



## PUBLIC WORKS FACILITY NEEDS ASSESSMENT SUMMARY

February 2018

**PROCESS**

For the purpose of public works facility programming study, a series of meetings and interviews were conducted with departmental leaders and key personnel. Additionally, programming sheets were utilized for departmental leaders and requested to be completed to allocate every existing space within the department being surveyed. Future needs were also identified during the interview process. Results were extrapolated from these surveys and interviews and confirmed with departmental leaders to provide spatial needs, required square footages and adjacency relationships. The intent was that these findings reflect the current needs for the City of Hudson's Public Works and Public Power facilities and anticipate future needs. Adjacencies were developed for optimal department and interdepartmental efficiencies. Throughout this process, the design team pushed consistently for key personnel to think about individual positions and functions and remove current staffing personalities and tendencies from the evaluation.

**OBJECTIVES**

Four main objectives were outlined for the study:

- (1) Analyze / identify existing departmental spaces with their correlating square footage and provide recommendations for appropriate departmental sizes to be used in projecting the required new building square footage.
- (2) Study departmental and inter-departmental relationships to maximize operational adjacency efficiencies and determine logical departmental breakpoints in multi-building scenarios. The departments included in this study are as follows: Administrative, Arborist, Water Distribution, Fleet, Service Streets and Storm Water, Public Properties, and Hudson Public Power.
- (3) Develop the site selected for the new facility and analyze for efficiencies.
- (4) Develop a projected project cost estimate, based on square foot costs and estimated industry standards, to be used as guidance for moving to the next steps of the process.

**SITE INFORMATION**

The site analysis portion of this study included two parts: (1) Zoning analysis of the selected site and (2) Developing a fit plan on the site based on programming analysis outcomes.

The site selected by the City for this project is located on 996 Hines Hill Rd, Hudson OH. This property is currently owned by the City of Hudson. The portion of the property required to do this project is approximately 10-12 acres adjacent to Hines Hill Rd. frontage and the eastern property boundary near the railroad tracks.

A fit plan was then developed on the given site based on the programmatic needs developed through the program analysis process. The program calls for approximately 85,000 SF of building with an additional 210,000 SF of outdoor space needed. Special considerations have to be accounted for with this facility including building approach, traffic flow and site topography. The approach/street visual of the building needs to conform to the City of Hudson desires for visual appearance that is semi-industrial while staying within the characteristics of New England style. The approach also needs to be welcoming to the public while allowing City trucks to move around free of congestion and obstructions. With this type of facility the traffic flow becomes essential for efficiency. With all types of traffic from public visitors, employee vehicles,

City trucks to snow plows, the site must accommodate all. These are not the only factors to consider when developing the required area of site; attention should also be given to storm water retention and desired sustainability requirements. The following site study documents only one of many strategies for parking, office, and site organization.

The site size and building square footage will meet City Land Development Code requirements for on-site parking. The study indicated that with the projected building size from the programming process, along with the various needs of the site exterior functions (i.e., vehicle and equipment storage, circulation, access, etc.), further design will be necessary to fully develop a site layout that will properly flow and provide adequate connectivity. Due to an increase in impervious surfaces from parking and new buildings, existing site topology, costs and layout of the storm water management will be also be a factor and will need to be further analyzed.

## PROGRAMMING

A Criteria Matrix was developed over multiple iterations and meetings. The design team reviewed all the requested adjacencies in the programming sheets and extrapolated levels of adjacency to form the initial criteria matrix. This matrix was reviewed individually with each department head and then as a group with all department heads present. The levels of adjacency are defined as follows:

**Direct Adjacency** – Needs direct connection with a space or function. This would typically include audio and some level of visual connection. Characterized as being able to interact with individuals or functions without leaving one's working space.

**Immediate Adjacency** – Needs immediate access to a space or function. This may include audio or visual connection and typically includes spaces in the general vicinity of each other where interactions between individuals occur often because of proximity.

**Accessible Adjacency** – Spaces need only to be accessible to one another on a daily basis. This generally means no audio or visual connection and individuals must seek out each other for interaction. Typically explained as spaces on different floors of the building.

**No Adjacency** - No benefit or efficiency realized from working in proximity. Typically explained as sporadic interactions, if any required, and spaces could be located in different buildings in various locations of the city.

The Departmental Square Footage Analysis was derived from a combination of program surveys of users' existing working spaces, existing floor plans, and room fit plans developed from user input on required furniture and equipment. During actual design, modifications are to be expected.

Program Analysis Sheets documented the comments received from interviewed individuals and program surveys. The sheets contain specific and qualitative data pertaining to operational procedures pertinent to the function of the space. This information has been provided by city officials and department staff. The forms have been reviewed by the departments to ensure an accurate representation of the department's requests and requirements. The program analysis sheets have been utilized to develop the criteria matrix and net square footage of spaces.

## Square Footage Analysis

	Proposed SF
<b>Administration</b>	
1 Assistant PW Director – Services Office	150
2 Assistant PW Director – Utilities Office	150
3 Assistant PW Director – Parks/Golf/Cemeteries Office	150
5 Conference Room	400
6 Office Workroom / Mailroom	100
<b>Dept. Program Subtotal</b>	<b>950</b>
Building/Circulation Factor (20%)	190
<b>Dept. Total</b>	<b>1,140</b>

	Proposed SF
<b>Services</b>	
1 Superintendent Service/Arborist Office	150
2 Assistant Superintendent Streets/Fleet Office	150
3 Assistant Superintendent Streets/Storm Office	150
4 Facilities Specialist Office	150
5 Open Office	400
6 Workshop	150
7 Storage - Files/Records	100
8 Dispatch Center	80
9 Sign Shop	640
<b>Dept. Program Subtotal</b>	<b>1,970</b>
Building/Circulation Factor (20%)	394
<b>Dept. Total</b>	<b>2,364</b>

## Square Footage Analysis

	Proposed SF
<b>Services_Fleet</b>	
1 Supervisor Office	150
2 Open Office	300
3 Fabrication	1,000
4 Lockable Inventory Storage	1,000
5 Fleet Garage - Heated	5,000
<b>Dept. Program Subtotal</b>	<b>7,450</b>
Building/Circulation Factor (20%)	1,490
<b>Dept. Total</b>	<b>8,940</b>

	Proposed SF
<b>Utilities_Electric</b>	
1 Supervisor Office 1	150
2 Supervisor Office 2	150
3 Supervisor Office 3	150
4 Future Supervisor Office	150
5 Inventory Manager's Office	150
6 Workroom/ Testing Lab	800
<b>Dept. Program Subtotal</b>	<b>1,550</b>
Building/Circulation Factor (20%)	310
<b>Dept. Total</b>	<b>1,860</b>

	Proposed SF
<b>Utilities_Water</b>	
1 Superintendent Office	150
2 Assistant Superintendent Office	150
3 Open Office	600
4 Storage/Workroom	3,750
<b>Dept. Program Subtotal</b>	<b>4,650</b>
Building/Circulation Factor (20%)	930
<b>Dept. Total</b>	<b>5,580</b>

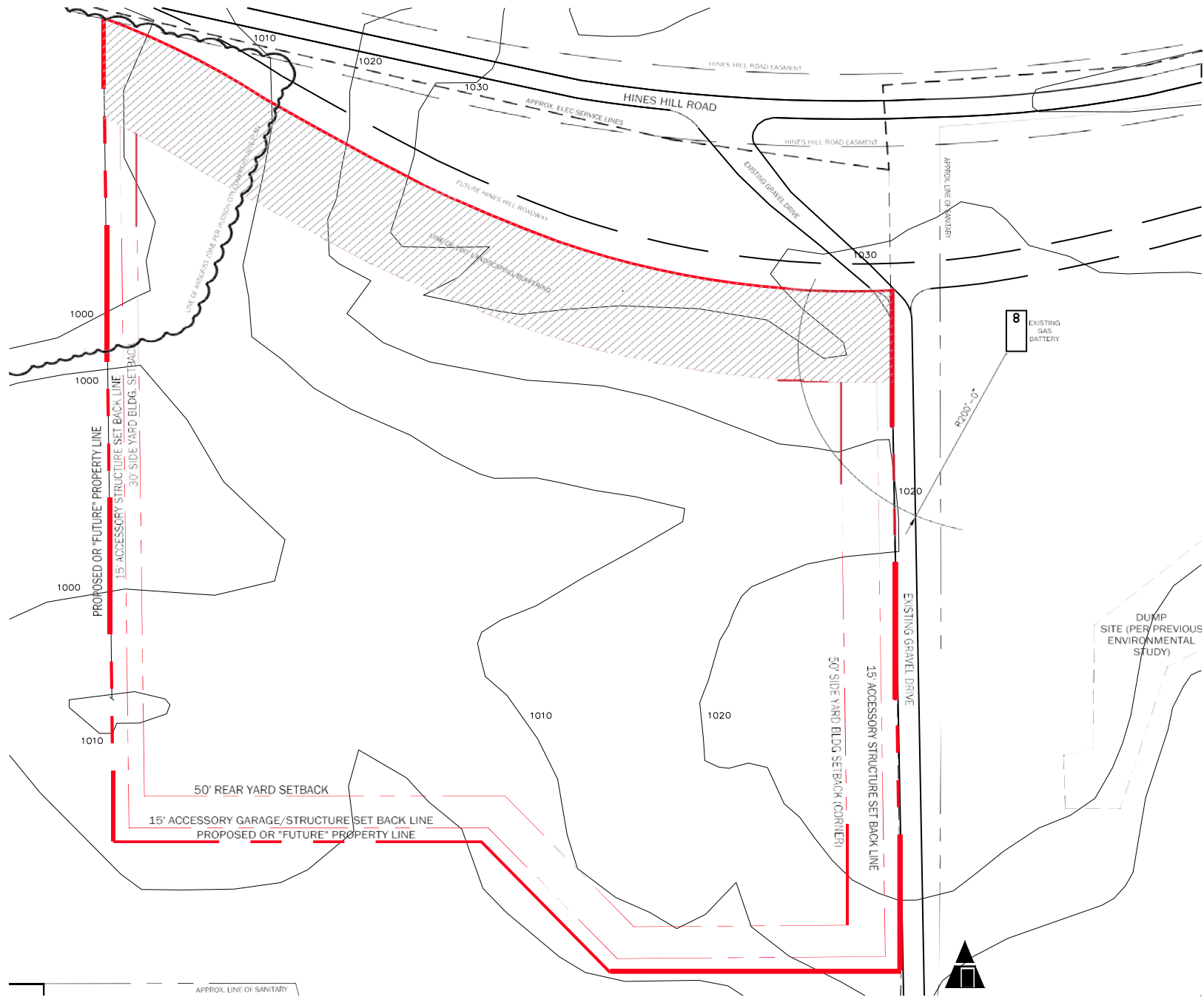
## Square Footage Analysis

	Proposed SF
<b>Building Support/Shared Spaces</b>	
1 Entry Vestibule	150
2 Public Waiting	200
3 Public Restrooms	250
4 Kitchen/Break Room	750
5 Training Room	1,020
6 Open Office/Computer Work Room/Training	750
7 Locker Room (Mud Room)	600
8 Showers	500
9 Staff Restrooms	500
10 IT	200
11 Electrical/Mechanical Rooms (10%)	400
12 Janitorial/Laundry	100
13 Storage - Hazardous Material	400
14 Large Inventory Storage	9,000
15 Garage - Heated	31,000
16 Truck Wash	1,250
<b>Dept. Program Subtotal</b>	<b>47,070</b>
Building/Circulation Factor (20%)	9,414
<b>Dept. Total</b>	<b>56,484</b>

<b>Department Subtotal</b>	<b>63,640</b>
Building/Circulation Factor (20%)	<b>12,728</b>
<b>Building Total SF</b>	<b>76,368</b>

	Proposed SF
<b>Outdoor Space</b>	
1 Garage - Cold	40,000
2 Covered Parking	1,000
3 Yard	55,000
4 Pole Yard	10,000
5 Vault Rescue Practice Area	1,300
6 Public Parking	2,000
7 Employee Parking	12,000
8 Salt Dome	10,000
9 Patio	500
10 Vehicle Washer	1,250
<b>Outdoor Program Subtotal</b>	<b>133,050</b>
Circulation Factor (n/a)	-
<b>Outdoor Program Total</b>	<b>133,050</b>

<b>Site Area Total SF</b>	<b>209,418</b>
Building/Circulation Factor (20%)	<b>12,728</b>
<b>Total SF</b>	<b>222,146</b>







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- 1. Administration & Shared Public Areas 1,740 SF
  - 2. Services 2,364 SF
  - 3. Services\_Fleet 8,940 SF
  - 4. Utilities\_Electric 1,860 SF
  - 5. Utilities\_Water 5,580 SF
  - 6. Shared Employee Areas & Large Inventory 13,820 SF
  - 7. Garage - Heated 31,000 SF
  - 8. Garage - Cold 40,000 SF
  - 9. Yard Storage 66,300 SF
  - 10. Open Parking (70 spaces)
  - 11. Roof Water Ponds
  - 12. Site Water Ponds
  - 13. Salt Dome 10,000 SF

Note: Square footages appear different than SF Analysis section due to combination of department spaces + circulation factor. Overall square footage is still equal.



## Costs and Debt Associated with New PW Building

	<u>\$12 MM total</u> current 5 year	<u>\$16 MM total</u> 20 years	<u>\$16 MM total</u> 30 years
PW Cost - General Fund	6,744,000	8,000,000	8,000,000
Debt Service 20 year bond @ 5%	450,964	641,941	520,411
Less Georgetown Rent	214,578	252,000	252,000
Net Debt Service	236,386	389,941	268,411
Increase of 2018 Five Year in 2022		153,555	32,025
PW Cost - Electric Fund	5,256,000	8,000,000	8,000,000
Debt Service 20 year bond @ 5%	351,463	641,941	520,411
Increase of 2018 Five Year in 2022		290,478	168,948

### **PW Building**

Principal	12,000,000	16,000,000	16,000,000
Term (Years)	20	20	30
Interest Rate	5%	5%	5%
Debt Service 20 year bond @ 5%	962,911	1,283,881	1,040,823