#### **CII-LUCD** Informational Sheet

#### Introduction

DWR, in partnership with NV5G, has produced a dataset of provisional classifications for Commercial, Industrial, and Institutional (CII) landscape areas and complements the Residential LAM dataset. CII parcels were classified from the same assessor's parcel information database used for the Residential-LAM project. This data *may* be used in analysis of the Urban Water Use Objective (UWUO) and CII Performance Measures. The DWR provided CII landscape data should be considered a *starting* point for an urban retail water suppliers' analysis of CII landscapes.

This brief informational sheet is provided as a short users guide for reviewing the data provided. A more detailed explanation describing what is included is provided in the accompanying report.

DWR requests suppliers' final edits be provided to DWR as a courtesy to help us maintain the most current data. Please send an email to <u>WUE@water.ca.gov</u> and include in the subject line the supplier's name, date, and identify CII-LAM-LUCD updates.

## **Included in This Delivery:**

- **1. Report.** The CII-LUCD/Residential Parkways Irrigated Vegetation Analysis Report provides a detailed description of the data and methodologies provided.
- 2. Shapefiles. CII-LUCD data is provided as five separate shapefiles and can be imported into many mapping software programs (ArcGIS, QGIS, Google Earth, etc.). The summary tables below highlight key shapefile field names. A complete list of field names and their description are provided on the informational sheet.
  - Parcel Layer Assessor's parcel information used to classify individual parcels and is a common dataset for both the CII-LAM-LUCD and Residential-LAM projects.

Field Name	Description	Example Attribute Values
APN	Property APN/ID as inventoried	"586-021-12"
	by the tax assessor	
STNAME	Property street name returned	"23301 Ridge Route"
	from corrected address process	

CITY	Property city name returned	"LAGUNA HILLS"
	from corrected address process	
LUCDSC	Standardized land use	"COMMERCIAL-
	description. Descriptive text	VACANT LAND"
	corresponding to the land use	
	code (LUC)	
LUCCTRDSC	Land Use Code category	"VACANT LAND"
	description. Descriptive text	
	corresponding to the land use	
	category. (LUCCTR)	

CII AOI Layer – This layer is the inverse of the Residential LAM and classifies the remaining supplier's service area as part of the CII AOI, which includes CII parcels, vacant, agricultural, masked areas and undeveloped residential parcels. Residential extensions are not part of the CII AOI layer. Attribute symbology is based on the "CII\_DESC" field and it is recommended that you assign unique symbology based off this field to differentiate the shapes.

Field Name	Description	Example Attribute
		Values
CII_DESC	The final description of the	"CII"
	parcel land use after it has	"SF / MF Vacant TRUE"
	been reviewed. Because this	"SF / MF Vacant CII"
	project captures all parcels not	
	included in the RES-LAM	
	project, such as residential	
	vacant land types.*	
INITIAL	The initial classification is based	"SF/MF Vacant"
	on the parcel layer.	
CII_BOOL	True or False field determining	"FALSE"
	if the land should be included	
	or not included in the CII-AOI	
	product.	

\*SF/MF Vacant True or False attributes for the parcel are determined by the land use visible from the imagery on parcels labeled "vacant." Vacant parcels are labeled as either "TRUE", "FALSE", or "CII" to notify the supplier the data needs should be checked for accuracy. "TRUE" means the parcel was labeled vacant and appears to be vacant. "FALSE" means the parcel was labeled vacant but does not appear to be vacant. "CII" means that the parcel was labeled as vacant but appears to not be vacant AND appears to be an obvious CII land use.

- LUCD Layer Object classification of CII landscapes from the CII AOI does not include the Residential Extensions or masked areas. Numbering in the "LEVEL\_2" field name indicates if the attribute is irrigated (i.e., 3.x) or non-irrigated (i.e., 4.x). CII landscapes were classified using 2020 Hexagon imagery and their area and initial classification can be modified by the supplier.
- Functional/Non-Functional Turfgrass Layer The shapefiles for turfgrass classification shares the attributes of the CII-LUCD layer including numbers indicating if turfgrass is provisionally classified as irrigated (i.e, 3.x) or non-irrigated (i.e, 4.x). Provisional functional and non-functional turfgrass classifications are provided for CII landscapes, the irrigation status, area, and classification for these objects can be changed by the supplier.
- 3. Residential Extension Layer(s) Residential extensions (aka residential parkways) are landscapes that may be irrigated by residential customers and are outside residential parcel boundaries. These landscapes were not analyzed as part of the Residential-Landscape Area Measurement (LAM) deliverables and were classified using the previously performed Residential-LAM process. The residential extension layer is classified using 2018 Hexagon imagery consistent with the previously provided Residential LAM deliverable and includes an "A", "V", and "A\_V" layer.

Suppliers can review and request for some, all, or none of the residential extensions to be included as part of their final Residential-LAM estimates. Residential extensions that are not included as part of suppliers Residential LAM may however be associated with irrigated CII landscape areas subject to the UWUO.

- Residential\_Extension\_A Vector layer representing Residential LAM project summary within residential extensions. The Residential LAM and Residential Extensions classification was summarized to source parcel information, which may not be topologically correct (i.e. may contain overlaps and duplications). The 'A' layer is appropriate to use for individual residential extension assessment and should not be used for supplier-wide summarizations due to overlapping features.
- Residential\_Extension\_V Vector layer representing Residential LAM project summary within residential extensions. The Residential LAM and Residential

extension classification was summarized to a topologically correct vector layer of the residential extensions. The 'V' layer does not overlap and is appropriate to use for generating supplier-level residential extension landscape area measurement calculations.

• Residential\_Extension\_A\_V - Vector layer representing the relationship between the A layer and V layer within residential extensions.

## What is NOT Included in This Delivery

 Source Imagery. DWR is unable to provide suppliers with 2020 Hexagon imagery due to licensing issues. CII-LAM-LUCD data is being shared with the California Water Efficiency Partnership (CalWEP) who will contact suppliers with a way to review CII-LAM-LUCD data alongside the 2020 Hexagon imagery. Suppliers can request access to the 2020 Hexagon imagery by contacting the State of California Department of Technology at <u>https://cdt.ca.gov/contact-us/</u> however, access is not guaranteed.

Alternate image sources can be used to inform analysis and make refinements. Please note however, that alternate imagery is unlikely to be an exact 1-to-1 match with the imagery used to develop the dataset provided, so differences in the provisional classification and alternate imagery are expected.

2. Location of CII Dedicated Irrigation Meters (DIMs) and Mixed-Use Meters (MUMs) and Associated Irrigated Areas. DWR is unable to assist suppliers with geolocating CII-DIMs or CII-MUMs. Identifying these meters, their location, and the landscapes they irrigate can only be performed by water suppliers or their representatives.

#### SUGGESTED ACTIONS

- Review the provisional CII-LUCD and Functional\_Turf shapefile data for accuracy based on your understanding of your service area. Attributes within the shapefiles can be modified by overwriting the attribute field (i.e. modifying 'Non-Functional turfgrass' to be 'Functional turfgrass' or a non-irrigated shape as irrigated by modifying the shapefile's attribute table). If a classification is inaccurate, the size and shape of LUCD objects can be modified based on a supplier's first-hand knowledge.
  - Shapefile attribute modifications can be done in the attribute table. Getting to the attribute table will depend on the mapping program used (ArcGIS Pro, QGIS, etc.).

LEVEL_2	IRRIGATION	TURF_CLASS
3.1 Turfgrass	Irrigated	3.1.2 Non-functional turf

For example, if a polygon is incorrectly classified and the referenced object should be classified as 'functional', you would need to overwrite the "TURF\_CLASS" field as: "3.1.1 Functional turf"

LUCD Canopy Priority Classification System					
Level 1		Level 2	Irrigation Status		
1.	Impervious	Impervious	Not Irrigable		
2.	Pools	Swimming pools/man made water features	Irrigated		
3.	Irrigated	3.1.1 Turf grass 3.1.2 Other vegetated ground cover	Irrigated (For CII Properties Only: Turf grass separated in functional and non- functional turf) Irrigated		
		3.2 Tree Canopy 3.3 Bare			
4.	Irrigable not irrigated	4.1.1 Turf grass 4.1.2 Other vegetated ground cover	Irrigable not irrigated Irrigable not irrigated		
		4.2 Tree Canopy 4.3 Bare	Irrigable not irrigated		
5.	Non irrigated vegetation	Undeveloped for the purposes of irrigation	Not Irrigable		
6.	Undeveloped lands	Undeveloped Lands Mask (> 0.25 acre)	Not Irrigable		
7.	Horse Corrals	Horse Corrals	Irrigated		
8.	Open Water	Other open water bodies (rivers/lakes/ponds)	Not Irrigable		
9.	Artificial Turf	Artificial Turf	Not Irrigable		
10.	Agricultural Land	Agricultural Land (> 1.0 acre mmu)	Irrigated		

Level 2 attribute values are provided in the quick reference table below:

# 2. Locate DIMs and CII-MUMs associated with large landscapes and map irrigation premises.

The data delivered by DWR is considered provisional and classified objects that may be associated by suppliers with CII dedicated irrigation meters (DIM) or large landscapes served by CII mixed-use meters (MUM) and may be used to comply with the Urban Water Use Objectives.