

1000 DUNDAS STREET EAST MISSISSAUGA

S H A D O W S T U D Y

M A Y 1 9 , 2 0 2 2

P R E P A R E D F O R



P R E P A R E D B Y :

WZMH ARCHITECTS

1.0 INTRODUCTION

The following information prepared by WZMH is to be read in conjunction with the accompanying Shadow study drawings as well as the architectural drawing set .

1.1 Site Latitude and Longitude

The information taken from CADMAPPER regarding the site of 1000 Dundas Street W, Mississauga, Ontario, L4Y 2B8 is located at:

Latitude: 43.60110374079034N

Longitude: -79.59212438465353W

Astronomic north was determined by geolocating the 3D model in SketchUp based on OpenStreetMap. The origin of the base plan is from Google Earth satellite imagery.

1.2 Software Used to Prepare Shadow Analysis

SketchUp Pro was used for 3D work, calculations were done using AutoCAD, final composite images were done in Photoshop.

1.3 Description of Areas

Residential private outdoor amenity spaces are determined as private rear yards, decks, patios and pools of surrounding residential dwellings.

Communal outdoor amenity areas are determined as public amenity areas and common outdoor amenity areas that are part of proposed or existing development.

Public realm is determined as sidewalks, open spaces, parks and plazas.

Turf and flower gardens in public parks are shown within the public realm. Turf and flower gardens in public parks.

Building faces to allow for possibility of using solar energy .

3.0 COMMUNAL OUTDOOR AMENITY AREAS

Section 3.2 of the Mississauga Urban Design Terms of Reference - Standards for Shadow Studies requires the identification of communal outdoor amenity areas within the vicinity of the proposed developments. Areas outlined in purple were identified as communal

outdoor amenity areas and include children's play areas, school yards, tot lots, and park features such as sandboxes, wading pools etc. It also includes outdoor amenity areas used by seniors and those associated with commercial and employment areas.

Testing times include June 21st, September 21st, and December 21st.

As defined by the Terms of Reference, shadows from a proposed development should allow for full sun on identified areas at least half the time, or 50% sun coverage all the time. If the "sun access factor" is at least 50% or 0.5 on each of the test dates ($As(ave)/AT = 0.5$ or more), then the shadow impact is considered to be in compliance with these terms of reference.

The average shadows at all outdoor amenity spaces met the criteria mentioned above. The sun access factor for all outdoor amenity spaces is at least 50% or .5 on each of the test dates.

4.0 PUBLIC REALM

Section 3.3 of the Mississauga Urban Design Terms of Reference - Standards for Shadow Studies requires the identification of Public Realm within the vicinity of the proposed development. Areas outlined in yellow were identified as Public Realm and include sidewalks, open spaces, parks and plazas. Mixed-Use, Commercial, Employment and High Density Residential Streets As defined by the Terms of Reference, Mixed-Use, Commercial, Employment and High Density Residential Streets should be designed to allow full sunlight on the opposite boulevard including the full width of the sidewalk on September 21st for a total of at least 5 hours that must include the 2 hour period between 12:12 pm and 2:12 pm, and an additional 2 hour period from either 9:12 am to 11:12 am or from 3:12 pm and 5:12 pm.

This criterion is met if there is no incremental shade from the proposed development at: 12:12 p.m., 1:12 p.m. and 2:12 p.m. and three consecutive times either: 9:12 a.m., 10:12 a.m. and 11:12 a.m. or 3:12 p.m., 4:12 p.m. and 5:12 p.m.

The proposed development met the above criteria. There is no incremental shade from the proposed development on the date & time mentioned above.

Public Open Spaces, Parks and Plazas As defined by the Terms of Reference, shadows from proposed developments should allow for full sun on public open spaces, parks (Hawkins Glen Park) and plazas at least half the time, or 50% sun coverage all the time. If the “sun access factor” is at least 50% or 0.5 on each of the test dates ($As(ave)/AT = 0.5$ or more), then the shadow impact is in compliance with these terms of reference.

This shadow study shows that the proposed development does not cast shadows on Hawkins Glen Park or on any other park from June to December.

5.0 TURF AND FLOWER GARDENS IN PUBLIC PARKS

Section 3.4 of the Mississauga Urban Design Terms of Reference - Standards for Shadow Studies

6.0 BUILDING FACES TO ALLOW FOR THE POSSIBILITY OF USING SOLAR ENERGY

Section 3.5 of the Mississauga Urban Design Terms of Reference - Standards for Shadow Studies states that shadow impacts from proposed developments should not exceed one hour in duration on the roofs, front, rear and exterior side walls of adjacent low rise (one to four storeys) residential buildings including townhouses, detached and semidetached dwellings on September 21, in order to allow for the possibility of harvesting solar energy. The line of impact assessment shall be a line at grade, 3 m from the front, rear and exterior side wall of the adjacent low rise residential buildings.

This criteria is met if there is shadow impact for no more than two consecutive hourly test times in the “No Impact Zone” (identified in blue) i.e. the space between the front, rear and exterior side walls of the adjacent low rise residential buildings and the respective lines of impact assessment.

The findings of the shadow analysis show that the proposal for full sun on building faces to allow for the possibility of using solar energy areas are in accordance with this standard. As such, criteria for section 3.5 is met.

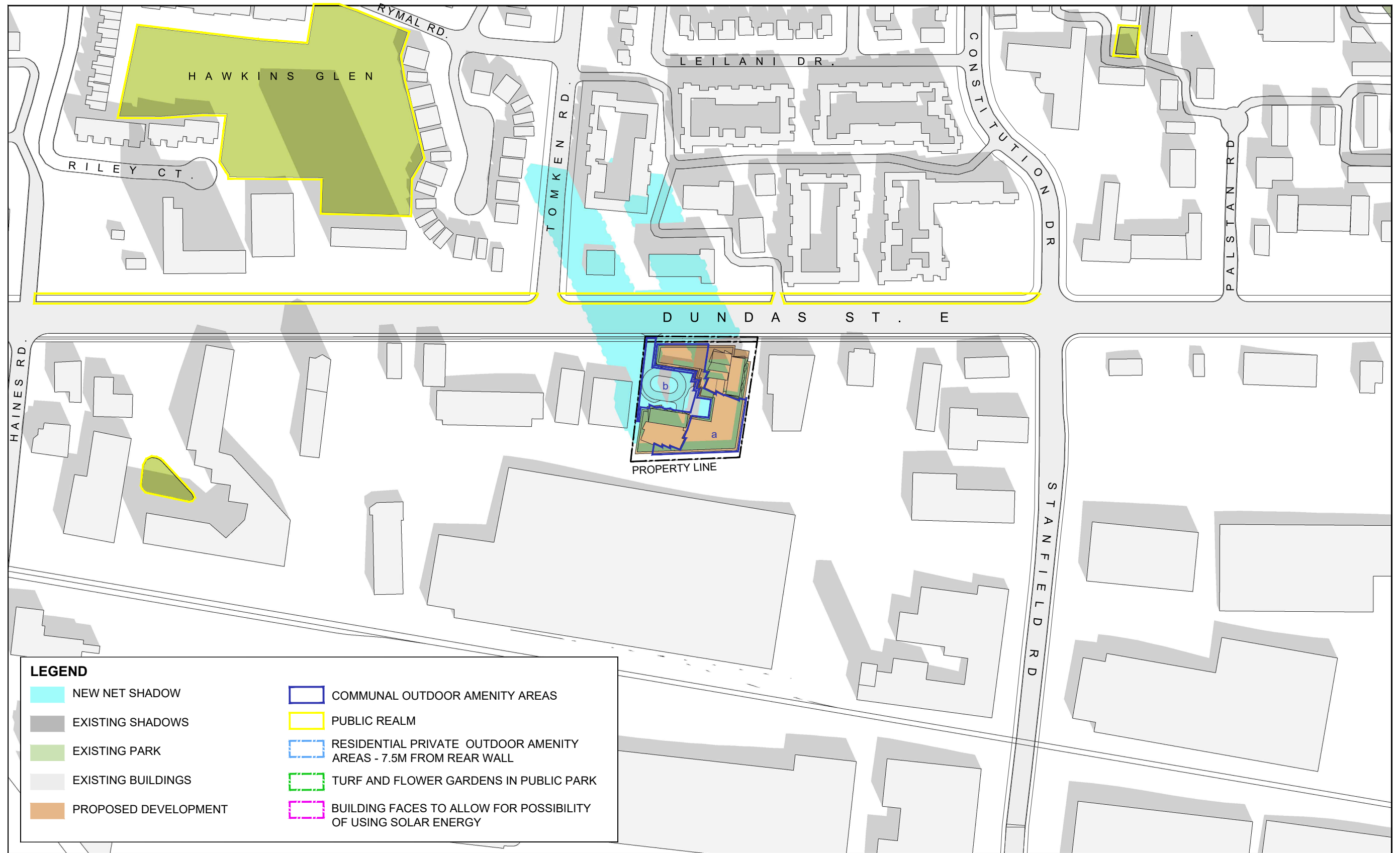
7.0 CONCLUSIONS

Based on this analysis, it is our opinion that the proposed development will create minimal and acceptable shadowing impacts on adjacent lowrise neighbourhoods, private amenity areas, and public parks in accordance with Policy 9.2.2.3 and Policy 9.5.3.9 of the Mississauga Official Plan.

COMMUNAL OUTDOOR AMENITY AREAS			
	A	B	Total Area
21-Jun	2451m2	1938m2	4389m2
707	1661.00	0.00	1661.00
720	1657.00	129.00	1786.00
820	1796.00	486.00	2282.00
920	1915.00	533.00	2448.00
1020	2021.00	404.00	2425.00
1120	2179.00	245.00	2424.00
1220	2386.00	951.00	3337.00
120	2170.00	1400.00	3570.00
220	1854.00	1703.00	3557.00
320	1552.00	1938.00	3490.00
420	1485.00	1738.00	3223.00
520	1530.00	1586.00	3116.00
620	1488.00	1313.00	2801.00
720	1378.00	1073.00	2451.00
733	1353.00	1058.00	2411.00
Average of Areas in Sunshine (As(ave))	1761.67m2	970.47m2	2732.13m2
Sun Access Factor	0.72	0.50	0.62

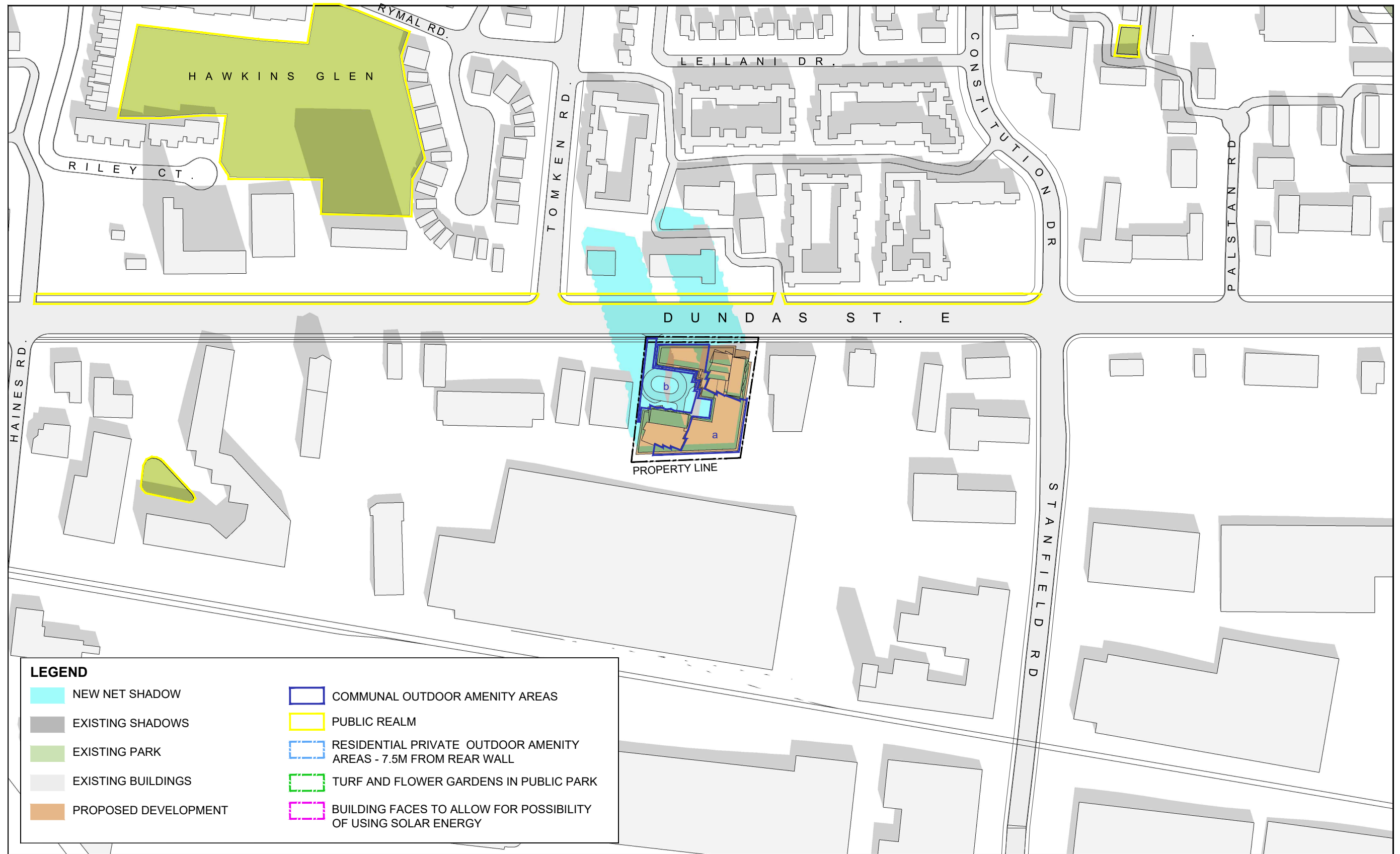
COMMUNAL OUTDOOR AMENITY AREAS			
	A	B	Total Area
21-Sep	2451m2	1938m2	4389m2
835	1711.00	0.00	1711.00
912	2024.00	0.00	2024.00
1012	1960.00	0.00	1960.00
1112	1913.00	590.00	2503.00
1212	1848.00	873.00	2721.00
112	1663.00	1242.00	2905.00
212	1199.00	1602.00	2801.00
312	1212.00	1810.00	3022.00
412	1505.00	1938.00	3443.00
512	1450.00	1722.00	3172.00
548	1516.00	1637.00	3153.00
Average of Areas in Sunshine (As(ave))	1636.45	1037.64	2674.09
Sun Access Factor	0.67	0.54	0.61

COMMUNAL OUTDOOR AMENITY AREAS			
	A	B	Total Area
21-Dec	2451m2	1938m2	4389m2
919	1959.00	468.00	2427.00
1017	1681.00	700.00	2381.00
1117	1665.00	906.00	2571.00
1217	1575.00	1231.00	2806.00
117	1598.00	1492.00	3090.00
217	1289.00	1685.00	2974.00
315	1313.00	1816.00	3129.00
Average of Areas in Sunshine (As(ave))	1582.86	1185.43	2768.29
Sun Access Factor	0.65	0.61	0.63



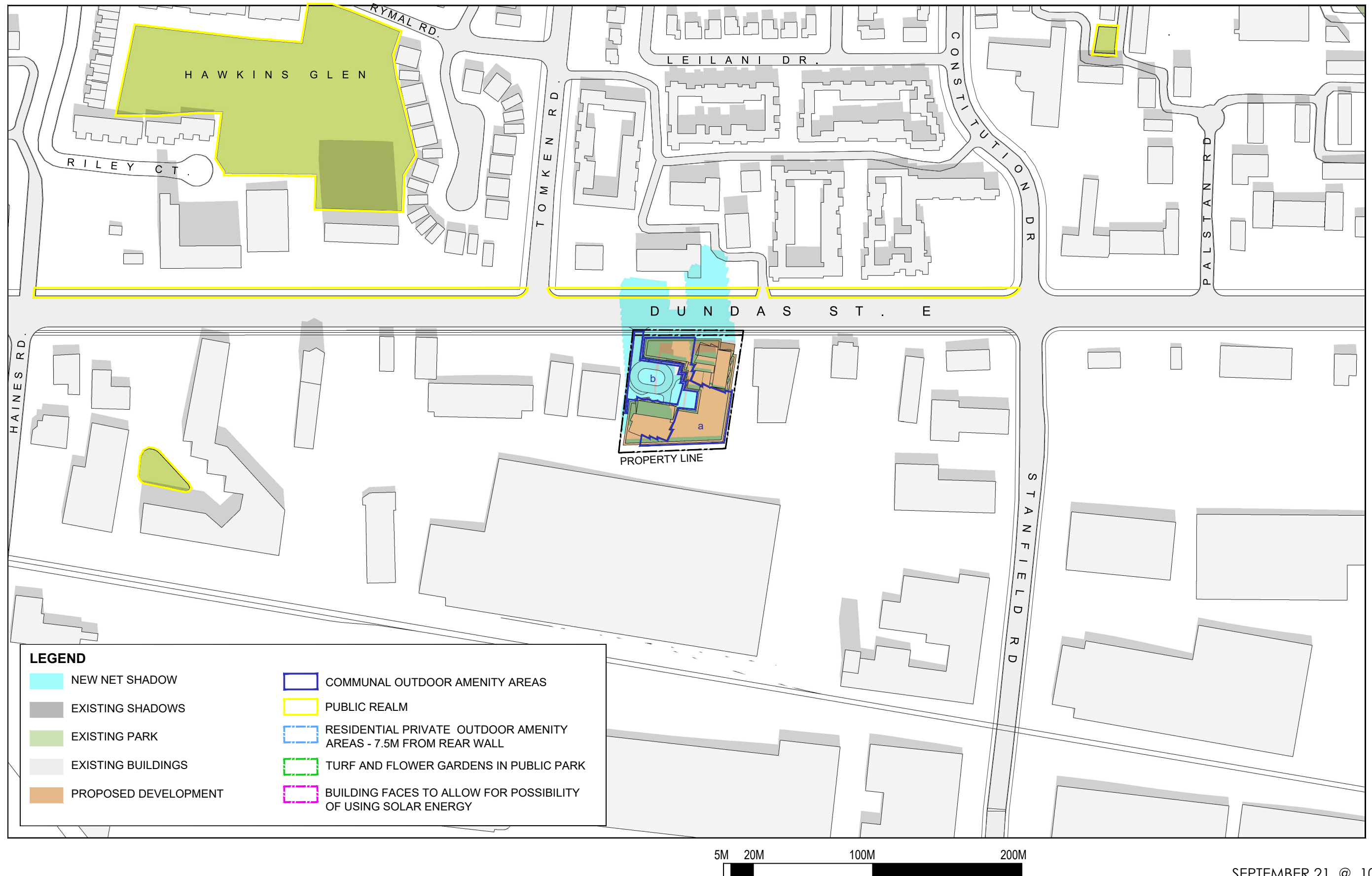
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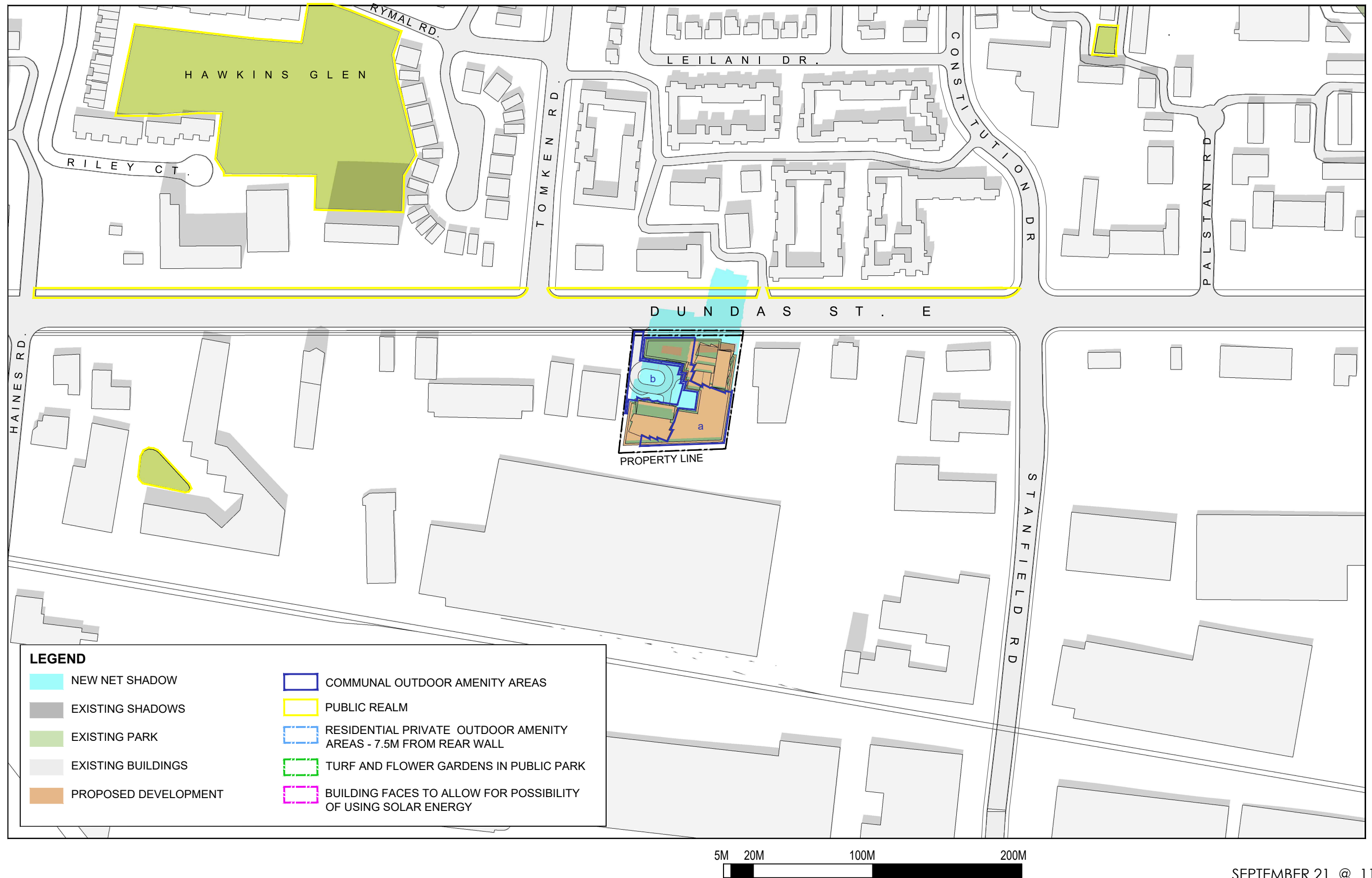


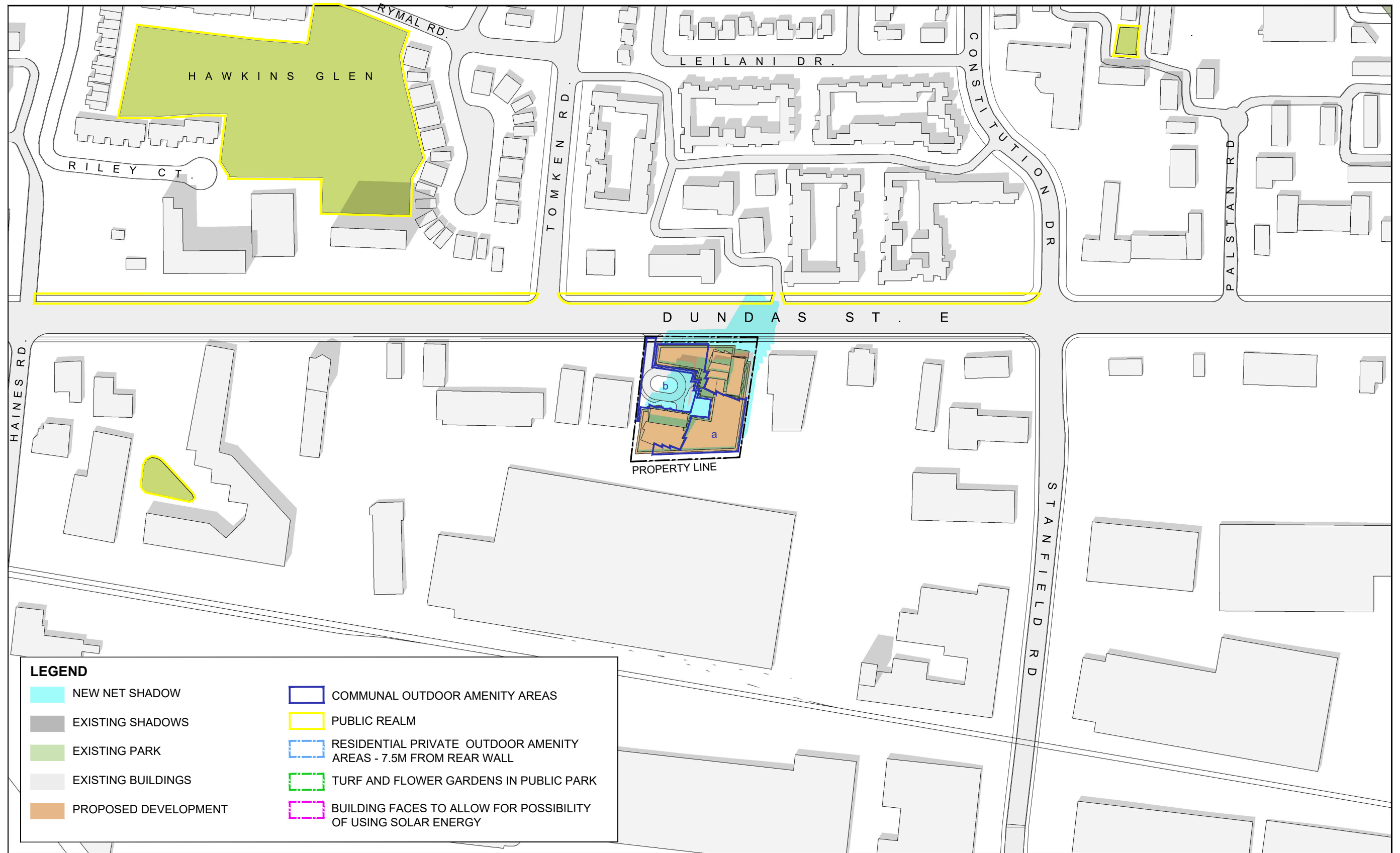


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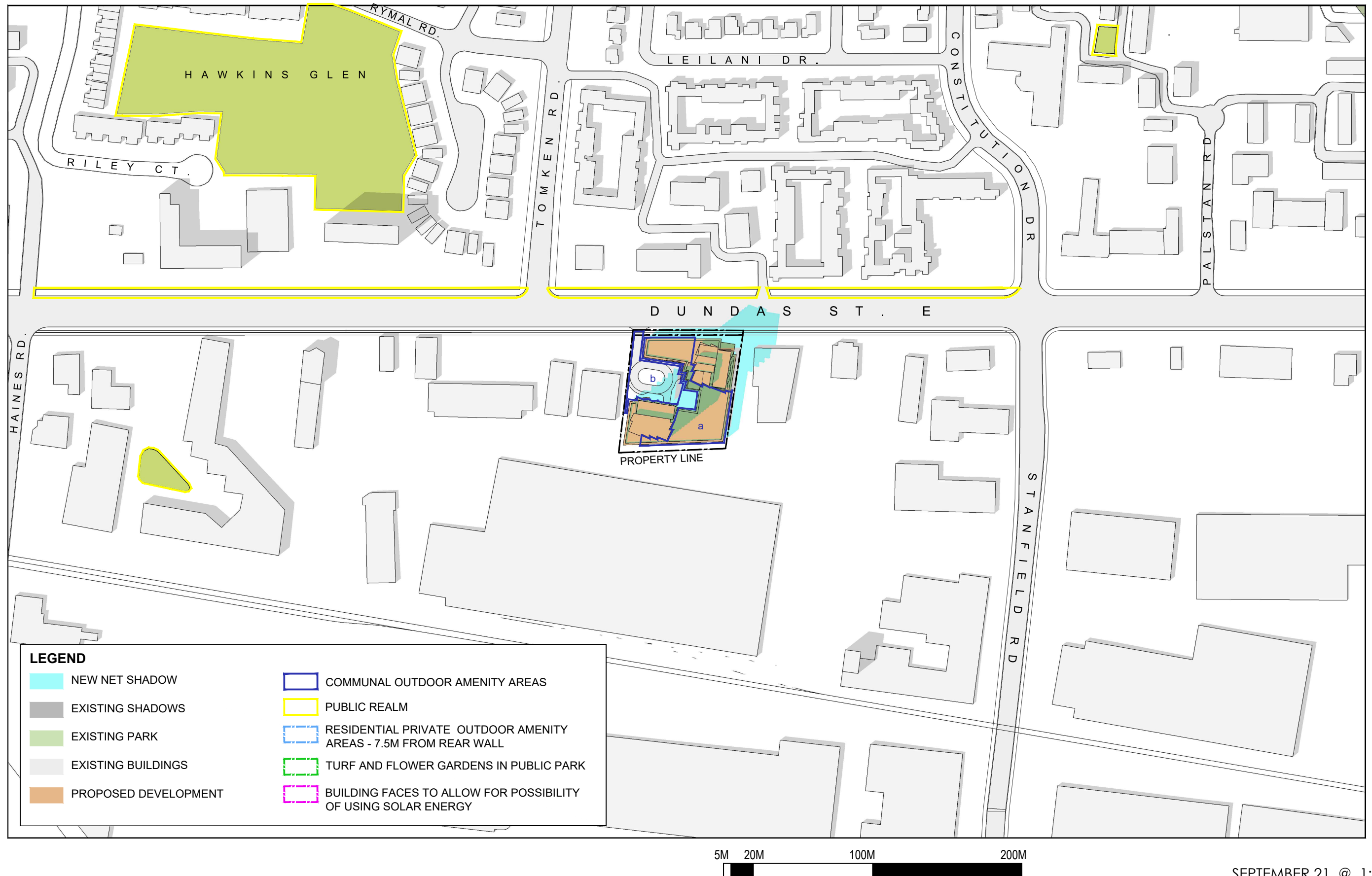


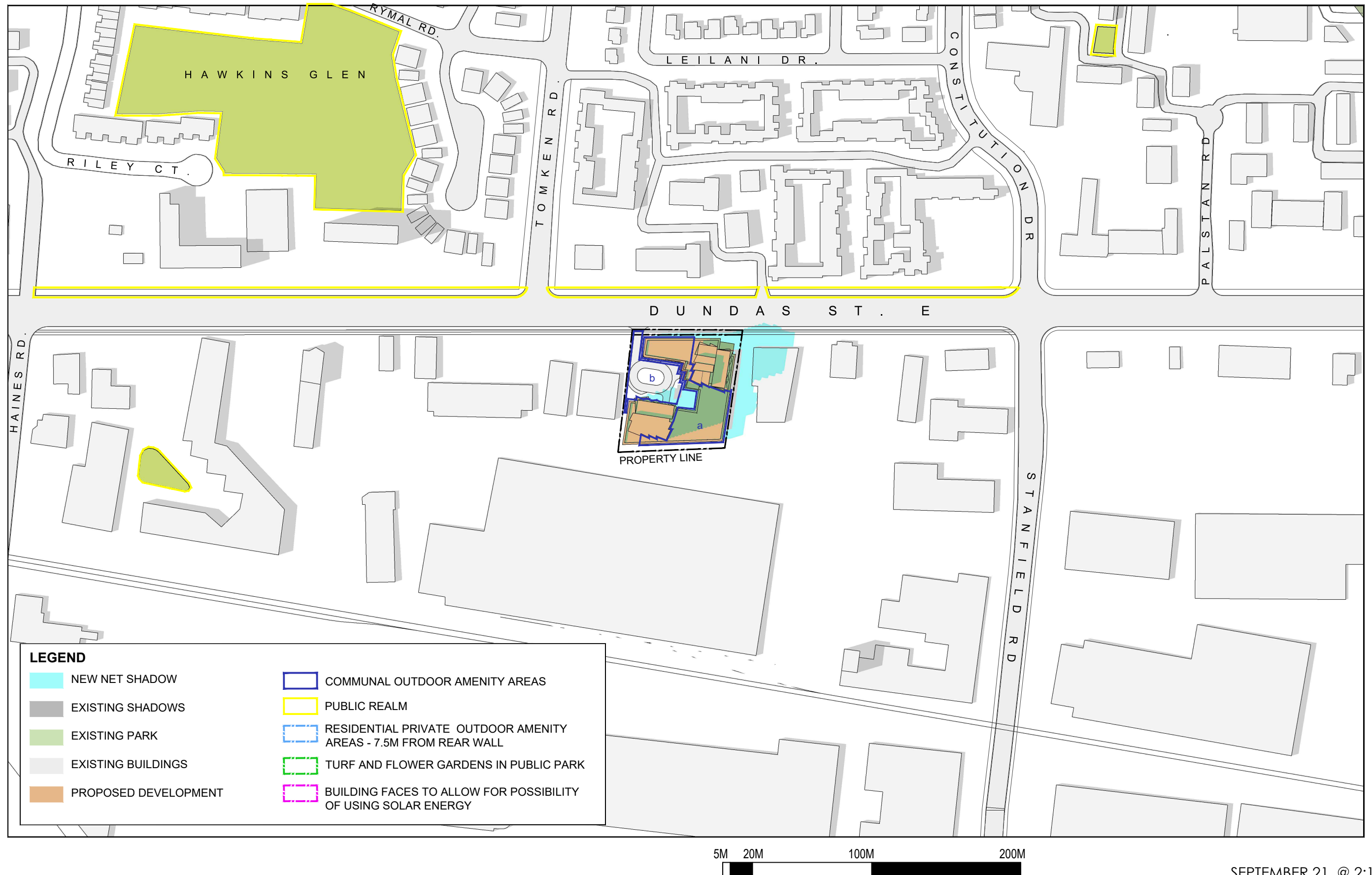


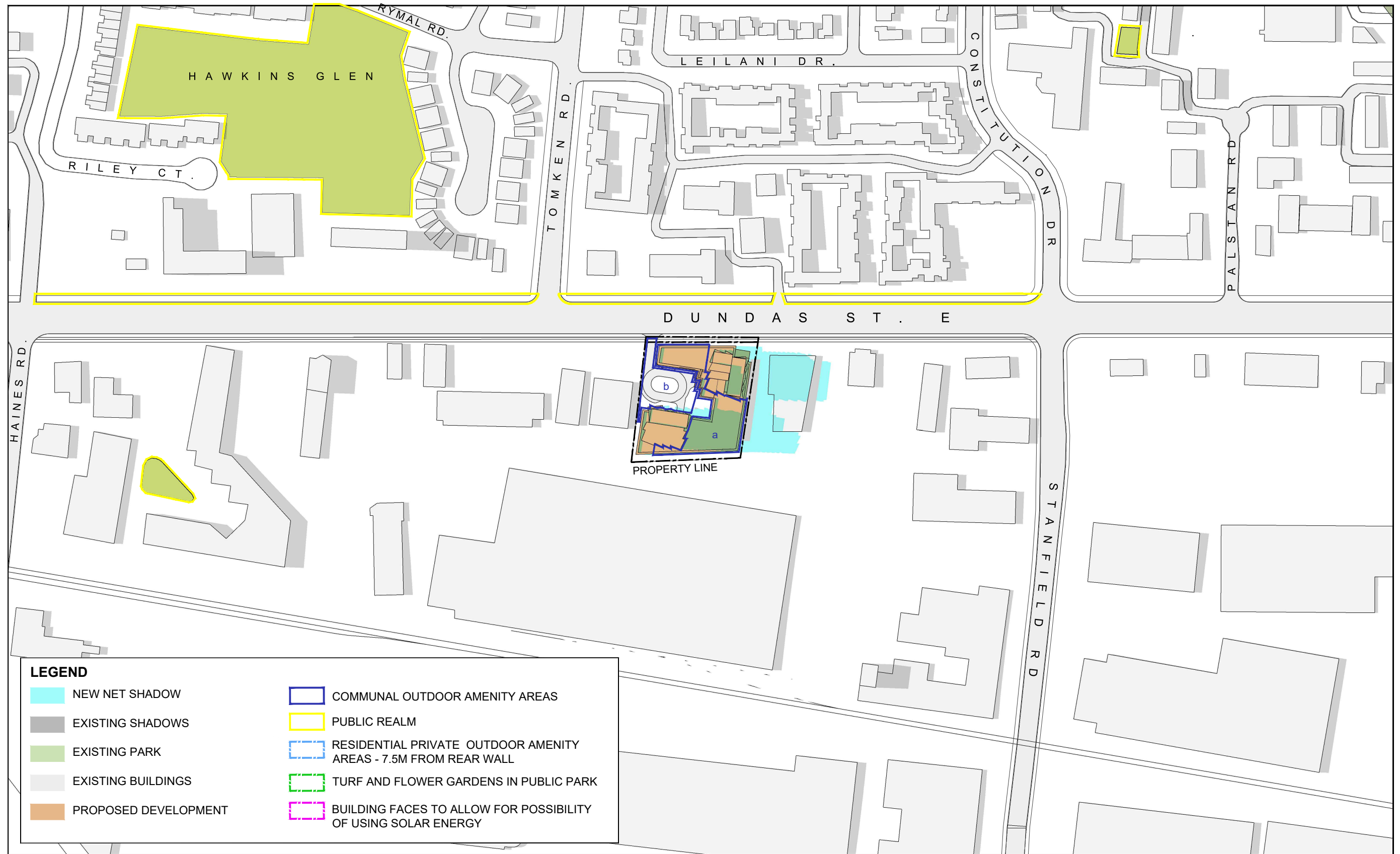


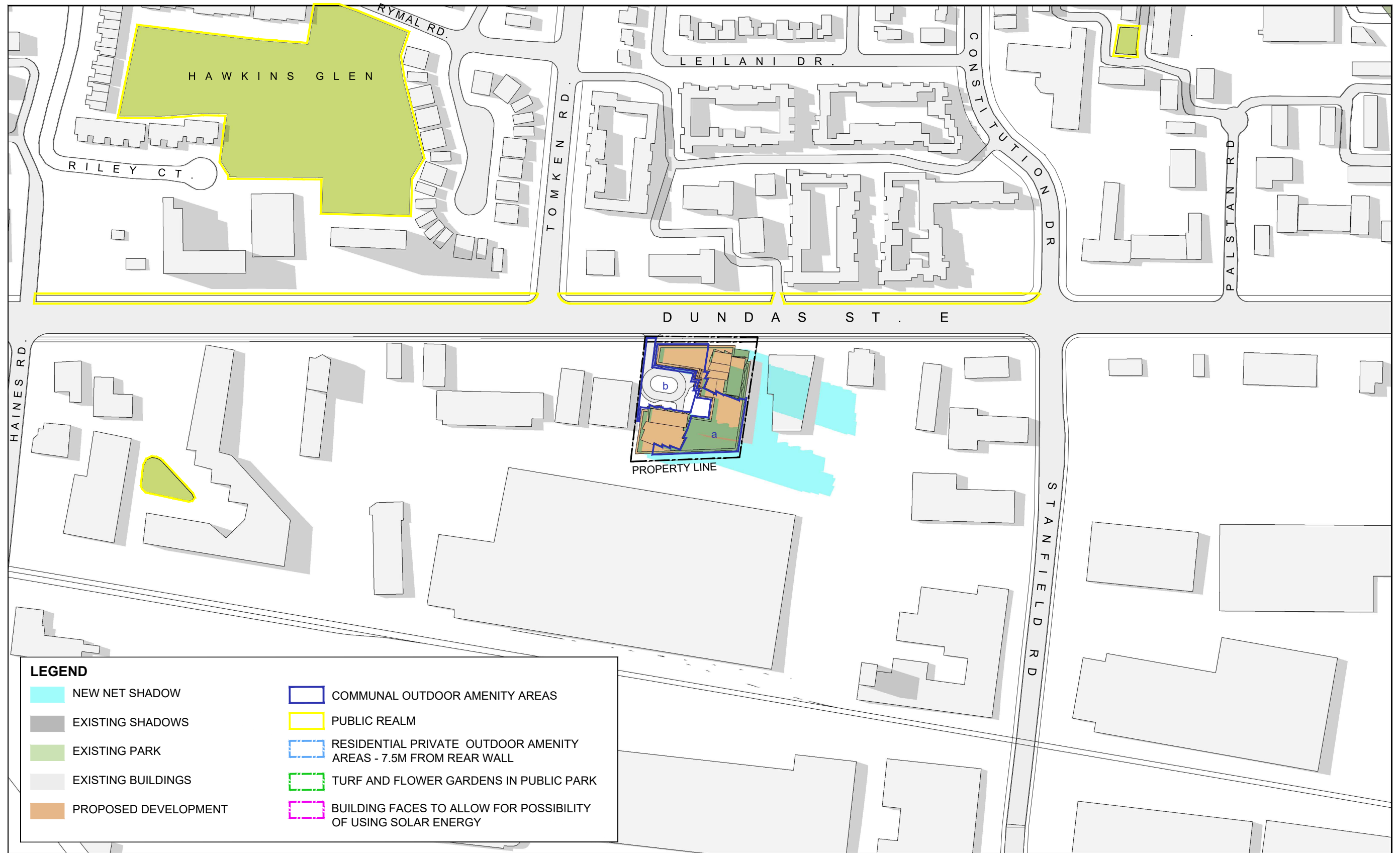
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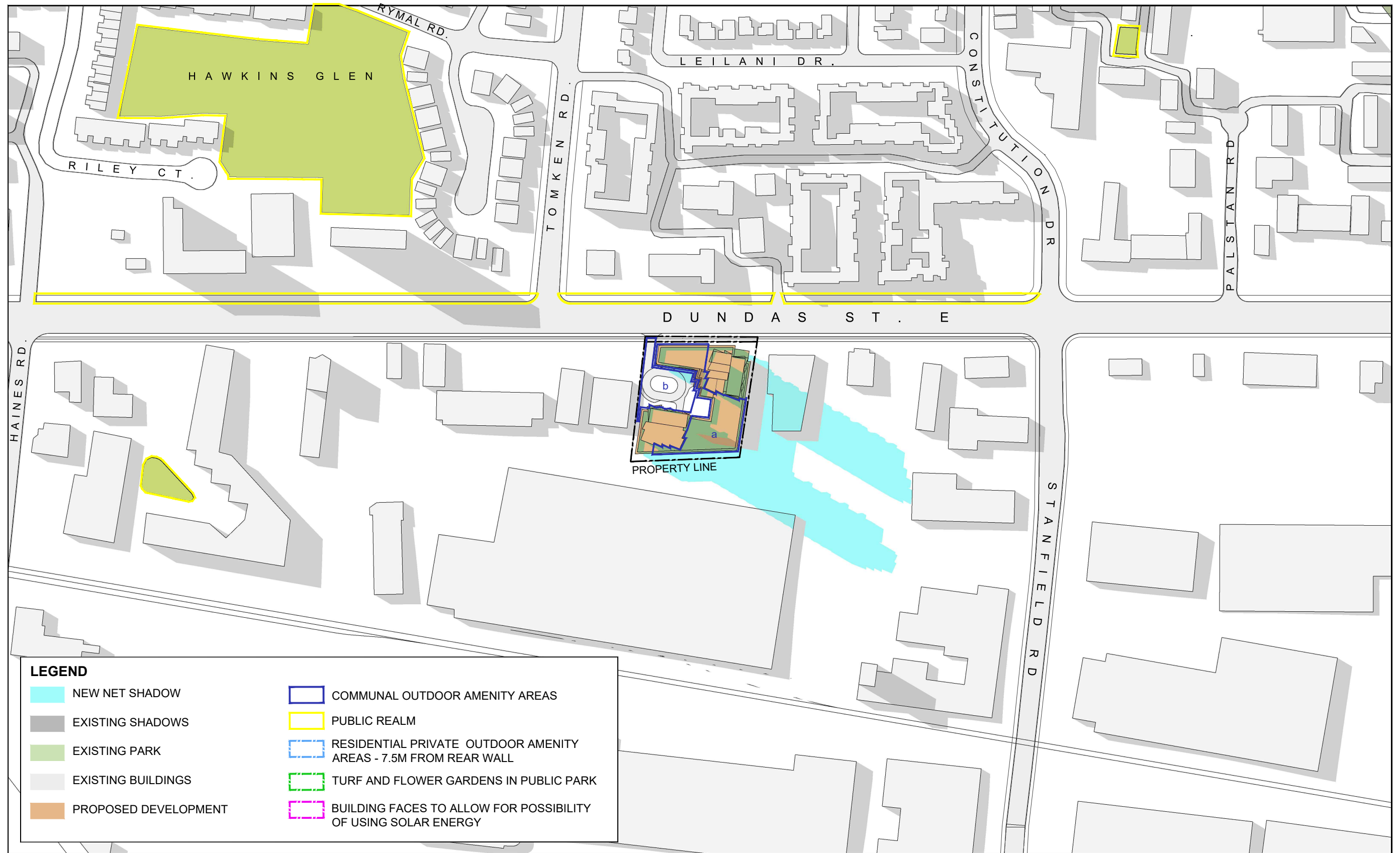
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- NEW NET SHADOW
- EXISTING SHADOWS
- EXISTING PARK
- EXISTING BUILDINGS
- PROPOSED DEVELOPMENT
- COMMUNAL OUTDOOR AMENITY AREAS
- PUBLIC REALM
- RESIDENTIAL PRIVATE OUTDOOR AMENITY AREAS - 7.5M FROM REAR WALL
- TURF AND FLOWER GARDENS IN PUBLIC PARK
- BUILDING FACES TO ALLOW FOR POSSIBILITY OF USING SOLAR ENERGY

5M 20M 100M 200M

SEPTEMBER 21 @ 4:12PM





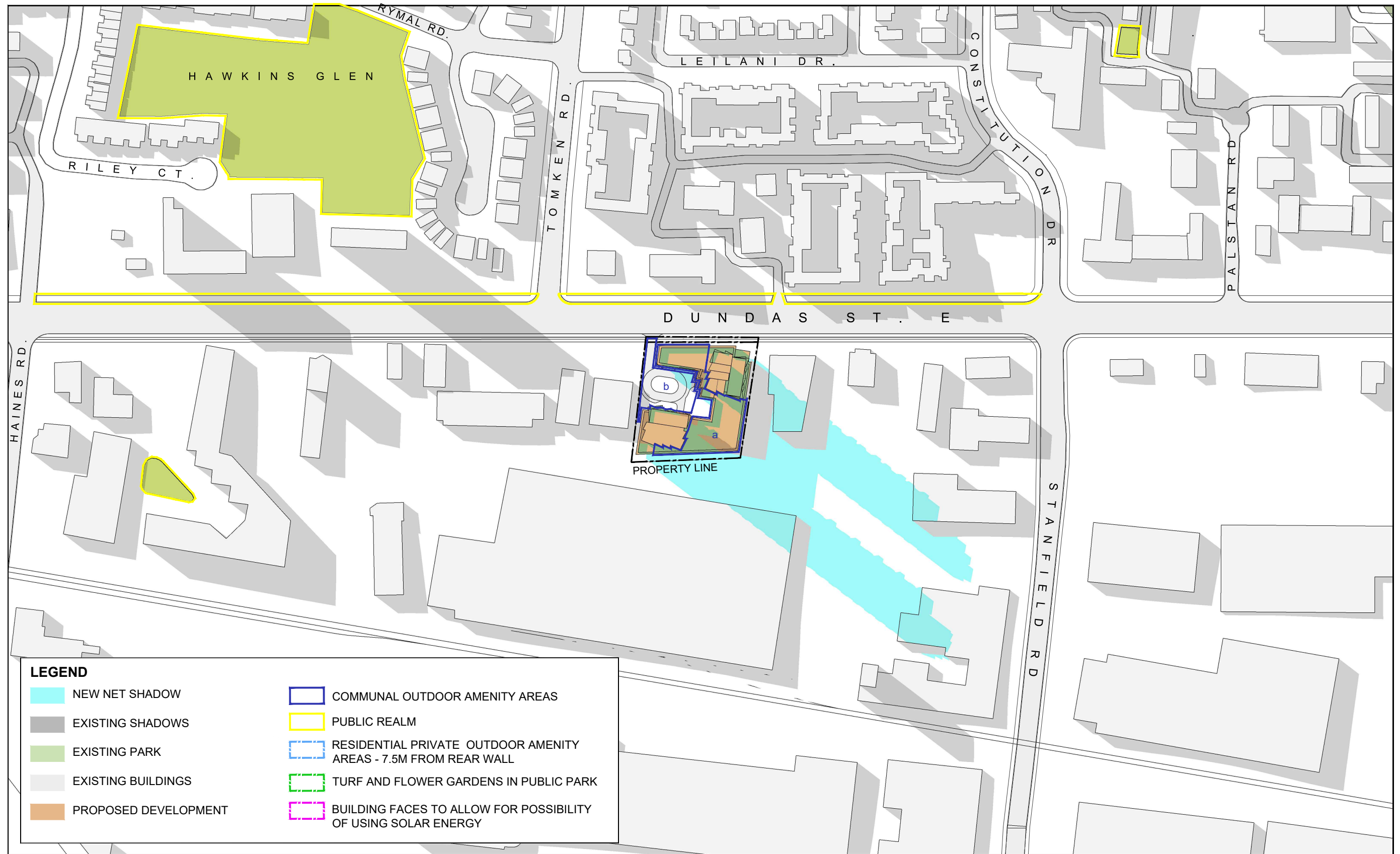
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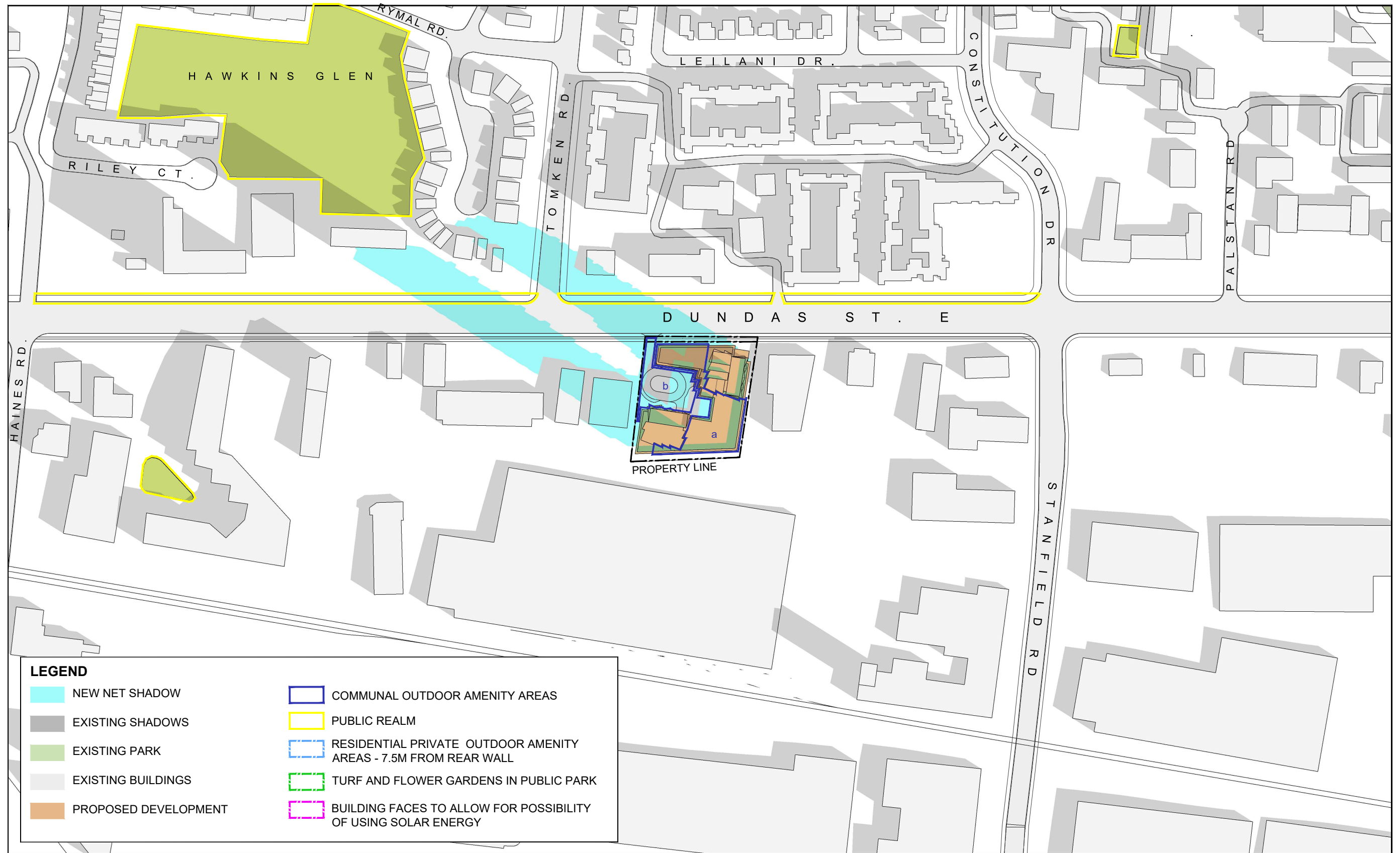
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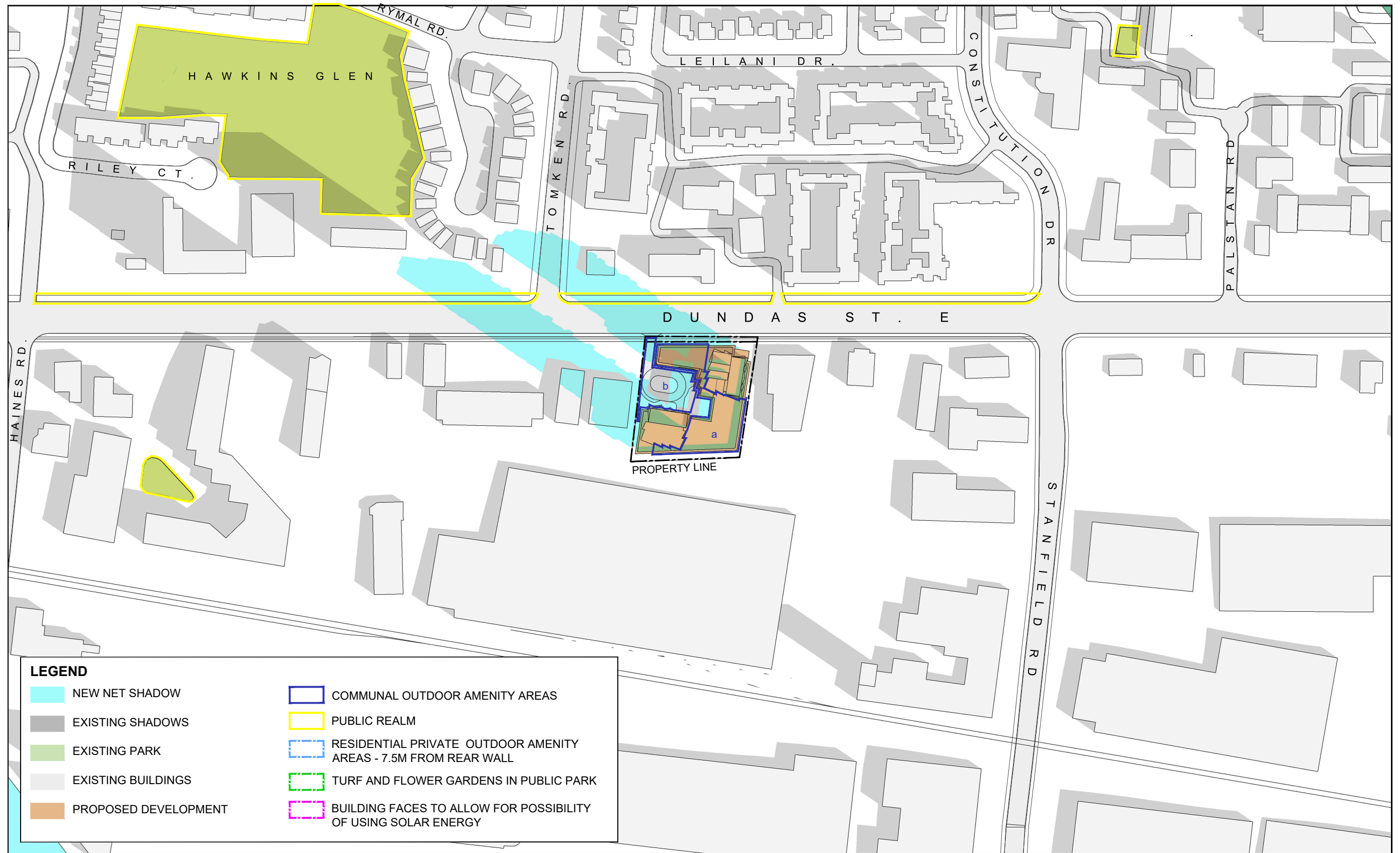






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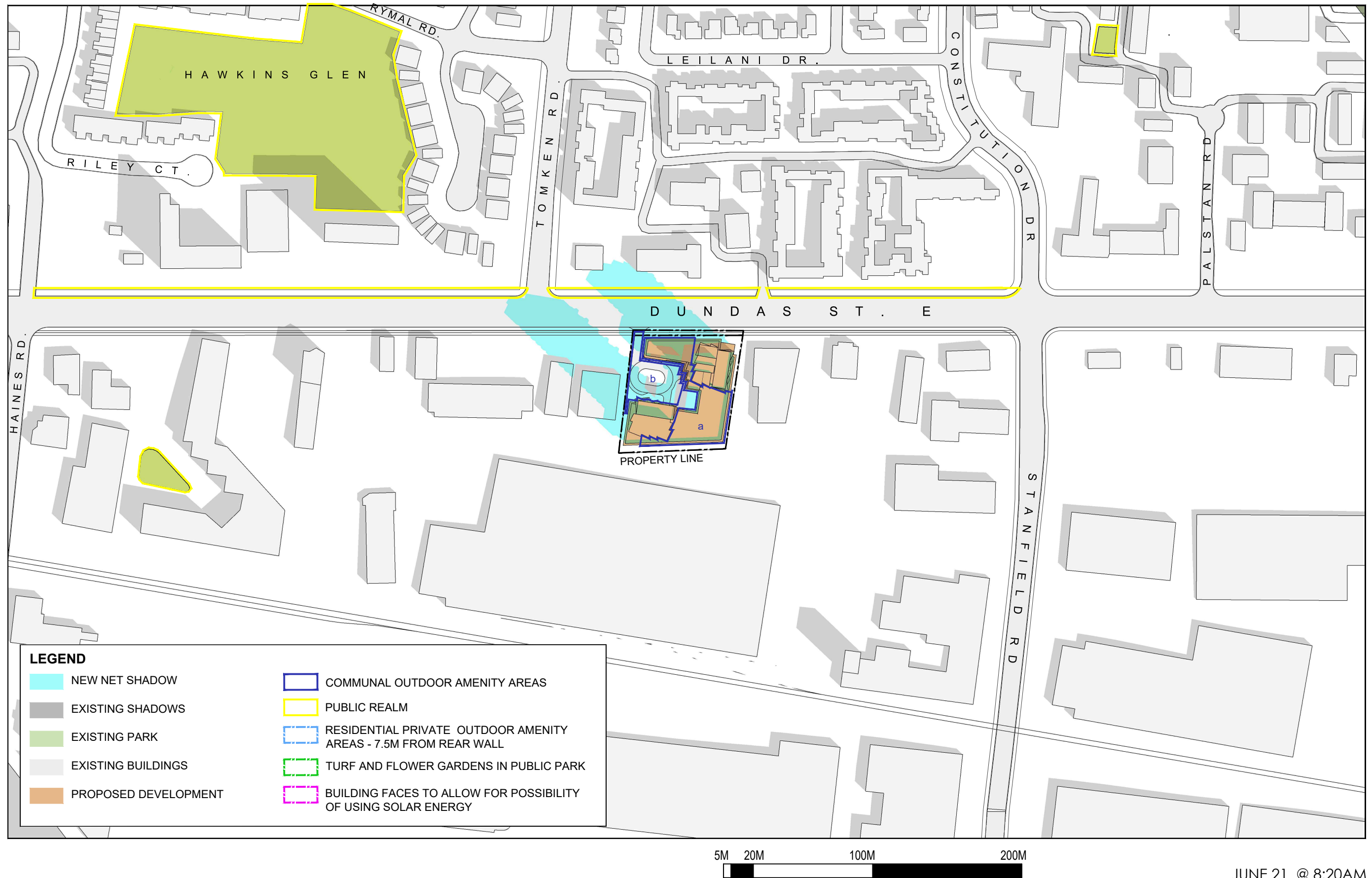
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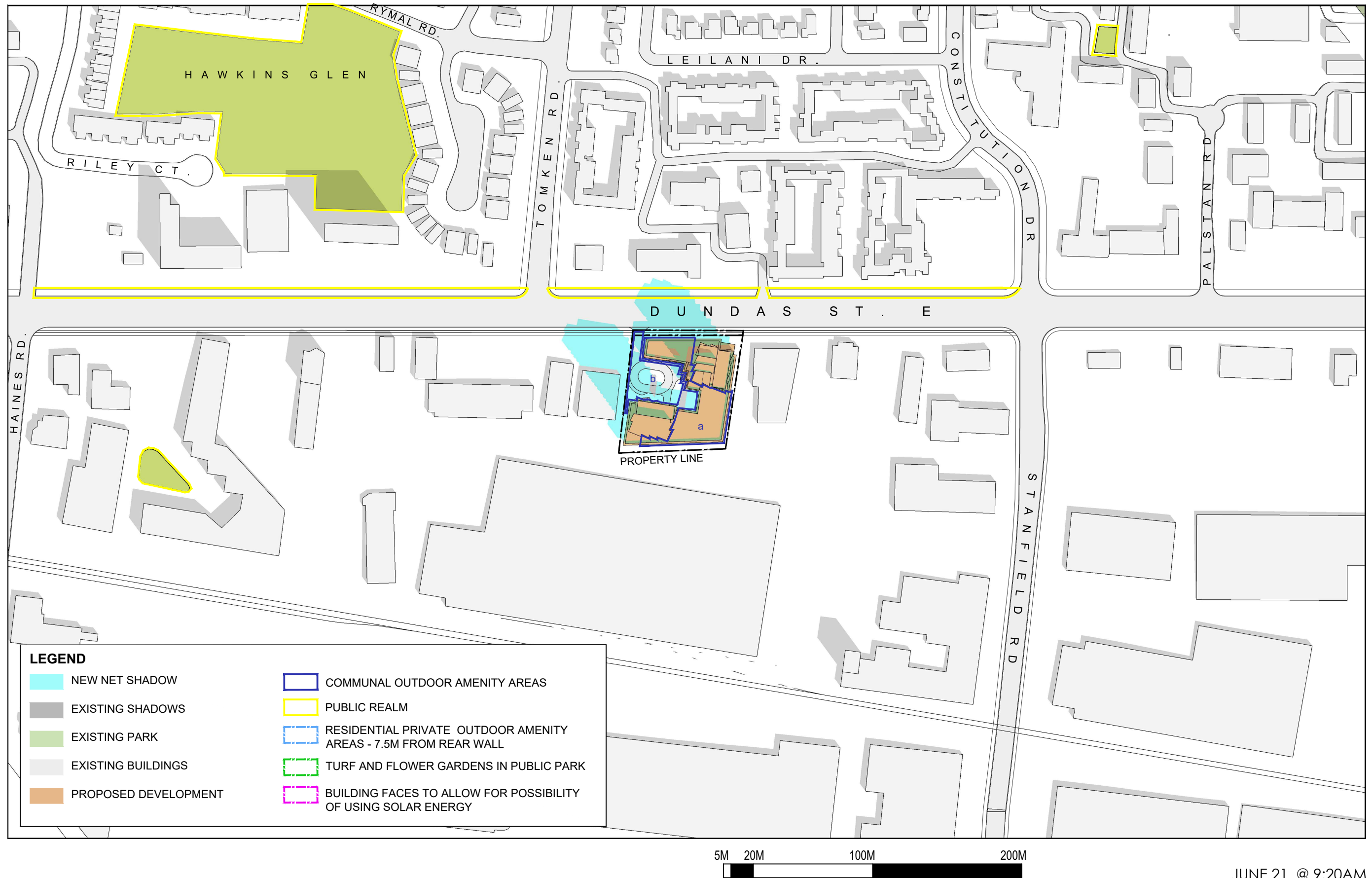
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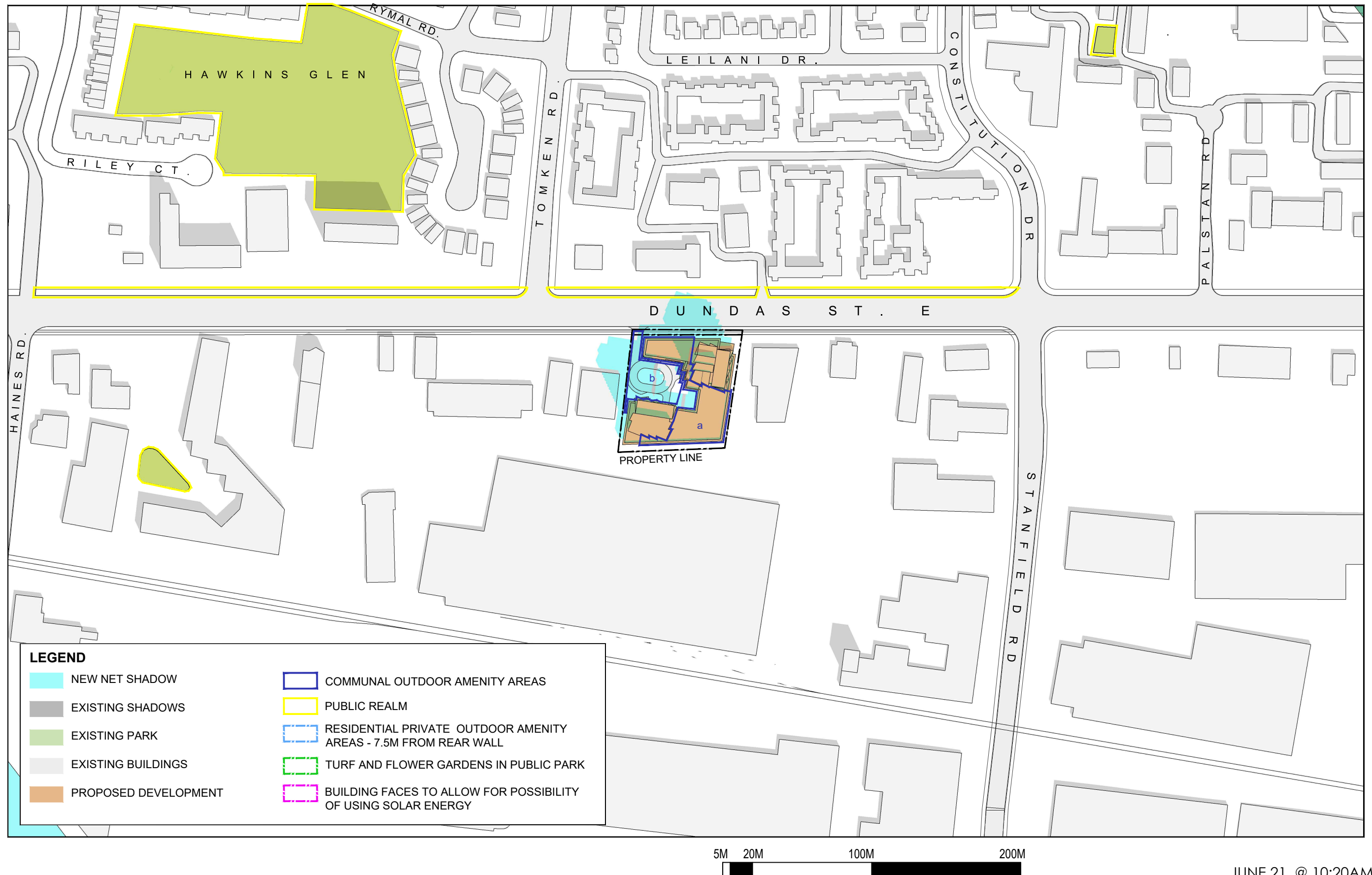
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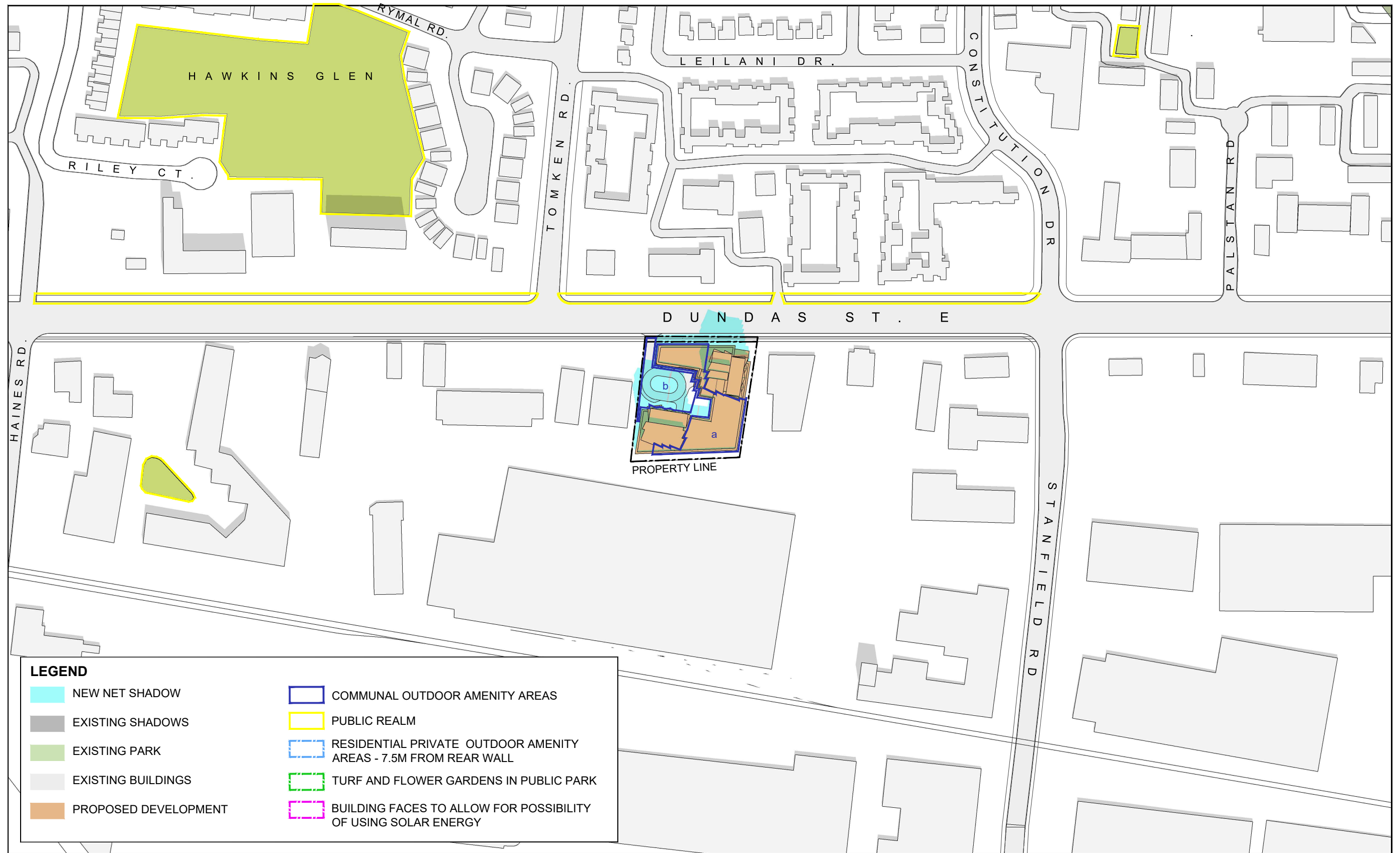
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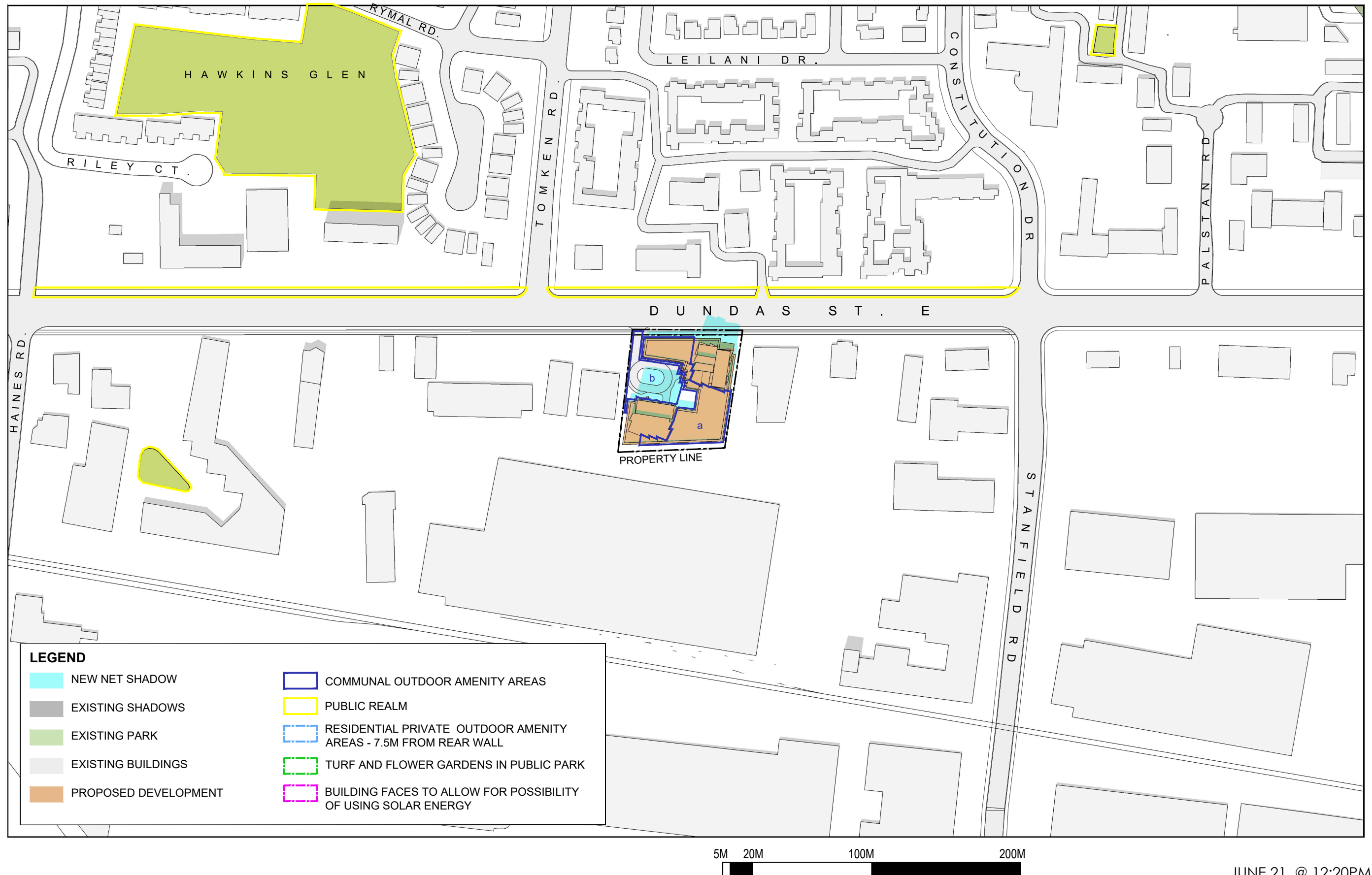
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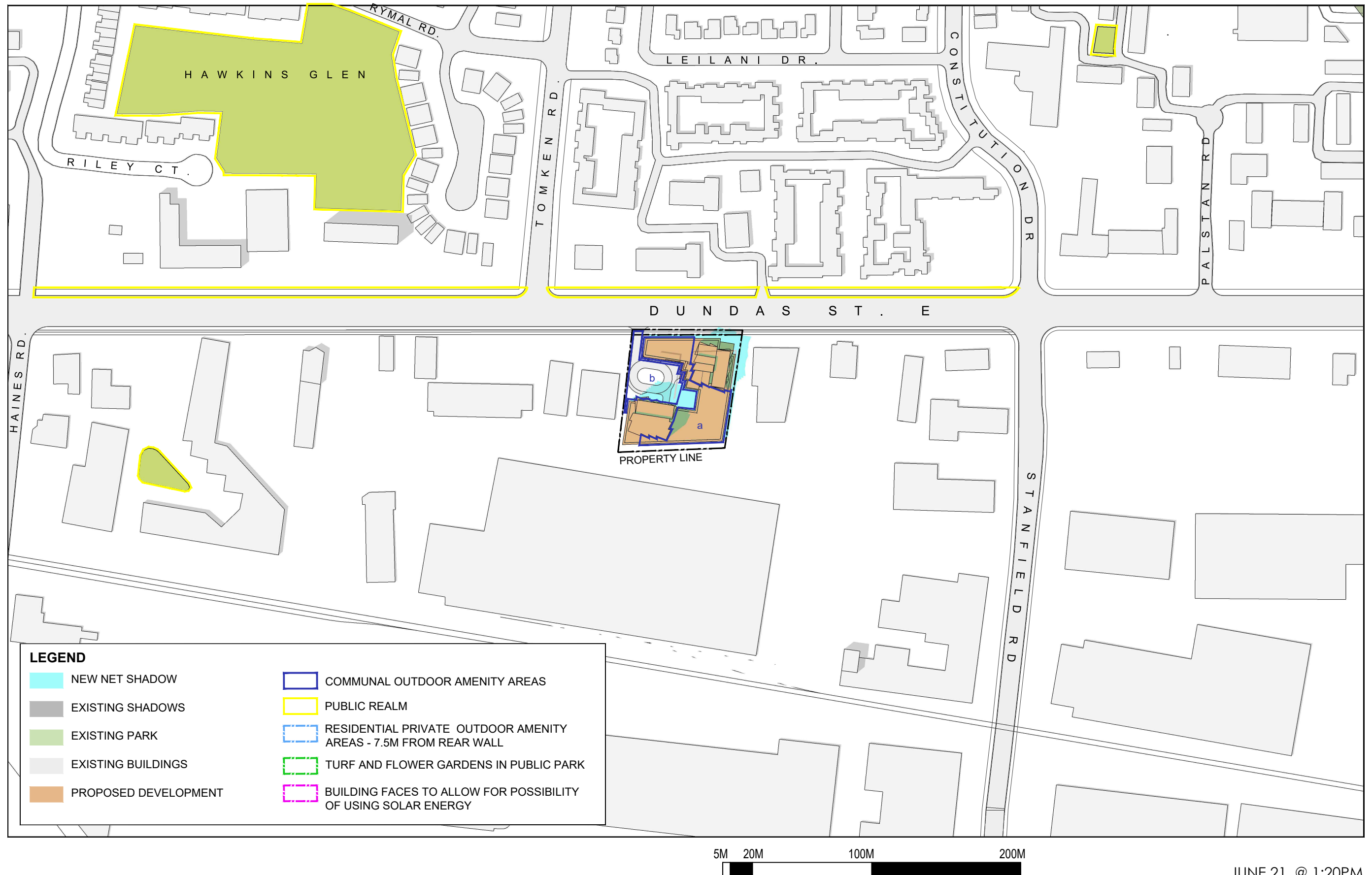
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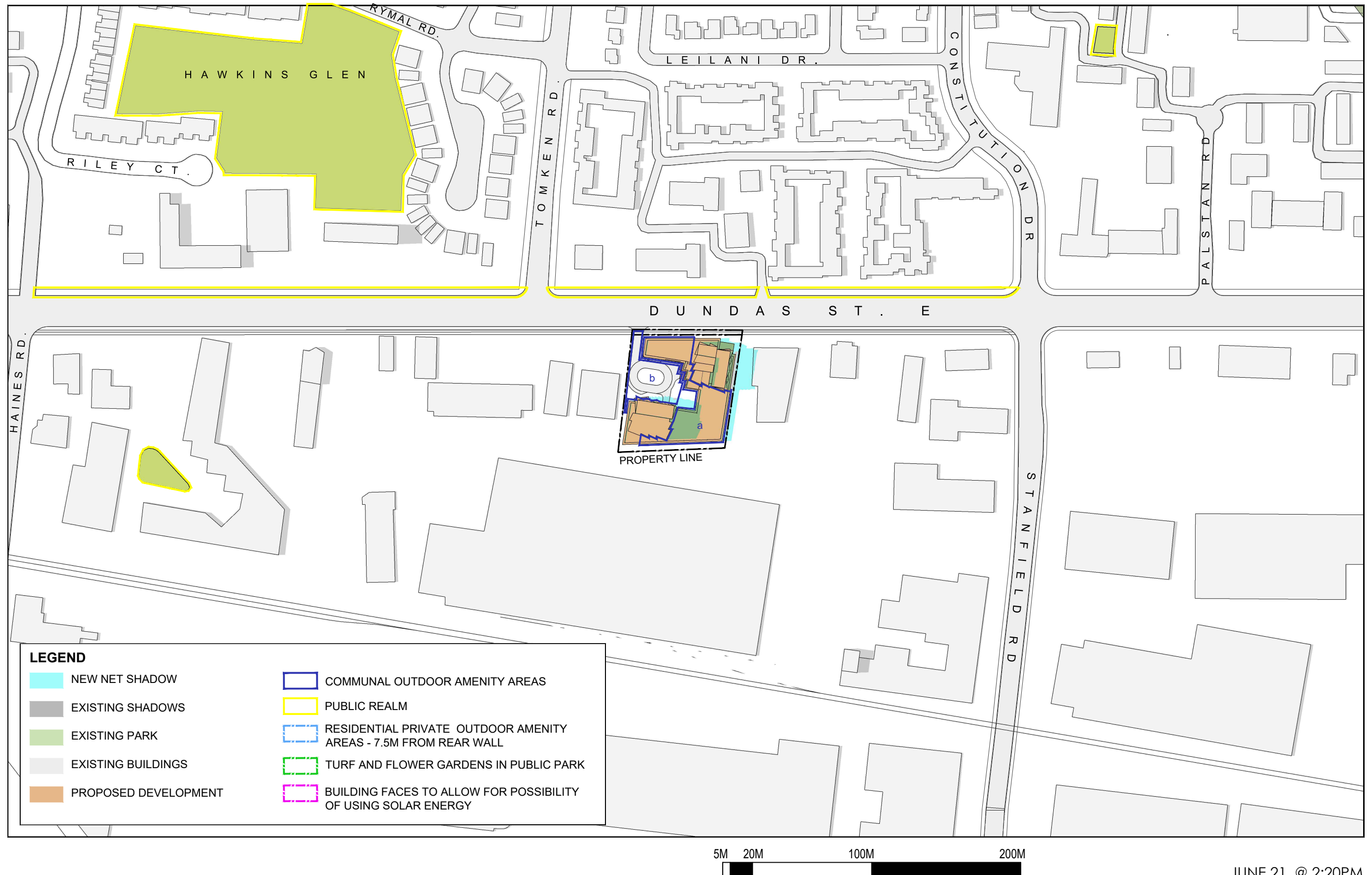


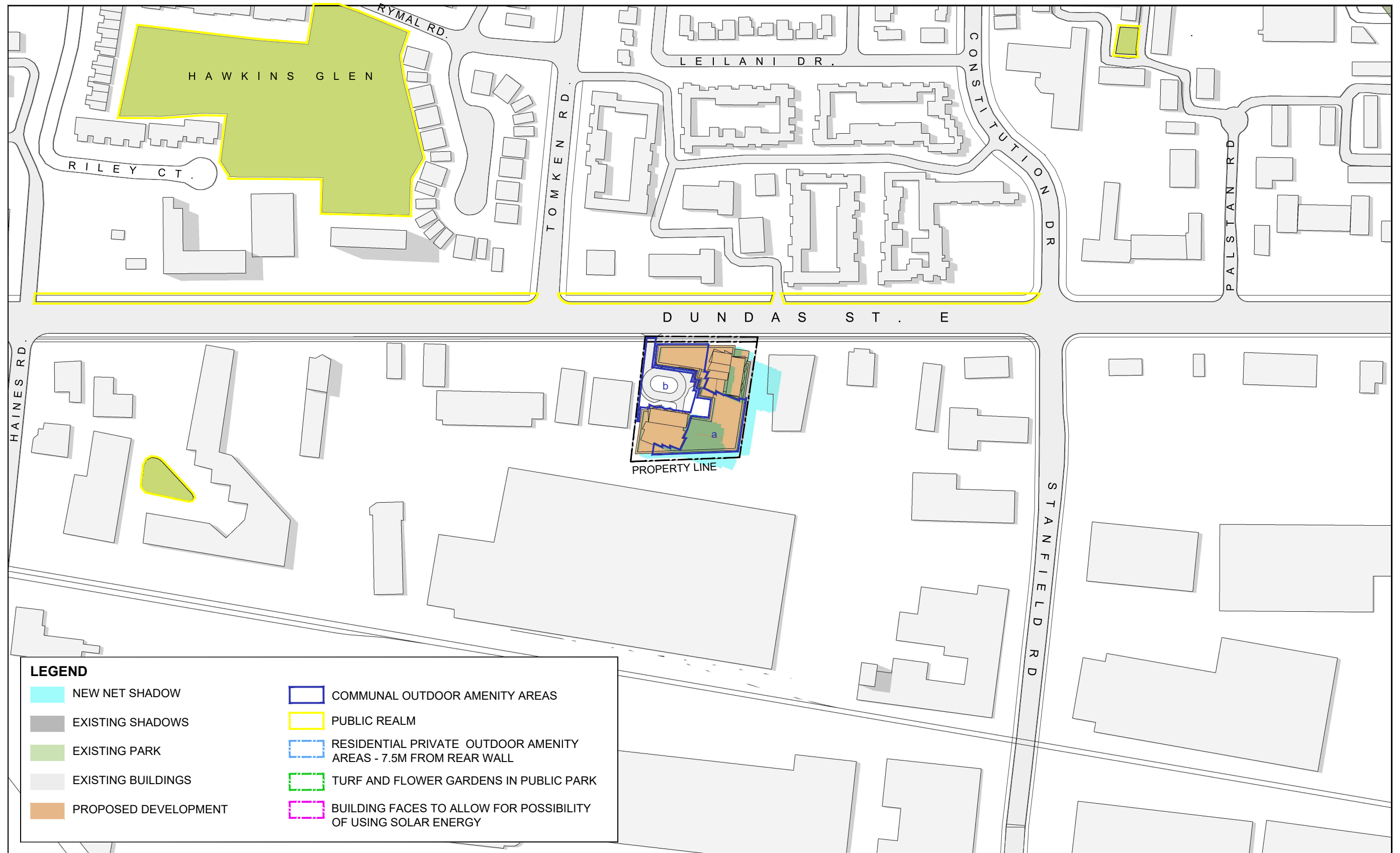
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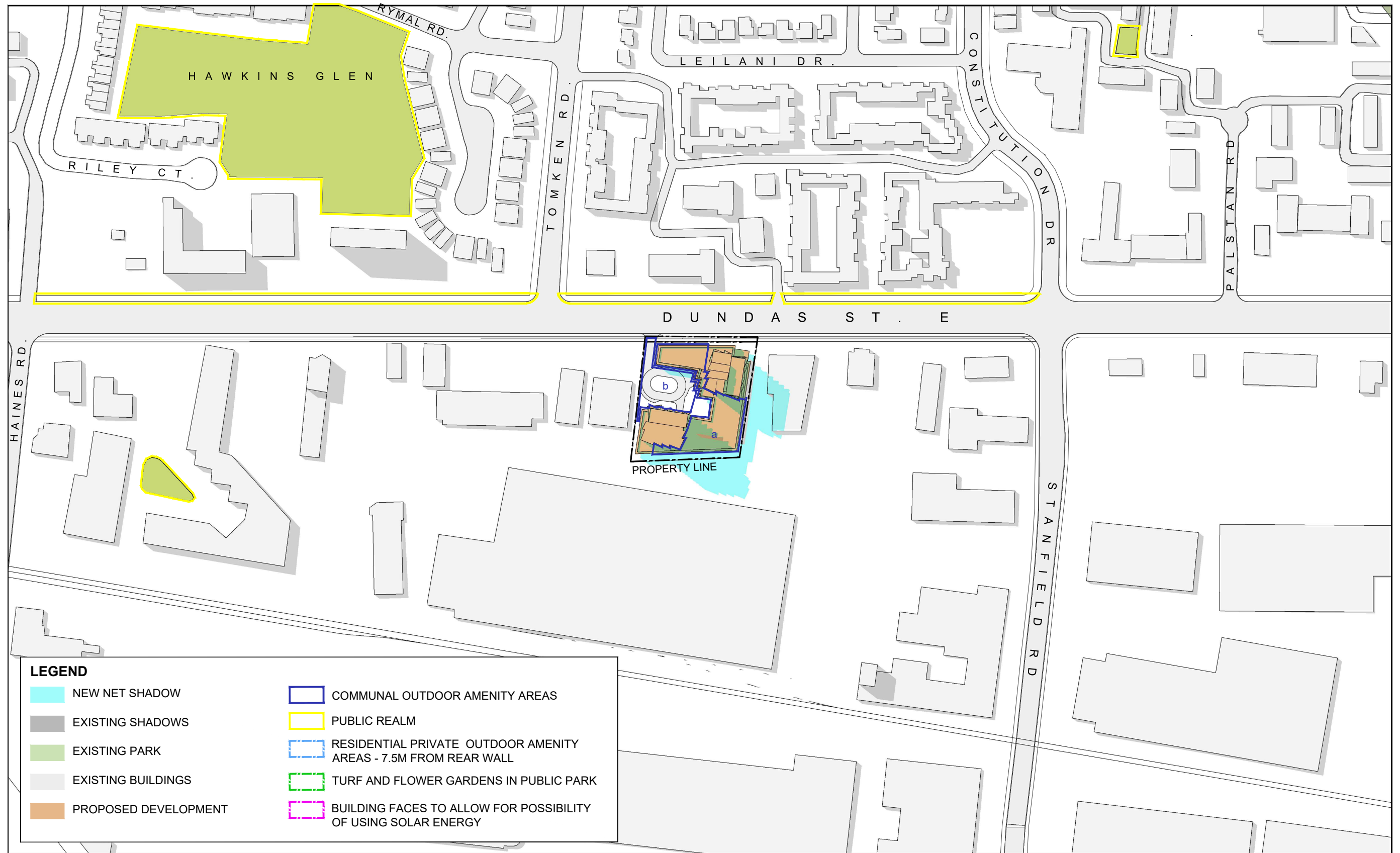






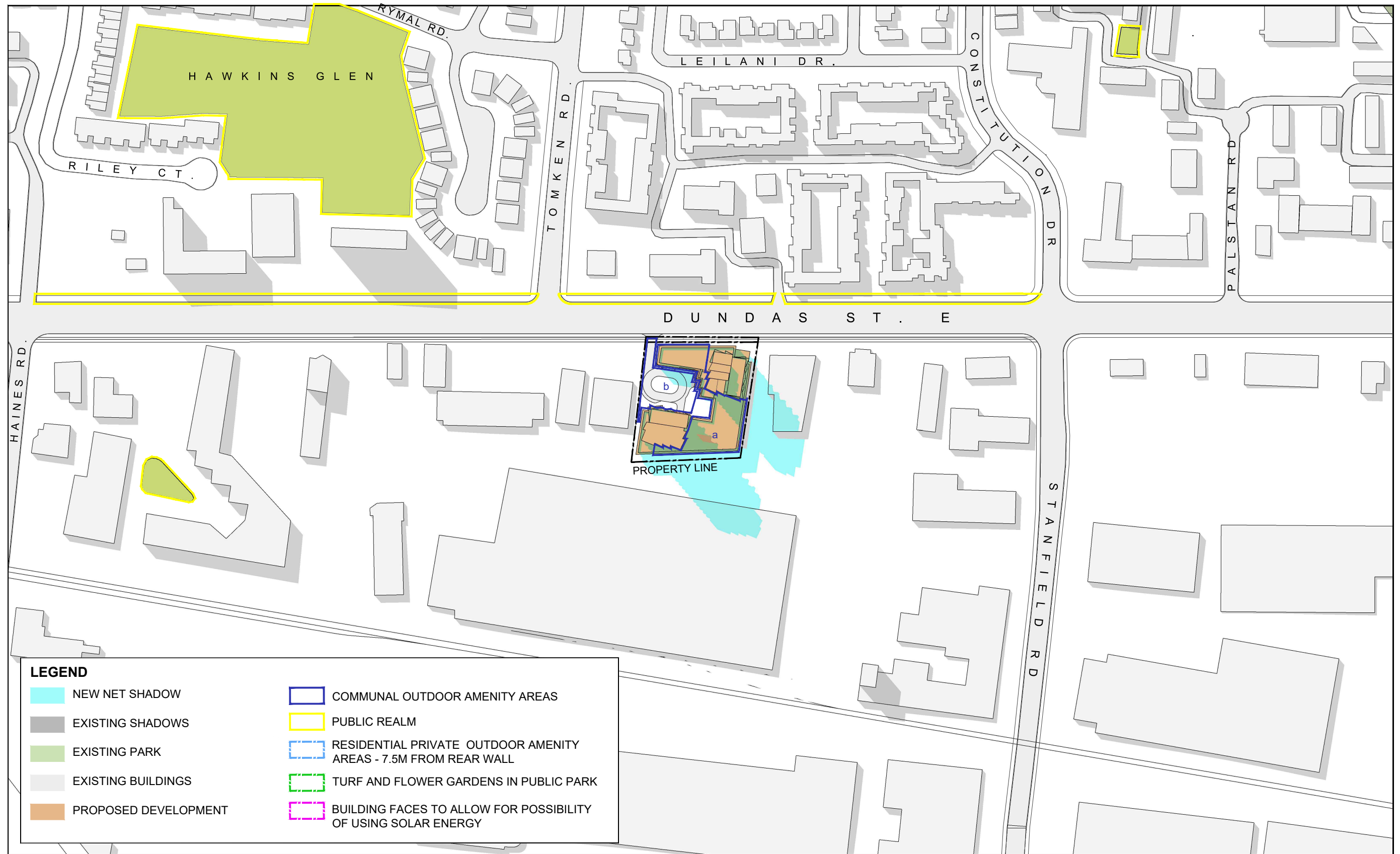
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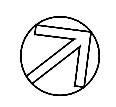


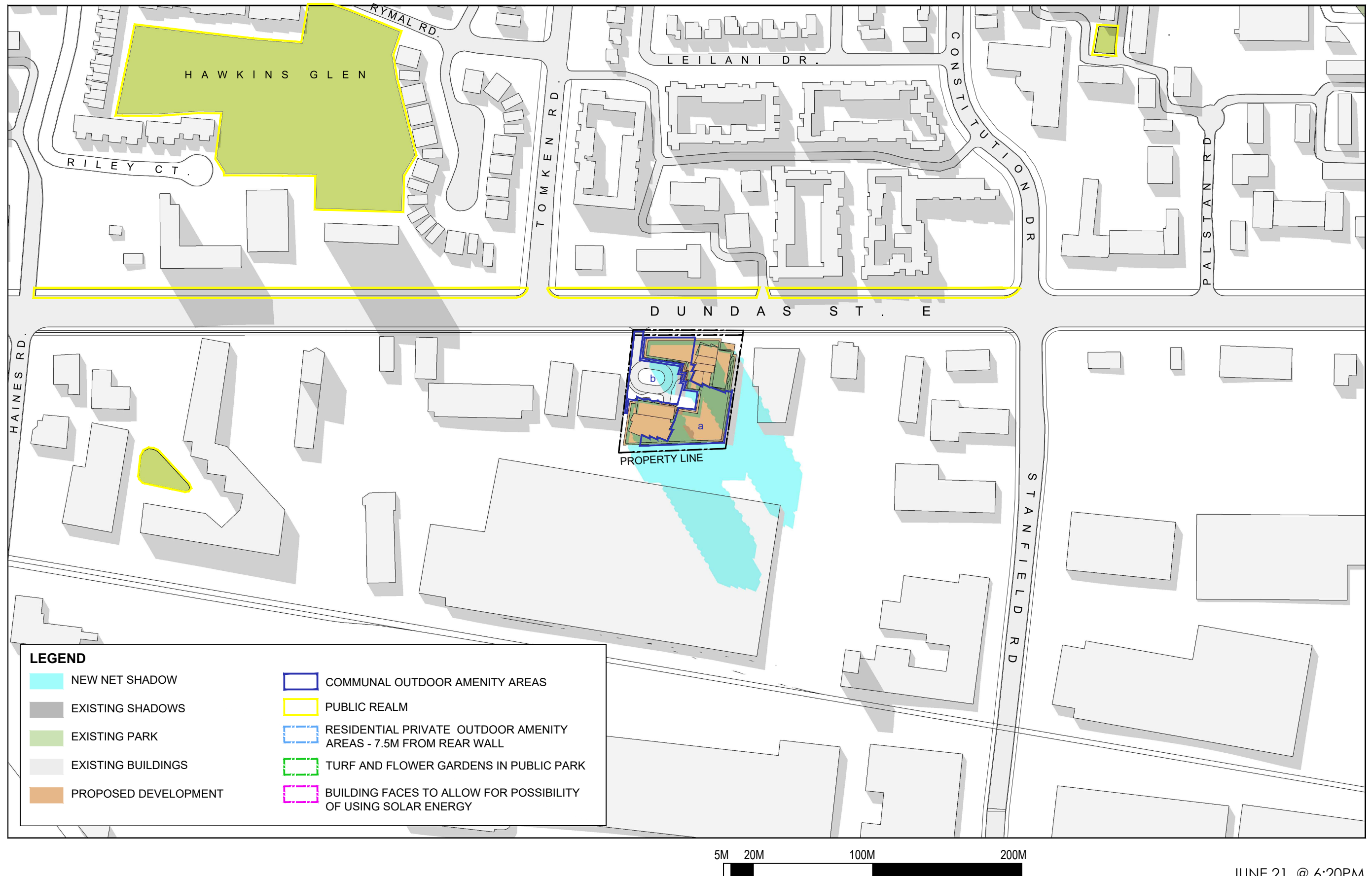
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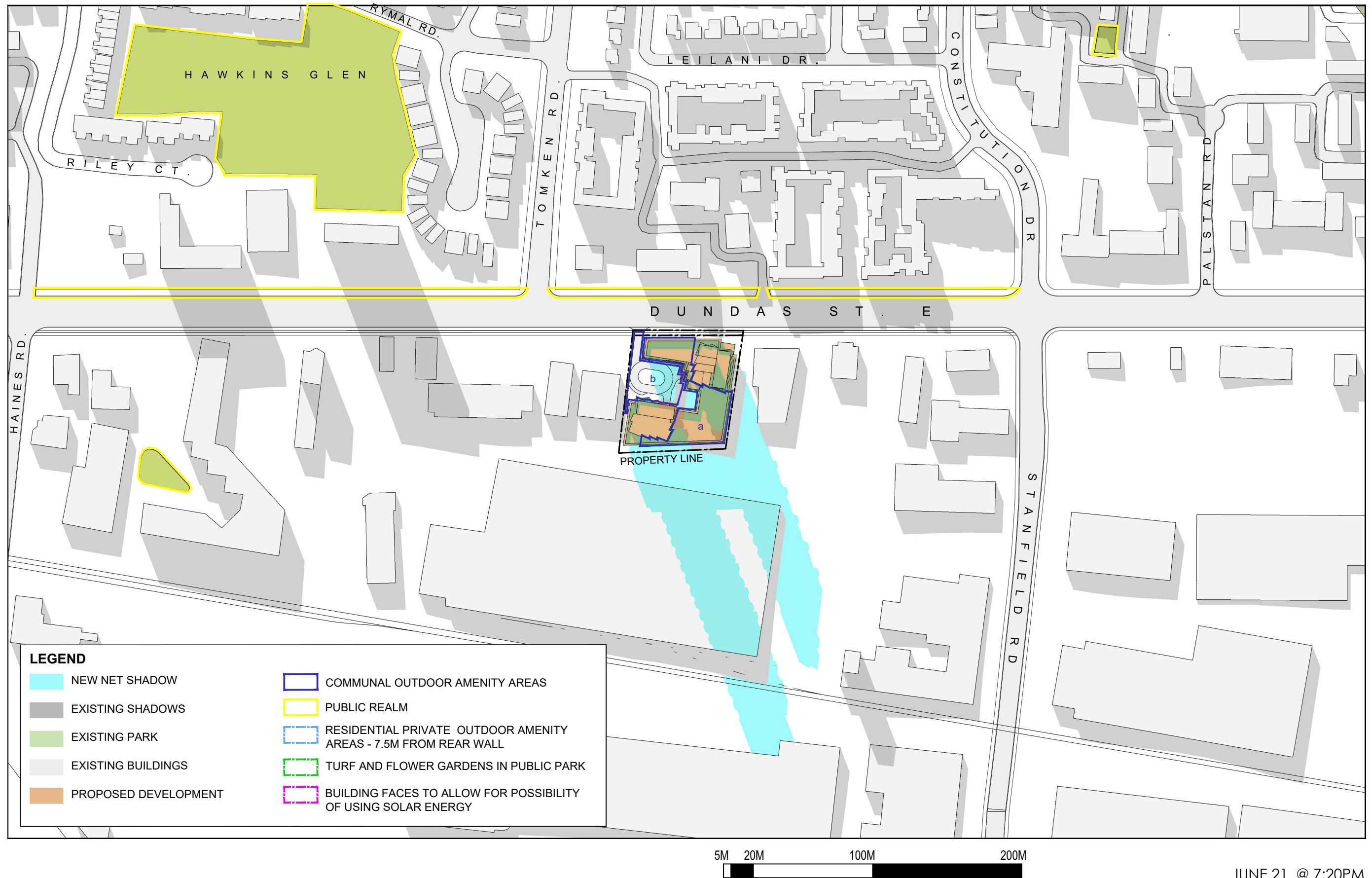


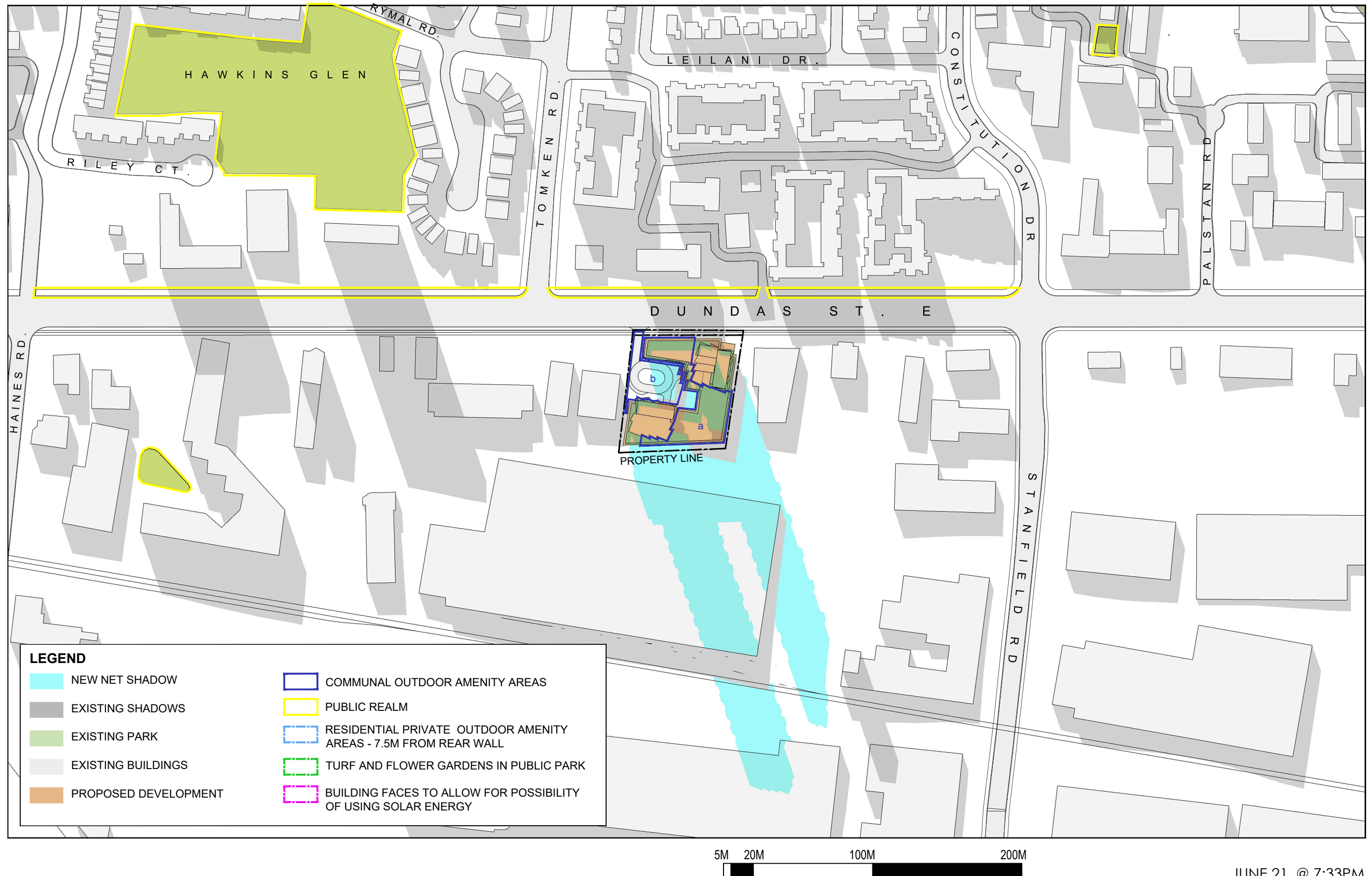


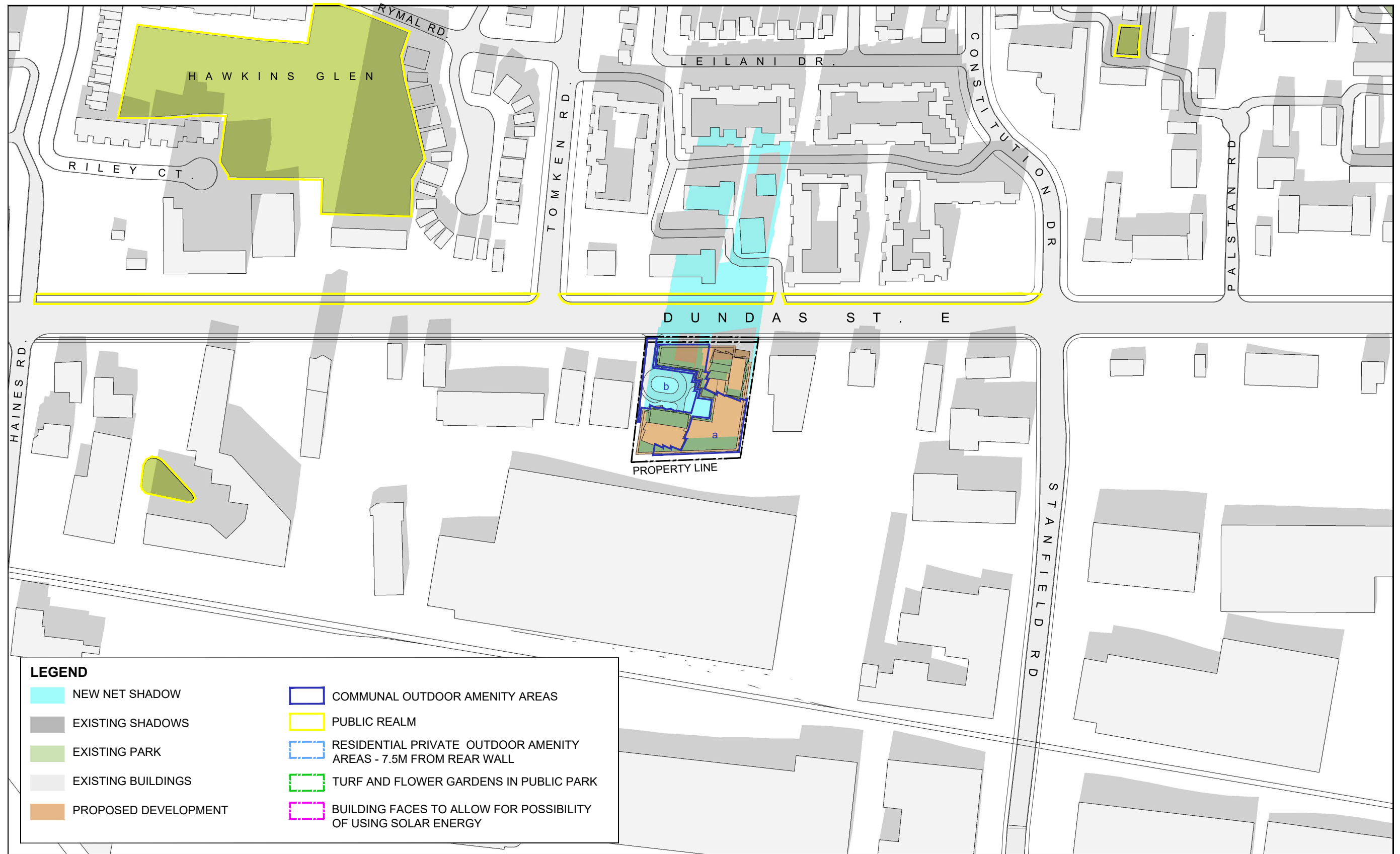
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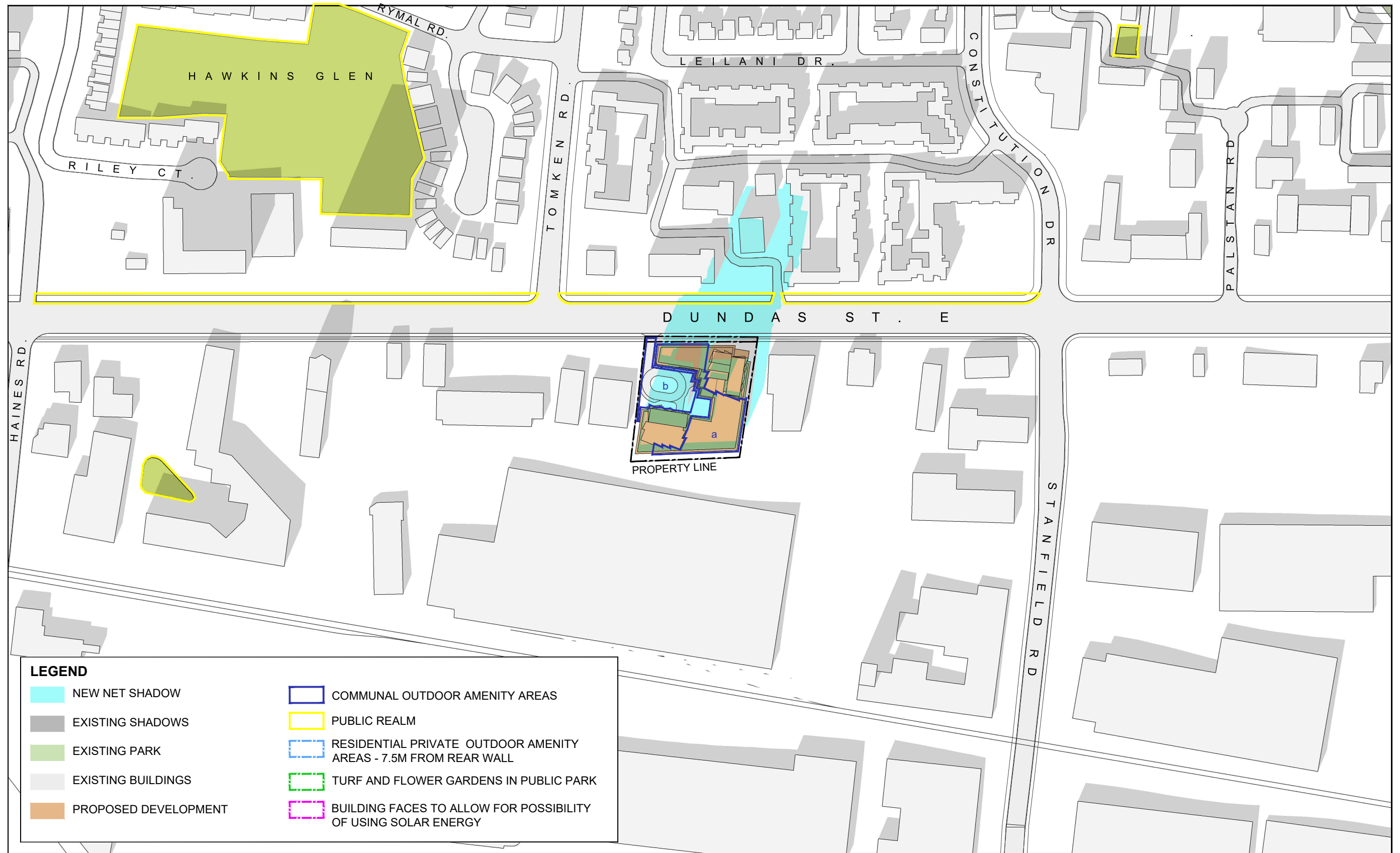




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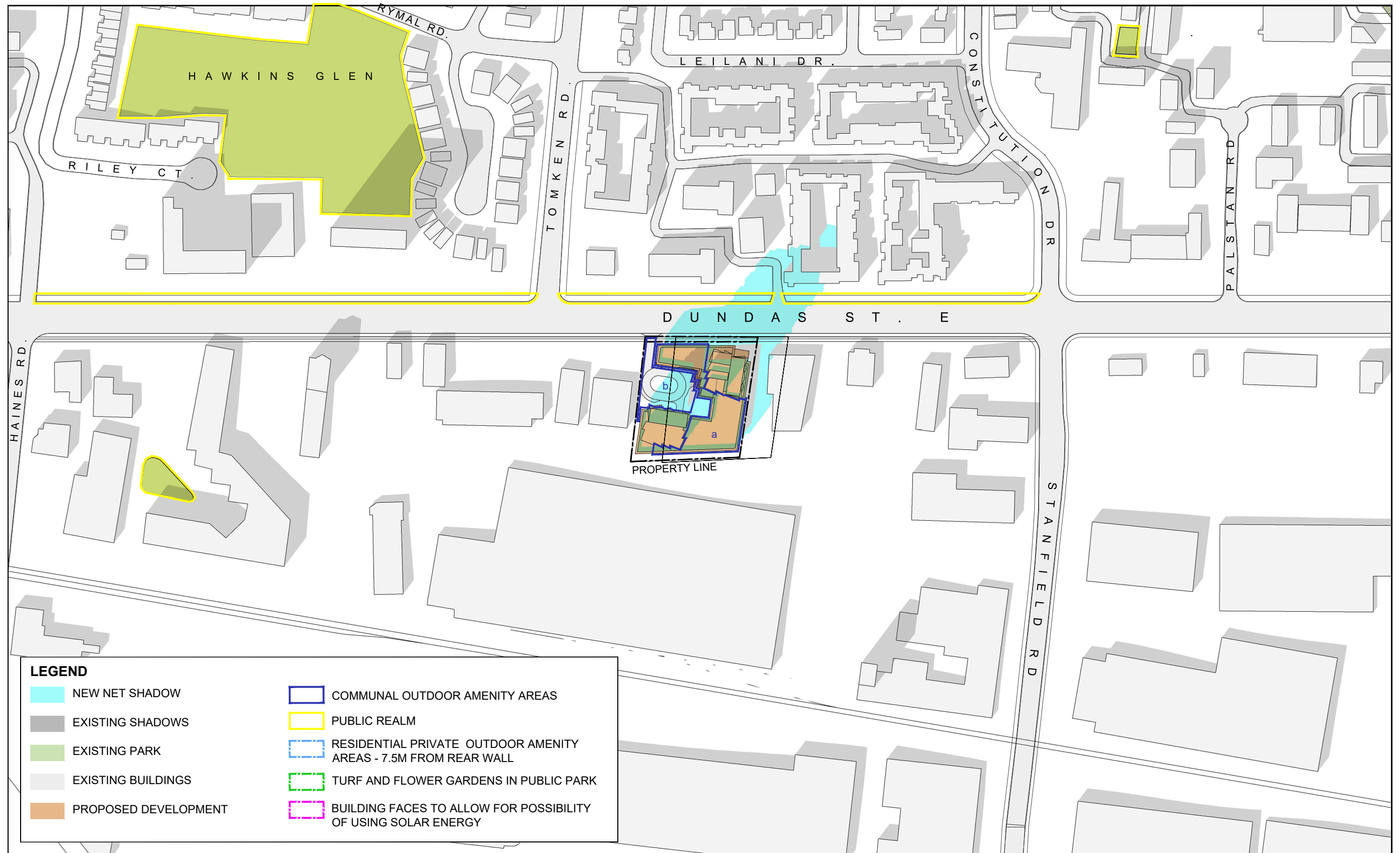
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DECEMBER 21 @ 10:17AM

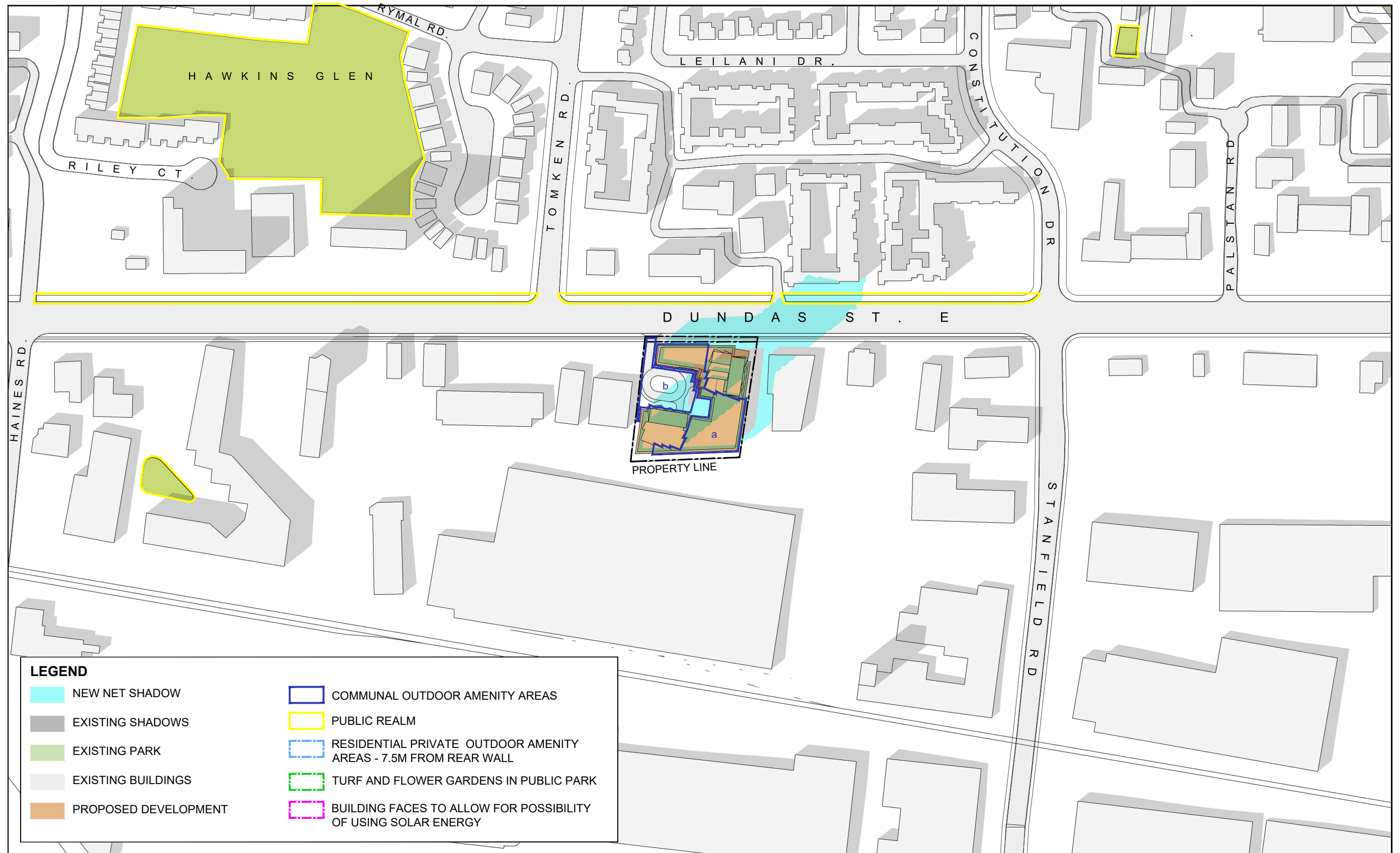




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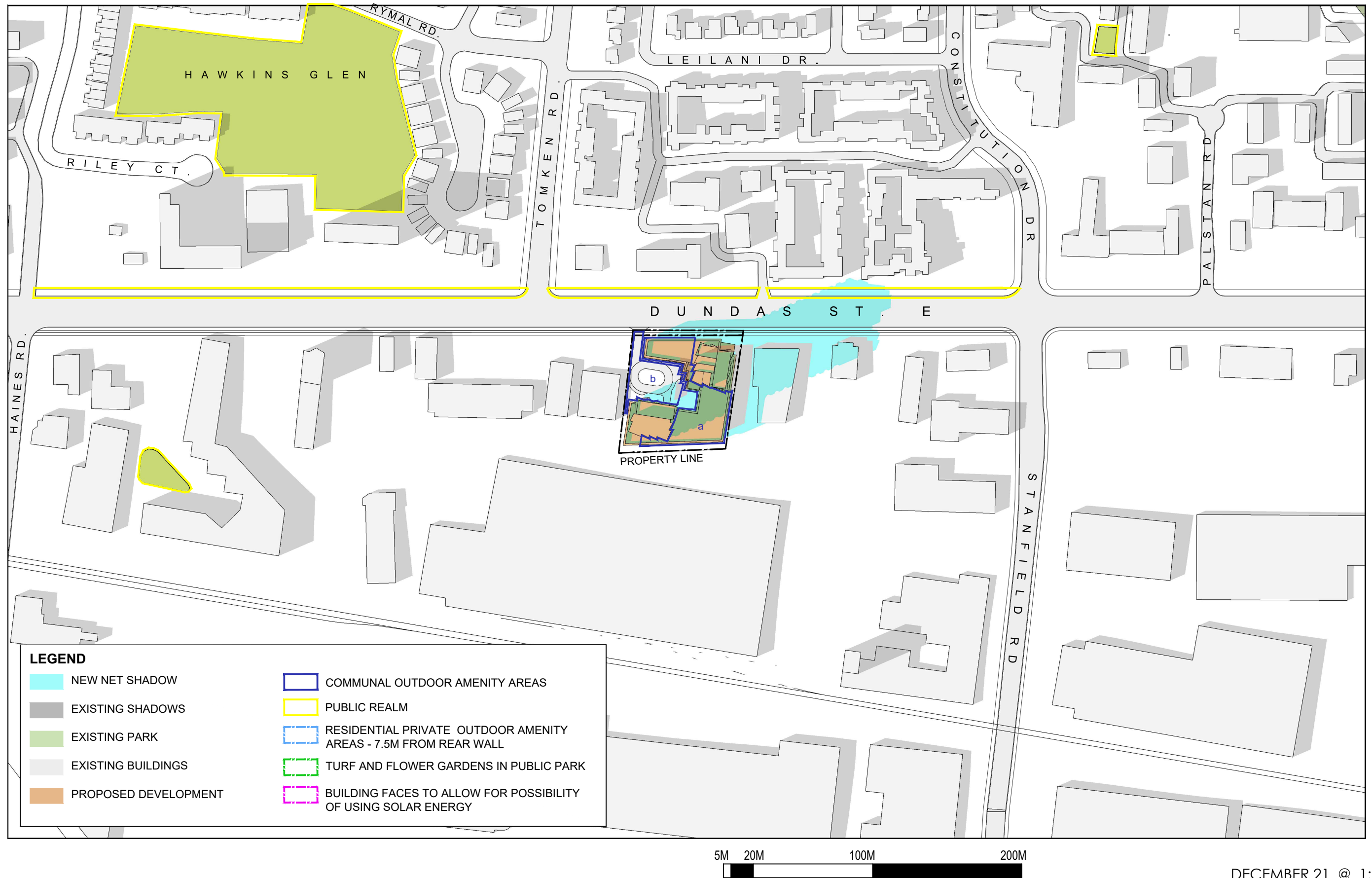
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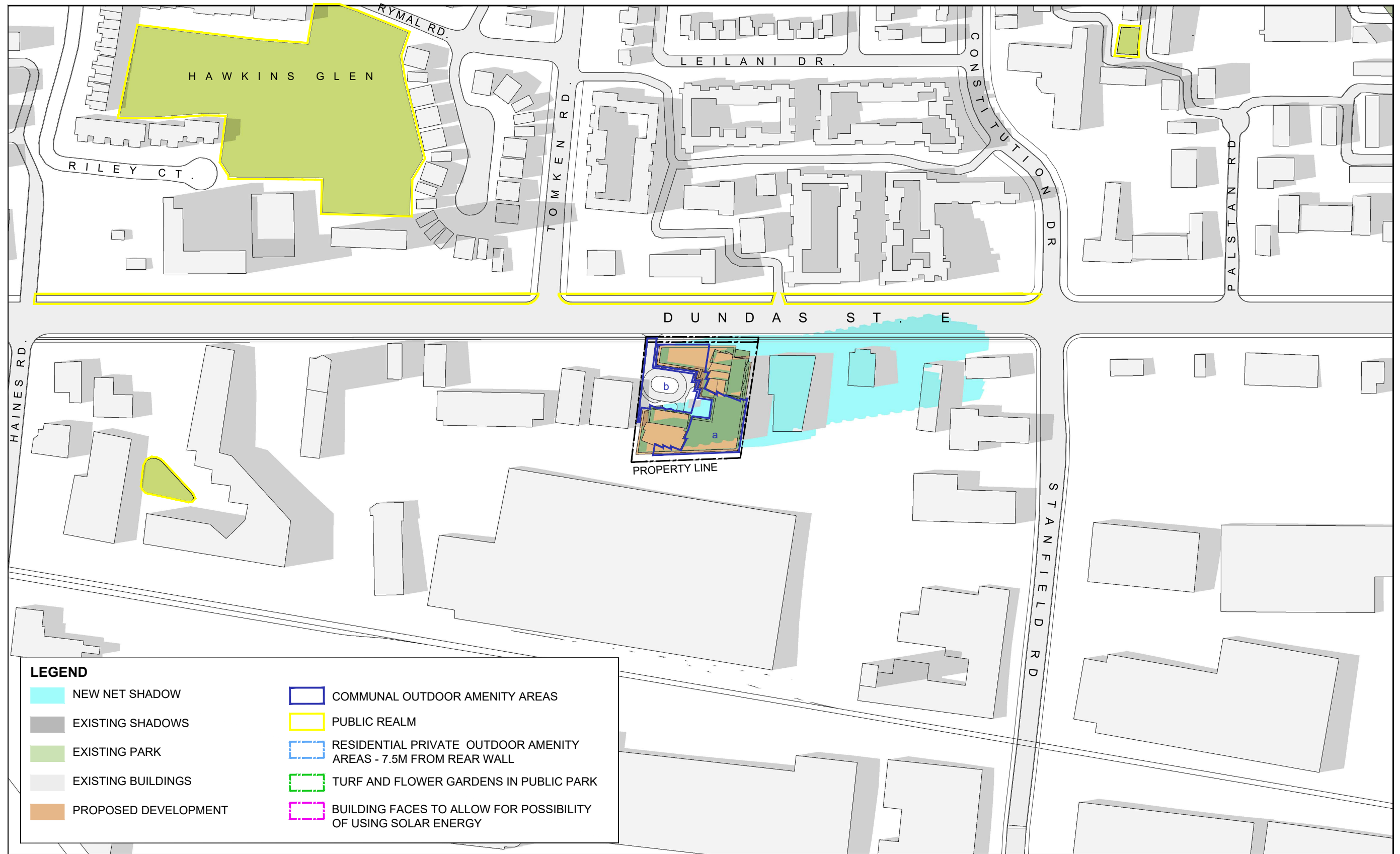
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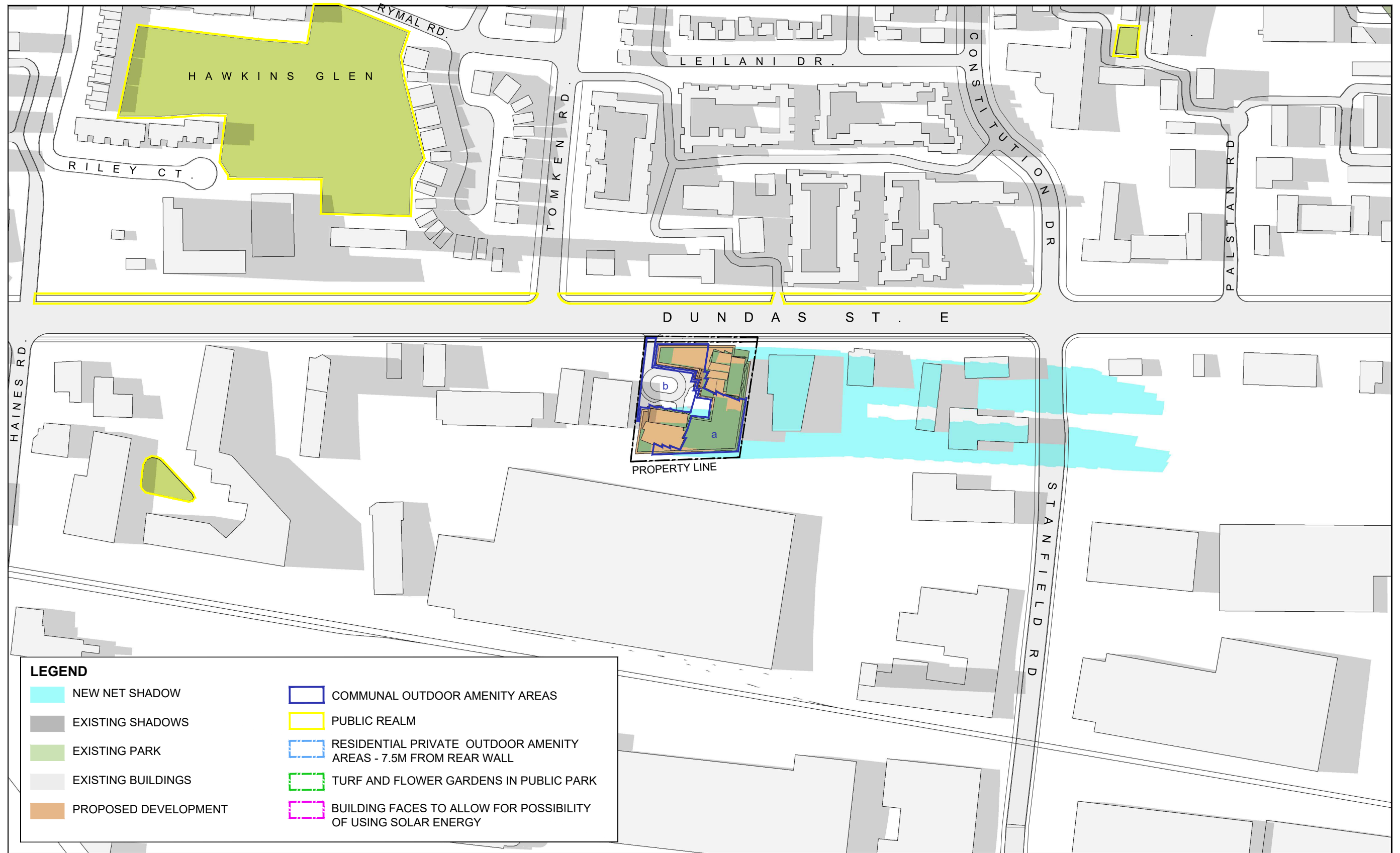
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DECEMBER 21 @ 2:17PM





DECEMBER 21 @ 3:15PM

