CITY OF SOUTH PORTLAND

CAPITAL IMPROVEMENT PROGRAM
FISCAL YEAR 2022

CASH CORNER FIRE STATION
RENDERING FURNISHED BY SEBAGO TECHNICS

Presented by

Scott T. Morelli
City Manager

City of South Portland

March 15, 2021

CITY OF SOUTH PORTLAND

Capital Improvement Program

FY 2022

City Council

Misha C. Pride, Mayor
Katelyn S. Bruzgo
April L. Caricchio
Deqa Dhalac
Susan J. Henderson
Jocelyn E. Leighton
Katherine W. Lewis

City Manager

Scott T. Morelli

March 15, 2021

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March 15, 2021

South Portland City Councilors
City of South Portland
25 Cottage Road
South Portland, ME 04106

Re: FY 2022 to FY 2028 Capital Improvement Program

Dear Mayor Pride and City Councilors:

In accordance with §502, §514, and §515 of the City Charter, I am submitting the fiscal years 2022 - 2028 (FY22-28) Capital Improvement Program (CIP) for the City of South Portland.

A CIP establishes the funding priorities for capital investments in a community. In South Portland, our CIP serves as a roadmap for projects not just in the upcoming fiscal year, but also for an additional six years out. Our CIP guides investments in safe and efficient road and transportation systems; capital-intensive environmental infrastructure projects, such as wastewater collection and treatment facilities; and public safety equipment through a planned and continuous investment program. The CIP also establishes a plan to purchase, construct, and maintain public land and buildings that house educational, governmental, cultural, or recreational activities to serve our citizens and students.

For the upcoming fiscal year (FY22), City Council is being asked to approve actual funding for the projects listed herein. For the remaining CIP years (FY23-28), Council is not being asked to commit to funding *per se* but rather to the understanding that these projects (and likely others to be added, especially in years farther out) will require funding and are in a queue to be financed.

Funding Sources
South Portland's CIP is funded via seven different sources:

- General Obligation (GO) Bonds/Lease (long-term debt or leasing)
- Tax Increment Financing (TIF) (public infrastructure fund reserves for eligible capital projects)
- General Fund Reserves (planned savings and investment program contained within the operating budget)
- Other Fund Reserves/Surplus (such as reserves in the sewer user budget, cable franchise capital reserve, etc.)
- Grants (including State and Federal, as well as other private sources)

- Prior Years' CIP Balances and Interest (dollars remaining from previous CIP projects that can be reprogrammed for new capital needs)
- General Fund Fund Balance (funded through the General Fund)

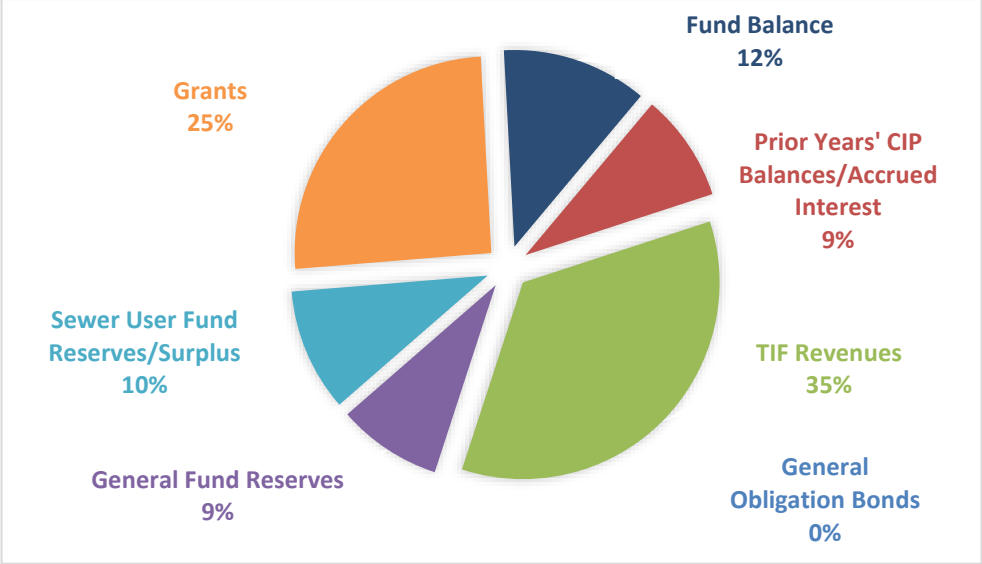
Many of these funds are restricted in their use. For example, TIF funds can only be used for specific purposes that are related to the district and approved by the State of Maine. It is important to understand this when looking at why some items have been funded and others, which may better address a Council goal, have not been.

The FY22 portion of the CIP totals $10,034,641.

Table I
FY 2022 Capital Improvement Program
By Funding Sources

General Obligation Bonds	$0
Prior Years' CIP Balances/Accrued Interest	$888,894
TIF Revenues	$3,512,425
General Fund Reserves	$860,483
Other User Fund Reserves/Surplus (ex. Sewer)	$1,012,866
Grants	$2,559,973
Franchise	$0
Fund Balance	$1,200,000
Total	**$10,034,641**

Chart I
FY 2022 Capital Improvement Program
By Funding Sources



Functional Areas

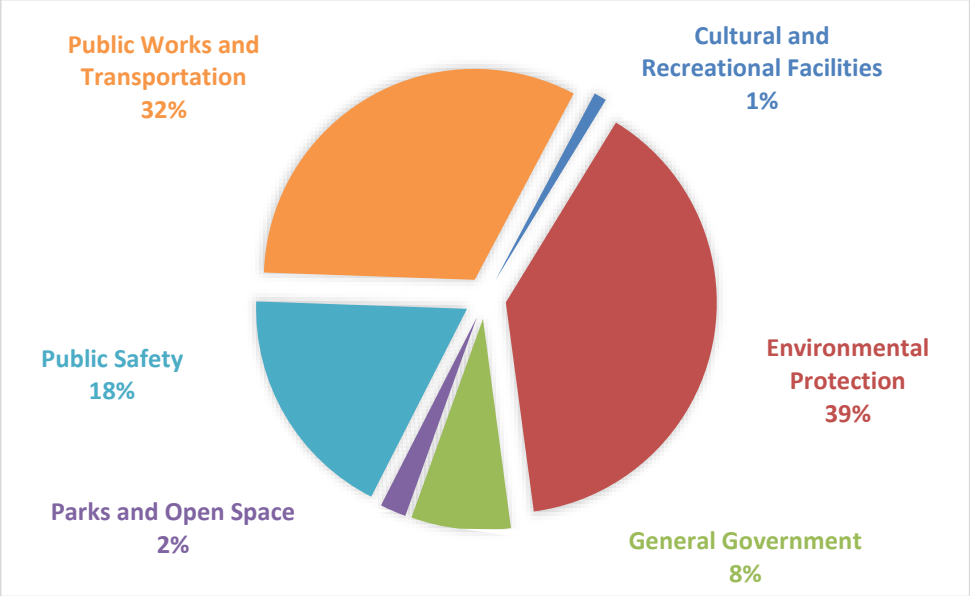
There are six functional areas within the CIP and each project falls within one of these areas. Placing projects in the areas is useful to help better understand where money is being spent to help ensure that the investments align with the Council's goals and vision. The FY22 CIP funds 41

projects within these functional areas, as further detailed in Table II and Chart II below. As you will note, the Environmental Protection and Public Works and Transportation categories are slated to receive a preponderance of the funding in FY22.

Table II
FY 2022 Capital Improvement Program
By Functional Area

Cultural and Recreational Facilities	$96,850
Environmental Protection	$3,923,296
General Government	$764,190
Parks and Open Space	$200,438
Public Safety	$1,809,575
Public Works and Transportation	$3,240,292
Total	**$10,034,641**

Chart II
FY 2022 Capital Improvement Program
By Functional Area



Below you will find a listing of the projects within each of the six functional areas.

Cultural and Recreational Facilities
The proposed seven-year Capital Improvement Plan includes an investment of $4,638,450 for these types of projects. FY22 includes the following projects totaling $96,850:

Table III
FY 2022 Cultural and Recreational Facilities
Capital Improvement Projects

Main Library – Building Assessment	$ 30,000	Fund Balance
Recreation – Redbank Community Garden Project	$ 66,850	Grants ($51,850), Other Fund Reserves ($5,000), & Fund Balance ($10,000)
Total Cultural and Recreational Facilities	**$ 96,850**	

Environmental Protection
One of the most important obligations of a City is its role in environmental stewardship to protect the health and safety of its residents, protect its natural environment, and meet the obligations of state and federal environmental law. The City Council has committed significant resources recently to meet this obligation.

The proposed seven-year Capital Improvement Plan continues this commitment, with an investment of $13,553,868 for Environmental Protection projects, all of which are accomplished through the Water Resource Protection (WRP) department.

FY22 includes the following Environmental Protection projects totaling $3,923,296:

Table IV
FY 2022 Environmental Protection
Capital Improvement Projects

Water Resource Protection – Main Pump Station Force Main	$ 90,592	Sewer User Fund Reserves
Water Resource Protection – Holding Tank Blower Replacement	$ 22,500	Sewer User Fund Reserves
Water Resource Protection – Secondary Splitter Upgrade	$ 158,000	Sewer User Fund Reserves
Water Resource Protection – Western Ave Generator Replacement	$ 55,000	Sewer User Fund Reserves
Water Resource Protection – Aeration Train 2 Upgrade	$ 298,200	Sewer User Fund Reserves
Water Resource Protection – Meeting House Hill Utility Improvements Phase 1	$ 2,992,425	Sewer User Fund Reserves
Water Resource Protection – Sewer Lining	$ 200,000	Sewer User Fund Reserves
Water Resource Protection – Electrical Van	$ 52,141	Sewer User Fund Reserves
Water Resource Protection – Service Van	$ 54,438	Sewer User Fund Reserves
Total Environmental Protection	**$ 3,923,296**	

General Government
This functional area includes municipal buildings, equipment, and technology investments across all municipal departments. The proposed seven-year CIP includes an investment of $54,860,190 for these types of expenditures.

The first year of the CIP (FY22) includes the following General Government projects totaling $764,190:

Table V
FY 2022 General Government
Capital Improvement Projects

Executive – Brownfields	$ 120,000	TIF Reserves
Economic Development – Wayfinding Signs (Phase Two)	$ 25,000	TIF Reserves
Economic Development/Finance/Information Services – Community Broadband Network	$ 410,000	TIF Reserves ($350,000), Prior CIP ($60,000)
Information Systems – Computer Reserve	$ 70,000	Fund Balance
Planning & Development – Comprehensive Plan	$ 66,190	Fund Balance ($10,000), Prior CIP ($56,190)
Code Enforcement – Filing System	$ 48,000	Fund Balance
Total General Government	**$ 764,190**	

Parks and Open Space
Historically, taxpayers have made a substantial commitment to provide parks and open space for future generations of this City. With steady growth in residential and commercial development, it is important to continue to enhance the livability and quality of life for our residents by providing access to nature through the development of urban parks and open space.

The proposed CIP includes an investment of $2,962,419 for Parks and Open Space projects over the next seven years. FY22 includes the following projects totaling $200,438:

Table VI
FY 2022 Parks and Open Space
Capital Improvement Projects

Parks – School Street Playground Replacement	$ 97,438	Grants ($87,694), Fund Balance ($9,744)
Parks – One-half Ton Truck Replacement	$ 28,000	Fund Balance ($21,443), Prior CIP ($6,557)

Parks/Golf – 4100D Outfront Mower (Tier 4 Emissions) – Replacement	$ 75,000	Fund Balance
Total Parks and Open Space	**$ 200,438**	

Public Safety

The proposed seven-year CIP includes an investment of $20,779,525 for Public Safety buildings and equipment. FY22 includes nine Public Safety projects totaling $1,809,575:

Table VII
FY 2022 Public Safety
Capital Improvement Projects

Fire – Ladder 42 (and Engine 42) 2nd Quint Purchase	$ 1,300,000	Prior CIP ($502,500), GF Reserves ($660,000), Fund Balance ($127,500)
Fire – Defibrillator	$ 36,000	Prior CIP ($5,000), GF Reserves ($21,000), Grants ($10,000)
Fire – Command Vehicle (Car 45)	$ 49,500	Prior CIP
Police – Regional Crime Lab	$ 12,000	Fund Balance
Police – Taser Replacement	$ 41,760	Prior CIP ($21,065), Fund Balance ($20,695)
Police – Body Armor Replacement	$ 24,750	GF Reserves ($12,375), Grants ($12,375)
Police – Portable Radio Replacement	$ 227,500	Fund Balance
Police – AED Equipment Replacement	$ 8,000	Fund Balance
Police – Vehicle Camera Replacement	$ 75,000	Fund Balance
Police – Radar Equipment Replacement	$ 11,065	Fund Balance
Police – Digital Storage (for body-worn and in-car video)	$ 24,000	Fund Balance
Total Public Safety	**$ 1,809,575**	

Public Works and Transportation

The final major functional area is Public Works and Transportation. This includes programs and activities of the Public Works, Planning and Development, and Bus Service Departments. The

proposed seven-year CIP includes an investment of $22,198,792 for Public Works and Transportation projects. FY22 includes the following projects totaling $3,240,292:

Table VIII
FY 2022 Public Works and Transportation
Capital Improvement Project

Planning & Development – Crosstown Road Environmental Permitting	$ 10,000	Fund Balance
Transportation – Transit Stop Access Project	$ 315,000	Prior CIP ($14,500), Grants ($252,000), Fund Balance ($48,500)
Transportation – Transit Bus Purchase	$ 1,500,000	Prior CIP ($74,843), GF Reserves ($138,608), Other Reserves ($76,995), Grants ($1,209,554)
Transportation – Transit Signal Priority	$ 151,000	Grants
Public Works – MSF Exterior Improvements	$ 14,980	Prior CIP
Public Works – Landfill Venting System	$ 213,000	Prior CIP ($30,000), Grants ($170,000), Fund Balance ($13,000)
Public Works – Loader	$ 260,000	Grants
Public Works – Two Single-Axle Plow Trucks	$ 404,000	Prior CIP ($20,000), GF Reserves ($28,500), Grants ($355,500)
Public Works – Sidewalk Plow	$ 157,000	Prior CIP ($28,500), Fund Balance ($128,500)
Public Works – Sidewalk Program	$ 215,312	Prior CIP ($5,259), Fund

		Balance ($210,053)
Total Public Works and Transportation	**$ 3,240,292**	

Intersection with Council Goals

Although the overall CIP is a seven-year plan, it is the FY22 portion that Council is committing to fund for the upcoming year. Numerous Council goals (as discussed at your February 23, 2021 workshop though yet to be formally approved) have been addressed in the FY22 CIP, including:

- Redbank Community Garden Project – Goal #1: Actively Address the Climate Crisis
- Brownfields – Goal #1: Actively Address the Climate Crisis
- Community Broadband – Goal #4: Support Public Health & Human Services
- Supplemental Funding – Comprehensive Plan – Goal #1: Actively Address the Climate Crisis AND Goal #3: Keep Housing Affordable and Available
- School Street Playground Replacement – Goal #4: Support Public Health & Human Services
- 4100D Outfront Mower (Tier 4 Emissions) – Goal #1: Actively Address the Climate Crisis
- Transit Stop Access Project – Goal #1: Actively Address the Climate Crisis
- Transit Bus Purchase – Goal #1: Actively Address the Climate Crisis
- Landfill Venting System – Goal #1: Actively Address the Climate Crisis

In addition, virtually all of the items for Water Resource Protection address Goal #1: Actively Address the Climate Crisis.

Unfunded Requests

This budget utilizes $1,200,000 in undesignated fund balance to either partially or wholly fund 21 of the 41 CIP items in FY22. This leaves our available undesignated fund balance at approximately 10.5% of our overall budget, which is within our policy range of 8 – 12%. In order to remain at that level, a number of requested projects were unable to be included in the FY22 plan. (Some projects were also not funded due to insufficient funds in various reserve accounts, etc.) See Table IX.

Table IX
FY 2022 Unfunded
Capital Improvement Projects

Main Library – Heating Controls	$ 28,500
Branch Library – Bridge Rehabilitation	$ 50,000
Main Library – Electrical Upgrades	$ 175,000
City Clerk – Translation Services	$ 10,000
City Clerk – Upgrade City Website & Hosting Platform	$ 75,000
Information Systems – Document Archiving Solutions	$ 22,000

Parks and Open Space – Land Bank	$ 35,000
Planning & Development – Historic Designation Assessment	$ 12,000
Planning & Development – File Digitization	$ 32,000
Parks – Fence Replacement Along the Greenbelt in Pleasantdale	$ 12,500
Fire – Foam Pumper Engine #46	$ 600,000
Fire – Standard Coverage of Strategic Plan Study	$ 38,000
Fire – Repair Western Ave. Floor	$ 50,000
Police – Service Truck (Maintenance/Snow Plow/SU Transportation)	$ 50,000
Police – Stress Reduction Equipment	$ 4,050
Police – Motorcycle Replacement	$ 20,000
Police – Digital Archive System	$ 15,000
Public Works – Pavement Roller	$ 43,500
Parks – Multi Pro 5800 Foam Sprayer	$ 55,000
Total of Unfunded FY22 Projects	**$ 1,327,550**

These items have been moved to the FY23 CIP so that they may be reconsidered during next year's budget process. Some of these projects may also be able to be funded with surplus funds within a department's operating budget at the end of FY22.

FY22-28 CIP

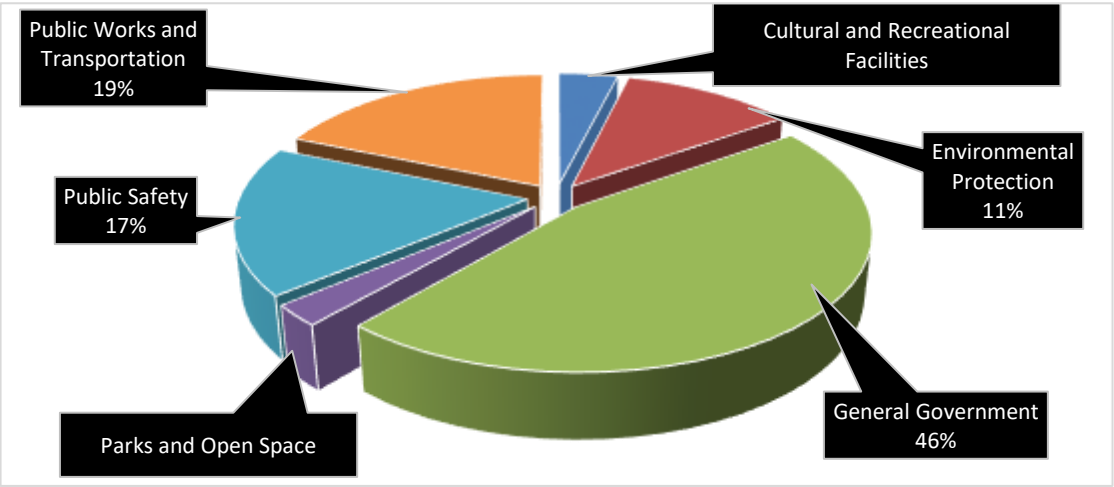
The long-range CIP contemplates significant funding in the areas of Environmental Protection, General Government, Public Safety, and Public Works and Transportation. It is important to note that the further out a CIP goes, the less accurate it becomes. Therefore, while I have a high level of confidence that the items appearing on the FY23 CIP sheet will closely reflect what is actually requested by departments next year, I have less confidence that the list for FY28 will resemble what Council sees seven years from now. We know, for example, that major, long-term decisions still need to be made about Central Fire and the Police stations, Hamlin School, and even City Hall. In addition, we expect a number of recommendations from current and near-term studies to result in significant capital outlay requests. For example, the Willard Beach Master Plan and Wainwright Master Plan will both result in future CIP requests with large price tags, just to name a few. Therefore, what is included herein is our best understanding of current needs based on available information, but will likely change as these and other plans unfold.

Overall, the seven-year CIP is distributed across major functional areas as follows:

Table X
Distribution of Capital Projects
Across Major Functional Areas
FY 2022 to FY 2028

Cultural and Recreational Facilities	$ 4,638,450
Environmental Protection	$ 13,553,868
General Government	$ 54,860,190
Parks and Open Space	$ 2,962,419
Public Safety	$ 20,779,525
Public Works and Transportation	$22,198,772
Total	**$118,993,244**

Chart X
Distribution of Capital Projects
Across Major Functional Areas
FY 2022 to FY 2028

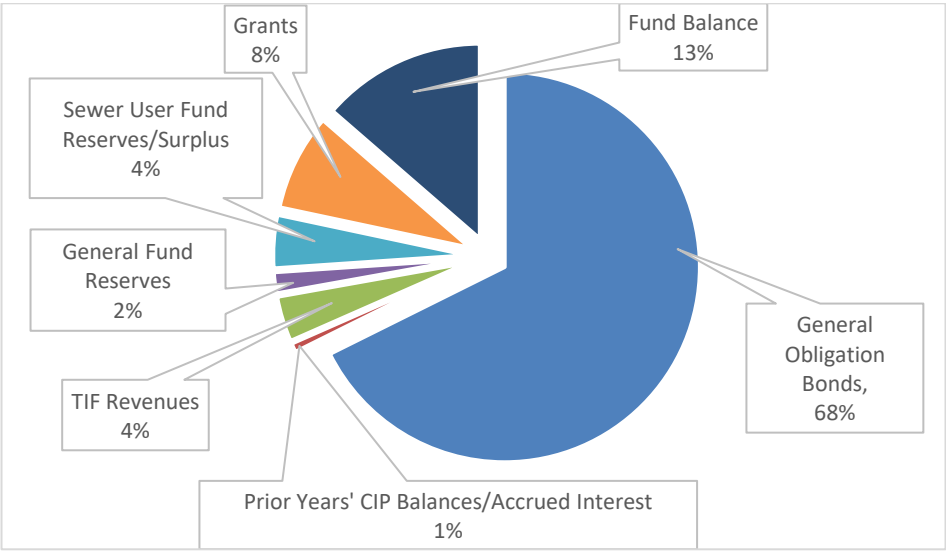


The following table shows the distribution of funding sources proposed to be used to fund this seven-year CIP.

Table XI
Distribution of Funding Sources
For Capital Improvement Spending
FY 2022 to FY 2028

General Obligation Bonds	$80,500,000
Prior Years' CIP Balances/Accrued Interest	$890,894
TIF Revenues	$4,492,425
General Fund Reserves	$2,077,483
Other User Fund Reserves/Surplus	$5,243,438
Grants	$9,574,801
Fund Balance	$16,214,203
Total	**$118,993,244**

Chart XI
Distribution of Funding Sources
For Capital Improvement Spending
FY 2022 to FY 2028



Approximately 68% of the total CIP will be funded with long-term GO bonds through the City's property-tax-supported general fund. Approximately 32% will be funded through non-borrowing sources, including user fees, state or federal grants, TIF revenues, fund balance, prior years' CIP balances/accrued interest, or on a pay-as-you-go basis through the establishment of annual contributions to reserve accounts to fund the replacement of capital infrastructure and equipment.

Educational Capital Program

The School Department has not yet submitted its FY22 CIP for Section V of this Capital Improvement Program. Once this material is received, it will be forwarded to the Council and uploaded to the City's website.

Conclusion

The City Council has approved and/or completed a number of important capital improvement projects to repair, replace, or in some cases expand the quality of public facilities, infrastructure, and equipment that serve our residents, businesses, and visitors. While significant, yet unknown, investments loom large over the next several years, this CIP continues with South Portland's commitment to the health and safety of its inhabitants, and to improving the quality of life for those who call South Portland home.

I would like to thank Finance Director Greg L'Heureux and Controller Jordan Shelburne for the numerous meetings and behind-the-scenes work that was required to transmit this proposal to Council. I would like to give special thanks to Executive Assistant Mary Perry for all her work in gathering, compiling, and organizing all of the CIP information spanning seven years contained herein.

I look forward to presenting this plan for the future to the City Council and the public at the Council meeting on April 6, 2021.

Sincerely,

Scott T. Morelli
City Manager

cc: South Portland School Board (via email only)
Ken Kunin, Superintendent of Schools
Department Heads (via email only)
South Portland Human Rights Commission (via email only)

SECTION I

Seven-year Capital Improvement Program

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Functional Area	CIP Project	Department's Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds/Lease	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
FY 2022 CIP REQUEST										
Cultural and Recreational Facilities	Library -Building Assessment (Main Library)	$ 30,000	$ 30,000							$ 30,000
Cultural and Recreational Facilities	Recreation - Redbank Community Garden Project	$ 66,850	$ 66,850					$ 5,000	$ 51,850	$ 10,000
Environmental Protection	Water Resource Protection - Main Pump Station Force Main	$ 90,592	$ 90,592					$ 90,592		$ -
Environmental Protection	Water Resource Protection - Holding Tank Blower Replacement	$ 22,500	$ 22,500					$ 22,500		$ -
Environmental Protection	Water Resource Protection - Secondary Splitter Upgrade	$ 158,000	$ 158,000					$ 158,000		$ -
Environmental Protection	Water Resource Protection - Western Ave Generator Replacement	$ 55,000	$ 55,000					$ 55,000		$ -
Environmental Protection	Water Resource Protection - Aeration Train 2 Upgrade	$ 298,200	$ 298,200					$ 298,200		$ -
Environmental Protection	Water Resource Protection - Meeting House Hill Utility Improvements Phase 1	$ 2,992,425	$ 2,992,425			$ 2,992,425				$ -
Environmental Protection	Water Resource Protection - Sewer Lining	$ 200,000	$ 200,000					$ 200,000		$ -
Environmental Protection	Water Resource Protection - Electrical Van	$ 52,141	$ 52,141					$ 52,141		$ -
Environmental Protection	Water Resource Protection - Service Van	$ 54,438	$ 54,438					$ 54,438		$ -
General Government	Executive - Brownfields	$ 120,000	$ 120,000			$ 120,000				
General Government	Economic Development - Wayfinding Signs - Phase Two	$ 75,000	$ 50,000			$ 50,000				$ -
General Government	Economic Development - Finance - Information Services - Community Broadband Network	$ 410,000	$ 410,000		$ 60,000	$ 350,000				
General Government	Information Systems - Computer Reserve	$ 50,000	$ 70,000							$ 70,000
General Government	Planning & Development - Comprehensive Plan	$ 10,000	$ 66,190		$ 56,190					$ 10,000
General Government	Code Enforcement - Filing System	$ 48,000	$ 48,000							$ 48,000
Parks and Open Space	Parks - School Street Playground Replacement	$ 97,438	$ 97,438						$ 87,694	$ 9,744
Parks and Open Space	Parks - One-half Ton Truck Replacement	$ 28,000	$ 28,000		$ 6,557					$ 21,443
Public Safety	Fire - Ladder 42 (and Engine 42) 2nd Quint Purchase	$ 1,300,000	$ 1,300,000		$ 502,500		$ 660,000			$ 137,500
Public Safety	Fire - Defibrillator	$ 36,000	$ 36,000		$ 5,000		$ 21,000		$ 10,000	$ -
Public Safety	Fire - Command Vehicle - Car 45	$ 49,500	$ 49,500		$ 49,500					
Public Safety	Police - Regional Crime Lab	$ 12,000	$ 12,000							$ 12,000

Functional Area	CIP Project	Department's Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds/Lease	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
Public Safety	Police - Taser Replacement	$ 41,760	$ 41,760		$ 21,065					$ 20,695
Public Safety	Police - Body Armor Replacement	$ 24,750	$ 24,750				$ 12,375		$ 12,375	$ -
Public Safety	Police - Portable Radio Replacement	$ 227,500	$ 227,500							$ 227,500
Public Safety	Police - AED Equipment Replacement	$ 8,000	$ 8,000							$ 8,000
Public Safety	Police - Vehicle Camera Replacement	$ 75,000	$ 75,000							$ 75,000
Public Safety	Police - Radar Equipment Replacement	$ 11,065	$ 11,065							$ 11,065
Public Safety	Police - Digital Storage (for body-worn and in-car video)	$ 24,000	$ 24,000							$ 24,000
Public Works and Transportation	Planning & Development - Crosstown Road Environmental Permitting	$ 10,000	$ 10,000							$ 10,000
Public Works and Transportation	Transportation - Transit Stop Access Project	$ 315,000	$ 315,000		$ 14,500				$ 252,000	$ 48,500
Public Works and Transportation	Transportation - Transit Bus Purchase	$ 1,500,000	$ 1,500,000		$ 74,843		$ 138,608	$ 76,995	$ 1,209,554	
Public Works and Transportation	Transportation - Transit Signal Priority	$ 151,000	$ 151,000						$ 151,000	
Public Works and Transportation	MSF Exterior Improvements	$ 14,980	$ 14,980		$ 14,980					
Public Works and Transportation	Landfill Venting System	$ 213,000	$ 213,000		$ 30,000				$ 170,000	$ 13,000
Public Works and Transportation	Public Works Loader	$ 260,000	$ 260,000						$ 260,000	
Public Works and Transportation	Public Works - Two Single-Axle Plow Trucks	$ 404,000	$ 404,000		$ 20,000		$ 28,500		$ 355,500	
Public Works and Transportation	Public Works - Sidewalk Plow	$ 157,000	$ 157,000		$ 28,500					$ 128,500
Public Works and Transportation	Public Works - Sidewalk Program	$ 500,000	$ 215,312		$ 5,259					$ 210,053
Parks and Open Space	Parks/Golf - 4100D Outfront Mower (Tier 4 Emissions) - Replacement	$ 75,000	$ 75,000							$ 75,000
	FY22 TOTAL	**$ 10,268,139**	**$ 10,034,641**	**$ -**	**$ 888,894**	**$ 3,512,425**	**$ 860,483**	**$ 1,012,866**	**$ 2,559,973**	**$ 1,200,000**

Functional Area	CIP Project	Department's Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds/Lease	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
FY 2023 CIP REQUEST										
Cultural and Recreational Facilities	Main Library - Heating Controls	$ 28,500	$ 28,500							$ 28,500
Cultural and Recreational Facilities	Branch Library - Bridge Rehabilitation	$ 50,000	$ 50,000							$ 50,000
Cultural and Recreational Facilities	Electrical Upgrades	$ 175,000	$ 175,000							$ 175,000
Cultural and Recreational Facilities	Library - Main Library Parking Lot	$ 685,500	$ 685,500							$ 685,500
Cultural and Recreational Facilities	Parks - Greenbelt Pedestrian Bridge - Final Engineering	$ 150,000	$ 150,000			$ 100,000				$ 50,000
Cultural and Recreational Facilities	Parks/Planning & Development - Greenbelt Pedestrian Bridge Preliminary Engineering	$ 150,000	$ 150,000							$ 150,000
Cultural and Recreational Facilities	Recreation - Purchase a 25 Passenger Bus for Senior Trips and Teen Center Trips (15% CDBG match)	$ 76,500	$ 76,500						$ 47,328	$ 29,172
Cultural and Recreational Facilities	Recreation - Pool - New Starter Blocks	$ 20,000	$ 20,000							$ 20,000
Cultural and Recreational Facilities	Recreation - High School Track - Resurfacing	$ 50,000	$ 50,000							$ 50,000
Cultural and Recreational Facilities	Recreation - Curbing at Community Center - Nelson Road	$ 15,000	$ 15,000							$ 15,000
Cultural and Recreational Facilities	Recreation - Community Center Parking Lot Re-surfacing - Nelson Road	$ 38,800	$ 38,800							$ 38,800
Cultural and Recreational Facilities	Recreation - Pool - New Showers - Men's and Women's Locker Rooms	$ 100,000	$ 100,000							$ 100,000
Cultural and Recreational Facilities	Recreation - Rehab Redbank Field Phase II - Rec Improvements (CDBG match)	$ 75,000	$ 75,000						$ 67,500	$ 7,500
Cultural and Recreational Facilities	Recreation - Portable Bleachers for WFRC and Other Sites	$ 50,000	$ 50,000							$ 50,000
Cultural and Recreational Facilities	Parks - Planning & Development - Pleasantdale Greenbelt Walkway - Year Two	$ 50,000	$ 50,000							$ 50,000
Cultural and Recreational Facilities	Recreation - Wainwright Recreation Complex Parking Lots per Master Plan	$ 75,000	$ 75,000							$ 75,000
Cultural and Recreational Facilities	Recreation - Wainwright Recreation Complex - Additional Fields per Master Plan	$ 250,000	$ 250,000							$ 250,000
Environmental Protection	Water Resource Protection - AerationTrain 1 Upgrade	$ 298,200	$ 298,200					$ 298,200		
Environmental Protection	Water Resource Protection - Main Pump Station Boiler	$ 60,000	$ 60,000					$ 60,000		

Functional Area	CIP Project	Department's Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds/Lease	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
Environmental Protection	Water Resource Protection - Clorination Update	$ 90,000	$ 90,000					$ 90,000		
Environmental Protection	Water Resource Protection - Disinfection Pump Replacement	$ 37,918	$ 37,918					$ 37,918		$ -
Environmental Protection	Water Resource Protection - Main Pump Station Wall Repair	$ 54,000	$ 54,000					$ 54,000		
Environmental Protection	Water Resource Protection - Operatoins Building Design HVAC Upgrade	$ 34,950	$ 34,950					$ 34,950		
Environmental Protection	Water Resource Protection - Pump Stations Arc Flash Violatoins Corrections	$ 50,000	$ 50,000					$ 50,000		
General Government	City Clerk - Translation Services	$ 10,000	$ 10,000							$ 10,000
General Government	City Clerk - Upgrade City Website & Hosting Platform	$ 75,000	$ 75,000							$ 75,000
General Government	Executive - Brownfields	$ 80,000	$ 80,000			$ 80,000				
General Government	Facilites - Study - Long Term Facilities Plan for Mahoney/City Buildings	$ 70,000	$ 70,000							$ 70,000
General Government	Information Systems - Document Archiving Solutions	$ 22,000	$ 22,000							$ 22,000
General Government	Information Systems - Network Core Upgrade	$ 100,000	$ 100,000				$ 50,000			$ 50,000
General Government	Information Systems - Email Server Upgrade	$ 100,000	$ 100,000							$ 100,000
General Government	Information Systems - City Phone System	$ 50,000	$ 50,000				$ 50,000			$ -
General Government	Parks and Open Space - Land Bank Account FY22 contribution cut	$ 35,000	$ 35,000							$ 35,000
General Government	Parks and Open Space - Land Bank Account	$ 35,000	$ 35,000							$ 35,000
General Government	Planning & Development - Historic Designation Assessment	$ 12,000	$ 12,000							$ 12,000
General Government	Planning & Development - File Digitization	$ 32,000	$ 32,000							$ 32,000
General Government	Planning & Development - Comprehensive Plan	$ 75,000	$ 75,000				$ 75,000			
Parks and Open Space	Parks - Fence replacement along the Greenbelt in Pleasantdale	$ 12,500	$ 12,500							$ 12,500
Parks and Open Space	Parks - Master Plan Development Hinckley Park	$ 25,000	$ 25,000							$ 25,000

Functional Area	CIP Project	Department's Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds/Lease	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
Parks and Open Space	Parks - Wainwright - Rehab Softball #2	$ 24,000	$ 24,000							$ 24,000
Parks and Open Space	Parks - 1/2 Ton Truck w/plow Replacement	$ 35,000	$ 35,000							$ 35,000
Parks and Open Space	Waterfront - Portland Street Pier Rehabilitation	$ 165,500	$ 165,500				$ 100,000			$ 65,500
Public Safety	Fire - Foam Pumper Engine #46	$ 600,000	$ 600,000	$ 600,000						
Public Safety	Fire - Standard Coverage of Strategic Plan Study	$ 38,000	$ 38,000							$ 38,000
Public Safety	Fire - Repair Western Ave Floor	$ 50,000	$ 50,000							$ 50,000
Public Safety	Fire - Ambulance 44 and Power Stretcher	$ 250,000	$ 250,000				$ 250,000			$ -
Public Safety	Fire - Service Truck PM-402 (One Ton)	$ 50,000	$ 50,000				$ 50,000			$ -
Public Safety	Fire - 1/2 Ton Pick-up Car 44	$ 50,000	$ 50,000				$ 50,000			$ -
Public Safety	Police - Service Truck (Maintenance/Snow Plow/SU Transp.)	$ 50,000	$ 50,000							$ 50,000
Public Safety	Police - Stress Reduction Equipment	$ 4,050	$ 4,050		$ 2,000					$ 2,050
Public Safety	Police - Motorcycle Replacement	$ 20,000	$ 20,000							$ 20,000
Public Safety	Police - Digital Archive System	$ 15,000	$ 15,000							$ 15,000
Public Safety	Police - Computer Replacement - Mobile	$ 60,000	$ 60,000							$ 60,000
Public Safety	Police - Specialty Equipment Truck (for tactical and dive equipment)	$ 60,100	$ 60,100							$ 60,100
Public Safety	Police - Parking Lot Pavement	$ 60,000	$ 60,000							$ 60,000
Public Safety	Police - Interior modeling	$ 50,000	$ 50,000							$ 50,000
Public Safety	Police - Digital Archive System	$ 15,000	$ 15,000							$ 15,000
Public Safety	Police - Taser Replaement	$ 41,760	$ 41,760							$ 41,760
Public Safety	Police - Police Digital De-escalation Video System	$ 50,000	$ 50,000							$ 50,000
Public Safety	Police - Crisis Negotiators Communications Equipment	$ 20,000	$ 20,000							$ 20,000
Public Safety	Police - Roof Replacement (Old Section and Garage)	$ 45,000	$ 45,000							$ 45,000
Public Safety	Police - Electrical Circutry Identification and Panel Updates	$ 12,000	$ 12,000							$ 12,000
Public Safety	Police - Regional Crime Lab	$ 12,000	$ 12,000							$ 12,000

Functional Area	CIP Project	Department's Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds/Lease	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
Public Works and Transportation	Transportation - Transit Bus Reserve	$ 150,000	$ 150,000							$ 150,000
Public Works and Transportation	Transportation - Transit Stop Access Project	$ 125,000	$ 125,000						$ 100,000	$ 25,000
Public Works and Transportation	Planning & Develoment - Crosstown Road - Design and Construction	$ 9,500,000	$ 9,500,000	$ 9,500,000						
Public Works and Transportation	Public Works - Pavement Roller	$ 43,500	$ 43,500							$ 43,500
Public Works and Transportation	Public Works - Director Vehicle	$ 40,000	$ 40,000							$ 40,000
Public Works and Transportation	Public Works - Dump Truck	$ 175,000	$ 175,000						$ 175,000	
Public Works and Transportation	Public Works - Sidewalk Program	$ 150,000	$ 150,000							$ 150,000
Cultural and Recreational Facilities	Recreation - Pool - Pool Roof Replacement	$ 500,000	$ 500,000							$ 500,000
Cultural and Recreational Facilities	Recreation - Pool - Electricity Solar Power	$ 200,000	$ 200,000							$ 200,000
Parks and Open Space	Parks - Multi Pro 5800 Foam Sprayer	$ 55,000	$ 55,000							$ 55,000
Parks and Open Space	Golf/Wainwright - ProCore Deep Tine Aerator for ogranic program	$ 32,000	$ 32,000							$ 32,000
Parks and Open Space	Parks - Robot Line Painter	$ 40,000	$ 40,000							$ 40,000
Parks and Open Space	Parks - Tractor Replacement	$ 65,000	$ 65,000							$ 65,000
Parks and Open Space	Parks - Community Garden Rehab	$ 25,000	$ 25,000							$ 25,000
Parks and Open Space	Parks - Ventrac Mower	$ 26,561	$ 26,561							$ 26,561
Parks and Open Space	Parks - Workman GTX Electric Utility Cart	$ 11,319	$ 11,319							$ 11,319
Parks and Open Space	Parks - Bucket Truck Replacement (Electric?)	$ 140,000	$ 140,000							$ 140,000
	FY23 TOTAL	**$ 16,453,658**	**$ 16,453,658**	**$ 10,100,000**	**$ 2,000**	**$ 180,000**	**$ 625,000**	**$ 625,068**	**$ 389,828**	**$ 4,531,762**

Functional Area	CIP Project	Department's Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds/Lease	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
FY 2024 CIP REQUEST										
Cultural and Recreational Facilities	Parks - Greenbelt Pedestrian Bridge - Construction Reserve	$ 100,000	$ 100,000			$ 100,000				
Cultural and Recreational Facilities	Recreation - Community Center Walking Track Resurface	$ 50,000	$ 50,000							$ 50,000
Cultural and Recreational Facilities	Recreation - Wainwright Recreation Complex - New 8 Lane Track per Master Plan	$ 500,000	$ 500,000							$ 500,000
Cultural and Recreational Facilities	Recreation - Pool - Inflatable Obstacle Course	$ 12,000	$ 12,000							$ 12,000
Environmental Protection	Water Resource Protection - Operations Building HVAC Upgrade	$ 314,550	$ 314,550					$ 314,550		
Environmental Protection	Water Resource Protection - Disinfection Pump Replacement	$ 37,918	$ 37,918					$ 37,918		
Environmental Protection	Water Resource Protection - Facility Plan Update	$ 40,000	$ 40,000					$ 40,000		
Environmental Protection	Water Resource Protection - Holding Tank Odor Control Design	$ 137,000	$ 137,000					$ 137,000		
Environmental Protection	Water Resource Protection - Outfall Marker Replace/Repair	$ 25,000	$ 25,000					$ 25,000		
Environmental Protection	Water Resource Protection - Front End Loader Replacement	$ 175,000	$ 175,000					$ 175,000		
Environmental Protection	Water Resource Protection - Unit #4 4 x 4 Plow Truck Replacement	$ 50,000	$ 50,000					$ 50,000		
Environmental Protection	Water Resource Protection - Unit #18 Blazer Replacement	$ 45,000	$ 45,000					$ 45,000		
Environmental Protection	Water Resource Protection - Unit #5 Treatment Plant Pick-up Replacement	$ 45,000	$ 45,000					$ 45,000		
Environmental Protection	Water Resource Protection - Unit #21 Engineering Pick-up Replacement	$ 45,000	$ 45,000					$ 45,000		
Environmental Protection	Water Resource Protection - CCTV Unit #13	$ 175,000	$ 175,000					$ 175,000		
General Government	Executive - Brownfields	$ 40,000	$ 40,000			$ 40,000				
General Government	Facilities - Design/Engineering for New City Facilities	$ 2,500,000	$ 2,500,000							$ 2,500,000
General Government	Facilities - Auto Scrubber, Carpet Cleaners	$ 20,000	$ 20,000							$ 20,000
General Government	Information Systems - Virtual Network Storage	$ 40,000	$ 40,000							$ 40,000
General Government	Information Systems - Data center Hardware replacement	$ 165,000	$ 165,000				$ 70,000			$ 95,000
General Government	Information Systems - City Phone Systems	$ 50,000	$ 50,000				$ 25,000			$ 25,000
General Government	Information Systems - Computer Reserve	$ 50,000	$ 50,000							$ 50,000

Functional Area	CIP Project	Department's Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds/Lease	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
General Government	Parks and Open Space - Land Bank Account	$ 35,000	$ 35,000							$ 35,000
General Government	Planning & Development - Comprehensive Plan	$ 65,000	$ 65,000				$ 65,000			
Parks and Open Space	Parks - Beach House Deck per Willard Master Plan	$ 25,000	$ 25,000							$ 25,000
Parks and Open Space	Parks - Beach Renourishment Project - per Willard Beach Master Plan	$ 1,000,000	$ 1,000,000							$ 1,000,000
Parks and Open Space	Parks - Security Upgrades Willard Beach and Thomas Knight Park	$ 30,000	$ 30,000							$ 30,000
Parks and Open Space	Parks - Master Plan Development Bug Light Park	$ 25,000	$ 25,000							$ 25,000
Parks and Open Space	Parks - 1/2 Ton Truck w/plow replacement	$ 35,000	$ 35,000							$ 35,000
Parks and Open Space	Parks - Pavilion for Rentals at Bug Light Park per Master Plan	$ 140,000	$ 140,000							$ 140,000
Parks and Open Space	Parks - Hardscape Under Benches Bug Light and Fishermans Point	$ 20,000	$ 20,000							$ 20,000
Parks and Open Space	Parks - Bug Light Community Access Station	$ 150,000	$ 150,000				$ 50,000			$ 100,000
Parks and Open Space	Parks - O'Neil Street Park	$ 50,000	$ 50,000							$ 50,000
Public Safety	Fire - Defibrilator	$ 37,000	$ 37,000				$ 37,000			$ -
Public Safety	Fire - Tactical Body Armor Replacement	$ 30,000	$ 30,000							$ 30,000
Public Safety	Police - Regional Crime Lab	$ 12,000	$ 12,000							$ 12,000
Public Safety	Police - Binocular Night Vision Equipment	$ 85,000	$ 85,000							$ 85,000
Public Safety	Police - Indoor Firearms Range	$ 100,000	$ 100,000							$ 100,000
Public Safety	Police - Animal Control Vehicle	$ 40,000	$ 40,000							$ 40,000
Public Safety	Police - Taser Replacement	$ 41,760	$ 41,760							$ 41,760
Public Safety	Police - Electronic Sign	$ 30,000	$ 30,000							$ 30,000
Public Safety	Police - Motorcycle Replacement	$ 20,000	$ 20,000							$ 20,000
Public Safety	Police - Computer Replacement - Offices	$ 60,000	$ 60,000							$ 60,000
Public Works and Transportation	Transportation - Transit Bus Reserve	$ 150,000	$ 150,000							$ 150,000
Public Works and Transportation	Transportation - Transit Stop Access Project	$ 125,000	$ 125,000						$ 100,000	$ 25,000
Public Works and Transportation	Public Works - Dump Truck	$ 175,000	$ 175,000						$ 175,000	
Public Works and Transportation	Public Works - Sidewalk Tractor	$ 150,000	$ 150,000						$ 150,000	
Public Works and Transportation	Public Works - Sidewalk Program	$ 150,000	$ 150,000							$ 150,000

Functional Area	CIP Project	Department's Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds/Lease	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
Parks and Open Space	Water Truck Replacement	$ 70,000	$ 70,000							$ 70,000
	FY24 TOTAL	**$ 7,467,228**	**$ 7,467,228**	**$ -**	**$ -**	**$ 140,000**	**$ 247,000**	**$ 1,089,468**	**$ 425,000**	**$ 5,565,760**

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Functional Area	CIP Project	Department's Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds/Lease	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
FY 2025 CIP REQUEST										
Cultural and Recreational Facilities	Parks - Greenbelt Pedestrian Bridge - Construction Reserve	$ 100,000	$ 100,000			$ 100,000				
Cultural and Recreational Facilities	Recreation - Community Center Walking Track Rehab	$ 55,000	$ 55,000							$ 55,000
Cultural and Recreational Facilities	Recreation - Redbank Community Center - Repaving Parking Lot	$ 45,000	$ 45,000							$ 45,000
Cultural and Recreational Facilities	Recreation - Wainwright - Light 2 fields per Master Plan	$ 500,000	$ 500,000							$ 500,000
Environmental Protection	Water Resource Protection - Holding Tank Odor Control	$ 550,000	$ 550,000					$ 550,000		
Environmental Protection	Water Resource Protection - Headworks Odor Control Design	$ 28,000	$ 28,000					$ 28,000		
Environmental Protection	Water Resource Protection - Preliminary Treatment (Grit and Screenings) Design	$ 143,000	$ 143,000					$ 143,000		
Environmental Protection	Water Resource Protection - 14 yard Dump Truck	$ 146,600	$ 146,600					$ 146,600		
Environmental Protection	Water Resource Protection - Combination Sewer Cleaner	$ 481,436	$ 481,436					$ 481,436		
General Government	Executive - Brownfields	$ 40,000	$ 40,000			$ 40,000				
General Government	Facilities - Construction of New Facilities	$ 50,000,000	$ 50,000,000	$ 50,000,000						
General Government	Facilities - Pick-up Truck	$ 40,000	$ 40,000							$ 40,000
General Government	Information Systems - City Phone Systems	$ 50,000	$ 50,000				$ 25,000			$ 25,000
General Government	Information Systems - Computer Reserve	$ 50,000	$ 50,000							$ 50,000
General Government	Parks and Open Space - Land Bank Account	$ 35,000	$ 35,000							$ 35,000
Parks and Open Space	Parks - 1/2 Ton Truck w/plow replacement	$ 35,000	$ 35,000							$ 35,000
Parks and Open Space	Parks - New Boat Ramp Attendant Building	$ 100,000	$ 100,000							$ 100,000
Parks and Open Space	Parks - Playground at Bug Light per Master Plan	$ 65,000	$ 65,000							$ 65,000
Public Safety	Fire - Mechanic's Service Truck - One Ton ST-410	$ 45,000	$ 45,000							$ 45,000
Public Safety	Fire - Central Station Renovation/Replacement	$ 10,000,000	$ 10,000,000	$ 10,000,000						
Public Safety	Fire - Command Vehicle Car 49	$ 55,000	$ 55,000							$ 55,000
Public Safety	Police - Building Replacement	$ 5,000,000	$ 5,000,000	$ 5,000,000						$ -
Public Safety	Police - Regional Crime Lab	$ 12,000	$ 12,000							$ 12,000
Public Safety	Police - Taser Replacement	$ 41,760	$ 41,760							$ 41,760

Functional Area	CIP Project	Department's Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds/Lease	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
Public Safety	Police - Body Armor Replacement Tactical	$ 40,000	$ 40,000							$ 40,000
Public Works and Transportation	Transportation - Transit Bus Reserve	$ 3,000,000	$ 3,000,000				$ 300,000		$ 2,565,000	$ 135,000
Public Works and Transportation	Transportation - Transit Stop Access Project	$ 25,000	$ 25,000							$ 25,000
Public Works and Transportation	Public Works - Sidewalk Program	$ 150,000	$ 150,000							$ 150,000
Public Works and Transportation	Public Works - Service Truck	$ 80,000	$ 80,000						$ 80,000	
Public Works and Transportation	Public Works - Dump Truck	$ 180,000	$ 180,000						$ 180,000	
Parks and Open Space	Parks -Workman Utility Cart	$ 25,000	$ 25,000							$ 25,000
	FY25 TOTAL	**$ 71,117,796**	**$ 71,117,796**	**$ 65,000,000**	**$ -**	**$ 140,000**	**$ 325,000**	**$ 1,349,036**	**$ 2,825,000**	**$ 1,478,760**

Functional Area	CIP Project	Department's Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds/Lease	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
FY 2026 CIP REQUEST										
Cultural and Recreational Facilities	Parks - Greenbelt Pedestrian Bridge - Construction Reserve	$ 100,000	$ 100,000			$ 100,000				
Cultural and Recreational Facilities	Recreation - SPCC or Redbank - Storage Addition	$ 100,000	$ 100,000							$ 100,000
Cultural and Recreational Facilities	Recreation - Resurface Pool Deck	$ 75,000	$ 75,000							$ 75,000
General Government	Executive - Brownfields	$ 40,000	$ 40,000			$ 40,000				
General Government	Information Systems - Computer Reserve	$ 50,000	$ 50,000							$ 50,000
Environmental Protection	Water Resource Protection - Headworks Odor Control	$ 315,000	$ 315,000					$ 315,000		
Environmental Protection	Water Resource Protection - Preliminary Treatment (Grit and Screenings)	$ 314,000	$ 314,000					$ 314,000		
Environmental Protection	Water Resource Protection - Unit #11 1-Ton Utility Truck Replacement	$ 55,000	$ 55,000					$ 55,000		
Environmental Protection	Water Resource Protection - Unit #2 Compliance Van Replacement	$ 35,000	$ 35,000					$ 35,000		
Parks and Open Space	Parks - 1/2 Ton Truck w/plow replacement	$ 35,000	$ 35,000							$ 35,000
Parks and Open Space	Parks - Greenbelt Expansion at Bug Light per Master Plan	$ 75,000	$ 75,000							$ 75,000
Public Safety	Fire - Engine 41	$ 550,000	$ 550,000							$ 550,000
Public Safety	Fire - Defibrillator	$ 40,000	$ 40,000							$ 40,000
Public Safety	Police and Fire - Stand-by - Generator	$ 150,000	$ 150,000							$ 150,000
Public Safety	Police - Regional Crime Lab	$ 12,000	$ 12,000							$ 12,000
Public Safety	Police - Taser Replacement	$ 41,760	$ 41,760							$ 41,760
Public Safety	Police - GPS Vehicle Pre-emption Emitters	$ 65,000	$ 65,000							$ 65,000
Public Safety	Police - Armored Vehicle Replacement	$ 350,000	$ 350,000							$ 350,000
Public Works and Transportation	Bus Service - Transit Bus Reserve	$ 200,000	$ 200,000							$ 200,000
Public Works and Transportation	Public Works - Sidewalk Program	$ 200,000	$ 200,000							$ 200,000
Public Works and Transportation	Public Works - Loader	$ 275,000	$ 275,000						$ 275,000	
Public Works and Transportation	Public Works - Dump Truck	$ 180,000	$ 180,000						$ 180,000	
Parks and Open Space	Parks - Golf - 4100D Outfront Mower (Tier 4 Emissions) - replacement	$ 65,732	$ 65,732							$ 65,732
	FY26 TOTAL	**$ 3,323,492**	**$ 3,323,492**	**$ -**	**$ -**	**$ 140,000**	**$ -**	**$ 719,000**	**$ 455,000**	**$ 2,009,492**

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Functional Area	CIP Project	Department's Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds/Lease	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
FY2027 CIP REQUEST										
Cultural and Recreational Facilities	Parks - Greenbelt Pedestrian Bridge - Construction Reserve	$ 100,000	$ 100,000			$ 100,000				
Cultural and Recreational Facilities	Recreation - SPCC - Pool Pump Motors	$ 15,300	$ 15,300							$ 15,300
Environmental Protection	Water Resource Protection - Treatment Plant - Biological Nutrient Removal	$ 5,400,000	$ 5,400,000	$ 5,400,000						
Environmental Protection	Water Resource Protectoin - Unit #30 - Portable Air Compresssor Replacement	$ 15,000	$ 15,000					$ 15,000		
Environmental Protection	Water Resource Protection - Treatment Plant Dewatering Odor Control	$ 290,000	$ 290,000					$ 290,000		
General Government	Executive - Brownfields	$ 40,000	$ 40,000			$ 40,000				
General Government	Information Systems - Computer Reserve	$ 50,000	$ 50,000							$ 50,000
Parks and Open Space	Parks - One-half ton Truck w/Plow Replacement	$ 35,000	$ 35,000							$ 35,000
Public Safety	Fire - Ambulance 43 and Power Stretcher	$ 260,000	$ 260,000							$ 260,000
Public Safety	Fire - Gator Replacement	$ 30,000	$ 30,000							$ 30,000
Public Safety	Police - Regional Crime Lab	$ 12,000	$ 12,000							$ 12,000
Public Safety	Police - Body Armor Replacement	$ 40,000	$ 40,000				$ 20,000		$ 20,000	$ -
Public Safety	Police - Taser Replacement	$ 41,760	$ 41,760							$ 41,760
Public Safety	Police - Patrol Rifle Replacement	$ 75,000	$ 75,000							$ 75,000
Public Safety	Police - Body Camera Replacement	$ 60,000	$ 60,000							$ 60,000
Public Works and Transportation	Bus Service - Transit Bus Reserve	$ 3,000,000	$ 3,000,000			$ 200,000			$ 2,565,000	$ 235,000
Public Works and Transportation	Public Works - Sidewalk Program	$ 250,000	$ 250,000							$ 250,000
Public Works and Transportation	Public Works - Front End Loader	$ 250,000	$ 250,000						$ 250,000	
Public Works and Transportation	Public Works - Sidewalk Plow	$ 150,000	$ 150,000							$ 150,000
Public Works and Transportation	Public Works - One-ton Truck	$ 85,000	$ 85,000						$ 85,000	
Cultural and Recreational Facilities	Recreation - SPCC - Electric Vehicle Replacement	$ 50,000	$ 50,000							$ 50,000
Parks and Open Space	Parks - Toro Outcross	$ 110,000	$ 110,000							$ 110,000
Parks and Open Space	Parks - Snowrator - 1 Unit	$ 14,369	$ 14,369							$ 14,369
	FY27 TOTAL	**$ 10,373,429**	**$ 10,373,429**	**$ 5,400,000**	**$ -**	**$ 340,000**	**$ 20,000**	**$ 305,000**	**$ 2,920,000**	**$ 1,388,429**

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Functional Area	CIP Project	Department's Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds/Lease	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
FY2028 CIP REQUEST										
Environmental Protection	Water Resource Protection - Secondary Upgrade BNR Study	$ 143,000	$ 143,000					$ 143,000		
General Government	Executive - Brownfields	$ 40,000	$ 40,000			$ 40,000				
Public Safety	Fire - Defibrillator	$ 40,000	$ 40,000							$ 40,000
	FY28 TOTAL	**$ 223,000**	**$ 223,000**	**$ -**	**$ -**	**$ 40,000**	**$ -**	**$ 143,000**	**$ -**	**$ 40,000**
	FY 2022 Capital Improvement Plan	**$ 10,268,139**	**$ 10,034,641**	**$ -**	**$ 888,894**	**$ 3,512,425**	**$ 860,483**	**$ 1,012,866**	**$ 2,559,973**	**$ 1,200,000**
	FY 2023 Capital Improvement Plan	**$ 16,453,658**	**$ 16,453,658**	**$ 10,100,000**	**$ 2,000**	**$ 180,000**	**$ 625,000**	**$ 625,068**	**$ 389,828**	**$ 4,531,762**
	FY2024 Capital Improvement Plan	**$ 7,467,228**	**$ 7,467,228**	**$ -**	**$ -**	**$ 140,000**	**$ 247,000**	**$ 1,089,468**	**$ 425,000**	**$ 5,565,760**
	FY2025 Capital Improvement Plan	**$ 71,117,796**	**$ 71,117,796**	**$ 65,000,000**	**$ -**	**$ 140,000**	**$ 325,000**	**$ 1,349,036**	**$ 2,825,000**	**$ 1,478,760**
	FY2026 Capital Improvement Plan	**$ 3,323,492**	**$ 3,323,492**	**$ -**	**$ -**	**$ 140,000**	**$ -**	**$ 719,000**	**$ 455,000**	**$ 2,009,492**
	FY2027 Capital Improvement Plan	**$ 10,373,429**	**$ 10,373,429**	**$ 5,400,000**	**$ -**	**$ 340,000**	**$ 20,000**	**$ 305,000**	**$ 2,920,000**	**$ 1,388,429**
	FY2028 Capital Improvement Plan	**$ 223,000**	**$ 223,000**	**$ -**	**$ -**	**$ 40,000**	**$ -**	**$ 143,000**	**$ -**	**$ 40,000**
	GRAND TOTAL FY22-28	**$ 119,226,742**	**$ 118,993,244**	**$ 80,500,000**	**$ 890,894**	**$ 4,492,425**	**$ 2,077,483**	**$ 5,243,438**	**$ 9,574,801**	**$ 16,214,203**

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Year	Functional Area	CIP Project	Departments Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
2022	Cultural and Recreational Facilities	Library -Building Assessment (Main Library)	$ 30,000	$ 30,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 30,000
2022	Cultural and Recreational Facilities	Recreation - Redbank Community Garden	$ 66,850	$ 66,850	$ -	$ -	$ -	$ -	$ 5,000	$ 51,850	$ 10,000
2023	Cultural and Recreational Facilities	Main Library - Heating Controls	$ 28,500	$ 28,500	$ -	$ -	$ -	$ -	$ -	$ -	$ 28,500
2023	Cultural and Recreational Facilities	Branch Library - Bridge Rehabilitation	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000
2023	Cultural and Recreational Facilities	Electrical Upgrades	$ 175,000	$ 175,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 175,000
2023	Cultural and Recreational Facilities	Library - Main Library Parking Lot	$ 685,500	$ 685,500	$ -	$ -	$ -	$ -	$ -	$ -	$ 685,500
2023	Cultural and Recreational Facilities	Parks - Greenbelt Pedestrian Bridge - Final Engineering	$ 150,000	$ 150,000	$ -	$ -	$ 100,000	$ -	$ -	$ -	$ 50,000
2023	Cultural and Recreational Facilities	Parks/Planning & Development - Greenbelt Pedestrian Bridge Preliminary Engineering	$ 150,000	$ 150,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 150,000
2023	Cultural and Recreational Facilities	Senior Trips and Teen Center Trips (15% CDBG match)	$ 76,500	$ 76,500	$ -	$ -	$ -	$ -	$ -	$ 47,328	$ 29,172
2023	Cultural and Recreational Facilities	Recreation - Pool - New Starter Blocks	$ 20,000	$ 20,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,000
2023	Cultural and Recreational Facilities	Recreation - High School Track - Resurfacing	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000
2023	Cultural and Recreational Facilities	Recreation - Curbing at Community Center - Nelson Road	$ 15,000	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 15,000
2023	Cultural and Recreational Facilities	Recreation - Community Center Parking Lot Re-surfacing - Nelson Road	$ 38,800	$ 38,800	$ -	$ -	$ -	$ -	$ -	$ -	$ 38,800
2023	Cultural and Recreational Facilities	Recreation - Pool - New Showers - Men's and Women's Locker Rooms	$ 100,000	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000
2023	Cultural and Recreational Facilities	Recreation - Rehab Redbank Field Phase II - Rec Improvements (CDBG match)	$ 75,000	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ 67,500	$ 7,500
2023	Cultural and Recreational Facilities	Recreation - Portable Bleachers for WFRC and Other Sites	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000
2023	Cultural and Recreational Facilities	Parks - Planning & Development - Pleasantdale Greenbelt Walkway - Year Two	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000
2023	Cultural and Recreational Facilities	Recreation - Wainwright Recreation Complex Parking Lots per Master Plan	$ 75,000	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 75,000
2023	Cultural and Recreational Facilities	Recreation - Wainwright Recreation Complex - Additional Fields per Master Plan	$ 250,000	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 250,000
2023	Cultural and Recreational Facilities	Recreation - Pool - Pool Roof Replacement	$ 500,000	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 500,000
2023	Cultural and Recreational Facilities	Recreation - Pool - Electricity Solar Power	$ 200,000	$ 200,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 200,000
2024	Cultural and Recreational Facilities	Parks - Greenbelt Pedestrian Bridge - Construction Reserve	$ 100,000	$ 100,000	$ -	$ -	$ 100,000	$ -	$ -	$ -	$ -
2024	Cultural and Recreational Facilities	Recreation - Community Center Walking Track Resurface	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000
2024	Cultural and Recreational Facilities	Recreation - Wainwright Recreation Complex - New 8 Lane Track per Master Plan	$ 500,000	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 500,000
2024	Cultural and Recreational Facilities	Recreation - Pool - Inflatable Obstacle Course	$ 12,000	$ 12,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,000
2025	Cultural and Recreational Facilities	Parks - Greenbelt Pedestrian Bridge - Construction Reserve	$ 100,000	$ 100,000	$ -	$ -	$ 100,000	$ -	$ -	$ -	$ -
2025	Cultural and Recreational Facilities	Rehab	$ 55,000	$ 55,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 55,000
2025	Cultural and Recreational Facilities	Recreation - Redbank Community Center - Repaving Parking Lot	$ 45,000	$ 45,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 45,000
2025	Cultural and Recreational Facilities	Recreation - Wainwright - Light 2 fields per Master Plan	$ 500,000	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 500,000

2026	Cultural and Recreational Facilities	Parks - Greenbelt Pedestrian Bridge - Construction Reserve	$ 100,000	$ 100,000	$ -	$ -	$ 100,000	$ -	$ -	$ -	$ -
2026	Cultural and Recreational Facilities	Recreation - SPCC or Redbank - Storage	$ 100,000	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000
2026	Cultural and Recreational Facilities	Recreation - Resurface Pool Deck	$ 75,000	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 75,000
2027	Cultural and Recreational Facilities	Parks - Greenbelt Pedestrian Bridge - Construction Reserve	$ 100,000	$ 100,000	$ -	$ -	$ 100,000	$ -	$ -	$ -	$ -
2027	Cultural and Recreational Facilities	Recreation - SPCC - Pool Pump Motors	$ 15,300	$ 15,300	$ -	$ -	$ -	$ -	$ -	$ -	$ 15,300
2027	Cultural and Recreational Facilities	Recreation - SPCC - Electric Vehicle	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000
		Total Cultural and Recreational Facilities	**$ 4,638,450**	**$ 4,638,450**	**$ -**	**$ -**	**$ 500,000**	**$ -**	**$ 5,000**	**$ 166,678**	**$ 3,966,772**

Year	Functional Area	CIP Project	Departments Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
2022	Environmental Protection	Water Resource Protection - Main Pump Station Force Main	$ 90,592	$ 90,592	$ -	$ -	$ -	$ -	$ 90,592	$ -	$ -
2022	Environmental Protection	Water Resource Protection - Holding Tank Blower Replacement	$ 22,500	$ 22,500	$ -	$ -	$ -	$ -	$ 22,500	$ -	$ -
2022	Environmental Protection	Water Resource Protection - Secondary Splitter Upgrade	$ 158,000	$ 158,000	$ -	$ -	$ -	$ -	$ 158,000	$ -	$ -
2022	Environmental Protection	Water Resource Protection - Western Ave Generator Replacement	$ 55,000	$ 55,000	$ -	$ -	$ -	$ -	$ 55,000	$ -	$ -
2022	Environmental Protection	Water Resource Protection - Aeration Train 2 Upgrade	$ 298,200	$ 298,200	$ -	$ -	$ -	$ -	$ 298,200	$ -	$ -
2022	Environmental Protection	Water Resource Protection - Meeting House Hill Utility Improvements Phase 1	$ 2,992,425	$ 2,992,425	$ -	$ -	$ 2,992,425	$ -	$ -	$ -	$ -
2022	Environmental Protection	Water Resource Protection - Sewer Lining	$ 200,000	$ 200,000	$ -	$ -	$ -	$ -	$ 200,000	$ -	$ -
2022	Environmental Protection	Water Resource Protection - Electrical Van	$ 52,141	$ 52,141	$ -	$ -	$ -	$ -	$ 52,141	$ -	$ -
2022	Environmental Protection	Water Resource Protection - Service Van	$ 54,438	$ 54,438	$ -	$ -	$ -	$ -	$ 54,438	$ -	$ -
2023	Environmental Protection	Water Resource Protection - AerationTrain 1 Upgrade	$ 298,200	$ 298,200	$ -	$ -	$ -	$ -	$ 298,200	$ -	$ -
2023	Environmental Protection	Water Resource Protection - Main Pump Station Boiler	$ 60,000	$ 60,000	$ -	$ -	$ -	$ -	$ 60,000	$ -	$ -
2023	Environmental Protection	Water Resource Protection - Clorination Update	$ 90,000	$ 90,000	$ -	$ -	$ -	$ -	$ 90,000	$ -	$ -
2023	Environmental Protection	Water Resource Protection - Disinfection Pump Replacement	$ 37,918	$ 37,918	$ -	$ -	$ -	$ -	$ 37,918	$ -	$ -
2023	Environmental Protection	Water Resource Protection - Main Pump Station Wall Repair	$ 54,000	$ 54,000	$ -	$ -	$ -	$ -	$ 54,000	$ -	$ -
2023	Environmental Protection	Water Resource Protection - Operatoins Building Design HVAC Upgrade	$ 34,950	$ 34,950	$ -	$ -	$ -	$ -	$ 34,950	$ -	$ -
2023	Environmental Protection	Water Resource Protection - Pump Stations Arc Flash Violatoins Corrections	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000	$ -	$ -
2024	Environmental Protection	Water Resource Protection - Operations Building HVAC Upgrade	$ 314,550	$ 314,550	$ -	$ -	$ -	$ -	$ 314,550	$ -	$ -
2024	Environmental Protection	Water Resource Protection - Disinfection Pump Replacement	$ 37,918	$ 37,918	$ -	$ -	$ -	$ -	$ 37,918	$ -	$ -
2024	Environmental Protection	Water Resource Protection - Facility Plan Update	$ 40,000	$ 40,000	$ -	$ -	$ -	$ -	$ 40,000	$ -	$ -
2024	Environmental Protection	Water Resource Protection - Holding Tank Odor Control Design	$ 137,000	$ 137,000	$ -	$ -	$ -	$ -	$ 137,000	$ -	$ -
2024	Environmental Protection	Water Resource Protection - Outfall Marker Replace/Repair	$ 25,000	$ 25,000	$ -	$ -	$ -	$ -	$ 25,000	$ -	$ -
2024	Environmental Protection	Water Resource Protection - Front End Loader Replacement	$ 175,000	$ 175,000	$ -	$ -	$ -	$ -	$ 175,000	$ -	$ -
2024	Environmental Protection	Water Resource Protection - Unit #4 4 x 4 Plow Truck Replacement	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000	$ -	$ -
2024	Environmental Protection	Water Resource Protection - Unit #18 Blazer Replacement	$ 45,000	$ 45,000	$ -	$ -	$ -	$ -	$ 45,000	$ -	$ -

2024	Environmental Protection	Water Resource Protection - Unit #5 Treatment Plant Pick-up Replacement	$ 45,000	$ 45,000	$ -	$ -	$ -	$ -	$ 45,000	$ -	$ -
2024	Environmental Protection	Water Resource Protection - Unit #21 Engineering Pick-up Replacement	$ 45,000	$ 45,000	$ -	$ -	$ -	$ -	$ 45,000	$ -	$ -
2024	Environmental Protection	Water Resource Protection - CCTV Unit #13	$ 175,000	$ 175,000	$ -	$ -	$ -	$ -	$ 175,000	$ -	$ -
2025	Environmental Protection	Water Resource Protection - Holding Tank Odor Control	$ 550,000	$ 550,000	$ -	$ -	$ -	$ -	$ 550,000	$ -	$ -
2025	Environmental Protection	Water Resource Protection - Headworks Odor Control Design	$ 28,000	$ 28,000	$ -	$ -	$ -	$ -	$ 28,000	$ -	$ -
2025	Environmental Protection	Water Resource Protection - Preliminary Treatment (Grit and Screenings) Design	$ 143,000	$ 143,000	$ -	$ -	$ -	$ -	$ 143,000	$ -	$ -
2025	Environmental Protection	Water Resource Protection - 14 yard Dump	$ 146,600	$ 146,600	$ -	$ -	$ -	$ -	$ 146,600	$ -	$ -
2025	Environmental Protection	Water Resource Protection - Combination Sewer Cleaner	$ 481,436	$ 481,436	$ -	$ -	$ -	$ -	$ 481,436	$ -	$ -
2026	Environmental Protection	Control	$ 315,000	$ 315,000	$ -	$ -	$ -	$ -	$ 315,000	$ -	
2026	Environmental Protection	Water Resource Protection - Preliminary Treatment (Grit and Screenings)	$ 314,000	$ 314,000	$ -	$ -	$ -	$ -	$ 314,000	$ -	
2026	Environmental Protection	Water Resource Protection - Unit #11 1-Ton Utility Truck Replacement	$ 55,000	$ 55,000	$ -	$ -	$ -	$ -	$ 55,000	$ -	
2026	Environmental Protection	Water Resource Protection - Unit #2 Compliance Van Replacement	$ 35,000	$ 35,000	$ -	$ -	$ -	$ -	$ 35,000	$ -	
2027	Environmental Protection	Water Resource Protection - Treatment Plant - Biological Nutrient Removal	$ 5,400,000	$ 5,400,000	$ 5,400,000	$ -	$ -	$ -	$ -	$ -	$ -
2027	Environmental Protection	Water Resource Protectoin - Unit #30 - Portable Air Compresssor Replacement	$ 15,000	$ 15,000	$ -	$ -	$ -	$ -	$ 15,000	$ -	$ -
2027	Environmental Protection	Water Resource Protection - Treatment Plant Dewatering Odor Control	$ 290,000	$ 290,000	$ -	$ -	$ -	$ -	$ 290,000	$ -	$ -
2028	Environmental Protection	Water Resource Protection - Secondary Upgrade BNR Study	$ 143,000	$ 143,000	$ -	$ -	$ -	$ -	$ 143,000	$ -	$ -
		Total Environmental Protection	**$ 13,553,868**	**$ 13,553,868**	**$5,400,000**	**$ -**	**$ 2,992,425**	**$ -**	**$ 5,161,443**	**$ -**	**$ -**

Year	Functional Area	CIP Project	Departments Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund	Grants	General Fund Fund Balance
2022	General Government	Executive - Brownfields	$ 120,000	$ 120,000	$ -	$ -	$ 120,000	$ -	$ -	$ -	$ -
2022	General Government	Economic Development - Wayfinding Signs - Phase Two	$ 75,000	$ 50,000	$ -	$ -	$ 50,000	$ -	$ -	$ -	$ -
2022	General Government	Economic Development - Finance - Information Services - Community Broadband Network	$ 410,000	$ 410,000	$ -	$ 60,000	$ 350,000	$ -	$ -	$ -	$ -
2022	General Government	Information Systems - Computer Reserve	$ 50,000	$ 70,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 70,000
2022	General Government	Plan	$ 10,000	$ 66,190	$ -	$ 56,190	$ -	$ -	$ -	$ -	$ 10,000
2022	General Government	Code Enforcement - Filing System	$ 48,000	$ 48,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 48,000
2023	General Government	City Clerk - Translation Services	$ 10,000	$ 10,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,000
2023	General Government	City Clerk - Upgrade City Website & Hosting Platform	$ 75,000	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 75,000
2023	General Government	Executive - Brownfields	$ 80,000	$ 80,000	$ -	$ -	$ 80,000	$ -	$ -	$ -	$ -
2023	General Government	Facilites - Study - Long Term Facilities Plan for Mahoney/City Buildings	$ 70,000	$ 70,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 70,000
2023	General Government	Information Systems - Document Archiving Solutions	$ 22,000	$ 22,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 22,000
2023	General Government	Upgrade	$ 100,000	$ 100,000	$ -	$ -	$ -	$ 50,000	$ -	$ -	$ 50,000
2023	General Government	Upgrade	$ 100,000	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000
2023	General Government	Information Systems - City Phone System	$ 50,000	$ 50,000	$ -	$ -	$ -	$ 50,000	$ -	$ -	$ -
2023	General Government	Parks and Open Space - Land Bank Account FY22 contribution cut	$ 35,000	$ 35,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 35,000
2023	General Government	Account	$ 35,000	$ 35,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 35,000
2023	General Government	Planning & Development - Historic Designation Assessment	$ 12,000	$ 12,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,000
2023	General Government	Planning & Development - File Digitization	$ 32,000	$ 32,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 32,000
2023	General Government	Plan	$ 75,000	$ 75,000	$ -	$ -	$ -	$ 75,000	$ -	$ -	$ -
2024	General Government	Executive - Brownfields	$ 40,000	$ 40,000	$ -	$ -	$ 40,000	$ -	$ -	$ -	$ -
2024	General Government	Facilities - Design/Engineering for New City Facilities	$ 2,500,000	$ 2,500,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,500,000
2024	General Government	Facilities - Auto Scrubber, Carpet Cleaners	$ 20,000	$ 20,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,000
2024	General Government	Information Systems - Virtual Network	$ 40,000	$ 40,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 40,000
2024	General Government	Information Systems - Data center Hardware replacement	$ 165,000	$ 165,000	$ -	$ -	$ -	$ 70,000	$ -	$ -	$ 95,000
2024	General Government	Information Systems - City Phone Systems	$ 50,000	$ 50,000	$ -	$ -	$ -	$ 25,000	$ -	$ -	$ 25,000
2024	General Government	Information Systems - Computer Reserve	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000
2024	General Government	Account	$ 35,000	$ 35,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 35,000
2024	General Government	Planning & Development - Comprehensive	$ 65,000	$ 65,000	$ -	$ -	$ -	$ 65,000	$ -	$ -	$ -
2025	General Government	Executive - Brownfields	$ 40,000	$ 40,000	$ -	$ -	$ 40,000	$ -	$ -	$ -	$ -
2025	General Government	Facilities - Construction of New Facilities	$ 50,000,000	$ 50,000,000	$ 50,000,000	$ -	$ -	$ -	$ -	$ -	$ -
2025	General Government	Facilities - Pick-up Truck	$ 40,000	$ 40,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 40,000
2025	General Government	Information Systems - City Phone Systems	$ 50,000	$ 50,000	$ -	$ -	$ -	$ 25,000	$ -	$ -	$ 25,000
2025	General Government	Information Systems - Computer Reserve	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000
2025	General Government	Parks and Open Space - Land Bank	$ 35,000	$ 35,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 35,000
2026	General Government	Executive - Brownfields	$ 40,000	$ 40,000	$ -	$ -	$ 40,000	$ -	$ -	$ -	$ -
2026	General Government	Information Systems - Computer Reserve	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000
2027	General Government	Executive - Brownfields	$ 40,000	$ 40,000	$ -	$ -	$ 40,000	$ -	$ -	$ -	$ -

2027	General Government	Information Systems - Computer Reserve	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000
2028	General Government	Executive - Brownfields	$ 40,000	$ 40,000	$ -	$ -	$ 40,000	$ -	$ -	$ -	$ -	$ -
		Total General Government	**$ 54,809,000**	**$ 54,860,190**	**$ 50,000,000**	**$ 116,190**	**$ 800,000**	**$ 360,000**	**$ -**	**$ -**	**$**	**3,584,000**

Year	Functional Area	CIP Project	Departments Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
2022	Parks and Open Space	Parks - School Street Playground Replacement	$ 97,438	$ 97,438	$ -	$ -	$ -	$ -	$ -	$ 87,694	$ 9,744
2022	Parks and Open Space	Parks - One-half Ton Truck Replacement	$ 28,000	$ 28,000	$ -	$ 6,557	$ -	$ -	$ -	$ -	$ 21,443
2022	Parks and Open Space	Parks/Golf - 4100D Outfront Mower (Tier 4 Emissions) - Replacement	$ 75,000	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 75,000
2023	Parks and Open Space	Parks - Fence replacement along the Greenbelt in Pleasantdale	$ 12,500	$ 12,500	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,500
2023	Parks and Open Space	Parks - Master Plan Development Hinckley Park	$ 25,000	$ 25,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,000
2023	Parks and Open Space	Parks - Wainwright - Rehab Softball #2	$ 24,000	$ 24,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 24,000
2023	Parks and Open Space	Parks - 1/2 Ton Truck w/plow Replacement	$ 35,000	$ 35,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 35,000
2023	Parks and Open Space	Waterfront - Portland Street Pier Rehabilitation	$ 165,500	$ 165,500	$ -	$ -	$ -	$ 100,000	$ -	$ -	$ 65,500
2023	Parks and Open Space	Parks - Multi Pro 5800 Foam Sprayer	$ 55,000	$ 55,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 55,000
2023	Parks and Open Space	Golf/Wainwright - ProCore Deep Tine Aerator for ogranic program	$ 32,000	$ 32,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 32,000
2023	Parks and Open Space	Parks - Robot Line Painter	$ 40,000	$ 40,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 40,000
2023	Parks and Open Space	Parks - Tractor Replacement	$ 65,000	$ 65,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 65,000
2023	Parks and Open Space	Parks - Community Garden Rehab	$ 25,000	$ 25,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,000
2023	Parks and Open Space	Parks - Ventrac Mower	$ 26,561	$ 26,561	$ -	$ -	$ -	$ -	$ -	$ -	$ 26,561
2023	Parks and Open Space	Parks - Workman GTX Electric Utility Cart	$ 11,319	$ 11,319	$ -	$ -	$ -	$ -	$ -	$ -	$ 11,319
2023	Parks and Open Space	Parks - Bucket Truck Replacement (Electric?)	$ 140,000	$ 140,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 140,000
2024	Parks and Open Space	Parks - Beach House Deck per Willard Master Pla	$ 25,000	$ 25,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,000
2024	Parks and Open Space	Parks - Beach Renourishment Project - per Willard	$ 1,000,000	$ 1,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,000,000
2024	Parks and Open Space	Parks - Security Upgrades Willard Beach and Tho	$ 30,000	$ 30,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 30,000
2024	Parks and Open Space	Parks - Master Plan Development Bug Light Park	$ 25,000	$ 25,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,000
2024	Parks and Open Space	Parks - 1/2 Ton Truck w/plow replacement	$ 35,000	$ 35,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 35,000
2024	Parks and Open Space	Parks - Pavilion for Rentals at Bug Light Park per	$ 140,000	$ 140,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 140,000
2024	Parks and Open Space	Parks - Hardscape Under Benches Bug Light and I	$ 20,000	$ 20,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,000
2024	Parks and Open Space	Parks - Bug Light Community Access Station	$ 150,000	$ 150,000	$ -	$ -	$ -	$ 50,000	$ -	$ -	$ 100,000
2024	Parks and Open Space	Parks - O'Neil Street Park	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000
2024	Parks and Open Space	Water Truck Replacement	$ 70,000	$ 70,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 70,000
2025	Parks and Open Space	Parks - 1/2 Ton Truck w/plow replacement	$ 35,000	$ 35,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 35,000
2025	Parks and Open Space	Parks - New Boat Ramp Attendant Building	$ 100,000	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000
2025	Parks and Open Space	Parks - Playground at Bug Light per Master Plan	$ 65,000	$ 65,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 65,000
2025	Parks and Open Space	Parks -Workman Utility Cart	$ 25,000	$ 25,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,000
2026	Parks and Open Space	Parks - 1/2 Ton Truck w/plow replacement	$ 35,000	$ 35,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 35,000
2026	Parks and Open Space	Parks - Greenbelt Expansion at Bug Lightper Mas	$ 75,000	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 75,000
2026	Parks and Open Space	Parks - Golf - 4100D Outfront Mower (Tier 4 Emi	$ 65,732	$ 65,732	$ -	$ -	$ -	$ -	$ -	$ -	$ 65,732
2027	Parks and Open Space	Parks - One-half ton Truck w/Plow Replacement	$ 35,000	$ 35,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 35,000
2027	Parks and Open Space	Parks - Toro Outcross	$ 110,000	$ 110,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 110,000
2027	Parks and Open Space	Parks - Snowrator - 1 Unit	$ 14,369	$ 14,369	$ -	$ -	$ -	$ -	$ -	$ -	$ 14,369
		Total Parks and Open Space	**$ 2,962,419**	**$ 2,962,419**	**$ -**	**$ 6,557**	**$ -**	**$ 150,000**	**$ -**	**$ 87,694**	**$ 2,718,168**

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Year	Functional Area	CIP Project	Departments Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
2022	Public Safety	Fire - Ladder 42 (and Engine 42) 2nd Quint Purch	$ 1,300,000	$ 1,300,000	$ -	$ 502,500	$ -	$ 660,000	$ -	$ -	$ 137,500
2022	Public Safety	Fire - Defibrillator	$ 36,000	$ 36,000	$ -	$ 5,000	$ -	$ 21,000	$ -	$ 10,000	$ -
2022	Public Safety	Fire - Command Vehicle - Car 45	$ 49,500	$ 49,500	$ -	$ 49,500	$ -	$ -	$ -	$ -	$ -
2022	Public Safety	Police - Regional Crime Lab	$ 12,000	$ 12,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,000
2022	Public Safety	Police - Taser Replacement	$ 41,760	$ 41,760	$ -	$ 21,065	$ -	$ -	$ -	$ -	$ 20,695
2022	Public Safety	Police - Body Armor Replacement	$ 24,750	$ 24,750	$ -	$ -	$ -	$ 12,375	$ -	$ 12,375	$ -
2022	Public Safety	Police - Portable Radio Replacement	$ 227,500	$ 227,500	$ -	$ -	$ -	$ -	$ -	$ -	$ 227,500
2022	Public Safety	Police - AED Equipment Replacement	$ 8,000	$ 8,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,000
2022	Public Safety	Police - Vehicle Camera Replacement	$ 75,000	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 75,000
2022	Public Safety	Police - Radar Equipment Replacement	$ 11,065	$ 11,065	$ -	$ -	$ -	$ -	$ -	$ -	$ 11,065
2022	Public Safety	Police - Digital Storage (for body-worn and in-car	$ 24,000	$ 24,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 24,000
2023	Public Safety	Fire - Foam Pumper Engine #46	$ 600,000	$ 600,000	$ 600,000	$ -	$ -	$ -	$ -	$ -	$ -
2023	Public Safety	Fire - Standard Coverage of Strategic Plan Study	$ 38,000	$ 38,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 38,000
2023	Public Safety	Fire - Repair Western Ave Floor	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000
2023	Public Safety	Fire - Ambulance 44 and Power Stretcher	$ 250,000	$ 250,000	$ -	$ -	$ -	$ 250,000	$ -	$ -	$ -
2023	Public Safety	Fire - Service Truck PM-402 (One Ton)	$ 50,000	$ 50,000	$ -	$ -	$ -	$ 50,000	$ -	$ -	$ -
2023	Public Safety	Fire - 1/2 Ton Pick-up Car 44	$ 50,000	$ 50,000	$ -	$ -	$ -	$ 50,000	$ -	$ -	$ -
2023	Public Safety	Police - Service Truck (Maintenance/Snow Plow/S	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000
2023	Public Safety	Police - Stress Reduction Equipment	$ 4,050	$ 4,050	$ -	$ 2,000	$ -	$ -	$ -	$ -	$ 2,050
2023	Public Safety	Police - Motorcycle Replacement	$ 20,000	$ 20,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,000
2023	Public Safety	Police - Digital Archive System	$ 15,000	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 15,000
2023	Public Safety	Police - Computer Replacement - Mobile	$ 60,000	$ 60,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 60,000
2023	Public Safety	Police - Specialty Equipment Truck (for tactical ar	$ 60,100	$ 60,100	$ -	$ -	$ -	$ -	$ -	$ -	$ 60,100
2023	Public Safety	Police - Parking Lot Pavement	$ 60,000	$ 60,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 60,000
2023	Public Safety	Police - Interior modeling	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000
2023	Public Safety	Police - Digital Archive System	$ 15,000	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 15,000
2023	Public Safety	Police - Taser Replaement	$ 41,760	$ 41,760	$ -	$ -	$ -	$ -	$ -	$ -	$ 41,760
2023	Public Safety	Police - Police Digital De-escalation Video Systen	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000
2023	Public Safety	Police - Crisis Negotiators Communications Equip	$ 20,000	$ 20,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,000
2023	Public Safety	Police - Roof Replacement (Old Section and Gara	$ 45,000	$ 45,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 45,000
2023	Public Safety	Police - Electrical Circutry Identification and Pane	$ 12,000	$ 12,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,000
2023	Public Safety	Police - Regional Crime Lab	$ 12,000	$ 12,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,000
2024	Public Safety	Fire - Defibrilator	$ 37,000	$ 37,000	$ -	$ -	$ -	$ 37,000	$ -	$ -	$ -
2024	Public Safety	Fire - Tactical Body Armor Replacement	$ 30,000	$ 30,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 30,000
2024	Public Safety	Police - Regional Crime Lab	$ 12,000	$ 12,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,000
2024	Public Safety	Police - Binocular Night Vision Equipment	$ 85,000	$ 85,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 85,000
2024	Public Safety	Police - Indoor Firearms Range	$ 100,000	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000
2024	Public Safety	Police - Animal Control Vehicle	$ 40,000	$ 40,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 40,000
2024	Public Safety	Police - Taser Replacement	$ 41,760	$ 41,760	$ -	$ -	$ -	$ -	$ -	$ -	$ 41,760
2024	Public Safety	Police - Electronic Sign	$ 30,000	$ 30,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 30,000
2024	Public Safety	Police - Motorcycle Replacement	$ 20,000	$ 20,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,000
2024	Public Safety	Police - Computer Replacement - Offices	$ 60,000	$ 60,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 60,000
2025	Public Safety	Fire - Mechanic's Service Truck - One Ton ST-4	$ 45,000	$ 45,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 45,000
2025	Public Safety	Fire - Central Station Renovation/Replacement	$ 10,000,000	$ 10,000,000	$ 10,000,000	$ -	$ -	$ -	$ -	$ -	$ -
2025	Public Safety	Fire - Command Vehicle Car 49	$ 55,000	$ 55,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 55,000
2025	Public Safety	Police - Building Replacement	$ 5,000,000	$ 5,000,000	$ 5,000,000	$ -	$ -	$ -	$ -	$ -	$ -
2025	Public Safety	Police - Regional Crime Lab	$ 12,000	$ 12,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,000

2025	Public Safety	Police - Taser Replacement	$ 41,760	$ 41,760	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 41,760
2025	Public Safety	Police - Body Armor Replacement Tactical	$ 40,000	$ 40,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 40,000
2026	Public Safety	Fire - Engine 41	$ 550,000	$ 550,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 550,000
2026	Public Safety	Fire - Defibrillator	$ 40,000	$ 40,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 40,000
2026	Public Safety	Police and Fire - Stand-by - Generator	$ 150,000	$ 150,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 150,000
2026	Public Safety	Police - Regional Crime Lab	$ 12,000	$ 12,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,000
2026	Public Safety	Police - Taser Replacement	$ 41,760	$ 41,760	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 41,760
2026	Public Safety	Police - GPS Vehicle Pre-emption Emitters	$ 65,000	$ 65,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 65,000
2026	Public Safety	Police - Armored Vehicle Replacement	$ 350,000	$ 350,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 350,000
2027	Public Safety	Fire - Ambulance 43 and Power Stretcher	$ 260,000	$ 260,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 260,000
2027	Public Safety	Fire - Gator Replacement	$ 30,000	$ 30,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 30,000
2027	Public Safety	Police - Regional Crime Lab	$ 12,000	$ 12,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,000
2027	Public Safety	Police - Body Armor Replacement	$ 40,000	$ 40,000	$ -	$ -	$ -	$ 20,000	$ -	$ 20,000	$ -	$ -
2027	Public Safety	Police - Taser Replacement	$ 41,760	$ 41,760	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 41,760
2027	Public Safety	Police - Patrol Rifle Replacement	$ 75,000	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 75,000
2027	Public Safety	Police - Body Camera Replacement	$ 60,000	$ 60,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 60,000
2028	Public Safety	Fire - Defibrillator	$ 40,000	$ 40,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 40,000
		Total Public Safety	**$ 20,779,525**	**$ 20,779,525**	**$15,600,000**	**$ 580,065**	**$ -**	**$ 1,100,375**	**$ -**	**$ 42,375**	**$**	**3,456,710**

Year	Functional Area	CIP Project	Departments Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
2022	Public Works and Transportation	Planning & Development - Crosstown Road Envir	$ 10,000	$ 10,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,000
2022	Public Works and Transportation	Transportation - Transit Stop Access Project	$ 315,000	$ 315,000	$ -	$ 14,500	$ -	$ -	$ -	$ 252,000	$ 48,500
2022	Public Works and Transportation	Transportation - Transit Bus Purchase	$ 1,500,000	$ 1,500,000	$ -	$ 74,843	$ -	$ 138,608	$ 76,995	$ 1,209,554	$ -
2022	Public Works and Transportation	Transportation - Transit Signal Priority	$ 151,000	$ 151,000	$ -	$ -	$ -	$ -	$ -	$ 151,000	$ -
2022	Public Works and Transportation	MSF Exterior Improvements	$14,980	$14,980	$0	$14,980	$0	$0	$0	$0	$0
2022	Public Works and Transportation	Landfill Venting System	$ 213,000	$ 213,000	$ -	$ 30,000	$ -	$ -	$ -	$ 170,000	$ 13,000
2022	Public Works and Transportation	Public Works Loader	$ 260,000	$ 260,000	$ -	$ -	$ -	$ -	$ -	$ 260,000	$ -
2022	Public Works and Transportation	Public Works - Two Single-Axle Plow Trucks	$ 404,000	$ 404,000	$ -	$ 20,000	$ -	$ 28,500	$ -	$ 355,500	$ -
2022	Public Works and Transportation	Public Works - Sidewalk Plow	$ 157,000	$ 157,000	$ -	$ 28,500	$ -	$ -	$ -	$ -	$ 128,500
2022	Public Works and Transportation	Public Works - Sidewalk Program	$ 500,000	$ 215,312	$ -	$ 5,259	$ -	$ -	$ -	$ -	$ 210,053
2023	Public Works and Transportation	Transportation - Transit Bus Reserve	$ 150,000	$ 150,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 150,000
2023	Public Works and Transportation	Transportation - Transit Stop Access Project	$ 125,000	$ 125,000	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ 25,000
2023	Public Works and Transportation	Planning & Develoment - Crosstown Road - Desig	$ 9,500,000	$ 9,500,000	$9,500,000	$ -	$ -	$ -	$ -	$ -	$ -
2023	Public Works and Transportation	Public Works - Pavement Roller	$ 43,500	$ 43,500	$ -	$ -	$ -	$ -	$ -	$ -	$ 43,500
2023	Public Works and Transportation	Public Works - Director Vehicle	$ 40,000	$ 40,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 40,000
2023	Public Works and Transportation	Public Works - Dump Truck	$ 175,000	$ 175,000	$ -	$ -	$ -	$ -	$ -	$ 175,000	$ -
2023	Public Works and Transportation	Public Works - Sidewalk Program	$ 150,000	$ 150,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 150,000
2024	Public Works and Transportation	Transportation - Transit Bus Reserve	$ 150,000	$ 150,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 150,000
2024	Public Works and Transportation	Transportation - Transit Stop Access Project	$ 125,000	$ 125,000	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ 25,000
2024	Public Works and Transportation	Public Works - Dump Truck	$ 175,000	$ 175,000	$ -	$ -	$ -	$ -	$ -	$ 175,000	$ -
2024	Public Works and Transportation	Public Works - Sidewalk Tractor	$ 150,000	$ 150,000	$ -	$ -	$ -	$ -	$ -	$ 150,000	$ -
2024	Public Works and Transportation	Public Works - Sidewalk Program	$ 150,000	$ 150,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 150,000
2025	Public Works and Transportation	Transportation - Transit Bus Reserve	$ 3,000,000	$ 3,000,000	$ -	$ -	$ -	$ 300,000	$ -	$ 2,565,000	$ 135,000
2025	Public Works and Transportation	Transportation - Transit Stop Access Project	$ 25,000	$ 25,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,000
2025	Public Works and Transportation	Public Works - Sidewalk Program	$ 150,000	$ 150,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 150,000
2025	Public Works and Transportation	Public Works - Service Truck	$ 80,000	$ 80,000	$ -	$ -	$ -	$ -	$ -	$ 80,000	$ -
2025	Public Works and Transportation	Public Works - Dump Truck	$ 180,000	$ 180,000	$ -	$ -	$ -	$ -	$ -	$ 180,000	$ -
2026	Public Works and Transportation	Bus Service - Transit Bus Reserve	$ 200,000	$ 200,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 200,000
2026	Public Works and Transportation	Public Works - Sidewalk Program	$ 200,000	$ 200,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 200,000
2026	Public Works and Transportation	Public Works - Loader	$ 275,000	$ 275,000	$ -	$ -	$ -	$ -	$ -	$ 275,000	$ -
2026	Public Works and Transportation	Public Works - Dump Truck	$ 180,000	$ 180,000	$ -	$ -	$ -	$ -	$ -	$ 180,000	$ -
2027	Public Works and Transportation	Bus Service - Transit Bus Reserve	$ 3,000,000	$ 3,000,000	$ -	$ -	$ 200,000	$ -	$ -	$ 2,565,000	$ 235,000
2027	Public Works and Transportation	Public Works - Sidewalk Program	$ 250,000	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 250,000
2027	Public Works and Transportation	Public Works - Front End Loader	$ 250,000	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ 250,000	$ -
2027	Public Works and Transportation	Public Works - Sidewalk Plow	$ 150,000	$ 150,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 150,000
2027	Public Works and Transportation	Public Works - One-ton Truck	$ 85,000	$ 85,000	$ -	$ -	$ -	$ -	$ -	$ 85,000	$ -
		Total Public Works and Transportation	**$ 22,483,480**	**$ 22,198,792**	**$9,500,000**	**$ 188,082**	**$ 200,000**	**$ 467,108**	**$ 76,995**	**$ 9,278,054**	**$ 2,488,553**

Year	Functional Area	CIP Project	Departments Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund	Grants	General Fund Fund Balance
		Total Cultural and Recreational Facilities	**$ 4,638,450**	**$ 4,638,450**	**$ -**	**$ -**	**$ 500,000**	**$ -**	**$ 5,000**	**$ 166,678**	**$ 3,966,772**
		Total Environmental Protection	**$ 13,553,868**	**$ 13,553,868**	**$ 5,400,000**	**$ -**	**$ 2,992,425**	**$ -**	**$ 5,161,443**	**$ -**	**$ -**
		Total General Government	**$ 54,809,000**	**$ 54,860,190**	**$ 50,000,000**	**$ 116,190**	**$ 800,000**	**$ 360,000**	**$ -**	**$ -**	**$ 3,584,000**
		Total Parks and Open Space	**$ 2,962,419**	**$ 2,962,419**	**$ -**	**$ 6,557**	**$ -**	**$ 150,000**	**$ -**	**$ 87,694**	**$ 2,718,168**
		Total Public Safety	**$ 20,779,525**	**$ 20,779,525**	**$ 15,600,000**	**$ 580,065**	**$ -**	**$ 1,100,375**	**$ -**	**$ 42,375**	**$ 3,456,710**
		Total Public Works and Transportation	**$ 22,483,480**	**$ 22,198,792**	**$ 9,500,000**	**$ 188,082**	**$ 200,000**	**$ 467,108**	**$ 76,995**	**$ 9,278,054**	**$ 2,488,553**
		GRAND TOTAL FY22-FY28	**$ 119,226,742**	**$ 118,993,244**	**$ 80,500,000**	**$ 890,894**	**$ 4,492,425**	**$ 2,077,483**	**$ 5,243,438**	**$ 9,574,801**	**$ 16,214,203**

SECTION II

Year One – FY 2022 Requests

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YEAR I

FY 2022 CIP REQUEST

Cultural and Recreational Facilities

Building Assessment (Main Library)	$	30,000
Recreation - Redbank Community Garden Project	$	66,850
Total Cultural and Recreational Facilities	**$**	**96,850**

Environmental Protection

Water Resource Protection - Main Pump Station Force Main	$	90,592
Water Resource Protection - Holding Tank Blower Replacement	$	22,500
Water Resource Protection - Secondary Splitter Upgrade	$	158,000
Water Resource Protection - Western Ave Generator Replacement	$	55,000
Water Resource Protection - Aeration Train 2 Upgrade	$	298,200
Water Resource Protection - Meeting House Hill Utility Improvements Phase 1	$	2,992,425
Water Resource Protection - Sewer Lining	$	200,000
Water Resource Protection - Electrical Van	$	52,141
Water Resource Protection - Service Van	$	54,438
Total Environmental Protection	**$**	**3,923,296**

General Government

Executive - Brownfields	$	120,000
Economic Development - Wayfinding Signs - Phase Two	$	50,000
Economic Development - Finance - Information Services - Community Broadband Network	$	410,000

Information Systems - Computer Reserve	$	70,000
Planning & Development - Comprehensive Plan	$	66,190
Code Enforcement - Filing System	$	48,000
Total General Government	**$**	**764,190**

Parks and Open Space

Parks - School Street Playground Replacement	$	97,438
Parks - One-half Ton Truck Replacement	$	28,000
Parks/Golf - 4100D Outfront Mower (Tier 4 Emissions) - Replacement	$	75,000
Total Parks and Open Space	**$**	**200,438**

Public Safety

Fire - Ladder 42 (and Engine 42) 2nd Quint Purchase	$	1,300,000
Fire - Defibrillator	$	36,000
Fire - Command Vehicle - Car 45	$	49,500
Police - Regional Crime Lab	$	12,000
Police - Taser Replacement	$	41,760
Police - Body Armor Replacement	$	24,750
Police - Portable Radio Replacement	$	227,500
Police - AED Equipment Replacement	$	8,000

Police - Vehicle Camera Replacement	$	75,000
Police - Radar Equipment Replacement	$	11,065
Police - Digital Storage (for body-worn and in-car video)	$	24,000
Total Public Safety	**$**	**1,809,575**

Public Works and Transportation

Planning & Development - Crosstown Road Environmental Permitting	$	10,000
Transportation - Transit Stop Access Project	$	315,000
Transportation - Transit Bus Purchase	$	1,500,000
Transportation - Transit Signal Priority	$	151,000
MSF Exterior Improvements	$	14,980
Landfill Venting System	$	213,000
Public Works Loader	$	260,000
Public Works - Two Single-Axle Plow Trucks	$	404,000
Public Works - Sidewalk Plow	$	157,000
Public Works - Sidewalk Program	$	215,312
Total Public Works and Transportation	**$**	**3,240,292**

Total Year I Request	**$**	**10,034,641**

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CULTURAL
AND
RECREATIONAL FACILITIES

Courtesy of Denise Michaud

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Main Library - Building Assessment**		
Department	Library	**Dept. Priority**	1
Division	Main Library	**Div. Priority**	1
CIP Category	Cultural & Recreational Facilities		

Purchase/Project Description

The Main Library building was built in 1966 and has remained pretty much the same since, with some system replacements over the years as equipment has failed.

As we become aware of compounding issues with the building, it would be wise to step back and perform a full assessment of the facility so that we can best prioritize, plan for and address these needs going forward

Presently, we are aware of:

- HVAC system which is obsolete and requiring increasing maintenance
- Energy inefficiencies inherent to the architecture
- Obsolete electrical equipment, inadequate to handle the capacity for exterior lighting or EV charging
- Aging plumbing
- Accessibility issues
- Safety issues around the grounds
- Moisture issues in the lower level of the building
- Asbestos in the underlying flooring material throughout the building
- Functioning, but past expected end of life elevator mechanical equipment
- Functioning, but past expected end of life roof

Beyond these known, specific, issues, we also face ongoing challenges presented by a building built to be a library in 1965 the way librarys functioned in the 1960s and still utilized as a library 55+ years later, when the library business has changed so significantly.

An assessment of the facility will give the City a better idea of the true needs, capacity and viability of the existing facility and will help us to more effectively plan for future needs instead of simply responding to emergency needs.

Financial Impact of this Purchase/Project

A building assement will generate no direct income, but will allow the city to more holistically approach the needs of the building as well as the Library Department's continued functioning within it.

Environmental Considerations

My hope would be that, following the assessment, the City will then have the information it needs to more reasonably address the many shortcomings of the building and to improve on the outdated and inefficient building systems currently in place.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 30,000.00	$ 30,000.00					$ 30,000.00	$ 30,000.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 30,000.00**	**$ 30,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 30,000.00**	**$ 30,000.00**

Source of Cost Estimate	Estimate, based on previous proposal from Sebago for a larger - multi-building - assessment project.				
Est. Annual Operating Costs	Unknown	**Projected Useful Life**	Indefinite	**Additional Documentation?**	No
City Manager Comments					

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Redbank Community Garden Project**		
Department	Parks, Rec, Waterfront	**Dept. Priority**	4
Division	Recreation	**Div. Priority**	1
CIP Category	Cultural & Recreational Facilities		

Purchase/Project Description

South Portland Parks, Recreation & Waterfront is partnering with the Community Garden Collective (CGC) to create a much needed community garden in the Redbank neighborhood, located in a portion of the field next to the Redbank Community Center.

Together, our department and the CGC have applied for a CDBG grant to construct this garden. We are requesting a $10,000 match in Capital Improvement Funds to help fully fund the project and reduce the asking amount in the CDBG grant.

With the City's help, the CGC is ready to build a 17,000 square foot garden comprising up to 49 raised beds, an irrigation system, compost bins, stone dust pathways throughout, various circular gathering areas for learning and areas for garden material storage. The West End Master Plan, adopted by the City Council on August 21, 2017, includes the development of a community garden as an objective under Recreation Open Space. The City has designated this area for a community garden and, in 2020 extended a water line to the garden site; a necessity for a successful garden.

The garden will be located right next to a recently renovated soccer field that is actively used throughout the year. On the side of the garden facing the soccer field, a 6 foot high fence with a 15 foot netting system attached to the top will need to be installed to prevent soccer balls from entering the garden and help delineate these two active spaces. The remaining fence around the garden will be 4 feet high and run approximately 200 feet. This fencing is a crucial component to the success and effective operation of this community garden. The estimated cost of this fencing system is $35,500.

Financial Impact of this Purchase/Project

The entire project is anticipated to cost $66,850 not including any in-kind donations from the City or CGC such as labor to construct garden beds, pathways, shed and site grading. We have applied for $51,850 in CBDG funds and the CGC will commit $5,000 in private funds. A $10,000 award through CIP would allow us to move forward with this project on July 1, 2021. Attached is a quote for the cost of fence installation around the entire garden.

Environmental Considerations

Food insecurity is on an upward trend due to the COVID-19 pandemic. This proposal would greatly help provide increased food security and access to healthy food for low to moderate income residents of the Redbank and surrounding communities. CDBG and CIP funds are both required for this project to move forward. Acquiring these funds will allow the Redbank and surrounding neighborhoods to finally have what it needs to start growing its own food.

Funding Source(s)	**Year 1**		**Year 2**		**Year(s) 3+**		**TOTALS**	
	Dept. Request	**Manager Rec.**	**Dept. Request**	**Manager Rec.**	**Dept. Request**	**Manager Rec.**	**Dept. Request**	**Manager Rec.**
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 10,000.00	$ 10,000.00					$ 10,000.00	$ 10,000.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants	$ 51,850.00	$ 51,850.00					$ 51,850.00	$ 51,850.00
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)	$ 5,000.00	$ 5,000.00					$ 5,000.00	$ 5,000.00
TOTALS	**$ 66,850.00**	**$ 66,850.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 66,850.00**	**$ 66,850.00**

Source of Cost Estimate	Turf Prep LLC (cost of fencing)				
Est. Annual Operating Costs	$1,000	**Projected Useful Life**	20 + years	**Additional Documentation?**	Yes
City Manager Comments					

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Turf Prep LLC.
5 Aberjona Dr.
Woburn, MA 01801
877-774-8873
info@turfprep.com
www.turfprep.com

Estimate

ADDRESS
Anthony Johnson

ESTIMATE # EST2361
DATE 10/28/2020

DATE	ACTIVITY	QTY	RATE	AMOUNT
	Construction:Fence 200 Ft. 9 gauge chainlink fence install	1	7,500.00	7,500.00
	Construction:Netting Install 15 Ft. Netting system w/11 poles	11	2,000.00	22,000.00
	Construction:Fence 200ft of 4ft chain link fence with top and bottom rail and 2 gates.	1	6,000.00	6,000.00

TOTAL **$35,500.00**

Accepted By

Accepted Date

We appreciate your business and look forward to working with you again soon!

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ENVIRONMENTAL

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**MAIN PUMP STATION FORCE MAIN**		
Department	Water Resource Protection	**Dept. Priority**	1
Division	Treatment Systems	**Div. Priority**	1
CIP Category	Environmental Protection		

Purchase/Project Description

The South Portland Wastewater Treatment Plant receives flow from two major pumping stations. Flow from the western portion of the city flows primarilty into and through the Pearl Street pump station before discharge to the influent flume located at the Treatment Plant. Flow from the eastern part of the City flows into the Main Pump Station located at the treatment plant.

The Main Pump Station has two influent wetwells that hold incoming flow for pumping into the treatment process. Each wetwell has two pumps that discharge into a common discharge pipe (often called a force main) that carries the pumped wastewater into the treatment process. Flow from the #2 wetwell is pumped through a discharge pipe that runs through into the wetwell area before commoning with the discharge pipe from the #1 wetwell. This pipe has corroded and is in need of replacement.

In order to replace this pipe section the influent flow will need to bypass the main pump station to allow the force main to be drained before removal. Pricing was obtained from an estimate done by a local contractor experienced in pipe work.

Financial Impact of this Purchase/Project

Source of Cost Estimate from a contractor. 10% Contingency and 20% Engineering added to the contractor's cost estimate.

Environmental Considerations

Failure of the discharge pipe between the #2 and #1 influent wetwell would compromise the Main Pump Stations ability to pump influent flow from the eastern side of the city; potentially causing sanitary sewer overflows and requiring emergency bypass pumping and repairs.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus	$ 90,592.00	$ 90,592.00					$ 90,592.00	$ 90,592.00
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 90,592.00**	**$ 90,592.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 90,592.00**	**$ 90,592.00**

Source of Cost Estimate	Contractor estimate				
Est. Annual Operating Costs	$ -	**Projected Useful Life**	40	**Additional Documentation?**	Yes
City Manager Comments					

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Johnson and Jordan
Mechanical Contractors
18 Mussey Road
Scarborough Maine 04074

5/30/18

SCOPE OF WORK

SOUTH PORTLAND MAIN PUMP STATION REPAIR

JOHNSON AND JORDAN WILL

- Install blind flange and install thrust support for well pumping system.
- Install 16" sch 40 PVC bypass line to 24" VFD driven overflow pump. Line will be dumped into well before grit building. Bypass line will be installed in such a way as line can be reused to bypass pump station in the future. Line will be four sections connected by bolted flanges. A test ball will be placed in 18" pipe going from well back to pump station during bypass.
- Demo and replace existing 16" ductile line passing thru well room from 90 to reducer. New pipe will have two coats of factory applied Tnemec series N69 epoxy paint and coated a third time onsite after installation with a finishing paint of your choice.
- Replace all associated hangers. All newly installed hardware will be 316 stainless steel.
- Dispose of removed pipe.
- Core two new holes in walls to accommodate new pipe with link seals.
- Install single point 1000lb. lifting points according to districts engineered design and label for future use.
- Demo bypass line when complete and move to an onsite storage site of your choice.

For the lump sum of.....$68,361.00

EXCLUSIONS.....

- Bid, performance and payment bonds.
- Anything not listed above.

Bill O'Neil Project Manager: boneil@johnsonandjordan.com

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Holding Tank Blower Replacement**		
Department	Water Resource Protection	**Dept. Priority**	2
Division	Treatment Systems	**Div. Priority**	2
CIP Category	Environmental Protection		

Purchase/Project Description

This CIP request is for the replacment of the original (1974) sludge holding tank blowers. These two blowers supply mixing air and concurrently oxygen to the waste sludge holding tank to keep the wasted activated sludge solids mixed and in suspension to keep the sludge oxygenated to reduce odor generation in the holding tank and during the dewatering operation.

Financial Impact of this Purchase/Project

Source of Cost Estimate from a contractor. 10% Contingency and 20% Engineering added to the contractor's cost estimate.

Environmental Considerations

The sludge holding tank blowers are necessary to maintain efficient dewatering of waste activated sludge. Sludge holding tank blowers also minimize generation of potentially undesireable odors from the sludge holding tank by keeping the sludge aerated.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus	$ 22,500.00	$ 22,500.00					$ 22,500.00	$ 22,500.00
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 22,500.00**	**$ 22,500.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 22,500.00**	**$ 22,500.00**

Source of Cost Estimate	Vendor Quote				
Est. Annual Operating Costs	$ 225.00	**Projected Useful Life**	20	**Additional Documentation?**	Yes
City Manager Comments					

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THE MAHER CORPORATION
WATER & WASTEWATER PROCESS, PUMPING & VALVE SYSTEMS

192 PLEASANT STREET
ROCKLAND, MASSACHUSETTS 02370
(781) 421-2600 • FAX (781) 878-1219

22 December 2020

Job Name: South Portland, ME

To: **Frank Moulton – South Portland, ME**

As the New England Agent for **HOWDEN/ROOTS**, we are pleased to furnish you with the equipment listed below in our budget proposal.

Two (2) ROOTS Model 45 URAI-J blower to deliver 270 SCFM @ 4.85 psi utilizing a 10 HP 1800 rpm TEFC motor. Items included are shown below.

- ROOTS Blower
- Baldor 1800-RPM Motor
- Baldor Adjustable Motor Slide Base
- V-Belt Drive with Guard
- Custom Base
- Vibration Pads (*4 per package)*

The MAHER Corporation will **NOT** provide the following:

- VFDs
- Installation
- Field Painting
- Anchor Bolts
- Electrical Wiring
- Interconnecting Piping
- Valves (unless listed above)
- Sales Tax

SERVICE: **One (1) Day of Service is added for Start-Up**
PRICE: **F.O.B. with freight allowed to South Portland, ME**
DELIVERY: **Approximately 8 weeks after drawing approval**
TERMS: **Net thirty (30) days**

$ 22,500.00

Sincerely,
The MAHER Corporation

Matthew Kibble

Matthew Kibble

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**SECONDARY SPLITTER UPGRADE**		
Department	Water Resource Protection	**Dept. Priority**	3
Division	Treatment Systems	**Div. Priority**	3
CIP Category	Environmental Protection		

Purchase/Project Description

The WRP Wastewater Treatment Plant operates using the secondary activated sludge process wherein wasetwater is introduced into aeration tanks containing mixed liquor (a variety of microorganisms that digest waste products in the prescence of oxygen) and settled out in seperate tanks called clarifiers. The treatment plant has multiple aeration trains (3 trains with 3 tanks in each train) and three secondary clarifiers in order to adjust to changing flow rates.

The Secondary Flow Splitter structure allows flow to be channeled and evenly distributed between the aeration trains and secondary clarifiers. The gates have deteriorated over time and operating the gates to open or close is very difficult. The update will include new flow isolation gates and motorized actuators along with updates to the electrical systems.

Wright Pirece, the City's current contract engineering firm is working on the final design and specifications of the Secondary Splitter Upgrade.

Financial Impact of this Purchase/Project

Source of Cost Estimate from a contractor. 10% Contingency and 20% Engineering added to the contractor's cost estimate.

Environmental Considerations

Inability to properly operate the gates could lead to a flow overload in the Secondary Clarifiers resulting in excessive BOD and TSS discharges into the Fore River which is a violation to our MePDES Discharge Permit limits with DEP. Violations of the discharge permit could lead to administrative actions up to and including fines.

Funding Source(s)	**Year 1**		**Year 2**		**Year(s) 3+**		**TOTALS**	
	Dept. Request	**Manager Rec.**	**Dept. Request**	**Manager Rec.**	**Dept. Request**	**Manager Rec.**	**Dept. Request**	**Manager Rec.**
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus	$ 158,000.00	$ 158,000.00					$ 158,000.00	$ 158,000.00
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 158,000.00**	**$ 158,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 158,000.00**	**$ 158,000.00**

Source of Cost Estimate	Wright - Pierce Engineers				
Est. Annual Operating Costs	$ -	**Projected Useful Life**	20	**Additional Documentation?**	Yes
City Manager Comments					

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AMENDMENT NO. 1

TO

AGREEMENT BETWEEN

CITY OF SOUTH PORTLAND

AND

WRIGHT-PIERCE

FOR

PROFESSIONAL ENGINEERING
RELATED TO
MUNICIPAL SERVICES

AMENDMENT NO. 1
TO
AGREEMENT BETWEEN
CITY OF SOUTH PORTLAND
AND
WRIGHT-PIERCE
FOR
PROFESSIONAL ENGINEERING
RELATED TO
MUNICIPAL SERVICES

This Amendment made the 3rd day of December, 2020, by and between SOUTH PORTLAND, MAINE, (hereinafter called OWNER), and WRIGHT-PIERCE (hereinafter called ENGINEER).

WHEREAS, an Agreement was entered on September 25, 2020 between the OWNER and ENGINEER, which Agreement is entitled AGREEMENT BETWEEN CITY OF SOUTH PORTLAND AND WRIGHT-PIERCE (hereinafter referred to as the "AGREEMENT"); and

WHEREAS, OWNER wishes to engage ENGINEER to design an upgrade to the secondary clarifier flow splitting structure isolation gates and develop plans suitable for public bid;

NOW, THEREFORE, for the consideration set forth in the AGREEMENT and other good and valuable considerations, it is hereby agreed and acknowledged by and between OWNER and ENGINEER to amend the AGREEMENT as follows:

1. The AGREEMENT shall be amended to include this Amendment, a copy of which shall be attached thereto and made a part thereof as if fully set forth therein.

2. The following represents the SCOPE OF SERVICES for the proposed work:

Task 1 – Secondary Clarifier Splitter Structure Gate Replacement Design

1. Develop and provide 90% design plans and specifications and cost estimate to OWNER for review. 90% design plans and specifications shall include the following general work:

    a. Replacement of three adjustable weir gates (AWG-17, AWG-18, and AWG-19 as identified in the 1995 Record Drawings) with new 316 stainless steel adjustable weir gates. The scum well gates (AWG-20 and AWG-22 as identified in the 1995 Record Drawings) will not be replaced.

    b. Replacement of three electric actuators for each adjustable weir gate. New local disconnects shall be located adjacent to the splitter structure (similar to 2017 Woodard & Curran design at the Aeration Tank

Splitter Structure) so that equipment can be rated NEMA 4X. New conduit and wire will be installed from the actuators to the local disconnects. New wire will be installed from the local disconnects to the power source.

c. Specifications will utilize the EJCDC format. Front-end specifications (DIV 00) will be a simplified version given the expected construction cost. OWNER will provide specific supplementary conditions to ENGINEER for inclusion in the front-end documents.

d. OWNER will provide 3D Revit model of the Secondary Clarifier Splitter Structure to ENGINEER for use in developing design drawings.

e. OWNER will provide plans and specifications from the previous Aeration Flow Splitter Box project engineered by Woodard and Curran. These plans and specifications will be used as a framework for the Secondary Clarifier Splitter Structure Upgrade.

2. Schedule and conduct 90% design review meeting.
3. Develop and provide 100% design plans and specifications and updated cost estimate to OWNER for review.
4. Address final comments and provide signed and sealed Contract Documents for Bidding along with final estimate of cost.

Task 2 – Secondary Clarifier Splitter Structure Gate Bidding

1. Assist OWNER in advertising for and obtaining bids for the Work. Cost of advertising will be paid directly by the OWNER.
2. Maintain a record of prospective contractors to which documents have been issued.
3. OWNER to schedule Pre-Bid visits by Contractor as necessary.
4. Prepare and issue Addenda as appropriate to clarify, correct, or change the issued documents.
5. Answer questions during Bid.
6. OWNER to review, tabulate and evaluate Bid results.
7. OWNER to furnish executed copies of the Contract Documents.

3. The project schedule shall be as follows:

Project Schedule	Dates
Finalize Agreement	November 2020
Task 1 – Design	November 2020 – February 2021
Task 2 – Bidding	February 2021 – March 2021

4. Payments to Engineer shall be as follows:

   a. For services associated with the Scope of Services defined above, OWNER shall pay ENGINEER a Lump Sum Fee of $19,650.00.

IN WITNESS WHEREOF, the parties hereto have made and executed this AMENDMENT to said AGREEMENT as of the day and year first above written.

OWNER

By: _____

Title: City Manager

Date: 12/3/20

WRIGHT-PIERCE

By: Paul F. Birkel

Digitally signed by Paul F. Birkel
DN: cn=Paul F. Birkel, c=US, o=Wright-Pierce, email=paul.birkel@wright-pierce.com
Reason: South Portland-Amendment No. 1
Date: 2020.11.23 09:44:10 -05'00'

Title: _____

Date: _____

ESTIMATED STAFF EFFORT (HOURS) AND COSTS
City of South Portland
Secondary Clarifier Splitter Structure Gate Rehabilitation
T15760

	TASK DESCRIPTIONS	Principal In Charge	Project Manager	Senior Process Engineer	Project Engineer	Process CAD	Instrument. Engineer	Instrument. CAD	Electrical Engineer	Electrical CAD	Admin. Assistant	TOTAL HOURS	NON-LABOR	SUBS COST	SUBS Mark-Up	LABOR	TOTAL
	Hourly Billing Rate	$235.00	$145.00	$198.00	$118.00	$95.00	$160.00	$95.00	$197.00	$95.00	$65.00						
1	**Design**																
a	Project Management	2	4									6			$0	$1,050	$1,050
b	Review Existing Plans and Specs		2									2			$0	$290	$290
c	Site Visit	2	4		2				3			11	$50		$0	$1,877	$1,927
d	Develop Base Plans		1			4						5			$0	$525	$525
e	Develop Gate Schedule		1		4							5			$0	$617	$617
f	90% Drawings		2	2	4	8	4	4	8	4		36	$52		$0	$4,894	$4,946
g	90% Specifications		2	2	8		4		4		6	26			$0	$3,448	$3,448
h	Cost Estimate		2		4				2			8			$0	$1,156	$1,156
i	90% Design Review Meeting	3	3									6			$0	$1,140	$1,140
j	100% Plans and Specifications	1	2	2	4	2			2	2	2	17	$100		$0	$2,297	$2,397
	Subtotals	8	23	6	26	14	8	4	19	6	8	122	$202	$0	$0	$17,294	$17,496
2	**Bidding**																
a	Advertise Project				2							2			$0	$236	$236
b	Bidder's Questions/Addenda		4		8				2			14			$0	$1,918	$1,918
	Subtotals	0	4	0	10	0	0	0	2	0	0	16	$0	$0	$0	$2,154	$2,154
	TOTAL PROJECT HOURS	8	27	6	36	14	8	4	21	6	8	138	$202	$0	$0	$19,448	$19,650

Total Labor	$19,448
Non-Labor	$202
Subcontractor	$0
Sub Markup	$0
Total Fee	$19,650

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**WESTERN AVE GENERATOR REPLACEMENT**		
Department	Water Resource Protection	**Dept. Priority**	4
Division	Treatment Systems	**Div. Priority**	4
CIP Category	Environmental Protection		

Purchase/Project Description

The Western Avenue #2 wastewater pumping station sevices a portion of Western Avenue including the semiconductor industries. The station was equipped with an emergency power stand-by generator in cases of power outages.

The generator experienced a complete failure as a result of a fire that caused significant damage. The WRP maintenace staff worked with local generator repair vendors in an attempt to find replacement parts and materials for the generator but were unable due, in part, to the age of the generator.

A new generator is necessary to insure pump station full operational status and pumping capacity in case of a power failure. Wright Pierce, the City's current engineer, has been tasked with developing up to date specifications for the replacement generator.

Financial Impact of this Purchase/Project

Source of Cost Estimate from a contractor. 10% Contingency and 20% Engineering added to the contractor's cost estimate.

Environmental Considerations

Failure of the generator to operate during a power outage could lead to a SSO (sanitary sewer overflow).

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus	$ 55,000.00	$ 55,000.00					$ 55,000.00	$ 55,000.00
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 55,000.00**	**$ 55,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 55,000.00**	**$ 55,000.00**

Source of Cost Estimate	Vendor Estimate				
Est. Annual Operating Costs	$ 300.00	**Projected Useful Life**	20 years	**Additional Documentation?**	Yes
City Manager Comments					

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Milliken Brothers, Inc.
Electrical Contractors
474 Riverside Industrial Parkway
Portland, Maine 04103
Telephone (207) 797-8375
Facsimile (207) 797-0895
E-mail: mbi@millikenbrosinc.com

October 13, 2020

City of South Portland
Water Resource Protection
Frank Moulton
111 Waterman Drive
South Portland, Maine 04106

RE: 257 Western Avenue Pump Station Generator

We propose to replace existing CAT 60kW generator with new CAT 60KW (now rated 57KW).
We include new generator, select demolition, crane and rigging, rework natural gas connection, new electrical connections, start up and testing.
We expect the existing generator will be put on a truck of yours for removal from site.

Lead time on a new CAT DG60-2 is 18-20 weeks.
Submittals for approval will be provided.

We exclude bonds, temporary power, SCADA or other controls wiring.
Proposal based on normal work hours.

Lot total $44,710.00 less sales tax.

We appreciate the opportunity to be of service.
Please let us know of any questions or concerns.

Regards,

Shawn Henderson
Shawn Henderson
Estimator – Project Manager

Cc Jeff Milliken

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**AERATION TRAIN 2 UPGRADE**		
Department	Water Resource Protection	**Dept. Priority**	5
Division	Treatment Systems	**Div. Priority**	5
CIP Category	Environmental Protection		

Purchase/Project Description

The South Portland WWTP activated sludge process has three aeration trains with three tanks in each train that treat and removes pollutants from the influent wastewater before it can be discharged to the Fore River. There are a total of five influent gates and four isolation gates in each one of the aeration trains allowing for adjustment to the process control and flow distribution of the influent wastewater into and through each of the three tanks. These gates have corroded and failed causing difficulties and failures in the ability of the staff to adjust the flow pattern for varying needs including changes in process control strategy and, isolation of tankage for cleaning and maintenance.

In additon to the gate challenges, the cement work of the tanks themselves has begun to crack and spall and is in need of repairs in order to insure long term reliability. Wright Pierce, the City's current contract engineers, has been tasked with an evaluation of the gates and cement work and final design of the upgrade. Train #1 and train #2 have sustained the greatest amount of degredation. The intention is to split the rehabilitaion into two seperate projects with aeration train #2 being done this fiscal year and aeration train #1 in FY 2023.

Financial Impact of this Purchase/Project

Source of Cost Estimate from a contractor. 10% Contingency and 20% Engineering added to the contractor's cost estimate.

Environmental Considerations

Rehabilitation of the aeration trains is necessary in order to insure the treatment plant staff can operate and maintain the aeration systems for the most effective treatment of influent wastewater. Failure to rehabilitate the aeration systems could result in a violation of our MePDES discharge permit resulting in administrative actions including fines.

Funding Source(s)	**Year 1**		**Year 2**		**Year(s) 3+**		**TOTALS**	
	Dept. Request	**Manager Rec.**	**Dept. Request**	**Manager Rec.**	**Dept. Request**	**Manager Rec.**	**Dept. Request**	**Manager Rec.**
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus	$ 298,200.00	$ 298,200.00					$ 298,200.00	$ 298,200.00
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 298,200.00**	**$ 298,200.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 298,200.00**	**$ 298,200.00**

Source of Cost Estimate	Engineers Estimate				
Est. Annual Operating Costs	$ -	**Projected Useful Life**	20 years	**Additional Documentation?**	Yes
City Manager Comments					

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WRIGHT-PIERCE
Engineering a Better Environment

PRELIMINARY DESIGN MEMORANDUM

TO:	Brad Weeks, City of South Portland	**DATE:**	12/11/2020
FROM:	Matthew Burns, Kendra Fox	**PROJECT NO.:**	T15761
SUBJECT:	Aeration Trains Gates Analysis - DRAFT		

Introduction

The South Portland Wastewater Treatment Facility (WWTF) is located on the corner of Waterman Drive and E Street in South Portland. The overall WWTF includes both the main WWTF that provides secondary treatment for the vast majority of flow, and a wet weather facility for peak flows in excess of the secondary treatment capacity during wet weather events. The main wastewater treatment process consists of an aerated grit removal system, influent screening, activated sludge secondary treatment using three aeration basins and three secondary clarifiers, chlorine disinfection, dechlorination, and discharge to the Fore River.

There are nine existing aeration tanks at the WWTF consisting of three parallel trains of three basins configured in series. There are many ways to direct the wastewater and return activated sludge flow in the aeration tanks to achieve different modes of operation. Currently, the typical mode of operation uses one of the three aeration trains is online at a time. During wet weather events, a second train may be brought online.

Aeration Trains 1 and 2 are separated by an influent channel where wastewater may enter one of three aeration basins within Aeration Train 1 via slide gates ME-SCSDG-1, -2, -3, -4, -5 or one of three aeration basins in Aeration Train 2 via slide gates ME-SCSDG-6, -7, -8, -9, -10. Wastewater may also flow from basin to basin within a train via adjustable weir gates. Aeration Train 1 includes adjustable weir gates AWG-4, -5, -6, -7 and Aeration Train 2 includes adjustable weir gates AWG-8, -9, -10, -11. Refer to the attached figure depicting the aeration trains, basins, and gates.

The adjustable weir gates (manufactured by Rodney Hunt) and influent slide gates were installed in 1995 as part of the WWTF Treatment Facility Upgrade. Significant degradation of the influent slide gates required that the gates be replaced again just 8 years later. In 2003, the slide gates were replaced with new gates fabricated by Global Metal Fabrications of Auburn, Maine as part of the WWTF Fine Bubble Aeration System Upgrade. Each slide gate has an electric actuator to remotely open and close the gate, but a number of these actuators are broken or non-functional.

Over the last 15 to 25 years, both the slide gates and adjustable weir gates in the aeration tanks have corroded and begun deteriorating. The deterioration of the gates has made a number of them ineffective at sealing for isolation and/or inoperable. The city of South Portland has asked that Wright-Pierce evaluate the condition of the slide and adjustable weir gates in Aeration Trains 1 and 2 and develop recommendations for rehabilitation. The City intends to complete rehabilitation work in the Spring of 2021 and bid the rehabilitation work as two separate contracts.

The following sections summarize the condition of the existing slide and adjustable weir gates and evaluates rehabilitation and/or replacement options and costs.

Evaluation of Existing Gates

Wright-Pierce met with Bob Fournier from Global Metal Fabrication on November 13, 2020 at the WWTF to evaluate the condition and rehabilitation/replacement options for the existing gates in the aeration tanks. Additionally, the City completed inspections and a subsequent report of the Aeration Tanks dated 20## entitled 'Aeration Train Evaluation Preliminary Report' which identified areas of corrosion as well as concrete cracking in the aeration trains. The City's report was used to supplement field observations by Wright-Pierce and Global Metal Fabrication for the slide gates and adjustable weir gates in Aeration Trains 1 and 2. In general, the City observed signs of degradation along the bottom edge around the seal surface of all slide gates, and corrosion between the adjustable weir gate slides, tracks, and seals. Other gate-specific observations identified in the report are included in the table below.

Aeration Train 1

During the site visit, Train 1 was online and wastewater was above the bottom of the influent channel slide gate inverts; therefore, the bottom of the gates could not be observed. Similarly, there was flow through the adjustable weir gates, making inspection of the bottom the gates difficult. After discussion with City staff based on their previous observations, it is assumed that the condition of gates in Train 1 are similar to the condition of the gates in Train 2. The following table summarizes the observations of the gates in Train 1.

Table 1
Aeration Train 1 Gate Observations

Gate Number	Observations
ME-SCSDG-1	City observed bottom gate frame has completed corroded, leaving only the concrete tank surface exposed. UHMW strips only installed on one side of the slide, making operation difficult.
ME-SCSDG-2	City observed bottom gate frame is significantly corroded. UHMW strips only installed on one side of the slide, making operation difficult.
ME-SCSDG-3	Stem is severely bent, making it difficult to open the gate. City observed bottom gate frame is significantly corroded. UHMW strips only installed on one side of the slide, making operation difficult.
ME-SCSDG-4	Stem is broken and no longer attached to the slide. Slide cannot be actuated up or down. Bottom of frame is assumed to be corroded. UHMW strips only installed on one side of the slide, making operation difficult.
ME-SCSDG-5	Vertical frame is bent, which makes actuating the gate difficult. The west side of the frame bows away from the wall at the top and bows into the wall at the bottom. The east side of the frame is straight. Bottom of frame is assumed to be corroded. UHMW strips only installed on one side of the slide, making operation difficult.

AWG-4	Corrosion of frame and UHMW strips.
AWG-5	Corrosion of frame and UHMW strips.
AWG-6	Corrosion of frame and UHMW strips. City noted the gate leaks when in the closed position.
AWG-7	Corrosion of frame and UHMW strips. City noted the gate leaks when in the closed position.

Aeration Train 2

During the site visit, Train 2 was offline and the gates could be observed from the influent channel. There was approximately 3-feet of standing water in the bottom of Train 2, so close inspection of the bottom of the gates from within the tanks was not possible. The following table summarizes the observations of the gates in Train 2.

Table 2
Aeration Train 2 Gate Observations

Gate Number	Observations
ME-SCSDG-6	Bottom of frame is corroded. Stem is in fair condition. UHMW strips only installed on one side of the slide, making operation difficult.
ME-SCSDG-7	Bottom of frame is corroded. Vertical frame is bent, which makes actuating the gate difficult. The east side of the frame bows away from the wall at the bottom. Stem is in fair condition. UHMW strips only installed on one side of the slide, making operation difficult.
ME-SCSDG-8	Bottom of frame is corroded. Gate has a persistent leak when closed. Stem is bent and continues to bend when force is applied to close the gate. UHMW strips only installed on one side of the slide, making operation difficult.
ME-SCSDG-9	Bottom of frame is corroded. Stem is in fair condition. UHMW strips only installed on one side of the slide, making operation difficult.
ME-SCSDG-10	Bottom of frame is corroded. Stem is in fair condition. UHMW strips only installed on one side of the slide, making operation difficult.
AWG-8	Corrosion of frame and UHMW strips.
AWG-9	Not inspected. City noted this gate is in poor condition.
AWG-10	Gate was difficult to operate, j-bulb material flaking off as slide was being actuated. Corrosion of frame and UHMW strips.
AWG-11	City noted the backside of the frame, facing into Basin 6, is corroded and the gaskets are degraded.

The field observations by City staff, Wright-Pierce and Global Metal Fabrication show that the condition of the gates are in generally poor shape and need to be corrected to provide a functioning system. There are two paths that the City can take; rehabilitate the existing gates or replace the existing gates with new. Both options are discussed below.

Rehabilitation Alternative

The City has asked Wright-Pierce to review options to rehabilitate the existing gates and determine if this would be a cost-effective approach. Rehabilitation requirements for each gate include:

- **ME-SCSDG-1, -2, -3, -4, -6, -8, -9, -10:** In general, the bottom third of the frames are corroded and in poor condition. The elevation where corrosion ends coincides with the high-water elevation in the tank. The upper two thirds of the frames are in relatively good condition. The slides appear to be in good condition and could be reused. An option discussed with Global Metal Fabrication and the City while on site is to reuse the top two thirds of the existing aluminum frames and replace the bottom third of the frame with a new partial frame constructed of stainless steel for enhanced corrosion resistance. Fabrication of a new bottom frame portion would require removing the existing gate and bringing it to a fabrication shop where it could be used as a template for the new portion of the gate frame to ensure the existing portion and new portion of the frame align exactly. Additionally, because stainless steel cannot be welded to aluminum, vertical support bars would need to be anchored to the new and existing wedge pieces to ensure no differential shifting of the two frame pieces. Typically, with new slide gates, the slide is installed such that there are ultra-high molecular weight (UHMW) strips on both the front and back of the gate. In these slide gates, there is a UHMW strip installed on the front of the slide (facing the aeration tanks), and no strip installed on the back, facing the center channel. Therefore, the slide is rubbing metal to metal on one side, making it more difficult to operate. New UHMW strips would be installed on the front and back of the slide to make operating the gate easier. The UHMW strips would extend from the top of the existing frame down to the bottom of the new frame portion, providing a continuous track to ride on without interruption between the new and existing frames.

- **ME-SCSDG-3, -4, -8:** In addition to the rehabilitation outlined above, these gates require replacement of the stem, as the existing stems are too damaged to continue operating in its current condition. A bent stem may require operators to use excessive force when attempting to open or close the gates and could result in operability or potential injury. Whereas the stem on gate ME-SCSDG-4 is completely detached from the slide, the new stem and collar would need to be welded to the existing slide.

- **ME-SCSDG-5, -7:** The bowing frames of these two gates make operating them very difficult. Rehabilitation of these gates requires complete new frames, at which point complete replacement of these gates is recommended for proper and safe operation.

- **All Slide Gates:** The City's report identified only four of the ten influent slide gate actuators in Trains 1 and 2 that operate correctly. The operators have a handwheel that can be used to actuate the gates if the electric actuators are not working; however, the handwheels are located opposite the electric actuators such that they sit over the basin side of the aeration tank walls, making them difficult to reach and unsafe for staff to operate. The City would prefer to remove the electric actuators from all ten slide gates and replace with manual handwheel operators only. New manual handwheel operators would be installed on the rehabilitated gates and reoriented such that the handwheel sits vertical, facing the walkway, making actuating the gates

more accessible and safer. The new manual gate operators would be designed to have a maximum applied force of 40 lbs to actuate the slide gates to meet American Water Works Association (AWWA) standard operating force requirements for slide gates.

- **AWG-4, -5, -6, -7, -8, -10, -11:** Based on the field observations and input from the City, these gates could be considered for in situ rehabilitation. Rehabilitation would include sandblasting and wire brushing the gates and frames to remove corrosion. Replacement of the UHMW strips along the gate frame will help reduce and prevent leaking through the gates when in the closed position. The j-bulbs should be replaced since the existing j-bulb material flakes when the gate is actuated. Epoxy coating of the gates and frames should be applied to provide a protective coating for additional corrosion resistance. AWG-11 would include replacement of gaskets in addition to these rehabilitation methods based on City observations.

- **AWG-9:** Although field observation of this gate was not possible, the City noted the poor condition of the gate and that it is past the point of rehabilitation and needs to be replaced.

Replacement Alternative

In lieu of rehabilitating the gates in place, one option would be to replace the gates in kind. The City has asked Wright-Pierce to determine cost to replace the existing slide gates and adjustable weir gates in kind in lieu of gate rehabilitation. Replacement would involve demolition of the existing gates by a General Contractor, followed by surface preparation and installation of the new gates in each aeration train. In this option, as with the rehabilitation alternative, electric motor actuators would be omitted.

Cost Comparison

The cost for gate rehabilitation versus gate replacement for the slide gates and adjustable weir gates is summarized below. Wright-Pierce has developed construction cost estimates for the City for both the rehabilitation option and replacement option. Wright-Pierce worked with Global Metal Fabrications to develop budgetary costs for rehabilitation. Wright-Pierce obtained budgetary numbers from Whipps Gates for complete replacement. A few notes regarding the costs outlined in the tables below:

- The rehabilitation cost for each slide gate includes a 30” bottom frame portion constructed of 3/8” thick 316 stainless steel, UHMW strips, and new gearbox (existing slide and stem to be re-used, unless otherwise indicated), as applicable.
- The rehabilitation cost for each adjustable weir gate includes new UHMW strips, sandblasting/epoxy painting, and j-bulb replacement, as applicable.
- The replacement cost for each slide gate includes a completely new gate constructed of 316 stainless steel inclusive of frame, slide, stem, gearbox, and UHMW strips.
- The replacement cost for each adjustable weir gate includes a completely new gate constructed of 316 stainless steel inclusive of frame, slide, stem, gearbox, and UHMW strips.

- Costs for both rehabilitation and replacement include material and installation costs, as well as typical markups for Contractor overhead and profit, bonds and insurances, legal and administrative fees, financing, design and construction contingency, as shown below.

Table 3
Aeration Train 1 Comparison of Alternative Costs

Aeration Train 1	Rehabilitation	Replacement
ME-SCSDG-1	$5,909	$8,190
ME-SCSDG-2	$5,909	$8,190
ME-SCSDG-3	$7,141[1]	$8,190
ME-SCSDG-4	$7,866[2]	$8,190
ME-SCSDG-5	$8,190[3]	$8,190
AWG-4	$2,436	$6,760
AWG-5	$2,436	$6,760
AWG-6	$2,436	$6,760
AWG-7	$2,436	$6,760
Subtotal, Construction	$45,000	$68,000
General Contractor OH&P (17.5%)	$8,000	$12,000
Bonds and Insurances (2.0%)	$1,000	$2,000
Subtotal, Construction Costs	$54,000	$82,000
Design and Construction Contingency (15.5%)	$8,000	$13,000
Total Construction Cost AT-1:	**$62,000**	**$95,000**

Notes:
1. Cost of new stem included as part of rehabilitation.
2. Cost of new stem and welded connection of new stem to existing slide included as part of rehabilitation.
3. Gate cannot be rehabilitated; replacement cost provided.

Table 4
Aeration Train 2 Comparison of Alternative Costs

Aeration Train 2	Rehabilitation	Replacement
ME-SCSDG-6	$5,909	$8,190
ME-SCSDG-7	$8,190[3]	$8,190
ME-SCSDG-8	$7,141[1]	$8,190
ME-SCSDG-9	$5,909	$8,190
ME-SCSDG-10	$5,909	$8,190
AWG-8	$2,436	$6,760
AWG-9	$6,760[3]	$6,760
AWG-10	$2,436	$6,760
AWG-11	$3,161[4]	$6,760
Subtotal, Construction	$48,000	$68,000
General Contractor OH&P (17.5%)	$8,000	$12,000
Bonds and Insurances (2.0%)	$1,000	$2,000
Subtotal, Construction Costs	$57,000	$82,000
Design and Construction Contingency (15.5%)	$9,000	$13,000
Total Construction Cost AT-2:	**$66,000**	**$95,000**

Notes:
1. Cost of new stem included as part of rehabilitation.
2. N/A
3. Gate cannot be rehabilitated; replacement cost provided.
4. Cost of gasket replacement included as part of rehabilitation.

Life-Cycle Cost Analysis

Slide Gates

The industry standard for typical useful life of gates is approximately 30 years under normal conditions. It is typical for seals and gaskets to need replacement after 15-20 years of service. If rehabilitation is the selected option for the slide gates, the top and bottom portions of the slide gates will have different installation dates and may need to be rehabilitated again in the future in a similar manner. For example, the top portion of the frame was installed in 2003 and has an expected useful life until 2033 and the new bottom portion would be installed in 2021, having an expected useful life until 2051. Therefore, the top portion may need to be replaced in the future before the bottom portion would need replacement. This approach will set the City up for alternating gate portion replacement moving forward, unless replacement of either the upper or lower portion can be stretched significantly beyond the typical 30-year service life.

A life-cycle cost analysis was performed to compare the cost of replacing the bottom portion of the slide gate frames now and the top portion in 13 years (assuming the useful life of the top portion lasts a total of 30 years) to the cost of replacing the entire slide gates. The analysis determines the total present worth cost of the two options, gate rehabilitation or gate replacement, projected out

30 years. The cost breakdown and assumptions used in the analysis for each option are shown in the table below.

Table 5
Net Present Worth Long-Term Cost Comparison – Slide Gates

Slide Gate Parameter	Rehabilitation	Replacement
Capital Cost (2020 dollars)[1]	$95,000	$113,000
Capital Cost (future rehabilitation)[2]	$140,000	$0
Inflation Rate (%)	3.0%	3.0%
Life Cycle (years)	13	0
Net Present Worth	**$235,000**	**$113,000**

Notes:
1. Capital cost includes total construction cost of Aeration Trains 1 and 2.
2. Cost of gate frame top portion is assumed to be the same as the gate frame bottom portion.

The net present worth for slide gate rehabilitation in Trains 1 and 2 is significantly higher than choosing to replace the gates in 2021 currency. A savings of approximately $122,000 over 30 years could be seen if all the slide gates were replaced now compared to rehabilitated now and again in 13 years. Because of the savings seen over 30 years and a relatively close capital cost to be spent now for replacement compared to rehabilitation, replacement of the slide gates is recommended over rehabilitation.

Adjustable Weir Gates

As with the influent slide gates, the industry standard for typical useful life of gates is approximately 30 years under normal conditions. Again, it is typical for seals and gaskets to need replacement after 15-20 years of service. These adjustable weir gates are approximately 25 years old and have 5 years of expected life remaining. If rehabilitation is the selected option for the adjustable weir gates, it is reasonable to expect another 15 years of life out of the rehabilitated gates.

A life-cycle cost analysis was performed to determine the cost of rehabilitating the adjustable weir gates by replacing the UHMW strips, j-bulbs, and sandblasting and epoxy coating the frames now and again in 15 years (assuming the rehabilitation adds 15 years of useful life) compared to the cost of replacing the entire adjustable weir gates now. The analysis determines the total present worth cost of the two options, gate rehabilitation or gate replacement, projected out 30 years. The cost breakdown and assumptions used in the analysis for each option are shown in the table below.

Table 6
Net Present Worth Long-Term Cost Comparison – Adjustable Weir Gates

Adjustable Weir Gate Parameter	Rehabilitation	Replacement
Capital Cost (2020 dollars)[1]	$34,000	$74,000
Capital Cost (future rehabilitation)[2]	$53,000	$0
Inflation Rate (%)	3.0%	3.0%
Life Cycle (years)	15	0
Net Present Worth	**$87,000**	**$74,000**

Notes:
1. Capital cost includes total construction cost of Aeration Trains 1 and 2.
2. Future gate rehabilitation methods are assumed to be the same as current gate rehabilitation methods.

The net present worth for adjustable weir gate rehabilitation in Trains 1 and 2 is higher than choosing to replace the gates in 2021 currency. Because the savings of approximately $13,000 is a relatively small savings over 30 years, the adjustable weir gates could be either rehabilitated or replaced for a similar cost when looked at over 30 years. As the life cycle cost of replacement is slightly less than rehabilitation, and replacement of the adjustable weir gates would provide a better overall product, replacement of the adjustable weir gates is recommended over rehabilitation.

Either the gate rehabilitation or gate replacement approach, of both the slide gates and adjustable weir gates, will require maintenance of the gates over the useful life of 30 years. Seals and gaskets have a typical useful life of 15-20 years and should be periodically inspected and replaced prior to failure. Replacement of seals and gaskets was not factored in to either life-cycle cost estimate because this cost would be present in both the rehabilitation and replacement options.

Conclusions and Recommendations

From our recent field observations, corrosion is present on every gate included in this analysis. Although the exact reason for the intense levels of corrosion on the gates is unknown, there are a few possible explanations. The existing slide gates and adjustable weir gates are of aluminum construction, which is known to corrode more quickly than stainless steel. As the WWTF is located adjacent to the tidally influenced Fore River, salt in the atmosphere may contribute to corrosion of the aluminum gates. Additionally, erosion of the metal frame from frictional rubbing along with wetting and drying of the metal when the wet slide comes into contact with the frame may contribute to corrosion. With the treatment facility being a combined sewer system, salt from the roads enters the collection system and ultimately makes its way to the treatment facility. Some residual salt may be entering the aeration tanks and the presence of salt in the wastewater would accelerate the effects of corrosion because of the increased concentration of ions reacting with the aluminum gates. The saltwater effect on aluminum is much worse than stainless steel, and 316 stainless steel is more resistant to saltwater than 304 stainless steel. As saltwater and salt air are likely present at the WWTF, it is recommended that all metal gate components to be replaced as part of this upgrade be specified as 316 stainless steel to reduce the effects of corrosion.

Given the factors listed above, Wright-Pierce recommends that the City replace the existing slide gates and adjustable weir gates with new 316 SS gates. New gates will provide longevity, corrosion resistance, easier operation compared with existing, and will be a cleaner installation less prone to issues compared with rehabilitating the gates in place. The added capital cost for new 316 SS gates is offset over the life of the gates as indicated in the life cycle cost analyses.

Legend:

Gate to be Replaced or Rehabilitated

Existing Gate to Remain

N

10" RS FROM OPERATIONS BUILDING PUMP ROOM INV. EL. 10.21

SG-3

Converted to Fixed Weir

E-AWG

EFFLUENT

CHANNEL

60" ADJUSTABLE WEIR GATE (TYP.)

ADJUSTABLE WEIR GATE OPERATOR (TYP.)

AWG-4

BID ALTERNATE NO. 4

REPLACE THE EXISTING SLIDE GATES BETWEEN THE AERATION BASINS WITH ADJUSTABLE WEIR GATES (TYP.)

AWG-6

BID ALTERNATE NO. 4

30'-0"

AERATOR SUPPORT PLATFORM (TYP.)

EXTEND RS PIPING TO DISCHARGE @ INV. EL. 18.00 (TYP.)

10"RS FROM OPERATIONS BUILDING PUMP ROOM

AERATION BASIN NO. 1

AERATION BASIN NO. 2

AERATION BASIN NO. 3

15 PR-14

6" AERATION BASIN DRAIN ℄ EL. 5.29

ME-SCSDG-1

ME-SCSDG-2

ME-SCSDG-3

ME-SCSDG-4

ME-SCSDG-5

BID ALTERNATE NO. 4

AWG-5

AWG-7

6" PLUG VALVE W/EXTENDED OPERATING STEM (TYP)

6" AERATION BASIN DRAIN TO DISINFECTION BUILDING PUMP ROOM. INV. EL. 4.94

SEE CIVIL, SITE PIPING, SHEET FOR CONTINUATION

8"X 6" REDUCER (TYP.)

6"S FROM OPERATIONS BUILDING PUMP ROOM

(2)12"RS FROM OPERATIONS BUILDING PUMP ROOM

24"PTE FROM AERATION FLOW SPLITTER

24"PTE FROM AERATION FLOW SPLITTER

E-SLG

ME-SCSDG-6

ME-SCSDG-7

ME-SCSDG-8

ME-SCSDG-9

ME-SCSDG-10

AWG-8

AWG-10

SLUICE GATE FLOOR STAND OPERATOR (TYP.)

2'-6" SQ. x1'-6" DEEP SUMP PIT (TYP.)

AERATION BASIN EFFLUENT CHANNEL

AERATION BASIN NO. 4

AERATION BASIN NO. 5

AERATION BASIN NO. 6

AWG-9

AWG-11

SG-4

SG-5

SG-6

10"RS FROM OPERATIONS BUILDING PUMP ROOM

10" RS FROM OPERATIONS BUILDING PUMP ROOM INV. EL. 10.21

SEE DWG. PR-14 FOR AERATION BASIN EFFLUENT CHANNEL CONTINUATION

DEMOLITION NOTES

REFER TO DWG. PR-5 FOR GENERAL DEMOLITION NOTES.

BID ALTERNATE NO. 4

1. REMOVE THE EXISTING SELF CONTAINED SLIDE GATES BETWEEN THE AERATION BASINS AND REPLACE WITH NEW GATES PER SCHEDULE, SEE SHEET PR-28.
2. REMOVE THE MANUAL OPERATORS FROM THE SELF CONTAINED SLIDE GATES BETWEEN THE INFLUENT CHANNEL AND AERATION BASIN, AND REPLACE WITH NEW MOTOR OPERATORS PER SCHEDULE. SEE SHEET PR-28.
3. REMOVE THE RS DISCHARGE FITTINGS AND EXTEND AS SHOWN. REUSE DISCHARGE FITTINGS.

NOTES

1. CORE HOLE THROUGH EXISTING WALLS FOR NEW AERATION BASIN DRAIN LINES AND SEAL WITH LINK SEAL AND NON SHRINK GROUT.

PLAN VIEW

1/8" = 1'-0"

REFERENCES

DIVISION	SHT. No.	COMMENTS
CIVIL	C-4	SITE PIPING
STRUCTURAL	S-20 TO S-26	STRUCTURES
ELECTRICAL	E-3	SITE PLAN

PROGRESS PRINTS

APP'D

NO | REVISIONS | DATE

1 | RECORD DRAWING | MAY 1995

DRAWN BY JCV
CHECKED BY PFB
DATE 04-23-93
APPROVED BY JWB/JAH
DATE 04-23-93
BIDDK NO.
PROJECT NO. 6358K
SCALE 1/8"=1'-0"
DWGS\6358K\ENV\6358PR13

STATE OF MAINE JOHN A. HAMEL No. 7139 REGISTERED PROFESSIONAL ENGINEER

STATE OF MAINE JOHN W. BOSWELL No. 7139 REGISTERED PROFESSIONAL ENGINEER

WRIGHT-PIERCE
ENGINEERS & SURVEYORS
99 Main Street Topsham, Maine 04086
TEL 207-725-8721 FAX 207-729-8414

CITY OF SOUTH PORTLAND, MAINE
WASTEWATER TREATMENT FACILITY UPGRADE

AERATION BASINS NO. 1 THROUGH 6 MODIFICATIONS - PLAN VIEW AND NOTES

DWG. PR-13
64 OF 114

THESE RECORD DRAWINGS HAVE BEEN PREPARED, IN PART, ON THE BASIS OF THE INFORMATION COMPILED AND FURNISHED BY OTHERS. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS

6358PR13 Fri May 21 07:26:49 1993 WRIGHT PIERCE

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Meeting House Hill Utility Improvements - Phase 1**		
Department	Water Resource Protection	**Dept. Priority**	9
Division	Collections Systems	**Div. Priority**	9
CIP Category	Environmental Protection		

Purchase/Project Description

The proposed Meetinghouse Hill Utility Improvement Project is a three year/three phase project to address the undersized stormwater drainage system in Cottage Rd and Highland Ave; separate the combined sewer system on Meetinghouse Hill; and improve the street scape in the project area. Phase 1 of construction, slated for 2021, includes the drainage work in Cottage Road from O'Neill Street to Highland; drainage through the library parking lot and across Broadway; and reconstruction of the Highland streetscape from Cottage to Ocean. In addition drainage along Highland Avenue will continue from the Library area down to Trout Brook. Portland Water District will be installing new water mains as part of this project as well.

The scope also includes street scape improvements in Highland from the Trout Brook crossing to Ocean Street and pedestrian signal improvements at Ocean and Highland. That work is independent of the utility upgrades and is being done to address the poor condition of the road and sidewalks in this area. The cost associated with that work is approximately $420,000 and will be funded out of the 2021 paving budget and surplus funds from past paving budgets.

Financial Impact of this Purchase/Project

Source of Cost Estimate from a contractor. 10% Contingency and 20% Engineering added to the contractor's cost estimate.

Environmental Considerations

The proposed drainage improvements are critically important to maintain the capacity and resilience needed to be adequately prepared for rising sea levels in intensifying storm surges. Additionally, Phase 1 of the Meetinghouse Hill project will facilitate the future separation of the combined sewers in the neighborhood.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances							$ -	$ -
TIF	$ 2,992,425.00	$ 2,992,425.00					$ 2,992,425.00	$ 2,992,425.00
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 2,992,425.00**	**$ 2,992,425.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,992,425.00**	**$ 2,992,425.00**

Source of Cost Estimate	Sebago Technics				
Est. Annual Operating Costs	NA	**Projected Useful Life**	75	**Additional Documentation?**	Yes
City Manager Comments					

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Meetinghouse Hill and Library Drainage Improvements

Preliminary Design Report

For

City of South Portland, Maine
Water Resources Protection Department

Prepared by:

Sebago Technics, Inc.
75 John Roberts Road – Suite 4A
South Portland, Maine 04106

May 7, 2020

STATE OF MAINE
DANIEL
L
RILEY
No. 9967
LICENSED
PROFESSIONAL ENGINEER

05/06/2020

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Attachment 2 – Concept Plans of Library Site
Attachment 3 - Library Electrical Report
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Appendices

Appendix 1 Watershed plans
Appendix 2 Preliminary Plans O'Neill Street Redevelopment
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Appendix 4 Hydraulic Grade Line Analysis Summaries

Introduction

This memorandum summarizes the results of a study to evaluate alternatives for storm drain improvements and combined sewer separation in the collection system tributary to outfalls MC-4 and MC-16, at Trout Brook and Mill Creek. The study area is identified in Figure 1 and includes storm drainage across the South Portland Public Library site and locations in Broadway, Highland Avenue, and Cottage Road extending from Mill Creek to O'Neill Street.

Figure 1 Study Area

The City of South Portland's former Public Works site on O'Neill Street is planned for residential redevelopment. The redevelopment of the site is expected to separate runoff from approximately 6.7 acres, redirecting runoff from the combined sewer system in Walnut Street and Cottage Road to the separated storm drain system in Cottage Road.

The South Portland Library site at 482 Broadway is currently served by the separated drainage system that conveys runoff from upstream sources along Highland Avenue, South Richland Street, and Cottage Road from Highland Avenue to O'Neill Street. This system crosses below the Library parking and under Broadway, discharging to Outfall MC-4 in Mill Creek Park. The library parking lot has flooded during past storm events and flows are expected to increase in the future due to the planned redevelopment of the former Public Works facility on O'Neill Street.

This study evaluates options to upgrade the drainage system through the Library site to Outfall MC-4 or to install a new drainage system in Highland Avenue to Outfall MC-16 at Trout Brook. The study evaluates alternatives to add separation of combined sewers in the West Meetinghouse Hill neighborhood south of

Highland Avenue; including portions of Jordan Avenue, Providence Avenue, Walnut Street, Pitt Street, and South Richland Street.

Four alternatives have been considered. Alternatives A1 and A2 (improvements discharging to Outfall MC-4) and Alternatives B1 and B2 (improvements discharging to Outfall MC-16).

- Alternative A1 – Includes upsizing the drainage system in Cottage Road from O'Neill Street to Highland Avenue to accommodate runoff from the former Public Works site redevelopment. This alternative will upgrade the system through the Library Site and across Broadway to MC-4.

- Alternative A2 – Expands the scope of Alternative A1 to add separation of stormwater runoff from the combined sewers in Jordan Avenue, Providence Avenue, South Richland Avenue, Boothby Avenue and a portion of Pitt Street. Directing the separated runoff through the Library site and across Broadway to Outfall MC-4.

- Alternative B1 – Includes upsizing the drainage system in Cottage Road from O'Neill Street to Highland Avenue to accommodate runoff from the former Public Works site redevelopment. This alternative proposes a new storm drain in Highland Avenue from Cottage Road to Outfall MC-16 at Trout Brook. In Alternative B1, flows across the Library Site are reduced and the existing on-site system remains, draining under Broadway to Outfall MC-4.

- Alternative B2 – Expands the scope of Alternative B1 to add separation of stormwater runoff from combined sewers in Jordan Avenue, Providence Avenue, South Richland Avenue, Boothby Avenue and a portion of Pitt Street directing the separated runoff to Highland Avenue and Outfall MC-16.

Data Collection and Surveys

Aerials were obtained using public GIS data. Topographic information for the library site is based upon field work performed by Sebago Technics, Inc. in April of 2019. All other topographic information shown on design plans is LIDAR derived and was acquired from the NOAA Office for Coastal Management using the NOAA Data Access Viewer at https://coast.noaa.gov/dataviewer/#/.

The majority of utility information depicted on plans was obtained using City of South Portland GIS; this includes existing sanitary rim elevations and inverts and storm drain rim elevations. Supplemental information regarding storm drain pipe invert elevations was obtained via either ground survey of existing structures or using as-built drawings featuring the surrounding area. No topographic survey of the streets in the study area has been completed.

Hydrologic and Hydraulic Modeling

A hydrologic and hydraulic grade line analysis was performed to size the proposed separated storm drainage alternatives. The hydrologic analysis was completed to determine flow rates and the hydraulic grade line analysis was completed to confirm flow rates and for preliminary pipe sizing. The analyses presented in this report have been performed based on commonly accepted engineering methods, but are preliminary and intended for the purpose of defining the general scope of the project and to support 30% design documents for the proposed improvements.

The naming convention for existing storm drainage and sanitary sewer structures are referenced to the City of South Portland Geographic Information System (GIS) sewer system geodatabase.

Study Areas

The project drainage area is identified in the Watershed Plans presented in Appendix 1.

Alternative A1 Evaluates a 23.5-acre watershed area that is tributary to Outfall MC-4 in Mill Creek Park. The Alternative A1 watershed area includes stormwater runoff from the separated storm drains in Broadway, the South Portland Library Site, and portions of Cottage Road, O'Neill Street, Walnut Street, and South Richland Avenue. Alternative A1 also includes separating runoff from the 6.7-acre former Public Works site on O'Neill Street to the Cottage Road system.

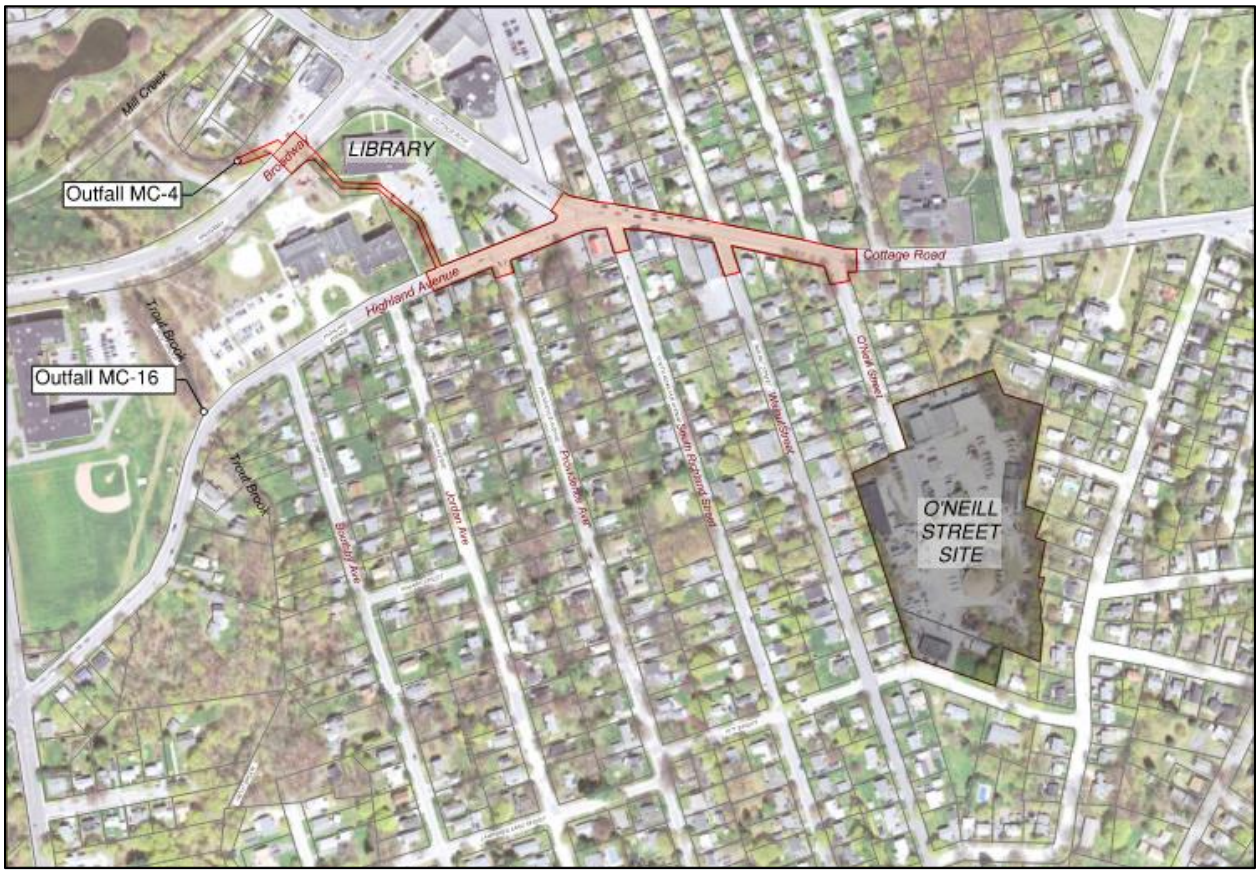

Figure 2 Alternative A1 Improvements Area

Alternative A2 expands the A1 study area, adding 32.8 acres, which represents the separation of stormwater runoff from the combined sewers in Jordan Avenue, Providence Avenue, South Richland Avenue, Boothby Avenue, and a portion of Pitt Street directing runoff to Outfall MC-4.

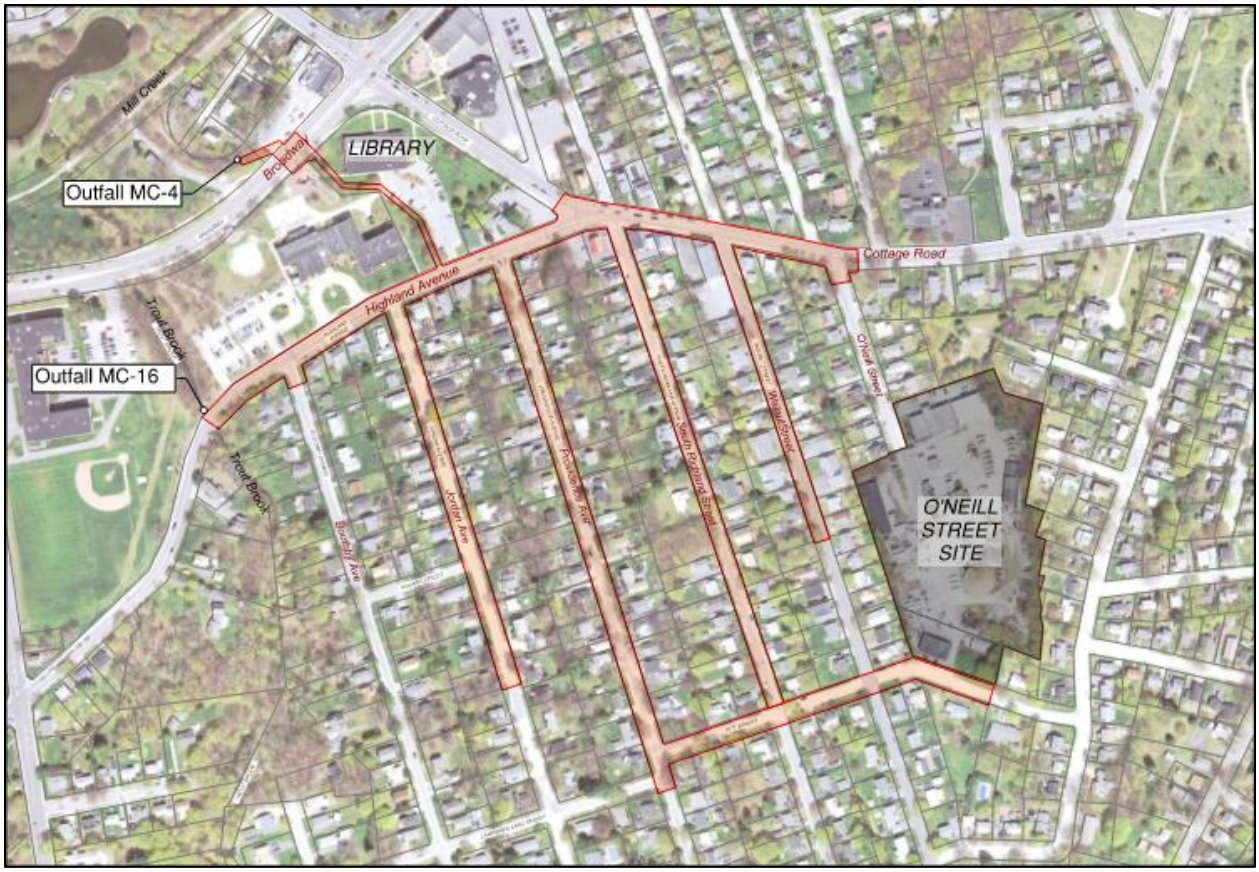

Figure 3 Alternative A2 Improvements Area

Alternative B1 evaluates a 21.7-acre watershed that is tributary to Outfall MC-16. This alternative includes constructing a new storm drain from MC-16 at Trout Brook along Highland Avenue to Cottage Road and along Cottage Road to O'Neill street. This alternative includes adding separated runoff from the 6.7-acre former Public Works site on O'Neill Street and directing that runoff to MC-16. In this alternative the area tributary to Broadway crossing to MC-4 is reduced by redirecting areas of Highland Avenue and Cottage Road to the east, leaving the library site to drain in its existing condition.

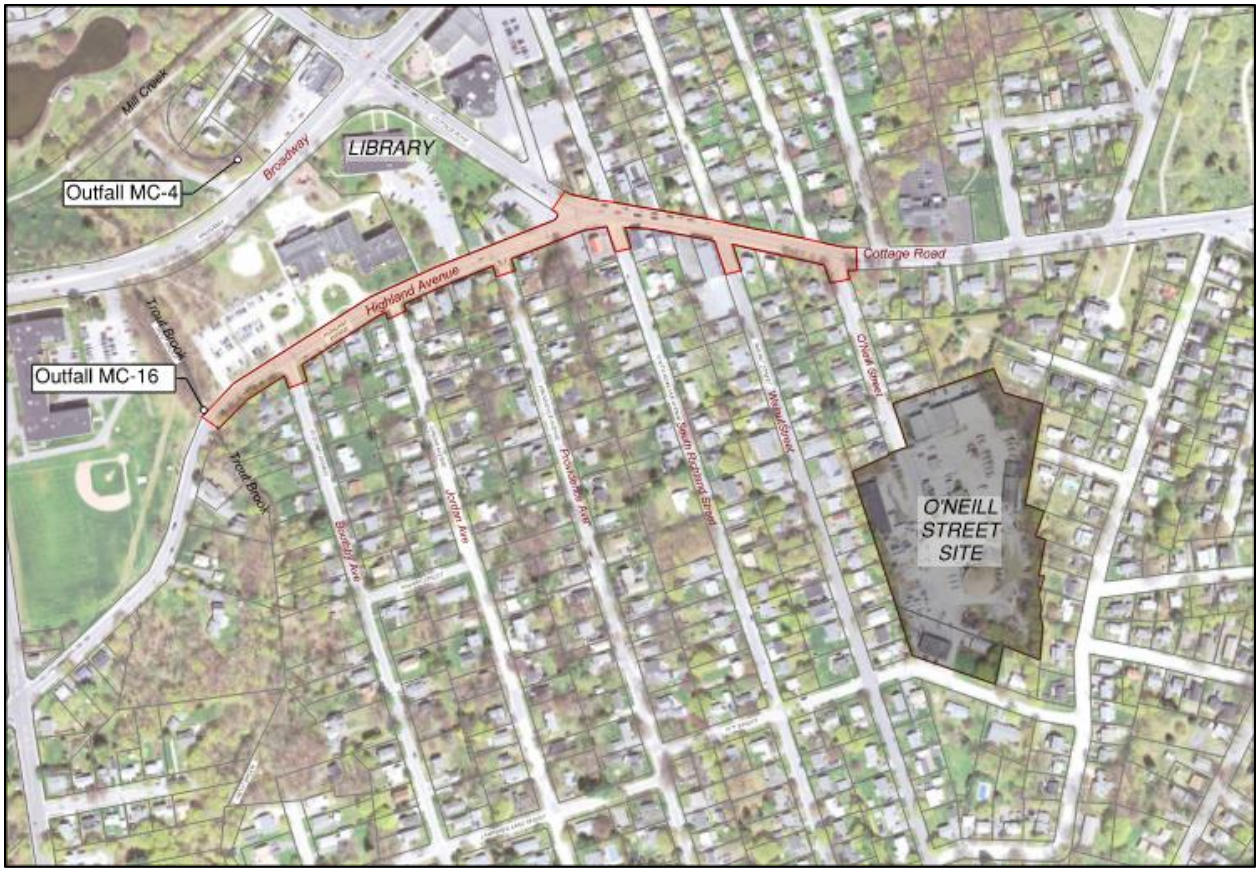

Figure 4 Alternative B1 Improvements Area

Alternative B2 expands the B1 study area adding 32.8 acres representing the separation of stormwater runoff from the combined sewers in Jordan Avenue, Providence Avenue, South Richland Avenue, and a portion of Pitt Street to Outfall MC-16.

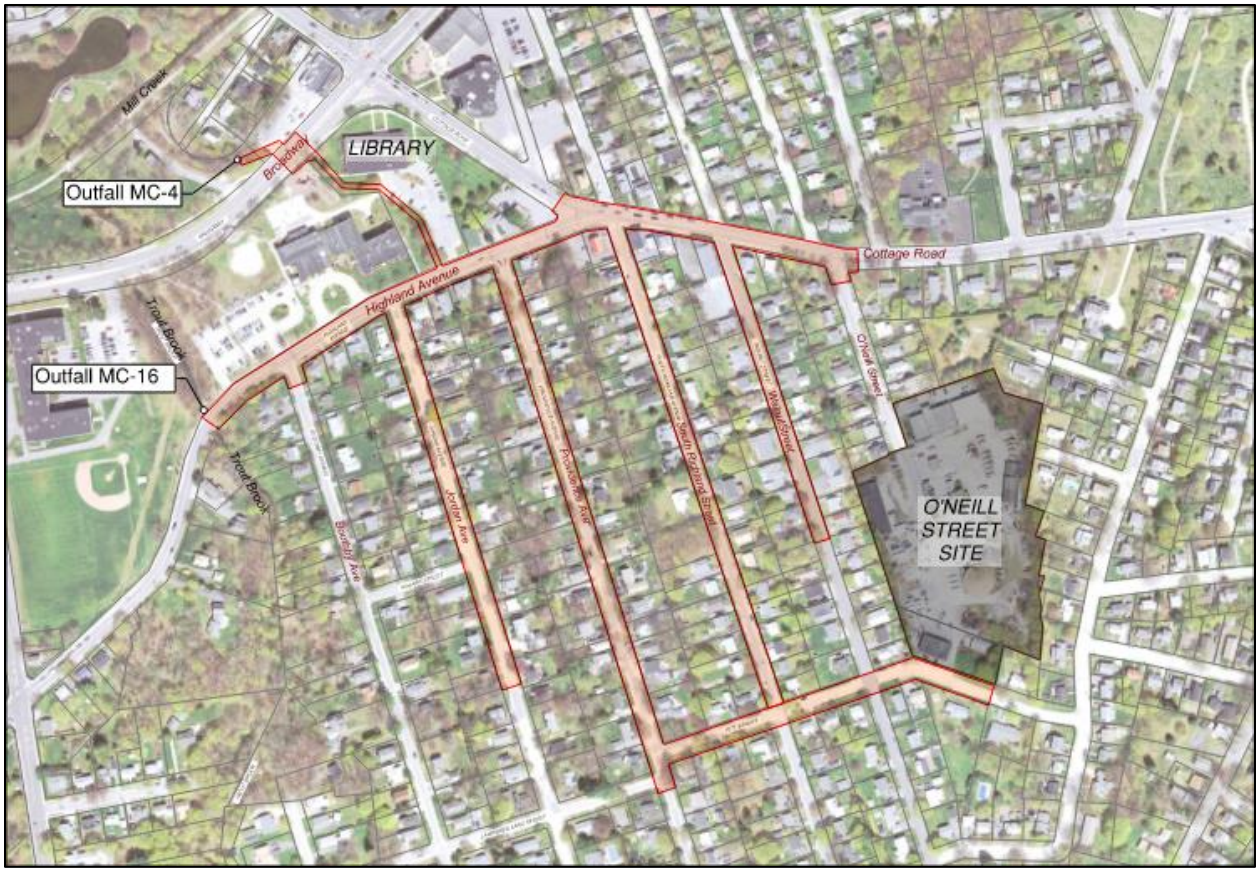

Figure 5 Alternative B2 Improvements Area

It is to be noted that Mill Creek (MC-4) and Trout Brook MC-16 are tidally influenced with a Mean High Water (MHW) elevation of approximately 4.2 feet. In addition, the City has experienced flooding of Highland Avenue due to restrictions represented by the culvert crossing of Trout Brook at Broadway. This flooding was investigated in a report by Sebago Technics, Inc. titled *Trout Brook Culvert Replacement Study Report* dated May 2, 2019. The impact of the Broadway culvert is potentially significant for the "B" alternatives and are discussed in the study conclusions and recommendations.

Watershed Conditions

Land Cover

The project area is comprised of relatively densely developed, residential neighborhoods with more impervious, multi-family, commercial, and municipal uses along Broadway and Cottage Road. Residential development is generally characterized by single family residences and smaller multi-family properties on lots with relatively small yards.

The residential and commercial areas are located within the City's Meetinghouse Hill Community Commercial (MHCC) and Limited Business (LB) zoning districts. Residential properties generally range from 1/8 to1/4 acre lots with a few larger properties. Impervious coverage varies from roughly 25% to 45% for detached single family lots to over 70% on some multi-family and commercial properties.

The former Public Works site on O'Neill Street is fully developed with existing buildings and gravel/bituminous parking areas. The proposed redevelopment of this site is anticipated to be comprised of single family and multi-family residential properties, likely reducing impervious cover. This area has been modeled under the assumption that the land cover will consist of ¼-acre lots with roughly 40% impervious area. Appendix 2 includes preliminary plans of the site provided by Acorn Engineering in February 2020. Watershed parameters and preliminary post development flow rates for the redevelopment were provided by Acorn Engineering based on this preliminary design. The projected flow rates by Acorn are slightly lower than the rates assumed in our report.

Site Topography

The study area generally slopes to the north and west from high ground in the area of the O'Neill Street site with steeper slopes in the range of 5% to 12% in the residential neighborhoods along Cottage Road and above Highland Avenue. Slopes in the lower watershed are more moderate, ranging from 1% to 5% on the library site and along Broadway.

Surface Water Features

Trout Brook is located west of the study area crossing below Highland Avenue and is the receiving water at Outfall MC-16. After crossing Broadway, Trout brook is referred to as Mill Creek as it drains north of Broadway to the Fore River. MC-4 discharges to a channel that is tributary to Mill Creek up stream of the bridge at Cottage Road.

Soils

Soil characteristics were obtained from the Soil Conservation Service (SCS) Medium Intensity Soil Survey of Cumberland County.

Soil Types and Characteristics		
Soil Type	Symbol	HSG
Deerfield Loamy Fine Sand	DeB	A
Elmwood Fine Sandy Loam	EmB	B
Hinckley Loamy Sand	HlB	A
Swanton Fine Sandy Loam	Sz	C/D
Windsor Loamy Sand	WmB	A

The hydrologic soil group (HSG) designation is based on a rating of the relative permeability of a soil, with Group “A” being extremely permeable such as coarse sand, to Group “D” having low permeability such as clay.

Hydrologic Analysis

Runoff calculations were performed using the Rational Method and the methodology outlined in the USDA Soil Conservation Service's "Urban Hydrology for Small Watersheds, Technical Release #55" and HydroCAD Stormwater Modeling System software. A 24-hour, SCS Type-III storm distribution was used for analysis.

The Rational method is a locally acceptable methodology for pipe sizing and closed drainage design and is a recommended Practice in the Maine Department of Transportation (MDOT) Highway Design Guide for street drainage. This method is suitable for small urban watersheds where the SCS may overestimate peak flows. The evaluation included in this report only considers the mainline run of storm drains. Catch basin inlet capacity, gutter spread and storm drain lateral capacity has not been analyzed.

Rainfall

Storm parameters including rainfall depth, storm duration and storm distributions for the analysis were selected from the Maine Department of Environmental Protection Chapter 500 Stormwater Management Rules, Appendix H which presents 24-hour duration rainfalls for various return periods. The MDEP Chapter 500 Appendix H data has been Data extracted by the Maine Department of Environmental Protection from the Northeast Regional Climate Center website (http://precip.eas.cornell.edu), Extreme Precipitation Tables. Data from this website was obtained from the National Oceanic and Atmospheric Administration’s Regional Climate Center Program, June 2014. The rainfall amounts for Cumberland County are as follows:

Storm Frequency	24-hr Duration Rainfall (in.)
2-yr	3.1
10-year	4.6
25-year	5.8

Rainfall for Rational method calculations are based on intensity, duration, and frequency curves obtained from the Northeast Regional Climate Center website (http://precip.eas.cornell.edu), Extreme Precipitation Tables. Data from this website was obtained from the National Oceanic and Atmospheric Administration’s Regional Climate Center Program.

Land Cover, Curve Number and Runoff Coefficient (C) Values

Curve number and Rational Method C value parameters for the subject watersheds were estimated from aerial photographs, hydrologic soil group mapping, and assessor’s parcel maps. Curve numbers for different combinations of land cover and soil type were assigned based on Table 2-2 of the SCS/TR-55 publication and based on engineering judgement. The scope of this analysis did not include a detailed measurement of impervious cover. Estimates of the level of directly connected impervious areas or other urban impervious area adjustments are outlined in the TR-55 publication.

Summaries of the land cover categories selected can be found in the hydrologic modeling results attached in Appendix 3. Land cover categories for residential areas were estimated by visual review of aerial photographs overlaid with assessor parcel maps. The selection of land cover categories for residential lots was based primarily on a visual estimate of impervious cover. For example, in some cases, a group of smaller residential lots (1/8-1/4 acre) were assigned a 1/3- or 1/2-acre land use curve number if the visually estimated impervious areas appeared to be more in line with the larger lot category. No adjustment was made to account for potential disconnected impervious areas using composite curve numbers based on Figure 2-3 or 2-5 of the SCS/TR-55 publication.

Land cover in the commercial areas was assumed to be 85% impervious per the TR-55 Table 2-2 averages.

C values for the Rational method and hydraulic grade line analysis were estimated based on coefficient values presented in the Maine Department of Environmental Protection (MDEP) Stormwater Management Manual, the Maine Department of Transportation (MDOT) Highway Design Guide and engineering judgment.

Hydraulic Grade Line Analysis

The hydraulic grade line calculations were performed using Hydraflow Storm Sewer Extension Version 10.3 for AutoCAD Civil 3D by Autodesk, Inc. The software uses the energy-based Standard Step method to compute the hydraulic profile. This method is an iterative procedure that applies Bernoulli's Energy Equation between the downstream and upstream ends of each line in the system. It uses Manning's Equation to determine head losses due to pipe friction and includes calculations of junction losses in structures.

Summaries of the grade line analysis are presented in Appendix 4.

Preliminary Design Summary

Library Site Conceptual Design

The South Portland library site has experienced periodic flooding in its parking lot. The parking lot drainage system is connected to the City's separated storm drain system crossing the site from Cottage Road and Highland Avenue, crossing Broadway to outfall MC-4 at Mill Creek. Adding separated runoff from the O'Neill Street site redevelopment will increase flow in this system potentially increasing flooding risk. It is the City's intent that as part of any storm drainage improvement the preliminary design include a conceptual design and cost estimate for improvements to the library site parking areas.

Although the library building's front door faces Broadway, the majority of patrons access the site from the driveway and parking lot along Highland Avenue. It is desired that any reconstruction of the Library site related to storm drain capacity also address site improvement with the following objectives:

- Enhance the visibility of the Library signage and entrance on Highland Avenue, particularly for traffic approaching from the east. Visibility is restricted by grade and the proximity of the residence east of the driveway to the street line.
- Enhance the area at the building entrance at the south side of the building to create a sense of entry to the building.
- Create a book drop area at the rear door with the understanding that a maintenance access driveway to the adjacent elementary school is to remain unimpeded.

- Organize and if cost effective, increase the number of parking spaces. Create space for employee parking and ADA accessible parking. Expansion into the green space between the existing lot and Cottage Road is to be limited.
- Include sidewalks to enhance the parking area and provide organized pedestrian access.
- To the extent possible, protect the mature trees between the existing parking area and the adjacent elementary school site
- Include provisions for site lighting to enhance the site and patron experience

Two concept designs were prepared for discussion with City Staff and are presented in the figures below.

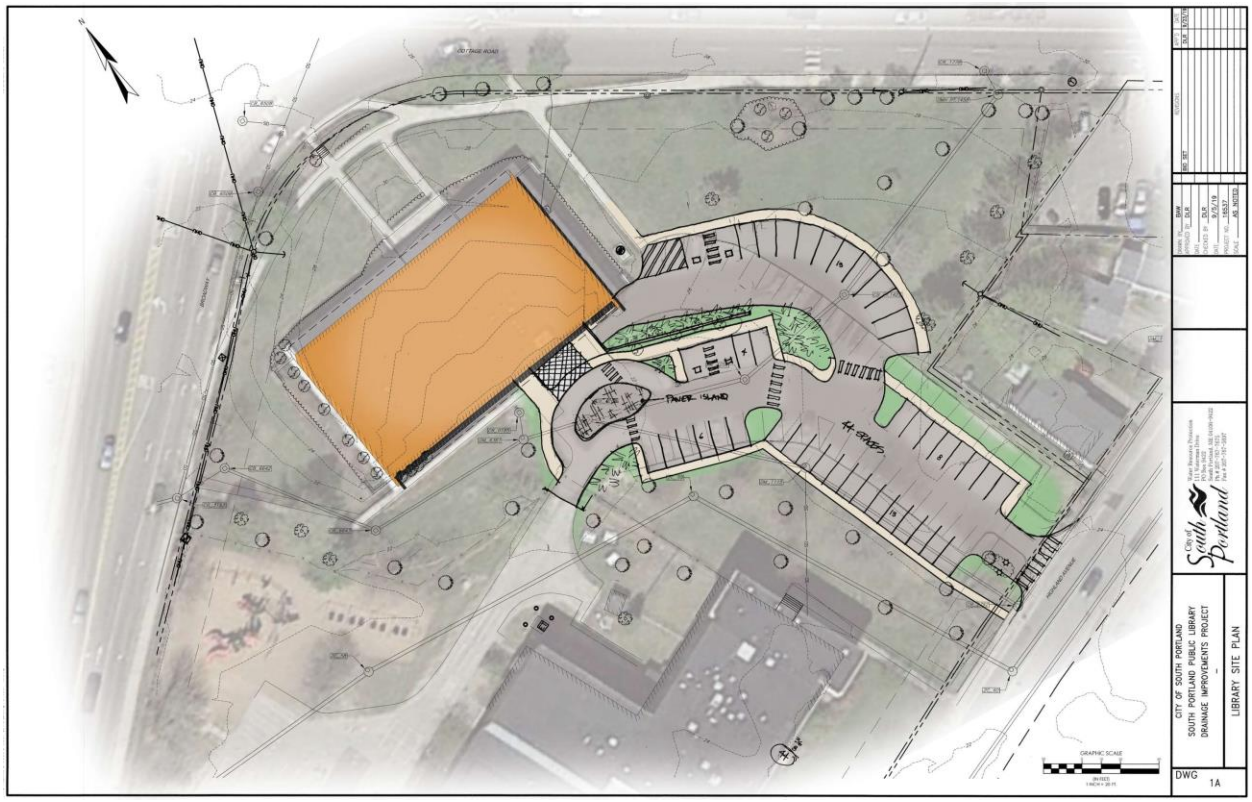

Figure 6 Library Site Concept 1

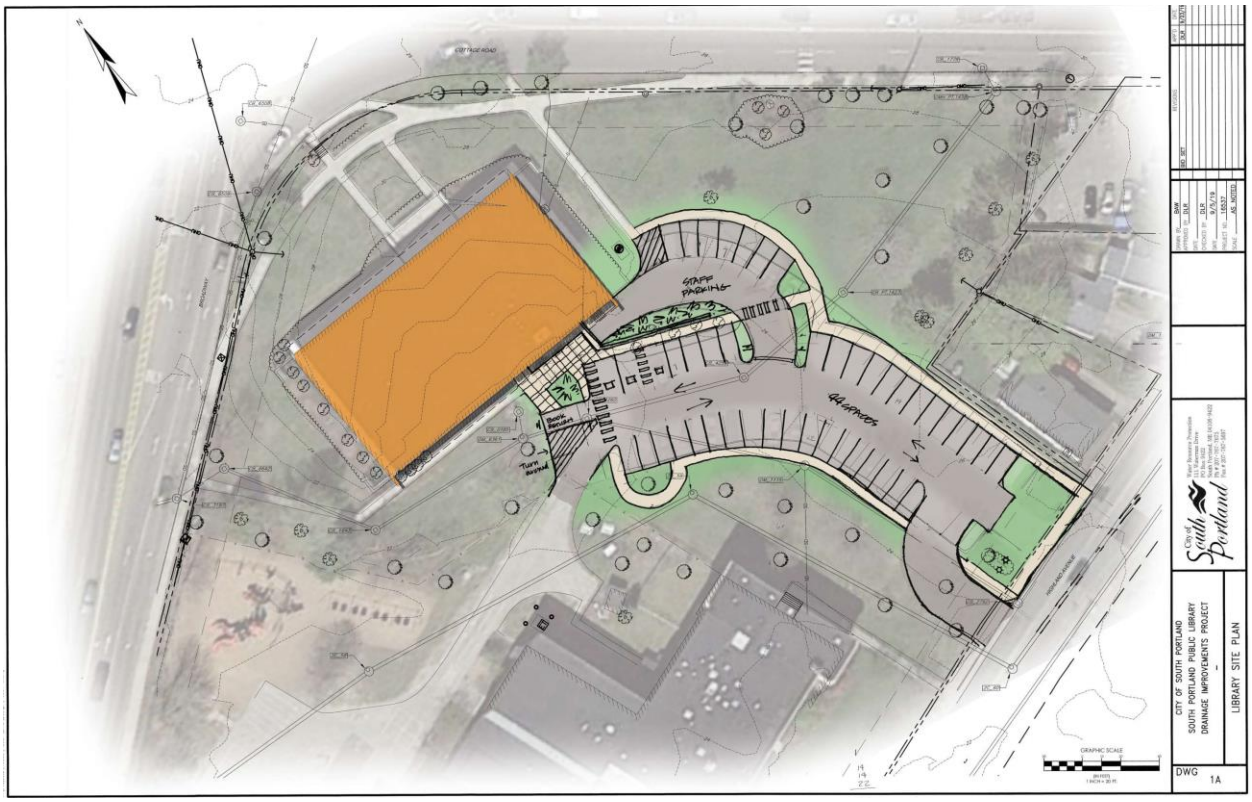

Figure 7 Library Site Concept 2

Building Electrical Improvements

The Library's electrical service and equipment is original to the 1966 building construction. City staff have identified concerns related to the reliability of the electrical equipment due to its age, its corresponding limited availability of replacement parts and its capacity for new loads associated with building systems and site lighting. The building does not currently have an emergency power source.

Allied Engineering of Portland Maine was engaged to complete an assessment of the existing electrical power distribution system at the Library for the purpose of developing a scope for upgrades to the electrical service as necessary to support the current and future power needs of the facility.

Allied's complete report is attached in Attachment 3.

In general, the electrical distribution system is beyond its useful life and will increasingly become a maintenance and reliability challenge. It will become increasingly difficult to acquire repair or replacement parts. The equipment manufacturer (FPE) has not been in business for many years. There is only one disconnect switch that is new enough to consider maintaining.

Depending on the future program goals for the facility; the existing 400 Amp, 208- volt, 3 phase electrical service may not have appropriate capacity for potential electrical needs in the future related to possible mechanical, electrical and plumbing (MEP) loads such as increased cooling, humidification or ventilation capacity, parking lot and site lighting, building additions or facility program offering increases.

Allied's report in Attachment 3 presents a series of recommended improvements organized by priority.

- Priority 1 improvements to address system condition deficiencies due to age and limited availability of replacement parts

- Priority 2 improvements to address code requirements
- Priority 3 improvements related to energy savings and equipment upgrades include a stand by sized sufficiently to maintain the building heating equipment, fire alarm system and emergency egress lighting loads.

Sewer Separation Alternatives

Preliminary Design plans for the storm drainage separation alternatives are included in Attachment 1. Preliminary opinions cost including estimated construction quantities for each Alternative are included in Attachment 4.

Quantities have been estimated from the preliminary plans with unit costs for construction items based on unit pricing from similar street drainage and sewer separations bid by the City over the past 5 years. A contingency of 30% has been added to the estimated costs due to recent increase in construction costs in southern Maine and unknown project costs. It is noted that no subsurface investigations have been performed and therefore, any estimate of rock excavation, poor soil conditions, and high groundwater/running sand conditions must be verified during final design.

The following factors were assumed in the hydraulic analyses performed to size the proposed improvements.

Design Storm Flow Rates, Rational Method vs SCS Method

The City's typical criteria for sizing storm drains is to size for crown full flow in 10-year storm event and check that structure rims do not surcharge in a 25-year event. This is a typical practice in Maine with a long history of acceptable designs.

Recent storm patterns over the last 50 years indicate increased frequency of larger storms and increased peak intensities. In response the National Oceanic and Atmospheric Administration's Regional Climate Center Program revaluated design storms for the northeast United States and publishes design rainfall and intensity-duration-frequency (IDF) curves through the Northeast Regional Climate Center (NRCC) website (http://precip.eas.cornell.edu), Extreme Precipitation Tables. In 2015 MDEP published revised design rainfall depths for use in Maine. This change significantly increases flows in a 25-year storm where the new rainfall depth is roughly equivalent to what had been considered a 100-year rainfall event.

For this study an initial analysis was performed using SCS TR-55 methods using the NRCC and MDEP design rainfall depths and a Type III distribution. A second analysis was performed using the rational method and IDF curves, also from the NRCC data set. A comparison of the results indicated that the Rational method results for a 25-year storm were consistently lower than the TR-55 results.

However, when the C values were adjusted to a larger storm range and the 50-year storm IDF curve was applied, the Rational Method analysis very closely matched the 25-year results from the TR-55 study. Based on this correlation of results a 50-year IDF curve was used in the hydraulic grade line analysis.

Starting Hydraulic Grade Line Assumptions for Pipe Sizing

The Rational Method grade line and pipe sizing analysis assumes a starting hydraulic grade line at the crown of the most downstream pipe at Outfall MC-4 for the "A" alternatives and at MC-16 for the "B" alternatives.

At MC-4 in Mill Creek Park, the crown full depth in a 25-year storm is at or above the 25-year water surface elevation at that location estimated in the City's 2019 Trout Brook Culvert Replacement Study report and was determined to be a reasonable starting condition for these alternatives.

Flooding Conditions at MC-16 where Trout Brook crosses Highland Avenue can be significantly higher, with Highland Avenue overtopping above the crown of the road (elevation 13+-) with some observed frequency. The flooding conditions are attributed to an undersized culvert at Broadway which causes significant tailwater extending upstream past Highland Avenue. The flooding conditions at the Highland Avenue crossing are estimated to be elevation 13.1 feet in a 25 year storm based on the 2019 Trout Brook study.

This will impact any storm drain system discharging to Trout Brook. *The reader must understand that the pipe sizing in the B Alternates assumes that the restricting culvert at the downstream Broadway crossing is replaced and that the 25-year water surface elevation is no higher than the crown of the proposed outfall at MC-16. Flooding in Highland Avenue will continue, and may increase if the B alternative(s) are constructed prior to increasing the culvert capacity at the Trout Brook/Broadway crossing*. The sizing and cost of replacing the Broadway culvert is not included in this study but is expected to increase the cost of the B Alternates in excess of $750,000 due to the size and depth of the crossing and potential utility conflicts with a new culvert installation.

Summary

Table 1 Separation Alternative Summary

Sewer Separation Alternative Comparison	
	Total Estimated Cost
Alternative A1 **Storm Drainage upgrade O'Neill Street to Highland Avenue to MC-4**	$2,747,000
Alternative A2 **Storm Drain upgrade and combined Sewer Separation to MC-4**	$6,450,000
Alternative B1 **Storm Drainage upgrade O'Neill Street to Highland Avenue new drainage Highland Ave to MC-16**	$2,496,000
Alternative B2 **Storm Drainage upgrade O'Neill Street to Highland Avenue new drainage Highland Ave to MC-16**	$6,160,000

Table 2 Library Site Plan Summary

Library Site Plan Summary	
Library Site Improvements **Concept 1**	$685,000

Table 3 Library Electrical Alternatives

Library Electrical Alternatives Summary		
Library Electrical Priority 1	• Replace the power distribution equipment (load centers, disconnect switches and main distribution panel).	$15,000
Library Electrical Priority 2	• Install missing covers over the low voltage wireways and junction boxes. • Apply appropriate cable training/routing and support for loose low voltage wiring. • Maintain NEC required working clearances in front of line voltage power equipment	$2,000
Library Electrical Priority 3	A. Upgrade the existing electrical service to a 400 Amp, 480 Volt, 3 phase, 4 wire rating. B. Provide a stand-by power source sized sufficiently to maintain the building heating equipment, fire alarm system and emergency egress lighting loads. The egress lighting and fire alarm loads must still maintain their DC code required power sources.	$120,000 $20,000
	Total Budget Range for Priority 1, 2 and 3 Items:	$160,000 to $175,000

Recommendations

The recommended option for improvements is the “A” Alternate(s) to include a new storm drain system in Cottage Road from O’Neill Street to Highland Avenue, crossing the Library site and Broadway to MC-4.

The City will need to determine whether available funding and CSO abatement priorities recommend the selection of the A2 Alternative to expand separation into the Meetinghouse Hill neighborhood either now or in the future.

If a future expansion is envisioned, the initial project can be limited to the Alternative A1 extents (Broadway, Library site, Highland Avenue and Cottage Road to O’Neill Street) with the storm drain sized and located to accommodate increased flow from future separation in the A2 Alternate. This will provide capacity and depth required for a future separation projects extending into the neighborhoods south of Highland Avenue and Cottage Road.

As presented in the estimates the “B” Alternatives, constructing the new drainage down Highland Avenue to Trout Brook (MC-16), are slightly less expensive than the “A” Alternatives. These options are not recommended based on the existing flooding conditions at Highland Avenue attributed to the size of the Trout Brook Crossing at Broadway.

The evaluation of a new crossing at Broadway is outside the scope of the study and is not included in the B Alternate estimates. However, it is expected that a new crossing could cost in excess of $750,000 due to the size and depth of the crossing and the extent of utilities that are likely to be impacted. This crossing is on a state highway and the timing and amount of state funds for replacement are unknown.

The B Alternatives are recommended only if they are constructed concurrent with or following the replacement of the Broadway Culvert. Until that time, Highland Avenue will continue to flood until the tailwater on the new system can be reduced to an elevation closer to the crown of proposed pipes shown in the preliminary design. It is not practical, due to cost and physical constraints, to construct the B Alternatives large enough or high enough to negate the current tailwater impacts.

Constructing the B alternates prior to reducing tailwater elevations at Trout Brook could increase flooding in Highland Avenue east of Trout Brook due to increased flow in the system and tailwater induced surcharges. The B alternates are more cost effective if the Broadway Culvert replacement cost is not considered or if the City determines that continued and potentially increased flooding at Highland Avenue is acceptable in the near term until the culvert capacity at Broadway is addressed.

Attachment 1: Schematic Design Plans
Sewer Separation Alternatives

Attachment 2: Library Site Concepts

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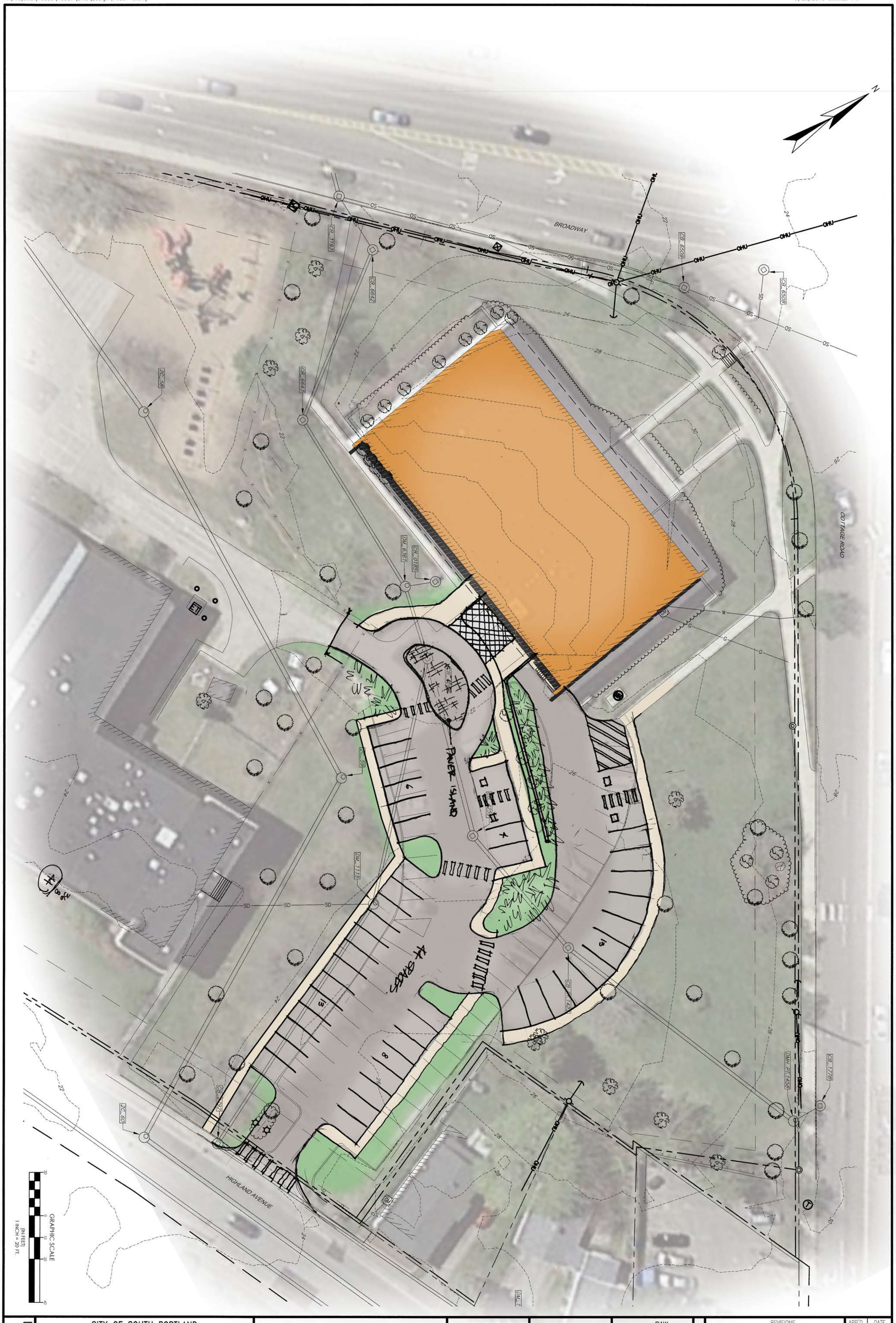

DWG 1A

CITY OF SOUTH PORTLAND
SOUTH PORTLAND PUBLIC LIBRARY
DRAINAGE IMPROVEMENTS PROJECT
–

LIBRARY SITE PLAN

City of South Portland
Water Resource Protection
111 Waterman Drive
PO Box 9422
South Portland, ME 04106-9422
Ph # 207-767-7675
Fax # 207-767-5697

DRAWN BY	BAW
APPROVED BY	DLR
DATE	
CHECKED BY	DLR
DATE	9/5/19
PROJECT NO.	16537
SCALE	AS NOTED

REVISIONS	APP'D	DATE
BID SET	DLR	9/23/19

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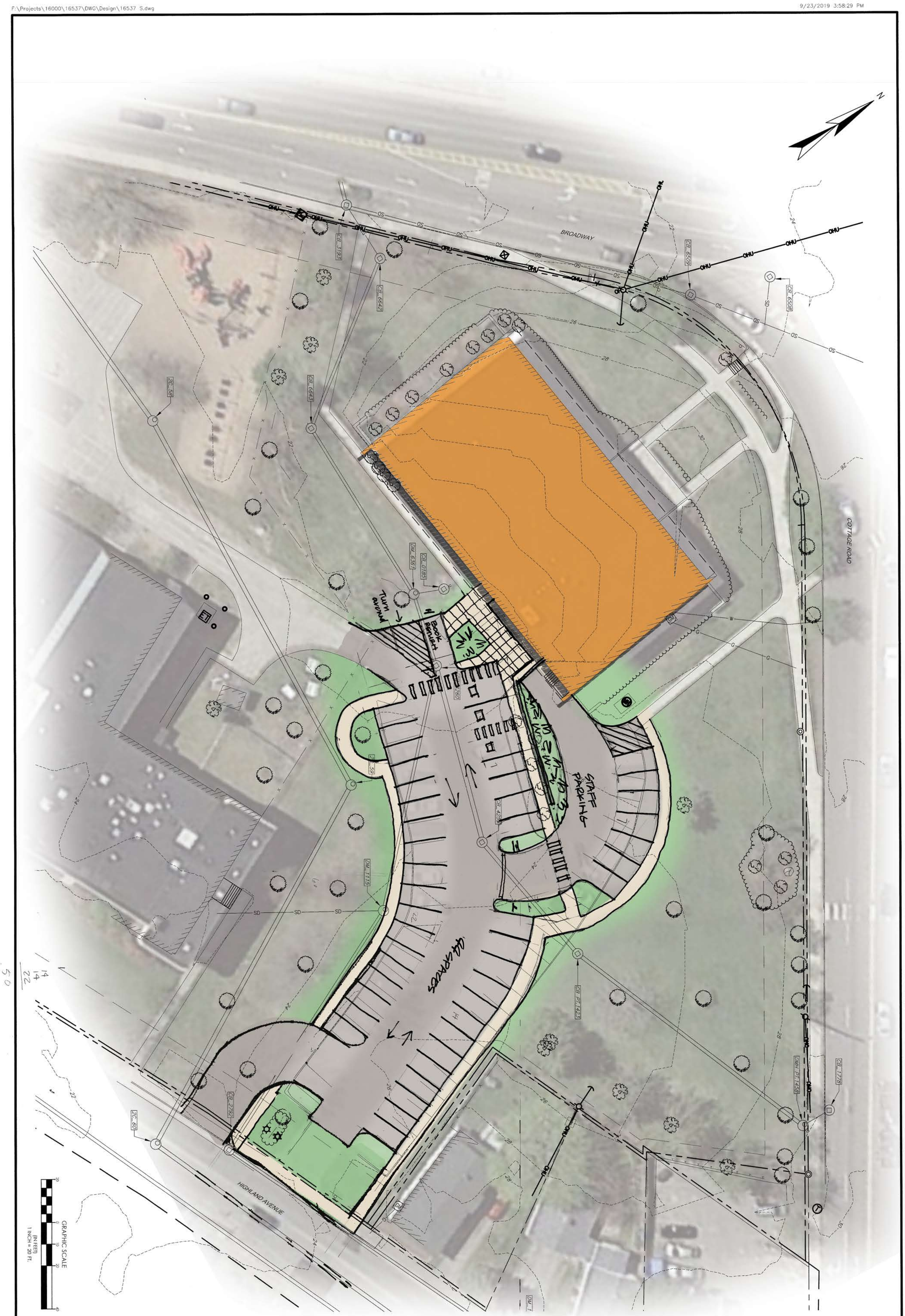

DWG 1A

CITY OF SOUTH PORTLAND
SOUTH PORTLAND PUBLIC LIBRARY
DRAINAGE IMPROVEMENTS PROJECT
–

LIBRARY SITE PLAN

City of South Portland
Water Resource Protection
111 Waterman Drive
PO Box 9422
South Portland, ME 04106-9422
Ph # 207-767-7675
Fax # 207-767-5697

DRAWN BY BAW
APPROVED BY DLR
DATE
CHECKED BY DLR
DATE 9/5/19
PROJECT NO. 16537
SCALE AS NOTED

REVISIONS	APP'D	DATE
BID SET	DLR	9/23/19

Attachment 3: Library Electrical Report

Allied Engineering
Structural Mechanical Electrical Commissioning

I. Introduction and Scope

Allied Engineering, Inc. (AEI) was contracted by South Portland to complete an assessment of the existing electrical power distribution system at the South Portland Library Facility for the purpose of developing a scope for upgrades to the electrical service as necessary to support the current and future power needs for the facility.

The assessment is conducted to address concerns with the condition, dependability, capacity and maintainability for the electrical service and distribution system. In conducting the assessment for the existing electrical distribution system, age and condition of equipment, maintainability of existing system, energy efficiency, capacity and code compliance have been considered.

The project assessment and scoping include the following:

1. Meet with designated representatives of the facility to gain an understanding of the use and electrical requirements of each functional space.
2. Conduct field visit to assess the configuration and condition of existing electrical distribution system, analyze existing building design documentation, become familiar with prior renovations and functional space changes throughout the facility.
3. Gather information relative to future growth potential, diversity of functional spaces, potential use changes, space conditioning requirements, and prioritization of upgrades.
4. Develop a report that identifies existing conditions, discussions and recommendations for upgrades to the electrical service and distribution based upon information collected during the assessment phase, complete with opinions of probable related construction costs.
5. Review and evaluate effects of positioning new electrical distribution equipment in the existing main electrical room (shared with the mechanical equipment).

The assessment incorporates the following items:

1. Visual assessment of systems condition and operation
2. Interview of designated facility personnel to gather information relative to electrical distribution system efficiency, maintainability, and other relevant information.
3. Review of system design documentation to analyze the ability for the electrical distribution system to meet current code requirements and industry standards.

II. Existing Conditions

A. General

1. The facility is a one-story masonry and steel building with a partial ground floor level. It comprises approximately 18,500 gross total sf and was originally constructed in 1966.
2. The first floor is primarily consistent of the front entry, library space and administrative offices

3. The Ground floor contains a meeting space, storage space, rear entry and electrical/mechanical room.

B. Electrical

1. The facility is served by a pole mounted CMP owned oil filled transformer; manufacture and age unknown. The unit has a 12470-volt, three phase, three wire (delta) overhead primary and a 120/208 volt, three phase, four wire (wye) underground secondary. The unit is assumed to be rated at between 125 and 150 kva, however unconfirmed at time of survey.

2. The secondary underground feeder serves the main switchboard located in the basement level electrical room (shared with mechanical equipment). The 120/208-volt, three phase, four wire main switchboard (labeled MDP) is protected via a 400 Amp, 3 pole, solid neutral service entrance fused disconnect switch (and CT cabinet/meter). The MDP has a 400 Amp bus with a fused distribution disconnect switches to serve the loads. The switchboard is manufactured by FPE (Federal Pacific Electric) in 1966.

3. The facility does not have an emergency power source. The egress lighting and the fire alarm system have integral DC power back up sources.

4. The branch circuit power distribution system for the building consists of two adjacent load centers per floor (basement and first). These load centers serve the interior lighting and miscellaneous power loads; these panels are located in the corridors and are flush mounted.

5. The lighting and power load centers as well as the main distribution panel are manufactured by FPE (Federal Pacific Electric). They appear to be consistent with age of the facility.

6. Major mechanical equipment serving the facility consists of oil-fired boiler for heat, hot water storage tank, and a VFD controlled Trane Air Handling unit with associated A/C condenser unit.

7. There is (1) elevator; HP unconfirmed at time of visit (assumed 20HP).

III. Discussion

A. Electrical Power Distribution System

1. In general, the electrical distribution system is beyond its useful life and will increasingly become a maintenance and reliability challenge. It would be difficult to acquire repair or replacement parts. The equipment manufacturer (FPE) has not been in business for many years. There is only one disconnect switch that is new enough to consider maintaining

(AC condenser – 200 Amp, 3 Pole).

2. The CMP historical billing indicates the peak demand in July of 2018 was (50 kW). This equates to approximately (140 Amps) of demand load on a service with (400 Amps) of rated capacity or (35%). The existing service would appear to be lightly loaded; however, we should re-check against the peak demand load value for 2019 to determine whether the demand load has increased.

3. Depending on what program goals there are for the facility; the existing 400 Amp, 208-volt, 3 phase electrical service may not have appropriate capacity for potential electrical needs in the future related to possible MEP (increased cooling, humidification or ventilation capacity), site/civil scope (parking lot and site lighting) related to building upgrades, building addition or facility program offering increases.

4. One way to get more electrical capacity without running new underground conduits to the building (challenging since half of the basement is unexcavated) would be to consider changing the service from 208 Volt three phase to 480 Volt three phase , however, keeping the amperage rating at 400 amps so that the existing secondary conduit can be reused. This will require a step-down transformer in the building for low voltage (120 volt) loads. The revised service rating would also be better utilized if the elevator, the AHU and the A/C condenser (and other large loads) were changed to 480-volt three phase input instead of the current 208-volt three phase input (smaller wires and circuit breakers at 480 volt). Having a 480-volt system will also permit the interior and exterior lighting to be replaced and operate at 277 volts instead of 120 volts (fewer circuits)

5. The facility does not have a stand-by power source or related distribution equipment. Prolonged loss of power places the building at risk for pipe freeze and resultant damage.

IV. Statement of Needs Summary

A. *Description*: Provide replacement and upgrades to the existing electrical distribution system to include: replace power distribution equipment; replace service entrance feeder; add stand-by power source and related power distribution equipment; install new service entrance equipment.

B. *Justification*: There were a few goals in mind when assessing this facility; life safety, shelter in place capability, systems maintainability, and energy savings. As noted throughout this report, the current electrical distribution system is beyond its published service life, in poor condition, and non-code compliant in many instances. As such, the electrical distribution system is not dependable and will introduce potential for uninhabitability in the event of failure

V. Recommendations/Considerations

A. Electrical

1. Recommendations for upgrades to existing systems:

Priority 1 Items (System Condition)

a. Replace the power distribution equipment (load centers, disconnect switches and main distribution panel).

Priority 2 (Code Requirements)

a. Install missing covers over the low voltage wireways and junction boxes.
b. Apply appropriate cable training/routing and support for loose low voltage wiring.
c. Maintain NEC required working clearances in front of line voltage power equipment.

Priority 3 (Energy Savings/Equipment Upgrades)

a. Upgrade the existing electrical service to a 400 Amp, 480 Volt, 3 phase, 4 wire rating.
b. Provide a stand-by power source sized sufficiently to maintain the building heating equipment, fire alarm system and emergency egress lighting loads. The egress lighting and fire alarm loads must still maintain their DC code required power sources. Recommended stand-by diesel generator size would be between 15 and 20 kW at 208-volt, 3 phase, 4 wire output. (size confirmed as part of design process)

B. Opinion of probable cost for recommendations listed above.

Priority 1 Items (System Condition)

a. Replace the power distribution equipment (main panel, (3) sub panels) - $ 15,000

Priority 2 (Code Requirements)

b. Misc. work - $3,000

Priority 3 (Energy Savings/Equipment Upgrades)

a. Upgrade the existing electrical service - $120,000.
b. Provide a stand-by power source (generator, panel) - $ 20,000

c. Total budget range for the listed Priority 1,2,3 items above: $145,000 to $175,000

VI. Closing

It is with pleasure that this report is submitted for your use and consideration. We look forward to working with South Portland in the design development for this project.

The following exclusions apply to the recommendations herein:

2. ADA and Life Safety Upgrades. An independent study may be required to analyze these aspects.
3. The cost for hazardous materials remediation is not included.

Attachment 4: Cost Estimate Summaries

City of South Portland
Drainage Outfall MC-4 and MC-16 Evaluation
and Meeting House Hill Sewer Separation
Preliminary Engineers Opinion of Cost
Alternative A1

Item No.	Item	Unit	Unit Price	Quantity	Total Cost
201.24	Remove Street Tree and Stump	EA	$ 750.00	12	$ 9,000.00
202.15	Remove Existing Manhole or Catch Basin	EA	$ 1,500.00	11	$ 16,500.00
202.2	Remove Bituminous Concrete Pavement (Plan Quantity)	SY	$ 4.50	9570	$ 43,065.00
202.6	Remove Storm Drain or Sewer Pipe	LF	$ 75.00	1580	$ 118,500.00
203.25	Granular Borrow	CY	$ 15.00	660	$ 9,900.00
203.28	Test Pits	EA	$ 750.00	6	$ 4,500.00
203.35	Crushed Stone (Overdepth)	CY	$ 40.00	110	$ 4,400.00
206.07	Structural Rock Excavation	CY	$ 150.00	250	$ 37,500.00
206.061	Structural Earth Excavation (Overdepth)	CY	$ 25.00	110	$ 2,750.00
304.1	Agg Subbase Course Type D	CY	$ 45.00	4250	$ 191,250.00
304.14	Agg Base Course Type A	CY	$ 40.00	1600	$ 64,000.00
312.1	Bituminous Driveway Apron	SY	$ 12.00	210	$ 2,520.00
403.207	Hot Mix Asphalt 19.0 MM	T	$ 145.00	1370	$ 198,650.00
403.21	Hot Mix Asphalt 9.5 MM	T	$ 110.00	790	$ 86,900.00
603.132	8-Inch Diameter PVC Storm Drain/Sewer Pipe (ALL DEPTHS)	LF	$ 75.00	11	$ 825.00
603.159	12-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 85.00	388	$ 32,980.00
603.169	15-inch Diameter PVC or HDPE Storm Drain Pipe	LF	$ 95.00	287	$ 27,265.00
603.179	18-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 125.00	475	$ 59,375.00
603.199	24-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 175.00	573	$ 100,275.00
603.209	30-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 200.00	724	$ 144,800.00
604.131	4-foot Diameter Catch Basin	EA	$ 5,500.00	20	$ 110,000.00
604.132	5-foot Diameter Catch Basin	EA	$ 7,500.00	7	$ 52,500.00
604.15	4-foot Diameter Manhole	EA	$ 5,500.00	14	$ 77,000.00
604.153	5-foot Diameter Manhole	EA	$ 7,500.00	4	$ 30,000.00
608.5	Bituminous Sidewalk	SY	$ 52.00	810	$ 42,120.00
609.21	Slipform Concrete Curb	LF	$ 15.00	250	$ 3,750.00
609.38	Remove and Reset Granite Curb	LF	$ 25.00	690	$ 17,250.00
610.08	Plain Riprap	CY	$ 300.00	10	$ 3,000.00
615.072	Loam, Seed and Mulch	SY	$ 15.00	1600	$ 24,000.00
652.39	Work Zone Traffic Control	LS	$ 120,000.00	1	$ 120,000.00
656.75	Temporary Soil Erosion and Water Pollution Control	LS	$ 74,000.00	1	$ 74,000.00
803.204	4"/6" Service Leads	LF	$ 100.00	80	$ 8,000.00
Total					**$ 1,716,575**
659.1	Mobilization and General Conditions			10%	$ 171,658
	Design and Construction Administration			20%	$ 343,315
	Contingency			30%	$ 514,973

Estimate $ 2,746,520

City of South Portland
Drainage Outfall MC-4 and MC-16 Evaluation
and Meeting House Hill Sewer Separation
Preliminary Engineers Opinion of Cost
Alternative A2

Item No.	Item	Unit	Unit Price	Quantity	Total Cost
201.24	Remove Street Tree and Stump	EA	$ 750.00	37	$ 27,750.00
202.15	Remove Existing Manhole or Catch Basin	EA	$ 1,500.00	13	$ 19,500.00
202.2	Remove Bituminous Concrete Pavement (Plan Quantity)	SY	$ 4.50	19400	$ 87,300.00
202.6	Remove Storm Drain or Sewer Pipe	LF	$ 75.00	1840	$ 138,000.00
203.25	Granular Borrow	CY	$ 15.00	2180	$ 32,700.00
203.28	Test Pits	EA	$ 750.00	30	$ 22,500.00
203.35	Crushed Stone (Overdepth)	CY	$ 40.00	370	$ 14,800.00
206.061	Structural Earth Excavation (Overdepth)	CY	$ 25.00	370	$ 9,250.00
206.07	Structural Rock Excavation	CY	$ 150.00	440	$ 66,000.00
304.1	Agg Subbase Course Type D	CY	$ 45.00	8600	$ 387,000.00
304.14	Agg Base Course Type A	CY	$ 40.00	3240	$ 129,600.00
312.1	Bituminous Driveway Apron	SY	$ 12.00	1125	$ 13,500.00
403.207	Hot Mix Asphalt 19.0 MM	T	$ 145.00	2640	$ 382,800.00
403.21	Hot Mix Asphalt 9.5 MM	T	$ 110.00	1590	$ 174,900.00
603.159	12-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 85.00	2552	$ 216,920.00
603.169	15-inch Diameter PVC or HDPE Storm Drain Pipe	LF	$ 95.00	1461	$ 138,795.00
603.179	18-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 125.00	2135	$ 266,875.00
603.199	24-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 175.00	802	$ 140,350.00
603.209	30-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 200.00	505	$ 101,000.00
603.219	36-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 280.00	713	$ 199,640.00
604.094	72" Catch Basin Type B1	EA	$ 9,000.00	7	$ 63,000.00
604.131	4-foot Diameter Catch Basin	EA	$ 5,500.00	72	$ 396,000.00
604.132	5-foot Diameter Catch Basin	EA	$ 7,500.00	1	$ 7,500.00
604.15	4-foot Diameter Manhole	EA	$ 5,500.00	36	$ 198,000.00
604.153	5-foot Diameter Manhole	EA	$ 7,500.00	7	$ 52,500.00
604.154	6-foot Diameter Manhole	EA	$ 9,000.00	4	$ 36,000.00
608.5	Bituminous Sidewalk	SY	$ 52.00	810	$ 42,120.00
609.21	Slipform Concrete Curb	LF	$ 15.00	1130	$ 16,950.00
609.38	Remove and Reset Granite Curb	LF	$ 25.00	690	$ 17,250.00
610.08	Plain Riprap	CY	$ 300.00	20	$ 6,000.00
615.072	Loam, Seed and Mulch	SY	$ 15.00	2680	$ 40,200.00
652.39	Work Zone Traffic Control	LS	$ 282,750.00	1	$ 282,750.00
656.75	Temporary Soil Erosion and Water Pollution Control	LS	$ 189,000.00	1	$ 189,000.00
803.204	4"/6" Service Leads	LF	$ 100.00	1150	$ 115,000.00
Total					**$ 4,031,450.00**
659.1	Mobilization and General Conditions			10%	$ 403,145
	Design and Construction Administration			20%	$ 806,290
	Contingency			30%	$ 1,209,435

Estimate $ 6,450,320

City of South Portland
Drainage Outfall MC-4 and MC-16 Evaluation
and Meeting House Hill Sewer Separation
Preliminary Engineers Opinion of Cost
Alternative B1

Item No.	Item	Unit	Unit Price	Quantity	Total Cost
201.24	Remove Street Tree and Stump	EA	$ 750.00	15	$ 11,250.00
202.15	Remove Existing Manhole or Catch Basin	EA	$ 1,500.00	7	$ 10,500.00
202.2	Remove Bituminous Concrete Pavement (Plan Quantity)	SY	$ 4.50	9030	$ 40,635.00
202.6	Remove Storm Drain or Sewer Pipe	LF	$ 75.00	1574	$ 118,050.00
203.25	Granular Borrow	CY	$ 15.00	560	$ 8,400.00
203.28	Test Pits	EA	$ 750.00	10	$ 7,500.00
203.35	Crushed Stone (Overdepth)	CY	$ 40.00	100	$ 4,000.00
206.061	Structural Earth Excavation (Overdepth)	CY	$ 25.00	100	$ 2,500.00
206.07	Structural Rock Excavation	CY	$ 150.00	250	$ 37,500.00
304.1	Agg Subbase Course Type D	CY	$ 45.00	4010	$ 180,450.00
304.14	Agg Base Course Type A	CY	$ 40.00	1510	$ 60,400.00
312.1	Bituminous Driveway Apron	SY	$ 12.00	210	$ 2,520.00
403.207	Hot Mix Asphalt 19.0 MM	T	$ 145.00	1230	$ 178,350.00
403.21	Hot Mix Asphalt 9.5 MM	T	$ 110.00	740	$ 81,400.00
603.159	12-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 75.00	387	$ 29,025.00
603.169	15-inch Diameter PVC or HDPE Storm Drain Pipe	LF	$ 95.00	75	$ 7,125.00
603.179	18-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 125.00	275	$ 34,375.00
603.199	24-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 175.00	709	$ 124,075.00
603.209	30-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 200.00	641	$ 128,200.00
604.131	4-foot Diameter Catch Basin	EA	$ 5,500.00	18	$ 99,000.00
604.132	5-foot Diameter Catch Basin	EA	$ 7,500.00	1	$ 7,500.00
604.15	4-foot Diameter Manhole	EA	$ 5,500.00	11	$ 60,500.00
604.153	5-foot Diameter Manhole	EA	$ 7,500.00	6	$ 45,000.00
608.5	Bituminous Sidewalk	SY	$ 52.00	860	$ 44,720.00
609.21	Slipform Concrete Curb	LF	$ 15.00	410	$ 6,150.00
609.38	Remove and Reset Granite Curb	LF	$ 25.00	940	$ 23,500.00
610.08	Plain Riprap	CY	$ 300.00	20	$ 6,000.00
615.072	Loam, Seed and Mulch	SY	$ 15.00	1520	$ 22,800.00
652.39	Work Zone Traffic Control	LS	$ 96,750.00	1	$ 96,750.00
656.75	Temporary Soil Erosion and Water Pollution Control	LS	$ 74,000.00	1	$ 74,000.00
803.204	4"/6" Service Leads	LF	$ 100.00	80	$ 8,000.00
Total					**$ 1,560,175.00**
659.1	Mobilization and General Conditions			10%	$ 156,018
	Design and Construction Administration			20%	$ 312,035
	Contingency			30%	$ 468,053
				Estimate	**$ 2,496,280**

City of South Portland
Drainage Outfall MC-4 and MC-16 Evaluation
and Meeting House Hill Sewer Separation
Preliminary Engineers Opinion of Cost
Alternative B2

Item No.	Item	Unit	Unit Price	Quantity	Total Cost
201.24	Remove Street Tree and Stump	EA	$ 750.00	38	$ 28,500.00
202.15	Remove Existing Manhole or Catch Basin	EA	$ 1,500.00	13	$ 19,500.00
202.2	Remove Bituminous Concrete Pavement (Plan Quantity)	SY	$ 4.50	20810	$ 93,645.00
202.6	Remove Storm Drain or Sewer Pipe	LF	$ 75.00	1645	$ 123,375.00
203.25	Granular Borrow	CY	$ 15.00	2040	$ 30,600.00
203.28	Test Pits	EA	$ 750.00	30	$ 22,500.00
203.35	Crushed Stone (Overdepth)	CY	$ 40.00	340	$ 13,600.00
206.061	Structural Earth Excavation (Overdepth)	CY	$ 25.00	340	$ 8,500.00
206.07	Structural Rock Excavation	CY	$ 150.00	440	$ 66,000.00
304.1	Agg Subbase Course Type D	CY	$ 45.00	9230	$ 415,350.00
304.14	Agg Base Course Type A	CY	$ 40.00	3470	$ 138,800.00
312.1	Bituminous Driveway Apron	SY	$ 12.00	1125	$ 13,500.00
403.207	Hot Mix Asphalt 19.0 MM	T	$ 145.00	2830	$ 410,350.00
403.21	Hot Mix Asphalt 9.5 MM	T	$ 110.00	1700	$ 187,000.00
603.159	12-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 75.00	2314	$ 173,550.00
603.169	15-inch Diameter PVC or HDPE Storm Drain Pipe	LF	$ 95.00	1589	$ 150,955.00
603.179	18-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 125.00	1832	$ 229,000.00
603.199	24-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 175.00	770	$ 134,750.00
603.209	30-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 200.00	483	$ 96,600.00
603.219	36-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 280.00	640	$ 179,200.00
604.094	72" Catch Basin Type B1	EA	$ 9,000.00	1	$ 9,000.00
604.131	4-foot Diameter Catch Basin	EA	$ 5,500.00	65	$ 357,500.00
604.15	4-foot Diameter Manhole	EA	$ 5,500.00	31	$ 170,500.00
604.153	5-foot Diameter Manhole	EA	$ 7,000.00	6	$ 42,000.00
604.154	6-foot Diameter Manhole	EA	$ 9,000.00	7	$ 63,000.00
608.5	Bituminous Sidewalk	SY	$ 52.00	860	$ 44,720.00
609.21	Slipform Concrete Curb	LF	$ 15.00	540	$ 8,100.00
609.38	Remove and Reset Granite Curb	LF	$ 25.00	940	$ 23,500.00
610.08	Plain Riprap	CY	$ 300.00	20	$ 6,000.00
615.072	Loam, Seed and Mulch	SY	$ 15.00	2510	$ 37,650.00
652.39	Work Zone Traffic Control	LS	$ 256,500.00	1	$ 256,500.00
656.75	Temporary Soil Erosion and Water Pollution Control	LS	$ 181,000.00	1	$ 181,000.00
803.204	4"/6" Service Leads	LF	$ 100.00	1150	$ 115,000.00
Total					**$ 3,849,745.00**
659.1	Mobilization and General Conditions			10%	$ 384,974.50
	Design and Construction Administration			20%	$ 769,949.00
	Contingency			30%	$ 1,154,923.50

Estimate $ 6,159,592.00

City of South Portland
South Portland Public Library Site Concept
Preliminary Engineers Opinion of Cost
Library Site Concept 1

Item No.	Item	Unit	Unit Price	Quantity	Total Cost
201.24	Remove Street Tree and Stump	EA	$ 750.00	4	$ 3,000.00
202.2	Remove Bituminous Concrete Pavement (Plan Quantity)	SY	$ 6.00	2250	$ 13,500.00
304.1	Agg Subbase Course Type D	CY	$ 45.00	910	$ 40,950.00
304.14	Agg Base Course Type A	CY	$ 40.00	340	$ 13,600.00
403.207	Hot Mix Asphalt 19.0 MM	T	$ 145.00	280	$ 40,600.00
403.21	Hot Mix Asphalt 9.5 MM	T	$ 110.00	170	$ 18,700.00
603.159	12-Inch Diameter Storm Drain Pipe (ALL DEPTHS)	LF	$ 85.00	300	$ 25,500.00
604.131	4-foot Diameter Catch Basin	EA	$ 5,000.00	4	$ 20,000.00
608.08	Reinforced Concrete Sidewalk	SY	$ 65.00	520	$ 33,800.00
609.11	Vertical Curb Type 1	LF	$ 35.00	1174	$ 41,078.45
615.072	Loam, Seed and Mulch	SY	$ 15.00	480	$ 7,200.00
626.22	Non-Metallic Conduit	LF	$ 10.00	634	$ 6,344.90
627.7	Pavement Markings	LS	$ 2,000.00	1	$ 2,000.00
621	Landscape Plants (Plan Quantity)	LS	$ 20,000.00	1	$ 20,000.00
634.1	Street Lighting Type 1 Pole and Fixture	EA	$ 10,525.00	10	$ 105,250.00
	Wall Rail/Fence	LF	$ 80.00	75.00	$ 6,000.00
	Permeable Pavers	SF	$ 18.00	2440	$ 43,920.00
	Modular Block Retaining Wall	SF	$ 45.00	250	$ 11,250.00
	Signage	LS	$ 20,000.00	1	$ 20,000.00
Total					**$ 472,693.35**
659.1	Mobilization and General Conditions			10%	$ 47,269.34
	Design and Construction Administration			20%	$ 94,538.67
	Contingency			15%	$ 70,904.00
				Estimate	**$ 685,405.36**

Appendix 1: Watershed Plans

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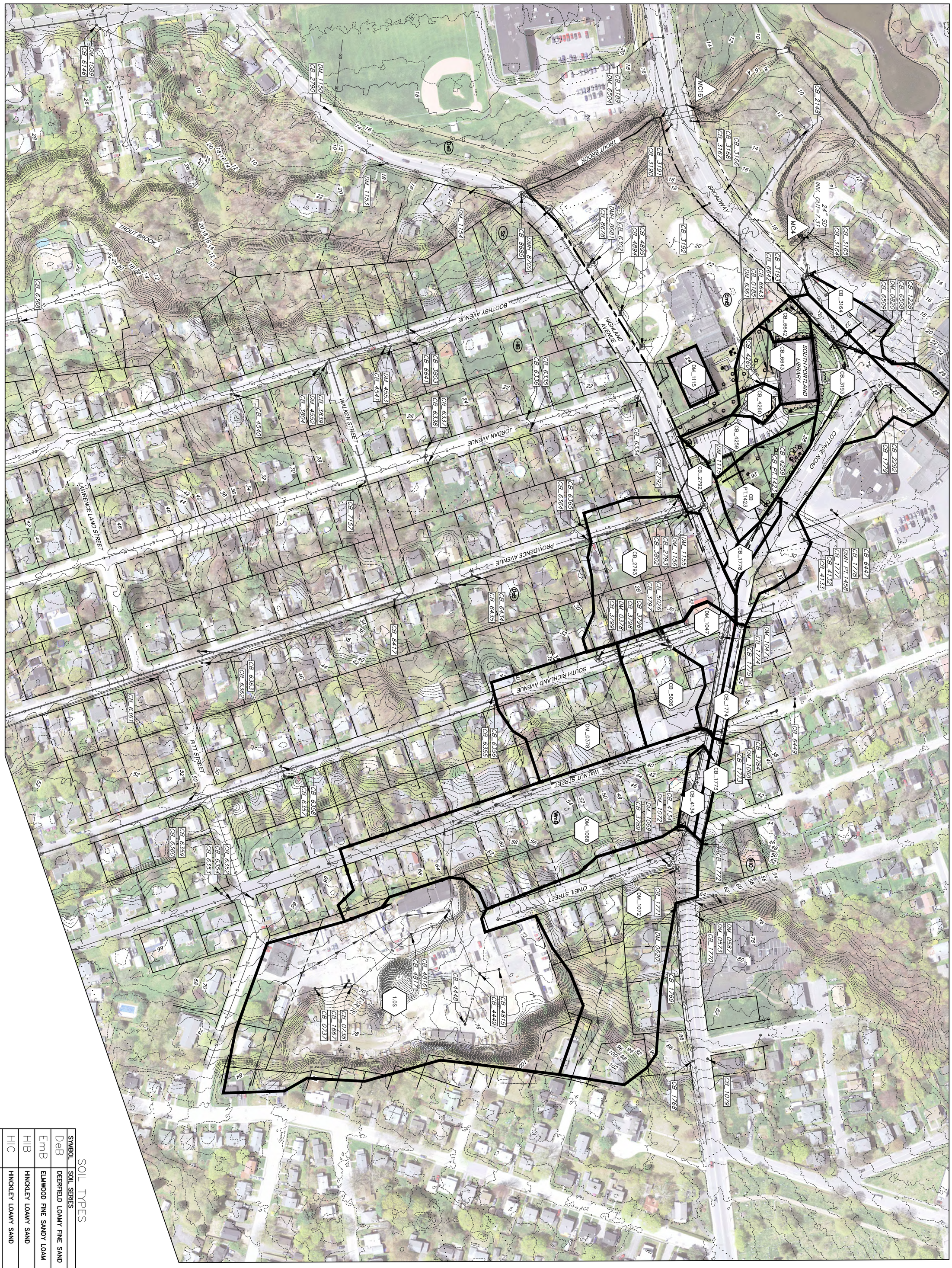

SOIL TYPES

SYMBOL	SOIL SERIES	SLOPE	HSG	DRAINAGE CLASS
DeB	DEERFIELD LOAMY FINE SAND	3-8%	A	VERY WELL DRAINED
EmB	ELMWOOD FINE SANDY LOAM	0-8%	B	MODERATELY WELL DRAINED
HIB	HINCKLEY LOAMY SAND	3-8%	A	VERY WELL DRAINED
HIC	HINCKLEY LOAMY SAND	8-15%	A	VERY WELL DRAINED
Sz	SWANTON FINE SANDY LOAM	–	C/D	VERY POORLY DRAINED
WmB	WINDSOR LOAMY SAND	0-8%	A	VERY WELL DRAINED

LEGEND

- WATERSHED BOUNDARY
- TIME OF CONCENTRATION (B, C)
- REACH (1)
- WATERSHED LABEL (1)
- DETENTION POND (1)
- SOILS BOUNDARY

NOTES:
1. OFFSITE SOIL INFORMATION FOR THE PROJECT WAS OBTAINED VIA THE USDA UNITED STATES DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES CONSERVATION SERVICE'S WEB SOIL SURVEY. THE HYDROLOGIC SOIL GROUP (HSG) OF THE SITE SOILS ARE CLASSIFIED BY TECHNICAL RELEASE TR-55 OF THE SOIL CONSERVATION SERVICE.
2. Tc PATHS NOT SHOWN ARE ASSUMED TO HAVE A MINIMUM VALUE OF 6 MINUTES BASED ON TR-55 STANDARDS.

GRAPHIC SCALE
(IN FEET)
1 INCH = 120 FT.
0 60 120 240

N

DWG 28

CITY OF SOUTH PORTLAND
SOUTH PORTLAND PUBLIC LIBRARY
DRAINAGE IMPROVEMENTS PROJECT
–

WATERSHED PLAN – ALT. A1

City of South Portland
Water Resource Protection
111 Waterman Drive
PO Box 9422
South Portland, ME 04106-9422
Ph # 207-767-7675
Fax # 207-767-5697

STATE OF MAINE
DANIEL L RILEY
No. 9967
REGISTERED PROFESSIONAL ENGINEER
05/06/2020

DRAWN BY BVD
APPROVED BY DLR
DATE
CHECKED BY DLR
DATE 5/7/20
PROJECT NO. 16537
SCALE AS NOTED

REVISIONS	APP'D	DATE
PRELIMINARY	DLR	4/15/20
PRELIMINARY SUMMARY REPORT	DLR	5/4/20

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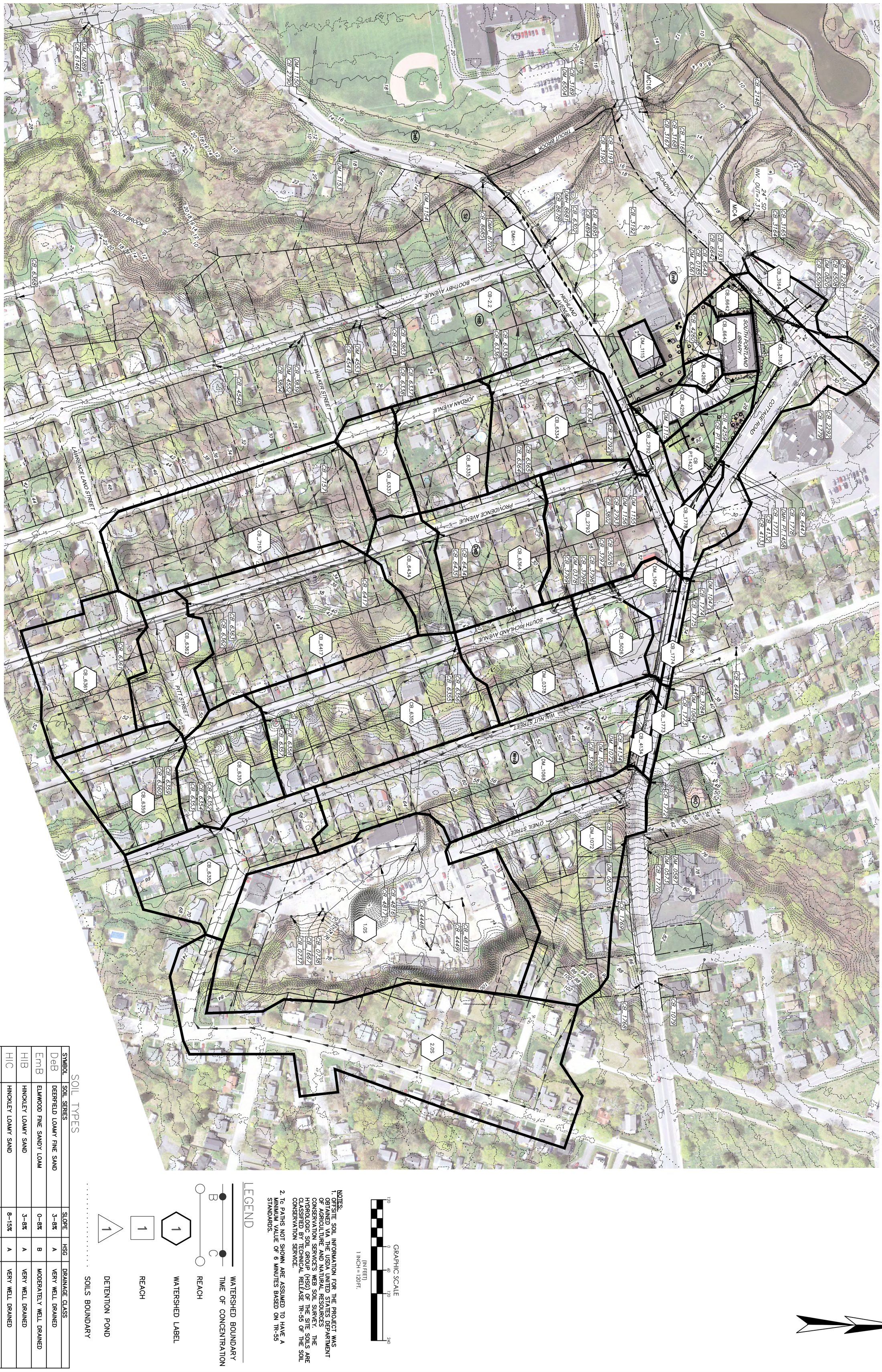

SOIL TYPES

SYMBOL	SOIL SERIES	SLOPE	HSG	DRAINAGE CLASS
DeB	DEERFIELD LOAMY FINE SAND	3-8%	A	VERY WELL DRAINED
EmB	ELMWOOD FINE SANDY LOAM	0-8%	B	MODERATELY WELL DRAINED
HIB	HINCKLEY LOAMY SAND	3-8%	A	VERY WELL DRAINED
HIC	HINCKLEY LOAMY SAND	8-15%	A	VERY WELL DRAINED
Sz	SWANTON FINE SANDY LOAM	–	C/D	VERY POORLY DRAINED
WmB	WINDSOR LOAMY SAND	0-8%	A	VERY WELL DRAINED

LEGEND

- WATERSHED BOUNDARY
- TIME OF CONCENTRATION (B, C)
- REACH
- WATERSHED LABEL
- REACH
- DETENTION POND
- SOILS BOUNDARY

GRAPHIC SCALE
(IN FEET)
1 INCH = 120 FT.
120 0 60 120 240

N

NOTES:
1. OFFSITE SOIL INFORMATION FOR THE PROJECT WAS OBTAINED VIA THE USDA UNITED STATES DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES CONSERVATION SERVICE'S WEB SOIL SURVEY. THE HYDROLOGIC SOIL GROUP (HSG) OF THE SITE SOILS ARE CLASSIFIED BY TECHNICAL RELEASE TR-55 OF THE SOIL CONSERVATION SERVICE.
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DWG 29

CITY OF SOUTH PORTLAND
SOUTH PORTLAND PUBLIC LIBRARY
DRAINAGE IMPROVEMENTS PROJECT
–
WATERSHED PLAN – ALT. A2

City of South Portland
Water Resource Protection
111 Waterman Drive
PO Box 9422
South Portland, ME 04106-9422
Ph # 207-767-7675
Fax # 207-767-5697

STATE OF MAINE
DANIEL L RILEY
No. 9961
REGISTERED PROFESSIONAL ENGINEER
05/06/2020

DRAWN BY BVD
APPROVED BY DLR
DATE
CHECKED BY DLR
DATE 5/7/20
PROJECT NO. 16537
SCALE AS NOTED

REVISIONS	APP'D	DATE
PRELIMINARY	DLR	4/15/20
PRELIMINARY SUMMARY REPORT	DLR	5/4/20

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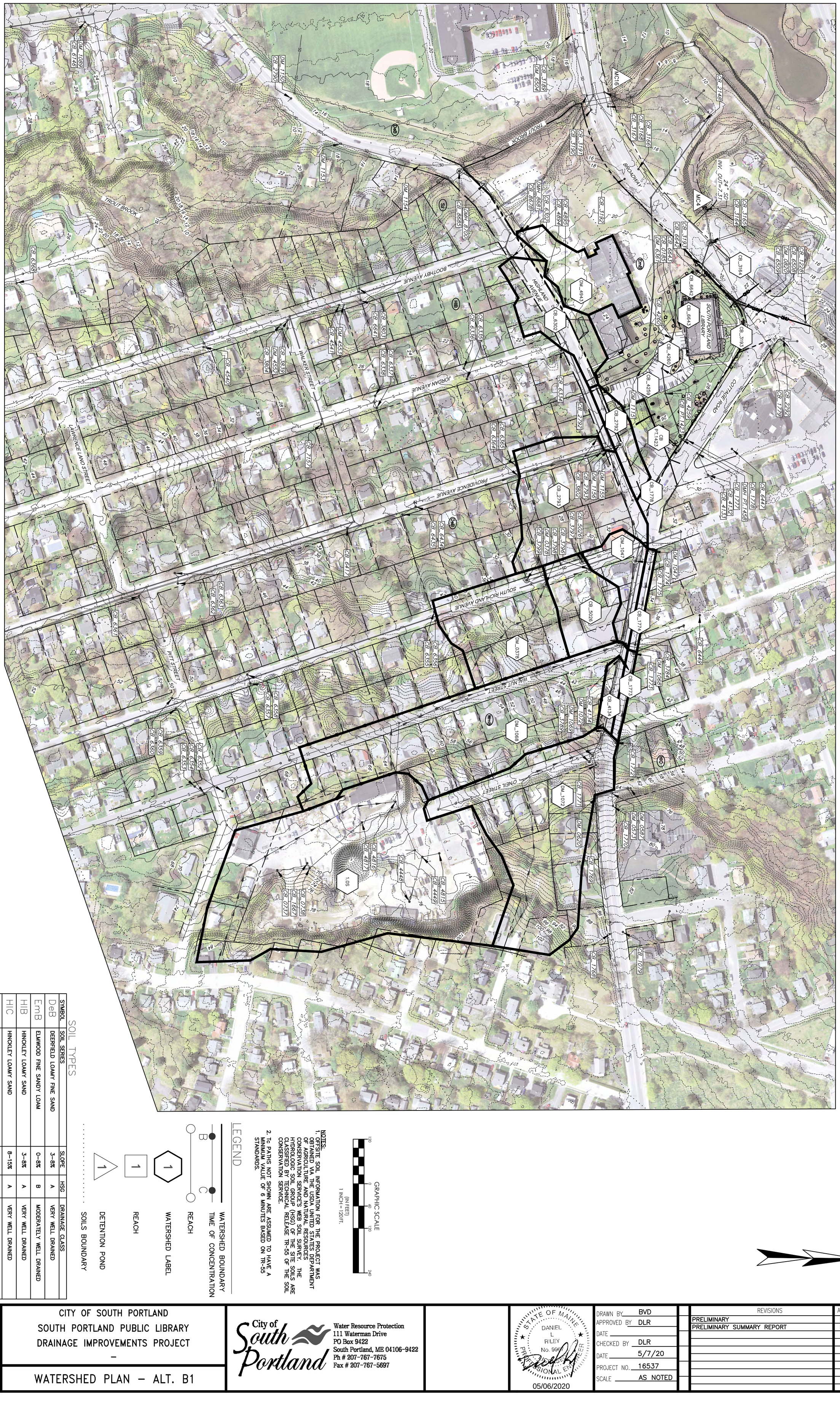

SOIL TYPES

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DeB	DEERFIELD LOAMY FINE SAND	3-8%	A	VERY WELL DRAINED
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HIB	HINCKLEY LOAMY SAND	3-8%	A	VERY WELL DRAINED
HIC	HINCKLEY LOAMY SAND	8-15%	A	VERY WELL DRAINED
Sz	SWANTON FINE SANDY LOAM	–	C/D	VERY POORLY DRAINED
WmB	WINDSOR LOAMY SAND	0-8%	A	VERY WELL DRAINED

LEGEND

- WATERSHED BOUNDARY
- TIME OF CONCENTRATION (B, C)
- REACH
- WATERSHED LABEL
- REACH
- DETENTION POND
- SOILS BOUNDARY

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GRAPHIC SCALE
(IN FEET)
1 INCH = 120 FT.
0 60 120 240

N

DWG 30

CITY OF SOUTH PORTLAND
SOUTH PORTLAND PUBLIC LIBRARY
DRAINAGE IMPROVEMENTS PROJECT
–
WATERSHED PLAN – ALT. B1

City of South Portland
Water Resource Protection
111 Waterman Drive
PO Box 9422
South Portland, ME 04106-9422
Ph # 207-767-7675
Fax # 207-767-5697

STATE OF MAINE
DANIEL L RILEY
No. 9967
REGISTERED PROFESSIONAL ENGINEER
05/06/2020

DRAWN BY BVD
APPROVED BY DLR
DATE
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PROJECT NO. 16537
SCALE AS NOTED

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PRELIMINARY	DLR	4/15/20
PRELIMINARY SUMMARY REPORT	DLR	5/4/20

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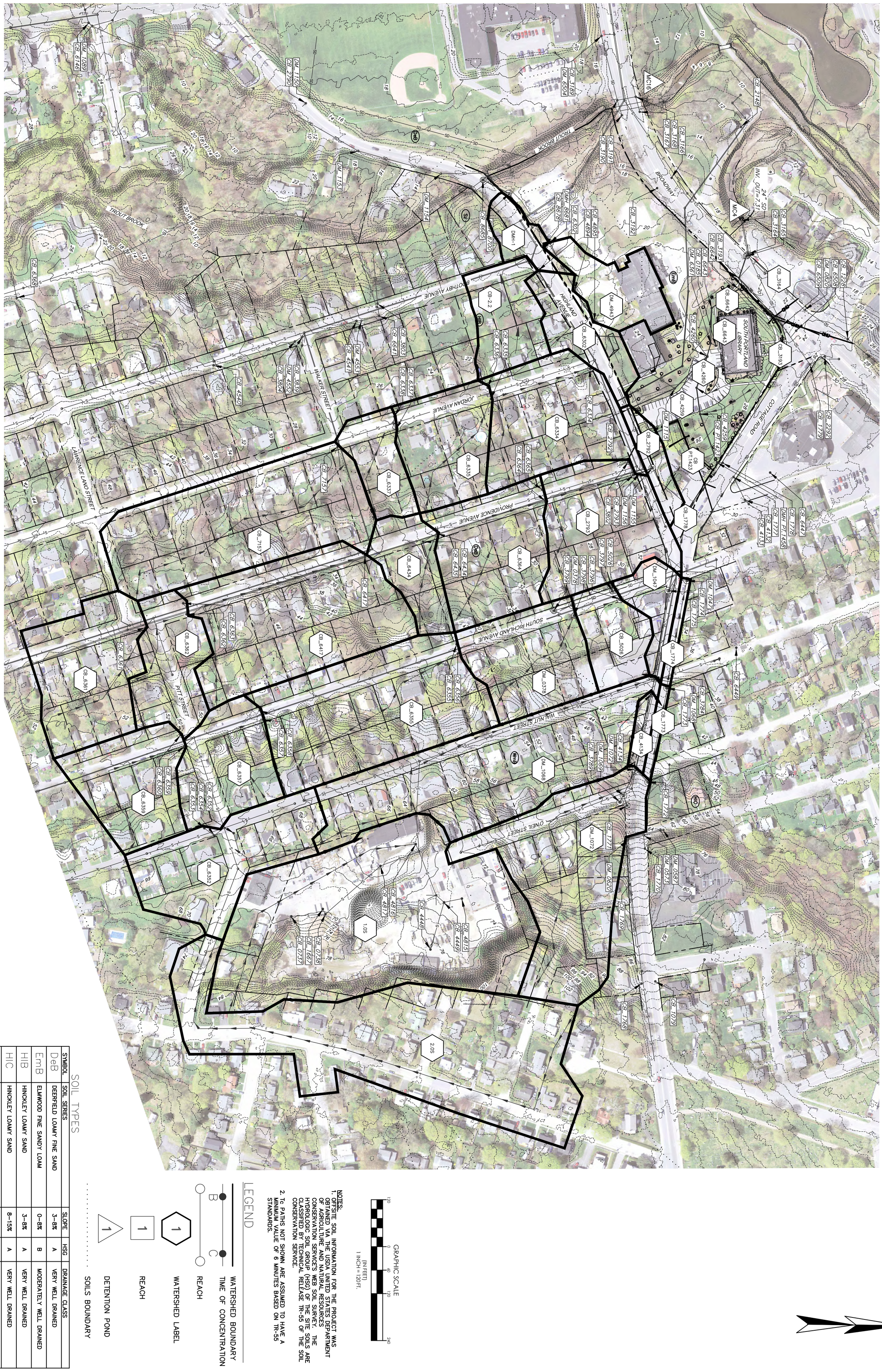
TROUT BROOK
BROADWAY
SOUTHBY AVENUE
HIGHLAND AVENUE
WALKER STREET
JORDAN AVENUE
LAWRENCE LANO STREET
PROVIDENCE AVENUE
SOUTH RICHLAND AVENUE
PITT STREET
WALNUT STREET
O'NEIL STREET
COTTAGE ROAD
SOUTH PORTLAND LIBRARY
INV. OUT=7.31' 24" SD
MC16
MC4
DMH-1
CB-2.2
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CB_3843

Appendix 2: Preliminary Plans O’Neill Street Redevelopment

GENERAL NOTES:

1. ALL WORK WITHIN THE CITY STREET RIGHT OF WAY SHALL BE IN COMPLIANCE WITH CITY OF SOUTH PORTLAND ORDINANCES.
2. DESIGN OF TEMPORARY SOIL RESTRAINT MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IF NECESSARY FOR CONSTRUCTION.
3. CONTRACTOR SHALL ENSURE THAT UNDERDRAINS ARE CONSTRUCTED WITH POSITIVE OUTLET TO PROPOSED CONNECTIONS.
4. CATCH BASIN INLET PROTECTION TO BE INSTALLED WITHIN ANY STRUCTURES DOWNGRADIENT OF ACTIVE CONSTRUCTION.
5. EROSION CONTROL MIX BERM TO BE INSTALLED DOWNGRADIENT OF ALL ACTIVE CONSTRUCTION WORK PER DETAIL.
6. ALL STORM MAIN SHALL BE 12" PVC SDR35 OR ADS HDPE DUAL WALL PIPE.
7. FILTERRA UNITS MAY BE SUBSTITUTED WITH ACF FOCAL POINTS AS AN APPROVED EQUIVALENT
8. ALL FIELD INLETS SHALL HAVE FLAT GRATES UNLESS OTHERWISE NOTED.
9. BW, TW REFER TO SPOT GRADES AT BOTTOM OF WALL AND TOP OF WALL.

AVERAGE GRADES AND BUILDING HEIGHT

BUILDING	AVERAGE GRADE	ELEVATION AT ROOF	BUILDING HEIGHT
MULTI-FAMILY BUILDINGS			
A	74.97'	101.25'	26.28'
B	76.18'	112.88'	36.70'
C	76.48'	103.10'	26.62'
D	74.45'	102.80'	28.35'
SINGLE FAMILY HOUSES			
LOT 1	70.81'	92.15'	21.34'
LOT 2	71.18'	92.90'	21.73'
LOT 3	71.79'	93.40'	21.61'
LOT 4	72.20'	93.90'	21.70'
LOT 5	72.43'	91.40'	18.98'
LOT 6	72.10'	90.15'	18.05'
LOT 7	71.60'	89.15'	17.55'
LOT 8	70.78'	89.15'	18.38'
LOT 9	69.75'	88.40'	18.65'

STRUCTURE TABLE

NAME	DIA	RIM	INV. IN (SIZE)	INV. OUT (SIZE)	STA / OFFSET
CB-A	48"	73.04'	61.59' (12") 61.59' (12") 70.07' (8")	61.49' (15")	5+02.58 / 10.97 (R)
CB-B	48"	73.04'	68.24' (8")	62.69' (12")	5+02.71 / -10.95 (L)
CB-C	48"	74.13'	68.92' (6") 71.18' (8")	63.23' (12")	6+12.85 / -10.98 (L)
CB-D	48"	72.05'	67.80' (6") 68.93' (6")	67.70' (12")	8+75.01 / -11.91 (L)
CB-E	48"	68.90'	64.72' (12") 64.00' (6") 66.04' (8")	63.90' (12")	10+10.12 / 10.97 (R)
CB-F	48"	68.95'	65.50' (6")	64.95' (12")	10+10.17 / -11.57 (L)
CB-G	48"	75.11'		70.00' (10")	
CB-H	48"	74.00'		69.00' (10")	
DMH-D	48"	69.36'	61.06' (15") 61.06' (6")	60.96' (15")	3+94.60 / 9.19 (R)
DMH-E	48"	74.13'	62.13' (12") 62.13' (12")	62.03' (12")	6+12.54 / 10.97 (R)
DMH-F	48"	75.06'	62.71' (12") 62.71' (10")	62.61' (12")	7+32.95 / 10.86 (R)
DMH-G	48"	72.07'	63.37' (12") 67.59' (12")	63.27' (12")	8+74.92 / 10.74 (R)
DMH-H	48"	75.07'	69.49' (6") 69.49' (6") 69.49' (6")	69.39' (8")	

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
MDEP	WHS 2/11/20

DRAWING NAME: GRADING & DRAINAGE PLAN

PROJECT NAME: MEETING HOUSE HILL PARK REDEVELOPMENT

CLIENT: MEETING HOUSE HILL PARK DEVELOPMENT, LLC

ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC.
65 HANOVER ST. PORTLAND, MAINE 04101
(207) 775-2655

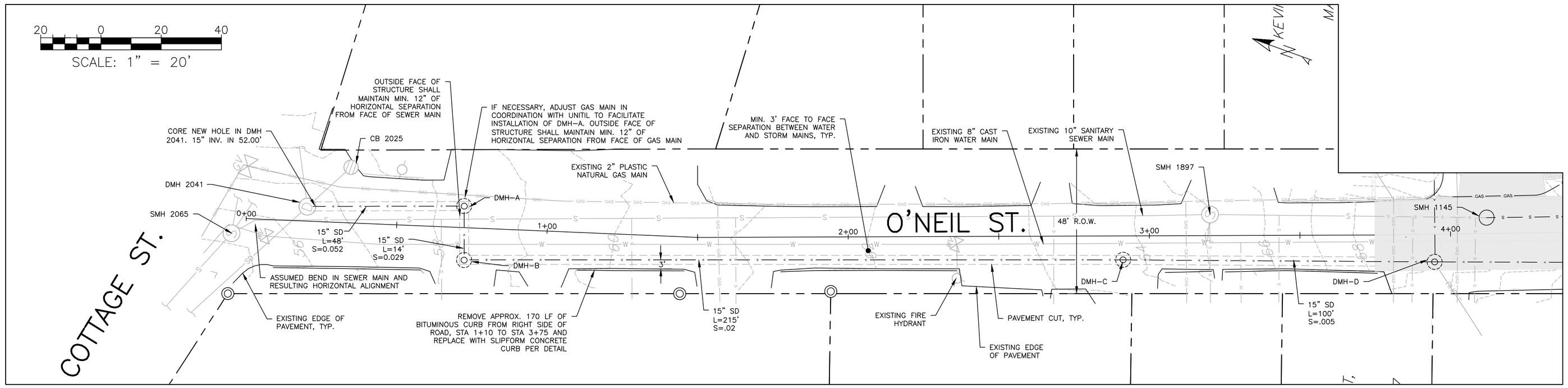
THESE PLANS, NOTES, AND SPECIFICATIONS ARE THE PROPERTY OF ACORN ENGINEERING, INC. AND SHALL NOT BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN PERMISSION OF ACORN ENGINEERING, INC. ANY REUSE OF THESE PLANS, NOTES, AND SPECIFICATIONS, OR ANY MODIFICATIONS THEREOF, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1106_CIVIL
JN:	1106
SCALE:	1"=30'
DESIGNED BY:	SJL
DRAWN BY:	KRB
CHECKED BY:	WHS

STATE OF MAINE WILLIAM H. SAVAGE No. 10419 REGISTERED PROFESSIONAL ENGINEER 2-13-2020

DRAWING NO.
C-30

129



NOTES:

1. CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION OF EXISTING SEWER, WATER, AND GAS MAINS AND SERVICES HAVE BEEN MAPPED FROM VARIOUS SOURCES AND IN SOME CASES, INTERPOLATED BETWEEN STRUCTURES/VALVES.
2. MAPPING OF UTILITY SERVICES TO EXISTING DWELLINGS IS INCOMPLETE. CONTRACTOR SHOULD ASSUME EACH PROPERTY HAS EXISTING SEWER AND WATER SERVICES AT A MINIMUM. CONTRACTOR SHOULD ALSO ASSUME AT LEAST ONE SEWER SERVICE CONFLICT AND TWO GAS SERVICE CONFLICTS. ANY CONFLICTING SERVICES SHALL BE ALTERED AND RERUN IN COORDINATION WITH AND UNDER THE SUPERVISION OF THE RESPECTIVE UTILITY ENTITY.
3. ANY ALTERATIONS TO EXISTING UTILITY SERVICES SHALL BE COORDINATED WITH THE CORRESPONDING LAND OWNER. MIN. 48 HOURS OF NOTICE SHALL BE GIVEN.
4. ALL EXISTING WATER AND SEWER SERVICES SHALL MAINTAIN A MIN. 6" OF VERTICAL SEPARATION BETWEEN THE STORM DRAIN AT CROSSING. WATER SERVICES SHALL MAINTAIN A MINIMUM OF 5.5' OF COVER.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR TEST PITTING AND CONFIRMATION OF EXISTING UTILITY ELEVATIONS AND LOCATIONS. DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER PRIOR TO ANY FURTHER WORK.
6. ALL WORK SHALL BE CONTAINED WITHIN THE CITY STREET RIGHT OF WAY AND SHALL MEET CITY OF SOUTH PORTLAND STANDARDS.
7. 4" LOAM AND SEED IN ALL DISTURBED LAWN AREAS. ANY DISTURBED HARDSCAPE OR LANDSCAPE ETC. SHALL BE RESTORED TO ITS PREVIOUS CONDITION. CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING EXISTING CONDITIONS.
8. PIPE MATERIAL SHALL BE EITHER ADS N-12 DUAL WALL SMOOTH INTERIOR HDPE OR PVC SDR 35.
9. CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION, TRAFFIC CONTROL, AND COORDINATION WITH UTILITIES, LANDOWNERS, AND CITY OF SOUTH PORTLAND.

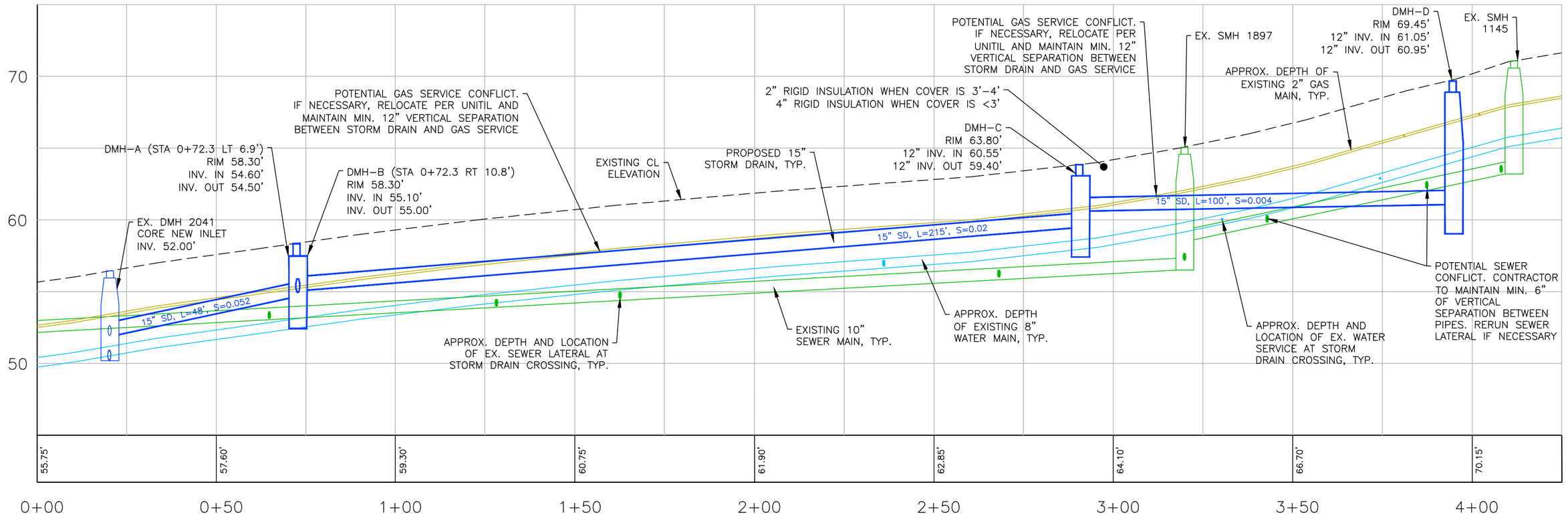
EXISTING STRUCTURE SCHEDULE

STRUCTURE I.D.	RIM	INVERT IN	INVERT(S) OUT
CB 2025	57.19'	–	54.59' (8" VC) 52.79' (8" VC)
DMH 2041	56.68'	52.28' (8" VC) 50.86' (8" VC)	50.83' (UNKNOWN SIZE VC)
SMH 1145	70.97'	–	63.10' (10" VC)
SMH 1897 (DROP STRUCTURE)	64.91'	58.60' (10" VC) 56.88' (6" VC)	56.49' (10" VC)
SMH 2065	55.16'	52.11' (6" VC) 52.17' (8" VC) 52.12' (10" VC) 49.84' (10 VC)	49.35' (10" VC)

STRUCTURES RECORDED BY SEBAGO TECHNICS ON "EXISTING CONDITIONS SURVEY OF O'NEIL STREET" FOR THE CITY OF SOUTH PORTLAND. SMH 1897 AND 1145 INVERTS PROVIDED BY SOUTH PORTLAND PUBLIC WORKS.

PROPOSED STRUCTURE SCHEDULE

STRUCTURE I.D.	RIM	INVERT IN	INVERT OUT	SIZE OF STRUCTURE
DMH-A	58.30'	54.60' (15")	54.50' (15")	4' DIA.
DMH-B	58.30'	55.10' (15")	55.00' (15")	4' DIA.
DMH-C	63.80'	60.50' (15")	59.40' (15")	4' DIA.
DMH-D	69.45'	61.05' (15")	60.95' (15")	4' DIA.



O'NEIL ST PROFILE

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
MDEP	WHS 2/11/20
ATS	WHS 3/3/20

DRAWING NAME: O'NEIL STREET MS4 EXTENSION PLAN
PROJECT NAME: MEETING HOUSE HILL PARK REDEVELOPMENT
CLIENT: MEETING HOUSE HILL PARK DEVELOPMENT, LLC

ACORN ENGINEERING, INC.

THESE PLANS SHALL NOT BE MODIFIED, IN PART OR WHOLE, WITHOUT THE PRIOR WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. AND ANY UNAUTHORIZED MODIFICATIONS OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
65 HANOVER ST. PORTLAND, MAINE 04101
(207) 775-2655

FILE: 1106_CIVIL
JN: 1106
SCALE: AS NOTED
DESIGNED BY: SJL
DRAWN BY: SJL
CHECKED BY: WHS

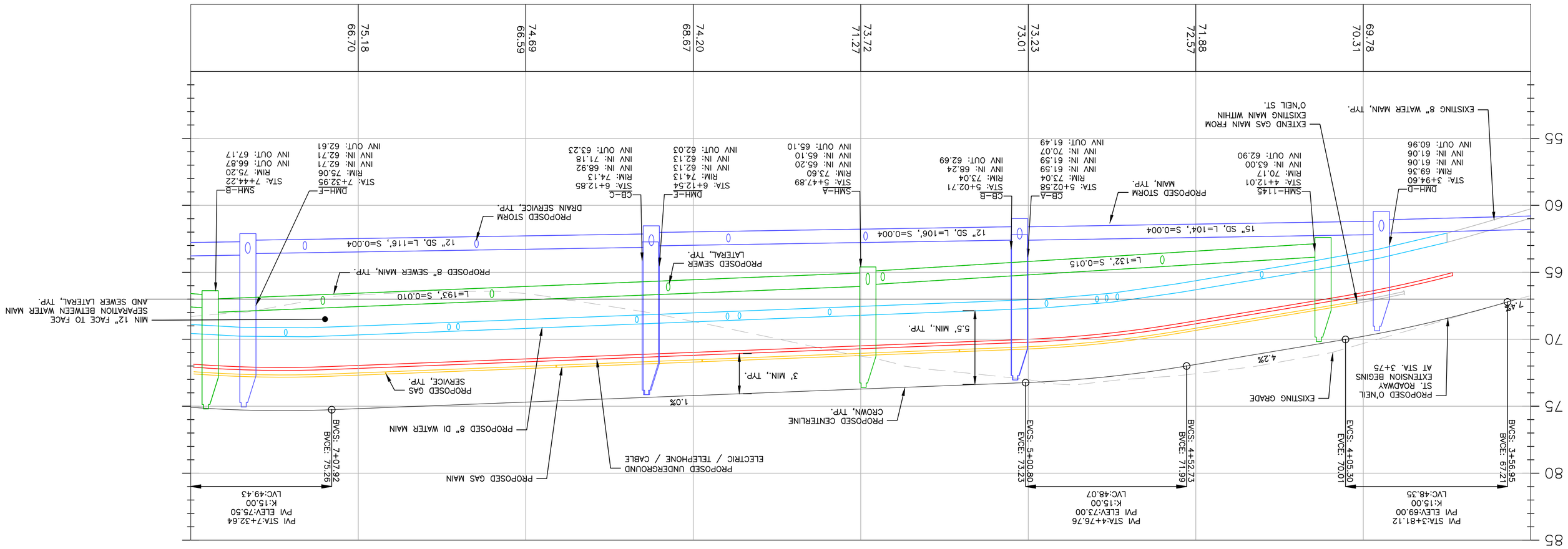
STATE OF MAINE
WILLIAM H. RAVAGE
No. 11419
REGISTERED PROFESSIONAL ENGINEER
2-13-2020

DRAWING NO.
C-31

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

O'NEIL ST PROFILE

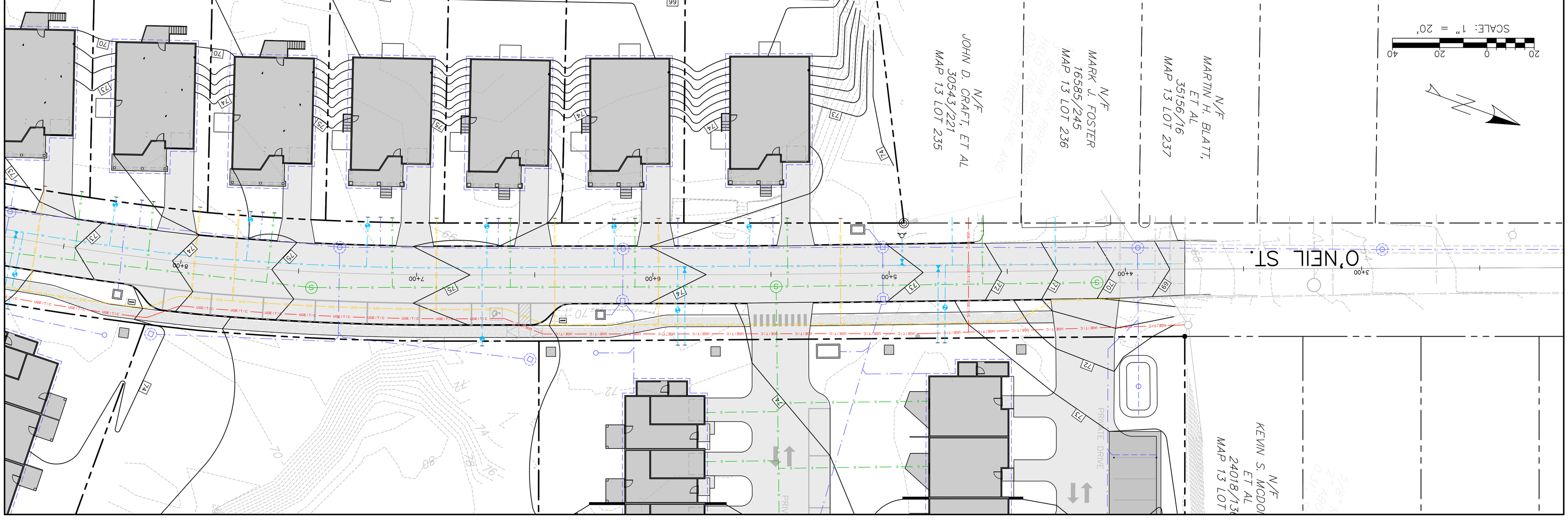
HORIZONTAL SCALE 1"=20'
VERTICAL SCALE 1"=5'



NOTES:

1. SEWER MAIN AND STORM DRAIN MATERIALS SHALL CONFORM WITH TYPICAL STORM DRAIN AND SEWER TRENCH DETAIL.
2. TEST PIT TO CONFIRM DEPTHS OF EXISTING UTILITIES AND TIE-IN POINTS PRIOR TO UTILITY CONSTRUCTION. ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY OR PROPOSED DEVIATION FROM THE PLANS.

SCALE: 1" = 20'



SCALE: 1" = 20'

FILE:	1106_CIVIL
JN:	1106
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	KRB
CHECKED BY:	WHS

1-13-2020

DRAWING NO.
C-32

ACORN ENGINEERING, INC.
65 HANOVER ST. PORTLAND, MAINE 04101
(207) 775-2655

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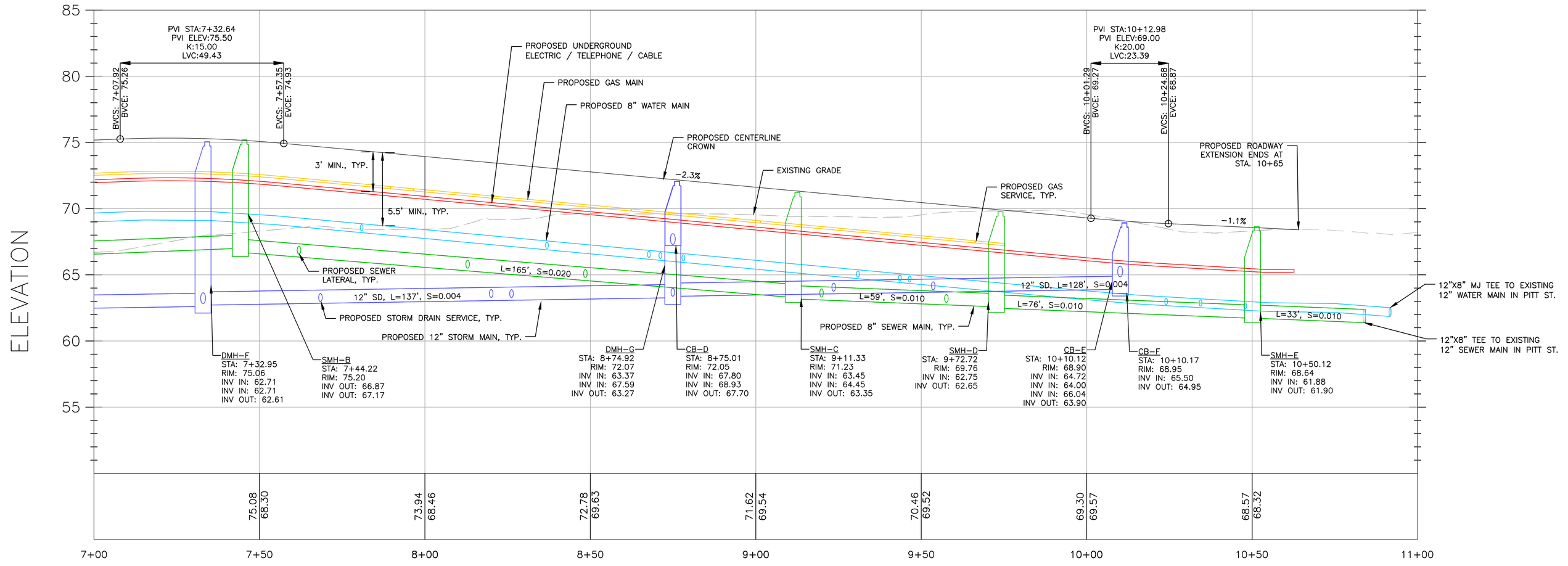
DRAWING NAME: O'NEIL STREET ROADWAY EXTENSION PROFILE – 1
PROJECT NAME: MEETING HOUSE HILL PARK REDEVELOPMENT
CLIENT: MEETING HOUSE HILL PARK DEVELOPMENT, LLC

BY	DATE	ISSUED FOR
ATS	3/2/20	
WHS	2/11/20	MODIF
WHS	3/2/20	

NOTES:

1. SEWER MAIN AND STORM DRAIN MATERIALS SHALL CONFORM WITH TYPICAL STORM DRAIN AND SEWER TRENCH DETAIL.
2. TEST PIT TO CONFIRM DEPTHS OF EXISTING UTILITIES AND TIE–IN POINTS PRIOR TO UTILITY CONSTRUCTION. ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY OR PROPOSED DEVIATION FROM THE PLANS.



O'NEIL ST PROFILE

HORIZONTAL SCALE 1"=20'
VERTICAL SCALE 1"=5'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
MDEP	WHS 2/11/20
ATS	WHS 3/3/20

DRAWING NAME: O'NEIL STREET ROADWAY EXTENSION PROFILE – 2

PROJECT NAME: MEETING HOUSE HILL PARK REDEVELOPMENT

CLIENT: MEETING HOUSE HILL PARK DEVELOPMENT, LLC

ACORN ENGINEERING, INC.
65 HANOVER ST, PORTLAND, MAINE 04101
(207) 775-2655

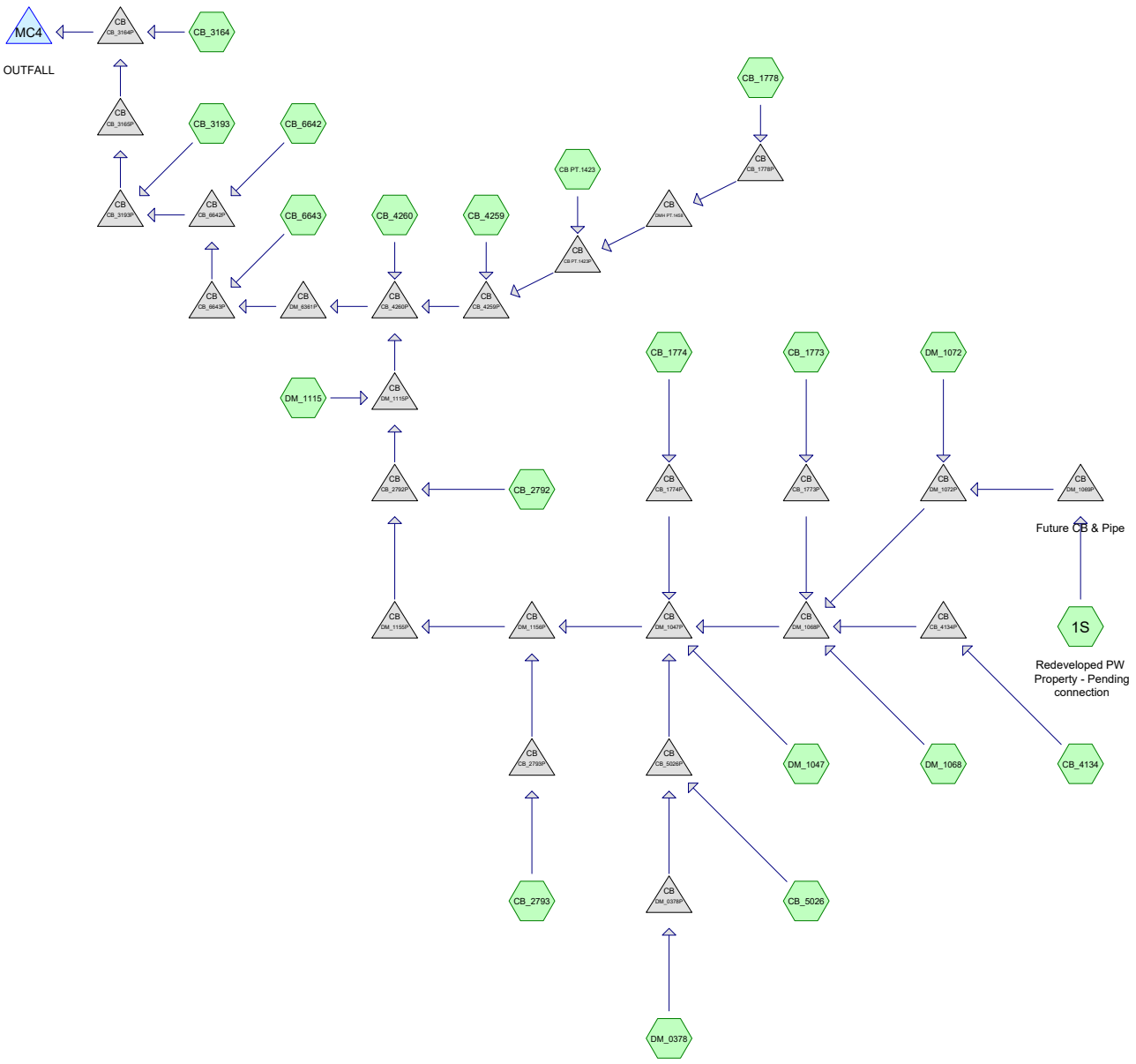
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. AND, UNLESS OTHERWISE AGREED TO IN WRITING BY ACORN ENGINEERING, INC., ANY MODIFICATION OF THIS PLAN BY ANYONE OTHER THAN ACORN ENGINEERING, INC. SHALL RELIEVE ACORN ENGINEERING, INC. OF ALL RESPONSIBILITY FOR THE PLAN AND SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1106_CIVIL
JN:	1106
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	KRB
CHECKED BY:	WHS

STATE OF MAINE — WILLIAM H. SCHMIDT JR. — 10119 — REGISTERED PROFESSIONAL ENGINEER — 2-13-2020

DRAWING NO.
C-33

Appendix 3: Hydrologic Analysis (SCS Method)



Subcat Reach Pond Link

Routing Diagram for 16537 POST-SIZING Alternative A1
Prepared by Sebago Technics, Inc, Printed 5/6/2020
HydroCAD® 10.00-24 s/n 01856 © 2018 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.705	70	1/2 acre lots, 25% imp, HSG B (CB PT.1423)
18.723	61	1/4 acre lots, 38% imp, HSG A (1S, CB_2793, CB_5026, DM_0378, DM_1068, DM_1072)
0.632	61	>75% Grass cover, Good, HSG B (CB_4259, CB_4260, CB_6642, CB_6643)
0.507	98	Paved parking, HSG B (CB_4259, CB_4260, CB_6642, CB_6643)
0.194	83	Paved roads w/open ditches, 50% imp, HSG A (CB_4134)
0.210	98	Roofs, HSG A (DM_1115)
0.314	98	Roofs, HSG B (CB_6643)
0.864	89	Urban commercial, 85% imp, HSG A (CB_1773, CB_1774, DM_1047)
3.118	92	Urban commercial, 85% imp, HSG B (CB_1778, CB_2792, CB_3164, CB_3193)
25.268	**68**	**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Redeveloped PW Runoff Area=291,700 sf 38.00% Impervious Runoff Depth=1.14"
Tc=20.0 min CN=61 Runoff=5.25 cfs 0.634 af

Subcatchment CB PT.1423: Runoff Area=30,715 sf 25.00% Impervious Runoff Depth=1.74"
Flow Length=157' Tc=9.5 min CN=70 Runoff=1.24 cfs 0.103 af

Subcatchment CB_1773: Runoff Area=5,830 sf 85.00% Impervious Runoff Depth=3.39"
Flow Length=235' Tc=6.0 min CN=89 Runoff=0.52 cfs 0.038 af

Subcatchment CB_1774: Runoff Area=6,830 sf 85.00% Impervious Runoff Depth=3.39"
Flow Length=270' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=0.61 cfs 0.044 af

Subcatchment CB_1778: Runoff Area=8,665 sf 85.00% Impervious Runoff Depth=3.70"
Flow Length=245' Slope=0.0150 '/' Tc=6.0 min CN=92 Runoff=0.82 cfs 0.061 af

Subcatchment CB_2792: Runoff Area=17,410 sf 85.00% Impervious Runoff Depth=3.70"
Flow Length=126' Tc=6.0 min CN=92 Runoff=1.65 cfs 0.123 af

Subcatchment CB_2793: Runoff Area=92,222 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=475' Tc=20.0 min CN=61 Runoff=1.66 cfs 0.200 af

Subcatchment CB_3164: Runoff Area=25,240 sf 85.00% Impervious Runoff Depth=3.70"
Tc=6.0 min CN=92 Runoff=2.40 cfs 0.179 af

Subcatchment CB_3193: Runoff Area=84,500 sf 85.00% Impervious Runoff Depth=3.70"
Flow Length=875' Tc=13.2 min CN=92 Runoff=6.41 cfs 0.598 af

Subcatchment CB_4134: Runoff Area=8,460 sf 50.00% Impervious Runoff Depth=2.81"
Flow Length=192' Slope=0.0400 '/' Tc=9.6 min CN=83 Runoff=0.57 cfs 0.046 af

Subcatchment CB_4259: Runoff Area=23,270 sf 57.22% Impervious Runoff Depth=2.72"
Flow Length=171' Slope=0.0200 '/' Tc=8.8 min CN=82 Runoff=1.55 cfs 0.121 af

Subcatchment CB_4260: Runoff Area=6,825 sf 72.89% Impervious Runoff Depth=3.29"
Flow Length=90' Slope=0.0400 '/' Tc=6.0 min CN=88 Runoff=0.59 cfs 0.043 af

Subcatchment CB_5026: Runoff Area=37,490 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=194' Tc=10.9 min CN=61 Runoff=0.85 cfs 0.081 af

Subcatchment CB_6642: Runoff Area=7,920 sf 6.38% Impervious Runoff Depth=1.26"
Flow Length=90' Slope=0.0170 '/' Tc=9.8 min CN=63 Runoff=0.21 cfs 0.019 af

Subcatchment CB_6643: Runoff Area=25,275 sf 67.04% Impervious Runoff Depth=3.10"
Flow Length=161' Slope=0.0100 '/' Tc=14.6 min CN=86 Runoff=1.60 cfs 0.150 af

Subcatchment DM_0378: Runoff Area=75,150 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=340' Tc=13.0 min CN=61 Runoff=1.60 cfs 0.163 af

Subcatchment DM_1047: Runoff Area=24,990 sf 85.00% Impervious Runoff Depth=3.39"
Flow Length=268' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=2.23 cfs 0.162 af

Subcatchment DM_1068: Runoff Area=170,275 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=1,031' Tc=20.7 min CN=61 Runoff=3.02 cfs 0.370 af

Subcatchment DM_1072: Runoff Area=148,750 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=715' Tc=13.2 min CN=61 Runoff=3.14 cfs 0.323 af

Subcatchment DM_1115: Runoff Area=9,153 sf 100.00% Impervious Runoff Depth=4.36"
Flow Length=180' Tc=6.0 min CN=98 Runoff=0.94 cfs 0.076 af

Pond CB PT.1423P: Peak Elev=20.03' Inflow=1.97 cfs 0.164 af
18.0" Round Culvert n=0.012 L=67.0' S=0.0207 '/' Outflow=1.97 cfs 0.164 af

Pond CB_1773P: Peak Elev=33.96' Inflow=0.52 cfs 0.038 af
12.0" Round Culvert n=0.012 L=39.0' S=0.0136 '/' Outflow=0.52 cfs 0.038 af

Pond CB_1774P: Peak Elev=29.90' Inflow=0.61 cfs 0.044 af
12.0" Round Culvert n=0.012 L=42.0' S=0.1298 '/' Outflow=0.61 cfs 0.044 af

Pond CB_1778P: Peak Elev=23.64' Inflow=0.82 cfs 0.061 af
12.0" Round Culvert n=0.012 L=14.0' S=0.0393 '/' Outflow=0.82 cfs 0.061 af

Pond CB_2792P: Peak Elev=18.47' Inflow=17.30 cfs 2.185 af
36.0" Round Culvert n=0.012 L=132.0' S=0.0016 '/' Outflow=17.30 cfs 2.185 af

Pond CB_2793P: Peak Elev=23.11' Inflow=1.66 cfs 0.200 af
12.0" Round Culvert n=0.012 L=17.0' S=0.0076 '/' Outflow=1.66 cfs 0.200 af

Pond CB_3164P: Peak Elev=10.47' Inflow=30.15 cfs 3.535 af
42.0" Round Culvert n=0.012 L=88.0' S=0.0082 '/' Outflow=30.15 cfs 3.535 af

Pond CB_3165P: Peak Elev=11.37' Inflow=28.63 cfs 3.356 af
42.0" Round Culvert n=0.012 L=8.0' S=0.1150 '/' Outflow=28.63 cfs 3.356 af

Pond CB_3193P: Peak Elev=11.98' Inflow=28.63 cfs 3.356 af
42.0" Round Culvert n=0.012 L=58.0' S=0.0105 '/' Outflow=28.63 cfs 3.356 af

Pond CB_4134P: Peak Elev=34.97' Inflow=0.57 cfs 0.046 af
12.0" Round Culvert n=0.012 L=40.0' S=0.0345 '/' Outflow=0.57 cfs 0.046 af

Pond CB_4259P: Peak Elev=18.96' Inflow=3.52 cfs 0.285 af
18.0" Round Culvert n=0.012 L=85.0' S=0.0221 '/' Outflow=3.52 cfs 0.285 af

Pond CB_4260P: Peak Elev=17.64' Inflow=20.48 cfs 2.589 af
36.0" Round Culvert n=0.012 L=35.0' S=0.0129 '/' Outflow=20.48 cfs 2.589 af

Pond CB_5026P: Peak Elev=26.26' Inflow=2.43 cfs 0.245 af
18.0" Round Culvert n=0.012 L=156.0' S=0.0017 '/' Outflow=2.43 cfs 0.245 af

Pond CB_6642P: Peak Elev=12.72' Inflow=22.27 cfs 2.758 af
36.0" Round Culvert n=0.012 L=29.0' S=0.0210 '/' Outflow=22.27 cfs 2.758 af

Pond CB_6643P: Peak Elev=16.24' Inflow=22.08 cfs 2.739 af
36.0" Round Culvert n=0.012 L=85.0' S=0.0081 '/' Outflow=22.08 cfs 2.739 af

Pond DMH PT.1458: Peak Elev=22.56' Inflow=0.82 cfs 0.061 af
12.0" Round Culvert n=0.012 L=130.0' S=0.0192 '/' Outflow=0.82 cfs 0.061 af

Pond DM_0378P: Peak Elev=26.65' Inflow=1.60 cfs 0.163 af
12.0" Round Culvert n=0.012 L=117.0' S=0.0050 '/' Outflow=1.60 cfs 0.163 af

Pond DM_1047P: Peak Elev=25.91' Inflow=14.96 cfs 1.861 af
30.0" Round Culvert n=0.012 L=263.0' S=0.0259 '/' Outflow=14.96 cfs 1.861 af

Pond DM_1068P: Peak Elev=33.70' Inflow=11.53 cfs 1.410 af
30.0" Round Culvert n=0.012 L=280.0' S=0.0146 '/' Outflow=11.53 cfs 1.410 af

Pond DM_1069P: Future CB & Pipe Peak Elev=66.36' Inflow=5.25 cfs 0.634 af
18.0" Round Culvert n=0.012 L=580.0' S=0.0307 '/' Outflow=5.25 cfs 0.634 af

Pond DM_1072P: Peak Elev=48.54' Inflow=8.00 cfs 0.957 af
24.0" Round Culvert n=0.012 L=238.0' S=0.0579 '/' Outflow=8.00 cfs 0.957 af

Pond DM_1115P: Peak Elev=18.11' Inflow=17.73 cfs 2.261 af
36.0" Round Culvert n=0.012 L=116.0' S=0.0034 '/' Outflow=17.73 cfs 2.261 af

Pond DM_1155P: Peak Elev=19.09' Inflow=16.54 cfs 2.061 af
30.0" Round Culvert n=0.012 L=162.0' S=0.0033 '/' Outflow=16.54 cfs 2.061 af

Pond DM_1156P: Peak Elev=19.25' Inflow=16.54 cfs 2.061 af
36.0" Round Culvert n=0.012 L=35.0' S=0.0011 '/' Outflow=16.54 cfs 2.061 af

Pond DM_6361P: Peak Elev=17.08' Inflow=20.48 cfs 2.589 af
36.0" Round Culvert n=0.012 L=90.0' S=0.0081 '/' Outflow=20.48 cfs 2.589 af

Pond MC4: OUTFALL Inflow=30.15 cfs 3.535 af
Primary=30.15 cfs 3.535 af

Total Runoff Area = 25.268 ac Runoff Volume = 3.535 af Average Runoff Depth = 1.68"
53.29% Pervious = 13.464 ac 46.71% Impervious = 11.804 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Redeveloped PW Runoff Area=291,700 sf 38.00% Impervious Runoff Depth=1.87"
Tc=20.0 min CN=61 Runoff=9.33 cfs 1.045 af

Subcatchment CB PT.1423: Runoff Area=30,715 sf 25.00% Impervious Runoff Depth=2.65"
Flow Length=157' Tc=9.5 min CN=70 Runoff=1.93 cfs 0.156 af

Subcatchment CB_1773: Runoff Area=5,830 sf 85.00% Impervious Runoff Depth=4.54"
Flow Length=235' Tc=6.0 min CN=89 Runoff=0.69 cfs 0.051 af

Subcatchment CB_1774: Runoff Area=6,830 sf 85.00% Impervious Runoff Depth=4.54"
Flow Length=270' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=0.80 cfs 0.059 af

Subcatchment CB_1778: Runoff Area=8,665 sf 85.00% Impervious Runoff Depth=4.87"
Flow Length=245' Slope=0.0150 '/' Tc=6.0 min CN=92 Runoff=1.07 cfs 0.081 af

Subcatchment CB_2792: Runoff Area=17,410 sf 85.00% Impervious Runoff Depth=4.87"
Flow Length=126' Tc=6.0 min CN=92 Runoff=2.15 cfs 0.162 af

Subcatchment CB_2793: Runoff Area=92,222 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=475' Tc=20.0 min CN=61 Runoff=2.95 cfs 0.330 af

Subcatchment CB_3164: Runoff Area=25,240 sf 85.00% Impervious Runoff Depth=4.87"
Tc=6.0 min CN=92 Runoff=3.11 cfs 0.235 af

Subcatchment CB_3193: Runoff Area=84,500 sf 85.00% Impervious Runoff Depth=4.87"
Flow Length=875' Tc=13.2 min CN=92 Runoff=8.32 cfs 0.788 af

Subcatchment CB_4134: Runoff Area=8,460 sf 50.00% Impervious Runoff Depth=3.91"
Flow Length=192' Slope=0.0400 '/' Tc=9.6 min CN=83 Runoff=0.78 cfs 0.063 af

Subcatchment CB_4259: Runoff Area=23,270 sf 57.22% Impervious Runoff Depth=3.80"
Flow Length=171' Slope=0.0200 '/' Tc=8.8 min CN=82 Runoff=2.15 cfs 0.169 af

Subcatchment CB_4260: Runoff Area=6,825 sf 72.89% Impervious Runoff Depth=4.43"
Flow Length=90' Slope=0.0400 '/' Tc=6.0 min CN=88 Runoff=0.79 cfs 0.058 af

Subcatchment CB_5026: Runoff Area=37,490 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=194' Tc=10.9 min CN=61 Runoff=1.51 cfs 0.134 af

Subcatchment CB_6642: Runoff Area=7,920 sf 6.38% Impervious Runoff Depth=2.04"
Flow Length=90' Slope=0.0170 '/' Tc=9.8 min CN=63 Runoff=0.37 cfs 0.031 af

Subcatchment CB_6643: Runoff Area=25,275 sf 67.04% Impervious Runoff Depth=4.22"
Flow Length=161' Slope=0.0100 '/' Tc=14.6 min CN=86 Runoff=2.16 cfs 0.204 af

Subcatchment DM_0378: Runoff Area=75,150 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=340' Tc=13.0 min CN=61 Runoff=2.84 cfs 0.269 af

Subcatchment DM_1047: Runoff Area=24,990 sf 85.00% Impervious Runoff Depth=4.54"
Flow Length=268' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=2.94 cfs 0.217 af

Subcatchment DM_1068: Runoff Area=170,275 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=1,031' Tc=20.7 min CN=61 Runoff=5.37 cfs 0.610 af

Subcatchment DM_1072: Runoff Area=148,750 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=715' Tc=13.2 min CN=61 Runoff=5.60 cfs 0.533 af

Subcatchment DM_1115: Runoff Area=9,153 sf 100.00% Impervious Runoff Depth=5.56"
Flow Length=180' Tc=6.0 min CN=98 Runoff=1.19 cfs 0.097 af

Pond CB PT.1423P: Peak Elev=20.21' Inflow=2.88 cfs 0.236 af
18.0" Round Culvert n=0.012 L=67.0' S=0.0207 '/' Outflow=2.88 cfs 0.236 af

Pond CB_1773P: Peak Elev=34.03' Inflow=0.69 cfs 0.051 af
12.0" Round Culvert n=0.012 L=39.0' S=0.0136 '/' Outflow=0.69 cfs 0.051 af

Pond CB_1774P: Peak Elev=29.97' Inflow=0.80 cfs 0.059 af
12.0" Round Culvert n=0.012 L=42.0' S=0.1298 '/' Outflow=0.80 cfs 0.059 af

Pond CB_1778P: Peak Elev=23.72' Inflow=1.07 cfs 0.081 af
12.0" Round Culvert n=0.012 L=14.0' S=0.0393 '/' Outflow=1.07 cfs 0.081 af

Pond CB_2792P: Peak Elev=19.38' Inflow=29.70 cfs 3.475 af
36.0" Round Culvert n=0.012 L=132.0' S=0.0016 '/' Outflow=29.70 cfs 3.475 af

Pond CB_2793P: Peak Elev=23.73' Inflow=2.95 cfs 0.330 af
12.0" Round Culvert n=0.012 L=17.0' S=0.0076 '/' Outflow=2.95 cfs 0.330 af

Pond CB_3164P: Peak Elev=11.40' Inflow=46.83 cfs 5.294 af
42.0" Round Culvert n=0.012 L=88.0' S=0.0082 '/' Outflow=46.83 cfs 5.294 af

Pond CB_3165P: Peak Elev=12.24' Inflow=44.95 cfs 5.058 af
42.0" Round Culvert n=0.012 L=8.0' S=0.1150 '/' Outflow=44.95 cfs 5.058 af

Pond CB_3193P: Peak Elev=12.85' Inflow=44.95 cfs 5.058 af
42.0" Round Culvert n=0.012 L=58.0' S=0.0105 '/' Outflow=44.95 cfs 5.058 af

Pond CB_4134P: Peak Elev=35.05' Inflow=0.78 cfs 0.063 af
12.0" Round Culvert n=0.012 L=40.0' S=0.0345 '/' Outflow=0.78 cfs 0.063 af

Pond CB_4259P: Peak Elev=19.24' Inflow=5.02 cfs 0.406 af
18.0" Round Culvert n=0.012 L=85.0' S=0.0221 '/' Outflow=5.02 cfs 0.406 af

Pond CB_4260P: Peak Elev=18.66' Inflow=34.25 cfs 4.036 af
36.0" Round Culvert n=0.012 L=35.0' S=0.0129 '/' Outflow=34.25 cfs 4.036 af

Pond CB_5026P: Peak Elev=26.68' Inflow=4.32 cfs 0.404 af
18.0" Round Culvert n=0.012 L=156.0' S=0.0017 '/' Outflow=4.32 cfs 0.404 af

Pond CB_6642P: Peak Elev=13.88' Inflow=36.72 cfs 4.271 af
36.0" Round Culvert n=0.012 L=29.0' S=0.0210 '/' Outflow=36.72 cfs 4.271 af

Pond CB_6643P: Peak Elev=17.38' Inflow=36.40 cfs 4.240 af
36.0" Round Culvert n=0.012 L=85.0' S=0.0081 '/' Outflow=36.40 cfs 4.240 af

Pond DMH PT.1458: Peak Elev=22.64' Inflow=1.07 cfs 0.081 af
12.0" Round Culvert n=0.012 L=130.0' S=0.0192 '/' Outflow=1.07 cfs 0.081 af

Pond DM_0378P: Peak Elev=27.30' Inflow=2.84 cfs 0.269 af
12.0" Round Culvert n=0.012 L=117.0' S=0.0050 '/' Outflow=2.84 cfs 0.269 af

Pond DM_1047P: Peak Elev=27.17' Inflow=25.87 cfs 2.982 af
30.0" Round Culvert n=0.012 L=263.0' S=0.0259 '/' Outflow=25.87 cfs 2.982 af

Pond DM_1068P: Peak Elev=34.49' Inflow=20.25 cfs 2.302 af
30.0" Round Culvert n=0.012 L=280.0' S=0.0146 '/' Outflow=20.25 cfs 2.302 af

Pond DM_1069P: Future CB & Pipe Peak Elev=67.68' Inflow=9.33 cfs 1.045 af
18.0" Round Culvert n=0.012 L=580.0' S=0.0307 '/' Outflow=9.33 cfs 1.045 af

Pond DM_1072P: Peak Elev=49.50' Inflow=14.24 cfs 1.578 af
24.0" Round Culvert n=0.012 L=238.0' S=0.0579 '/' Outflow=14.24 cfs 1.578 af

Pond DM_1115P: Peak Elev=18.96' Inflow=30.26 cfs 3.572 af
36.0" Round Culvert n=0.012 L=116.0' S=0.0034 '/' Outflow=30.26 cfs 3.572 af

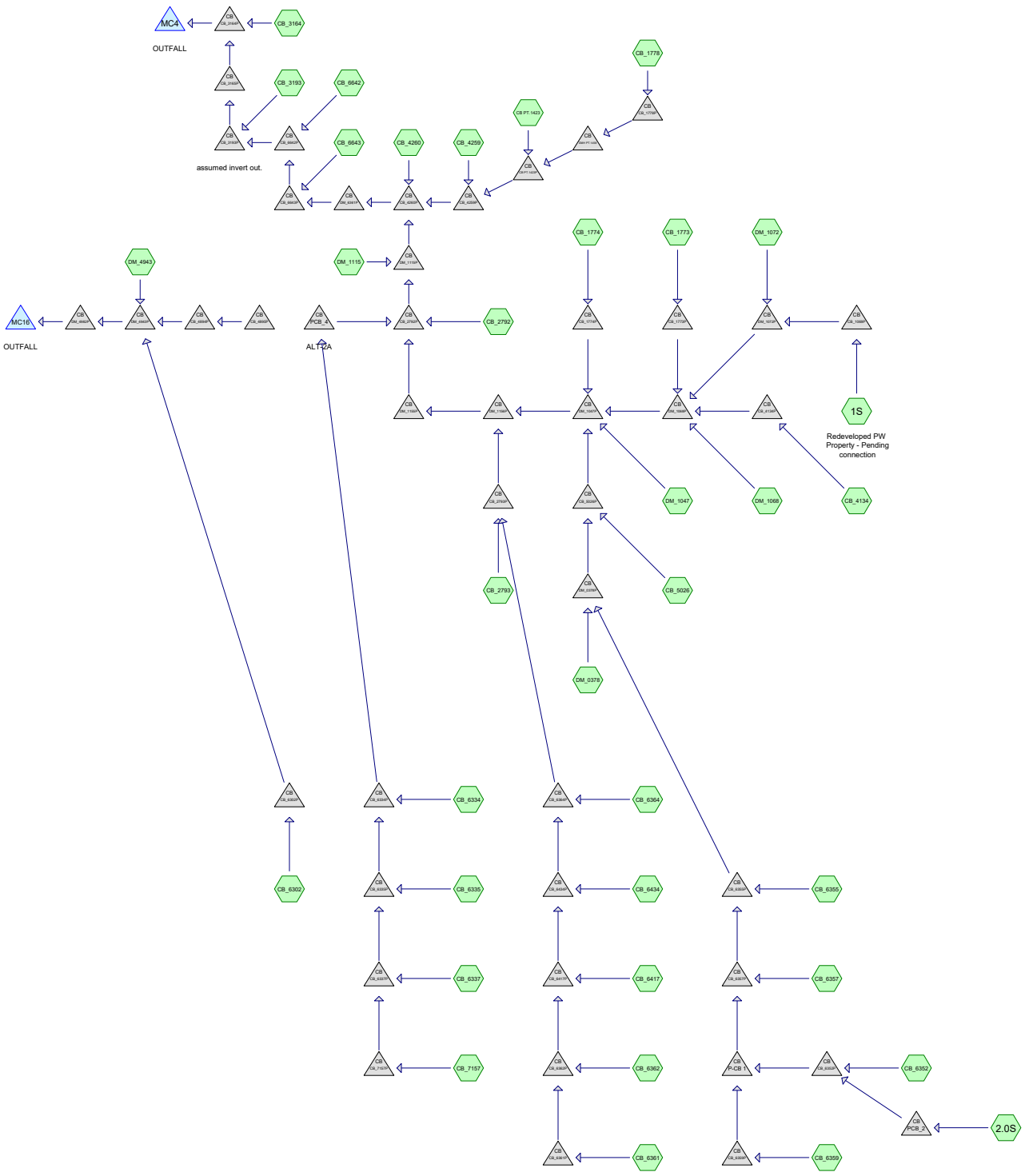
Pond DM_1155P: Peak Elev=20.56' Inflow=28.68 cfs 3.313 af
30.0" Round Culvert n=0.012 L=162.0' S=0.0033 '/' Outflow=28.68 cfs 3.313 af

Pond DM_1156P: Peak Elev=20.11' Inflow=28.68 cfs 3.313 af
36.0" Round Culvert n=0.012 L=35.0' S=0.0011 '/' Outflow=28.68 cfs 3.313 af

Pond DM_6361P: Peak Elev=18.11' Inflow=34.25 cfs 4.036 af
36.0" Round Culvert n=0.012 L=90.0' S=0.0081 '/' Outflow=34.25 cfs 4.036 af

Pond MC4: OUTFALL Inflow=46.83 cfs 5.294 af
Primary=46.83 cfs 5.294 af

Total Runoff Area = 25.268 ac Runoff Volume = 5.294 af Average Runoff Depth = 2.51"
53.29% Pervious = 13.464 ac 46.71% Impervious = 11.804 ac



Routing Diagram for 16537 POST-SIZING Alternative A2
Prepared by Sebago Technics, Inc, Printed 5/6/2020
HydroCAD® 10.00-24 s/n 01856 © 2018 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.705	70	1/2 acre lots, 25% imp, HSG B (CB PT.1423)
32.733	57	1/3 acre lots, 30% imp, HSG A (2.0S, CB_6334, CB_6335, CB_6337, CB_6352, CB_6355, CB_6357, CB_6359, CB_6361, CB_6362, CB_6364, CB_6417, CB_6434, CB_7157)
18.723	61	1/4 acre lots, 38% imp, HSG A (1S, CB_2793, CB_5026, DM_0378, DM_1068, DM_1072)
0.632	61	>75% Grass cover, Good, HSG B (CB_4259, CB_4260, CB_6642, CB_6643)
0.507	98	Paved parking, HSG B (CB_4259, CB_4260, CB_6642, CB_6643)
1.110	83	Paved roads w/open ditches, 50% imp, HSG A (CB_4134, CB_6302)
0.591	98	Roofs, HSG A (DM_1115, DM_4943)
0.314	98	Roofs, HSG B (CB_6643)
0.864	89	Urban commercial, 85% imp, HSG A (CB_1773, CB_1774, DM_1047)
3.118	92	Urban commercial, 85% imp, HSG B (CB_1778, CB_2792, CB_3164, CB_3193)
0.571	81	Urban industrial, 72% imp, HSG A (DM_4943)
59.869	**62**	**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Redeveloped PW Runoff Area=291,700 sf 38.00% Impervious Runoff Depth=1.14"
Tc=20.0 min CN=61 Runoff=5.25 cfs 0.634 af

Subcatchment 2.0S: Runoff Area=257,120 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=1,394' Tc=25.1 min CN=57 Runoff=3.06 cfs 0.442 af

Subcatchment CB PT.1423: Runoff Area=30,715 sf 25.00% Impervious Runoff Depth=1.74"
Flow Length=157' Tc=9.5 min CN=70 Runoff=1.24 cfs 0.103 af

Subcatchment CB_1773: Runoff Area=5,830 sf 85.00% Impervious Runoff Depth=3.39"
Flow Length=235' Tc=6.0 min CN=89 Runoff=0.52 cfs 0.038 af

Subcatchment CB_1774: Runoff Area=6,830 sf 85.00% Impervious Runoff Depth=3.39"
Flow Length=270' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=0.61 cfs 0.044 af

Subcatchment CB_1778: Runoff Area=8,665 sf 85.00% Impervious Runoff Depth=3.70"
Flow Length=245' Slope=0.0150 '/' Tc=6.0 min CN=92 Runoff=0.82 cfs 0.061 af

Subcatchment CB_2792: Runoff Area=17,410 sf 85.00% Impervious Runoff Depth=3.70"
Flow Length=126' Tc=6.0 min CN=92 Runoff=1.65 cfs 0.123 af

Subcatchment CB_2793: Runoff Area=92,222 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=495' Tc=22.4 min CN=61 Runoff=1.59 cfs 0.200 af

Subcatchment CB_3164: Runoff Area=25,240 sf 85.00% Impervious Runoff Depth=3.70"
Tc=6.0 min CN=92 Runoff=2.40 cfs 0.179 af

Subcatchment CB_3193: Runoff Area=84,500 sf 85.00% Impervious Runoff Depth=3.70"
Flow Length=875' Tc=13.2 min CN=92 Runoff=6.41 cfs 0.598 af

Subcatchment CB_4134: Runoff Area=8,460 sf 50.00% Impervious Runoff Depth=2.81"
Flow Length=192' Slope=0.0400 '/' Tc=9.6 min CN=83 Runoff=0.57 cfs 0.046 af

Subcatchment CB_4259: Runoff Area=23,270 sf 57.22% Impervious Runoff Depth=2.72"
Flow Length=171' Slope=0.0200 '/' Tc=8.8 min CN=82 Runoff=1.55 cfs 0.121 af

Subcatchment CB_4260: Runoff Area=6,825 sf 72.89% Impervious Runoff Depth=3.29"
Flow Length=90' Slope=0.0400 '/' Tc=6.0 min CN=88 Runoff=0.59 cfs 0.043 af

Subcatchment CB_5026: Runoff Area=37,490 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=194' Tc=10.9 min CN=61 Runoff=0.85 cfs 0.081 af

Subcatchment CB_6302: Runoff Area=39,903 sf 50.00% Impervious Runoff Depth=2.81"
Flow Length=240' Tc=12.6 min CN=83 Runoff=2.44 cfs 0.215 af

Subcatchment CB_6334: Runoff Area=95,695 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=480' Tc=19.6 min CN=57 Runoff=1.25 cfs 0.164 af

Subcatchment CB_6335: Runoff Area=64,158 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=360' Slope=0.0200 '/' Tc=20.8 min CN=57 Runoff=0.82 cfs 0.110 af

Subcatchment CB_6337: Runoff Area=33,850 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=274' Tc=17.4 min CN=57 Runoff=0.46 cfs 0.058 af

Subcatchment CB_6352: Runoff Area=95,334 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=268' Tc=18.5 min CN=57 Runoff=1.27 cfs 0.164 af

Subcatchment CB_6355: Runoff Area=155,874 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=587' Tc=18.8 min CN=57 Runoff=2.07 cfs 0.268 af

Subcatchment CB_6357: Runoff Area=64,138 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=322' Tc=17.3 min CN=57 Runoff=0.88 cfs 0.110 af

Subcatchment CB_6359: Runoff Area=71,080 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=445' Tc=15.5 min CN=57 Runoff=1.01 cfs 0.122 af

Subcatchment CB_6361: Runoff Area=91,580 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=468' Tc=20.1 min CN=57 Runoff=1.19 cfs 0.157 af

Subcatchment CB_6362: Runoff Area=53,657 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=396' Tc=16.9 min CN=57 Runoff=0.74 cfs 0.092 af

Subcatchment CB_6364: Runoff Area=87,777 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=461' Tc=14.2 min CN=57 Runoff=1.29 cfs 0.151 af

Subcatchment CB_6417: Runoff Area=153,985 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=706' Tc=19.3 min CN=57 Runoff=2.02 cfs 0.265 af

Subcatchment CB_6434: Runoff Area=39,623 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=280' Tc=12.4 min CN=57 Runoff=0.61 cfs 0.068 af

Subcatchment CB_6642: Runoff Area=7,920 sf 6.38% Impervious Runoff Depth=1.26"
Flow Length=90' Slope=0.0170 '/' Tc=9.8 min CN=63 Runoff=0.21 cfs 0.019 af

Subcatchment CB_6643: Runoff Area=25,275 sf 67.04% Impervious Runoff Depth=3.10"
Flow Length=161' Slope=0.0100 '/' Tc=14.6 min CN=86 Runoff=1.60 cfs 0.150 af

Subcatchment CB_7157: Runoff Area=161,968 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=735' Tc=32.5 min CN=57 Runoff=1.73 cfs 0.278 af

Subcatchment DM_0378: Runoff Area=75,150 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=340' Tc=13.0 min CN=61 Runoff=1.60 cfs 0.163 af

Subcatchment DM_1047: Runoff Area=24,990 sf 85.00% Impervious Runoff Depth=3.39"
Flow Length=268' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=2.23 cfs 0.162 af

Subcatchment DM_1068: Runoff Area=170,275 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=1,031' Tc=20.7 min CN=61 Runoff=3.02 cfs 0.370 af

Subcatchment DM_1072: Runoff Area=148,750 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=715' Tc=13.2 min CN=61 Runoff=3.14 cfs 0.323 af

Subcatchment DM_1115: Runoff Area=9,153 sf 100.00% Impervious Runoff Depth=4.36"
Flow Length=180' Tc=6.0 min CN=98 Runoff=0.94 cfs 0.076 af

Subcatchment DM_4943: Runoff Area=41,482 sf 83.21% Impervious Runoff Depth=3.29"
Flow Length=207' Tc=9.5 min CN=88 Runoff=3.21 cfs 0.261 af

Pond CB PT.1423P: Peak Elev=20.03' Inflow=1.97 cfs 0.164 af
18.0" Round Culvert n=0.012 L=67.0' S=0.0207 '/' Outflow=1.97 cfs 0.164 af

Pond CB_1069P: Peak Elev=66.36' Inflow=5.25 cfs 0.634 af
18.0" Round Culvert n=0.012 L=580.0' S=0.0307 '/' Outflow=5.25 cfs 0.634 af

Pond CB_1773P: Peak Elev=33.96' Inflow=0.52 cfs 0.038 af
12.0" Round Culvert n=0.012 L=39.0' S=0.0136 '/' Outflow=0.52 cfs 0.038 af

Pond CB_1774P: Peak Elev=29.90' Inflow=0.61 cfs 0.044 af
12.0" Round Culvert n=0.012 L=42.0' S=0.1298 '/' Outflow=0.61 cfs 0.044 af

Pond CB_1778P: Peak Elev=23.64' Inflow=0.82 cfs 0.061 af
12.0" Round Culvert n=0.012 L=14.0' S=0.0393 '/' Outflow=0.82 cfs 0.061 af

Pond CB_2792P: Peak Elev=19.12' Inflow=33.93 cfs 4.636 af
48.0" Round Culvert n=0.012 L=132.0' S=0.0016 '/' Outflow=33.93 cfs 4.636 af

Pond CB_2793P: Peak Elev=23.75' Inflow=7.20 cfs 0.934 af
24.0" Round Culvert n=0.012 L=17.0' S=0.0076 '/' Outflow=7.20 cfs 0.934 af

Pond CB_3164P: Peak Elev=10.91' Inflow=44.30 cfs 5.985 af
48.0" Round Culvert n=0.012 L=88.0' S=0.0082 '/' Outflow=44.30 cfs 5.985 af

Pond CB_3165P: Peak Elev=11.84' Inflow=43.20 cfs 5.807 af
48.0" Round Culvert n=0.012 L=8.0' S=0.1150 '/' Outflow=43.20 cfs 5.807 af

Pond CB_3193P: assumed invert out. Peak Elev=12.46' Inflow=43.20 cfs 5.807 af
48.0" Round Culvert n=0.012 L=58.0' S=0.0105 '/' Outflow=43.20 cfs 5.807 af

Pond CB_4134P: Peak Elev=34.97' Inflow=0.57 cfs 0.046 af
12.0" Round Culvert n=0.012 L=40.0' S=0.0345 '/' Outflow=0.57 cfs 0.046 af

Pond CB_4259P: Peak Elev=18.96' Inflow=3.52 cfs 0.285 af
18.0" Round Culvert n=0.012 L=85.0' S=0.0221 '/' Outflow=3.52 cfs 0.285 af

Pond CB_4260P: Peak Elev=18.36' Inflow=36.51 cfs 5.040 af
42.0" Round Culvert n=0.012 L=35.0' S=0.0129 '/' Outflow=36.51 cfs 5.040 af

Pond CB_4894P: Peak Elev=13.31' Inflow=0.00 cfs 0.000 af
6.0" Round Culvert n=0.012 L=136.0' S=0.0104 '/' Outflow=0.00 cfs 0.000 af

Pond CB_4895P: Peak Elev=0.00'
15.0" Round Culvert n=0.012 L=93.0' S=0.0077 '/' Primary=0.00 cfs 0.000 af

Pond CB_5026P: Peak Elev=27.00' Inflow=9.85 cfs 1.351 af
30.0" Round Culvert n=0.012 L=156.0' S=0.0017 '/' Outflow=9.85 cfs 1.351 af

Pond CB_6302P: Peak Elev=13.83' Inflow=2.44 cfs 0.215 af
18.0" Round Culvert n=0.012 L=77.0' S=0.0130 '/' Outflow=2.44 cfs 0.215 af

Pond CB_6334P: Peak Elev=16.94' Inflow=3.94 cfs 0.611 af
18.0" Round Culvert n=0.012 L=50.0' S=0.0060 '/' Outflow=3.94 cfs 0.611 af

Pond CB_6335P: Peak Elev=19.20' Inflow=2.80 cfs 0.447 af
18.0" Round Culvert n=0.012 L=265.0' S=0.0094 '/' Outflow=2.80 cfs 0.447 af

Pond CB_6337P: Peak Elev=21.75' Inflow=2.08 cfs 0.337 af
18.0" Round Culvert n=0.012 L=255.0' S=0.0102 '/' Outflow=2.08 cfs 0.337 af

Pond CB_6352P: Peak Elev=56.16' Inflow=4.24 cfs 0.606 af
18.0" Round Culvert n=0.012 L=252.0' S=0.0476 '/' Outflow=4.24 cfs 0.606 af

Pond CB_6355P: Peak Elev=35.46' Inflow=7.98 cfs 1.106 af
24.0" Round Culvert n=0.012 L=312.0' S=0.0256 '/' Outflow=7.98 cfs 1.106 af

Pond CB_6357P: Peak Elev=42.22' Inflow=5.94 cfs 0.838 af
24.0" Round Culvert n=0.012 L=532.0' S=0.0132 '/' Outflow=5.94 cfs 0.838 af

Pond CB_6359P: Peak Elev=44.60' Inflow=1.01 cfs 0.122 af
12.0" Round Culvert n=0.012 L=37.0' S=0.0270 '/' Outflow=1.01 cfs 0.122 af

Pond CB_6361P: Peak Elev=35.85' Inflow=1.19 cfs 0.157 af
12.0" Round Culvert n=0.012 L=110.0' S=0.0100 '/' Outflow=1.19 cfs 0.157 af

Pond CB_6362P: Peak Elev=34.72' Inflow=1.91 cfs 0.250 af
18.0" Round Culvert n=0.012 L=480.0' S=0.0135 '/' Outflow=1.91 cfs 0.250 af

Pond CB_6364P: Peak Elev=23.85' Inflow=5.66 cfs 0.733 af
30.0" Round Culvert n=0.012 L=235.0' S=0.0002 '/' Outflow=5.66 cfs 0.733 af

Pond CB_6417P: Peak Elev=28.60' Inflow=3.93 cfs 0.514 af
18.0" Round Culvert n=0.012 L=193.0' S=0.0098 '/' Outflow=3.93 cfs 0.514 af

Pond CB_6434P: Peak Elev=26.53' Inflow=4.45 cfs 0.582 af
24.0" Round Culvert n=0.012 L=290.0' S=0.0107 '/' Outflow=4.45 cfs 0.582 af

Pond CB_6642P: Peak Elev=13.13' Inflow=38.01 cfs 5.209 af
48.0" Round Culvert n=0.012 L=29.0' S=0.0210 '/' Outflow=38.01 cfs 5.209 af

Pond CB_6643P: Peak Elev=16.66' Inflow=37.85 cfs 5.190 af
48.0" Round Culvert n=0.012 L=85.0' S=0.0081 '/' Outflow=37.85 cfs 5.190 af

Pond CB_7157P: Peak Elev=23.38' Inflow=1.73 cfs 0.278 af
18.0" Round Culvert n=0.012 L=155.0' S=0.0103 '/' Outflow=1.73 cfs 0.278 af

Pond DMH PT.1458: Peak Elev=22.56' Inflow=0.82 cfs 0.061 af
12.0" Round Culvert n=0.012 L=130.0' S=0.0192 '/' Outflow=0.82 cfs 0.061 af

Pond DM_0378P: Peak Elev=27.30' Inflow=9.24 cfs 1.269 af
30.0" Round Culvert n=0.012 L=117.0' S=0.0050 '/' Outflow=9.24 cfs 1.269 af

Pond DM_1047P: Peak Elev=26.22' Inflow=22.51 cfs 2.967 af
36.0" Round Culvert n=0.012 L=263.0' S=0.0259 '/' Outflow=22.51 cfs 2.967 af

Pond DM_1068P: Peak Elev=33.70' Inflow=11.53 cfs 1.410 af
30.0" Round Culvert n=0.012 L=280.0' S=0.0146 '/' Outflow=11.53 cfs 1.410 af

Pond DM_1072P: Peak Elev=48.54' Inflow=8.00 cfs 0.957 af
24.0" Round Culvert n=0.012 L=238.0' S=0.0579 '/' Outflow=8.00 cfs 0.957 af

Pond DM_1115P: Peak Elev=18.92' Inflow=34.29 cfs 4.712 af
42.0" Round Culvert n=0.012 L=116.0' S=0.0034 '/' Outflow=34.29 cfs 4.712 af

Pond DM_1155P: Peak Elev=19.51' Inflow=29.69 cfs 3.901 af
42.0" Round Culvert n=0.012 L=162.0' S=0.0033 '/' Outflow=29.69 cfs 3.901 af

Pond DM_1156P: Peak Elev=19.92' Inflow=29.69 cfs 3.901 af
42.0" Round Culvert n=0.012 L=35.0' S=0.0011 '/' Outflow=29.69 cfs 3.901 af

Pond DM_4943P: Peak Elev=13.26' Inflow=5.55 cfs 0.476 af
18.0" Round Culvert n=0.012 L=160.0' S=0.0177 '/' Outflow=5.55 cfs 0.476 af

Pond DM_4982P: Peak Elev=10.42' Inflow=5.55 cfs 0.476 af
18.0" Round Culvert n=0.012 L=56.0' S=0.0357 '/' Outflow=5.55 cfs 0.476 af

Pond DM_6361P: Peak Elev=17.76' Inflow=36.51 cfs 5.040 af
42.0" Round Culvert n=0.012 L=90.0' S=0.0081 '/' Outflow=36.51 cfs 5.040 af

Pond MC16: OUTFALL Inflow=5.55 cfs 0.476 af
Primary=5.55 cfs 0.476 af

Pond MC4: OUTFALL Inflow=44.30 cfs 5.985 af
Primary=44.30 cfs 5.985 af

Pond P-CB 1: Peak Elev=44.12' Inflow=5.11 cfs 0.728 af
24.0" Round Culvert n=0.012 L=175.0' S=0.0114 '/' Outflow=5.11 cfs 0.728 af

Pond PCB_2: Peak Elev=64.94' Inflow=3.06 cfs 0.442 af
18.0" Round Culvert n=0.012 L=280.0' S=0.0321 '/' Outflow=3.06 cfs 0.442 af

Pond PCB_4: ALT-2A Peak Elev=16.60' Inflow=3.94 cfs 0.611 af
18.0" Round Culvert n=0.012 L=108.0' S=0.0056 '/' Outflow=3.94 cfs 0.611 af

Total Runoff Area = 59.869 ac Runoff Volume = 6.461 af Average Runoff Depth = 1.30"
61.79% Pervious = 36.995 ac 38.21% Impervious = 22.874 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Redeveloped PW Runoff Area=291,700 sf 38.00% Impervious Runoff Depth=1.87"
Tc=20.0 min CN=61 Runoff=9.33 cfs 1.045 af

Subcatchment 2.0S: Runoff Area=257,120 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=1,394' Tc=25.1 min CN=57 Runoff=5.94 cfs 0.765 af

Subcatchment CB PT.1423: Runoff Area=30,715 sf 25.00% Impervious Runoff Depth=2.65"
Flow Length=157' Tc=9.5 min CN=70 Runoff=1.93 cfs 0.156 af

Subcatchment CB_1773: Runoff Area=5,830 sf 85.00% Impervious Runoff Depth=4.54"
Flow Length=235' Tc=6.0 min CN=89 Runoff=0.69 cfs 0.051 af

Subcatchment CB_1774: Runoff Area=6,830 sf 85.00% Impervious Runoff Depth=4.54"
Flow Length=270' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=0.80 cfs 0.059 af

Subcatchment CB_1778: Runoff Area=8,665 sf 85.00% Impervious Runoff Depth=4.87"
Flow Length=245' Slope=0.0150 '/' Tc=6.0 min CN=92 Runoff=1.07 cfs 0.081 af

Subcatchment CB_2792: Runoff Area=17,410 sf 85.00% Impervious Runoff Depth=4.87"
Flow Length=126' Tc=6.0 min CN=92 Runoff=2.15 cfs 0.162 af

Subcatchment CB_2793: Runoff Area=92,222 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=495' Tc=22.4 min CN=61 Runoff=2.81 cfs 0.330 af

Subcatchment CB_3164: Runoff Area=25,240 sf 85.00% Impervious Runoff Depth=4.87"
Tc=6.0 min CN=92 Runoff=3.11 cfs 0.235 af

Subcatchment CB_3193: Runoff Area=84,500 sf 85.00% Impervious Runoff Depth=4.87"
Flow Length=875' Tc=13.2 min CN=92 Runoff=8.32 cfs 0.788 af

Subcatchment CB_4134: Runoff Area=8,460 sf 50.00% Impervious Runoff Depth=3.91"
Flow Length=192' Slope=0.0400 '/' Tc=9.6 min CN=83 Runoff=0.78 cfs 0.063 af

Subcatchment CB_4259: Runoff Area=23,270 sf 57.22% Impervious Runoff Depth=3.80"
Flow Length=171' Slope=0.0200 '/' Tc=8.8 min CN=82 Runoff=2.15 cfs 0.169 af

Subcatchment CB_4260: Runoff Area=6,825 sf 72.89% Impervious Runoff Depth=4.43"
Flow Length=90' Slope=0.0400 '/' Tc=6.0 min CN=88 Runoff=0.79 cfs 0.058 af

Subcatchment CB_5026: Runoff Area=37,490 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=194' Tc=10.9 min CN=61 Runoff=1.51 cfs 0.134 af

Subcatchment CB_6302: Runoff Area=39,903 sf 50.00% Impervious Runoff Depth=3.91"
Flow Length=240' Tc=12.6 min CN=83 Runoff=3.36 cfs 0.298 af

Subcatchment CB_6334: Runoff Area=95,695 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=480' Tc=19.6 min CN=57 Runoff=2.44 cfs 0.285 af

Subcatchment CB_6335: Runoff Area=64,158 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=360' Slope=0.0200 '/' Tc=20.8 min CN=57 Runoff=1.60 cfs 0.191 af

Subcatchment CB_6337: Runoff Area=33,850 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=274' Tc=17.4 min CN=57 Runoff=0.91 cfs 0.101 af

Subcatchment CB_6352: Runoff Area=95,334 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=268' Tc=18.5 min CN=57 Runoff=2.49 cfs 0.284 af

Subcatchment CB_6355: Runoff Area=155,874 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=587' Tc=18.8 min CN=57 Runoff=4.05 cfs 0.464 af

Subcatchment CB_6357: Runoff Area=64,138 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=322' Tc=17.3 min CN=57 Runoff=1.72 cfs 0.191 af

Subcatchment CB_6359: Runoff Area=71,080 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=445' Tc=15.5 min CN=57 Runoff=1.99 cfs 0.212 af

Subcatchment CB_6361: Runoff Area=91,580 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=468' Tc=20.1 min CN=57 Runoff=2.32 cfs 0.273 af

Subcatchment CB_6362: Runoff Area=53,657 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=396' Tc=16.9 min CN=57 Runoff=1.45 cfs 0.160 af

Subcatchment CB_6364: Runoff Area=87,777 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=461' Tc=14.2 min CN=57 Runoff=2.54 cfs 0.261 af

Subcatchment CB_6417: Runoff Area=153,985 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=706' Tc=19.3 min CN=57 Runoff=3.96 cfs 0.458 af

Subcatchment CB_6434: Runoff Area=39,623 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=280' Tc=12.4 min CN=57 Runoff=1.21 cfs 0.118 af

Subcatchment CB_6642: Runoff Area=7,920 sf 6.38% Impervious Runoff Depth=2.04"
Flow Length=90' Slope=0.0170 '/' Tc=9.8 min CN=63 Runoff=0.37 cfs 0.031 af

Subcatchment CB_6643: Runoff Area=25,275 sf 67.04% Impervious Runoff Depth=4.22"
Flow Length=161' Slope=0.0100 '/' Tc=14.6 min CN=86 Runoff=2.16 cfs 0.204 af

Subcatchment CB_7157: Runoff Area=161,968 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=735' Tc=32.5 min CN=57 Runoff=3.34 cfs 0.482 af

Subcatchment DM_0378: Runoff Area=75,150 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=340' Tc=13.0 min CN=61 Runoff=2.84 cfs 0.269 af

Subcatchment DM_1047: Runoff Area=24,990 sf 85.00% Impervious Runoff Depth=4.54"
Flow Length=268' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=2.94 cfs 0.217 af

Subcatchment DM_1068: Runoff Area=170,275 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=1,031' Tc=20.7 min CN=61 Runoff=5.37 cfs 0.610 af

Subcatchment DM_1072: Runoff Area=148,750 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=715' Tc=13.2 min CN=61 Runoff=5.60 cfs 0.533 af

Subcatchment DM_1115: Runoff Area=9,153 sf 100.00% Impervious Runoff Depth=5.56"
Flow Length=180' Tc=6.0 min CN=98 Runoff=1.19 cfs 0.097 af

Subcatchment DM_4943: Runoff Area=41,482 sf 83.21% Impervious Runoff Depth=4.43"
Flow Length=207' Tc=9.5 min CN=88 Runoff=4.27 cfs 0.352 af

Pond CB PT.1423P: Peak Elev=20.21' Inflow=2.88 cfs 0.236 af
18.0" Round Culvert n=0.012 L=67.0' S=0.0207 '/' Outflow=2.88 cfs 0.236 af

Pond CB_1069P: Peak Elev=67.68' Inflow=9.33 cfs 1.045 af
18.0" Round Culvert n=0.012 L=580.0' S=0.0307 '/' Outflow=9.33 cfs 1.045 af

Pond CB_1773P: Peak Elev=34.03' Inflow=0.69 cfs 0.051 af
12.0" Round Culvert n=0.012 L=39.0' S=0.0136 '/' Outflow=0.69 cfs 0.051 af

Pond CB_1774P: Peak Elev=29.97' Inflow=0.80 cfs 0.059 af
12.0" Round Culvert n=0.012 L=42.0' S=0.1298 '/' Outflow=0.80 cfs 0.059 af

Pond CB_1778P: Peak Elev=23.72' Inflow=1.07 cfs 0.081 af
12.0" Round Culvert n=0.012 L=14.0' S=0.0393 '/' Outflow=1.07 cfs 0.081 af

Pond CB_2792P: Peak Elev=20.46' Inflow=62.61 cfs 7.719 af
48.0" Round Culvert n=0.012 L=132.0' S=0.0016 '/' Outflow=62.61 cfs 7.719 af

Pond CB_2793P: Peak Elev=24.58' Inflow=13.77 cfs 1.600 af
24.0" Round Culvert n=0.012 L=17.0' S=0.0076 '/' Outflow=13.77 cfs 1.600 af

Pond CB_3164P: Peak Elev=12.63' Inflow=77.08 cfs 9.538 af
48.0" Round Culvert n=0.012 L=88.0' S=0.0082 '/' Outflow=77.08 cfs 9.538 af

Pond CB_3165P: Peak Elev=13.51' Inflow=75.63 cfs 9.303 af
48.0" Round Culvert n=0.012 L=8.0' S=0.1150 '/' Outflow=75.63 cfs 9.303 af

Pond CB_3193P: assumed invert out. Peak Elev=14.12' Inflow=75.63 cfs 9.303 af
48.0" Round Culvert n=0.012 L=58.0' S=0.0105 '/' Outflow=75.63 cfs 9.303 af

Pond CB_4134P: Peak Elev=35.05' Inflow=0.78 cfs 0.063 af
12.0" Round Culvert n=0.012 L=40.0' S=0.0345 '/' Outflow=0.78 cfs 0.063 af

Pond CB_4259P: Peak Elev=19.24' Inflow=5.02 cfs 0.406 af
18.0" Round Culvert n=0.012 L=85.0' S=0.0221 '/' Outflow=5.02 cfs 0.406 af

Pond CB_4260P: Peak Elev=20.59' Inflow=66.41 cfs 8.280 af
42.0" Round Culvert n=0.012 L=35.0' S=0.0129 '/' Outflow=66.41 cfs 8.280 af

Pond CB_4894P: Peak Elev=13.31' Inflow=0.00 cfs 0.000 af
6.0" Round Culvert n=0.012 L=136.0' S=0.0104 '/' Outflow=0.00 cfs 0.000 af

Pond CB_4895P: Peak Elev=0.00'
15.0" Round Culvert n=0.012 L=93.0' S=0.0077 '/' Primary=0.00 cfs 0.000 af

Pond CB_5026P: Peak Elev=27.90' Inflow=18.99 cfs 2.319 af
30.0" Round Culvert n=0.012 L=156.0' S=0.0017 '/' Outflow=18.99 cfs 2.319 af

Pond CB_6302P: Peak Elev=14.00' Inflow=3.36 cfs 0.298 af
18.0" Round Culvert n=0.012 L=77.0' S=0.0130 '/' Outflow=3.36 cfs 0.298 af

Pond CB_6334P: Peak Elev=17.85' Inflow=7.65 cfs 1.059 af
18.0" Round Culvert n=0.012 L=50.0' S=0.0060 '/' Outflow=7.65 cfs 1.059 af

Pond CB_6335P: Peak Elev=19.69' Inflow=5.40 cfs 0.774 af
18.0" Round Culvert n=0.012 L=265.0' S=0.0094 '/' Outflow=5.40 cfs 0.774 af

Pond CB_6337P: Peak Elev=22.12' Inflow=4.00 cfs 0.583 af
18.0" Round Culvert n=0.012 L=255.0' S=0.0102 '/' Outflow=4.00 cfs 0.583 af

Pond CB_6352P: Peak Elev=57.25' Inflow=8.23 cfs 1.049 af
18.0" Round Culvert n=0.012 L=252.0' S=0.0476 '/' Outflow=8.23 cfs 1.049 af

Pond CB_6355P: Peak Elev=36.70' Inflow=15.57 cfs 1.916 af
24.0" Round Culvert n=0.012 L=312.0' S=0.0256 '/' Outflow=15.57 cfs 1.916 af

Pond CB_6357P: Peak Elev=42.92' Inflow=11.56 cfs 1.452 af
24.0" Round Culvert n=0.012 L=532.0' S=0.0132 '/' Outflow=11.56 cfs 1.452 af

Pond CB_6359P: Peak Elev=44.94' Inflow=1.99 cfs 0.212 af
12.0" Round Culvert n=0.012 L=37.0' S=0.0270 '/' Outflow=1.99 cfs 0.212 af

Pond CB_6361P: Peak Elev=36.30' Inflow=2.32 cfs 0.273 af
12.0" Round Culvert n=0.012 L=110.0' S=0.0100 '/' Outflow=2.32 cfs 0.273 af

Pond CB_6362P: Peak Elev=35.07' Inflow=3.73 cfs 0.432 af
18.0" Round Culvert n=0.012 L=480.0' S=0.0135 '/' Outflow=3.73 cfs 0.432 af

Pond CB_6364P: Peak Elev=24.50' Inflow=11.09 cfs 1.270 af
30.0" Round Culvert n=0.012 L=235.0' S=0.0002 '/' Outflow=11.09 cfs 1.270 af

Pond CB_6417P: Peak Elev=29.56' Inflow=7.69 cfs 0.891 af
18.0" Round Culvert n=0.012 L=193.0' S=0.0098 '/' Outflow=7.69 cfs 0.891 af

Pond CB_6434P: Peak Elev=27.04' Inflow=8.70 cfs 1.009 af
24.0" Round Culvert n=0.012 L=290.0' S=0.0107 '/' Outflow=8.70 cfs 1.009 af

Pond CB_6642P: Peak Elev=14.57' Inflow=68.59 cfs 8.515 af
48.0" Round Culvert n=0.012 L=29.0' S=0.0210 '/' Outflow=68.59 cfs 8.515 af

Pond CB_6643P: Peak Elev=18.09' Inflow=68.33 cfs 8.484 af
48.0" Round Culvert n=0.012 L=85.0' S=0.0081 '/' Outflow=68.33 cfs 8.484 af

Pond CB_7157P: Peak Elev=23.70' Inflow=3.34 cfs 0.482 af
18.0" Round Culvert n=0.012 L=155.0' S=0.0103 '/' Outflow=3.34 cfs 0.482 af

Pond DMH PT.1458: Peak Elev=22.64' Inflow=1.07 cfs 0.081 af
12.0" Round Culvert n=0.012 L=130.0' S=0.0192 '/' Outflow=1.07 cfs 0.081 af

Pond DM_0378P: Peak Elev=28.05' Inflow=17.89 cfs 2.185 af
30.0" Round Culvert n=0.012 L=117.0' S=0.0050 '/' Outflow=17.89 cfs 2.185 af

Pond DM_1047P: Peak Elev=27.81' Inflow=40.84 cfs 4.898 af
36.0" Round Culvert n=0.012 L=263.0' S=0.0259 '/' Outflow=40.84 cfs 4.898 af

Pond DM_1068P: Peak Elev=34.49' Inflow=20.25 cfs 2.302 af
30.0" Round Culvert n=0.012 L=280.0' S=0.0146 '/' Outflow=20.25 cfs 2.302 af

Pond DM_1072P: Peak Elev=49.50' Inflow=14.24 cfs 1.578 af
24.0" Round Culvert n=0.012 L=238.0' S=0.0579 '/' Outflow=14.24 cfs 1.578 af

Pond DM_1115P: Peak Elev=20.79' Inflow=63.10 cfs 7.816 af
42.0" Round Culvert n=0.012 L=116.0' S=0.0034 '/' Outflow=63.10 cfs 7.816 af

Pond DM_1155P: Peak Elev=20.89' Inflow=54.60 cfs 6.498 af
42.0" Round Culvert n=0.012 L=162.0' S=0.0033 '/' Outflow=54.60 cfs 6.498 af

Pond DM_1156P: Peak Elev=21.35' Inflow=54.60 cfs 6.498 af
42.0" Round Culvert n=0.012 L=35.0' S=0.0011 '/' Outflow=54.60 cfs 6.498 af

Pond DM_4943P: Peak Elev=13.84' Inflow=7.50 cfs 0.650 af
18.0" Round Culvert n=0.012 L=160.0' S=0.0177 '/' Outflow=7.50 cfs 0.650 af

Pond DM_4982P: Peak Elev=11.00' Inflow=7.50 cfs 0.650 af
18.0" Round Culvert n=0.012 L=56.0' S=0.0357 '/' Outflow=7.50 cfs 0.650 af

Pond DM_6361P: Peak Elev=20.04' Inflow=66.41 cfs 8.280 af
42.0" Round Culvert n=0.012 L=90.0' S=0.0081 '/' Outflow=66.41 cfs 8.280 af

Pond MC16: OUTFALL Inflow=7.50 cfs 0.650 af
Primary=7.50 cfs 0.650 af

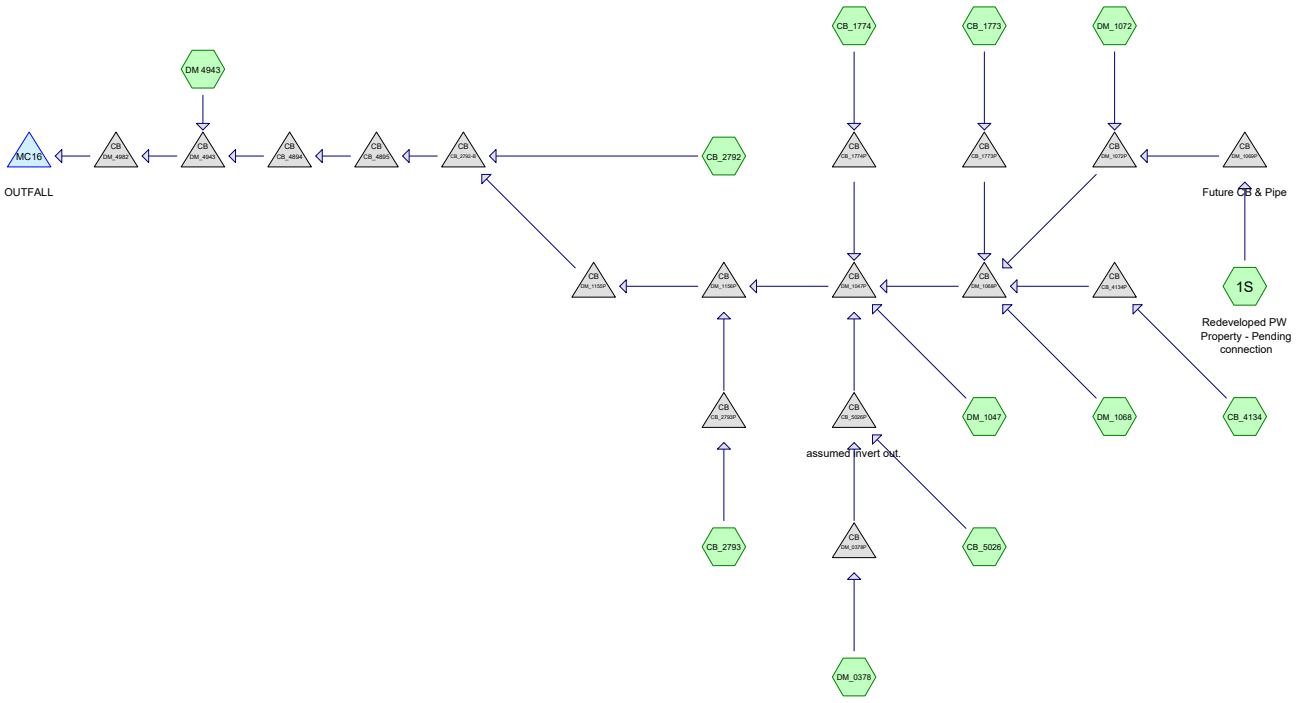
Pond MC4: OUTFALL Inflow=77.08 cfs 9.538 af
Primary=77.08 cfs 9.538 af

Pond P-CB 1: Peak Elev=44.70' Inflow=9.94 cfs 1.261 af
24.0" Round Culvert n=0.012 L=175.0' S=0.0114 '/' Outflow=9.94 cfs 1.261 af

Pond PCB_2: Peak Elev=65.53' Inflow=5.94 cfs 0.765 af
18.0" Round Culvert n=0.012 L=280.0' S=0.0321 '/' Outflow=5.94 cfs 0.765 af

Pond PCB_4: ALT-2A Peak Elev=17.55' Inflow=7.65 cfs 1.059 af
18.0" Round Culvert n=0.012 L=108.0' S=0.0056 '/' Outflow=7.65 cfs 1.059 af

Total Runoff Area = 59.869 ac Runoff Volume = 10.188 af Average Runoff Depth = 2.04"
61.79% Pervious = 36.995 ac 38.21% Impervious = 22.874 ac



Subcat Reach Pond Link

Routing Diagram for 16537 POST-SIZING Alternative B1
Prepared by Sebago Technics, Inc, Printed 5/6/2020
HydroCAD® 10.00-24 s/n 01856 © 2018 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
18.723	61	1/4 acre lots, 38% imp, HSG A (1S, CB_2793, CB_5026, DM_0378, DM_1068, DM_1072)
0.194	83	Paved roads w/open ditches, 50% imp, HSG A (CB_4134)
0.381	98	Roofs, HSG A (DM 4943)
0.864	89	Urban commercial, 85% imp, HSG A (CB_1773, CB_1774, DM_1047)
0.400	92	Urban commercial, 85% imp, HSG B (CB_2792)
0.571	81	Urban industrial, 72% imp, HSG A (DM 4943)
21.134	**64**	**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Redeveloped PW Runoff Area=291,700 sf 38.00% Impervious Runoff Depth=1.14"
Tc=20.0 min CN=61 Runoff=5.25 cfs 0.634 af

Subcatchment CB_1773: Runoff Area=5,830 sf 85.00% Impervious Runoff Depth=3.39"
Flow Length=235' Tc=6.0 min CN=89 Runoff=0.52 cfs 0.038 af

Subcatchment CB_1774: Runoff Area=6,830 sf 85.00% Impervious Runoff Depth=3.39"
Flow Length=270' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=0.61 cfs 0.044 af

Subcatchment CB_2792: Runoff Area=17,410 sf 85.00% Impervious Runoff Depth=3.70"
Flow Length=126' Tc=6.0 min CN=92 Runoff=1.65 cfs 0.123 af

Subcatchment CB_2793: Runoff Area=92,222 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=475' Tc=20.0 min CN=61 Runoff=1.66 cfs 0.200 af

Subcatchment CB_4134: Runoff Area=8,460 sf 50.00% Impervious Runoff Depth=2.81"
Flow Length=192' Slope=0.0400 '/' Tc=9.6 min CN=83 Runoff=0.57 cfs 0.046 af

Subcatchment CB_5026: Runoff Area=37,490 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=194' Tc=10.9 min CN=61 Runoff=0.85 cfs 0.081 af

Subcatchment DM 4943: Runoff Area=41,482 sf 83.21% Impervious Runoff Depth=3.29"
Flow Length=207' Tc=9.5 min CN=88 Runoff=3.21 cfs 0.261 af

Subcatchment DM_0378: Runoff Area=75,150 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=340' Tc=13.0 min CN=61 Runoff=1.60 cfs 0.163 af

Subcatchment DM_1047: Runoff Area=24,990 sf 85.00% Impervious Runoff Depth=3.39"
Flow Length=268' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=2.23 cfs 0.162 af

Subcatchment DM_1068: Runoff Area=170,275 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=1,031' Tc=20.7 min CN=61 Runoff=3.02 cfs 0.370 af

Subcatchment DM_1072: Runoff Area=148,750 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=715' Tc=13.2 min CN=61 Runoff=3.14 cfs 0.323 af

Pond CB_1773P: Peak Elev=33.96' Inflow=0.52 cfs 0.038 af
12.0" Round Culvert n=0.012 L=39.0' S=0.0136 '/' Outflow=0.52 cfs 0.038 af

Pond CB_1774P: Peak Elev=29.90' Inflow=0.61 cfs 0.044 af
12.0" Round Culvert n=0.012 L=42.0' S=0.1298 '/' Outflow=0.61 cfs 0.044 af

Pond CB_2792-B: Peak Elev=18.37' Inflow=17.30 cfs 2.185 af
30.0" Round Culvert n=0.012 L=236.0' S=0.0083 '/' Outflow=17.30 cfs 2.185 af

Pond CB_2793P: Peak Elev=23.11' Inflow=1.66 cfs 0.200 af
12.0" Round Culvert n=0.012 L=17.0' S=0.0076 '/' Outflow=1.66 cfs 0.200 af

Pond CB_4134P: Peak Elev=34.97' Inflow=0.57 cfs 0.046 af
12.0" Round Culvert n=0.012 L=40.0' S=0.0345 '/' Outflow=0.57 cfs 0.046 af

Pond CB_4894: Peak Elev=15.42' Inflow=17.30 cfs 2.185 af
30.0" Round Culvert n=0.012 L=136.0' S=0.0104 '/' Outflow=17.30 cfs 2.185 af

Pond CB_4895: Peak Elev=16.31' Inflow=17.30 cfs 2.185 af
30.0" Round Culvert n=0.012 L=93.0' S=0.0077 '/' Outflow=17.30 cfs 2.185 af

Pond CB_5026P: assumed invert out. Peak Elev=26.26' Inflow=2.43 cfs 0.245 af
18.0" Round Culvert n=0.012 L=156.0' S=0.0017 '/' Outflow=2.43 cfs 0.245 af

Pond DM_0378P: Peak Elev=26.65' Inflow=1.60 cfs 0.163 af
12.0" Round Culvert n=0.012 L=117.0' S=0.0050 '/' Outflow=1.60 cfs 0.163 af

Pond DM_1047P: Peak Elev=25.91' Inflow=14.96 cfs 1.861 af
30.0" Round Culvert n=0.012 L=263.0' S=0.0259 '/' Outflow=14.96 cfs 1.861 af

Pond DM_1068P: Peak Elev=33.70' Inflow=11.53 cfs 1.410 af
30.0" Round Culvert n=0.012 L=280.0' S=0.0146 '/' Outflow=11.53 cfs 1.410 af

Pond DM_1069P: Future CB & Pipe Peak Elev=66.36' Inflow=5.25 cfs 0.634 af
18.0" Round Culvert n=0.012 L=580.0' S=0.0307 '/' Outflow=5.25 cfs 0.634 af

Pond DM_1072P: Peak Elev=48.54' Inflow=8.00 cfs 0.957 af
24.0" Round Culvert n=0.012 L=238.0' S=0.0579 '/' Outflow=8.00 cfs 0.957 af

Pond DM_1155P: Peak Elev=19.09' Inflow=16.54 cfs 2.061 af
30.0" Round Culvert n=0.012 L=162.0' S=0.0033 '/' Outflow=16.54 cfs 2.061 af

Pond DM_1156P: Peak Elev=19.25' Inflow=16.54 cfs 2.061 af
36.0" Round Culvert n=0.012 L=35.0' S=0.0011 '/' Outflow=16.54 cfs 2.061 af

Pond DM_4943: Peak Elev=13.87' Inflow=19.55 cfs 2.446 af
36.0" Round Culvert n=0.012 L=160.0' S=0.0177 '/' Outflow=19.55 cfs 2.446 af

Pond DM_4982: Peak Elev=11.03' Inflow=19.55 cfs 2.446 af
36.0" Round Culvert n=0.012 L=56.0' S=0.0357 '/' Outflow=19.55 cfs 2.446 af

Pond MC16: OUTFALL Inflow=19.55 cfs 2.446 af
Primary=19.55 cfs 2.446 af

Total Runoff Area = 21.134 ac Runoff Volume = 2.446 af Average Runoff Depth = 1.39"
57.04% Pervious = 12.055 ac 42.96% Impervious = 9.079 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Redeveloped PW Runoff Area=291,700 sf 38.00% Impervious Runoff Depth=1.87"
Tc=20.0 min CN=61 Runoff=9.33 cfs 1.045 af

Subcatchment CB_1773: Runoff Area=5,830 sf 85.00% Impervious Runoff Depth=4.54"
Flow Length=235' Tc=6.0 min CN=89 Runoff=0.69 cfs 0.051 af

Subcatchment CB_1774: Runoff Area=6,830 sf 85.00% Impervious Runoff Depth=4.54"
Flow Length=270' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=0.80 cfs 0.059 af

Subcatchment CB_2792: Runoff Area=17,410 sf 85.00% Impervious Runoff Depth=4.87"
Flow Length=126' Tc=6.0 min CN=92 Runoff=2.15 cfs 0.162 af

Subcatchment CB_2793: Runoff Area=92,222 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=475' Tc=20.0 min CN=61 Runoff=2.95 cfs 0.330 af

Subcatchment CB_4134: Runoff Area=8,460 sf 50.00% Impervious Runoff Depth=3.91"
Flow Length=192' Slope=0.0400 '/' Tc=9.6 min CN=83 Runoff=0.78 cfs 0.063 af

Subcatchment CB_5026: Runoff Area=37,490 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=194' Tc=10.9 min CN=61 Runoff=1.51 cfs 0.134 af

Subcatchment DM 4943: Runoff Area=41,482 sf 83.21% Impervious Runoff Depth=4.43"
Flow Length=207' Tc=9.5 min CN=88 Runoff=4.27 cfs 0.352 af

Subcatchment DM_0378: Runoff Area=75,150 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=340' Tc=13.0 min CN=61 Runoff=2.84 cfs 0.269 af

Subcatchment DM_1047: Runoff Area=24,990 sf 85.00% Impervious Runoff Depth=4.54"
Flow Length=268' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=2.94 cfs 0.217 af

Subcatchment DM_1068: Runoff Area=170,275 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=1,031' Tc=20.7 min CN=61 Runoff=5.37 cfs 0.610 af

Subcatchment DM_1072: Runoff Area=148,750 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=715' Tc=13.2 min CN=61 Runoff=5.60 cfs 0.533 af

Pond CB_1773P: Peak Elev=34.03' Inflow=0.69 cfs 0.051 af
12.0" Round Culvert n=0.012 L=39.0' S=0.0136 '/' Outflow=0.69 cfs 0.051 af

Pond CB_1774P: Peak Elev=29.97' Inflow=0.80 cfs 0.059 af
12.0" Round Culvert n=0.012 L=42.0' S=0.1298 '/' Outflow=0.80 cfs 0.059 af

Pond CB_2792-B: Peak Elev=20.04' Inflow=29.70 cfs 3.475 af
30.0" Round Culvert n=0.012 L=236.0' S=0.0083 '/' Outflow=29.70 cfs 3.475 af

Pond CB_2793P: Peak Elev=23.73' Inflow=2.95 cfs 0.330 af
12.0" Round Culvert n=0.012 L=17.0' S=0.0076 '/' Outflow=2.95 cfs 0.330 af

Pond CB_4134P: Peak Elev=35.05' Inflow=0.78 cfs 0.063 af
12.0" Round Culvert n=0.012 L=40.0' S=0.0345 '/' Outflow=0.78 cfs 0.063 af

Pond CB_4894: Peak Elev=17.09' Inflow=29.70 cfs 3.475 af
30.0" Round Culvert n=0.012 L=136.0' S=0.0104 '/' Outflow=29.70 cfs 3.475 af

Pond CB_4895: Peak Elev=17.98' Inflow=29.70 cfs 3.475 af
30.0" Round Culvert n=0.012 L=93.0' S=0.0077 '/' Outflow=29.70 cfs 3.475 af

Pond CB_5026P: assumed invert out. Peak Elev=26.68' Inflow=4.32 cfs 0.404 af
18.0" Round Culvert n=0.012 L=156.0' S=0.0017 '/' Outflow=4.32 cfs 0.404 af

Pond DM_0378P: Peak Elev=27.30' Inflow=2.84 cfs 0.269 af
12.0" Round Culvert n=0.012 L=117.0' S=0.0050 '/' Outflow=2.84 cfs 0.269 af

Pond DM_1047P: Peak Elev=27.17' Inflow=25.87 cfs 2.982 af
30.0" Round Culvert n=0.012 L=263.0' S=0.0259 '/' Outflow=25.87 cfs 2.982 af

Pond DM_1068P: Peak Elev=34.49' Inflow=20.25 cfs 2.302 af
30.0" Round Culvert n=0.012 L=280.0' S=0.0146 '/' Outflow=20.25 cfs 2.302 af

Pond DM_1069P: Future CB & Pipe Peak Elev=67.68' Inflow=9.33 cfs 1.045 af
18.0" Round Culvert n=0.012 L=580.0' S=0.0307 '/' Outflow=9.33 cfs 1.045 af

Pond DM_1072P: Peak Elev=49.50' Inflow=14.24 cfs 1.578 af
24.0" Round Culvert n=0.012 L=238.0' S=0.0579 '/' Outflow=14.24 cfs 1.578 af

Pond DM_1155P: Peak Elev=20.56' Inflow=28.68 cfs 3.313 af
30.0" Round Culvert n=0.012 L=162.0' S=0.0033 '/' Outflow=28.68 cfs 3.313 af

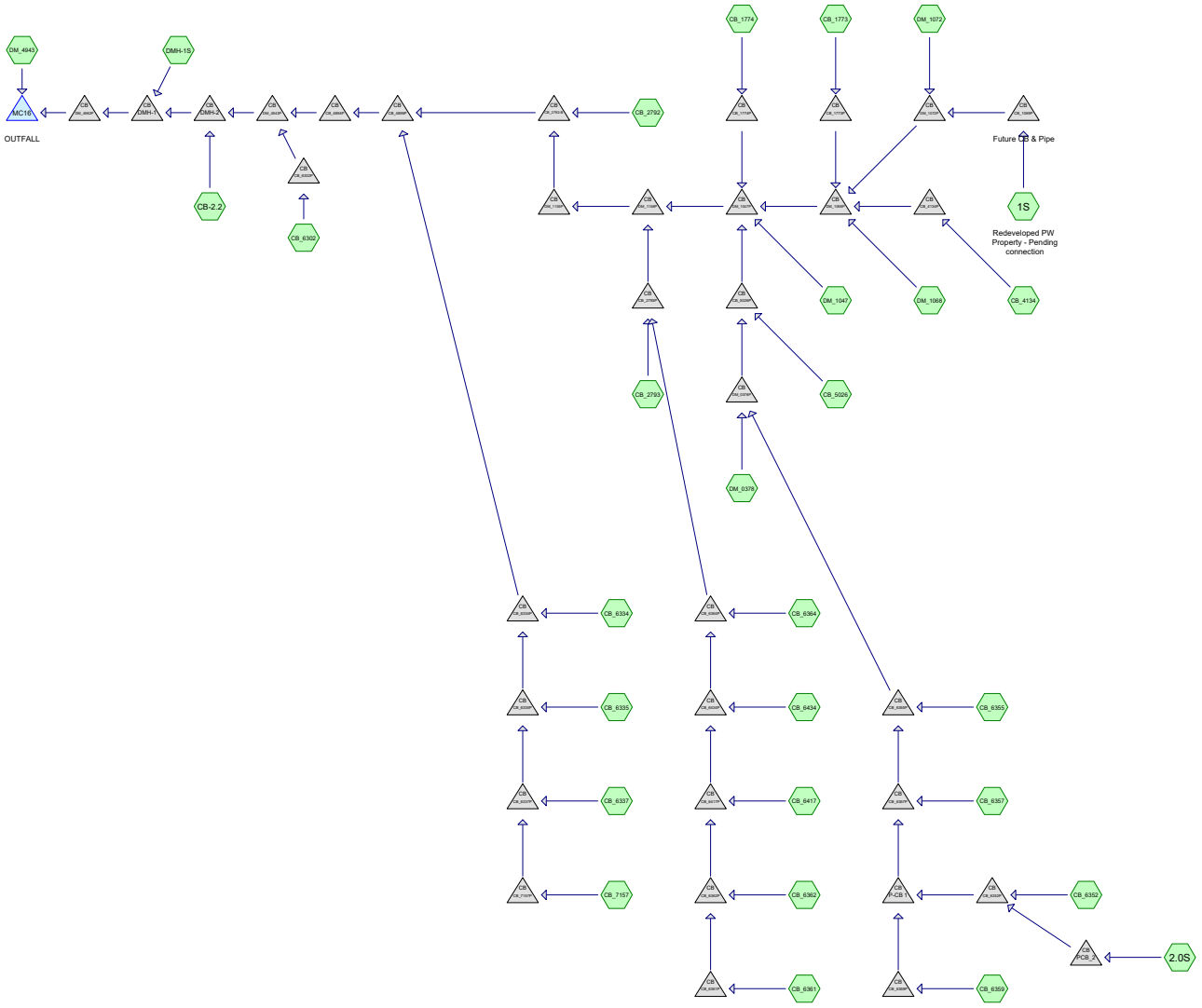
Pond DM_1156P: Peak Elev=20.11' Inflow=28.68 cfs 3.313 af
36.0" Round Culvert n=0.012 L=35.0' S=0.0011 '/' Outflow=28.68 cfs 3.313 af

Pond DM_4943: Peak Elev=14.82' Inflow=32.78 cfs 3.827 af
36.0" Round Culvert n=0.012 L=160.0' S=0.0177 '/' Outflow=32.78 cfs 3.827 af

Pond DM_4982: Peak Elev=11.98' Inflow=32.78 cfs 3.827 af
36.0" Round Culvert n=0.012 L=56.0' S=0.0357 '/' Outflow=32.78 cfs 3.827 af

Pond MC16: OUTFALL Inflow=32.78 cfs 3.827 af
Primary=32.78 cfs 3.827 af

Total Runoff Area = 21.134 ac Runoff Volume = 3.827 af Average Runoff Depth = 2.17"
57.04% Pervious = 12.055 ac 42.96% Impervious = 9.079 ac



Subcat Reach Pond Link

Routing Diagram for 16537 POST-SIZING Alternative B2
Prepared by Sebago Technics, Inc, Printed 5/6/2020
HydroCAD® 10.00-24 s/n 01856 © 2018 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
33.784	57	1/3 acre lots, 30% imp, HSG A (2.0S, CB-2.2, CB_6334, CB_6335, CB_6337, CB_6352, CB_6355, CB_6357, CB_6359, CB_6361, CB_6362, CB_6364, CB_6417, CB_6434, CB_7157)
18.723	61	1/4 acre lots, 38% imp, HSG A (1S, CB_2793, CB_5026, DM_0378, DM_1068, DM_1072)
1.558	83	Paved roads w/open ditches, 50% imp, HSG A (CB_4134, CB_6302, DMH-1S)
0.381	98	Roofs, HSG A (DM_4943)
0.864	89	Urban commercial, 85% imp, HSG A (CB_1773, CB_1774, DM_1047)
0.400	92	Urban commercial, 85% imp, HSG B (CB_2792)
0.571	81	Urban industrial, 72% imp, HSG A (DM_4943)
56.281	**60**	**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Redeveloped PW Runoff Area=291,700 sf 38.00% Impervious Runoff Depth=1.14"
Tc=20.0 min CN=61 Runoff=5.25 cfs 0.634 af

Subcatchment 2.0S: Runoff Area=257,120 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=1,394' Tc=25.1 min CN=57 Runoff=3.06 cfs 0.442 af

Subcatchment CB-2.2: Runoff Area=45,780 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=150' Slope=0.0270 '/' Tc=18.9 min CN=57 Runoff=0.61 cfs 0.079 af

Subcatchment CB_1773: Runoff Area=5,830 sf 85.00% Impervious Runoff Depth=3.39"
Flow Length=235' Tc=6.0 min CN=89 Runoff=0.52 cfs 0.038 af

Subcatchment CB_1774: Runoff Area=6,830 sf 85.00% Impervious Runoff Depth=3.39"
Flow Length=270' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=0.61 cfs 0.044 af

Subcatchment CB_2792: Runoff Area=17,410 sf 85.00% Impervious Runoff Depth=3.70"
Flow Length=126' Tc=6.0 min CN=92 Runoff=1.65 cfs 0.123 af

Subcatchment CB_2793: Runoff Area=92,222 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=495' Tc=22.4 min CN=61 Runoff=1.59 cfs 0.200 af

Subcatchment CB_4134: Runoff Area=8,460 sf 50.00% Impervious Runoff Depth=2.81"
Flow Length=192' Slope=0.0400 '/' Tc=9.6 min CN=83 Runoff=0.57 cfs 0.046 af

Subcatchment CB_5026: Runoff Area=37,490 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=194' Tc=10.9 min CN=61 Runoff=0.85 cfs 0.081 af

Subcatchment CB_6302: Runoff Area=39,903 sf 50.00% Impervious Runoff Depth=2.81"
Flow Length=240' Tc=12.6 min CN=83 Runoff=2.44 cfs 0.215 af

Subcatchment CB_6334: Runoff Area=95,695 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=480' Tc=19.6 min CN=57 Runoff=1.25 cfs 0.164 af

Subcatchment CB_6335: Runoff Area=64,158 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=360' Slope=0.0200 '/' Tc=20.8 min CN=57 Runoff=0.82 cfs 0.110 af

Subcatchment CB_6337: Runoff Area=33,850 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=274' Tc=17.4 min CN=57 Runoff=0.46 cfs 0.058 af

Subcatchment CB_6352: Runoff Area=95,334 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=268' Tc=18.5 min CN=57 Runoff=1.27 cfs 0.164 af

Subcatchment CB_6355: Runoff Area=155,874 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=587' Tc=18.8 min CN=57 Runoff=2.07 cfs 0.268 af

Subcatchment CB_6357: Runoff Area=64,138 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=322' Tc=17.3 min CN=57 Runoff=0.88 cfs 0.110 af

Subcatchment CB_6359: Runoff Area=71,080 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=445' Tc=15.5 min CN=57 Runoff=1.01 cfs 0.122 af

Subcatchment CB_6361: Runoff Area=91,580 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=468' Tc=20.1 min CN=57 Runoff=1.19 cfs 0.157 af

Subcatchment CB_6362: Runoff Area=53,657 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=396' Tc=16.9 min CN=57 Runoff=0.74 cfs 0.092 af

Subcatchment CB_6364: Runoff Area=87,777 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=461' Tc=14.2 min CN=57 Runoff=1.29 cfs 0.151 af

Subcatchment CB_6417: Runoff Area=153,985 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=706' Tc=19.3 min CN=57 Runoff=2.02 cfs 0.265 af

Subcatchment CB_6434: Runoff Area=39,623 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=280' Tc=12.4 min CN=57 Runoff=0.61 cfs 0.068 af

Subcatchment CB_7157: Runoff Area=161,968 sf 30.00% Impervious Runoff Depth=0.90"
Flow Length=735' Tc=32.5 min CN=57 Runoff=1.73 cfs 0.278 af

Subcatchment DMH-1S: Runoff Area=19,500 sf 50.00% Impervious Runoff Depth=2.81"
Tc=8.0 min CN=83 Runoff=1.38 cfs 0.105 af

Subcatchment DM_0378: Runoff Area=75,150 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=340' Tc=13.0 min CN=61 Runoff=1.60 cfs 0.163 af

Subcatchment DM_1047: Runoff Area=24,990 sf 85.00% Impervious Runoff Depth=3.39"
Flow Length=268' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=2.23 cfs 0.162 af

Subcatchment DM_1068: Runoff Area=170,275 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=1,031' Tc=20.7 min CN=61 Runoff=3.02 cfs 0.370 af

Subcatchment DM_1072: Runoff Area=148,750 sf 38.00% Impervious Runoff Depth=1.14"
Flow Length=715' Tc=13.2 min CN=61 Runoff=3.14 cfs 0.323 af

Subcatchment DM_4943: Runoff Area=41,482 sf 83.21% Impervious Runoff Depth=3.29"
Flow Length=207' Tc=9.5 min CN=88 Runoff=3.21 cfs 0.261 af

Pond CB_1069P: Future CB & Pipe Peak Elev=66.36' Inflow=5.25 cfs 0.634 af
18.0" Round Culvert n=0.012 L=580.0' S=0.0307 '/' Outflow=5.25 cfs 0.634 af

Pond CB_1773P: Peak Elev=33.96' Inflow=0.52 cfs 0.038 af
12.0" Round Culvert n=0.012 L=39.0' S=0.0136 '/' Outflow=0.52 cfs 0.038 af

Pond CB_1774P: Peak Elev=29.90' Inflow=0.61 cfs 0.044 af
12.0" Round Culvert n=0.012 L=42.0' S=0.1298 '/' Outflow=0.61 cfs 0.044 af

Pond CB_2792-B: Peak Elev=18.72' Inflow=30.37 cfs 4.024 af
42.0" Round Culvert n=0.012 L=236.0' S=0.0083 '/' Outflow=30.37 cfs 4.024 af

Pond CB_2793P: Peak Elev=23.75' Inflow=7.20 cfs 0.934 af
24.0" Round Culvert n=0.012 L=17.0' S=0.0076 '/' Outflow=7.20 cfs 0.934 af

Pond CB_4134P: Peak Elev=34.97' Inflow=0.57 cfs 0.046 af
12.0" Round Culvert n=0.012 L=40.0' S=0.0345 '/' Outflow=0.57 cfs 0.046 af

Pond CB_4894P: Peak Elev=15.95' Inflow=33.93 cfs 4.636 af
42.0" Round Culvert n=0.012 L=136.0' S=0.0104 '/' Outflow=33.93 cfs 4.636 af

Pond CB_4895P: Peak Elev=16.84' Inflow=33.93 cfs 4.636 af
42.0" Round Culvert n=0.012 L=93.0' S=0.0077 '/' Outflow=33.93 cfs 4.636 af

Pond CB_5026P: Peak Elev=27.00' Inflow=9.85 cfs 1.351 af
30.0" Round Culvert n=0.012 L=156.0' S=0.0017 '/' Outflow=9.85 cfs 1.351 af

Pond CB_6302P: Peak Elev=13.83' Inflow=2.44 cfs 0.215 af
18.0" Round Culvert n=0.012 L=77.0' S=0.0130 '/' Outflow=2.44 cfs 0.215 af

Pond CB_6334P: Peak Elev=16.60' Inflow=3.94 cfs 0.611 af
18.0" Round Culvert n=0.012 L=120.0' S=0.0083 '/' Outflow=3.94 cfs 0.611 af

Pond CB_6335P: Peak Elev=19.20' Inflow=2.80 cfs 0.447 af
18.0" Round Culvert n=0.012 L=265.0' S=0.0102 '/' Outflow=2.80 cfs 0.447 af

Pond CB_6337P: Peak Elev=21.75' Inflow=2.08 cfs 0.337 af
18.0" Round Culvert n=0.012 L=255.0' S=0.0102 '/' Outflow=2.08 cfs 0.337 af

Pond CB_6352P: Peak Elev=56.16' Inflow=4.24 cfs 0.606 af
18.0" Round Culvert n=0.012 L=252.0' S=0.0476 '/' Outflow=4.24 cfs 0.606 af

Pond CB_6355P: Peak Elev=35.46' Inflow=7.98 cfs 1.106 af
24.0" Round Culvert n=0.012 L=312.0' S=0.0256 '/' Outflow=7.98 cfs 1.106 af

Pond CB_6357P: Peak Elev=42.22' Inflow=5.94 cfs 0.838 af
24.0" Round Culvert n=0.012 L=532.0' S=0.0132 '/' Outflow=5.94 cfs 0.838 af

Pond CB_6359P: Peak Elev=44.60' Inflow=1.01 cfs 0.122 af
12.0" Round Culvert n=0.012 L=37.0' S=0.0270 '/' Outflow=1.01 cfs 0.122 af

Pond CB_6361P: Peak Elev=35.85' Inflow=1.19 cfs 0.157 af
12.0" Round Culvert n=0.012 L=110.0' S=0.0100 '/' Outflow=1.19 cfs 0.157 af

Pond CB_6362P: Peak Elev=34.72' Inflow=1.91 cfs 0.250 af
18.0" Round Culvert n=0.012 L=480.0' S=0.0135 '/' Outflow=1.91 cfs 0.250 af

Pond CB_6364P: Peak Elev=23.85' Inflow=5.66 cfs 0.733 af
30.0" Round Culvert n=0.012 L=235.0' S=0.0002 '/' Outflow=5.66 cfs 0.733 af

Pond CB_6417P: Peak Elev=28.60' Inflow=3.93 cfs 0.514 af
18.0" Round Culvert n=0.012 L=193.0' S=0.0098 '/' Outflow=3.93 cfs 0.514 af

Pond CB_6434P: Peak Elev=26.53' Inflow=4.45 cfs 0.582 af
24.0" Round Culvert n=0.012 L=290.0' S=0.0107 '/' Outflow=4.45 cfs 0.582 af

Pond CB_7157P: Peak Elev=23.38' Inflow=1.73 cfs 0.278 af
18.0" Round Culvert n=0.012 L=155.0' S=0.0103 '/' Outflow=1.73 cfs 0.278 af

Pond DMH-1: Peak Elev=17.61' Inflow=37.02 cfs 5.034 af
24.0" Round Culvert n=0.012 L=50.0' S=0.0200 '/' Outflow=37.02 cfs 5.034 af

Pond DMH-2: Peak Elev=17.24' Inflow=36.31 cfs 4.929 af
24.0" Round Culvert n=0.012 L=50.0' S=0.0200 '/' Outflow=36.31 cfs 4.929 af

Pond DM_0378P: Peak Elev=27.30' Inflow=9.24 cfs 1.269 af
30.0" Round Culvert n=0.012 L=117.0' S=0.0050 '/' Outflow=9.24 cfs 1.269 af

Pond DM_1047P: Peak Elev=26.22' Inflow=22.51 cfs 2.967 af
36.0" Round Culvert n=0.012 L=263.0' S=0.0259 '/' Outflow=22.51 cfs 2.967 af

Pond DM_1068P: Peak Elev=33.70' Inflow=11.53 cfs 1.410 af
30.0" Round Culvert n=0.012 L=280.0' S=0.0146 '/' Outflow=11.53 cfs 1.410 af

Pond DM_1072P: Peak Elev=48.54' Inflow=8.00 cfs 0.957 af
24.0" Round Culvert n=0.012 L=238.0' S=0.0579 '/' Outflow=8.00 cfs 0.957 af

Pond DM_1155P: Peak Elev=19.51' Inflow=29.69 cfs 3.901 af
42.0" Round Culvert n=0.012 L=162.0' S=0.0033 '/' Outflow=29.69 cfs 3.901 af

Pond DM_1156P: Peak Elev=19.92' Inflow=29.69 cfs 3.901 af
42.0" Round Culvert n=0.012 L=35.0' S=0.0011 '/' Outflow=29.69 cfs 3.901 af

Pond DM_4943P: Peak Elev=14.57' Inflow=35.71 cfs 4.850 af
42.0" Round Culvert n=0.012 L=160.0' S=0.0177 '/' Outflow=35.71 cfs 4.850 af

Pond DM_4982P: Peak Elev=11.79' Inflow=37.02 cfs 5.034 af
42.0" Round Culvert n=0.012 L=56.0' S=0.0357 '/' Outflow=37.02 cfs 5.034 af

Pond MC16: OUTFALL Inflow=38.88 cfs 5.295 af
Primary=38.88 cfs 5.295 af

Pond P-CB 1: Peak Elev=44.12' Inflow=5.11 cfs 0.728 af
24.0" Round Culvert n=0.012 L=175.0' S=0.0114 '/' Outflow=5.11 cfs 0.728 af

Pond PCB_2: Peak Elev=64.94' Inflow=3.06 cfs 0.442 af
18.0" Round Culvert n=0.012 L=280.0' S=0.0321 '/' Outflow=3.06 cfs 0.442 af

Total Runoff Area = 56.281 ac Runoff Volume = 5.295 af Average Runoff Depth = 1.13"
64.65% Pervious = 36.385 ac 35.35% Impervious = 19.896 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Redeveloped PW Runoff Area=291,700 sf 38.00% Impervious Runoff Depth=1.87"
Tc=20.0 min CN=61 Runoff=9.33 cfs 1.045 af

Subcatchment 2.0S: Runoff Area=257,120 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=1,394' Tc=25.1 min CN=57 Runoff=5.94 cfs 0.765 af

Subcatchment CB-2.2: Runoff Area=45,780 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=150' Slope=0.0270 '/' Tc=18.9 min CN=57 Runoff=1.19 cfs 0.136 af

Subcatchment CB_1773: Runoff Area=5,830 sf 85.00% Impervious Runoff Depth=4.54"
Flow Length=235' Tc=6.0 min CN=89 Runoff=0.69 cfs 0.051 af

Subcatchment CB_1774: Runoff Area=6,830 sf 85.00% Impervious Runoff Depth=4.54"
Flow Length=270' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=0.80 cfs 0.059 af

Subcatchment CB_2792: Runoff Area=17,410 sf 85.00% Impervious Runoff Depth=4.87"
Flow Length=126' Tc=6.0 min CN=92 Runoff=2.15 cfs 0.162 af

Subcatchment CB_2793: Runoff Area=92,222 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=495' Tc=22.4 min CN=61 Runoff=2.81 cfs 0.330 af

Subcatchment CB_4134: Runoff Area=8,460 sf 50.00% Impervious Runoff Depth=3.91"
Flow Length=192' Slope=0.0400 '/' Tc=9.6 min CN=83 Runoff=0.78 cfs 0.063 af

Subcatchment CB_5026: Runoff Area=37,490 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=194' Tc=10.9 min CN=61 Runoff=1.51 cfs 0.134 af

Subcatchment CB_6302: Runoff Area=39,903 sf 50.00% Impervious Runoff Depth=3.91"
Flow Length=240' Tc=12.6 min CN=83 Runoff=3.36 cfs 0.298 af

Subcatchment CB_6334: Runoff Area=95,695 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=480' Tc=19.6 min CN=57 Runoff=2.44 cfs 0.285 af

Subcatchment CB_6335: Runoff Area=64,158 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=360' Slope=0.0200 '/' Tc=20.8 min CN=57 Runoff=1.60 cfs 0.191 af

Subcatchment CB_6337: Runoff Area=33,850 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=274' Tc=17.4 min CN=57 Runoff=0.91 cfs 0.101 af

Subcatchment CB_6352: Runoff Area=95,334 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=268' Tc=18.5 min CN=57 Runoff=2.49 cfs 0.284 af

Subcatchment CB_6355: Runoff Area=155,874 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=587' Tc=18.8 min CN=57 Runoff=4.05 cfs 0.464 af

Subcatchment CB_6357: Runoff Area=64,138 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=322' Tc=17.3 min CN=57 Runoff=1.72 cfs 0.191 af

Subcatchment CB_6359: Runoff Area=71,080 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=445' Tc=15.5 min CN=57 Runoff=1.99 cfs 0.212 af

Subcatchment CB_6361: Runoff Area=91,580 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=468' Tc=20.1 min CN=57 Runoff=2.32 cfs 0.273 af

Subcatchment CB_6362: Runoff Area=53,657 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=396' Tc=16.9 min CN=57 Runoff=1.45 cfs 0.160 af

Subcatchment CB_6364: Runoff Area=87,777 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=461' Tc=14.2 min CN=57 Runoff=2.54 cfs 0.261 af

Subcatchment CB_6417: Runoff Area=153,985 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=706' Tc=19.3 min CN=57 Runoff=3.96 cfs 0.458 af

Subcatchment CB_6434: Runoff Area=39,623 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=280' Tc=12.4 min CN=57 Runoff=1.21 cfs 0.118 af

Subcatchment CB_7157: Runoff Area=161,968 sf 30.00% Impervious Runoff Depth=1.56"
Flow Length=735' Tc=32.5 min CN=57 Runoff=3.34 cfs 0.482 af

Subcatchment DMH-1S: Runoff Area=19,500 sf 50.00% Impervious Runoff Depth=3.91"
Tc=8.0 min CN=83 Runoff=1.89 cfs 0.146 af

Subcatchment DM_0378: Runoff Area=75,150 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=340' Tc=13.0 min CN=61 Runoff=2.84 cfs 0.269 af

Subcatchment DM_1047: Runoff Area=24,990 sf 85.00% Impervious Runoff Depth=4.54"
Flow Length=268' Slope=0.0200 '/' Tc=6.0 min CN=89 Runoff=2.94 cfs 0.217 af

Subcatchment DM_1068: Runoff Area=170,275 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=1,031' Tc=20.7 min CN=61 Runoff=5.37 cfs 0.610 af

Subcatchment DM_1072: Runoff Area=148,750 sf 38.00% Impervious Runoff Depth=1.87"
Flow Length=715' Tc=13.2 min CN=61 Runoff=5.60 cfs 0.533 af

Subcatchment DM_4943: Runoff Area=41,482 sf 83.21% Impervious Runoff Depth=4.43"
Flow Length=207' Tc=9.5 min CN=88 Runoff=4.27 cfs 0.352 af

Pond CB_1069P: Future CB & Pipe Peak Elev=67.68' Inflow=9.33 cfs 1.045 af
18.0" Round Culvert n=0.012 L=580.0' S=0.0307 '/' Outflow=9.33 cfs 1.045 af

Pond CB_1773P: Peak Elev=34.03' Inflow=0.69 cfs 0.051 af
12.0" Round Culvert n=0.012 L=39.0' S=0.0136 '/' Outflow=0.69 cfs 0.051 af

Pond CB_1774P: Peak Elev=29.97' Inflow=0.80 cfs 0.059 af
12.0" Round Culvert n=0.012 L=42.0' S=0.1298 '/' Outflow=0.80 cfs 0.059 af

Pond CB_2792-B: Peak Elev=20.32' Inflow=55.53 cfs 6.660 af
42.0" Round Culvert n=0.012 L=236.0' S=0.0083 '/' Outflow=55.53 cfs 6.660 af

Pond CB_2793P: Peak Elev=24.58' Inflow=13.77 cfs 1.600 af
24.0" Round Culvert n=0.012 L=17.0' S=0.0076 '/' Outflow=13.77 cfs 1.600 af

Pond CB_4134P: Peak Elev=35.05' Inflow=0.78 cfs 0.063 af
12.0" Round Culvert n=0.012 L=40.0' S=0.0345 '/' Outflow=0.78 cfs 0.063 af

Pond CB_4894P: Peak Elev=17.99' Inflow=62.61 cfs 7.719 af
42.0" Round Culvert n=0.012 L=136.0' S=0.0104 '/' Outflow=62.61 cfs 7.719 af

Pond CB_4895P: Peak Elev=18.88' Inflow=62.61 cfs 7.719 af
42.0" Round Culvert n=0.012 L=93.0' S=0.0077 '/' Outflow=62.61 cfs 7.719 af

Pond CB_5026P: Peak Elev=27.90' Inflow=18.99 cfs 2.319 af
30.0" Round Culvert n=0.012 L=156.0' S=0.0017 '/' Outflow=18.99 cfs 2.319 af

Pond CB_6302P: Peak Elev=14.00' Inflow=3.36 cfs 0.298 af
18.0" Round Culvert n=0.012 L=77.0' S=0.0130 '/' Outflow=3.36 cfs 0.298 af

Pond CB_6334P: Peak Elev=17.55' Inflow=7.65 cfs 1.059 af
18.0" Round Culvert n=0.012 L=120.0' S=0.0083 '/' Outflow=7.65 cfs 1.059 af

Pond CB_6335P: Peak Elev=19.69' Inflow=5.40 cfs 0.774 af
18.0" Round Culvert n=0.012 L=265.0' S=0.0102 '/' Outflow=5.40 cfs 0.774 af

Pond CB_6337P: Peak Elev=22.12' Inflow=4.00 cfs 0.583 af
18.0" Round Culvert n=0.012 L=255.0' S=0.0102 '/' Outflow=4.00 cfs 0.583 af

Pond CB_6352P: Peak Elev=57.25' Inflow=8.23 cfs 1.049 af
18.0" Round Culvert n=0.012 L=252.0' S=0.0476 '/' Outflow=8.23 cfs 1.049 af

Pond CB_6355P: Peak Elev=36.70' Inflow=15.57 cfs 1.916 af
24.0" Round Culvert n=0.012 L=312.0' S=0.0256 '/' Outflow=15.57 cfs 1.916 af

Pond CB_6357P: Peak Elev=42.92' Inflow=11.56 cfs 1.452 af
24.0" Round Culvert n=0.012 L=532.0' S=0.0132 '/' Outflow=11.56 cfs 1.452 af

Pond CB_6359P: Peak Elev=44.94' Inflow=1.99 cfs 0.212 af
12.0" Round Culvert n=0.012 L=37.0' S=0.0270 '/' Outflow=1.99 cfs 0.212 af

Pond CB_6361P: Peak Elev=36.30' Inflow=2.32 cfs 0.273 af
12.0" Round Culvert n=0.012 L=110.0' S=0.0100 '/' Outflow=2.32 cfs 0.273 af

Pond CB_6362P: Peak Elev=35.07' Inflow=3.73 cfs 0.432 af
18.0" Round Culvert n=0.012 L=480.0' S=0.0135 '/' Outflow=3.73 cfs 0.432 af

Pond CB_6364P: Peak Elev=24.50' Inflow=11.09 cfs 1.270 af
30.0" Round Culvert n=0.012 L=235.0' S=0.0002 '/' Outflow=11.09 cfs 1.270 af

Pond CB_6417P: Peak Elev=29.56' Inflow=7.69 cfs 0.891 af
18.0" Round Culvert n=0.012 L=193.0' S=0.0098 '/' Outflow=7.69 cfs 0.891 af

Pond CB_6434P: Peak Elev=27.04' Inflow=8.70 cfs 1.009 af
24.0" Round Culvert n=0.012 L=290.0' S=0.0107 '/' Outflow=8.70 cfs 1.009 af

Pond CB_7157P: Peak Elev=23.70' Inflow=3.34 cfs 0.482 af
18.0" Round Culvert n=0.012 L=155.0' S=0.0103 '/' Outflow=3.34 cfs 0.482 af

Pond DMH-1: Peak Elev=39.88' Inflow=67.43 cfs 8.299 af
24.0" Round Culvert n=0.012 L=50.0' S=0.0200 '/' Outflow=67.43 cfs 8.299 af

Pond DMH-2: Peak Elev=38.92' Inflow=66.41 cfs 8.154 af
24.0" Round Culvert n=0.012 L=50.0' S=0.0200 '/' Outflow=66.41 cfs 8.154 af

Pond DM_0378P: Peak Elev=28.05' Inflow=17.89 cfs 2.185 af
30.0" Round Culvert n=0.012 L=117.0' S=0.0050 '/' Outflow=17.89 cfs 2.185 af

Pond DM_1047P: Peak Elev=27.81' Inflow=40.84 cfs 4.898 af
36.0" Round Culvert n=0.012 L=263.0' S=0.0259 '/' Outflow=40.84 cfs 4.898 af

Pond DM_1068P: Peak Elev=34.49' Inflow=20.25 cfs 2.302 af
30.0" Round Culvert n=0.012 L=280.0' S=0.0146 '/' Outflow=20.25 cfs 2.302 af

Pond DM_1072P: Peak Elev=49.50' Inflow=14.24 cfs 1.578 af
24.0" Round Culvert n=0.012 L=238.0' S=0.0579 '/' Outflow=14.24 cfs 1.578 af

Pond DM_1155P: Peak Elev=20.89' Inflow=54.60 cfs 6.498 af
42.0" Round Culvert n=0.012 L=162.0' S=0.0033 '/' Outflow=54.60 cfs 6.498 af

Pond DM_1156P: Peak Elev=21.35' Inflow=54.60 cfs 6.498 af
42.0" Round Culvert n=0.012 L=35.0' S=0.0011 '/' Outflow=54.60 cfs 6.498 af

Pond DM_4943P: Peak Elev=16.77' Inflow=65.23 cfs 8.017 af
42.0" Round Culvert n=0.012 L=160.0' S=0.0177 '/' Outflow=65.23 cfs 8.017 af

Pond DM_4982P: Peak Elev=14.15' Inflow=67.43 cfs 8.299 af
42.0" Round Culvert n=0.012 L=56.0' S=0.0357 '/' Outflow=67.43 cfs 8.299 af

Pond MC16: OUTFALL Inflow=70.07 cfs 8.651 af
Primary=70.07 cfs 8.651 af

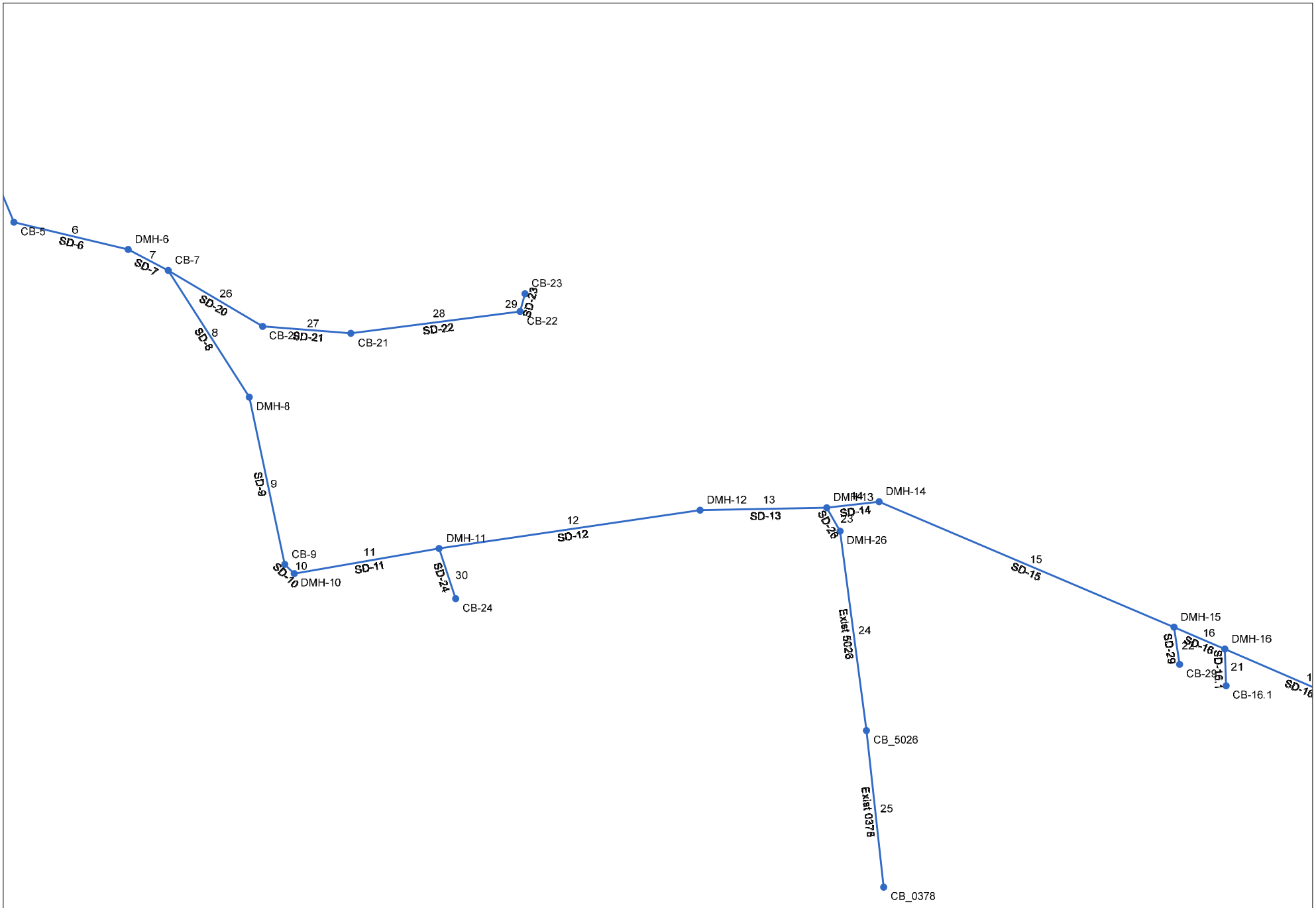
Pond P-CB 1: Peak Elev=44.70' Inflow=9.94 cfs 1.261 af
24.0" Round Culvert n=0.012 L=175.0' S=0.0114 '/' Outflow=9.94 cfs 1.261 af

Pond PCB_2: Peak Elev=65.53' Inflow=5.94 cfs 0.765 af
18.0" Round Culvert n=0.012 L=280.0' S=0.0321 '/' Outflow=5.94 cfs 0.765 af

Total Runoff Area = 56.281 ac Runoff Volume = 8.651 af Average Runoff Depth = 1.84"
64.65% Pervious = 36.385 ac 35.35% Impervious = 19.896 ac

Appendix 4: Hydraulic Grade Line Analysis Summaries

Hydraflow Storm Sewers Extension for Autodesk® AutoCAD® Civil 3D® Plan



Project File: 16537 Alternate A1 2020-05-05.stm	Number of lines: 30	Date: 5/6/2020

Storm Sewers v2018.30

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	SD-1	49.30	30	Cir	85.721	6.83	7.35	0.607	9.13*	10.24*	1.29	11.53	End	Manhole
2	SD-2	47.54	30	Cir	10.548	7.45	7.50	0.474	11.53*	11.65*	0.61	12.26	1	Manhole
3	SD-3	47.67	30	Cir	58.112	8.37	9.26	1.532	12.26*	12.93*	n/a	13.46	2	Manhole
4	SD-4	40.66	30	Cir	29.143	9.26	10.10	2.882	13.46*	13.70*	n/a	14.60	3	Manhole
5	SD-5	40.63	30	Cir	84.816	10.10	10.50	0.472	14.60*	15.31*	n/a	16.20	4	Manhole
6	SD-6	39.12	30	Cir	90.169	10.50	12.10	1.774	16.20*	16.90*	n/a	17.19	5	Manhole
7	SD-7	39.20	30	Cir	34.747	12.10	12.60	1.439	17.19*	17.46*	n/a	18.00	6	Manhole
8	SD-8	35.77	30	Cir	115.856	12.60	14.00	1.208	18.00*	18.76*	n/a	19.09	7	Manhole
9	SD-9	35.31	30	Cir	131.746	14.00	16.00	1.518	19.09*	19.93*	n/a	20.42	8	Manhole
10	SD-10	33.83	30	Cir	10.238	16.10	16.20	0.977	20.42*	20.48*	n/a	21.10	9	Manhole
11	SD-11	34.08	30	Cir	113.018	16.30	17.50	1.062	21.10*	21.76*	n/a	22.51	10	Manhole
12	SD-12	32.90	24	Cir	202.491	18.00	23.50	2.716	22.51*	26.16*	n/a	26.41	11	Manhole
13	SD-13	33.05	24	Cir	97.277	24.00	26.80	2.878	26.41	28.70	n/a	28.70	12	Manhole
14	SD-14	24.56	24	Cir	40.517	26.80	27.20	0.987	28.70	28.95	n/a	28.95	13	Manhole
15	SD-15	24.29	24	Cir	246.271	27.20	31.60	1.787	28.95	33.34	n/a	33.34	14	Manhole
16	SD-16	18.28	18	Cir	42.593	32.10	32.44	0.798	33.60*	34.70*	n/a	36.23	15	Manhole
17	SD-16A	17.17	18	Cir	131.000	32.54	38.00	4.168	36.23	39.44	n/a	39.44	16	Manhole
18	SD-17	17.25	18	Cir	87.000	40.45	46.64	7.115	41.26	48.08	n/a	48.08	17	Manhole
19	SD-18	17.27	15	Cir	33.465	46.99	49.10	6.305	48.08	50.34	n/a	50.34	18	Manhole
20	SD-19	11.46	15	Cir	49.000	49.20	50.50	2.653	50.34	51.71	n/a	51.71	19	Manhole
21	SD-16.1	0.91	12	Cir	28.382	33.75	34.15	1.409	36.23*	36.25*	n/a	36.27	16	Manhole
22	SD-29	7.66	12	Cir	29.005	32.20	32.50	1.034	33.34*	34.49*	n/a	35.97	15	Manhole
23	SD-26	10.76	15	Cir	20.800	20.70	21.30	2.885	28.70*	29.19*	n/a	29.71	13	Manhole
24	Exist 5026	7.96	10	Cir	155.000	24.00	25.26	0.813	29.71*	47.17*	n/a	47.66	23	Manhole

Project File: 16537 Alternate A1 2020-05-05.stm | Number of lines: 30 | Run Date: 5/6/2020

NOTES: Return period = 50 Yrs. ; *Surcharged (HGL above crown).

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
25	Exist 0378	3.69	12	Cir	121.540	25.28	25.86	0.477	47.66*	48.78*	n/a	49.12	24	Manhole
26	SD-20	4.48	18	Cir	84.323	16.05	17.93	2.230	18.00	18.74	n/a	18.74	7	Manhole
27	SD-21	2.26	15	Cir	68.014	17.91	19.30	2.044	18.74	19.90	n/a	19.90	26	Manhole
28	SD-22	1.20	15	Cir	131.197	19.53	22.03	1.906	19.90	22.46	n/a	22.46	27	Manhole
29	SD-23	1.21	12	Cir	14.189	22.56	23.11	3.876	22.83	23.57	n/a	23.57	28	Manhole
30	SD-24	2.71	12	Cir	40.717	21.80	22.18	0.933	22.51	22.89	n/a	22.89	11	Manhole

Project File: 16537 Alternate A1 2020-05-05.stm | Number of lines: 30 | Run Date: 5/6/2020

NOTES: Return period = 50 Yrs. ; *Surcharged (HGL above crown).

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
			Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf		Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf	Ave Sf	Enrgy loss		
	(in)	(cfs)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(%)	(ft)	(K)	(ft)
1	30	49.30	6.83	9.13	2.30	4.72	10.43	1.69	10.82	1.069	85.721	7.35	10.24	2.50	4.91	10.04	1.57	11.81	1.231	1.150	0.986	0.82	1.29
2	30	47.54	7.45	11.53	2.50	4.91	9.69	1.46	12.99	1.146	10.548	7.50	11.65	2.50	4.91	9.69	1.46	13.11	1.145	1.145	0.121	0.42	0.61
3	30	47.67	8.37	12.26	0.00	0.00	9.71	0.00	12.26	0.000	58.112	9.26	12.93	0.00**	0.00	9.71	0.00	12.93	0.000	0.000	0.000	0.36	n/a
4	30	40.66	9.26	13.46	0.00	0.00	8.28	0.00	13.46	0.000	29.143	10.10	13.70	0.00**	0.00	8.28	0.00	13.70	0.000	0.000	0.000	0.84	n/a
5	30	40.63	10.10	14.60	0.00	0.00	8.28	0.00	14.60	0.000	84.816	10.50	15.31	0.00**	0.00	8.28	0.00	15.31	0.000	0.000	0.000	0.84	n/a
6	30	39.12	10.50	16.20	0.00	0.00	7.97	0.00	16.20	0.000	90.169	12.10	16.90	0.00**	0.00	7.97	0.00	16.90	0.000	0.000	0.000	0.29	n/a
7	30	39.20	12.10	17.19	0.00	0.00	7.99	0.00	17.19	0.000	34.747	12.60	17.46	0.00**	0.00	7.99	0.00	17.46	0.000	0.000	0.000	0.55	n/a
8	30	35.77	12.60	18.00	0.00	0.00	7.29	0.00	18.00	0.000	115.856	14.00	18.76	0.00**	0.00	7.29	0.00	18.76	0.000	0.000	0.000	0.41	n/a
9	30	35.31	14.00	19.09	0.00	0.00	7.19	0.00	19.09	0.000	131.746	16.00	19.93	0.00**	0.00	7.19	0.00	19.93	0.000	0.000	0.000	0.61	n/a
10	30	33.83	16.10	20.42	0.00	0.00	6.89	0.00	20.42	0.000	10.238	16.20	20.48	0.00**	0.00	6.89	0.00	20.48	0.000	0.000	0.000	0.84	n/a
11	30	34.08	16.30	21.10	0.00	0.00	6.94	0.00	21.10	0.000	113.018	17.50	21.76	0.00**	0.00	6.94	0.00	21.76	0.000	0.000	0.000	0.99	n/a
12	24	32.90	18.00	22.51	0.00	0.00	10.47	0.00	22.51	0.000	202.491	23.50	26.16	0.00**	0.00	10.47	0.00	26.16	0.000	0.000	0.000	0.15	n/a
13	24	33.05	24.00	26.41	0.00	0.00	10.52	0.00	26.41	0.000	97.277	26.80	28.70	0.00**	0.00	10.72	0.00	28.70	0.000	0.000	0.000	0.90	n/a
14	24	24.56	26.80	28.70	0.00	0.00	7.97	0.00	28.70	0.000	40.517	27.20	28.95	0.00**	0.00	8.43	0.00	28.95	0.000	0.000	0.000	0.55	n/a
15	24	24.29	27.20	28.95	0.00	0.00	8.34	0.00	28.95	0.000	246.271	31.60	33.34	0.00**	0.00	8.36	0.00	33.34	0.000	0.000	0.000	0.88	n/a
16	18	18.28	32.10	33.60	0.00*	0.00	10.35	0.00	33.60	0.000	42.593	32.44	34.70	0.00**	0.00	10.35	0.00	34.70	0.000	0.000	0.000	0.92	n/a
17	18	17.17	32.54	36.23	0.00	0.00	9.72	0.00	36.23	0.000	131.000	38.00	39.44	0.00**	0.00	9.85	0.00	39.44	0.000	0.000	0.000	0.15	n/a
18	18	17.25	40.45	41.26	0.00	0.00	17.72	0.00	41.26	0.000	87.000	46.64	48.08	0.00**	0.00	9.89	0.00	48.08	0.000	0.000	0.000	0.15	n/a
19	15	17.27	46.99	48.08	0.00	0.00	15.18	0.00	48.08	0.000	33.465	49.10	50.34	0.00**	0.00	14.08	0.00	50.34	0.000	0.000	0.000	0.92	n/a
20	15	11.46	49.20	50.34	0.00	0.00	9.75	0.00	50.34	0.000	49.000	50.50	51.71	0.00**	0.00	9.43	0.00	51.71	0.000	0.000	0.000	1.00	n/a
21	12	0.91	33.75	36.23	0.00	0.00	1.16	0.00	36.23	0.000	28.382	34.15	36.25	0.00**	0.00	1.16	0.00	36.25	0.000	0.000	0.000	1.00	n/a
22	12	7.66	32.20	33.34	0.00	0.00	9.76	0.00	33.34	0.000	29.005	32.50	34.49	0.00**	0.00	9.75	0.00	34.49	0.000	0.000	0.000	1.00	n/a

Project File: 16537 Alternate A1 2020-05-05.stm | Number of lines: 30 | Run Date: 5/6/2020

Notes: * Normal depth assumed; ** Critical depth. ; c = cir e = ellip b = box

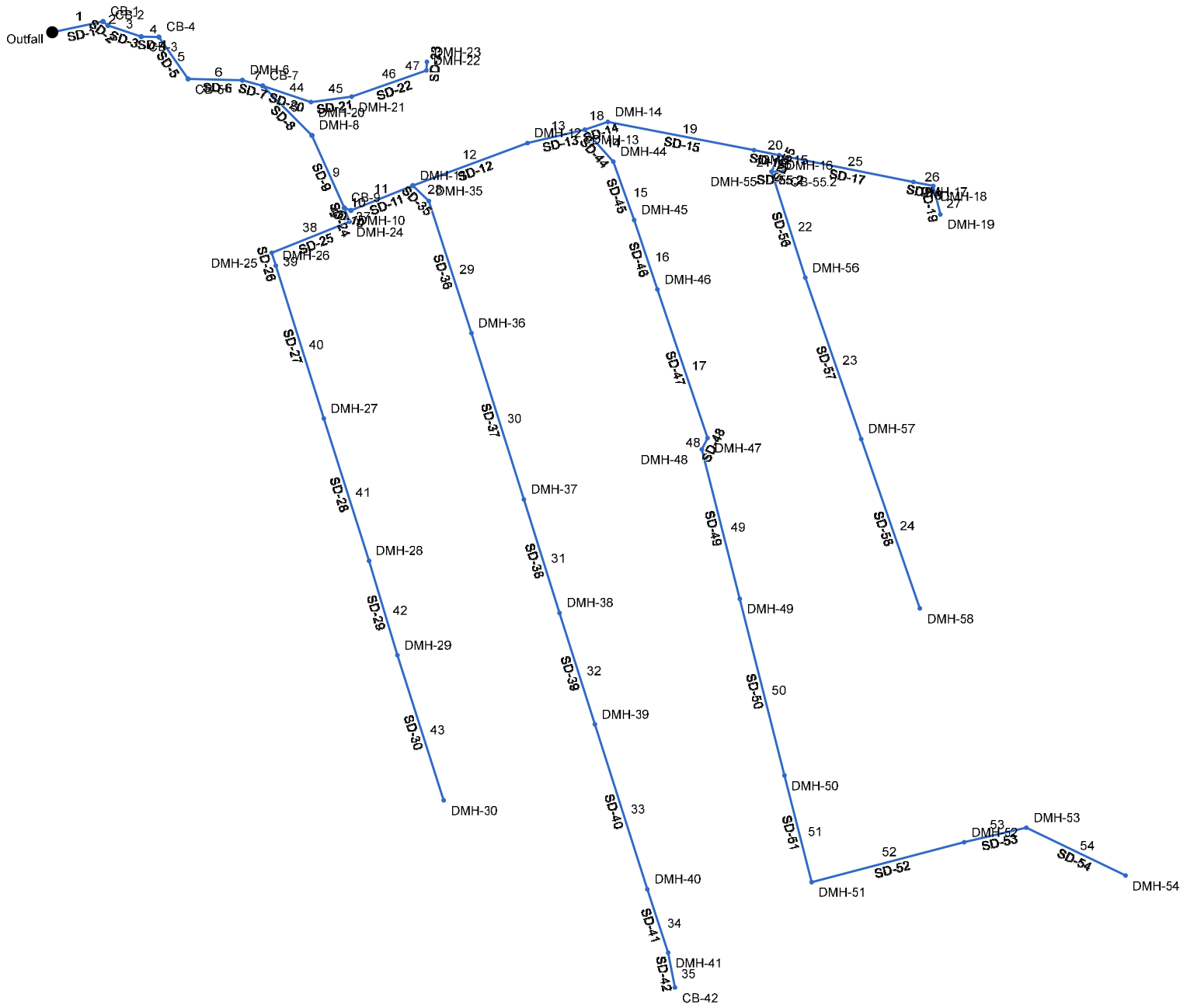
Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
			Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf		Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf	Ave Sf	Enrgy loss		
	(in)	(cfs)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(%)	(ft)	(K)	(ft)
23	15	10.76	20.70	28.70	0.00	0.00	8.77	0.00	28.70	0.000	20.800	21.30	29.19	0.00**	0.00	8.77	0.00	29.19	0.000	0.000	0.000	0.43	n/a
24	10	7.96	24.00	29.71	0.00	0.00	14.60	0.00	29.71	0.000	155.000	25.26	47.17	0.00**	0.00	14.60	0.00	47.17	0.000	0.000	0.000	0.15	n/a
25	12	3.69	25.28	47.66	0.00	0.00	4.70	0.00	47.66	0.000	121.540	25.86	48.78	0.00**	0.00	4.70	0.00	48.78	0.000	0.000	0.000	1.00	n/a
26	18	4.48	16.05	18.00	0.00	0.00	2.53	0.00	18.00	0.000	84.323	17.93	18.74	0.00**	0.00	4.59	0.00	18.74	0.000	0.000	0.000	0.50	n/a
27	15	2.26	17.91	18.74	0.00	0.00	2.61	0.00	18.74	0.000	68.014	19.30	19.90	0.00**	0.00	3.88	0.00	19.90	0.000	0.000	0.000	0.25	n/a
28	15	1.20	19.53	19.90	0.00	0.00	3.96	0.00	19.90	0.000	131.197	22.03	22.46	0.00**	0.00	3.19	0.00	22.46	0.000	0.000	0.000	0.94	n/a
29	12	1.21	22.56	22.83	0.00	0.00	7.08	0.00	22.83	0.000	14.189	23.11	23.57	0.00**	0.00	3.40	0.00	23.57	0.000	0.000	0.000	1.00	n/a
30	12	2.71	21.80	22.51	0.00	0.00	4.58	0.00	22.51	0.000	40.717	22.18	22.89	0.00**	0.00	4.58	0.00	22.89	0.000	0.000	0.000	1.00	n/a

Project File: 16537 Alternate A1 2020-05-05.stm | Number of lines: 30 | Run Date: 5/6/2020

Notes: * Normal depth assumed; ** Critical depth. ; c = cir e = ellip b = box

Hydraflow Storm Sewers Extension for Autodesk® AutoCAD® Civil 3D® Plan



Project File: 16537 Alternate A2 2020-05-05.stm	Number of lines: 54	Date: 5/6/2020

Storm Sewers v2018.30

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	SD-1	69.97	36	Cir	86.000	6.55	7.10	0.640	9.80*	10.61*	1.25	11.86	End	Manhole
2	SD-2	68.40	36	Cir	10.588	7.15	7.25	0.944	11.86*	11.95*	0.60	12.55	1	Manhole
3	SD-3	68.51	36	Cir	58.112	7.30	8.50	2.065	12.55*	13.07*	0.53	13.60	2	Manhole
4	SD-4	63.22	36	Cir	29.143	8.50	8.80	1.029	13.60*	13.82*	1.04	14.87	3	Manhole
5	SD-5	63.23	36	Cir	84.816	8.80	9.60	0.943	14.87*	15.52*	1.04	16.56	4	Manhole
6	SD-6	62.12	36	Cir	90.169	9.60	10.20	0.665	16.56*	17.23*	0.35	17.58	5	Manhole
7	SD-7	62.19	36	Cir	34.747	10.30	10.50	0.576	17.58*	17.83*	0.66	18.50	6	Manhole
8	SD-8	59.48	36	Cir	115.856	10.60	11.30	0.604	18.50*	19.28*	0.45	19.73	7	Manhole
9	SD-9	59.18	36	Cir	131.746	11.40	12.30	0.683	19.73*	20.62*	0.82	21.44	8	Manhole
10	SD-10	54.21	36	Cir	11.882	14.30	15.10	6.733	21.44*	21.50*	0.67	22.17	9	Manhole
11	SD-11	54.47	36	Cir	110.371	15.10	18.10	2.718	22.17*	22.80*	0.86	23.66	10	Manhole
12	SD-12	41.30	30	Cir	202.491	18.60	19.70	0.543	23.66*	25.41*	0.17	25.57	11	Manhole
13	SD-13	41.46	30	Cir	97.307	19.70	20.20	0.514	25.57*	26.42*	1.00	27.42	12	Manhole
14	SD-44	22.70	30	Cir	71.126	20.20	20.60	0.562	27.42*	27.60*	0.14	27.75	13	Manhole
15	SD-45	21.06	24	Cir	103.090	22.50	25.50	2.910	27.75*	28.51*	0.10	28.61	14	Manhole
16	SD-46	18.52	24	Cir	121.590	25.60	26.25	0.535	28.61*	29.31*	0.08	29.39	15	Manhole
17	SD-47	16.44	18	Cir	260.592	26.75	37.10	3.972	29.39	38.53	n/a	38.53 j	16	Manhole
18	SD-14	22.62	24	Cir	40.489	26.20	27.00	1.976	27.42	28.69	n/a	28.69	13	Manhole
19	SD-15	22.36	24	Cir	246.259	27.00	31.21	1.710	28.69	32.90	n/a	32.90 j	18	Manhole
20	SD-16	22.42	24	Cir	42.618	31.21	31.60	0.915	32.90	33.29	0.98	33.29	19	Manhole
21	SD-55	6.23	15	Cir	30.171	32.55	33.05	1.657	33.32	34.06	n/a	34.06	20	Manhole
22	SD-56	5.69	15	Cir	184.941	33.15	36.15	1.622	34.06	37.12	n/a	37.12	21	Manhole
23	SD-57	5.79	12	Cir	283.667	36.50	46.60	3.561	37.17	47.55	0.13	47.55	22	Manhole
24	SD-58	5.89	12	Cir	297.722	48.50	60.00	3.863	49.16	60.95	0.91	60.95	23	Manhole

Project File: 16537 Alternate A2 2020-05-05.stm | Number of lines: 54 | Run Date: 5/6/2020

NOTES: Return period = 50 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
25	SD-17	17.25	15	Cir	226.590	32.45	42.25	4.325	33.70*	47.48*	0.46	47.94	20	Manhole
26	SD-18	17.27	15	Cir	33.490	42.35	45.25	8.659	47.94*	49.98*	2.83	52.81	25	Manhole
27	SD-19	11.46	15	Cir	48.892	45.50	48.00	5.113	52.81*	54.13*	1.36	55.48	26	Manhole
28	SD-35	15.83	30	Cir	36.930	18.95	19.20	0.677	23.66*	23.70*	0.09	23.79	11	Manhole
29	SD-36	13.59	24	Cir	230.564	19.80	20.95	0.499	23.79*	24.50*	0.04	24.54	28	Manhole
30	SD-37	11.00	18	Cir	289.775	21.40	24.80	1.173	24.54*	27.25*	0.09	27.34	29	Manhole
31	SD-38	9.86	18	Cir	197.672	24.90	26.65	0.885	27.34*	28.83*	0.07	28.90	30	Manhole
32	SD-39	4.88	15	Cir	194.137	27.10	30.60	1.803	28.90	31.50	n/a	31.50 j	31	Manhole
33	SD-40	4.98	12	Cir	287.579	30.95	35.30	1.513	31.82	36.22	0.10	36.22	32	Manhole
34	SD-41	3.18	12	Cir	110.766	35.40	35.95	0.497	36.40*	37.15*	0.04	37.19	33	Manhole
35	SD-42	3.20	12	Cir	59.067	36.20	38.70	4.232	37.19	39.47	n/a	39.47 j	34	Manhole
36	SD-55.2	0.91	12	Cir	19.582	33.40	33.80	2.043	34.06	34.20	n/a	34.20 j	21	Manhole
37	SD-24	7.74	30	Cir	24.584	12.40	12.55	0.610	21.44*	21.44*	0.04	21.48	9	Manhole
38	SD-25	7.93	30	Cir	138.729	12.55	16.41	2.782	21.48*	21.53*	0.04	21.57	37	Manhole
39	SD-26	7.95	24	Cir	22.453	16.91	17.45	2.405	21.57*	21.59*	0.01	21.60	38	Manhole
40	SD-27	5.94	18	Cir	266.154	17.95	20.15	0.827	21.60*	22.33*	0.03	22.36	39	Manhole
41	SD-28	4.57	15	Cir	248.146	20.40	23.50	1.249	22.36	24.37	n/a	24.37 j	40	Manhole
42	SD-29	3.81	12	Cir	163.748	23.75	24.60	0.519	24.75*	26.35*	0.06	26.41	41	Manhole
43	SD-30	3.87	12	Cir	253.013	24.73	26.00	0.502	26.41*	28.96*	0.38	29.34	42	Manhole
44	SD-20	4.82	18	Cir	84.318	16.05	17.93	2.230	18.50	18.77	n/a	18.77 j	7	Manhole
45	SD-21	2.60	15	Cir	68.013	17.91	19.30	2.044	18.77	19.95	n/a	19.95 j	44	Manhole
46	SD-22	1.20	15	Cir	131.136	19.53	22.03	1.906	19.95	22.46	0.15	22.46	45	Manhole
47	SD-23	1.21	12	Cir	14.242	22.56	23.11	3.862	22.83	23.57	0.18	23.57	46	Manhole
48	SD-48	16.45	18	Cir	21.000	36.95	37.15	0.952	38.53*	38.97*	0.94	39.91	17	Manhole

Project File: 16537 Alternate A2 2020-05-05.stm | Number of lines: 54 | Run Date: 5/6/2020

NOTES: Return period = 50 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
49	SD-49	12.30	18	Cir	256.068	37.25	41.45	1.640	39.91	42.95	0.11	43.06	48	Manhole
50	SD-50	12.48	18	Cir	302.814	41.55	43.90	0.776	43.06*	46.71*	0.12	46.82	49	Manhole
51	SD-51	10.77	18	Cir	183.014	44.00	45.25	0.683	46.82*	48.46*	0.58	49.04	50	Manhole
52	SD-52	9.02	15	Cir	260.754	46.65	58.65	4.602	49.04	59.81	n/a	59.81 j	51	Manhole
53	SD-53	6.63	15	Cir	105.789	59.50	62.65	2.978	60.16	63.69	n/a	63.69	52	Manhole
54	SD-54	6.70	15	Cir	182.556	62.75	66.65	2.136	63.69	67.69	0.59	67.69	53	Manhole

Project File: 16537 Alternate A2 2020-05-05.stm | Number of lines: 54 | Run Date: 5/6/2020

NOTES: Return period = 50 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
			Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf		Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf	Ave Sf	Enrgy loss		
	(in)	(cfs)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(%)	(ft)	(K)	(ft)
1	36	69.97	6.55	9.80	3.00	7.07	9.90	1.52	11.32	0.938	86.000	7.10	10.61	3.00	7.07	9.90	1.52	12.13	0.938	0.938	0.807	0.82	1.25
2	36	68.40	7.15	11.86	3.00	7.07	9.68	1.46	13.31	0.897	10.588	7.25	11.95	3.00	7.07	9.68	1.46	13.41	0.896	0.896	0.095	0.41	0.60
3	36	68.51	7.30	12.55	3.00	7.07	9.69	1.46	14.01	0.900	58.112	8.50	13.07	3.00	7.07	9.69	1.46	14.53	0.899	0.899	0.523	0.36	0.53
4	36	63.22	8.50	13.60	3.00	7.07	8.95	1.24	14.84	0.766	29.143	8.80	13.82	3.00	7.07	8.94	1.24	15.07	0.766	0.766	0.223	0.84	1.04
5	36	63.23	8.80	14.87	3.00	7.07	8.95	1.24	16.11	0.766	84.816	9.60	15.52	3.00	7.07	8.94	1.24	16.76	0.766	0.766	0.650	0.84	1.04
6	36	62.12	9.60	16.56	3.00	7.07	8.79	1.20	17.76	0.740	90.169	10.20	17.23	3.00	7.07	8.79	1.20	18.43	0.739	0.739	0.667	0.29	0.35
7	36	62.19	10.30	17.58	3.00	7.07	8.80	1.20	18.78	0.741	34.747	10.50	17.83	3.00	7.07	8.80	1.20	19.04	0.741	0.741	0.257	0.55	0.66
8	36	59.48	10.60	18.50	3.00	7.07	8.42	1.10	19.60	0.678	115.856	11.30	19.28	3.00	7.07	8.41	1.10	20.38	0.678	0.678	0.785	0.41	0.45
9	36	59.18	11.40	19.73	3.00	7.07	8.37	1.09	20.82	0.671	131.746	12.30	20.62	3.00	7.07	8.37	1.09	21.71	0.671	0.671	0.884	0.75	0.82
10	36	54.21	14.30	21.44	3.00	7.07	7.67	0.91	22.35	0.563	11.882	15.10	21.50	3.00	7.07	7.67	0.91	22.42	0.563	0.563	0.067	0.73	0.67
11	36	54.47	15.10	22.17	3.00	7.07	7.71	0.92	23.09	0.569	110.371	18.10	22.80	3.00	7.07	7.71	0.92	23.72	0.568	0.568	0.627	0.93	0.86
12	30	41.30	18.60	23.66	2.50	4.91	8.42	1.10	24.76	0.865	202.491	19.70	25.41	2.50	4.91	8.41	1.10	26.51	0.864	0.864	1.750	0.15	0.17
13	30	41.46	19.70	25.57	2.50	4.91	8.45	1.11	26.68	0.871	97.307	20.20	26.42	2.50	4.91	8.45	1.11	27.53	0.871	0.871	0.848	0.90	1.00
14	30	22.70	20.20	27.42	2.50	4.91	4.63	0.33	27.75	0.261	71.126	20.60	27.60	2.50	4.91	4.62	0.33	27.94	0.261	0.261	0.186	0.43	0.14
15	24	21.06	22.50	27.75	2.00	3.14	6.70	0.70	28.45	0.739	103.090	25.50	28.51	2.00	3.14	6.70	0.70	29.21	0.739	0.739	0.762	0.15	0.10
16	24	18.52	25.60	28.61	2.00	3.14	5.90	0.54	29.15	0.572	121.590	26.25	29.31	2.00	3.14	5.90	0.54	29.85	0.572	0.572	0.695	0.15	0.08
17	18	16.44	26.75	29.39	1.50	1.74	9.30	1.35	30.74	2.089	260.592	37.10	38.53 j	1.43**	1.74	9.46	1.39	39.92	1.812	1.950	n/a	0.75	n/a
18	24	22.62	26.20	27.42	1.22	2.00	11.29	0.99	28.41	0.000	40.489	27.00	28.69	1.69**	2.84	7.97	0.99	29.68	0.000	0.000	n/a	0.55	n/a
19	24	22.36	27.00	28.69	1.69	2.83	7.88	0.97	29.67	0.000	246.259	31.21	32.90 j	1.69**	2.83	7.92	0.97	33.87	0.000	0.000	n/a	0.15	n/a
20	24	22.42	31.21	32.90	1.69	2.83	7.94	0.98	33.87	0.000	42.618	31.60	33.29	1.69**	2.83	7.93	0.98	34.26	0.000	0.000	n/a	1.00	0.98
21	15	6.23	32.55	33.32	0.77*	0.79	7.92	0.54	33.85	0.000	30.171	33.05	34.06	1.01**	1.06	5.88	0.54	34.60	0.000	0.000	n/a	1.00	n/a
22	15	5.69	33.15	34.06	0.91	0.95	5.97	0.49	34.54	0.000	184.941	36.15	37.12	0.97**	1.02	5.60	0.49	37.60	0.000	0.000	n/a	0.15	n/a

Project File: 16537 Alternate A2 2020-05-05.stm | Number of lines: 54 | Run Date: 5/6/2020

Notes: * Normal depth assumed; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
			Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf		Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf	Ave Sf	Enrgy loss		
	(in)	(cfs)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(%)	(ft)	(K)	(ft)
23	12	5.79	36.50	37.17	0.67*	0.56	10.29	0.88	38.05	0.000	283.667	46.60	47.55	0.95**	0.77	7.52	0.88	48.43	0.000	0.000	n/a	0.15	0.13
24	12	5.89	48.50	49.16	0.66*	0.55	10.67	0.91	50.07	0.000	297.722	60.00	60.95	0.95**	0.77	7.64	0.91	61.86	0.000	0.000	n/a	1.00	0.91
25	15	17.25	32.45	33.70	1.25*	1.23	14.06	3.07	36.77	6.082	226.590	42.25	47.48	1.25**	1.23	14.06	3.07	50.55	6.079	6.081	13.78	0.15	0.46
26	15	17.27	42.35	47.94	1.25	1.23	14.07	3.08	51.02	6.096	33.490	45.25	49.98	1.25**	1.23	14.07	3.08	53.06	6.093	6.094	2.041	0.92	2.83
27	15	11.46	45.50	52.81	1.25	1.23	9.34	1.36	54.17	2.685	48.892	48.00	54.13	1.25	1.23	9.34	1.36	55.48	2.684	2.685	1.313	1.00	1.36
28	30	15.83	18.95	23.66	2.50	4.91	3.22	0.16	23.82	0.127	36.930	19.20	23.70	2.50	4.91	3.22	0.16	23.87	0.127	0.127	0.047	0.53	0.09
29	24	13.59	19.80	23.79	2.00	3.14	4.33	0.29	24.08	0.308	230.564	20.95	24.50	2.00	3.14	4.32	0.29	24.79	0.307	0.308	0.709	0.15	0.04
30	18	11.00	21.40	24.54	1.50	1.77	6.22	0.60	25.14	0.935	289.775	24.80	27.25	1.50	1.77	6.22	0.60	27.85	0.935	0.935	2.709	0.15	0.09
31	18	9.86	24.90	27.34	1.50	1.77	5.58	0.48	27.83	0.751	197.672	26.65	28.83	1.50	1.77	5.58	0.48	29.31	0.751	0.751	1.485	0.15	0.07
32	15	4.88	27.10	28.90	1.25	0.94	3.98	0.25	29.15	0.487	194.137	30.60	31.50 j	0.90**	0.94	5.19	0.42	31.91	0.655	0.571	n/a	0.15	0.06
33	12	4.98	30.95	31.82	0.87*	0.73	6.84	0.68	32.50	0.000	287.579	35.30	36.22	0.92**	0.75	6.61	0.68	36.89	0.000	0.000	n/a	0.15	0.10
34	12	3.18	35.40	36.40	1.00*	0.79	4.05	0.25	36.65	0.679	110.766	35.95	37.15	1.00	0.79	4.05	0.25	37.41	0.679	0.679	0.752	0.15	0.04
35	12	3.20	36.20	37.19	0.99	0.65	4.08	0.38	37.57	0.000	59.067	38.70	39.47 j	0.77**	0.65	4.96	0.38	39.85	0.000	0.000	n/a	1.00	n/a
36	12	0.91	33.40	34.06	0.66	0.29	1.66	0.15	34.21	0.000	19.582	33.80	34.20 j	0.40**	0.29	3.11	0.15	34.35	0.000	0.000	n/a	1.00	0.15
37	30	7.74	12.40	21.44	2.50	4.91	1.58	0.04	21.47	0.030	24.584	12.55	21.44	2.50	4.91	1.58	0.04	21.48	0.030	0.030	0.007	1.00	0.04
38	30	7.93	12.55	21.48	2.50	4.91	1.61	0.04	21.52	0.032	138.729	16.41	21.53	2.50	4.91	1.61	0.04	21.57	0.032	0.032	0.044	1.00	0.04
39	24	7.95	16.91	21.57	2.00	3.14	2.53	0.10	21.67	0.105	22.453	17.45	21.59	2.00	3.14	2.53	0.10	21.69	0.105	0.105	0.024	0.15	0.01
40	18	5.94	17.95	21.60	1.50	1.77	3.36	0.18	21.78	0.273	266.154	20.15	22.33	1.50	1.77	3.36	0.18	22.51	0.273	0.273	0.726	0.15	0.03
41	15	4.57	20.40	22.36	1.25	0.91	3.72	0.22	22.57	0.426	248.146	23.50	24.37 j	0.87**	0.91	5.04	0.39	24.76	0.626	0.526	n/a	0.15	0.06
42	12	3.81	23.75	24.75	1.00*	0.79	4.86	0.37	25.12	0.978	163.748	24.60	26.35	1.00	0.79	4.86	0.37	26.72	0.978	0.978	1.601	0.15	0.06
43	12	3.87	24.73	26.41	1.00	0.79	4.93	0.38	26.78	1.009	253.013	26.00	28.96	1.00	0.79	4.93	0.38	29.34	1.009	1.009	2.552	1.00	0.38
44	18	4.82	16.05	18.50	1.50	1.02	2.73	0.12	18.61	0.180	84.318	17.93	18.77 j	0.84**	1.02	4.71	0.35	19.12	0.488	0.334	n/a	0.50	n/a

Project File: 16537 Alternate A2 2020-05-05.stm | Number of lines: 54 | Run Date: 5/6/2020

Notes: * Normal depth assumed; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
	(in)	(cfs)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	(ft)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Enrgy loss (ft)	(K)	(ft)
45	15	2.60	17.91	18.77	0.86	0.64	2.87	0.26	19.03	0.000	68.013	19.30	19.95 j	0.65**	0.64	4.06	0.26	20.20	0.000	0.000	n/a	0.25	0.06
46	15	1.20	19.53	19.95	0.42	0.36	3.36	0.16	20.10	0.000	131.136	22.03	22.46	0.43**	0.38	3.19	0.16	22.62	0.000	0.000	n/a	0.94	0.15
47	12	1.21	22.56	22.83	0.27*	0.17	7.06	0.18	23.01	0.000	14.242	23.11	23.57	0.46**	0.36	3.40	0.18	23.75	0.000	0.000	n/a	1.00	0.18
48	18	16.45	36.95	38.53	1.50	1.77	9.31	1.35	39.88	2.092	21.000	37.15	38.97	1.50	1.77	9.31	1.35	40.32	2.091	2.091	0.439	0.70	0.94
49	18	12.30	37.25	39.91	1.50	1.77	6.96	0.75	40.67	1.169	256.068	41.45	42.95	1.50	1.77	6.96	0.75	43.70	1.170	1.169	2.994	0.15	0.11
50	18	12.48	41.55	43.06	1.50	1.77	7.06	0.78	43.84	1.203	302.814	43.90	46.71	1.50	1.77	7.06	0.78	47.48	1.203	1.203	3.644	0.15	0.12
51	18	10.77	44.00	46.82	1.50	1.77	6.10	0.58	47.40	0.897	183.014	45.25	48.46	1.50	1.77	6.10	0.58	49.04	0.897	0.897	1.641	1.00	0.58
52	15	9.02	46.65	49.04	1.25	1.19	7.36	0.84	49.88	1.665	260.754	58.65	59.81 j	1.16**	1.19	7.62	0.90	60.71	1.442	1.553	n/a	0.15	0.14
53	15	6.63	59.50	60.16	0.66*	0.66	10.06	0.58	60.74	0.000	105.789	62.65	63.69	1.04**	1.09	6.10	0.58	64.26	0.000	0.000	n/a	0.68	n/a
54	15	6.70	62.75	63.69	0.94	0.98	6.81	0.59	64.27	0.000	182.556	66.65	67.69	1.04**	1.09	6.14	0.59	68.28	0.000	0.000	n/a	1.00	0.59

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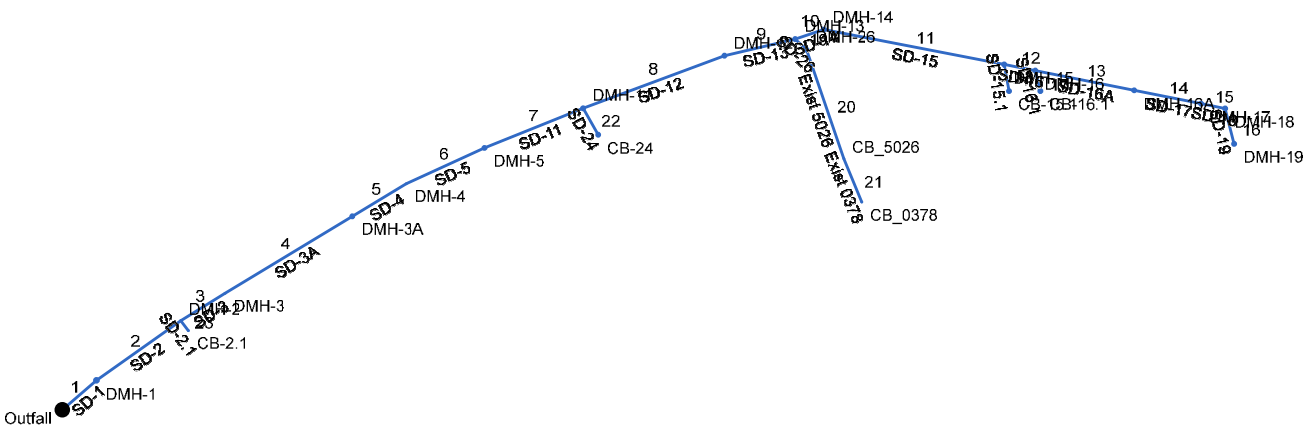
Notes: * Normal depth assumed; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box

Hydraflow Storm Sewers Extension for Autodesk® AutoCAD® Civil 3D® Plan



Project File: 16537 Alternate B1 2020-05-05.stm	Number of lines: 23	Date: 5/6/2020

Storm Sewers v2018.30

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	SD-1	39.56	30	Cir	60.459	7.00	7.40	0.662	9.50*	9.98*	0.15	10.13	End	Manhole
2	SD-2	38.39	30	Cir	138.762	7.50	8.80	0.937	10.13	10.94	1.15	12.08	1	Manhole
3	SD-3	37.25	30	Cir	69.662	10.00	10.60	0.861	12.08	12.66	n/a	12.66	2	Manhole
4	SD-3A	34.84	30	Cir	199.700	10.60	14.82	2.113	12.66	16.82	n/a	16.82	3	Manhole
5	SD-4	35.02	30	Cir	84.500	14.82	15.98	1.373	16.82	17.99	n/a	17.99	4	Manhole
6	SD-5	35.27	30	Cir	115.718	16.12	17.10	0.847	17.99	19.11	n/a	19.11	5	Manhole
7	SD-11	34.07	30	Cir	142.436	17.10	19.66	1.797	19.11	21.64	n/a	21.64	6	Manhole
8	SD-12	32.89	24	Cir	202.395	20.16	22.00	0.909	22.16*	25.80*	n/a	26.05	7	Manhole
9	SD-13	33.03	24	Cir	97.338	22.00	23.19	1.223	26.05*	27.82*	n/a	29.29	8	Manhole
10	SD-14	24.55	24	Cir	40.494	26.80	27.20	0.988	29.29*	29.70*	n/a	30.22	9	Manhole
11	SD-15	24.28	24	Cir	246.310	27.30	31.60	1.746	30.22	33.34	n/a	33.34	10	Manhole
12	SD-16	18.28	18	Cir	42.584	31.70	32.10	0.939	33.34*	34.44*	n/a	35.96	11	Manhole
13	SD-16A	17.17	18	Cir	135.154	32.10	38.00	4.365	35.96	39.44	n/a	39.44	12	Manhole
14	SD-17	17.25	18	Cir	91.513	40.45	46.64	6.764	41.27	48.08	n/a	48.08	13	Manhole
15	SD-18	17.27	15	Cir	33.000	46.99	49.12	6.455	48.08	50.36	n/a	50.36	14	Manhole
16	SD-19	11.46	15	Cir	49.079	49.22	50.50	2.608	50.36	51.71	n/a	51.71	15	Manhole
17	SD-16.1	0.91	12	Cir	28.352	33.80	34.15	1.234	35.96*	35.98*	n/a	36.00	12	Manhole
18	SD-15.1	7.66	12	Cir	36.432	31.60	31.90	0.823	33.34*	34.78*	n/a	36.26	11	Manhole
19	SD-26	10.85	18	Cir	20.824	23.69	23.90	1.008	29.29*	29.48*	n/a	29.78	9	Manhole
20	Exist 5026	8.03	10	Cir	155.000	24.00	25.26	0.813	29.78*	47.53*	n/a	48.04	19	Manhole
21	Exist 0378	3.69	12	Cir	63.000	28.36	28.80	0.698	48.04*	48.61*	n/a	48.96	20	None
22	SD-24	2.71	12	Cir	41.000	21.81	22.02	0.512	22.61	22.82	n/a	23.07	7	Manhole
23	SD-2.1	1.38	12	Cir	16.671	9.50	10.80	7.798	12.08*	12.11*	n/a	12.15	2	Manhole

Project File: 16537 Alternate B1 2020-05-05.stm | Number of lines: 23 | Run Date: 5/6/2020

NOTES: Return period = 50 Yrs. ; *Surcharged (HGL above crown).

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
			Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf		Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf	Ave Sf	Enrgy loss		
	(in)	(cfs)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(%)	(ft)	(K)	(ft)
1	30	39.56	7.00	9.50	2.50	4.91	8.06	1.01	10.51	0.793	60.459	7.40	9.98	2.50	4.91	8.06	1.01	10.99	0.793	0.793	0.479	0.15	0.15
2	30	38.39	7.50	10.13	2.50	4.91	7.82	0.95	11.08	0.747	138.762	8.80	10.94	2.14	4.47	8.59	1.15	12.08	0.698	0.722	1.002	1.00	1.15
3	30	37.25	10.00	12.08	0.00	0.00	8.52	0.00	12.08	0.000	69.662	10.60	12.66	0.00**	0.00	8.59	0.00	12.66	0.000	0.000	0.000	0.15	n/a
4	30	34.84	10.60	12.66	0.00	0.00	8.04	0.00	12.66	0.000	199.700	14.82	16.82	0.00**	0.00	8.26	0.00	16.82	0.000	0.000	0.000	0.15	n/a
5	30	35.02	14.82	16.82	0.00	0.00	8.31	0.00	16.82	0.000	84.500	15.98	17.99	0.00**	0.00	8.29	0.00	17.99	0.000	0.000	0.000	0.15	n/a
6	30	35.27	16.12	17.99	0.00	0.00	8.96	0.00	17.99	0.000	115.718	17.10	19.11	0.00**	0.00	8.32	0.00	19.11	0.000	0.000	0.000	0.15	n/a
7	30	34.07	17.10	19.11	0.00	0.00	8.04	0.00	19.11	0.000	142.436	19.66	21.64	0.00**	0.00	8.16	0.00	21.64	0.000	0.000	0.000	0.99	n/a
8	24	32.89	20.16	22.16	0.00*	0.00	10.45	0.00	22.16	0.000	202.395	22.00	25.80	0.00**	0.00	10.45	0.00	25.80	0.000	0.000	0.000	0.15	n/a
9	24	33.03	22.00	26.05	0.00	0.00	10.50	0.00	26.05	0.000	97.338	23.19	27.82	0.00**	0.00	10.50	0.00	27.82	0.000	0.000	0.000	0.86	n/a
10	24	24.55	26.80	29.29	0.00	0.00	7.80	0.00	29.29	0.000	40.494	27.20	29.70	0.00**	0.00	7.80	0.00	29.70	0.000	0.000	0.000	0.55	n/a
11	24	24.28	27.30	30.22	0.00	0.00	7.72	0.00	30.22	0.000	246.310	31.60	33.34	0.00**	0.00	8.35	0.00	33.34	0.000	0.000	0.000	0.94	n/a
12	18	18.28	31.70	33.34	0.00	0.00	10.33	0.00	33.34	0.000	42.584	32.10	34.44	0.00**	0.00	10.33	0.00	34.44	0.000	0.000	0.000	0.92	n/a
13	18	17.17	32.10	35.96	0.00	0.00	9.70	0.00	35.96	0.000	135.154	38.00	39.44	0.00**	0.00	9.83	0.00	39.44	0.000	0.000	0.000	0.15	n/a
14	18	17.25	40.45	41.27	0.00	0.00	17.37	0.00	41.27	0.000	91.513	46.64	48.08	0.00**	0.00	9.87	0.00	48.08	0.000	0.000	0.000	0.15	n/a
15	15	17.27	46.99	48.08	0.00	0.00	15.17	0.00	48.08	0.000	33.000	49.12	50.36	0.00**	0.00	14.07	0.00	50.36	0.000	0.000	0.000	0.92	n/a
16	15	11.46	49.22	50.36	0.00	0.00	9.75	0.00	50.36	0.000	49.079	50.50	51.71	0.00**	0.00	9.43	0.00	51.71	0.000	0.000	0.000	1.00	n/a
17	12	0.91	33.80	35.96	0.00	0.00	1.16	0.00	35.96	0.000	28.352	34.15	35.98	0.00**	0.00	1.16	0.00	35.98	0.000	0.000	0.000	1.00	n/a
18	12	7.66	31.60	33.34	0.00	0.00	9.76	0.00	33.34	0.000	36.432	31.90	34.78	0.00**	0.00	9.75	0.00	34.78	0.000	0.000	0.000	1.00	n/a
19	18	10.85	23.69	29.29	0.00	0.00	6.14	0.00	29.29	0.000	20.824	23.90	29.48	0.00**	0.00	6.14	0.00	29.48	0.000	0.000	0.000	0.52	n/a
20	10	8.03	24.00	29.78	0.00	0.00	14.72	0.00	29.78	0.000	155.000	25.26	47.53	0.00**	0.00	14.72	0.00	47.53	0.000	0.000	0.000	0.15	n/a
21	12	3.69	28.36	48.04	0.00	0.00	4.70	0.00	48.04	0.000	63.000	28.80	48.61	0.00**	0.00	4.70	0.00	48.61	0.000	0.000	0.000	1.00	n/a
22	12	2.71	21.81	22.61	0.00	0.00	4.01	0.00	22.61	0.000	41.000	22.02	22.82	0.00**	0.00	4.01	0.00	22.82	0.000	0.000	0.000	1.00	n/a

Project File: 16537 Alternate B1 2020-05-05.stm | Number of lines: 23 | Run Date: 5/6/2020

Notes: * depth assumed; ** Critical depth. ; c = cir e = ellip b = box

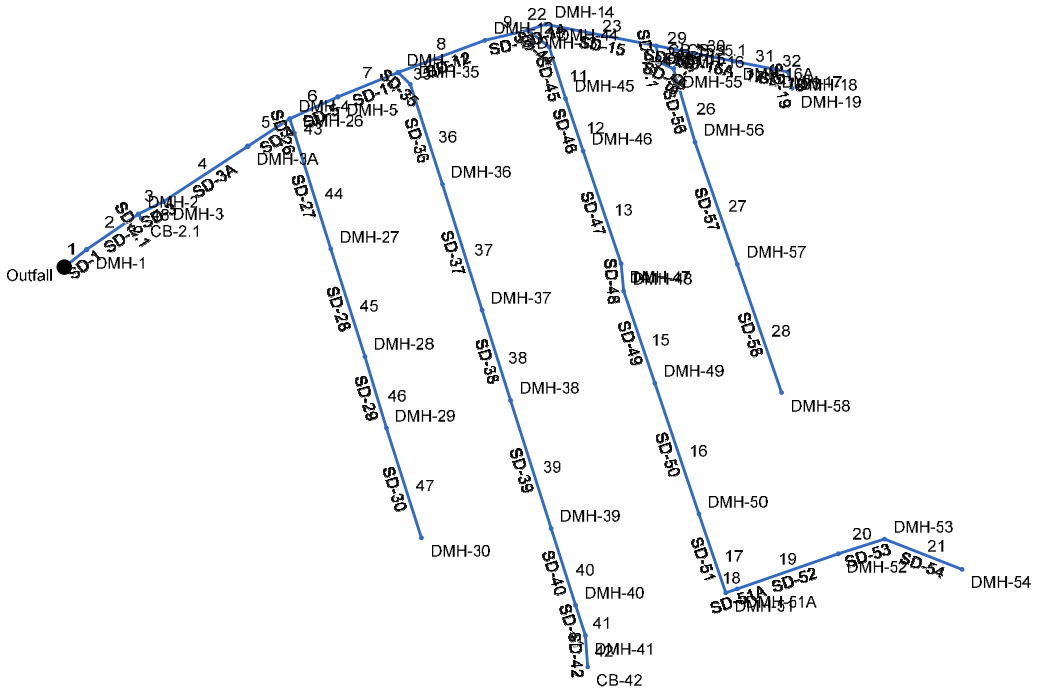
Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
			Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf		Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf	Ave Sf	Enrgy loss		
	(in)	(cfs)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(%)	(ft)	(K)	(ft)
23	12	1.38	9.50	12.08	0.00	0.00	1.76	0.00	12.08	0.000	16.671	10.80	12.11	0.00**	0.00	1.76	0.00	12.11	0.000	0.000	0.000	1.00	n/a

Project File: 16537 Alternate B1 2020-05-05.stm | Number of lines: 23 | Run Date: 5/6/2020

Notes: * depth assumed; ** Critical depth. ; c = cir e = ellip b = box

Hydraflow Storm Sewers Extension for Autodesk® AutoCAD® Civil 3D® Plan



Project File: 16537 Alternate B2 2020-05-05.stm	Number of lines: 48	Date: 5/6/2020

Storm Sewers v2018.30

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	SD-1	64.55	36	Cir	62.721	6.00	7.00	1.594	8.58	9.58	n/a	9.58	End	Manhole
2	SD-2	63.69	36	Cir	137.000	7.10	9.20	1.533	9.58	11.76	1.53	11.76	1	Manhole
3	SD-3	62.81	36	Cir	62.000	9.70	11.15	2.339	11.77	13.71	n/a	13.71	2	Manhole
4	SD-3A	61.07	36	Cir	220.000	11.25	15.10	1.750	13.71	17.62	n/a	17.62	3	Manhole
5	SD-4	61.31	36	Cir	110.000	15.25	16.55	1.182	17.62	19.08	n/a	19.08	4	Manhole
6	SD-5	55.49	36	Cir	115.519	16.50	17.60	0.952	19.08	20.02	n/a	20.02	5	Manhole
7	SD-11	54.51	30	Cir	142.348	17.50	18.80	0.913	20.02*	22.21*	n/a	24.02	6	Manhole
8	SD-12	41.34	30	Cir	202.472	18.90	19.92	0.504	24.02*	25.80*	n/a	25.97	7	Manhole
9	SD-13	41.50	30	Cir	97.277	20.22	20.60	0.391	25.97*	26.83*	n/a	27.76	8	Manhole
10	SD-44	22.70	30	Cir	58.878	20.60	21.00	0.679	27.76*	27.91*	n/a	28.12	9	Manhole
11	SD-45	21.07	24	Cir	118.997	22.00	22.65	0.546	28.12*	29.01*	n/a	29.12	10	Manhole
12	SD-46	18.54	24	Cir	121.579	24.00	25.40	1.152	29.12*	29.82*	n/a	29.90	11	Manhole
13	SD-47	16.45	18	Cir	260.603	25.50	36.50	4.221	29.90	37.93	n/a	37.93	12	Manhole
14	SD-48	16.49	18	Cir	60.445	36.60	36.90	0.496	38.10*	39.38*	n/a	39.75	13	Manhole
15	SD-49	12.30	18	Cir	213.483	37.00	40.10	1.452	39.75*	42.27*	n/a	42.39	14	Manhole
16	SD-50	12.48	18	Cir	302.814	40.20	43.50	1.090	42.39*	46.06*	n/a	46.18	15	Manhole
17	SD-51	10.77	18	Cir	183.014	43.60	44.90	0.710	46.18*	47.84*	n/a	48.42	16	Manhole
18	SD-51A	10.78	15	Cir	26.110	45.20	46.49	4.941	48.42*	49.04*	n/a	49.23	17	Manhole
19	SD-52	9.02	15	Cir	234.645	46.74	58.10	4.841	49.23	59.26	n/a	59.26	18	Manhole
20	SD-53	6.63	15	Cir	105.789	58.50	61.00	2.363	59.26	62.04	n/a	62.04	19	Manhole
21	SD-54	6.70	15	Cir	182.556	61.10	64.60	1.917	62.04	65.64	n/a	65.64	20	Manhole
22	SD-14	22.63	24	Cir	40.541	26.20	27.00	1.973	27.76	28.70	n/a	28.70	9	Manhole
23	SD-15	22.38	24	Cir	246.299	27.10	31.37	1.734	28.70	33.06	n/a	33.06	22	Manhole
24	SD-15.1	6.23	15	Cir	36.235	31.96	33.03	2.953	33.06	34.04	n/a	34.04	23	Manhole

Project File: 16537 Alternate B2 2020-05-05.stm | Number of lines: 48 | Run Date: 5/6/2020

NOTES: Return period = 50 Yrs. ; *Surcharged (HGL above crown).

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
25	SD-55	6.24	15	Cir	34.722	33.23	33.40	0.490	34.48*	34.76*	n/a	35.16	24	Manhole
26	SD-56	5.69	15	Cir	167.956	33.40	34.35	0.566	35.16*	36.29*	n/a	36.34	25	Manhole
27	SD-57	5.79	12	Cir	283.667	36.50	45.60	3.208	37.20	46.55	n/a	46.55	26	Manhole
28	SD-58	5.89	12	Cir	297.722	48.50	60.00	3.863	49.16	60.95	n/a	60.95	27	Manhole
29	SD-16	17.60	18	Cir	42.586	31.47	32.10	1.479	33.06*	34.08*	n/a	34.32	23	Manhole
30	SD-16A	17.18	18	Cir	131.000	32.54	38.00	4.168	34.32	39.44	n/a	39.44	29	Manhole
31	17	17.26	18	Cir	87.000	40.45	46.64	7.115	41.26	48.08	n/a	48.08	30	Manhole
32	SD-18	17.28	15	Cir	33.498	46.99	49.10	6.299	48.08	50.34	n/a	50.34	31	Manhole
33	SD-19	11.46	15	Cir	37.168	49.10	50.50	3.767	50.34	51.71	n/a	51.71	32	Manhole
34	SD-55.1	0.91	12	Cir	18.321	33.40	33.80	2.183	35.16*	35.17*	n/a	35.20	25	Manhole
35	SD-35	15.82	24	Cir	36.930	19.20	19.50	0.812	24.02*	24.18*	n/a	24.39	7	Manhole
36	SD-36	13.58	24	Cir	230.564	20.10	21.75	0.716	24.39*	25.11*	n/a	25.15	35	Manhole
37	SD-37	10.99	18	Cir	289.775	21.90	24.70	0.966	25.15*	27.89*	n/a	27.98	36	Manhole
38	SD-38	9.86	18	Cir	207.910	25.20	26.80	0.770	27.98*	29.56*	n/a	29.63	37	Manhole
39	SD-39	4.94	15	Cir	294.885	27.30	32.50	1.763	29.63	33.40	n/a	33.40	38	Manhole
40	SD-40	5.00	12	Cir	176.592	32.75	33.80	0.595	33.75*	36.72*	n/a	36.81	39	Manhole
41	SD-41	3.18	12	Cir	69.978	33.90	35.20	1.858	36.81*	37.29*	n/a	37.36	40	Manhole
42	SD-42	3.20	12	Cir	69.347	35.30	37.00	2.452	37.36	37.77	n/a	38.15	41	Manhole
43	SD-26	8.00	18	Cir	33.145	16.60	16.84	0.724	19.08*	19.24*	n/a	19.29	5	Manhole
44	SD-27	5.94	15	Cir	266.154	17.09	18.30	0.455	19.29*	21.23*	n/a	21.28	43	Manhole
45	SD-28	4.57	15	Cir	248.146	18.55	21.20	1.068	21.28	22.27	n/a	22.30	44	Manhole
46	SD-29	3.81	12	Cir	163.748	21.45	23.30	1.130	22.30	24.13	n/a	24.13	45	Manhole
47	SD-30	3.87	12	Cir	253.013	23.40	26.00	1.028	24.21	26.84	n/a	26.84	46	Manhole
48	SD-2.1	1.38	12	Cir	11.679	11.20	14.42	27.572	11.77	14.92	n/a	14.92	2	Manhole

Project File: 16537 Alternate B2 2020-05-05.stm | Number of lines: 48 | Run Date: 5/6/2020

NOTES: Return period = 50 Yrs. ; *Surcharged (HGL above crown).

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
			Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf		Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf	Ave Sf	Enrgy loss		
	(in)	(cfs)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(%)	(ft)	(K)	(ft)
1	36	64.55	6.00	8.58	2.58	6.46	9.98	1.55	10.13	0.000	62.721	7.00	9.58	2.58**	6.46	9.99	1.55	11.13	0.000	0.000	n/a	0.15	n/a
2	36	63.69	7.10	9.58	2.48	6.24	10.21	1.53	11.10	0.000	137.000	9.20	11.76	2.56**	6.43	9.90	1.53	13.29	0.000	0.000	n/a	1.00	1.53
3	36	62.81	9.70	11.77	0.00	0.00	12.16	0.00	11.77	0.000	62.000	11.15	13.71	0.00**	0.00	9.86	0.00	13.71	0.000	0.000	0.000	0.15	n/a
4	36	61.07	11.25	13.71	0.00	0.00	9.91	0.00	13.71	0.000	220.000	15.10	17.62	0.00**	0.00	9.67	0.00	17.62	0.000	0.000	0.000	0.15	n/a
5	36	61.31	15.25	17.62	0.00	0.00	10.26	0.00	17.62	0.000	110.000	16.55	19.08	0.00**	0.00	9.69	0.00	19.08	0.000	0.000	0.000	1.00	n/a
6	36	55.49	16.50	19.08	0.00	0.00	8.66	0.00	19.08	0.000	115.519	17.60	20.02	0.00**	0.00	9.15	0.00	20.02	0.000	0.000	0.000	0.15	n/a
7	30	54.51	17.50	20.02	0.00	0.00	11.20	0.00	20.02	0.000	142.348	18.80	22.21	0.00**	0.00	11.20	0.00	22.21	0.000	0.000	0.000	0.93	n/a
8	30	41.34	18.90	24.02	0.00	0.00	8.49	0.00	24.02	0.000	202.472	19.92	25.80	0.00**	0.00	8.49	0.00	25.80	0.000	0.000	0.000	0.15	n/a
9	30	41.50	20.22	25.97	0.00	0.00	8.52	0.00	25.97	0.000	97.277	20.60	26.83	0.00**	0.00	8.52	0.00	26.83	0.000	0.000	0.000	0.82	n/a
10	30	22.70	20.60	27.76	0.00	0.00	4.66	0.00	27.76	0.000	58.878	21.00	27.91	0.00**	0.00	4.66	0.00	27.91	0.000	0.000	0.000	0.61	n/a
11	24	21.07	22.00	28.12	0.00	0.00	6.75	0.00	28.12	0.000	118.997	22.65	29.01	0.00**	0.00	6.75	0.00	29.01	0.000	0.000	0.000	0.15	n/a
12	24	18.54	24.00	29.12	0.00	0.00	5.94	0.00	29.12	0.000	121.579	25.40	29.82	0.00**	0.00	5.94	0.00	29.82	0.000	0.000	0.000	0.15	n/a
13	18	16.45	25.50	29.90	0.00	0.00	9.36	0.00	29.90	0.000	260.603	36.50	37.93	0.00**	0.00	9.51	0.00	37.93	0.000	0.000	0.000	0.27	n/a
14	18	16.49	36.60	38.10	0.00*	0.00	9.38	0.00	38.10	0.000	60.445	36.90	39.38	0.00**	0.00	9.38	0.00	39.38	0.000	0.000	0.000	0.27	n/a
15	18	12.30	37.00	39.75	0.00	0.00	6.99	0.00	39.75	0.000	213.483	40.10	42.27	0.00**	0.00	6.99	0.00	42.27	0.000	0.000	0.000	0.15	n/a
16	18	12.48	40.20	42.39	0.00	0.00	7.09	0.00	42.39	0.000	302.814	43.50	46.06	0.00**	0.00	7.09	0.00	46.06	0.000	0.000	0.000	0.15	n/a
17	18	10.77	43.60	46.18	0.00	0.00	6.12	0.00	46.18	0.000	183.014	44.90	47.84	0.00**	0.00	6.12	0.00	47.84	0.000	0.000	0.000	1.00	n/a
18	15	10.78	45.20	48.42	0.00	0.00	8.82	0.00	48.42	0.000	26.110	46.49	49.04	0.00**	0.00	8.82	0.00	49.04	0.000	0.000	0.000	0.15	n/a
19	15	9.02	46.74	49.23	0.00	0.00	7.38	0.00	49.23	0.000	234.645	58.10	59.26	0.00**	0.00	7.64	0.00	59.26	0.000	0.000	0.000	0.15	n/a
20	15	6.63	58.50	59.26	0.00	0.00	8.54	0.00	59.26	0.000	105.789	61.00	62.04	0.00**	0.00	6.11	0.00	62.04	0.000	0.000	0.000	0.68	n/a
21	15	6.70	61.10	62.04	0.00	0.00	6.80	0.00	62.04	0.000	182.556	64.60	65.64	0.00**	0.00	6.14	0.00	65.64	0.000	0.000	0.000	1.00	n/a
22	24	22.63	26.20	27.76	0.00	0.00	8.72	0.00	27.76	0.000	40.541	27.00	28.70	0.00**	0.00	8.03	0.00	28.70	0.000	0.000	0.000	0.55	n/a

Project File: 16537 Alternate B2 2020-05-05.stm | Number of lines: 48 | Run Date: 5/6/2020

Notes: * Normal depth assumed; ** Critical depth. ; c = cir e = ellip b = box

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
			Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf		Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf	Ave Sf	Enrgy loss		
	(in)	(cfs)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(%)	(ft)	(K)	(ft)
23	24	22.38	27.10	28.70	0.00	0.00	8.36	0.00	28.70	0.000	246.299	31.37	33.06	0.00**	0.00	7.96	0.00	33.06	0.000	0.000	0.000	0.94	n/a
24	15	6.23	31.96	33.06	0.00	0.00	5.48	0.00	33.06	0.000	36.235	33.03	34.04	0.00**	0.00	5.90	0.00	34.04	0.000	0.000	0.000	0.84	n/a
25	15	6.24	33.23	34.48	0.00*	0.00	5.12	0.00	34.48	0.000	34.722	33.40	34.76	0.00**	0.00	5.12	0.00	34.76	0.000	0.000	0.000	0.99	n/a
26	15	5.69	33.40	35.16	0.00	0.00	4.67	0.00	35.16	0.000	167.956	34.35	36.29	0.00**	0.00	4.67	0.00	36.29	0.000	0.000	0.000	0.15	n/a
27	12	5.79	36.50	37.20	0.00	0.00	9.86	0.00	37.20	0.000	283.667	45.60	46.55	0.00**	0.00	7.54	0.00	46.55	0.000	0.000	0.000	0.15	n/a
28	12	5.89	48.50	49.16	0.00	0.00	10.67	0.00	49.16	0.000	297.722	60.00	60.95	0.00**	0.00	7.64	0.00	60.95	0.000	0.000	0.000	1.00	n/a
29	18	17.60	31.47	33.06	0.00	0.00	9.98	0.00	33.06	0.000	42.586	32.10	34.08	0.00**	0.00	9.98	0.00	34.08	0.000	0.000	0.000	0.15	n/a
30	18	17.18	32.54	34.32	0.00	0.00	9.74	0.00	34.32	0.000	131.000	38.00	39.44	0.00**	0.00	9.86	0.00	39.44	0.000	0.000	0.000	0.15	n/a
31	18	17.26	40.45	41.26	0.00	0.00	17.72	0.00	41.26	0.000	87.000	46.64	48.08	0.00**	0.00	9.89	0.00	48.08	0.000	0.000	0.000	0.15	n/a
32	15	17.28	46.99	48.08	0.00	0.00	15.19	0.00	48.08	0.000	33.498	49.10	50.34	0.00**	0.00	14.09	0.00	50.34	0.000	0.000	0.000	0.92	n/a
33	15	11.46	49.10	50.34	0.00	0.00	9.35	0.00	50.34	0.000	37.168	50.50	51.71	0.00**	0.00	9.43	0.00	51.71	0.000	0.000	0.000	1.00	n/a
34	12	0.91	33.40	35.16	0.00	0.00	1.16	0.00	35.16	0.000	18.321	33.80	35.17	0.00**	0.00	1.16	0.00	35.17	0.000	0.000	0.000	1.00	n/a
35	24	15.82	19.20	24.02	0.00	0.00	5.08	0.00	24.02	0.000	36.930	19.50	24.18	0.00**	0.00	5.08	0.00	24.18	0.000	0.000	0.000	0.53	n/a
36	24	13.58	20.10	24.39	0.00	0.00	4.35	0.00	24.39	0.000	230.564	21.75	25.11	0.00**	0.00	4.35	0.00	25.11	0.000	0.000	0.000	0.15	n/a
37	18	10.99	21.90	25.15	0.00	0.00	6.26	0.00	25.15	0.000	289.775	24.70	27.89	0.00**	0.00	6.26	0.00	27.89	0.000	0.000	0.000	0.15	n/a
38	18	9.86	25.20	27.98	0.00	0.00	5.61	0.00	27.98	0.000	207.910	26.80	29.56	0.00**	0.00	5.61	0.00	29.56	0.000	0.000	0.000	0.15	n/a
39	15	4.94	27.30	29.63	0.00	0.00	4.03	0.00	29.63	0.000	294.885	32.50	33.40	0.00**	0.00	5.22	0.00	33.40	0.000	0.000	0.000	0.15	n/a
40	12	5.00	32.75	33.75	0.00*	0.00	6.37	0.00	33.75	0.000	176.592	33.80	36.72	0.00**	0.00	6.37	0.00	36.72	0.000	0.000	0.000	0.15	n/a
41	12	3.18	33.90	36.81	0.00	0.00	4.05	0.00	36.81	0.000	69.978	35.20	37.29	0.00**	0.00	4.05	0.00	37.29	0.000	0.000	0.000	0.29	n/a
42	12	3.20	35.30	37.36	0.00	0.00	4.08	0.00	37.36	0.000	69.347	37.00	37.77	0.00**	0.00	4.95	0.00	37.77	0.000	0.000	0.000	1.00	n/a
43	18	8.00	16.60	19.08	0.00	0.00	4.55	0.00	19.08	0.000	33.145	16.84	19.24	0.00**	0.00	4.55	0.00	19.24	0.000	0.000	0.000	0.15	n/a
44	15	5.94	17.09	19.29	0.00	0.00	4.86	0.00	19.29	0.000	266.154	18.30	21.23	0.00**	0.00	4.86	0.00	21.23	0.000	0.000	0.000	0.15	n/a

Project File: 16537 Alternate B2 2020-05-05.stm | Number of lines: 48 | Run Date: 5/6/2020

Notes: * Normal depth assumed; ** Critical depth. ; c = cir e = ellip b = box

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
			Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf		Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf	Ave Sf	Enrgy loss		
	(in)	(cfs)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(%)	(ft)	(K)	(ft)
45	15	4.57	18.55	21.28	0.00	0.00	3.73	0.00	21.28	0.000	248.146	21.20	22.27	0.00**	0.00	4.11	0.00	22.27	0.000	0.000	0.000	0.15	n/a
46	12	3.81	21.45	22.30	0.00	0.00	5.34	0.00	22.30	0.000	163.748	23.30	24.13	0.00**	0.00	5.48	0.00	24.13	0.000	0.000	0.000	0.15	n/a
47	12	3.87	23.40	24.21	0.00	0.00	5.68	0.00	24.21	0.000	253.013	26.00	26.84	0.00**	0.00	5.53	0.00	26.84	0.000	0.000	0.000	1.00	n/a
48	12	1.38	11.20	11.77	0.00	0.00	2.99	0.00	11.77	0.000	11.679	14.42	14.92	0.00**	0.00	3.55	0.00	14.92	0.000	0.000	0.000	1.00	n/a

Project File: 16537 Alternate B2 2020-05-05.stm | Number of lines: 48 | Run Date: 5/6/2020

Notes: * Normal depth assumed; ** Critical depth. ; c = cir e = ellip b = box

City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**SEWER LINING**		
Department	Water Resource Protection	**Dept. Priority**	10
Division	Collections Systems	**Div. Priority**	10
CIP Category	Environmental Protection		

Purchase/Project Description

The 2018 video for line segment **1C_2-1C_1** clearly indicates it is collapsing at two locations. It is also only 7' away from the face of a building, which would make excavation and replacement very challenging. Therefore, this project is an excellent candidate for a "trenchless technology" utilizing a liner to reinforce and effectively replace the existing deteriorating sewer line. This "pipe within a pipe" approach has been used successfully for decades to minimize the disruption created by traditional excavation and replacement projects.

The video for line segment **4A_68D-4A_68C** clearly indicates significant cracking and potential risk of collapse. Because it is a cross country line in a difficult area to access with construction equipment, this project is an excellent candidate for a "trenchless technology" utilizing a liner to reinforce and effectively replace the existing deteriorating sewer line. This "pipe within a pipe" approach has been used successfully for decades to minimize the disruption created by traditional excavation and replacement projects.

The video for line segment **6A_5A-6A_5** clearly indicates the pipe is in poor condition with significant cracking and potential risk of collapse. Because it is located across several residential properties and traditional construction methods would be highly disruptive, this project is an excellent candidate for a "trenchless technology" utilizng a liner to reinforce and effectively replace the existing deteriorating sewer line. This "pipe within a pipe" approach has been used successfully for decades to minimize the disruption created by traditional excavation and replacement projects.

The video for line segment **1C_17-1C_18** clearly indicates the pipe is in poor condition with significant cracking and potential risk of collapse. Because it is located in a densely developed residential area and traditional construction methods would be highly disruptive, this project is an excellent candidate for a "trenchless technology" utilizing a liner to reinforce and effectively replace the existing deteriorating sewer line. This "pipe within a pipe" approach has been used successfully for decades to minimize the disruption created by traditional excavation and replacement projects.

Financial Impact of this Purchase/Project

Source of Cost Estimate from a contractor. 10% Contingency and 20% Engineering added to the contractor's cost estimate.

Environmental Considerations

The proper functioning of the City's sewer system is essential in ensuring compliance with state and federal water quality regulations. Additionally, the relationship between minimizing infiltration and/or exfiltration for the City's sewers is critically important for our stormwater system to maintain the capacity and resilience needed to be adequately prepared for rising sea levels in intensifying storm surges.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus	$ 200,000.00	$ 200,000.00					$ 200,000.00	$ 200,000.00
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 200,000.00**	**$ 200,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 200,000.00**	**$ 200,000.00**

Source of Cost Estimate	Vortex Services - Northeast				
Est. Annual Operating Costs	$ -	**Projected Useful Life**	75	**Additional Documentation?**	No
City Manager Comments					

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**ELECTRICAL VAN**		
Department	Water Resource Protection	**Dept. Priority**	11
Division	Treatment Systems	**Div. Priority**	11
CIP Category	Environmental Protection		

Purchase/Project Description

This Capital Improvement request is for the purchase of a utility/maintenance van for the department's Maintenance System Division. This item will replace two 2006 ¾ ton cargo vans with a single more economical option.

The van will be used to transport tools, equipment and staff to the city's 28 wastewater-pumping stations. This vehicle will respond to equipment failures within these critical systems and will be outfitted with many of the necessary replacement mechanical and electrical components needed to ensure 24hr operational capabilities.

The estimated cost of the vehicle is $52,141.00 and was obtained from a truck dealership.

Financial Impact of this Purchase/Project

Source of Cost Estimate from a contractor. 10% Contingency and 20% Engineering added to the contractor's cost estimate.

Environmental Considerations

The proper and continuous functioning of the city's wastewater pumping stations are mandatory to maintain regulatory compliance with state and federal water quality protection requirements. The maintenance van is an essential component in ensuring these systems operate effectively and efficiently in perpetuity. In keeping with the city's climate action goals, the replacement of two vans with a single van also reduces the maintenance division's overall carbon footprint. Finally, the new van is equipped with the latest emissions control technology.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus	$ 45,141.00	$ 52,141.00					$ 45,141.00	$ 52,141.00
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In	$ 7,000.00						$ 7,000.00	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 52,141.00**	**$ 52,141.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 52,141.00**	**$ 52,141.00**

Source of Cost Estimate	Yankee Ford				
Est. Annual Operating Costs	$ 743.00	**Projected Useful Life**	10	**Additional Documentation?**	Yes
City Manager Comments					

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Weeks,Brad

From: Thomes,David
Sent: Thursday, January 21, 2021 12:49 PM
To: Weeks,Brad
Subject: add this to the 148" WB High Top ford transit CIP request (electrical van)
Attachments: Est_2157_from_Messer_Truck_Equipment_3864.pdf

Brad, add this please

So the new request will be:
Truck $52,141.00
Shelving and latter rack $7391.00
Total: $59,532.00
Less trade $ 7,000.00
Net: $52,532.00

Dave Thomes
Collection Systems Division Manager
Department of Water Resource Protection
City of South Portland
Office 207-767-7680
Fax 207-767-5697
dthomes@southportland.org

Yankee Ford Sales
165 Waterman Drive
South Portland, ME 04106
Phone: (207)799-5591
Fax: (207)799-9412

Attention: David Thomes

Water Resource Protection

2021 Budget quote for a 2021 Transit 350 high roof van with AWD and a 148" wheelbase.

Quote: $52,141.00

Scott Bonney
Fleet manager
Yankee Ford Sales
scott@yankeeford.com
(207)799-5591

MAJOR PRODUCT CHANGES

OVERVIEW

The Transit Connect lineup consists of 16 Body Codes that offer various side and rear-door glass configurations, as well as multiple seating options that enable owners to customize the Transit Connect to meet their specific business and/or personal-use needs. With two powertrain choices; class-exclusive driver-assist features; enhanced interior comfort and convenience, and a stylish appearance, the 2021MY Transit Connect will continue to dominate the compact van segment. To learn more about the features on this vehicle, go to www.fordesourcebook.com.

EXTERIOR

— Kapoor Red (AW) and Diffused Silver (FK) exterior paint colors have been deleted
— Sedona Orange (BP) and Solar Silver (HE) exterior paint colors have been added

INTERIOR/COMFORT

— No changes

DRIVER ASSIST

— Lane Keeping System (53C) has been removed, features of this package are now included with Adaptive Cruise Control (526)

FUNCTIONAL

— The 2.5L Gas Engine and 6-Speed Transmission (997/446) with the CNG/LPG Engine Prep Package (98G) are now optional

SAFETY & SECURITY

— No changes

PACKAGES/OPTIONS DELETED

— Deleted Taxi Package (86T)

LATEST ORDER GUIDE UPDATES

— Lane-Keeping Aid (previously Lane-Keeping Assist) remains standard on XLT and Titanium and is now reflected on the Major Product Summary page
— Ford Telematics™and Data Services Prep available to fleets with the standard FordPass™ Connect / Telematics Modem
— Kapoor Red (AW) and Diffused Silver (FK) exterior paint colors have been deleted
— Sedona Orange (BP) and Solar Silver (HE) exterior paint colors have been added
— Dark Blue (UV) exterior paint color is now restricted to XL trim level on Cargo Van and Passenger Wagon

Product Changes and Features Availability

Features, options and package content subject to change. Please check www.fmcdealer.com for the most current information.

★ = New for this model year

MAJOR PRODUCT SUMMARY

AVAILABLE CONFIGURATIONS

Body Code	Body Style	Series	Wheelbase	Wheelbase Length (in)	Side Doors	Second Row Side Door Glass	Third Row/Rear Side Glass	Rear Doors	Rear Door Glass	Seating
Transit Connect Cargo Van										
S5E	VAN	XL	SHORT	104.8	DUAL SLIDING	Optional (fixed)	n/a	50/50 180° Swing-Out Cargo Doors	Optional (fixed)	2
S7E	VAN	XL	LONG	120.6	DUAL SLIDING	Optional (fixed)	n/a	50/50 180° Swing-Out Cargo Doors	Optional (fixed)	2
S5F	VAN	XLT	SHORT	104.8	DUAL SLIDING	Optional (fixed)	n/a	50/50 180° Swing-Out Cargo Doors	Optional (fixed)	2
S7F	VAN	XLT	LONG	120.6	DUAL SLIDING	Optional (fixed)	n/a	50/50 180° Swing-Out Cargo Doors	Optional (fixed)	2
E5E	VAN	XL	SHORT	104.8	DUAL SLIDING	Optional (fixed)	n/a	Liftgate	Standard (fixed)	2
E7E	VAN	XL	LONG	120.6	DUAL SLIDING	Optional (fixed)	n/a	Liftgate	Standard (fixed)	2
E5F	VAN	XLT	SHORT	104.8	DUAL SLIDING	Optional (fixed)	n/a	Liftgate	Standard (fixed)	2
E7F	VAN	XLT	LONG	120.6	DUAL SLIDING	Optional (fixed)	n/a	Liftgate	Standard (fixed)	2
Transit Connect Passenger Wagon										
S9E	WAGON	XL	LONG	120.6	DUAL SLIDING	Standard (power)	Standard (fixed)	50/50 180° Swing-Out Cargo Doors	Standard (fixed)	up to 7
S9F	WAGON	XLT	LONG	120.6	DUAL SLIDING	Standard (power)	Standard (fixed)	50/50 180° Swing-Out Cargo Doors	Standard (fixed)	up to 7
E9E	WAGON	XL	LONG	120.6	DUAL SLIDING	Standard (power)	Standard (fixed)	Liftgate	Standard (fixed)	up to 7
E9F	WAGON	XLT	LONG	120.6	DUAL SLIDING	Standard (power)	Standard (fixed)	Liftgate	Standard (fixed)	up to 7
E9G	WAGON	TITANIUM	LONG	120.6	DUAL SLIDING	Standard (power)	Standard (fixed)	Liftgate	Standard (fixed)	up to 7

★ = New for this model year

MAJOR PRODUCT SUMMARY

The following equipment is standard as indicated. Each series includes the standard equipment of the previous series, except where additions/exceptions are noted:

XL Cargo Van

MECHANICAL/FUNCTIONAL
- Alternator – Standard Duty
- Battery – Heavy Duty
- Brakes – Power 4-Wheel Disc
- Engine – 2.0L GDI I-4 Gas
- Transmission – 8-Speed SelectShift® Automatic
- Drivetrain – Front Wheel Drive
- Fuel Tank – 15.8 Gal
- Steering – Electric Power-Assisted Steering (EPAS)
- Suspension – Macpherson Strut Independ. Front/Twist-Beam Rear

EXTERIOR
- Bodyside Moldings – Black, Molded-In Color (MIC)
- Front/ Rear Bumper – Black, MIC
- Grille – 3-Bar Black Grill with Black Surround
- Side & Rear Cargo Door Handles – Black, MIC
- Headlamps – Halogen
- Headlamp Bezel – Black, MIC
- Automatic Headlamps On/Off (XL only)
- Mirrors – Manual Adjust with Manual Fold, Black MIC
- Tires – 215/55 R16 97H XL All-Season
- Wheels – 16" Steel w/Full Covers

INTERIOR/COMFORT
- Air Conditioning – Front Manual Climate Control
- Audio:
  - AM/FM Radio with Bluetooth
  - FordPass™ Connect
  - 4.2" LCD Multi-Function Display (MFD) Screen
  - 1 USB Port
  - 4 Front Speakers
- Comfort/Convenience:
  - 4-Way Adjustable Deluxe Steering Column
  - 12V Powerpoint in Center Console
  - 2 Front Cupholders
  - Front Row Full-Width Overhead Storage Shelf with Front Grab Handles
  - Front Dome Light
  - Rear Cargo Area Light
- Cargo Tie Down Hooks
- Floor Cover – Vinyl
- Seating:
  - 6-Way Manual Driver Seat (fore/aft, up/down, recline)
  - 4-Way Manual Passenger Seat (fore/aft, recline) with Fold-Flat Back
  - Vinyl Seating Surfaces
- Power Front-Row Windows

SAFETY/SECURITY
- First-Row Safety Canopy® Side-Curtain Airbags
- Driver & Passenger Front Airbags
- Driver & Passenger Side Airbags
- Seatbelt Minder
- Power Central Single Door-Locks w/One-Step Unlock
- Remote Keyless-Entry with 2 Key Fobs
- SecuriLock® Passive Anti-Theft System (PATS)
- Tire Pressure Monitoring System (TPMS)

DRIVER-ASSIST
- Auto Start/Stop Technology
- EcoMode
- EcoCoach
- Hill Start Assist
- Side Wind Stabilization
- Pre-Collision Assist with Automatic Emergency Braking (AEB)
  - Pedestrian Detection
  - Forward Collision Warning
  - Dynamic Brake Support
- Rear View Camera

XLT Cargo Van

Includes all XL content, plus:

EXTERIOR
- Front Bumper – Body Color, Painted
- Rear Bumper End Caps – Body Color, Painted
- Fog Lamps – Halogen
- Mirrors – Power Adjust, PowerFold®, Heated Exterior Mirrors – Black, MIC
- XLT Badge

INTERIOR
- Audio:
  - SYNC® 3 (Less NAV)
  - 6.5" Touch Screen
  - SiriusXM® Satellite Radio
- Comfort/Convenience:
  - Premium Front Center Closed Console
  - 4-Spoke Steering Wheel with Satin Chrome Shells
  - Satin Chrome Front-Door Inner Release Handles
  - Driver Sunvisor with Vanity Mirror and Ticket Strap
  - Passenger Visor with Vanity Mirror
  - Dual Front Map Lights
  - Wireless Charging
  - 2 Smart-Charging USB Ports
- Seating:
  - 6-Way Manual Driver Seat (fore/aft, up/down, recline) with Manual Lumbar
  - Cloth Seating Surfaces
- Floor Cover – Carpeted
- Front Carpeted Floor Mats

DRIVER-ASSIST
- Cruise Control
- MyKey®

Ford Co-Pilot360™
- BLIS (Blind Spot Information System with Cross-Traffic Alert)
- Lane Keeping Aid
- Pre-Collision Assist with Automatic Emergency Braking (AEB)
  - Pedestrian Detection
  - Forward Collision Warning
  - Dynamic Brake Support
- Rear View Camera
- Auto High Lamps

XL Passenger Wagon

MECHANICAL/FUNCTIONAL
- Alternator – Heavy Duty
- Battery – Heavy Duty
- Brakes – Power 4-Wheel Disc
- Engine – 2.0L GDI I-4 Gas
- Transmission – 8-Speed SelectShift® Automatic
- Drivetrain – Front Wheel Drive
- Fuel Tank – 15.8 Gal
- Steering – Electric Power-Assisted Steering (EPAS)
- Suspension – Macpherson Strut Independ. Front/Twist-Beam Rear

EXTERIOR
- Bodyside Moldings – Black, MIC
- Front/Rear Bumper – Black, MIC
- Grille – 3-Bar Black Grill with Black Surround
- Headlamps – Halogen
- Headlamp Bezel – Black, MIC
- Automatic Headlamps On/Off (XL only)
- Rain-Sensing Front Wipers
- Mirrors – Manual Adjust with Manual Fold, Black MIC
- Side & Rear Cargo Door Handles
- Tires – 215/55 R16 97H XL A/S
- Wheels – 16" Steel w/Full Covers

INTERIOR/COMFORT
- Air Conditioning – Front and Rear Seat Manual Climate Control
- Audio:
  - AM/FM Radio with Bluetooth
  - FordPass™ Connect
  - 4.2" LCD MFD Screen
  - 4 Front/2 Rear Speakers
- Comfort/Convenience:
  - 4-Spoke Steering Wheel with Satin Chrome Shells
  - 4-Way Adjust. Steering Column
  - Premium Front Center Closed Console w/12V Powerpoint
  - 12V ppt. in Rear Cargo Area
  - 6 Cupholders (2 Front/4 Rear)
  - Front Row Full-Width Overhead Storage Shelf w/Grab Handles
- Dual Front Map Lights
- Floor Cover – Carpeted (6-Passenger)
- Seating:
  - 6-Way Manual Driver Seat (fore/aft, up/down, recline) with Manual Lumbar, plus Rear Map Pocket
  - 4-Way Manual Passenger Seat (fore/aft, recline) with Fold-Flat Back
  - Second and Third-Row Fold-Flat Bucket Seats
  - Cloth Seating Surfaces
- Power Driver's Window with One-Touch Up/Down
- Power Second-Row Windows
- Rear-Window Defroster

SAFETY/SECURITY
- First-Row Safety Canopy® Side-Curtain Airbags
- Driver & Passenger Front Airbags
- Driver & Passenger Side Airbags
- Seatbelt Minder (front row only)
- Power Central Single Door-Locks w/One-Step Unlock
- Remote Keyless-Entry/2 Key Fobs SecuriLock® Passive Anti-Theft System (PATS)
- Tire Pressure Monitoring System

DRIVER-ASSIST
- Auto Start/Stop Technology
- Cruise Control
- EcoMode and EcoCoach
- Hill Start Assist
- Side Wind Stabilization
- Pre-Collision Assist with Automatic Emergency Braking (AEB)
  - Pedestrian Detection
  - Forward Collision Warning
  - Dynamic Brake Support
- Rear View Camera
- Reverse Sensing System

XLT Passenger Wagon

Includes all XL content, plus:

EXTERIOR
- Front Bumper – Body-Color, Painted
- Rear Bumper and End Caps – Body-Color, Painted
- Bodyside Moldings – Body-Color, Painted
- Grille – 5-Bar Black Grill with Chrome Surround
- Side & Rear Cargo Door Handles – Body-Color, Painted
- Fog Lamps – Halogen
- Mirrors – Power Adjust, PowerFold®, Heated Exterior Mirrors – Black, MIC
- XLT Badge

INTERIOR/COMFORT
- Air Conditioning – Dual-Zone Electronic Auto Temperature Control
- Manual Rear Seat Climate Controls (LWB only)
- Audio:
  - SYNC® 3 (less NAV) – includes AM/FM Radio, SiriusXM® Satellite Radio
  - 6.5" LCD Touch Screen
  - 2 Smart-Charging USB Ports
- Comfort/Convenience:
  - Satin Chrome Front-Door Inner Release Handles
  - 6 Cupholders on LWB
  - Auto-Dimming Rear View Mirror
  - Child Observation Mirror
  - Driver Sunvisor with Vanity Mirror and Ticket Strap
  - Passenger Sunvisor with Vanity Mirror
  - Sunglass Holder
  - Wireless Charging
- Front/Rear Carpeted Floor Mats
- Seating:
  - 6-Way Power Driver Seat (fore/aft, up/down, recline) with Manual Lumbar, plus Rear Map Pocket
  - 4-Way Manual Passenger Seat (fore/aft, recline) with Manual Lumbar (non-folding back), plus Rear Map Pocket
  - Cloth Seating Surfaces
- Power Front-Row Windows with One-Touch Up/Down
- Power Second-Row Windows with One-Touch Up/Down

DRIVER-ASSIST
- MyKey®

Ford Co-Pilot360™
- BLIS (Blind Spot Information System with Cross-Traffic Alert)
- Lane Keeping Aid
- Pre-Collision Assist with Automatic Emergency Braking (AEB)
  - Pedestrian Detection
  - Forward Collision Warning
  - Dynamic Brake Support
- Rear View Camera
- Auto High Lamps

Titanium Passenger Wagon

Includes all XLT content, plus:

MECHANICAL/FUNCTIONAL
- Passive Entry/Passive Start (includes Push Button Start/Stop)

EXTERIOR
- Headlamps – HID (High Intensity Discharge)
- Headlamp Bezel – Chrome
- Fog Lamps – LED
- Mirrors – Power Adjust, PowerFold®, Heated Exterior Mirrors – Body-Color, Painted
- Titanium Badge
- Wheels – 16" Premium Aluminum

INTERIOR
- Audio:
  - SYNC® 3 (with NAV, plus HD Radio™)
  - 9-Speaker Premium Audio
- Comfort/Convenience:
  - Leather Gearshift Knob
  - Vinyl Soft Door Armrest
  - Locking and Illuminated Glovebox
- Seating:
  - 6-Way Power Heated Driver Seat (fore/aft, up/down, recline) with Manual Lumbar, plus Rear Map Pocket
  - 4-Way Manual Heated Passenger Seat (fore/aft, recline) with Manual Lumbar (non-folding back), plus Rear Map Pocket
  - Leather Seating Surfaces

Please see Standard Equipment pages for more details.

Product Features Availability

Features, options and package content subject to change.

★ = New for this model year

STANDARD EQUIPMENT

The following features are standard on select 2021MY TRANSIT CONNECT vehicles:

MECHANICAL/FUNCTIONAL	XL Cargo Van SWB	XL Cargo Van LWB	XLT Cargo Van SWB	XLT Cargo Van LWB	XL Passenger Wagon LWB	XLT Passenger Wagon LWB	Titanium Passenger Wagon LWB
Ford Co-Pilot 360™							
BLIS® (Blind Spot Information System) with Cross-Traffic Alert	—	—	•	•	—	•	•
Pre-Collision Assist with Automatic Emergency Braking (AEB) – Pedestrian Detection – Forward Collision Warning – Dynamic Brake Support	•	•	•	•	•	•	•
Rear View Camera	•	•	•	•	•	•	•
Auto High-Beam Headlamps	—	—	•	•	—	•	•
Alternator							
Standard Alternator (150-amp)	•	•	•	•	—	—	—
Heavy Duty Alternator [2.0LGas (220-amp)]	—	—	—	—	•	•	•
Battery							
Heavy Duty Battery – 80-amp/800-CCA	•	•	•	•	•	•	•
Brakes							
Power Four-Wheel Disc Brakes	•	•	•	•	•	•	•
ABS (Anti-Lock Brakes) with: ESC (Electronic Stability Control) RSC® (Roll Stability Control) Traction Control Side Wind Stabilization	•	•	•	•	•	•	•
Hill Start Assist	•	•	•	•	•	•	•
Drivetrain							
Front-Wheel Drive (FWD) – LH	•	•	•	•	•	•	•
Engine							
2.0L GDI I-4 Gas	•	•	•	•	•	•	•
Auto Start/Stop Technology (2.0L Gas)	•	•	•	•	•	•	•
EcoMode (2.0L Gas)	•	•	•	•	•	•	•
Fuel Tank							
15.8 Gal (60.0L)	•	•	•	•	•	•	•
Easy Fuel® Capless Fuel-Filler (with fill door cover and misfuel inhibitor)	•	•	•	•	•	•	•
Parking Aid							
Reverse Sensing System	—	—	—	—	•	•	•
Steering							
Electric Power-Assisted Steering (EPAS)	•	•	•	•	•	•	•
Cruise Control	—	—	•	•	•	•	•
Suspension							
MacPherson Strut Independent Front Suspension	•	•	•	•	•	•	•
Twist-Beam Rear Suspension	•	•	•	•	•	•	•
Transmission							
8-Speed SelectShift® Automatic (2.0L Gas)	•	•	•	•	•	•	•
Tires							
215/55 R16 97H XL All-Season Tires	•	•	•	•	•	•	•
Full-Size Spare Tire	•	•	•	•	•	•	•
Tire Pressure Monitoring System (TPMS)	•	•	•	•	•	•	•
Wheels							
16" Sparkle Silver-Painted Steel Wheels with Full Wheel Covers (non-locking lugs)	•	•	•	•	•	•	—
16" Five-Spoke Premium Dark Stainless-Painted Aluminum-Alloy Wheels (non-locking lugs)	—	—	—	—	—	—	•
KEY EXTERIOR FEATURES							
Badging							
XLT Badge	—	—	•	•	—	•	—
Titanium Badge	—	—	—	—	—	—	•
Body Side Moldings							
Body Side Moldings – Black, Molded-In Color	•	•	•	•	•	—	—
Body Side Moldings – Body Color, Painted	—	—	—	—	—	•	•
Bumper – Front							
Front Bumper – Black, Molded-In Color	•	•	—	—	•	—	—
Front Bumper – Body Color, Painted	—	—	•	•	—	•	—
Front Bumper – Chrome	—	—	—	—	—	—	•
Bumper – Rear							
Rear Bumper – Black, Molded-In Color	•	•	•	•	•	—	—
Rear Bumper End Caps – Black, Molded-In Color	•	•	—	—	•	—	—
Rear Bumper – Body Color, Painted	—	—	—	—	—	•	•
Rear Bumper End Caps – Body Color, Painted	—	—	•	•	—	•	•
Rear Bumper Molding – Chrome	—	—	—	—	—	—	•
Grilles							
3-Bar Black Grille with Black Surround	•	•	•	•	•	—	—
5-Bar Black Grille with Chrome Surround	—	—	—	—	—	•	•
Doors – Side							
Dual Sliding Side Doors – No Glass	•	•	•	•	—	—	—
Dual Sliding Side Doors with Power Windows	—	—	—	—	•	—	—
Dual Sliding Side Doors with One-Touch Up/Down Power Windows	—	—	—	—	—	•	•
Doors – Rear							
180° Swing-Out Rear Cargo Doors	•	•	•	•	—	—	—
Rear Liftgate with Fixed Glass	—	—	—	—	•	•	•

★ = New for this model year

• = Standard, I = Included

STANDARD EQUIPMENT

KEY EXTERIOR FEATURES (continued)	XL Cargo Van SWB	XL Cargo Van LWB	XLT Cargo Van SWB	XLT Cargo Van LWB	XL Passenger Wagon LWB	XLT Passenger Wagon LWB	Titanium Passenger Wagon LWB
Door Handles							
Side & Rear Door Handles – Black, Molded-In Color	•	•	•	•	•	—	—
Side & Rear Door Handles – Body-Color, Painted	—	—	—	—	—	•	•
Exterior Lighting							
Center High-Mounted Stop Lamp	•	•	•	•	•	•	•
Daytime Running Lamps – User Configurable	•	•	•	•	•	•	•
Headlamps – Halogen	•	•	•	•	•	•	—
Headlamps – HID (High Intensity Discharge)	—	—	—	—	—	—	•
Auto Headlamp (Auto On/Off) (Includes Wiper-Activated Headlamps and Follow-Me-Home Feature)	•	•	—	—	•	—	—
Front Fog Lamps – Halogen	—	—	•	•	—	•	—
Front Fog Lamps – LED	—	—	—	—	—	—	•
Exterior Mirrors							
Manual Adjust Exterior Mirrors w/Manual Fold – Black, Molded-In Color Skull Caps	•	•	—	—	•	—	—
Power Adjust, PowerFold®, Heated Exterior Mirrors – I: Included with BLIS (85D)	—/I	—/I	I	I	—/I	I	I
Integrated Spotter Mirrors	•	•	•	•	•	•	•
Windows and Glass							
Power Front-Row Windows with One-Touch Down on Driver's Side	•	•	—	—	•	—	—
Power Front-Row Windows with One-Touch Up/Down I*: Included with BLIS (85D)	—/I*	—/I*	•	•	—/I*	•	•
Power Second-Row Windows	—	—	—	—	•	—	—
Power Second-Row Windows with One-Touch Up/Down	—	—	—	—	—	•	•
Fixed Third-Row Side Glass	—	—	—	—	•	•	•
Fixed Rear Door Glass *Standard on E6* and E7* body styles I: Included with Rear Door Glass (55A)	•*/I	•*/I	•*/I	•*/I	•	•	•
Normal Tinted Glass (second-row/rearward) *Standard on E6* and E7* body styles I: Included with glass options 55A, 59C, 59D, 59F and 59G on S6E and S7E body styles	•*/I	•*/I	•*/I	•*/I	•	—	—
Privacy Glass Upgrade (from normal tinted glass/excludes front row)	—	—	—	—	—	•	•
Standard Windshield	•	•	•	•	•	—	—
Acoustic-Laminate Windshield	—	—	—	—	—	•	•
Wipers/Visibility							
Rain-Sensing Front Windshield Wipers I: Included in Auto High Lamps I: Included in Auto Headlamps (On/Off)	I	I	I	I	I	I	I
Rear Window Wipers I: Included on E6*/E7* body styles and S6*/S7* body styles ordered with Rear Door Glass (55A)	I	I	I	I	•	•	•
Rear Window Defroster	—	—	—	—	•	•	•
KEY INTERIOR FEATURES							
Air Conditioning/Heating							
Manual Front Air Conditioner/Heater	•	•	•	•	—	—	—
Dual-Zone Electronic Automatic Temperature Control	—	—	—	—	•	•	•
Rear Seat Climate Control – includes rear compartment A/C and heater with manual rear controls	—	—	—	—	•	•	•

★ = New for this model year

• = Standard I = Included

STANDARD EQUIPMENT

KEY INTERIOR FEATURES (continued)	XL Cargo Van SWB	XL Cargo Van LWB	XLT Cargo Van SWB	XLT Cargo Van LWB	XL Passenger Wagon LWB	XLT Passenger Wagon LWB	Titanium Passenger Wagon LWB
Audio/Connectivity							
FordPass™ Connect / Telematics Modem– Wi-Fi® hotspot connects up to 10 devices[1] – Remotely start, lock and unlock vehicle[2] – Schedule specific times to remotely start vehicle[2] – Locate parked vehicle[2] – Check vehicle status[2] Note: Ford Telematics™ and Data Services Prep included for Fleet ONLY. FordPass™ Connect 4G Wi-Fi Modem provides data to support telematics and data services including but not limited to vehicle location, speed, idle time, fuel, vehicle diagnostics and maintenance alerts. Device enables telematics services through Ford or authorized providers. Activate at www.FleetAccount.ford.com or call 833-FCS-Ford (833-327-3673).	•	•	•	•	•	•	•
AM/FM Radio with Bluetooth and 4.2" LCD Multi-Function Display Screen, plus 1 USB Port	•	•	—	—	•	—	—
SYNC® 3 with 6.5" LCD Touch Screen – includes AM/FM stereo receiver, SiriusXM® Satellite Radio, 911 Assist®, Applink®, Apple CarPlay™ compatibility and Android Auto™ compatibility, plus 2 Smart-Charging USB Ports	—	—	•	•	—	•	—
SYNC® 3 with 6.5" LCD Touch Screen (with Navigation) – includes AM/FM stereo receiver with SiriusXM® Satellite Radio, HD Radio™, 911 Assist®, Applink®, Apple CarPlay™ compatibility and Android Auto™ compatibility, plus 2 Smart-Charging USB Ports	—	—	—	—	—	—	•
4 Front Speakers (2 Front Door Speakers and 2 A-Pillar Tweeters)	•	•	•	•	—	—	—
4-Speaker System (2 Front Door and 2 Rear Door Speakers)	—	—	—	—	•	—	—
6-Speaker System (4 Front Speakers and 2 Rear Door Speakers) I: Included with SYNC 3 (58Z)	—	—	—	—	I	•	—
9-Speaker Premium Audio I: Included with SYNC 3 (58Y)	—	—	—	—	I	I	•
Cargo Area							
Cargo Tie-Down Hooks (floor-mounted)	•	•	•	•	—	—	—
Rear Coat Hooks	—	—	—	—	•	•	•
Door – Trim							
Front-Door Inner Release Handles – Black, Molded-In Color	•	•	—	—	•	—	—
Front-Door Inner Release Handles – Satin Chrome	—	—	•	•	—	•	•
Fabric Soft Door Armrest	•	•	•	•	•	•	—
Vinyl Soft Door Armrest	—	—	—	—	—	—	•
Floor Covering							
Front Floor Cover – Vinyl	•	•	—	—	—	—	—
Front and Second-Row Floor Cover – Vinyl Standard with 2nd Row 3-Passenger 60/40 Bench Seat (21M)	—	—	—	—	•	—	—
Front Floor Cover – Carpeted	—	—	•	•	—	—	—
Front and Second-Row Floor Cover – Carpeted Included with standard 2nd Row Bucket Seats	—	—	—	—	•	•	•
Rear Cargo Floor Cover – Vinyl	•	•	•	•	—	—	—
Third-Row and Rear Cargo Area Floor Cover – Vinyl Standard with 2nd Row 3-Passenger 60/40 Bench Seat (21M)	—	—	—	—	•	—	—
Third-Row and Rear Cargo Area Floor Cover – Carpeted Included with standard 2nd Row Bucket Seats *Included with fleet option 47H on XL LWB Wagons	—	—	—	—	•*	•	•
Front Driver & Passenger Carpeted Floor Mats (2 piece kit)	—	—	•	•	—	•	•
Rear Carpeted Floor Mats (2 piece kit)	—	—	—	—	—	•	•
Foot Rest	•	•	•	•	•	•	•
Gearshift							
Leather Gearshift Knob I: Included with LK Trim	—	—	—	—	—	I	•
Hood Release							
Manual Cable Hood Release	•	•	•	•	•	•	•
Interior Lighting							
Configurable Interior Lighting / Battery Saver	•	•	•	•	•	•	•
Header Courtesy Light (front dome light)	•	•	—	—	—	—	—
Rear Cargo Area Light	•	•	•	•	—	—	—
Dual Front Map Lights	—	—	•	•	•	•	•
Rear Overhead Courtesy Lamp	—	—	—	—	•	•	•
Glovebox Illumination	—	—	—	—	—	—	•

[1] Includes a trial subscription of 3 months or 3 gigabytes – whichever comes first, wireless service plan required after trial subscription ends
[2] Includes service for one year from the vehicle sale date as recorded by the dealer

★ = New for this model year

• = Standard, I = Included

STANDARD EQUIPMENT

KEY INTERIOR FEATURES (continued)	XL Cargo Van SWB	XL Cargo Van LWB	XLT Cargo Van SWB	XLT Cargo Van LWB	XL Passenger Wagon LWB	XLT Passenger Wagon LWB	Titanium Passenger Wagon LWB
Interior Mirrors							
Day/Night Rearview Mirror *Standard on E6* and E7* body styles I: Included on S6* and S7* body styles ordered with Rear Door Glass (55A)	•*/I	•*/I	—	—	•	—	—
Auto-Dimming Rearview Mirror I: Included with Auto Headlamps (On/Off) (94A) *Requires Rear Door Glass (55A) on S6F and S7F body styles	I*	I*	I*	I*	I*	I	•
Child Observation Mirror	—	—	—	—	—	•	•
Driver Sunvisor w/Vanity Mirror / Ticket Strap	—	—	•	•	—	•	•
Passenger Sunvisor with Mirror	—	—	•	•	—	•	•
Instrument Cluster							
Speedometer (MPH/KPH) and Tachometer	•	•	•	•	•	•	•
Odometer/Trip Computer	•	•	•	•	•	•	•
Compass Display I: Included with SYNC 3 options 58Y and 58Z	—/I	—/I	•	•	—/I	•	•
EcoCoach (2.0L gas)	•	•	•	•	•	•	•
Power Supply							
(1) 12V Powerpoint in Front Center Console	•	•	•	•	—	—	—
(2) 12V Powerpoints in Front Center Console (located in front and back of console) *N/A with 2.5L gaseous fuel prep option (997)	—	—	—	—	•*	•	•
(1) 12V Powerpoint in Rear Cargo Area	•	•	•	•	•	•	•
(1) 110 Power Converter I:Included with (2) 12V Powerpoints in Front Center Console	—	—	—	—	I	I	I
Wireless Charging	—	—	•	•	—	•	•
Seats – Front Row							
6-Way Manual Driver Seat (fore/aft, up/down, & lever recline)	•	•	—	—	—	—	—
6-Way Manual Driver Seat (fore/aft, up/down & lever recline), with Manual Lumbar	—	—	•	•	•	—	—
6-Way Power Driver Seat (fore/aft, up/down & power recline) with Manual Lumbar	—	—	—	—	—	•	—
6-Way Power Heated Driver Seat (fore/aft, up/down & power recline) with Manual Lumbar	—	—	—	—	—	—	•
4-Way Manual Passenger Seat (fore/aft & lever recline) with Fold-Flat Back	•	•	•	•	•	—	—
4-Way Manual Passenger Seat (fore/aft & lever recline) with Manual Lumbar (Non Fold-Flat Back)	—	—	—	—	—	•	—
4-Way Manual Heated Passenger Seat (fore/aft & lever recline) with Manual Lumbar (Non Fold-Flat Back)	—	—	—	—	—	—	•
Seats – Second Row							
Second-Row Fold-Flat Bucket Seats	—	—	—	—	•	•	•
Seats – Third Row							
Third-Row 4-way Manual Fold-Flat Bucket Seats	—	—	—	—	•	•	•
Steering Wheel							
Tilt/Telescoping Steering Column	•	•	•	•	•	•	•
4-Spoke Steering Wheel with Black Shells	•	•	—	—	•	—	—
4-Spoke Steering Wheel with Satin Chrome Shells I: Included with SYNC 3 (58Z) I: Included with Cruise Control (525)	I	I	•	•	I	•	—
4-Spoke Leather-Wrapped Steering Wheel with Satin Chrome Shells I: Included with SYNC 3 (58Y)	I	I	I	I	I	I	•
Storage							
Locking Glovebox	—	—	—	—	—	—	•
2 Front Cupholders (in Center Console)	•	•	•	•	•	•	•
2 Second Row Cupholders	—	—	—	—	•	•	•
2 Third-Row Cupholders	—	—	—	—	•	•	•
Front Center Open Console – includes 2 Cupholders and 12V Powerpoint	•	•	—	—	—	—	—
Premium Front Center Closed Console – includes 2 Cupholders and 12V Powerpoint	—	—	•	•	—	—	—
Premium Front Center Closed Console – includes 2 Cupholders, Front & Rear 12V Powerpoints and 110V Power Converter	—	—	—	—	•	•	•
Front Row Full-Width Overhead Storage Shelf w/Grab Handles	•	•	•	•	•	—	—
Front Row Full-Width Overhead Storage Shelf w/Grab Handles, Sunglasses Holder and Child Observation Mirror	—	—	—	—	—	•	•
Cargo Net (Horizontal) I: Included with 3rd Row Seats Delete fleet option (87D)	—	—	—	—	—/I	—/I	—/I

★ = New for this model year

• = Standard I = Included

STANDARD EQUIPMENT

SAFETY AND SECURITY	XL Cargo Van SWB	XL Cargo Van LWB	XLT Cargo Van SWB	XLT Cargo Van LWB	XL Passenger Wagon LWB	XLT Passenger Wagon LWB	Titanium Passenger Wagon LWB
Driver & Passenger Front Airbags	•	•	•	•	•	•	•
First-Row Safety Canopy® Side-Curtain Airbags	•	•	•	•	—	—	—
First and Second Row Safety Canopy® Side-Curtain Airbags	—	—	—	—	—	—	—
First, Second and Third Row Safety Canopy® Side-Curtain Airbags	—	—	—	—	•	•	•
Driver & Passenger Side Airbags	•	•	•	•	•	•	•
Power Central Single Door-Locks with One Step Unlocking	•	•	•	•	•	•	•
Remote Keyless-Entry with 2 Key Fobs	•	•	•	•	•	•	•
SecuriLock® Passive Anti-Theft System (PATS)	•	•	•	•	•	•	•
Passive Entry/Passive Start (PEPS)	—	—	—	—	—	—	•
LATCH (Lower Anchors and Tethers for Children) in 2nd-Row outboard seating positions	—	—	—	—	•	•	•
Child Safety Door Locks	—	—	—	—	•	•	•
MyKey® (N/A w/fleet Engine Governor options 476, 477, 916 and 917)	—	—	•	•	—	•	•

★ = New for this model year

• = Standard, I = Included

FUNCTIONAL EQUIPMENT

WHEEL AVAILABILITY

Body Style	Seating	16" Styled Steel Wheel Painted Shadow Silver (641)	16" Steel Wheel with Full Wheel Cover Painted Sparkle Silver	16" Standard Aluminum Wheel Painted Sparkle Silver (64F)	16" Premium Aluminum Wheel Painted Luster Nickel (648)	16" Premium Aluminum Wheel Painted Dark Stainless (64G)
SWB XL Cargo Van	2-PASS	O	S	-	O	-
SWB XLT Cargo Van	2-PASS	-	S	-	O	-
LWB XL Cargo Van	2-PASS	O	S	-	O	-
LWB XLT Cargo Van	2-PASS	-	S	O	O	-
LWB XL Passenger Wagon	6-PASS	-	S*	O	O	-
LWB XLT Passenger Wagon	6-PASS	-	S*	O	O	-
LWB Titanium Passenger Wagon	6-PASS	-	-	O	O	S
LWB XL Passenger Wagon	7-PASS (21M)	-	S*	O	O	-
LWB XLT Passenger Wagon	7-PASS (21M)	-	S*	O	O	-
LWB Titanium Passenger Wagon	7-PASS (21M)	-	-	O	O	S*

*Not available for LWB wagon produced with Payload Package 450 (18E), Vehicle Overhead Storage Console (43D), Roof Rack (59H) or Trailer Tow Package (53)

*Included with Third Row Seats Delete feature (87D)

★ = New for this model year

OPTIONAL EQUIPMENT

		Cargo Van				Passenger Wagon		
	Order	XL SWB	XL LWB	XLT SWB	XLT LWB	XL LWB	XLT LWB	Titanium LWB
	Code	100A S6E/E6E	100A S7E/E7E	110A S6F/E6F	110A S7F/E7F	200A S9E/E9E	210A S9F/E9F	310A E9G
BODY STYLE – DUAL SLIDING SIDE DOORS								
Cargo Van – 180° Swing-Out Rear Cargo Doors (without glass)		S6E	S7E	S6F	S7F	—	—	—
Cargo Van – Rear Liftgate with Fixed Glass		E6E	E7E	E6F	E7F	—	—	—
Passenger Wagon – 180° Swing-Out Rear Cargo Doors with Fixed Glass (includes second-row power windows and third-row fixed glass)		—	—	—	—	S9E	—	—
Passenger Wagon – Rear Liftgate with Fixed Glass (includes second-row power windows and third-row fixed glass)		—	—	—	—	E9E	—	—
Passenger Wagon – 180° Swing-Out Rear Cargo Doors with Fixed Glass (includes one-touch up/down second-row power windows and third-row fixed glass)		—	—	—	—	—	S9F	—
Passenger Wagon / Rear Liftgate with Fixed Glass – (includes one-touch up/down second-row power windows and third-row fixed glass)		—	—	—	—	—	E9F	E9G
BODY GLASS								
Rear Door Fixed Glass *Optional on S6* and S7* body styles **Standard on E6* and E7* body styles	55A	O*/S**	O*/S**	O*/S**	O*/S**	S	S	S
Second Row Fixed Glass – Both Side Doors (SWB) (includes steel mesh window guards) *Requires Rear Door Fixed Glass (55A) on S6* body styles	59C	O R-55A*	—	O R-55A*	—	—	—	—
Second Row Fixed Glass – Passenger Side Door Only (SWB) (includes steel mesh window guard)	59D	O	—	O	—	—	—	—
Second Row Fixed Glass – Both Side Doors (LWB) (includes steel mesh window guards) *Requires Rear Door Fixed Glass (55A) on S7* body styles	59F	—	O R-55A*	—	O R-55A*	—	—	—
Second Row Fixed Glass – Passenger Side Door Only (LWB) (includes steel mesh window guard)	59G	—	O	—	O	—	—	—
Dark Tinted Glass – Privacy Glass Upgrade from Normal Tinted Glass (excludes front row) *Available with glass options 55A, 59C, 59D, 59F and 59G	924	O*	O*	O*	O*	O	S	S
Panoramic Fixed-Glass Vista Roof® (includes power shade) *N/A on S9F body style **N/A with XLT Premium Package (47G)	43M	—	—	—	—	—	O*/**	O
Visibility								
Rear Window Defroster S6* and S7* body styles require Rear Door Fixed Glass (55A)	43D	O*	O*	O*	O*	S	S	S

★ = New for this model year

S = Standard, O = Optional, P = Packaged Option, R = Required

OPTIONAL EQUIPMENT

		Cargo Van				Passenger Wagon		
	Order	XL SWB	XL LWB	XLT SWB	XLT LWB	XL LWB	XLT LWB	Titanium LWB
	Code	100A S6E/E6E	100A S7E/E7E	110A S6F/E6F	110A S7F/E7F	200A S9E/E9E	210A S9F/E9F	310A E9G
BODY GLASS (continued)								
Quickclear™ Electric Windshield Defroster – Includes Power Adjust, Heated Exterior Mirrors (545) *Includes (545) unless BLIS (85D) is ordered **N/A on XL LWB Wagon w/2.5L gaseous fuel prep option (997)	43W	O*	O*	O	O	O*/**	O	O
MECHANICAL/FUNCTIONAL								
Alternator								
Heavy Duty Alternator [2.0Lgas (220-amp)] *Heavy Duty Alternator (51G) is replaced by Standard Duty Alternator when 2.5L gaseous fuel prep option (997) is ordered	51G	O	O	O	O	S*	S	S
Engine/Transmission								
2.5L iVCT I-4 Gas Engine (includes 6-Speed SelectShift® Transmission and standard duty battery – 60amp-590CCA) Must also order 98G (CNG/LPG gaseous fuel prep pack)	997/ 446	O*	O*	O*	O*	O*	—	—
CNG/LPG Engine Prep Package (Available only w/2.5L I-4 Gas Engine (997))	98G	O*	O*	O*	O*	O*	—	—
Heavy Duty Battery (80-amp, 800 CCA)* *Optional with 2.5L CNG/LPG gaseous fuel prep option (997)	51C	S/O*	S/O*	S/O*	S/O*	S/O*	S	S
Flex Fuel Capability (FFV) w/2.0L GDI I-4 Gas	98A	O	O	O	O	O	O	O
Engine Block Heater	41H	O	O	O	O	O	O	O
Remote Start (includes Perimeter Alarm)	66F	—	—	O	O	—	O	O
Power								
Wireless Charging *N/A with Single-Slot CD Player (96C)	96B	O*	O*	S	S	O*	S	S
DRIVER-ASSIST								
Cruise Control *Included in MyKey (87K) and SYNC 3 options (58Y and 58Z)	52S	O* P-87K P-58Y P-58Z	O* P-87K P-58Y P-58Z	S	S	S	S	S
Adaptive Cruise Control *Contains Lane-Keeping System – Includes Lane-Keeping Assist, Lane Keeping Alert, Driver Alert, Radar Assist, Pre-Collision Assist with Automatic Emergency Braking (AEB), Forward Collision Warning, Dynamic Brake Support, Speed Control Distance Sensing with Distance Alert	52S	—	—	O*	O*	—	O*	O*
Reverse Sensing System *Included with option 76S	76R	O	O	O P-76S*	O P-76S*	S	S	S
Forward and Reverse Sensing Systems *Includes Cornering Fog Lamps (94F) ***Included with Enhanced Active Park Assist (53A)	76S	—	—	O	O	O P-94F*	O	O P-53A***
BLIS® (Blind Spot Information System) with Cross-Traffic Alert (includes Power Adjust, PowerFold®, Heated Exterior Mirrors) *N/A with Large Rear View Mirrors (60L)	95D	O*	O*	S	S	O	S	S
Enhanced Active Park Assist *Includes Forward and Reverse Sensing (76S)	53A	—	—	—	—	—	—	O*
KEY EXTERIOR OPTIONS								
Body Side Molding								

★ = New for this model year

S = Standard, O = Optional, P = Packaged Option, R = Required

OPTIONAL EQUIPMENT

	Order Code	Cargo Van XL SWB 100A S6E/E6E	Cargo Van XL LWB 100A S7E/E7E	Cargo Van XLT SWB 110A S6F/E6F	Cargo Van XLT LWB 110A S7F/E7F	Passenger Wagon XL LWB 200A S9E/E9E	Passenger Wagon XLT LWB 210A S9F/E9F	Passenger Wagon Titanium LWB 310A E9G
KEY EXTERIOR OPTIONS (continued)								
Wide Body Side Molding – Body Color	68M	—	—	O	O	—	S	S
Headlamps/Lamps								
HID (High Intensity Discharge) Headlamps *Included with XLT Premium Package (47G)	52D	—	—	O	O	—	O P-47G*	S
Daytime Running Lamps – Non-Configurable **Note:** User-Configurable Daytime Running Lamps already standard on all versions	942	O	O	O	O	O	O	O
Front Fog Lamps – LED	943	—	—	O	O	—	O	S
Adaptive Cornering Fog Lamps – halogen **Included in Forward and Reverse Sensing System (76S) on XL Wagon	94F	—	—	O	O	O P-76S**	O	—
Mirrors								
Power Adjust, Heated Exterior Mirrors w/Manual Fold – Black, Molded-In-Color Skull Caps *N/A with BLIS (85D) **Included with QuickClear® Windshield Defroster (43W)	545	O* P-43W**	O* P-43W**	—	—	O* P-43W**	—	—
Large Rear View Mirror Housing (recommended for trailer tow) *N/A with BLIS (85D)	60L	O*	O*	—	—	—	—	—
Roof								
Roof Rails *Requires Aluminum Alloy Wheels (64F or 64B) on vehicles with standard 2.0L gas engine or 2.5L gaseous prep engine option (997) **Included with Panoramic Vista Roof (43M)	61B	O	O	O	O	O R-64F/64B*	O** R-64F/64B*	O**
Roof Rack – Including Crossbars *Requires Aluminum-Alloy Wheels (64F or 64B) on vehicles with standard 2.0L gas engine or 2.5L gaseous prep engine option (997) **Available with Panoramic Vista Roof (43M)	61X	—	—	—	—	O R-64F/64B*	O** R-64F/64B*	O**
Wheels/Tires – See Wheel Availability Chart on page 11 for details on wheel availability by engine and seating configuration								
16" Shadow Silver-Painted Styled Steel Wheel – Includes Hubcaps/Center Ornaments/non-locking lugs (no wheel covers)	641	O	O	—	—	—	—	—
16" Five-Spoke Sparkle Silver-Painted Aluminum-Alloy Wheels **Optional with 2.0L Gas (992) and 2.5L gaseous fuel prep option (997)	64F	—	—	O	O	O**	O**	O
16" Five-Spoke Premium Luster Nickel-Painted Premium-Alloy Wheels *Included with XLT Premium Package (47G)	64B	O	O	O	O	O	O P-47G*	O
Tire Repair Kit (in lieu of full-size spare wheel)	51B	O	O	O	O	O	O	O
Front Splash Guards/Mud Flaps *Included with Dark Stainless Premium Alloy Wheel (64G)	96F	O	O	O	O	O	O	O P-64G*
KEY INTERIOR OPTIONS								
Air Conditioning/Heating								
Dual-Zone Automatic Temperature Control	578	—	—	O	O	S	S	S
Audio								
Single-Slot CD Player *N/A with Wireless Charging (86B)	96C	O*	O*	—	—	O*	—	—

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OPTIONAL EQUIPMENT

		Cargo Van				Passenger Wagon		
	Order	XL SWB	XL LWB	XLT SWB	XLT LWB	XL LWB	XLT LWB	Titanium LWB
	Code	100A S6E/E6E	100A S7E/E7E	110A S6F/E6F	110A S7F/E7F	200A S9E/E9E	210A S9F/E9F	310A E9G
KEY INTERIOR OPTIONS (continued)								
SYNC® 3 with 6.5" LCD Touch Screen – includes AM/FM Stereo Receiver, SiriusXM® Satellite Radio, 911 Assist®, Applink®, Apple CarPlay™ compatibility and Android Auto™ compatibility, plus 2 Smart-Charging USB Ports	58Z	O	O	S	S	O	S	—
SYNC® 3 with 6.5" LCD Touch Screen (with Navigation) (ICFAY) – includes AM/FM Stereo Receiver, SiriusXM® Satellite Radio, HD Radio™ and 911 Assist®, Applink®, Apple CarPlay™ compatibility and Android Auto™ compatibility, plus 2 Smart-Charging USB Ports * Included with XLT Premium Package (47G)	58Y	O	O	O	O	O	O P-47G*	S
Interior Lighting								
Rear Cargo Area Light – LED (in place of the standard rear cargo area light)	76D	O	O	O	O	—	—	—
Flooring								
Vinyl Floor Cover – Front Row (and Second Row on passenger wagon) *N/A with All-Weather Floor Mats (164) **Standard with 2nd Row 3-Passenger 60/40 Bench Seat (21M), N/A with standard 2nd Row Bucket Seats on XL LWB Wagon) ***Front & Rear Carpeted Floor Mats not included ****Requires Third Row Rear Cargo Vinyl Flooring (18P) *****Requires 2nd Row 3-Passenger 60/40 Bench Seat (21M)	18F	S	S	O	O	S**/–	O*/*** R-18P**** R-21M*****	—
Vinyl Floor Cover – Rear Cargo Area (and Third Row on LWB) *Standard when 2nd Row 3-Passenger 60/40 Bench Seat (21M) is selected on XL LWB Wagon **N/A with standard 2nd Row Bucket Seats ***N/A with carpet flooring fleet option (47H)	18P	—	—	—	—	S*/**/***	O**	—
All-Weather Floor Mats – Front	16V	O	O	O	O	—	—	—
All-Weather Floor Mats – Front & Rear *Available only with carpet floor cover fleet option (47H) on XL LWB Passenger Wagons **N/A with Vinyl Flooring (18F)	164	—	—	—	—	O R-47H*	O**	O
Seats – Front Row								
6-Way Manual Driver Seat (fore/aft, up/down & lever recline), with Manual Lumbar, and 4-Way Manual Passenger Seat (fore/aft & lever recline) with Fold-Flat Back	90M	O	O	—	—	—	—	—
6-Way Power Driver Seat (fore/aft, up/down & power recline) with Manual Lumbar, and 4-Way Manual Passenger Seat (fore/aft & lever recline) (non fold-flat back) – Contains Palazzo Grey Cloth Seats (PK)	90P	—	—	—	—	—	O	—

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OPTIONAL EQUIPMENT

	Order	Cargo Van XL SWB	Cargo Van XL LWB	Cargo Van XLT SWB	Cargo Van XLT LWB	Passenger Wagon XL LWB	Passenger Wagon XLT LWB	Passenger Wagon Titanium LWB
	Code	100A S6E/E6E	100A S7E/E7E	110A S6F/E6F	110A S7F/E7F	200A S9E/E9E	210A S9F/E9F	310A E9G
KEY INTERIOR OPTIONS (continued)								
6-Way Power Driver Heated Leather Seat (fore/aft, up/down & power recline) with Manual Lumbar, and 4-Way Manual Heated Leather Passenger Seat (fore/aft, lever recline) with Manual Lumbar (non fold-flat back) *Included in XLT Premium Package (47G)	90H	—	—	—	—	—	O P-47G*	S
Seats – Second Row								
Second Row 3-Passenger 60/40 Bench Seat	21M	—	—	—	—	O	O	O
Storage/Cargo Containment								
Aircraft-Style Mid-Vehicle Overhead Console ***Requires Aluminum-Alloy Wheels (64F/648) ****N/A with Panoramic Vista Roof (43M) *****Included with XLT Premium Package (47G)	60M	—	—	—	—	O R-64F/648***	O**** R-64F/648*** P-47G*****	O****
Cargo Net Kit – Vertical *N/A with Panoramic Vista Roof (43M) or Mid-Vehicle Overhead Console (60M)	60V	—	—	—	—	O*	O*	O*
Composite Bulkhead	66A	O	O	O	O	—	—	—
Composite Bulkhead w/Window	66E	O	O	O	O	—	—	—
SAFETY & SECURITY								
Key Fobs (2 Additional) *N/A with MyKey® (87K)	87R	O*	O*	—	—	O*	—	—
Passive Entry/Passive Start (PEPS) – Includes Push Button Start/Stop *N/A on S9F body styles (only available with rear liftgate)	67L	—	—	—	—	—	O*	S
MyKey® *N/A with 2 Additional Key Fobs (87R) **Contains Cruise Control (525)	87K	O* P-525**	O* P-525**	S	S	O*	S	S
Perimeter Anti-Theft Alarm System *Included with Remote Start (66F)	66D	O	O	O P-66F*	O P-66F*	O	O P-66F*	O P-66F*
PACKAGES								
XLT Premium Package *Available only with E9F body styles ** N/A with Panoramic Vista Roof (43M)	47G	—	—	—	—	—	O*/**	—
Trailer Tow Package **Requires Aluminum-Alloy Wheels (64F or 648)	53T	O	O	O	O	O R-64F/648**	O R-64F/648**	O
Upfitter Wiring Harness	86G	—	O	—	O	O	O	—
Smoker's Package	94B	O	O	O	O	O	O	O
FLEET ONLY OPTIONS (Valid FIN Code Required)								
Engine Governor – 65 MPH Speed Limiter N/A with MyKey® (87K) or 75 MPH Engine Governor (917)	916	O	O	—	—	O	—	—
Engine Governor – 75 MPH Speed Limiter N/A with MyKey® (87K) or 65 MPH Engine Governor (916)	917	O	O	—	—	O	—	—
Engine Governor – 65 MPH Speed Limiter, Less MyKey® (deletes MyKey®, which is otherwise standard on XLT Cargo Vans)	476	—	—	O	O	—	—	—
Engine Governor – 75 MPH Speed Limiter, Less MyKey® (deletes MyKey®, which is otherwise standard on XLT Cargo Vans)	477	—	—	O	O	—	—	—

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S = Standard, O = Optional, P = Packaged Option, R = Required

OPTIONAL EQUIPMENT

		Cargo Van				Passenger Wagon		
	Order	XL SWB	XL LWB	XLT SWB	XLT LWB	XL LWB	XLT LWB	Titanium LWB
	Code	100A S6E/E6E	100A S7E/E7E	110A S6F/E6F	110A S7F/E7F	200A S9E/E9E	210A S9F/E9F	310A E9G
FLEET ONLY OPTIONS (Valid FIN Code Required) (continued)								
Third Row Rear Seats Delete *Requires Second Row 3-Passenger 60/40 Bench Seat (21M) **N/A with XLT Premium Pack (47G)	87D	—	—	—	—	O R-21M*	O** R-21M*	O R-21M*
Floor Cover – Carpet (all rows)	47H	—	—	—	—	O	—	—
DECAL OPTIONS								
Decal #1 – up to 15 sq. ft.	16B	O	O	O	O	O	O	O
Decal #2 – up to 25 sq. ft.	16C	O	O	O	O	O	O	O
Decal #3 – up to 45 sq. ft.	16D	O	O	O	O	O	O	O
Decal #4 – up to 70 sq. ft.	16E	O	O	O	O	O	O	O

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COLOR & TRIM AVAILABILITY

INTERIOR COLOR / MATERIAL	Availability					
	XL	XL	XLT	XLT	XLT	Titanium
Cargo Van	•	•	•	•	—	—
Passenger Wagon	•	•	•	•	•	•
Ebony Vinyl Seats (with Dark Palazzo Grey Inserts) Crosshatch/Salerno vinyl	SB	—	—	—	—	—
Ebony Cloth Seats (with Ebony Inserts) – Racer/City XL fabric	—	CB	—	—	—	—
Ebony Cloth Seats (with Ebony Inserts) – Capitol/City XLT fabric	—	—	PB	—	—	—
Palazzo Grey Cloth Seats (with Palazzo Grey Inserts) Capitol/City XLT fabric	—	—	—	PK	—	—
Palazzo Grey Leather Seats – Salerno/Salerno leather *Additional Charge Option on XLT	—	—	—	—	LK*	LK

EXTERIOR COLOR	CODE	Availability					
SOLID							
School Bus Yellow *Available only for fleet customers	BY	•*	•*	—	—	—	—
Race Red	PQ	•	•	•	•	•	•
Silver (med. solid)	TY	•	•	•	•	•	•
Dark Blue	UV	•	•	—	—	—	—
Frozen White	Z2	•	•	•	•	•	•
METALLIC (available only on wagons*)							
★Sedona Orange	BP	•*	•*	•*	•*	•	•
★Solar Silver	HE	•*	•*	•*	•*	•	•
Blue Metallic	FT	•*	•*	•*	•*	•	•
Magnetic Metallic	J7	•*	•*	•*	•*	•	•
Agate Black	UM	•	•	•	•	•	•

★ = New for this model year

• = Available

PACKAGED OPTIONS/EMISSIONS

TRAILER TOW PACKAGE (53T)

Availability:

- Optional on all Cargo Vans and Passenger Wagons

Includes:

- Trailer Tow Hitch with Trailer Sway Control (Class 1, 2,000 lbs. capability, includes trailer module and 4-Pin Connector)

XLT PREMIUM PACKAGE (47G)

Availability:

- Optional with E9F Body Styles (XLT Passenger Wagons with Liftgate)

Includes:

- HID Headlamp (52D)
- 16" Premium Luster Nickel-Painted Aluminum-Alloy Wheels (648)
- Aircraft Style Mid-Vehicle Overhead Console (60M)
- Leather-Trimmed Seats (LK)

EMISSIONS STANDARD/OPTIONAL EQUIPMENT

50-STATE EMISSIONS SYSTEM	425
Standard equipment on all Transit Connect vehicles	

MISCELLANEOUS

COV Required	79V
Priced DORA	C09

★ = New for this model year

POWERTRAIN

FUEL ECONOMY

ENGINE DISPLACEMENT	TRANSAXLE/ FINAL DRIVE RATIO	50-STATE F.E. LABEL ADJUSTED CITY	HWY	COMBINED	ESTIMATED ANNUAL FUEL COST
Cargo Van					
2.0L Gas GDI I-4 Gas	8-Speed Automatic / 3.80	24	27	25	TBD
2.5L Duratec® I-4 Gas	6-Speed Auto Overdrive / 3.21	20	27	22	TBD
Passenger Wagon					
2.0L Gas GDI I-4 Gas	8-Speed Automatic / 3.80	24	29	26	TBD
2.5L i-VCT I-4 Gas	6-Speed Automatic / 3.21	20	26	22	TBD

ENGINE HORSEPOWER AND TORQUE RATINGS

ENGINE DISPLACEMENT	TRANSAXLE	NOMINAL COMPRESSION RATIO	50-STATE HORSEPOWER H.P. @ RPM	TORQUE FT. LBS. @ RPM
2.0L Gas GDI I-4 Gas	8-Speed Automatic	TBD	162 @ 6500	144 @ 4500
2.5L i-VCT I-4 Gas	6-Speed Automatic	9.7:1	169 @ 6000	171 @ 4500

★ = New for this model year

Electrical Van

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**SERVICE VAN**		
Department	Water Resource Protection	**Dept. Priority**	12
Division	Treatment Systems	**Div. Priority**	12
CIP Category	Environmental Protection		

Purchase/Project Description

This Capital Improvement request is for the purchase of a service van for the department's Treatment and Maintenance Divisions. This item will replace a 2007 ¾-ton cargo van that has met its useful service life with a more utilitarian van outfitted with sealed outside compartments and additional workspace within the vehicle for repairing pump equipment in inclement weather.

The van will be used for maintenance and operational staff to complete daily tasks associated with inspection and maintenance of the city's 28 wastewater-pumping stations. The use of this vehicle is important to respond to alarm and equipment failures within these systems.

The estimated cost of the vehicle is $54,438.00 and was obtained from a truck dealership.

Financial Impact of this Purchase/Project

The trading of one used van for the new van will result in $3,500 of revenue. Annual operating expenses are estimated at approximately $743 based on previous maintenance records. We would expect this to be cut by 50% ($371.00) with a new vehicle as it would need very few replacement parts for the first few years and the more economical fuel mileage.

Environmental Considerations

The proper and continuous functioning of the city's wastewater pumping stations are mandatory to maintain regulatory compliance with state and federal water quality protection requirements. The service body van is an essential component in ensuring these systems operate effectively and efficiently in perpetuity. In keeping with the city's climate action goals, the service body van is equipped with the latest emissions control technology.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus	$ 50,938.00	$ 54,438.00					$ 50,938.00	$ 54,438.00
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In	$ 3,500.00						$ 3,500.00	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 54,438.00**	**$ 54,438.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 54,438.00**	**$ 54,438.00**

Source of Cost Estimate	O'Connor Motor Sales				
Est. Annual Operating Costs	$ 743.00	**Projected Useful Life**	10 to 12	**Additional Documentation?**	Yes
City Manager Comments					

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Service Truck

O'Connor Motors
John Mynahan | 207-592-0105 | john.mynahan@oconnorwheels.com

City of South Portland

Prepared For: Dave Thomes

[Fleet] 2021 Chevrolet Express Commercial Cutaway (CG33503) Van 139"

O'Connor Motors
John Mynahan | 207-592-0105 | john.mynahan@oconnorwheels.com

[Fleet] 2021 Chevrolet Express Commercial Cutaway (CG33503) Van 139" (✔ Complete)

Selected Model and Options

MODEL

CODE	MODEL	MSRP
CG33503	2021 Chevrolet Express Commercial Cutaway 3500 Van 139"	$32,400.00

COLORS

CODE	DESCRIPTION
GAZ	Summit White

BODY CODE

CODE	DESCRIPTION	MSRP
ZW9	Body, standard (STD)	$0.00

REAR WHEEL CONFIGURATION

CODE	DESCRIPTION	MSRP
R04	Wheel configuration, rear, single (STD) (Not available with (C7N) 12,300 lbs. (5579 kg.) GVWR.)	$0.00

EMISSIONS

CODE	DESCRIPTION	MSRP
NE1	Emissions, Connecticut, Delaware, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont and Washington state requirements	$0.00

ENGINE

CODE	DESCRIPTION	MSRP
L8T	Engine, 6.6L V8 with Direct Injection and Variable Valve Timing, gasoline, (401 hp [299 kW] @ 5200 rpm, 464 lb-ft of torque [629 N-m] @ 4000 rpm) (Includes external oil cooler. Requires (MYD) 6-speed heavy-duty automatic transmission. Reference the Engine/Axle page for availability.)	$1,695.00

TRANSMISSION

CODE	DESCRIPTION	MSRP
MYD	Transmission, 6-speed automatic, heavy-duty electronically controlled with overdrive and tow/haul mode. Includes Cruise Grade Braking, Powertrain Grade Braking, and Tap-Up/Tap-Down Driver Shift Control (Requires (L8T) 6.6L gas V8 engine. Reference the Engine/Axle page availability.)	$0.00

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Data Version: 12284. Data Updated: Nov 5, 2020 10:30:00 PM PST.

O'Connor Motors
John Mynahan | 207-592-0105 | john.mynahan@oconnorwheels.com

[Fleet] 2021 Chevrolet Express Commercial Cutaway (CG33503) Van 139" (✔ Complete)

GVWR

CODE	DESCRIPTION	MSRP
C4M	GVWR, 9900 lbs. (4490 kg) (STD) (Includes (R04) single rear wheel configuration. Not available with (R05) dual rear wheel combination. Reference the Engine/Axle page for availability.)	$0.00

AXLE

CODE	DESCRIPTION	MSRP
GU6	Rear axle, 3.42 ratio (Requires (R04) single rear wheel configuration.)	$0.00

PREFERRED EQUIPMENT GROUP

CODE	DESCRIPTION	MSRP
1WT	Work Van Preferred Equipment Group Includes standard equipment	$0.00

WHEELS

CODE	DESCRIPTION	MSRP
QB5	Wheels, 4 - 16" x 6.5" (40.6 cm x 16.5 cm), 8-lug painted steel, heavy-duty (STD) (Only available with (R04) single rear wheel configuration.)	$0.00

FRONT TIRES

CODE	DESCRIPTION	MSRP
XLP	Tires, front LT245/75R16E all-season, blackwall (STD) (Requires (R04) single rear wheel configuration. Jack and spare tire equipment bracket are not included.)	$0.00

REAR TIRES

CODE	DESCRIPTION	MSRP
YLP	Tires, rear LT245/75R16E all-season, blackwall (STD) (Requires (R04) single rear wheel configuration. Jack and spare tire equipment bracket are not included.)	Inc.

PAINT SCHEME

CODE	DESCRIPTION	MSRP
ZY1	Paint, solid	$0.00

PAINT

CODE	DESCRIPTION	MSRP
GAZ	Summit White	$0.00

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O'Connor Motors
John Mynahan | 207-592-0105 | john.mynahan@oconnorwheels.com

[Fleet] 2021 Chevrolet Express Commercial Cutaway (CG33503) Van 139" (Complete)

SEAT TRIM

CODE	DESCRIPTION	MSRP
52W	Neutral, Vinyl seat trim	$0.00

SEATING ARRANGEMENT

CODE	DESCRIPTION	MSRP
ZX2	Seating arrangement, driver and front passenger high-back bucket includes head restraints and vinyl or cloth trim (STD) (Not available with (AJ3) driver-side only frontal airbag.)	$0.00

AIR CONDITIONING

CODE	DESCRIPTION	MSRP
C60	Air conditioning, single-zone manual (STD) (Not available with (R6G) air conditioning delete.)	$0.00

RADIO

CODE	DESCRIPTION	MSRP
U0F	Audio system, AM/FM stereo with MP3 player seek-and-scan, digital clock, TheftLock, random select, auxiliary jack and 2 front door speakers (STD) (Not available with (U2K) SiriusXM Radio or (YF1) RV Package.)	$0.00

ADDITIONAL EQUIPMENT - PACKAGE

CODE	DESCRIPTION	MSRP
ZQ2	Power Convenience Package includes (A31) power windows and (AU3) power door locks (Included with (YF1) RV Package. Not available with (9T7) passenger side door delete. NOTE: Does not include (ATG) Remote Keyless Entry. (ATG) Remote Keyless Entry must be ordered separately.)	$475.00
ZQ3	Driver Convenience Package includes Tilt-Wheel and (K34) cruise control (Included with (YF1) RV Package or (ANC) Shuttle Bus Package.)	$395.00
ZR7	Chrome Appearance Package (Includes (V46) front chrome bumper and (V22) chrome grille. Included with (YF1) RV Package or (YF2) Ambulance Package or (ANC) Shuttle Bus Package.)	$260.00

ADDITIONAL EQUIPMENT - MECHANICAL

CODE	DESCRIPTION	MSRP
9R5	Suspension, rear multi-leaf in lieu of the standard tapered leaf (Requires (C4M) 9900 lbs. (4490 kg) GVWR or (JFF) 10,100 lb. (4581 kg) GVWR.)	$105.00
G80	Differential, heavy-duty locking rear (Included with (YF2) Ambulance Package.)	$325.00

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Data Version: 12284. Data Updated: Nov 5, 2020 10:30:00 PM PST.

O'Connor Motors
John Mynahan | 207-592-0105 | john.mynahan@oconnorwheels.com

[Fleet] 2021 Chevrolet Express Commercial Cutaway (CG33503) Van 139" (✔ Complete)

ADDITIONAL EQUIPMENT - EXTERIOR

CODE	DESCRIPTION	MSRP
6M2	Mirrors, outside mid-stance sail panel mounted Provides Velvac convex combination RH and LH outside rear view mirrors that are sail panel mounted with arms that provide a medium stance. Mirrors can be utilized with bodies that are up to 78 inches in width. Mirrors provide a 63.3 sq. inch flat glass positioned over a 30.1 sq. inch convex glass within a common head. Mirrors are shipped loose in vehicle. (Requires (R04) single rear wheels. Not available with SEO (5H5) 2.5 lb. dry chemical BC rated fire extinguisher, SEO (5H6) safety reflector triangle kit, SEO (9T7) Door, passenger side delete or with RPO (B3D) School Bus Package.)	$300.00
V22	Grille, chrome (Included and only available with (ZR7) Chrome Appearance Package.)	Inc.
V46	Bumper, front chrome with step-pad (Included with (ZR7) Chrome Appearance Package.)	Inc.

ADDITIONAL EQUIPMENT - INTERIOR

CODE	DESCRIPTION	MSRP
A31	Windows, power (Included and only available with (ZQ2) Power Convenience Package.)	Inc.
AU3	Door locks, power with lock-out protection (Included with (ZQ2) Power Convenience Package. NOTE: Does not include (ATG) Remote Keyless Entry. (ATG) Remote Keyless Entry must be ordered separately.)	Inc.
BA3	Console, engine cover with swing-out storage bin (Included with (AS5) Custom Cloth front bucket seats and (YF1) RV Package.)	$20.00
K34	Cruise control (Included and only available with (ZQ3) Driver Convenience Package, (YF2) Ambulance Package or (UF3) High idle switch.)	Inc.

ADDITIONAL EQUIPMENT - SAFETY-INTERIOR

CODE	DESCRIPTION	MSRP
ASF	Airbags, seat-mounted side-impact for driver and right-front passenger and roof-rail mounted head-curtain side-impact (Included with (C4M) 9900 lb. (4490 kg) GVWR. Available on (JFF) 10100 lb. (4581 kg) GVWR, (C7N) 12300 lb. (5579 kg) GVWR, and (C7I) 14200 lb. (6441 kg) GVWR. Not available with (B3D) School Bus Package, (ANC) Shuttle Bus Package, (YF1) RV Package, and (9T7) right-hand door delete. Always use seat belts and child restraints. Children are safer when properly secured in a rear seat in the appropriate child restraint. See the Owner's Manual for more information.)	Inc.
	Options Total	**$3,575.00**

Price Summary

PRICE SUMMARY

	MSRP
Base Price	$32,400.00

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O'Connor Motors
John Mynahan | 207-592-0105 | john.mynahan@oconnorwheels.com

[Fleet] 2021 Chevrolet Express Commercial Cutaway (CG33503) Van 139" (✔ Complete)

PRICE SUMMARY

	MSRP
Total Options	$3,575.00
Vehicle Subtotal	$35,975.00
Destination Charge	$1,295.00
Grand Total	**$37,270.00**

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Data Version: 12284. Data Updated: Nov 5, 2020 10:30:00 PM PST.

Quote #: 10900
Date: 11/5/2020
Status: ISSUED

Unicell Truck Equipment
170 Cordell Rd.
Schenectady, NY 12303
PH: 518-393-5216 **FX:** 518-393-5218

Quoted By:	Frank Nigro	Rep:	Frank Nigro	Area:	New England

Bill To: John Mynahan
O'Connor Buick GMC
187 Riverside Drive
Augusta , ME 04330
Tel: 207-622-3191 Fax: 207-623-0755 Email:
john.mynahan@oconnorwheels.com

Ship To: Same as Billing

CHASSIS	Mfg	Code	Pool	Year	Model	Engine	GVWR	RW	WB	Chassis Initials
	CHEV	C21-02EXT	Yes	2021	CG33503	6.6L GAS	9900		139"	

BODY	Style	Model	Length Out	Length In	Height Overall	Height In	Width Out	Width In	Body Initials
	SERVICE	AL-CSV57-132AP	'	'	"	"	"	"	

Std Equipment:	Qty: Specifications:	Price:
Model:	11' SRW Aluminum Classic Service Van	$14,860.00
SPEC:	LENGTH: 132" - WIDTH: 86" - HEIGHT: 57" I.D.	INCLUDED
SPEC:	ALL ALUMINIUM SUPERSTRUCTURE & SIDE COMPARTMENTS	INCLUDED
SPEC:	ALL ALUMINIUM ROOF	INCLUDED
SPEC:	ALUMINIUM UNDERSTRUCTURE AND ALUMINIUM FLOORING	INCLUDED
SPEC:	SMOOTH TAPERED SIDES TO PROVIDE CLEAN "BILLBOARD" IMAGE	INCLUDED
SPEC:	DUAL REAR DOORS - NO WINDOWS - 49" X 50.5" OPENING	INCLUDED
SPEC:	ALUMINIUM FRONT SLIDING ACCESS DOOR, 2-INTERIOR CARGO AREA DOME LIGHTS WITH SWITCH	INCLUDED
SPEC:	2 FULL LENGTH SHELVES INSIDE CARGO AREA	INCLUDED
SPEC:	WN ACCESS DOORS AT REAR FOR STORAGE OF 10' LENGTHS OF CONDUIT	INCLUDED
SPEC:	POOCHED ANTI-SLIP REAR BUMPER STEEL - POWDER COATED WHITE	INCLUDED
SPEC:	LED STOP TURN TAIL LIGHTS AND MARKER LIGHTS	INCLUDED
SPEC:	STAINLESS STEEL ROTARY STYLE	INCLUDED
SPEC:		INCLUDED
SPEC:	FACTORY-WHITE POWDER COAT FINISH INSIDE AND OUT	INCLUDED
Optional Equipment (included in Subtotal below):		
ADDED:	ALCSV57132APSW-75" HIGH VERSION	$1,272.00
ADDED:	LATCHMATIC-ALCSV57132SW	$1,035.00
ADDED:	BACK UP ALARM	$98.00
ADDED:	BACK UP CAMERA	$103.00
Discount:		
DISC:	STOCKING DEALER DISCOUNT	$(200.00)

Subtotal:	**$17,168.00**
Freight:	**$0.00**
Total:	**$17,168.00**

TERMS NET 30 DAYS/PO REQUIRED
Quote valid for 30 Days.
Prices subject to change with 30 days advanced notice.

Customer Approval Signature _____

Weeks,Brad

From: Thomes,David
Sent: Monday, November 9, 2020 7:29 AM
To: Collins,Paul
Subject: RE: GMC Van with 75"Reading aluminum service body
Attachments: CSV aluminum budget quote.pdf; 2021 Express Standard pool chassis spec.pdf

From: John Mynahan
Sent: Friday, November 6, 2020 2:21 PM
To: Thomes,David DTHOMES@southportland.org

Subject: EXTERNAL: RE: GMC Van with 75"Reading aluminum service body

Dave,

Budget price for a unit depicted here would be $49,568.00 Please note that this is not a formal quote or bid and should only be considered for budget purposes. There was not a rear heat option available

Regards,

John Mynahan
Fleet & Commercial Sales Manager
O'Connor Motors
199 Riverside Dr.
Augusta, Me. 04330

207-592-0105 Mobile Phone
207-623-0755 Fax
207-622-3191 Office
Email -John.mynahan@oconnorwheels.com

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GENERAL GOVERNMENT

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	Brownfields Assessment and Remediation		
Department	Planning & Development	**Dept. Priority**	1 of 3
Division	Economic Development	**Div. Priority**	1 of 3
CIP Category	General Government		

Purchase/Project Description

The South Portland Brownfields Program was established in 2019 through the award of an EPA-funded Brownfields Assessment grant in the amount of $300,000. The program has been very successful in its first two years, but the grant will soon be closed out, and the City intends to be make this an ongoing sustainable program available to all property owners seeking assistance with environmental assessment or potential cleanup, to facilitate the improvement and reuse of land within the City. The City will continue to pursue grant money to replenish the program as opportunities become available, but it should nonetheless be sustained with supplemental contribution from the City to avoid long pauses while we wait for additional grant funding. Multiple Tax Increment Financing (TIF) Development programs identify brownfields as an eligible use of funds, and this CIP request the use of that funding source to sustain the program. The most significant properties currently enrolled in the program are several parcels comprising the former Liberty Shipyard Site. The City is also pursuing other properties, including former waterfront industrial uses, gas stations, dry cleaners, etc. We anticipate working with our Qualified Environmental Professional (QEP), Ransom Consulting, to enroll 1-3 new properties each year and assist them with various assessment, planning, and cleanup work.

Work to be completed in FY22 includes the following:

- Public outreach will continue in FY22, and will include, but not be limited to, two public outreach/Brownfield 101 meetings, two meetings with the Brownfields Advisory Team, and meetings/coordination with prospective property owners and the public, as necessary. Public outreach efforts are anticipated to cost $4,000 - $7,000.
- The Liberty Shipyard Site was entered into the program in 2020. Tasks completed include: site eligibility and access, a Phase I investigation, a Site-Specific Quality Assurance Project Plan (SSQAPP), some reuse and redevelopment planning, and a comprehensive Phase II investigation. Although there are no further assessment activities anticipated, there may be an opportunity for the City to assist the Site owner with planning for redevelopment and reuse. The exact scope and cost for these planning tasks are unknown and dependent on redevelopment schedules and plans; however, we anticipate that approximately $10,000 - $20,000 could be helpful to support this effort.

- This request assumes a new site entered into the program during FY21 that will require a Phase II investigation and Analysis of Brownfield Cleanup Alternatives (ABCA). These assessment costs will vary based on the size, nature, and complexity of the Site, but are expected to range from $30,000 to $35,000.

- This request assumes that in FY22, one additional Site will be entered into the program, and will require MEDEP and EPA eligibility approval, Site access, preparation of a Phase I ESA and SSQAPP, and performing a Phase II investigation with an ABCA. These assessment costs will vary based on the size, nature, and complexity of the Site, but are expected to range from $40,000 to $50,000. (It should be noted that this cost represents a "typical" cost to enter a Site into the program and perform assessment tasks as required by the EPA/MEDEP; as such, if other/additional Sites are entered into the program, similar costs can be expected.

- Programmatic costs and contingency on the above tasks will range from $5,000 to $10,000. This will provide the program with flexibility to perform the tasks necessary to sustain and supplement the overall Brownfields program.

Total cost estimate of $89,000 to $122,000; Requested amount of $120,000.

Financial Impact of this Purchase/Project

The program is requesting $120,000 in year one (1) to continue the work ongoing, tapering to $80,000 in year two (2), and then $40,000 per year thereafter.

Environmental Considerations

This CIP is 100% in support of environmental improvements to private property within the City, including former industrial sites, etc. The City has hired Ransom Consulting to act as Qualified Environmental Professional to conduct the work in consultation with EPA and DEP, and the City.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances							$ -	$ -
TIF	$ 120,000.00	$ 120,000.00	$ 80,000.00		$ 40,000.00		$ 240,000.00	$ 120,000.00
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 120,000.00**	**$ 120,000.00**	**$ 80,000.00**	**$ -**	**$ 40,000.00**	**$ -**	**$ 240,000.00**	**$ 120,000.00**

Source of Cost Estimate	Estimate based on 1-3 new projects each year, requiring Phase I and II ESAs, and/or other work qualified under the program.				
Est. Annual Operating Costs	$ -	**Projected Useful Life**	Perpetuity	**Additional Documentation?**	No
City Manager Comments					

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**City Wayfinding - Neighborhood signs**		
Department	Planning & Development	**Dept. Priority**	1 of 1
Division	Economic Development	**Div. Priority**	1 of 1
CIP Category	General Government		

Purchase/Project Description

This project is a follow-up to the deployment of the City's Primary Street Wayfinding Sign Program - to occur in 2021. This program would place wayfinding signs at the gateways to the City's various neighborhoods. We had originally priced these out as baked enamel and sealed finish on anodized aluminum to match what is planned for the Street Wayfinding Sign program as these signs have a longer lifespan and require limited maintenance. It is estimated there would be up to twenty (20) signs. A reduction in the proposed budget from the requested $75,000 (or $3,750.00 per sign) to $50,000 (or $2,500.00 per sign) will require examining other options and / or reducing the number of signs which can be acquired.

Financial Impact of this Purchase/Project

$75,000 to be funded from the Fairchild Development District TIF.

Environmental Considerations

Better signage, better directions →, less time traveling to find destination = lower CO^2 emissions.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances							$ -	$ -
TIF	$ 70,000.00	$ 50,000.00					$ 70,000.00	$ 50,000.00
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 70,000.00**	**$ 50,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 70,000.00**	**$ 50,000.00**

Source of Cost Estimate	Other sign pricing information - on file.				
Est. Annual Operating Costs	$ -	**Projected Useful Life**	10 years+/-	**Additional Documentation?**	No
City Manager Comments					

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Community Broadband Network Project**		
Department	Finance	**Dept. Priority**	3
Division	IT	**Div. Priority**	3
CIP Category	General Government		

Purchase/Project Description

We are recommending $410,000 be funded from Development District /TIF resources (recommend the Fairchild Development District) to fund:
Part A: Up to $60.0k - to be used to fund an independent external review of submissions to the Request for Interest (RFI) that the City will be issuing in February 2021 for proposals to Development a community-wide "open-access" broadband network, should submission review be deemed necessary or appropriate.

- Alternative A - If no external review is deemed necessary and the City enters into negotiations and ultimately enters into an agreement with a broadband network developer, then these funds will not be expended.
- Alternative B – If the RFI does not produce an acceptable go-forward alternative for this project, these funds will be used to further expand the City of South Portland's existing broadband fiber infrastructure network and/or to fund a study to determine the best path forward to develop a municipally owned community-wide "open-access broadband network", and how the development/building of such a community–wide network may be most efficiently financed.

Note: The City is finalizing a three-month due diligence process with a broadband infrastructure developer. This party has asked we make no public disclosure of their name until, and unless, they and the City reach some sort of agreement to move forward. We have made it clear to this developer it is important all members of our community have access at some level to high-speed broadband data service. It is expected this broadband infrastructure developer and others may respond to the above referenced RFI.

As part of the due diligence work we are completing it is expected that a successful responder to the above referenced RFI will have the following requests of the City of South Portland.

- The City (including the City School Department) to be an anchor tenant on, the to be constructed, community-wide broadband network.
- The City will provide some limited "financial backstop" for operational shortfalls in the initial years of the of the establishment of the network, See Part B, below.

Part B: Up to $350,000 in FY 2022 with additional funding in ensuing fiscal years up to a total of up to $1,000,000 thru FY 2025, to provide a municipal contribution for verified financial shortfalls related to the operation of a community-wide broadband network.

NOTE: TIF Funds may only be used to support commercial activities. Using round numbers the population of the City of South Portland is 26,000+/- residents. The City is home to 1,600+ businesses. 1,600 businesses / 26,000 residents = 6.1538%. The est. cost of the development of citywide network is $18.0MM for the areas of the City outside the Opportunity Zone. 6.1238% of $18.0MM is $1.108MM.

We are recommending the following CIP funding – TIF – 4 yr. commitment
(Up to $410.0K Yr. 1), (Up to $300.0K Yr. 2), (Up to $200.0K Yr. 3), and (Up to $150.0K Yr. 4) = Up to $1.060MM over 4 yrs.

Financial Impact of this Purchase/Project

Up to $350,000 to be funded from the Fairchild Development District TIF- in the upcoming FY 2022 Fiscal Year and $1,060,000 thru FY -2025. The development of this network will also act as an attractor bringing to other new - clean economy - jobs to the City of South Portland, adding to the the economic base and, by inference, increased personal and real property tax collections.

Environmental Considerations

The development of a community-wide broadband network reduce vehicular CO^2 emissions as more of the learners in our community - at all ages - will be able to more easliy and reliabley access remote learning,opportunities. Similarly, more indviduals will be able to reliably work remotely from their residences - at the speed of 21st Century-life.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances		$ 60,000.00					$60,000.00	$ 60,000.00
TIF	$ 410,000.00	$ 350,000.00	$ 300,000.00		$ 350,000.00		$350,000.00	$ 350,000.00
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 410,000.00**	**$ 410,000.00**	**$ 300,000.00**	**$ -**	**$ 350,000.00**	**$ -**	**$ 410,000.00**	**$ 410,000.00**

Source of Cost Estimate	Information based on conversations with perspective broadband developers and consultants.				
Est. Annual Operating Costs	Not applicable	**Projected Useful Life**	25 yrs+	**Additional Documentation?**	No
City Manager Comments					

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Computer Reserve**		
Department	Finance	**Dept. Priority**	1
Division	IT	**Div. Priority**	1
CIP Category	General Government		

Purchase/Project Description

The city maintains a Computer Reserve to set aside funds for the long term replacement of the network environment including servers, switches, backup systems, firewalls and other costly pieces of equipement to connect the networks' operating system. Next year's Fiscal year 2023 Capital Improvement Plan has two costly projects planned; the city needs to do a network core upgrade and an email server upgrade at an estimated combined cost of $200,000.

In addition to these large FY23 purchases, there is a large upgrade to the City's Data Center Hardware of $165,000. This set aside to the reserve is needed to be able to proceed, as planned, with these upgrades for future years.

Financial Impact of this Purchase/Project

The City's network environement is essential to be properly maintained, kept up-to-date, secure, and highly efficient.

Environmental Considerations

No Enviromental conditions.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 70,000.00		$ 50,000.00		$ 75,000.00		$ 195,000.00	$ -
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 70,000.00**	**$ -**	**$ 50,000.00**	**$ -**	**$ 75,000.00**	**$ -**	**$ 195,000.00**	**$ -**

Source of Cost Estimate	N/A				
Est. Annual Operating Costs	Not applicable	**Projected Useful Life**		**Additional Documentation?**	No
City Manager Comments					

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	Comprehensive Plan Update Installment 2		
Department	Planning & Development	**Dept. Priority**	1 of 3
Division	Planning	**Div. Priority**	
CIP Category	General Government		

Purchase/Project Description

This CIP request seeks additional funding to support the Comprehensive Plan update, which is currently underfunded with a $120,000 CIP allocation from FY21. The Planning Division has conducted a review of comparable comprehensive plan update projects, and considered the technical requirements that are necessary to address the concerns the update will need to tackle. This additional funding will ensure the City has the capacity to develop a scope of work for the Comp Plan update that achieves the community's goals, which include:

1. Incorporating One Climate Future goals and policies, and providing more detailed direction on implementation thereof. These include:
   A. Transit Oriented Development and major overhaul to the land use program to identify key sustainable development nodes.
   B. Major circulation and transportation amendments to address infill development, sustainable development, and vehicle miles travelled reduction.
   C. Sea level rise response.
   D. Utilities infrastructure for an electrified grid.
   E. Consensus support from the community to implement all of the above.
2. Including an extensive, robust, and wide-reaching engagement process.
3. Addressing the strategic evolution of the waterfront.
4. Addressing affordable housing.
5. A detailed Comp Plan-level neighborhood plan for Cash Corner.
6. Economic development strategy aligned with emerging trends, opportunities, and risks.
7. Infrastructure assessment
8. Implementation matrix

The proposed Comp Plan budget includes immediate Zoning Ordinance amendments that are necessary to implement time-sensitive issues identified in the comprehensive plan, and to ensure the Zoning and Subdivision ordinances, in particular but not exclusively these ordinances, are consistent with the updated Comp Plan when it is adopted. The review of other Comp Plan update efforts showed the Comp Plan update processes do not typically include this immediate implementation phase, which is a critical element of the update process, therefore the Planning Division is seeking to incorporate this funding into the Comp Plan project.

Financial Impact of this Purchase/Project

The adoption of the Comp Plan update will result in annual requests for appropriations to address the implementation of the Comp Plan policies. This should be expected to be typically in the range of $40,000 to $100,000 annually (avg. $70,000) depending on the scope of the proposed implementation actions.

Environmental Considerations

The Comp Plan Update is critical to the successful implementation of One Climate Future, for regulating development to preserve natural resources, and to guide development toward a more environmentally equitable and sustainable future.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 10,000.00	$ 10,000.00	$ 75,000.00		$ 65,000.00		$ 150,000.00	$ 10,000.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances		$ 56,190.00					$ -	$ 56,190.00
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 10,000.00**	**$ 66,190.00**	**$ 75,000.00**	**$ -**	**$ 65,000.00**	**$ -**	**$ 150,000.00**	**$ 66,190.00**

Source of Cost Estimate	Cost comparison of similar updates in N. New England. See attached.				
Est. Annual Operating Costs	$70,000	**Projected Useful Life**	12	**Additional Documentation?**	Yes
City Manager Comments					

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Municipality	Population	Year Updated	Cost	Goal	Alignment with SoPo Scope
South Portland	**25,600**	**2012**	**$117,815**	**LAST COMP PLAN UPDATE**	
South Portland	**25,600**	**2024**	**$150,000**	**Equity, robust engagment, economic development, housing, de-indutrialization, Master Plans (e.g. Cash Corner, Waterfront), Climate Action, Infrastructure/Service Assessment**	
York	13,150	2021	$200,000	Climate Change and Vulnerability, Affordable Housing, Natural Resource Protection, Business Development, Village(s) Revitalization, Transportation Congestion Managment- including multi-modal opportunities	High - but limited population and community complexity comprable to SoPo.
Biddeford	21,500	2022	$155,000	Internal; requested contract staffing services in-house.	Moderate-limited - Internal approach means salary overhead, limited complexity.
Saco	19,750	2022	$125,000	Robust engagement plan, detailed conditions analysis, includes certification with State	Moderate-high - lacks focus areas and targeted climate change policies integration
Wells	10,500	2022	$100,000	Year-round pop. growth, natural resource protection, climate change/sea level rise, local fishing /lobstering industry, traffic, tourism, preservation and reduction of municipal energy use.	Moderate - Smaller population, Tourism focus, mostly GMA alignment
Kennebunkport	3,700	2021	$90,000	Year-round pop. growth, natural resource protection, climate change/sea level rise, local fishing /lobstering industry, traffic, tourism, preservation and reduction of municipal energy use.	Moderate - Low population, Tourism focus, mostly GMA alignment
Lewiston	37,000	2013	$90,000		Limited - Old
Falmouth	11,200	2020	$65,000	Vision and values statement only	Limited - Scope is solid but for only 20-25% of the comp plan process (visioning)
Kennebunk	11,500	2021	$50,000		Limited - Low population, GMA alignment
Brunswick	20,500	2022	Pending	Comprehensive	Moderate
Gray	8,200	2021	Pending		Limited
Portland	66,400	2022	Pending	Comprehensive	High

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	Filing System		
Department	Planning & Development	**Dept. Priority**	3 of 4
Division	Code Enforcement	**Div. Priority**	1 of 1
CIP Category	General Government		

Purchase/Project Description

The Planning & Development Department continues to operate in the former Hamlin School building at 496 Ocean Street. The City has invested in various upgrades as we prepare to continue occupying the space during the next several years. This CIP request is to address the most pressing building improvement, the need for an improved filing system.

The cabinets used for our current filing system are at full capacity. This system holds all of the documentation and property files, including permits and development reviews. The plan is to replace twenty-one (21) of the existing four (4) drawer cabinets with seven (7) Rotary Action File Cabinets, resulting in a substantial increase in our file capacity. Addtionally, there are approximately twenty (20) old cabinets full or overflowing with Planning Board, Board of Appeals, and other department files. The plan is to purchase eight (8) Lateral File Cabinets in order to appropriately file and protect these documents.

The City is currently using approximately thirty (30) large plastic waste bins to store rolled blueprint drawings. These files had previously been stored in an area susceptible to moisture so this was done as a temporary measure to protect the documents. The plan is to purchase storage shelving to replace all of the bins. By State Law, the City must retain these plans for the life of the building plus one year. The new vertical storage units will create better organization and open up the floor space for other office uses.

Financial Impact of this Purchase/Project

The estimated cost for a new filing system is approximately $48,000, which includes new cabinets, shelving system, and related modifications.

Environmental Considerations

This CIP request involes interior upgrades. Old filing cabinets will be auctioned and reused, or scrapped and recycled.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 48,000.00	$ 48,000.00					$ 48,000.00	$ 48,000.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 48,000.00**	**$ 48,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 48,000.00**	**$ 48,000.00**

Source of Cost Estimate	Estimate based on advertised equipment prices reviewed online; have not solicited bids.				
Est. Annual Operating Costs	$ -	**Projected Useful Life**	25 Years	**Additional Documentation?**	No
City Manager Comments					

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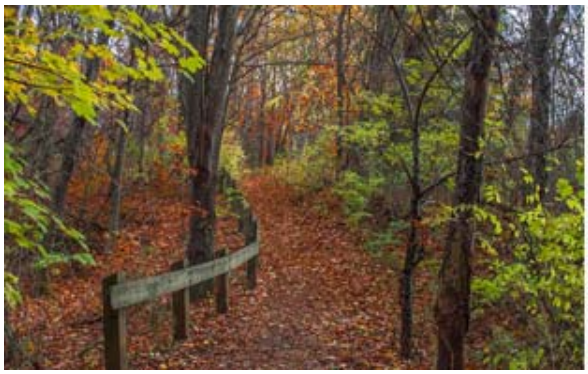
PARKS
AND
OPEN SPACE



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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**School St Park Playground Replacement (CDBG Match)**		
Department	Parks, Rec, Waterfront	**Dept. Priority**	1
Division	Parks	**Div. Priority**	1
CIP Category	Parks & Open Space		

Purchase/Project Description

The Parks, Recreation and Waterfront Department is seeking $9,744 (as a 10% match to CDBG) for the replacement of the playground equipment at the School Street Park.

The current playground is approximately 25 years old and is at the end of its useful life. Many of the play elements are starting to deteriorate and the hardware is starting to rust. Replacing individual play elements can be very costly and, doing so, would hardly address the greater safety needs of the playground. Ferry Village is a densely populated area within the city with very little greenspace and very few playgrounds.

School Street Park and its playground are invaluable assets to the neighborhood. The proposed playground will have approximately the same footprint as the existing one, will be safer and, will have more engaging and challenging play elements. The proposed playground plan was developed by O'Brien and Sons, a playground equipment supplier that has installed or provided the Parks Department every playground it maintains. If not funded, either we'd have to spend an exorbitant amount of money to get it in a safe(r) condition, or consider removing the playground.

Financial Impact of this Purchase/Project

Not funding this project could have significant financial ramifications for the Parks Department and the City. Buying individual parts to repair the existing playground can range from the mid-hundreds to a few thousand dollars. Purchasing a few of the elements could cost more than the amount of funding requested.

Environmental Considerations

Due to the safety issues with the existing playground, it would most likely need to be shut down/removed if it can't be replaced. This is the only playground in Ferry Village that serves this age group, so families would need to drive to get to another one. Currently, most users of the playground walk or bike to it.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 9,744.00	$ 9,744.00					$ 9,744.00	$ 9,744.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants	$ 87,694.00	$ 87,694.00					$ 87,694.00	$ 87,694.00
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 97,438.00**	**$ 97,438.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 97,438.00**	**$ 97,438.00**

Source of Cost Estimate	ME O'Brien and Sons				
Est. Annual Operating Costs	$1,000	**Projected Useful Life**	25+ Years	**Additional Documentation?**	Yes
City Manager Comments					

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E. CONSTRUCTION SUMMARY, *limit 1 page*

Application Type	☑Construction Project
Applicant	City of South Portland - Parks, Recreation and Waterfront Department
Project Name	Replacement of School St Park playground
Project Address/Location	66 School St., South Portland, ME 04106
Funds Requested	$87,694.20

Project Summary

The proposed project is to replace the aging, outdated and unsafe playground at School St. Park with an engaging and innovate one.

HUD National Objective *Refer to Section III.B.1*	☐Prevention of Slum/ Blight ☐Low/Moderate Income Area	☑Low/ Moderate Income Clientele ☐ Low/ Moderate Income Housing

Location - For LMA projects *Refer to Section II.B.4*	
Census Tracts	35
Service Area Neighborhoods (For LMA Projects)	Ferry Village residents and people that live within 1/2 of the park, which is located at the intersection of School St and Edmund S Muskie St
Beneficiaries/ Clients Served - *Refer to Section II.B.5*	
Client Description	Individuals within walking distance of the park that fall within the LMI category
Number of Clients Served	3,200 - 3,500
Number of LMI South Portlanders	2,525
LMI South Portland Percentage	53%

Outcomes - *Refer to Section II.B.6*

Promote physical activity. A much happier community, as green spaces/playgrounds are valuable for reducing stress and increasing happiness. Help strengthen developmental skills (sensory, motor, strength, cognitive) of children at a quick rate.

Budget - *Refer to Section II.D*

$87,694.20	CDBG Request (Must match CDBG Request on Cover Page and Budget Worksheet)
$97,438	Total Program Budget (Must match Total Budget on Cover Page and Budget Worksheet)
90 %	Percentage of CDBG Request of Total Budget [50% or less indicates at least a 1 to 1 match]

Leveraged Funds - *Refer to Section II.D*

$	Federal	$	Other grants
$	State	$	Endowment
$	County	$	Private Funds
$ 9,743.80	City *(not CDBG)*	$	Gifts in kind

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**One Half Ton Truck Replacement**		
Department	Parks, Rec, Waterfront	**Dept. Priority**	2
Division	Parks	**Div. Priority**	2
CIP Category	Parks & Open Space		

Purchase/Project Description

The Parks, Recreation and Waterfront Department seeks funds to replace a 2005 half ton GMC Sierra pickup truck (#84) which has exceeded its useful life. Replacing this truck is mission critical as it is used for year round work which includes: hauling equipment and supplies for departmental events, picking up parts and supplies, hauling trash, etc. The replacement truck will be used for the aforementioned duties as well as transportation during snow removal operations.

If funding is not available for this replacement truck, the department will need to continue another year with a 15 year-old vehicle which could end its useful life during the season, which could greatly impact department operations.

Financial Impact of this Purchase/Project

Truck #84 needs to be replaced. It is critical to our operation. The frame is severely rusted out and has many other issues that will cost thousands of dollars to fix. The cost to maintain #84 will only continue to rise year after year. Other than the cost for preventive maintenance (which is minimal), very little money will be spent on this next truck over the course of the next few years. Although the quote received for the truck is $25,178, I am requesting $28,000, due to the rising cost of trucks.

Environmental Considerations

While technology for electric vehicles is on the rise, light duty trucks are still a few years away. Electric trucks currently available on the market wouldn't be suitable to meet our varying work needs and the cost is astronomical. GMC Hummer Evs, which will come out in 2022, have an estimated price tag of $100,000+ and the Telsa Cybertruck is expected to cost around $40,000+ once produced later this year. As a department, we are looking forward to the day we can upgrade our fleet to electric trucks.

Funding Source(s)	**Year 1**		**Year 2**		**Year(s) 3+**		**TOTALS**	
	Dept. Request	**Manager Rec.**	**Dept. Request**	**Manager Rec.**	**Dept. Request**	**Manager Rec.**	**Dept. Request**	**Manager Rec.**
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 21,443.00	$ 21,443.00					$ 21,443.00	$ 21,443.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances	$ 6,557.00	$ 6,557.00					$ 6,557.00	$ 6,557.00
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 28,000.00**	**$ 28,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 28,000.00**	**$ 28,000.00**

Source of Cost Estimate	Yankee Ford					
Est. Annual Operating Costs	$1,000	**Projected Useful Life**	10+ Years	**Additional Documentation?**	Yes	
City Manager Comments						

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VIRTC1DP

CNGP530 VEHICLE ORDER CONFIRMATION 12/21/20 15:
==> Dealer: F
Page: 1

2021 F-150

Order No: 0001 Priority: B3 Ord FIN: QF391 Order Type: 5B Price Level
Ord PEP: 101A Cust/Flt Name: CTY. SO. PORT PO Number:

		RETAIL	DLR INV
F1C	F150 4X2 R/C	$29240	$27925.00
	141" WHEELBASE		
JS	ICONIC SILVER		
C	CLOTH 40/20/40		
S	MED DARK SLATE		
101A	EQUIP GRP	2080	1893.00
	.XL SERIES		
	.POWER EQUIP GRP		
	.CRUISE CONTROL		
	.REV SENSING SYS		
	.17"SILVER STEEL		
99B	3.3L V6 PFDI		
44G	ELEC 10-SPDAUTO		
	.245/70R-17 A/S		
X19	3.55 REG AXLE	NC	NC

		RETAIL	DLR
	6100# GVWR		
	FRT LICENSE BKT	NC	
425	50 STATE EMISS	NC	
53B	CLASS IV HITCH	205	18E
794	PRICE CONCESSN		
	REMARKS TRAILER		
	FLEX FUEL		
	SP FLT ACCT CR		(84E
	FUEL CHARGE		8
	DEST AND DELIV	1695	1695
TOTAL BASE AND OPTIONS		33220	30861
XL HIGH DISCOUNT		(750)	(683
TOTAL		32470	30178

THIS IS NOT AN INVOICE
*TOTAL PRICE EXCLUDES COMP PRICE AL

F1=Help F2=Return to Order F3/F12=Veh Ord M
F4=Submit F5=Add to Library F9=View Trailers
S099 - PRESS F4 TO SUBMIT QC0C

V1DP0550

Link,

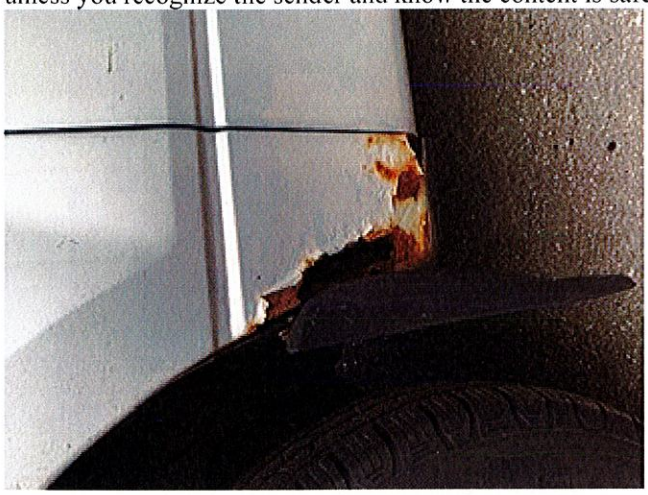
30178
-L50007 6PC

Bid: $25,178

Erskine,John

From: John Erskine <linkyerskine@gmail.com>
Sent: Thursday, January 14, 2021 7:31 AM
To: Erskine,John
Subject: EXTERNAL:

CAUTION: This email originated from outside of the City of South Portland Mail System. Do not click links or open attachments unless you recognize the sender and know the content is safe.



City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**4100D Outfront Mower Replacement**		
Department	Parks, Rec, Waterfront	**Dept. Priority**	3
Division	Parks	**Div. Priority**	3
CIP Category	Parks & Open Space		

Purchase/Project Description

The Parks, Recreation and Waterfront Department seeks funds to replace our John Deere 72" Outfront Mower (#3). Mower #3 is 12 years old and no longer providing us the quality of cut we need. All of the bushings that connect the deck and push arms to the mower are worn out and the deck is bent. The mower has over 3000 hours on it, which according to the USGA, is over 230,000 miles. Additionally, due to its age, mower #3 isn't Tier 4 emission compliant.

We want to replace mower #3 with a Groundsmaster 4100D with a 123" cut. This mower is Tier 4 compliant (please see environmental considerations for more information) and has a much wider cut, which will significantly cut down on mowing time (and labor) in our parks. This mower also has a leaf mulching kit which will allow us to spend less time raking leaves in the fall and focus our efforts on other projects.

If not funded, we run the risk of mower #3 dying mid-season, which would cripple our mowing operation.

Financial Impact of this Purchase/Project

Mower #3 is well beyond its useful life. Not only would it cost thousands of dollar to get the machine in better operating condition, we'd be investing the money in a machine that doesn't meet emission standards. Other than the cost for preventive maintenance (which is minimal), very little money will be spent on this mower over the course of the next few years. Although the quote received for the mower is $71,107.09, I am requesting $75,000, due to the rising cost of mowers.

Environmental Considerations

While not offered in electric (yet), this mower has Tier 4 emissions. Established by the EPA as part of the Clean Air Act, Tier 4 regulations were put in place to reduce emission of particulate matter (PM) and oxides of nitrogen (NOx), primarily in nonroad diesel engines. The end goal for Tier 4 is to decrease diesel engine emissions by more than 90 percent for health benefits—health benefits that could amount to $80 billion annually once all older engines are replaced, according to the "Clean Air Nondiesel Rule," published by the EPA Office of Transportation and Air Quality (OTAQ) in May 2004.

Funding Source(s)	**Year 1**		**Year 2**		**Year(s) 3+**		**TOTALS**	
	Dept. Request	**Manager Rec.**	**Dept. Request**	**Manager Rec.**	**Dept. Request**	**Manager Rec.**	**Dept. Request**	**Manager Rec.**
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 75,000.00	$ 75,000.00					$ 75,000.00	$ 75,000.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 75,000.00**	**$ 75,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 75,000.00**	**$ 75,000.00**

Source of Cost Estimate	Turf Products				
Est. Annual Operating Costs	$1,000	**Projected Useful Life**	10+ Years	**Additional Documentation?**	Yes
City Manager Comments					

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tpc turf products

157 Moody Road • PO Box 1200 • Enfield, CT 06082
Main Office: (800) 243-4355 • FAX: (860) 763-5550

QUOTE

Prepared For: Rick Perruzzi
City of South Portland
25 Cottage Road South Portland, Maine
United States

Ship To: city of south portland 4100 1-12-21
Quote Number: Q64547
Quoted Date: **01/12/2021**
Prepared By: Robert Hobbs
bhobbs@turfproductscorp.com
207-233-1777

Qty	Model #	Description	MSRP	% Disc	Award	Extended
1	**30608**	**Groundsmaster 4100-D (T4)**	**$86,530.00**	**22 %**	**$67,666.46**	**$67,666.46**
1	108-1451	Atomic Blade Service Pack (7 Blades, 19 Inch)	$167.78	22 %	$131.20	$131.20
1	30691	Lights Adapter Kit	$219.00	22 %	$171.26	$171.26
1	30414	North American Road Light Kit	$1,034.00	22 %	$808.59	$808.59
1	31526	4WD Flow Divider Kit	$1,256.00	22 %	$982.19	$982.19

Toro Total:	**$69,759.70**
Non – Toro Total:	*$0.00*
Set Up:	*$0.00*
Freight:	*$0.00*
Trade Ins:	*($0.00)*
State Sales Tax:	*$0.00*
Total Price:	**$69,759.70**

ALL PRICING IS VALID FOR 30 DAYS 1

tpc turf products
157 Moody Road • PO Box 1200 • Enfield, CT 06082
Main Office: (800) 243-4355 • FAX: (860) 763-5550

QUOTE

Prepared For: Rick Perruzzi
City of South Portland
25 Cottage Road South Portland, Maine
United States

Sourcewell Contract

Ship To: city of south portland leaf
Quote Number: mulching kit 4100 1-12-21
Quoted Date: Q64549
Prepared By: **01/12/2021**
Robert Hobbs
bhobbs@turfproductscorp.com
207-233-1777

Qty	Model #	Description	MSRP	% Disc	Award	Extended
1	**30608_ACCY**	**Groundsmaster 4100-D (T4) Accessories**	**$0.00**	**22 %**	**$0.00**	**$0.00**
1	30419	Leaf Mulching Kit	$1,723.00	22 %	$1,347.39	$1,347.39

Toro Total:	**$1,347.39**
Non – Toro Total:	*$0.00*
Set Up:	*$0.00*
Freight:	*$0.00*
Trade Ins:	*($0.00)*
State Sales Tax:	*$0.00*
Total Price:	**$1,347.39**

ALL PRICING IS VALID FOR 30 DAYS 1

PUBLIC SAFETY

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Quint**		
Department	Fire	**Dept. Priority**	1
Division		**Div. Priority**	
CIP Category	Public Safety		

Purchase/Project Description

The Fire Department apparatus replacement schedule has been behind for years and, while we have made great strides over the past 5+ years, we are really only half-way through the process. We have a number of vehicles significantly overdue for replacement. Engine 49 (orig E-42) which is currently a foam tender (foam pump is defunct) was due for replacement in 2012 (FY2013) but was pushed back for other more important purchases. Ladder 41 was due up for replacement in 2016 (FY2017) but was also pushed back due to it being a reserve apparatus. With the original L-45 being forced out of service early and the 1st replacement being totaled due to an accident, L-41 has had to be a front line apparatus longer than it should have and, it is tired. L-42 is also old and should have been replaced in 2017 (FY2018).

The plan is to replace E-49 and L-41 with one Quint. The current L-42 would be reassigned as L-41 and be a reserve apparatus until it no longer runs. As it takes almost a full year to spec, bid and order a Quint, failure to fund this purchase would not only push it out a year into 2022 (FY2023) which already has a number of apparatus in it, realistically, it will require almost 2 1/2 more years of operating the current fragile apparatus. Delivery, if approved this budget year, would not be until October of 2022 at the earliest.

Financial Impact of this Purchase/Project

Retired apparatus would be auctioned off for whatever fair market would offer. Best estimate is around $10,000 for both. Most Fire Apparatus vendors are offering many long-term pricing options due to the impact of COVID and the need for municipalites to continually replace apparatus.

Environmental Considerations

Fire apparatus technology is not as far along in terms of environmental considerations. Some do have anti-idling (similar to smaller passenger cars) and APU units (such as on airplanes). We will look at these options and implement if/when possible.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase	$1,300,000.00						$ 1,300,000.00	$ -
Fund Balance (General Fund)		$ 137,500.00					$ -	$ 137,500.00
General Fund (GF) Reserves		$ 660,000.00					$ -	$ 660,000.00
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances		$ 502,500.00					$ -	$ 502,500.00
TIF							$ -	$ -
Trade-In	$ (10,000.00)	$ (10,000.00)					$ (10,000.00)	$ (10,000.00)
Other (explain above)							$ -	$ -
TOTALS	**$ 1,290,000.00**	**$ 1,290,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,290,000.00**	**$ 1,290,000.00**

Source of Cost Estimate	Pierce Fire Apparatus					
Est. Annual Operating Costs	$ 8,000.00	**Projected Useful Life**	15	**Additional Documentation?**	No	
City Manager Comments						

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Defibrillators**		
Department	Fire	**Dept. Priority**	3
Division		**Div. Priority**	
CIP Category	Public Safety		

Purchase/Project Description

The Fire Department operates six (6) external defibrillators as part of its Emergency Medical Program. All the current units are manufactured by Physio Control. It is very important all of these units remain a single source item as each defibrillator company's products operate very differently and when someone is in cardiac arrest we cannot afford any delays while trying to recall which unit the medics are operating. The company only covers these units for 10 years.

We replace one every two years, so the oldest is already/always 12 years old. The oldest unit is serviced and kept on the spare ambulance and not used frequently. By purchasing one every two years we keep five of them within coverage.

Financial Impact of this Purchase/Project

We normally trade in the oldest for a modest reduction in price ($2000)

Environmental Considerations

Not applicable

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves	$ 21,000.00	$ 21,000.00					$ 21,000.00	$ 21,000.00
General Obligation Bonds							$ -	$ -
Grants	$ 10,000.00	$ 10,000.00					$ 10,000.00	$ 10,000.00
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances	$ 5,000.00	$ 5,000.00					$ 5,000.00	$ 5,000.00
TIF							$ -	$ -
Trade-In	$ (2,000.00)	$ (2,000.00)					$ (2,000.00)	$ (2,000.00)
Other (explain above)							$ -	$ -
TOTALS	**$ 34,000.00**	**$ 34,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 34,000.00**	**$ 34,000.00**

Source of Cost Estimate	Company				
Est. Annual Operating Costs	$ 100.00	**Projected Useful Life**	12	**Additional Documentation?**	No
City Manager Comments					

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Command Vehicle**		
Department	Fire	**Dept. Priority**	4
Division		**Div. Priority**	
CIP Category	Public Safety		

Purchase/Project Description

The department is looking to replace a 2010 Chevrolet Tahoe, which is used as a department command vehicle. Based on a 12-year life span, this vehicle would normally be replaced in 2022 (FY2023). This vehicle has been the shift commander's vechicle for two years and has very high mileage, the transmission was replaced and, has a fair amount of body rust. This vehicle has 92,684 miles.

For this purchase, we are looking to purchase a replacement SUV. Not funding this vehicle in FY22, will delay this purchase until the FY23 CIP where there are already additional vehicles slated for replacement. We have flipped this vehicle with another still in very good shape and does not yet, need to be replaced.

Financial Impact of this Purchase/Project

Would auction off the current vehicle and expect $2,000-$5,000 in return.

Environmental Considerations

Understanding the city is looking to become as carbon natural as possible, the department will look at hybrid engine options as long as the vehicle can meet the department's size, space, and towing capacity requirements.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances	$ 49,500.00	$ 49,500.00					$ 49,500.00	$ 49,500.00
TIF							$ -	$ -
Trade-In	$ (5,000.00)	$ (5,000.00)					$ (5,000.00)	$ (5,000.00)
Other (explain above)							$ -	$ -
TOTALS	**$ 44,500.00**	**$ 44,500.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 44,500.00**	**$ 44,500.00**

Source of Cost Estimate	Similar purchase in 2020				
Est. Annual Operating Costs	$ 4,000.00	**Projected Useful Life**	12	**Additional Documentation?**	No
City Manager Comments					

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Regional Crime Lab**		
Department	Police	**Dept. Priority**	1
Division		**Div. Priority**	1
CIP Category	Public Safety		

Purchase/Project Description

Since 2006, South Portland has been a member of the Metro Regional Coalition and has worked collaboratively with Portland, Scarborough, Westbrook, Falmouth, Cape Elizabeth, Yarmouth, and Cumberland County to create a regional crime lab. Each of the joining members will pay a proportionate share (based on population) of the cost of renovations to the City of Portland's Public Safety Building located at 109 Middle Street.

South Portland's share was estimated at $15,987 per year for 20 years, totaling $319,740. Additionally, each municipality will contribute yearly for equipment purchase and replacement. South Portland's share was estimated at $2,062 per year for 10 years, totaling $20,620. The Capital Improvement Plan request is for $12,000 per year through FY2026 to fund this project.

Financial Impact of this Purchase/Project

The anticipated cost is estimated at $12,000 for FY2022 to meet the financial commitment from the inter-local agreement.

Environmental Considerations

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 12,000.00	$12,000.00	$ 12,000.00		$ 36,000.00		$ 60,000.00	$ 12,000.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 12,000.00**	**$ 12,000.00**	**$ 12,000.00**	**$ -**	**$ 36,000.00**	**$ -**	**$ 60,000.00**	**$ 12,000.00**

Source of Cost Estimate	Inter-local Agreement					
Est. Annual Operating Costs	$ 2,500.00	**Projected Useful Life**	20 Years	**Additional Documentation?**	No	
City Manager Comments						

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Taser Replacement Purchase Agreement**		
Department	Police	**Dept. Priority**	2
Division		**Div. Priority**	2
CIP Category	Public Safety		

Purchase/Project Description

The Taser X7 (generation 7) less-lethal Electronic Control Weapon (ECW) came on to the market in mid-2018 and is a vastly more effective and efficient product that significantly reduces the risk of injury to officers and offers many additional options that will assist our officers in making it home safely to their families at the end of each tour.

The X7 streamlines the training, record keeping, and inventory management process with modern internet-based functionality. The Taser X7 has functionality that allows for the de-escalation of critical incidents without the deployment of the probes which compliments the Mental Health First Aid and Crisis Intervention Team training all SPPD officers have received.

The Taser Certification Plan spreads the purchase price over 5 years (interest free) and includes the Taser, holster, training and duty cartridges, rechargeable batteries, on-line annual training and instructor certification, network connected docking station, and a 5 year immediate replacement warranty. FY2022 is the second year of the 5 year purchase agreement.

Financial Impact of this Purchase/Project

The only financial impact, besides the 5 year purchase agreement, is the salary associated with the annual practical training and certification requirement but that was also in place with our previous Taser training program and is incorporated in our annual in-service training budget.

Environmental Considerations

Not applicable

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 41,760.00	$ 20,695.00	$ 41,760.00		$ 83,520.00		$ 167,040.00	$ 20,695.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances		$ 21,065.00					$ -	$ 21,065.00
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 41,760.00**	**$ 41,760.00**	**$ 41,760.00**	**$ -**	**$ 83,520.00**	**$ -**	**$ 167,040.00**	**$ 41,760.00**

Source of Cost Estimate	Axon Purchase Agreement					
Est. Annual Operating Costs	$ -	**Projected Useful Life**	5 Years	**Additional Documentation?**	No	
City Manager Comments						

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Bulletproof Vest Replacement**		
Department	Police	**Dept. Priority**	3
Division		**Div. Priority**	3
CIP Category	Public Safety		

Purchase/Project Description

The South Portland Police Department currently employs 56 sworn full-time police officers and 3 part-time police officers who are mandated through policy and recognized best practice to wear Kevlar bulletproof vests while working. The manufacturers of bulletproof vests report the Kevlar material breaks down over time and can no longer guarantee the required ballistic protection after 5 years. That being the case, sworn officers receive a bulletproof vest when hired and then on every 5 year anniversary going forward to keep them safely returning home to their loved ones at the end of each tour.

The Patrick Leahy Bulletproof Vest Partnership (BVP) initiative created by the Bulletproof Vest Partnership Grant Act of 1998 is a unique U.S. Department of Justice initiative designed to provide a critical resource to state and local law enforcement. Since 1999, the BVP program has awarded more than 13,000 jurisdictions a total of $522 million in federal funds for the purchase of over one million vests (1,395,976) as of February 2020. This initiative reimburses municipalities 50% of the costs associated with the purchase of individually fitted bulletproof vests in agencies that adopt mandatory wear policies.

As both a nationally and state accredited agency, South Portland Police Department maintains a mandatory wear policy and applies for the reimbursement after purchased vests are delivered and paid for as required by the BVP program. During FY2022, 30 sworn officers will require new vests at approximately $825.00 each ($24,750).

Financial Impact of this Purchase/Project

Besides the financial impact associated with 50% of the purchase price, there is no additional associated expenses for 5 years.

Environmental Considerations

Not applicable

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves	$ 12,375.00	$ 12,375.00					$ 12,375.00	$ 12,375.00
General Obligation Bonds							$ -	$ -
Grants	$ 12,375.00	$ 12,375.00					$ 12,375.00	$ 12,375.00
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 24,750.00**	**$ 24,750.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 24,750.00**	**$ 24,750.00**

Source of Cost Estimate	Atlantic Tactical (State Bid Price)				
Est. Annual Operating Costs	$ -	**Projected Useful Life**	5 Years	**Additional Documentation?**	No
City Manager Comments					

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Portable Radio Replacement**		
Department	Police	**Dept. Priority**	4
Division		**Div. Priority**	4
CIP Category	Public Safety		

Purchase/Project Description

This Capital Improvement request is for the purchase of 32 replacement dual band portable radios (Motorola APX 8000 $7,100.00 each) for the police department. The new units will replace the remaining 32 Motorola APX 7000 portable radios as part of a two year plan (FY2021 & FY2022) to replace this life safety equipment. The equipment currently being used is ten years old and no longer supported by warranty/parts.

The Motorola APX 7000 portable radio is no longer in production and has reached the end of its useful life expectancy. The department replaced 24 portable radios in FY2021 using appropriated and available CIP, Homeland Security Grant, and encumbered FY2020 funds.

CIP funding will be the only available funding source in FY2022 for this equipment that could make the difference between life or death for our officers.

Financial Impact of this Purchase/Project

Aside from the original expenses associated with the purchase of this equipment, there is no additional financial impact until the equipment comes out of warranty. After the equipment ages past the three (3) year manufacturer's warranty, repair and part replacement expenses would be covered by the Communications Equipment account in the police department budget.

Environmental Considerations

Not applicable

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 227,200.00	$ 227,000.00					$ 227,200.00	$ 227,000.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 227,200.00**	**$ 227,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 227,200.00**	**$ 227,000.00**

Source of Cost Estimate	Motorola Solutions Incorporated				
Est. Annual Operating Costs	$ -	**Projected Useful Life**	10 Years	**Additional Documentation?**	No
City Manager Comments					

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**AED Replacement**		
Department	Police	**Dept. Priority**	5
Division		**Div. Priority**	5
CIP Category	Public Safety		

Purchase/Project Description

Currently five (5) remaining SPPD AED's are outside of the 10-year life cycle identified by the manufacturer specifications. A two-year CIP plan request was brought forward to replace five (5) AED's in FY2021 and five (5) in FY2022 which would bring us up-to-date and lower the risk of equipment malfunction and failure significantly.

This piece of equipment is critical in the preservation of life for the populations we serve. The quote from Common Cents EMS Supply includes the purchase of five (5) AED's ($1200 each), five (5) sets of pediatric pads ($100 each), and five (5) lithium batteries ($300 each).

Financial Impact of this Purchase/Project

The financial impact of this purchase would be the costs associated with replacing pads after use and batteries when they wear out. The estimated financial impact would be aproximately $1,000.00 which is supported by the Medical Supplies line item in the FY2022 police department budget.

Environmental Considerations

Not applicable

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)		$ 8,000.00					$ -	$ 8,000.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances	$8,000.00						$ 8,000.00	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 8,000.00**	**$ 8,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 8,000.00**	**$ 8,000.00**

Source of Cost Estimate	Common Cents EMS Supply Quote					
Est. Annual Operating Costs	$ 1,000.00	**Projected Useful Life**	10 Years	**Additional Documentation?**	No	
City Manager Comments						

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Mobile Video System Replacement**		
Department	Police	**Dept. Priority**	6
Division		**Div. Priority**	6
CIP Category	Public Safety		

Purchase/Project Description

This Capital Improvement request is for the purchase of replacement vehicle video equipment for the Police Department. This equipment allows the recording of incidents and events as required by policy and provides video documentation of enforcement actions that can be used as evidence in a prosecution.

The equipment currently being used is no longer supported by warranty and has reached the end of its useful life expectancy. The new equipment will integrate seemlessly with the system backbone, which allows recorded data from the mobile units to be downloaded wirelessly from the vehicles to a server located in the police department, as well as, with our individual body worn cameras.

With significant and on-going advances in technology, we expect even more improved audio and video quality in the recordings, as well as, more efficient storage capability.

Financial Impact of this Purchase/Project

The estimated $75,000 cost in FY22 will replace all of the remaining outdated/out-of-warranty mobile units in this two year project (FY21 & FY22) and includes a three-year no fault warranty. The anticipated annual operating cost of $2,000 is primarily for repair of issues unrelated to warranty repairs.

Environmental Considerations

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 75,000.00	$ 75,000.00					$ 75,000.00	$ 75,000.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 75,000.00**	**$ 75,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 75,000.00**	**$ 75,000.00**

Source of Cost Estimate	WatchGuard Quote				
Est. Annual Operating Costs	$ 2,000.00	**Projected Useful Life**	5 Years	**Additional Documentation?**	No
City Manager Comments					

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Replacement Radar Equipment**		
Department	Police	**Dept. Priority**	8
Division		**Div. Priority**	8
CIP Category	Public Safety		

Purchase/Project Description

The requested funds will allow SPPD to replace five (5) antiquated and outdated in-car mobile Stalker Radar units that are currently working intermittenly and are literally on their last legs. These new units ($2,213.00 each) would be installed in police patrol vehicles regularly assigned to proactive and targeted speed enforcement.

One of the most frequent quality of life issues reported to SPPD is speeding vehicles in neighborhoods. This equipment is part of a requested two-year CIP plan (FY2021 & FY2022) to replace all the unsupported/end of life equipment in the 10 patrol vehicles taxied with mitigating these important quality of life issues. The Patrol Division made 10,000 motor vehicle stops and wrote over 1400 citations to reduce motor vehicle accidents and the associated fatalities.

This equipment is an important element in the department's mission/strategy to ensure the safety of our pedestrians and motoring public.

Financial Impact of this Purchase/Project

The only financial impact would likely be the return the city receives on the citations issued.

Environmental Considerations

Not applicable

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)		$11,065.00					$ -	$ 11,065.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances	$11,065.00						$ 11,065.00	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 11,065.00**	**$ 11,065.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 11,065.00**	**$ 11,065.00**

Source of Cost Estimate	Stalker Radar Quote #2046748				
Est. Annual Operating Costs	$ -	**Projected Useful Life**	5-10 Years	**Additional Documentation?**	No
City Manager Comments					

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Digital Storage (for body-worn and in-car video)**		
Department	Police	**Dept. Priority**	9
Division		**Div. Priority**	9
CIP Category	Public Safety		

Purchase/Project Description

The requested funds will support a two-year CIP plan (FY2021 & FY2022) request from the City of South Portland Information Technology Department to upgrade the equipment responsible for the digital storage of the South Portland Police Department body-worn and in-car camera sytems video. This footage is imperitive for criminal investigations, criminal prosecutions, public records requests, annual accreditation reviews, and citizen complaints and inquiries.

Financial Impact of this Purchase/Project

Aside from the purchase of this equipment there is, little to no finacial impact on the city.

Environmental Considerations

Not applicable

Funding Source(s)	**Year 1**		**Year 2**		**Year(s) 3+**		**TOTALS**	
	Dept. Request	**Manager Rec.**	**Dept. Request**	**Manager Rec.**	**Dept. Request**	**Manager Rec.**	**Dept. Request**	**Manager Rec.**
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 24,000.00	$ 24,000.00					$ 24,000.00	$ 24,000.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 24,000.00**	**$ 24,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 24,000.00**	**$ 24,000.00**

Source of Cost Estimate	Information Technology Department				
Est. Annual Operating Costs	$ -	**Projected Useful Life**	5-10 Years	**Additional Documentation?**	No
City Manager Comments					

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PUBLIC WORKS
AND
TRANSPORTATION

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	Crosstown Connector Overpass Feasibility		
Department	Planning & Development	**Dept. Priority**	3 of 4
Division	Planning	**Div. Priority**	
CIP Category	Public Works & Transportation		

Purchase/Project Description

The City has conducted three separate and progressive studies to assess options for a "crosstown connector" to link Main/Broadway to Highland from Cash Corner to the Wainwright Fields area.

Prior studies identified three potential paths of travel for the connector and provided high-level analysis of permitting and engineering next steps.

In the FY21 CIP, the Planning Division requested $150,000 to initiate environmental permitting through Maine DEP and engineering work to develop a draft plan for the connector. However, the funds were not appropriated as the project feasibility and optimal path of travel needed further refinement.

This FY22 CIP request covers an engineering assessment for feasibility and cost to construct bridge overpasses on the rail yards as this was a key barrier to completion of the connector. In the preliminary invoice for the cost of the connector, Sebago Technics allocated a contingency of $150,000 for issues related to "Unknowns at Railroad Crossing".

The cost estimate of $10,000 will cover further analysis as well as legal and engineering consultant fees to eliminate the unknowns at the railroad crossing and to develop a more refined concept plan for crossing the tracks.

Financial Impact of this Purchase/Project

This feasibility study will not create collateral fiscal impacts, however if feasibility is demonstrated, subsequent funding for design and eventual development of the connector would be submitted for consideration.

Environmental Considerations

A new connector would enhance the opportunity to support a node of infill development at Cash Corner, as well as improving our transit network interconnectivity.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 10,000.00	$ 10,000.00					$ 10,000.00	$ 10,000.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 10,000.00**	**$ 10,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 10,000.00**	**$ 10,000.00**

Source of Cost Estimate	Preliminary discussion with Sebago Engineering				
Est. Annual Operating Costs	$ -	**Projected Useful Life**	N/A	**Additional Documentation?**	No
City Manager Comments					

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Transit Stop Access Project**		
Department	Transportation	**Dept. Priority**	1
Division		**Div. Priority**	
CIP Category	Public Works & Transportation		

Purchase/Project Description

The Portland Area Comprehensive Transportation System (PACTS) "Transit Stop Access Project" has been in process for several years. GPCOG staff have managed the project and GP Metro Bus is the lead FTA grant recipient on behalf of South Portland and Biddeford, Saco Old Orchard Beach Transit.

The project has gone through several phases aimed at prioritizing and designing bus stop improvements for the three fixed route transit services in the PACTS region. It is expected the final design phase (IIB) will be completed in the first half of CY21 and construction will begin soon after. South Portland will receive $252,000 in FTA grant funds to complete these projects.

The city must pay the 80% local match of $63,000. The construction can include sidewalk improvements, crosswalks, curb ramps, bus shelters, benches improved signage, real-time display and a mini hub at Redbank. The amount PACTS has dedicated for construction in Phase III is not enough to cover all the work outlined in Phases I and II. It is expected there will be additional grant funding dedicated by PACTS for ongoing improvements in the coming years.

We request additional CIP funding for future years so we can take advantage of future grant opportunities and ensure we have funds available to add transit improvement to other city projects aimed at pedestrian improvements. As a point of reference, installation of one shelter is $15,000/shelter. We request setting aside $25,000 to build-up our transit stop improvement fund.

The South Portland Transit Advisory Committee has requested these types of improvements as well. Project link: https://www.gpcog.org/175/Transit-Stop-Access-Project

Financial Impact of this Purchase/Project

We do not have money in prior CIP balances to cover our local share. If we do not set aside our local match we would not be able to take advantage of the grant funds to improve access to transit stops in South Portland. The annual operating cost would include expenses for repair and graffiti removal for shelters and benches. We will also install and concrete pads as part of this project, which may also require maintenance over time.

Environmental Considerations

Improving access to transit and installing transit amenities such as shelters and benches will make riding transit more appealing and increase ridership, which is good for the environment.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 48,500.00	$ 48,500.00	$ 25,000.00		$ 25,000.00		$ 98,500.00	$ 48,500.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants	$ 252,000.00	$ 252,000.00					$ 252,000.00	$ 252,000.00
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances	$ 14,500.00	$ 14,500.00					$ 14,500.00	$ 14,500.00
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 315,000.00**	**$ 315,000.00**	**$ 25,000.00**	**$ -**	**$ 25,000.00**	**$ -**	**$ 365,000.00**	**$ 315,000.00**
Source of Cost Estimate	GPCOG based on splitting of funds with other agencies.							
Est. Annual Operating Costs	$ 5,000.00		**Projected Useful Life**		15	**Additional Documentation?**		Yes
City Manager Comments								

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TSAP Project Budget					
	2017 Phase I Initial Prioritization	*2019* Phase II PART A Conceptual Design Development	*2020* Phase II PART B Preliminary and Final Designs	*2022* Phase III Construction	Total
Revenues					
FTA 5303	$18,000	$32,000	$24,000		$74,000
GPCOG Match	$4,500	$8,000	$6,000		$18,500
Total Planning	**$22,500**	**$40,000**	**$30,000**		**$92,500**
FTA 5307	$88,000	$120,000	$372,685	$1,259,315	$1,840,000
Transit Agency Match	$22,000	$30,000	$93,171	$314,829	$460,000
Total Consultants/ Capital	**$110,000**	**$150,000**	**$465,856**	**$1,574,144**	$2,300,000
Total Revenues*	**$132,500**	**$190,000**	**$495,856**	**$1,574,144**	$2,392,500
Expenses					
GPCOG Labor	$22,250	$39,750	$29,750		$91,750
Direct Expenses	$250	$250	$250		$750
Total Planning	**$22,500**	**$40,000**	**$30,000**		**$92,500**
Consultant	$108,304	$138,773	$465,856	TBD	$712,934
Construction	n/a	n/a	n/a	$1,574,144	$1,574,144
Total Consultants/ Capital	**$108,304**	**$138,773**	**$465,856**	**$1,574,144**	$2,287,077
Total Expenses*	**$130,804**	**$178,773**	**$495,856**	**$1,574,144**	$2,379,577

Transit Agency Local Match				
Agency	% Match	*2019* Phase IIA	*2020* Phase IIB	*2022* Phase III
METRO	70%	$21,000	$65,220	$220,380
SPBS	20%	$6,000	$18,634	$62,966
BSOOB	10%	$3,000	$9,317	$31,483
Total	**100%**	**$30,000**	**$93,171**	**$314,829**

PACTS

GPCOG GREATER PORTLAND COUNCIL OF GOVERNMENTS

Memorandum of Understanding (MOU) Regarding Agency Roles For Phase II of the PACTS Transit Stop Access Project

Between the
Greater Portland Council of Governments (GPCOG),
Biddeford Saco Old Orchard Beach Transit (ShuttleBus-ZOOM),
Greater Portland Transit District (METRO),
and City of South Portland.

WHEREAS the Transit Stop Access Project (TSAP) is focused on prioritizing, designing, and constructing ADA, pedestrian, and bicycle improvements at and near fixed route bus stops in the Portland Area Comprehensive Transportation System (PACTS) region, including the service areas of Biddeford Saco Old Orchard Beach Transit (ShuttleBus-ZOOM), the Greater Portland Transit District (METRO), and bus service provided by the City of South Portland; and

WHEREAS the parties to this MOU are the Greater Portland Council of Governments (GPCOG), Biddeford Saco Old Orchard Beach Transit (ShuttleBus-ZOOM), the Greater Portland Transit District (METRO), and the City of South Portland ("the Parties"); and

WHEREAS, Phase I of the TSAP resulted in a prioritized list of bus stops that most need ADA and pedestrian improvements, a listing of possible pedestrian/bicycle facilities, possible locations for construction of mini-hubs, and recommendations for a project management structure to be used in Phase III; and

WHEREAS Phase II of the TSAP will focus on further prioritization, design and engineering with cost estimates, and development of project bid and construction documents; and

WHEREAS Phase II will be divided into two parts: Part A, conceptual design development, and Part B, preliminary and final designs, including project bid and construction documents; and

WHEREAS the PACTS Transit Committee (PTC) on February 8, 2018 approved the local match shares for this project, the dollar amounts for which have since been updated (percentages remained the same) to accommodate the increase in the Phase II budget; authorized the creation of a TSAP Project Management Team which will source consultant assistance and make recommendations to PTC for the use of Phase III construction funding; and imposed on the TSAP Project Management Team obligations to seek PTC approval for any of the following actions: significant changes to local match allocation, changes to transit agencies participating in the project and significant funding amount changes for the overall project; and

WHEREAS GPCOG will provide project management for Phase II, Parts A and B, paid for through Federal Transit Administration (FTA) 5303 planning funds and at least $8,000 in match from GPCOG member dues; and

WHEREAS GPCOG's project management role will terminate at the end of Phase II and GPCOG will play an advisory role in Phase III; and

WHEREAS consultants will be hired for Phase II Parts A and B and paid with FTA 5307 funds with a 20% local match from participating transit agencies;

NOW THEREFORE the Parties agree as follows:

1. TSAP Project Management Team. The TSAP Project Management Team will be composed of representatives of the Parties with the GPCOG representative serving as Project Manager. The TSAP Project Management Team will steer the project and will have the following decision-making authority:

   a) Act on recommendations from the TSAP Advisory Group.
   b) Approve Phase II consultant RFPs.
   c) Appoint the consultant selection committee, if needed.
   d) Approve consultant selection.
   e) Recommend reallocation of Phase III capital funds within the project based on the Phase II prioritization, design and engineering work (i.e., using funds to build new bus stops in addition to repairing existing).
   f) Recommend a final set of Phase II recommendations to the PTC.

2. TSAP Advisory Group. The TSAP Project Management Team will seek technical assistance and input from the TSAP Advisory Group. The Advisory Group, which has no formal authority and may not issue directives, will meet as needed and provide technical assistance to the Project Management Team in the following areas:

   a) Advice on key decisions.
   b) Federal, state and local regulatory concerns.
   c) Municipal priorities, coordination with related projects, and operational impacts.
   d) Preliminary property owner coordination.

   The members of the Advisory Group will include one representative each from the participating transit agencies, one PACTS staff, one SMPDC staff, and three to five representatives from PACTS member municipalities who bring knowledge and skills in public works, engineering, planning and economic development.

3. Roles of GPCOG and the Transit Agencies.

   a) The Greater Portland Council of Governments will provide overall project management for Phase II including:

      - Convene the Project Management Team and the TSAP Advisory Group.
      - Develop the first draft RFP and work with the Advisory Group and the Project Management Team to finalize it.
      - Facilitate selection of the consultant, following FTA regulations.
      - Contract with the selected consultant.
      - Provide oversight of and pay the consultant.

- Ensure input on and awareness of the project by appropriate stakeholders including but not limited to the PACTS Committees and the planning departments in the involved communities.

b) The Greater Portland Transit District (METRO), which will also serve as the FTA grantee, will:

- Participate on the Project Management Team and the TSAP Advisory Group.
- Apply for FTA funds and complete necessary reporting.
- Pay 70% of the 20% local match, currently estimated at $21,000 for Phase II, Part A, with additional funds necessary for Phase II, Part B, for the work of the consultant.
- Collect the matching funds from ShuttleBus-ZOOM and the City of South Portland.
- Reimburse GPCOG for payment of the consultant.

c) The City of South Portland will:

- Participate on the Project Management Team and the TSAP Advisory Group.
- Pay 20% of the 20% local match, currently estimated at $6,000 for Phase II, Part A, with additional funds necessary for Phase II, Part B, for the work of the consultant, to the METRO.

d) Biddeford Saco Old Orchard Beach Transit (ShuttleBus-ZOOM) will:

- Participate on the Project Management Team and the TSAP Advisory Group.
- Pay 10% of the 20% local match, currently estimated at $3,000 for Phase II, Part A, with additional funds necessary for Phase II, Part B, for the work of the consultant, to the METRO.

IN WITNESS WHEREOF the parties have executed this memorandum of understanding by their duly authorized representatives:

Greater Portland Council of Governments (GPCOG)

By: Kristina Egan, Executive Director

Dated: 2/14/19

Biddeford Saco Old Orchard Beach Transit (ShuttleBus-ZOOM)

By: H. Rodney Carpenter, Interim Executive Director

Dated: 2-14-19

Greater Portland Transit District (METRO)

By: Greg Jordan, General Manager

Dated: 2/14/19

City of South Portland

By: Scott Morelli, City Manager

Dated: 2/7/19

Memorandum of Understanding
Regarding Phase II-B of the Transit Stop Access Project

Between:
Greater Portland Council of Governments
Biddeford Saco Old Orchard Beach Transit
Greater Portland Transit District
City of South Portland

WHEREAS, in February 2019 the parties listed above entered into a memorandum of understanding (MOU) that:

- Described the background and objectives of the Transit Stop Access Project (TSAP), especially those of Phase II of the project;
- Established the TSAP Project Management Team and outlined the authorities of that group, including its authority to recommend reallocation of Phase III capital funds within the project based on the Phase II prioritization, design, and engineering work;
- Established the TSAP Advisory Group and outlined the advisory role of that group; and,
- Outlined the roles and responsibilities of the parties, including the percentage of the required local match for the project each transit provider would contribute, an estimated contribution for Phase II-A, and an understanding that additional funds from each transit provider would be necessary for the work of the consultant in Phase II-B; and

WHEREAS, upon review of the selected consultant's price proposal, the TSAP Project Management Team recommended reallocating $215,856 from Phase III to Phase II-B to fully fund preliminary design work at all transit stops identified in Phase II-A for improvements, and to ensure improvements will be shovel-ready for future capital funding opportunities, as opposed to significantly reducing the project scope or the number of stops for which preliminary and final design would be completed; and

WHEREAS, the transit providers, collectively, contribute local match funding in support of the project, equal to 20 percent of the total consultant costs (in Phase II-B) and capital costs (in Phase III), according to the following percentages:

- Greater Portland Transit District: ..... 70 percent
- The City of South Portland:..... 20 percent
- Biddeford Saco Old Orchard Beach Transit:..... 10 percent

AND WHEREAS, reallocating this funding affected PACTS' 2020 Six-Year Capital and Operations Plan (SYCOP) and the FFY 2019–2020 FTA Funding Split Letter, which required and received the approval of the PACTS Transit Committee and will be revised accordingly.

NOW THEREFORE; the parties agree as follows:

- That this MOU is intended to supplement the aforementioned February 2019 MOU by providing updated local match figures required of each transit provider for TSAP Phase II-B, and is not intended to negate or invalidate any part of that agreement; and

- That for Phase II-B, each transit provider shall contribute total local match funding as follows:
  - Greater Portland Transit District: $65,220
  - The City of South Portland:.....$18,634
  - Biddeford Saco Old Orchard Beach Transit:..... $9,317

The parties hereby enter into this agreement:

Greater Portland Council of Governments

Signed: _____

Printed: _____

Date: _____

Biddeford Saco Old Orchard Beach Transit

Signed: _____

Printed: _____

Date: _____

Greater Portland Transit District

Signed: _____

Printed: _____

Date: _____

City of South Portland

Signed: _____

Printed: _____

Date: _____

LIST OF STOPS

STOP LOCATION	STOP ID
BIDDEFORD	
YMCA BIDDEFORD	0
ALFRED STREET	35
BIDDEFORD CROSSING - TARGET	28A
BIDDEFORD CROSSING - MARKET BASKET	28B
SMHC BIDDEFORD CAMPUS	30A
FALMOUTH	
CLEARWATER DRIVE & 202 ROUTE 1	704
HAT TRICK DR & DEPOT ROAD	743
CLEARWATER DRIVE & WALMART	900
OLD ORCHARD BEACH	
CHAMBER OF COMMERCE	85
PORTLAND	
ALLEN AVE & 50 ALLEN AVE	11
AUBURN ST & 93 AUBURN ST	14
AUBURN ST & LYSETH MOORE ST	24
AUBURN ST & CROQUET LN	25
AUBURN ST & 246 AUBURN ST	26
AUBURN ST & RUSTIC ST	29
BRACKETT ST & GRAY ST	43
BRACKETT ST & SPRING ST	44
CONGRESS ST & 1189 CONGRESS ST	158
CONGRESS ST & BOODY ST	176
2195 CONGRESS ST & UNUM WEST (EB)	178
CONGRESS ST & 1412 CONGRESS ST	182
DANFORTH ST & HIGH ST	201
DANFORTH ST & SCHOOL ST	203
EASTERN PROMENADE & WALNUT ST	218
FOREST AVE & 550 FOREST AVE	240
FOREST AVE & BAXTER BLVD/USM	245
FOREST AVE & BEDFORD ST/USM	247
FOREST AVE & BELMONT ST	249
FOREST AVE & 895 FOREST AVE	254
FOREST AVE & 880 FOREST AVE	255
FOREST AVE & FALMOUTH ST	256
FOREST AVE & NEWTON ST	272
FOREST AVE & PARK AVE	274
FOREST AVE & PREBLE ST EXT	279
FOREST AVE & WALTON ST (NB)	289
FOREST AVE & WALTON ST (SB)	290
PREBLE ST EXT & 295 FOREST AVE	301
INDIA ST & 65 INDIA ST	308
NORTH ST & QUEBEC ST	394
OXFORD ST & ALDER ST	399
PARK AVE & HIGH ST	405
PARK AVE & 189 PARK AVE	410
PORTLAND ST & FOREST AVE	421
SPRING ST & STATE ST	490
STATE ST & 100 STATE ST	499

STOP LOCATION	STOP ID
PORTLAND	
STEVENS AVE & 825 STEVENS AVE	511
STEVENS AVE & CONGRESS ST	516
STEVENS AVE & RACKLEFF ST	523
STEVENS AVE & TWIN KNOLLS LN	529
TEMPLE ST & FEDERAL ST	535
WASHINGTON AVE & E. PROMENANDE (SB)	579
WASHINGTON AVE & GALVIN ST	591
WASHINGTON AVE & MARION ST	607
WASHINGTON AVE & NORTHPORT DR	612
WASHINGTON AVE & PRESUMPSCOT ST	619
WASHINGTON AVE & W. PRESUMPSCOT ST	620
WASHINGTON AVE & E. PROMENANDE (NB)	621
CONGRESS ST & NORTH ST	679
CONGRESS ST & 181 CONGRESS ST	680
CUMBERLAND AVE & FRANKLIN ST	682
NORTH ST & 143 NORTH ST	692
WASHINGTON AVE & VERANDA ST	700
2195 CONGRESS ST & UNUM WEST (WB)	806
CONGRESS ST & BLUEBERRY LN	807
YORK ST & PLEASANT ST	1183
SACO	
SACO TRAIN STATION	52
SOUTH PORTLAND	
BROADWAY & LINCOLN ST (WB)	1020
BROADWAY & STROUT ST (EB)	1030
BROADWAY & ANTHOINE	1037
BROADWAY & LINCOLN ST (EB)	1042
BROADWAY & STROUT ST (WB)	1047
MAINE MALL RD & 195 MAINE MALL RD	1114
MAINE MALL RD & GOODWILL	1115
PILLSBURY ST & COTTAGE RD	1134
PREBLE ST & FORT RD	1137
WESTBROOK ST & REDBANK (MINI-HUB)	1142
SAWYER & FERRY VILLAGE	1147
FORT RD & SMCC	1158
WESTBROOK ST & LANDRY VILLAGE	1171
WESTBROOK ST & TEMPLE BETH HAMM	1172
WESTERN AVE & 371 WESTERN AVE	1178
WESTBROOK	
BROWN ST & WALKER ST (WB)	103
BROWN ST & WALKER ST (EB)	104
MAIN ST & 380 MAIN ST	327
MAIN ST & LIZA HARMON DR	330
MAIN ST & 795 MAIN ST	341
MAIN ST & 389 MAIN ST	344
MAIN ST & 800 MAIN ST	349
MAIN ST & YORK ST	353
MAIN ST & RIVERSIDE ST	486

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GREATER PORTLAND COUNCIL OF GOVERNMENTS (GPCOG) TRANSIT STOP ACCESS PRIORITIZATION PROJECT PHASE IIB

PRELIMINARY PLANS
FEB 3, 2021

Stantec

GPCOG
GREATER PORTLAND COUNCIL OF GOVERNMENTS

PROJECT INFORMATION		SIGNATURE	
PROGRAM	TSAP		
PROJECT MANAGER	ANDREW CLARK		
DESIGNER	LAUREN WEEK, PE	P.E. NUMBER	
CONSULTANT	STANTEC CONSULTING INC.		
PROJECT RESIDENT			
CONTRACTOR		DATE	
PROJECT COMPLETION DATE			

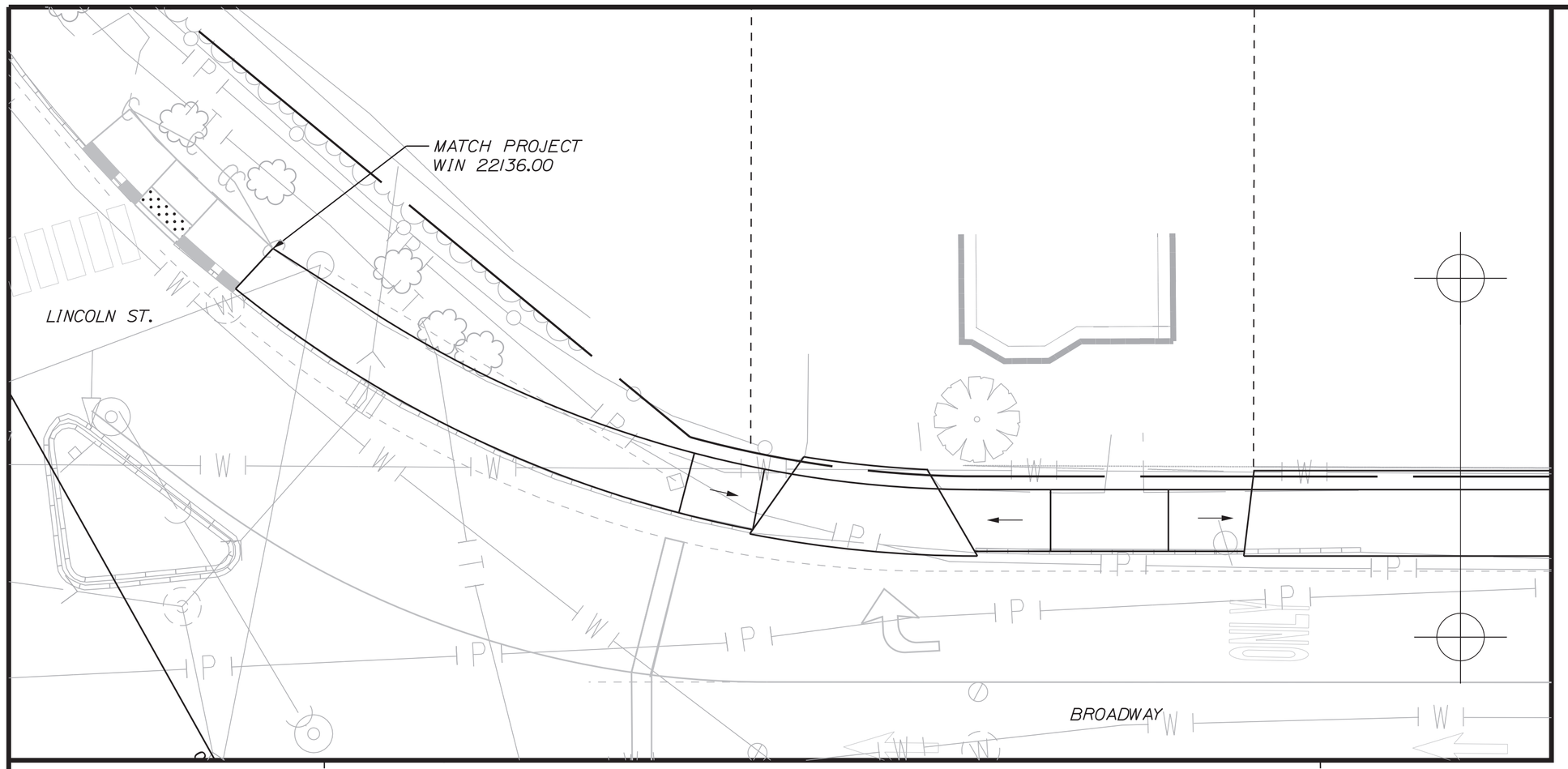
TRANIST STOP ACCESS PROJECT PHASE IIB

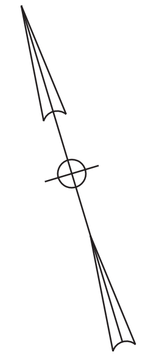
TITLE SHEET

SHEET NUMBER 1

OF 74

Filename: ...\00\HIGHWAY\MSTA_Title.dgn Division: HIGHWAY Username: TGLEESON Date:2/11/2021
289





TRANSIT STOP #1020

TRANSIT STOP #1042

PLAN

10 0 10 20

Scale of Feet

Stantec

GPCOG
GREATER PORTLAND COUNCIL OF GOVERNMENTS

PROJ. MANAGER LAUREN WEEKS	BY	DATE
DESIGN-DETAILED	PLP	
CHECKED-REVIEWED	LEM	
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1	THG	JAN 2021
REVISIONS 2	WRM	JAN 2021
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
BROADWAY STREET

STOP ID NO. 1020 & NO. 1042

SHEET NUMBER

56

OF 74

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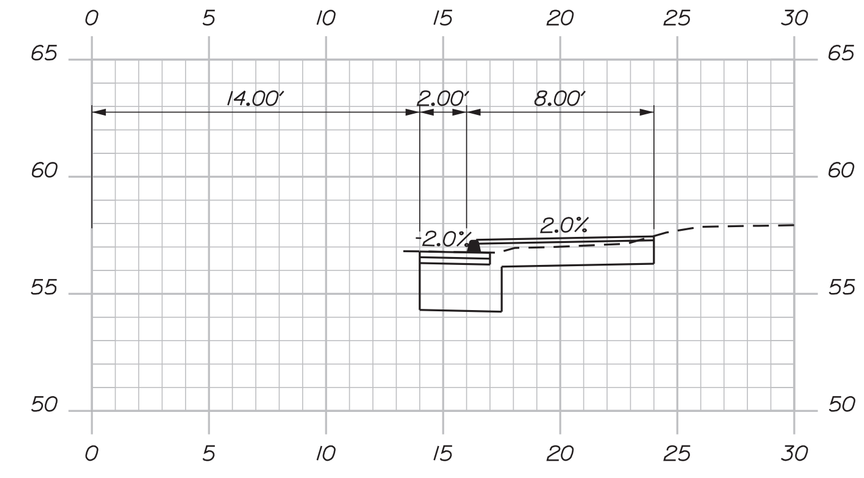
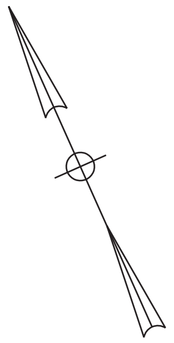
280

Filename: ...\MSTA_Spcen_Stop1030&1047.dgn Username: TGLEESON Division: HIGHWAY Date:2/11/2021



402+92.00



WHITEHALL AVENUE

N23°52'39.57"E

WHITEHALL AVE.

TRANSIT STOP #1047

RESET BUS STOP SIGN

SIDEWALK RAMP DOWN (TYP.)

SIDEWALK LANDING AREA

40' BUS

SAWCUT (TYP.)

BROADWAY

401+00

500+00

402+00

S65°52'25.24"E

403+00

BROADWAY

16.0'

40' BUS

BUS CLEAR ZONE (TYP.)

BENCH

BUS LANDING AREA (TYP.)

SIDEWALK LANDING AREA

STROUT ST.

SIDEWALK LANDING AREA

STROUT STREET

TRANSIT STOP #1030

PLAN

10 0 10 20

Scale of Feet

Stantec

GPCOG
GREATER PORTLAND COUNCIL OF GOVERNMENTS

PROJ. MANAGER: LAUREN MEEK, PE			
DESIGN-DETAILED	PLP	THG	JAN 2021
CHECKED-REVIEWED	LEM	WRM	JAN 2021
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
BROADWAY STREET

STOP ID NO. 1030 & NO. 1047

SHEET NUMBER

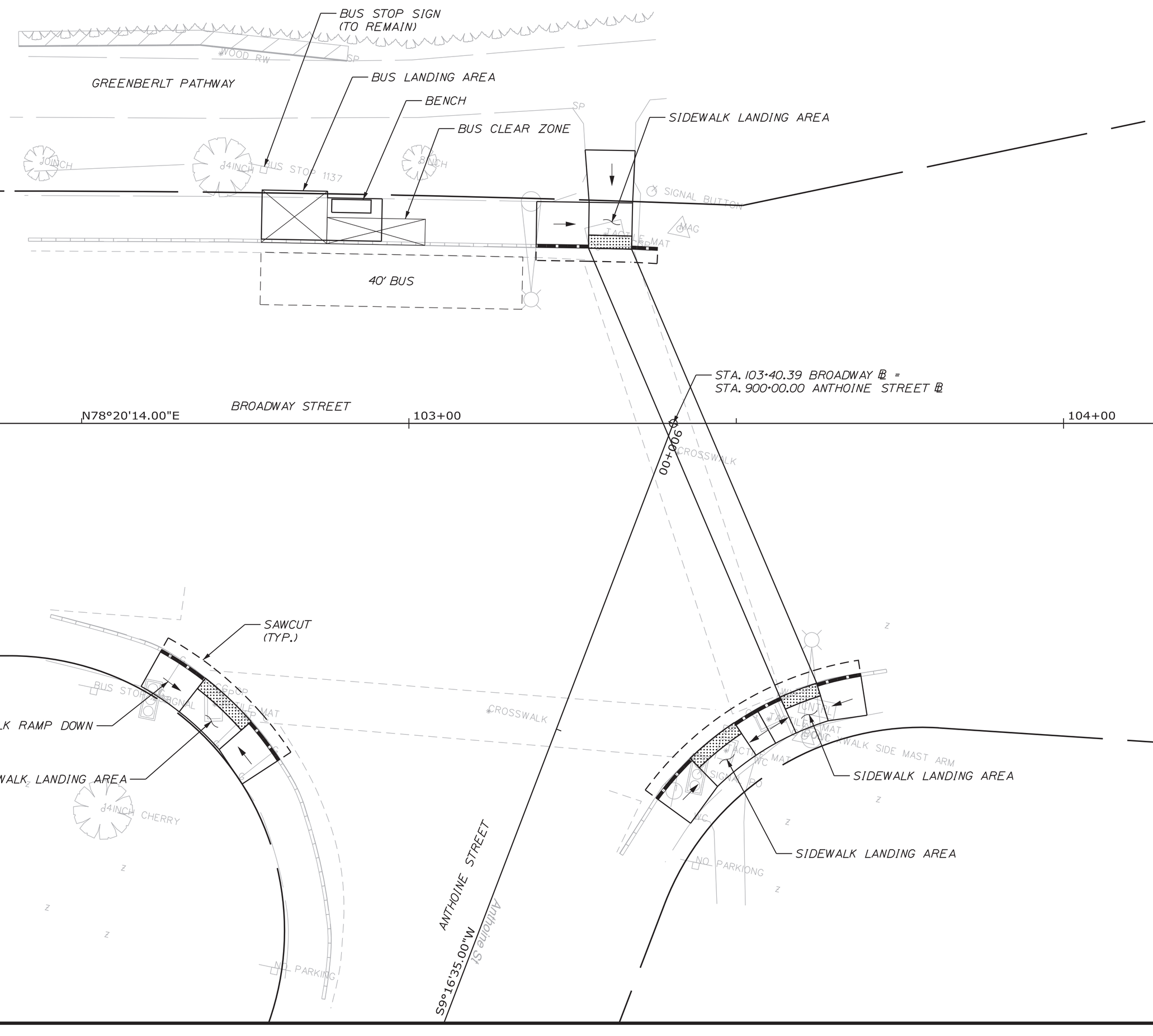
57

OF 74

Filename: ...\MSTA_Spocean_Stop1037.dgn Division: HIGHWAY Username: TGLEESON Date:2/11/2021

282

TRANSIT STOP #1037



PLAN

10 0 10 20

Scale of Feet

Stantec

GPCOG
GREATER PORTLAND
COUNCIL OF GOVERNMENTS

PROJ. MANAGER: LAUREN MEEK, PE			
DESIGN-DETAILED	PLP	BY	DATE
CHECKED-REVIEWED	LEM	THG	JAN 2021
DESIGN2-DETAILED2		WRM	JAN 2021
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
BROADWAY STREET

STOP ID NO. 1037

SHEET NUMBER

58

OF 74

TRANSIT STOP #1114

PEDESTAL POLE & FOUNDATION

SIDEWALK LANDING AREA

BUS CLEAR ZONE (TYP.)

RESET BUS STOP SIGN

BENCH

BUS LANDING AREA (TYP.)

40' BUS

MAINE MALL ROAD

293+00

294+00

295+00

PC = STA. 293+73.50

SAWCUT (TYP.)

SIDEWALK LANDING AREA

SIDEWALK LANDING AREA

MALLSIDE ENTRANCE

PEDESTAL POLE & FOUNDATION

CURVE DATA #1
PI = 295+19.54
D = 5°43'46.5"
Δ = 16°37'01.6" Rt.
R = 1000.00'
L = 290.02'
T = 146.04'
E = 10.61'

PLAN

10 0 10 20

Scale of Feet

GPCOG
GREATER PORTLAND COUNCIL OF GOVERNMENTS

PROJ. MANAGER LAUREN WEEKS	BY	DATE
DESIGN-DETAILED	PLP	JAN 2021
CHECKED-REVIEWED	LEM	JAN 2021
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
MAINE MALL ROAD

STOP ID NO. 1114

SHEET NUMBER

59

OF 74

Stantec

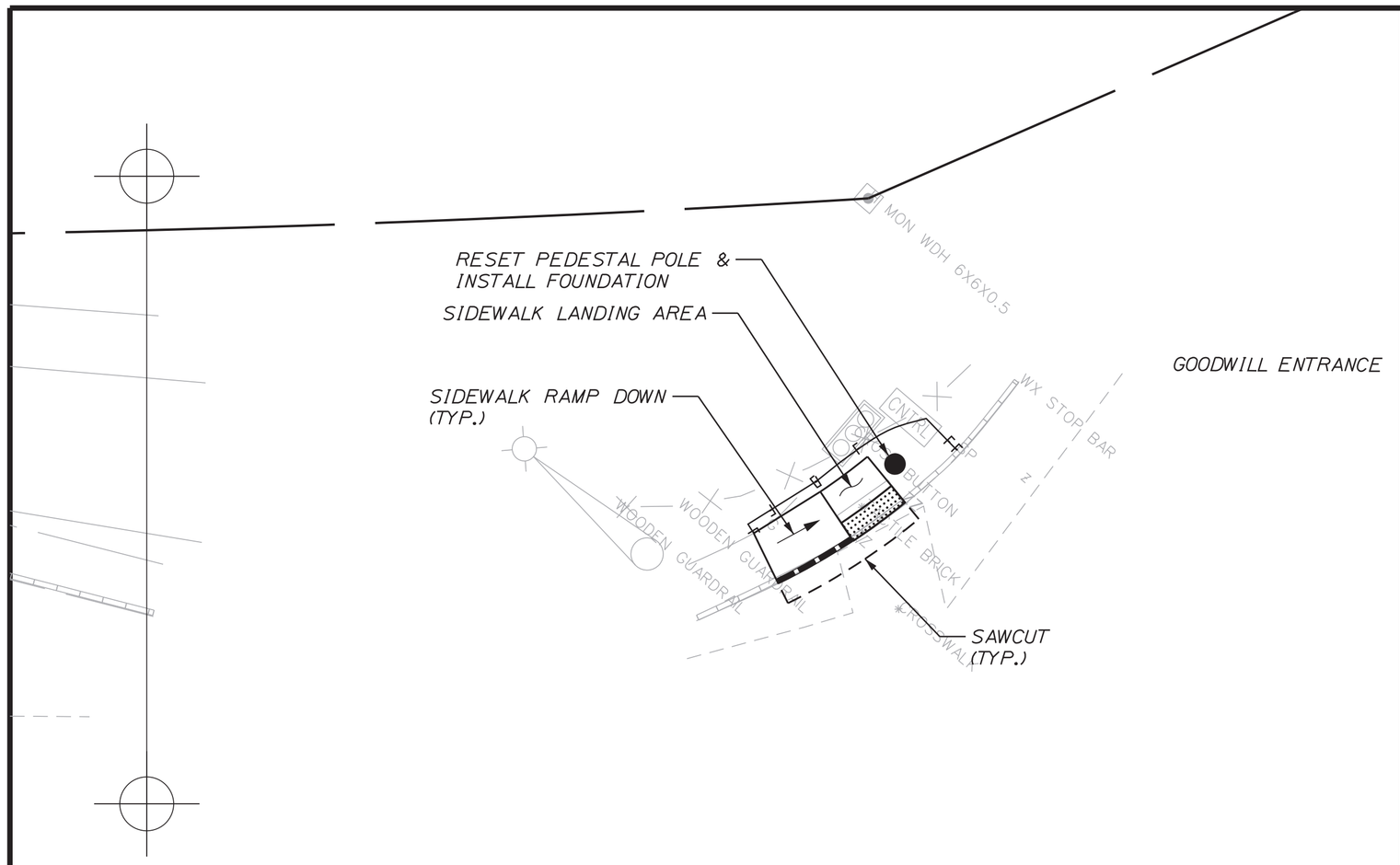
Filename: ...\MSTA_Spmall_Stop1114.dgn Username: TGLEESON Date:2/11/2021

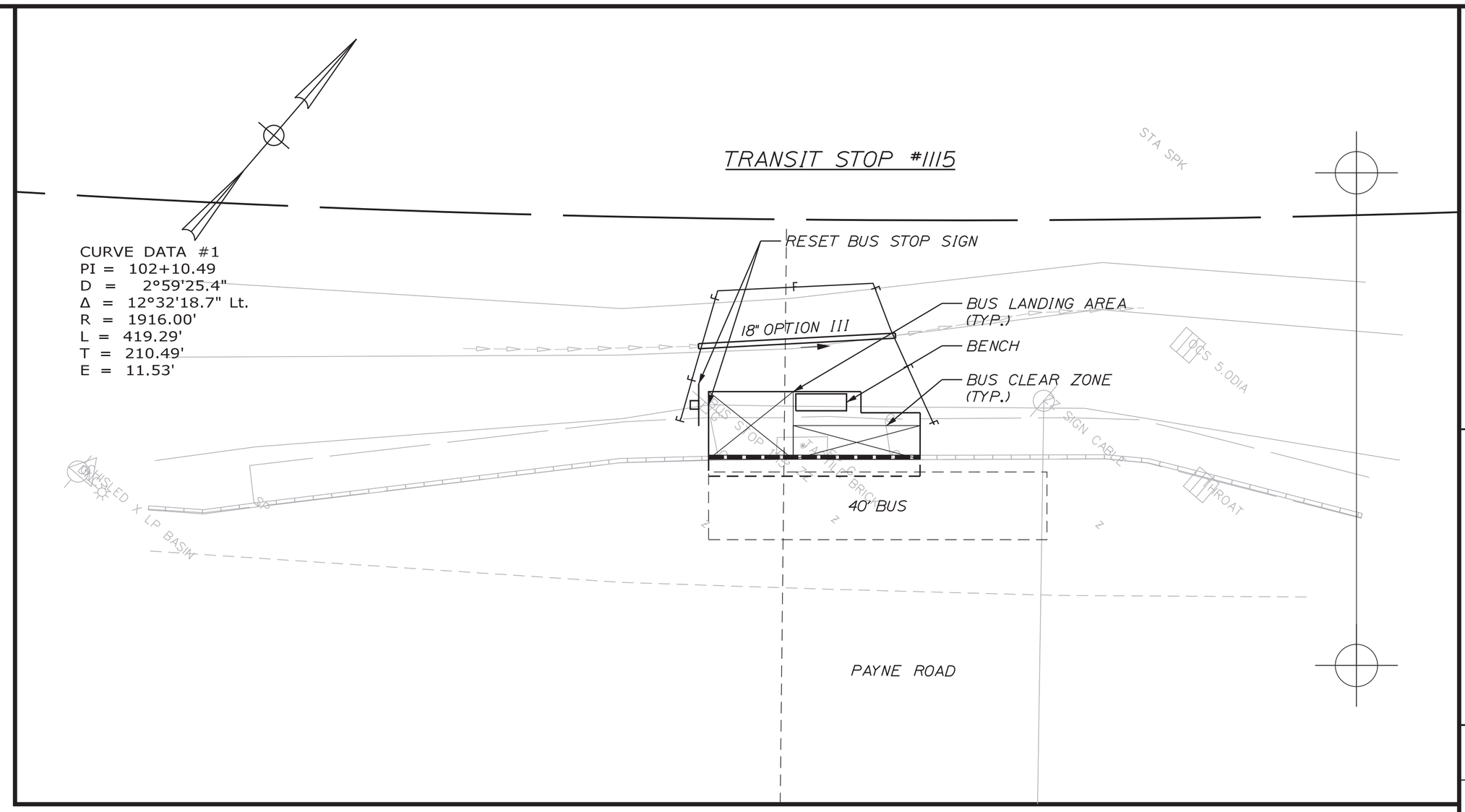
Division: HIGHWAY

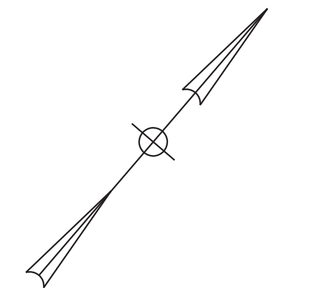
293

Filename: ...\MSTA_Spmoll_Stop1115.dgn Division: HIGHWAY Username: TGLEESON Date:2/11/2021

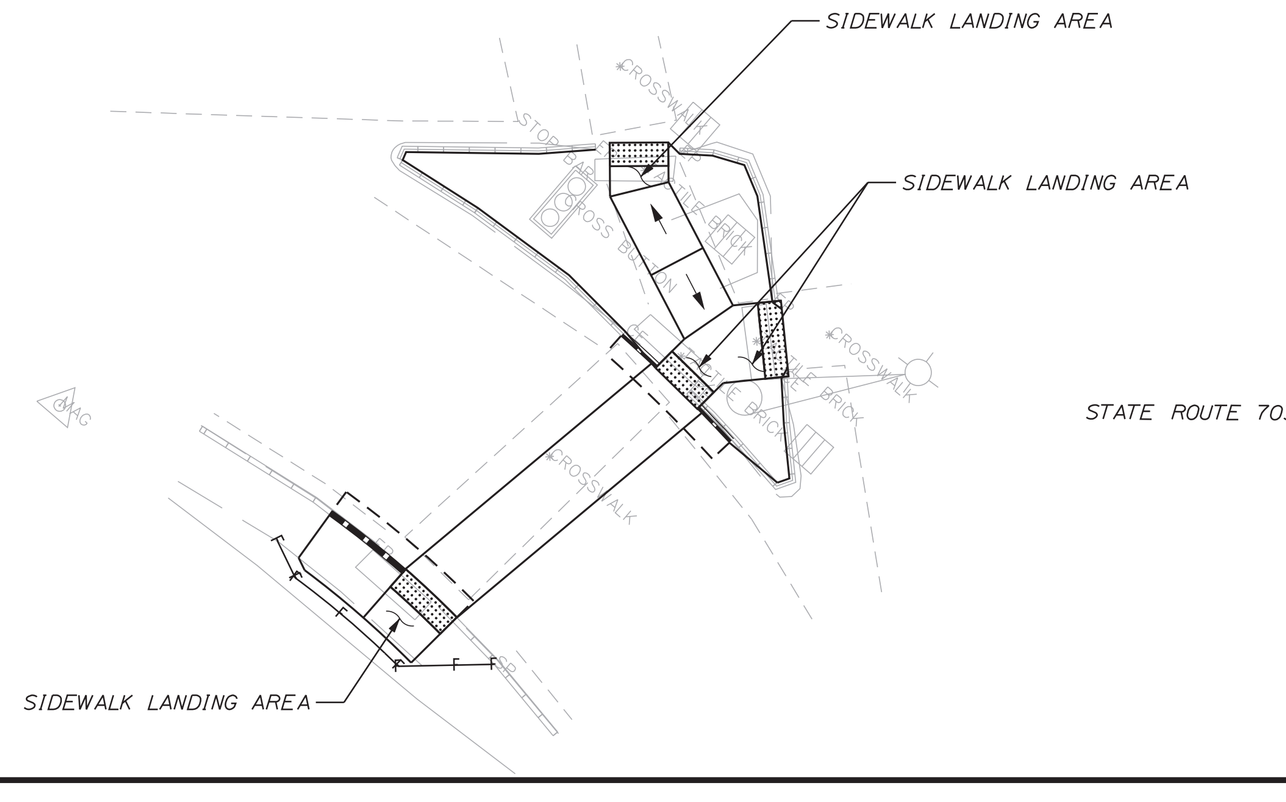
294



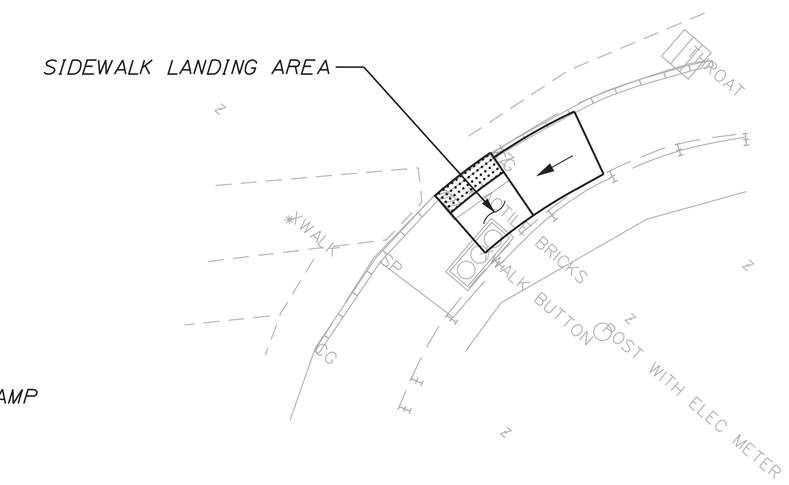




MAINE MALL ROAD



STATE ROUTE 703 ON & OFF RAMP



PLAN

10 0 10 20

Scale of Feet

Stantec

GPCOG
GREATER PORTLAND COUNCIL OF GOVERNMENTS

PROJ. MANAGER LAUREN MEEK, PE			
DESIGN-DETAILED	PLP	THG	JAN 2021
CHECKED-REVIEWED	LEM	WRM	JAN 2021
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
MAINE MALL ROAD

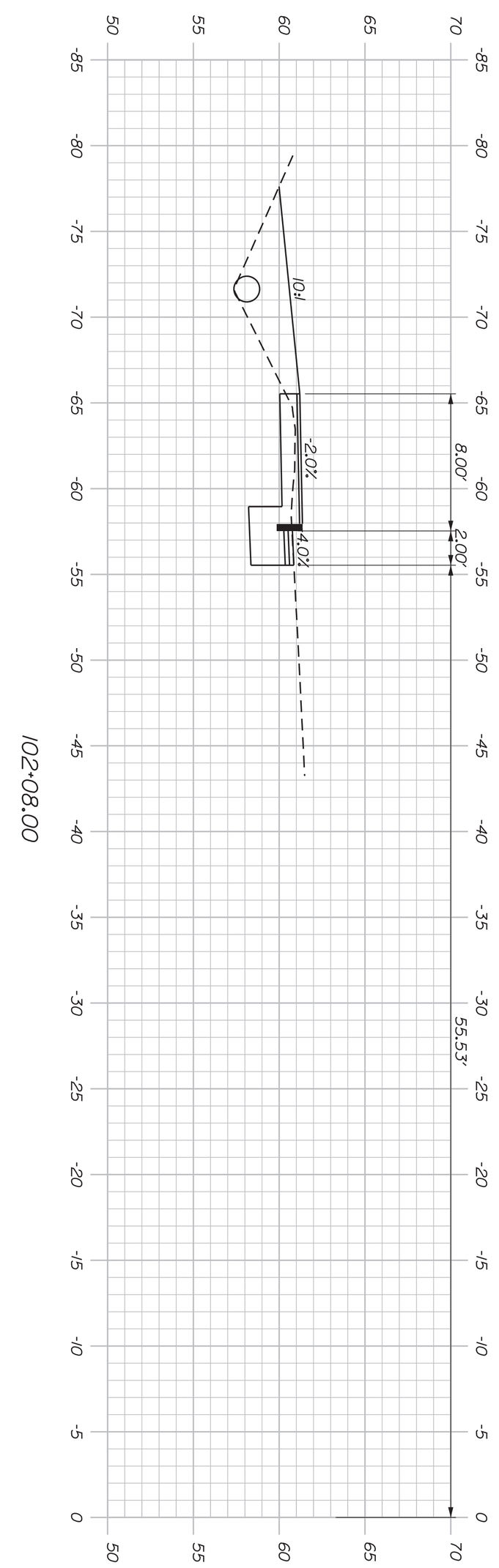
STOP ID NO. 1115

SHEET NUMBER

60

OF 74

Filename: ...\MSTA_Spmall_Stop1115.dgn Division: HIGHWAY Username: TGLEESON Date:2/11/2021



Stantec

PROJ. MANAGER LAUREN MEEK, PE		BY	DATE
DESIGN-DETAILED	PLP	THC	JAN 2021
CHECKED-REVIEWED	LEM	WRM	JAN 2021
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

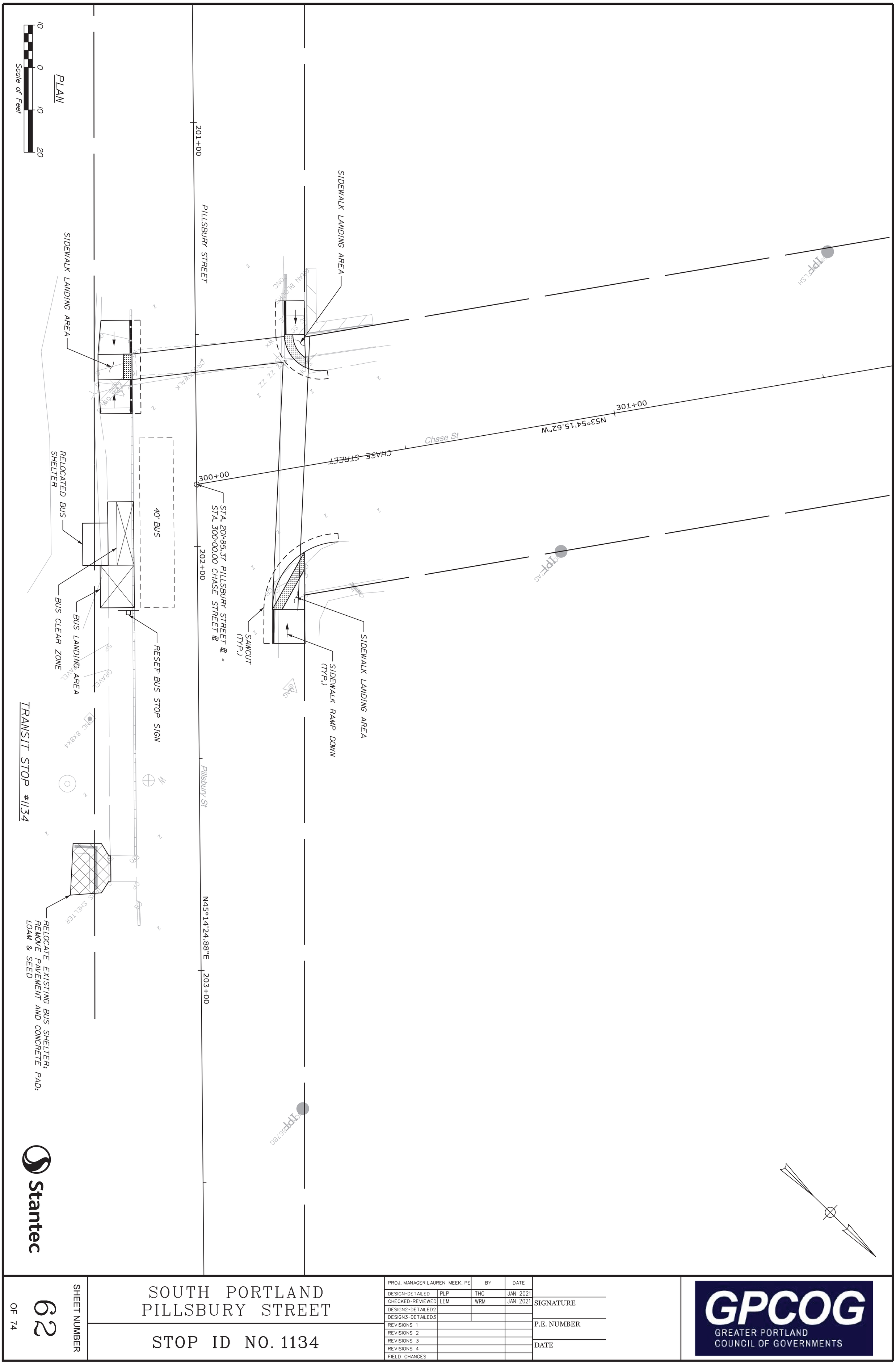
SOUTH PORTLAND
MAINE MALL ROAD

STOP ID NO. 1115

SHEET NUMBER 61 OF 74

GPCOG
GREATER PORTLAND COUNCIL OF GOVERNMENTS

Filename: ...\MSTA_Spocean_Stop1134.dgn Division: HIGHWAY Username: TGLEESON Date:2/11/2021



PROJ. MANAGER LAUREN MEEK, PE		BY	DATE
DESIGN-DETAILED	PLP	THG	JAN 2021
CHECKED-REVIEWED	LEM	WRM	JAN 2021
DESIGN2-DETAILED2			
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REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
PILLSBURY STREET

STOP ID NO. 1134

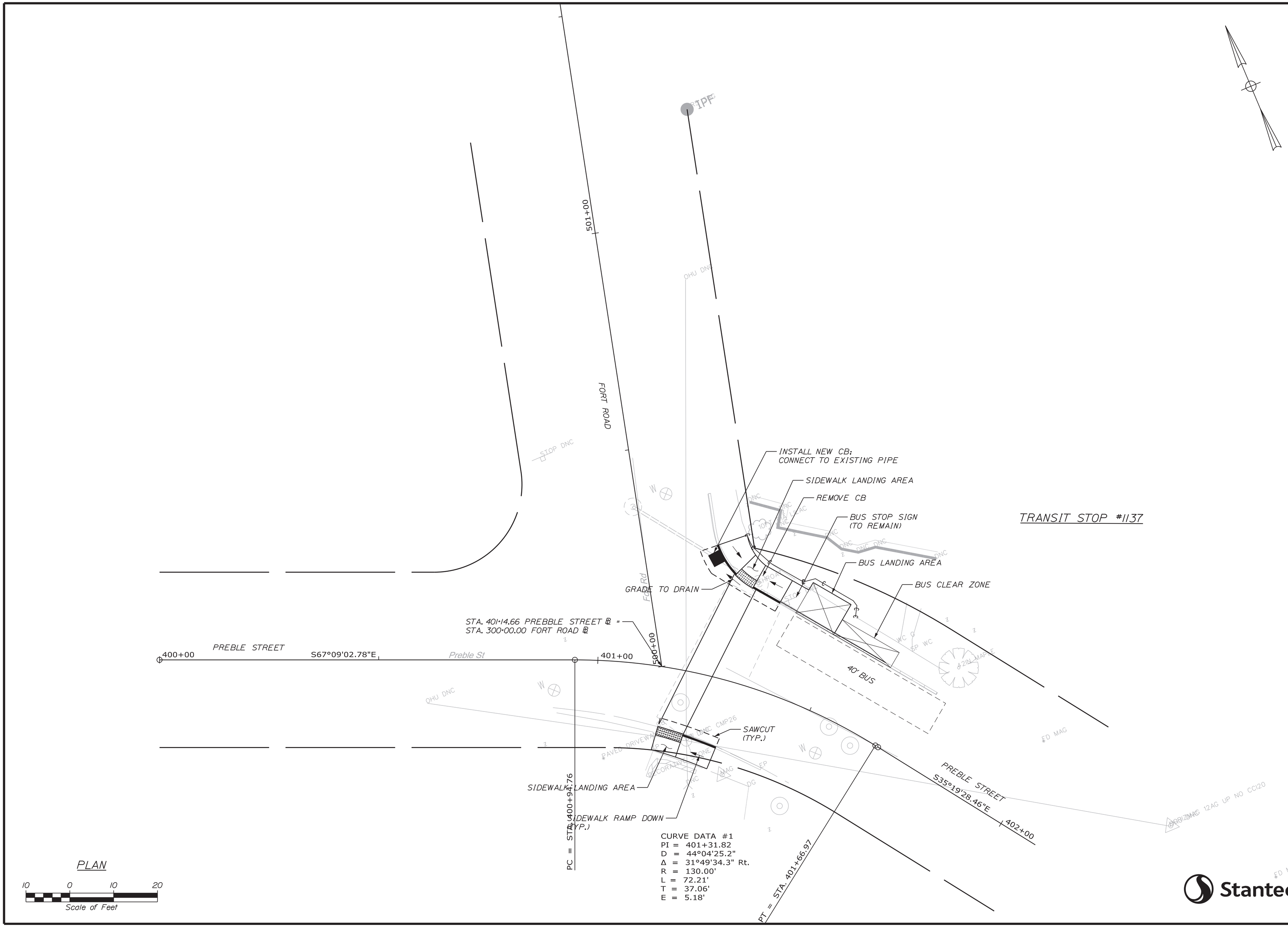
SHEET NUMBER 62 OF 74

GPCOG
GREATER PORTLAND COUNCIL OF GOVERNMENTS

Filename: ...\MSTA_Spoceon_Stop1137.dgn Username: TGLEESON Date:2/11/2021

Division: HIGHWAY

287



GPCOG
GREATER PORTLAND COUNCIL OF GOVERNMENTS

PROJ. MANAGER	LAUREN WEEKS, PE	BY	DATE
DESIGN-DETAILED	PLP	THG	JAN 2021
CHECKED-REVIEWED	LEM	WRM	JAN 2021
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
PREBLE STREET

STOP ID NO. 1137

SHEET NUMBER

63

OF 74

Filename: ...\MSTA_Spmall_Stop1142.dgn Division: HIGHWAY Username: TGLEESON Date:2/11/2021

PLAN

Scale of Feet

10 0 10 20

MCARTHUR STREET

701+00

S13°23'43.26"E

601+00

MCARTHUR STREET

S48°23'08.15"E

602+00

403+00

404+00

603+00

FUTURE BUILDING

EXISTING SHELTER (TO REMAIN)

BENCHES

BIKE RACKS

40' BUS

RESET BUS STOP SIGN

BUS CLEAR ZONE (TYP.)

BUS LANDING AREA (TYP.)

SAWCUT (TYP.)

SIDEWALK LANDING AREA

SIDEWALK LANDING AREA

SIDEWALK RAMP DOWN (TYP.)

CROSSWALK

CROSSWALK

CROSSWALK

TACTILE MAT

TACTILE MAT

CURVE DATA #1
PI = 402+86.72
D = 8°57'08.9" LT.
DA = 48°15'54.9"
R = 640.00'
L = 539.13'
T = 286.72'
E = 61.29'

STA. 404+13.78 WESTBROOK STREET ℄
STA. 603+04.62 MACARTHUR CIRCLE EAST ℄

TRANSIT STOP #1142
(MINI-HUB)

SHEET NUMBER 64 OF 74

SOUTH PORTLAND
WESTBROOK STREET

STOP ID NO. 1142

PROJ. MANAGER LAUREN MEEK, PE		BY	DATE
DESIGN-DETAILED	PLP	THC	JAN 2021
CHECKED-REVIEWED	LEM	WRM	JAN 2021
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

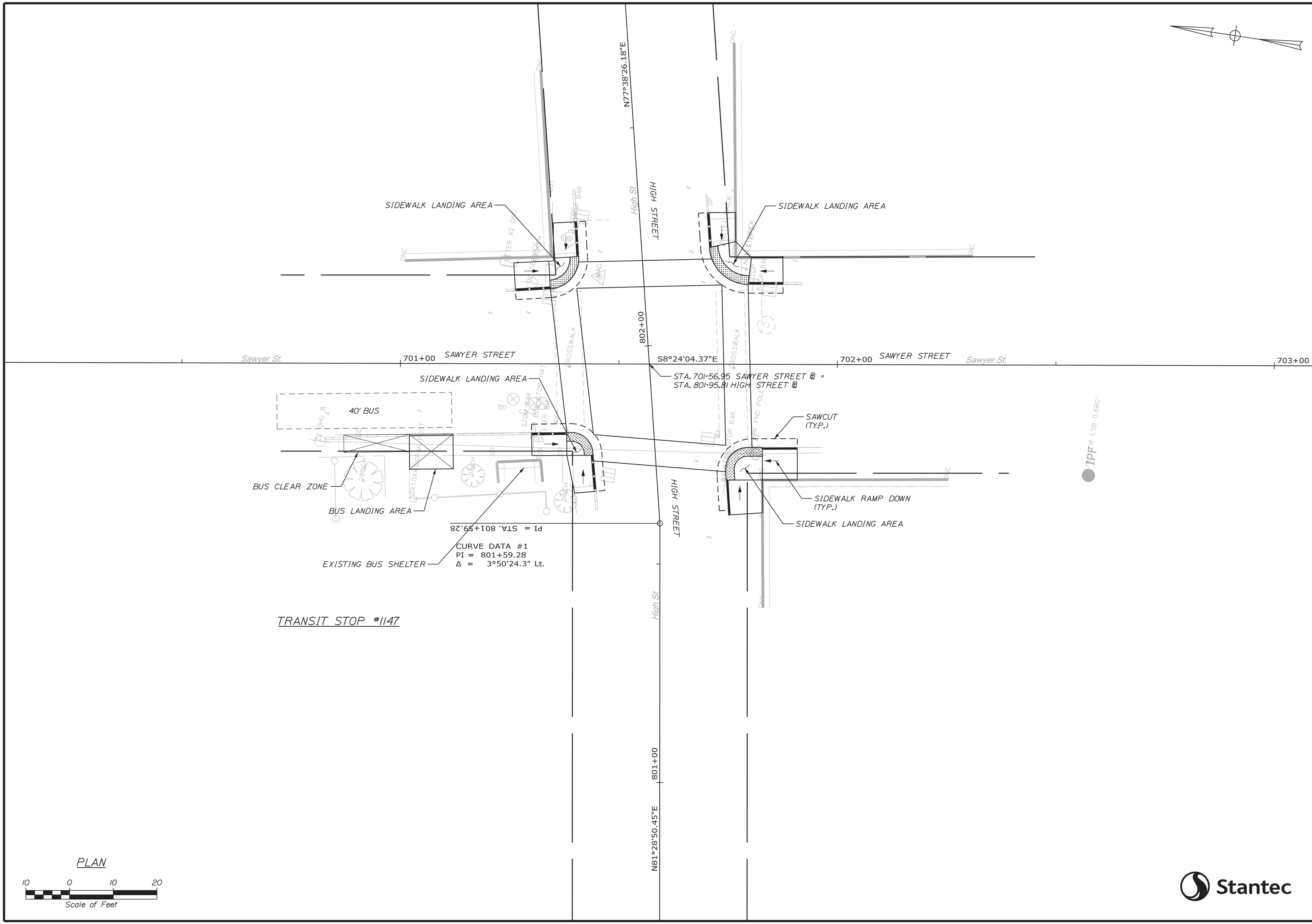
P.E. NUMBER

DATE

Stantec

GPCOG
GREATER PORTLAND COUNCIL OF GOVERNMENTS

Filename: ...\MSTA_Spoceon_Stop1147.dgn Username: TGLEESON Division: HIGHWAY Date:2/11/2021



GPCOG
GREATER PORTLAND COUNCIL OF GOVERNMENTS

	BY	DATE
PROJ. MANAGER: LAUREN WEEK, PE		
DESIGN-DETAILED	PLP	JAN 2021
CHECKED-REVIEWED	LEM	JAN 2021
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
SAWYER STREET

STOP ID NO. 1147

Stantec

SHEET NUMBER

65

OF 74

Filename: ...\MSTA_Spocean_Stop1158.dgn Division: HIGHWAY Username: TGLEESON Date:2/11/2021

TRANSIT STOP #1158

PLAN

Scale of Feet: 10 0 10 20

BUS CLEAR ZONE

BUS LANDING AREA

RESET BUS STOP SIGN

40' BUS

SIDEWALK LANDING AREA

SIDEWALK LANDING AREA

SAWCUT (TYP.)

STA. 511+00.44 FORT ROAD ℄ =
STA. 600+00.00 BENJAMIN W PICKETT STREET ℄

N27°16'20.99"E

CAMPUS CENTER DRIVE

REMOVE EXISTING RAMP

SIDEWALK RAMP DOWN (TYP.)

Fort Rd

510+00

FORT ROAD

600+00

511+00

BENJAMIN W PICKETT STREET

Benjamin W Pickett St

601+00

512+00

FORT ROAD

Stantec

PROJ. MANAGER LAUREN MEEK, PE		BY	DATE
DESIGN-DETAILED	PLP	THG	JAN 2021
CHECKED-REVIEWED	LEM	WRM	JAN 2021
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
FORT ROAD

STOP ID NO. 1158

SHEET NUMBER 66 OF 74

GPCOG
GREATER PORTLAND COUNCIL OF GOVERNMENTS

Filename: ...\MSTA_Spmall_Stop1171&1172.dgn Division: HIGHWAY Username: TGLEESON Date:2/11/2021

301

N76°11'11.13"E

1001+00

1000+00

900+00

901+00

902+00

WESTBROOK STREET

DANIEL P TUELL ST.

BRAEBURN AVE.

TRANSIT STOP #1172

SIDEWALK RAMP DOWN (TYP.)

SIDEWALK LANDING AREA

BENCH

BUS STOP SIGN

BUS LANDING AREA (TYP.)

BUS CLEAR ZONE (TYP.)

40' BUS

SAWCUT (TYP.)

SIDEWALK LANDING AREA

EXISTING BUS SHELTER

SIDEWALK LANDING AREA

TRANSIT STOP #1171

PLAN

10 0 10 20

Scale of Feet

Stantec

GPCOG

GREATER PORTLAND COUNCIL OF GOVERNMENTS

PROJ. MANAGER: LAUREN MEEK, PE	BY	DATE
DESIGN-DETAILED: PLP	THG	JAN 2021
CHECKED-REVIEWED: LEM	WRM	JAN 2021
DESIGN2-DETAILED2:		
DESIGN3-DETAILED3:		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
WESTBROOK STREET

STOP ID NO. 1171 & NO. 1172

SHEET NUMBER

67

OF 74

Filename: ...\MSTA_Spmoll_Stop1178.dgn Username: TGLEESON Date:2/11/2021
302 Division: HIGHWAY

BURLINGTON COAT FACTORY ENTRANCE

SIDEWALK LANDING AREA

PT = STA. 305+21.77

WESTERN AVE.

CURVE DATA #1
PI = 302+68.81
D = 6°30'39.2"
Δ = 33°58'19.7" Lt.
R = 880.00'
L = 521.77'
T = 268.81'
E = 40.14'

305+00

TRANSIT STOP #1178

RESET BUS STOP SIGN

BENCH

RRFB

SIDEWALK LANDING AREA

SIDEWALK RAMP DOWN (TYP.)

SAWCUT (TYP.)

40' BUS 4.0'

BUS LANDING AREA (TYP.)

BUS CLEAR ZONE (TYP.)

24.0'

2.0'

10.0'

2.0'

24.0'

4.0'

APPROXIMATE STRIPING (TYP.)

306+00 WESTERN AVENUE 307+00 308+00

RRFB

WESTERN AVE.

SIDEWALK LANDING AREA

SIDEWALK LANDING AREA

SIDEWALK LANDING AREA

APPROXIMATE CURBLINE

D'ANGELOS ENTRANCE

RRFB

BASICS FITNESS CENTER ENTRANCE

PROHIBIT LEFT TURN OUT WITH SIGNAGE

BASICS FITNESS CENTER ENTRANCE

PLAN

10 0 10 20
Scale of Feet

GPCOG
GREATER PORTLAND COUNCIL OF GOVERNMENTS

PROJ. MANAGER	LAUREN MEEK, PE		
DESIGN-DETAILED	PLP	THG	JAN 2021
CHECKED-REVIEWED	LEM	WRM	JAN 2021
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

SOUTH PORTLAND
WESTERN AVENUE

STOP ID NO. 1178

SHEET NUMBER
68
OF 74

Stantec

City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Bus Replacement**		
Department	Transportation	**Dept. Priority**	2
Division		**Div. Priority**	
CIP Category	Public Works & Transportation		

Purchase/Project Description

The useful life of a public transit bus is 12-years. We rotate our fleet based on this useful life timeframe. We purchased three Gillig diesel buses in 2011, which were scheduled for replacement in 2023.

One of the three buses was totaled in a bus fire on May 21, 2020. That vehicle will be replaced ahead of schedule. The replacement buses for the remaining two, 2011 vehicles, will be ordered in FY22 to take delivery in 2023. The cost of these replacement buses are detailed in the Year-1 column below. We currently have enough in our bus reserve to cover the cost of these three new diesel vehicles. However, given the goals outlined in the One Climate Action Plan, we must increase the amount we place in bus reserve to meet the higher cost of battery electric buses and all the required charging infrastructure and service upgrades.

The next opportunity to purchase BEB will be in FY25 for delivery in 2026. In 2025 we will be replacing two 2014 Gillig Buses. Based on current battery technology and mileage range we would plan to purchase at least three BEBs for every two diesel buses in our fleet. Based on the current cost of BEB + charging infrastructure and warranties, the city will be required to put aside $150,000/per year for the next 6 years. These funds will be used as local match to purchase three BEBs in 2025 and three BEBs in 2027.

The Biden administration has committed to converting the federal fleet of cars, SUVs and light trucks. There is also some discussion of school bus conversion. However, I did not find any specific recommendations to increase funding for electric public transit buses. It is likely Biden's goals will have the effect of advancing battery technology and perhaps lowering the cost of electric vehicles, but that is not likely to happen in FY22. The Transportation Department strongly recommends delaying the purchase of BEB until FY25. This will allow us time to build up the required bus reserve and plan for a successful conversion that will not compromise our service.

Additional planning and analysis is needed in the following areas: 1) CMP service upgrades at Municipal Services Facility (MSF) that might be needed to meet charging demands for the BEB and other EVs. 2) Installation of charging infrastructure at MSF and in-road charging; 3) Additional indoor bus storage bays (BEBs don't like frigid temps); 4) The budget impact of CMP peak rates; 5) The unknown maintenance cost of BEBs. Note: Of the approximately 65,000 public transit buses in the US, there are approximately 650 BEBs in use. That is 1% of all transit buses. If South Portland purchases 2 BEBs, that would be 25% of our fleet, which we feel puts our operation at risk.

Financial Impact of this Purchase/Project

We currently have money in our bus reserve to cover the cost of three diesel buses. Converting the transit bus fleet from diesel to electric will cost the city an additional $150,000/year to build up the bus reserve account ($50,000 was amount budgeted for diesel bus). Est. Annual Operating $286,000/year for all 7 buses in our fleet which includes older buses ranging in age from 2011 to 2016: Vehicle Maintenance & Supplies: $100k; Diesel Fuel: $167k; Tires: $17k; Cleaning Supplies: $2k. The new diesel buses will be under warranty for 5 years and will not uncur the same costs associated with maintenance and vehicle supplies.

Environmental Considerations

Public Transportation reduces the number of single occupancy vehicles on the road and therefore reduces green house gas emissions.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)			$ 150,000.00		$ 150,000.00		$ 300,000.00	$ -
General Fund (GF) Reserves	$ 138,608.00	$ 138,608.00					$ 138,608.00	$ 138,608.00
General Obligation Bonds							$ -	$ -
Grants	$ 1,209,554.00	$ 1,209,554.00					$ 1,209,554.00	$ 1,209,554.00
Non-GF Reserves/Surplus	$ 76,995.00	$ 76,995.00					#REF!	$ 76,995.00
Prior Year CIP Balances	$ 74,843.00	$ 74,843.00					$ 74,843.00	$ 74,843.00
TIF							$ -	$ -
Trade-In							$ 76,995.00	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 1,500,000.00**	**$ 1,500,000.00**	**$ 150,000.00**	**$ -**	**$ 150,000.00**	**$ -**	**#REF!**	**$ 1,500,000.00**

Source of Cost Estimate	Gillig Manufacturer quotes for diesel and electric buses, charging infrastructure and warranties.					
Est. Annual Operating Costs	$286,000	**Projected Useful Life**	12	**Additional Documentation?**	Yes	
City Manager Comments						

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To: Scott Morelli, City Manager
From: Donna Tippett, Transportation Department Director
CC: Greg L'Heureux Finance Director, Julie Rosenbach, Sustainability Director
Date: March 8, 2021
Subject: FY22 Bus Replacement CIP Plan

BACKGROUND

At the December 15, 2020 Council Workshop, the Transportation Department Director presented information relating to a request for an emergency purchase to replace the 2011 Gillig bus that was deemed a total loss due to a bus fire in May of 2020. The Council approved the request to purchase a new diesel bus, as opposed to battery electric bus (BEB), for reasons detailed in the presentation (also included as part of this memo).

After Council approved the emergency purchase, the Transportation Department worked with Gillig to secure an option to purchase one diesel bus off a contract with Green Mountain Transit in accordance with Federal Transit Administration (FTA) rules for piggyback purchases. The department's Operations Supervisor and Lead Mechanic reviewed the list of optional specifications and Gillig provided a quote that was used to request FTA Section 5339 funds from the Maine Department of Transportation (MDOT) to cover 85% of the total cost of the replacement bus. MDOT approved the request and transferred the funds to the City of South Portland.

The bus lost to a fire was to be replaced in 2023 with two other buses of the same year, make and model. The funding requirements for all three buses are included in the FY22 "Bus Replacement" CIP request. The Transportation Department is requesting that the replacement of the other two 2011 buses also be diesel, since the limitations that we presented to the Council in December have not changed. These limitations are detailed in the sections below.

OPERATIONAL CONSIDERATIONS

When considering BEB for the daily bus service operations we must take into account the maximum mileage range BEBs can achieve between charges. After conversations with BEB manufactures, the advertised mileage range and charge times for the latest generation 35' buses is as follows:

- Gillig 120 – 170 miles per charge. 3 hours to fully charge.*
- Proterra – 154 – 240 miles per charge. 2.8 hours to fully charge.*

**Operating range and efficiencies are approximate and will vary with route conditions, weather, vehicle configuration and driver behavior. To prolong the life of the batteries, the manufacturers advised keeping the charge at no less than 30%. (Source: Proterra Brochure)*

Actual Functional Range : Various factors will affect the actual mileage range that can be achieved. A conservative estimate is for a year-round functional range of about 140-150 miles on a single full charge (after subtracting a buffer of about 20% of the battery capacity for its health (and to ensure drivers don't get stranded)). Under more ideal operating conditions in the late spring through early fall, another 40-50 miles of range (180-200 miles) might be achieved. This estimate uses the following assumptions:

- Standard-sized batteries (currently around 350-400 (Gillig) 440kWh (Proterra));
- Buses equipped with auxiliary diesel-fired heaters to reduce draw on the propulsion batteries;
- Relatively moderate terrain (few hills) with no (or very limited) travel at highway speeds;
- Driver training to minimize battery draw

Also note that range will decrease with age as the batteries slowly degrade, so it's possible that initial functional 140 mile range could drop as low as 114 miles after 10-12 years of use."

Source: Ben Lake of VEIC, Sustainable Energy Consultant

The table below details the Bus Service's weekday mileage by route, bus block and driver job. To provide the best customer service, our goal is to keep the same bus on the road to complete each block. This reduces the need for riders to switch from one bus to another before they reach their final destination (unless of course they need a transfer to a different route). Based on conservative estimates, the current technology would not meet our mileage requirements for most of our weekday blocks.

Weekday Mileage by Routes, Blocks and Jobs

Route	**Block	*Job 1	Job 2	Job 3	Job 4	Job 6	Job 7	Job 10	Total Mileage by Block
24A	Block 1	111			106				217
24B	Block 2		140				138		278
21	Block 3			110		122			232
21	Block 4							106	106

*A "Job" is the work of 1 driver

** A "Block" is the work of the Bus. To minimize moving riders from bus to bus, at the end of a job the driver is relieved and the bus typically remains in service and on the road.

BEB IN THE REGION

METRO and Biddeford, Saco Old Orchard Beach (BSOOB) Transit are jointly purchasing four Proterra Battery Electric Buses (two each) as part of a local pilot. They have been working together on this purchase since 2018 and delivery is expected in early 2022. Both agencies have contracts with CTE Environmental Engineering to provide operational modeling and peak rate charging estimates. The combined cost of CTE's services to deploy the 4-bus BEB pilot is approximately $500k. The cost of the BEBs and the charging infrastructure determined after the modeling work was completed is approximately 20% higher than anticipated in 2018. Follow-up discussions regarding future BEB purchases with both agencies are below.

- BSOOB Transit
  BSOOB will use the Proterra buses for a full year or two before planning for additional BEBs. However, they will be planning for an additional charging station at Saco Transportation Center and possibly a third site in downtown Biddeford.

- METRO
  Metro planned this BEB deployment to serve as a pilot. Their total fleet is over 40 buses and incorporating BEB will have minimal impact on operations if problems arise. Metro will only purchase the charging infrastructure required for charging at the bus garage. The charging infrastructure, installation and CMP upgrades for two BEBs is approximately $700k. This year METRO will also release a request for bids for the purchase of 11 diesel buses spread over 4 years. The contract will include an option to purchase additional buses for a total potential build of 20 new diesel buses. Metro does not have plans to purchase additional buses between 2025 and 2027 and therefore has a goal of purchasing only BEBs after 2025 to meet climate action goals of zero emission by 2040.

- Worcester Regional Transit Authority (WRTA)
  City staff met with Dennis Lipka, Administrator of WRTA, in October to learn about their experiences with BEB. WRTA purchased their first BEBs 7 years ago. They have not had a positive experience with these buses. Their main complaints were: limited range, charging station failures, difficulty obtaining parts and lack of durability of the fiberglass body.

- Other Agencies to Watch
  There are other agencies that have made recent BEB purchases in the northeast, such as Pioneer Valley Transit Authority in Springfield, MA and Marble Valley Regional Transit District in Rutland, VT. We have not been able to connect with either agency yet, but will continue to reach out to them and other agencies that have deployed BEB.

NEXT STEPS TOWARD CONVERSION TO BEB

The Transportation Department will continue to research peer agencies and attend webinars relating to electrification of transit buses as it relates to impacts on transit operations and maintenance.

We will monitor the BEB deployments at BSOOB and Metro to learn from their pilot project. The BEB project manager for Metro is tentatively scheduled to share his experience working on the pilot with the Transit Advisory Committee at its meeting on March 22, 2021.

Portland Area Comprehensive Transportation System (PACTS) has designated CARES funding to complete the "Transit Together" plan. As part of this plan the Transportation Department will be working with all our regional transit partners and the Greater Portland Council of Governments (GPCOG) staff and consultants to assess the feasibility of complete conversion to BEB as well as the operational challenges and funding implications. This will be an assessment to assist all transit agencies to meet the goals of South Portland, Portland and the state of Maine's climate action plans.

In addition to the work above, the Transportation Department has asked the Sustainability Office, in coordination with other city departments, to work on the bulleted items below to ensure we are best prepared to charge our buses after delivery and to reduce unanticipated peak-rate charging costs.

- What is the total facility demand for charging once all Public Works, Parks and Transportation vehicles are converted?
- What CMP service upgrades are needed to accommodate that future demand?
- How does our solar farm factor into service costs?
- How much of the anticipated demand can the solar farm provide?
- How will we address the inevitable need for day-time charging during peak rates?
- Cost/benefit of using diesel powered generator during peak hours.
- Plan for universal chargers at MSF (locations, costs, etc). Assume 12 chargers for buses at full conversion. How many for DPW/PRL cars, trucks, plows etc.
- Does the MSF site plan allow for an expansion of the building footprint to store an additional 5 buses?
- Where across the city can universal chargers be installed? Should we install a satellite charger at a location that can accommodate a bus if needed for an emergency charge?

Sources:

1. "T -notes: Battery buses not ready for primetime yet"

   September 2020

   https://commonwealthmagazine.org/transportation/t-notes-battery-buses-not-ready-for-primetime-yet/

2. "Guidebook for Deploying Zero-Emission Transit Buses"
   June 2020
   https://www.nap.edu/catalog/25842/guidebook-for-deploying-zero-emission-transit-buses

3. "Electric Buses Overview", Fairfax County Department of Transportation

   November 10, 2020

   https://www.fairfaxcounty.gov/transportation/sites/transportation/files/assets/documents/pdf/btc/item-5-btc-electric-buses-11_2020.pdf

4. “Philly’s entire fleet of battery-powered buses has been MIA since February” September 17, 2020 https://whyy.org/articles/phillys-entire-fleet-of-battery-powered-buses-has-been-mia-since-february/

5. “To Get More Electric Buses, We Don’t Just Need a Better Battery; We Need a Better Grid” August 14, 2020

   https://usa.streetsblog.org/2020/08/14/to-get-more-electric-buses-we-dont-just-need-a-better-battery-we-need-a-better-grid/

6. Worth the wait: Local planners expect electric buses to be a boon. January 10, 2020 https://www.rutlandherald.com/news/worth-the-wait-local-planners-expect-electric-buses-to-be-a-boon/article_5c33daad-74b2-51d7-ab0e-29bcc07db02b.html

7. “Albuquerque’s Groundbreaking Bus Project Stalled”

   Nov 21, 2018

   https://usa.streetsblog.org/2018/11/21/albuquerques-groundbreaking-bus-project-stalled/

GILLIG

February 19, 2021

Ms. Donna Tippett
Director
City of South Portland
929 Highland Ave.
South Portland, ME 04106

Dear Ms. Tippett:

Thank you for your interest to purchase one (1) 35' Low Floor Diesel bus by using an option off the VPTA contract.

Attached you will find the variance list and price calculation sheet that would pertain to your order. The price calculation sheet also includes the escalation and formula as per the contract. Gillig is pleased to quote the following:

ONE (1) 35' LOW FLOOR DIESEL BUS $508,688.00 EACH

This price is valid 30 days and is FOB South Portland, ME. Prices exclude any taxes and license fees. The production of your buses can be scheduled within 14 months from receipt of purchase order. To maintain this production schedule we will require a firm purchase order within thirty days.

We thank you for this opportunity and appreciate your interest in Gillig and our products. Should you have any questions, please do not hesitate to contact us.

Sincerely,

Jerry Sheehan
Regional Sales Manager

cc: Javier Hernandez, JR/Director, National Sales

PRICE VARIANCE
2/18/2021
SOUTH PORTLAND, ME OFF VPTA CONSORTIUM CONTRACT
(1) 35' LOW FLOOR DIESEL BUS, SN: TBD

ITEM	VPTA CONSORTIUM	SOUTH PORTLAND, ME	VARIANCE
STYLING	STD LOW FLOOR	STD LOW FLOOR	-
ENGINE	CUMMINS L9 280HP	CUMMINS L9 280HP	-
2021 EPA MANDATED EMISSIONS CHANGES	NOT INCLUDED	REQUIRED (BUDGETARY)	2,900.00
AUXILIARY ENGINE OIL FILTER	SPINNER II	NOT REQUIRED	(545.00)
COOLANT FILTER	STANDARD FLEETGUARD	STANDARD FLEETGUARD	-
ENGINE FUEL FILTER	STANDARD FLEETGUARD	DAVCO, HEATED	641.00
ALTERNATOR	NIEHOFF C803	NIEHOFF C803	-
ENGINE BLOCK HEATER	NOT INCLUDED	PHILLIPS & TEMRO	121.00
AIR RESTRICTION INDICATOR	DONALDSON INFORMER	DONALDSON INFORMER	-
RADIATOR	MODINE E-FAN	MODINE E-FAN	-
E-COAT RAD/CAC	INCLUDED	REQUIRED	-
RADIATOR TANK GUARD	INCLUDED W/DEBRIS SHIELD	NOT REQUIRED	(250.00)
ENGINE OIL EXTRACTOR PORT	NOT INCLUDED	NOT REQUIRED	-
TRANSMISSION	ALLISION B400R	ALLISION B400R	-
FUEL SENSE SOFTWARE	NOT INCLUDED	2.0 MAX	-
TRANS OIL EXTRACTOR PORT	NOT INCLUDED	NOT REQUIRED	-
AXLE HUB SEALS	C/R OIL	C/R OIL	-
BRAKES	DRUM	DRUM	-
REAR AXLE OIL	SAE 80W90	SYNTHETIC	203.00
MAGNETIC AXLE DRAIN PLUGS	INCLUDED	REQUIRED	-
WHEEL MOUNTING	HUB PILOTED	HUB PILOTED	-
HUBODOMETER	DATA TRAC PRO 600-9999	NOT REQUIRED	(50.00)
HUBODOMETER GUARD	INCLUDED	NOT REQUIRED	(60.00)
ELECTRIC STEERING ASSIST	NOT INCLUDED	NOT REQUIRED	-
AUTOMATIC TRACTION CONTROL	INCLUDED	REQUIRED	-
WHEELS	(10) MACHINED FINISHED	(7) CLEAN & BUFF	(720.00)
WHEELS W/DURABRIGHT	NOT INCLUDED	(7) REQUIRED	569.00
TIRES	(10) MICHELIN 12R22.5 XZE FRONT AND SPARES W/ XDN REAR	(7) FIRESTONE 315/80R22.5 CITY TRANSPORT	(806.00)
FUEL FILL	(1) EMCO WHEATON	(1) EMCO WHEATON	-
DIESEL FUEL GUAGE	INCLUDED	REQUIRED	-
REAR RUN BOX GAUGES	MECHANICAL - ENGINE OIL PRESSURE & COOLANT TEMP	ELECTRICAL - ENGINE OIL PRESSURE, COOLANT TEMP, VOLTMETER & HOURMETER	108.00
REAR HAND THROTTLE	NOT INCLUDED	REQUIRED	156.00
SKID PROTECTION W/ EXTENDED TOW EYES	INCLUDED, W/2X2 WEAR PLATES	REQUIRED, W/2X2 WEAR PLATES	-
ELECTRICAL TOW CONNECTION	NOT INCLUDED	NOT REQUIRED	-
BATTERIES	(2) DEKA 8D	(2) DEKA 8D	-
BATTERY JUMP START CONN	(2) ANDERSON 350	(2) ANDERSON 350	-
WHEELCHAIR RAMP	LIFT-U LU18	LIFT-U LU18	-
HVAC SYSTEM	TK T-14 W/ BRUSHLESS MOTORS	TK T-14 W/ BRUSHLESS MOTORS	-
HVAC COMPRESSOR (TK)	X426	X430	-
REFRIGERANT	R134A	R134A	-
REFRIGERANT PRESSURE GAUGE	NOT INCLUDED	NOT REQUIRED	-
FRESH AIR MAKEUP	NOT INCLUDED	NOT REQUIRED	-
DRIVERS HEATER MOTORS	BRUSHLESS	BRUSHED	(419.00)
AUXILIARY COOLANT HEATER	SPHEROS THERMO 300	SPHEROS THERMO 300	-
FRONT STEP HEATER	INCLUDED	REQUIRED	-
REAR FLOOR HEATER CURB SIDE	INCLUDED	REQUIRED	-
REAR FLOOR HEATER STREET SIDE	INCLUDED	REQUIRED	-

PRICE VARIANCE
2/18/2021
SOUTH PORTLAND, ME OFF VPTA CONSORTIUM CONTRACT
(1) 35' LOW FLOOR DIESEL BUS, SN: TBD

ITEM	VPTA CONSORTIUM	SOUTH PORTLAND, ME	VARIANCE
AUX DRIVERS FAN	(1) INCLUDED	(1) REQUIRED	-
REAR DOOR	34" AIR OPEN/ SPRING CLOSE	34" AIR OPEN/ SPRING CLOSE	-
EXTERIOR AD FRAME	STREET AND CURB SIDE (30'X108")	NOT REQUIRED	(280.00)
INTERIOR AD FRAME	21"X22"	NOT REQUIRED	(70.00)
PASSENGER SEATS	AMSECO 6468 WITH A.R.M. & Q'STRAINT BELTS	AMSECO INSIGHT WITH A.R.M. & SURE-LOK BELT SYSTEM	4,489.00
DRIVERS SEAT	USSC 9100ALX3 W/HEADREST & 3-PT BLACK BELT	RECARO W/OUT HEADREST & 2-PT BLACK BELT	(122.00)
DRIVERS SEAT ARM REST	NOT INCLUDED	NOT REQUIRED	-
PASSENGER SIGNALS	PULL CORDS	PULL CORDS	-
STOP REQUEST AT REAR DOOR	NOT INCLUDED	NOT REQUIRED	-
DRIVERS BARRIER	WRAPAROUND W/OUT SCHEDULE HOLDER SLOTS	WRAPAROUND W/OUT SCHEDULE HOLDER SLOTS	-
MODESTY PANEL FWD OF REAR DOOR	INCLUDED	REQUIRED	-
NYLON GRAB STRAPS	NOT INCLUDED	(10) REQUIRED	200.00
PASSENGER STANCHIONS	STAINLESS STEEL	YELLOW POWDER COATED	-
SCHEDULE RACKS	NOT INCLUDED	NOT REQUIRED	-
PASSENGER INFO STATION	NOT INCLUDED	NOT REQUIRED	-
PASSENGER WINDOWS	STD FRAMED / FULL FIXED	STD FRAMED / UPPER TRANSOM W/ 6MM GRAY 50% LT POLYCARBONATE	7,428.00
HEADLAMPS	DUAL (4) HALOGEN	LED LOW BEAM / HALOGEN HIGH BEAM	581.00
PLEASURE RADIO & ANTENNA	NOT INCLUDED	AM/FM/CD/MP3-USB/SD	320.00
2-WAY RADIO & ANTENNA	NOT INCLUDED	PRE-WIRE (POWER & ANTENNA ONLY)	175.00
110 VOLT SHORE POWER WITH CONVERTER IN ELECTRICAL BOX	INCLUDED	NOT REQUIRED	(1,774.00)
PA SYSTEM	REI PA	REI PA	-
BOOM MIC	INCLUDED	REQUIRED	-
DRIVERS SPEAKER	NOT INCLUDED	NOT REQUIRED	-
HEATED DESTINATION SIGN GLAZING	INCLUDED	REQUIRED	-
DESTINATION SIGNS (FRONT & CURBSIDE)	TWIN VISION AMBER	TWIN VISION AMBER	-
DESTINATION SIGNS (REAR)	NOT INCLUDED	TWIN VISION AMBER	875.00
DASH MTD FRONT RUN SIGN	NOT INCLUDED	NOT REQUIRED	-
FAREBOX	GFI ODYSSEY	DIAMOND MODEL SV W/2 VAULTS	1,500.00
FAREBOX GUARD	INCLUDED	REQUIRED	-
CEILING MTD FAREBOX LAMP	NOT INCLUDED	NOT REQUIRED	-
TRANSFER CUTTER	NOT INCLUDED	GLOBE 600090	68.00
MANUAL PASSENGER COUNTER	NOT INCLUDED	NOT REQUIRED	-
FULL COMPOSITE	NOT INCLUDED	REQUIRED	2,500.00
FLOORING MATERIAL	ALTRO	RCA	(400.00)
ROOF HATCHES	(1) STD MANUAL	(2) STD MANUAL	344.00
EXTERIOR MIRRORS	8 x 15 2-PC, CONVEX, REMOTE & HEATED	10 x 11 2-PC, CONVEX, REMOTE & HEATED	91.00
FIRE SUPPRESSION SYSTEM	AMEREX V-25	NOT REQUIRED	(1,800.00)
TRAFFIC LIGHT PREEMPTION	NOT INCLUDED	NOT REQUIRED	-
VIDEO SURVEILLANCE SYSTEM	SEON (8) CAMERA EXPLORER DX W/ 2 TB HDD	NOT REQUIRED	(5,948.00)

PRICE VARIANCE
2/18/2021
SOUTH PORTLAND, ME OFF VPTA CONSORTIUM CONTRACT
(1) 35' LOW FLOOR DIESEL BUS, SN: TBD

ITEM	VPTA CONSORTIUM	SOUTH PORTLAND, ME	VARIANCE
BACK UP CAMERA	NOT INCLUDED	NOT REQUIRED	-
BIKE RACK	SPORTWORKS DL2 SSTL	SPORTWORKS DL2 SSTL	-
BIKE RACK MIRROR	NOT INCLUDED	NOT REQUIRED	-
BIKE RACK DEPLOYED LAMP	NOT INCLUDED	NOT REQUIRED	-
MEDICAL AID KIT	INCLUDED	NOT REQUIRED	(60.00)
BLOODBORN PATHOGEN KIT	NOT INCLUDED	REQUIRED	35.00
WHEEL CHOCKS	INCLUDED	REQUIRED	-
DRIVERS DASH GAUGES	AIR PRESSURE, SPEEDOMETER & (2) VOLTMETERS	AIR PRESSURE, SPEEDOMETER , (1) VOLTMETER & (1) HOURMETER	-
ADJUSTABLE PEDALS	NOT INCLUDED	NOT REQUIRED	-
EXTERIOR PAINT	(1) COLOR	(4) COLOR	3,060.00
CLEAR COAT	INCLUDED	NOT REQUIRED	(800.00)
GRAPHICS	NOT INCLUDED	S. PORTLAND, ME CUSTOM GRAPHICS (SAME AS 184117)	907.00
ROOF BUS NUMBERS	NOT INCLUDED	REQUIRED	136.00
STD WARRANTY (BASE BUS)	1 YRS / 50,000 MILES	1 YRS / 50,000 MILES	-
STD WARRANTY (BODY STRUCTURAL WARRANTY)	3 YEARS/ 150,000 MILES	3 YEARS/ 150,000 MILES	-
EXT WARRANTY (STRUCTURAL AND CORROSION)	12 YEARS/ 500,000 MILES	12 YEARS/ 500,000 MILES	-
EXT WARRANTY (L9 ENGINE)	5 YEARS / 300,000 MILES	5 YEARS / 300,000 MILES	-
EXT WARRANTY (ALLISON B400R TRANSMISSION)	5 YEARS/ 300,000 MILES	5 YEARS/ 300,000 MILES	-
EXT WARRANTY (HVAC)	3 YEARS/ UNLIMITED MILES	3 YEARS/ UNLIMITED MILES	-
EXT WARRANY (WHEELCHAIR RAMP)	3 YEARS/ UNLIMITED MILES	3 YEARS/ UNLIMITED MILES	-
EXT WARRANTY (ALTERNATOR)	3 YEARS/ 150,000 MILES	3 YEARS/ 150,000 MILES	-
EXT WARRANTY (AIR COMPRESSOR)	3 YEARS/ UNLIMITED MILES	3 YEARS/ UNLIMITED MILES	-
EXT WARRANTY (DOORS)	3 YEARS/ 150,000 MILES	3 YEARS/ 150,000 MILES	-
EXT WARRANTY (POWER STEERING)	3 YEARS/ 150,000 MILES	3 YEARS/ 150,000 MILES	-
TRAINING	NOT INCLUDED	NOT REQUIRED	-

TOTAL SOUTH PORTLAND, ME VARIANCES	13,303.00
VPTA CONSORTIUM 35' LOW FLOOR DIESEL BASE UNIT PRICE (NOV'16)	441,699.00
DELIVERY ADJ	667.00
SOUTH PORTLAND, ME 35' LOW FLOOR DIESEL BASE UNIT PRICE (NOV'16)	455,669.00
PPI 1413 ADJUSTMENT 263.4 (DEC '20) / 238.3 (NOV '16) = 10.53 %	47,982.00
SOUTH PORTLAND, ME 35' LOW FLOOR DIESEL BASE UNIT PRICE	503,651.00
SPARE / TOOLING BUDGET	5,037.00
SOUTH PORTLAND, ME 35' LOW FLOOR DIESEL CURRENT PRICE (2/21/2021)	**508,688.00**

CONFIDENTIAL
This pricing information is intended only for the personal and confidential use of the recipient(s) to whom it was originally sent. If you are not an intended recipient of this information or an agent responsible for delivering it to an intended recipient, you are hereby notified that you have received this information in error, and that any review, dissemination, distribution, or copying of this message is strictly prohibited.

CITY OF SOUTH PORTLAND

P.O. BOX 9422
SOUTH PORTLAND, MAINE 04116-9422
PURCHASING PHONE #207-767-7608
ACCOUNTS PAYABLE PHONE #207-767-7619
JOINT FAX LINE 207-767-7620

UNDER MAINE STATE LAW THE CITY IS SALES TAX EXEMPT
Exempt No. E45982

Purchase Order

Fiscal Year 2021 Page: 1 of 1

THIS NUMBER MUST APPEAR ON ALL INVOICES, PACKAGES AND SHIPPING PAPERS.

Purchase Order # **20211253 - 00**

Delivery must be made within doors of specified destination.

VENDOR
ARKAY ACQUISITION LLC
25800 CLAWITER ROAD
HAYWARD, CA 94545

SHIP TO
CITY OF SOUTH PORTLAND
MUNICIPAL BUS SERVICE
929 HIGHLAND AVE
SOUTH PORTLAND, ME 04106

Vendor Phone Number	Vendor Fax Number	Requisition Number	Delivery Reference
		10211512	

Date Ordered	Vendor Number	Date Required	Freight Method/Terms	Department/Location
02/19/2021	529			MUNICIPAL BUS & WATERFRONT

Item#	Description/PartNo	Qty	UOM	Unit Price	Extended Price
1	PURCHASE OF A 2021 GILLIG LOW FLOOR DIESEL TRANSIT BUS ******** GL SUMMARY ******** ***408065 - 651000 - 21803*** ***$508,688.00***	1.0	EACH	$508,688.000	$508,688.00

DELIVERIES ACCEPTED MONDAY - FRIDAY 8:00AM - 3:30PM

PO Total **$508,688**

PRICE CHANGES MUST BE APPROVED PRIOR TO SHIPMENT

ACCEPTANCE OF THIS PURCHASE ORDER CAN ONLY BE MADE SUBJECT TO THE TERMS AND CONDITIONS OF THIS PURCHASE ORDER

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

City Purchasing Agent

Finance Director

The non-discrimination clause contained in Section 202, Executive Order 11246, as amended by Executive Order 11375, relative to Equal Employment Opportunity for all persons without regard to race, color, religion, sex, age or national origin, and the implementing rules and regulations prescribed by the Secretary of Labor, are in full force and effect at this institution and, if applicable, are hereby incorporated by reference.

TERMS AND CONDITIONS

1. All shipments of goods ordered must be made as specified in this purchase order (the “order”), in standard commercial containers capable of safe delivery to the City of South Portland (the “Buyer”) at the “ship to” address set forth on the face of this order. Unless explicitly stated otherwise on the face of this order all goods and tangible items ordered shall be F.O.B. the ship to address set forth on the face of this order. Unless otherwise agreed, no charges shall be shown on bills of lading. Packing slips must be included in all packages. Original bill of lading must be mailed to Buyer with invoice on date of shipment.

2. Time is of the essence of this order. If the Vendor fails to deliver goods or render services at the time required by this order for any reason, the Buyer may, in addition to any other rights it may have, at its option, and without being under any liability to the Vendor, cancel by notice in writing to Vendor the portion or portions of this order so affected or set a new delivery date. Buyer shall not be charged with any liability for failure or delay in performance hereunder due to any cause beyond its reasonable control.

3. The Buyer will not pay invoices at prices higher than those indicated on the face of this order. The Vendor represents that the prices charged for the goods covered by this order are not and will not be in excess of any maximum prices therefor established by law.

4. Cash discounts will be calculated from the date an acceptable invoice is received by the Buyer and the goods arrive at the Buyer's designated location.

5. Buyer reserves the right to inspect all merchandise covered by this order and to return for full credit (including both inbound and outbound freight charges if applicable) any items which are defective and do not meet Buyer's quality standards.

6. This order shall not be altered by verbal agreements or understandings or by any writing not signed by Buyer. Vendor may not accept a telephone or verbal order unless an order or requisition number is furnished, and a confirming order is thereafter provided to the Vendor by the Buyer bearing that number.

7. Vendor agrees to hold Buyer harmless from any loss or expense resulting from violation of copyright, trademark, servicemark, patent, or other intellectual property rights in connection with the Buyer’s purchase of any goods or services covered by this order, or in connection with the use of those goods and services for their normal purposes or for any other purpose for which the Vendor has made any representation they may be used.

8. Vendor agrees to defend, indemnify and save Buyer harmless from all loss or expense occasioned by accidents or injuries to property or to persons as a result of any malfunction or defect in the products or services purchased herewith.

9. When specific terms and conditions of this order are inconsistent with trade custom, then these terms and conditions shall prevail unless the buyer specifically agrees otherwise.

10. Vendor shall pay all costs incurred by Buyer, including, but not limited to, attorney’s fees and other legal expenses, in exercising its rights under the terms of this order.

11. This agreement is made and entered into under the laws of the State of Maine and shall be governed by its laws, exclusive of its choice of law rules.

12. Payment terms: The Buyer shall make payments on account of the Purchase Order as follows: Within 20 to 30 days upon satisfactory completion and acceptance by the City and receipt of bill for all work covered by the Purchase Order.

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Transit Signal Priority (TSP)**		
Department	Transportation	**Dept. Priority**	3
Division		**Div. Priority**	
CIP Category	Public Works & Transportation		

Purchase/Project Description

The Transportation Department submitted a proposal to PACTS to receive CARES funding to expand and upgrade our transit signal priority (TSP) system in various locations along our routes 21, 24A and 24B. Sebago Technics has completed the work on this project and provided a cost estimates for the proposed upgrades and expansion.

TSP gives 2nd preemption to our buses by holding green lights long enough for the bus to get through an intersection. This is a vulueable tool for keeping our buses on time. The TSP onboard system includes GPS tracking hardware and software. We will explore opportunities to work with Emtrac the TSP vendor to update our real time passenger information system and transit tracker, which must be replaced this fiscal year.

We were awarded $151,000 of CARES funding for this project. There is no local match contribution required.

Financial Impact of this Purchase/Project

This project is funded 100% by CARES grant. Any time required by Sebago Technic's assisting with configuration or troubleshooting of the TSP system as related to the traffic signal annual operations and maintenance falls under Sebago Technic's existing contract with South Portland. If any of the Emtrac hardware on the buses, or at the facility, need replacement that would be done through Coastal Traffic Inc on a per unit cost. The cost of the Emtrac hardware is approximately $3,500/unit. The units currently onboard were installed in 2017. I am waiting for more information on the useful life of the system and existing warranties.

Environmental Considerations

TSP is beneficial for moving buses through the intersection and reduces idling and fuel consumption for our buses.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants	$ 151,000.00	$ 151,000.00					$ 151,000.00	$ 151,000.00
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 151,000.00**	**$ 151,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 151,000.00**	**$ 151,000.00**
Source of Cost Estimate	Sebago Technics TSP Consultants							
Est. Annual Operating Costs	see Pg 13 of attachment		**Projected Useful Life**			**Additional Documentation?**		Yes
City Manager Comments								

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August 6, 2020
15506-01

Mr. John Duncan, Interim Director
South Portland Bus
929 Highland Avenue
South Portland, ME 04106

Proposal for Expanding South Portland's TSP System on Bus Routes 24A, 24B, and 21

Dear John –

Per your request, we have prepared this proposal for expanding your existing TSP system to complete Bus Routes 24A and 24B and also to add this strategy where appropriate to Route 21. As you know we prepared a report summarizing our work in 2017-18, which led to the deployment of a gps-based system to 13 intersections on Routes 24A and 24B. The findings were significant and suggestions were made at that time for expanding this system to include other intersections along these two Routes where appropriate. This initial study did not address Route 21, but based on our prior work, we believe that there are several intersections where TSP could benefit this Route, as well. As such, we have prepared the following list of improvements that should be considered in your approach to PACTS for CARES ACT FTA funding. These are:

Route 24A/B:

1. Relocate the existing cabinet hardware for TSP at the intersections of Route 77 at Erskine Drive and Gorham Road at Foden Road to Broadway at Main Street (Cash Corner) and Main Street at Westbrook Street. In addition, replace these two controllers with modern controllers with TSP capabilities. Estimated cost **$25,000**. *NOTE: The Cash Corner controller proposed herein could be reused in the MaineDOT project that is slated for 2021.*
2. Purchase and install new controller with built in TSP capabilities at Western Avenue at Foden Road. Also, install new pre-emption card and TSP antenna. Estimated cost **$8,500**.
3. Purchase and install a cabinet antenna for the controller at Broadway and Elm Street. Estimated cost **$1,500**.
4. Engineering associated with procurement and oversight of above items, including updating and configuring the TSP server that is located at Public Works. Estimated cost **$12,000**.

5. Adjust the TSP zone configuration and optimize the Time of Service Desired values at the existing TSP enabled intersections to further improve performance and realize additional timing savings. Estimated cost **$5,000.**

Route 21:

1. Assess the following signalized intersections for TSP potential using historical data and the methodology developed in the 2018 Report:

   Ocean Street at Market Street
   Ocean Street at Highland Avenue
   Ocean Street at Sawyer Street
   Cottage Road at Sawyer Street
   Broadway at Mussey Street

   Estimated Cost **$4,000**

2. Purchase and install new controllers with built in TSP capabilities at the above 5 intersections. Also, install TSP card and antenna at each location. Estimated cost **$47,500**.
3. Engineering associated with procurement and oversight of above items and optimizing this new route once everything is installed and activated. Estimated cost for 5 locations **$15,000.**

   NOTE: The costs for Route 21 assume all 5 five locations will benefit from TSP. Likely this will not be the case once we perform Task 1, which will lessen this request.

Assumptions

It is assumed that the City will be able to direct procure the engineering and equipment needed to carry out this project without the need for competitive bidding. Sebago was competitively selected as the City's on-call engineer and Electric Light Company was competitively selected as the City's on-call signal maintenance contractor. These facts in combination with a recent decision by USDOT to do away with their regulations regarding sole source equipment purchases in the ITS field seems to validate this assumption.

Summary

The expansion of your existing EMTRAC TSP system across the rest of your transit route system is as follows in 2020 dollars:

Routes 24A/B	$ 52,000
Route 21	$ 66,500
Total (Upset)	**$118,500**

Let us know if you have any questions or require any additional data regarding this information.

Sincerely,

SEBAGO TECHNICS, INC.

Stephen S. Sawyer, Jr. P.E.
Senior Vice President, Transportation Services

SSS:jg
Enc.

ACCEPTED and AUTHORIZED
(Sebago Technics Job # 15506-01)

By: _____

Representing: _____

Title: _____

Date: _____

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SEBAGO TECHNICS

STANDARD TERMS AND CONDITIONS

GENERAL: These Standard Terms and Conditions, listed in alphabetical order, along with the: 1) Proposal, Letter Agreement, or Contract; 2) Standard Fee Schedule (if included); and 3) Sebago Technics' *Electronic File Confidentiality and Transfer Disclaimer* form, to which these Standard Terms and Conditions are attached and incorporated into, shall be the "Agreement" between Sebago Technics, Inc. ("Sebago Technics") and the entity or person to whom the Agreement is addressed ("Client"). The headings and titles of the paragraphs of these Terms and Conditions as well as the headings and titles of any other part of the Agreement are for convenience purposes only and are not intended to define, limit or construe the contents of the various paragraphs.

1. ACCESS TO SITE. Unless otherwise stated, Client grants Sebago Technics full access to the site for all activities necessary for the performance of the services set out in the Scope of Services. Sebago Technics will take reasonable precautions to minimize damage due to its activities. Unless otherwise stated, Sebago Technics has not included any costs in its Compensation for any restoration.

2. ADDITIONAL SERVICES. Additional Services are those services not specifically set forth in the Agreement setting forth the scope of work and/or services Sebago has agreed to perform ("Scope of Services"). Sebago Technics will notify the Client of any significant change in the Scope of Services which will be considered additional services and costs for which Client agrees to pay on an hourly basis or as incurred in accordance with Sebago Technics latest fee schedule and/or as reported to the Client.

3. APPLICABLE LAW. The Agreement shall be governed and interpreted by the laws of the State of Maine. All suits except for enforcement of liens must be brought in Cumberland County Superior Court in Maine.

4. ASSIGNMENT. Neither party shall assign its rights and/or obligations hereunder to any other party without the prior written consent of the other party. Sebago Technics, however, reserves the right to use consultants and or sub-consultants to complete the work described under the Scope of Services as it deems necessary.

5. BILLING/PAYMENTS. Invoices for services and expenses incurred will be submitted monthly and are due upon receipt. An invoice shall be considered PAST DUE if payment is not received within 30 (thirty) days after the invoice date. Should payment not be received, Sebago Technics may, at its sole discretion, without waiving any claim or right against the Client and without any liability to the Client, terminate its performance of services. Interest charges may be applied to ALL PAST DUE amounts. Sebago Technics also reserves the right to utilize any other methods, processes, or procedures available to it under law in order to collect charges and fees owed to it. Should Sebago Technics incur expenses to collect its outstanding fees, Client agrees to reimburse Sebago Technics for all such expenses including reasonable attorney and paralegal fees, court costs, and other related expenses.

6. BURIED UTILITIES. Sebago Technics will conduct research that it deems necessary and will prepare a plan indicating the location intended for subsurface penetrations and/or proposed underground infrastructures with respect to the assumed locations of all existing subsurface utilities. Although such services will be performed by Sebago Technics, or its subcontractor, using its industry's ordinary standard of care, the Client acknowledges that Sebago Technics' research may not identify all existing underground utilities and that the information upon which Sebago Technics relied may contain errors and omissions. The Client therefore agrees, to the fullest extent permitted by law, to indemnify and hold Sebago Technics harmless from any and all claims, liability, and costs of defense, including, but not limited to, its attorney and paralegal fees and costs, whether or not actual litigation is commenced for all liability, injury, or losses arising or allegedly arising from errors or omissions related to buried utilities.

7. COMPENSATION/BUDGET. Unless stated as a specific sum due, the total fee set forth shall be understood to be an estimate, based upon the stated Scope of Services, Sebago Technics' understanding of the work being requested by the Client, and Sebago Technics' best estimate and understanding of the work that is actually required. The Compensation/Budget shall not be exceeded by more than ten percent (10%) without further authorization from the Client. If the Compensation/Budget is based on an hourly basis, the rates shall be those that prevail at the time the services are rendered. Rates are subject to change without prior notification. Reimbursable expenses shall include, but are not limited to those for travel, survey supplies, equipment use, telephone, photocopies, plan copies including vellum originals, fax, postage, and should overnight travel be required, lodging and per diem for meals and other reasonable expenses.

8. CONFIDENTIALITY. Sebago Technics agrees to keep confidential and will not disclose to any person or entity other than its employees and sub-consultants any data and information furnished to Sebago Technics stated to be or that is marked "Confidential" by the Client. Sebago Technics will not disclose such information without Client's prior consent except to the extent required for: 1) performance of services under the Agreement; 2) compliance with professional standards of conduct for preservation of the public safety, health, and welfare; 3) compliance with any court order, statute, law, or governmental directive; and/or 4) protection of Sebago Technics from the performance of services under this Agreement. Sebago Technics' obligations hereunder shall not apply to information in the public domain or lawfully obtained on a non-confidential basis from others.

9. CORPORATE PROTECTION. Client agrees that Sebago Technics' services performed pursuant to the Scope of Services and any Additional Services rendered for Client's project shall not subject any of Sebago Technics' individual employees, officers, directors, or agents to any personal legal liability. Client agrees that its sole and exclusive remedy for any claim, demand, or suit related to the Scope of Services and any Additional Services shall be directed and asserted only against Sebago Technics, which is a Maine corporation. The Client further agrees to extend this limitation to Sebago Technics' corporate sub-consultants.

10. COUNTERPARTS AND DUPLICATE ORIGINALS. This Agreement may be executed in one or more counterparts which, when combined, shall constitute one complete original and may be executed in duplicate originals.

11. DISPUTE RESOLUTION. Sebago Technics and Client agree that prior to the initiation of legal proceedings, they shall first submit any and all unsettled claims, counterclaims, disputes, and other matters in question between them arising out of or relating to the Agreement to mediation in accordance with the Construction Industry Mediation Rules of the American Arbitration Association, effective as of the date of the Agreement. This provision shall survive completion or termination of the Agreement; however, neither party shall seek mediation of any claim or dispute arising out of the Agreement beyond the period of time that would bar the initiation of legal proceedings to litigate such claim or dispute under the applicable law. Furthermore, Sebago Technics is not required to mediate claims and/or causes of action if it is prosecuting mechanics liens or seeking injunctive relief.

12. ELECTRONIC MEDIA. Client recognizes that data, plans, specifications, reports, documents, or other information recorded on or transmitted as electronic media are subject to undetectable alteration, either intentional or unintentional. Accordingly, documents provided to Client in electronic media form are for informational purposes only and are not an end product. Making electronic information available to the Client in no way implies that the recipient is required by Sebago Technics to use it. Use of electronic information supplied by Sebago Technics in this format is at the sole risk and liability of the user. Client agrees to defend, indemnify, and hold harmless Sebago Technics from any claims, liabilities, losses, or damages arising out of the use, reuse, or alteration of electronic media. Sebago Technics makes no warranties or representations, either expressed or implied, regarding the fitness or suitability of the electronic media. All clients shall be required to sign Sebago Technics' *Electronic File Confidentiality and Transfer Disclaimer* form. Any electronic files submitted by Sebago Technics to the Client have an acceptance deadline of forty-five (45) days. During this period, any defects reported by the Client to Sebago Technics will be corrected pursuant to its original Scope of Services. However, upon the expiration of this acceptance period, any defects claimed by the Client and reported to Sebago Technics shall be addressed by Sebago Technics, which shall be compensated therefore as Additional Services.

13. ENTIRE AGREEMENT. The Agreement constitutes the entire agreement between the Client and Sebago Technics with respect to the subject matters stated herein and the Agreement supersedes all previous negotiations, discussions, and agreements between the Client and Sebago Technics as to the subject matter of the Agreement. The conditions set forth in the Agreement shall survive the completion of Sebago Technics' services under the Agreement and the termination of any services for cause.

14. ENVIRONMENTAL SITE ASSESSMENTS (ESAs). Should Sebago Technics be hired to perform any ESA services, the Client agrees to the fullest extent permitted by law to indemnify and hold Sebago Technics harmless from any and all claims, liability, and costs of defense, including but not limited to its attorney and paralegal fees and costs, whether or not actual litigation is commenced, for all liability, injury, or losses arising, allegedly arising, or related in any way to the existence, release, or disposal of toxic or hazardous substances as they may now or in the future be determined under any and all local, state, or federal laws except and unless Sebago Technics is found to have engaged in any willful misconduct related thereto.

15. FORCE MAJEURE. Except for Client's obligation to pay for services rendered, no liability will attach to either party from delay in performance or nonperformance caused by circumstances beyond the reasonable control of the party affected, including, but not limited to, acts of God, fire, flood, unanticipated site or subsurface conditions, explosion, war, request or intervention of a governmental authority, court order, labor relations, accidents, delay or inability to obtain materials, equipment, fuel, or transportation.

16. HIDDEN CONDITIONS. A condition is hidden if concealed by existing conditions or is not capable of investigation by reasonable visual observation. If Sebago Technics has reason to believe that such a condition may exist, the Client agrees to authorize and pay for all costs associated with the reasonable investigation of such condition and, if necessary, all costs to correct the condition. If the Client either fails to authorize such investigation or correction after due notification or should Sebago Technics have reasonable belief no such condition exists, the Client agrees to be solely responsible for all risks associated with the condition and agrees that Sebago Technics shall not be responsible for the condition nor shall it have any liability with respect thereto as to the Client and all third parties.

17. INDEMNIFICATION. The Client agrees to indemnify and hold harmless Sebago Technics, its officers, directors, employees and agents from and against any and all claims, damages, losses, and expenses (including reasonable attorney and paralegal fees and costs whether or not formal litigation is commenced) arising out of or resulting from performance of Sebago Technics work provided that any such claims, damages, losses, and expenses are caused in whole or in part by the negligent act, omission, or strict liability of the Client, anyone directly or indirectly engaged by the Client (other than Sebago Technics), or anyone for whose acts any of them may be liable.

18. INFORMATION PROVIDED BY OTHERS. After Sebago Technics has advised the Client about the information required for Sebago Technics to adequately perform its Scope of Services and any Additional Services, Client shall provide Sebago Technics with all requested information available to the Client and its consultants, agents, and contractors and Sebago Technics shall be entitled to rely upon the accuracy and completeness of such information. Because it is impossible to assure the accuracy, completeness, and sufficiency of information

due to errors or omissions which may have occurred in assembling the information the Client and/or its agents are providing to Sebago Technics, the Client agrees, to the fullest extent permitted by law, to indemnify and hold Sebago Technics and its sub-consultants harmless from any and all claims, liability and costs of defense, including but not limited to its attorney and paralegal fees and costs, whether or not actual litigation is commenced, for all liability, injury or losses arising or allegedly arising from all errors, omissions or inaccuracies in all documents, specifications and information provided to Sebago Technics by the Client and/or its agents.

19. INSOLVENCY/AVOIDANCE OF PAYMENTS. In the event of a filing under the Federal Bankruptcy Code of a case by or against Client or in the event of the commencement by or against the Client of any state law proceeding for the liquidation of its assets or for the reorganization of its debts, Sebago Technics obligations under this Agreement are immediately relieved. To the extent that the Client makes a payment or payments to Sebago Technics which are in whole or in part subsequently invalidated or are declared to be a preference and are set aside and/or required to be repaid to any party under any bankruptcy or insolvency law, state or federal law, common law, or equitable cause, then to the extent such payments are set aside or are repaid, they shall be reinstated and included in what Client owes Sebago Technics.

20. INSURANCE. During the term of this Agreement, Sebago Technics agrees to provide insurance coverage for Professional Liability, Commercial General Liability, Worker's Compensation and Employer's Liability, and Automobile Liability for all of its employees. Evidence of this coverage can be provided upon request.

21. LEGAL ACTION, FEES AND COSTS. All legal actions by either party against the other for any cause or causes, including, but not limited to, breach of this Agreement, negligence, misrepresentations, breach of warranty, or failure to perform in accordance with the standard of care, however expressed, shall be barred two (2) years from the day after the completion of Sebago Technics' services. In the event the Client institutes a suit against Sebago Technics, and if such suit is not successfully prosecuted, or if it is dismissed, or if a verdict is rendered for Sebago Technics, Client agrees to pay Sebago Technics any and all costs of defense, including attorney fees, expert witness fees, and court costs and any and all other expenses of defense which may be reasonably necessary, immediately following dismissal of the case or immediately upon judgment being rendered in favor of Sebago Technics. In the event Sebago Technics utilizes an attorney to collect what it is owed under this Agreement with the Client, the Client agrees to pay all of Sebago Technics' reasonable attorney and paralegal fees, whether or not formal litigation is commenced, as well as all Court costs and other related expenses.

22. LENDER'S OR OTHER PARTY'S REQUIREMENTS. Sebago Technics shall not be required to execute any documents subsequent to the execution of this Agreement that in any way, in Sebago Technics' sole judgment, may increase Sebago Technics' contractual or legal obligations or risks or the availability or cost of Sebago Technics professional or general liability insurance.

23. NO FIDUCIARY DUTY. Client acknowledges that Sebago Technics does not owe it a fiduciary duty, that Client has had the opportunity to engage counsel prior to entering into the Agreement, and enters into the Agreement of its own free will and accord.

24. NOTICE. In the event that any notice is required to or may be given under the Agreement, then notwithstanding any other term or provision to the contrary, it shall be deemed given: (a) two (2) business days after deposit in the United States mail, first class, postage prepaid; (b) one (1) business day after placement with an overnight courier service which provides proof of delivery; or (c) if by any facsimile transmission or email of such notice the times in either (a) or (b) above, it being required that notice shall also be given by mail or overnight courier, addressed to the recipients as follows:

To Sebago Technics: Sebago Technics, Inc. 75 John Roberts Road, Suite 4A South Portland, ME 04106

To Client: Notice Sent to Same Address as Proposal, Letter Agreement, or Contract, unless otherwise noted.

25. OWNERSHIP OF INSTRUMENTS OF PROFESSIONAL SERVICE. All field data, notes, reports, plans, specifications, and all other related information and documents, including CADD documents, no matter in what form they may be fixed, that are prepared by Sebago Technics are considered to be "Instruments of Professional Service" which shall remain the sole property of Sebago Technics. Sebago Technics, however, acknowledges that the final plans and specifications generated on behalf of the Client shall become the property of the Client upon completion of the work and receipt of full payment therefore.

The Client agrees that it will not reuse or modify the plans and specifications in any way without first receiving written authorization from Sebago Technics. The Client agrees, to the fullest extent permitted by law, to defend, indemnify and hold Sebago Technics harmless from any and all claims, liability, and costs of defense including, but not limited to, its attorney and paralegal fees, whether or not actual litigation is commenced, arising or allegedly arising out of any unauthorized reuse or modification by the Client, its agents, or any person or entity that acquires or obtains the plans and specifications from or through the Client and reuses or modifies them. In no event shall Sebago Technics be liable for any damages, including, but not limited to any claim of lost profits by the Client or any third party.

26. RECORD DOCUMENTS. Upon completion of the Client's project and/or Sebago Technics' work, Sebago Technics may be asked to compile and deliver to the Client a reproducible set of Record Documents that conform to the marked-up prints, drawings and data provided to the Client and/or its agents. This set of Record Documents will show the reported locations of work performed and significant changes that were made while the project progressed. Because these Record Documents may be based in whole or in part on information provided by others, not independently verified by Sebago Technics, but assumed to be true and accurate, Sebago Technics does not warrant in any way that they are accurate.

27. REPRESENTATIONS. The Client hereby represents and warrants that all of its agreements, representations, recitals, and acknowledgements made in the Agreement are true and correct and that it is duly authorized to enter into and execute and deliver the Agreement and all related documents and to perform all acts contemplated hereby and that the Agreement and all related documents are its legally valid and binding obligations as well the legally valid and binding obligations of its respective successors and assigns and are enforceable in accordance with their terms.

28. RISK ALLOCATIONS. In recognition of the relative risks, rewards, and benefits of the Client's project both to itself and to Sebago Technics, the Client hereby agrees, to the fullest extent permitted by law, to limit Sebago Technics' total liability to the Client and all third parties for all claims, losses, injuries, expenses and damages due to Sebago Technics' performance of its work, including that of its sub-consultants, to the greater of Sebago Technics fees or $50,000.00.

29. SCOPE OF SERVICES. The Scope of Services Sebago has agreed to perform is set forth in greater detail in the Proposal, Letter Agreement, or Contract. These services are based upon the requests of Sebago Technics' client and Sebago Technics' professional opinion of what services are being recommended or required based upon those requests.

30. SEVERABILITY OF PROVISIONS. In the event any one or more provisions contained in the Agreement should be found to be invalid, illegal, or unenforceable in any respect by any Court having valid jurisdiction, the validity, legality, and enforceability of the remaining provisions of the Agreement shall not in any way be affected or impaired and to this end, the provisions of the Agreement shall be deemed severable.

31. SITE AND SUBSURFACE INVESTIGATIONS. Client agrees to furnish right of entry and permission for Sebago Technics, its employees, and/or subcontractors, to perform surveys, borings, and other investigations, including subsurface explorations, pursuant to the scope of services. Sebago Technics will take reasonable precautions to minimize damage to the property. If Sebago Technics is required to restore the property, or subsurface conditions, or structures to its former condition, the cost plus fifteen (15) percent will be added to the fee. Client shall indemnify, defend, and hold harmless Sebago Technics, its employees, and subcontractors from any and all claims, damages, losses, and expenses (including reasonable attorney fees), arising out of or resulting from any such damage, except to the extent caused by Sebago Technics' negligence.

32. STANDARD OF CARE. The Services provided by Sebago Technics will be performed in accordance with generally accepted practices of engineers, surveyors, landscape architects, and/or scientists (as applicable) providing similar services at the same time, in the same locale, and under like circumstances.

33. SUCCESSORS AND ASSIGNS. This Agreement shall be binding upon and inure to the benefit of the Client and Sebago Technics and their respective successors and assigns, including without limitation, any trustee in bankruptcy or any receiver or trustee or similar entity appointed on behalf of the Client or its respective properties or estates. However, nothing in this agreement shall create a contractual relationship with or a cause of action in favor of a third party against either the Client or Sebago Technics.

34. SUSPENSION/TERMINATION OF SERVICES. The Agreement between the Client and Sebago Technics may be terminated upon ten (10) days written notice received by either party from the other, should either party fail to perform its obligations under the Agreement. In the event of termination by either party, Client shall pay Sebago Technics for all services rendered and costs incurred up to and including the date of termination plus any post termination work that in Sebago Technics' sole discretion may be required.

If Client fails to make payment when due for services and reimbursable expenses, Sebago Technics may, upon seven (7) days written notice to Client, suspend and/or terminate performance of services under this Agreement. Unless payment in full is received by Sebago Technics within seven (7) days of the date of the notice, the suspension and/or termination shall take effect without further notice. In the event of a suspension and/or termination of services, Sebago Technics shall have no liability to Client for delay or damage to Client or others because of such suspension and/or termination of services.

35. WAIVER. No failure to exercise and no delay in exercising any right, power, or remedy hereunder shall impair any right, power, or remedy which Sebago Technics may have, nor shall any such delay be construed to be a waiver of any such rights, powers, or remedies or an acquiescence to any breach or default under this Agreement, nor shall any such act or failure to act by Sebago Technics constitute a waiver of any subsequently occurring default or breach by Client.

36. WAIVER OF INCIDENTAL, INDIRECT, AND CONSEQUENTIAL DAMAGES. Client and Sebago Technics waive incidental, indirect, and consequential damages for claims, disputes, or other matters in question arising out of or relating in any way to the Agreement. This mutual waiver includes, but is not limited to, damages related to loss of use, loss of profits, loss of income, loss of reputation, unrealized savings or diminution of property value, and shall apply to any cause of action including, but not limited to, negligence, strict liability, breach of contract, and breach of warranty. This mutual waiver is applicable, without limitation, to all claims for consequential damages due to either party's termination in accordance with the provisions set forth in the terms and conditions of the Agreement

Effective Date: February 2019

Transit Signal Priority Implementation and Evaluation South Portland, Maine

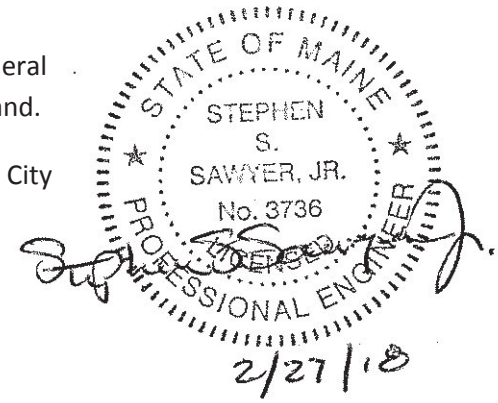
By
Sebago Technics, Inc.

February, 2018

SEBAGO TECHNICS
CIVIL ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE

Acknowledgements

This Project was performed with the aid of a grant from the Federal Transit Administration administered by the Staff of South Portland.



The principal investigators were from Sebago Technics, Inc., the City of South Portland's Consulting Traffic Engineer, and included:

Curtis Thompson, EI	Primary Investigator
Derek Caldwell, PE, PTOE	Technical Reviewer
Bradley Lyon, PE, PTOE	Technical Reviewer
Stephen Sawyer, PE	Report Editor

Sebago Technics would like to acknowledge the assistance and cooperation it received from members of the South Portland Bus system, without which this Study could not have been performed as thoroughly as it was. Members included:

Arthur Handman	Director
Richard Sargent	Operations Supervisor

Sebago Technics would also like to acknowledge the council and feedback it received from two external academic colleagues:

Per Garder, PhD, PE	Professor at the University of Maine
Peter Furth, PhD	Professor at Northeastern University

Finally, Sebago Technics would like to acknowledge its vendor partners in this endeavor:

Alan Deditch, P.E.	Highway Tech, supplier of the controller software upgrades and optical emitters
Jeffery Moulton	Coastal Electric, distributor of the EMTRAC Priority Management System
Kris Morgan Andrew Morgan Destry Diefenbach	EMTRAC, installer and technical support for the EMTRAC Priority Management System

Project: 15506 February, 2018

Executive Summary

The goal of this Project was to explore the benefits of Transit Signal Priority (TSP) for South Portland Bus. TSP is a traffic signal programming strategy for reducing the number of stops and delay at signalized intersections for transit vehicles. South Portland Bus currently has three long routes encompassing the major destinations across South Portland, as well as linkage to Portland and Scarborough. A bus can cross a signalized intersection in South Portland as many as 44 times on a round trip and minimizing stops and/or reducing delays at these locations by implementing TSP was thought to be significant in terms of shortening scheduled travel times and increasing on-time reliability – two key performance measures of a successful transit operation.

South Portland Bus operates 7 vehicles daily – seven days per week. Given the expanse of the city's limits, their three routes (21, 24A, and 24B) are in excess of 20 miles round trip when you include the connections to downtown Portland and Scarborough. These parameters have resulted in a schedule that is based on roughly 60-minute headways at stops – not uncommon for small, non-metropolitan systems. Unfortunately, to date there is a lack of published data on the use of TSP in these smaller, less dense systems.

The management of South Portland Bus went to the Transit Committee of the Portland Area Transportation System (PACTS) and partitioned for funding to perform a field test of TSP technology to see what the real benefits could be to their operations. Their case was strengthened by the fact that a number of traffic signals in South Portland were previously outfitted with TSP software, but never activated. PACTS granted the City $220,341 of Federal Transit Administration money under Grant ME-2016-005-01 to conduct this TSP Implementation and Evaluation Project. The Principal Investigators for this Project were traffic engineers from Sebago Technics, the City's consulting traffic engineers.

The initial Work Plan included the purchase and installation of two different TSP activation technologies - optical and radio-based GPS for the bus fleet, and the upgrading of TSP firmware in 13 existing traffic signal controllers along Broadway and around the Maine Mall. The objective was to determine the performance benefits of TSP in general and also to compare the two primary means of operating TSP to see if one performed better than the other under actual field conditions.

The Work Plan included three, 28-day field tests once all of the equipment was purchased, installed, and field tested for operability. These were:

- Existing conditions without TSP
- TSP with radio-based GPS activation
- TSP with optical activation.

The data points collected for each run were aggregated into three time periods throughout the day (AM, Midday, and PM) due to the large headways (60 minutes) between buses causing the number of data points per hour to be less than could be considered statistically significant. This provided more reasonable results, but still not fine-grained enough to support financial decision making and to determine if TSP was a sound investment for South Portland Bus and the PACTS Region as a whole.

Investigators concluded that the solution to this issue was the development of a theoretical equation based on the desired TSP phase at an intersection and the signal's ability to extend the desired phase or reduce the non-desired phases to minimize bus delays. Such an equation was developed as part of this Project. The results from this equation were then compared to the data from the actual field tests and it was found that the equation's results were in line with the field tests, with few exceptions. On this basis, the overall evaluation proceeded using the new equation to quantify the effects of TSP implementation at the initial 13 intersections that were TSP enabled for this test and also the remaining 15 that are located on bus routes 24A and 24B and not currently TSP enabled.

The methodology developed as part of this Project is significant because it was field tested and it has quantified the impacts TSP can have for South Portland Bus now and into the future should they elect to expand its use. It is also significant because it establishes an objective framework that can be used by other transit agencies in non-metropolitan areas to quantify the benefits of TSP prior to its implementation.

In closing, the authors have provided the specific findings of this Project and outlined some budgetary costs for South Portland Bus to consider should they elect to move forward with additional TSP enhancements to their route system.

Key Findings and Recommendations:

1. South Portland Bus Routes 24A and 24B are roughly 20 miles in round trip length and pass through approximately 60 signalized intersections in South Portland, Portland, and Scarborough.

2. The average running travel time for a round trip is 90 minutes, with 30 minutes for passenger stops. The estimated intersection delay at the 44 intersections in South Portland is 17 minutes out of the total 90 minute running travel time.

3. The implementation of TSP can only impact the delays experienced by buses at signalized intersections – currently 17 minutes on average per round trip. The results of both the field and calculated time savings was significant – 4.5 minutes total at the 13 TSP enabled intersections and 3.1 minutes at the other 15 intersections that are not currently TSP enabled for a total of 7.6 minutes. This time savings represents a 44% reduction in the time spent currently at signalized intersections within South Portland. This was validated by driver observations.

4. The Radio-based GPS system performed better than the optical system due to the increase in TSP activation distance. The average optical activation distance was 200' to 500' and the average GPS activation distance was 1500' to 2000'.

5. TSP does not result in noticeable benefits at every intersection. The specific movement the bus makes at an intersection is critical, as well as whether the traffic signal is running coordinated or uncoordinated. For these reasons, some intersections can justify TSP, while others cannot. The intersections on Route 24A and 24B have all been rated for their TSP benefit potential, and we found several cases where existing TSP equipment does not provide significant delay reductions and thus should be moved to another intersection where it can be more effective.

6. Chapter 6 provides three recommendations for future action by South Portland Bus to complete the implementation of TSP on Bus Route 24A and 24B. These three recommendations include relocating some equipment, purchasing additional equipment, and conducting a thorough optimization of the system based on the findings of this Study. The total budgetary cost of these actions is estimated to be $25,000.

Transit Signal Priority Annual Operating & Maintenance Costs

TSP Server

Sebago Technics provides operations and maintenance configuration and troubleshooting support as part of the Traffic Signal Operations contract with the City of South Portland. Currently the Central Monitoring Software is located on a laptop in the Western Ave Fire Station server room where the Portland Area Comprehensive Transportation System (PACTS) Traffic Signal Management Server is also located. As the majority of the equipment is installed at the traffic signals and utilize the PACTS network for communications.

Sebago Technics has the ability to access the Central Monitoring server remotely using Sebago's connection to the PACTS network. The software is not installed anywhere else and Sebago Technics has been the only entity to use the software since the TSP study, mostly to check the TSP logs compared to the occasional signal complaint.

TSP Intersection

The equipment located at the traffic signals is also part of the preemption system and would be covered under the Signal Maintenance contract. Electric Light Company is the City's on call signal contractor. Since the TSP system was installed, the only issues that have come up have been related to the configuration of the equipment within the traffic signal cabinet.

TSP Hardware

Estimates for hardware replacement costs:

- Troubleshooting, Repairing, and/or replacing EMTRAC Vehicle Computer Units installed on 7 transit buses. (VCU = $3,829/ea. = $26,803 for 7 vehicles)
- Troubleshooting, Repairing, and/or replacing EMTRAC Vehicle Interrogator Kit installed at Public Works (Interrogator Kit = $5,070/ea.)

All warranties on the 7 VCUs and the 1 Interrogator Kit have expired. Any labor including any database set up not included.

City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**MSF IRRIGATION**		
Department	Public Works	**Dept. Priority**	7
Division		**Div. Priority**	
CIP Category	Public Works & Transportation		

Purchase/Project Description

The Public Works Department is requesting funds to install irrigation around the front and side of the Municipal Services Facility. The lawn area around the facility is burning-up by the middle of summer. Watering the areas every few days with a watering truck has not been enough to keep the area green and healthy.

Regular watering through an irrigation system is instrumental in keeping our green spaces green

Financial Impact of this Purchase/Project

Annual Operating Costs for the irrigation system would be approximately $2,340 for the water usage

Environmental Considerations

A good watering program will keep our green space green without the use of herbicides or pesticides

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances	$ 14,980.00	$ 14,980.00					$ 14,980.00	$ 14,980.00
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 14,980.00**	**$ 14,980.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 14,980.00**	**$ 14,980.00**

Source of Cost Estimate	Environmental Solutions					
Est. Annual Operating Costs	$ 2,340.00	**Projected Useful Life**	50 years	**Additional Documentation?**	yes	
City Manager Comments						

Environmental Solutions

March 4, 2021

Doug Howard, Director
South Portland Public Works
929 Highland Avenue
South Portland, Maine 04106

Dear Doug,

Thank you for the opportunity to provide you with a budget number for the installation of a new irrigation system for the Public Works lawn area close to the building and in the parking lot, as indicated on the enclosed sketch.

The irrigation system design is based on available pressure and flow of 8 gpm at 45 psi. The irrigation system will consist of 4 zones to water the lawn in the parking lot islands as indicated on the sketch and 4 zones for the lawn close to the building.

The point of connection (POC) and controller will be installed on the outside of the building, due to site conditions and available water supply on-site (per site meeting). An isolation valve, backflow preventer, and drain valve for blow out of the system will be installed on the right side of the building, utilizing an existing spigot. The backflow preventer will be installed on unions for the ability to remove at the end of the season for storage over the winter.

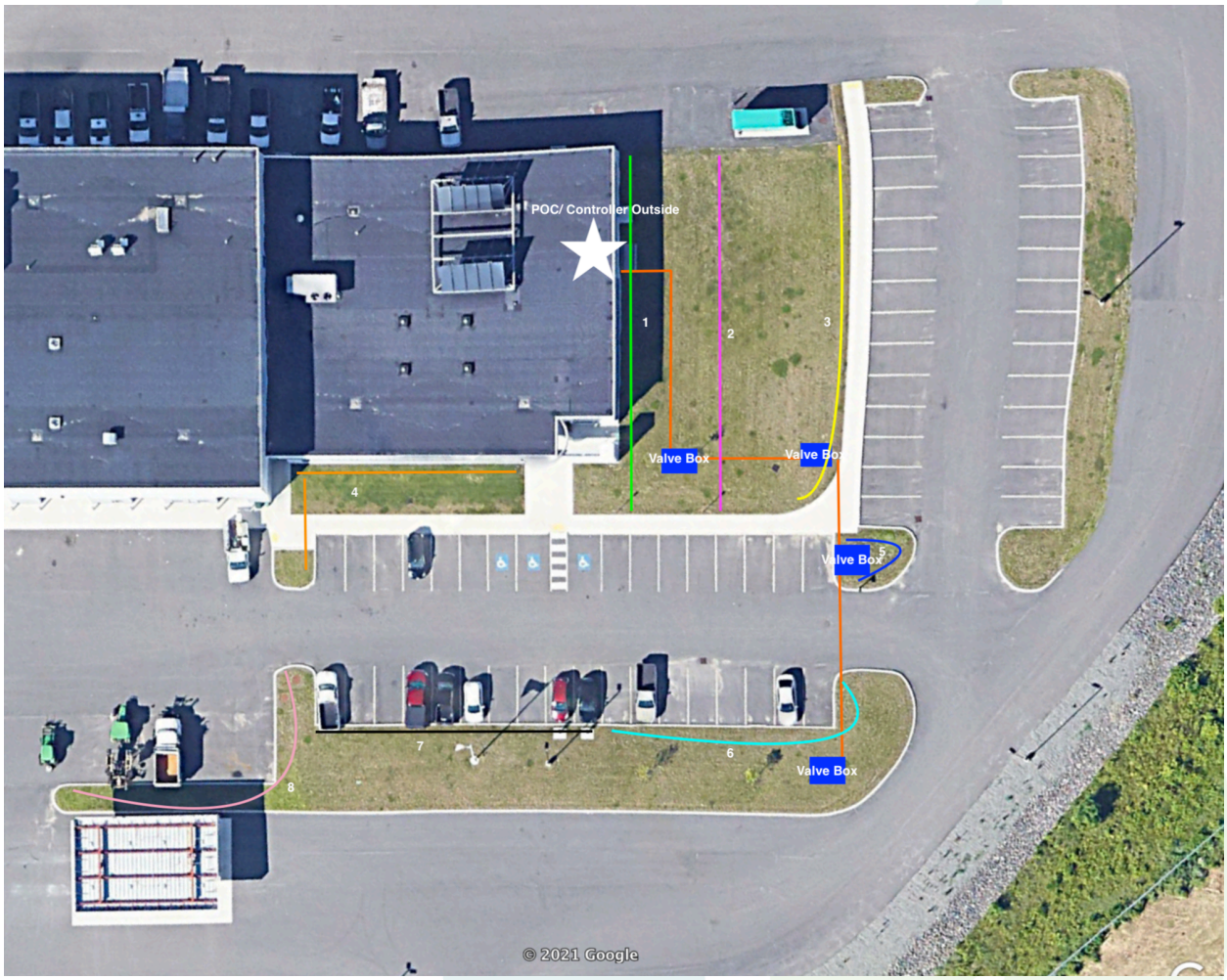
During the site visit, it was determined that there is no outside power source. Therefore, a solar-powered controller with battery back-up will be installed.

The irrigation lines will need to run under the pavement to reach the parking lot islands, requiring directional boring. We have included an estimated price, based on our past work with ETTI. We will adjust that price, based on a formal quote from ETTI if Public Works decides to move forward with the project.

Installation and Materials	**$8,980.00** ***budget***
Directional Boring	**$6,000.00** ***estimated***

Five (5) year manufacturer's warranty on Hunter I-20 rotor heads, Hunter PROS40 spray heads, and Hunter WR-CLIK rain sensor.
Two (2) year manufacturer's warranty on Hunter XC Hybrid Controller and Hunter PGV101 valves.
One (1) year manufacturer's warranty on Febco backflow preventer.

Environmental Solutions



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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**New Venting System for Capped Landfill**		
Department	Public Works	**Dept. Priority**	1
Division		**Div. Priority**	
CIP Category	Environmental Protection		

Purchase/Project Description

The capped MSW landfill venting system has failed. I requested $30,000 in last year's CIP to address adding additional vents to the capped landfill. After further investigation by Ransom Consulting and Maine Department of Environmental Protection (MDEP), it was determined that none of the current vents are working. It appears these vents were not properly installed when the landfill was originally capped.

The MDEP is now requiring removing the old system as well as installing approximately twelve to fourteen new vents. The installation of the new vents is eligible for 90% reimbursement through MDPE Landfill Cost Sharing Program. As part of this project we are working with the Sustainability Department with the installation of the new solar array going on the same capped landfill. Revision Energy would prefer all the work associated with the venting project be done prior to the installation of the new solar array.

MDPE is requiring this work be completed. If the project is not completed this year, there is the potential for additional costs associated with working around the newly installed solar array.

Financial Impact of this Purchase/Project

The estimate for total cost of this project is $213,000. The amount eligible for reimbursement is approximately $170,000. The annul costs are $10,000 for the required inspection and testing of the closed landfill. This is budgeted each year in the operation budget.

Environmental Considerations

The landfill is producing methane gas, however it is not being detected with the current vents. This means the methane is possible migrating out through the base of the landfill. The result of this migration could be contaminated ground water around the landfill. The new and properly installed vents will mitigate any migration of the methane gas to ground water. There is also the potential to harness the methane gas in the future for energy. This will be determined by the amount of methane detected during future inspections

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 13,000.00	$ 13,000.00					$ 13,000.00	$ 13,000.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants	$ 170,000.00	$ 170,000.00					$ 170,000.00	$ 170,000.00
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances	$ 30,000.00	$ 30,000.00					$ 30,000.00	$ 30,000.00
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 213,000.00**	**$ 213,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 213,000.00**	**$ 213,000.00**

Source of Cost Estimate	Ransom Environmental Engineering					
Est. Annual Operating Costs	$ 10,000.00	**Projected Useful Life**	50 years	**Additional Documentation?**	yes	
City Manager Comments						

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RANSOM
Consulting, LLC

Consulting
Engineers
and Scientists

December 7, 2020 Project 151.06159.011

Mr. Matthew Young, Project Manager
Maine Department of Environmental Protection
Division of Remediation- Landfill Closure and Remediation Program
17 State House Station
Augusta, Maine 04333

RE: City of South Portland
Abandonment of Existing (Non-Functional) Landfill Vents & Installation of New Landfill Vents
Closed Municipal Solid Waste Landfill
929 Highland Avenue
South Portland, Maine

Dear Mr. Young:

On behalf of the City of South Portland (the City) and the Maine Department of Environmental Protection (MEDEP), Ransom Consulting, LLC (Ransom) has prepared this letter summarizing our engineering design and specifications for installation of the proposed, new landfill venting system and decommissioning of the existing, non-functional landfill venting system at the City's closed, municipal solid waste (MSW) landfill in accordance with Maine's Chapter 401 Solid Waste Management Rules.

BACKGROUND

In April 2020, Ransom completed a landfill gas investigation at City's closed, municipal solid waste (MSW) landfill. The purpose of the investigation was to collect sufficient data [i.e., depth to waste layer and landfill gas (LFG) readings] at 20 Geoprobe® boring locations (10 locations at both MSW landfill cells) in order to site at least 10 to 12 new landfill vents. The results of our investigation would also provide justification for the abandonment or removal of the existing venting system, which is manifolded together via subgrade piping and is not effectively venting landfill gases, as designed. Results of Ransom's investigation were summarized in a report, dated May 5, 2020, which was reviewed and accepted by Matthew Young of the MEDEP's Landfill Closure and Remediation Program per email correspondence on May 5, 2020.

Based on correspondence with the City, ReVision Energy (ReVision) proposes to construct ground-mounted solar array systems on the MSW landfill cells in Summer 2021. Therefore, the existing, venting system is proposed to be decommissioned and the new venting system installed before the solar arrays have been constructed.

DECOMMISSIONING OF EXISTING (NON-FUNCTIONAL) VENT PIPES

The City will select a Contractor to decommission the existing, non-functional landfill vent pipes. Decommissioning activities will include removal/cutting of the existing PVC vent pipes (above grade only) and injecting and capping the remaining vent pipe riser with bentonite, then loam and grass seed to

400 Commercial Street, Suite 404, Portland, Maine 04101, Tel (207) 772-2891, Fax (207) 772-3248
Pease International Tradeport, 112 Corporate Drive, Portsmouth, New Hampshire 03801, Tel (603) 436-1490
12 Kent Way, Suite 100, Byfield, Massachusetts 01922, Tel (978) 465-1822
2127 Hamilton Avenue, Hamilton, New Jersey 08619, Tel (609) 584-0090
60 Valley Street, Building F, Suite 106, Providence, Rhode Island 02909, Tel (401) 433-2160

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restore the integrity of the landfill cap. Similar decommissioning activities will be completed for broken/missing vent pipes if evidence of the broken/missing vent pipe is distinguishable at the ground surface.

The locations and design specifications for the existing landfill venting system were prepared by Sevee & Maher Engineers, Inc. (Sevee & Maher) in 1997 and have been filed with the City and MEDEP. The existing landfill vent system, design specifications and pertinent Site features are shown on **Plan C1.0**, which is based on Sevee & Maher's plans/specifications and Ransom's recent observations.

INSTALLATION OF NEW VENTING SYSTEM

The selected Contractor will also install the new, direct vents on behalf of the City. Based on the results of the April 2020 investigation, the following borings were determined to be suitable locations for direct vents for the two MSW landfill cells.

Northern MSW Landfill Cell

- B101
- B102
- B103
- B104
- B106
- B107
- B110

Southern MSW Landfill Cell

- B112
- B113
- B114
- B115
- B116
- B117
- B119

The boring locations and pertinent Site features are shown on **Plan C1.1**. Design specifications for the new vents are based on MEDEP's "Passive Vertical Gas Collection Vent" schematic, which was provided in an email from Matthew Young to the City and Ransom on May 5, 2020. Based on Ransom's correspondence with Stephen Farrar of the MEDEP's Landfill Closure and Remediation Program, the new direct vents do not need to be installed to the bottom of the waste layer as shown on MEDEP's schematic, but should be installed to an adequate depth (i.e., approximately 5 feet) into the waste layer. Cross sections of the landfill showing the proposed vent locations are shown on **Figure C1.2** and design specifications for the new vents are shown on **Plan C1.3 (Northern MSW Landfill Cell) and Plan C1.4 (Southern MSW Landfill Cell).**

The Contractor will be responsible for properly disposing MSW displaced from the landfill during vent installation activities. Based on our correspondence with the City, the displaced MSW will be properly disposed off-site at a facility licensed to accept MSW.

The new vents will also need to be installed at least 10 feet away from future solar array infrastructure, which is proposed to be constructed on top of both MSW landfill cells. Based on information provided by ReVision, the locations of the proposed solar arrays were in a preliminary design phase at the time of Ransom's 2020 Geoprobe® investigation. Therefore, ReVision has indicated that their final plans will ensure that solar array infrastructure will be at least 10 feet away from the new vent locations.

Mr. Matthew Young
Maine Department of Environmental Protection

FIELD ENGINEERING SUPPORT FOR LANDFILL VENTING SYSTEMS & REPORTING

The City has contracted Ransom to provide field engineering support during the decommissioning of the existing, non-functional venting system and installation of the new venting system. Ransom will utilize a Landtec GEM2000 meter to collect landfill gas (LFG) parameters (methane, carbon dioxide and oxygen), as well as the percentage of lower explosive limit (%LEL) during vent decommissioning and installation activities. Ransom will provide record drawings and construction documentation to the City and MEDEP at the completion of the project. Additionally, after installation of the new venting system, Ransom will conduct up to 2 additional site visits, to collect LFG readings in order to evaluate the operation of the new landfill venting system. Observations and LFG readings collected during the follow-up visits will be provided to the City and MEDEP in summary letter(s).

Please feel free to call us if you have any questions or need clarification regarding our engineering designs and supporting documentation, as detailed in this letter to install the new landfill venting system and decommission the existing, non-functional landfill venting system at the City of South Portland's closed, MSW landfill.

Sincerely,

RANSOM CONSULTING, LLC

Aaron R. Martin, C.G.
Project Manager / Geologist

Stephen J. Dyer, P.E.
Principal / Senior Engineer

ARM/SJD:mes
Attachments

cc: Mr. Doug Howard, City of South Portland, Department of Public Works
Mr. Stephen Farrar, Maine Department of Environmental Protection

PLANS

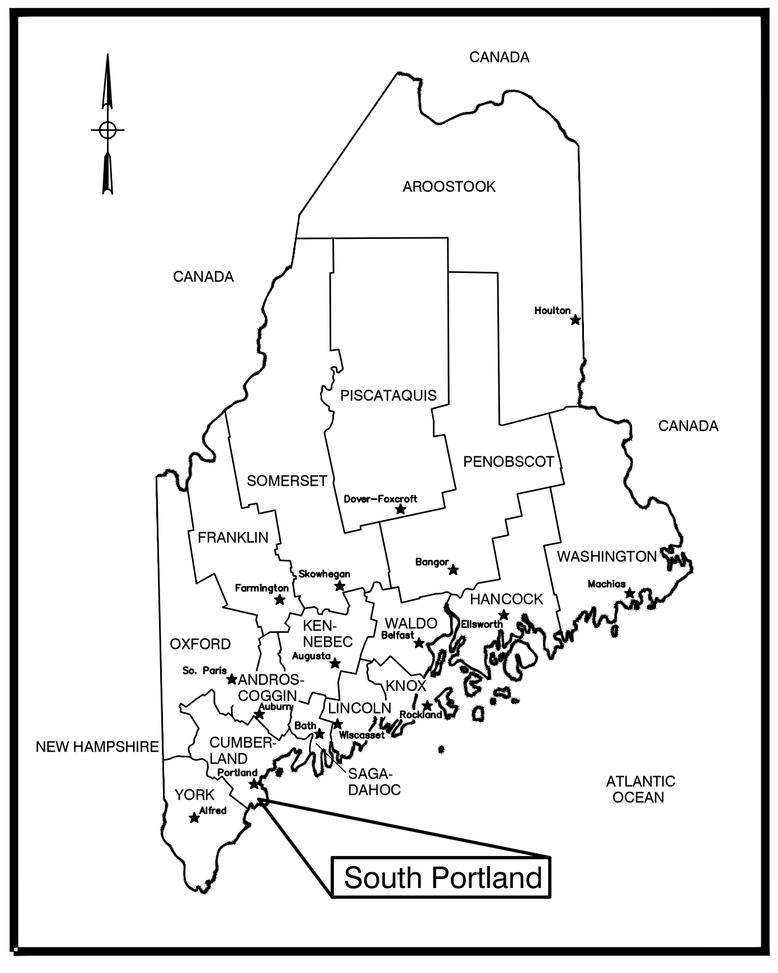
City of South Portland
Abandonment of Existing (Non-Functional) Landfill Vents & Installation of New Landfill Vents
Closed Municipal Solid Waste Landfill
929 Highland Avenue
South Portland, Maine

Ransom Consulting, LLC
Project 151.06159.011

CITY OF SOUTH PORTLAND
ABANDONMENT OF EXISTING (NON-FUNCTIONAL) LANDFILL VENTS & INSTALLATION OF NEW LANDFILL VENTS
CLOSED MUNICIPAL SOLID WASTE LANDFILL

929 HIGHLAND AVENUE, SOUTH PORTLAND, MAINE

DECEMBER 2020



VICINITY MAP
NOT TO SCALE

Description

SHT. NO.	TITLE	
1	COVER	
2	EXISTING CONDITIONS	C1.0
3	PROPOSED LAYOUT	C1.1
4	PROPOSED NEW LANDFILL GAS VENT PROFILES	C1.2
5	VENT DETAILS (NORTH MSW LANDFILL CELL)	C1.3
6	VENT DETAILS (SOUTH MSW LANDFILL CELL)	C1.4
7	NOTES & DETAILS	C1.5

OWNER:

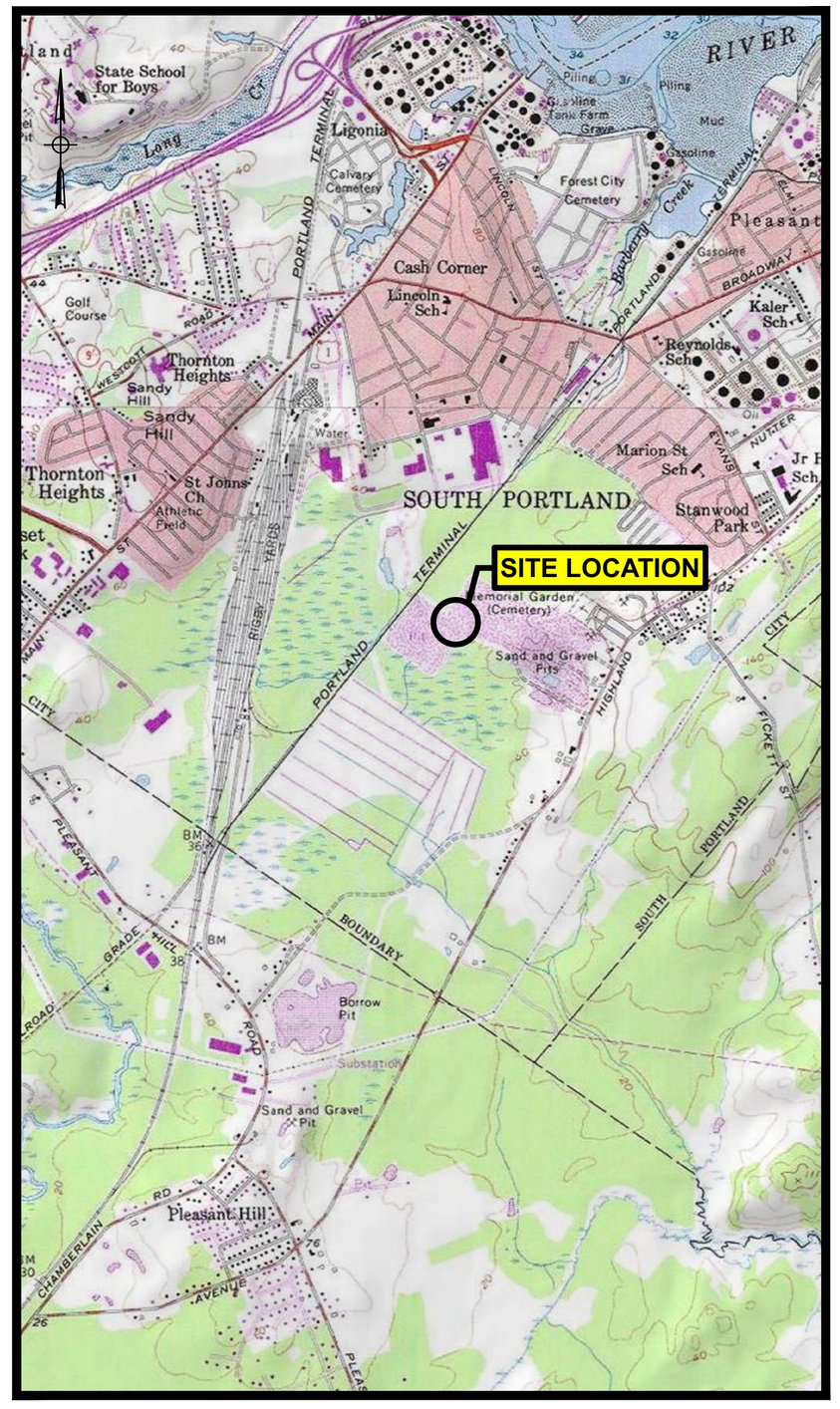
City of South Portland

929 HIGHLAND AVENUE, SOUTH PORTLAND, MAINE

DESIGN BY:

RANSOM Consulting, LLC.

400 Commercial Street, Suite 404
Portland, ME 04101
Tel. (207) 772-2891
Fax (207) 772-3248
www.ransomenv.com



LOCATION MAP
NOT TO SCALE

Site:

SOUTH PORTLAND LANDFILL

SOUTH PORTLAND, ME 04106

Prepared for:

CITY OF SOUTH PORTLAND
929 HIGHLAND AVE
SOUTH PORTLAND, MAINE 04106

Civil Engineer:

STATE OF MAINE · STEPHEN J. DYER · #7934 · LICENSED PROFESSIONAL ENGINEER

Stephen Dyer, PE # 7409
400 COMMERCIAL STREET, SUITE 404
PORTLAND, ME 04101
207-772-2891

RANSOM Consulting, LLC.

400 Commercial Street, Suite 404
Portland, ME 04101
Tel. (207) 772-2891
Fax (207) 772-3248
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No.	Revision/Issue	Date
x	xxxxxxxx	x-x-xx

Design by: ARM	Checked by: SJD
Drawn by: BGC	Approved by: SJD
Project: 151.06159	Date: DEC 2020

Sheet No:

341

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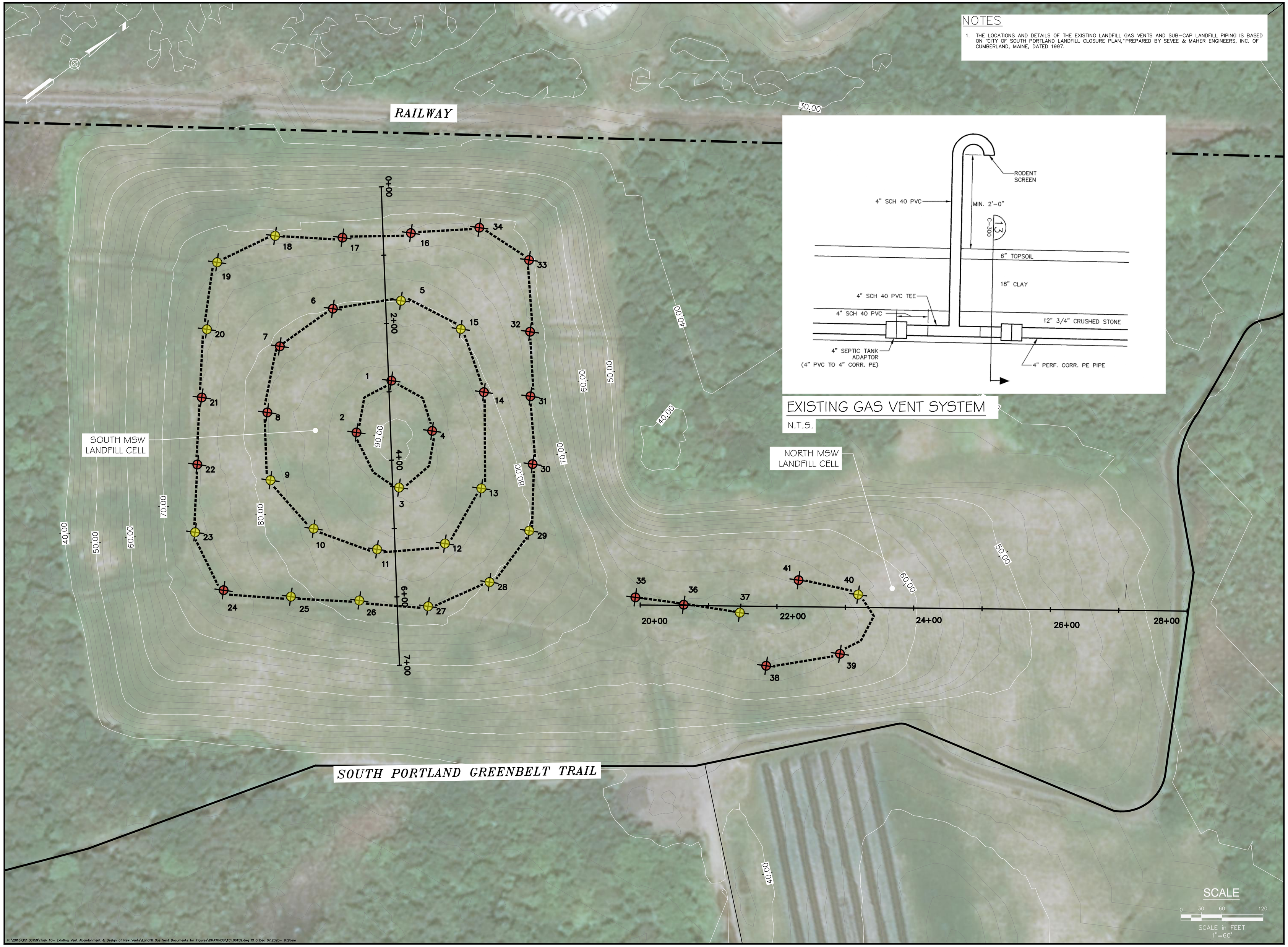

NOTES

1. THE LOCATIONS AND DETAILS OF THE EXISTING LANDFILL GAS VENTS AND SUB-CAP LANDFILL PIPING IS BASED ON "CITY OF SOUTH PORTLAND LANDFILL CLOSURE PLAN," PREPARED BY SEVEE & MAHER ENGINEERS, INC. OF CUMBERLAND, MAINE, DATED 1997.

EXISTING GAS VENT SYSTEM

N.T.S.

342

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Site:

SOUTH PORTLAND LANDFILL

SOUTH PORTLAND, ME 04106

Prepared for:

CITY OF SOUTH PORTLAND
929 HIGHLAND AVE
SOUTH PORTLAND, MAINE 04106

Civil Engineer:

STATE OF MAINE
STEPHEN J. DYER
#7934
LICENSED PROFESSIONAL ENGINEER

Stephen Dyer, PE # 7409
400 COMMERCIAL STREET, SUITE 404
PORTLAND, ME 04101
207-772-2891

LEGEND

- PROPERTY LINE
- GAS VENT
- MISSING OR BROKEN VENT
- SUB-CAP LANDFILL VENT PIPING

RANSOM
Consulting, LLC.
400 Commercial Street, Suite 404
Portland, ME 04101
Tel. (207) 772-2891
Fax (207) 772-3248
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EXISTING CONDITIONS

No.	Revision/Issue	Date
x	xxxxxxxx	x-x-xx

Design by: ARM	Checked by: SJD
Drawn by: BGC	Approved by: SJD
Project: 151.06159	Date: DEC 2020

Sheet No: C1.0

NOTES

1. THE LOCATIONS OF THE PROPOSED NEW LANDFILL GAS VENTS IS BASED ON INFORMATION PROVIDED ON "GEOPROBE® INVESTIGATION FOR NEW LANDFILL VENT LOCATIONS, SOUTH PORTLAND LANDFILL, 929 HIGHLAND AVENUE, SOUTH PORTLAND, MAINE," PREPARED BY RANSOM CONSULTING, LLC, DATED MAY 5, 2020.

RAILWAY

PROPOSED GROUND MOUNT SOLAR ARRAY LIMITS (TYP.)

NEW LANDFILL VENT (TYP.)

SOUTH MSW LANDFILL CELL

NORTH MSW LANDFILL CELL

SOUTH PORTLAND GREENBELT TRAIL

B101 B102 B103 B104 B106 B107 B110 B112 B113 B114 B115 B116 B117 B119

0+00 2+00 4+00 6+00 7+00

20+00 22+00 24+00 26+00 28+00

30.00 40.00 50.00 60.00 70.00 80.00 90.00

SCALE

0 30 60 120

SCALE in FEET
1"=60'

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343

Site:

SOUTH PORTLAND LANDFILL

SOUTH PORTLAND, ME 04106

Prepared for:

CITY OF SOUTH PORTLAND
929 HIGHLAND AVE
SOUTH PORTLAND, MAINE 04106

Civil Engineer:

STATE OF MAINE
STEPHEN J. DYER
#7934
LICENSED PROFESSIONAL ENGINEER

Stephen Dyer, PE # 7409
400 COMMERCIAL STREET, SUITE 404
PORTLAND, ME 04101
207-772-2891

LEGEND

- PROPOSED GROUND MOUNT SOLAR ARRAY
- PROPERTY LINE
- NEW GAS VENT LOCATION

RANSOM Consulting, LLC.
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Portland, ME 04101
Tel. (207) 772-2891
Fax (207) 772-3248
www.ransomenv.com

PROPOSED LAYOUT

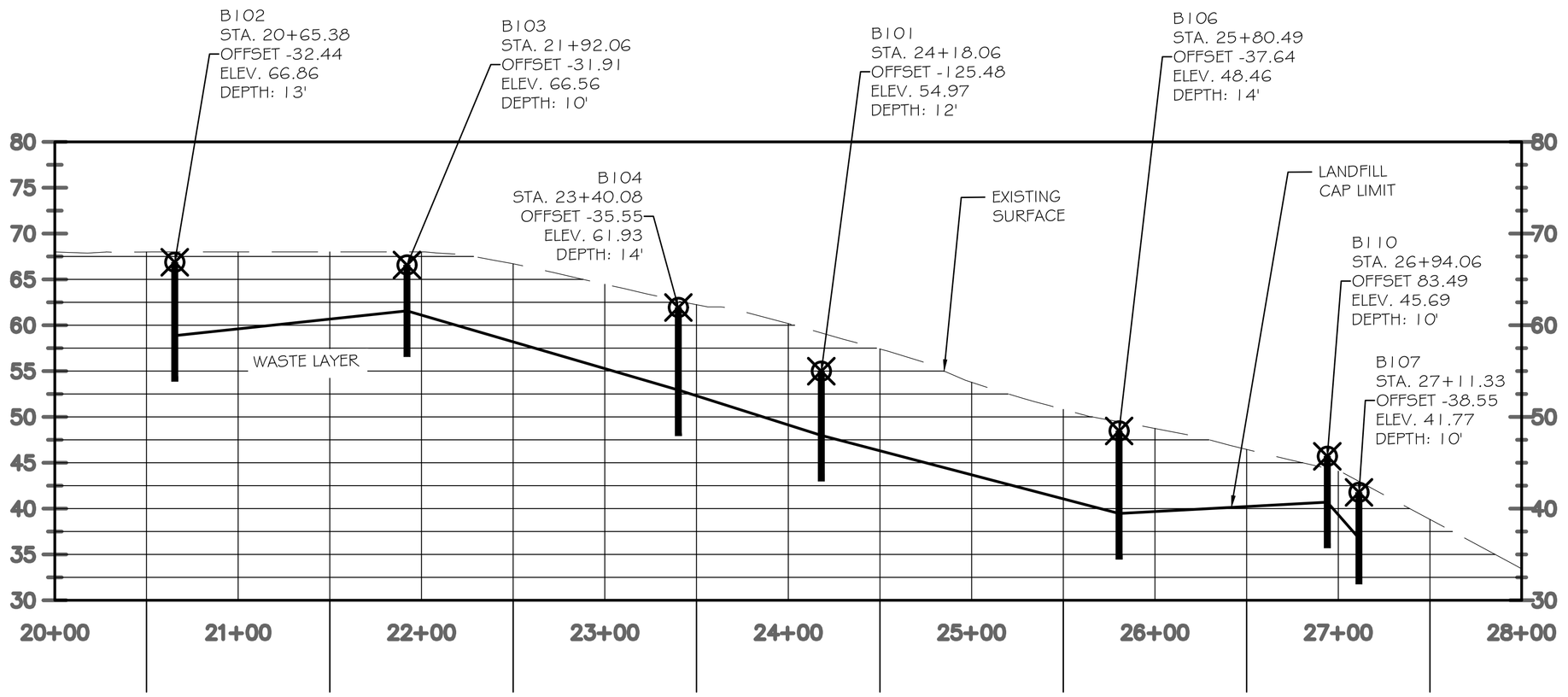
No.	Revision/Issue	Date
X	XXXXXXXX	X-X-XX

Design by: ARM	Checked by: SJD
Drawn by: BGC	Approved by: SJD
Project: 151.06159	Date: DEC 2020

Sheet No: C1.1

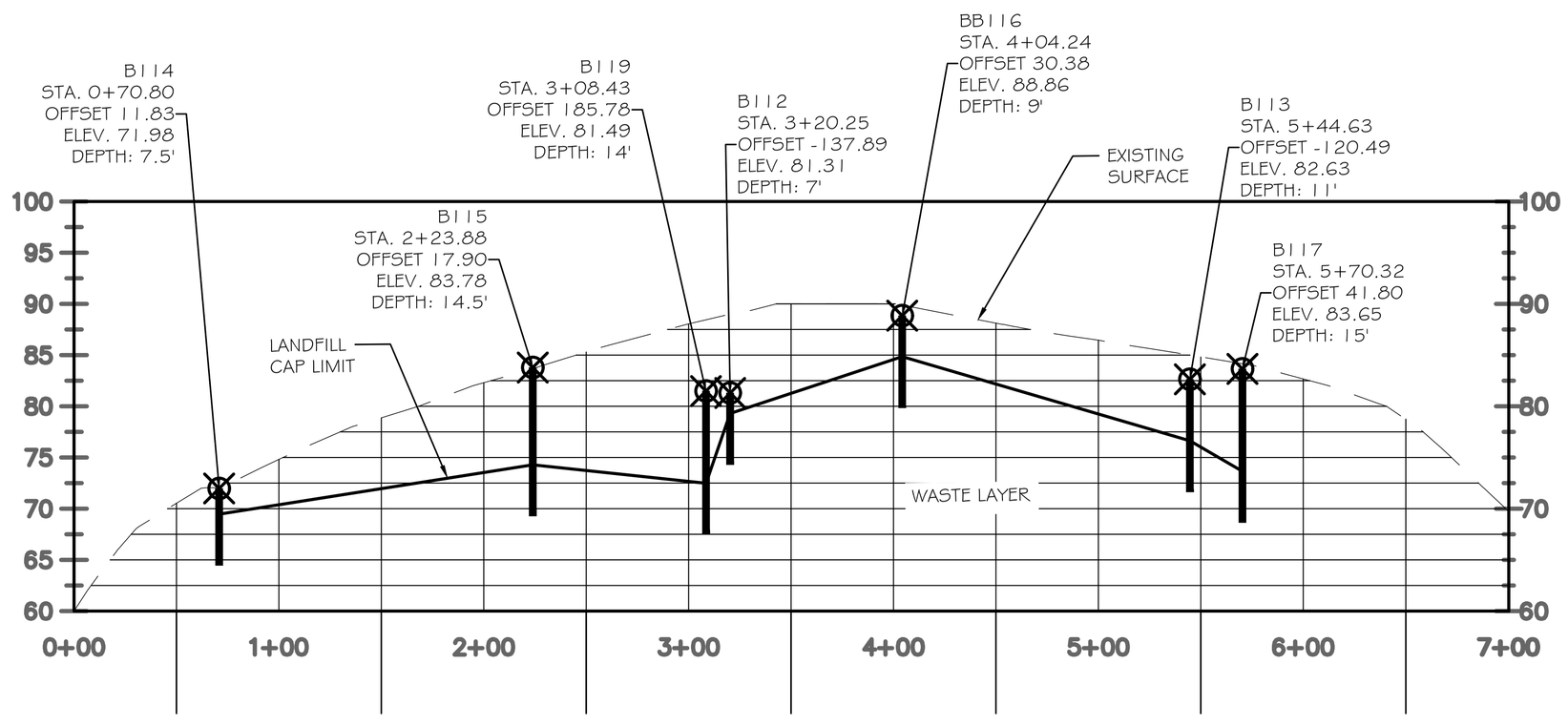
NORTH MUNICIPAL SOLID WASTE LANDFILL CELL

STATION 20+00-28+00



SOUTH MUNICIPAL SOLID WASTE LANDFILL CELL

STATION 0+00-7+00



NOTES

1. THE LOCATIONS OF THE PROPOSED NEW LANDFILL GAS VENTS AND APPROXIMATE DEPTHS OF THE EXISTING LANDFILL CAP LAYER AND WASTE LAYER IS BASED ON INFORMATION PROVIDED ON "GEOPROBE® INVESTIGATION FOR NEW LANDFILL VENT LOCATIONS, SOUTH PORTLAND LANDFILL, 929 HIGHLAND AVENUE, SOUTH PORTLAND, MAINE," PREPARED BY RANSOM CONSULTING, LLC, DATED MAY 5, 2020.

SCALE

VERTICAL SCALE: 0 5 10 20 — SCALE in FEET 1"=10'

HORIZONTAL SCALE: 0 25 50 100 — SCALE in FEET 1"=50'

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344

Site:

SOUTH PORTLAND LANDFILL

SOUTH PORTLAND, ME 04106

Prepared for:

CITY OF SOUTH PORTLAND
929 HIGHLAND AVE
SOUTH PORTLAND, MAINE 04106

Civil Engineer:

STATE OF MAINE · STEPHEN J. DYER #7934 · LICENSED PROFESSIONAL ENGINEER

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400 Commercial Street, Suite 404
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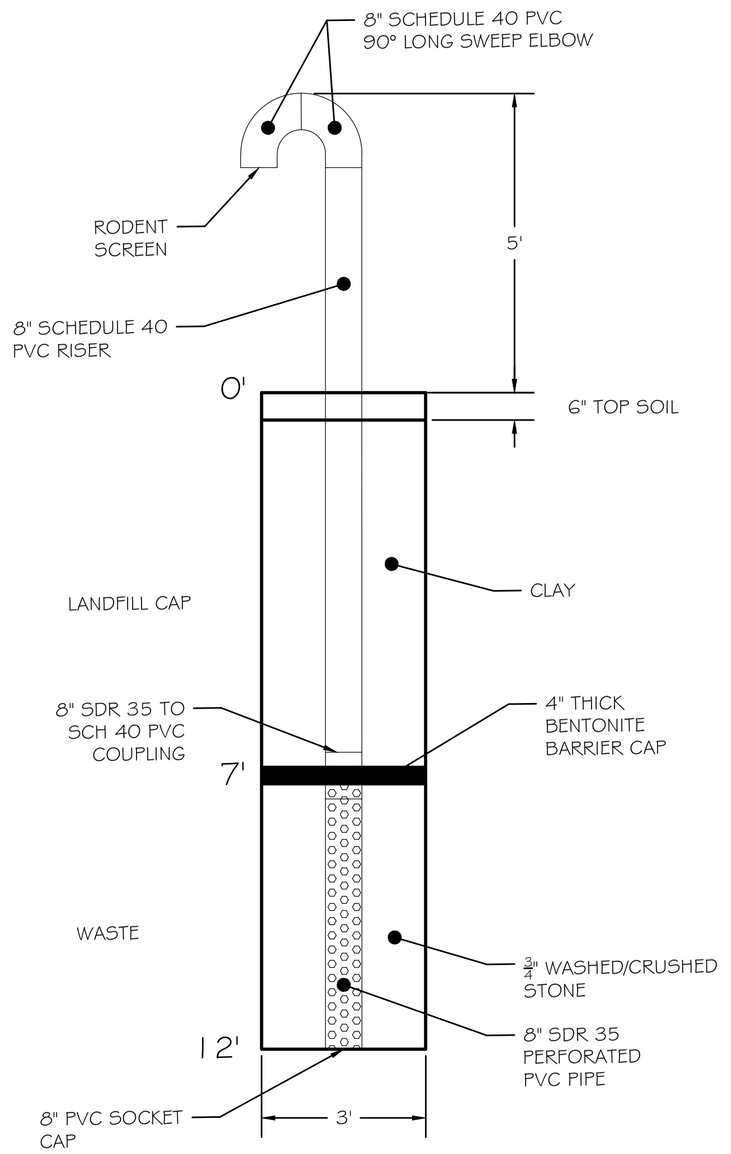
PROPOSED NEW LANDFILL GAS VENT PROFILES

No.	Revision/Issue	Date
x	xxxxxxxx	x-x-xx

Design by: ARM	Checked by: SJD
Drawn by: BGC	Approved by: SJD
Project: 151.06159	Date: DEC 2020

Sheet No: C1.2

B101



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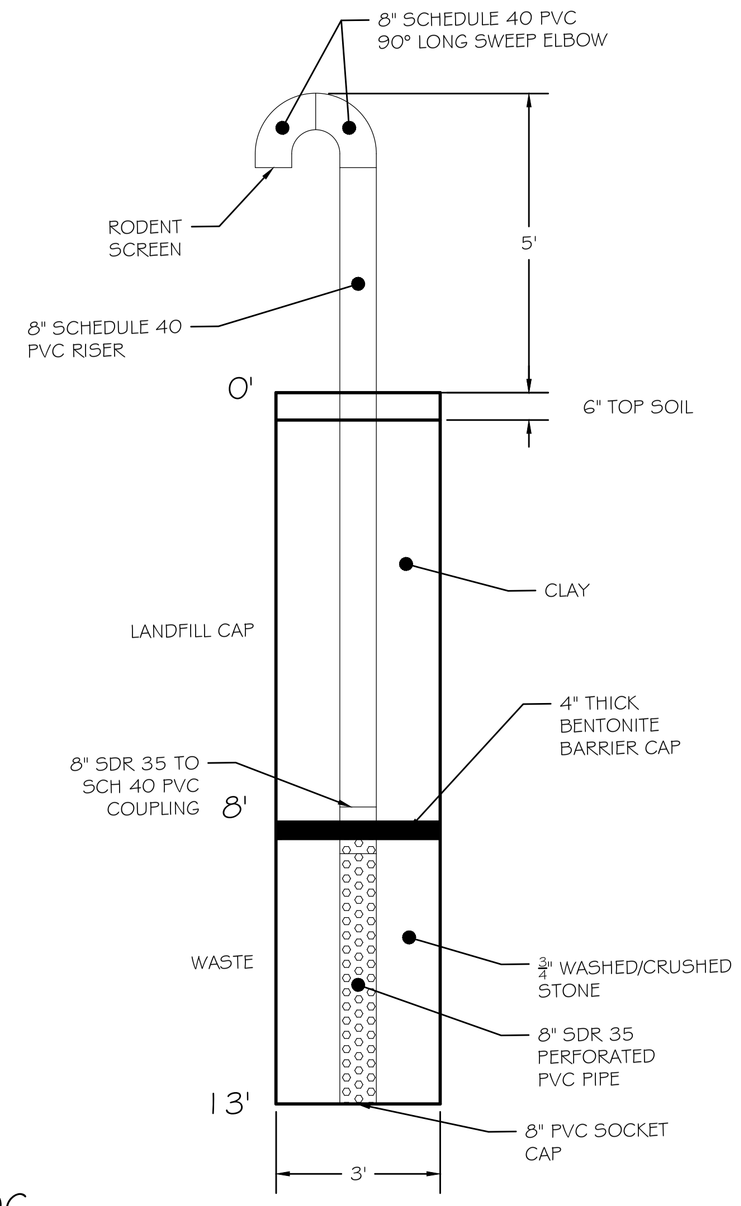

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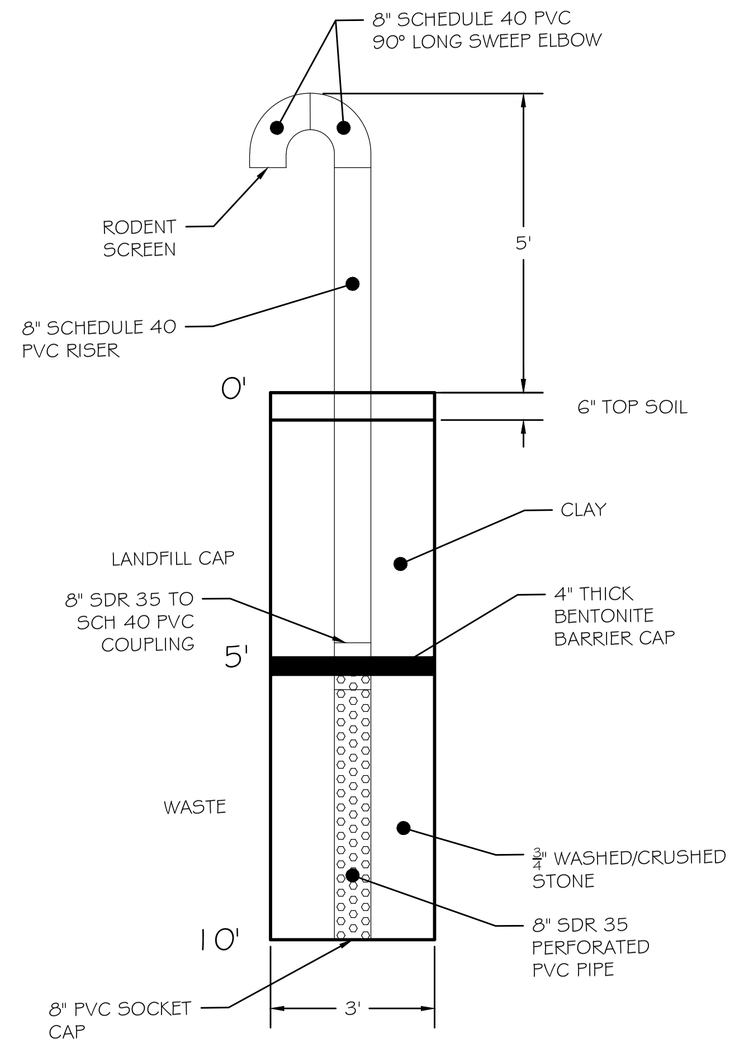

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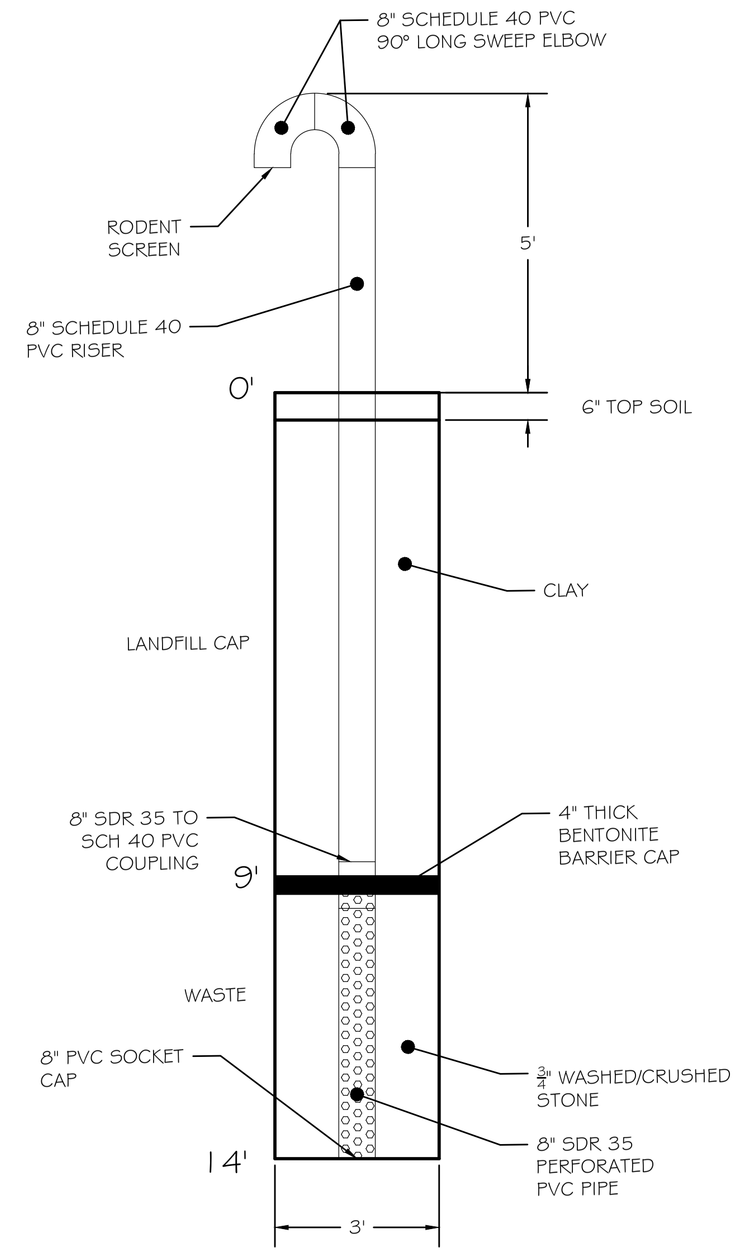

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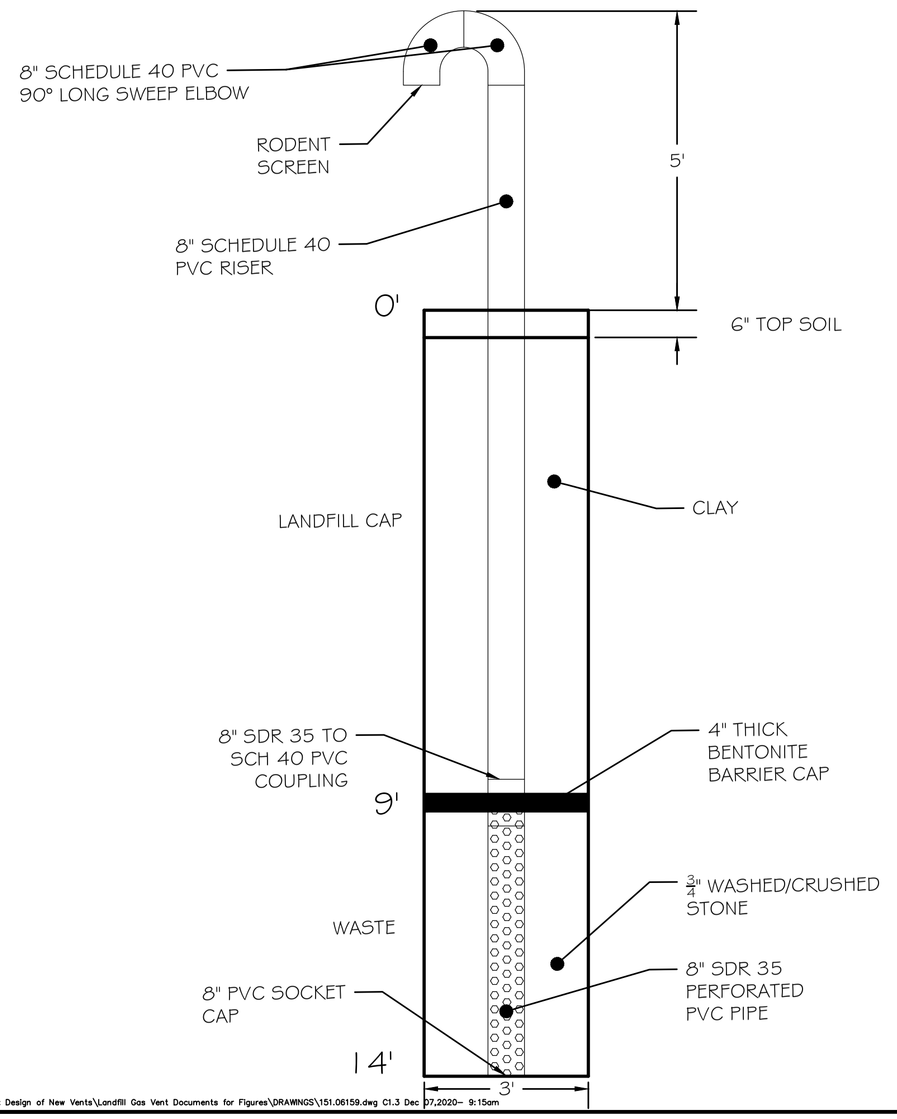

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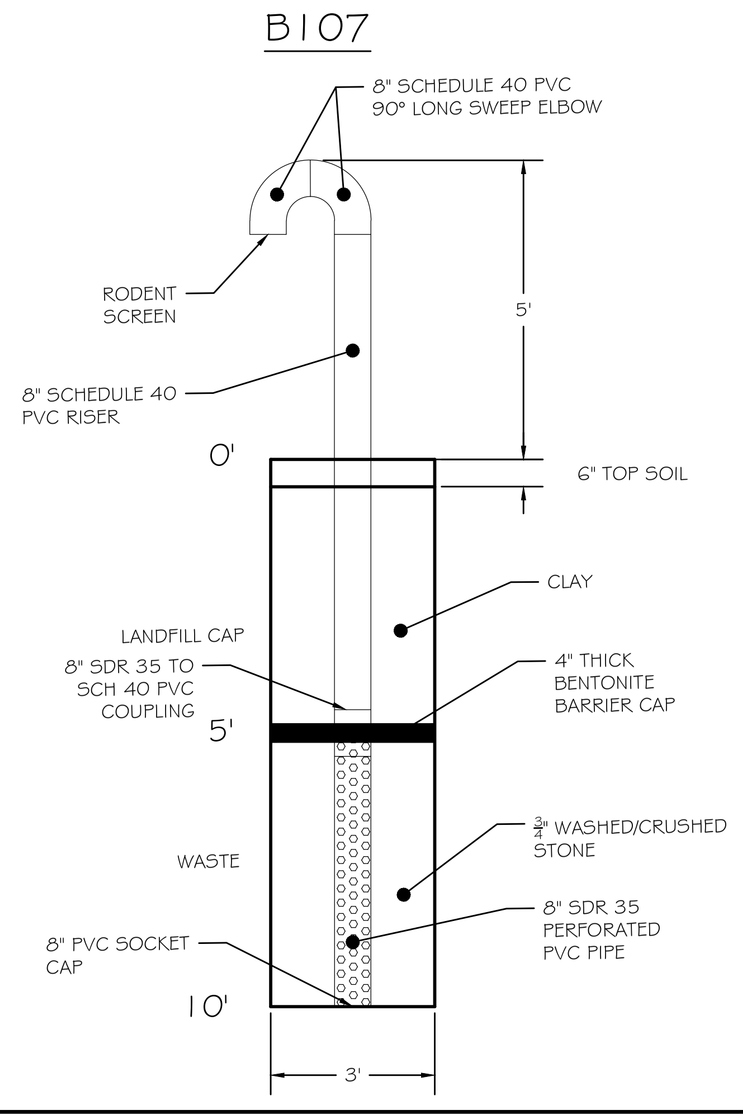

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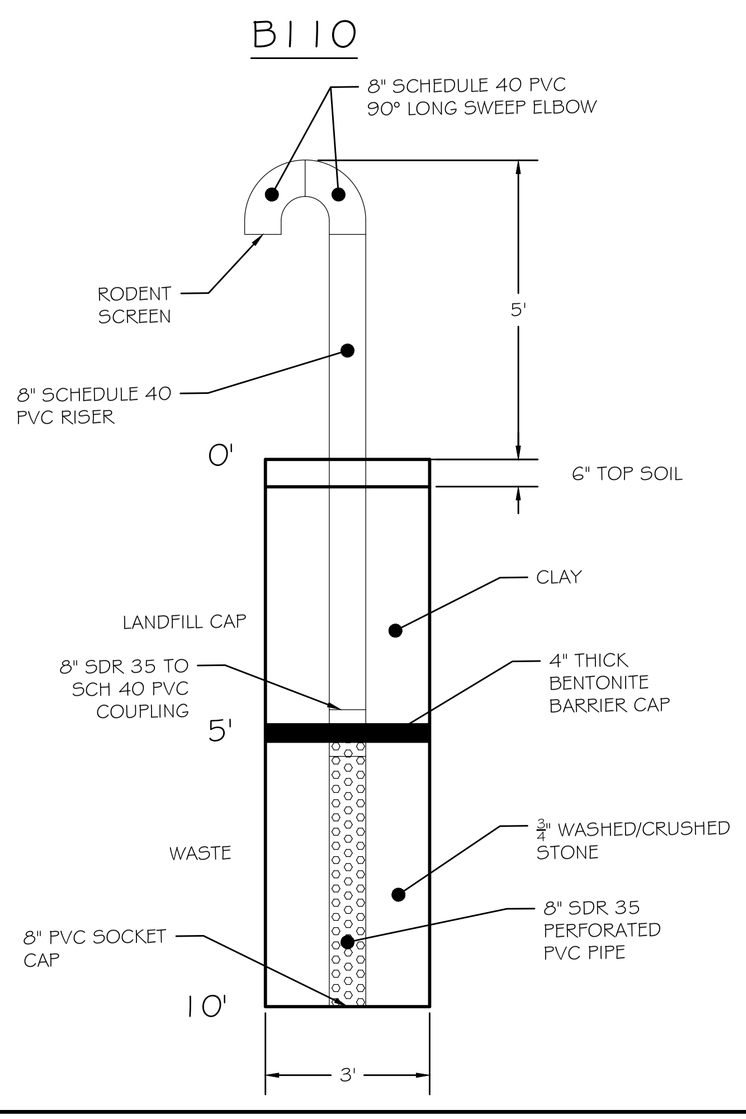


NOTES

1. THE PROPOSED NEW LANDFILL GAS VENT DETAILS ARE BASED ON THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION'S PASSIVE VERTICAL GAS COLLECTION AND VENT SCHEMATIC.
2. THE APPROXIMATE DEPTHS OF THE EXISTING LANDFILL CAP LAYER AND WASTE LAYER IS BASED ON INFORMATION PROVIDED ON 'GEOPROBE® INVESTIGATION FOR NEW LANDFILL VENT LOCATIONS, SOUTH PORTLAND LANDFILL, 929 HIGHLAND AVENUE, SOUTH PORTLAND, MAINE,"PREPARED BY RANSOM CONSULTING, LLC, DATED MAY 5, 2020.
4. PERFORATED PIPE SHALL BE 0.5" PERFORATIONS LOCATED ON 5" CENTERS IN SIX ROWS 60 DEGREES APART

SCALE

N.T.S

P:\2015\151.06159\Task 10- Existing Vent Abandonment & Design of New Vents\Landfill Gas Vent Documents for Figures\DRAWINGS\151.06159.dwg C1.3 Dec 07,2020- 9:15am

Site:

SOUTH PORTLAND LANDFILL

SOUTH PORTLAND, ME 04106

Prepared for:

CITY OF SOUTH PORTLAND
929 HIGHLAND AVE
SOUTH PORTLAND, MAINE 04106

Civil Engineer:

STATE OF MAINE
STEPHEN J. DYER
#7934
LICENSED PROFESSIONAL ENGINEER

Stephen Dyer, PE # 7409
400 COMMERCIAL STREET, SUITE 404
PORTLAND, ME 04101
207-772-2891

RANSOM Consulting, LLC.
400 Commercial Street, Suite 404
Portland, ME 04101
Tel. (207) 772-2891
Fax (207) 772-3248
www.ransomenv.com

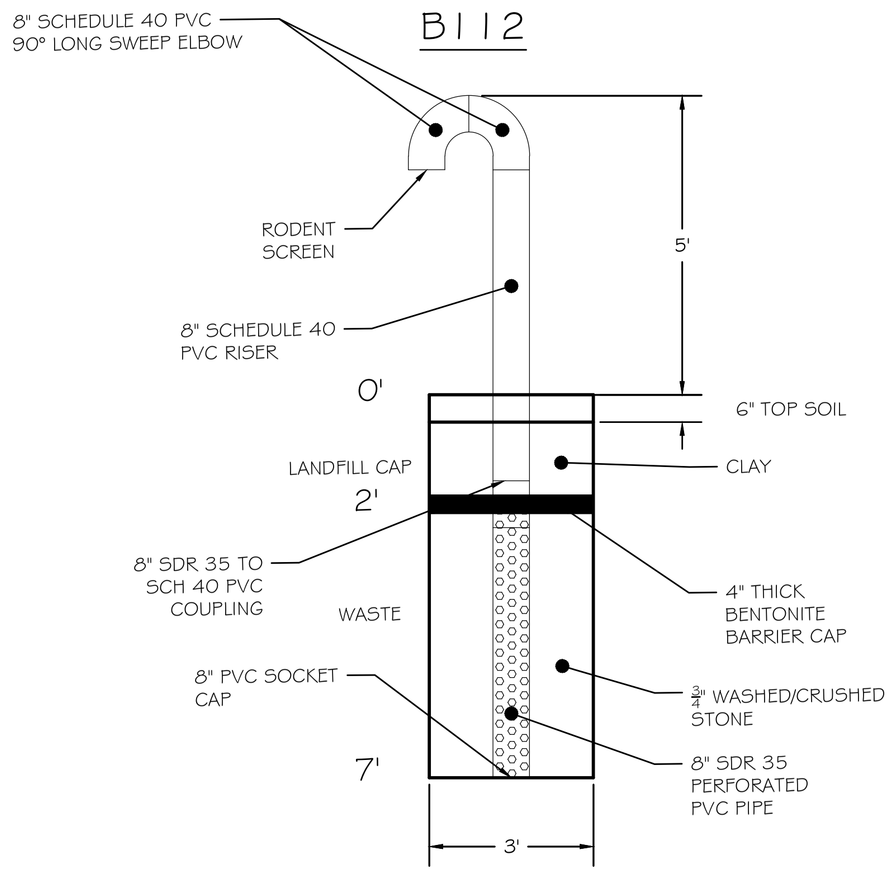
VENT DETAILS (NORTH MSW LANDFILL CELL)

No.	Revision/Issue	Date
x	xxxxxxxx	x-x-xx

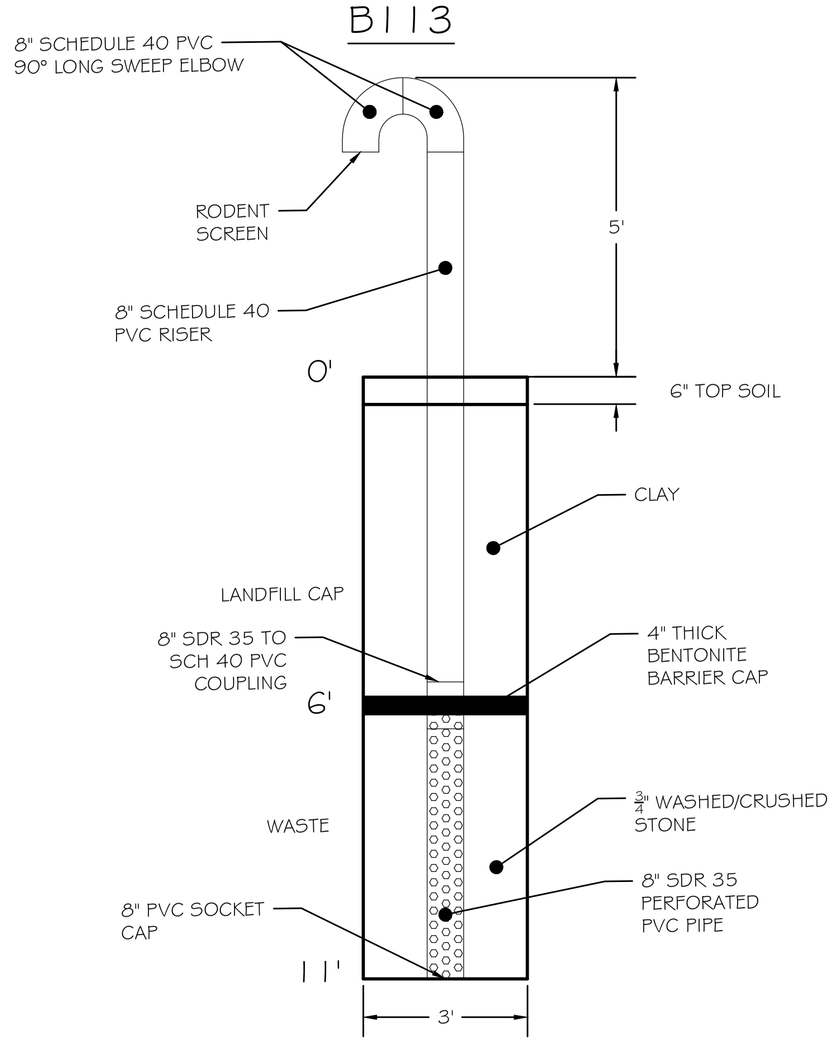
Design by: ARM	Checked by: SJD
Drawn by: BGC	Approved by: SJD
Project: 151.06159	Date: DEC 2020

Sheet No: C1.3

B112



B113



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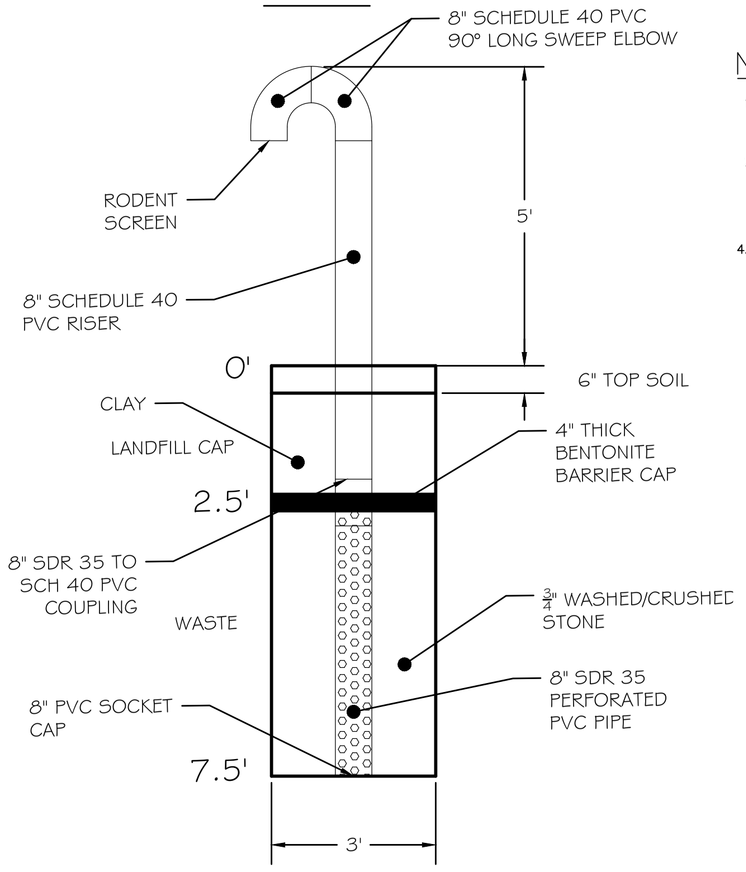
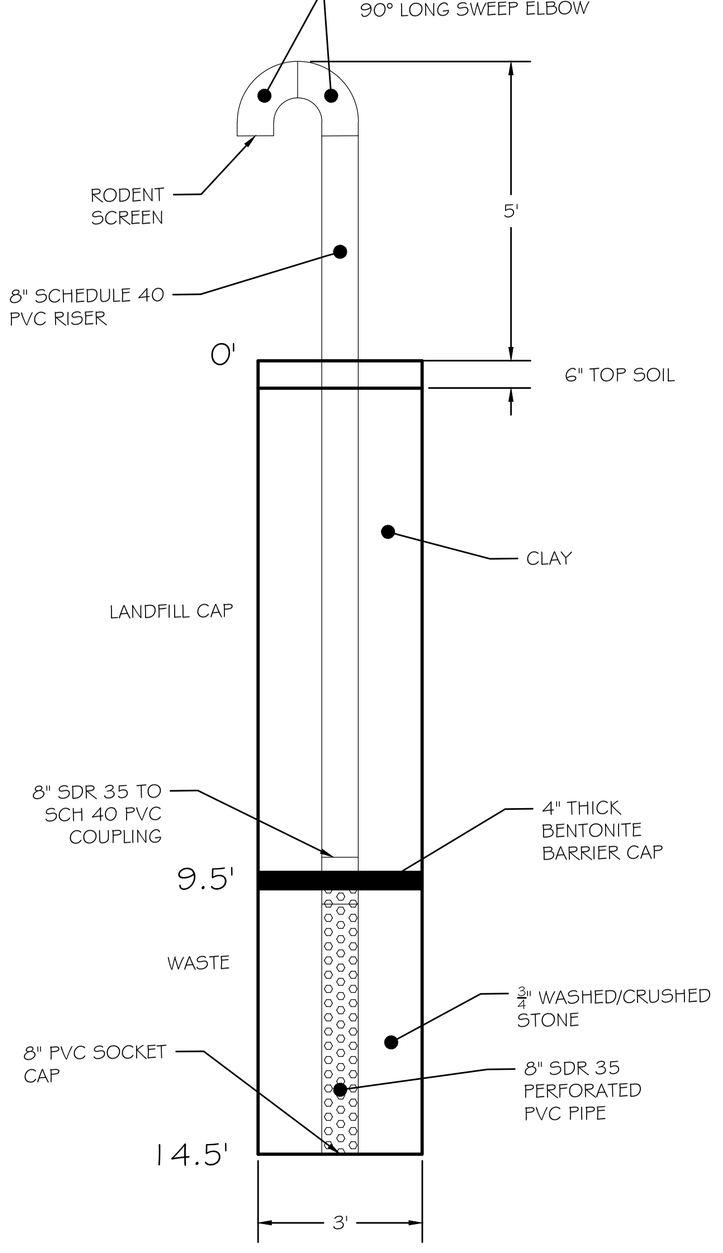


NOTES

1. THE PROPOSED NEW LANDFILL GAS VENT DETAILS ARE BASED ON THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION'S PASSIVE VERTICAL GAS COLLECTION AND VENT SCHEMATIC.
2. THE APPROXIMATE DEPTHS OF THE EXISTING LANDFILL CAP LAYER AND WASTE LAYER IS BASED ON INFORMATION PROVIDED ON "GEOPROBE® INVESTIGATION FOR NEW LANDFILL VENT LOCATIONS, SOUTH PORTLAND LANDFILL, 929 HIGHLAND AVENUE, SOUTH PORTLAND, MAINE," PREPARED BY RANSOM CONSULTING, LLC, DATED MAY 5, 2020.
4. PERFORATED PIPE SHALL BE 0.5" PERFORATIONS LOCATED ON 5" CENTERS IN SIX ROWS 60 DEGREES APART

B115



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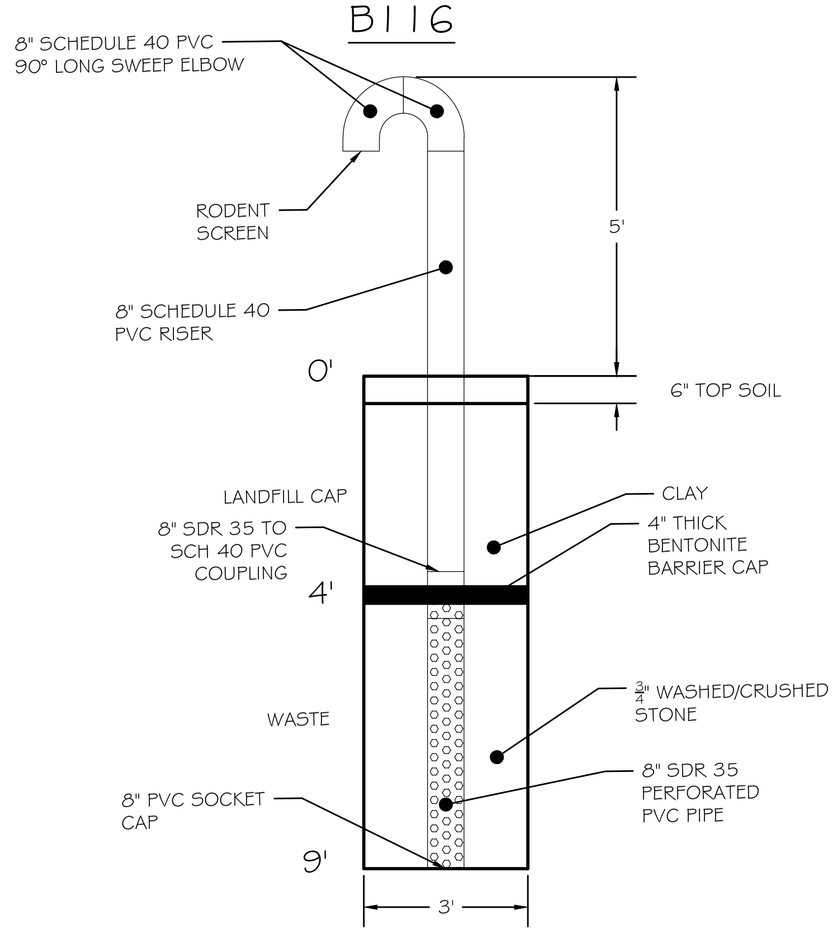

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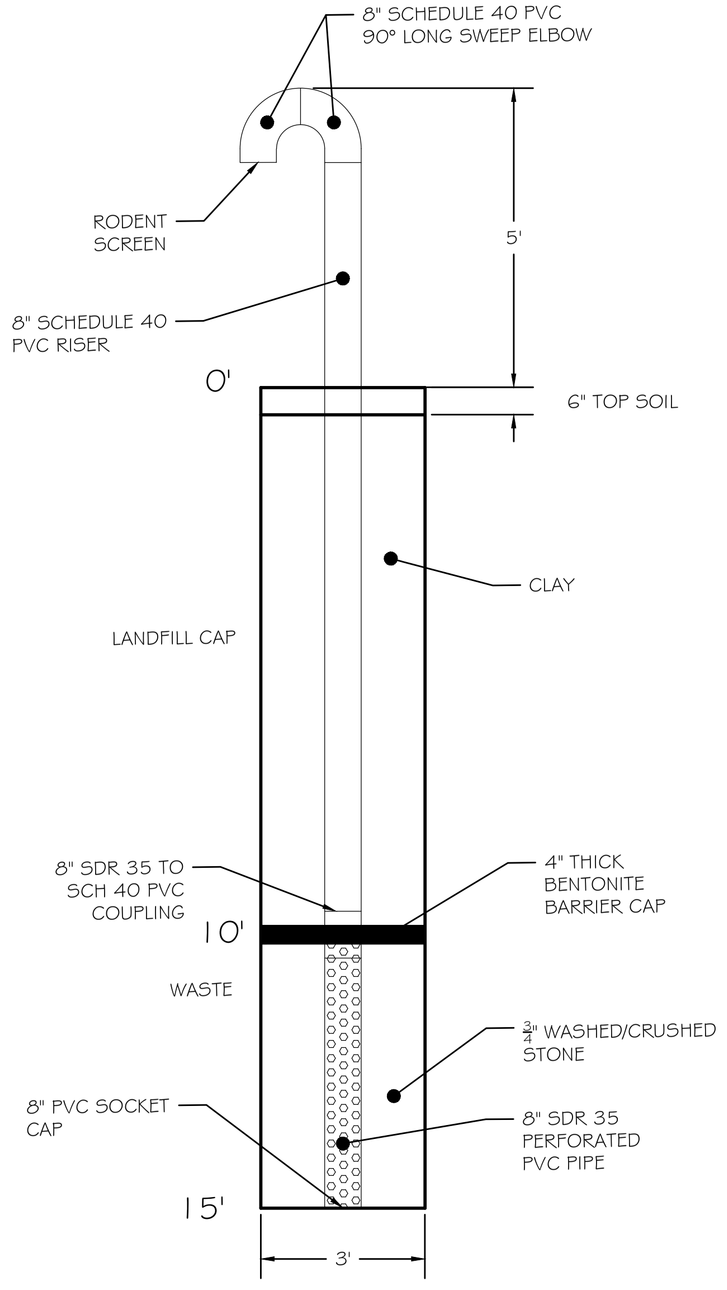

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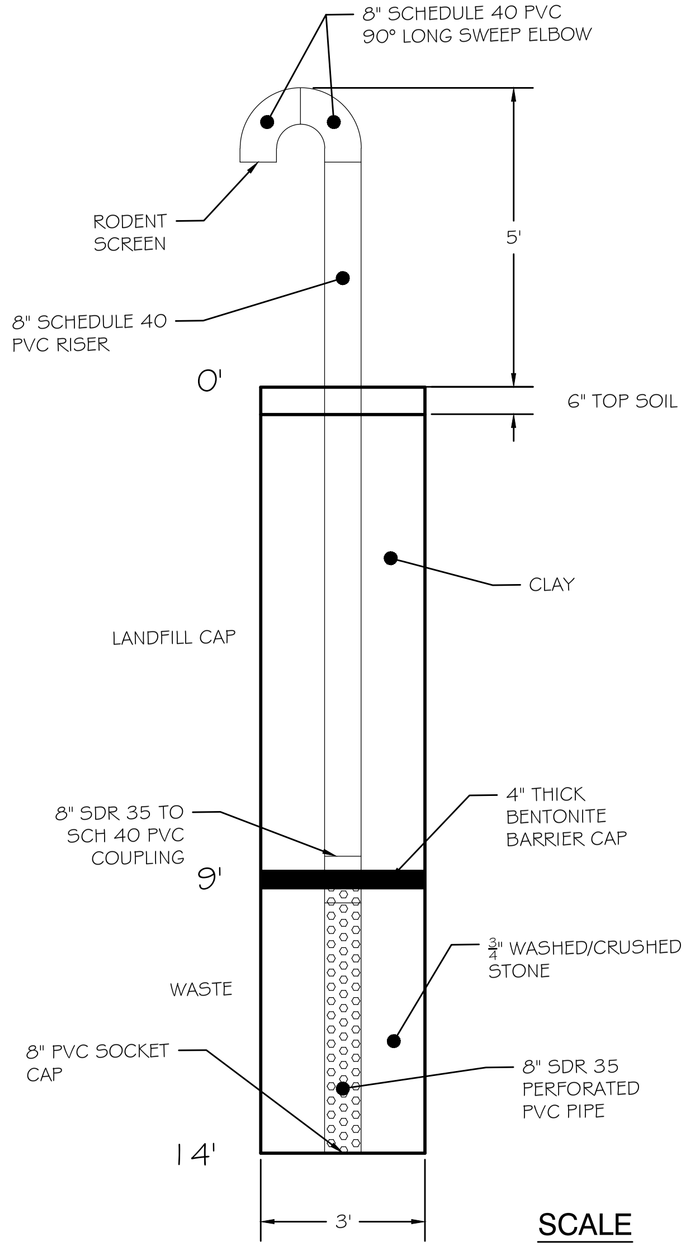

SCALE

N.T.S

P:\2015\151.06159\Task 10- Existing Vent Abandonment & Design of New Vents\Landfill Gas Vent Documents for Figures\DRAWINGS\151.06159.dwg C1.4 Dec 07,2020- 9:20am

Site:

SOUTH PORTLAND LANDFILL

SOUTH PORTLAND, ME 04106

Prepared for:

CITY OF SOUTH PORTLAND
929 HIGHLAND AVE
SOUTH PORTLAND, MAINE 04106

Civil Engineer:

STATE OF MAINE
STEPHEN J. DYER
#7934
LICENSED PROFESSIONAL ENGINEER

Stephen Dyer, PE # 7409
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PORTLAND, ME 04101
207-772-2891

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400 Commercial Street, Suite 404
Portland, ME 04101
Tel. (207) 772-2891
Fax (207) 772-3248
www.ransomenv.com

VENT DETAILS (SOUTH MSW LANDFILL CELL)

No.	Revision/Issue	Date
x	xxxxxxxx	x-x-xx

Design by: ARM	Checked by: SJD
Drawn by: BGC	Approved by: SJD
Project: 151.06159	Date: DEC 2020

Sheet No:

C1.4

GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND MUNICIPAL REGULATIONS.

2. ALL WORK SHALL BE DONE IN AN ORDERLY AND PROFESSIONAL MANNER. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL WORK TO BE DONE BY SUBCONTRACTORS, LOCAL AUTHORITIES, STATE AGENCIES AND/OR UTILITY COMPANIES.

3. ALL WORK SHALL BE PERFORMED BY PERSONS QUALIFIED IN THEIR TRADE AND LICENSED TO PRACTICE SUCH TRADE IN THE STATE OF MAINE.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS AND METHODS AND ALL PRECAUTIONS DURING THE CONSTRUCTION, PROTECTION OF PUBLIC AND WORKERS AND SANITARY PROVISIONS FOR EMPLOYEES AND SUBCONTRACTORS REQUIRED FOR THE DURATION OF THE PROJECT.

5. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS, DIMENSIONS, ELEVATIONS AND SITE CONDITIONS OF EXISTING STRUCTURES, EQUIPMENT, PIPING, ETC. PRIOR TO THE COMMENCEMENT OF ANY WORK. IF DISCREPANCIES ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR DIRECTION BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL ALSO NOTIFY THE ENGINEER OF ANY CONDITIONS ENCOUNTERED IN THE FIELD CONTRADICTORY TO CONDITIONS SHOWN ON THE DRAWING.

6. THE CONTRACTOR SHALL BRING TO THE ATTENTION OF THE ENGINEER ANY CONDITIONS THAT PREVENT THE CONTRACTOR'S COMPLETION OF THE WORK AS SHOWN ON THE PLAN.

7. THE CONTRACTOR SHALL GUARANTEE THAT THE MATERIALS AND WORKMANSHIP ARE FREE OF DEFECTS FOR A PERIOD OF ONE FULL YEAR FROM THE CONSTRUCTION COMPLETION DATE. SHOULD DEFECTS OCCUR WITHIN THIS PERIOD OF TIME, THE CONTRACTOR SHALL REPAIR OR REPLACE THE DEFECTIVE WORK AT NO COST TO THE OWNER.

8. ALL WORK UNDER THIS CONTRACT SHALL OCCUR WITHIN THE SITE PROPERTY BOUNDARY.

9. THESE PLANS, PREPARED BY RANSOM CONSULTING, DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.

10. FIELD CHANGES. DURING CONSTRUCTION, THE CONTRACTOR MAY PROPOSE FIELD CHANGES TO THE ENGINEER FOR MINOR CONSTRUCTION-RELATED CHANGES TO THE DESIGN PLANS OR TO ACCOUNT FOR UNEXPECTED SITE CONDITIONS. FIELD CHANGES SHALL BE LIMITED TO CHANGES THAT DO NOT MATERIALLY ALTER THE VISUAL APPEARANCE OF THE PROJECT (SUCH AS BUT NOT LIMITED TO LANDSCAPE DESIGN, OUTDOOR LIGHTING, ETC.) AND THAT DO NOT MATERIALLY ALTER THE APPROVED DESIGN OF THE PROJECT (SUCH AS BUT NOT LIMITED TO LAYOUT, STORM WATER DRAINAGE, ETC.).

11. THE CONTRACTOR SHALL BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES, SPECIFICATIONS, REGULATIONS AND STANDARDS.

12. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE SITE AND ALL EXISTING CONDITIONS SURROUNDING IT AND THEREON. THE CONTRACTOR SHALL ADVISE THE APPROPRIATE AUTHORITY OF HIS INTENTIONS AT LEAST 48 HOURS IN ADVANCE.

13. ALL WORK IS TO CONFORM TO THE CITY OF PORTLAND DEPARTMENT OF PUBLIC WORKS AND MAINE D.O.T. STANDARD HIGHWAY SPECIFICATIONS.

14. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY HIS WORK AT ALL TIMES.

15. PROPERTY LINE AND R.O.W. MONUMENTS SHALL NOT BE DISTURBED BY CONSTRUCTION. IF DISTURBED, THEY SHALL BE RESET TO THEIR ORIGINAL LOCATIONS AT THE CONTRACTOR'S EXPENSE, BY A MAINE REGISTERED LAND SURVEYOR.

16. SITE WORK SHALL BE CONSTRUCTED FROM A COMPLETE SET OF PLANS. NOT ALL FEATURES ARE DETAILED ON EVERY PLAN. THE ENGINEER IS TO BE NOTIFIED OF ANY CONFLICT WITHIN THIS PLAN SET.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATING ALL SIGNS AND SIGN POSTS AS REQUIRED. THE CONTRACTOR SHALL REPLACE ALL DAMAGED SIGNS AND SIGN POSTS THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE TOWN.

18. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.

SOILS/WASTE MANAGEMENT NOTES:

1. SOILS/WASTE MAY BE TEMPORARILY STOCKPILED AT THE SITE PRIOR TO OFF-SITE DISPOSAL. STOCKPILES MUST BE LOCATED ON PAVEMENT; OR ON 6 MIL (MINIMUM) POLY SHEETING. ALL STOCKPILES MUST BE COVERED WITH MINIMUM 6 MIL POLY SHEETING AND SECURED AT NIGHT AND AT ALL TIMES THAT THE CONTRACTOR IS OFFSITE. IF ROLL-OFF CONTAINERS ARE USED FOR STOCKPILING, THEY SHALL BE SECURELY COVERED AT NIGHT, AND DURING ALL TIMES WHEN THE CONTRACTOR IS OFFSITE. STORMWATER RUNOFF SHALL BE DIVERTED AWAY FROM ANY STOCKPILES.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING DISPOSAL WITH RECEIVING FACILITY.

EROSION CONTROL NOTES:

EROSION CONTROL MEASURES AND SITE STABILIZATION

THE PRIMARY EMPHASIS OF THE EROSION AND SEDIMENT

- RAPID VEGETATION OF EXPOSED AREAS TO MINIMIZE THE
- RAPID STABILIZATION OF DRAINAGE PATHS TO AVOID
- THE USE OF ON-SITE MEASURES TO CAPTURE SEDIMENT (HAY BALES, STONE CHECK DAMS, SILT FENCE, SILT SAC,
- DEVELOPMENT OF CAREFUL CONSTRUCTION SEQUENCE

THE FOLLOWING TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL DEVICES WILL BE IMPLEMENTED AS PART OF THE SITE DEVELOPMENT. THESE DEVICES SHALL BE INSTALLED AS INDICATED ON THE PLANS OR AS DESCRIBED WITHIN THIS REPORT. FOR FURTHER REFERENCE, SEE THE MAINE EROSION AND SEDIMENT CONTROL BMPs, (MOST RECENT EDITION).

TEMPORARY EROSION CONTROL MEASURES

THE FOLLOWING MEASURES ARE PLANNED AS TEMPORARY EROSION & SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION. THESE TEMPORARY EROSION CONTROL MEASURES SHOULD BE REMOVED WITHIN 30 DAYS AFTER PERMANENT STABILIZATION HAS BEEN ESTABLISHED.

1. CRUSHED STONE-STABILIZED CONSTRUCTION ENTRANCES SHALL BE PLACED AT SITE ENTRANCES AS NECESSARY.

2. SILTATION FENCE OR WOOD WASTE COMPOST BERMS (EROSION CONTROL BERM) SHALL BE INSTALLED DOWNSTREAM OF ANY DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL THE TRIBUTARY AREAS ARE VEGETATED. THE SILT FENCE AND/OR THE EROSION CONTROL BERMS SHALL BE INSTALLED PER THE DETAILS PROVIDED AND INSPECTED REGULARLY, INCLUDING BEFORE AND AFTER A STORM EVENT OF 0.5 INCHES OR GREATER. REPAIRS SHALL BE MADE IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE OR BERM LINE. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND FENCE OR BERM, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM.

3. STRAW, HAY MULCH AND HYDROSEEDING IS INTENDED TO PROVIDE COVER FOR BARE OR SEEDED AREAS UNTIL VEGETATION IS ESTABLISHED AND SHOULD BE APPLIED WITHIN 7 DAYS AT A RATE OF 90 POUNDS PER 1,000 SQUARE FEET. MULCH PLACED BETWEEN APRIL 15TH AND SEPEMBER 30TH (ON SLOPES OF LESS THEN 15%) SHALL BE ANCHORED BY APPLYING WATER. MULCH PLACED ON SLOPES OF EQUAL TO OR STEEPER THAN 15% SHALL BE COVERED BY FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION. SLOPES STEEPER THAN 3:1 SHALL RECEIVE EROSION

4. STOCKPILES SHALL BE STABILIZED WITHIN SEVEN DAYS BY EITHER TEMPORARILY SEEDING THE STOCKPILE BY A HYDROSEED METHOD CONTAINING AN EMULSIFIED MULCH TACKIER OR BY COVERING THE STOCKPILE WITH MULCH, SUCH AS SHREDDED HAY, STRAW, OR EROSION CONTROL MIX. STOCKPILES SHALL BE SURROUNDED BY SEDIMENTATION BARRIER AT THE TIME OF FORMATION.

5. ROADS SHALL BE SWEPT TO CONTROL MUD AND DUST AS NECESSARY. ADDITIONAL STONE SHALL BE ADDED TO THE STABILIZED CONSTRUCTION ENTRANCE TO MINIMIZE THE TRACKING OF MATERIAL OFF THE SITE AND ONTO THE SURROUNDING ROADWAYS.

6. DURING GRUBBING OPERATIONS STONE CHECK DAMS SHALL BE INSTALLED AT ANY EVIDENT CONCENTRATED FLOW DISCHARGE POINTS AND AS DIRECTED ON THE EROSION

7. SILT FENCE HAS A MINIMUM STAKE SPACING OF 6 FEET, UNLESS THE FENCE IS SUPPORTED BY WIRE FENCE REINFORCEMENT (MINIMUM 14 GAUGE AND WITH A MAXIMUM MESH SPACING OF 6 INCHES), IN WHICH CASE STAKES MAY BE SPACED A MAXIMUM OF 10 FEET APART. THE BOTTOM OF THE FENCE MUST BE ANCHORED. SEE DETAIL

8. STORM DRAIN CATCH BASIN INLET PROTECTION SHALL BE PROVIDED THROUGH THE USE OF STONE SEDIMENT BARRIERS OR APPROVED SEDIMENT BAGS (SUCH AS SILT SACK). INSTALLATION DETAILS ARE PROVIDED IN THE PLAN SET. THE BARRIERS SHALL BE INSPECTED AFTER EACH RAINFALL AND REPAIRS MADE AS NECESSARY. SEDIMENT SHALL BE REMOVED AND THE BARRIER RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO HALF THE DESIGN DEPTH OF THE BARRIER. THE BARRIER SHALL BE REMOVED WHEN THE TRIBUTARY DRAINAGE AREA

9. WATER AND/OR CALCIUM CHLORIDE SHALL BE FURNISHED AND APPLIED IN ACCORDANCE WITH MDOT SPECIFICATIONS-

10. LOAM AND SEED IS INTENDED TO SERVE AS THE PRIMARY PERMANENT VEGETATIVE MEASURE FOR ALL BARE AREAS NOT PROVIDED WITH OTHER EROSION CONTROL MEASURES,

11. WATER FROM CONSTRUCTION TRENCH DEWATERING OR TEMPORARY STREAM DIVERSION SHALL PASS FIRST THROUGH A FILTER BAG OR SECONDARY CONTAINMENT STRUCTURE (e.g. HAYBALE LINED POOL) PRIOR TO DISCHARGE. THE DISCHARGE SITE SHALL BE SELECTED TO AVOID FLOODING, ICING AND SEDIMENT DISCHARGES TO A PROTECTED RESOURCE. IN NO CASE SHALL THE FILTER BAG OR CONTAINMENT STRUCTURE BE LOCATED WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE.

PERMANENT EROSION CONTROL MEASURES

THE FOLLOWING PERMANENT EROSION CONTROL MEASURES HAVE BEEN DESIGNED AS PART OF THE EROSION/SEDIMENTATION

1. ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIPRAP, ETC.) WILL BE LOAMED, LIMED, FERTILIZED, MULCHED AND SEEDED AS SPECIFIED IN MAINE DOT SECTION 619

2. FOR ALL GRADING ACTIVITIES, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION NOT TO OVEREXPOSE THE SITE BY LIMITING THE DISTURBED AREA. THE CONSTRUCTION OF BMPs SHOULD EITHER BE PERFORMED AFTER THE DISTURBED AREA IS STABILIZED OR TEMPORARY EROSION CONTROL MEASURES NEED TO BE IMPLEMENTED TO PROTECT THE BMPs FROM BEING CLOGGED WITH CONSTRUCTION SEDIMENT.

3. ALL BARE AREAS NOT SUBJECT TO FINAL PAVING, RIPRAP OR GRAVEL; SHALL BE VEGETATED.

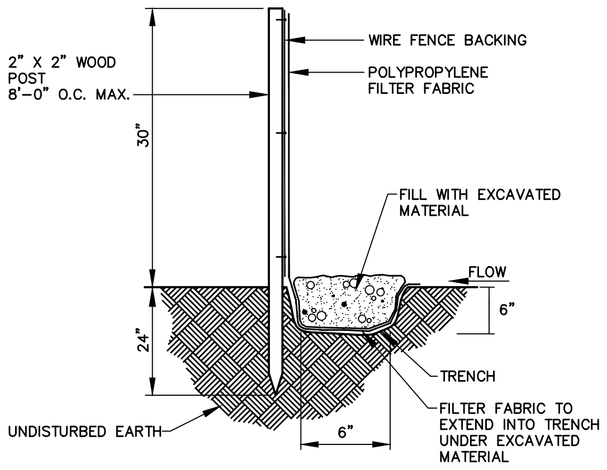
4. PRIOR TO CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT TO THE OWNER A SCHEDULE FOR THE COMPLETION OF THE WORK. WORK MUST BE SCHEDULED OR PHASED TO REDUCE THE EXTENT OF THE EXPOSED AREAS AS SPECIFIED BELOW. THE INTENT OF THIS SEQUENCE IS TO PROVIDE FOR EROSION CONTROL AND TO HAVE STRUCTURAL MEASURES SUCH AS SILT FENCE AND CONSTRUCTION ENTRANCES IN PLACE BEFORE LARGE AREAS OF LAND ARE STRIPPED.

MAINTENANCE OF FACILITIES

1. THE STORM WATER FACILITIES WILL BE MAINTAINED BY THE CONTRACTOR UNTIL FINAL COMPLETION IS ISSUED, OR UNTIL THE SITE IS STABILIZED (>90% CATCH OF VEGETATION), WHICHEVER IS LATER. THE CONTRACT DOCUMENTS WILL REQUIRE THE CONTRACTOR TO DESIGNATE A PERSON RESPONSIBLE FOR MAINTENANCE OF THE SEDIMENTATION CONTROL FEATURES DURING CONSTRUCTION AS REQUIRED BY THE EROSION CONTROL REPORT AND/OR CONSTRUCTION PLANS.

2. DITCHES, SWALES AND OTHER OPEN STORM WATER CHANNELS: INSPECT TO ENSURE THEY ARE WORKING IN THEIR INTENDED FASHION AND THAT THEY ARE FREE OF SEDIMENT AND DEBRIS. REMOVE ANY OBSTRUCTIONS TO FLOW, INCLUDING ACCUMULATED SEDIMENTS, DEBRIS AND VEGETATED GROWTH. REPAIR ANY EROSION OF THE DITCH LINING.

3. VEGETATED DITCHES WILL BE MOWED TO CONTROL THE GROWTH OF WOODY VEGETATION AND MAINTAIN FLOW CAPACITY. ANY WOODY VEGETATION GROWING THROUGH RIPRAP LININGS MUST ALSO BE REMOVED. REPAIR ANY SLUMPING SIDE SLOPES AS SOON AS PRACTICABLE. IF THE DITCH HAS A RIPRAP LINING, REPLACE RIPRAP ON AREAS WHERE ANY UNDERLYING FILTER FABRIC OR UNDERDRAIN GRAVEL IS SHOWING THROUGH THE STONE OR WHERE STONES HAVE DISLODGED. CORRECT ANY EROSION OF THE CHANNEL'S BOTTOM OR SIDESLOPES. THE FACILITIES SHOULD BE INSPECTED AFTER MAJOR STORMS AND ANY IDENTIFIED DEFICIENCIES WILL BE CORRECTED.



EROSION CONTROL FENCE DETAIL

NOT TO SCALE

Site:

SOUTH PORTLAND LANDFILL

SOUTH PORTLAND, ME 04106

Prepared for:

CITY OF SOUTH PORTLAND
929 HIGHLAND AVE
SOUTH PORTLAND, MAINE 04106

Civil Engineer:

STATE OF MAINE
STEPHEN J. DYER #7934
LICENSED PROFESSIONAL ENGINEER

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Fax (207) 772-3248
www.ransomenv.com

NOTES & DETAILS

No.	Revision/Issue	Date
X	XXXXXXXX	X-X-XX

Design by: ARM	Checked by: SJD
Drawn by: BGC	Approved by: SJD
Project: 151.06159	Date: DEC 2020

Sheet No:

C1.5

Table: Estimated Costs - Abandonment of Existing (Non-Functional) Landfill Vents & Installation of New Landfill Vents

South Portland- Closed Municipal Solid Waste Landfill

929 Highland Avenue, South Portland, Maine

Estimated Costs [1]	Number	Units	Unit Cost	Total
Mobilization & Bonding (5% of Total Costs)	1	LS	$9,000	$9,000
Abandonment of Existing Landfill Vents	2	Day	$5,000	$10,000
Installation of New Landfill Vents				
Drilling	14	Ea	$5,000	$70,000
Vent Materials	14	Ea	$5,000	$70,000
Erosion Control	1	LS	$14,000	$14,000
Municipal Solid Waste (MSW) Transportation & Disposal [2]	30	Ton	$150	$4,500
Subtotal				*$177,500*
Contingency 20%				$35,500
TOTAL				**$213,000**

NOTES:

1 - The estimates shown above are considered budgetary-level cost estimates for use in project evaluation and planning. Actual costs are expected to vary from these estimates due to site conditions, market conditions, actual cost of purchased materials, quantity variations, regulatory requirements, and other factors existing at the time the work is contracted.

2 - Estimated MSW Disposal= ~35 cubic feet (cf) per new vent location x 14 vent locations = ~490 cf = ~20 cy = ~30 tons; assuming a density of 1.5 tons per cy for MSW.

City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Front End Loader**		
Department	Public Works	**Dept. Priority**	2
Division		**Div. Priority**	
CIP Category	Public Works & Transportation		

Purchase/Project Description

The Public Works Department is requesting the purchase of a new Front End Loader equipped for winter operations. This loader will be replacing a 1997 John Deere loader that has exceeded its useful life and is need of a new transmission.

This loader will be a front line piece of equipment during winter operations as well as being used all year long for various Public Works projects. The loader would be equipped with the Craig plow gear as well as Tink claw.

The Tink claw is used for brush pick-up when needed after storms that cause trees to come down, Christmas tree pick-up and operations at the Transfer Station as needed.

The impact of not purchasing this piece of equipment would be installing a new transmission at a cost of approximately $25,000. If we were to install a new trasmission we would still have a 23 year old loader. This loader is used for winter time operations and Transfer Station operations currently.

Financial Impact of this Purchase/Project

The purchase price for this loader is approximately $260,000. The annual operating costs would be approximately $3,400. The operating costs would include a maximum of twelve services at $120 per service and approximately 1000 gallons of diesel fuel per year. However Beuregard offers a service agreement that includes services for the first five years if they were to be low bid reducing the operating costs by $1,440.

Environmental Considerations

The new loader would meet the new Tier 4 emissions standard for cleaner emmissions and would have some improvements in fuel mileage. Electric is not an option for this piece of equipment.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants	$ 260,000.00	$ 260,000.00					$ 260,000.00	$ 260,000.00
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances							$ -	$ -
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 260,000.00**	**$ 260,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 260,000.00**	**$ 260,000.00**

Source of Cost Estimate	Beauregard Equipment				
Est. Annual Operating Costs	$ 3,400.00	**Projected Useful Life**	20 years	**Additional Documentation?**	Yes
City Manager Comments					

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Maine				NH	VT
Presque Isle	**BANGOR**	**SCARBOROUGH**	**KNOX**	**CONCORD**	**COLCHESTER**
260 Missile St	59 Contractor Dr	14 Gibson Rd	3 Knox Ridge Rd S	231 Sheep Davis	28 Jasper Mine Rd
207-498-3196	**207-848-2050**	**207-885-0600**	**207-568-3245**	**(603) 225-6621**	**(802)893-1555**

Quotation

Date: **1/19/2021**

To: **City of South Portland**
1142 HIGHLAND AVE
P O BOX 9422
SOUTH PORTLAND, ME 04116

Phone **207-653-0475**
Cell Phone **207-767-7635**
E-Mail dhoward@southportland.org

Attn: **Doug Howard**
County Cumberland

Equip: **NEW CASE 721G XR**

Spec: CAB/AC, AM-FM/BLUETOOTH RADIO, HEATED AIR SEAT, W/HEADREST/3" BELT, ENHANCED CAB COMFORT PKG, ENHANCED, VISIBILITY BUNDLE LIMITED SLIP DIFFERENTIALS,, MICHELIN 20.5X25 SNOPLUS TIRES RIDE CONTROL, ACS, COUPLER/3.0 CY BUCKET WITH BOLT ON EDGE JOYSTICK WITH 2, AUXILIARY HYDRAULIC FUNCTIONS, REVERSING FAN, FENDERS, COLD WEATHER PACKAGE, REAR-VIEW CAMERA, LED WORK LIGHTS, ENGINE AIR PRE-CLEANER.

Options Incl **TINK 720 CLAW, CRAIG REVERSIBLE PLOW, CRAIG WING WITH HYDRAULIC QUICK PICK.**

Purchase Price	$258,033.74
Sub Total	$258,033.74
ME Tax & Fees	
Misc	
Total	$258,033.74

Finance		Lease	
Term		Lease Term	
Int Rate*		Annual Hours	
Payoff		Advance Payt	
Down Pay't		☐ RV	
Payment		**Payment**	

* Interest Rates quoted are subject to change without notice.

Beauregard Equipment

Customer

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SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

VEHICLE REPAIR HISTORY REPORT

FACILITY: 00004

STARTING VMRS CODE: 000-000-000 DATE: FIRST VEHICLE:: 023
ENDING VMRS CODE: 999-999-999 DATE: LAST VEHICLE: 023

UNIT: 023 LF MTR: 15563.0 CUR MTR: 15563.0 YR: 97 MAKE: JOHN DEERE DEPT: DPW SIZE: H CLASS: LOADER FUEL: D

VMRS Code	DATE	WO NUM	LF-UNTS	ODOM	WORK DESCRIPTION	OUT	PARTS	LABOR	TOTAL	HOURS MECHANIC	CC	RC	WA
001		TITLE >	A/C, HEAT, VENTILATI										
001-040-000	12022019	0005724	15260	15257	NO HEAT		0.00	19.41	19.41	1.00 9644	XX	4	31
001		TOTAL >	A/C, HEAT, VENTILATI				0.00	19.41	19.41				
002		TITLE >	CAB/SHEET METALS										
002-008-000	05282019	0005049	15210	15209	CAB		33.98	198.00	231.98	10.00 DALE	11	8	31
002-015-000	01312020	0005942	15330	15327	DOOR CAB		75.06	38.82	113.88	2.00 9644	11	4	31
002-022-000	09182019	0005505	15220	15218	DOOR LATCH OR SLAM		0.00	11.38	11.38	0.50 MIKE W.	11	8	31
002-025-000	08132015	0002173	13180	13184	DOOR LATCH ASSY		92.25	40.42	132.67	2.00 9590	01	1	XX
002-041-000	05172016	0002796	13660	13660	SEAT CUSHION		492.69	20.21	512.90	1.00 9590	01	1	XX
002-054-001	01202015	0001776	12730	12733	SIDE MIRROR		0.00	9.95	9.95	0.50 SGOBEIL	01	1	XX
002-056-000	06242014	0001313	12430	12425	MIRROR ARM OR BRAC		207.19	20.50	227.69	1.00 BILL	01	1	XX
002		TOTAL >	CAB/SHEET METALS				901.17	339.28	1240.45				
013		TITLE >	BRAKES										
013-081-000	05282019	0005049	15210	15209	BRAKE PEDAL		271.33	78.30	349.63	3.00 STEVE	11	8	31
013-130-000	09022016	0003006	13670	13673	PARKING BRAKE		277.44	59.15	336.59	2.50 OLLIE	01	1	XX
013		TOTAL >	BRAKES				548.77	137.45	686.22				
014		TITLE >	FRAME										
014-000-000	05292013	0000410	11200	11195	FRAME		0.00	41.00	41.00	2.00 BILL	01	1	XX
014		TOTAL >	FRAME				0.00	41.00	41.00				
015		TITLE >	STEERING										
015-011-000	09022016	0003006	13670	13673	CYLINDER, POWER ST		783.73	189.28	973.01	8.00 OLLIE	01	1	XX
015-011-000	06262015	0002129	13180	13184	CYLINDER, POWER ST		225.74	80.84	306.58	4.00 9590	01	1	XX
015		TOTAL >	STEERING				1009.47	270.12	1279.59				
017		TITLE >	TIRES,TUBES,LINERS										
017-013-000	11022020	0006263	15530	15530	TIRE REPAIR	OUT	420.85	0.00	420.85	0.00	11	6	31
017-014-000	09212020	0006394	15520	15519	TIRE REPLACEMENT	OUT	187.50	0.00	187.50	0.00	XX	1	31
017-014-000	02062018	0004052	14520	14523	TIRE REPLACEMENT	OUT	350.00	0.00	350.00	0.00	11	1	31
017		TOTAL >	TIRES,TUBES,LINERS				958.35	0.00	958.35				
022		TITLE >	AXLE DRVN REAR										
022-001-000	09022016	0003006	13670	13673	AXLE HOUSING REAR		484.18	59.15	543.33	2.50 OLLIE	01	1	XX
022		TOTAL >	AXLE DRVN REAR				484.18	59.15	543.33				
024		TITLE >	DRIVE SHAFT(S)										
024-001-000	03222019	0005164	15140	15136	DRIVESHAFT CENTER		244.03	22.76	266.79	1.00 AARON	11	1	31

SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

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FACILITY: 00004

STARTING VMRS CODE: 000-000-000 DATE: FIRST VEHICLE:: 023
ENDING VMRS CODE: 999-999-999 DATE: LAST VEHICLE: 023

UNIT: 023 LF MTR: 15563.0 CUR MTR: 15563.0 YR: 97 MAKE: JOHN DEERE DEPT: DPW SIZE: H CLASS: LOADER FUEL: D

VMRS Code	DATE	WO NUM	LF-UNTS	ODOM	WORK DESCRIPTION	OUT	PARTS	LABOR	TOTAL	HOURS MECHANIC	CC	RC	WA
024-001-000	03032017	0003462	14030	14033	DRIVESHAFT CENTER		112.16	87.48	199.64	4.00 9590	11	1	31
024-001-000	09022016	0003006	13670	13673	DRIVESHAFT CENTER		218.25	70.98	289.23	3.00 OLLIE	01	1	XX
024		TOTAL >	DRIVE SHAFT(S)				574.44	181.22	755.66				
027		TITLE >	TRANSMISSION AUTOMAT										
027-000-000	11032020	0006197	15510	15505	TRANSMISSION AUTOM	OUT	339.02	0.00	339.02	0.00	XX	1	31
027-000-000	01202017	0003203	13680	13683	TRANSMISSION AUTOM		0.00	0.00	0.00	0.00 9590	01	1	31
027-180-000	05282019	0005049	15210	15209	HARD SHIFTING / NO		366.19	26.10	392.29	1.00 STEVE	11	8	31
027-180-000	02282019	0004830	15010	15012	HARD SHIFTING / NO		0.00	13.05	13.05	0.50 STEVE	XX	1	31
027		TOTAL >	TRANSMISSION AUTOMAT				705.21	39.15	744.36				
031		TITLE >	CHARGING SYSTEM										
031-001-000	01202015	0001776	12730	12733	ALTERNATOR BELT AD		0.00	9.95	9.95	0.50 SGOBEIL	01	1	XX
031-003-000	08062019	0005417	15210	15209	ALTERNATOR		0.00	97.05	97.05	5.00 9644	11	1	31
031-003-000	02192014	0000992	12070	12074	ALTERNATOR		438.86	30.75	469.61	1.50 OLLIE	01	1	XX
031-003-000	01142014	0000871	11690	11689	ALTERNATOR		478.01	29.85	507.86	1.50 SGOBEIL	01	1	XX
031		TOTAL >	CHARGING SYSTEM				916.87	167.60	1084.47				
032		TITLE >	CRANKING SYSTEM										
032-002-000	03072014	0001089	12180	12184	BATTERY		296.95	82.00	378.95	4.00 BILL	01	1	XX
032-002-000	06192013	0000515	11590	11589	BATTERY		206.28	11.15	217.43	0.50 STEVE	01	1	XX
032-007-000	09062016	0003006	13670	13673	STARTER REBUILD LA		0.00	59.15	59.15	2.50 OLLIE	01	1	XX
032-007-000	09022016	0003006	13670	13673	STARTER REBUILD LA	OUT	350.00	0.00	350.00	0.00	01	1	XX
032-009-000	04032018	0004166	14520	14523	SOLENOID STARTER		69.15	22.31	91.46	1.00 10375	11	1	31
032-016-000	11052018	0004773	14750	14751	NO START ISSUE		177.98	52.20	230.18	2.00 STEVE	XX	1	31
032-016-000	12292016	0003310	13680	13683	NO START ISSUE		167.58	70.98	238.56	3.00 OLLIE	11	1	31
032-016-000	01202015	0001774	12730	12733	NO START ISSUE		0.00	20.50	20.50	1.00 BILL	01	1	XX
032		TOTAL >	CRANKING SYSTEM				1267.94	318.29	1586.23				
034		TITLE >	LIGHTING & ELECTRICA										
034-001-001	01202015	0001776	12730	12733	LEFT HEADLIGHT		7.99	9.95	17.94	0.50 SGOBEIL	01	1	XX
034-001-003	04032018	0004166	14520	14523	HEADLIGHT LEFT AND		6.74	22.31	29.05	1.00 10375	11	1	31
034-004-000	09182019	0005544	15220	15218	BACK UP LIGHT / AL		29.96	11.38	41.34	0.50 MIKE W.	11	4	31
034-013-000	05292013	0000410	11200	11195	FLASHER		0.00	4.10	4.10	0.20 BILL	01	1	XX
034-025-000	01312020	0005942	15410	15413	MARKER LIGHT(S)		0.00	19.41	19.41	1.00 9644	11	4	1
034-034-000	09182019	0005505	15220	15218	TURN SIGNAL ASSEMB		10.01	22.76	32.77	1.00 MIKE W.	11	8	31
034-036-000	11022020	0006263	15530	15530	TURN SIGNAL LAMP		0.00	6.83	6.83	0.30 MIKE W.	XX	6	31
034-036-000	05292013	0000410	11200	11195	TURN SIGNAL LAMP		0.00	4.10	4.10	0.20 BILL	01	1	XX

SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

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UNIT: 023 LF MTR: 15563.0 CUR MTR: 15563.0 YR: 97 MAKE: JOHN DEERE DEPT: DPW SIZE: H CLASS: LOADER FUEL: D

VMRS Code	DATE	WO NUM	LF-UNTS	ODOM	WORK DESCRIPTION	OUT	PARTS	LABOR	TOTAL	HOURS MECHANIC	CC	RC	WA
034-402-000	01242018	0004129	14520	14523	STROBE LIGHT(S)		94.00	32.81	126.81	1.50 AARON	11	1	31
034-402-000	06242014	0001313	12430	12425	STROBE LIGHT(S)		91.00	20.50	111.50	1.00 BILL	01	1	XX
034-407-000	09022016	0003006	13670	13673	MULTIPLE LIGHT REP		201.85	47.32	249.17	2.00 OLLIE	01	1	XX
034		TOTAL >	LIGHTING & ELECTRICA				441.55	201.47	643.02				
042		TITLE >	COOLING SYSTEM										
042-013-000	01072020	0005878	15330	15327	HEATER CORE/HOSES		74.30	45.52	119.82	2.00 AARON	11	1	31
042-045-000	02242014	0000992	12070	12074	WATER PUMP		504.46	164.00	668.46	8.00 OLLIE	01	1	XX
042-047-000	04242017	0003550	14180	14179	COOLANT LEAK		236.76	59.15	295.91	2.50 OLLIE	11	1	31
042		TOTAL >	COOLING SYSTEM				815.52	268.67	1084.19				
043		TITLE >	EXHAUST SYSTEM										
043-050-000	06262015	0002129	13180	13184	EXHAUST MANIFOLD		20.68	40.42	61.10	2.00 9590	01	1	XX
043-125-000	04032018	0004166	14520	14523	EXHAUST LEAK		43.42	133.86	177.28	6.00 10375	11	1	31
043-125-000	01242018	0004129	14520	14523	EXHAUST LEAK		12.60	131.22	143.82	6.00 AARON	11	1	31
043		TOTAL >	EXHAUST SYSTEM				76.70	305.50	382.20				
044		TITLE >	FUEL SYSTEM										
044-038-000	10262016	0003130	13680	13683	FUEL PUMP		81.66	32.81	114.46	1.50 9590	01	1	XX
044-038-000	05182016	0002866	13670	13670	FUEL PUMP		117.33	20.50	137.83	1.00 OLLIE	01	1	XX
044-056-000	01202015	0001776	12730	12733	FUEL LEAK		46.06	99.50	145.56	5.00 SGOBEIL	01	1	XX
044-100-000	09262018	0004718	14750	14751	FUEL GAUGE/SENDING		112.08	91.04	203.12	4.00 AARON	11	1	31
044		TOTAL >	FUEL SYSTEM				357.13	243.85	600.98				
045		TITLE >	POWER PLANT/ENGINE										
045-001-001	05172018	0004434	14730	14732	ENGINE LEAKING OIL		34.34	66.93	101.27	3.00 MIKEC	XX	1	31
045-003-000	12062017	0004034	14350	14352	INJECTOR(S), ENG		0.00	22.31	22.31	1.00 10375	11	1	31
045-019-000	06242014	0001313	12430	12425	HARMONIC BALANCER,		520.99	20.50	541.49	1.00 BILL	01	1	XX
045-041-000	06262015	0002129	13180	13184	OIL PAN, ENG		72.25	30.32	102.57	1.50 9590	01	1	XX
045-081-005	05102019	0005049	15140	15136	OIL SAMPLE		28.00	13.05	41.05	0.50 STEVE	11	8	31
045-081-005	05172018	0004434	14730	14732	OIL SAMPLE		28.00	6.69	34.69	0.30 MIKEC	11	1	31
045-081-005	04212017	0003473	14150	14154	OIL SAMPLE		28.00	10.94	38.94	0.50 AARON	11	1	31
045-082-000	03072014	0001089	12180	12184	FULL SERVICE		110.26	123.00	233.26	6.00 BILL	01	1	XX
045-082-000	06202013	0000538	11650	11645	FULL SERVICE		302.62	111.45	414.07	5.00 STEVE	01	1	XX
045-082-000	03132013	0000340	11290	11293	FULL SERVICE		72.54	0.00	72.54	6.00 RICH	01	1	XX
045-082-001	12122019	0005774	15300	15302	MAIN ENGINE		124.09	113.80	237.89	5.00 AARON	11	7	31
045-082-001	05102019	0005049	15140	15136	MAIN ENGINE		123.99	156.60	280.59	6.00 STEVE	XX	8	31
045-082-001	05172018	0004434	14730	14732	MAIN ENGINE		122.61	66.93	189.54	3.00 MIKEC	11	1	31

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UNIT: 023 LF MTR: 15563.0 CUR MTR: 15563.0 YR: 97 MAKE: JOHN DEERE DEPT: DPW SIZE: H CLASS: LOADER FUEL: D

VMRS Code	DATE	WO NUM	LF-UNTS	ODOM	WORK DESCRIPTION	OUT	PARTS	LABOR	TOTAL	HOURS MECHANIC	CC	RC	WA
045-082-001	01242018	0004129	14520	14523	MAIN ENGINE		122.31	98.42	220.73	4.50 AARON	11	1	31
045-082-001	04212017	0003473	14150	14154	MAIN ENGINE		123.32	131.22	254.54	6.00 AARON	11	1	31
045-082-001	05162016	0002796	13660	13660	MAIN ENGINE		119.19	80.84	200.03	4.00 9590	01	1	XX
045-082-001	06262015	0002129	13180	13184	MAIN ENGINE		113.60	40.42	154.02	2.00 9590	01	1	XX
045-082-001	01202015	0001776	12730	12733	MAIN ENGINE		110.26	39.80	150.06	2.00 SGOBEIL	01	1	XX
045-082-001	06142016	0001313	13670	13670	MAIN ENGINE		170.97	164.00	334.97	8.00 BILL	01	1	XX
045-084-000	05282019	0005196	15210	15209	ENGINE SHUTTING DO	OUT	0.00	0.00	0.00	0.00	11	1	31
045-095-000	09042019	0005449	15210	15212	ENGINE STALL ISSUE	OUT	3601.99	0.00	3601.99	0.00	11	1	31
045-095-000	05172018	0004434	14730	14732	ENGINE STALL ISSUE		0.00	11.16	11.16	0.50 MIKEC	XX	1	31
045-095-000	01202017	0003203	13680	13683	ENGINE STALL ISSUE		26.64	0.00	26.64	0.00 9590	01	1	31
045		TOTAL >	POWER PLANT/ENGINE				5955.97	1308.38	7264.35				
051		TITLE >	GENERAL ACCESSORIES										
051-000-000	09182019	0005505	15220	15218	GENERAL ACCESSORIE		6.84	5.69	12.53	0.25 MIKE W.	11	8	31
051-002-000	02242014	0000992	12070	12074	WIPER ARM		240.87	45.49	286.36	1.50 SGOBEIL	01	1	XX
051-044-000	03182016	0002730	13610	13614	WIPER LINKAGE		126.28	40.42	166.70	2.00 9590	01	1	XX
051		TOTAL >	GENERAL ACCESSORIES				373.99	91.60	465.59				
052		TITLE >	ELECTRICAL ACCESSORI										
052-003-001	09062016	0003006	13670	13673	TWO-WAY RADIO		52.00	59.15	111.15	2.50 OLLIE	01	1	1
052-003-001	02242015	0001844	13000	12995	TWO-WAY RADIO		0.00	20.50	20.50	1.00 BILL	01	1	XX
052		TOTAL >	ELECTRICAL ACCESSORI				52.00	79.65	131.65				
065		TITLE >	HYDRAULIC SYSTEMS										
065-004-000	09182019	0005544	15220	15218	HYDRAULIC CYLINDER		14.55	11.38	25.93	0.50 MIKE W.	XX	4	31
065-004-000	02202014	0000511	12070	12074	HYDRAULIC CYLINDER		0.00	66.87	66.87	3.00 STEVE	01	1	XX
065-004-000	07292013	0000511	11650	11646	HYDRAULIC CYLINDER	OUT	0.00	725.00	725.00	0.00	01	1	XX
065-006-000	09022016	0003006	13670	13673	HYD HOSE/FITTINGS		0.00	35.49	35.49	1.50 OLLIE	01	1	XX
065-006-000	08182015	0002153	13180	13184	HYD HOSE/FITTINGS		290.58	121.26	411.84	6.00 9590	01	1	XX
065-006-000	02252015	0001877	13000	12995	HYD HOSE/FITTINGS		254.35	705.83	960.18	6.00 BILL	01	1	XX
065-006-000	03242014	0001114	12200	12200	HYD HOSE/FITTINGS		68.11	34.83	102.94	1.75 SGOBEIL	01	1	XX
065-006-000	03072014	0001089	12180	12184	HYD HOSE/FITTINGS		0.00	41.00	41.00	2.00 BILL	01	1	XX
065-006-000	03072014	0001089	12180	12184	HYD HOSE/FITTINGS	OUT	0.00	301.59	301.59	0.00	01	1	XX
065-006-000	02202014	0000938	12070	12074	HYD HOSE/FITTINGS		15.01	10.25	25.26	0.50 OLLIE	01	1	XX
065-006-000	09042013	0000660	11690	11689	HYD HOSE/FITTINGS		122.40	133.74	256.14	6.00 STEVE	01	1	XX
065-006-000	06192013	0000515	11590	11589	HYD HOSE/FITTINGS	OUT	0.00	0.00	0.00	0.00	01	1	XX
065-006-000	06192013	0000515	11590	11589	HYD HOSE/FITTINGS		405.90	178.32	584.22	8.00 STEVE	01	1	XX
065-006-000	05292013	0000475	11590	11589	HYD HOSE/FITTINGS		41.95	41.00	82.95	2.00 BILL	01	1	XX

SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

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UNIT: 023 LF MTR: 15563.0 CUR MTR: 15563.0 YR: 97 MAKE: JOHN DEERE DEPT: DPW SIZE: H CLASS: LOADER FUEL: D

VMRS Code	DATE	WO NUM	LF-UNTS	ODOM	WORK DESCRIPTION	OUT	PARTS	LABOR	TOTAL	HOURS MECHANIC	CC	RC	WA
065-018-000	02232015	0001823	13000	12995	HYDRAULIC VALVE		7142.29	20.50	7162.79	1.00 BILL	01	1	XX
065-032-000	05182016	0002866	13670	13670	SOLENOID, HYDRAULI		0.00	10.25	10.25	0.50 OLLIE	01	1	XX
065-035-000	01142019	0005000	14970	14966	HYDRAULIC LEAK		216.39	45.52	261.91	2.00 MIKE W.	11	1	31
065-040-000	12082014	0001658	12610	12610	HYDRAULIC PRESSURE		0.00	61.50	61.50	3.00 BILL	01	1	XX
065		TOTAL >	HYDRAULIC SYSTEMS				8571.53	2544.33	11115.86				
106		TITLE >	TOW (VEHICLE)										
106-000-000	08182015	0002153	13180	13184	TOW (VEHICLE)	OUT	675.00	0.00	675.00	0.00	01	1	XX
106-001-000	09042019	0005449	15210	15212	TOW TO GARAGE	OUT	240.00	0.00	240.00	0.00	11	1	31
106-001-000	12022016	0003203	13680	13683	TOW TO GARAGE	OUT	270.00	0.00	270.00	0.00	01	1	31
106-005-000	08292019	0005449	15210	15212	TOW FOR OUTSIDE RE	OUT	240.00	0.00	240.00	0.00	11	1	31
106-005-000	09262018	0004508	14750	14751	TOW FOR OUTSIDE RE	OUT	200.00	0.00	200.00	0.00	11	1	31
106		TOTAL >	TOW (VEHICLE)				1625.00	0.00	1625.00				
400		TITLE >	ATTACHMENTS, EQUIPME										
400-002-001	01312020	0005942	15330	15327	PLOW: MECHANICAL		0.00	77.64	77.64	4.00 9644	11	4	1
400-002-001	12232017	0004086	14350	14352	PLOW: MECHANICAL		0.00	217.96	217.96	9.00 10375	11	1	31
400-002-001	03222017	0003434	14030	14033	PLOW: MECHANICAL		800.47	43.74	844.21	2.00 9590	11	1	31
400-002-001	02242015	0001849	13000	12995	PLOW: MECHANICAL		0.00	164.00	164.00	8.00 BILL	01	1	XX
400-002-001	02242014	0001051	12130	12128	PLOW: MECHANICAL		182.67	20.50	203.17	1.00 BILL	01	1	XX
400-002-001	02242014	0001052	12130	12128	PLOW: MECHANICAL		69.05	41.00	110.05	2.00 BILL	01	1	XX
400-002-002	01072020	0005882	15330	15327	PLOW: HYDRAULIC		42.92	52.20	95.12	2.00 STEVE	XX	4	31
400-002-003	01312020	0005942	15330	15327	PLOW: CUTTING EDGE		393.00	19.41	412.41	1.00 9644	XX	4	31
400-002-003	03032017	0003434	14030	14033	PLOW: CUTTING EDGE		289.48	43.74	333.22	2.00 9590	11	1	31
400-011-001	05272014	0001265	12200	12200	MECHANICAL/ STRUCT		0.00	524.90	524.90	16.00 SGOBEIL	01	1	XX
400		TOTAL >	ATTACHMENTS, EQUIPME				1777.59	1205.09	2982.68				
403		TITLE >	**********										
403-000-000	05302013	0000341	11590	11589	**********		0.00	41.00	41.00	2.00 BILL	01	1	XX
403		TOTAL >	**********				0.00	41.00	41.00				
407		TITLE >	MAINE STATE INSPECTI										
407-000-000	08132015	0002153	13180	13184	MAINE STATE INSPEC		2.50	40.42	42.92	2.00 9590	01	1	XX
407-000-000	06242014	0001313	12400	12400	MAINE STATE INSPEC		2.50	41.00	43.50	2.00 BILL	01	1	XX
407-000-000	06202013	0000538	11650	11645	MAINE STATE INSPEC		0.00	33.44	33.44	1.50 STEVE	01	1	XX
407-001-000	11022020	0006263	15530	15530	(MSI) COMMERCIAL T		2.50	22.76	25.26	1.00 MIKE W.	11	6	1
407-001-000	09182019	0005505	15220	15218	(MSI) COMMERCIAL T		2.50	11.38	13.88	0.50 MIKE W.	11	8	31
407-001-000	09262018	0004484	14750	14751	(MSI) COMMERCIAL T		2.50	22.76	25.26	1.00 AARON	11	8	31

SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

VEHICLE REPAIR HISTORY REPORT

FACILITY: 00004

STARTING VMRS CODE: 000-000-000 DATE: FIRST VEHICLE:: 023
ENDING VMRS CODE: 999-999-999 DATE: LAST VEHICLE: 023

UNIT: 023 LF MTR: 15563.0 CUR MTR: 15563.0 YR: 97 MAKE: JOHN DEERE DEPT: DPW SIZE: H CLASS: LOADER FUEL: D

VMRS Code	DATE	WO NUM	LF-UNTS	ODOM	WORK DESCRIPTION	OUT	PARTS	LABOR	TOTAL	HOURS MECHANIC	CC	RC	WA
407-001-000	06132017	0003649	14190	14187	(MSI) COMMERCIAL T		2.50	21.87	24.37	1.00 AARON	11	1	31
407-001-000	09022016	0003006	13670	13673	(MSI) COMMERCIAL T		2.50	35.49	37.99	1.50 OLLIE	01	1	XX
407-001-000	06262015	0002129	13180	13184	(MSI) COMMERCIAL T		0.00	20.21	20.21	1.00 9590	01	1	XX
407		TOTAL >	MAINE STATE INSPECTI				17.50	249.33	266.83				
410		TITLE >	EQUIPMENT SPECIFIC R										
410-001-000	11042020	0006263	15530	15530	EQUPMENT SPECIFIC:		813.71	79.66	893.37	3.50 MIKE W.	XX	6	31
410-002-000	12122019	0005750	15300	15302	EQUIPMENT SPECIFIC		4142.72	204.84	4347.56	9.00 AARON	XX	1	31
410-002-000	12022019	0005724	15260	15257	EQUIPMENT SPECIFIC		0.00	9.71	9.71	0.50 9644	11	4	31
410-002-000	09262018	0004508	14750	14751	EQUIPMENT SPECIFIC	OUT	13058.73	0.00	13058.73	0.00	XX	1	31
410-002-000	06192017	0003649	14190	14187	EQUIPMENT SPECIFIC		1184.70	109.35	1294.05	5.00 AARON	11	1	31
410-002-000	07212014	0001394	12430	12430	EQUIPMENT SPECIFIC		0.00	20.50	20.50	1.00 BILL	01	1	XX
410-002-005	08132015	0002153	13180	13184	EQUIPMENT SPECIFIC	OUT	5688.17	0.00	5688.17	0.00	01	1	XX
410-002-005	06262015	0002129	13180	13184	EQUIPMENT SPECIFIC		0.00	60.63	60.63	3.00 9590	01	1	XX
410-004-000	05282019	0005049	15210	15209	EQUIPMENT SPECIFIC		0.00	198.00	198.00	10.00 DALE	11	8	31
410		TOTAL >	EQUIPMENT SPECIFIC R				24888.03	682.69	25570.72				

SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

VEHICLE REPAIR HISTORY REPORT

FACILITY: 00004

STARTING VMRS CODE: 000-000-000 DATE: FIRST VEHICLE:: 023
ENDING VMRS CODE: 999-999-999 DATE: LAST VEHICLE: 023

METER: STANDARD **SUBTOTALS OF VMRS CODES FOR DIVISION > AL** **PERIOD: YEAR**

VMRS CODE		QUANTITY	LABOR HRS	LABOR COST	PARTS COST		TOTAL COST	PERCENT	TOT COST /METER
001	A/C, HEAT, VENTILATION	1	1.00	19.41	0.00		19.41	0.03%	0.00125
002	CAB/SHEET METALS	7	17.00	339.28	901.17		1240.45	2.03%	0.07971
013	BRAKES	2	5.50	137.45	548.77		686.22	1.12%	0.04409
014	FRAME	1	2.00	41.00	0.00		41.00	0.07%	0.00263
015	STEERING	2	12.00	270.12	1009.47		1279.59	2.09%	0.08222
017	TIRES,TUBES,LINERS	3	0.00	0.00	958.35		958.35	1.57%	0.06158
022	AXLE DRVN REAR	1	2.50	59.15	484.18		543.33	0.89%	0.03491
024	DRIVE SHAFT(S)	3	8.00	181.22	574.44		755.66	1.24%	0.04855
027	TRANSMISSION AUTOMATIC	4	1.50	39.15	705.21		744.36	1.22%	0.04783
031	CHARGING SYSTEM	4	8.50	167.60	916.87		1084.47	1.77%	0.06968
032	CRANKING SYSTEM	8	14.00	318.29	1267.94		1586.23	2.60%	0.10192
034	LIGHTING & ELECTRICAL	11	9.20	201.47	441.55		643.02	1.05%	0.04132
042	COOLING SYSTEM	3	12.50	268.67	815.52		1084.19	1.77%	0.06966
043	EXHAUST SYSTEM	3	14.00	305.50	76.70		382.20	0.63%	0.02456
044	FUEL SYSTEM	4	11.50	243.85	357.13		600.98	0.98%	0.03862
045	POWER PLANT/ENGINE	23	65.80	1308.38	5955.97		7264.35	11.89%	0.46677
051	GENERAL ACCESSORIES	3	3.75	91.60	373.99		465.59	0.76%	0.02992
052	ELECTRICAL ACCESSORIES	2	3.50	79.65	52.00		131.65	0.22%	0.00846
065	HYDRAULIC SYSTEMS	18	43.75	2544.33	8571.53		11115.86	18.19%	0.71425
106	TOW (VEHICLE)	5	0.00	0.00	1625.00		1625.00	2.66%	0.10441
400	ATTACHMENTS, EQUIPMENT	10	47.00	1205.09	1777.59		2982.68	4.88%	0.19165
403	**********	1	2.00	41.00	0.00		41.00	0.07%	0.00263
407	MAINE STATE INSPECTION	9	11.50	249.33	17.50		266.83	0.44%	0.01715
410	EQUIPMENT SPECIFIC REP	9	32.00	682.69	24888.03		25570.72	41.84%	1.64305
	TOTALS:	137	328.50	8794.23	52318.91	**TOT:**	61113.14	100.00%	3.92682

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Single Axle Plow Trucks**		
Department	Public Works	**Dept. Priority**	3
Division		**Div. Priority**	
CIP Category	Public Works & Transportation		

Purchase/Project Description

The Public Works Department is requesting the purchase of two (2) new 2022 Single-axle plow trucks. This purchase would replace two (2) 2003 Sterlings currently beyond their useful life.

The new vehicles would be front-line plow trucks during winter operations and used all year long for various Public Works projects.

The 2003 Sterlings would be auctioned off as surplus. The impacts of not purchasing these trucks would be increased maintenance costs and very unreliable plow trucks.

Financial Impact of this Purchase/Project

The purchase price for the requested vehicles is approximately $355,510. The annual operating costs for this purchase $3,500 per truck. These costs include a maximun of twelve services at $120 per service and 1000 gallons of fuel in a year. The 2003 Sterling would be auctioned off. It is very difficult to determine what the trucks would go for at auction, however we would estimate approximately $5,000 per truck.

Environmental Considerations

The new trucks would meet the new Tier 4 emissions standard for cleaner emissions and have better fuel mileage. The 2003 Sterlings these trucks will be replacing were targeted for replacement using VW settment funds to improve emissions and reduce greenhouse gasses, however we were unsuccessful obtaining the grant funding. Electric is not an option for this equipment.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)							$ -	$ -
General Fund (GF) Reserves	$28,500.00	$ 28,500.00					$ 28,500.00	$ 28,500.00
General Obligation Bonds							$ -	$ -
Grants	$ 355,500.00	$ 355,500.00					$ 355,500.00	$ 355,500.00
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances	$20,000.00	$ 20,000.00					$ 20,000.00	$ 20,000.00
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 404,000.00**	**$ 404,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 404,000.00**	**$ 404,000.00**

Source of Cost Estimate	Daigle and Houghton, HP Fairfield and Portland North				
Est. Annual Operating Costs	$ 3,500.00	**Projected Useful Life**	12 years	**Additional Documentation?**	Yes
City Manager Comments					

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SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

VEHICLE REPAIR HISTORY REPORT

FACILITY: 00004

STARTING VMRS CODE: 000-000-000 DATE: FIRST VEHICLE:: 006
ENDING VMRS CODE: 999-999-999 DATE: LAST VEHICLE: 006

UNIT: 006 LF MTR: 8877.0 CUR MTR: 8877.0 YR: 03 MAKE: STERLING DEPT: DPW SIZE: H CLASS: DUMP FUEL: D

VMRS Code	DATE	WO NUM	LF-UNTS	ODOM	WORK DESCRIPTION	OUT	PARTS	LABOR	TOTAL	HOURS MECHANIC	CC	RC	WA
001		TITLE >	A/C, HEAT, VENTILATI										
001-022-000	02242015	0001863	7040	7042	DEFROSTER MOTOR, H		133.96	20.50	154.46	1.00 OLLIE	01	1	XX
001-025-001	01292019	0005058	8330	8333	HEATER CORE LEFT		0.00	7.83	7.83	0.30 STEVE	XX	4	31
001-033-000	10172013	0000692	6250	6252	CABIN AIR FILTER		35.00	10.25	45.25	0.50 OLLIE	01	1	XX
001-040-000	12132018	0004886	8230	8230	NO HEAT		653.46	91.04	744.50	4.00 MIKE W.	XX	4	31
001		TOTAL >	A/C, HEAT, VENTILATI				822.42	129.62	952.04				
002		TITLE >	CAB/SHEET METALS										
002-005-000	07302013	0000374	6200	6196	HOOD HINGE		650.00	328.00	978.00	16.00 OLLIE	01	1	XX
002-031-000	09222015	0002211	7200	7195	FENDER		0.00	61.50	61.50	3.00 OLLIE	01	1	XX
002-054-002	04172019	0005238	8480	8480	SPOT MIRROR		12.78	9.00	21.78	0.50 HELPER	11	1	31
002-056-000	04122019	0005171	8480	8480	MIRROR ARM OR BRAC		0.00	4.55	4.55	0.20 MIKE W.	11	4	31
002-056-000	03062014	0001075	6590	6594	MIRROR ARM OR BRAC		178.08	61.50	239.58	3.00 OLLIE	01	1	XX
002-060-001	07202020	0006252	8790	8788	DRIVERS WINDOW		367.04	38.82	405.86	2.00 9644	11	6	31
002-060-001	09222015	0002211	7200	7195	DRIVERS WINDOW		0.00	41.00	41.00	2.00 OLLIE	01	1	XX
002		TOTAL >	CAB/SHEET METALS				1207.90	544.37	1752.27				
012		TITLE >	AXLES, DIFFERENTIAL,										
012-000-000	04122019	0005171	8480	8480	AXLES, DIFFERENTIA		207.40	136.56	343.96	6.00 MIKE W.	11	4	31
012-030-000	09222015	0002211	7200	7195	AXLE VENT		0.00	10.25	10.25	0.50 OLLIE	01	1	XX
012		TOTAL >	AXLES, DIFFERENTIAL,				207.40	146.81	354.21				
013		TITLE >	BRAKES										
013-001-000	09092019	0005467	8530	8525	FRONT BRAKE		83.96	79.66	163.62	3.50 AARON	11	4	31
013-002-000	09122019	0005467	8530	8525	REAR BRAKE		606.88	227.60	834.48	10.00 AARON	11	4	31
013-003-000	04172015	0001955	7140	7137	BRAKE JOB (COMPLE		314.41	101.05	415.46	5.00 9590	01	1	XX
013-003-000	03242014	0001093	6600	6597	BRAKE JOB (COMPLE		0.00	41.00	41.00	2.00 BILL	01	1	XX
013-005-000	09222015	0002211	7200	7195	CK/ADJUST BRAKES		0.00	20.50	20.50	1.00 OLLIE	01	1	XX
013-005-000	07302013	0000374	6200	6196	CK/ADJUST BRAKES		0.00	30.75	30.75	1.50 OLLIE	01	1	XX
013-005-000	01302013	0000316	5970	5972	CK/ADJUST BRAKES		174.98	123.00	297.98	6.00 OLLIE	01	1	XX
013-007-000	05312017	0003480	7950	7953	AIR TANK(S)		0.00	21.87	21.87	1.00 AARON	11	1	31
013-007-000	10062016	0003103	7570	7572	AIR TANK(S)		103.29	269.94	373.23	12.00 9590	01	1	XX
013-009-000	02102020	0005797	8740	8740	AIR DRYER		90.23	22.76	112.99	1.00 MIKE W.	XX	7	31
013-009-000	10222018	0004461	8230	8230	AIR DRYER		87.14	45.52	132.66	2.00 MIKE W.	XX	8	1
013-009-000	05312017	0003480	7950	7953	AIR DRYER		88.09	43.74	131.83	2.00 AARON	11	1	31
013-009-000	05172016	0002757	7500	7501	AIR DRYER		88.49	20.21	108.70	1.00 9590	01	1	XX
013-009-000	04172015	0001955	7140	7137	AIR DRYER		86.33	30.32	116.65	1.50 9590	01	1	XX

SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

VEHICLE REPAIR HISTORY REPORT

FACILITY: 00004

STARTING VMRS CODE: 000-000-000 DATE: FIRST VEHICLE:: 006
ENDING VMRS CODE: 999-999-999 DATE: LAST VEHICLE: 006

UNIT: 006 LF MTR: 8877.0 CUR MTR: 8877.0 YR: 03 MAKE: STERLING DEPT: DPW SIZE: H CLASS: DUMP FUEL: D

VMRS Code	DATE	WO NUM	LF-UNTS	ODOM	WORK DESCRIPTION	OUT	PARTS	LABOR	TOTAL	HOURS MECHANIC	CC	RC	WA
013-012-000	12032019	0005551	8530	8531	AIR LINE		0.00	7.83	7.83	0.30 STEVE	XX	4	31
013-023-000	07302013	0000374	6200	6196	BACKING PLATE FRNT		147.98	41.00	188.98	2.00 OLLIE	01	1	XX
013-035-000	06142017	0003688	7950	7953	CHAMBER REAR		0.00	32.81	32.81	1.50 AARON	11	1	31
013-035-000	07212014	0001373	6670	6666	CHAMBER REAR		39.68	82.00	121.68	4.00 BILL	01	1	XX
013-048-000	03032017	0003452	7850	7853	EMERG BRAKE RELEAS		144.59	32.81	177.40	1.50 AARON	11	1	31
013-081-000	10222018	0004794	8230	8230	BRAKE PEDAL		375.00	56.90	431.90	2.50 AARON	11	1	31
013-096-000	07302013	0000374	6200	6196	BRAKE RELAY VLV SP		171.53	41.00	212.53	2.00 OLLIE	01	1	XX
013-115-000	11302016	0003210	7590	7585	AIR TANK		594.20	131.22	725.42	6.00 9590	01	1	31
013-116-000	11062018	0004783	8230	8230	SLACK ADJUSTER		303.94	318.64	622.58	14.00 AARON	11	1	31
013-121-000	03042014	0001019	6580	6575	AIR LEAK		0.00	1.99	1.99	0.10 SGOBEIL	01	1	XX
013		TOTAL >	BRAKES				3500.72	1824.12	5324.84				
015		TITLE >	STEERING										
015-005-000	10172013	0000692	6250	6252	ALIGNMENT		0.00	30.75	30.75	1.50 OLLIE	01	1	XX
015-038-000	03112015	0001937	7110	7106	RERSERVOIR		223.65	44.58	268.23	2.00 STEVE	01	1	XX
015		TOTAL >	STEERING				223.65	75.33	298.98				
016		TITLE >	SUSPENSION										
016-002-000	04172015	0001955	7140	7137	SHOCK ABSORBER		64.22	10.11	74.33	0.50 9590	01	1	XX
016-004-000	09222015	0002211	7200	7195	LEAF SPRING ASSEMB		619.68	328.00	947.68	16.00 OLLIE	01	1	XX
016-004-002	05312017	0003480	7950	7953	REAR LEAF SPRING		1170.74	131.22	1301.96	6.00 AARON	11	1	31
016		TOTAL >	SUSPENSION				1854.64	469.33	2323.97				
017		TITLE >	TIRES,TUBES,LINERS										
017-013-000	05312017	0003480	7950	7953	TIRE REPAIR		0.00	21.87	21.87	1.00 AARON	11	1	31
017-013-000	01052017	0003201	7590	7585	TIRE REPAIR		0.00	43.74	43.74	2.00 9590	01	1	31
017-014-000	07202020	0006252	8790	8788	TIRE REPLACEMENT		1015.19	38.82	1054.01	2.00 9644	11	6	31
017-014-000	01292019	0005057	8330	8333	TIRE REPLACEMENT		0.00	24.62	24.62	1.00 OLLIE	11	4	31
017-014-000	09222015	0002211	7200	7195	TIRE REPLACEMENT		0.00	41.00	41.00	2.00 OLLIE	01	1	XX
017-014-000	09232013	0000673	6200	6196	TIRE REPLACEMENT		0.00	41.00	41.00	2.00 OLLIE	01	1	XX
017		TOTAL >	TIRES,TUBES,LINERS				1015.19	211.05	1226.24				
018		TITLE >	WHEELS,RIMS,HUBS,BEA										
018-012-000	01202015	0001772	6800	6800	SEAL WHEEL FRONT		341.37	123.00	464.37	6.00 OLLIE	01	1	XX
018		TOTAL >	WHEELS,RIMS,HUBS,BEA				341.37	123.00	464.37				
024		TITLE >	DRIVE SHAFT(S)										
024-005-000	09222015	0002211	7200	7195	DRIVESHAFT YOKE		75.22	61.50	136.72	3.00 OLLIE	01	1	XX

SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

VEHICLE REPAIR HISTORY REPORT

FACILITY: 00004

STARTING VMRS CODE: 000-000-000 DATE: FIRST VEHICLE:: 006
ENDING VMRS CODE: 999-999-999 DATE: LAST VEHICLE: 006

UNIT: 006 LF MTR: 8877.0 CUR MTR: 8877.0 YR: 03 MAKE: STERLING DEPT: DPW SIZE: H CLASS: DUMP FUEL: D

VMRS Code	DATE	WO NUM	LF-UNTS	ODOM	WORK DESCRIPTION	OUT	PARTS	LABOR	TOTAL	HOURS MECHANIC	CC	RC	WA
024		TOTAL >	DRIVE SHAFT(S)				75.22	61.50	136.72				
027		TITLE >	TRANSMISSION AUTOMAT										
027-000-000	05312017	0003480	7950	7953	TRANSMISSION AUTOM		0.00	21.87	21.87	1.00 AARON	11	1	31
027-065-000	01032018	0004073	8000	8004	RANGE SELECTOR		0.00	218.70	218.70	10.00 AARON	11	1	31
027-097-000	10172013	0000692	6250	6252	DIPSTICK TUBE/ FIL		240.67	61.50	302.17	3.00 OLLIE	01	1	XX
027-099-000	04172015	0001955	7140	7137	TRANS. COOLER LINE		159.40	60.63	220.03	3.00 9590	01	1	XX
027-100-000	10222018	0004783	8230	8230	COVER PLATES		32.25	22.76	55.01	1.00 AARON	11	1	31
027-101-000	04172015	0001955	7140	7137	TRANSMISSION SERVI		295.12	40.42	335.54	2.00 9590	01	1	XX
027		TOTAL >	TRANSMISSION AUTOMAT				727.44	425.88	1153.32				
032		TITLE >	CRANKING SYSTEM										
032-002-000	11172015	0002447	7280	7282	BATTERY		239.09	30.75	269.84	1.50 OLLIE	01	1	XX
032-002-001	11302016	0003210	7590	7585	BATTERY DISCONNECT		164.90	32.81	197.71	1.50 9590	01	1	31
032-016-000	01122021	0006693	8880	8877	NO START ISSUE		267.00	49.24	316.24	2.00 OLLIE	XX	1	1
032-016-000	06302017	0003738	7960	7956	NO START ISSUE		0.00	35.49	35.49	1.50 OLLIE	11	1	31
032-020-000	01262016	0002452	7350	7353	HARD START		62.42	41.00	103.42	2.00 OLLIE	01	1	XX
032		TOTAL >	CRANKING SYSTEM				733.41	189.29	922.70				
034		TITLE >	LIGHTING & ELECTRICA										
034-001-002	01312020	0005885	8740	8740	RIGHT HEADLIGHT		0.00	6.83	6.83	0.30 MIKE W.	XX	1	31
034-001-002	10222018	0004783	8230	8230	RIGHT HEADLIGHT		45.77	79.66	125.43	3.50 AARON	11	1	31
034-002-000	01312020	0005885	8740	8740	PLOW LIGHT(S)		0.00	6.83	6.83	0.30 MIKE W.	XX	1	31
034-002-000	12172018	0004950	8230	8230	PLOW LIGHT(S)		128.64	12.31	140.95	0.50 OLLIE	11	1	31
034-004-000	02222019	0005078	8370	8365	BACK UP LIGHT / AL		0.00	11.38	11.38	0.50 MIKE W.	11	1	31
034-025-000	05312017	0003480	7950	7953	MARKER LIGHT(S)		0.00	21.87	21.87	1.00 AARON	11	1	31
034-025-000	01302014	0000955	6480	6480	MARKER LIGHT(S)		0.00	4.98	4.98	0.25 SGOBEIL	01	1	XX
034-040-000	03122013	0000363	6100	6096	WIRING HARNESS ALL		66.16	51.25	117.41	2.50 OLLIE	01	1	XX
034-105-000	09062019	0005467	8530	8525	MULTI-FUNCTION SWI		144.31	34.14	178.45	1.50 AARON	11	4	31
034-402-000	02222019	0005078	8370	8365	STROBE LIGHT(S)		50.69	91.04	141.73	4.00 MIKE W.	11	1	31
034-402-000	09222015	0002211	7200	7195	STROBE LIGHT(S)		56.25	41.00	97.25	2.00 OLLIE	01	1	XX
034-403-000	06142017	0003688	7950	7953	LIGHTING & ELECTRI		0.00	43.74	43.74	2.00 AARON	11	1	31
034-405-000	03052019	0005155	8390	8389	WING LIGHT		62.28	52.20	114.48	2.00 STEVE	11	1	31
034-407-000	05312017	0003480	7950	7953	MULTIPLE LIGHT REP		245.32	87.48	332.80	4.00 AARON	11	1	31
034		TOTAL >	LIGHTING & ELECTRICA				799.42	544.71	1344.13				
042		TITLE >	COOLING SYSTEM										
042-019-000	05312017	0003480	7950	7953	RADIATOR CAP		10.00	2.19	12.19	0.10 AARON	11	1	31

SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

VEHICLE REPAIR HISTORY REPORT

FACILITY: 00004

STARTING VMRS CODE: 000-000-000 DATE: FIRST VEHICLE:: 006
ENDING VMRS CODE: 999-999-999 DATE: LAST VEHICLE: 006

UNIT: 006 LF MTR: 8877.0 CUR MTR: 8877.0 YR: 03 MAKE: STERLING DEPT: DPW SIZE: H CLASS: DUMP FUEL: D

VMRS Code	DATE	WO NUM	LF-UNTS	ODOM	WORK DESCRIPTION	OUT	PARTS	LABOR	TOTAL	HOURS MECHANIC	CC	RC	WA
042-053-000	03032017	0003452	7850	7853	OVERHEAT (RUNNING		289.97	54.68	344.64	2.50 AARON	11	1	31
042		TOTAL >	COOLING SYSTEM				299.97	56.87	356.84				
043		TITLE >	EXHAUST SYSTEM										
043-005-000	01292014	0000941	6470	6474	EXHAUST FLEX PIPE		21.14	24.88	46.02	1.25 SGOBEIL	01	1	XX
043-007-000	05312017	0003480	7950	7953	MUFFLER		200.26	65.61	265.87	3.00 AARON	11	1	31
043-009-000	10062016	0003103	7570	7572	EXHAUST PIPE OR FL		219.08	54.68	273.76	2.50 9590	01	1	XX
043-011-000	12182015	0002452	7320	7319	TAILPIPE, STACK		10.02	10.25	20.27	0.50 OLLIE	01	1	XX
043-011-000	03042014	0001019	6580	6575	TAILPIPE, STACK		398.16	49.75	447.91	2.50 SGOBEIL	01	1	XX
043-125-000	01262016	0002554	7350	7353	EXHAUST LEAK		48.53	0.00	48.53	0.00 OLLIE	01	1	XX
043		TOTAL >	EXHAUST SYSTEM				897.19	205.17	1102.36				
044		TITLE >	FUEL SYSTEM										
044-024-000	04172019	0005236	8480	8480	FILTER FUEL		11.17	6.83	17.99	0.30 MIKE W.	11	1	31
044-044-000	04092014	0001180	6600	6603	FUEL TANK		1475.90	164.00	1639.90	8.00 OLLIE	01	1	XX
044-056-000	02192014	0001032	6560	6559	FUEL LEAK		0.00	156.44	156.44	7.50 STEVE	01	1	XX
044		TOTAL >	FUEL SYSTEM				1487.07	327.27	1814.34				
045		TITLE >	POWER PLANT/ENGINE										
045-013-000	05182020	0006147	8740	8740	DIPSTICK TUBE, ENG		43.94	9.10	53.04	0.40 MIKE W.	11	1	31
045-013-000	03182013	0000366	6130	6132	DIPSTICK TUBE, ENG		380.90	0.00	380.90	1.00 RICH	01	1	XX
045-041-000	09122019	0005467	8530	8525	OIL PAN, ENG		875.09	91.04	966.13	4.00 AARON	11	4	31
045-080-000	01262016	0002452	7350	7353	VALVE ADJUSTMENT		23.84	123.00	146.84	6.00 OLLIE	01	1	XX
045-081-005	04122019	0005171	8480	8480	OIL SAMPLE		0.00	11.38	11.38	0.50 MIKE W.	11	4	31
045-081-005	03032017	0003452	7850	7853	OIL SAMPLE		28.00	2.19	30.19	0.10 AARON	11	1	31
045-082-000	01302014	0000955	6480	6480	FULL SERVICE		147.60	59.70	207.30	3.00 SGOBEIL	01	1	XX
045-082-000	07302013	0000374	6200	6196	FULL SERVICE		0.00	0.00	0.00	0.00 OLLIE	01	1	XX
045-082-000	03182013	0000366	6130	6132	FULL SERVICE		345.75	0.00	345.75	6.50 RICH	01	1	XX
045-082-001	02102020	0005797	8740	8740	MAIN ENGINE		239.12	113.80	352.92	5.00 MIKE W.	11	7	31
045-082-001	04122019	0005171	8480	8480	MAIN ENGINE		144.53	91.04	235.57	4.00 MIKE W.	11	4	31
045-082-001	03052018	0004181	8130	8129	MAIN ENGINE		161.32	153.09	314.41	7.00 AARON	01	1	31
045-082-001	03032017	0003452	7850	7853	MAIN ENGINE		161.23	54.68	215.91	2.50 AARON	11	1	31
045-082-001	10062016	0003103	7570	7572	MAIN ENGINE		92.60	43.74	136.34	2.00 9590	01	1	XX
045-082-001	01262016	0002599	7320	7319	MAIN ENGINE		158.29	123.00	281.29	6.00 OLLIE	01	1	XX
045-082-001	04172015	0001955	7140	7137	MAIN ENGINE		147.60	101.05	248.65	5.00 9590	01	1	XX
045-082-001	01202015	0001772	6800	6800	MAIN ENGINE		147.60	123.00	270.60	6.00 OLLIE	01	1	XX
045		TOTAL >	POWER PLANT/ENGINE				3097.41	1099.81	4197.22				
051		TITLE >	GENERAL ACCESSORIES										
051-001-000	01302014	0000955	6480	6480	WASHER NOZZLE, W/S		16.83	19.90	36.73	1.00 SGOBEIL	01	1	XX

SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

VEHICLE REPAIR HISTORY REPORT

FACILITY: 00004

STARTING VMRS CODE: 000-000-000 DATE: FIRST VEHICLE:: 006
ENDING VMRS CODE: 999-999-999 DATE: LAST VEHICLE: 006

UNIT: 006 LF MTR: 8877.0 CUR MTR: 8877.0 YR: 03 MAKE: STERLING DEPT: DPW SIZE: H CLASS: DUMP FUEL: D

VMRS Code	DATE	WO NUM	LF-UNTS	ODOM	WORK DESCRIPTION	OUT	PARTS	LABOR	TOTAL	HOURS MECHANIC	CC	RC	WA
051-002-000	02232015	0001840	7040	7042	WIPER ARM		78.54	20.50	99.04	1.00 BILL	01	1	XX
051-014-000	01222013	0000277	0	0	TIRE CHAINS INSTAL		220.00	18.99	238.99	0.90 BILL	01	1	XX
051-025-000	01262016	0002452	7350	7353	MUD FLAP		0.00	30.75	30.75	1.50 OLLIE	01	1	XX
051-028-000	01152019	0005033	8310	8313	TIRE CHAINS		231.63	36.00	267.63	2.00 HELPER	11	4	31
051-037-000	07212014	0001373	6670	6666	WIPER ARM		94.52	41.00	135.52	2.00 BILL	01	1	XX
051-038-000	02222019	0005078	8370	8365	WIPER BLADE		35.98	11.38	47.36	0.50 MIKE W.	11	1	31
051-038-000	10222018	0004783	8230	8230	WIPER BLADE		29.05	11.38	40.43	0.50 AARON	11	1	31
051-044-000	03042014	0001019	6580	6575	WIPER LINKAGE		191.33	24.88	216.21	1.25 SGOBEIL	01	1	XX
051-155-000	07202020	0006252	8790	8788	DOCUMENT HOLDER		5.61	38.82	44.43	2.00 9644	11	6	31
051		TOTAL >	GENERAL ACCESSORIES				903.49	253.60	1157.09				
052		TITLE >	ELECTRICAL ACCESSORI										
052-003-000	07302013	0000374	6200	6196	RADIO EQUIPMENT		0.00	10.25	10.25	0.50 OLLIE	01	1	XX
052-003-001	12102019	0005745	8570	8570	TWO-WAY RADIO		14.25	22.76	37.01	1.00 MIKE W.	11	1	31
052-003-001	12182015	0002452	7320	7319	TWO-WAY RADIO		45.00	51.25	96.25	2.50 OLLIE	01	1	XX
052-003-001	01232015	0001767	6800	6800	TWO-WAY RADIO		0.00	30.75	30.75	1.50 OLLIE	01	1	XX
052		TOTAL >	ELECTRICAL ACCESSORI				59.25	115.01	174.26				
053		TITLE >	EXPENDABLE ITEMS										
053-001-000	01242018	0004159	8000	8004	TIRE CHAINS		163.39	0.00	163.39	0.00	11	1	31
053-001-000	03212017	0003507	7850	7853	TIRE CHAINS		273.00	0.00	273.00	0.00	11	1	31
053-001-000	01192016	0002578	7320	7319	TIRE CHAINS		249.00	0.00	249.00	0.00	01	1	XX
053-001-000	01302015	0001839	6800	6800	TIRE CHAINS		249.00	0.00	249.00	0.00	01	1	XX
053		TOTAL >	EXPENDABLE ITEMS				934.39	0.00	934.39				
054		TITLE >	HORN AND MOUNTING										
054-005-000	09062019	0005467	8530	8525	HORN AIR LINE		0.00	11.38	11.38	0.50 AARON	11	4	31
054		TOTAL >	HORN AND MOUNTING				0.00	11.38	11.38				
057		TITLE >	SPARE WHEEL MOUNTING										
057-001-000	01182013	0000270	0	0	TIRE CHANGE		0.00	41.00	41.00	2.00 BILL	01	1	XX
057		TOTAL >	SPARE WHEEL MOUNTING				0.00	41.00	41.00				
065		TITLE >	HYDRAULIC SYSTEMS										
065-004-000	09272019	0005561	8530	8531	HYDRAULIC CYLINDER		0.00	79.66	79.66	3.50 MIKE W.	11	1	31
065-004-000	10172013	0000692	6250	6252	HYDRAULIC CYLINDER		0.00	20.50	20.50	1.00 OLLIE	01	1	XX
065		TOTAL >	HYDRAULIC SYSTEMS				0.00	100.16	100.16				
071		TITLE >	BODY										
071-000-000	01082013	0000241	0	0	BODY		13.60	30.75	44.35	1.50 OLLIE	01	1	XX

SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

VEHICLE REPAIR HISTORY REPORT

FACILITY: 00004

STARTING VMRS CODE: 000-000-000 DATE: FIRST VEHICLE:: 006
ENDING VMRS CODE: 999-999-999 DATE: LAST VEHICLE: 006

UNIT: 006 LF MTR: 8877.0 CUR MTR: 8877.0 YR: 03 MAKE: STERLING DEPT: DPW SIZE: H CLASS: DUMP FUEL: D

VMRS Code	DATE	WO NUM	LF-UNTS	ODOM	WORK DESCRIPTION	OUT	PARTS	LABOR	TOTAL	HOURS MECHANIC	CC	RC	WA
071		TOTAL >	BODY				13.60	30.75	44.35				
400		TITLE >	ATTACHMENTS, EQUIPME										
400-002-001	01132021	0006678	8880	8877	PLOW: MECHANICAL		0.00	11.84	11.84	0.50 9644	XX	1	31
400-002-001	03132020	0006036	8740	8740	PLOW: MECHANICAL		33.26	18.00	51.26	1.00 HELPER	XX	1	1
400-002-001	01232015	0001767	6800	6800	PLOW: MECHANICAL		0.00	20.50	20.50	1.00 OLLIE	01	1	XX
400-002-001	01302014	0000955	6480	6480	PLOW: MECHANICAL		0.00	19.90	19.90	1.00 SGOBEIL	01	1	XX
400-002-002	01202015	0001772	6800	6800	PLOW: HYDRAULIC		22.29	82.00	104.29	4.00 OLLIE	01	1	XX
400-002-003	01292019	0005058	8330	8333	PLOW: CUTTING EDGE		265.14	45.52	310.66	2.00 MIKE W.	11	4	31
400-002-003	01242018	0004131	8090	8086	PLOW: CUTTING EDGE		265.14	22.31	287.45	1.00 10375	11	1	31
400-002-003	12262013	0000866	6360	6358	PLOW: CUTTING EDGE		207.90	19.90	227.80	1.00 SGOBEIL	01	1	XX
400-002-003	03122013	0000363	6100	6096	PLOW: CUTTING EDGE		3.33	10.25	13.58	0.50 OLLIE	01	1	XX
400-002-003	03082013	0000377	6130	6132	PLOW: CUTTING EDGE		333.33	12.84	346.17	0.60 OLLIE	01	1	XX
400-002-004	11302016	0003164	7570	7572	PLOW: INSTALL PLOW		0.00	76.55	76.55	3.50 9590	XX	1	31
400-002-004	12232013	0000779	6320	6323	PLOW: INSTALL PLOW		0.00	60.60	60.60	3.00 SGOBEIL	01	1	XX
400-003-002	01132021	0006692	8880	8877	WING: CUTTING EDGE		0.00	0.00	0.00	0.00	XX	1	31
400-003-002	01092019	0004996	8310	8313	WING: CUTTING EDGE		240.80	22.76	263.56	1.00 MIKE W.	11	4	31
400-003-002	01032018	0004073	8000	8004	WING: CUTTING EDGE		244.13	43.74	287.87	2.00 AARON	11	1	31
400-003-002	12172015	0002475	7280	7282	WING: CUTTING EDGE		280.76	20.21	300.97	1.00 9590	01	1	XX
400-003-003	03052019	0005155	8390	8389	WING: WING ARM		0.00	22.76	22.76	1.00 MIKE W.	11	1	31
400-003-003	01292014	0000941	6470	6474	WING: WING ARM		778.60	24.88	803.48	1.25 SGOBEIL	01	1	XX
400-003-003	01182013	0000260	0	0	WING: WING ARM		144.80	30.75	175.55	1.50 OLLIE	01	1	XX
400-003-006	02192015	0001881	6800	6800	WING: HEEL CABLE		51.36	102.50	153.86	5.00 BILL	01	1	XX
400-003-007	11302016	0003164	7570	7572	WING: INSTALL WING		0.00	21.87	21.87	1.00 9590	XX	1	31
400-003-007	12232013	0000779	6320	6323	WING: INSTALL WING		0.00	60.60	60.60	3.00 SGOBEIL	01	1	XX
400-009-000	02172016	0002657	7350	7353	CONTROL BOX, JOYST		32.64	44.58	77.22	2.00 STEVE	01	1	XX
400-009-000	01202015	0001772	6800	6800	CONTROL BOX, JOYST		38.31	30.75	69.06	1.50 OLLIE	01	1	XX
400		TOTAL >	ATTACHMENTS, EQUIPME				2941.79	825.61	3767.40				
404		TITLE >	DUMP BODY REPAIR										
404-001-000	06302017	0003738	7960	7956	DUMP BODY: MECHANI		0.00	23.66	23.66	1.00 OLLIE	11	1	31
404-001-000	03112015	0001937	7110	7106	DUMP BODY: MECHANI		0.00	44.58	44.58	2.00 STEVE	01	1	XX
404-003-000	09172019	0005468	8530	8525	DUMP BODY: WELDING		0.00	372.52	372.52	12.00 DALE	11	8	31
404-003-000	04172015	0001955	7140	7137	DUMP BODY: WELDING		174.50	411.68	586.18	8.00 9590	01	1	XX
404		TOTAL >	DUMP BODY REPAIR				174.50	852.44	1026.94				
405		TITLE >	AIR TAILGATE REPAIR										
405-000-000	03062017	0003452	7850	7853	AIR TAILGATE REPAI		73.15	32.81	105.95	1.50 AARON	11	1	31

SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

VEHICLE REPAIR HISTORY REPORT

FACILITY: 00004

STARTING VMRS CODE: 000-000-000 DATE: FIRST VEHICLE:: 006
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UNIT: 006 LF MTR: 8877.0 CUR MTR: 8877.0 YR: 03 MAKE: STERLING DEPT: DPW SIZE: H CLASS: DUMP FUEL: D

VMRS Code	DATE	WO NUM	LF-UNTS	ODOM	WORK DESCRIPTION	OUT	PARTS	LABOR	TOTAL	HOURS MECHANIC	CC	RC	WA
405-005-000	01312020	0005885	8740	8740	GATE RELEASE VALVE		48.03	0.00	48.03	0.00	11	1	31
405		TOTAL >	AIR TAILGATE REPAIR				121.18	32.81	153.99				
407		TITLE >	MAINE STATE INSPECTI										
407-000-000	09222015	0002211	7200	7195	MAINE STATE INSPEC		0.00	0.00	0.00	0.00 OLLIE	01	1	XX
407-000-000	07212014	0001373	6670	6666	MAINE STATE INSPEC		2.50	41.00	43.50	2.00 BILL	01	1	XX
407-000-000	07302013	0000374	6200	6196	MAINE STATE INSPEC		15.64	51.25	66.89	2.50 OLLIE	01	1	XX
407-001-000	07202020	0006252	8790	8788	(MSI) COMMERCIAL T		2.50	9.71	12.21	0.50 9644	11	6	31
407-001-000	09172019	0005459	8530	8525	(MSI) COMMERCIAL T		2.50	22.76	25.26	1.00 AARON	11	1	31
407-001-000	10222018	0004477	8230	8230	(MSI) COMMERCIAL T		2.50	0.00	2.50	0.00 AARON	01	8	31
407-001-000	06132017	0003688	7950	7953	(MSI) COMMERCIAL T		10.40	32.81	43.21	1.50 AARON	11	1	XX
407-001-000	10062016	0003103	7570	7572	(MSI) COMMERCIAL T		2.50	21.87	24.37	1.00 9590	01	1	XX
407-001-000	09222015	0002211	7200	7195	(MSI) COMMERCIAL T		2.50	30.75	33.25	1.50 OLLIE	01	1	XX
407		TOTAL >	MAINE STATE INSPECTI				41.04	210.15	251.19				

SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

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METER: STANDARD **SUBTOTALS OF VMRS CODES FOR DIVISION > AL** **PERIOD: YEAR**

VMRS CODE		QUANTITY	LABOR HRS	LABOR COST	PARTS COST	TOTAL COST	PERCENT	TOT COST /METER
001	A/C, HEAT, VENTILATION	4	5.80	129.62	822.42	952.04	3.03%	0.10725
002	CAB/SHEET METALS	7	26.70	544.37	1207.90	1752.27	5.58%	0.19739
012	AXLES, DIFFERENTIAL, R	2	6.50	146.81	207.40	354.21	1.13%	0.03990
013	BRAKES	24	83.40	1824.12	3500.72	5324.84	16.97%	0.59985
015	STEERING	2	3.50	75.33	223.65	298.98	0.95%	0.03368
016	SUSPENSION	3	22.50	469.33	1854.64	2323.97	7.40%	0.26180
017	TIRES,TUBES,LINERS	6	10.00	211.05	1015.19	1226.24	3.91%	0.13814
018	WHEELS,RIMS,HUBS,BEARI	1	6.00	123.00	341.37	464.37	1.48%	0.05231
024	DRIVE SHAFT(S)	1	3.00	61.50	75.22	136.72	0.44%	0.01540
027	TRANSMISSION AUTOMATIC	6	20.00	425.88	727.44	1153.32	3.67%	0.12992
032	CRANKING SYSTEM	5	8.50	189.29	733.41	922.70	2.94%	0.10394
034	LIGHTING & ELECTRICAL	14	24.35	544.71	799.42	1344.13	4.28%	0.15142
042	COOLING SYSTEM	2	2.60	56.87	299.97	356.84	1.14%	0.04020
043	EXHAUST SYSTEM	6	9.75	205.17	897.19	1102.36	3.51%	0.12418
044	FUEL SYSTEM	3	15.80	327.27	1487.07	1814.34	5.78%	0.20439
045	POWER PLANT/ENGINE	17	59.00	1099.81	3097.41	4197.22	13.37%	0.47282
051	GENERAL ACCESSORIES	10	12.65	253.60	903.49	1157.09	3.69%	0.13035
052	ELECTRICAL ACCESSORIES	4	5.50	115.01	59.25	174.26	0.56%	0.01963
053	EXPENDABLE ITEMS	4	0.00	0.00	934.39	934.39	2.98%	0.10526
054	HORN AND MOUNTING	1	0.50	11.38	0.00	11.38	0.04%	0.00128
057	SPARE WHEEL MOUNTING	1	2.00	41.00	0.00	41.00	0.13%	0.00462
065	HYDRAULIC SYSTEMS	2	4.50	100.16	0.00	100.16	0.32%	0.01128
071	BODY	1	1.50	30.75	13.60	44.35	0.14%	0.00500
400	ATTACHMENTS, EQUIPMENT	24	39.35	825.61	2941.79	3767.40	12.00%	0.42440
404	DUMP BODY REPAIR	4	23.00	852.44	174.50	1026.94	3.27%	0.11569
405	AIR TAILGATE REPAIR	2	1.50	32.81	121.18	153.99	0.49%	0.01735
407	MAINE STATE INSPECTION	9	10.00	210.15	41.04	251.19	0.80%	0.02830
	TOTALS:	165	407.90	8907.04	22479.66	**TOT:** 31386.70	100.00%	3.53573

BUDGET FIGURE

INTERNATIONAL®

March 04, 2021

Prepared For:
CITY OF SOUTH PORTLAND
DOUG HOWARD
25 COTTAGE ROAD
SOUTH PORTLAND, ME 04106-
(207)767 - 3201

Presented By:
ALLEGIANCE TRUCKS
Steven E Gray
110 GRAYRD.
FALMOUTH ME 041052018
207-797-8080

Thank you for the opportunity to provide you with the following quotation on a new International truck. I am sure the following detailed specification will meet your operational requirements, and I look forward to serving your business needs.

Model Profile
2022 HV507 SFA (HV507)

AXLE CONFIG:	4X2
APPLICATION:	Front Plow and Wing with Spreader
MISSION:	Requested GVWR: 36370. Calc. GVWR: 36370 Calc. Start / Grade Ability: 48.98% / 3.72% @ 55 MPH
DIMENSION:	Wheelbase: 181.00, CA: 106.00, Axle to Frame: 63.00
ENGINE, DIESEL:	{Cummins L9 330} EPA 2021, 330HP @ 2200 RPM, 1000 lb-ft Torque @ 1200 RPM, 2200 RPM Governed Speed, 330 Peak HP (Max)
TRANSMISSION, AUTOMATIC:	{Allison 3500 RDS} 5th Generation Controls, Wide Ratio, 6-Speed with Double Overdrive, with PTO Provision, Less Retarder, Includes Oil Level Sensor, with 80,000-lb GVW and GCW Max, On/Off Highway
CLUTCH:	Omit Item (Clutch & Control)
AXLE, FRONT NON-DRIVING:	{Meritor MFS-18-133A} Wide Track, I-Beam Type, 18,000-lb Capacity
AXLE, REAR, SINGLE:	{Meritor RS-26-185} Single Reduction, 26,000-lb Capacity, Driver Controlled Locking Differential, R Wheel Ends Gear Ratio: 6.14
CAB:	Conventional, Day Cab
TIRE, FRONT:	(3) 11R22.5 Load Range G HSR2 (CONTINENTAL), 498 rev/mile, 75 MPH, All-Position
TIRE, REAR:	(4) 11R22.5 Load Range H HDR2+ (CONTINENTAL), 491 rev/mile, 75 MPH, Drive
SUSPENSION, REAR, SINGLE:	31,000-lb Capacity, Vari-Rate Springs, with 4500-lb Capacity Auxiliary Multileaf Springs
PAINT:	Cab schematic 100WK Location 1: 9219, Winter White (Std) Chassis schematic N/A

Description
Base Chassis, Model HV507 SFA with 181.00 Wheelbase, 106.00 CA, and 63.00 Axle to Frame.

AXLE CONFIGURATION {Navistar} 4x2

Notes
: Pricing may change if axle configuration is changed.

FRAME RAILS Heat Treated Alloy Steel (125,000 PSI Yield); 11.25" x 4.00" x 0.500" (285.75mm x 101.6mm x 12.7mm); 480.8" (12212mm) Maximum OAL

BUMPER, FRONT Swept Back, Steel, Heavy Duty

FRAME, SPECIAL EFFECTS Dimple on Left and Right Top Flange of Frame Rail to Reference Rear Axle Centerline

FRAME EXTENSION, FRONT Integral; 20" In Front of Grille

WHEELBASE RANGE 146" (370cm) Through and Including 195" (495cm)

AXLE, FRONT NON-DRIVING {Meritor MFS-18-133A} Wide Track, I-Beam Type, 18,000-lb Capacity

SHOCK ABSORBERS, FRONT

SUSPENSION, FRONT, SPRING Multileaf, Shackle Type, 18,000-lb Capacity, Less Shock Absorbers

BRAKE SYSTEM, AIR Dual System for Straight Truck Applications

Includes
: BRAKE LINES Color and Size Coded Nylon
: DRAIN VALVE Twist-Type
: GAUGE, AIR PRESSURE (2) Air 1 and Air 2 Gauges; Located in Instrument Cluster
: PARKING BRAKE CONTROL Yellow Knob, Located on Instrument Panel
: PARKING BRAKE VALVE For Truck
: QUICK RELEASE VALVE On Rear Axle for Spring Brake Release: 1 for 4x2, 2 for 6x4
: SPRING BRAKE MODULATOR VALVE R-7 for 4x2, SR-7 with relay valve for 6x4/8x6

TRAILER CONNECTIONS Four-Wheel, with Hand Control Valve and Tractor Protection Valve, for Straight Truck

Notes
: When electronic stability control is ordered with trailer connections on a 4x2 truck, please check the operator manual for trailer weight restrictions.

DRAIN VALVE {Berg} with Pull Chain, for Air Tank

AIR BRAKE ABS {Bendix AntiLock Brake System} 4-Channel (4 Sensor/4 Modulator) Full Vehicle Wheel Control System

AIR DRYER {Bendix AD-9} with Heater

BRAKE CHAMBERS, REAR AXLE {Bendix EverSure} 30/30 SqIn Spring Brake

BRAKE CHAMBERS, FRONT AXLE {Bendix} 24 SqIn

SLACK ADJUSTERS, FRONT {Gunite} Automatic

SLACK ADJUSTERS, REAR {Gunite} Automatic

AIR COMPRESSOR {Cummins} 18.7 CFM

AIR DRYER LOCATION Mounted Inside Left Rail, Back of Cab

AIR TANK LOCATION (2) Mounted Under Battery Box, Outside Right Rail, Back of Cab, Perpendicular to Rail

DUST SHIELDS, FRONT BRAKE for Air Cam Brakes

Description

DUST SHIELDS, REAR BRAKE for Air Cam Brakes

BRAKES, REAR {Bendix Spicer ES-165-7H} Air S-Cam Type, Heavy Duty Cast Spider, Cast Shoe, Double Anchor Pin, Size 16.5" X 7", 45,000-lb Capacity per Axle

BRAKES, FRONT {Bendix Spicer ES-165-6X} Air S-Cam Type, Heavy Duty Fabricated Spider, Fabricated Shoe, Single Anchor Pin, Size 16.5" X 6", 23,000-lb Capacity

STEERING COLUMN Tilting

STEERING WHEEL 4-Spoke; 18" Dia., Black

STEERING GEAR (2) {Sheppard M100/M80} Dual Power

DRIVELINE SYSTEM {Dana Spicer} 1710, for 4x2/6x2

AFTERTREATMENT COVER Steel, Black

EXHAUST SYSTEM Horizontal Aftertreatment System, Frame Mounted Right Side Under Cab, for Single Vertical Tail Pipe, Frame Mounted Right Side Back of Cab

ENGINE EXHAUST BRAKE for Cummins ISB/B6.7/ISL/L9 Engine with Variable Vane Turbo Charger

TAIL PIPE (1) Turnback Type

EXHAUST HEIGHT 10'

MUFFLER/TAIL PIPE GUARD (1) Aluminum

ELECTRICAL SYSTEM 12-Volt, Standard Equipment

Includes
: DATA LINK CONNECTOR For Vehicle Programming and Diagnostics In Cab
: HAZARD SWITCH Push On/Push Off, Located on Instrument Panel to Right of Steering Wheel
: HEADLIGHT DIMMER SWITCH Integral with Turn Signal Lever
: PARKING LIGHT Integral with Front Turn Signal and Rear Tail Light
: STARTER SWITCH Electric, Key Operated
: STOP, TURN, TAIL & B/U LIGHTS Dual, Rear, Combination with Reflector
: TURN SIGNAL SWITCH Self-Cancelling for Trucks, Manual Cancelling for Tractors, with Lane Change Feature
: WINDSHIELD WIPER SWITCH 2-Speed with Wash and Intermittent Feature (5 Pre-Set Delays), Integral with Turn Signal Lever
: WINDSHIELD WIPERS Single Motor, Electric, Cowl Mounted
: WIRING, CHASSIS Color Coded and Continuously Numbered

ALTERNATOR {Leece-Neville AVI160P2013} Brush Type, 12 Volt, 160 Amp Capacity, Pad Mount, with Remote Sense

BODY BUILDER WIRING Back of Day Cab at Left Frame or Under Sleeper, Extended or Crew Cab at Left Frame; Includes Sealed Connectors for Tail/Amber Turn/Marker/ Backup/Accessory Power/Ground and Sealed Connector for Stop/Turn

BATTERY SYSTEM {Fleetrite} Maintenance-Free, (3) 12-Volt 2850CCA Total, Top Threaded Stud

2-WAY RADIO Wiring Effects; Wiring with 20 Amp Fuse Protection, Includes Ignition Wire with 5 Amp Fuse, Wire Ends Heat Shrink and Routed to Center of Header Console in Cab

BATTERY DISCONNECT SWITCH {Cole-Hersee 75920-06} 300 Amp, Disconnects Charging Circuits, Locks with Padlock, Battery Box Mounted

SPEAKERS (2) 6.5" Dual Cone Mounted in Both Doors, (2) 5.25" Dual Cone Mounted in Both B-Pillars

RADIO AM/FM/WB/Clock/Bluetooth/USB Input/Auxiliary Input

Description

BACK-UP ALARM Electric, 102 dBA

AUXILIARY HARNESS 3.0' for Auxiliary Front Head Lights and Turn Signals for Front Plow Applications

TRAILER CONNECTION SOCKET {Phillips} 7-Way, Mounted at Rear of Frame, Wired for Turn Signals Combined with Stop, Compatible with Trailers with Combined Stop, Tail, Turn Lamps

SWITCH, AUXILIARY Accessory Control; for Wiring in Roof, with Maximum of 20 amp Load with Switches In Instrument Panel

HORN, ELECTRIC Disc Style

SWITCH, BODY CIRCUITS, MID with Remote Power Module Mounted in Cab Behind Driver Seat, Up to 6 Outputs & 6 Inputs, Max 20 amp per Channel, Max 80 amp Total, Includes 1 Switch Pack with Momentary Switches

BATTERY BOX Steel, with Fiberglass Cover, 2-4 Battery Capacity, Mounted Right Side Perpendicular to Frame Rail, 35" Back of Cab

WINDSHIELD WIPER SPD CONTROL Force Wipers to Slowest Intermittent Speed When Park Brake Set and Wipers Left on for a Predetermined Time

CLEARANCE/MARKER LIGHTS (5) {Truck Lite} Amber LED Lights, Flush Mounted on Cab or Sunshade

TEST EXTERIOR LIGHTS Pre-Trip Inspection will Cycle all Exterior Lamps Except Back-up Lights

HEADLIGHTS ON W/WIPERS Headlights Will Automatically Turn on if Windshield Wipers are turned on

STARTING MOTOR {Delco Remy 38MT Type 300} 12 Volt, Less Thermal Over-Crank Protection

INDICATOR, LOW COOLANT LEVEL with Audible Alarm

CIRCUIT BREAKERS Manual-Reset (Main Panel) SAE Type III with Trip Indicators, Replaces All Fuses

TURN SIGNALS, FRONT Includes LED Side Turn Lights Mounted on Fender

HORN, AIR Single Trumpet, Black, with Lanyard Pull Cord

POWER SOURCE, ADDITIONAL Auxiliary Power Outlet (APO) & USB Port, Located in the Instrument Panel

LOGOS EXTERIOR Model Badges

LOGOS EXTERIOR, ENGINE Badges

HOOD, HATCH (01) for Servicing

INSULATION, UNDER HOOD for Sound Abatement

GRILLE Stationary, Chrome

INSULATION, SPLASH PANELS for Sound Abatement

BUG SCREEN Mounted Behind Grille

FRONT END Tilting, Fiberglass, with Three Piece Construction, for WorkStar/HV

PAINT SCHEMATIC, PT-1 Single Color, Design 100

Includes
: PAINT SCHEMATIC ID LETTERS "WK"

PAINT TYPE Base Coat/Clear Coat, 1-2 Tone

CLUTCH Omit Item (Clutch & Control)

Description
ANTI-FREEZE Red, Extended Life Coolant; To -40 Degrees F/ -40 Degrees C, Freeze Protection

PTO EFFECTS, ENGINE FRONT Less PTO Unit, Includes Adapter Plate on Engine Front Mounted

ENGINE, DIESEL {Cummins L9 330} EPA 2021, 330HP @ 2200 RPM, 1000 lb-ft Torque @ 1200 RPM, 2200 RPM Governed Speed, 330 Peak HP (Max)

FAN DRIVE {Horton Drivemaster} Two-Speed Type, Direct Drive, with Residual Torque Device for Disengaged Fan Speed

Includes
: FAN Nylon

RADIATOR Aluminum, Cross Flow, Front to Back System, 1228 SqIn, with 1167 SqIn Charge Air Cooler, Includes In-Tank Oil Cooler

Includes
: DEAERATION SYSTEM with Surge Tank
: HOSE CLAMPS, RADIATOR HOSES Gates Shrink Band Type; Thermoplastic Coolant Hose Clamps
: RADIATOR HOSES Premium, Rubber

AIR CLEANER Single Element, with Integral Snow Valve and In-Cab Control

FEDERAL EMISSIONS {Cummins L9} EPA, OBD and GHG Certified for Calendar Year 2021

THROTTLE, HAND CONTROL Engine Speed Control; Electronic, Stationary, Variable Speed; Mounted on Steering Wheel

ACCESSORY WIRING, SPECIAL for Road Speed Wire Coiled Under Instrument Panel for Customer Use

ENGINE CONTROL, REMOTE MOUNTED No Provision for Remote Mounted Engine Control

BLOCK HEATER, ENGINE {Phillips} 120V/1000W, with "Y" Cord for Dealer Installed 120V/300W Oil Pan Heater

Includes
: BLOCK HEATER SOCKET Receptacle Type; Mounted below Drivers Door

EMISSION COMPLIANCE Low NOx Idle Engine, Complies with California Clean Air Regulations; Includes "Certified Clean Idle" Decal located on Driver Door

TRANSMISSION, AUTOMATIC {Allison 3500 RDS} 5th Generation Controls, Wide Ratio, 6-Speed with Double Overdrive, with PTO Provision, Less Retarder, Includes Oil Level Sensor, with 80,000-lb GVW and GCW Max, On/Off Highway

SHIFT CONTROL PARAMETERS {Allison} 3000 or 4000 Series Transmissions, 3 Speed S1 Secondary Shift Schedule for 5 or 6 Speed

TRANSMISSION SHIFT CONTROL Column Mounted Stalk Shifter, Not for Use with Allison 1000 & 2000 Series Transmission

TRANSMISSION OIL Synthetic; 29 thru 42 Pints

ALLISON SPARE INPUT/OUTPUT for Rugged Duty Series (RDS) and Regional Haul Series (RHS), General Purpose Trucks, Construction, Package Number 223

NEUTRAL AT STOP OMIT

TRANSMISSION TCM LOCATION Located Inside Cab

PTO LOCATION Customer Intends to Install PTO at Left Side of Transmission

AXLE, REAR, SINGLE {Meritor RS-26-185} Single Reduction, 26,000-lb Capacity, Driver Controlled Locking Differential, R Wheel Ends . Gear Ratio: 6.14

Notes

Description
: Axle Lead Time is 60 Days

SUSPENSION, REAR, SINGLE 31,000-lb Capacity, Vari-Rate Springs, with 4500-lb Capacity Auxiliary Multileaf Springs

AXLE, REAR, LUBE {EmGard FE-75W-90} Synthetic Oil; 40 thru 49.99 Pints

FUEL TANK STRAPS Bright Finish Stainless Steel

FUEL/WATER SEPARATOR {Racor 400 Series} 12 VDC Electric Heater, Includes Pre-Heater, with Primer Pump, Includes Water-in-Fuel Sensor, Mounted on Engine

FUEL TANK Top Draw, Non-Polished Aluminum, D-Style, 19" Tank Depth, 70 US Gal (265L), Mounted Left Side, Under Cab

DEF TANK 7 US Gal (26L) Capacity, Frame Mounted Outside Left Rail, Under Cab

CAB Conventional, Day Cab

AIR CONDITIONER with Integral Heater and Defroster

GAUGE CLUSTER Base Level; English with English Speedometer and Tachometer, for Air Brake Chassis, Includes Engine Coolant Temperature, Primary and Secondary Air Pressure, Fuel and DEF Gauges, Oil Pressure Gauge, Includes 3 Inch Monochromatic Text Display

GAUGE, OIL TEMP, AUTO TRANS for Allison Transmission

GAUGE, AIR CLEANER RESTRICTION {Filter-Minder} with Black Bezel, Mounted in Instrument Panel

IP CLUSTER DISPLAY On Board Diagnostics Display of Fault Codes in Gauge Cluster

SEAT, DRIVER {National 2000} Air Suspension, Hi Back, Cloth Facing/Vinyl Boxing, 1 Inboard Arm Rest, Isolator, Adjuster, 3 Chamber Lumbar, 6 Way Front Adj, 3 Way Rear Cushion Adj, -3 to 14 Degree Back Angle Adjustment, Adjust Side Bolster, Vinyl Suspension Cover, Heat

MIRROR, CONVEX, HOOD MOUNTED {Lang Mekra} (2) Right and Left Sides, Black, Heated, 7.5" Sq.

SEAT, PASSENGER {National} Non Suspension, High Back, Fixed Back, Integral Headrest, Cloth

MIRRORS (2) C-Loop, Heated, Black Heads and Arms, 7.5" x 14" Flat Glass, Includes 7.5" x 7" Convex Mirrors, for 102" Load Width

Notes
: Mirror Dimensions are Rounded to the Nearest 0.5"

MIRROR, CONVEX, LOOK DOWN Right Side, Black, 6" x 10.5"

CAB INTERIOR TRIM Diamond, for Day Cab

Includes
: CONSOLE, OVERHEAD Molded Plastic with Dual Storage Pockets, Retainer Nets and CB Radio Pocket; Located Above Driver and Passenger
: DOME LIGHT, CAB Door Activated and Push On-Off at Light Lens, Timed Theater Dimming, Reading Lights; Integral to Overhead Console, Center Mounted
: SUN VISOR (3) Padded Vinyl; 2 Moveable (Front-to-Side) Primary Visors, Driver Side with Vanity Mirror and Toll Ticket Strap, plus 1 Auxiliary Visor (Front Only), Driver Side

WINDSHIELD Heated, Single Piece

WINDOW, POWER (2) and Power Door Locks, Left and Right Doors, Includes Express Down Feature

CAB REAR SUSPENSION Air Bag Type

Description

INSTRUMENT PANEL Flat Panel

SUNSHADE, EXTERIOR Aerodynamic, Painted Roof Color, with Integral Clearance/Marker Lights

WINDSHIELD WASHER RESERVOIR Mounted Under Cab with Remote Fill Mounted Behind Cab Drivers Side

ACCESS, CAB Steel, Driver & Passenger Sides, Two Steps per Door, for use with Day Cab and Extended Cab

WHEEL, SPARE, DISC {Accuride 29169} 22.5x8.25 Rims, Powder Coat Steel, 5-Hand Hole, 10-Stud, 285.75mm BC, Hub-Piloted, with .472" Thick Increased Capacity Disc

WHEELS, FRONT {Accuride 29169} DISC; 22.5x8.25 Rims, Powder Coat Steel, 5-Hand Hole, 10-Stud, 285.75mm BC, Hub-Piloted, Flanged Nut, with .472" Thick Increased Capacity Disc and Steel Hubs

WHEELS, REAR {Accuride 29169} DUAL DISC; 22.5x8.25 Rims, Powder Coat Steel, 5-Hand Hole, 10-Stud, 285.75mm BC, Hub-Piloted, Flanged Nut, with .472" Thick Increased Capacity Disc and Steel Hubs

TIRE, SPARE Equal to Model Standard

(3) TIRE, FRONT 11R22.5 Load Range G HSR2 (CONTINENTAL), 498 rev/mile, 75 MPH, All-Position

(4) TIRE, REAR 11R22.5 Load Range H HDR2+ (CONTINENTAL), 491 rev/mile, 75 MPH, Drive

Cab schematic 100WK

Location 1: 9219, Winter White (Std)

Chassis schematic N/A

Services Section:

WARRANTY Standard for HV507, HV50B, HV607 Models, Effective with Vehicles Built July 1, 2017 or Later, CTS-2025A

TRIANGLE REFLECTORS & FIRE EXTINGUISHER

SPARE REAR TIRE & WHEEL;

SERVICE MANUAL USB

PARTS MANUAL USB

EXTRA WING SIDE SPRING

MOTOROLA MOBILE RADIO W/ANTENNA

Financial Summary
2022 HV507 SFA (HV507)

(US DOLLAR)

March 04, 2021

Description	Price
Net Sales Price:	$92,080.00

Please feel free to contact me regarding these specifications should your interests or needs change. I am confident you will be pleased with the quality and service of an International vehicle.

OPTION:
1) STAINLESS STEEL OIL PAN $1362.00

Approved by Seller:

Official Title and Date

Authorized Signature

ALLEGIANCE TRUCKS
110 GRAYRD.
FALMOUTH ME 041052018
207-797-8080

This proposal is not binding upon the seller without Seller's Authorized Signature

Accepted by Purchaser:

Firm or Business Name

Authorized Signature and Date

Official Title and Date

The TOPS FET calculation is an estimate for reference purposes only. The seller or retailer is responsible for calculating and reporting/paying appropriate FET to the IRS.

The limited warranties applicable to the vehicles described herein are Navistar, Inc.'s standard printed warranties which are incorporated herein by reference and to which you have been provided a copy and hereby agree to their terms and conditions.

City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Sidewalk Plow**		
Department	Public Works	**Dept. Priority**	5
Division		**Div. Priority**	
CIP Category	Public Works & Transportation		

Purchase/Project Description

The Public Works Department is requesting the purchase of a new 2022 Trackless sidewalk plow. The new sidewalk plow would be replacing a 1999 Trackless MT5.

This piece of equipment is mainly used for sidewalk plowing in the winter, however, it has uses in the spring and summer for sidewalk sweeping, roadside mowing, and landfill cap mowing.

The 1999 Trackless has reached the end of its useful life and is a very unreliable piece of equipment. The impacts of not purchasing this piece of equipment will be high maintenance costs and it will be very unreliable during snow events.

Financial Impact of this Purchase/Project

The annual costs to operate this piece of equipment is approximately $1,500 per year. These costs include four services of approximately $75 per service and fuel. Revenues from auction would be minimal ($1,000) based on the age and condition of the piece of equipment.

Environmental Considerations

The new sidewalk plow would meet the Tier 4 standards for emissions creating less greenhouse gasses. Electric is not an option currently for this piece of equipment.

Funding Source(s)	Year 1		Year 2		Year(s) 3+		TOTALS	
	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.	Dept. Request	Manager Rec.
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 157,000.00	$ 128,500.00					$ 157,000.00	$ 128,500.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances		$ 28,500.00					$ -	$ 28,500.00
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 157,000.00**	**$ 157,000.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 157,000.00**	**$ 157,000.00**
Source of Cost Estimate	HP Fairfield							
Est. Annual Operating Costs	$ 1,500.00		**Projected Useful Life**	8 years	**Additional Documentation?**		Yes	
City Manager Comments								

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SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

VEHICLE REPAIR HISTORY REPORT

FACILITY: 00004

STARTING VMRS CODE: 000-000-000 DATE: FIRST VEHICLE: 040
ENDING VMRS CODE: 999-999-999 DATE: LAST VEHICLE: 040

UNIT: 040 LF MTR: 2623.0 CUR MTR: 2623.0 YR: 99 MAKE: TRACKLESS DEPT: DPW SIZE: M CLASS: SW MACHI FUEL: D

VMRS Code	DATE	WO NUM	LF-UNTS	ODOM	WORK DESCRIPTION	OUT	PARTS	LABOR	TOTAL	HOURS	MECHANIC	CC	RC	WA
002		TITLE >	CAB/SHEET METALS											
002-006-000	11062015	0002293	2200	2195	HOOD LATCH		392.03	30.75	422.78	1.50	OLLIE	01	1	XX
002-008-000	11062015	0002293	2200	2195	CAB		0.00	30.75	30.75	1.50	OLLIE	01	1	XX
002-022-000	11172020	0006568	2620	2623	DOOR LATCH OR SLAM		0.00	5.69	5.69	0.25	MIKE W.	11	10	31
002-062-000	03222013	0000401	1890	1890	WINDSHIELD	OUT	0.00	100.00	100.00	0.00		01	1	XX
002		TOTAL >	CAB/SHEET METALS				392.03	167.19	559.22					
003		TITLE >	INSTRUMENTS,GAUGES											
003-004-000	04212017	0003478	2540	2544	SENDING UNIT FUEL		0.00	32.81	32.81	1.50	9590	11	1	31
003		TOTAL >	INSTRUMENTS,GAUGES				0.00	32.81	32.81					
013		TITLE >	BRAKES											
013-003-000	12112014	0001618	2010	2011	BRAKE JOB (COMPLE		640.47	328.00	968.47	16.00	OLLIE	01	1	XX
013-005-000	03252014	0001068	2000	2001	CK/ADJUST BRAKES		66.10	278.60	344.70	14.00	SGOBEIL	01	1	XX
013-053-000	11172020	0006568	2620	2623	HANDBRAKE ASSEMBLY		0.00	22.76	22.76	1.00	MIKE W.	11	10	31
013-098-000	02262016	0002679	2200	2195	BRAKE LIGHT SWITCH		25.23	18.00	43.23	1.00	HELPER	01	1	XX
013-130-000	03122018	0004187	2550	2546	PARKING BRAKE		12.06	43.74	55.80	2.00	AARON	11	1	31
013-130-000	11062015	0002293	2200	2195	PARKING BRAKE		25.68	20.50	46.18	1.00	OLLIE	01	1	XX
013		TOTAL >	BRAKES				769.54	711.60	1481.14					
015		TITLE >	STEERING											
015-040-000	11292016	0003219	2310	2308	HYDRAULIC STEERING		495.59	87.48	583.07	4.00	9590	01	1	31
015		TOTAL >	STEERING				495.59	87.48	583.07					
017		TITLE >	TIRES,TUBES,LINERS											
017-014-000	02252016	0002455	2200	2195	TIRE REPLACEMENT		240.10	22.29	262.39	1.00	STEVE	01	1	XX
017		TOTAL >	TIRES,TUBES,LINERS				240.10	22.29	262.39					
024		TITLE >	DRIVE SHAFT(S)											
024-003-000	11172020	0006568	2620	2623	DRIVESHAFT COMPLET		115.85	68.28	184.13	3.00	MIKE W.	11	10	31
024-005-000	12112014	0001618	2010	2011	DRIVESHAFT YOKE		506.08	61.50	567.58	3.00	OLLIE	01	1	XX
024		TOTAL >	DRIVE SHAFT(S)				621.93	129.78	751.71					
027		TITLE >	TRANSMISSION AUTOMAT											
027-000-000	11292016	0003219	2310	2308	TRANSMISSION AUTOM		1120.64	437.40	1558.04	20.00	9590	01	1	31
027-150-000	11172020	0006568	2620	2623	SHIFT CABLE		0.00	22.76	22.76	1.00	MIKE W.	11	10	31
027-190-000	01282016	0002545	2200	2195	HYDROSTATIC TRANS.		476.12	133.74	609.86	6.00	STEVE	01	1	XX

SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

VEHICLE REPAIR HISTORY REPORT

FACILITY: 00004

STARTING VMRS CODE: 000-000-000 DATE: FIRST VEHICLE:: 040
ENDING VMRS CODE: 999-999-999 DATE: LAST VEHICLE: 040

UNIT: 040 LF MTR: 2623.0 CUR MTR: 2623.0 YR: 99 MAKE: TRACKLESS DEPT: DPW SIZE: M CLASS: SW MACHI FUEL: D

VMRS Code	DATE	WO NUM	LF-UNTS	ODOM	WORK DESCRIPTION	OUT	PARTS	LABOR	TOTAL	HOURS	MECHANIC	CC	RC	WA
027		TOTAL >	TRANSMISSION AUTOMAT				1596.76	593.90	2190.66					
031		TITLE >	CHARGING SYSTEM											
031-003-000	12122019	0005770	2590	2592	ALTERNATOR		526.54	455.20	981.74	20.00	MIKE W.	11	2	31
031		TOTAL >	CHARGING SYSTEM				526.54	455.20	981.74					
032		TITLE >	CRANKING SYSTEM											
032-002-000	10232015	0002293	2200	2195	BATTERY		79.70	20.50	100.20	1.00	OLLIE	01	1	XX
032-002-000	01232015	0001803	2030	2032	BATTERY		121.79	61.50	183.29	3.00	OLLIE	01	1	XX
032-002-001	10282016	0003114	2310	2308	BATTERY DISCONNECT		188.60	87.48	276.08	4.00	9590	01	1	XX
032-010-000	03252014	0001068	2000	2001	STARTER		0.00	44.58	44.58	2.00		01	1	XX
032-016-000	03232017	0003499	2530	2534	NO START ISSUE		0.00	70.98	70.98	3.00	OLLIE	11	1	31
032		TOTAL >	CRANKING SYSTEM				390.09	285.04	675.13					
033		TITLE >	IGNITION SYSTEM											
033-008-000	10232015	0002293	2200	2195	IGNITION SWITCH		221.91	61.50	283.41	3.00	OLLIE	01	1	XX
033		TOTAL >	IGNITION SYSTEM				221.91	61.50	283.41					
034		TITLE >	LIGHTING & ELECTRICA											
034-001-003	03052019	0005054	2570	2571	HEADLIGHT LEFT AND		23.07	13.05	36.12	0.50	STEVE	11	4	31
034-001-004	03282018	0004303	2550	2546	HEADLIGHT SWITCH		30.37	22.31	52.68	1.00	10375	11	1	1
034-003-003	01232015	0001803	2030	2032	LEFT AND RIGHT BRA		0.00	41.00	41.00	2.00	OLLIE	01	1	XX
034-003-010	11062015	0002293	2200	2195	BRAKE LIGHT SWITCH		38.33	20.50	58.83	1.00	OLLIE	01	1	XX
034-020-000	03122018	0004187	2550	2546	TURN SIGNAL ARM		243.34	87.48	330.82	4.00	AARON	11	1	31
034-025-000	11062015	0002293	2200	2195	MARKER LIGHT(S)		4.32	20.50	24.82	1.00	OLLIE	01	1	XX
034-407-000	11172020	0006568	2620	2623	MULTIPLE LIGHT REP		0.00	26.76	26.76	1.00	MIKE W.	11	10	31
034		TOTAL >	LIGHTING & ELECTRICA				339.43	231.60	571.03					
042		TITLE >	COOLING SYSTEM											
042-013-000	03052019	0005054	2570	2571	HEATER CORE/HOSES		0.00	52.20	52.20	2.00	STEVE	11	4	31
042-047-000	01202017	0003345	2390	2390	COOLANT LEAK		4.00	87.48	91.48	4.00	AARON	11	1	31
042		TOTAL >	COOLING SYSTEM				4.00	139.68	143.68					
044		TITLE >	FUEL SYSTEM											
044-043-000	03252014	0001138	2000	2001	FUEL SOLENOID		312.85	49.75	362.60	2.50	SGOBEIL	01	1	XX
044-100-000	09062019	0005524	2590	2592	FUEL GAUGE/SENDING		178.52	34.14	212.66	1.50	AARON	11	1	31
044		TOTAL >	FUEL SYSTEM				491.37	83.89	575.26					
045		TITLE >	POWER PLANT/ENGINE											
045-000-000	08292019	0005090	2570	2571	POWER PLANT/ENGINE		12366.37	910.40	13276.77	40.00	AARON	11	1	31

SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

VEHICLE REPAIR HISTORY REPORT

FACILITY: 00004

STARTING VMRS CODE: 000-000-000 DATE: FIRST VEHICLE:: 040
ENDING VMRS CODE: 999-999-999 DATE: LAST VEHICLE: 040

UNIT: 040 LF MTR: 2623.0 CUR MTR: 2623.0 YR: 99 MAKE: TRACKLESS DEPT: DPW SIZE: M CLASS: SW MACHI FUEL: D

VMRS Code	DATE	WO NUM	LF-UNTS	ODOM	WORK DESCRIPTION	OUT	PARTS	LABOR	TOTAL	HOURS MECHANIC	CC	RC	WA
045-000-000	01302013	0000332	1890	1890	POWER PLANT/ENGINE		0.00	10.03	10.03	0.45 STEVE	01	1	XX
045-081-005	04212017	0003508	2540	2544	OIL SAMPLE		28.00	10.94	38.94	0.50 9590	11	1	31
045-082-000	12202013	0000728	1910	1906	POWER PLANT/ENGINE		48.87	123.00	171.87	6.00 BILL	01	1	XX
045-082-001	04212017	0003508	2540	2544	MAIN ENGINE		54.25	32.81	87.05	1.50 9590	11	1	31
045-082-001	03312015	0001947	2190	2194	MAIN ENGINE		48.87	123.00	171.87	6.00 OLLIE	01	1	XX
045-125-000	01092020	0005873	2600	2600	THROTTLE PEDAL / C		221.66	116.46	338.12	6.00 9644	11	1	31
045-125-000	11292016	0003219	2310	2308	THROTTLE PEDAL / C		135.28	43.74	179.02	2.00 9590	01	1	31
045-125-000	02102016	0002455	2200	2195	THROTTLE PEDAL / C		0.00	11.15	11.15	0.50 STEVE	01	1	XX
045		TOTAL >	POWER PLANT/ENGINE				12903.30	1381.53	14284.83				
051		TITLE >	GENERAL ACCESSORIES										
051-032-000	11172020	0006568	2620	2623	WASHER RESERVOIR		0.00	11.38	11.38	0.50 MIKE W.	11	10	31
051		TOTAL >	GENERAL ACCESSORIES				0.00	11.38	11.38				
054		TITLE >	HORN AND MOUNTING										
054-001-001	11172020	0006568	2620	2623	HORN: ELECTRIC		21.99	11.38	33.37	0.50 MIKE W.	11	10	31
054		TOTAL >	HORN AND MOUNTING				21.99	11.38	33.37				
056		TITLE >	POWER TAKE OFF										
056-000-000	01182013	0000243	1890	1890	POWER TAKE OFF		522.90	61.50	584.40	3.00 OLLIE	01	1	XX
056-004-000	11172020	0006568	2620	2623	PTO CYLINDER		401.40	45.52	446.92	2.00 MIKE W.	11	10	31
056-004-000	11062015	0002293	2200	2195	PTO CYLINDER		420.21	30.75	450.96	1.50 OLLIE	01	1	XX
056		TOTAL >	POWER TAKE OFF				1344.51	137.77	1482.28				
057		TITLE >	SPARE WHEEL MOUNTING										
057-000-000	01182013	0000264	1890	1890	SPARE WHEEL MOUNTI		0.00	41.00	41.00	2.00 OLLIE	01	10	XX
057		TOTAL >	SPARE WHEEL MOUNTING				0.00	41.00	41.00				
065		TITLE >	HYDRAULIC SYSTEMS										
065-006-000	11172020	0006568	2620	2623	HYD HOSE/FITTINGS		443.14	68.28	511.42	3.00 MIKE W.	11	10	31
065-006-000	01232020	0005908	2600	2600	HYD HOSE/FITTINGS		20.43	38.82	59.25	2.00 9644	11	1	31
065-006-000	01202017	0003367	2390	2390	HYD HOSE/FITTINGS		17.44	21.87	39.31	1.00 9590	11	1	31
065-006-000	12112014	0001618	2010	2011	HYD HOSE/FITTINGS		0.00	10.25	10.25	0.50 OLLIE	01	1	XX
065-020-000	03252014	0001068	2000	2001	HYDRAULIC TANK (RE		243.56	111.45	355.01	5.00 STEVE	01	1	XX
065-030-000	02242015	0001852	2950	2950	BLOWN LINE		31.99	123.00	154.99	6.00 BILL	01	1	XX
065-035-000	03122018	0004187	2550	2546	HYDRAULIC LEAK		5.75	10.94	16.68	0.50 AARON	11	1	31
065		TOTAL >	HYDRAULIC SYSTEMS				762.31	384.61	1146.92				
071		TITLE >	BODY										
071-012-000	11062015	0002293	2200	2195	ROOF BOX 1, BODY		0.00	30.75	30.75	1.50 OLLIE	01	1	XX

SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

VEHICLE REPAIR HISTORY REPORT

FACILITY: 00004

STARTING VMRS CODE: 000-000-000 DATE: FIRST VEHICLE:: 040
ENDING VMRS CODE: 999-999-999 DATE: LAST VEHICLE: 040

UNIT: 040 LF MTR: 2623.0 CUR MTR: 2623.0 YR: 99 MAKE: TRACKLESS DEPT: DPW SIZE: M CLASS: SW MACHI FUEL: D

VMRS Code	DATE	WO NUM	LF-UNTS	ODOM	WORK DESCRIPTION	OUT	PARTS	LABOR	TOTAL	HOURS MECHANIC	CC	RC	WA
071		TOTAL >	BODY				0.00	30.75	30.75				
106		TITLE >	TOW (VEHICLE)										
106-001-000	01232020	0005908	2600	2600	TOW TO GARAGE	OUT	210.00	0.00	210.00	0.00	11	1	31
106-001-000	03202019	0005090	2570	2571	TOW TO GARAGE	OUT	200.00	0.00	200.00	0.00	11	1	31
106		TOTAL >	TOW (VEHICLE)				410.00	0.00	410.00				
325		TITLE >	ROUTINE MAINTENANCE										
325-001-000	10282016	0003114	2310	2308	GREASE ALL POINTS		0.00	10.94	10.94	0.50 9590	01	1	XX
325		TOTAL >	ROUTINE MAINTENANCE				0.00	10.94	10.94				
400		TITLE >	ATTACHMENTS, EQUIPME										
400-004-000	01182013	0000258	1890	1890	SNOWBLOWER		15.53	61.50	77.03	3.00 OLLIE	01	1	XX
400-004-001	12112014	0001618	2010	2011	SNOWBLOWER: DRAG S		0.00	30.75	30.75	1.50 OLLIE	01	1	XX
400-004-001	12202013	0000728	1910	1906	SNOWBLOWER: DRAG S		191.82	61.50	253.32	3.00 BILL	01	1	XX
400-004-004	01162014	0000915	1970	1974	SNOWBLOWER: MECHAN		1659.30	340.32	1999.62	16.00 OLLIE	01	1	XX
400-006-000	11182015	0002451	2200	2195	V-BLADE		110.59	19.59	130.18	1.00 RICH	01	1	XX
400-006-000	12112014	0001618	2010	2011	V-BLADE		250.36	30.75	281.11	1.50 OLLIE	01	1	XX
400-050-000	01202017	0003269	2390	2390	SANDER		0.00	7.68	7.68	0.30 STEVE	01	1	31
400		TOTAL >	ATTACHMENTS, EQUIPME				2227.60	552.09	2779.69				
407		TITLE >	**********										
407-000-000	12112014	0001618	2010	2011	**********		2.50	20.50	23.00	1.00 OLLIE	01	1	XX
407-000-000	12202013	0000728	1910	1906	**********		0.00	41.00	41.00	2.00 BILL	01	1	XX
407-001-000	11122020	0006275	2600	2600	(MSI) COMMERCIAL T		2.50	22.76	25.26	1.00 MIKE W.	11	6	31
407-001-000	09062019	0005222	2590	2592	(MSI) COMMERCIAL T		1321.06	22.76	1343.82	1.00 AARON	11	8	31
407-001-000	03052018	0004176	2550	2546	(MSI) COMMERCIAL T		2.50	21.87	24.37	1.00 AARON	11	1	31
407-001-000	10282016	0003114	2310	2308	(MSI) COMMERCIAL T		6.16	21.87	28.03	1.00 9590	01	1	XX
407-001-000	11042015	0002376	2200	2195	(MSI) COMMERCIAL T		2.50	20.50	23.00	1.00 OLLIE	01	1	XX
407		TOTAL >	**********				1337.22	171.26	1508.48				

SOUTH PORTLAND PUBLIC WORKS VEHICLES AND EQUIPMENT

VEHICLE REPAIR HISTORY REPORT

FACILITY: 00004

STARTING VMRS CODE: 000-000-000
ENDING VMRS CODE: 999-999-999

DATE: FIRST
DATE: LAST

VEHICLE:: 040
VEHICLE: 040

METER: STANDARD **SUBTOTALS OF VMRS CODES FOR DIVISION > AL** **PERIOD: CURRENT**

VMRS CODE		QUANTITY	LABOR HRS	LABOR COST	PARTS COST		TOTAL COST	PERCENT	TOT COST /METER
002	CAB/SHEET METALS	4	3.25	167.19	392.03		559.22	1.81%	1.30354
003	INSTRUMENTS,GAUGES	1	1.50	32.81	0.00		32.81	0.11%	0.07648
013	BRAKES	6	35.00	711.60	769.54		1481.14	4.80%	3.45254
015	STEERING	1	4.00	87.48	495.59		583.07	1.89%	1.35914
017	TIRES,TUBES,LINERS	1	1.00	22.29	240.10		262.39	0.85%	0.61163
024	DRIVE SHAFT(S)	2	6.00	129.78	621.93		751.71	2.44%	1.75224
027	TRANSMISSION AUTOMATIC	3	27.00	593.90	1596.76		2190.66	7.11%	5.10643
031	CHARGING SYSTEM	1	20.00	455.20	526.54		981.74	3.18%	2.28844
032	CRANKING SYSTEM	5	13.00	285.04	390.09		675.13	2.19%	1.57373
033	IGNITION SYSTEM	1	3.00	61.50	221.91		283.41	0.92%	0.66063
034	LIGHTING & ELECTRICAL	7	10.50	231.60	339.43		571.03	1.85%	1.33107
042	COOLING SYSTEM	2	6.00	139.68	4.00		143.68	0.47%	0.33492
044	FUEL SYSTEM	2	4.00	83.89	491.37		575.26	1.87%	1.34093
045	POWER PLANT/ENGINE	9	62.95	1381.53	12903.30		14284.83	46.33%	33.29797
051	GENERAL ACCESSORIES	1	0.50	11.38	0.00		11.38	0.04%	0.02653
054	HORN AND MOUNTING	1	0.50	11.38	21.99		33.37	0.11%	0.07779
056	POWER TAKE OFF	3	6.50	137.77	1344.51		1482.28	4.81%	3.45520
057	SPARE WHEEL MOUNTING	1	2.00	41.00	0.00		41.00	0.13%	0.09557
065	HYDRAULIC SYSTEMS	7	18.00	384.61	762.31		1146.92	3.72%	2.67347
071	BODY	1	1.50	30.75	0.00		30.75	0.10%	0.07168
106	TOW (VEHICLE)	2	0.00	0.00	410.00		410.00	1.33%	0.95571
325	ROUTINE MAINTENANCE	1	0.50	10.94	0.00		10.94	0.04%	0.02550
400	ATTACHMENTS, EQUIPMENT	7	26.30	552.09	2227.60		2779.69	9.02%	6.47946
407	**********	7	8.00	171.26	1337.22		1508.48	4.89%	3.51627
	TOTALS:	76	261.00	5734.67	25096.22	**TOT:**	30830.89	100.00%	71.86688

CENTRAL MAINE
9 Green St/P.O. Box 188
Skowhegan, ME 04976
P: (207) 474-9836
F: (207) 474-6526
Toll Free (800) 356-2813

Sales Quote

IMPORTANT: All invoices are due and payable in U.S. Dollars in Guadalupe County, Texas, or where indicated below. No goods to be returned without our written permission. Goods must be returned transportation charges pre-paid. A handling charge will be made on all returned goods. LATE CHARGE: A late charge of 1.5% of any past due balance of the dealers account as of the last day of the month will be billed as of the 15th day of the following month if payment has not been received by that date.

CUSTOMER NO	828333	**TERRITORY**	391	**PAGE 1** of **1**
ORDER DATE	01/14/2021	**CUSTOMER PO**	79304BAKER	
QUOTE DATE	01/14/2021	**SHIPPED VIA**		
SALES ORDER	5963545 - SQ	**FREIGHT TERMS**	EXW- CUSTOMER FRT ACCOUNT	
		EX2	DIRECT BILL TRANSER AT ORIGIN	
PAYMENT TERMS	Net 30 Days from Invoice Date	**CODE**	002	
DELIVERY INSTRUCTIONS:				
		REQUESTED SHIP DATE	01/14/2021	

SOLD TO:
CITY OF SOUTH PORTLAND-PWD CHP
929 HIGHLAND AVE
SOUTH PORTLAND ME 04106-6869

SHIP TO:
CITY OF SOUTH PORTLAND-PWD CHP
929 HIGHLAND AVE
SOUTH PORTLAND ME 04106-6869

DESCRIPTION/REMARKS

BUDGET QUOTE

TRACKLESS MT7 MUNICIPAL SIDEWALK TRACTOR W/ STANDARD OPTIONS
2 year / 2000 hour warranty on JD engine
1 year / 600 hour warranty on MT7

TRACKLESS 51" RIBBON SNOWBLOWER WITH SIDEWALK CHUTE

TRACKLESS REAR HYD SANDER SINGLE AGITATOR

TRACKLESS FIXED V PLOW COMPLETE

PREPPED & DELIVERED

TRAVIS BAKER
207-399-4501
TravisBaker@HPFairfield.com

ITEM NUMBER	BRANCH	DESCRIPTION	PICK SLIP#/ LOT/SERIAL	QUANTITY SHIPPED	LIST PRICE	DISC%	EXTENDED AMOUNT
SIDEWALKHPF	9335	TRACKLESS MT7 SIDEWALK TRACTOR		1	156,605.95	0	156,605.95

REMARKS

NET DUE	CASH DISC.	IF PAID BY
156,605.95	**0.00**	**02/13/2021**

SUB-TOTAL	**156,605.95**
FREIGHT & HANDLING	**0.00**
SALES TAX	**0.00**
TOTAL(USD)	**156,605.95**
PREPAID AMOUNT	

IMPORTANT: Alamo Group or affiliates (Alamo Group) shall not be liable to any person for any claim for injuries or damages which claim for injuries or damages arises out of or which results from the repair of this product by a person or firm other than Alamo Group. Repair parts are intended for use only on equipment manufactured or sold by Alamo Group.

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City of South Portland
Capital Project Request Form
Fiscal Year 2022 Capital Improvement Plan

Project Title	**Sidewalk and Broadway Pedestrian Safety**		
Department	Public Works	**Dept. Priority**	6
Division		**Div. Priority**	
CIP Category	Public Works & Transportation		

Purchase/Project Description

The Public Works Department is requesting $250,000 to support sidewalk projects and repair throughout the City and help close some of the funding gaps associated with the Broadway Pedestrian Safety project.

Financial Impact of this Purchase/Project

Annual Costs associated with this request would include maintenance of additional RRFBs and pedestrian signals.

Environmental Considerations

Environmental Considerations will be taken into consideration with all new construction or repairs.

Funding Source(s)	**Year 1**		**Year 2**		**Year(s) 3+**		**TOTALS**	
	Dept. Request	**Manager Rec.**	**Dept. Request**	**Manager Rec.**	**Dept. Request**	**Manager Rec.**	**Dept. Request**	**Manager Rec.**
Borrow/Lease Purchase							$ -	$ -
Fund Balance (General Fund)	$ 250,000.00	$210,053.00					$ 210,053.00	$210,053.00
General Fund (GF) Reserves							$ -	$ -
General Obligation Bonds							$ -	$ -
Grants							$ -	$ -
Non-GF Reserves/Surplus							$ -	$ -
Prior Year CIP Balances		$5,259.00					$ 5,259.00	$5,259.00
TIF							$ -	$ -
Trade-In							$ -	$ -
Other (explain above)							$ -	$ -
TOTALS	**$ 250,000.00**	**$ 215,312.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 215,312.00**	**$ 215,312.00**

Source of Cost Estimate	Sebago Technics					
Est. Annual Operating Costs	$ 1,000.00	**Projected Useful Life**	50	**Additional Documentation?**	Yes	
City Manager Comments						

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April 30, 2020
20035

Mr. Doug Howard, Director of Public Works
City of South Portland
929 Highland Avenue
P.O. Box 9422
South Portland, ME 04116-9422

Proposal for Design and Bidding Services
Broadway Corridor Pedestrian Improvements and Broadway and Westbrook Street Multi-Use Path.

Dear Doug:

This letter presents Sebago Technics' Scope of Services and Fee estimate for Engineering and Bidding Services to complete the design of the proposed improvements included in the recently approved municipal bond package for the Broadway Corridor Pedestrian Improvements, the Hill Street Relocation at Broadway, and Westbrook Street Multi-Use Path.

Our Scope of Services includes the following, as outlined in the support materials for the bond package:

- the field survey of improvement locations
- the final design of pedestrian ramps, sidewalks, and intersection pavement marking improvements (50 +/- curb ramps)
- the final design for the reconfiguration of the Broadway at Hill Street intersection
- the final design for a multi-use path along Westbrook Street between Western Avenue and Wescott Road.

Our services will also include the preparation of a single bid package for all of the above, including bid phase support. Construction phase services are not included herein, but could be added when the time comes should you desire.

We have assumed that this work will be constructed in the summer of 2021, which suggests that the design occur during the summer of 2020 so bidding can take place in early 2021 to obtain the best contractor pricing for next year. As such, we anticipate completing the design generally as follows:

Field Survey (required areas)	By June 15, 2020
Draft Plans and Cost Estimate (60% Complete)	By September 1, 2020
City Review	By September 15, 2020
Finalize Plans and Bid Documents for Bidding	By December 1, 2020
Receive Bids	By January 30, 2021
City Council Award Project	In February 2021

Based on our understanding of your current needs, we have prepared the following detailed Scope of Services for this design effort:

Scope of Services

1. Survey Services

Topographic survey will be required at most of the project locations.

1.1. Survey will be required at pedestrian ramps that are being constructed or improved due to current ADA design requirements. Based on the improvements included in the Broadway Corridor Pedestrian Improvements Plan that we prepared last year there will be survey collected at 50 ramp locations along Broadway and the Greenbelt Pathway. Additionally, survey will be collected along Broadway between the intersections of Lombard Street and Lemont Avenue for the design of a proposed sidewalk.

1.2. The area around the intersection of Broadway at Hill Street will be surveyed so that the proposed realignment of the intersection can be designed. This will also include the area around the intersection of Broadway at South Kelsey Street and the segment of Broadway between Hill Street and the entrance to T.A. Napolitano, just south of the intersection of Broadway at Cole Street.

1.3. For the proposed multi-use path, we already have survey on hand for the section of Westbrook Street between Wescott Road and Broadway. Additional survey will be required for the segment of Westbrook Street between Broadway and Western Avenue including the bridge abutment for the I-295 overpass.

1.4. Base plans will be created at a scale of 1”=25’ that will show not only the required topographic information, but also the presence of underground utilities in these areas that may potentially impacted by the proposed construction.

2. Preliminary and Final Design

2.1. The concept plans prepared in support of the bond vote will be further developed to create preliminary engineering drawings (roughly 60% complete) for all three focus areas. In addition to the preparation of these initial plans, we will prepare an updated cost estimate to confirm the scope of construction against the forecasted unit pricing that will prevail in 2021. Also, at this time, we will assess in conjunction with you if there are any merits to splitting the work into multiple construction packages. Our current thinking is that one construction package is the preferable route, but this worth revisiting after we have better handle on the specific quantities involved.

2.2. As part of the design process we will coordinate with utilities that could potentially be affected by the proposed construction at all locations and work out any conflicts that may become evident during these discussions. These discussions will also include the MaineDOT relative to the modifications to I-295 bridge drainage downspouts.

2.3. Once we have agreed on the scope and packaging for this work, we will proceed with the preparation of final design plans and specifications ready for bidding. These documents will be submitted to you at the 90% stage of completion for your final review prior to advertisement.

2.4. We anticipate that the details will be based on the plans prepared to date and other recent City projects supplemented as required.

2.5. We also anticipate preparing technical specifications and contract documents following the EJCDC format used by the City of South Portland for recent roadway projects (e.g. Westbrook Street) and MaineDOT's new 2020 Technical Specifications.

3. Structural Services

3.1. Structural Engineering services will be required to assist us with the modification of the drainage downspouts from the I-295 overpass. In addition, we will seek assistance in the design of the new retaining wall in front of the existing I-295 abutment. This input will be sought from the firm of Hardesty & Hanover in Yarmouth after we have concurrence on the preliminary design plans, i.e. during the final design process.

4. Right-of-Way

4.1. The realignment of Hill Street will likely involve some acquisition of Right-of-Way with the abutter. Should this indeed be necessary, we will prepare appropriate documentation outlining the scope of these rights for action by the City and their attorney.

5. Bid Phase

5.1. Reproduce bid packages and plan sets, and administer the bidding phase of the project.

5.2. Conduct a mandatory Pre-Bid Meeting for the project. We will prepare meeting minutes and issue any bid addendum necessary to address contractor's requests for information.

5.3. Upon receipt of contractor bids, we will review the bids, check references of the contractor and make a recommendation for award to the City. We will attend one (1) City Council Meeting, if required, relating to the award of the contract.

Design Deliverables

As indicated, we will prepare 60% and 90% design plans for review by the City. Based on our conceptual efforts to date we anticipate a package consisting of the following:

Title Sheet	1
General Notes	2
Typical Sections	3-5
Details	6-8
General Plans	9-17
Curb Ramp Layout Plans	18-29
Traffic Signal Plans	30-33
Pavement Marking Plans	34-54
Cross Sections	55-72

Estimated Budget

1.	Topographic Survey	$	32,000
2.	Boundary Surveys	$	8,000
3.	Preliminary and Final Design	$	126,000
4.	Structural Engineering	$	13,500
5.	Right-of-Way Assistance	$	1,500
6.	Bid Phase	$	3,500
Subtotal Fee for Basic Services		**$**	**184,500**
Reimbursable Expenses		$	1,500
Total Basic Services		**$**	**186,000**

We propose to perform the proposed scope of services on a time and materials basis with a not-to-exceed limit as outlined above. Our services will be invoiced monthly at the hourly rates specified in our engineering services contract with the City. Our fee estimate does not include application or permit fees for street openings, newspaper advertising, traffic flagging or police details, if they are required.

We will monitor our progress and budget status on a monthly basis and notify you when our fee charges have reached approximately 75% of our budget and at major milestones. If it appears that our project scope or budget will be exceeded due to unforeseen variables encountered, we will notify you as they become apparent and not proceed without your prior authorization. Additional work, as required and authorized by you, will be estimated separately and will be performed at the rates specified in our current engineering service contract with the City.

Conclusion

We are pleased to have the opportunity to present this scope of services and budget proposal. If the terms of this proposal are acceptable, please sign in the space provided below and return one copy to us for our records.

Please call me if you have any questions or require additional information. We look forward to bringing this project to a successful completion.

Sincerely,

SEBAGO TECHNICS, INC.

Stephen S. Sawyer, Jr., P.E.
Senior Vice President Transportation Services

SSS:jg

Enclosures: Plan of Hill Street Relocation at Broadway
Broadway Corridor Pedestrian Improvements Plan
Westbrook Street MUP

ACCEPTED and AUTHORIZED
(Sebago Technics' Project No. 20035)

By: _____

Representing: _____

Title: _____

Date: _____

BROADWAY CORRIDOR PEDESTRIAN IMPROVEMENTS LOCATION PLAN 3/18/2019

DRAFT

PORTLAND

SCARBOROUGH

CAPE ELIZABETH

INTERSTATE 295

BROADWAY

WESTBROOK ST.

WESCOTT ST.

MAIN ST.

MTA APPROACH

BUS STOP

LINTON ST.

ORLANDO ST.

DAYTONA ST.

KENNETH RD.

JAMESTOWN CT.

PEARY TERRACE

STROUT ST.

LINCOLN ST.

BURNHAM ST.

PLEASANT AVE.

SOUTH PORTLAND GREENBELT PATHWAY

BUTTONWOOD ST.

COLE ST.

ELM ST.

HILL ST.

S. KELSEY ST.

EVANS ST.

HIGHLAND AVE.

WATERMAN DR.

WALNUT ST.

MUSSEY ST.

HARRIET ST.

SAWYER ST.

STANFORD ST.

BREAKWATER DR.

PINE ST.

COTTAGE RD.

OCEAN AVE.

SAWYER ST.

LEGEND

- CROSSWALK AND RAMP IMPROVEMENTS
- RRFB
- SIDEWALK IMPROVEMENTS
- SIGNAL IMPROVEMENTS
- PROJECTS IN PROGRESS BY OTHERS
- SMART CORRIDOR RECOMMENDATION
- SEBAGO RECOMMENDATION
- RECOMMENDATION FROM THIS STUDY

SHEET 1 OF 3

PROJECT NO.	SCALE
11337-02	1" = 30'

CONCEPT IMPROVEMENTS

OF:

BROADWAY AT HILL ST., HOYT ST., AND S KELSEY ST.

SOUTH PORTLAND, MAINE

FOR:

CITY OF SOUTH PORTLAND

SOUTH PORTLAND, MAINE

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

REV:	BY:	DATE:	STATUS:
A	CMT	11-12-18	DRAFT FOR COMMENTS

DESIGNED: CMT
CHECKED: SSS

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

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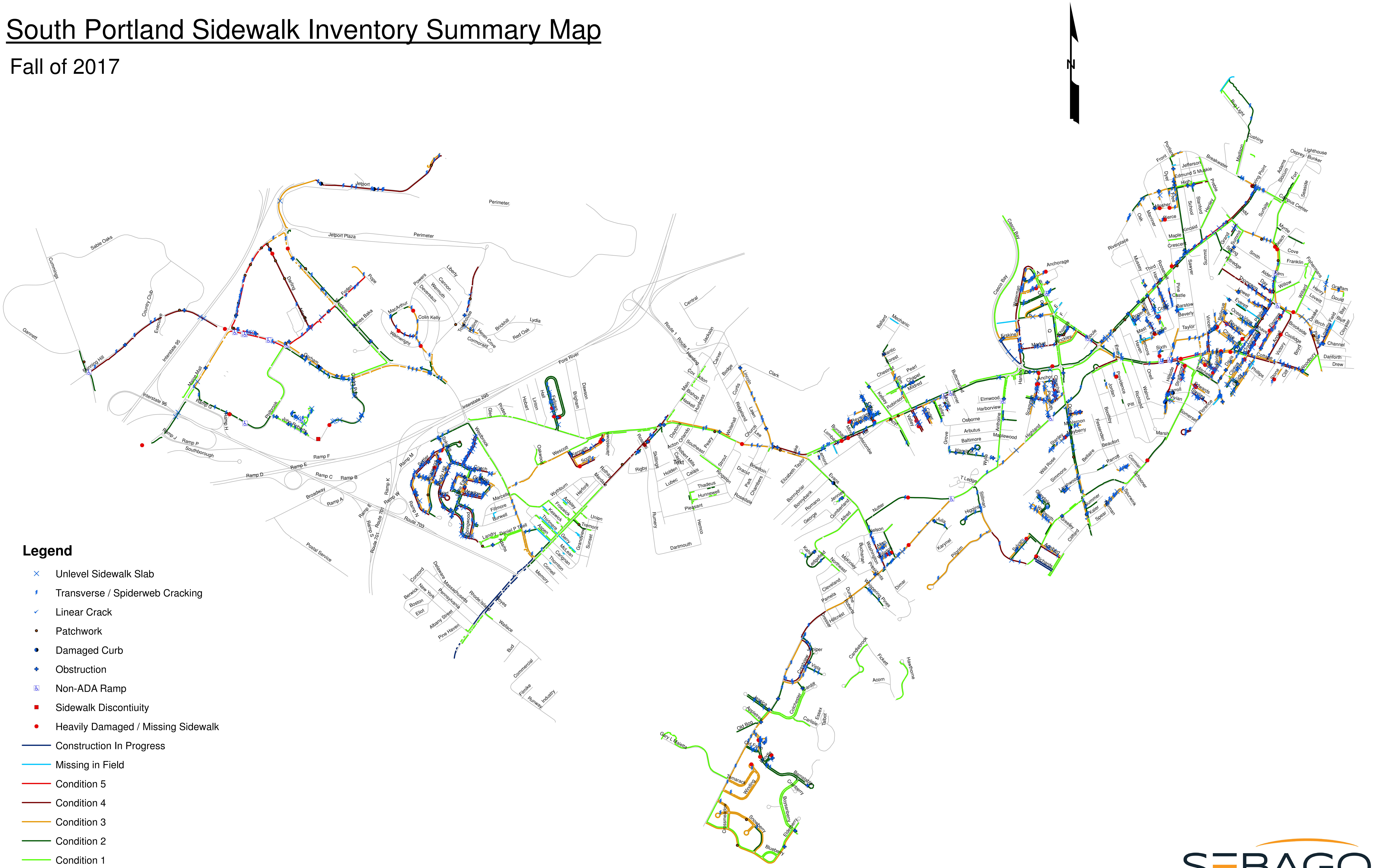
PROGRESS PRINT

...\Traffic\DGN\Concept.dgn

Wesbrook Street MUP
Section 3
Section 2
Section 1
Clark Pond
Legend
Broadway Gardens
Calvary Cemetery
Feature 1
Feature 2
Feature 3
Feature 4
Feature 5
Jiffy Lube
Karen's
Money Management International (MMI)
Pape Chevrolet, Inc.
Rite Aid Pharmacy
School
South Portland Municipal Golf Course
South Portland Public Library: Memorial Branch
South Portland Westbrook Circle-K Irving
Sun Dental Arts
Google Earth
© 2018 Google
N
1000 ft

South Portland Sidewalk Inventory Summary Map

Fall of 2017



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SECTION III

Appendix

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Appendix

A. *The Capital Improvement Budget Process for the City of South Portland*

B. *Capital Improvement Plan Project Evaluation Guidelines*

C. *Other Demographic, Economic, and Governmental Statistical Information*

D. *Fund Balance Policy*

E. *Analysis of Bonded Indebtedness*

F. *Building, Equipment, Vehicle and Technology Inventory of the City*

G. *Glossary*

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The Capital Improvement Budget Process for the City of South Portland

As used in this charter, "capital project" or "project" mean[s] (a) any physical public betterment or improvement and any preliminary studies and surveys relative thereto; (b) the acquisition of property of a permanent nature; (c) the purchase of equipment for any public betterment or improvement when first erected or acquired; (d) the purchase of equipment and vehicles, either the first acquisition or replacement thereof, for use by the various departments of the city.

The City Manager annually presents a seven-year Capital Improvement Plan to the City Council. As part of the Capital Improvement Plan, the City Manager identifies capital projects and proposed new capital projects, the respective appropriations and sources of revenues to fund the projects and the respective amounts, if any, proposed to be raised therefore by the issuance of bonds during the budget year. The City Manager shall also include in the message, or attach thereto, a capital program of proposed capital projects for the six fiscal years next succeeding the first year, together with his comments thereon and any estimates of costs.

The City may incur indebtedness by issuing its negotiable bonds, and notes in anticipation of bonds, pursuant to this charter, to finance any capital project which it may lawfully construct or acquire. The city may issue term notes to provide funds for preliminary studies and surveys, including engineering designs and plans, in respect of any proposed capital project, whether or not construction of such capital project shall be fully authorized at the time, and such notes, and any term notes issued as extensions or renewals thereof, shall be issued pursuant to resolution adopted by the affirmative vote of five members of the council. Any term notes issued pursuant to the preceding sentence may be paid from the proceeds of negotiable bonds, or notes in anticipation of bonds, issued pursuant to this charter or from other funds of, or available to, the city.

The City Council may authorize the issuance of bonds by a "bond ordinance" passed by the affirmative vote of at least four of the members of its council. Each bond ordinance shall be subject to referendum unless the bonds are authorized solely for a capital purpose made necessary as the result of fire, flood or other disaster. Each bond ordinance shall take effect on the 21st day after its first valid publication after final passage, unless it be submitted to referendum, in which event it shall not take effect unless it be approved by the favorable vote of at least a majority of those voting thereon.

Bonds issued after the adoption of this charter shall be made payable in annual, serial and approximately equal installments as pertains to principal, and interest shall be made payable semiannually. Every issue of bonds shall be payable within a fixed term of years which shall in no case exceed 30 years.

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Capital Improvement Plan Project Evaluation Guidelines

The following guidelines determine what a CIP project is:

Relatively high monetary value (at least $10,000)
Long life (at least five years)
Results in creation of a fixed asset, or the revitalization of a fixed asset

Included within the above definition of a Capital project are the following items:

- Construction of new City facilities
- Remodeling or expansion of existing facilities
- Purchase, improvement and development of land
- Operating equipment and machinery for new or expanded facilities
- Planning and engineering costs related to specific capital improvements
- Vehicles and other large equipment
- Street construction, reconstruction, resurfacing or renovation

Department Heads prepared and submitted capital improvement requests along with detailed project descriptions for first year projects, asset inventory and replacement schedules, supporting studies and strategic planning documents, and seven-year CIP requests.

The Capital Improvement program is based on an extensive prioritization process. Projects are prioritized based on City critical objectives and strategies, the Comprehensive Plan, Project PLAN, special studies and reports, City Council and department priorities, and anticipated funding sources. Projects are then evaluated on the following project prioritization matrix as recommended by the International City Management Association.

1. **Capital Costs –** These represent the annual total costs, including future year capital costs. Also to be considered is whether the proposed project will reduce future capital costs, for example, a rehabilitation project that averts a more expensive, subsequent replacement, and the extent of such savings.

    a) Lower future capital costs
    b) High future capital costs
    c) No impact

2. **Annual Costs -** The expected change in operation and maintenance costs. Operating departments provide year-by-year estimates of the additional costs or reductions likely in the operating budget because of the new project. Also to be considered is changes in revenues, which may be affected by a project, for example, the loss of property taxes incurred when private land is used for a capital project.

    a) Lower operating costs
    b) Higher source of revenues

c) Increases in productivity or opportunity
d) Higher operating costs
e) Lower source of revenues
f) No impact

3. **Health and Safety Effects –** This criterion includes health-related environmental impacts like reductions/increases in traffic accidents, injuries, deaths, sickness due to poor water quality, health hazards due to sewer problems, etc.

    a) Increase public health
    b) Increase public safety
    c) No impact

4. **Community and Citizen Benefits** – Economic impacts such as property values, the future tax base, added jobs, income to citizens, changes in business income, and the stabilization (or revitalization) of neighborhoods. Such impacts may apply more to capital projects related to growth and expansion than to infrastructure maintenance though deteriorating structures can adversely affect business.

    a) Add to tax base
    b) Promote economic development
    c) Create employment
    d) Stabilize or revitalize neighborhood(s)

5. **Environmental, Aesthetic, and Social Effects** - A catch-all criterion for other significant quality-of-life related impacts, this includes community appearance, noise, air and water pollution effects, households displaced, damage to home, effect on commuters, changes in recreational opportunities, etc.

    a) Improve environmental protection effort (clean air, land and water)
    b) Improve quality of life for residents (i.e. noise, light pollution)
    c) Improves community appearance
    d) Improves recreational/cultural opportunities

6. **Distributional Effects** - Estimates of the number and type of persons likely to be affected by the project and nature of the impact – for instance, explicit examination of project impact on various geographical areas; on low-moderate income areas; and on specific target groups. Equity issues are central here – who pays, who benefits.

    a) Significant regional benefit
    b) City wide improvement
    c) Benefits large portion of City
    d) Benefits one neighborhood
    e) Assists in elimination of slum and blight
    f) No impact

7. **Public Perception of Need** - This criterion refers to project assessment of (a) the extent of public support; (b) interest group advocacy and/or opposition.

    a) Identified in Comprehensive Plan, Project PLAN or other study
    b) Specific request of the City Council
    c) Project requested by South Portland neighborhood organization or other group
    d) Knowledge of public perception of need unknown
    e) Public opposition

8. **Feasibility of Implementation –** This element is a measure of (a) special implementation problems (e.g., physical or engineering restraints) and (b) compatibility with the general direction of the City.

    a) Feasibility of implementation is manageable
    b) Feasibility of implementation presents special implementation challenges
    c) Project is dependent on the actions of another agency or organization

9. **Implication of Deferring the Project** - Deferring capital projects is tempting for hard-pressed governments, but an estimate of the possible effects, such as higher future costs and inconvenience to the public, provides valuable guidance in proposal assessment

    a) Deferral of the capital project will significantly increase the cost of the project
    b) Deferral of the capital project will significantly increase the inconvenience to the public of not completing the project
    c) Deferral of the capital project will increase operating costs
    d) Deferral of the capital project will prevent operating cost savings or productivity improvements.

10. **Certainty of Information Supplied** – Amount of uncertainty and risk – For each proposal, each of the above criteria will have associated with it some degree of uncertainty as to cost estimates, effect on service quality, or impact of new procedures. When substantial uncertainties exist regarding any of the evaluation criteria for any proposal, the City should consider estimating, at least in broad terms, the amount of uncertainty – probability of occurrence – and the magnitude of the likely negative consequences. Few cities generate such information, but even "educated guesses" are useful here.

    a) Certainty of the cost estimate is high based on recent bid document or publicly advertised price
    b) Certainty of the cost estimate is high based on engineering estimate
    c) Certainty of the cost estimate is moderately high based on best professional judgement

11. **Effect on Interjurisdictional Relationships –** Possible beneficial/adverse effects on relationships with other jurisdictions or quasi-governmental agencies in the area

constitute this criterion. Such effects, e.g., waste disposal via landfills in other jurisdictions, are likely to require special regional coordination and could impair the proposal's attractiveness.

a) Interjurisdictional benefit will be achieved
b) Interjurisdictional project that has the support of another community or agency
c) Interjurisdictional project that will need to obtain approval from another community or agency

12. **City Critical Objective** – If a capital project directly addresses a City critical objective, the relative attractiveness of that project increases.

a) Identified in comprehensive Plan, Project PLAN or other study
b) Specific request of the City Council
c) Consistent with vision statement "to become the premier service provider in northern New England"
d) Consistent with annual work plan described in operating budget
e) Important; but not critical

13. **Nature of the Investment –** Does the capital improvement request replace or maintain an existing asset or provide for a new capital asset?

a) Maintenance of an existing asset
b) Replacement of an existing asset
c) Expansion of an existing asset
d) New capital asset

14. **Significant Investment in Previous Years.** Has the City made a significant investment in this programmatic area within the last five years?

a) Significant investment made by the City in the last five years
b) Significant investment made by the City to meet legal obligation
c) Moderate investment
d) No investment

After all proposed projects are prioritized using these fourteen criteria, the list will be reviewed from two more viewpoints: 1) does the list stand an "intuitive check"? Do projects fall in the priority order that was "anticipated"?, and (2) are there any linkages between projects? Are any projects related to each other geographically, or otherwise, such that having them accomplished concurrently would be advantageous? What about sequencing or timing? Are any projects dependent on the completion of other projects? Adjustments to the priority list may be necessary dependent on this final review.

CITY OF SOUTH PORTLAND, MAINE

CITY OF SOUTH PORTLAND, MAINE

General

The City of South Portland is located on the southern coast of the State of Maine in the southeastern section of the County of Cumberland, the State's most populous county. The land area of the City consists of residential, local business, industrial and coastal land areas with a total area embracing 12.93 square miles, supporting a population of 25,608 residents. A city charter was granted on March 22, 1898 and adopted on December 5, 1898 as the City of South Portland. South Portland is the fourth largest city in Maine and the second largest in its region. Once principally a residential community, the City now enjoys a diversified commercial, industrial and advanced technology aspect to its economy. The City comprises several villages, all being contiguous to another, the major neighborhoods being: Cash Corner, Country Gardens, Ferry Village, Knightville/Millcreek, Ligonia, Loveitt's Field, Meadowbrook, Meetinghouse Hill, Ocean Street, Pleasantdale, Redbank, Stanwood Park, Sunset Park, Thornton Heights and Willard.

The Fore River separates South Portland from the City of Portland for a major portion of its northern border. The remaining portion of the City's northern border is formed by the land portion of the Portland/South Portland line and a portion of the City of Westbrook. South Portland is bordered by the towns of Scarborough at its southwest and Cape Elizabeth at its southeast. The Atlantic Ocean forms South Portland's eastern border as Portland Harbor and Casco Bay. Convenient access to South Portland is provided by Exits 44 and 45 of U.S. Interstate Route 95 (the Maine Turnpike), which diagonally intersects the City's northwestern plain; the U.S. Interstate Route 295 spur, which bisects the City through its western region; U.S. Route 1, which flows through the center of South Portland; State Route 9, which enters the southern section of the City as part of U.S. Route 1 and then departs to the City's northwest; and State Route 77, which intersects the City's eastern plain in a north-south direction, to cross on the Casco Bay Bridge, connecting South Portland and Portland.

The area of which the City is comprised was originally the northern part of the Town of Cape Elizabeth. This area was first settled with a trading station being established in 1627 on Richmond Island. A grant of land on the mainland near the Spurwink River was conveyed in 1631 and in 1632 development of the Spurwink settlements began. The Colonial and native population conflicts forced

abandonment of the area for several lengthy periods from 1675 to 1713. Old Falmouth was incorporated in 1718, forming the area now encompassing the Cities of Portland, South Portland and Westbrook and the Towns of Cape Elizabeth and Falmouth. Due to the inconvenience of crossing the Fore River, Cape Elizabeth (then including the City) became established as the Second Parish of Falmouth in 1733, and on November 1, 1765 separated from Falmouth, being incorporated as the Town of Cape Elizabeth. On March 15, 1895 South Portland divided and set off the northern portion of Cape Elizabeth to become a town.

The City's port area serves as major distribution facility for foreign oil shipments for transmission to Canada as well as refined products for domestic consumption. The Maine Mall in South Portland forms the hub of the largest shopping district in the State. The City is the location for Willard Beach, Bug Light, Spring Point Light, the Southern Maine Community College campus and numerous marinas. Fairchild Semiconductor and Texas Instruments manufacture sophisticated electronic circuits used in personal computers, laptops computers, cellular phones and other devices.

Government

The City operates under a charter initially adopted December 5, 1898, as amended, most recently in November 2009 (the "Charter") providing for a Council-Manager form of government with a seven-member City Council. The Council is composed of seven members, one elected from each of the City's five voting districts, and two members who are elected at-large. The Council members are elected for three-year staggered terms. The Charter grants to the City Council all powers to enact, amend, or repeal rules, ordinances and resolutions relating to the City's property, affairs and government, to preserve the public peace, health and safety, to establish personnel policies and giving effect to any vote of the City and to authorize the issuance of debt subject to referendum approval by the voters of the City. Through its Charter, the Council adopts an annual budget and provides for an annual audit.

The City Manager is the chief executive officer and the head of the administrative branch of the City government.

Municipal Services

The City provides general governmental services for the territory within its boundaries, including police and fire protection, maintenance of highways, streets and sidewalks, parks, recreation, library and coastal areas, sewer service and wastewater treatment. The City also operates a public bus service. Public education is provided under the City's supervision for grades Kindergarten ("K") through 12.

Water service is provided by the Portland Water District, a quasi-municipal entity whose operations and direct obligations are not part of the City.

Planning and Development

The Department of Planning and Development plans for the growth and re-development of the City. Its mission is:

- to maintain the quality of life of a flourishing community in which each resident is reasonably able to achieve his or her highest potential

- to facilitate increased economic activity

- to protect the tax base of the City—upon which depend needed municipal services—by promoting standards attractive to investment

- to protect the natural environment and promote excellence in the design of the built environment

- to provide City decision-makers with quality information and analysis of alternatives

- to promote effective public participation.

Some of the activities of planning staff include:

- Implementing the 2012 Comprehensive Plan Update
- Assisting with implementing the Climate Action Plan
- Fostering economic development
- Writing land use protection ordinances
- Grant writing and community development
- Providing staff services to the Planning Board
- Preparing community-wide plans like the Comprehensive Plan
- Area planning, such as the Mill Creek Master Plan.
- Transportation network and facilities planning
- Review of applications for development projects.

The Department of Planning and Development also includes Engineering Inspection and Code Enforcement. The Engineering section of Planning and Development includes staff and contracted services, providing inspection and limited design and services for the City and its departments. Inspection projects include:

- New developments
- Street openings
- Renovations
- Sewer construction and reconstruction
- Drainage reviews
- Monitoring and enforcing erosion and sediment control activities

The Code Enforcement section of Planning and Development handles zoning, building, plumbing, electrical and street opening permits. The office provides information and services related to:

- Building codes

- Setback requirements
- Permit requirements
- Home occupations
- Accessory Dwelling Units
- Permitted and Special Exception uses
- Zoning districts
- Zoning, wetlands, and shoreland zoning maps
- Variances and other appeals
- Assessor's parcel maps
- Grandfathered buildable lots of record
- City Excavator Licensing requirements
- Property records

The Code Enforcement Office also has information provided by other agencies regarding:

- Radon, Asbestos, and Lead hazards
- Tenant rights
- Adaptive equipment loan programs
- Making homes wheelchair accessible
- Flood Insurance Rate Maps (FIRM)
- Dig Safe

Permits

Most construction projects or installations must have a permit before being started. Before you begin any type of construction project, please call the Code Enforcement Office at 207-767-7603 for information on requirements. Permits are issued from this office for:

- New construction, including buildings, additions, porches, decks, sheds, garages, swimming pools, signs, and more.
- Demolitions
- Changes to existing exterior or interior walls, roofs, window or door openings of buildings, including sign panel changes.
- Temporary structures such as storage and office trailers, and temporary signs and banners.
- Electrical- any service or meter changes and any new wiring, including sign wiring- requires application by a Maine Licensed Master Electrician (even for a single family home)
- Plumbing- any new or relocated fixtures, but not for replacement of old fixtures in the same location. Single family homeowners may take out their own permit. Any other plumbing job requires application by a Maine Licensed Master Plumber
- Heating- any new or replacement heating systems, including furnaces, boilers, woodstoves, pellet stoves, gas heating stoves, and gas heaters of any kind. Gas-fired and oil-burning equipment installations require application by a Maine Licensed Oil Burnerman or Maine Licensed Propane/Natural Gas Technician.
- Fuel tank installations

- Sewer installation or connection/reconnection
- Septic tank installation or replacement
- Sewer impact fees
- Sprinkler systems or other fire or burglar protection systems
- HVAC or installed air conditioning systems (not window units)
- Large tents for special events (proof of treatment for fire retardancy required)

Fences

Fences do not require permits and may be up to six feet in height, placed right against your property line, facing in either direction. Your fence must be behind or against the front property line, not in front of it on what is actually City property between the pavement of the street and the actual front property line.

Building Activity

The following shows the trend of the City's building activity.

FY End June 30,	New Construction	Alterations	Total
2000	$17,323,039	$15,056,958	$32,379,977
2001	$23,784,876	$19,976,480	$43,752,356
2002	$10,355,145	$19,416,341	$29,771,486
2003	$48,031,348	$15,035,127	$63,066,475
2004	$22,844,810	$19,821,229	$42,666,039
2005	$21,573,491	$29,977,433	$51,550,924
2006	$19,970,163	$26,685,576	$46,655,739
2007	$30,875,553	$11,974,855	$42,850,408
2008	$10,759,460	$22,129,167	$32,889,427
2009	$7,360,574	$8,554,657	$15,915,231
2010	$7,010,044	$9,407,736	$16,417,780
2011	$6,999,202	$13,068,484	$20,067,686
2012	$3,142,022	$52,431,167	$55,573,189
2013	$12,080,787	$19,830,611	$31,911,398
2014	$15,327,221	$13,712,132	$29,039,353
2015	$26,542,177	$27,237,849	$53,780,026
2016	$36,916,595	$20,135,032	$57,051,627
2017	$27,761,099	$30,696,715	$58,457,814
2018	$8,219,754	$27,359,065	$35,578,819
2019	$5,743,225	$74,173,049	$79,916,274

Source: City of South Portland

South Portland Fire Department

The South Portland Fire Department provides emergency response services to the community utilizing full-time and part-time on-call firefighter /paramedics. The delivery of Emergency Medical Services is the largest part of our business. We staff two ambulances at the paramedic level as well as three full-time fire trucks staffed with EMS personnel 24 hours a day. The Department serves as a State of Maine sponsored WMD / hazardous materials response team. Administrative offices for Fire, Emergency Medical Services and Emergency Management are located at the South Portland Public Safety building located at 20 Anthoine Street.

The Department currently operates out of three fully staffed stations, Central Station located at 684 Broadway, Cash Corner at 360 Main Street, and Western Ave Station located at 34 James Baka Drive. The three call companies operate out of Willard Square, Cash Corner and Union Street.

The South Portland Fire Department on a daily basis takes an active role in our community to educate the public and prevent emergencies. Prevention is often difficult to measure; however we have seen a remarkable decrease in major fires over the past twenty years. We have moved to automate our inspection program and visit every commercial occupancy and three unit apartment building annually. The Deputy Fire Chief in charge of fire prevention also reviews and approves all new construction plans in the city and makes recommendations on all aspects of the development process.

We focus on several areas in an attempt to prevent injuries and accidents in our community. The first is training of our employees, to be prepared to handle all types of emergencies. The second is through public education within the community. We participate in a regional juvenile fire setter program. Every October as part of fire prevention week the department hosts an open house and safety day at our Central Fire Station.

The South Portland Fire Department has evolved into an Emergency Response Team ready to handle any hazard. Our department has some of the best trained firefighters and paramedics in the state. The outstanding support provided by our community and the dedication of our staff have allowed the South Portland Fire Department to be ranked by ISO (Insurance Services Office) as one of the top departments in New England.

South Portland Police Department

Mission Statement

The mission of the South Portland Police Department is to work cooperatively with and within the community to protect life and property, preserve peace, enforce laws and maintain civil rights through proper and responsive community based service.

School Resource Officer:

A School Resource Officer is a sworn law enforcement officer assigned to a school on a long-term basis. The SRO is specifically trained in and performs three main functions: law enforcement officer, law related counselor and law related educator. The SRO program is a community policing approach in a school environment. The SRO's also participate in school activities and extracurricular events, serve as a classroom resource to teachers in the area of their expertise, are members of the school community and are facilitators of safe and secure school settings.

The South Portland Police Department has two SROs; one is solely dedicated to the South Portland High School and the other splits his time between Mahoney and Memorial Middle Schools.

Triad:

The South Portland Police Department has partnered with the senior members of the community to form the South Portland/Cape Elizabeth TRIAD, an organized program to reduce the criminal victimization of senior citizens. The South Portland/Cape Elizabeth TRIAD meets the first Wednesday of every month (Alternating in South Portland and Cape Elizabeth locations). A Senior Advisory Council also referred to as S.A.L.T. Council (seniors and Law Enforcement Together) act as an advisory group for the police department on crime and security issues involving the elderly. Activities of the S.A.L.T. Council include:

- Educating senior citizens on crime prevention and other social issues that impact senior citizens
- Assist senior citizens with getting resources so they can continue to live independently in their own homes

Citizen Oriented Policing School:

The South Portland Police Department offers an 8-week program that is intended to be an overview of the functions and operations of law enforcement. Citizens from South Portland and surrounding communities are welcome to attend the 8-week, 2 hour, sessions to learn about the following topics:

• The Role of the Police Officer • The Hiring Process • Police Ethics • Juvenile Justice • Community Policing • Dealing with the Mentally Ill • Domestic Violence • Diverse Ethnic Groups • Patrol Procedures • Criminal Investigations • Use of Force

Additionally, participants also have the opportunity to "ride along" with an officer on patrol and participate in scenario-based training. Interested individuals must be 18 years of age and agree to submit to a background check prior to acceptance.

Smokeless Saturday:

The Smokeless Saturday Program is an innovative program designed to provide an educational alternative to the Criminal Justice System for first-time teen offenders of Public Law 470. The Smokeless Saturday Program is the community working together to offer youth an opportunity to rethink their decision to smoke The program is a coordinated effort of the South Portland Police, the Court System, and the Office of the District Attorney.

If a person under the age of eighteen is found in possession of a tobacco product he/she will be issued a summons to go to court. A letter addressed to the parents of this juvenile will be sent to their home informing them of the summons and of the Smokeless Saturday Program. Parents then may sign up their child for the program, which is held one Saturday per month at the South Portland Police Department. Upon completion of Smokeless Saturday, all participants receive a certificate of attendance. They are also required to complete an evaluation form to help us in assessing the curriculum. Those youth who receive their summons in South Portland, and successfully complete the program, have their summonses dismissed and there is no further court action on that offense. **This program is for first time offenders only; and is a one-time opportunity. Any subsequent summons requires court attendance.** Offenders who have been caught at South Portland schools find their suspension time from school reduced because of their attendance at Smokeless Saturday.

This five-hour class is comprehensive in nature. The program focuses on providing educational material regarding the consequences of tobacco use. Attendees participate in activities that help them understand why they smoke, what their "trigger" situations are and how to avoid them. Participants develop an understanding of what role the media, peer pressure and family tobacco use have in their smoking. Students develop refusal and cessation awareness skills. Finally, goal setting is discussed and emphasized as a way to work toward kicking the habit.

Smokeless Saturday is co-facilitated by Officer Linda Barker and retired Memorial Middle School Health teacher, Madeline Akeley. Linda and Maddie brought the Smokeless Saturday Program to South Portland, and the State of Maine, in 1997. They both have extensive education and training in tobacco cessation specifically and in Addiction Counseling. Additionally, the program relies on volunteers from the health care profession to provide their perspective on the dangers of tobacco use. The Smokeless Saturday Program is not exclusively for those who have been issued summonses. It accepts teens that are referred from other agencies, self or parental referral, along with those referred by community-based organizations such as Opportunity Farm.

Through the efforts of the Smokeless Saturday Program we hope to accomplish several goals. Primarily we want to educate teens about the dangers of tobacco use. In addition, through consistent and strict enforcement of tobacco laws, our goal is to reduce peer pressure on younger children to smoke by older teens, and to reduce teen smoking in local known hangouts. Additionally, strengthened relationships between the police, schools and other community groups will result in consistent, clear messages being delivered to our youth about smoking. Smoking is unhealthy and illegal. Think about it!

To register your child for the Smokeless Saturday or time find out when the next session will be held please call: Officer Linda Barker at 799-5511 x7424. Registration fee: $30.00.

Community Partnership for Protecting Children (CPPC):

Community Partnerships for Protecting Children (CPPC) is a partnership of parents, neighborhoods, schools, churches, social service providers, children welfare services, law enforcement, neighborhood associations, and businesses working together to support and strengthen families and communities. CPPC is a method of interaction with families that is dependent on parent leadership, agency collaboration, neighborhood presence and adherence to four key elements of best practice, including shared decision making.

The neighborhoods surrounding Brickhill and Redbank were identified early on as a possible site for CPPC. In addition, Youth Alternatives Ingraham was interested in becoming more active with its neighbors. At the same time, there was interest within the City of South Portland to address some of the ongoing needs of the neighborhood including juvenile behavior and school truancy. In November 2008, the City of South Portland organized a neighborhood meeting and a list of issues was discussed, including juvenile behavior, drugs, and the need for greater police presence. In addition, the City formally committed itself to establishing the "Hub" in the Redbank/Brickhill community and secured a location along Westbrook Street to be shared by South Portland Police, DHHS staff and other CPPC partners.

The South Portland Police Department is key partner of CPPC. Their unique role is based on the fact that law enforcement personnel are present in the neighborhood on a regular basis and are often times the first to respond in cases of domestic violence and child abuse. Collaboration and communication between law enforcement and other CPPC partners is essential. On many occasions, responding officers recognize that the family needs help that police are not equipped to provide. Reaching out to the CPPC partners will provide the resources families need and assist law enforcement in effectively addressing the situation.

Parks, Recreation and Waterfront

The mission of the South Portland Parks, Recreation, & Waterfront Department is to provide, maintain and develop recreational facilities, open space and leisure opportunities which will enhance the well being of the citizens of the community. Critical to the success of this mission is our commitment to teamwork that drives excellence at every level of our operation. Our community has a longstanding tradition of supporting thriving programs, diverse green spaces, and publicly accessible trails for all ages to live an active healthy lifestyle. The Department of Parks & Recreation facilitates this tradition through providing the programs citizen's desire in locations that are second to none in Maine. Any person who rides the Greenbelt on a spring morning, attends a soccer outing at Wainwright Recreation Complex on a fall day, relaxes on a bench in the Mill Creek Park watching children skating on the pond, or plays a leisurely round of golf at our municipal course during a lazy summer evening can tell you that our parks system offers something for everyone. Housed in the South Portland Community Centers on Nelson Road and Redbank participants find a wide variety of activities for all ages year round ranging from water aerobics to the arts on a daily basis.

Public Parks Division

The Parks Division is responsible for maintenance for all City parks, the Municipal Golf Course, City athletic complexes, public school athletic fields, Willard Beach and a variety of other public facilities. During the winter, staff prepares the skating areas as well as cross country ski trails at the Golf Course, Mill Creek Park and Wainwright Recreation Complex, maintains access to the Greenbelt, and assists the Public Works Department in snow operations. Parks Division horticulturist, arborists, and landscaping staff grow many plants including all the annual flowers for the beds throughout the City. The City is also a Tree City USA community so our parks team performs the pruning, planting and removal of City-owned trees. Several annual events to include Art in the Park, Holiday Tree Lighting Festival, Summer Concerts, and Arbor Day festivities.

Recreation Division

Living an active and healthy lifestyle is accessible to everyone through our Greenbelt Tail, Municipal Pool, and variety of programming throughout the City. We offer active recreational opportunities through youth, adult, and senior programming such as pickle ball, soccer, basketball, water aerobics and arts classes at both the South Portland Community Center and Redbank Community Center. You can find our programs listed through the City website where it is also convenient to register on line for programs or classes. We also post many items on our Facebook page so that you can keep up with the latest information. A full listing of all our programs, events, and classes is also published three times a year in our brochure. Our programs are a great way to meet people in the community or to become a volunteer.

Waterfront

The City staff plans, manages, and coordinates maintenance of municipal waterfront facilities, including the Portland Street Pier, Fore River Municipal Boat Ramp as part of Bug Light Park, and Knightville landing in Thomas Knight Park. Spring Point Marina is leased which is operated by Port Harbor Marina but remains under the Department's overall supervision.

In addition, the Cities of Portland and South Portland have worked closely to develop new economic activity in the Port of Portland. At least one general marine cargo terminal with heavy lift capability is located within South Portland. Currently, there are no passenger transportation terminals in South Portland. There are several marinas, a small shipyard, beaches, restaurants, Southern Maine Community College, private homes, condominiums, public park, trails and access points along the South Portland waterfront. Several additional properties along the waterfront are available for commercial development or public use. The diversity of the waterfront's use provides both a great asset and a challenge.

Fore River Municipal Boat Ramp

The Fore River Municipal Boat Ramp is a part Bug Light Park. It is intended primarily for the launching of recreational boats. Commercial boats may use the ramp if such use does not unreasonably interfere with the launching of recreational boats. The public float and landing is generally restricted to the boarding and landing of small craft only. The ramp parking lot and other

adjacent areas are available for overnight or long-term use, as space is available. Advance permission is required by calling 767-7650.

Upon request, the department will provide copies of the current rules and regulations governing the Fore River Municipal Boat Launching Facility.

Portland Street Pier

The City maintains the Portland Street Pier in Ferry Village. The facility has 16 boat slips available on an annual basis to small commercial fishing vessels, typically lobster boats. The pier provides public access for fishing and other family activities. A wood frame building on the pier is leased to Waterworks Diving Services. Commercial fisherman from South Portland interested in obtaining a boat slip may call 767-7650 or write to the Director of Parks, Recreation, & Waterfront, 21 Nelson Road, South Portland, 04106.

Municipal Pier and Public Boat Landing at Thomas Knight Park

Knightville Landing is located in the shadow of the Casco Bay Bridge in Thomas Knight Park. The park is located at the intersection of Waterman Drive and Ocean Street in the Knightville neighborhood. The facility provides a waterborne gateway to the City for recreational boaters. The 300 foot pier and floating docks allow unrestricted access to the water. It is an ideal place to fish, kayak, canoe, or simply sit and enjoy the magnificent view of Portland Harbor's working waterfront.

Fee structure: Fees are paid by visiting boaters. All fees collected are used to operate and maintain this boat landing. **We use the honor system.**

South Portland Public Library

The South Portland Library was constructed at its present location in 1966, and a branch was built in 1976.

As the state of Maine's fourth largest public library, and a leader within Minerva, a statewide cooperative library network, the South Portland Public Library offers extensive collections of materials of all kinds to its users. Beyond items to borrow, the library is also a cornerstone of the community, serving as a gathering place for many cultural, artistic and educational events. We provide access to library services seven days a week, year round, through our two locations, each with its own unique personality.

Highlights of Services:

- Current/Popular Fiction and Non-fiction
- Extensive Collection of Films on DVD
- Audio Books
- Music CDs
- Large Print Books

- Public Use Computers and Printers for Internet, Email and Word Processing
- Photocopiers
- An Amazing Collection of Materials for Children and Young Adults
- Graphic Novels
- Outreach Services – Delivery to the Home Bound
- Story Times, Activities and Groups for Children of All Ages
- Passes to Local Museums and Attractions
- Frequent Concerts, Guest Speakers and Other Special Events
- Adult Book Discussion Groups
- Socrates Café: A Philosophical Discussion Group
- Convenient and Family-Friendly Weekend Hours Search Our Catalog, Check Your Library Account and Request Items 24 Hours A Day At: www.southportlandlibrary.com

Water Resource Protection

The City of South Portland has actively pursued improving water quality in Casco Bay since 1978. The Water Resource Protection Department manages all operations, maintenance, and administrative activities for the wastewater treatment plant, pumping stations, and sewer/storm collection systems to ultimately meet all the water quality requirements set forth by the 1972 Federal Clean Water Act (CWA) through its Maine Pollutant Discharge Elimination System (MEPDES) discharge permit.

The ***Treatment Systems Division*** is responsible to ensure the treatment plant consistently meets the requirements set forth in the city's discharge permit. A highly successful compliance record is due to the dedication of the staff who work diligently to ensure the plant runs effectively and efficiently at a minimum cost to the residential, commercial, and industrial sewer users. Through a sequence of carefully controlled physical, biological, and chemical processes, the treatment plant staff produces over 2.5 billion gallons of clean water per year. Continuous monitoring and control with the operators' knowledge of biology, chemistry, equipment, maintenance, treatment systems, and processes are critical to peak operating efficiency. The treatment plant can pump and treat an instantaneous peak flow of up to 56 million gallons per day. The treatment plant operators are also responsible for the operations of 30 pumping stations throughout the City. The staff responds to pump station emergencies on a 24 hour, 7 day a week basis. There have been a number of upgrades to the 32 year old treatment facility which have consisted of system replacements to plant process components. This ongoing modernization process insures the City stays in compliance with changing regulations and maintains an efficient low cost system.

The ***Collection Systems Division*** comprises staff that provides services in the area of sewer/stormwater pipeline inspections, cleaning, maintenance, line repair, and manhole/catchbasin repair and maintenance. They also respond to sewer and stormwater related emergencies 24 hours a day, 7 days a week. The scope of coverage is extensive where the City has over 105 miles of sanitary sewers, 70 miles of storm sewers, and 6,396 structures within the system. These systems require continual service and repair to maintain the collection system in peak operating condition to move the wastewater flows for treatment and minimize the overflows from hydraulically overloaded combined sewer/stormwater collection systems. These combined sewer overflows (CSO's) are regulated discharges that must eventually be eliminated. The City has been actively pursuing this goal

since 1994 and has a master plan to move it to reducing or eliminating the six remaining CSO's over the next several years.

Sewer Maintenance provides preventative maintenance and repairs which is critical to keeping the treatment plant, the pump stations, and the department equipment and vehicles running at peak performance. Effective maintenance is a crucial part of operations, not only during the normal flows received on a daily basis, but, most importantly, when the collection and treatment system is tested during storm events, high flows, and natural weather disasters.

The ***Industrial Pretreatment Program*** was established to allow the Publicly Owned Treatment Works (POTW) direct control of industrial user discharges. This program was approved by the EPA in 1983 to insure that the objectives of the federal program were fully implemented on a local level. The program prevents the introduction of pollutants into the POTW, which could cause pass-through or interfere with the operation of the POTW, including interference with its use or disposal of municipal biosolids. The Compliance Administrator regulates the industries through a permitting mechanism to be sure they are in compliance with the program.

The ***Stormwater Management Program*** is the result of recent stormwater regulations and is administrated by the Stormwater Program Coordinator. The duties of this position are far reaching and consist of planning, managing, and coordinating the activities of the City's stormwater program. The program is made up of multiple stormwater minimum control strategies that are required by the federal and state stormwater regulations such as the federal Stormwater Phase II and the Maine Department of Environmental Protections MS4 General Permit for the discharges of stormwater from municipalities. The coordinator will develop and manage watershed plans and pollution reduction programs while working with the City's strategy for bringing urban impaired streams back into their water classification.

The staff can provide guided tours of the treatment plant to groups or individuals to see what treatment plants do for water quality and how the use of technology can improve efficiency and lower cost. The Collection Systems Division can set up demonstrations with local schools to view the latest in equipment and technology utilized in a modern collection system.

The ***Engineering Division*** provides engineering support services that encompass a wide range of needs from construction project management to facility planning and advancing the technological needs of the city. For buildings, roads, sewer construction, stormwater separation, treatment plant, pump station, and other hard construction projects, Engineering can provide the preliminary design work, design management, construction administration, and inspection service to insure the cost effective and product success of construction projects undertaken by the city. Engineering also advances much of the technological and planning improvements the city undertakes such as 3D CAD, CAD standards, sewer/storm systems computer modeling, development and maintenance of GIS data layers, pump station and sewer standards, treatment plant - pump station - collection system facility planning, and accurate efficient compilation and storage of record drawings for city infrastructure that will bring the city into the next generation of cost effective engineering service.

Public Education

The City operates its educational program for grades K through 12 under its own supervision. Article IX of the City's Charter, as amended, provides that the Department of Education for the City be administered by a Board of Education comprised of seven members, one elected from each of the City's five voting districts, and two members who are elected at-large. The Board of Education members are elected for three-year staggered terms. The Board performs all duties and functions in regard to the care and management of the public schools of the City including preparation and submission of its budget to the City Manager, who includes it in the budget process.

Public Works

The Public Works Department provides a full range of services including:

- Automated rubbish collection and disposal
- Snow plowing, sanding and salting
- Street and sidewalk maintenance
- Street paving and reconstruction
- Sign installation and maintenance

Public Works also operates a heavy equipment maintenance facility and the Transfer Station.

Rubbish Removal

One of the Department's primary functions is automated curbside rubbish removal and we collect from approximately 8500 stops weekly. We advertise any postponements of rubbish collection, due to holidays in the Sentry, on SPC-TV (Channel 2 in South Portland), via citywide email and via a maintained community e-mail list. If you would like to be placed on our "community" email list, please email us at publicworks@southportland.org. Any cancellation and/or postponement of rubbish collection due to weather is announced on television Channels 6, 8 & 13, as well as all of the local radio stations.

The Department is also responsible for all road maintenance, which includes, but is not limited to, pothole repairs; rating and coordination of paving and/or overlaying of roads; plow damage repairs (esplanades, lawns, drive aprons, curbing, etc.); signage repair and/or replacement; street sweeping; operation of the City's Transfer Facility; sidewalk repairs (bituminous or concrete); and assist other Departments as necessary.

Other services offered annually include:

- Fall curbside leaf collection, for leaves in biodegradable bags only
- Christmas tree curbside collection for 2 weeks after New Year's Day, weather permitting
- Household Hazardous Waste Drop-off day (City sponsored) - usually the 3rd Saturday in October
- Facility opened four (4) Sundays in the spring and four (4) Sundays in the late fall.

All of these are advertised the same as rubbish is for the holidays. The Department reviews and approves or denies any curb cut applications within the City limits.

South Portland Transportation

Transit Bus Service

The South Portland Bus Service provides a fixed route public transit service to the residents of South Portland. All City buses are lift equipped and wheelchair accessible. The Bus Service has a fleet of buses that operate three routes.

The Mill Creek Transit Hub, located on Thomas & Ocean St, offers riders an indoor facility to sit while waiting to transfer between routes.

The Bus Service also connects with the Portland METRO (774-0351) with a free transfer system to increase service area coverage throughout the Cities of Portland and Westbrook and the Town of Falmouth.

Labor Relations

The City employs full, part-time, permanent part-time (set hours or no set hours), seasonal and temporary employees. The following represents those employees included in a union:

Union	Unit	Effective	Expire
AFSCME (AFL/CIO)	Parks, Public Works	7/1/2018	6/30/2021
SPFCO	Fire Command Officers	7/1/2018	6/30/2021
SPPCSU(MAP)	Police Command Officers	7/1/2018	6/30/2021
IAFF 1476	Dispatch	7/1/2018	6/30/2020
IAFF (AFL/CIO)	Firefighters	7/1/2018	6/30/2021
SPPPA (MAP)	Police Patrolmen	7/1/2018	6/30/2021

The School Department unions consist of the following:

SPAA	School Administrators	7/1/2017	6/30/2020
SPTA (MEA)	School Teachers	9/1/2018	8/31/2021
SPESPA (MEA)	Education Techs, & Clerks	9/1/2016	8/31/2022
SPSEA(MEA)	Maintenance, Transportation & Food Service	7/1/2018	6/30/2021

Economic Development

The City of South Portland has a diverse economic base, including substantial retail development, manufacturing and industrial businesses, as well as hundreds of small businesses throughout the City. It is home to the Maine Mall, one of the largest retail centers in northern New England. Each year, the Maine Mall and nearby shopping centers draw millions of visitors to South

Portland. During the day the City's population swells between 60,000 and 80,000 primarily as a result of the mall, nearby shopping centers and restaurants, Class A offices, and other prominent businesses.

The City is home to two world-class computer chip manufacturers, Texas Instruments and Fairchild Semiconductor, as well as the Maine headquarters of Anthem Blue Cross Blue Shield and world headquarters of WEX. Hannaford Brothers, a regional grocery store chain has a significant presence with its distribution center and freezer plant, distributing groceries to stores throughout New England. Portland Harbor is a significant asset of the City of South Portland, and it is one of the largest ports on the U.S. East Coast by volume and contributes to the regional economy.

The economic diversity of South Portland has been the key to its success, maintaining a strong economy over the years even during periods when the national economy has receded. South Portland's close-knit and friendly neighborhoods, its amenities, and open green spaces and waterfront are true assets that highlight the community's quality of life. Our City is a treasure and we welcome those who wish to come and visit and see the jewel that we call South Portland.

City of South Portland, Maine
General Fund - Fund Balance Policy
June 20, 2011

Policy Purpose

The purpose of this policy is to establish a target level of fund balance for the general fund and to establish a process and criteria for the continued evaluation of that target level as conditions warrant. This policy shall also establish a process for reaching and/or maintaining the targeted level of fund balance and the priority for the use of resources in excess of the target. Finally, this policy shall provide a mechanism for monitoring and reporting the City's general fund balance. This policy applies only to the general fund.

Definitions and Classifications

Fund Balance is a term used to describe the net assets of governmental funds. It is calculated as the difference between the assets and liabilities reported in a governmental fund.

Governmental fund balance is reported in five classifications that comprise a hierarchy based primarily on the extent to which the City is bound to honor constraints on the specific purposes for which amounts in those funds can be spent. The five classifications of fund balance applicable to the General fund are defined as follows.

Restricted Fund Balance Components:

- *Non-spendable* – resources which cannot be spent because they are either, a) not in spendable form or; b) legally or contractually required to be maintained intact.

- *Restricted* – resources with constraints placed on the use of resources which are either a) externally imposed by creditors (such as through debt covenants), grantors, contributors, or laws or regulations of other governments; or b) imposed by law through constitutional provisions or enabling legislation.

Unrestricted Fund Balance Components:

- *Committed* – resources which are subject to limitations the government imposes upon itself at its highest level of design making (City Council), and that remain binding unless removed in the same manner.

- *Assigned* – resources neither restricted nor committed for which a government has a stated intended use as established by the City Council, or a body or official (management) to which the City Council has delegated the authority to assign amounts for specific purposes.

- *Unassigned* – resources which cannot be properly classified in one of the other four categories. The General Fund should be the only fund that reports a positive unassigned fund balance amount.

Background and Considerations

Fund balance is intended to serve as a measure of financial resources in a governmental fund. The City's management, credit rating agencies, and others monitor the levels of fund balance in the general fund as an important indicator of the City's economic condition. While credit agencies have always analyzed fund balance as part of their evaluation of credit-worthiness, increased attention has been focused on determining sufficient levels because of recent events in the credit markets.

In establishing an appropriate level of fund balance the City has considered the following factors:

- Property Tax Base
- Non-property Tax Revenues
- Debt Profile
- Liquidity
- Budget Management
- Future Uses
- Employment Base

Fund Balance Policy

It is the policy of the City of South Portland to maintain a minimum unassigned fund balance in the general fund of 9% of general fund budgeted expenditures measured on a General Accepted Accounting Principles (GAAP) basis. In the event that the unassigned fund balance drops below this minimum level, the City will develop a plan, implemented through the annual budgetary process, to bring the balance back to the target level over a period of no more than three (3) fiscal years. A super majority vote of five (5) affirmative votes will be required for the City Council to take action on an item that temporarily reduces the fund balance below this minimum target level. In no instance shall the unassigned fund balance in the general fund fall below 6% of general fund revenues for greater than a continuous two (2) fiscal year period.

Amounts in excess of the targeted maximum of 12% of general fund measured on a GAAP basis shall be used for capital improvements or other one-time expenditures as identified by the City Council. By utilizing excess fund balances for capital improvements, the City will reduce the need to incur long-term debt and will avoid creating an operating funding gap for subsequent fiscal years.

This policy has been adopted by the City to recognize the financial importance of a stable and sufficient level of the unassigned fund balance. However, the City Council reserves the right to appropriate funds from the unassigned fund balance for emergencies and other requirements the City Council believes to be in the best interest of the City of South Portland.

Tax Rate Stabilization Reserve

In periods of economic decline where valuation assessments are flat or decreasing, and/or periods of significant estimated revenue loss or periods of high increases in budgeted expenditures, the City Council may set aside funds in the tax rate stabilization reserve to be used to reduce the needs from taxation for the coming year(s). Funds set aside in the tax rate stabilization reserve should have a planned exit strategy to reduce the use of such reserves in subsequent budgets and should be fully funded to the extent necessary to properly provide a declining (tiered) use of this reserve for a period no

greater than 5 years. The objective of this tiered approach is to lessen the impact in subsequent years for the lower estimated revenues from the tax rate stabilization reserve. Upon determining the need to use fund balance to offset the needs from taxation the City Finance Director will provide a recommendation for the funding of the reserve and the City Council will commit the necessary balance to fully fund the reserve in the best interest of the taxpayers.

Committed Balances

The City Council has established various reserves sub funds which are to be treated as committed and are listed in Exhibit A with a brief description of the sub funds intended use.

Assigned Balances

Unless already classified as restricted or committed, the following balances shall be classified as assigned, as per GAAP or as a matter of policy. Additional amounts may be assigned by the City Council and Administration as deemed necessary.

Encumbrances – Amounts encumbered at year-end by contract, including purchase order, or encumbered by some other means shall be classified as assigned.

Budget Appropriation – Amounts appropriated in the annual budget resolve, or in any supplemental budget resolves, for expenditures in ensuing fiscal year shall be classified as assigned.

Additionally the City will have various sub funds which are will be treated as assigned and are listed in Exhibit B with a brief description of the sub funds intended use. City Council action must be taken to establish the types of assignments prior to the fiscal year end but, delegates the Finance Director to determine the proper amounts that are required.

Policy Administration

The Finance Director shall report fund balance in the appropriate classifications and make the appropriate disclosures in the City's financial statements.

Annually, during the Comprehensive Annual Financial Report (CAFR) presentation, the Finance Director shall report the City's fund balance and the classification of the various components in accordance with GAAP and this policy.

Should the City fall below the minimum target level, the Finance Director shall prepare a plan to restore the unassigned fund balance to the target level prior to the ensuing fiscal year's budget adoption.

Should the City exceed the maximum target level, the City Manager shall prepare a recommendation to utilize excess funds for capital improvements or other one-time expenditures.

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CITY OF SOUTH PORTLAND
ANALYSIS ON BONDED INDEBTEDNESS
PROJECTED AS OF JUNE 30, 2020 *

YEAR ISSUED	MUNICIPAL PRINCIPAL	SCHOOL PRINCIPAL	TREATMENT/ SEWER PRINCIPAL	TIF PRINCIPAL	TOTAL PRINCIPAL
2002/2003		2,380,000			2,380,000
2009	-	-	257,471	-	257,471
2012		6,000,000			6,000,000
2013		186,046			186,046
2014		6,180,000			6,180,000
2015	1,311,720		971,040	437,240	2,720,000
2016	10,795,000	-			10,795,000
2017		15,555,000			15,555,000
Total	12,106,720	30,301,046	1,228,511	437,240	44,073,517

* City Anticipates issueing $9,192,000 of bonds authorized but unissed in the Spring of 2020, which are not reflected in these totals.

CITY OF SOUTH PORTLAND
SCHEDULE OF PRINCIPAL & INTEREST PAYMENTS
FISCAL YEAR 2021 TO FISCAL YEAR 2037

	MUNICIPAL	SCHOOL	SEWER	TIF	TOTAL
2021	973,931	4,090,981	95,639	121,002	5,281,553
2022	942,181	3,986,055	95,416	120,600	5,144,252
2023	910,431	3,298,743	95,193	120,199	4,424,566
2024	878,681	3,166,880	94,970	119,797	4,260,328
2025	959,416	2,728,056	94,747	-	3,782,219
2026	943,700	2,649,656	94,524	-	3,687,879
2027	917,898	2,571,256	94,301	-	3,583,455
2028	895,271	2,485,756	94,078	-	3,475,105
2029	875,819	2,408,831	93,855	-	3,378,505
2030	859,543	2,385,453	78,725	-	3,323,721
2031	846,441	2,109,700	64,951	-	3,021,092
2032	832,942	2,050,400	64,728	-	2,948,070
2033	818,651	1,991,100	64,505	-	2,874,256
2034	803,961	454,300	64,282	-	1,322,543
2035	788,875		64,059	-	852,934
2036	773,392		63,836		837,228
2037	642,938			-	642,938
	14,664,070	36,377,167	1,317,808	481,598	52,840,643

SOUTH PORTLAND OUTSTANDING GENERAL FUND DEBT

	MUNICIPAL PRINCIPAL	MUNICIPAL INTEREST	MUNICIPAL TOTAL P & I	SCHOOL PRINCIPAL	SCHOOL INTEREST	SCHOOL TOTAL P & I
2021	635,000	338,931	973,931	3,141,512	949,469	4,090,981
2022	635,000	307,181	942,181	3,131,511	854,544	3,986,055
2023	635,000	275,431	910,431	2,526,512	772,231	3,298,743
2024	635,000	243,681	878,681	2,476,511	690,369	3,166,880
2025	744,310	215,106	959,416	2,125,000	603,056	2,728,056
2026	744,310	199,390	943,700	2,125,000	524,656	2,649,656
2027	744,310	173,588	917,898	2,125,000	446,256	2,571,256
2028	744,310	150,961	895,271	2,120,000	365,756	2,485,756
2029	744,310	131,509	875,819	2,115,000	293,831	2,408,831
2030	744,310	115,233	859,543	2,155,000	230,453	2,385,453
2031	744,310	102,131	846,441	1,940,000	169,700	2,109,700
2032	744,310	88,632	832,942	1,940,000	110,400	2,050,400
2033	744,310	74,341	818,651	1,940,000	51,100	1,991,100
2034	744,310	59,651	803,961	440,000	14,300	454,300
2035	744,310	44,565	788,875			-
2036	744,310	29,082	773,392			-
2037	635,000	7,938	642,938			-
	12,106,720	2,557,350	14,664,070	30,301,046	6,076,121	36,377,167

SOUTH PORTLAND SEWER USER FUND

SOUTH PORTLAND TIF FUNDS

	TREATMENT/ SEWER PRINCIPAL	TREATMENT/ SEWER INT & FEES	TREATMENT/ SEWER TOTAL P & I	TIF PRINCIPAL	TIF INT & FEES	TIF TOTAL P & I
2021	87,792	7,847	95,639	109,310	11,692	121,002
2022	87,792	7,624	95,416	109,310	11,290	120,600
2023	87,792	7,401	95,193	109,310	10,889	120,199
2024	87,792	7,178	94,970	109,310	10,487	119,797
2025	87,792	6,955	94,747			
2026	87,792	6,732	94,524			
2027	87,792	6,508	94,301			
2028	87,792	6,285	94,078			
2029	87,792	6,062	93,855			
2030	74,241	4,484	78,725			
2031	60,690	4,261	64,951			
2032	60,690	4,038	64,728			
2033	60,690	3,815	64,505			
3034	60,690	3,592	64,282			
2035	60,690	3,369	64,059			
3036	60,690	3,146	63,836			
	1,228,511	89,297	1,317,808	437,240	44,358	481,598

* It is anticipated that the TIF debt will be funded by the general fund budget starting in FY2025.

BUILDINGS

Dept	Location	Bldg Value	Contents Value	Date Acquired	Sold	Group
	586 WESTBROOK STREET-PORTABLE BLDG	$26,503.85		3/11/09		
	1336 BROADWAY, LINCOLN SCHOOL				8/29/2002	CITY
	81 WESTBROOK ST, THORNTON HGTS	$1,300,000.00			11/10/2005	CITY
	BRAEBURN RD., THORNTON HGTS	$800,000.00			11/10/2005	CITY
	E ST., FIRE ENGINE STATION 8				11/1/1997	CITY
	1 PORTLAND STREET	$34,500.00				
	21 NELSON RD., RECREATION				6/30/2004	CITY
	RUMMERY & RIGBY RD. OFFICE				4/24/1998	
	RIDGELAND AVE, PLAYSCAPE EQUIPMENT	$15,000.00				
	160 OCEAN STREET	$0.00			2/13/2002	CITY
	46 ARBUTUS AVENUE	$0.00			9/9/2002	CITY
	RUMMERY & RIGBY RD. OFFICE				4/24/1998	
	46 DAWSON	$0.00			9/9/2002	CITY
	17 WATERMAN DRIVE, SEASONAL FLOATS	$60,000.00				
	1396 BROADWAY, FIRE STATION 5	$70,000.00	$10,000.00		9/2/2005	CITY
54	TAX ACQUIRED PROPERTY	$88,500.00		03/04/14	6/14/2014	CITY
54	TAX ACQUIRED PROPERTY	$95,100.00		01/16/14	10/15/2014	CITY
54	TAX ACQUIRED PROPERTY	$179,800.00		6/9/11	12/6/2012	CITY
56	496 OCEAN ST., SIMON HAMLIN ELEMENTARY	$5,287,667.00	$120,000.00			SCHOOL
59	TAX ACQUIRED PROPERTY	$70,500.00			10/13/2011	CITY
59	24 MOSHER STREET, HUTCHINS SCHOOL	$675,000.00	$60,000.00			CITY
59	25 COTTAGE RD, MUNICIPAL BLDG	$1,160,000.00	$235,000.00			CITY
59	317 PINE ST., ROOSEVELT SCHOOL	$2,531,590.00			7/23/2014	CITY
59	TAX ACQUIRED PROPERTY	$79,000.00			7/1/2016	CITY
59	680 BROADWAY, NATIONAL GUARD ARMORY	$214,100.00	$0.00	4/14/2006	5/19/2016	CITY
59	29 MACARTHUR CIR., REDBANK ELEMENTARY	$3,100,000.00	$0.00			CITY
59	CITY HALL ENTRANCE SIGN	$7,800.00		7/19/12		
59	TAX ACQUIRED CONDO, 150 SAWYER STREET	$57,300.00		01/03/2017	12/15/2018	
59	TAX ACQUIRED PROPERTY	$37,500.00			7/1/2017	CITY
63	REAR ANTHOINE ST, POLICE	$75,000.00	$40,000.00			CITY
63	30 ANTHOINE ST, POLICE STATION	$800,000.00	$145,000.00			CITY
63	30 ANTHOINE STREET, POLICE TOWER	$45,000.00				CITY
63	30 ANTHOINE ST. DISPATCH FACILITY	$1,600,000.00	$125,000.00			CITY
64	34 CROSSING DR FIRE STATION (WEST END)	$1,916,065.00	$40,000.00	12/05/2003		FIRE
64	20 PILLSBURY STREET. BUILDING	$179,300.00		9/26/12		CITY

BUILDINGS

Dept	Location	Bldg Value	Contents Value	Date Acquired	Sold	Group
64	360 MAIN STREET	$58,672.00				
64	360 MAIN STREET,TOWER FIRE	$18,000.00				CITY
64	TELECOMMUNICATIONS TOWER:34 JAMES A BAKA DRIVE	$27,950.00		12/13/12		
64	WEST END TELECOMMUNICATIONS TOWER	$72,788.48		12/13/12		FIRE
64	684 REAR BROADWAY, FIRE HOSE TOWER	$75,000.00				CITY
64	WILLARD STATION, 20 PILLSBURY ST - FA#98030101852	$475,000.00		01/01/1920		FIRE
64	COMMUNICATIONS TOWER,34 JAMES A BAKA DRIVE WESTERN AVE WEST END FIRE	$39,800.00		12/13/12		FIRE
64	360 MAIN ST., FIRE STATION	$792,965.00	$90,000.00			CITY
64	684 BROADWAY CENTRAL FIRE STATION	$1,350,000.00	$220,000.00			CITY
64	15 UNION ST., FIRE STATION #6	$105,000.00	$20,000.00			CITY
66	62 E STREET, CODE/ENGINEERING/PLANNING	$0.00	$175,000.00		8/1/2011	CITY
66	41 THOMAS ST., ASSESSING BUILDING	$130,651.00	$38,000.00			CITY
66	513 BROADWAY, ELECT BLDG	$65,000.00	$43,900.00			CITY
71	42 O'NEILL STREET, STORAGE	$110,000.00	$60,000.00			CITY
72	929 HIGHLAND AVE, LAND PREPARATION	$567,700.00		08/18/2017		CITY
72	929 HIGHLAND AVE, TRNSFR ST SECURITY SYSTEM	$22,697.58		08/30/2017		CITY
72	TRANSFER STATION LAND	$1,070,552.75		12302015		CITY
72	929 HIGHLAND AVE, SALT SHED	$728,000.00				
72	929 HIGHLAND AVE, TRANSFER STATION	$53,000.00		12/30/15		CITY
72	42 O'NEILL STREET, OFFICE & GARAGE	$925,000.00	$640,000.00			CITY
72	TRANSFER STATION SWAP SHOP, 929 HIGHLAND AVENUE	$129,625.74	$1,500.00	12/30/2015		
72	42 O'NEILL STREET, PW TOWER	$30,000.00				CITY
72	929 HIGHLAND AVENUE, CRANE	$124,785.49				
72	929 HIGHLAND AVE, FUEL ISLAND	$50,000.00				
72	929 HIGHLAND AVENUE, TRANSFER STATION SWAP SHOP	$100,000.00		12/30/15	1/28/2016	
72	933 HIGHLAND AVENUE, LAND	$76,800.00		01/04/2013		
72	42 O'NEIL STREET, GARAGE	$48,000.00	$2,500.00			CITY
72	42 O'NEIL STREET, EMPLOYEE BLDG 11	$90,000.00	$95,000.00			CITY
72	929 HIGHLAND AVE, COLD STORAGE BLDG	$292,500.00				
72	42 O'NEIL STREET, OLD SALT SHED/STORAGE	$53,500.00				CITY
72	929 HIGHLAND AVE, GREENHOUSE	$120,000.00				
72	42 O'NEIL STREET, SALT SHED	$98,000.00	$1,800.00			CITY

BUILDINGS

Dept	Location	Bldg Value	Contents Value	Date Acquired	Sold	Group
72	929 HIGHLAND AVE, MUNICIPAL SERVICE BLDG	$11,481,179.26				
72	42 O'NEIL STREET, PLOW GARAGE	$30,000.00	$5,000.00			CITY
72	42 O'NEIL STREET, 5 BAY GARAGE	$100,000.00	$85,000.00			CITY
72	42 O'NEIL STREET, 4 BAY GARAGE	$115,466.00	$255,000.00			CITY
75	165 SOUTH KELSEY ST., JAMES OTIS KALER ELEMENTARY	$4,409,850.00	$300,000.00			SCHOOL
75	25 NELSON RD., TRANSPORTATION OFFICE	$150,066.00	$17,000.00			SCHOOL
75	1142 HIGHLAND AVE BUS MAINTENANCE BUILDING	$2,100,000.00	$45,000.00			CITY
75	637 HIGHLAND AVE., ATHLETIC STORAGE	$25,000.00	$12,500.00			SCHOOL
75	87 THOMPSON ST., DORA SMALL ELEMENTARY	$4,357,933.50	$450,373.00			SCHOOL
75	485 BROADWAY, GARAGE STORAGE	$25,000.00	$2,000.00		2/17/2015	SCHOOL
75	120 WESCOTT RD., MEMORIAL JR HIGH	$10,200,000.00	$450,000.00			SCHOOL
75	25 NELSON RD., GROUND EQUIP. STORAGE	$30,000.00	$24,000.00		2/17/2015	SCHOOL
75	637 HIGHLAND AVE., HIGH SCHOOL	$19,500,000.00	$1,100,000.00			SCHOOL
75	16X20 SHED W STEEL DOOR, SPHS	$6,990.00		06/07/10		SCHOOL
75	240 OCEAN ST., MAHONEY JR HIGH	$8,897,454.00	$400,000.00			SCHOOL
75	SKILLIN SCHOOL-SKYLIGHT ABOVE LIBRARY	$14,925.00				SCHOOL
75	52 ALFRED ST., HELENA DYER ELEMENTARY	$3,540,000.00	$190,000.00			SCHOOL
75	PLAYSHAPER WITH SANDBOX AT KALER PRESCHOOL	$10,710.00		5/14/13		
75	37 HIGHLAND AVE., FRANK BROWN ELEMENTARY	$3,200,000.00	$150,000.00			SCHOOL
75	SOUTH PORTLAND HIGH SCHOOL, 637 HIGHLAND AVENUE		$15,176.00	01/30/2018		
75	87 THOMPSON ST, SMALL ELEM PORTABLE CLASSROOM	$65,000.00		08/19/11		SCHOOL
75	180 WESTCOTT RD., SKILLIN SCHOOL	$5,008,088.00	$224,000.00			SCHOOL
75	HIGH SCHOOL GYMNASIUM-BLEACHERS	$128,502.00				SCHOOL
75	637 HIGHLAND AVE., HS HEATING PL	$380,000.00	$275,000.00			SCHOOL
76	482 BROADWAY, PUBLIC LIBRARY	$2,059,512.00	$2,450,000.00			CITY
77	125 GARY L MAIETTA PKWY-WAINWRIGHT BLDG	$350,763.00	$5,000.00	01/01/02		CITY
77	DEAKE STREET - FISHING SHACK	$900.00				CITY
77	155 WESTCOTT ROAD, LIBRARY & PRO SHOP	$350,000.00	$360,000.00			CITY
77	2 BUG LIGHT PARK, LIGHTHOUSE	$75,000.00				CITY
77	26 WESTBROOK ST, PLAYSCAPE	$55,886.00		08/22/2017		PARKS
77	MILL CREEK PARK GAZEBO	$65,000.00		08/11/10		CITY

BUILDINGS

Dept	Location	Bldg Value	Contents Value	Date Acquired	Sold	Group
77	ALUMINUM ARCH STYLE WALKWAY BRIDGE W/CEDAR DECKING	$8,124.90		07/01/2012		CITY
77	PORTABLE SKATE SHELTER BUILDING	$50,000.00		10/30/12		CITY
77	MILL CREEK PARK:IRON GATE ENTRANCE WITH STONE PILLARS	$59,379.00		10/26/12		
77	MILL CREEK PARK:FOUNTAIN	$7,684.68		7/11/12		PARKS
77	WILKINSON PARK SWING SET	$9,208.00		5/14/13		PARKS
77	REDBANK BLDG 586 WESTBROOK STREET,	$32,670.00				
77	DUGOUTS (2) AT WAINWRIGHT	$20,531.75		5/28/14		CITY
77	2 BUG LIGHT PARK	$300,000.00				
77	33 PITT ST., GREEN HOUSE	$50,000.00	$12,500.00			CITY
77	DEAKE STREET - FISHING SHACK	$700.00				CITY
77	21 NELSON ROAD, COMM REC FACILITY	$5,200,000.00	$440,000.00			CITY
77	CHAIN LINK FENCE & GATES	$122,937.00				
77	NE CORNER E ST / WATERMAN, PLAYSCAPE	$35,705.00				CITY
77	WILKINSON PARK, PORTABLE SHELTER PARKS	$52,812.00				
77	29 MACARTHUR CIR. REDBANK REC CTR	$1,400,000.00	$30,000.00			CITY
77	OIL FURNACE COX MODEL SO400, PARKS	$12,450.00		08/27/2007		PARKS
77	PLAYSCAPE, WILLARD SCHOOL PARK	$39,539.00		11/01/08		
77	CONCESSION STAND/STORAGE BLDG-WILKINSON PARK	$75,000.00		12/16/08		
77	61 COTTAGE RD BANDSTAND	$45,000.00			8/11/2010	CITY
77	1 BUG LIGHT PARK, FLOATS ON RAMP	$45,000.00				CITY
77	21 NELSON RD., SWIMMING BLDG	$2,200,000.00	$185,000.00			CITY
77	1 SPRING POINT MARINA	$917,617.00				CITY
77	1 FISHERMAN LANE, WILLARD BATH HSE	$110,000.00	$8,000.00			CITY
77	PLAYSCAPE, WILLARD BEACH	$24,322.00		09/25/02		
77	61 COTTAGE ROAD, FOOTBRIDGE	$20,000.00			8/11/2010	CITY
77	225 WESTBROOK ST., GOLF COURSE	$55,000.00	$60,000.00			CITY
77	PUMP HOUSE, 50 HINKLEY MILLCREEK PARK	$4,080.00			8/15/2012	CITY
77	33 PITT ST., PARKS & REC	$375,000.00	$120,000.00			CITY
77	172 NEW YORK AVE COMMUNITY CENTER	$120,000.00	$15,000.00		4/5/2013	CITY

BUILDINGS

Dept	Location	Bldg Value	Contents Value	Date Acquired	Sold	Group
80	MAIN ST/WILSON:MAIN ST/FROSWICK:EVANS/NELSON RD:GALLERY BLVD SCARBOROUGH- BOB'S DISCOUNT FURNITURE	$24,447.80		08/16/2017		CITY
80	929 HIGHLAND AVENUE, VEHICLE BAY WASH	$289,612.61				
80	BRICK HILL ROAD, BUS SHELTER	$5,200.00		09/22/16		
80	3 DEAK STREET, FISHING SHACKS (2)	$15,000.00				CITY
80	TRANSIT HUB BLDG, 49 THOMAS ST	$350,000.00		02/19/14		CITY
80	20'X30' BUS STOP SHELTER	$9,970.00		12/22/10		CITY
80	42 O'NEIL ST., BUS OFFICE #12	$45,500.00	$24,000.00			CITY
80	42 O'NEIL ST, BUS GARAGE/TRANS B	$375,000.00	$40,000.00			CITY
80	GALLERY BLVD. WALMART BUS SHELTER	$5,200.00		3/08/09		
80	BUS STOP SHELTERS (6)	$31,200.00				CITY
81	MADISON ST PIER & FLOATS	$3,000.00				
81	THOMAS KNIGHT PARK PIER	$60,000.00				
81	1 PORTLAND ST., PIER	$290,000.00				CITY
81	1 PORTLAND ST., FLOATS AT PIER	$56,000.00				CITY
81	513 BROADWAY, -CONTROL BLDG	$83,880.00				CITY
81	1 OCEAN AVENUE-Wharf-TKP	$500,000.00				CITY
86	PUMP STATION, 46 APPLE TREE DRIVE	$65,000.00				CITY
86	PUMP STATION, 44 WINDING WAY	$80,000.00				TP
86	PUMP STATION, 100 JOHN ROBERTS RD	$80,000.00				TP
86	PUMP STATION, 0 HIGHLAND AVE SMITH & LOVELESS	$145,000.00	$30,000.00	12/17/2007		TP
86	PUMP STATION, 1 MAIN STREET	$250,000.00				TP
86	PUMP STATION, 7 CUSHING CT	$80,000.00				TP
86	PUMP STATION, 301 HIGH ST	$340,000.00				TP
86	PUMP STATION, 310 GANNET DRIVE	$175,000.00				TP
86	PUMP STATION, 155 WESCOTT RD	$45,000.00				CITY
86	PUMP STATION, 110 CRESTVIEW DR	$24,000.00				TP
86	PUMP STATION, 22 F STREET	$35,000.00			7/22/2006	CITY
86	WTR RSRC PROT COMPLEX, 1142C HIGHLAND AVE	$167,640.00	$10,000.00	09/26/2007		SM
86	1144 HIGHLAND AVE SEWER MAINT GARAGE	$145,000.00	$25,000.00			TP
86	PUMP STATION, 4 LOVIETT'S FIELD RD	$50,000.00				
86	PUMP STATION, 117 SNOWBERRY DR	$100,000.00				
86	PUMP STATION, 29 CHECKERBERRY CIR	$100,000.00				
86	PUMP STATION, 1 FORT ROAD SMCC	$210,000.00				

BUILDINGS

Dept	Location	Bldg Value	Contents Value	Date Acquired	Sold	Group
86	PUMP STATION, 149 FRONT STREET	$20,000.00				TP
86						
86	PUMP STATION, 445 WESTERN AVENUE	$50,000.00				TP
86	PUMP STATION, 11 FISHERMAN LANE	$1,650,000.00				TP
86	PUMP STATION, 6 E ST	$75,000.00				TP
86	PUMP STATION, 0 BENJAMIN W PICKETT ST	$210,000.00				TP
86	PUMP STATION, 121 STILLMAN ST	$75,000.00				TP
86	111 WATERMAN DR., TREATMENT PLNT	$38,500,000.00	$8,660,785.00			TP
86	PUMP STATION, 23 ELM ST	$35,000.00				TP
86	PUMP STATION, 257 WESTERN AVE	$75,000.00				TP
86	PUMP STATION, 1 PEARL ST	$1,675,000.00				TP
86	PUMP STATION, 3 BAY RD	$122,000.00				TP
86	PUMP STATION, 350 SOUTHBOROUGH	$170,000.00				TP
86	PUMP STATION, 1 FORT ROAD	$290,000.00				TP
86	PUMP STATION, 16 MECHANIC ST	$290,000.00				TP
86	PUMP STATION, 35 BUG LIGHT PARK	$110,000.00				TP
86	PUMP STATION, 463 WESTBROOK ST	$420,783.00				TP
86	PUMP STATION, 152 FRONT ST	$1,300,000.00				TP
86	PUMP STATION, 2 B STREET	$90,000.00				TP
86	PUMP STATION II, 463 WESTBROOK ST	$518,882.00				TP
86	PUMP STATION, 1 PEARL ST #6	$45,000.00				TP

EQUIPMENT

Dept	Yr	Make	Model	Acquired	Replace Value	Sold/Traded
1515	1988	COASTER	OFFICE TRAILER	9/19/2011	12000	
73	1990	SCARAB	TURNING MACHINE		118000	7/25/1997
73	1983	YANMAR	DIESEL TRACTOR		11000	8/7/2001
73	1990	GEHL	SKID LOADER		12000	5/20/2008
8684	1979	ONAN	GENERATOR/MO TRAILER		9000	6/6/2000
73	1986	CASE	580SE LOADER/BACKHOE		19900	7/1/2008
8684	1996	R01	AIR COMPRESSOR	1/1/1996	10780	1/31/2012
72	1975	BOMBARDIER	SIDEWALK PLOW-NOT IN USE		6000	5/20/1998
72	1989	HOLDER	SIDEWALK PLOW	1/1/1989	45000	10/1/2015
72	1993	BOMBADIER	SIDEWALK TRACTOR		40213	9/14/2001
72	1978	KOMATSU	BULLDOZER MODEL D65E-6		100000	5/14/2004
72	1986	FMC	WAYNE SWEEPER		88000	8/7/2001
72	1969	MICHIGAN	LOADER		13000	8/7/2001
72	1970	ROOT	SNOWBLOWER			8/7/2001
72	1982	BOMAG	PAVING RECYCLER		9000	8/7/2001
72	1983	FORD	LOADER		126000	9/14/2001
72	1981	BOMBADIER	SIDEWALK PLOW-NOT IN USE			5/20/1998
72	1977	STOW	ROLLPAC ROLLER MODEL# 190452		20000	11/1/2002
72	1984	ATLAS	COMPRESSOR		10000	11/1/2002
72	1984	OWENS	TILT-TRAILER		16000	
64	2003		CARDIAC MONITOR	7/17/2003	17875	8/25/2011
72	2001	NICHOLS	TRAILER #00011		2750	
63	2001		NIGHT VISION GOGGLES		22000	7/31/2004
64	2001	HAULMARK	P716BTE 16FT HAZMAT TRAILER	1/1/2001	5000	
72	1987	GEHL	SKID STEER LOADER MODEL 4615		16000	5/14/2004
72	1981	BOMBADIER	SIDEWALK PLOW-NOT IN USE			5/20/1998
77	1996	TORO	HYDRAULIC MOWER 455E		35000	4/26/2004
77	1994	JOHN DEERE	OUTFRONT ROTARY MOWER		14000	6/30/2003
77	1992	HOMEMADE	UTILITY TRAILER		4000	1/24/2018
77	1969	HOMEMADE	WATERTANK TRAILER		1500	6/30/2003
77	1995	JOHN DEERE	OUTFRONT ROTARY MOWER		14000	6/30/2003
77	1993	JACOBSEN	TURF TRUCKSTER		6000	7/1/2017
77	1990	JOHN DEERE	OUTFRONT ROTARY MOWER		14000	6/30/2003
77	1987	KUBOTA	TRACTOR/FRONT END LDR		18000	
77	1989	OLATHE	TOPDRESSER		4500	4/9/2019
77	1994	CUSHMAN	TURF TRUCKSTER	1/1/1994	22000	7/25/2011
77	1988	FORD	2120 TRACTOR W/FRONT END LOADE		20000	
77	1987	JOHN DEERE	MOWER		14000	10/24/1997
77	1975	TORO	DIESEL TRACTOR W/GANG MOWER MODEL22691RR		60000	7/11/2008
72	1978	GMC	HOULS TRAILER MODEL# HI9630		90000	8/27/2001

EQUIPMENT

Dept	Yr	Make	Model	Acquired	Replace Value	Sold/Traded
77	1997	JOHN DEERE	OUTFRONT MOWER F935	10/24/1997	16000	11/4/2003
86	1998	STOW	HOT TOP ROLLER R2000H:SOLD PER DAVID THOMES ON 12/26/17 SURPLUS BID	10/1/1998	6678	8/1/2016
86	1998	STOW	UTILITY TRAILER FOR ROLLER	10/1/1998		
77	2002	CHEVY	CC3140 BUCKET LOADER	9/3/2002	56992	2/12/2020
77	2004	HOLDER	C 978 SIDEWALK TRACTOR	2/24/2004	50538	11/24/2014
86	1998	INTL	BLACK TRAILER GVW=1500 lbs.:PER DAVID THOMES 12/26/17, SCRAPPED 10 YRS AGO		700	7/1/2007
8684	1998	TAKEUCHI	TB070 EXCAVATOR W/ATTACHMENTS	12/31/1998	79500	4/16/2010
8684	2000	INGERSOLL RAND	PORTABLE GENSET	6/6/2000	17973	
72	2000	HOLDER	MTC9700 SIDEWALK TRACTOR	10/27/2000	66858	10/12/2007
72	2000	HOLDER	MTC9700 SIDEWALK TRACTOR	10/27/2000	66858	11/24/2014
72	1999	LERO	AIR COMPRESSOR	1/28/1999	9985	
72	1999	STOW	T2000H ROLLER 1 TON	3/1/1999	6350	4/5/2019
72	2001	BOBCAT	773T B/C LOADER	1/10/2001	19993	
72	1999	STOW	T3000 TRAILER	2/11/1999	2480	
72	1988		PAVER			7/1/2017
77	2004	TORO	GROUNDSMASTER 4100D # 30411	4/26/2004	38600	7/29/2011
77	2000	TORO	THREE WHEELED TRIPLES REEL MOWER	6/28/2000	16615	
77	2000	TORO	4356 GREENSMASTER	10/18/2000	15711	
77	2003	JOHN DEERE	1445 FRONT MOUNT MOWER	11/4/2003	15182	1/24/2018
77	2004	TORO	GROUNDSMASTER 4700D # 30868	4/20/2004	51125	
77	2004	TORO	WORKMAN 3300D # 07362	4/30/2004	14900	
77	2002	AERAVATOR	AE-60T SOLID TINE MOUNT	8/10/2004	4300	
72	1997	TENCO	SNOWBLOWER FOR 624G LOADER	2/28/1997	48500	2/7/2011
72	1997	TENCO	SNOWBLOWER FOR 624G LOADER	2/24/1977	48500	
72	1997		POWER CURBER	6/23/1997	8000	
72	1996	HENDERSON	FSH10SS SANDER	12/3/1998	6900	4/5/2019
72	1996	HENDERSON	SANDER 8'	12/23/1996	3565	7/1/2008
72	2001		60" GRAPPLE BUCKET	1/10/2001	1858	
64	2006	HOLMATRO	TWIN-LINE HYDRAULIC CUTTER	10/31/2006	4700	
72	2006		5000gal HIGH DENSITY POLY TANK	10/20/2006	4000	
72	2006		5000gal VERTICAL STORAGE TANK	11/3/2006	4000	7/1/2017
63	2006	ATN	NIGHT VISION MONOCULAR	12/19/2006	1595	
63	2006	ATN	NIGHT VISION MONOCULAR	12/19/2006	1595	
63	2006	ATN	NIGHT VISION MONOCULAR	12/19/2006	1595	
63	2006	ATN	NIGHT VISION MONOCULAR	12/19/2006	1595	
63	2006	TACTICAL ELECTRONICS	PCSS1-POLE CAMERA & SEARCH SYSTEM	12/19/2006	14400	
64	2006	SCOTT EAGLE IMAGER	THERMAL IMAGING CAMERA	12/1/2006	9999	
64	2006	AREAREA MONITOR	GAS DETECTOR	11/7/2006	6795	

EQUIPMENT

Dept	Yr	Make	Model	Acquired	Replace Value	Sold/Traded
64	2006	SCOTT AP-50-4.5 LESS	SCBA: AIR CYLINDER, FACE PIECE, AND PAK ALERT	8/8/2006	2210	
64	2006	SCOTT AP-50-4.5 LESS	SCBA: AIR CYLINDER, FACE PIECE, AND PAK ALERT	8/8/2006	2210	
66			STREET LIGHTS & SIGNS		500000	
8684	2000	INGERSOLL-RAND	PORTABLE GENERATOR - PCF	1/1/2000	18206	
63			REPEATERS (3)		45000	7/1/2005
75	2002	BIG TEX	12FT SINGLE AXLE	3/29/2002	1099	
77	2001	JOHN DEERE	1435	4/18/2002	9449	9/4/2008
63	2001	Z-TRON	POLICE ROBOT	11/7/2001	29250	
63	2002	HAMILTON	SPORT TRAILER`	5/1/2002	2550	
77	2002	JOHN DEERE	1435 FRONT MOUNT RIDING MOWER	12/11/2002	13156	10/7/2005
72	1999		EMERGENCY GENERATOR	1/1/1999	41663	4/30/2018
77	2002	ROTADARION	SOIL RENOVATIONG MACHINE	1/1/2002	18050	1/11/2018
77	2000	JOHN DEERE	5410 TRACTOR	6/30/2000	29753	6/20/2007
64	2003	ALM CORP	(2)WHEEL ENGAGING 18 VEHICLE LIFT SYSTEM	7/2/2003	19695	
73	2003	INTERSTATE	20DT CONSTRUCTION TRAILER	9/30/2003	6550	11/12/2008
77	2000	LANDPRIDE	TRI-DECK ROTARY MOWER	5/30/2000	12757	
72	1997	SWENSON	SANDER	11/17/1997	6975	4/15/2019
72	1999	TRACKLESS	SNOWBLOWER	1/1/1999	2504	
72	2001		72" SNOWBLADE	1/10/2001	1384	4/5/2019
72	1997	HENDERSON	FSH13-409 SANDER	12/22/1997	6900	8/23/2017
72	2000	SWENSON	SANDER	10/2/2000	7381	
77	1998	JOHN DEERE	F935 MOWER	10/14/1998	10544	10/21/2009
77	2002	JOHN DEERE	TC1435D MOWER	8/20/2002	13156	5/30/2012
77	1992	MOREBARK	CHIPPER - TRAILER	7/1/1992	18000	
77	1987		MODERN SKATE TRAILER	3/1/2005	2500	
77	1997	HARVEY	WATER TRAILER	3/1/2005	3000	
77	2000	FRYEBURG	EQUIPMENT/HD TRAILER	3/1/2005	4000	
77	1986	MULLER	MIXER TRAILER	3/1/2005	1500	
64	2004		SIMPLE AIR COMPRESSOR W/BASE/CYLINDERS/PANEL	7/21/2004	26765	
51		LUMENS	HD PTZ CAMERAS (5) - SECURITY CAMERA SYSTEM UPGRADE@COUNCIL CHAMBERS	11/30/2018	13149.39	
72	2005	WACKER	RD11A	8/16/2005	11279	
77	2005	JOHN DEERE	1445 FRONT MOUNT RIDING MOWER	10/7/2005	15663	1/24/2018
80	2005	MULTIEQUIP	MC64S-HS CONCRETE MIXER	1/18/2005	1849	
64	2006	PEQUEA	TRAILOR	12/20/2005	1300	
8681	2005	GENERATOR	WINDING WAY PS	8/27/2004	32081.22	
64	1991	ACHILLES	14' INFLATABLE WITH 25hp MOTOR	1/1/1991	5000	
8681	2006	ONAN	GEN-SET -- NT-270-GS/GC	3/31/2006	39536.58	

EQUIPMENT

Dept	Yr	Make	Model	Acquired	Replace Value	Sold/Traded
77	2006	TORO	22167-PUSH MOWER	9/11/2006	1169	7/1/2017
72	2006		18' TILT TRAILER	10/3/2006	5500	
64	2006	LIFE PAK	LP12 CARDIAC MONITOR/DEFIB	9/7/2006	18745	12/25/2012
64	2006	LIFE PAK	LP12 CARDIAC MONITOR/DEFIB	9/7/2006	18745	
77	2007	GEN 05 DELUXE SCANNER	BK 7004108-NAPA AUTO PARTS	10/2/2006	2476.77	7/1/2017
64	2006	SCOTT AP-50-4.5 LESS	SCBA: AIR CYLINDER, FACE PIECE, AND PAK ALERT	8/8/2006	2210	
64	2007	MINE SAFETY APPLIANCE	EVOLUTION 5200HD2 THERMAL IMAGING CAMERA	12/11/2006	8500	
64	2007	nukeALERT II	1703GN GAMMA NEUTRON PAGER	4/10/2007	2495	
64	2007	nukeALERT II	1703GN GAMMA NEUTRON PAGER	4/10/2007	2495	
64	2007	nukeALERT II	1703GN GAMMA NEUTRON PAGER	4/10/2007	2495	
64	2007	nukeALERT II	1703GN GAMMA NEUTRON PAGER	4/10/2007	2495	
75	2003	ALM CORP	LIFT	12/27/2002	19125	
75	1990	WILLIAM THON	PAINTING		5000	
7765	2007	JOHN DEERE	5525 UTILITY TRACTOR 4WD	6/20/2007	41965	
75	1992	PROLINE	LAWNMOWER	1/1/1992	11000	
7765	2007	JOHN DEERE	4120 UTILITY TRACTOR WITH LOADER	6/28/2007	22058	8/8/2016
7765		JOHN DEERE	BACKHOE 18" BUCKET FOR 4120 UTILITY TRACTOR	6/28/2007	6663	11/1/2011
77		JOHN DEERE	MECHANICAL SELF LEVELING LOADER WITH 85"BUCKET PO#20073491	8/31/2007	6142	7/1/2017
7514		STEINWAY B	GRAND PIANO	12/28/2007	64584	
63		HS PRECISION PRO SERIES	2000 HTR .308-CA TACTICAL RIFLE	9/18/2007	2481	
64		AREARAE MONITOR	GAS DETECTOR MONITOR	9/28/2007	6515.39	
64		T5766A MTR2000	TWO-WAY RADIO BASE SET:T5766A MTR2000 STATION	8/31/2007	5950	
64		AD ULTRA 8 EXT PTZ	COLOR DAY/NIGHT CAMERA W/35X ZOOM FOR CASH CORNER	1/30/2008	4728.52	
64		PTZ	ETHERNET VIDEO/RECEIVER TRANSMITTER FOR PTZ CAMERA-CASH CORNER	1/29/2008	2190	
64		ALCO-LITE	TEL-3-40P TRUSS 3 SECTION LADDER FOR #2 FIRE TRUCK	1/4/2008	2045	
77	2006	E-Z GO ST	SPORT 2+2 GOLF CART	8/2/2006	6400	
86	2007	DOWNEASTER	TL610-LANDSCAPING TRAILER	2/23/2007	1545	
77	2017	TORO	VERSA VAC	8/16/2017	23349.6	
72		SWENSON EV100	SALT/SAND SPREADER HOPPER	4/18/2008	26895	
80		WE18	HEAVY DUTY MOBILE HYDRAULIC LIFT	3/12/2008	24740	

EQUIPMENT

Dept	Yr	Make	Model	Acquired	Replace Value	Sold/Traded
77	2008	JOHN DEERE	MODEL#1445 FRONT MOUNT MOWER W/SIDE DISCHARGE DECK	9/4/2008	14931	
77		KOEHLER	EMERGENCY GENERATOR FOR COMMUNITY CENTER	9/9/2008	54840	
75			WHEELCHAIR LIFT, HANDICAP AT MAHONEY MIDDLE	8/12/2008	29863	
77		TORO	WORKMAN 1110 GOLF CART WITH ELECTRIC BOX LIFT	10/14/2008	7370.85	8/16/2013
75			DUGOUTS/BLEACHERS @ MAHONEY/WAINWRIGHT-7 SETS @ $1500 EA (4 ROWS)		10500	
77	2008	TORO	GREENSMASTER FLEX 21 MOWER	11/25/2008	8215	
77	2008	TORO	GREENSMASTER FLEX 21 MOWER	11/25/2008	8215	
77		TORO	TRANS PRO 100 TRAILER FOR 2008 GREENSMASTER MOWERS	11/25/2008	1755	
75			FOOTBALL SCOREBOARD-MARTIN FIELD-SPHS	2/13/2009	17600	
64			CASH CORNER RADIO TOWER	7/1/2008	20000	
77	2010	TORO	PROCORE 648 AERATOR	12/29/2009	21610.65	
8684	2010	KOBELCO	SK140SR EXCAVATOR	4/16/2010	136900	
64			EMERGENCY GENERATOR CASH CORNER FIRE DEPT	2/26/2010	34380	
80	2011	GILLIG	BUS CAMERA SYSTEMS & COMPONENTS (3)	4/14/2011	5739	
64		POWER PRO	POWER LIFT AMBULANCE STRETCHER	8/30/2010	13242.84	
64		POWER PRO	POWER LIFT AMBULANCE STRETCHER	8/30/2010	13242.84	
72	2010	EAGLE	SIDEWALK STREET PAVER	8/25/2010	48300	
72	2011	TENCO TCS-172LMM	SNOW BLOWER	2/7/2011	104325	
64		MOTOROLA	RADIOS COMMUNICATION EQUIPMENT	1/26/2011	297388.92	1/26/2013
63		MOTOROLA	RADIOS COMMUNICATION EQUIPMENT	2/28/2011	324548.58	
63			AUTOMATED LICENSE PLATE READER	1/22/2010	18495	
63			AUTOMATED LICENSE PLATE READERS (2)	6/16/2011	16898	
72	2008	MILLER	MC550 CURB MACHINE WITH KOHLER 15 HP	10/20/2008	7000	
77	2009	EZ-GO RXV GAS SHUTTLE	GOLF CART 2+2 REAR SEAT & CANOPY	7/19/2010	4830	
75			SMALL SCHOOL PAINTING CK#301459	8/21/2009	4900	
72			20' 6 TON FLAT TILT EQUIPMENT TRAILER	7/28/2010	5495	7/28/2010
77	2011	TORO	GROUNDSMASTER 4100 WIDE AREA MOWER	7/29/2011	55464	
77	2011	JOHN DEERE	LOADER, HOOD GUARD, & 73" HD BUCKET	11/1/2011	6450	
77	2011	JOHN DEERE	BACKHOE WITH 18" HD BUCKET	11/1/2011	9774	
8684	2012	WACKER	36" DOUBLE DRUM RIDE-ON ROLLER MODEL RD12A	3/19/2012	13117	

EQUIPMENT

Dept	Yr	Make	Model	Acquired	Replace Value	Sold/Traded
8684	2012	FELLING	6' WIDE SINGLE AXLE EQUIPMENT TRAILER MODEL FT6T TO HAUL 2012 ROLLER	3/19/2012	3673	
64		STAIR PRO	6252 STAIR CHAIR	9/29/2011	2765.85	
51	2012	SONY	PTZ SECURITY CAMERA SYSTEM COUNCIL CHAMBERS	12/14/2011	17543.96	
72	2012		HVAC GAS FIRED BOILER FURNACE	11/29/2011	56350	
64	2012	LIFEPAK 15	LIFEPAK 15 CARDIAC MONITOR/DEFIBRILLATOR	8/25/2011	38266.5	
64	2012	LIFEPAK 15	LIFEPAK 15 CARDIAC MONITOR/DEFIBRILLATOR	8/25/2011	38266.5	
51			PORTABLE SOUND SYSTEM	4/6/2012	6208.1	
77		PARAGON	PORTABLE LIFE GUARD CHAIRS		3319	
77		JOHN DEERE	60" FRONT BLADE FOR JD MOWERS		1275	
77			BEDKNIFE GRINDER		9200	
51		SONY	PTZ CAMERA SPCTV	12/30/2011	4157.03	
8684		MULTIEQUIP	PLATE COMPACTOR MODEL#MVC88VGHW	12/27/2011	1715	
8684		SALALIFT II	WINCH W/SELF RETRACTING LIFELINE	12/6/2011	2122	
8684		SALALIFT II	WINCH W/SELF RETRACTING LIFELINE	12/6/2011	2122	
56		ADDED TO BLDG VALUE	NATURAL GAS BURNER-HAMLIN	12/20/2011	9856	
64			SECURITY CAMERA SYSTEM FOR BUFFER ZONE	2/28/2012	128752.69	
77	2012	TORO	03171 RM 3100 D SIDEWINDER MOWER	6/26/2012	34609	
51			SERVICE MONUMENT @ MILL CREEK PARK	8/26/2011	32712.19	
77		ON BUILDING INS POLICY	PLAYSCAPE WITH RUBBER BASE SURFACING MATERIAL	9/27/2012	86062	
72	2012	TOP HAT	5X10 UTILTIY TRAILER	5/10/2012	1395	
72	2011	CAM SUPERLINE	TAG-A-LONG 18" TRAILER	5/10/2012	5895	
64	2012	ROLLNRACK POWER ROLL	ROLL N RACK PWER ROLLER W 5" COUPLING JAWS	9/4/2012	6248	
64			EMERGENCY RESPONSE MARINE VESSEL BOAT	11/1/2012	73943	
63		GERMAN SHEPHERD K-9	K-9 TYSON BORN 9/9/11 GERMAN SHEPHERD	2/4/2013	5000	3/22/2013
63			ELECTRONIC MESSAGE SIGN 48X144	2/11/2013	21291	
77	2011	TORO	WORKMAN MID-DUTY 4 WHEEL UTILITY VEHICLE	7/25/2011	9740	
72	2010	SURE	ST7918 20' 6 TON FLAT TILT TRAILER (PO#20110483)	7/28/2010	5495	
8684		4" STEEL TRENCH BOX	MODEL#4SDW-816	8/3/2011	11225	
63			AUTOMATED PARKING TICKET CITATION SOFTWARE SYSTEM	6/15/2011	26386	
77	2011	TURF	VERTICUTTER WITH CARBIDE TIP BLADES	6/23/2011	9685	
75			MEMORIAL SCHOOL SECURITY CAMERA SYSTEM	3/18/2011	256316.59	

EQUIPMENT

Dept	Yr	Make	Model	Acquired	Replace Value	Sold/Traded
75			GAS FIRED DOMESTIC HOT WATER HEATER-SPHS KITCHEN	1/4/2011	16952	
64		CHEMRAE	PORTABLE CHEMICAL WARFARE AGENT DETECTOR	4/18/2011	14364	
64		GAMMARAE	WIRELESS GAMMARAE II RADIATION DETECTOR	4/20/2011	3794	
75			BOILER REPLACEMENT AT MEMORIAL MIDDLE SCHOOL	3/31/2011	280000	
63		BLACK LAB K-9	K-9 JERRY BORN MAY 2008 BLACK LAB		5000	9/27/2012
63		BLACK GERMAN SHEPHEI	K-9 HARLEY BORN 9/24/04 BLACK GERMAN SHEPHERD		5000	6/30/2013
63		GERMAN SHEPHERD K-9	K-9 SABER BORN 9/19/09 GERMAN SHEPHERD		5000	7/1/2018
63		BELGIAN MALINOIS K-9	K-9 RALPH BORN 8/15/10 BROWN BELGIAN MALINOIS	8/15/2011	5500	4/11/2013
63		GERMAN SHEPHERD K-9	TRIGGER BORN 9/26/11 GERMAN SHEPHERD	4/11/2013	5000	
77			FOUNTAIN AT MILL CREEK PARK	7/11/2012	7684.68	
77	2013	JOHN DEERE	WHP36A MOWER	5/29/2013	4660	
77	2013	CLUB CAR	PR1317-363151 GOLF CART GREEN	5/23/2013	6445	
75			TELEPHONE SYSTEM UPGRADE - SCHOOL	11/28/2012	207214.15	
64			THERMAL IMAGING CAMERA MODEL MSA EVOLUTION 5800	5/24/2013	9926.97	
8684	2000	JOHN DEERE	LAWN TRACTOR MOWER LX 277	4/27/2000	3275	
63		FLIR	27 IN-LINE NIGHT OBSERVATION SCOPE - 2 GUNS SWAT TEAM	5/3/2013	19276	
63		HD DVR	POLICE VEHICLE CAMERAS-DVR (8)	4/22/2013	54940	
64		POWER PRO	AMBULANCE STRETCHER	5/2/2013	14756.55	
51	2013	ELEMENTAL L152	FANCY ENCODER & WEB STREAMING DEVICE	1/23/2013	25470	
51		JVC	JVC FIELD CAMERA/CAMCORDER	11/27/2012	2617.8	
51		JVC	JVC FIELD CAMERA/CAMCORDER	5/27/2013	2355.8	
51		JVC	JVC FIELD CAMERA/CAMCORDER	8/16/2013	2317.3	
63		AVATAR II	ROBOT	11/9/2012	12939.55	
77	2013	JOHN DEERE	UTILITY TRACTOR WITH SPRAYER	8/16/2013	35044.67	
77	2013	POLARIS	RANGER 800 FS EPS MODEL#R14TH7EAS	12/6/2013	14996.99	
63		SABLE GERMAN SHEPHER	K-9 "ZAK" BORN 9/21/12 MALE	1/17/2014	5500	
77		BRITE STRIPER	300 SELF PROPELLED AIRLESS STRIPER MACHINE	8/6/2013	4200	
77		BRITE SRIPER	300 SELF PROPELLED AIRLESS STRIPER MACHINE	8/6/2013	3000	4/9/2019
64		SIMPLEAIR	COMPRESSOR 6000 PSI	12/2/2013	21883	

EQUIPMENT

Dept	Yr	Make	Model	Acquired	Replace Value	Sold/Traded
64			VEHICLE REPEATER FOR INTEROPERABILITY	3/5/2014	11996.63	
63			DIGITAL VEHICLE REPEATER SYSTEM	7/18/2013	16185.69	
64		CARBOX HEMOGLOBIN M	2 CARBOX HEMOGLOBIN METERS FOR HAZMAT	1/29/2014	10007.49	
63		AVATAR	PAN-TILT ZOOM CAMERA	2/14/2014	4530	
63			WESTERN AVENUE TOWER ANTENNAL SYSTEMS-POLICE	8/31/2013	5079.09	
64			WESTERN AVENUE TOWER ANTENNA SYSTEMS-FIRE	8/31/2013	8767.89	
64			SNOW PLOW BLADE	9/27/2013	5124.24	
64			RADIO FOR NEW AMBULANCE	11/22/2013	6060.96	
64			MEDVAULT & KEY SECURE FOR NEW AMBULANCE	3/13/2014	1776	
63			LIFT FOR PD GARAGE	8/16/2011	5265	
8684			COLD PLANER ATTACHMENT	7/1/2014	10565.64	
8684			BUCK SWITCHER & TRANSPORTER ASSEMBLY	8/22/2014	18788.5	
64		AREARAE	PORTABLE AREARAE MULTIGAS WIRELESS MONITOR	10/20/2014	5206	
77			PORTABLE ASPEN AQUATIC LIFT	11/3/2014	6330.22	
64			AMBULANCE STRETCHER	12/29/2014	15734.98	
77		FOLEY ACCU-MASTER	652 SPIN RELIEF GRINDER	1/31/2015	36955	
77	2015	TORO	WORKMAN MDX TRACTOR	6/23/2015	12721.99	
77	2015	TORO	SAND PRO INFIELD PRO 5040 GROOMER TRACTOR	6/30/2015	26403.64	
8684	2015	POLARIS	GEM EM1400 L15U2NAEFA ELECTRIC UTILITY VEHICLE	9/24/2015	11498.98	
52			VOTING TABULATION EQUIPMENT RENTAL (10)	12/15/2015	69700	
72	2015	BOBCAT	6707837 72" SWEEPER	10/19/2015	4235	
8690	2015	WACKER	BPU4045A TRENCH TAMPER/COMPACTOR	11/17/2015	8318.25	
64		KUBOTA	GENERATOR AT FIRE STATION ON BROADWAY	12/18/2015	7395	
80			MOBILE COLUMN LIFTS FOR BUSES	8/21/2015	9895.75	
80			MOBILE COLUMN LIFTS FOR BUSES	8/21/2015	9895.75	
80			MOBILE COLUMN LIFTS FOR BUSES	8/21/2015	9895.75	
80			MOBILE COLUMN LIFTS FOR BUSES	8/21/2015	9895.75	
8684			DUMP TRUCK BODY & LIFTGATE REPLACEMENT	1/21/2016	12290	
64			TERMINATOR II WITH 2000 GPM	5/9/2014	35975	
63			2 UNDERWATER CAMERAS	7/31/2014	3600	
63			4 PROTECTIVE DRY SUITS	7/31/2014	12940	
63			8 IN CAR CAMERAS	7/31/2014	48748	

EQUIPMENT

Dept	Yr	Make	Model	Acquired	Replace Value	Sold/Traded
8684			60" PICK UP SWEEPER FOR JOHN DEERE 317 SKID STEER LOADER	1/14/2016	4950	
76		ECOMASTER	DISC REPAIR MACHINE WITH BLU-RAY	1/26/2016	12940	
72	2016	AVATAX	2 TON DIESEL ASPHALT HOT BOX	3/31/2016	14900	
8684		GALION	9' GALION DROPSIDE DUMP BODY TUB MODEL 100UDS9TUB	3/14/2016	5700	
8680			OFFICE FURNITURE FOR WWTP NEW ADDITION BUILDING	6/30/2016	19570	
64		LIFE PAK 15	DEFIBRILLATOR CARDIAC MONITOR	6/24/2019	32130.62	
52			(4) EXPRESSVOTE VOTING EQUIPMENT	5/12/2016	14000	
8680			HIGH EFFICIENCY A/C UNIT WITH SEACOAST COATED COILS	10/31/2016	14100	
80		PRO-VISION	DIGITAL SECURITY CAMERA SYSTEM FOR CITY BUSES	11/1/2016	15538.76	
77	2017	TORO GROUNDSMASTER	POLARTEC 7210 WITH ATTACHMENTS	8/25/2016	62969.6	
80		PELICAN	305S+ COIN SORTER MACHINE	9/9/2016	3644	
64	2017	SPREADER	WITH BATTERY CHARGER	8/25/2016	11414	
64	2017	CUTTER	WITH BATTERY CHARGER	9/20/2016	11127	
80			AVL WIRE HARNESSES FOR TWO CITY BUSES VIN#84117 & 84118	2/23/2017	12200	
75			INTERCOM SYSTEM AT BROWN SCHOOL	4/25/2017	18216.05	
64		DEFIBRILLATOR	DEFIBRILLATOR	5/30/2017	34861.72	
77	2017	TORO	PROCORE 1298 AERATOR FOR GOLF COURSE	7/27/2016	30895.38	
56			GRIDSMART VIDEO DETECTION SYSTEM	12/29/2016	26340	
75		UNKNOWN	SNOW UTILITY TRAILER		0	
75	2009	GENIE	LIFT AWP225	7/1/2009	5500	
75		AUTOSCRUBBER	AUTOSCRUBBER	7/1/2014	5971	
75		AUTOSCRUBBER	AUTOSCRUBBER	7/1/2014	2985	
75		AUTOSCRUBBER	AUTOSCRUBBER	7/1/2014	5895	
75		AUTOSCRUBBER	AUTOSCRUBBER	7/1/2014	5195	
75		AUTOSCRUBBER	AUTOSCRUBBER	7/1/2014	2895	
75		AUTOSCRUBBER	AUTOSCRUBBER	7/1/2014	3507	
75		SQUARE SCRUB (18")	8 @ $1800 - SQUARE SCRUB	7/1/2014	14400	
75		TAILGATE SPREADER	TAILGATE SPREADER	7/1/2014	2315	
75		FOCUS II BOOST AUTOSCI	FOCUS II BOOST - AUTOSCRUBBER	7/1/2014	3776	
75		PANTHER	AUTOSCRUBBER	7/1/2014	4666	
75		PANTHER	AUTOSCRUBBER	7/1/2014	6996	
75		TORO	1020OXE	7/1/2014	1350	
75		TORO	1020OXE	7/1/2014	1350	
75		XMARK	48" DECK RODER MOWER	7/1/2014	6899	
75	2011	GILLIG	(3) BUS CAMERA SYSTEMS	7/1/2017	5739	

EQUIPMENT

Dept	Yr	Make	Model	Acquired	Replace Value	Sold/Traded
75		STERTIL KONI	(4) HEAVY DUTY MOBILE COLUMN LIFT WIRELESS ($7,747.75 EA)	7/1/2017	30991	
75		STERTIL KONI	(4) HEAVY DUTY MOBILE COLUMN LIFT WIRELESS ($7,747.75 EA)	7/1/2017	30991	
8684			TSS PORTABLE COMPLETE INCASE	8/18/2017	2959.27	
8684			1" WARTHOG MAGNUM ROOT SAW	8/25/2017	2914	
77			PLAYSCAPE LOCATED AT SAWYER STREET	8/22/2017	55886	
64			OHD QUANTIFIT FIT TEST MACHINE	12/29/2017	9693.5	
63			K-9 CREED BORN 1/26/17 BELGIAN MALINOIS	1/11/2018	5500	
64			PORTABLE ANALYZER	10/17/2017	60730.73	
8684			SMARTBOARD	12/21/2017	4795.59	
8684		DATA TRANSFER SOLUTI(	VUEWORKS SOFTWARE LICENSE	6/16/2018	25000	
72		DATA TRANSFER SOLUTI(	VUEWORKS SOFTWARE LICENSE	6/16/2018	25000	
80			DISPLAY SCREEN AT MILL CREEK TRANSIT HUB-MSG & COMMUNICATION	5/25/2018	10704.17	
63			OFFICE FURNITURE FOR POLICE ADMIN OFFICES	4/23/2018	14225	
80			BUS TRANSIT TRAFFIC SIGNAL PRIORITY SYSTEM AT INTERSECTIONS	3/20/2018	219555.48	
66			STREET LIGHTS & LED PILOT PROGRAM FIXTURES	3/20/2018	224470.18	
80			COMM EQUIP-RADIO TOWER & SMART BOARD AT NEW PWF	2/12/2018	19713.71	
77		STERTIL KONI	GARAGE BAY LIFTS FOR PARKS GARAGE@PW COMPLEX FACILITY	2/23/2018	37911	
7511			DIRECT DIGITAL CONTROLS (DDC) HVAC MAHNY	2/5/2018	30225	
7514			SECURITY CAMERS FOR S.P.H.S.	4/10/2018	15176	
72		STERTIL KONI	GARAGE BAY VEHICLE LIFTS (2) FOR PW GARAGE @ PW FACILITY-EARTHLIFTS ST1085	1/10/2018	37911	
8684			SMARTBOARD FOR WRP	3/6/2018	4795.59	
77			THERAPY HOT TUB SPA@COMMUNITY CENTER	12/7/2017	153673.61	
80			SHELVING @ PW COMPLEX FACILITY - BUS	11/1/2017	21537.32	
80			OFFICE FURNITURE @ PW COMPLEX FACILITY - BUS	11/13/2017	19913.23	
77			SHELVING @ PW COMPLEX FACILITY - PARKS	11/1/2017	17947.78	
77			OFFICE FURNITURE @ PW COMPLEX FACILITY - PARKS	11/13/2017	27007.13	
72			SHELVING @ PW COMPLEX FACILITY - PUBLIC WORKS	11/1/2017	32306	

EQUIPMENT

Dept	Yr	Make	Model	Acquired	Replace Value	Sold/Traded
72			OFFICE FURNITURE @ PW COMPLEX FACILITY - PUBLIC WORKS	11/13/2017	27007.13	
80			PHOTO COPIER, COIN SORTER, & AVAYA PHONES - BUS	9/25/2017	10380.99	
80			ACCESS CONTROL SECURITY SYSTEM @ NEW PWF - BUS	9/25/2017	26784.22	
80			SECURITY CAMERAS @ NEW PWF - BUS	9/25/2017	23639.87	
77			ACCESS CONTROL SECURITY SYSTEM @ NEW PWF - PARKS	9/25/2017	13392.12	
77			SECURITY CAMERAS @ NEW PWF - PARKS	9/25/2017	11819.93	
72			ACCESS CONTROL SECURITY SYSTEM @ NEW PWF - PUBLIC WORKS	9/25/2017	26784.22	
72			SECURITY CAMERAS @ NEW PWF - PUBLIC WORKS	9/25/2017	30984.58	
72			NETWORK, COMPUTER WIRING AT PW COMPLEX	9/15/2017	25680	
8684		WARTHOG MAGNUM	1" WARTHOG MAGNUM ROOT SAW	8/25/2017	2914	
8684		TSS	TSS PORTABLE COMPLETE IN CASE	8/18/2017	2959.27	
8680			SCADA CONTROL SYSTEM UPGRADE	8/25/2017	1116422.3	
77	2017	TORO	TORO VERSA VAC	8/16/2017	23349.6	
72			NETWORK & PHONES PUBLIC WORKS COMPLEX	8/30/2018	21619.97	
72			CRANE	8/28/2017	124785.49	
8684		POINT SENSE SUITE	POINT SENSE SUITE SOFTWARE LICENSE	7/27/2017	12808.5	
80		ALKOTA	HOT HIGH PRESSURE WASHER MODEL#216AXH	7/8/2018	3495	
77			TC700 TOW BEHIND & COLLECTIONS MINI WITH TAIL LIFT	7/26/2018	5662.5	
77		TORO	MODEL#08766 SPORTS FIELD EDGER (INFIELD GROOMER)	8/13/2018	3879	
63			EQUIPMENT FOR 2018 CHEVY TAHOE VIN#327373	7/3/2018	11559.3	
72		STERTIL KONI	GARAGE BAY VEHICLE LIFTS AT PWF FOR PW - EARTHLIFTS ST1085	1/10/2018	37911	
77			GARAGE BAY VEHICLE LIFTS AT PWF FOR PKS	2/23/2018	44783.65	
77	2018	JOHN DEERE	OVERSEEDER MODEL#LPOS1572	8/15/2018	11527.25	
8684		BIG JOE	MODEL D4O 27X48 ELECTRIC PALLET JACK TRUCK	8/30/2018	4294.75	
8680			GENERATOR FUEL STORAGE TANK	8/21/2018	12158	
72	2003	WACKER	ONE TON ROLLER	8/8/2003	10400	
72	2005	BOBCAT	18' SMOOTH CUT PLANER	4/12/2005	10082.35	

EQUIPMENT

Dept	Yr	Make	Model	Acquired	Replace Value	Sold/Traded
77		BILLY GOAT	BRUSH CUTTER	6/19/2019	2490	
63	2000	HOMEMADE	BLACK MOTORCYCLE TRAILER			
63		TRU-NARC	NARCOTIC ANALYZER	9/10/2019	29916	
72		CRAIG	PLOW FOR 2019 WHEEL LOADER VIN#47264	10/2/2019	49814	
77	2017	FERRI	TA26 BOOM MOWER	7/24/2019	9800	
77		SNOWRATOR	ZX4 PLOW & DEICER RIDE-ON HONDA WITH ATTACHMENTS	10/31/2019	14877.08	

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
School	2021	BLUE BIRD	BBCV3310 SCHOOL BUS	10/4/2019		$99,700.00	New
School	2021	BLUE BIRD	BBCV3310 SCHOOL BUS	10/4/2019		$94,900.00	New
School	2021	BLUEBIRD	BBCV3310 SCHOOL BUS	10/4/2019		$94,900.00	New
Fire Dept	2020	FORD	F150 4x4 Pickup Truck	1/27/2020		$39,567.00	New
Public Works	2020	FORD	EXPLORER	10/16/2019		$40,964.75	NEW
Public Works	2020	INTERNATIONAL	500X SWEEPER	10/14/2019		$281,500.00	NEW
School	2020	BLUE BIRD	BBCV3310 SCHOOL BUS	4/11/2019		$100,000.00	New
School	2020	BLUEBIRD	BBCV3507 SCHOOL BUS	11/1/2018		$101,250.00	NEW
School	2020	BLUEBIRD	TYPE C-BBCV3310	12/19/2018		$90,000.00	NEW
School	2020	BLUEBIRD	TYPE C-BBCV3310	12/19/2018		$90,000.00	NEW
Fire	2019	FORD	F350 PICKUP TRUCK	10/28/2019		$44,468.00	New
Fire	2019	FORD	E-450 ROAD RESCUE AMBULANCE	6/13/2019		$257,276.00	New
Fire Dept	2019	PIERCE	ARROW XT	9/27/2019		$1,069,486.00	New
Parks	2019	FORD	F-350	4/22/2019		$41,051.00	New
Parks	2019	NISSAN	LEAF	1/17/2019		$35,170.00	
Planning	2019	NISSAN	LEAF	1/17/2019		$36,630.00	
Police	2019	FORD	Explorer Police Cruiser	1/10/2019		$31,916.00	New
Police	2019	FIRD	Explorer Police Cruiser	1/10/2019		$31,916.00	New
Public Works	2019	CASE	71GXR WHEEL LOADER	7/19/2019		$189,986.00	New
Public Works	2019	CRAIG PLOW		10/2/2019		$49,814.00	New
Public Works	2019	TRACKLESS	MT7 SIDEWALK TRACTOR	6/14/2019		$140,997.00	New
School	2019	BLUE BIRD	T3RE4006	12/11/2017		$110,823.90	NEW
School	2019	FORD	TRANSIT VAN	8/26/2019		$28,594.00	New
School	2019	BLUEBIRD	T3RE4006	5/18/2018		$111,300.00	NEW
School	2019	BLUE BIRD	BBCV77	12/11/2017		$95,362.40	NEW
Water Resrc	2019	BOBCAT	S770 T4 SKID-STEER LOADER	8/27/2019		$51,707.22	NEW
Fire Dept	2018	PIERCE	ARROW XT FIRE TRUCK	9/21/2018	10/30/2018	$1,063,882.00	
Parks	2018	GMC	SIERRA	3/6/2018		$23,789.00	
Police	2018	FORD	EXPLORER POLICE CRUISER	5/16/2018		$31,916.00	NEW
Police	2018	FORD	EXPLORER POLICE CRUISER	5/16/2018		$31,916.00	NEW
Police	2018	FORD	EXPLORER POLICE CRUISER	5/16/2018		$32,347.00	NEW
Police	2018	CHEVROLET	TAHOE	5/22/2018		$39,296.00	NEW
Public Works	2018	INTERNATIONAL	7400 TRUCK WITH PLOW	8/9/2017		$164,196.33	NEW
Public Works	2018	INTERNATIONAL	7400 TRUCK WITH PLOW	8/9/2017		$164,196.33	NEW
Public Works	2018	INTERNATIONAL	7400 TRUCK WITH PLOW	8/9/2017		$164,196.33	NEW
School	2018	BLUE BIRD	BBCV3507 PASSENGER SCHOOL BUS	12/27/2016		$86,925.00	NEW
School	2018	RAM	PROMASTER 2500PR VAN	10/30/2018		$25,541.00	NEW
School	2018	DODGE	PROMASTER 1500 VAN	9/30/2018		$22,841.00	NEW

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
School	2018	BLUE BIRD	BBCV3507 PASSENGER SCHOOL BUS	12/27/2016		$86,925.00	NEW
Fire Dept	2017	PIERCE	ARROW XT PUMPER	9/12/2017		$579,691.00	NEW
Fire Dept	2017	FORD	F350 TRUCK	11/3/2017		$39,263.00	NEW
Parks	2017	LOADRITE	TRAILER MODEL UT6514-7000E2	8/22/2016		$3,595.00	NEW
Parks	2017	FORD	TRANSIT CONNECT CARGO VAN	11/23/2016		$28,410.00	NEW
Parks	2017	FORD	F250 TRUCK	10/25/2017		$41,590.00	NEW
Parks	2017	JOHN DEERE	1570 TERRAINCUT COMM FRONT MOWER	7/6/2017		$25,338.76	NEW
Police	2017	FORD	EXPLORER	5/15/2017		$30,510.00	NEW
Police	2017	FORD	EXPLORER	5/15/2017		$30,236.00	NEW
Police	2017	FORD	EXPLORER	5/15/2017	5/25/2019	$30,236.00	NEW
Police	2017	FORD	EXPLORER	5/15/2017		$30,236.00	NEW
Public Works	2017	FREIGHTLINER	114SD TRUCK	9/26/2016		$174,078.44	NEW
School	2017	THOMAS SCHOOL BUS	SAFTLINER 341TS	1/26/2016		$85,803.85	NEW
School	2017	KARAVAN	KHD-2990-60-10 UTILITY TRAILER	8/16/2016		$847.00	NEW
School	2017	THOMAS SCHOOL BUS	SAFTLINER 341TS	1/26/2016		$85,803.85	NEW
School	2017	CHEVROLET	SILVERADO	12/8/2017		$30,931.00	NEW
School	2017	DODGE	CARAVAN	8/25/2017		$22,565.00	NEW
School	2017	DODGE	CARAVAN	8/25/2017		$22,565.00	NEW
Water Resrc	2017	CHEVROLET	SILVERADO	12/8/2016		$20,000.00	NEW
Water Resrc	2017	INTERSTATE	50DLA TRAILER	11/22/2017		$22,300.00	NEW
Bus	2016	GILLIG	G27B10 TRANSIT BUS	11/18/2016		$407,696.00	NEW
Bus	2016	FORD	F350 SERVICE TRUCK	5/19/2016		$78,489.00	NEW
Bus	2016	GILLIG	G27B10 TRANSIT BUS	11/18/2016		$407,696.00	NEW
Fire Dept	2016	CHEVROLET	G4500 AMBULANCE	7/22/2016		$221,787.00	
Parks	2016	JOHN DEERE	4066R UTILITY TRACTOR & LOADER	8/8/2016		$39,062.50	NEW
Parks	2016	FORD	F350 TRUCK	11/5/2015		$51,802.00	NEW
Parks	2016	BWISE	TH824-15 TRAILER	4/6/2016		$11,415.45	NEW
Parks	2016	TORO	TOP DRESSER TRACTOR	8/18/2016		$26,435.77	NEW
Parks	2016	CHEVROLET	SILVERADO	8/23/2016		$42,353.00	NEW
Police	2016	CHEVROLET	TAHOE COMMAND VEHICLE	10/15/2015		$34,447.00	NEW
Police	2016	FORD	EXPLORER POLICE CRUISER	4/25/2016		$29,952.00	NEW
Police	2016	FORD	EXPLORER POLICE CRUISER	4/25/2016		$29,952.00	NEW
Police	2016	FORD	EXPLORER POLICE CRUISER	5/10/2016		$30,161.00	NEW
Police	2016	FORD	EXPLORER POLICE CRUISER	5/10/2016		$29,953.00	NEW

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
Police	2016	MERCEDES-BENZ	SPRINTER VAN	12/27/2016		$36,491.00	USED
School	2016	FREIGHTLINER THOMAS	78 PASSENGER SCHOOL BUS	8/31/2015		$87,706.00	NEW
Assessing	2015	NISSAN	LEAF	11/25/2014		$33,381.86	
Bus	2015	NISSAN	LEAF	12/11/2015		$31,150.00	NEW
Fire Dept.	2015	FORD F450	LIGHT COMMAND/RESCUE VEHICLE	1/28/2016		$101,950.00	NEW
Parks	2015	FORD	F250 TRUCK	8/15/2014		$45,106.00	NEW
Parks	2015	NISSAN	LEAF	11/25/2014		$33,381.86	NEW
Planning	2015	NISSAN	LEAF	12/9/2015	1/17/2019	$33,820.00	NEW
Police	2015	FORD	EXPLORER POLICE CRUISER	5/20/2015		$28,620.00	NEW
Police	2015	FORD	EXPLORER POLICE CRUISER	5/20/2015		$28,620.00	NEW
Police	2015	FORD	EXPLORER POLICE CRUISER	5/20/2015		$28,620.00	NEW
Public Works	2015	ASPHALT RECYCLER	PAVER	5/29/2015		$76,598.00	
Public Works	2015	BOBCAT	BC S770 IT4 SKID-STEER LOADER WITH BUCKE	9/25/2015		$51,643.29	NEW
Public Works	2015	INTERNATIONAL 7400	DUMP TRUCK WITH PLOW	7/1/2014		$167,203.00	NEW
Bus	2014	GILLIG	LOW FLOW CITY BUS UNIT# 902 MODG27B102N4	3/27/2014		$395,195.00	
Bus	2014	GILLIG	LOWQ FLOW CITY BUS UNIT#901 MODG27B102N4	3/26/2014		$395,195.00	
Code Enforce	2014	FORD	ESCAPE	11/22/2013		$22,700.00	NEW
Fire Dept	2014	CHEVROLET	G4500 AMBULANCE	6/12/2014		$192,024.00	
Parks	2014	GMC	SIERRA TRUCK	8/23/2013		$39,125.00	NEW
Parks	2014	TORO	GROUNDSMASTER MOWER	8/11/2015		$74,363.86	NEW
Police	2014	FORD	FOCUS	8/4/2016		$9,688.00	NEW
Police	2014	FORD	EXPLORER POLICE CRUISERS	4/1/2014		$27,676.67	
Police	2014	FORD	EXPLORER POLICE CRUISER	4/1/2014		$27,676.67	
Police	2014	FORD	EXPLORERE PLLICE CRUSIER	4/1/2014		$27,676.67	
Police	2014	HARLEY DAVIDSON	FLHTP MOTORCYCLE	7/13/2018		$7,000.00	NEW
School	2014	FREIGHTLINER	77 PASSENGER BUS	4/16/2013		$84,856.00	NEW
School	2014	CHEVROLET CG3350	14 PASSENGER SCHOOL BUS	8/15/2014		$45,106.00	NEW
School	2014	FREIGHTLINER	66 PASSENGER BUS	4/16/2013		$89,834.00	NEW
Fire	2013	LOADRITE	TRAILER	10/25/2012		$3,759.00	NEW
Fire Dept	2013	CHEVROLET	TAHOE	10/1/2012		$37,304.00	NEW
Fire Dept	2013	ONE PIERCE PUMPER	FIRE TRUCK	6/21/2013		$480,000.00	NEW
Parks	2013	GMC	SIERRA	10/15/2012		$40,442.00	NEW
Parks	2013	TORO	44539 PRO FORCE BLOWER WITH TRAILER	6/12/2013		$7,684.85	
Police	2013	FORD	EXPLORER POLICE CRUISER	4/12/2013		$27,089.00	NEW

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
Police	2013	DODGE	CHARGER POLICE CRUISER	6/17/2013	6/21/2017	$25,884.50	NEW
Police	2013	FORD	EXPLORER POLICE CRUISER	4/12/2013		$27,089.00	NEW
Police	2013	DODGE	CHARGER POLICE CRUISER	6/17/2013		$25,884.50	NEW
Police	2013	FORD	EXPLORER CRUISER	9/7/2012		$29,004.00	NEW
Police	2013	FORD	EXPLORER CRUISER	9/7/2012	7/1/2017	$29,004.00	NEW
Public Works	2013	GMC	SIERRA TRUCK	8/23/2013		$35,409.00	NEW
Public Works	2013	TRACKLESS	MT6 SIDEWALK TRACTOR	10/23/2012		$113,650.00	NEW
Water Resrc	2013	LUGGER HOIST	DUMPSTER GRIT TRUCK BODY	3/1/2013		$32,825.00	
Code	2012	CHEVROLET	SONIC	7/27/2012		$15,875.19	NEW
Fire	2012	GMC	SIERRA 2500 TRUCK W/PLOW	12/8/2011		$31,626.00	NEW
Parks	2012	JOHN DEERE	FRONT MOWER W/SIDE DISCHARGE	5/30/2012		$25,672.32	NEW
Police	2012	DODGE	CHARGER CRUISER	7/24/2012	9/28/2018	$38,034.14	NEW
Police	2012	DODGE	CHARGER CRUISER	7/24/2012	9/27/2017	$38,034.14	NEW
Police	2012	FORD	FOCUS	5/27/2015	6/27/2016	$13,499.00	USED
Public Works	2012	GMC	SIERRA 2500 TRUCK	12/8/2011		$35,138.00	NEW
Public Works	2012	INTERNATIONAL	CHASSIS TRUCK SWEEPER	8/10/2011		$205,000.00	NEW
Public Works	2012	INTERNATIONAL	7500 DUMP TRUCK	11/30/2011		$127,453.00	NEW
Public Works	2012	FORD	F350 SIGN TRUCK	2/21/2012		$68,867.00	NEW
Public Works	2012	TOP HAT	UTILITY TRAILER DSA10X5-S.9N-C	5/10/2012		$1,395.00	NEW
Water Resrc	2012	DOOSAN	PORTABLE AIR COMPRESSOR	1/31/2012		$14,395.00	NEW
Bus	2011	GILLIG G27B102N4	Bus	4/15/2011		$371,406.00	NEW
Bus	2011	GILLIG G27B102N4	Bus	4/15/2011		$371,406.00	NEW
Bus	2011	GILLIG G27B102N4	Bus	4/15/2011		$371,406.00	NEW
Parks	2011	LANDPRIDE	TOW-BEHIND FLEXMOWER	10/31/2010		$18,798.00	NEW
Parks	2011	CHEVROLET	SILVERADO PICKUP	12/22/2010		$36,300.00	NEW
Parks	2011	FORD	F150	7/13/2011		$18,985.00	NEW
Parks	2011	JOHN DEERE	COMPACT UTILITY TRACTOR	11/1/2011		$40,062.00	NEW
Parks	2011	OTR	8X14 FRAME TRAILER	11/5/2011		$3,635.00	NEW
Planning	2011	FORD	CROWN VICTORIA CRUISER	11/7/2012		$11,534.00	USED

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
Police	2011	FORD	CROWN VICTORIA POLICE CRUISER	4/6/2011	9/28/2018	$25,609.00	NEW
Police	2011	DODGE	CALIBER UNMARKED POLICE CRUISER	5/27/2015		$7,000.00	USED
Police	2011	NISSAN	ALTIMA UNMARKED POLICE CRUISER	5/27/2015		$13,000.00	USED
Police	2011	FORD	CROWN VICTORIA POLICE CRUISER	4/6/2011	9/28/2018	$25,609.00	NEW
Police	2011	FORD	CROWN VICTORIA POLICE CRUISER	4/6/2011	6/27/2017	$25,609.00	NEW
Police	2011	FORD	CROWN VICTORIA POLICE CRUISER	4/6/2011	6/27/2017	$25,609.00	NEW
Public Works	2011	CAM SUPERLINE	TAG ALONG UTILITY TRAILER 6CAM18FTT	5/10/2012		$5,895.00	NEW
Public Works	2011	TRACKLESS	MT6 SIDEWALK TRACTOR	10/27/2010		$133,380.00	NEW
Public Works	2011	CAM	SUPERLINE		12/31/2014	$5,862.00	
Public Works	2011	INTERNATIONAL 7500	DUMP TRUCK	4/30/2010		$190,312.00	NEW
School	2011	CHEVROLET	SILVERADO PICKUP	1/7/2011		$30,603.00	NEW
Water Resrc	2011	GMC	#TK20903 TRUCK	12/1/2010		$30,508.00	NEW
Water Resrc	2011	FREIGHTLINER	& B10 AQUATECH VACUUM SEWER CLEANERTRUCK	12/8/2010		$272,450.00	NEW
Fire Dept	2010	FORD E-450	AMBULANCE	3/2/2011		$165,652.00	NEW
Fire Dept	2010	HAULMARK	TS6X10DS2 TRAILER	12/14/2009		$2,619.90	NEW
Fire Dept	2010	CHEVROLET	TAHOE 4WD	12/8/2009		$36,716.00	NEW
Parks	2010	FORD	S-DUTY F350 TRUCK	10/13/2009		$30,202.00	NEW
Police	2010	CHEVROLET	TAHOE 4WD	7/8/2010		$40,264.00	NEW
Police	2010	FORD	CROWN VICTORIA	5/18/2010	6/30/2015	$24,793.25	NEW
Police	2010	FORD	CROWN VICTORIA	5/18/2010	6/30/2015	$24,793.25	NEW
Police	2010	FORD	CROWN VICTORIA	5/18/2010	6/30/2015	$24,793.25	NEW
Police	2010	FORD	CROWN VICTORIA	5/18/2010	2/26/2014	$24,793.25	NEW
Public Works	2010	SURE TRAC	TRAILER	7/28/2010		$5,495.00	NEW
Public Works	2010	FORD	S-DUTY F350 TRUCK	10/13/2009		$30,202.00	NEW
School	2010	GMC	TG33503 14 PASSENGER BUS	7/8/2010		$39,400.00	NEW

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
Water Resrc	2010	FORD	S-DTY F-350 TRUCK	2/1/2010		$33,569.00	NEW
Water Resrc	2010	FORD	F150 TRUCK	9/14/2010		$23,582.00	NEW
Water Resrc	2010	MULTIEQUIP	CONCRETE MIXER MODEL#MC64SH5	9/10/2010		$1,957.11	NEW
Water Resrc	2010	FORD	F150 TRUCK	9/14/2010		$24,715.00	NEW
Fire Dept	2009	CARRY ON	5X8 SP UTILITY TRAILER	7/14/2009		$699.99	NEW
Parks	2009	FORD	F250 PICKUP TRUCK	3/30/2009	10/25/2017	$21,983.00	NEW
Parks	2009	JOHN DEERE	RIDING/ROTARY MOWER	10/21/2009		$16,170.67	NEW
Police	2009	FORD	CROWN VICTORIA POLICE CRUISER	4/15/2009		$24,967.98	NEW
Police	2009	FORD	CROWN VICTORIA POLICE CRUISER	4/15/2009	9/13/2013	$24,967.98	NEW
Police	2009	FORD	CROWN VICTORIA POLICE CRUISER	4/15/2009	1/7/2011	$24,967.98	NEW
Police	2009	FORD	CROWN VICTORIA	12/23/2009	2/25/2015	$21,040.00	NEW
Police	2009	HARLEY	MOTORCYCLE	9/15/2008		$0.00	NEW
Public Works	2009	VOLVO	DUMPTRUCK #VHD64B	8/22/2008		$201,154.00	NEW
Public Works	2009	INTERNATIONAL	7500 DUMP TRUCK	5/14/2009		$176,105.59	NEW
School	2009	FREIGHTLINER	B2-106 SCHOOL BUS # 18	10/3/2008		$78,137.00	NEW
School	2009	FORD	F250 SUPER DUTY TRUCK	7/30/2009		$26,320.00	NEW
School	2009	CHEVROLET	C5500 DIESEL UTILITY TRUCK	11/19/2008		$46,908.00	NEW
Water Resrc	2009	CHEVROLET	K1500 PICKUP TRUCK	3/17/2009	12/8/2016	$21,287.00	NEW
Water Resrc	2009	INTERSTATE	40 DLA 20 TON TRAILER, UTILITY	11/7/2008	11/21/2017	$16,470.00	NEW
Bus	2008	CHEVROLET	GOSHEN GC11-5500 BUS UNIT 916	9/19/2008	6/18/2012	$104,000.00	NEW
Bus	2008	CHEVROLET	GOSHEN GC11-5500 BUS UNIT 915	9/19/2008	6/18/2012	$104,000.00	NEW
Fire Dept	2008	CHEVROLET	1500 4WD EXT CAB PICKUP	8/22/2008		$23,000.00	NEW
Parks	2008	FORD	F150 PICKUP	1/24/2008		$24,060.00	NEW
Parks	2008	GMC	TC5C042	12/27/2007		$61,159.00	NEW
Police	2008	JEEP	PATRIOT 4X4	10/22/2008		$21,869.00	NEW
Police	2008	HARLEY	ROADKING MOTORCYCLE	3/25/2008	12/31/2008	$23,000.00	
Police	2008	FORD	ESCAPE	5/27/2015	12/18/2015	$7,034.00	USED
Police	2008	HARLEY	ROADKING MOTORCYCLE	3/25/2008	7/13/2018	$23,000.00	
Police	2008	FORD	CROWN VICTORIA SEDAN	6/26/2008	3/16/2011	$24,149.00	NEW

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
Police	2008	FORD	CROWN VICTORIA SEDAN	6/26/2008	6/30/2015	$24,149.00	NEW
Police	2008	FORD	CROWN VICTORIA SEDAN	6/26/2008	6/30/2015	$24,149.00	NEW
Police	2008	INTERNATIONAL	MRAP MVP MILITARY VEHICLE	7/1/2014		$75,000.00	USED
Police	2008	FORD	CROWN VICTORIA SEDAN	6/26/2008	9/13/2013	$24,149.00	NEW
Police	2008	FORD	CROWN VICTORIA SEDAN	6/26/2008	6/30/2015	$24,149.00	
Public Works	2008	INTERNATIONAL	DUMP TRUCK 7500 MODEL	9/28/2007		$132,197.00	NEW
Public Works	2008	INTERNATIONAL	DUMP TRUCK 7500 MODEL	9/28/2007		$132,197.00	NEW
Public Works	2008	Ford	F550 SERVICE BUCKET	2/14/2008		$98,978.00	NEW
Public Works	2008	INTERNATIONAL	DUMP TRUCK 7500 MODEL	9/28/2007		$147,412.00	NEW
Public Works	2008	INTERNATIONAL	DUMP TRUCK 7500 MODEL	9/28/2007		$132,197.00	NEW
School	2008	FREIGHTLINER	B2-106 School Bus # 4	8/31/2007		$71,755.00	NEW
School	2008	FREIGHTLINER	B2-106 School Bus # 14	8/31/2007		$71,755.00	NEW
Water Resrc	2008	FREIGHTLINER	3500 SPRINTER 1 TON VAN	10/9/2008		$128,000.00	NEW
Water Resrc	2008	JOHN DEERE	317 SKID STEER LOADER	5/20/2008	8/27/2019	$22,500.00	NEW
Code Enforce	2007	FORD	FOCUS	1/8/2008	6/23/2017	$16,290.00	NEW
Code Enforce	2007	FORD	FOCUS	11/6/2006		$12,335.00	NEW
Fire Dept	2007	CHEV	TAHOE	11/7/2006		$30,946.00	NEW
Fire Dept	2007	GMC	Sierra 3500	9/22/2006		$31,728.00	NEW
Parks	2007	FORD	F-150	6/15/2007	3/6/2018	$21,920.00	NEW
Parks	2007	GMC	SIERRA PICKUP	6/6/2007	2/18/2011	$24,845.00	NEW
Police	2007	HARLEY	FLHP MOTORCYCLE	3/13/2007	12/31/2007	$18,500.00	LEASE
Police	2007	CHEVROLET	MALIBU UNMARKED POLICE CAR	12/3/2008	6/30/2015	$9,943.00	USED
Police	2007	CHEVROLET	MALIBU UNMARKED POLICE CAR	12/3/2008	2/25/2015	$9,942.00	USED
Police	2007	HARLEY	LHP MOTORCYCLE	3/13/2007	12/31/2007	$18,500.00	LEASE
Police	2007	HARLEY	FLHP MOTORCYCLE	3/13/2007	12/31/2007	$18,500.00	LEASE
Police	2007	HARLEY	FLHP MOTORCYCLE	3/13/2007	12/31/2007	$18,500.00	LEASE
Public Works	2007	GMC	Sierra 150	7/18/2006		$13,701.00	New
Public Works	2007	DODG	RAM CA	5/22/2007		$28,611.00	NEW
Public Works	2007	INTL	7500 DUMP	3/7/2007		$138,036.09	NEW
Public Works	2007	TRACKLESS	SIDEWALK PLOW MT5	10/12/2007		$116,571.00	NEW
Water Resrc	2007	INTERNATIONAL	7500 DUMP	5/25/2007		$85,086.02	NEW
Water Resrc	2007	GMC	SAVANA VAN	9/7/2007		$20,913.00	NEW
Water Resrc	2007	FORD	F 350 ONE TON DUMP	4/27/2007		$23,026.00	NEW
Water Resrc	2007	GMC	ENVOY TT15506	6/15/2007		$27,566.00	NEW
Water Resrc	2007	GMC	SIERRA 3500 1-TON DUMP	11/9/2006		$16,865.00	NEW

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
Water Resrc	2007	CHEVROLET	UPLANDER MINI-VAN	6/15/2007		$17,298.00	NEW
Water Resrc	2007	FORD	F150 PICK UP	4/11/2007		$14,858.00	NEW
Code Enforc	2006	FORD	CROWN VICTORIA	6/8/2006	9/19/2017	$23,171.00	NEW
Fire Dept	2006	JOHN DEERE	GATOR UTILITY	12/20/2005		$14,208.00	NEW
Fire Dept	2006	HAULMARK	RT85X20WT3	5/30/2006		$17,901.00	NEW
Fire Dept	2006	FORD	E450 Road Rescue R5207	8/11/2006		$129,907.00	NEW
Parks	2006	GMC	SIERRA C1500 PU	5/15/2006	4/22/2019	$13,049.00	NEW
Police	2006	FORD	CROWN VICTORIA	6/8/2006	3/11/2011	$23,171.00	NEW
Police	2006	HARLEY	RoadKing Motorcycle	3/15/2006	12/31/2006		lease
Police	2006	HARLEY	RoadKing Motorcycle	5/8/2006	12/31/2006		
Police	2006	HARLEY	RoadKing Motorcycle	5/8/2006	12/31/2006		
Police	2006	FORD	CROWN VICTORIA	6/8/2006	3/11/2011	$23,171.00	NEW
Police	2006	FORD	CROWN VICTORIA	6/8/2006	10/2/2017	$23,171.00	NEW
Police	2006	FORD	CROWN VICTORIA	6/8/2006	10/17/2012	$23,171.00	NEW
Police	2006	FORD	CROWN VICTORIA	6/8/2006	11/16/2009	$23,171.00	NEW
Police	2006	FORD	CROWN VICTORIA	6/8/2006	2/16/2012	$23,171.00	NEW
Police	2006	HARLEY	RoadKing Motorcycle	3/15/2006	12/31/2006		LEASE
Police	2006	FORD	CROWN VICTORIA	6/8/2006	2/16/2012	$23,171.00	NEW
Public Works	2006	JOHN DEERE	624J	1/13/2006		$158,400.00	NEW
Public Works	2006	TRACKLESS	MT5	12/12/2005		$72,810.00	NEW
School	2006	BLUE BIRD	BBCV3310 Bus #2	8/12/2005		$62,815.00	PURCHASED NEW
School	2006	GMC	TG2340 SAVANNA VAN	1/24/2006		$15,448.70	PURCHASED NEW
Water Resrc	2006	CENTURION	SWEEPER CENT-3111	12/21/2005	8/10/2011	$183,615.00	
Water Resrc	2006	FORD	E250 ECONOLINE VAN	8/2/2006		$18,333.00	NEW
Water Resrc	2006	FRIEGHTLINER	M2106 DUMPTRUCK	12/12/2005		$67,021.00	NEW
Water Resrc	2006	GMC	TG23405-SAVANA VAN	1/3/2006		$18,491.00	NEW
Fire Dept	2005	HAULMARK	ET8SX24WT3 HAZMAT TRAILER	10/21/2004		$17,700.00	

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
Parks	2005	ELDORADO	AEROTECH	9/14/2005		$45,697.00	NEW
Parks	2005	SUPERIOR	Equip Trailer - 26.516.5	7/7/2005		$2,274.00	new
Parks	2005	CHEV	Trailblazer	6/29/2005		$18,345.00	USED
Police	2005	DODGE	CARAVAN-RSKL53	12/5/2005	6/30/2015	$14,913.50	USED
Police	2005	FORD	F450 UTILITY TRUCK	11/23/2009		$18,000.00	USED
Police	2005	HARLEY	SLHPI Motorcycle	3/21/2005	12/31/2005		
Police	2005	HARLEY	SLHPI Motorcycle	3/21/2005	12/31/2005		
Public Works	2005	BOBCAT	5185	4/12/2005		$23,039.33	Excellent
Public Works	2005	GMC	TCZE042	4/26/2005		$106,108.00	Excellent
Public Works	2005	STERLING	Condor	5/18/2005	11/24/2014	$182,999.00	New
Public Works	2005	STERLING	Condor	5/18/2005	4/11/2007	$182,999.00	New
School	2005	CHEV	Silverado 1500 Regular Cab Truck	9/1/2004	12/8/2017	$14,668.00	New
Water Resrc	2005	JOHN DEERE	544J	8/2/2005		$78,500.00	NEW
Water Resrc	2005	FREIGHTLINER	M2106 Catch Basin Truck	12/2/2004		$105,389.00	New
Fire dept	2004	E-1	Typhoon pumper	4/13/2005		$259,498.00	excellent
Fire Dept	2004	FORD	E450 - AMBULANCE	2/5/2005	7/22/2016	$109,514.00	excellent
Fire Dept	2004	GMC	TK25903	12/12/2003		$23,227.00	New
Fire Dept	2004	GMC	Yukon	12/5/2003		$28,424.00	New
Parks	2004	FORD	F-250 Truck	2/11/2004	11/5/2015	$24,635.00	New
Police	2004	FORD	CROWN VICTORIA POLICE INTERCEPTOR	3/31/2004	11/16/2009	$21,863.00	New
Police	2004	FORD	CROWN VICTORIA POLICE INTERCEPTOR	3/31/2004	3/19/2009	$21,863.00	New
Police	2004	FORD	CROWN VICTOR POLICE INTERCEPTOR	3/30/2004	10/6/2008	$21,863.00	New
Police	2004	VER-MAC MESSA	PCMS 548 TRAILER	9/9/2004		$15,595.00	
Police	2004	FORD	CROWN VICTORIA POLICE INTERCEPTOR	3/31/2004	2/25/2015	$21,863.00	New
Police	2004	FORD	CROWN VICTOR POLICE INTERCEPTOR	3/31/2004	11/5/2015	$22,779.95	New
Police	2004	FORD	CROWN VICTOR POLICE INTERCEPTOR	3/31/2004	10/15/2015	$21,863.00	New
Police	2004	FORD	CROWN VICTORIA POLICE INTERCEPTOR	3/31/2004	10/17/2012	$21,863.00	New
Police	2004	HARLEY	SLHPI Motorcycle	4/15/2004	12/31/2004		New
Police	2004	HARLEY	SLHPI Motorcycle M-2	3/24/2004	12/31/2004		
Police	2004	VOLKSWAGEN	PASSAT	12/18/2015		$26,520.00	USED

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
Police	2004	HARLEY	SLHPI Motorcycle M-3	3/24/2004	12/31/2004		
Police	2004	VER-MAC MESSA	PCMS 548 TRAILER	9/9/2004		$15,595.00	
Police	2004	FORD	CROWN VICTORIA POLICE INTERCEPTOR	3/31/2004	10/17/2012	$21,863.00	New
Public Works	2004	FORD	TRUCK F-250	2/3/2004	8/9/2017	$17,438.00	New
Public Works	2004	FREIGHTLINER	FC80 TRUCK/STREET SWEEPER	10/3/2003		$151,500.00	New
Public Works	2004	FORD	F3500 HD TRUCK	2/11/2004		$21,675.00	New
Public Works	2004	GMC	TK15753 1500	3/11/2004	8/23/2016	$20,381.00	New
School	2004	FREIGHTLINER	FS-65 Bus #13	2/9/2004		$53,548.00	New
School	2004	FREIGHTLINER	FS-65 Bus # 7	2/17/2004	6/26/2019	$53,548.00	New
School	2004	FREIGHTLINER	FS-65 Bus #16	2/9/2004		$53,548.00	New
School	2004	FREIGHTLINER	FS-65 Bus # 8	1/24/2004	6/26/2019	$53,548.00	New
School	2004	FREIGHTLINER	FS-65 Bus #17	2/11/2004		$53,548.00	New
School	2004	FORD	E250 School Bus Lunch Van	10/23/2003		$13,549.00	New
School	2004	FREIGHTLINER	FS-65 Bus #9	1/24/2004	6/26/2019	$53,548.00	New
School	2004	FREIGHTLINER	FS-65 Bus #11	2/11/2004		$53,548.00	New
School	2004	INTL	NAVI 3000 SE School Bus Bus #6	10/8/2003		$56,217.99	New
School	2004	FREIGHTLINER	FS-65 Bus #12	2/17/2004	6/26/2019	$53,548.00	New
Bus	2003	THOMAS	232SN	10/7/2002	8/24/2015	$239,355.40	New
Facilities	2003	FORD	F-250 SERVICE TRUCK	7/5/2016		$6,813.00	USED
Fire Dept	2003	E-1	CYCLONE II 75' LADDER E5	1/7/2004	1/16/2018	$559,125.00	New
Fire Dept	2003	SPARTAN	Rescue - VA41M-2142 SQ4	5/5/2003		$292,462.50	New
Fire Dept	2003	GMC	TK25903 Pickup	11/14/2002	9/15/2017	$20,300.00	
Parks	2003	FORD	F150	2/26/2003	8/28/2014	$20,745.00	New
Police	2003	HARLEY	SLHPI		12/31/2003		
Police	2003	FORD	Crown Victoria	7/11/2002	11/16/2009	$23,650.00	New
Police	2003	FORD	Crown Victoria	7/11/2002	9/12/2006	$23,650.00	New
Police	2003	HARLEY	SLHPI		12/31/2003		
Police	2003	FORD	Crown Victoria	7/11/2002	10/6/2008	$23,650.00	New
Police	2003	FORD	Crown Victoria	9/30/2002	9/17/2012	$23,990.00	New
Police	2003	FORD	Crown Victoria	7/11/2002	9/12/2006	$23,650.00	New

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
Police	2003	FORD	Crown Victoria	7/11/2002	3/31/2009	$23,650.00	New
Police	2003	FORD	Crown Victoria	7/11/2002	10/6/2008	$23,650.00	New
Police	2003	FORD	Crown Victoria	7/11/2002	10/6/2008	$23,650.00	New
Police	2003	FORD	Crown Victoria	7/11/2002	11/16/2009	$23,650.00	New
Public Works	2003	STERLING	Dump Truck	8/13/2002		$92,756.00	New
Public Works	2003	STERLING	Dump Truck	8/13/2002		$95,483.00	New
Public Works	2003	STERLING	Dump Truck	8/13/2002		$92,756.00	New
Public Works	2003	GMC	TK25753 3 QUAR TON	4/18/2003	12/8/2011	$25,660.10	New
School	2003	INTL	School Bus Bus #10	8/26/2002		$56,142.99	New
School	2003	INTL	School Bus Bus #5	8/26/2002		$61,602.00	New
Bus	2002	ORION	V-30	1/25/2012	6/23/2017	$200,000.00	USED
Bus	2002	THOMAS	SLF COMMERCIAL	6/30/2002	8/24/2015	$239,355.40	New
Bus	2002	ORION	V-30	1/25/2012	6/23/2017	$200,000.00	USED
Fire Dept	2002	FERRARA	IGNITER E6	12/18/2002		$386,462.00	New
Parks	2002	GMC	PK25903 3 Quarter	6/28/2002	8/23/2013	$26,920.00	New
Police	2002	HARLEY	Motorcycle		11/1/2002		
Police	2002	GMC	Savana - White	2/7/2002	6/21/2017	$23,498.21	New
Police	2002	HARLEY	Motorcycle		11/2/2002		
Public Works	2002	INTL	SANDER	5/9/2000	8/17/2017	$95,418.00	New
Public Works	2002	STERLING	L7500 Sander	4/19/2002		$98,995.00	New
Public Works	2002	INTL	SANDER	5/9/2000		$95,418.00	New
Public Works	2002	KOMATSU	Grader	8/30/2002		$136,156.00	New
School	2002	BLUE BIRD	All Amer School Bus #20	8/2/2001	6/26/2019	$73,800.00	New
School	2002	GMC	T631503 Bus #22	4/30/2002		$32,500.00	New
School	2002	CHEV	Van CG21405	6/18/2002		$15,293.35	New
Fire Dept	2001	CHEV	Tahoe	1/4/2001		$28,600.00	New
Fire Dept	2001	GMC	TC15703	11/3/2000	11/22/2013	$14,171.00	New
Parks	2001	GMC	TC36403	7/25/2001	10/15/2012	$26,513.00	New
Public Works	2001	FORD	F350	12/19/2000	5/30/2019	$34,651.00	New
Public Works	2001	FREIGHTLINER	TK	7/7/2000		$111,209.00	New
School	2001	INTL	School Bus Bus #21	11/6/2000		$56,023.60	New

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
School	2001	INTL	School Bus Bus #19	11/6/2000	6/26/2019	$48,939.47	New
Water Resrc	2001	GMC	TC15903	1/1/2001	3/17/2009	$15,396.00	New
Code Enforce	2000	FORD	Taurus	2/2/2000	7/27/2012	$20,000.00	New
Fire Dept	2000	FORD	E-450	5/3/2000	6/12/2014	$109,321.50	New
Fire Dept	2000	FORD	E-450	5/3/2000	8/11/2006	$109,321.50	New
Parks	2000	GMC	Sierra	4/19/2000	8/28/2014	$28,539.00	
Police	2000	HARLEY	MC-31		11/1/2002		
Police	2000	FORD	Crown Victoria	5/11/2000	9/12/2006	$23,000.00	New
Police	2000	FORD	Crown Victoria	5/11/2000	6/22/2004	$23,000.00	New
Police	2000	FORD	Crown Victoria	5/10/2000	2/16/2012	$23,000.00	New
Police	2000	FORD	Crown Victoria	5/11/2000	9/12/2006	$23,000.00	New
Police	2000	FORD	Crown Victoria	5/11/2000	9/12/2006	$23,000.00	New
Police	2000	FORD	Crown Victoria	5/10/2000	11/16/2009	$23,000.00	New
Police	2000	HARLEY	MC-51		11/1/2002		
Police	2000	FORD	Crown Victoria	5/8/2000	7/12/2002	$23,000.00	New
Police	2000	FORD	Crown Victoria	5/11/2000	6/22/2004	$23,000.00	New
Public Works	2000	FREIGHTLINER	Medcon	7/21/2000	8/15/2017	$107,517.00	New
Public Works	2000	CAT	938G LOADER	11/14/2000		$123,110.00	
Public Works	2000	FREIGHTLINER	Medcon	5/26/2000	8/9/2017	$84,386.00	New
Public Works	2000	FREIGHTLINER	Medcon	7/21/2000	11/24/2014	$107,517.00	New
Public Works	2000	GMC	Sierra - TC15703	3/29/2000	8/9/2017	$21,000.00	New
Public Works	2000	FREIGHTLINER	Medcon	5/26/2000	8/15/2017	$84,386.00	New
School	2000	INTL	School Bus Bus #1	2/26/2000	6/26/2019	$50,000.00	New
Water Resrc	2000	FREIGHTLINER	FL80	12/23/1999	12/8/2010	$183,394.00	New
Water Resrc	2000	GMC	Sierra	12/23/1999	2/1/2010	$23,366.00	New
Bus	1999	GMC	Sierra	11/25/1998	12/8/2011	$25,322.00	New
Bus	1999	GILLIG PHANTOM	Bus	12/18/1998	6/15/2013	$50,000.00	
Bus	1999	GILLIG PHANTOM	Bus	12/18/1998	6/15/2013	$50,000.00	
Parks	1999	CHEV	K2500	4/26/1999	2/16/2012	$23,642.00	New
Parks	1999	GMC	TC6H042	4/12/1999		$48,643.00	New
Police	1999	OLDS	ALEROG 4 DOOR	12/5/2007	3/13/2009	$0.00	USED
Police	1999	MERCURY	MOUNTAINEER SUV	10/6/2008	8/29/2012	$0.00	USED
Police	1999	FORD	E-150 Van	10/29/1998	10/22/2008	$18,000.00	New
Public Works	1999	INTL	Dump/Plow	8/3/1998	9/21/2017	$66,602.66	New

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
Public Works	1999	JOHNSTON	J3000 SWEEPER	6/29/1999	7/11/2008	$114,526.00	New
Public Works	1999	TRACKLESS	MT-5 MULTIPURPOSE TRACTOR	11/23/1998		$48,160.00	New
Public Works	1999	INTL	Dump/Plow	8/3/1998	7/1/2017	$66,602.66	New
Public Works	1999	INTL	Dump/Plow	8/3/1998	8/23/2017	$66,602.66	New
Public Works	1999	GMC	Sierra	5/28/1999	3/30/2009	$23,778.99	New
School	1999	CHEV	C3500	10/27/1998	3/13/2009	$24,934.00	New
School	1999	INTL	School Bus Bus #3	3/5/1999	6/30/2010	$56,961.56	New
School	1999	CHEV	K1500 Silverado	1/6/1999	1/7/2011	$18,786.00	New
School	1999	THOMAS	STYLE 27		12/31/1999		
Water Resrc	1999	INTL	TK 4900	7/14/1998		$120,000.00	New
Water Resrc	1999	CHEV	TAHOE	12/22/1998	9/14/2010	$30,000.00	New
Water Resrc	1999	CHEV	Silverado	2/3/1999	9/14/2010	$20,000.00	New
Water Resrc	1999	CHEV	1-Ton Dump	10/26/1998	4/27/2007	$25,000.00	New
Fire Dept	1998	GMC	TC20903 S4	3/10/1998	7/5/2016	$18,809.00	Excellent
Planning	1998	FORD	Escort SW	4/22/1998	3/19/2011	$15,259.20	Excellent
Police	1998	HARLEY	FLHPI		8/7/2001	$10,000.00	
Police	1998	FORD	Crown Victoria	2/5/1998	5/23/2000	$21,500.00	Excellent
Police	1998	FORD	Crown Victoria	2/5/1998	9/26/2002	$21,500.00	Excellent
Police	1998	FORD	Crown Victoria	2/5/1998	5/23/2000	$21,500.00	Excellent
Police	1998	FORD	Crown Victoria	2/5/1998	9/12/2006	$21,500.00	Excellent
Police	1998	FORD	Crown Victoria	2/5/1998	9/26/2002	$21,500.00	Excellent
Police	1998	FORD	Crown Victoria	2/5/1998	5/23/2000	$21,500.00	Excellent
Police	1998	FORD	Crown Victoria	2/5/1998	5/23/2000	$21,500.00	Excellent
Police	1998	CHEVROLET	K2500 PICKUP TRUCK	2/8/2010		$0.00	USED
Police	1998	FORD	Crown Victoria	2/5/1998	9/26/2002	$21,500.00	Excellent
School	1998	CHEV	K2500 Pickup Truck	10/14/1997	1/7/2011	$22,521.00	Excellent
School	1998	CHEV	K2500 Pickup Truck	10/8/1997	3/23/2010	$22,521.00	Excellent
School	1998	INTL	School Bus Bus #18	4/7/1998	3/31/2009	$54,991.00	Excellent
Bus	1997	GMC	GMT 400 3500 HD	3/1/1997	10/19/2017	$35,000.00	Excellent
Fire Dept	1997	GMC	TK30903 1 ton	5/2/1997	6/13/2013	$24,237.00	Excellent
Parks	1997	GMC	TC10903	11/27/1996	12/22/2010	$18,000.00	New
Police	1997	FORD	Crown Victoria	11/20/1996	9/12/2006	$21,000.00	Excellent

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
Police	1997	FORD	EXPLORER SUV	12/1/2006	3/13/2009	$0.00	USED
Public Works	1997	GMC	TC31403 Dump C/K3500	9/5/1996	2/11/2004	$40,000.00	Good
Public Works	1997	INTL	2554 Dump	5/12/1997	11/21/2014	$87,096.26	Excellent
Public Works	1997	JOHN DEERE	624G LOADER	2/24/1997		$126,389.00	New
Public Works	1997	CHAMPION	710A Grader	2/13/1997		$108,000.00	Excellent
Public Works	1997	JOHN DEERE	624G LOADER	2/28/1997		$126,389.00	New
School	1997	GMC	Safari		5/14/2002	$18,000.00	
Water Resrc	1997	GMC	Van	12/30/1996	9/7/2007	$20,000.00	Very Good
Bus	1996	ORION	Bus	6/1/1996	10/23/2017	$194,000.00	Excellent
Bus	1996	ORION	Bus	6/1/1996	6/15/2013	$194,000.00	Excellent
Bus	1996	ORION	Bus	6/1/1996	6/15/2013	$194,000.00	Excellent
Code Enforce	1996	BUICK	Century	7/11/1996	11/6/2006	$15,000.00	
Finance	1996	BUICK	Century	10/8/1996	1/8/2008	$15,000.00	
Fire Dept	1996	PIERCE AROW	Aerial Platform T-1	9/1/1995		$120,000.00	Excellent
Fire Dept	1996	FORD	Crown Victoria	1/22/1996	12/5/2003	$20,000.00	Excellent
Parks	1996	GMC	C-1500 1/2 Ton Pickup	11/1/1996	1/24/2008	$18,000.00	Excellent
Police	1996	FORD	Crown Victoria	2/9/1996	2/27/1998		Good
Police	1996	FORD	Crown Victoria	2/8/1996	2/19/1998		Good
Police	1996	FORD	Crown Victoria	1/23/1996	6/22/2004	$20,000.00	Good
Police	1996	FORD	Crown Victoria	1/23/1996	6/22/2004	$20,000.00	Good
Police	1996	FORD	Crown Victoria	2/9/1996	2/19/1998		Good
Police	1996	FORD	Crown Victoria	12/6/1995	5/26/2006	$20,000.00	Excellent
Police	1996	BUICK	Century	12/4/1995	9/30/2002	$13,437.00	
Police	1996	FORD	Crown Victoria	1/23/1996	6/22/2004	$20,000.00	Good
Police	1996	FORD	Crown Victoria	2/7/1996	2/19/1998		Good
Police	1996	FORD	Crown Victoria	1/23/1996	6/22/2004	$20,000.00	Good
Public Works	1996	TRACKLESS	SIDEWALK TRACKLESS TRACTOR WITH V PLOW	1/1/1996	5/14/2004	$54,449.00	New
Fire Dept	1995	CHEV	Blazer C3	6/1/1995	11/6/2006	$14,100.00	TRADED IN
Parks	1995	FORD	F450	2/21/1995	10/13/2009	$22,386.00	Like New
Public Works	1995	FORD	F350	1/1/1995	7/1/2008	$21,204.00	Good
Public Works	1995	FORD	LTS8000 Packer	1/1/1995	6/7/2006	$81,735.00	Good
Public Works	1995	FORD	L8000 Dump	1/1/1995	7/4/2017	$64,972.00	Good
Public Works	1995	CHEV	S.B. PU GMC Truck	1/1/1995	2/3/2004	$18,000.00	Good
Public Works	1995	ELGIN	Street Sweeper	1/1/1995	3/31/2004	$72,000.00	Good
Public Works	1995	FORD	L8000 Dump	1/1/1995	7/11/2008	$65,000.00	Good
Public Works	1995	FORD	L8000 Dump	1/1/1995	2/16/2012	$65,000.00	Good
Public Works	1995	FORD	LTS8000 Packer	1/1/1995	6/7/2006	$81,735.00	Good

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
School	1995	NAVI	School Bus Bus #17 TK	6/15/1995	5/18/2004	$49,062.00	
School	1995	NAVI	School Bus Bus #12 TK	6/15/1995	5/18/2004	$49,062.00	
School	1995	NAVI	School Bus Bus #13 TK	6/15/1995	5/18/2004	$49,062.00	
School	1995	NAVI	School Bus Bus #16 TK	6/15/1995	5/18/2004	$49,062.00	
School	1995	GMC	Carpenter Bus Bus #11	2/7/1995	5/18/2004	$29,000.00	
School	1995	INTL	School Bus Bus #15		7/1/2008	$47,915.00	
School	1995	INTL	School Bus Bus #14		7/1/2008	$47,915.00	
Water Resrc	1995	GMC	Van	1/1/1995	8/2/2006	$18,000.00	Very Good
Water Resrc	1995	CHEV	S10 Blazer	1/1/1995	6/15/2007	$16,869.00	Excellent
Parks	1994	GMC	TC10903	2/22/1994	5/15/2006	$20,000.00	Like New
Police	1994	HUMMER	H-1 MILITARY VEHICLE	12/1/2009	7/1/2014	$46,000.00	USED
Police	1994	CHEV	1 Ton Pickup	1/1/1994	3/11/2011	$20,000.00	Good
Police	1994	CHEV	Caprice	3/10/1994	2/19/1998		Good
Police	1994	CHEV	Caprice	3/14/1994	2/19/1998		Good
Water Resrc	1994	GMC	1 Ton	1/1/1994	11/9/2006	$18,000.00	Very Good
Engineering	1993	GMC	TC10903	1/1/1993	3/11/2004	$14,123.00	Fair
Fire Dept	1993	FERRERA	Pumper E8	6/27/1997	4/13/2005	$187,000.00	Excellent
Fire Dept	1993	INTL	Rescue	3/1/1993	9/28/2011		Good
Fire Dept	1993	INTL	Ambulance	3/26/1993	2/4/2005	$82,500.00	
Parks	1993	GMC	TK20903	11/1/1993	6/27/2002	$17,232.00	Good
Parks	1993	GMC	TC10903	11/1/1993	6/6/2007	$14,124.00	Good
Police	1993	DODGE	STEALTH	5/8/2012	9/13/2013	$20,753.00	USED
Police	1993	BMW	K75R Motorcycle	6/3/1997	5/31/2006	$2,800.00	
Police	1993	CHEV	Caprice	4/28/1993	9/26/2002	$15,824.00	Good
Police	1993	GMC	K2500S Chevy Suburban Wagon	12/12/2003	3/11/2011	$0.00	Used
Police	1993	INTL	Comm/SRT	7/27/2000	9/28/2011	$10,000.00	
School	1993	INTL	3800 Bus Bus #7 TK	10/14/1993	5/18/2004	$49,000.00	
School	1993	GMC	TM10906	12/22/1992	5/18/2004	$15,824.00	
School	1993	FORD	SU Cargo Van		10/23/2003	$14,000.00	
Water Resrc	1993	GMC	T.V. Unit Van	1/1/1993	10/23/2008	$65,000.00	Very Good
Water Resrc	1993	GMC	TC10903	1/1/1993	4/11/2007	$14,123.00	Very Good
Water Resrc	1993	GMC	4x4 Pickup	1/1/1993	11/14/2002	$17,876.00	Very Good
Fire Dept	1992	FERRARA	Engine E2	1/1/1993		$187,000.00	Excellent
Fire Dept	1992	INTL	Emerg-One 1000 G.P.M	1/1/1992	5/22/2007	$185,000.00	Very Good

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
Fire Dept	1992	INTL	EMERG-ONE Engine E3		7/3/2013	$104,675.00	
Police	1992	FORD	Club Wagon	6/7/2000	5/26/2006	$10,000.00	
School	1992	NAVI	School Bus Bus #9 TK	10/31/1991	5/18/2004	$49,288.00	
School	1992	FORD	F350		10/27/1998		Poor
School	1992	INTL	School Bus Bus #2		6/7/2006	$49,288.00	
Water Resrc	1992	GMC	TG31305 Van	1/1/1992	1/3/2006	$15,824.00	Good
Fire Dept	1991	E-1	Engine E1	1/1/1991	11/1/2017	$104,675.00	Very Good
Parks	1991	GMC	1/2 Ton	11/1/1991	2/29/2004	$11,235.00	Good
Police	1991	DODGE	Caravan	4/25/1995	9/26/2002	$12,000.00	Fair
School	1991	INTL	School Bus		2/11/2002		
Water Resrc	1991	GMC	Pickup	10/5/1990	6/15/2007	$15,000.00	Good
Code Enforce	1990	GMC	S-15 Pickup	11/1/1989	11/3/2000		Poor
Fire Dept	1990	CHEV	Caprice	1/1/1990	9/14/2001	$13,000.00	Fair
Fire Dept	1990	E-1	Ladder tk with 10 Ma	2/14/1991		$104,675.00	Excellent
Parks	1990	CHEV	Caprice		6/30/2001	$10,000.00	Sold 5/6/97
Police	1990	FORD	Crown Victoria	7/13/1990	9/26/2002	$13,800.00	Good
Police	1990	CHEV	Van	6/6/1990	10/6/2004	$13,600.00	Excellent
Public Works	1990	CHEV	1/2 Ton	1/1/1989	3/29/2000	$11,290.00	Fair
School	1990	INTL	School Bus Bus #8		5/18/2004	$49,288.00	
Engineering	1989	CHEV	S-10 Blazer		8/7/2001	$14,100.00	
Fire Dept	1989	CHEV	3/4 Ton 4x4	1/1/1989	5/2/1997		
Parks	1989	GMC	F350	10/2/1989	8/8/2001		Good
Police	1989	CHEV	Caprice	3/5/1989	9/26/2002	$12,800.00	Good
Public Works	1989	FORD	Dump/plow	1/1/1989	9/30/2002	$61,000.00	Fair
Public Works	1989	FORD	Dump/plow	1/1/1989	6/13/2006	$61,000.00	Fair
Public Works	1989	CHEV	3/4 Ton K2500 CAB PICKUP	11/20/1988	5/14/2004	$14,300.00	getting tired
Public Works	1989	FORD	Dump/plow	1/1/1989	9/30/2002	$61,000.00	Fair
School	1989	INTL	School Bus Bus #4		5/18/2004	$46,744.00	
Water Resrc	1989	INTL	F1954/Ram Eject	1/1/1989	5/25/2007	$80,000.00	Fair
Water Resrc	1989	CHEV	Catchbasin Cleaner	1/1/1989	12/2/2004	$30,000.00	Good
Water Resrc	1989	FORD	F350/Dump Body & Hoi	1/1/1989	8/7/2001	$16,400.00	Poor
Water Resrc	1989	FIAT/ALLIS	LOADER FR11	1/1/1989	8/2/2002	$86,000.00	
Code Enforce	1988	CHEV	Celebrity	12/31/1987	2/2/2000		Fair
Engineering	1988	CHEV	Astro Van	2/20/1997	9/14/2001	$12,900.00	
Parks	1988	FORD	F350	11/23/1987	4/19/2000		Good
Police	1988	CHEV	Caprice	4/23/1988	11/8/2004	$11,700.00	Good
Police	1988	GMC	S-15 Pickup	8/3/1988	10/29/1998		Fair
Public Works	1988	GMC	Utility	1/1/1987	12/19/2000	$13,779.00	Poor
Public Works	1988	BLANCHET	SNOWBLOWER		9/14/2001	$50,000.00	
School	1988	CHEV	4X4 Pickup		10/14/1997		

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
Water Resrc	1988	INTL	Sewer Cleaner	1/1/1988	12/23/1999		Poor
Water Resrc	1988	GMC	Pickup	1/1/1988	5/7/1999	$9,300.00	Poor
Bus	1987	ORION	Bus	11/1/1987	6/13/2006	$120,000.00	Good
Fire Dept	1987	E-1	Pumper CYCLONE	1/1/1980	1/7/2004	$150,000.00	Good
Parks	1987	FORD	F150	1/27/1987	2/26/2003	$10,635.00	Fair
Police	1987	PONTIAC	Grand Prix	8/1/1990	5/23/2000	$10,000.00	Good
Public Works	1987	FIAT	LOADER	1/1/1987	6/13/2006	$126,000.00	New
Public Works	1987	GMC	Utility	1/1/1987	5/28/1999	$13,900.00	Poor
School	1987	FORD	F150 Pickup		1/6/1999		
School	1987	CHEV	School Bus		11/6/2000		
School	1987	THOMAS	School Bus		9/10/2001		
School	1987	DODGE	D10 Pickup		10/8/1997		
School	1987	FORD	Pickup	12/31/1986	12/31/1999	$11,200.00	Poor
Water Resrc	1987	FORD	Utility	1/1/1987	12/23/1999		Fair
Water Resrc	1987	INTL	Dumpster	1/1/1987	12/12/2005	$51,849.00	Fair
Bus	1986	FORD	F250 4X4 Pickup	11/1/1996	8/7/2001	$11,000.00	Fair
Bus	1986	FORD	F150 Pickup	3/1/1993	8/7/2001	$11,000.00	Fair
Engineering	1986	FORD	LTD		8/7/2001	$11,000.00	
Fire Dept	1986	FORD	Type III Rescue	6/1/1986	5/3/2000		Poor
Police	1986	CHEV	Camaro	3/24/1992	5/23/2000	$11,700.00	Good
Police	1986	FORD	Crown Victoria	3/10/1986	5/23/2000	$11,000.00	Fair
Public Works	1986	INTL	Dump	1/1/1992	5/14/2004	$30,000.00	Fair
School	1986	CHEV	School Bus		3/5/1999		
Fire Dept	1985	HAHN	Engine E9		8/12/2011	$110,000.00	Good
Police	1985	FORD	Type III Rescue	6/1/1993	2/7/2002	$20,000.00	Good
Police	1985	CHEV	Pickup		6/22/2004	$10,000.00	
Police	1985	FORD	Econoline	6/24/1996	6/13/2000	$10,000.00	Good
Police	1985	FORD	Mustang	7/22/1993	5/23/2000	$10,000.00	Good
Police	1985	MERCURY	Cougar	7/23/1993	4/14/1998	$10,000.00	Fair
Public Works	1985	INTL	Sander	1/1/1992	8/31/2001	$30,000.00	Fair
Public Works	1985	CHAMPION	Grader	1/1/1995	9/30/2002	$45,000.00	Good
Public Works	1985	INTL	Sander	1/1/1992	9/30/2002	$30,000.00	Fair
Public Works	1985	INTL	Packer	1/1/1991	7/21/2000	$17,500.00	Fair
School	1985	CHEV	School Bus		3/5/1999		
School	1985	CHEV	School Bus	3/4/1985	2/18/2000		
Water Resrc	1985	CHEV	S10 Pickup		8/7/2001	$7,850.00	Extremely Poor
Bus	1984	BLUE BIRD	Bus	1/1/1983	12/18/1998		Fair

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
Bus	1984	FORD	Ranger	7/1/1984	4/30/1997		Very Poor
Engineering	1984	CHEV	Celebrity		8/7/2001	$7,800.00	
Fire Dept	1984	CHEV	1 1/2 Ton Squad tk	1/1/1984	2/23/2006	$8,000.00	Good
Parks	1984	FORD	Bucket Truck	12/31/1983	12/27/2007	$14,000.00	Good
Public Works	1984	GMC	Dump	1/1/1991	5/26/2000	$15,000.00	Fair
Public Works	1984	GMC	Dump Truck	1/1/1991	8/3/1998	$30,000.00	Poor
Public Works	1984	GMC	Dump Truck	1/1/1991	9/14/2001	$30,000.00	Poor
Public Works	1984	INTL	Dump Truck	1/1/1991	9/14/2001	$30,000.00	Good
Police	1983	FORD	Crown Victoria	3/10/1994	11/10/1997	$10,000.00	Fair
Bus	1982	BLUE BIRD	Bus	12/1/1982	11/19/2002	$118,500.00	Good
Bus	1982	BLUE BIRD	Bus	12/1/1982	12/18/1998		Poor
Bus	1982	BLUE BIRD	Bus	12/1/1982	9/14/2001	$118,500.00	Good
Bus	1982	BLUE BIRD	Bus	12/1/1982	4/30/1997		Junk
Bus	1982	BLUE BIRD	Bus	12/1/1982	4/30/1997		Poor
Police	1982	INTL	Bus	3/1/1995	5/23/2000	$17,995.00	Fair to Poor
Public Works	1982	INTL	Dump Truck	1/1/1990	9/14/2001	$30,000.00	Fair
Public Works	1982	INTL	Sander	1/1/1990	8/3/1998		Poor
Public Works	1982	INTL	Sander	1/1/1990	8/3/1998		Poor
Public Works	1982	INTL	Dump Truck	1/1/1990	9/14/2001	$30,000.00	Fair
Public Works	1982	INTL	Sander	1/1/1990	5/26/2000		Poor
Fire Dept	1981	MACK	Engine		7/1/2005	$70,000.00	Good
Parks	1981	FORD		10/31/1994	10/3/2002	$22,500.00	Fair
Public Works	1981	CHEV	1 Ton		5/20/1998		Poor
Public Works	1981	CCC		1/1/1992	7/21/2000	$4,000.00	Poor
Water Resrc	1981	FIAT-ALLIS	LOADER	1/1/1981	8/2/2005	$82,000.00	New
Police	1980	FORD	Pickup	1/4/1984	5/11/1998		Good
Police	1980	DODGE	Van	6/2/1992	4/30/1998	$15,000.00	Fair to Poor
Fire Dept	1978	AMERICAN	Engine	1/1/1978	4/15/2003	$103,000.00	Poor
Police	1977	GMC	Pickup/plow	9/9/1991	9/3/1997		Very Poor
Water Resrc	1977	INTL	Dump Truck	1/1/1977	8/7/2001	$50,000.00	Poor
Police	1973	CHEV	Van		5/23/2000	$10,000.00	
Fire Dept	1966	AMERICAN	Engine	1/1/1967	12/31/1997	$10,000.00	Very Poor
Fire Dept	1924	AHRENS-FOX	Engine			$10,000.00	Very Good
Fire Dept				12/31/2008		$129,096.00	

VEHICLES

Dept	Yr	Make	Model	Acquired	Sold	Purchase Amt	Condition
Water Rescr			7 YD DUMP TRUCK BODY	7/26/2017		$14,550.00	
Water Resrc		GALION	DUMP TRUCK BODY	5/15/2014		$17,950.00	

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Capital Improvement Plan

Glossary

Annual Budget – a budget applicable to a single fiscal year.

Appropriation – an authorization granted by City Council to a specified unit of City government to incur obligations and make expenditures of resources.

Assessment - the official valuation of property for purposes of taxation.

Bond – a written promise to pay a specified sum of money (called principal) at a specified date in the future, plus periodic interest at a specified rate. In the budget document these payments are identified as debt service. General Obligation Bonds are debt approved by voter referendum to which the full faith and credit of the City is pledged.

Budget – a plan for the acquisition and allocation of resources to accomplish specified purposes. The term may be used to describe special purpose fiscal plans or parts of a fiscal plan, such as "the budget of the Fire Department," the Capital Budget" or it may relate to a fiscal plan for an entire jurisdiction, such as "the budget of the City of South Portland."

Capital – a category of account codes which identify major expenditures of public funds, beyond maintenance and operating costs, for procurement of items such as vehicles, computer equipment, office furniture, and the acquisition or construction of a needed physical facility.

Capital Equipment – fixed assets such as automobiles, typewriters, furniture, technical instruments, etc., which have a life expectancy of more than one year and a value over five hundred dollars.

Capital Improvement Program (CIP) – a document which provides a prioritization and orderly implementation of short and long-range plans for land acquisition and construction of capital projects. It further provides for the scheduling of the associated expenditures over a period of seven years in order to maximize the use of public funds. The first year of the program represents the proposed capital budget for that fiscal year. The schedule is based on a series of priorities which take into consideration the respective projects' function and urgency. In addition, special consideration is given to the projects' relation to other improvements and plans, and the City's current and anticipated financial capacity. The Capital Improvement Program is updated annually, at which time the schedule and the projects are reevaluated, new or deferred projects are added, and the time frame is extended by one additional fiscal year.

Capital Outlays – expenditures which result in the acquisition of or an addition to fixed assets.

Debt – an obligation resulting from the borrowing of money.

Debt Service – the accounting for payments of principal and interest on long-term debt.

Deficit – (1) the excess of the liabilities of a fund over its assets. (2) the excess of expenditures over revenues during an accounting period.

Designated Fund Equity – funds approved and set-aside for a specific defined purpose, by the City Council.

Fiscal Year – in the City of South Portland, the twelve months beginning July 1 and ending the following June 30th.

Fund – a fiscal and accounting entity with a self-balancing set of accounts that are segregated for the purpose of carrying on specific activities or attaining certain objectives in accordance with special regulations, restrictions or limitations.

Fund Balance – the excess of a fund's assets over its liabilities and reserves.

Generally Accepted Accounting Principles – government accounting and financial reporting is guided by what are referred to as "generally accepted accounting principles" (GAAP) applicable to governmental units. These standards were formulated through the voluntary action of several professional groups and are evaluated and updated by the Government Accounting Standards Board (GASB).

General Fund – accounts for the general operations of the City. This fund accounts for all financial transactions and resources not required to be accounted for in an enterprise fund.

Operating Expenditures – a category of recurring expenses other than salaries and capital equipment costs, which covers expenditures necessary to maintain facilities, collect revenues, provide services and otherwise carry out the City's goals. Typical line items are supplies, printing, postage, transportation and utilities.

Reserve – an account, which records a portion of the fund, balance which must be segregated for some future use and which is not available for future appropriation or expenditures.

Revenues – funds which the government receives as income. It includes such items as fees from specific services, boarding of prisoners, grants, and interest income.

Surplus – See Fund Balance.

Unappropriated or Undesignated Fund Balance – fund balance at close of fiscal year is not included in the annual budget.

SECTION IV

20-year CIP History

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CITY OF SOUTH PORTLAND
CAPITAL IMPROVEMENT PROGRAM
APPROVED GENERAL OBLIGATION BONDS
20-YEAR HISTORY

2021

There were no general obligation bonds

2020

Cash Corner Fire Station and Improvements to the Police Station & other Fire Stations	**$7,000,000**
Traffic and Pedestrian Improvements	**$2,275,000**
New Middle School	**$69,269,073**
	$78,544,073

2019

There were no general obligation bonds

2018

There were no general obligation bonds

2017

There were no general obligation bonds

2016

There were no general obligation bonds

2015

Thornton Heights Separation Phases II, III and IV	**$3,500,000**

2014

Community Services Facility	**$14,000,000**

2013

There were no general obligation bonds

2012

There were no general obligation bonds

2011

South Portland High School Renovations	**$41,500,000**

2010

There were no general obligation bonds

2009

There were no general obligation bonds

2008

There were no general obligation bonds

2007

There were no general obligation bonds

2006

Street Paving Program	**$500,000**

2005

There were no general obligation bonds.

2004

There were no general obligation bonds.

2003

There were no general obligation bonds.

2002

Elementary Schools	$28,000,000
Dump Trucks with Plows (3)	300,000
Sidewalks	300,000
	$28,600,000

Functional Area	CIP Project	Department's Requested Project Cost	Manager's Recommended Project Cost	G.O. Bonds	Prior Year's CIP Balance	TIF Reserves	General Fund Reserves/ Operating	Other Fund Reserves/ Fund Balance	Grants	General Fund Fund Balance
FY 2021 CIP REQUEST										
Cultural and Recreational Facilities	Recreation - Renovate Community Center Space for Senior Drop-in Center (CDBG match)	$ 52,250	**$ 52,250**				$ 12,750		$ 39,500	
Cultural and Recreational Facilities	Recreation - SPCC - Pool Wall Repair	$ 57,782	**$ 57,782**							$ 57,782
Cultural and Recreational Facilities	Recreation - SPCC - Pool Boiler Replacement	$ 47,610	**$ 47,610**							$ 47,610
Cultural and Recreational Facilities	Recreation - SPCC - Skatepark Construction	$ 450,000	**$ 450,000**				$ 115,948		$ 112,500	$ 221,552
Environmental Protection	Water Resource Protection - CSO Facilities Plan Update	$ 300,000	**$ 300,000**			$ 300,000				
Environmental Protection	Water Resource Protection - Treatment Plant Electrical Service Phase 2	$ 775,000	**$ 775,000**					$ 775,000		
Environmental Protection	Water Resource Protection - Unit #9 7-Yard Dump Truck Replacement	$ 173,000	**$ 173,000**					$ 173,000		$ -
Environmental Protection	Water Resource Protection - Unit #5 Pick-up Truck Replacement	$ 29,000	**$ 29,000**					$ 29,000		$ -
Environmental Protection	Water Resource Protection - 12,000 lb Construction Trailer	$ 11,000	**$ 11,000**					$ 11,000		
Environmental Protection	Water Resource Protection - Paper Street/Sewer Easements	$ 15,000	**$ 15,000**							$ 15,000
General Government	Economic Development - Branding	$ 50,000	**$ 50,000**			$ 50,000				
General Government	Facilities - Study - Long Term Facilities Plan for Mahoney/ City Buildings	$ 190,770	**$ 120,000**			$ 65,000				$ 55,000
General Government	Facilities - Miscellaneous Tools, Equipment, and Utility Trailer	$ 11,900	**$ 11,900**							$ 11,900
General Government	Facilities - Operations Software	$ 16,300	**$ 16,300**							$ 16,300
General Government	Facilities - MSF Security Upgrades	$ 50,000	**$ 50,000**		$ 50,000					
General Government	Finance - Tax Office Counters and Furniture	$ 30,000	**$ 30,000**				$ 15,000			$ 15,000
General Government	Information Systems - Virtual Network Controllers	$ 85,000	**$ 85,000**				$ 85,000			
General Government	Information Systems - Back and Recovery Data System	$ 75,000	**$ 75,000**							$ 75,000
General Government	Information Systems - Enterprise Data Server License	$ 35,000	**$ 35,000**				$ 35,000			
General Government	Information Systems - Computer Reserve	$ 50,000	**$ 30,000**							$ 30,000
General Government	Parks, Recreation & Waterfront - Portland Harbor Dredge	$ 675,000	**$ 675,000**			$ 675,000				
General Government	Planning & Development - Comprehensive Plan Update (includes added focus on Maine Mall area and	$ 150,000	**$ 120,000**			$ 50,000				$ 70,000
Parks and Open Space	Parks - Veterans Monument at Mill Creek Park Rehab	$ 20,000	**$ 20,000**							$ 20,000
Parks and Open Space	Waterfront - Thomas Knight Park Boat Launch Repair	$ 65,000	**$ 65,000**							$ 65,000
Parks and Open Space	Parks/Planning & Development - Pleasantdale Greenbelt Walkway - Year One	$ 50,000	**$ 50,000**					$ 50,000		
Public Safety	Fire - Vehicle Lifts for Mechanic	$ 70,000	**$ 70,000**		$ 70,000					
Public Safety	Fire - Command Vehicle Car 44	$ 55,000	**$ 55,000**				$ 55,000			

Public Safety	Police - Regional Crime Lab	$ 12,000	**$ 12,000**							$ 12,000
Public Safety	Police - Mobile Video System Replacement	$ 75,000	**$ 75,000**		$ 1,560					$ 73,440
Public Safety	Police - Portable Radio Replacement (20)	$ 165,000	**$ 110,000**		$ 40,882					$ 69,118
Public Safety	Police - Taser Replacement (58 - 7 Tasers)	$ 41,760	**$ 41,760**		$ 14,781		$ 10,440			$ 16,539
Public Safety	Police - AED Equipment Replacement	$ 8,817	**$ 8,817**		$ 5,000					$ 3,817
Public Safety	Police - Radar Equipment Replacement	$ 32,570	**$ 32,570**					$ 8,570		$ 24,000
Public Works and Transportation	Bus Service - Transit Bus Local Match Escrow (toward 2022 purchase of 3)	$ 50,000	**$ 25,000**							$ 25,000
Public Works and Transportation	Bus Service - Transit Bus Reserve	$ 50,000	**$ 25,000**							$ 25,000
Public Works and Transportation	Bus Service - Procurement and Installation of AVL/CAD System	$ 100,000	**$ 100,000**						$ 80,000	$ 20,000
Public Works and Transportation	Planning & Development /Code Enforcement - Large Format Printer	$ 120,000	**$ 12,000**							$ 12,000
Public Works and Transportation	Planning & Development - Broadway Signals at Evans and Lincoln	$ 24,000	**$ 24,000**			$ 4,800			$ 19,200	
Public Works and Transportation	Planning & Development - Pedestrian Safety and Traffic Improvements	$ 2,275,000	**$ 2,275,000**	$ 2,275,000						
Public Works and Transportation	Planning & Development - I-295 Exit 4 New Southbound Ramp	$ 2,393,000	**$ 2,393,000**			$ 103,150	$ 35,000		$ 2,254,850	$ -
Public Works and Transportation	Public Works - Tandem Axle Plow Truck	$ 250,000	**$ 250,000**		$ 150,000				$ 100,000	
Public Works and Transportation	Public Works - Forklift	$ 35,000	**$ 35,000**		$ 35,000					
Public Works and Transportation	Public Works - Pedestrian and School Zone Safety	$ 60,000	**$ 30,000**		$ 23,063					$ 6,937
Public Works and Transportation	Public Works - Sidewalk Program	$ 500,000	**$ 250,000**		$ 45,000					$ 205,000
Public Works and Transportation	Public Works - PACTS Match for Waterman Dr	$ 84,576	**$ 84,576**			$ 84,576				
Public Works and Transportation	Public Works - Skidsteer	$ 45,000	**$ 45,000**		$ 45,000					
Public Works and Transportation	Public Works - Traffic Signal Upgrades		**$ 90,000**			$ 25,000				$ 65,000
Public Works and Transportation	Public Works - Additional Venting for Capped MSW Landfill	$ 30,000	**$ 30,000**							$ 30,000
Public Works and Transportation	Public Works - Sealing of Floors and Columns	$ 60,000	**$ 60,000**		$ 60,000					
Public Works and Transportation	Public Works - PACTS Match for Highland Ave	$ 186,705	**$ 186,705**							$ 186,705
General Government	Sustainability - Energy Management Software	$ 25,300	**$ 25,300**							$ 25,300
General Government	Sustainability - One Climate Future Plan Implementation	$ 75,000	**$ 75,000**			$ 75,000				
Parks and Open Space	Parks - Golf - 5010-H Hybrid Fairway Mower (Tier 4 Emissions) - Replacement	$ 62,879	**$ 62,879**					$ 62,879		
	FY21 TOTAL	**$ 10,351,219**	**$ 9,827,449**	**$ 2,275,000**	**$ 540,286**	**$ 1,432,526**	**$ 364,138**	**$ 1,109,449**	**$ 2,606,050**	**$ 1,500,000**
Passed by City Council June 23, 2020 - RESOLVE #39-19/20			**$9,863,449 amended							

Amended Order #30-20/21 reappropriate funds for a Public Safety Project - All Traffic Solution StatTrak Data Collector), Order #43-20/21 - Planning & Development - PACTS funding for Cushing's Point Priority Corridor Project and Order #150-20/21 reallocating three Sustainability items into a fourth.

Functional Area	CIP Project	Project Cost	G.O. Bonds	Prior Yrs' CIP Bal. Accrued Int.	TIF Reserves	General Fund Reserves /Operating	Franchise Capital Reserve	Fund Res/Fund Balance	Grants	Fund Balance
FY 2020 CIP REQUEST										
Cultural and Recreational Facilities	Main Library - Inventory Management System - Phase II	$ 34,000		$ 18,781						$ 15,219
Cultural and Recreational Facilities	Recreation - Wainwright Rec. Complex and City Fields Master Plan	$ 45,000		$ 45,000						
Cultural and Recreational Facilities	Recreation - Skatepark Planning (Applying for CDBG Grant)	$ 40,000							$ 15,000	$ 25,000
Cultural and Recreational Facilities	Recreation - Rehab Redbank field for Rec improvements, Community Garden, Dog Park, small playing field (Applying for CDBG Grant)	$ 85,653							$ 77,088	$ 8,565
Cultural and Recreational Facilities	Recreation - Pool ADA Doors for Locker Rooms	$ 9,570								$ 9,570
Environmental Protection	Water Resource Protection - Mechanic Street Pump Station Repairs	$ 60,000						$ 60,000		$ -
Environmental Protection	Water Resource Protection - Pleasantdale Flow Evaluation/Modeling	$ 115,000						$ 115,000		$ -
Environmental Protection	Water Resource Protection - Front Street & W High Phase II	$ 1,654,610			$ 500,000			$ 1,154,610		$ -
Environmental Protection	Water Resource Protection - Treatment Plant Electrical Service Phase III	$ 602,500						$ 602,500		$ -
Environmental Protection	Water Resource Protection - Skid Steer	$ 68,000						$ 68,000		$ -
Environmental Protection	Water Resource Protection - E Street Pump Station Repairs	$ 60,000						$ 60,000		$ -
Environmental Protection	Water Resource Protection - Western Ave #1 Pump Station Repairs	$ 25,000						$ 25,000		$ -
Environmental Protection	Water Resource Protection - Belt Filter Press Repairs	$ 60,000						$ 60,000		$ -
General Government	Economic Development - Wayfinding Signs	$ 100,000			$ 100,000					$ -
General Government	Facilities - Scissor lift	$ 10,000								$ 10,000
General Government	Facilities - Used pick-up truck	$ 12,000								$ 12,000
General Government	Finance - Assessing - Vision Appraisal Software Update	$ 16,875		$ 1,800						$ 15,075
General Government	Information Systems - Computer Reserve	$ 50,000								$ 50,000
General Government	Land Bank Account	$ 35,000								$ 35,000
General Government	SPC-TV - HD Fiber Transmission Upgrade	$ 10,000					$ 10,000			
General Government	SPC-TV - Infrastructure and Production Equipment Outlay	$ 5,000					$ 5,000			
General Government	Parks - Portland Street Pier - Installment #1 - Reconstruction Reserve (PHASE I)	$ 550,000		$ 12,990	$ 287,010				$ 250,000	
General Government	Planning & Development - Hamlin Building Improvements	$ 195,000			$ 57,500					$ 137,500
General Government	Planning & Development - Waterfront Master Plan	$ 100,000		$ 17,050	$ 50,000					$ 32,950
Parks and Open Space	Parks - Master Plan Development Willard Beach	$ 50,000				$ 40,000				$ 10,000
Parks and Open Space	Parks - Deake Street Project	$ 572,500				$ 40,000			$ 429,375	$ 103,125
Parks and Open Space	Parks - 3/4 Ton Superduty 4 x 4 Drive Truck	$ 45,300								$ 45,300
Public Safety	Fire Department - Western Avenue Heating and HVAC	$ 265,000	$ 200,000							$ 65,000
Public Safety	Fire Department - Command Vehicle CR-45	$ 50,000		$ 13,461		$ 36,539				$ -
Public Safety	Fire Department - Service Truck - One Ton ST-413	$ 45,000				$ 45,000				$ -
Public Safety	Fire Department - Defibrillator	$ 38,000		$ 20,000					$ 18,000	$ -
Public Safety	FD and PD) 1/2 in FY 19 and 1/2 in FY 20	$ 250,000								$ 250,000
Public Safety	Fire Department - Cash Corner Fire Station	$ 7,500,000	$ 6,000,000	$ 1,500,000						
Public Safety	Fire Department - Study and Rehab façade at Central Fire Station	$ 500,000	$ 500,000							
Public Safety	Police Department - New Controls System	$ 80,000	$ 80,000							

Functional Area	CIP Project	Project Cost	G.O. Bonds	Prior Yrs' CIP Bal. Accrued Int.	TIF Reserves	General Fund Reserves /Operating	Franchise Capital Reserve	Fund Res/Fund Balance	Grants	Fund Balance
Public Safety	Police Department - Roof Maintenance (1967 Section, 1997 Section and Garage	$ 45,000	$ 45,000							
Public Safety	Police Department - Boiler Conversion to Gas and Boiler Combustion Ventilation	$ 45,000	$ 45,000							
Public Safety	Police Department - VRF Heat Pumps	$ 130,000	$ 130,000							
Public Safety	Police Department - Regional Crime Lab	$ 11,779								$ 11,779
Public Safety	Police Department - Tactical Body Armor Replacement	$ 33,000				$ 16,500			$ 16,500	
Public Safety	Police Department - Dual Band Mobile Radios (dual-band for patrol and command)	$ 150,000				$ 75,000				$ 75,000
Transportation	Bus Service - Transit Bus Reserve	$ 50,000								$ 50,000
Transportation	Bus Service - Two-way Radios	$ 42,812		$ 26,812					$ 16,000	
Public Works and Transportation	Planning & Development - Pedestrian Warning Flashers	$ 30,000								$ 30,000
Public Works and Transportation	Planning & Development - WIN 18636 Vachon, Lincoln, Broadway Multi Use Path	$ 1,024,650			$ 250,000	$ 23,240			$ 751,410	
Public Works and Transportation	Planning & Development - High Speed Internet Expansion in Knightville	$ 97,000							$ 97,000	$ -
Transportation	Public Works - Sidewalk Program	$ 350,000		$ 50,000						$ 300,000
Public Works and Transportation	Public Works - Two (2) - One Ton Trucks with Plow	$ 170,000		$ 10,000					$ 160,000	
Transportation	Public Works-Superintendent-SUV	$ 40,000							$ 40,000	
Public Works and Transportation	Public Works - Municipal Services Facility - Compressed air lines	$ 15,000				$ 15,000				$ -
Transportation	Public Works - Traffic Signals Reserves	$ 100,000			$ 25,000					$ 75,000
Public Works and Transportation	Public Works - Traffic Signals - Broadway & Sokokis	$ 180,000				$ 40,000				$ 140,000
Parks and Open Space	Parks - Weed Steamer with Trailer	$ 25,782		$ 5,800						$ 19,982
	Total	$ 15,879,031	$ 7,000,000	$ 1,721,694	$ 1,269,510	$ 331,279	$ 15,000	$ 2,145,110	$ 1,870,373	$ 1,526,065

Passed by City Council June 18, 2019 - RESOLVE 27-18/19

Functional Area	CIP Project	Project Cost	G.O. Bond	Prior Yrs' CIP Bal. Accrued Int.	TIF Reserves	General Fund Reserves /Operating	Franchise Capital Reserve	Fund Res/Fund Balance	Grants	Fund Balance
FY 2019 CIP REQUEST										
Cultural and Recreational Facilities	Recreation - Community Center Security Phase II	$ 15,000								$ 15,000
Cultural and Recreational Facilities	Recreation - Community Center Parking Lot Re-surfacing Nu	$ 18,870								$ 18,870
Environmental Protection	Water Resource Protection - Elm St Phase 1 - Pleasantdale/Ar	$ 4,802,000		$ 1,160,000	$ 3,242,000	$ 150,000		$ 250,000		$ -
Environmental Protection	Water Resource Protection - Treatment Plant Electrical Servi	$ 1,216,000						$ 1,216,000		$ -
Environmental Protection	Water Resource Protection - Computerized Maintenance Mar	$ 173,500				$ 86,750		$ 86,750		
Environmental Protection	Water Resource Protection - Marsh Road Sewer Replacemen	$ 70,625						$ 70,625		$ -
General Government	Information Systems - Computer Reserve	$ 25,000								$ 25,000
General Government	Land Bank Account	$ 35,000								$ 35,000
General Government	SPC-TV - Council Chamber HD Camera Upgrade	$ 23,750					$ 23,750			$ -
General Government	SPC-TV - Console HD Upgrade	$ 22,755					$ 22,755			$ -
General Government	SPC-TV Workflow HD Upgrade	$ 17,105					$ 17,105			$ -
General Government	SPC-TV Equipment Repair Reserve	$ 2,000					$ 2,000			$ -
Parks and Open Space	Parks/Wainwright - Rehab Soccer Field	$ 20,000								$ 20,000
Parks and Open Space	Parks - #81-1/2 Ton Dump Truck w/plow replacement	$ 40,710		$ 28,402		$ 9,232				$ 3,076
Public Safety	Fire Department - Cash Corner Renovation	$ 1,500,000		$ 1,000,000						$ 500,000
Public Safety	Fire and Police Department - Dispatch - CAD Upgrade	$ 250,000								$ 250,000
Public Safety	Fire Department - Ambulance 44 and Power Stretcher	$ 290,000		$ 301		$ 272,699				$ 17,000
Public Safety	Police Department - Mobile Computer Replacement	$ 20,000							$ 20,000	$ -
Public Safety	Regional Crime Lab	$ 13,955		$ 4,767						$ 9,188
Public Safety	Police Department - Patrol Rifle Replacement	$ 24,000		$ 8,788						$ 15,212
Public Safety	Police Department - Digital Storage (for body-worn and in-car	$ 24,000								$ 24,000
Public Works and Transportation	Bus Service - Transit Bus Local Match Escrow toward 2022 P	$ 25,000								$ 25,000
Public Works and Transportation	Planning & Development - Hamlin Building Improvements	$ 100,000				$ 100,000				$ -
Public Works and Transportation	Planning & Development - Cottage Rd Traffic & Safety Impr	$ 450,000								$ 450,000
Public Works and Transportation	Planning & Development - WIN 18665 Broadway Corridor Im	$ 102,950			$ 42,642				$ 60,308	$ -
Public Works and Transportation	Planning & Development - WIN 22138 Cash Corner Multi-Us	$ 728,322			$ 167,823				$ 560,499	$ -
Public Works and Transportation	Planning & Development - Mill Creek Gateway Improvement	$ 135,200			$ 135,200					$ -
Public Works and Transportation	Planning & Development - Annual Traffic Signals Improveme	$ 77,500			$ 77,500					$ -
Public Works and Transportation	Planning & Development - WIN 22136 Broadway Traffic Sign	$ 331,988			$ 82,997				$ 248,991	
Public Works and Transportation	Public Works - Westbrook Street Project	$ 1,400,000			$ 350,000	$ 450,000			$ 600,000	$ -
Public Works and Transportation	Public Works - Sidewalk Plow	$ 145,000		$ 80,000		$ 65,000				$ -
Public Works and Transportation	Public Works - Sidewalk Program	$ 125,000		$ 125,000						$ -
Public Works and Transportation	Public Works - Plow Truck	$ 195,000							$ 195,000	$ -
	2019 Green CIP Projects									
General Government	Sustainability - Recycling Food Waste 13 gallon containers	$ 30,000				$ 30,000				$ -
General Government	Sustainability - Pesticide Education and Outreach	$ 10,000								$ 10,000
General Government	Sustainability - Climate Action & Adaptation	$ 110,000		$ 14,000		$ 30,000				$ 66,000
General Government	Sustainability - Building Energy Grant Program	$ 15,000		$ 15,000						
Parks and Open Space	Parks - Organic Program - John Deere 15 series Overseeder	$ 9,689		$ 9,689						$ -
Public Works and Transportation	Planning & Development - Hamlin Solar Buy-out	$ 20,000								$ 20,000
	Total	$ 12,614,919	$ -	$ 2,445,947	$ 4,098,162	$ 1,193,681	$ 65,610	$ 1,623,375	$ 1,684,798	$ 1,503,346

Functional Area	CIP Project	Project Cost	G.O. Bond or Lease	Prior Yrs' CIP Bal. Accrued Int.	TIF Reserves	General Fund Reserves /Operating	Sewer User Fund Res/Fund Balance	Grants	Fund Balance
FY 2018 CIP REQUEST									
Cultural and Recreational Facilities	Main Library - Inventory Security System (RFID) - Phase I	40,000							40,000
Cultural and Recreational Facilities	Main Library Parking Lot Reconstruction (Design)	30,000							30,000
Cultural and Recreational Facilities	Recreation - West End Community Center/Infrastructure	270,000						270,000	-
Cultural and Recreational Facilities	Recreation - SPCC - Security Upgrades	65,000		20,000					45,000
Cultural and Recreational Facilities	Recreation - SPCC - Therapy Spa and Pool Improvements 2	55,000		10,000		20,000			25,000
Environmental Protection	Water Resource Protection - Highland Avenue Stormwater Upgrade (Design)	30,000					30,000		
Environmental Protection	Water Resource Protection - 25 Ton Trailer	25,000					25,000		
Environmental Protection	Water Resource Protection - Sodium Hypochlorite Tanks	80,000					80,000		
Environmental Protection	Water Resource Protection - Aeration Flow Splitter Gate Valves	170,000					170,000		
Environmental Protection	Water Resource Protection - Secondary Clarifier Repairs	350,000					350,000		
Environmental Protection	Water Resource Protection - Treatment Plant Electrical Service Phase 1	804,000					804,000		
General Government	Information Technology - Sans Replacement	190,000				119,000			71,000
General Government	Land Bank Account	35,000							35,000
General Government	City Clerk - MUNIS/Tyler Technologies Business License Module	17,250		2,250					15,000
Parks and Open Space	Parks - #87-1/2 ton Pick up truck w/ plow replacement	40,000							40,000
Parks and Open Space	Parks - #80-1/2 Ton 2x4 Pick up Truck Replacement	30,000							30,000
Public Safety	Fire Department - Fire Truck -Quint Replacement	1,100,000				450,000			650,000
Public Safety	Fire Department - Defibrilator	35,000				25,000			10,000
Public Safety	Fire Department - Cash Corner Repairs/Upgrades	30,000							30,000
Public Safety	Fire Department - Shared Detection and Identification Meter with PD	60,000						20,000	40,000
Public Safety	Fire Department - Service Truck and Plow ST-411	40,000		4,500					35,500
Public Safety	Police Department - Computer Replacement - Mobile	25,000						12,500	12,500
Public Safety	Police Department - Interior Re-modeling and Furniture - Public Safety Secretary Office	25,000							25,000
Public Safety	Police Department - Regional Crime Lab	13,955		13,955					
Public Safety	Police Department - Mechanical Controls Conversion	59,000							59,000
Public Works and Transportation	Bus Service - Transit Bus Reserve	50,000							50,000
Public Works and Transportation	Planning & Development - Portland/SoPortland Multi-Modal Study (PACTS)	225,064		10,006	10,000			205,058	
Public Works and Transportation	Planning & Development - Broadway Traffic Signals at Evans and Lincoln (PDR -PACTS)	46,250		11,563				34,687	
Public Works and Transportation	Planning & Development - Cash Corner Multi-Use Path Intersection (PDR - PACTS)	57,031		14,258				42,773	
Public Works and Transportation	Planning & Development - Lincoln/Vachon/Broadway Multi-Use Path (PDR -PACTS)	341,550		39,264	29,046			273,240	
Public Works and Transportation	Planning & Development - Streelight Purchase from CMP and Retrofit	1,200,000	1,000,000						200,000
Public Works and Transportation	Public Works - One (1) Truck with PlowFront End Loader Equipped with wing and plow	250,000						250,000	
Public Works and Transportation	Public Works - Sidewalk Program	200,000						100,000	100,000
Public Works and Transportation	Public Works - Street Sweeper	285,000				35,000	250,000		
Total		**6,274,100**	**1,000,000**	**125,796**	**39,046**	**649,000**	**1,709,000**	**1,208,258**	**1,543,000**
	2018 Green CIP Projects								
General Government	Sustainability - Energy Management Software	7,500				7,500			-
General Government	Sustainability - Climate Action Plan Update	14,000							14,000
Parks and Open Space	Wainwright - Versa Vac	25,000							25,000
Parks and Open Space	Parks - 1570 Outfront Mower (Tier 4 Emissions) - Replacement	28,000							28,000
Public Works and Transportation	Planning & Development - Mill Creek Benchmarking Assistance	18,000		18,000					-
	Council Order #186-16/17 - 5/1/17 Total	**6,366,600**	**1,000,000**	**143,796**	**39,046**	**656,500**	**1,709,000**	**1,208,258**	**1,610,000**

Functional Area	CIP Project	Project Cost	G.O. Bond	Prior Yrs' CIP Bal. Accrued Int.	TIF Reserves	General Fund Reserve /Operating	Sewer User Fund Res/Fund Balance	Grants	Fund Balance
FY 2017 CIP REQUEST									
Cultural and Recreational Facilities	Recreation - SPCC - Municipal Therapy Spa	$70,000				$39,674			$30,326
Cultural and Recreational Facilities	Recreation - SPCC - Roof Repairs	$12,000							$12,000
Cultural and Recreational Facilities	Recreation - SPCC - Transit Connect Van	$31,000							$31,000
Environmental Protection	Water Resource Protection - Catchbasin Debris Body	$17,999					$17,999		
Environmental Protection	Water Resource Protection - Collection Div 4 x 4 Pickup Unit #8	$30,433					$30,433		
Environmental Protection	Water Resource Protection - Control System Upgrade	$1,082,000					$1,082,000		
Environmental Protection	Water Resource Protection - Ottawa Road CSO	$230,000		$230,000					
Environmental Protection	Water Resource Protection - Thornton Heights Separation Phase III ($1,700,000 bond approved by voters on November 4, 2014)	$4,342,640	$1,700,000	$950,000	$1,173,622		$519,018		
General Government	City Clerk - Voting Booths	$14,175							$14,175
General Government	Information Systems - Avaya Phone System Upgrade	$40,000				$40,000			
General Government	Information Systems - Computer Reserve	$30,000							$30,000
General Government	Information Systems - Fiber Optic Infrastructure - Phase II	$60,000			$60,000				
General Government	Information Systems - Microsoft Office and Exchange Upgrade	$110,000		$32,196					$77,804
General Government	Land Bank Account	$35,000							$35,000
Parks and Open Space	Parks - #76-3/4 Ton Plow Truck Replacement	$48,000		$32,178					$15,822
Parks and Open Space	Parks - Agricultural Tractor Upgrade	$26,000							$26,000
Parks and Open Space	Parks - Greenbelt Update Year 1	$25,000				$5,000		$20,000	
Parks and Open Space	Parks - Groundsmaster 7200 Multipurpose Mower/Polar Trac 7210	$63,000							$63,000
Public Safety	Fire Department - Central Station Kitchen Reno /Fire Suppression Syst.	$20,000		$10,050					$9,950
Public Safety	Fire Department - Squad 4 Replacement	$580,000				$290,000			$290,000
Public Safety	Police Department - Body Armor Replacement	$29,070						$14,535	$14,535
Public Safety	Police Department - Body Worn Cameras	$68,328						$18,426	$49,902
Public Safety	Police Department - Conductor Electrical Weapons	$39,855							$39,855
Public Safety	Police Department - Regional Crime Lab	$18,000							$18,000
Public Works and Transportation	Bus Service - Transit Bus Reserve	$50,000							$50,000
Public Works and Transportation	Planning & Development - City Bicycle Plan	$12,000						$5,000	$7,000
Public Works and Transportation	Planning & Development - Greenbelt Pedestrian Bridge Preliminary Eng.	$60,000			$6,000			$54,000	
Public Works and Transportation	Planning & Development - Mill Creek Improvements Design	$36,000			$36,000				
Public Works and Transportation	Planning & Development - Mill Creek/PACTS Improvements	$402,050		$33,392				$301,537	$67,121
Public Works and Transportation	Planning & Development - West End Master Plan	$30,000						$15,000	$15,000
Public Works and Transportation	Public Works - Pedestrian Crossing Flashers (3)	$48,000		$21,397				$24,000	$2,603
Public Works and Transportation	Public Works - Sidewalk Program	$166,250						$116,250	$50,000
Public Works and Transportation	Public Works - Two (2) Trucks with Plows	$360,000				$94,000		$266,000	
	2017 Green CIP Projects								
Cultural and Recreational Facilities	Recreation - LED Pool Lighting	$22,000							$22,000
Parks and Open Space	Parks - ProCore 1298 Aerator	$32,000							$32,000
Parks and Open Space	Parks - TopDresser	$28,000							$28,000
	Council Order #143-15/16 - 5/2/16	**Total $8,268,800**	**$1,700,000**	**$1,309,213**	**$1,275,622**	**$468,674**	**$1,649,450**	**$834,748**	**$1,031,093**

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SECTION V

School Facilities

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OFFICE OF THE SUPERINTENDENT
130 Wescott Road
South Portland, Maine 04106-3442

Kenneth Kunin, Superintendent of Schools
Jodi Mezzanotte, Assistant Superintendent
Rolfe Forland, Director of Finance, HR, and Operations

Megan Welter, Director, Curriculum/Instruction/Assessment
Kathleen Cox, Director of Instructional Support
Andrew Wallace, Director of Technology

To: South Portland Board of Education and South Portland City Council

From: Ken Kunin, Superintendent

Re: FY 22 Capital Improvement Project (CIP) Plan Summary

Date: March 12, 2021

Cc: Scott Morelli, City Manager

This memo provides a preliminary summary of the proposed FY22 Capital Improvement Project (CIP). We have a reasonable list of anticipated projects throughout the district. We aim to provide a quality environment for learning today and be good stewards of our schools for the future. This summary includes the location, cost by location and brief description of projects. For further project details, funding source and summary of use of Reserve, CIP Funds and Federally available funding, we will provide a FY22 CIP Expenditure Summary which will be submitted with our FY22 School Department Budget and will also be on our website: https://www.spsd.org/board/budget at that time. As the School Board knows more about federal funding availability, we anticipate that this summary will change. Please don't hesitate to contact me if you have further questions or need additional information.

School/Department	Proposed FY22*	Notes
Technology	$115,921 plus ESSER 2 technology funds	Purchase of iPads/Chromebooks to support remote instruction and for classroom use once students return to the classroom - Purchase is with Federal ESSER 2 funds. Also includes third of five lease payments towards elementary school interactive panels
Brown	$8,750	Replacement of signage & wayfinding funded from Fund 0401
Dyer	$0	
Kaler	$0	
Skillin	$0	
Small	$0	
SPHS	$42,000	Boiler stack pipe replacement funded with Maintenance Reserve

District-Wide	$156,000	Replacement of doors and installation of badge readers at the five elementary schools to increase security and to accommodate egress/ingress needs to due COVID-19 - Funded through Federal ESSER 2 funds
Transportation	$0	
Total CIP	$322,671	Refer to CIP for breakdown of use of local budget, reserve and CIP funds by location

*Numbers may change once School Board knows more about Federal funding availability