



Site Analysis Memorandum

Date: June 30, 2022
Re: Town of Palm Beach
Pump Station Site Refuse Layout
CMA Project No. : 22-431.00042

Background

The purpose of this memorandum is to document the site analysis performed for the relocation of the refuse compactor that services the marina at the Town of Palm Beach. Currently, the compactor is located on the west side of S Lake Drive on a concrete pad that is roughly 726 square feet in size, between the intersections with Australian Avenue and Chilean Avenue. The Town is proposing the relocation of the compactor to the pump station site located at the southwest corner of Royal Palm Way and S Lake Drive. It is anticipated that the relocation of the compactor will reduce its visibility from the right-of-way.

Alternatives Analysis

The pump station site consists of a +/- 2200 SF and a +/- 815 SF building, parking on the west and south sides, and fire hydrants on the west side. The site is screened by a landscape buffer approximately 15 feet wide consisting of a 6-foot hedge, shrubs, and trees. For this analysis, three site configurations were considered. Due to the location of the fire hydrants on the west side of the site and the need to maintain access for Fire Rescue, all three alternatives propose changes on the south side of the site. The proposed compactor and recycling bin pad was assumed to be 24' x 18', to accommodate the relocation of the existing refuse equipment. A refuse truck from the AutoCAD library was modified to match the specifications, including curb-to-curb turning radius, of the refuse truck that currently services the compactor at the marina. Survey data for the marina was used to locate existing site features, however a site visit was conducted to confirm the dimensions and locations of the walkway south of the site. Hi-resolution aerials were also used to estimate the landscaping that will be impacted. See Appendix A for the Vehicle Tracking Analysis for each alternative.

- I. Alternative 1A – The compactor is located on the southwest corner of the site facing east allowing the refuse truck to enter from the existing driveway and drive directly to the compactor. A 40' x 15' parking space is placed approximately 40' east of the compactor pad on the south side of the site to allow the refuse truck to reverse and exit the site. Alternative 1A results in the re-routing of the existing sidewalk to the south of the pump station site and removal of a portion of the existing landscape buffer. The landuse changes are tabulated in Table 1 below.

Table 1: Alternative 1A Landuse Changes

SITE DATA TABLE		
	REMOVED (SF)	PROPOSED (SF)
SIDEWALK	433	906
PAVEMENT	0	660
SHRUBS	717	0
GRASS	849	433

NET CHANGE IN GREEN SPACE = - 1,133 SF

- II. Alternative 1B – Similar to Alternative 1A, the compactor is proposed on the southwest corner of the pump station site, however the parking space for the truck turn around is placed further east, adjacent to the existing pump truck parking. This requires the refuse truck to travel a longer distance in reverse (approximately 80-feet) before it can turn around. Alternative 1B also reduces the depth of the proposed parking space to 33' and does not require the re-routing of the existing sidewalk along the south side of the site. Alternatively, four palms would need to be removed. See Table 2 for Landuse changes as a result of Alternative 1B.

Table 2: Alternative 1B Landuse Changes

SITE DATA TABLE		
	REMOVED (SF)	PROPOSED (SF)
SIDEWALK	0	432
PAVEMENT	0	530
SHRUBS	837	0
GRASS	125	0

NET CHANGE IN GREEN SPACE = - 962 SF

- III. Alternative 2 – The last alternative consists of removing the compactor and recycle bins and utilizing a refuse compactor truck and a recycling truck which will be parked on site and driven to the refuse station at the Pine Walk transfer station (Breakers Hotel property) periodically. Each truck measures 21' X 9' and will require a parking space with minimum dimensions of 12' X 30'. The vehicle tracking simulation trucks of similar size indicated the need for a combined parking area measuring 31' X 49'. See Table 3 below for the proposed landuse breakdown. Of note, one of the newly planted trees is impacted by the proposed change and will require relocation.

Table 3 Alternative 2 Landuse Changes

SITE DATA TABLE		
	REMOVED (SF)	PROPOSED (SF)
SIDEWALK	0	0
PAVEMENT	0	865
SHRUBS	865	0
GRASS	0	0

NET CHANGE IN GREEN SPACE = - 865 SF

Recommendations

Based on the analysis performed, CMA recommends Alternative 2. This alternative results in the least amount of proposed pavement, the smallest footprint, the shortest duration of refuse truck reverse alarms, and can be accommodated with a relocation of the landscape buffer that will limit the visual impacts. In addition, for Alternative 2 the net decrease in pervious area of 865 square feet is almost equal to the size of the existing concrete pad for the compactor adjacent to Chilean Avenue. If that existing pad were removed and 140 square feet of additional green space were added to the pump station facility, there would be no net change in pervious area within the park.

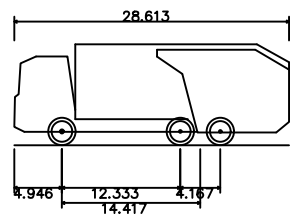


APPENDIX A

Plot Date: 6/29/2022 2:31:38 PM Username: dmartinat Layout Name: ALT-1A Folder Path: V:\Projects\2022\22-0431.00042 - minor eng proj & on-call services 2022\Design\CAD\Sheets Filename: 22-431.0042 - Marina Refuse Layout.dwg



REFUSE TRUCK SPECIFICATIONS:



TOPB Front Loader Refuse Truck	
Overall Length	28.613ft
Overall Width	8.000ft
Overall Body Height	10.510ft
Min Body Ground Clearance	1.340ft
Track Width	8.167ft
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	30.500ft

SITE DATA TABLE

	REMOVED	PROPOSED
CONCRETE (SF)	433	906
PAVEMENT (SF)	0	660
SHRUBS (SF)	717	0
GRASS (SF)	849	433



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SUB-CONSULTANT

CLIENT



PROJECT INFORMATION

TOWN OF PALM
BEACH MARINA
REFUSE LAYOUT

TOWN OF PALM
BEACH

PROJECT NUMBER
22-431.0042

CLIENT PROJECT NUMBER

VERIFY SCALES

0 1"
IF NOT ONE INCH ON THIS SHEET,
ADJUST SCALES ACCORDINGLY

DATE OF ISSUE

06/29/22

DESIGNED BY

BW

DRAWN BY

DM

CHECKED BY

BW

DRAWING TITLE

ALTERNATIVE 1A

DRAWING NUMBER

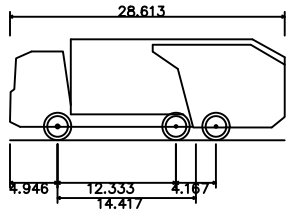
ALT-1A

1 OF 3

Plot Date: 6/29/2022 2:31:58 PM Username: dmartinat Layout Name: ALT-1B Folder Path: V:\Projects\2022\22-0431.00042 - minor eng proj & on-call services 2022\Design\CAD\Sheets Filename: 22-431.0042 - Marina Refuse Layout.dwg



REFUSE TRUCK SPECIFICATIONS:



TOPB Front Loader Refuse Truck
Overall Length 28.613ft
Overall Width 8.000ft
Overall Body Height 10.510ft
Min Body Ground Clearance 1.340ft
Track Width 8.167ft
Lock-to-lock time 6.00s
Curb to Curb Turning Radius 30.500ft

SITE DATA TABLE

	REMOVED	PROPOSED
CONCRETE (SF)	0	432
PAVEMENT (SF)	0	530
SHRUBS (SF)	837	0
GRASS (SF)	125	0



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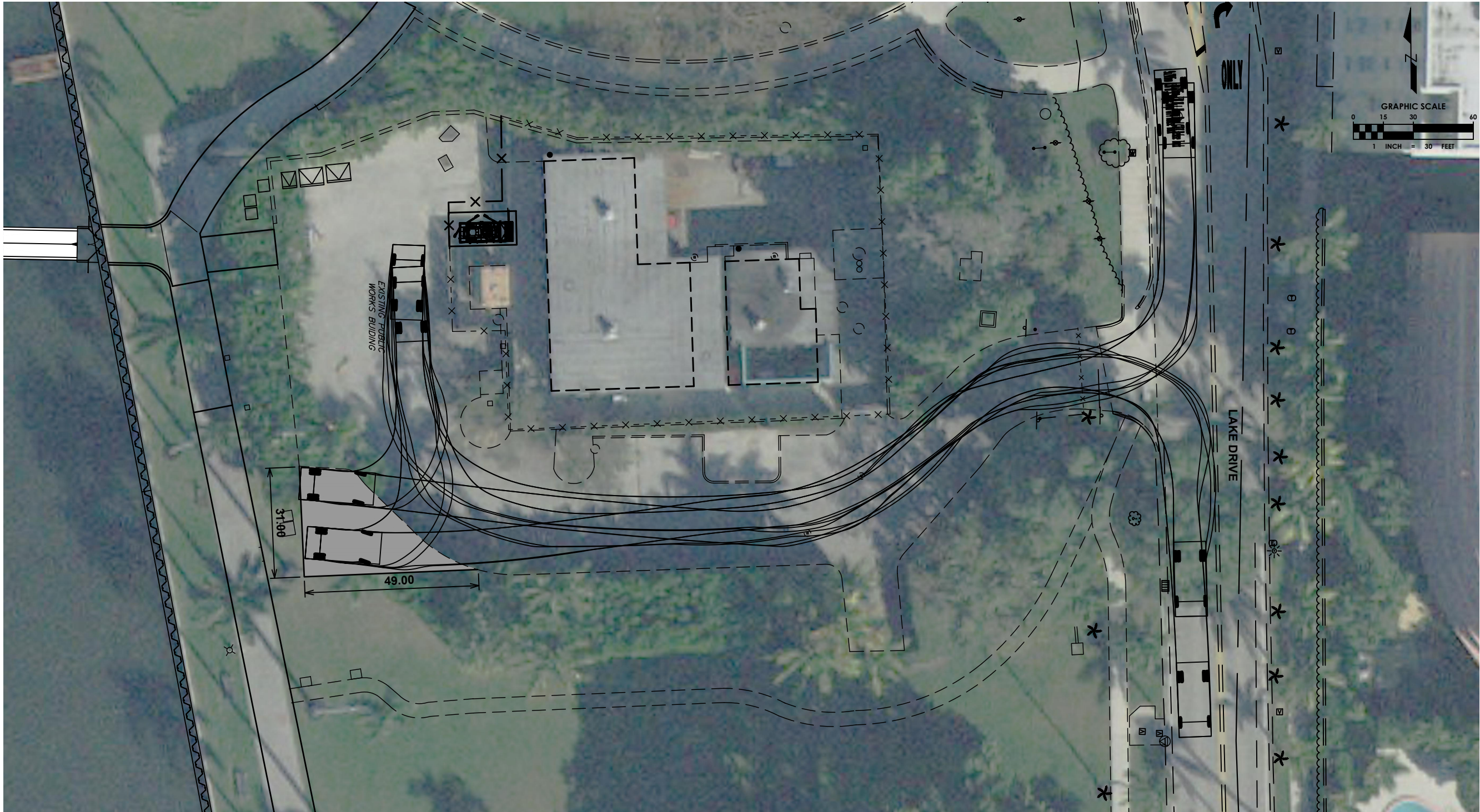
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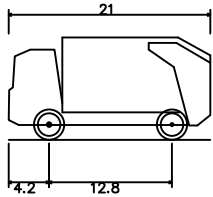
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ALT-1B
2 OF 3



COMPACTOR TRUCK SPECIFICATIONS:



9x21Hino 338 M + Wayne Royal GT14 Refuse Truck	
Overall Length	21.000ft
Overall Width	9.000ft
Overall Body Height	10.656ft
Min Body Ground Clearance	1.486ft
Track Width	9.000ft
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	26.411ft

SITE DATA TABLE		
	REMOVED	PROPOSED
CONCRETE (SF)	0	0
PAVEMENT (SF)	0	865
SHRUBS (SF)	865	0
GRASS (SF)	0	0



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ALTERNATIVE 2

DRAWING NUMBER
ALT-2
3 OF 3