

TOWN OF PALM BEACH

Utility Undergrounding Assessment Methodology Update

June 2, 2017



TABLE OF CONTENTS

1. EXECUTIVE SUMMARY	4
1.1 BACKGROUND	4
2. PROPOSED PUBLIC FACILITIES	5
2.1 FACILITIES	5
3. BENEFIT ANALYSIS.....	6
3.1 NON-AD VALOREM ASSESSMENTS	6
4. METHOD OF ASSESSMENT	8
4.1 IMPROVED SAFETY.....	9
4.2 IMPROVED RELIABILITY.....	10
4.3 IMPROVED AESTHETICS	11
4.4 SPECIAL CASES AND EXCEPTIONS.....	13
4.4.1Golf Course Parcels and the Breakers	13
4.4.2Non-Assessable Obligation	13
4.4.3Bifurcated Lots	14
4.4.4Undevelopable parcels	14
4.4.5Parking spaces, storage and condominium cabanas	14
5. DIAGRAM	15
6. PARCEL DATABASE.....	16

This page intentionally left blank to facilitate two-sided printing.

1. EXECUTIVE SUMMARY

1.1 BACKGROUND

Raftelis Financial Consultants was retained by the Town of Palm Beach (Town) to update the 2009 Utility Undergrounding Assessment Report (2009 Report) based on the most recent Palm Beach County Property Appraiser parcel data for the Town and to take into consideration any new developments within the Town or areas that were already undergrounded separately through previous assessment programs. The methodology described herein, reflects the special and peculiar benefit received by properties within the Town from the proposed undergrounding of overhead utilities.

The methodology described herein will be the basis for establishing non ad-valorem assessments for undergrounding overhead utility lines within the areas of Town that have not yet been undergrounded. The method of assessment presented in this Report takes the total utility project costs of the proposed Town-wide utility undergrounding and apportions the total cost to each parcel based on the special benefit received. This approach allows for the development of a benefit nexus methodology that differentiates the special benefits received by various properties in the Town within the proposed assessment program. The methodology can be used to identify the total obligation of each parcel as well as the annual obligation of each parcel based on the proposed financing.

Fieldwork is an essential component in the development of a utility undergrounding assessment program to account for the fact that some areas of the Town may already have a portion of their utilities undergrounded; and, therefore, do not benefit to the same degree as properties whose utilities are currently transmitted through overhead facilities. As part of the original creation of the benefit methodology in 2009, fieldwork was conducted and the entire Town was surveyed to accurately incorporate the characteristics of the Town and the relationship between properties within the Town and the overhead utilities proposed to be undergrounded at that point in time. This update did not include any additional or new fieldwork and incorporates the previous fieldwork that was performed as part of the original 2009 Report. Prior to debt financing, property owners whom have undergrounding portions of overhead facilities adjacent to their property may request an adjustment to their equivalent benefit allocation to reflect the appropriate proportionate benefit received by the assessment program. As part of this updated report, the entire parcel database was updated to account for the most recent data provided by the Property Appraiser. The updated database captured new parcels, changes in land use and development status and new property ownership.

2.PROPOSED PUBLIC FACILITIES

2.1 FACILITIES

Utilities, as used in this report, include power lines, phone lines, cable television and fiber optic lines, as well as spare conduit for future use of utility services. The undergrounding of overhead utility lines within the Town includes the costs associated with, but not limited to, trenching, horizontal directional drilling, installing new utility vaults, conduits and transformers, laying conduit lines into trenches, re-paving, repairing, patching or painting streets as may be needed, laterals for switching services to underground systems and removing existing overhead poles and wires. The benefit methodology presented in this Report focuses on the facilities serving the area proposed to be assessed which are located in public rights-of-way and easements and the costs associated with installation of such facilities.

3. BENEFIT ANALYSIS

3.1 NON-AD VALOREM ASSESSMENTS

As established by Florida case law, two requirements exist for the imposition of a valid special assessment: (1) the property assessed must derive a special benefit from the improvement or service provided; and (2) the assessment must be fairly and reasonably apportioned among the properties that receive the special benefit. See *City of Boca Raton v. State*, 595 So. 2d 25 (Fla. 1992). The test to be applied in evaluating whether a special benefit is conferred on property by the provision of a service is:

whether there is a "logical relationship" between the services provided and the benefit to real property. Whisnant v. Stringfellow, 50 So. 2d 885 (Fla. 1951).

This logical relationship to property test defines the line between those services that can be funded by special assessments and those failing to satisfy the special benefit test. Florida law does not specify the methodology or formula that must be used in calculating assessments; however, the assessment apportionment methodology must be fair and reasonable.

Once an identified service or capital facility satisfies the special benefit test, the assessed amount is required to be fairly apportioned among the benefited property in a manner consistent with the logical relationship embodied in the special benefit requirement. Generally, a special assessment, whether imposed for capital projects or services, is collected on the annual ad valorem tax bill. Under such statutory collection procedure, the special assessment is characterized as a "non-ad valorem assessment." See § 197.3632(1)(d), Fla. Stat.

First, it is necessary to identify the special benefit provided to properties within the Town as a result of undergrounding overhead utilities serving or available to serve those properties. The distribution of electricity and other utilities are generally available to all properties in the Town. However, placing overhead electrical lines and other utilities underground will provide direct and special benefit to properties and such special benefit supports funding the undergrounding projects through assessment programs. The design, construction, and installation of the underground utility improvements will provide a special benefit to all affected properties located within the assessment area of the Town by protecting and enhancing the value, use, enjoyment, commercial and residential attractiveness and viability of such properties by improving and enhancing safety, reliability and aesthetics, as described below.

There are several distinct direct and special benefits that will be provided to properties within the Town as a result of undergrounding the Town's overhead utilities: improved safety, improved reliability and improved aesthetics. Each of these benefits is discussed below.

The removal of utility poles and overhead lines provides an **improved safety** benefit by reducing the potential of hazardous conditions occurring on benefited property in the event of natural disasters. Severe tropical storms, hurricanes, and other natural disasters can cause poles and/or overhead lines to fall and impact property, and possibly cause live electric lines to be exposed. Downed electric lines and vegetation overgrowth onto electric lines pose a potential threat of property fire and potential injury due to electric shock and can restrict ingress and egress of residents and emergency services.

The undergrounding of the overhead facilities will also **improve the reliability** of utility services

received by properties within the Town. Based on Florida Power & Light's 2015 Reliability Report, the undergrounding of overhead utilities reduces the frequency of power outages, when compared to the frequency of outages occurring with overhead networks. Parcels will also specially benefit from new upgraded utility lines, cables, and appurtenant facilities installed through the proposed utility undergrounding. This will provide a higher level of reliability of utility services, and reduces exposure to the elements that could cause potential damage and speed deterioration to facilities resulting in potential interruptions.

In addition to the safety and reliability benefits provided by undergrounding utilities, removing the overhead facilities and utility poles will eliminate a heavy visual concentration of electric lines and communication facilities. Overall this will **improve the aesthetics** for all properties within a project area by enhancing the value, use, enjoyment, commercial and residential attractiveness and viability of such properties.

4. METHOD OF ASSESSMENT

Assessment Methodology is the analysis of a project or service, in this case from the proposed undergrounding of the existing overhead utilities, to determine the special and peculiar benefits (special benefits) received by a property. The method of assessment is determined by an analysis of the benefit a property receives from the proposed undergrounding of existing overhead utilities in comparison to the benefit received by other properties benefited by the project. Funding the undergrounding of facilities through an assessment program is a common practice utilized by agencies and it is common industry practice to determine the degree of benefit between affected parcels through three primary categories of benefit. These three categories of benefit include: 1) improved safety, 2) improved reliability, and 3) improved aesthetics. To establish an equitable benefit nexus, it is necessary to relate each property's proportional special benefits to the special benefits of all other properties within a project area. This method of apportionment utilizes a weighted method of apportionment known as an Equivalent Benefit Unit (EBU) methodology that defines an equivalent benefit unit for each category of benefit as the basic unit of benefit, or 1.0 EBU.

Collectively, the three categories of special benefit listed above reflect the overall proportional special benefits that properties will receive from the undergrounding of the overhead utilities within the assessment program. Properties within the Town are assigned Safety EBUs, Reliability EBUs, and Aesthetic EBUs based upon property use and other site specific characteristics to distinguish the degree of special benefits received by different properties for each of the three categories of special benefit, respectively. Each category of benefit is allocated EBUs independent of each other and the total utility undergrounding cost assigned to each category is based on the percent of total benefit units derived within each category. The total EBUs per category of benefit is a function of the special benefits received by each parcel and; therefore, reflect the amount of special benefit parcels receive from the proposed utility undergrounding. The assessment program cost assigned to each category of benefit is then apportioned to benefitting parcels based on each parcel's EBU assignment in relation to the total EBUs within the corresponding category. **Table 4-1** identifies the total EBUs for each category and the assessment program cost¹ assigned to each category.

Table 4-1: Assessment Cost Allocation

Category of Special Benefit	EBUs	Percentage of EBUs	Project Cost Allocation ¹	Annual Debt ²	Assessment Rate ³
Improved Safety	6,942	30.8%	\$27,730,400	\$1,625,300	\$256.53
Improved Reliability	8,647	38.4%	34,539,200	2,024,400	\$256.53
Improved Aesthetics	6,942	30.8%	27,730,400	1,625,300	\$256.53
Total	22,531	100.0%	\$90,000,000	\$5,275,000	\$769.59

¹ The Project cost was allocated between Improved Safety, Reliability, and Aesthetics at 30.8%, 38.4%, and 30.8%, respectively based on the number of EBUs calculated for each category.

² Annual debt for each category is the portion of the annual debt payment for the proposed utility undergrounding project. The annual debt payment assumes a total project cost of \$90M at a 4.31% interest rate over a 30-year repayment period.

³ The Assessment Rate includes provisions for statutory early payment discounts of 5.0%, tax collector fees of 2.0% and \$100,000 annually for administrative costs. The total assessment program related costs amount to \$504,576 each year.

For each Category of Benefit, the following discussion identifies parcels that benefit, the assignment of EBUs, and related equations to determine each parcel's assignment of EBUs.

4.1 IMPROVED SAFETY

Properties specially benefit from the improved safety of undergrounding overhead utilities in two distinct ways: 1) the elimination of the potential for poles or overhead lines adjacent to a property to fall and damage property from falling or exposing “live” electrical lines and 2) the elimination of the potential for poles or overhead lines to be downed within the neighborhood restricting ingress and egress to and from the property. A single-family residential lot that is adjacent to overhead facilities has been assigned a base unit of benefit for improved Safety equal to 1.0 Safety EBU. The base Safety EBU evenly accounts for the two components of improved safety. Therefore, the analysis uses 0.50 equivalent benefit units for the improved safety to the property and 0.50 equivalent benefit units for the improved access to the property.

Improved Safety provides a benefit to each affected lot within the assessment program; therefore, the average lot size of all properties within the assessment program was calculated, equal to 8,700 square feet, to determine the baseline measurement of one EBU for the category of Improved Safety. All developed parcels up to 8,700 square feet that are adjacent to overhead facilities have been assigned a minimum of 1.0 Safety EBUs and parcels without overhead facilities adjacent to its property are assigned a minimum of 0.5 Safety EBUs. In addition, all developable vacant lots up to 8,700 square feet are also assigned a minimum of 1.0 Safety EBU as each lot has ability to develop. Condominium complexes, multi-family properties, non-residential properties, undeveloped parcels, as well as certain single family residential lots exceeding the baseline square footage of 8,700 square feet span a greater area that may be exposed to overhead facilities along streets, alleys or easements along its properties. Therefore, the benefit received by these properties is proportionately greater when compared to properties assigned 1.0 EBU. Based on this equivalency, additional Safety EBUs were assigned to parcels greater than 8,700 square feet in 0.5 increments, in recognition that the difference in special benefit between one additional square foot versus two additional square feet is negligible on a square foot basis. However, using 0.5 EBUs increments corresponds to an additional 4,350 square feet above 1.0 EBU and reflects a noticeable variance in size to assign additional benefit units to capture the increase in special benefit received by these parcels. For example, a parcel with 15,225 square feet would be assigned 1.5 EBUs ($15,225/8,700 = 1.75$ EBUs; rounded down to nearest 0.5 EBUs = 1.5 EBUs).

In identifying the amount of assigned Safety EBUs for each parcel, overhead facilities, including utility lines and poles, along secondary streets, alleyways and rear easements are considered to be adjacent to all properties on either side due to the narrow widths of the secondary streets, alleyways and rear easements. In addition, utility poles are considered a part of the overhead facilities; therefore, properties that only front utility poles are also assigned a minimum of 1.0 Safety EBU.

Conversely, some parcels are already adjacent to undergrounded utilities and, therefore, do not benefit to the same extent when compared to parcels currently adjacent to overhead utilities. Properties within the boundaries of the utility undergrounding project area that do not have overhead facilities adjacent to their property along the secondary streets, alleyways and rear easements shall be assigned Safety EBUs equal to one-half (1/2) of the Safety EBU calculation to reflect the reduced benefit received by the parcel. The 0.5 EBU accounts for the benefit associated with the improved safety of undergrounding facilities within the local neighborhood/area of the parcel.

Based on this method of assessment, each condominium complex was assigned Safety EBUs by first assigning Safety EBUs to the condominium complex. Once the Safety EBUs for the complex was derived, the total Safety EBUs were apportioned evenly to each condo within the complex. Therefore, depending on the size of the complex and the number of units within the complex, condo parcel EBU assignments will vary from complex to complex. For single-family residences, multi-family properties,

and non-residential properties, the EBUs calculated were assigned to the applicable parcel number. **Table 4-2** outlines the safety EBU calculations.

Table 4-1: Safety EBU Calculation

Land Use	Overhead Utilities	Safety EBU Assignment
Single-Family	Yes	Lot Size / 8,700; rounded down to nearest 0.5, minimum of 1.0 EBU
	No	(Lot Size / 8,700) / 2; rounded down to nearest 0.5, minimum of 0.5 EBU
Condominium	Yes	(Complex Lot Size / 8,700; rounded down to nearest 0.5) / condos in Complex, minimum of 1.0 EBU per complex
	No	0.5 x [(Complex Lot Size / 8,700; rounded down to nearest 0.5) / condos in Complex], minimum of 0.5 EBU per complex
Multi-Family	Yes	Lot Size / 8,700; rounded down to nearest 0.5
	No	0.5 x (Lot Size / 8,700); rounded down to nearest 0.5
Non-Residential	Yes	Lot Size / 8,700; rounded down to nearest 0.5, minimum of 1.0 EBU
	No	0.5 x (Lot Size / 8,700); rounded to nearest 0.5, minimum of 0.5 EBU
Vacant	Yes	Lot Size / 8,700; rounded down to nearest 0.5, minimum of 1.0 EBU
	No	0.5 x (Lot Size / 8,700); rounded down to nearest 0.5, minimum of 0.5 EBU

4.2 IMPROVED RELIABILITY

The benefit from the distribution of electricity, other utilities, and the underground wires and cables is essentially equivalent for each single-family residence. Further, since all of the single-family lots have the same ability to use utilities and each single-family parcel benefits from the increased reliability that undergrounding provides, each single-family residential property has been assigned (1.0) Reliability EBU to account for the failure in any one or more of the following systems, resulting in an interruption in services: 1) primary distribution lines; 2) secondary distribution lines, or 3) local distribution lines that provide connections to a property's utilities.

It is evident that each condominium in a complex, each unit of a multi-family property, and all non-residential property would be impacted by an interruption in services due to a power outage and therefore specially benefit from the improved reliability. Since there are more units, square footage and/or occupants within condominium complexes, multi-family properties, and non-residential properties, these properties receive a different level of benefit than a single-family residence from the improved reliability of underground utility services. For condominium complexes and multi-family properties, not only does the entire property benefit from the improved reliability, but every unit receives utility services and benefits from the improved reliability.

Therefore, a reasonable comparison of benefit for condominiums and multi-family units can be derived by using population density factors as a proxy for comparing the typical dwelling sizes between single-

family residences and condominiums/multi-family units within the Town. On average, condominiums and multi-family residences are smaller dwelling units than single-family residences, which is reflected through the density factors for each land use type. Within the Town, Single-family Residences have a density factor of 2.04 persons per household, whereas, condominiums and multi-family residences have a density factor of 1.56 based on the 2010 census. With single-family properties assigned a Reliability EBU equal to 1.0, the density factors are used to assign a proportionate benefit equivalency to each individual condominium and multi-family unit by taking the ratio of $1.56/2.04 = 0.76$ EBUs. As such, each condominium and multi-family unit are assigned 0.76 EBUs for improved reliability.

When comparing non-residential land use types to the baseline EBU of a single-family residence lot, the density factor is not applicable and therefore, EBUs are assigned based on acreage (8,700 square feet). Non-residential properties are assigned improved Reliability EBUs based on the size of the lot, as the lot size of each these properties directly correlates to the amount of potential improvements utilizing and benefiting from the increased reliability.

Although certain parcels may be adjacent to a portion of undergrounded facilities, their services are still provided though overhead utilities within their neighborhood. In addition, there are instances where a property may have their utilities undergrounded and ready to receive service, but are still currently being served by overhead lines that connect to their property or their point of connection to their undergrounded utilities. **Table 4-3** outlines the reliability EBU calculations.

Table 4-2: Reliability EBU Calculation

Land Use	Density Factor	Reliability EBU Assignment
Single-Family	$2.04/2.04 = 1.00$	$1.0 \text{ EBU} \times \text{Density Factor} = 1.00 \text{ EBU}$
Condominium	$1.56/2.04 = 0.76$	$1.00 \text{ EBU} \times \text{Density Factor} = 0.76 \text{ EBU}$
Multi-Family	$1.56/2.04 = 0.76$	$1.0 \text{ EBU} \times \text{Density Factor} \times \text{Units}$
Non-Residential	N/A	Lot Size / 8,700; minimum of 1.0 EBU, rounded down to nearest 0.5
Vacant	N/A	Lot Size / 8,700; minimum of 1.0 EBU, rounded down to nearest 0.5

4.3 IMPROVED AESTHETICS

Removing the overhead utilities will improve the overall aesthetics to an individual property and the neighborhood aesthetics for all properties within a defined project area by eliminating a heavy concentration of electric lines and communication facilities. Like the Safety benefit category, a single-family residence adjacent to overhead utilities has been assigned 0.5 EBUs for the improved aesthetics of its property and 0.5 EBUs for the improved aesthetics of the property's neighborhood, for a total assignment of 1.0 Aesthetic EBU. 1.0 EBU equals the average town-wide lot size of 8,700 square feet.

Developed single family, non-residential and vacant lots less than the minimum lot size have been assigned a minimum of 1.0 Aesthetics EBU. Condominium complexes, multi-family properties, non-residential properties, undeveloped parcels, as well as certain single family residential lots exceeding the baseline square footage of 8,700 square feet has more area benefiting from improved aesthetics. Therefore, the benefit received by these properties is proportionately greater when compared to properties assigned 1.0 EBU. Based on this equivalency, additional Aesthetic EBUs were assigned to parcels greater than 8,700 square feet in 0.5 increments, in recognition that the difference in special benefit between one additional square foot versus two additional square feet is negligible on a square foot basis. However, using 0.5 EBUs increments corresponds to an additional 4,350 square feet above 1.0 EBU and reflects a noticeable variance in size to assign additional benefit units to capture the increase in special benefit received by these parcels.

Condominium complexes, multi-family properties, non-residential properties, undeveloped parcels, as well as certain single family residential lots exceeding the baseline square footage of 8,700 square feet span a greater area along the streets that have overhead utilities and/or utility poles proposed to be undergrounded. Therefore, the benefit received by these properties is proportionately greater when compared to properties assigned 1.0 EBU. Based on this equivalency, parcels greater than 8,700 square feet have been assigned additional Aesthetic EBUs, in 0.5 increments, in recognition of the proportionate special benefits received by these parcels.

Properties within the boundaries of the utility undergrounding project area that do not have overhead facilities adjacent to their property along the secondary streets, alleyways and rear easements shall be assigned Safety EBUs equal to one-half (1/2) of the Safety EBU calculation to reflect the reduced benefit received by the parcel. The 0.5 EBU accounts for the benefit associated with the improved safety of undergrounding facilities within the local neighborhood/area of the parcel.

Based on this method of assessment, each condominium complex was assigned Aesthetic EBUs by first assigning Aesthetic EBUs to the condominium complex. Once the Aesthetic EBUs for the complex was derived, the total Aesthetic EBUs were apportioned evenly to each condo within the complex. Therefore, depending on the size of the complex and the number of units within the complex, condo parcel EBU assignments will vary from complex to complex. For single-family residences, multi-family properties, and non-residential properties, the EBUs calculated were assigned to the applicable parcel number. **Table 4-4** outlines the Aesthetic EBU calculations.

Table 4-3: Aesthetic EBU Calculation

Land Use	Overhead Utilities	Aesthetics EBU Assignment
Single-Family	Yes	Lot Size / 8,700; rounded down to nearest 0.5, minimum of 1.0 EBU
	No	(Lot Size / 8,700) / 2; rounded down to nearest 0.5, minimum of 0.5 EBU
Condominium	Yes	(Complex Lot Size / 8,700; rounded down to nearest 0.5) / condos in Complex, minimum of 1.0 EBU per complex
	No	0.5 x [(Complex Lot Size / 8,700; rounded down to nearest 0.5) / condos in Complex], minimum of 0.5 EBU per complex
Multi-Family	Yes	Lot Size / 8,700; rounded down to nearest 0.5
	No	0.5 x (Lot Size / 8,700); rounded down to nearest 0.5
Non-Residential	Yes	Lot Size / 8,700; rounded down to nearest 0.5, minimum of 1.0 EBU
	No	0.5 x (Lot Size / 8,700); rounded to nearest 0.5, minimum of 0.5 EBU
Vacant	Yes	Lot Size / 8,700; rounded down to nearest 0.5, minimum of 1.0 EBU
	No	0.5 x (Lot Size / 8,700); rounded to nearest 0.5, minimum of 0.5 EBU

4.4 SPECIAL CASES AND EXCEPTIONS

4.4.1 *Golf Course Parcels and the Breakers*

While parcels throughout the Town benefit from the undergrounding of nearby utilities, certain parcels that make up the golf courses and the Breakers benefit to a lesser degree due to diminished return of benefit as the parcel's total acreage increases. The parcel(s) have a lower frontage-to-acreage ratio and as the parcel size increases, most the parcel's area is either the golf course itself or passive park-like facilities that do not utilize utilities. In order to account for the difference in total special benefit, the parcels associated with golf courses and parcels associated with the Breakers resort were combined as one property, respectively. To calculate these parcels' acreage, the parcel's total frontage was multiplied by a lot depth of 200 feet based on the typical depth of Low Density Residential lots throughout the Town.

4.4.2 *Non-Assessable Obligation*

Certain neighborhoods within the Town have either already created an assessment program to undergrounded its overhead facilities (Everglades Island and Via Fontana) or are currently in the process of creating a utility undergrounding assessment program (Nightingale and Lake Towers). Due to the timing of these assessment programs, appurtenant facilities remain at the termination points of these project areas which will be undergrounded once this utility undergrounding assessment program is completed. As such, an indirect reliability benefit exists within this utility undergrounding assessment program associated with the termination points of these other assessment programs. Each termination point is assigned 1 Reliability EBU to account for this indirect benefit resulting from different timing of the undergrounding projects for a total of 7 Reliability EBUs. The obligation associated with these 7 Reliability EBUs will not be assessed against any parcel within the proposed utility undergrounding assessment program and will be excluded from the assessment.

4.4.3 *Bifurcated Lots*

Certain parcels within the Town have a portion of their property bifurcated as a result of South Ocean Boulevard. These properties were treated as special cases and were assigned EBUs based on the acreage of both lots associated with these properties as one contiguous parcel for assigning EBUs.

4.4.4 *Undevelopable parcels*

Vacant parcels that cannot be developed due to size of property or zoning restrictions or are parcels associated with conservation land dedicated to wildlife habitat preservation are exempt from the proposed utility undergrounding assessments because these parcels do not confer any measurable special benefit from the improvements.

4.4.5 *Parking spaces, storage and condominium cabanas*

Certain parcels are legally subdivided lots that are associated with auxiliary improvements, such as, deeded parking spaces, storage units, and condominium cabanas. As such, these types of parcels are exempt from the assessment because other associated parcels are assessed as the primary parcel of benefit.

5. DIAGRAM

A Diagram showing the boundaries of the proposed Utility Undergrounding Project, the dimensions of the subdivisions of land within the Town (as they existed at the time of the creation of this Report), is on file with the Town and by reference is considered part of this report.

6. PARCEL DATABASE

A parcel database identifying each parcel's equivalent benefit unit assignment for each of the three categories of special benefit has been provided to the Town under separate cover and by reference is made part of this Report.