25%

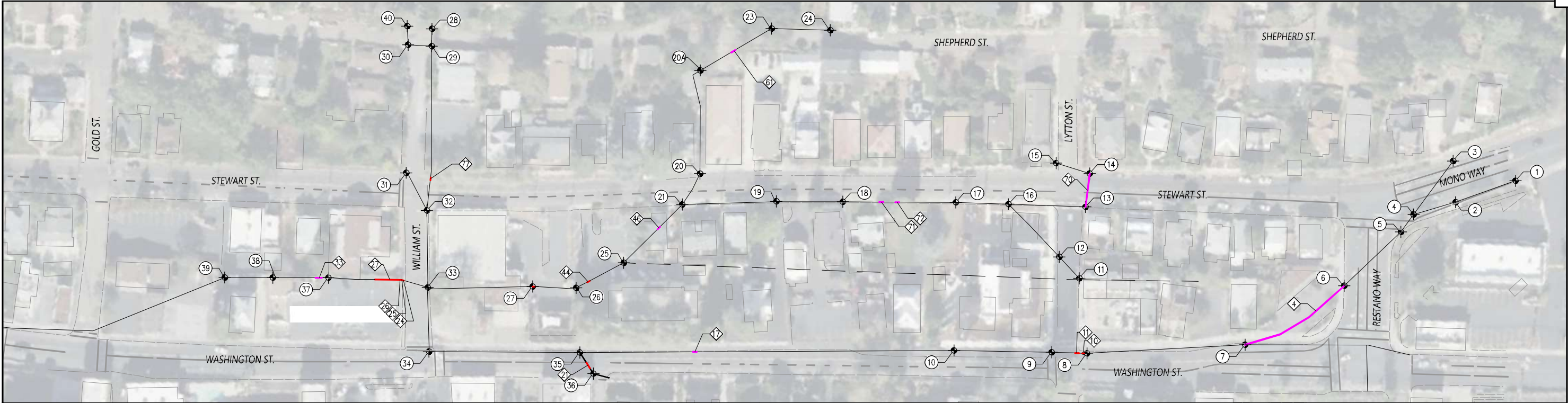
CCTV OBSERVATION		
NO.	GRADE	OBSERVATION
⑤	—	LINE RIGHT, CHANGE TO 50%
⑥	S3	SURFACE DAMAGE CORROSION FROM 5:00 TO 7:00
⑦	S5	SURFACE DAMAGE MISSING WALL FROM 5:00 TO 7:00
⑧	S2	SURFACE DAMAGE AGGREGATE VISIBLE FROM 4:00 TO 8:00
⑨	M2	DEPOSITS SETTLED FINE, 5% OF CROSS SECTIONAL AREA AT 6:00
⑩	—	LINE LEFT, CHANGE TO 25%
⑪	M4	SURFACE DAMAGE CORROSION FROM 7:00 TO 6:00
⑫	S3	SURFACE DAMAGE CORROSION FROM 7:00 TO 6:00
⑬	S2	SURFACE DAMAGE AGGREGATE VISIBLE FROM 2:00 TO 10:00
⑭	—	LINE LEFT, CHANGE TO: 25%
⑮	—	LINE RIGHT, CHANGE TO: 50%
⑯	M3	DEPOSITS SETTLED FINE, 15% OF CROSS SECTIONAL AREA FROM 4:00 TO 8:00
⑰	S3	CRACK MULTIPLE FROM 7:00 TO 11:00
⑱	S3	CRACK MULTIPLE FROM 7:00 TO 5:00
⑲	M2	JOINT OFFSET MEDIUM
⑳	M2	DEPOSITS SETTLED FINE, 10% OF CROSS SECTIONAL AREA FROM 5:00 TO 7:00
㉑	S4	BROKEN FROM 10:00 TO 2:00
㉒	S4	BROKEN FROM 11:00 TO 1:00
㉓	S3	MISCELLANEOUS WATER LEVEL, SAG, 10% OF THE VERTICAL DIMENSION
㉔	S3	JOINT OFFSET MEDIUM
㉕	—	LINE DOWN, CHANGE TO:50%
㉖	—	LINE DOWN, CHANGE TO: 25%
㉗	S5	HOLE VOID VISIBLE FROM 4:00 TO 8:00

LEGEND

- 36-IN CMP
- 21-IN CMP (ABANDONED)
- 24-IN CMP
- 18-IN HDPE
- 12-IN RCP
- STONE TUNNEL
- 36-IN RCP
- 8-IN CONCRETE PIPE
- 48-IN BY 48-IN RCP
- 18-IN BY 18-IN STONE TUNNEL
- 15-IN CMP
- 24-IN SEGMENTED BLOCK
- 21-IN SEGMENTED BLOCK
- 8-IN CONCRETE PIPE

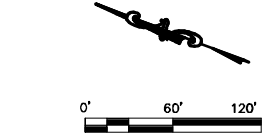
FIGURE 6
CITY OF SONORA MAIN DRAIN
FIELD INSPECTION AND CONDITION ASSESSMENT
TM 3.0R1 - SUMMARY REPORT
CCTV INSPECTION RESULTS





LOCATION NO.	DESCRIPTION	LOCATION NO.	DESCRIPTION
1	DRAINAGE INLET	22	STORM DRAIN MANHOLE
2	STORM DRAIN MANHOLE	23	DRAINAGE INLET
3	DRAINAGE INLET	24	DRAINAGE INLET
4	DRAINAGE INLET	25	STORM DRAIN MANHOLE
5	DRAINAGE INLET	26	DRAINAGE INLET
6	STORM DRAIN MANHOLE	27	DRAINAGE INLET
7	DRAINAGE INLET	28	STORM DRAIN MANHOLE
8	DRAINAGE INLET	29	DRAINAGE INLET
9	STORM DRAIN MANHOLE	30	DRAINAGE INLET
10	DRAINAGE INLET	31	DRAINAGE INLET
11	STORM DRAIN MANHOLE	32	DRAINAGE INLET
12	DRAINAGE INLET	33	DRAINAGE INLET
13	DRAINAGE INLET	34	STORM DRAIN MANHOLE
14	DRAINAGE INLET	35	DRAINAGE INLET
15	DRAINAGE INLET	36	STORM DRAIN MANHOLE
16	DRAINAGE INLET	37	STORM DRAIN MANHOLE
17	DRAINAGE INLET	38	DRAINAGE INLET
18	DRAINAGE INLET	39	DRAINAGE INLET
19	DRAINAGE INLET	40	DRAINAGE INLET
20	STORM DRAIN MANHOLE	22A	DRAINAGE INLET
21	DRAINAGE INLET		

CCTV OBSERVATION		
NO.	GRADE	OBSERVATION
4	M4	DEPOSITS SETTLED FINE, 25% OF CROSS SECTIONAL AREA FROM 4:00 TO 8:00
10	S5	HOLE SOIL VISIBLE FROM 5:00 TO 7:00
11	S5	SURFACE DAMAGE MISSING WALL TO 6:00
14	M4	TAP BREAK-IN INTRUDING AT 1:00, DIA/HEIGHT: 12-IN INTRUDING: 6-IN
17	S5	SURFACE DAMAGE MISSING WALL FROM 5:00 TO 7:00
20	M5	HOLE SOIL VISIBLE FROM 5:00 TO 7:00
24	M2	OBSTRUCTION ROCKS, 5% OF CROSS SECTIONAL AREA FROM 5:00 TO 7:00
25	M2	DEPOSITS ATTACHED ENCRUSTATION, 5% OF CROSS SECTIONAL AREA FROM 6:00 TO 9:00
26	S5	HOLE SOIL VISIBLE FROM 12:00 TO 1:00
28	S5	SURFACE DAMAGE MISSING WALL FROM 5:00 TO 7:00
29	M5	TAP BREAK-IN INTRUDING AT 12:00, DIA/HEIGHT: 8-IN, INTRUDING: 24-IN
33	M4	INFILTRATION RUNNER JOINT FROM 4:00 TO 8:00, WITHIN 8-IN
36	S5	SURFACE DAMAGE MISSING WALL FROM 5:00 TO 7:00
44	S5	SURFACE DAMAGE MISSING WALL FROM 5:00 TO 7:00
46	S4	POINT REPAIR PATCH DEFECTIVE FROM 11:00 TO 3:00
49	S4	FRACTURE MULTIPLE FROM 7:00 TO 8:00
57	S5	SURFACE DAMAGE MISSING WALL FROM 5:00 TO 7:00
61	M4	SURFACE DAMAGE CORROSION FROM 7:00 TO 6:00
70	S4	DEPOSITS SETTLED FINE, 10% OF CROSS SECTIONAL AREA FROM 5:00 TO 7:00
71	S4	BROKEN FROM 10:00 TO 2:00
72	S4	BROKEN FROM 11:00 TO 1:00
77	S5	HOLE VOID VISIBLE FROM 4:00 TO 8:00



LEGEND

- ABANDONED LINE
- LINE CONDITION NOT EVALUATED
- POOR CONDITION (M4, S4)
- IMMEDIATE ATTENTION (M5, S5)

FIGURE 7
CITY OF SONORA MAIN DRAIN
FIELD INSPECTION AND CONDITION ASSESSMENT
TM 3.0R1 - SUMMARY REPORT
**STORM DRAIN PIPELINES
SYSTEM AREAS OF CONCERN**
Dewberry

5.0 RECOMMENDED MAIN DRAIN IMPROVEMENTS

Based on the condition assessment documented earlier, repair, rehabilitation, and replacement options for the stone tunnel and storm drain pipelines are presented below.

5.1 Stone Tunnel

With the exception of the collapsed portion of the tunnel below Stockton Street/SR-49, there are not areas within the rock tunnel portion of the Main Drain that need immediate repairs. The City should, however, develop a plan to:

1. Repair the four additional collapsed portions of the tunnel
2. Replace the steel door lids and timber planking
3. Bypass the sections of the rock lined tunnel located below the various buildings
4. Replace the entire rock lined tunnel

A discussion of each recommendation follows below. The locations of recommended improvements are illustrated in Figure 8.

1. Collapsed Tunnel Repairs

The collapsed sections of the rock line tunnel should be repaired within the next two to three years. Most of the collapsed sections noted by the drone inspection are within a street or parking area and can be accessed from above grade. Because the repair work needed for these collapsed areas below grade would be confined space work and very difficult, these areas should be exposed from the ground and the collapsed section be replaced with either a concrete box culvert of similar hydraulic cross section to the tunnel or a reinforced concrete pipe culvert. As part of the repairs of these collapsed sections, the City should consider replacing the full segment of the rock lined tunnel between the adjacent Entry points. The full segment replacement may prove to be more economical in the long run for the full replacement of the rock lined tunnel.

2. Steel Door and Timber Planking Lid Replacement

The steel lids accessible from above grade should be replaced within the next two to three years. These areas can be exposed from the ground and the steel doors and wood planking replaced with either concrete slabs that span over the rock lined tunnel or these sections of tunnel can be replaced with a concrete box culvert of similar hydraulic cross section or a reinforced concrete pipe culvert. As part of the replacement of these doors and wood planking, the City should consider replacing the full segment of the rock lined tunnel with a concrete box or pipe culvert between the adjacent Entry points. The full segment replacement may prove to be more economical in the long run for the full replacement of the rock lined tunnel.

3. Bypass Rock Lined Tunnel Below Buildings

The portions of the rock lined tunnel that passes below the adjacent buildings should be bypassed within the next five to ten years. The Main Drain passes below five buildings. At one of the crossings, the rock lined tunnel has been replaced with a concrete box culvert. The other crossings remain as a rock lined tunnel. Repairing or replacing these segments of the Main Drain would be difficult at best. As a result, these segments of the Main Drain should be bypassed with a new culvert that bypasses the storm water flow around each building. Once

bypassed, these sections of the existing rock lined tunnel would be filled with grout to prevent future collapse.

4. Full Rock Lined Tunnel Replacement

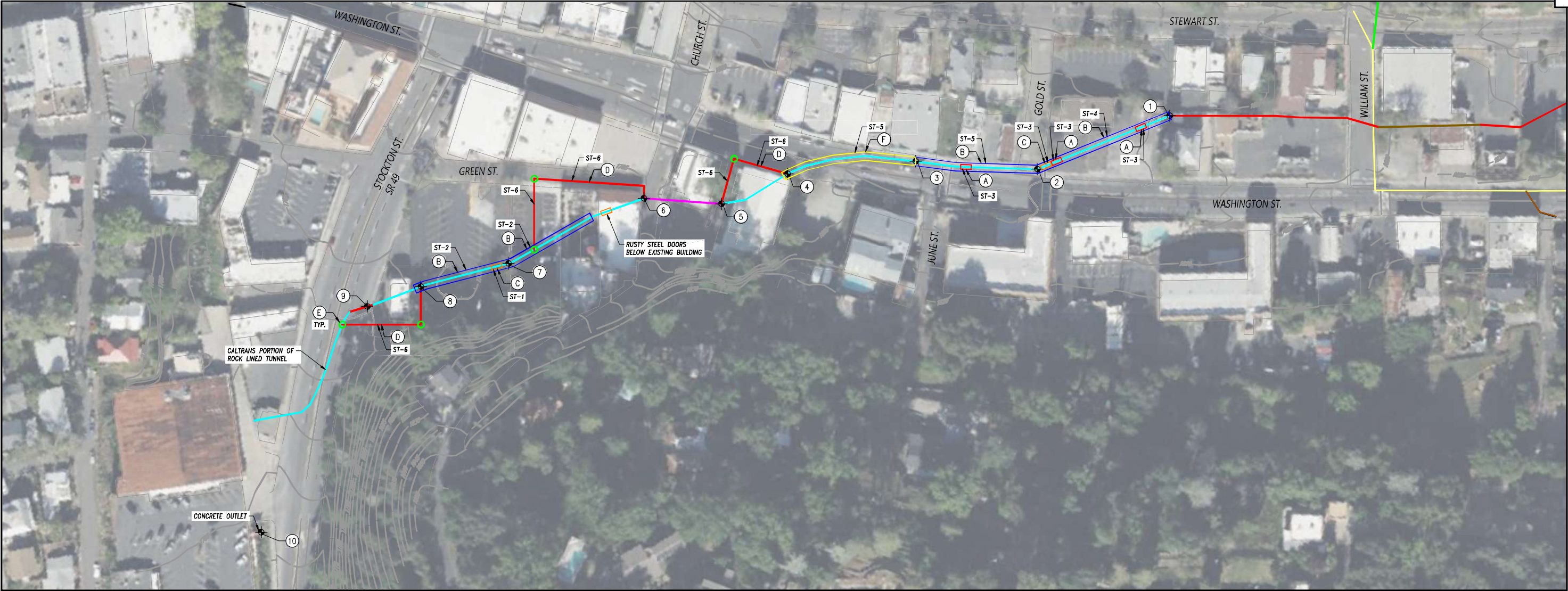
Due to the age of the rock lined tunnel portion of the Main Drain, the entire rock lined tunnel should be replaced within ten years. This would include replacing the portions of the tunnel that are not replaced as part of the first three repair recommendations. The more segments of the rock lined tunnel that are replaced as part of the first three repair recommendations will make this final recommendation more affordable.

5.2 Storm Drain Pipelines

For the areas of concern illustrated in Figure 7, the following recommendations are offered:

- a. Pipelines to be removed and replaced:
 - 1) 150 ft of 24-inch CMP, Segment “C,” Figure 2.
 - 2) 150 ft of 36-inch CMP, Segments “I” and “J,” Figure 2.
 - 3) 20 ft of 12-inch RCP, Segment “X,” Figure 2.
 - 4) 30 ft of 24-inch CMP, Segment “G,” Figure 2.
- b. Pipelines to be rehabilitated:
 - 1) 50 ft of 18-inch HDPE, Segment “T,” Figure 2.
 - 2) 40 ft of 12-inch RCP, Segment “S,” Figure 2.
- c. Storm drain relief pipelines to be constructed:
 - 1) 440 ft of 24-inch HDPE along the easterly curb of Washington Street between William Street and Gold Street.
 - 2) 520 ft of 30-inch HDPE along the easterly curb of Washington Street between Gold Street and Church Street.
 - 3) 640 ft of 48-inch HDPE along the easterly curb of Washington Street between Church Street and Stockton Street and along the easterly curb of Stockton Street.
 - 4) 1,190 ft of 24-inch HDPE along the westerly curb of Stewart Street between 470 Stewart Street and Church Street.
 - 5) 160 ft of 24-inch HDPE in Church Street between Stewart Street and Washington Street.
 - 6) 260 ft of 18-inch HDPE in alley east of Stewart Street.

Relief sewers are recommended to mitigate historical flooding and to reduce flows within certain segments of the stone tunnel. Storm drain pipeline improvements are illustrated in Figure 9.



LEGEND

- 36-IN CMP
- 36-IN CMP (TO BE VERIFIED)
- 24-IN CMP
- CONCRETE CULVERT
- 18-IN HDPE
- STONE TUNNEL
- 36-IN RCP

POINTS OF ENTRY

LOCATION NO.	DESCRIPTION
①	DRAINAGE INLET
②	STORM DRAIN MANHOLE
③	DRAINAGE INLET
④	DRAINAGE INLET
⑤	STORM DRAIN MANHOLE
⑥	DRAINAGE INLET
⑦	DRAINAGE INLET
⑧	STORM DRAIN MANHOLE
⑨	DRAINAGE INLET
⑩	CONCRETE OUTLET UNDER BRIDGE —CONCRETE DOOR

REPAIR RECOMMENDATIONS

- (A) REPLACE COLLAPSED ROCK LINED TUNNEL WITH NEW CULVERT
- (B) REPLACE ENTIRE ROCK LINED TUNNEL SEGMENT WITH NEW CULVERT AS PART OF TUNNEL COLLAPSE REPAIR AND/OR STEEL DOOR REPLACEMENT
- (C) REPLACE ROCK LINED TUNNEL WITH STEEL DOOR LIDS WITH NEW CULVERT
- (D) BYPASS ROCK LINED TUNNEL AROUND EXISTING BUILDINGS
- (E) NEW ACCESS POINT
- (F) REPLACE BALANCE OF ROCK LINED TUNNEL WITH NEW CULVERT

PHASING OF REPAIRS/IMPROVEMENTS

- COLLAPSED TUNNEL REPAIRS — WITHIN 2–3 YEARS
- STEEL DOOR AND TIMBER PLANKING LID REPLACEMENT — WITHIN 2–3 YEARS
- BYPASS ROCK LINED TUNNEL BELOW BUILDINGS — WITHIN 5–10 YEARS
- FULL ROCK LINED TUNNEL REPLACEMENT — WITHIN 10 YEARS

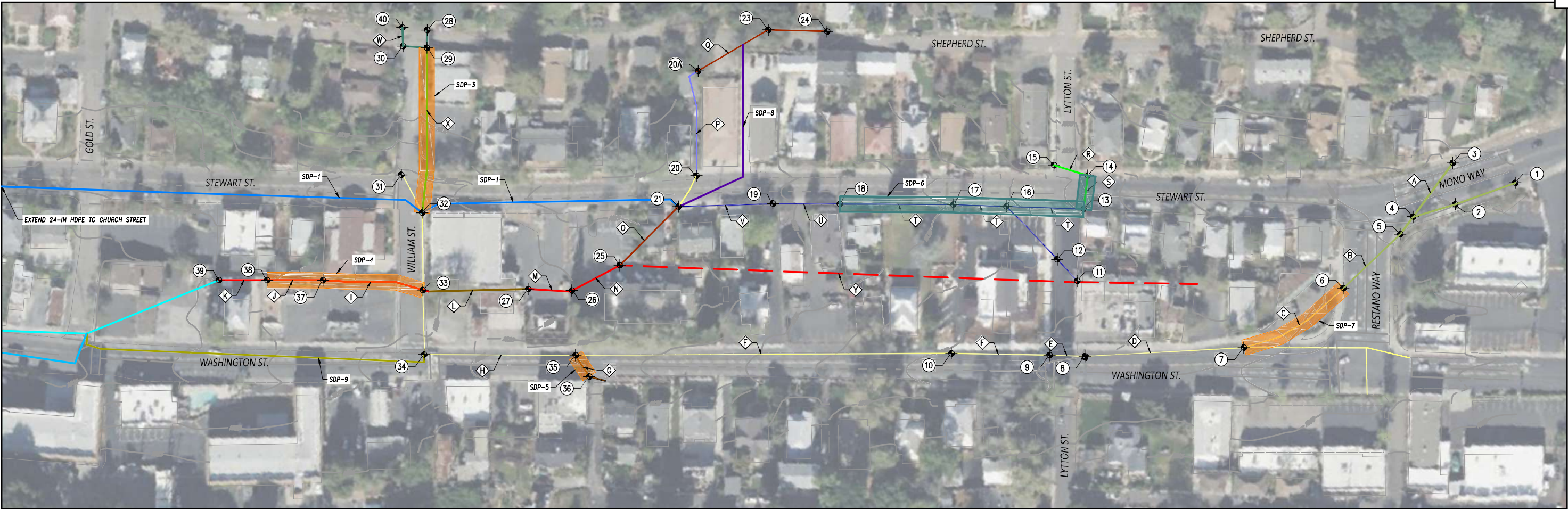
FIGURE 8

CITY OF SONORA MAIN DRAIN
FIELD INSPECTION AND CONDITION ASSESSMENT

TM 3.0R1 - SUMMARY REPORT

PHASING PLAN FOR
RECOMMENDED IMPROVEMENTS





LEGEND

- 36-IN CMP
- 21-IN CMP (ABANDONED)
- 18-IN CMP
- 24-IN CMP
- 24-IN HDPE (STORM DRAIN RELIEF PIPELINE)
- 18-IN HDPE
- 30-IN HDPE (STORM DRAIN RELIEF PIPELINE)
- 12-IN RCP
- STONE TUNNEL
- 36-IN RCP
- 8-IN CONCRETE PIPE
- 24-IN CONCRETE PIPE
- 48-IN BY 48-IN RCP
- 18-IN BY 18-IN STONE TUNNEL
- 15-IN CMP
- 24-IN SEGMENTED BLOCK
- 21-IN SEGMENTED BLOCK
- 8-IN CONCRETE PIPE
- PIPELINES TO BE REMOVED AND REPLACED
- PIPELINES TO BE REHABILITATED

STORM DRAIN SEGMENTS	
SEGMENT	LENGTH - FEET
A	113
B	100
C	150
D	204
E	45
F	605
G	32
H	194
I	129
J	71
K	61
L	136
M	55
N	70
O	104

STORM DRAIN SEGMENTS	
SEGMENT	LENGTH - FEET
P	132
Q	104
R	45
S	43
T	318
U	89
V	121
W	23
X	173
Y	586

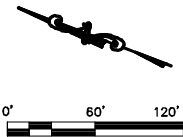


FIGURE 9
CITY OF SONORA MAIN DRAIN
FIELD INSPECTION AND CONDITION ASSESSMENT
TM 3.0R1 - SUMMARY REPORT
**RECOMMENDED STORM DRAIN
PIPELINE IMPROVEMENTS**
Dewberry

5.3 Summary of Probable Construction Costs

Recommended stone tunnel and storm drain pipeline improvements described previously are organized in the following projects:

1. Stone Tunnel (ST)
 - a. ST-1, West Stone Tunnel Rehabilitation
 - b. ST-2, West Stone Tunnel Replacement
 - c. ST-3, East Stone Tunnel Rehabilitation
 - d. ST-4, East Stone Tunnel Replacement
 - e. ST-5, Washington Street Stone Tunnel Replacement
 - f. ST-6, Stone Tunnel Bypass
2. Storm Drain Pipeline (SDP):
 - a. SDP-1, Church Street/Stewart Street/Stockton Street Relief Storm Drain
 - b. SDP-9, Washington Street Relief Storm Drain – Phase 1
 - c. SDP-3, William Street Storm Drain Replacement
 - d. SDP-4, Central Storm Drain Replacement
 - e. SDP-5, Washington Street Storm Drain Replacement Phase 1
 - f. SDP-6, Stewart Street Storm Drain Rehabilitation
 - g. SDP-7, Washington Street Storm Drain Replacement Phase 2
 - h. SDP-8, Stewart Street East Alley Relief Storm Drain
 - i. SDP-9, Washington Street Relief Storm Drain – Phase 2

A summary of probable construction costs for the recommended projects is included in Table 2.

TABLE 2
CITY OF SONORA MAIN DRAIN FIELD INSPECTION AND CONDITION ASSESSMENT
SUMMARY REPORT
SUMMARY OF PROBABLE CONSTRUCTION COSTS FOR RECOMMENDED IMPROVEMENTS

Project Designation	Title	Description	Probable Construction Cost, \$
ST-1	West Stone Tunnel Rehabilitation	Reconstruction of stone tunnel at collapsed areas and steel door replacement areas ^a	400,000
ST-2	West Stone Tunnel Replacement	Replacement of 250 ft of stone tunnel	1,625,000
ST-3	East Stone Tunnel Rehabilitation	Reconstruction of stone tunnel at collapsed areas and steel door replacement areas	400,000
ST-4	East Stone Tunnel Replacement	Replacement of 200 ft of stone tunnel	1,360,000
ST-5	Washington Street Stone Tunnel Replacement	Replacement of 380 ft of stone tunnel	2,580,000
ST-6	Stone Tunnel Bypass	Construction of 530 ft of 36-inch CMP ^b	425,000
SDP-1	Church Street/Stewart Street/Stockton Street Relief Storm Drain	Construction of 1,350 ft of 24-inch HDPE and 640 ft of 48-inch HDPE ^b	1,710,000
SDP-2	Washington Street Relief Storm Drain – Phase 1	Construction of 520 ft of 30-inch HDPE ^b	390,000
SDP-3	William Street Storm Drain Replacement	Replacement of 20 ft of 12-inch RCP ^b	10,000
SDP-4	Central Storm Drain Replacement	Replacement of 150 ft of 36-inch CMP ^b	120,000
SDP-5	Washington Street Storm Drain Replacement Phase 1	Replacement of 30 ft of 24-inch CMP ^b	20,000
SDP-6	Stewart Street Storm Drain Rehabilitation	Rehabilitation of 90 ft of 12- to 18-inch storm drain ^c	45,000
SDP-7	Washington Street Storm Drain Replacement Phase 2	Replacement of 150 ft of 24-inch CMP ^b	100,000
SDP-8	Stewart Street East Alley Relief Sewer	Construction of 260 ft of 18-inch HDPE ^b	160,000
SDP-9	Washington Street Relief Storm Drain – Phase 2	Construction of 440 ft of 24-inch HDPE ^b	290,000

^a Construction of 3 ft by 3 ft box culvert is assumed for stone tunnel rehabilitation or replacement. Construction of box culvert estimated at \$6,500/ft.

^b Installation cost of storm drain pipelines estimated as follows:

24-inch CMP: \$700/LF

36-inch CMP: \$800/LF

18-inch HDPE: \$600/LF

24-inch HDPE: \$650/LF

30-inch HDPE: \$750/LF

48-inch HDPE: \$1,300/LF

12-inch RCP: \$450/LF

^c Pipeline rehabilitation cost: \$500/LF

6.0 IMPLEMENTATION PLAN

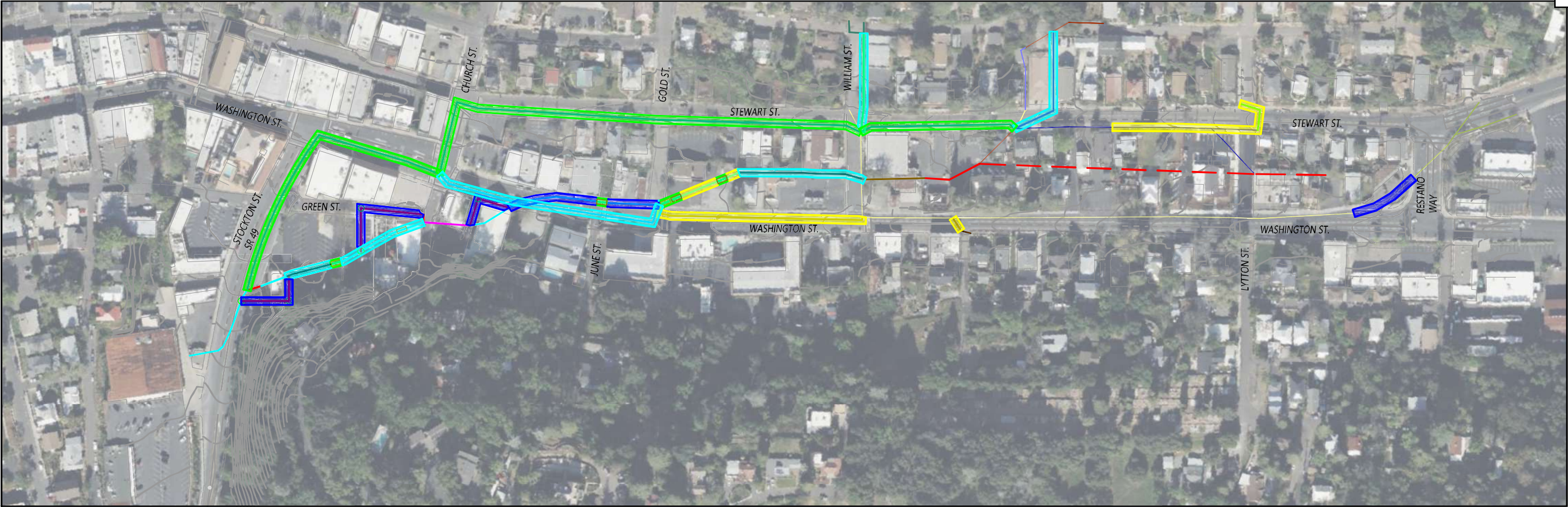
Based on the results of the field inspections and condition assessment, thirteen improvement projects were identified for the Main Drain. A suggested implementation plan is summarized below including a discussion of phasing of improvements and possible next steps.

6.1 Phasing of Improvements

A ten-year capital improvement program (CIP) is recommended to complete the Main Drain improvements. The CIP is divided into four tiers of projects with Tier 1 focused on repairs/rehabilitation of collapsed sections of the stone tunnel and construction of relief storm drains to alleviate historical street flooding. Reconstruction of the stone tunnel below Stockton Street by Caltrans is assumed during Tier 1. Subsequent Tiers 2-4 progressively upgrade the Main Drain on either side of Washington Street combined with storm drain pipeline improvements further south along Stewart Street and Washington Street. Complete replacement of the stone tunnel including bypassing of segments beneath buildings is accomplished at the end of Tier 4. The various tiers and projects are illustrated in Figure 10 and summarized in Table 3.

TABLE 3
CITY OF SONORA MAIN DRAIN FIELD INSPECTION AND CONDITION ASSESSMENT
SUMMARY REPORT
SUGGESTED PHASING OF IMPROVEMENTS

Tier	Project Designation	Title	Timeline, years
1	ST-1	West Stone Tunnel Rehabilitation	1-2
	SDP-1	Church Street/Stewart Street/Stockton Street Relief Storm Drain	1-2
	ST-3	East Stone Tunnel Rehabilitation	1-2
2	ST-2	West Stone Tunnel Replacement	3-4
	SDP-2	Washington Street Relief Storm Drain – Phase 1	3-4
	SDP-3	William Street Storm Drain Replacement	3-4
	SDP-4	Central Storm Drain Replacement	3-4
	SDP-8	Stewart Street East Alley Relief Sewer	3-4
3	SDP-5	Washington Street Storm Drain Replacement - Phase 1	5-6
	SDP-6	Stewart Street Storm Drain Rehabilitation	5-6
	ST-4	East Stone Tunnel Replacement	7-8
	SDP-9	Washington Street Relief Storm Drain – Phase 2	9-10
4	SDP-7	Washington Street Storm Drain Replacement - Phase 2	9-10
	ST-5	Washington Street Stone Tunnel Replacement	9-10
	ST-6	Stone Tunnel Bypass	9-10



LEGEND

- 36-IN CMP
- 21-IN CMP (ABANDONED)
- 18-IN CMP
- 24-IN CMP
- 24-IN HDPE (STORM DRAIN RELIEF PIPELINE)
- 18-IN HDPE
- 30-IN HDPE (STORM DRAIN RELIEF PIPELINE)
- 12-IN RCP
- STONE TUNNEL
- 36-IN RCP
- 8-IN CONCRETE PIPE
- 24-IN CONCRETE PIPE
- 48-IN BY 48-IN RCP
- 18-IN BY 18-IN STONE TUNNEL
- 15-IN CMP
- 24-IN SEGMENTED BLOCK
- 21-IN SEGMENTED BLOCK
- 8-IN CONCRETE PIPE

TIER 1	
PROJECT DESIGNATION	TITLE
ST-1	WEST STONE TUNNEL REHABILITATION
ST-3	EAST STONE TUNNEL REHABILITATION
SDP-1	CHURCH STREET/STEWART STREET/STOCKTON STREET RELIEF STORM DRAIN
TIER 1 PROJECT	
TIER 2	
PROJECT DESIGNATION	TITLE
ST-2	WEST STONE TUNNEL REPLACEMENT
SDP-3	WILLIAM STREET STORM DRAIN REPLACEMENT
SDP-4	CENTRAL STORM DRAIN REPLACEMENT
SDP-2	WASHINGTON STREET RELIEF STORM DRAIN - PHASE 1
SDP-8	STEWART STREET/EAST ALLEY STORM DRAIN
TIER 2 PROJECT	

TIER 3	
PROJECT DESIGNATION	TITLE
SDP-5	WASHINGTON STREET STORM DRAIN REPLACEMENT PHASE 1
SDP-6	STEWART STREET STORM DRAIN REHABILITATION
ST-4	EAST STONE TUNNEL REPLACEMENT
SDP-9	WASHINGTON STREET RELIEF STORM DRAIN - PHASE 2
TIER 3 PROJECT	
TIER 4	
PROJECT DESIGNATION	TITLE
SDP-7	WASHINGTON STREET STORM DRAIN REPLACEMENT PHASE 2
ST-5	WASHINGTON STREET STONE TUNNEL REPLACEMENT
ST-6	STONE TUNNEL BYPASS
TIER 4 PROJECT	



FIGURE 10
CITY OF SONORA MAIN DRAIN
FIELD INSPECTION AND CONDITION ASSESSMENT
TM 3.0R1 - SUMMARY REPORT
IMPLEMENTATION PLAN



6.2 Next Steps

Initial steps in the implementation of the Main Drain improvements include the following:

1. Confirmation with Caltrans of the schedule for reconstruction of the stone tunnel beneath Stockton Street and possible collaboration on future storm drain improvements.
2. Preparation of a drainage study to determine the required conveyance capacity of the Main Drain during significant storm events. Sizing of the Main Drain to meet peak flow requirements.
3. Identification of funding sources for the recommended CIP.
4. Comprehensive mapping of the Main Drain to determine vertical/horizontal locations.
5. Development of preliminary engineering documents to more fully define project elements and to refine probable costs.
6. Preparation of environmental documents to support the drainage improvements.



CITY COUNCIL AGENDA REPORT

MEETING DATE: October 16, 2023
TO: City Council Members
FROM: Rachelle Kellogg, Community Development Director
SUBJECT: Code Enforcement Presentation

RECOMMENDATION

Receive a Code Enforcement presentation from CSG Consultants.

DISCUSSION

The City's Code Enforcement activities are overseen by the Community Development Director through consulting services provided by CSG Consultants. Irma Gowin, Senior Code Enforcement Officer for CSG and the City's assigned Code Enforcement Officer, Daisy Gomar, will be presenting to the City Council and the public a presentation introducing the functions/activities of Code Enforcement.

FISCAL IMPACT

None

ATTACHMENTS

- 1) Code Enforcement Presentation



CITY COUNCIL AGENDA REPORT

MEETING DATE: October 16, 2023

TO: Honorable Mayor and Members of the City Council

FROM: Tracy Skelly, Administrative Services Officer

SUBJECT: Disbursements in the amount of \$171,030.21 for payroll

RECOMMENDATION

Consider approval of disbursements in the amount of \$171,030.21 for payroll, including employee salaries, employer and employee taxes, retirement contributions, miscellaneous voluntary employee deductions, holiday pay, and other adjustments, including retro-pay.

DISCUSSION

This payroll was the first (1st) payroll of the month, which was an expected amount.

This payroll is the 7th payroll of 26 for FY23-24, we would have expected to expend 26.92% of the budgeted amount. In total, we have expended 25.07% of the Salaries and Wages for the FY 23-24 budget.

FISCAL IMPACT

Disbursements are part of the approved FY23-24 Budget.



CITY COUNCIL AGENDA REPORT

MEETING DATE: October 16, 2023

TO: City Council Members

FROM: Chris Gorsky, Administrative Services Director

SUBJECT: Consider approval of Resolution No. 10-16-2023-A, a Resolution of the City Council of the City of Sonora Authorizing the City Administrator to execute an agreement to Purchase a Ravo 5 iSeries Street Sweeper.

RECOMMENDATION

Staff recommends the City Council consider approval of Resolution No.10-16-2023-A, a resolution of the City Council of the City of Sonora to authorize the City Administrator to execute an agreement to purchase a Ravo 5 iSeries Street Sweeper. The City can purchase the sweeper outright or enter into a lease-purchase agreement, staff recommends the City purchase the sweeper outright and save \$38,891 in interest.

- Purchase for an estimated total of \$309,379.
- Lease-purchase for an annual budgeted amount of \$116,090 for three years with 6.16% interest, at the end of the three years the City will own the equipment without any additional costs.

DISCUSSION

The City's current street sweeper is at its end of life. The sweeper has been in constant use for more than twenty years, purchased in 2001, and now has issues with rust and holes, has had chronic hydraulic leaks, and non-functional air conditioning. The equipment has required extensive annual servicing, is constantly out of service and will soon be non-compliant with the State of California's Air Resources Board (CARB) regulations for diesel engines in support of their clean air goals. The current sweeper will be surplused as soon as it is replaced.



Staff has reviewed what is needed by the City and had a demonstration of the proposed street sweeper, the Ravo 5 iSeries Compact Sweeper, see brochure for more information. This has all the features needed, including a larger hopper than the current unit. Some of the improved features include air conditioning, very low noise levels, a fine dust filtration system and a 360-degree camera for safety. The quote includes all setup and training. The vendor is in Sacramento and will provide maintenance and any warranty work at our facility. As with the new leased patrol vehicles, the annual maintenance is expected to be much less than the more than twenty-year-old equipment the City operated in the past. Annual maintenance is expected to be a fraction of what the City has spent on the current sweeper.

Street sweeping keeps city streets looking well-kept by collecting and removing paper, leaves, and other debris that collect in gutters and streets. This minimizes the risks of blocked storm water facilities that may result in localized flooding during heavy rains. The City also sweeps Highway 49 and is reimbursed by the State for this service. The current reimbursement is approximately \$9,300 annually.

FISCAL IMPACT

The Street Sweeper was sourced through a Sourcewell contract. Sourcewell is a service cooperative that was established with the statutory purpose of assisting public agencies in meeting specific needs which are more efficiently delivered cooperatively than by an entity individually. Sourcewell is authorized to establish competitively awarded cooperative purchasing contracts on behalf of itself and its participating agencies. Sourcewell follows the competitive contracting law process to solicit, evaluate, and award cooperative purchasing contracts for goods and services.

There is no impact to the General Fund. The funding for the Street Sweeper is funded by Measure I revenues, which is the ½ cent special sales tax passed by City Voters in 2004. These funds were specifically to provide funding to replace aging Public Works equipment. As of October 1, 2023, there is \$521,176 available in the Public Works Measure I account. The Street Sweeper has a price of \$309,378.55, of this amount \$154,000 was budgeted for in the current FY23/24 budget requiring an additional budget change of \$155,379 in order to purchase the equipment outright.

ATTACHMENTS

- Resolution 10-16-2023-A
- Sourcewell Quote and Leasing information.
- Street Sweeper Brochure.

RESOLUTION No. 10-16-2023-A
A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SONORA AUTHORIZING
THE CITY ADMINISTRATOR TO EXECUTE AN AGREEMENT TO PURCHASE A
RAVO STREET SWEEPER

WHEREAS, the Public Works Department has validated its need for a replacement street sweeper based on the current unit being at its end of life; and

WHEREAS, the purchase will be made through a Sourcewell contract, which is an authorized competitively awarded cooperative purchasing agreement to award a contract to Municipal Maintenance Equipment; and

WHEREAS, there are sufficient funds available in the Measure I Public Works fund, the City's ½ cent sales tax fund, that was specifically passed to provide equipment replacement for the Public Works Department; and

WHEREAS, staff recommends the purchase of the Ravo iSeries Street Sweeper:

NOW THEREFORE, BE IT RESOLVED, that the City Council of the City of Sonora does hereby approve Resolution No. 10-16-2023-A authorizing the City Administrator to execute the agreement for a new Ravo Street Sweeper.

PASSED, APPROVED, AND ADOPTED as a Resolution by the Sonora City Council at a meeting held by the City Council on the 16th day of October 2023, by the following vote:

AYES: _____

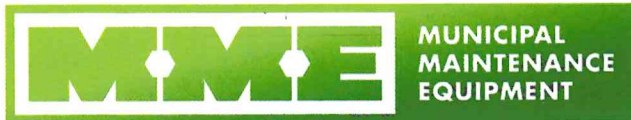
NOES: _____

ABSTAIN: _____

ABSENT: _____

Mark Plummer, Mayor

ATTEST: _____
Tracy Skelly, City Clerk, City of Sonora



CSLB #980409
DIR 1000004282
www.source-mme.com
Toll Free 1-888-484-9968

Item 6.

October 11, 2023

City of Sonora
94 North Washington Street
Sonora, CA 95370

Tel: 209-743-2330
mlagomarsino@sonoraca.com

Attention: Mike Lagomarsino, Public Works Supervisor

We are pleased to provide the enclosed contract pricing sheet off the Sourcewell Contract No. 093021-FAY for one (1) Ravo 5-iSeries Compact Sweeper for your review.

Summary:	Complete Unit per attached Sourcewell price sheet	
	Price F.O.B. Shipping Point	\$306,402.07
	Less Sourcewell Discount	- 15,320.10
	Less Additional Dealer Discount	- 17,401.00
	Sub-Total	\$273,680.97
	8.75% Estimated Sales Tax	23,947.08
	Training	750.00
	Dealer Prep	990.00
	Freight to Sonora, CA	10,000.00
	CA Tire Fee (6 @ \$1.75 Each)	10.50
	Total	\$309,378.55

• **City's Purchase Order to be prepared and sent directly to the Sourcewell Contract Assignee:**

Municipal Maintenance Equipment, Inc. 4634 Mayhew Road Sacramento, CA 95827
Nancy Steffan – nsteffan@source-mme.com Tel: 916-922-1101 Fax: 916-922-1034

- Municipal Maintenance Equipment, Inc. is the local dealer and will provide warranty support and future service for the Ravo products.
- Pricing includes delivery and on-site training.
- Normal delivery 210-270 days A.R.O., depending on availability at time of order.
- Sales tax applicable at time of delivery will be shown on invoice.
- Terms per Sourcewell Program.
- Quotation valid for 15 days.

Thank you for your continued interest in this fine product. Should you have any questions or need additional information, please let us know. We look forward to being of service.

Sincerely,
Municipal Maintenance Equipment, Inc.

James Wheeler,
General Manager

Enclosure

 	
FESA RAVO 5 iSeries Sourcewell Pricelist 2022 V3	
Price List Date: 6/1/2022	
Dealer Name	Municipal Maintenance Equipment
Customer Name	City of Sonora
Customer Physical Address	94 N Washington Street
City, State, Zipcode	Sonora, CA 95370
Contact Person	Mike Lagomarsino
Contact Title	Public Works Supervisor
Contact Email Address	mlagomarsino@sonoraca.com
Contact Phone Number	209-743-2330
Customer Sourcewell Number	Pending
Discount	5.0%
Order No.	
Quotation Date	10/11/2023
Sourcewell Cont #	093021-FAY
QTY	1
1	1.1
Basic machine 5-Series 25 MPH, meeting NHTSA Road safety standards, including: Tier 4 engine Inspection door retainer Gutter brush angle adjustment right hand side Step on brooms 12V Plug inside cabin Coated suction line + Suspended swivel wheel Alloy Fan LED work light package (brushes, cabin, container) LED beacon light (front and back) Suction nozzle camera + second monitor Central doorlock (doors lockable from inside) Cruise control (during sweeping)	
Standard tipping container Wide sweeping Dual tires License plate holder Airconditioning Aluminium cover inside rear door Easy liftable grid Rearview camera Engine safety stop Heated and electrically adjustable mirrors Service manual PM10 Standard	
Sourcewell Price Ea	
Total Price	
273,807	273,807
3	Container
1	3.1
Container dump (CD)	
7	Broom and suction system
1	7.1
Independent brush lifting	
1	7.2.2
Gutter brush angle adjustment left and right hand side	
1	7.3
Borium Fan	
1	7.4.2
Preparation for third brush	
9	Silent
1	9.1
Silent stage 1	
10	Water options
1	10.1
High pressure water pump with spray gun mounted right hand side	
11	Wander hose
1	11.1
Wander hose (8 inch) through container roof and mounted on rear door including mounting rack	
12	Ergonomical and safety options
1	12.1
Air suspended driver seat with 2 point safety belt	
13	Camera systems
1	13.3
Blind spot camera on left hand side of cabin (connected to 1st monitor)	
15	Accessories
1	15.3
Jack 5 Ton	
1	15.4
Toolbox (mounted in front of the passengers seat)	
1	15.6
Air deflection plate (standard i.c.w. 1.3)	
Subtotal : \$ 306,402.07	
Sourcewell Discount: \$ (15,320.10)	
Optional Additional Dealer Discount: \$ (17,401.00)	
Ravo 5i Subtotal: \$ 273,680.97	
* This is the cost for solid paint. For metallic paint an additional cost of \$1,200 will be charged ** Please refer to the RAVO extended warranty conditions document	
We are pleased to offer the following quotation for a Ravo Model 5i with the options listing above per the terms and conditions of the Sourcewell Contract Number 093021-FAY and the additional terms sheet attached.	
Ravo 5i Subtotal \$ 273,680.97 Total Non Sourcewell Items \$ - Extended Warranty Not Selected Training \$ 750.00 Dealer Prep. \$ 990.00 Freight \$ 10,000.00 Total Unit Cost \$ 285,420.97 Sales Tax 8.750% \$ 23,947.08 California Tire Fee (6@1.75 ea) \$ 10.50 Total Sourcewell Price \$ 309,378.55	

Very truly yours,
 Adam Horch
 Sales Representative
 www.source-mme.com
 916-505-2070

For Acceptance:

Signed

Adam Horch
Sales Representative

Mike Lagomarsino
Public Works Supervisor

Date

LEASE FINANCING PROPOSAL

Item 6.

Requested by Municipal Maintenance Equipment

Representing



Presented To (As Lessee) City of Sonora, CA

Proposal Date:	October 11, 2023					
Equipment Description:	(1) Ravo 5-iSeries Street Sweeper					
Commencement Date:	October 25, 2023					
	<u>Option 1</u>	<u>Option 2</u>	<u>Option 3</u>	<u>Option 4</u>	<u>Option 5</u>	<u>Option 6</u>
Equipment Cost:	\$309,378.55	\$309,378.55	\$309,378.55	\$309,378.55	\$309,378.55	\$309,378.55
Lessee Down Payment:						
Amount Financed:	\$309,378.55	\$309,378.55	\$309,378.55	\$309,378.55	\$309,378.55	\$309,378.55
Lease Term:	3 Years	5 Years	7 Years	3 Years	5 Years	7 Years
First Payment Date:	10/25/2024	10/25/2024	10/25/2024	10/25/2024	10/25/2024	10/25/2024
Payment Frequency:	Monthly	Monthly	Monthly	Annual	Annual	Annual
Lease Rate:	6.16%	5.96%	5.89%	6.16%	5.96%	5.89%
Payment Amount:	\$9,979.91	\$6,309.30	\$4,751.81	\$116,090.15	\$73,362.30	\$55,202.26

Qualifications:

1. **Pricing:** This is a lease proposal for the payment stream(s) indicated above. If any of the information identified above are not correct, please advise us so that we can determine if a new proposal is required. Other important elements of this proposal are:

- a) **Rate Expiration:** Due to the current increasing rate markets, this proposal is valid under the following circumstances:
- The award is received within 7 days of the Proposal Date.
 - The transaction is closed within 30 days off the Proposal Date.
- If you are unable to award within 7 days, please contact us prior to your decision meeting date and we will provide a current proposal.

- b) **Closing Costs:** There will be no up-front costs of any kind charged by Lessor including closing costs, points, administrative costs, etc. Your attorney may charge you to review the lease documents and complete the opinion letter required with our lease documentation.

- c) **Fixed Rates:** Rates for ten (10) years and under are fixed for the entire term. Terms over ten years have a one time rate adjustment after ten (10) years to the then current interest rates for the remaining term.

2. **Type of Lease:** This is a lease-purchase type of financing. After all the lease payments are made, Lessee will own the equipment without further cost.

3. **Financial Reporting:** All city, county and tax districts (including fire districts) will be expected to provide GAAP audited financial reports. All non-profit corporations (vfd's) will be expected to provide IRS 990 federal tax returns. If you do not maintain these types of financial reports, please contact us to discuss.

4. **Vendor Payable / Escrow Account (where applicable):** Proceeds of this lease will be held in a vendor payable account until delivery/acceptance. Projected escrow earnings have been pre-applied to reduce Lessee interest rate. There will be no escrow earnings payable to Lessee.

5. **Credit Approval and Documentation:** This is a proposal only, and does not represent a commitment to lease. This financing is subject to credit review and approval and execution of mutually acceptable documentation, including the opinion of lessee's counsel opining that the agreement is legal, valid and binding, obligation of Lessee.

Financing by:

Contact:

Phone:

Email:

Web:

Leasing 2, Inc.

Rick Carney

813-258-9888 x16

rcarney@leasing2.com

www.leasing2.com



REQUEST TO PROCEED:

When you are ready to proceed with Leasing 2 towards finalizing this lease financing arrangement, please indicate so by signing below and completing the requested information. We will immediately email you our application. Thank you for your confidence and consideration.

Proposal date: October 11, 2023

Option Chosen: _____ (where applicable)

Upcoming Governing Body meeting date for lease approval: _____

City of Sonora, CA

Name of Lessee

Authorized Signature

Date

Title

Printed Name Of Authorized Signature

Last month of your budget year?

Contact Name
(If Different Than Authorized Signature)

Contact Phone

Contact Email

Financial Contact Name
(Can be Treasurer or Clerk)

Contact Phone

Contact Email

Please complete the above information and **fax or email** all pages of the proposal to
813-258-9333 / rcarney@leasing2.com



**** Important: A Resolution will be required with the lease contract ****

**In the event that you require board action to sign this proposal,
please call us so that we may forward the preferred form for the meeting.**

Are you ready to move forward with Leasing 2?

Here is a quick overview on our process

- 1. Signed Proposal** - When you are ready to move forward with Leasing 2, email a scan of the completed and signed proposal back to Leasing 2.
- 2. Credit Application** - A credit application and request for current financial reports will be emailed to the designated contacts upon receipt of the signed proposal. The credit application should be completed and returned promptly to protect your quoted interest rates. Credit approval usually comes within a few days receipt of the completed credit application.
- 3. Financing Agreement** - Once credit approval is accomplished, the financing agreement will be emailed for review and signature. Once the contracts are signed and returned, we are ready for closing.



RAVO 5 iSeries



OVER 50 YEARS OF EXPERIENCE PASSIONATE ABOUT SWEEPING

In 1964, when RAVO was established in The Netherlands, the foundation for the first compact vacuum street sweeper was laid. Since then RAVO has grown into the world leader in innovative sweeping. Nowadays we are part of the Fayat Environmental Solutions Group providing a complete sweeping solution for customers all over the world.

Our international dealer network allows us to provide superior service to customers worldwide. These customers include cities like Rome, Amsterdam, Dubai, Saint Petersburg, Washington DC, Berlin, Montreal, San Francisco, Porto and Bordeaux.

RAVO successfully supports customers to find solutions for modern day issues. RAVO has helped Rome to lower the noise emission of its sweepers by developing a special silent package. The city of Barcelona needed a sweeper that could sweep and

wash simultaneously; RAVO developed the swasher option and currently we are very excited about our latest development, the 5 eSeries, being the first electric compact sweeper in the market.

RAVO values close relationships with its customers; With support and high service RAVO helped Berlin to achieve a longer uptime. These relationships and our one product focus has made the RAVO 5 iSeries into what it is today: World's best and most sold street sweeper.

And not without reason, RAVO delivers at all levels; whether it is about the incredible uptime, fuel savings compared to truck mounted sweepers, operator's comfort or the state of the art build quality. We will keep on going that extra mile to make the RAVO 5 iSeries to what it has become today: the benchmark in sweeping.



DESIGNED TO PERFORM THE RAVO 5 iSERIES



A SOLID FOUNDATION

Equipped with a powerful engine, an attractive cabin interior design and a state of the art intelligent sweeper monitoring system the 5 iSeries sets the benchmark in sweeping.

The unmatched performance is the result of a pure vacuum suction line combined with RAVO's unique brush system.

Spring or Autumn, sand with pine needles or leaves, main streets or bicycle lanes, smooth tarmac or cobblestones, the 5 iSeries will clean every street in one pass. Storing all debris in its spacious 5 cubic meter stainless steel hopper with an unrivalled compaction rate.

Every RAVO is standard equipped with:

- An ergonomically designed cabin with adjustable steering column, dashboard, arm rest and lockable doors from inside.
- Air conditioning.
- A powerful IVECO or Cummins engine.
- Linde hydraulics.
- A stainless-steel container with a volume up to 5m³.
- Loading capacity of 5500 KG.
- Extreme manoeuvrability with a turning circle of only 5m (curb to curb).
- A unique pulled brush system:
 - Constant brush pressure extends the brush life with 50%.
 - Maintenance friendly: no greasing required.
- Hydraulic front suspension with automatic levelling system.
- Only 15 easy accessible greasing points on the whole machine.
- Stainless steel suction tube.
- High waste compaction rate.
- Wide suction tube (225 mm).



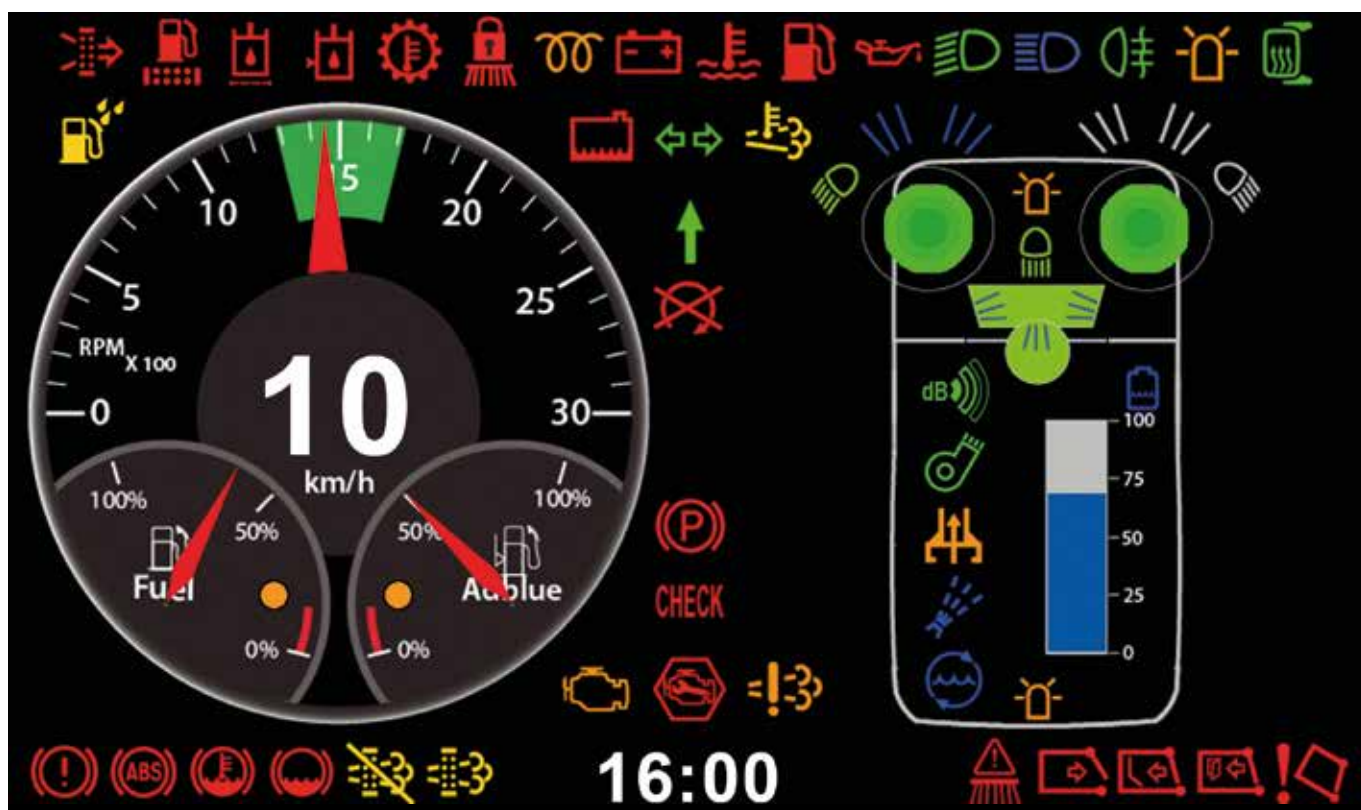
THE RAVO iSYSTEM: INTELLIGENCE MEETS CONVENIENCE

At RAVO we continuously improve and develop our products. The RAVO intelligent electronic monitoring system, which we named the iSystem, is an excellent example of our innovation power. It has been specially developed to be in full control of your sweeper.

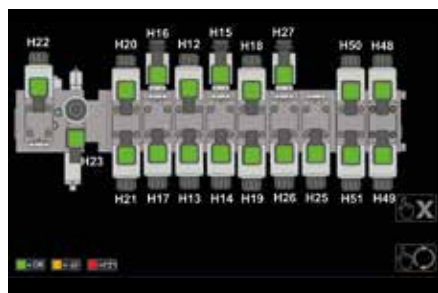
This robust control system has been tested exhaustively to meet the high RAVO standards. The use of nodes guarantees stability and the built-in LCD screen enables you to check the parameters of the electrical & hydraulic system.

This system will ease maintenance of your machine by informing you the status of the functionalities of your sweeper.

At one glance you can view all functions of the sweeper. Via the various available screens you can for example keep track of your sweeping and engine hours, service intervals or check your hydraulic system, lights, gauges, various pressure and voltage levels, etc.



Sweeping mode



Diagnostic mode



Info mode



Parameter mode



THE CABIN ATTRACTIVE & COMFORTABLE

The cabin has been designed with the input of experienced international RAVO operators. When entering the cabin with a floor height of only 78 cm, you will notice the ample interior space. Once seated in the air ride operator's seat the logical layout of the dashboard will amaze you. Add to that the fully adjustable armrest and steering wheel, the slightly tilted panoramic windscreen for ultimate visibility and you will agree that new standards have been set. These standards include:

- iSystem.
- Sound isolation.
- Panoramic view.
- Adjustable steering column, dashboard and arm rest.
- Lockable doors from inside for safety of the driver.
- Rear view and suction mouth camera.
- Air-conditioning.
- 12V plug.
- Radio with MP3 and USB.
- 2 Cup holders.
- Lockable storage space.
- Hatch to see inside the hopper.



EASE OF MAINTENANCE

To ensure proper maintenance of the machine in a smart way the RAVO 5 iSeries comes with the following features:

- RAVO's unique maintenance friendly brush system.
- Fan cleaner.
- Two big service doors for easy access.
- Easy changeable brushes.
- Optional electrical lowerable grid inside the hopper.
- Optional high-pressure water pump
- Long lasting water spray nozzles.
- Easy accessible greasing points.

RAVO 5 iSeries, INNOVATION KEEPS YOU GOING







A VERSATILE PERFORMER

For those who need specific requirements RAVO offers a range of options to customize your RAVO 5 iSeries. Below are some examples of the available options.

Container dump

This option allows you to dump your debris directly into a container and has a dumping height of 1550 mm.

Third brush/Weed cutter

The third brush increases the sweeping range of the RAVO 5 iSeries. This option enables drivers to clean pavements and road gutters more efficiently. When used in combination with the weed cutter brush, it is extremely suitable for the environmental friendly removal of weeds. This option can be equipped with a 'quick release' feature, which allows quick removal or installation of the third brush.

SAIGA PM 2.5 fine dust filtration system

The innovative and patented SAIGA Particle System has been TÜV PM 2.5 certified. This means that the RAVO sweeper will filter all fine dust out of the outgoing air. Contributing to a cleaner environment wherever you sweep.

Heavy duty suction line

Equip your sweeper with a coated suction line to extend its lifetime when working under the heaviest conditions.

High pressure water pump

The high-pressure water pump feature is perfect for quickly cleaning the inside of the container, brush and suction system or street furniture.

Brush angle adjustment

With the brush angle adjustment, you can position the brushes into the optimal angle to sweep gutters, which makes sweeping more efficient.

Independent brush lifting

The independent brush lifting enables you to reduce brush wear and achieve a longer lifetime of the brushes.

Swasher installation

Sweep and spray roads and pavements in just one go. The pressurized swasher allows sweeping crews to clean the most difficult reachable places, street furniture and traffic signs. Various configurations in terms of water pressure, water tanks and pumps are available.

Water recycling (improved, easy to clean)

This option doubles your action radius and reduces dust emission at the same time.

Wander hose

The wander hose is perfect for sucking up leaves and for emptying gutters and waste bins.

Silent package

The silent package reduces the noise level of the RAVO 5 iSeries by 15%. The package includes special software, sound absorbing materials and special silent brushes.

Cruise control

Set the speed to a certain level while sweeping so the operator can fully concentrate on the road and his sweeping job.

360 Degree view camera

RAVO values safety and is therefore proud to present this new option for even better views of the road around the sweeper.





RAVO 5 iSeries: MADE IN HOLLAND

Being Europe's number one producer of street sweeping machines and having over 50 years of experience makes RAVO a true specialist in the sweeping branch. We have the know-how and skills to meet your wishes. The RAVO 5 iSeries is built according to Dutch standards; high quality, robustness, superior technology and innovative design.



RAVO: YOUR PREFERRED PARTNER IN SWEEPING SOLUTIONS

Together with our certified and dedicated dealer network we help you exceed your expectations and overcome all challenges.

We know that your equipment must work 24/7. To proof our trust in the quality of our product we offer a standard warranty of two years or 2000 hours on every sweeper that leaves our factory. On top of that we offer a 5-year warranty on the container and chassis.



RAVO GENUINE PARTS, DESIGNED TO FIT!



Genuine RAVO parts are produced according to the highest standards of quality, durability and performance that is why they are such a good match for your RAVO sweeper.

To assure you always have the right parts available for scheduled service we have composed various service and parts kits, it's that easy!

Using RAVO Genuine Parts means:

- Receiving 12 Months warranty on parts.
- Meeting the OEM specifications.
- Increase the lifetime of your RAVO sweeper.
- Always the right fit.
- Cost savings over the long run.

For more information you can contact your local dealer who has RAVO trained parts specialists with the right knowledge and experience to assist you. They can further inform you about the possibilities of full service contracts and other service and maintenance options.

RAVO ACADEMY

Training & education is highly valued by RAVO. Whether it is training of our employees and dealers or your operators and engineers. We have different training programs which are available at our own training facility. This is the RAVO Academy.

The RAVO academy enables our dealers and their customers to use and maintain the RAVO sweepers in the most efficient way. This high-quality training facility at the RAVO factory in Alkmaar provides trainings on different skill levels.

Our professional RAVO trainers also offer training on location, either at the dealer or at the customer.

Contact your local dealer for more information regarding the training possibilities.



RAVO 5 iSeries TECHNICAL SPECIFICATIONS

Suction system	
Airflow capacity	14.000 m ³ /h
Suction nozzle dimensions l x w	112 x 630 mm
Suction nozzle material	Corten steel (optional linatex lining available)
Suction tube diameter	225 mm
Suction tube material	Stainless Steel (optional linatex lining available)
Brush system	
Type	RAVO maintenance free pulling brush system
Available brush diameter	750 mm - 900 mm
Brush rotation speed	0 - 210 rpm
Well-being	
Noise emission Lwa	109 dBA
Noise level operator seat Lpa Euro 6/Tier 4	74 dBA / 76 dBA
Brakes & Electricity	
Front brakes	Hydraulically operated disk brakes
Rear brakes	Hydrostatic hydraulically actuated servo drum brakes
Front suspension	Independent hydro-pneumatic suspension
Rear suspension	Rubber cone springs
Battery	2 x 12 V/Ah
Alternator	90 amperes
Voltage (V)	24 with running engine 28
Maintenance	
Container Material	Stainless Steel inside / ABS cover outside
Total amount of greasing points in sweeper	15
Warranty	2 years or 2000 engine hours whichever comes first
Optional Equipment	
Max. sweeping width incl. third brush	3400 mm
Wander hose	200 mm diameter
Third brush / Weed cutter	750 mm diameter / 900 mm diameter
Silent package Lwa	97 dBA
High pressure water pump	15 L per min. @ 150 bar
Camera	Suction mouth, side view and rearview
Extra water capacity	Up to 1250 Liter
Heavy duty suction line	-

RAVO 5 iSeries ENGINES

Our machines are equipped with engines which comply with the most stringent emissions legislations. The RAVO 5 iSeries engines are available in Tier 3, Tier 4 and Euro 6.

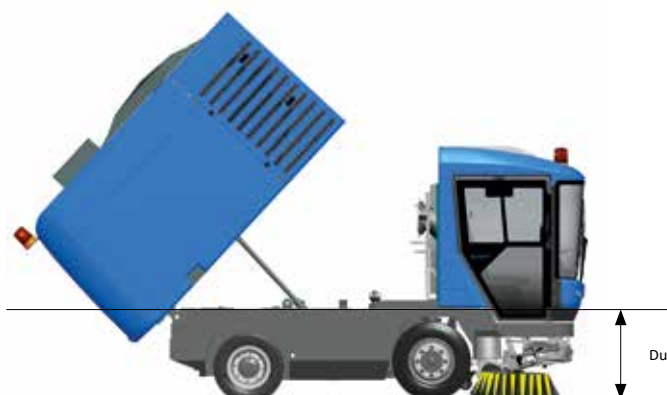


Engine & Drive system	Emission level Tier 3	Emission level Tier 4 final	Emission level Euro 6
Displacement	4.5 L	3.8 L	4.5 L
Maximum torque	560 Nm @ 1400 rpm	360 lb.ft @ 1600 rpm	580 @ 1250-1940 rpm
Maximum power	104 kW @ 2200 rpm	138 hp @ 2300 rpm	118 kW @ 2500 rpm
Engine type	Iveco Diesel 4 Cylinder	Cummins QSF3.8 Diesel 4 Cyl.	Iveco Diesel 4 Cylinder
Speed (per hour)*	25 - 60 km	25 - 60 km	25 - 80 km
RAVO drive type and drive line system	Linde / Hydrostatic Continuously Variable		

*Depending on local legislation.

RAVO 5 iSeries DIMENSIONS, WEIGHT, CAPACITIES

Tipping



Dumping height: 850 mm

Volume	5 m ³
Dumping height	850 mm
Min. total empty weight (curb weight)*	5950 kg
Max. payload*	5450 kg

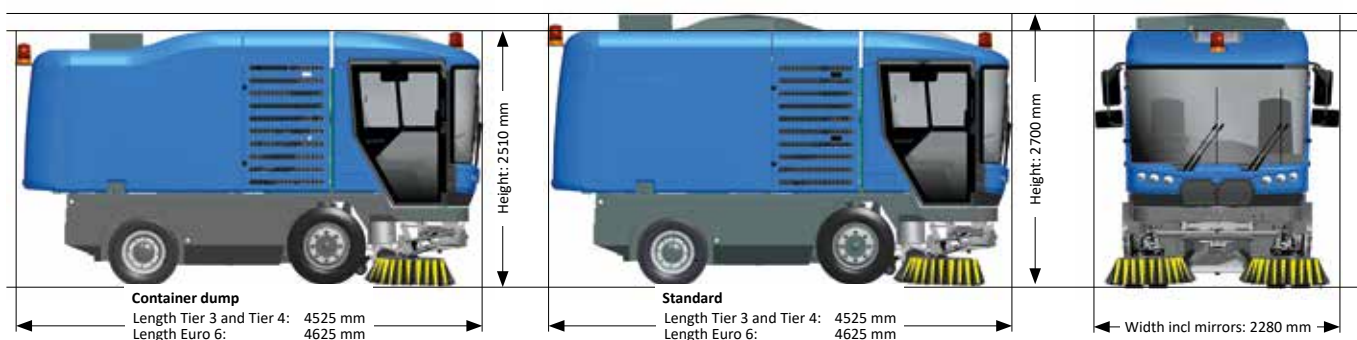
Container dump



Dumping height: 1550 mm

Volume	4 m ³
Dumping height	1550 mm
Min. total empty weight (curb weight)*	6220 kg
Max. payload*	5180 kg

Dimensions



Dimensions, Weight, Capacities	Emission level Tier 3/Tier 4 final	Emission level Euro 6
Length	4525 mm	4625 mm
Width incl mirrors	2280 mm	2280 mm
Wheelbase	1816 mm	1916 mm
Sweeping width	2200 - 2500 mm	2200 - 2500 mm
Gradeability [%]	Up to 30%	Up to 30%
Gross vehicle weight	11400 kg	11400 kg
Capacity fuel tank	105 l	120 l
Capacity water tank	600 l	600 l
Turning distance curb to curb*	5070 mm	

*Depending on model.

Every effort has been made to ensure that the information in this brochure is accurate. RAVO B.V. is not responsible for printing or clerical errors.



EURO6



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Otterkoog 1, 1822 BW Alkmaar
The Netherlands

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F +31 (0) 72 567 32 00

www.ravo.fayat.com

Dealer Stamp



CITY COUNCIL AGENDA REPORT

MEETING DATE: October 16, 2023

TO: City Council Members

FROM: Turu VanderWiel, Chief of Police

SUBJECT: Discussion and Community Engagement regarding the Sonora Police Department's Annual Military Equipment Report.

RECOMMENDATION

Discussion and Community Engagement regarding the Sonora Police Department's Annual Military Equipment Report and the Department's Funding, Acquisition, or Use of Military Equipment

DISCUSSION

On September 30, 2021, Governor Newsom signed into law Assembly Bill 481 (AB 481) relating to law enforcement agencies' use of military equipment. AB 481, codified in California Government Code sections 7070 through 7075, requires that any law enforcement agency seeking to use existing or new military equipment to create a military use policy, present the policy for governing body approval by ordinance, and produce annual reports pertaining to the policy and use of military equipment and to hold public engagement meetings within 30 days of submitting the annual use reports.

The Sonora City Council adopted the Police Department's Military Equipment Use Policy in April 2022; and on September 18, 2023, the Sonora Police Department submitted the attached 2022 Military Weapons report.

As required by AB 481, the Sonora Police Department will hold a public meeting to allow for community engagement. The public will have this opportunity to ask questions regarding the military equipment report and the Police Department's funding, acquisition, and use of the equipment.

FISCAL IMPACT

There is no budgetary impact for this item.

2022 Military Equipment Report



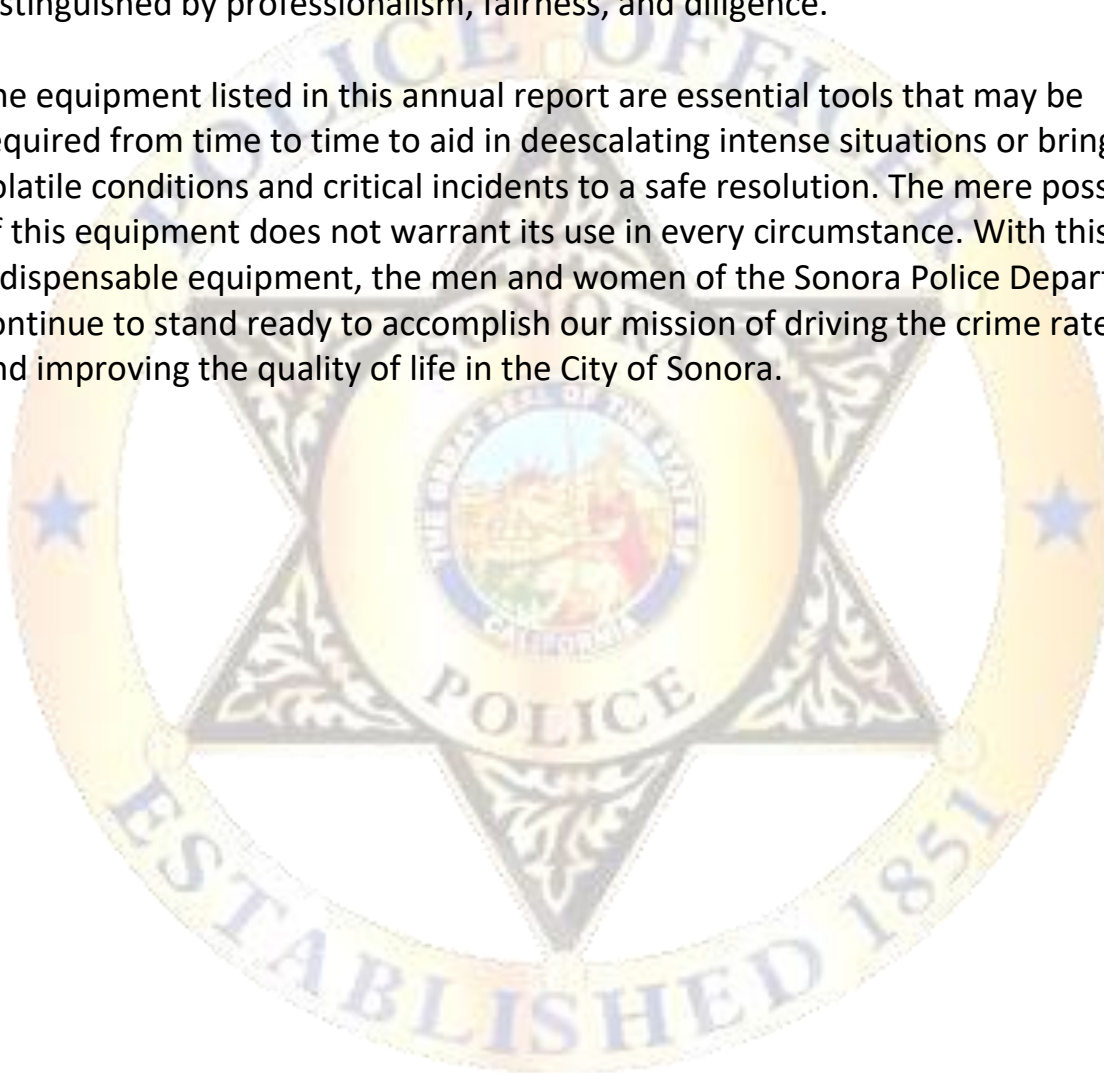
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Preface:

The Sonora Police Department is committed The service we deliver to the residents, merchants, and visitors of Sonora are in keeping with the highest traditions of public safety. Safeguarding life and property is the Sonora Police Department's highest priority and we pledge to carry out this obligation through compassion, dignity, and equality to every individual. Our actions will be distinguished by professionalism, fairness, and diligence.

The equipment listed in this annual report are essential tools that may be required from time to time to aid in deescalating intense situations or bringing volatile conditions and critical incidents to a safe resolution. The mere possession of this equipment does not warrant its use in every circumstance. With this indispensable equipment, the men and women of the Sonora Police Department continue to stand ready to accomplish our mission of driving the crime rate down and improving the quality of life in the City of Sonora.



Summary:

On September 30, 2021, Governor Newsom signed AB-481, requiring law enforcement agencies to obtain approval of the applicable governing body, City Council, by adoption of a military equipment use policy. The Sonora Department was required to seek City Council approval of their military equipment use policy by ordinance at a regular open meeting prior to taking certain actions relating to the funding, acquisition, or use of military equipment, as defined. The bill allows the governing body to approve the funding, acquisition, or use of military equipment within its jurisdiction only if it determines that the military equipment meets specified standards.

The approval is subject to annual City Council review to determine whether, based on an annual military equipment report, the standards set forth in the approving ordinance have been met. The City Council may renew the authorizing ordinance, disapprove authorization for particular military equipment where standards have not been met, or require modifications to the military equipment use policy to address any non-compliance with standards. Finally, the bill requires publication of the military equipment use policy and the annual military equipment report on the Department's website.

AB-481, Section 7072 states the following: (a) A law enforcement agency that receives approval for a military equipment use policy pursuant to Section 7071 shall submit to the governing body an annual military equipment report for each type of military equipment approved by the governing body within one year of approval, and annually thereafter for as long as the military equipment is available for use. The law enforcement agency shall also make each annual military equipment report required by this section publicly available on its internet website for as long as the military equipment is available for use. Within 30 days of submitting and publicly releasing an annual military equipment report pursuant to this section, the law enforcement agency shall hold at least one well-publicized and conveniently located community engagement meeting, at which the general public may discuss and ask questions regarding the annual military equipment report and the law enforcement agency's funding, acquisition, or use of military equipment.

In addition to maintaining the highest levels of public safety, the Sonora Police Department is committed to transparency, public trust, community partnerships,

and compliance with the law. As such, the Sonora Police Department has authored the following 2022 Annual Military Equipment Report in accordance with annual reporting requirements set forth in AB-481. This report covers the usage and reporting requirements for the proceeding Calendar year (2022)



Introduction:

The Sonora Police Department retains a small complement of defined military equipment to assist in safely achieving its mission statement of driving the crime rate down and improving the quality of life in the City of Sonora. Our trained men and women know that the mere possession of the equipment does not warrant its use for every incident. The Sonora Police Department recognizes that critical incidents are unpredictable and can be very dynamic in nature. A variety of equipment options can greatly assist incident commanders, officers, and specific units in bringing those incidents to a swift resolution in a safe manner.

Military equipment is restricted for use only in certain instances. There may be instances wherein unpredictable critical incidents demand the need for incident commanders to authorize defined military equipment to be used in a manner not outlined within Department policy. In scrutinizing those particular instances, the judgment of the incident commander influenced by the totality of the circumstances, public safety, officer safety, civil rights, and information available at the time will be used. It is incumbent upon incident commanders, supervisors, and individual officers to recognize the particular circumstances wherein military equipment should be employed to enhance the safety of the public and officers, and to bring a critical incident to a safe resolution. This Annual Military Equipment Report outlines a summary of military equipment usage guidelines, inventory, fiscal impact, and complaints for 2022.

Definitions:

Pursuant to AB-481, the following definitions are applicable only to the Department's current military equipment inventory and potential future military equipment acquisitions for operational needs. (For a more detailed list, refer to Government Code section 7070 for "military equipment" as defined within the Assembly Bill.)

"Governing body" means the City Council and Mayor.

"Military equipment" means the following:

1. Unmanned, remotely piloted, powered aerial or ground vehicles. This definition applies to the Department's inventory of small Unmanned Aerial Vehicles (UAVs) and SWAT robots.
2. Armored personnel carriers. However, police versions of standard consumer vehicles are specifically excluded from this definition.
3. Command and control vehicles that are either built or modified to facilitate the operational control and direction of public safety units.
4. Battering rams, slugs, and breaching apparatuses that are explosive in nature. However, items designed to remove a lock, such as bolt cutters, or a handheld ram designed to be operated by one person, are specifically excluded from this definition.
5. Firearms of .50 caliber or greater. However, standard issue shotguns are specifically excluded from this definition.
6. Ammunition of .50 caliber or greater. However, standard issue shotgun ammunition is specifically excluded from this definition.
7. Specialized firearms and ammunition of less than .50 caliber, including assault weapons as defined in Sections 30510 and 30515 of the Penal Code, with the exception of standard issue service weapons and ammunition of less than .50 caliber that are issued to sworn members.
8. Any firearm or firearm accessory that is designed to launch explosive projectiles.
9. "Flashbang" devices and explosive breaching tools, "tear gas," and "pepper balls," excluding standard, service-issued handheld OC. This definition applies to all of the Department's inventory of flashbangs, pepper ball launchers and related ammunition. Additionally, this definition applies to all of the Department's inventory of various chemical agents and chemical agent delivery systems maintained by the SWAT Unit.
10. The following projectile launch platforms and their associated munitions: 40mm projectile launchers, "bean bags," and rubber bullets.

11. “Military equipment” does not include general equipment not designated as prohibited or controlled by the federal Defense Logistics Agency.

“Military equipment use policy” refers to the Sonora Police Department Policy 706 and means a publicly released, written document governing the use of military equipment by the Department that addresses, at a minimum, all of the following:

1. A description of each type of military equipment, the quantity sought, its capabilities, expected lifespan, and product descriptions from the manufacturer of the military equipment.
2. The purposes and authorized uses for which the Department proposes to use each type of military equipment.
3. The fiscal impact of each type of military equipment, including the initial costs of obtaining the equipment and estimated annual costs of maintaining the equipment.
4. The legal and procedural rules that govern each authorized use.
5. The training, including any course required by the Commission on Peace Officer Standards and Training, that must be completed before any sworn member is allowed to use each specific type of military equipment to ensure the full protection of the public’s welfare, safety, civil rights, and civil liberties and full adherence to the military equipment use policy.
6. The procedures by which members of the public may register complaints or concerns or submit questions about the use of each specific type of military equipment, and how the Department will ensure that each complaint, concern, or question receives a response in a timely manner.

Summary of Military Equipment:

The inventory of military equipment, particularly consumable material (ammunition, diversionary devices, etc.) fluctuates regularly. This is based on a variety of factors, including but not limited to operational usage, operational deterioration, training, maintenance, and expiration and replenishment guidelines. The Sonora Department is committed to transparency in disclosing its military equipment inventory and related information to our community and elected officials in compliance with the law. The Department strives to provide the most accurate military equipment inventory and information at the time of this report's publication. The following are the various types, descriptions, and guidelines for usage of military equipment currently employed by Sonora Police Department:

Rifles: Firearms that are fired from shoulder level, having a long spirally grooved barrel intended to make bullets spin and thereby have greater accuracy over a long distance.

Description, quantity, capabilities, and purchase cost

1. Colt M16A1 RIFLE (Quantity 14)
2. Received from Law Enforcement Support Office (LESO) 1033 Program at no cost; The M16 rifle, officially designated Rifle, Caliber.223/5.56MM.
3. FEDERAL.223/5.56mm 55GR RIFLE ROUND, cost: \$198 per case of 500, quantity: 32 cases. Federal 223/5.56 MM Remington ammo features a lead core 55 Grain Full Metal Jacket bullet that is nonmagnetic, non-corrosive boxer primer and brass casing. The Federal ammo has a muzzle velocity of 3240 feet per second and muzzle energy of 1282 ft-lbs.

Purpose

To be used as precision weapons to address a threat with more accuracy and/or from greater distances as a handgun, if present and feasible.

Equipment Usage 2022:

This section outlines the military equipment usage for 2022. Training usage is not captured in this section. This section only provides data for the operational use of military equipment listed within this Annual Equipment Report.

The following are incidents where designated equipment was deployed:

1. Various deployments of the Colt M16A1 rifle in response to potential or perceived threats. These incidents include:
 - a. Search Warrants
 - b. Area search of dangerous subjects
 - c. Response to shots fired and parameter search of School
 - d. Coverage for hold-up / robbery alarms

Purchase of Equipment in 2022:

Pursuant to Sonora Police Policy 706, the following equipment defined as Military Equipment by law was purchased in 2022:

- There were no purchases made for defined Military Equipment by SPD in 2022.

Complaints regarding use of Military Equipment:

In some instances, the application and use of military equipment may cause questions and/or concerns for members of the community. It is vitally important that community members' questions regarding the application and use of military equipment are addressed. The Sonora Police Department is committed to full and fair investigation of citizen complaints. As such, the Department has sound internal policies for thorough and impartial investigations of citizen complaints. Resolving complaints in a fair, impartial, and expeditious manner will ensure the consistent high level of integrity and efficiency maintained by the Department. The following is a summary of formal investigations related to the use of military equipment as investigated by the Sonora Police Department's Internal Affairs Unit for 2022:

- There were no complaints/investigations regarding the use of Military Equipment in 2022

Summary and responses to Policy 706 violations:

- No violations of Policy 706- Military Equipment use, were reported or known of in 2022.

Conclusion:

This Annual Military Equipment Report reaffirms the Sonora Police Department's commitment to providing transparency and information to our community and elected officials in addition to ensuring compliance with the law. The equipment, resources, and training outlined in this report allow Sonora Police Officers to better protect our community, enhance the safety of the public and officers, and bring critical incidents to a safe resolution. Public safety is and always has remained a shared responsibility. The strength of our Department lies in a partnership with our community to address crime in their neighborhoods.



CITY COUNCIL AGENDA REPORT

MEETING DATE: October 16, 2023

TO: City Council Members

FROM: Melissa Eads, City Administrator
Douglas L. White, City Attorney

SUBJECT: Provide Direction to Staff regarding the Use of Remote Meeting Attendance Platforms such as Zoom at City Council Meetings.

RECOMMENDATION:

Provide direction to staff regarding the use of Zoom or other similar remote meeting attendance platforms during City Council meetings. To ensure that City Council meetings are not unduly interrupted, City staff recommends that the use of Zoom or other remote meeting attendance platforms be limited to City staff and consultants attending a City Council meeting remotely, and not be allowed for public comment via Zoom unless a City Council member is participating in the meeting via Zoom.

BACKGROUND:

Recently, there has been an increase in instances of members of the public anonymously interrupting city council meetings through virtual attendance platforms such as Zoom. Currently, the City of Sonora ("City") allows public participation in City Council meetings via Zoom at all City Council meetings, whether a City Council member is attending the City Council meeting remotely or not.

DISCUSSION / ANALYSIS:

The Brown Act is California's statutory "open meetings" requirement, focused on providing transparency at the local government level. The Brown Act requires, among other obligations, that "legislative bodies," a category that encompasses city councils, include in "[e]very agenda for regular meetings...an opportunity for members of the public to directly address the legislative body on any item of interest to the public, before or during the legislative body's consideration of the item, that is within the subject matter jurisdiction of the legislative body," as well as an opportunity to comment during special meetings.¹

The Brown Act also requires that all regular and special meetings be held in the physical presence of the public, with limited exceptions.² During the height of the COVID-19 pandemic, AB 361 allowed for meetings to be held entirely virtually.³ Under the provisions of AB 361, virtual meetings were required to permit live public comment via the internet.⁴ AB 361 became inactive in February of 2023 when the State of Emergency associated with the COVID-19 pandemic expired. Since the expiration of AB 361, City Council members have only been allowed to participate in meetings virtually under certain

¹ Gov. Code, § 54954.3.

² Gov. Code, § 54953.

³ Gov. Code, § 54953(e)(1).

⁴ Ibid.

circumstances.⁵ Under the revised Brown Act requirements upon the expiration of AB 361, when a member of the City Council teleconferences into a meeting, the opportunity for public comment must also be available virtually.⁶

At a meeting that all City Council members participate in person, there is no requirement that members of the public be allowed to comment virtually. The Brown Act requires merely that the public be permitted to directly address the City Council, and notes that the “legislative body...may adopt reasonable regulations” for streamlining public comment.⁷

Currently, the City permits public comment in a variety of ways including live comment via Zoom. Because public comment provided via Zoom was not an option for public comment at City Council meetings prior to the COVID-19 pandemic, it would be reasonable regulation to prohibit the public from commenting via Zoom, while allowing participation by City staff and consultants to participate remotely. Limiting public comment via Zoom helps to ensure that City Council meetings are not disrupted in a manner that prevents the City from conducting its business. Remote participation by City staff and consultants allows the City to have staff participation at City Council meetings where staff may be unable to remain at City offices on evenings when City Council meetings occur and saves the City money where consultants would otherwise travel to City Council meetings and charge the City for travel. The requirements for virtual public comment are only triggered if a City Council member participates remotely, and do not apply to City staff or consultants.

The City Council may also consider directing that during times that Zoom or some other remote meeting attendance platform is used, the public would be able to view the meeting via Zoom but would be unable to provide comments. This would allow the public to attend and observe City Council meetings in a remote environment but would address concerns about disruption of City Council meetings via Zoom.

FISCAL IMPACT:

None.

ENVIRONMENTAL:

None.

OPTIONS:

1. Provide direction to staff regarding the use of Zoom or other remote meeting attendance platforms for future City Council meetings.
2. Decline to limit remote participation and continue utilizing Zoom or other remote meeting attendance platforms that has been the City’s practice since the COVID-19 pandemic began.

⁵ Gov. Code, §§ 54953(b), (e).

⁶ Gov. Code, §§ 54953(e), (f).

⁷ Gov. Code, § 54954.3.



CITY COUNCIL AGENDA REPORT

MEETING DATE: October 16, 2023

TO: City Council Members

FROM: Rachelle Kellogg, Community Development Director

SUBJECT: Woods Creek Park Basketball Court – Bid Authorization

RECOMMENDATION

Consideration of authorization to advertise for public bid the Woods Creek Park Basketball Court Project.

DISCUSSION

As shown on the plans the project includes constructing a ½ basketball court in the lawn area adjacent to the public restrooms in Woods Creek Park. The project was included in the City's approved grant application under the 2018 Parks Bond Act Per Capita Program. The City Engineer's Estimate for the project is \$84,300. The amount of grant funds available is \$168,000. The balance of the grant funds will be used, as included in the approved grant application, to resurface the playground area, replace damaged playground equipment and reconstruct a shade structure.

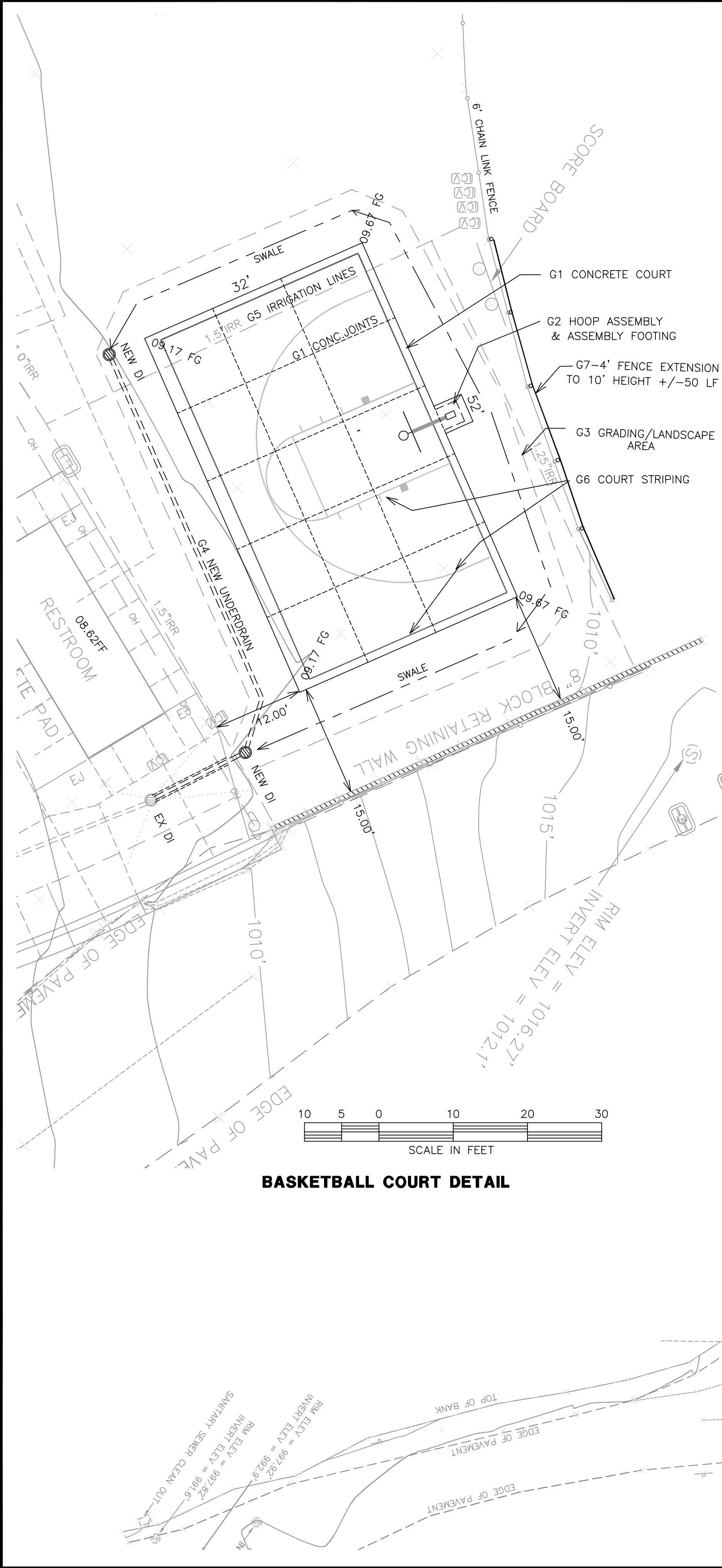
FISCAL IMPACT

The costs for this project is included in the Fiscal Year 2023-2024 Budget City Council approved budget. No City General Funds are allocated to this project.

ATTACHMENTS

- 1) Final Approved Project Plan
- 2) Engineers Estimate

PROJECT ENGINEER	DATE	DESIGN ENGINEER	DATE	APPROVAL RECOMMENDED BY	DATE
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GENERAL NOTES/SPECIFICATIONS

- Concrete Basketball court to be 52' X 32' X 5" thick concrete reinforced with #4 rebar at 12" both ways and placed over 6" of 3/4" Class 2 Caltrans Aggregate Base compacted to 95% Relative Compaction.

A. Concrete work and materials shall be in accordance with Caltrans Standard Specifications 2018 Sections 51, 73, and 90.. Concrete shall be of a design mix with a 28 day strength of 3500 psi based upon a proven cylinder brake history, and shall be provided with admixtures to improve workability, reduce shrinkage, and with a high sand to aggregate ratio to support the special finish, as indicated below.

B. Special finish for the horizontal surfaces of the court area shall be an evenly gray colored light sand wash finish produced by washing and brushing the finished surface after using a cure retarder such as Top-Cast or Lithocast. Sand wash process shall be as recommended by the retarder manufacturers specifications for a light sandblast finish of even gray color. After the sand wash finish process, the slab shall be cured in accordance with the manufacturers recommendations. The special finish shall be pre-tested with at least two 24" x 24" samples approved by the Engineer prior to application on the project.

C. Reinforcement to shall be ASTM, A615 Grade 60. In the 5" slab, all rebar shall be supported by to be 2" clear of the base or subgrade surface.

D. After finishing of the court concrete surface, crack control joints of 1/4" wide x 1" deep shall be concrete sawcut into the court surface on a 10' to 12' pattern as indicated in the Basketball Court Detail. After concrete cure, these crack control joints shall be filled to a flush surface with a flexible epoxy joint sealer gray in color.

2. The Basketball Hoop Assembly shall be a pro style heavy duty hoop assembly as commercially provided by Mega-Slam, Pro-Dunk or other commercial manufacturers, and with the following characteristics.

A. Backboard to be a rust resistant 72" x 42" backboard with heavy duty rustproof perforated aluminum or steel backboard, with an inground heavy duty rust resistant column with a 5' backboard offset at 10' hoop height, and adjustable in height to 6'. Manufacturer to include a heavy duty base plate and 6 anchor bolts with an adjustable column angle. Assembly to include a pro hoop, padded column and backboard pads and assembly instructions. A submittal of the product brochure shall be submitted and approved the Engineer prior to ordering.

B. The Hoop Assembly Footing shall consist of a minimum 36" X 36" concrete column footing which will extent to 4'-6" below the finish grade of the court. The footing will be capped with a 4' x4' x 6" concrete slab which would be poured with and tied into the court slab. The slab and footing would be reinforced with #4 @ 12" rebar both ways and for both horizontal vertical directions in the footing, as well as the hoop assembly manufacturers recommendations for extension of the anchors bolts for the assembly. The footing for the assembly shall be excavated and poured prior to the court slab and after inspection by the Engineer. The may be some adjustments made for soil and rock conditions.

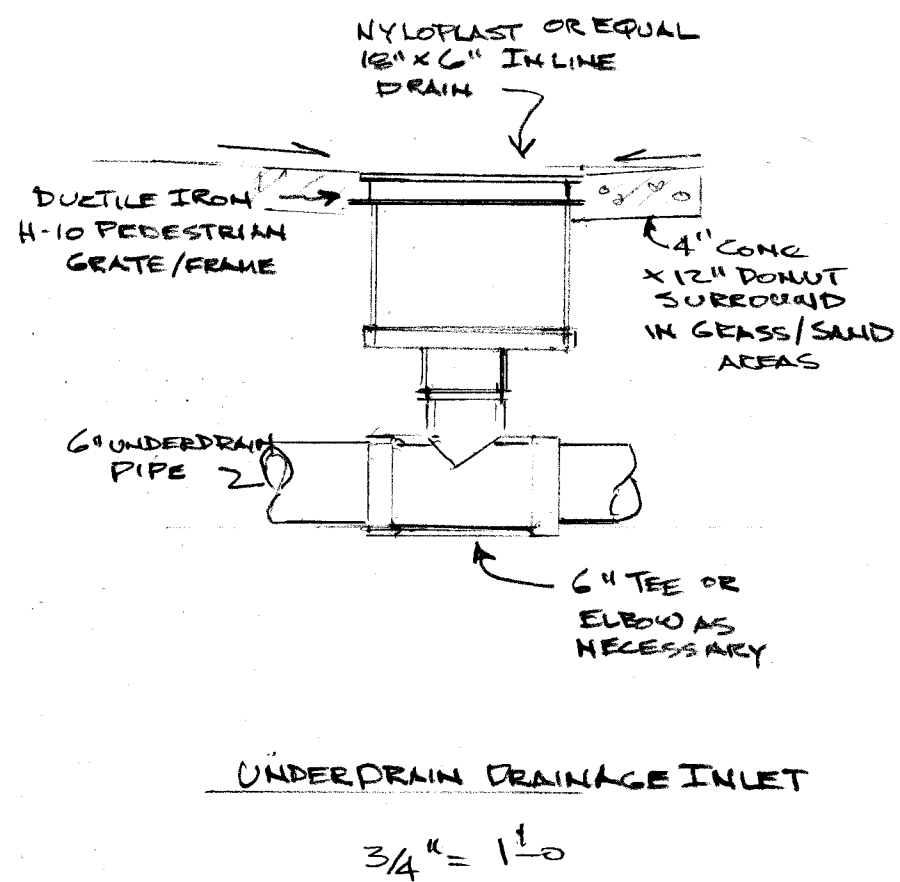
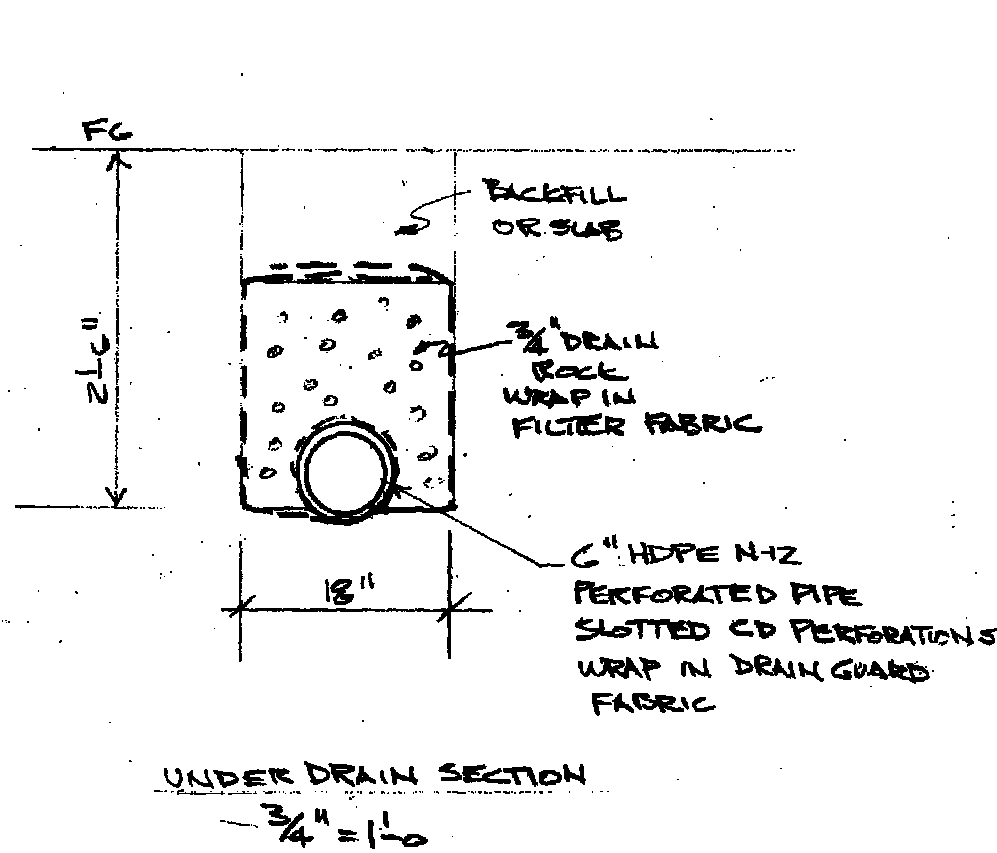
3. Grading/Landscaping. The site and existing lawn area to be graded and removed shall be a minimum of 7' outside of the court periphery show in the detail plan. Grades shown on the plan are approximate and may be adjusted by the Engineer. It is intended the edge of the court be 2" above existing grade and the finish grade of the replaced lawn area slope slightly to the swale lines to drain away from the court slab. The site should be excavated to 6" below the court slab for installation of the court. After poring of the court, the edge of the court to the swale line should be backfilled with aggregate to about 3" below the court so that some soil and grass sod can be installed to the top of the court slab and drain to the swale line. Provide submittals for the replacement grass sod for approval of the Engineer prior to ordering.

4. New Underdrain. Install new underdrain and drainage inlets in accordance to details shown on the plan. Sawcut existing concrete slab to tie into existing drain and patch concrete to match existing concrete walkway.

5. Irrigation Lines. Locate all irrigation lines in the vicinity of the court . Relocate existing 1.5" line around court slab with 1.5" Schedule 40 PVC. Shut off irrigation onto work area during construction. Adjust irrigation to not spray on court after construction.

6. Court Striping to be 2" wide acrylic paint (white) over an acrylic primer to a high school template for a half court. Include edge and limit lines.

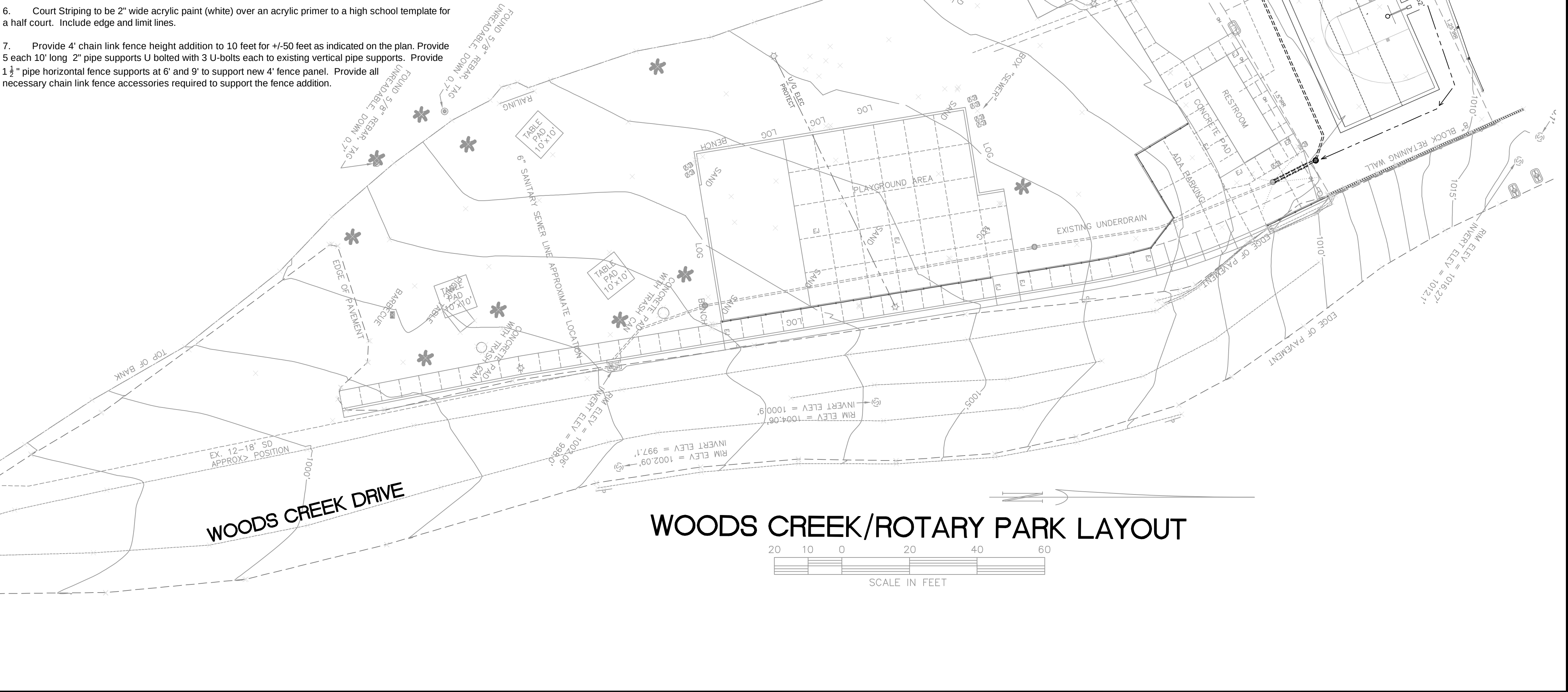
7. Provide 4' chain link fence height addition to 10 feet for +/-50 feet as indicated on the plan. Provide 5 each 10' long 2" pipe supports U bolted with 3 U-bolts each to existing vertical pipe supports. Provide 1 1/2" pipe horizontal fence supports at 6' and 9' to support new 4' fence panel. Provide all necessary chain link fence accessories required to support the fence addition.



DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
SON.	TUO	CITY PARK		1	1

GERARD J. FUCCILLO
CITY ENGINEER
RCE 22007
10/06/2023

CITY OF SONORA
94 SOUTH WASHINGTON STREET
SONORA, CALIFORNIA 95370
WOODS CREEK/ROTARY PARK BASKETBALL COURT



ENGINEERS ESTIMATE

Item 9.

ITEM NO	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	EXTENSION
1	GENERAL REQUIREMENTS/MOBILIZATION	1	LS	\$ 5,000.00	\$ 5,000.00
2	EXCAVATION/DISPOSAL 64'X45'X0.75'	80	CY	\$ 50.00	\$ 4,000.00
3	6" CLASS 2 AGGREGATE BASE IN PLACE 40' X 60' X .0.5' @144#/CF	86	TON	\$ 75.00	\$ 6,450.00
4	5" CONCRETE COURT SLAB -REINFORCED 32' X 52' +4X4	1680	SF	\$ 16.00	\$ 26,880.00
5	BASKETBALL HOOP ASSEMBLY DELIVERED	1	LS	\$ 5,000.00	\$ 5,000.00
6	HOOP ASSEMBLY FOUNDATION/ SETUP	1	LS	\$ 5,000.00	\$ 5,000.00
7	COURT STRIPING	1	LS	\$ 2,000.00	\$ 2,000.00
8	RELOCATE IIRRIGATION LINES	1	LS	\$ 1,000.00	\$ 1,000.00
9	6" UNDERDRAIN W/BACKFILL/CONC	143	LF	\$ 20.00	\$ 2,860.00
10	UNDERDRAIN DRAINAGE INLET	2	EA	\$ 1,200.00	\$ 2,400.00
11	BACKFILL/LANDSCAPING/SOD 7' - 8' AROUND COURT	1450	SF	\$ 3.00	\$ 4,350.00
12	CHAIN LINK FENCE 4' ADDITION	50	LF	\$ 50.00	\$ 2,500.00
=====					
LUMP SUM TOTAL EXTENSION		1	LS	\$	67,440.00
CONTINGENCY IN BIDDING (25%)				\$	16,860.00
=====					
TOTAL ESTIMATE				\$	84,300.00

FOR BIDDING, QUANTITIES SHOWN ABOVE SHALL BE CONSIDERED FINAL PAY QUANTITIES



Gerard J. Fucillo

10/06/2023



CITY COUNCIL AGENDA REPORT

MEETING DATE: October 16, 2023

TO: City Council Members

FROM: Chris Gorsky, Administrative Services Director

SUBJECT: Administrative Services Department Report for August 2023

RECOMMENDATION

Receive the Administrative Services Department Report for August 2023 (FY23/24).

DISCUSSION



The Administrative Services Department provides a wide range of comprehensive support services which include: accounting, finance administration and reporting, budgeting, audit, compliance, treasury management, payroll, human resources, recruitments, accounts receivable, local tax collection, accounts payable, procurements, business license management, risk management, information technology for the City.

Monthly Report to the City Council

August 2023

Highlights of General Fund Revenues:

	Current Period	YTD	FY22/23 Budget	% of Budget
Property Tax	\$ 18,971	\$ 23,540	\$ 1,205,000	2.0%
Sales Tax	\$ 299,017	\$ 606,195	\$ 3,355,600	18.1%
Measure Y	\$ 275,792	\$ 870,705	\$ 3,800,000	22.9%
Transient Occupancy Tax	\$ 41,863	\$ 93,794	\$ 600,000	15.6%
Cannabis Public Benefit Fees	\$ 64,416	\$ 64,416	\$ 605,000	10.6%
Building Permits	\$ 11,385	\$ 20,472	\$ 130,000	15.7%
Business Licenses	\$ 1,218	\$ 2,961	\$ 126,900	2.3%

Highlights of General Fund Expenditures:

	Current Period	YTD	FY22/23 Budget	% of Budget
Salaries and Benefits	\$ 484,052	\$ 1,082,830	\$ 7,380,850	14.7%
Operating Expenditures	\$ 178,532	\$ 470,215	\$ 3,057,600	15.4%
Transfers	\$ -	\$ -	\$ 185,000	0.0%

Total Number of Checks/DD Processed:

A/P	YTD	H/R	YTD
233	494	91	273

Business License Activity:

Licenses Issued

Current Month Zone A	Current Month Zone B	YTD Zone A	YTD Zone B
0	15	1	31



CITY COUNCIL AGENDA REPORT

MEETING DATE: October 16, 2023

TO: City Council Members

FROM: Aimee New, Fire Chief

SUBJECT: Fire Department Monthly Report – September 2023

RECOMMENDATION

Fire Department Monthly Report – September 2023

DISCUSSION

Fire Department Monthly Report – September 2023

FISCAL IMPACT

N/A

1. City of Sonora Fire Department responded to 173 calls for service in September 2023.
2. Sonora City Units responded to emergency calls as follows:

131 - Passenger vehicle fire	1
142 - Brush or brush-and-grass mixture fire	1
311 - Medical assist, assist EMS crew	28
321 - EMS call, excluding vehicle accident with injury	79
322 - Motor vehicle accident with injuries	1
324 - Motor vehicle accident with no injuries.	3
412 - Gas leak (natural gas or LPG)	2
462 - Aircraft standby	1
500 - Service Call, other	1
510 - Person in distress, other	6
531 - Smoke or odor removal	1
551 - Assist police or other governmental agency	1
553 - Public service	6
554 - Assist invalid	2
611 - Dispatched & cancelled en route	24
622 - No incident found on arrival at dispatch address	2
651 - Smoke scare, odor of smoke	5
700 - False alarm or false call, other	1
730 - System malfunction, other	2
733 - Smoke detector activation due to malfunction	1
735 - Alarm system sounded due to malfunction	3
736 - CO detector activation due to malfunction	1

740 - Unintentional transmission of alarm, other	1
Total:	173

- 3. Monthly dollar loss in the City, resulting from fire: 0
- 4. The average response time during the month: 4:35
- 5. Automatic or mutual aid given: 55



CITY COUNCIL AGENDA REPORT

MEETING DATE: October 16, 2023

TO: City Council Members

FROM: Turu VanderWiel, Chief of Police

SUBJECT: MONTHLY REPORT – SONORA POLICE DEPARTMENT

RECOMMENDATION

Receive the Sonora Police Department monthly report for September 2023.

DISCUSSION

The attached summarizes activities for September 2023.

	Sept 2023	Aug 2023	Sept 2022
Total Incidents	1,269	1,160	1,215
Calls for Service	832	753	802
Officer Initiated	437	407	413
Total Arrests	47	35	55
Felony Arrests	7	12	12
Misd. Arrests	40	23	43
Total Reports	129	117	122
Parking Citations	26	8	7
Moving Citations	8	24	10
Domestic Violence	4	5	6
Larceny Invest.	8	6	15
Total Collisions	28	27	33
Collision Invest.	17	13	13

	August 2023	Aug 2023	Sep 2022
Homeless Activity	118/26	128/20	118
Animal Calls	40	46	28
Public Intox. / UID	9	6	2
DUI Arrests	8	2	-----
Total Phone Calls / 911 Calls	2,374/347	-----	2,352
Average Per Day	79	-----	78
Vehicle Releases	10	5	4

*Homeless Activity tracking requires additional manual inputs; the actual number of associated incidents will typically be higher than the reported number.

*The Larceny Investigation category reflects only those incidents where an investigation is conducted and a case report is generated. The actual number of larcenies is considerably higher.

FISCAL IMPACT

There is no fiscal impact on the General Fund

Crimes by Area Monthly Report
September 1, 2023 – September 30, 2023

Area 1 Reports:

Violent Crimes:

- 2 – Misdemeanor Domestic Battery
- 1 – Misdemeanor Oral Copulation including intimate touching against will
- 1 – Misdemeanor Assault with a Weapon, other than a firearm
- 1 – Misdemeanor Brandishing of a Weapon, other than a firearm

Burglaries / Other Larceny:

- 1 – Felony Vehicle Theft including a misdemeanor vehicle tampering and subsequent recovery of the stolen vehicle
- 1 – Felony Business Burglary, including vandalism
- 3 – Misdemeanor Business Burglaries (Shoplifting)
- 2 – Misdemeanor Petty Theft from a Business Location

Area 2 Reports

Violent Crimes:

- 2 – Felony Domestic Violence
 - (one including a misdemeanor violation of a domestic violence order)
 - (one including a misdemeanor battery)
- 1 – Felony Child Endangerment
- 1 – Felony Assault on a Person likely to cause Great Bodily Injury
- 1 – Misdemeanor Battery on a Police Officer
- 1 – Misdemeanor Assault on a Person

Burglaries / Other Larceny:

- 1 – Misdemeanor Business Burglary (Shoplifting)

Area 1 Monthly Report September 2023

Neighborhood Watch:

ELKS HILL:

- No updated activity.

SONORA KNOWLES:

- No updated activity.

Cases For discussion:

23-966- On 9/1/23, Officers were dispatched to a possible DUI vehicle collision on N. Stewart Street and Elkin Street. A Sergeant identified and contacted the driver who was later determined to be DUI. The driver, 32 year old Dawn Taylor out of Columbia, resisted arrest, spit and kicked at an Officer and Sergeant. Taylor was arrested for DUI, resisting arrest, and battery on Peace Officers.

23-1078- On 9/26/23, A Corporal identified two transients who appeared to be under the influence of a controlled substance in a city park. The transients were identified as 43 year old Matthew Harrison and 30 year old Zachary Lopez-Dominguez, both from Sonora. The Corporal located fentanyl, drug paraphernalia, an illegal firework, and open container of an alcoholic beverage. Harrison and Lopez-Dominguez were arrested for being under the influence of a controlled substance, possession of drugs and drug paraphernalia, and Harrison additionally for the open container and firework.

Recruitments:

- 4 Full-time Police Officers
- 1 Full-time Dispatcher
- 1 Part-time Dispatcher
- 1 Full-time Community Service Officer

Training:

- One Sergeant attended Internal Affairs Investigation training
- One Dispatcher attended a three week Basic Dispatcher Academy
- One Corporal attended a two week ICI Core investigations course
- One Corporal attended Narco Safety and Emerging Drug Trends training
- One Recruit started a POST Basic Intensive Police Academy

Range:

- No Range training was scheduled for the month of September.

Respectfully Submitted,
Sgt. Chris Johnson

Area 2 Monthly Report September 2023

Neighborhood Watch:

MYERS HILL:

- No updated activity

NORTH STEWART:

- No updated activity.

HIGHLAND VIEW:

- No updated activity

Case(s) for discussion:

23-1063-On 09-23-2023, at approximately 10:21 p.m., Sonora PD officers were dispatched to Twilight Court for a report of a verbal altercation between a male and female. Once Officers arrived on scene, the male suspect fled the residence on foot and was alleged to be in possession of a handgun. A perimeter was formed around the home and the suspect was contacted via the telephone. After speaking with the suspect for several minutes, he turned himself in. The suspect was booked for felony domestic violence, felon in possession of a firearm, violation of a restraining order, and a probation violation.

23-1017-On 09/15/2023, at approximately 2:00 a.m., Sonora PD officers were dispatched to the downtown area concerning an assault with a deadly weapon. A male suspect struck another male on the head with a silver, collapsible baton. The victim suffered a small laceration on his forehead, which required 4 stitches to close. The suspect fled the scene and has not yet been identified.

Field Training Program:

- One reserve Officer has completed the Field Training Program

Investigations:

- Corporal Brickley completed the Robert Presley Institute of Criminal Investigation (ICI) course, which provides detectives with advanced training and skills for investigating serious crimes.

Property and Evidence:

- No updated activity

Fleet:

- No updated activity

Reserves/Volunteers:

- One new CSV application has been received and will be moved into the background process.

Respectfully Submitted,
Sgt. Eric Nygard



CITY COUNCIL AGENDA REPORT

MEETING DATE: October 16, 2023

TO: City Council Members

FROM: Melissa Eads, City Administrator

SUBJECT: Sonora Public Works Department Monthly Report for September 2023

RECOMMENDATION

Receive the Sonora Public Works Department monthly report for September 2023.

DISCUSSION

For the month of September 2023, the City of Sonora Public Works Department performed the following activities:

Events

- Placed banners above Washington Street for upcoming events.
- Staged barricades and signage for road closures prior to the Homecoming Parade.
- Assisted Sonora Police Department with road closures during the Parade.

Streets

- Continued, and completed painting of street markings throughout the City.
- Pruned several trees on Barretta Street.
- Spent numerous days hot patching several areas throughout the City.
- Spent several days potholing City Streets.
- Loaded, and hauled three pay piles throughout the City.
- Returned numerous shopping carts to businesses abandoned on City Streets.
- Continued pressure-washing sidewalks, and trashcans around downtown.
- Pressure-washed block wall on Green Street and Barretta Street.
- Repaired a section of railing on Mono Way near General Supply.
- Removed asphalt in gutter pan preventing proper drainage on Stewart Street.
- Made repairs to the sidewalk on Green Street.
- Removed a portion of the damaged railing on Mono Way near McDonalds.
- Installed a new railing on Greenley Road near the car wash to prevent vehicles from driving off the edge.

Facilities

- Installed a new boot scraper at the Police Department.

Parks/Landscapes/Parking Lots

- Removed graffiti at Rotary Park.
- Removed graffiti in the Terzich Parking Structure.
- Monthly inspection of playground equipment at Rotary Park.
- Pruned the trees in the Fire Museum landscape.

Storm Drains

- Spent numerous days digging out hundreds of storm drain inlets, and outlets.

Cemeteries

- Performed annual weed spraying at Mountain Shadow.
- Daily – Check of messages at Mountain Shadow, and return calls as needed.
- Daily – Cleaning of irrigation filters during irrigation season.
- Marked out plots as requested by Funeral Home as needed.
- Set headstones as requested by Funeral Home.
- Mowed and edged lawns weekly during spring and summer months.
- Made repairs to the irrigation system.

Miscellaneous

- Daily – Unlock, and service all public restrooms.
- Garbage collection twice a week in all City parking lots, landscapes, and parks.
- Monthly fleet vehicle inspections.
- Twice weekly – Run the street sweeper on a rotating street schedule throughout the City.
- Put out Farmers Market no parking signs weekly.

FISCAL IMPACT

No fiscal impact to the General Fund.