

## BACKGROUND

Queen Mary Elementary School is a community of 315 students located in West Point Grey Vancouver.<sup>1</sup>

- Has a school garden consisting of 10 raised garden beds to grow and harvest food during the school year
- Recent school renovation moved the nearest available water source over a 100 ft away

## PURPOSE

To propose potential watering systems for Queen Mary Elementary School's garden and find ways for the community to effectively plant and harvest throughout the year

## SIGNIFICANCE

School gardens are critical to teaching food literacy, understanding of community food security, as well as traditional and wild foods<sup>2</sup>

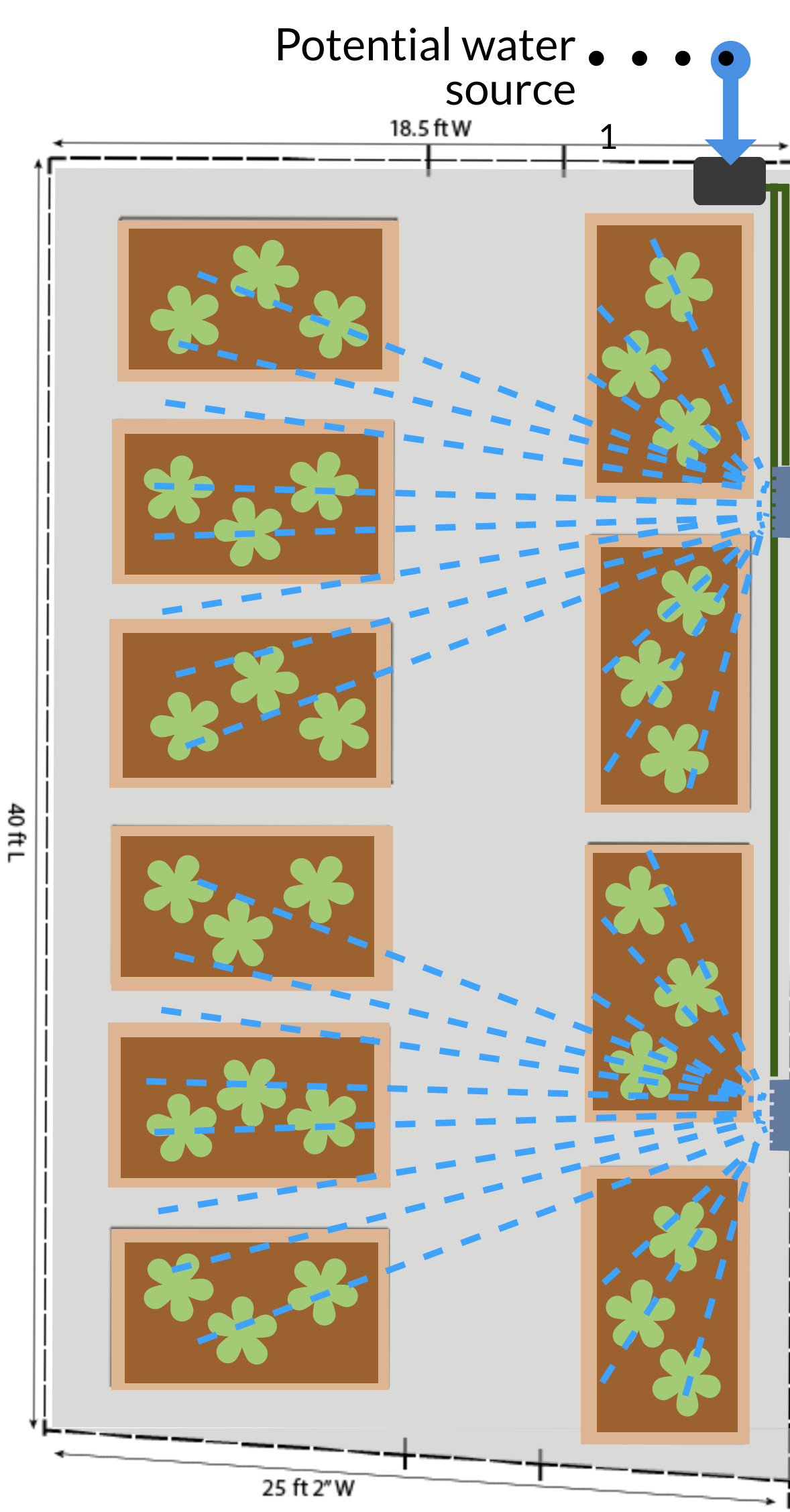
- Difficulty with garden management and watering over weekends and summer months area common issue in school gardens across North America
- The school would like an automatic irrigation system would enable classes to plan, plant and harvest throughout the year

## METHOD

- Literature review of school gardens, irrigation systems, and local garden planting schedules
- Outreach to local irrigation companies and educational gardening programs

## FINDINGS

### 1 Oscillating Sprinkler System



#### Estimated Costs\*

Materials: \$600

Installation: \$215

Total Cost = **\$860**

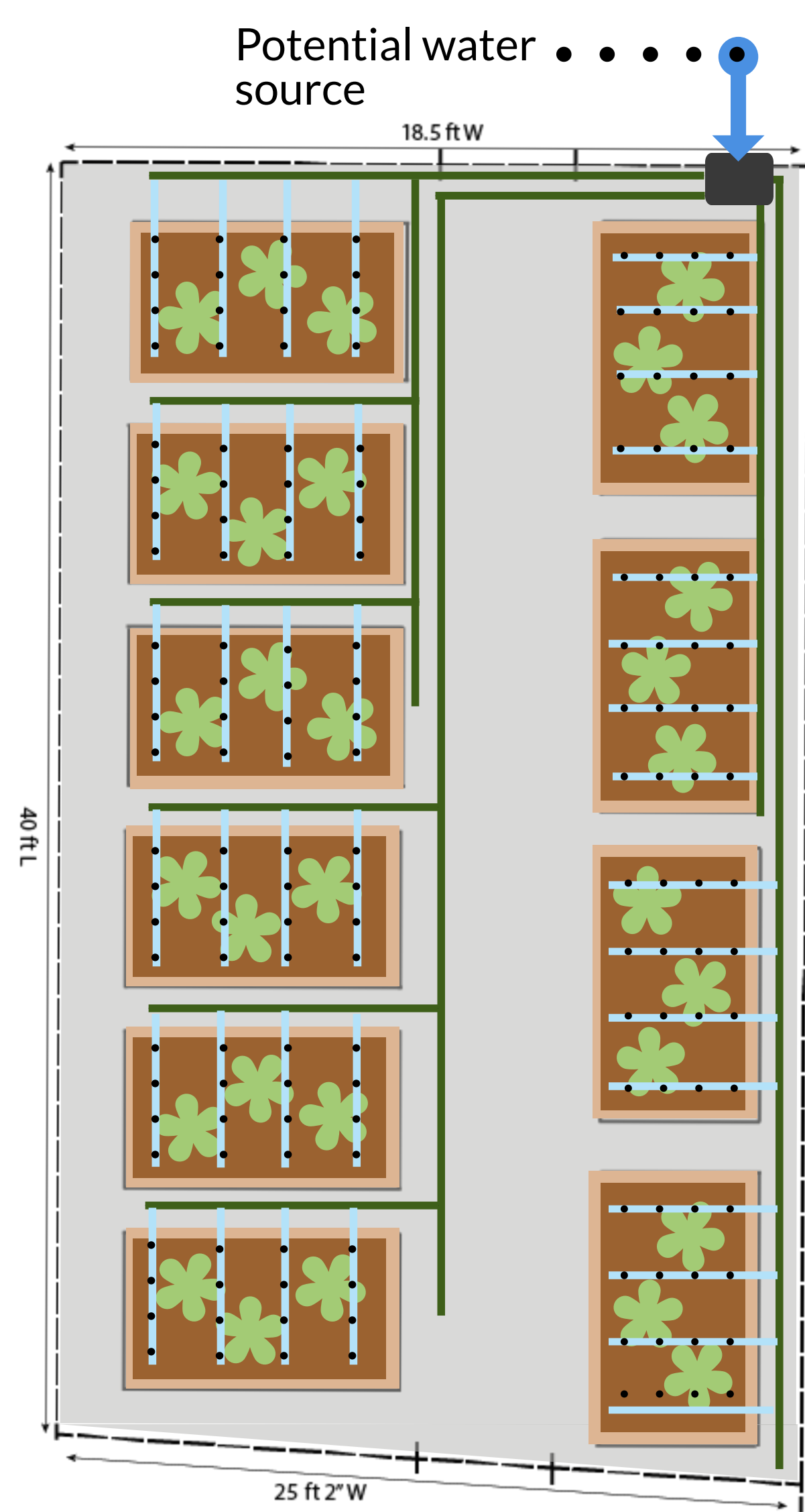
#### Advantages<sup>4</sup>

- low economic cost
- simple design and installation
- uniform distribution of water
- irrigates the garden remotely (away from the beds)
- potentially could be uninstalled during winter months

#### Disadvantages

- higher excess water usage due to greater evaporation
- Sprinklers and hose lines are exposed along the fence

### 2 Drip Irrigation System



#### Estimated Costs\*

Materials: \$650

Installation: \$2400

Total Cost = **\$3200**

#### Advantages<sup>3</sup>

- highly effective
- minimal evaporation or excess water usage
- ideal for irrigating small gardens and raised beds

#### Disadvantages

- Greater economic cost
- complex design and highly labour-intensive to install
- permanent installation (would need to be winterized annually)
- drip tubing could get in the way of class gardening activities and are easily damaged

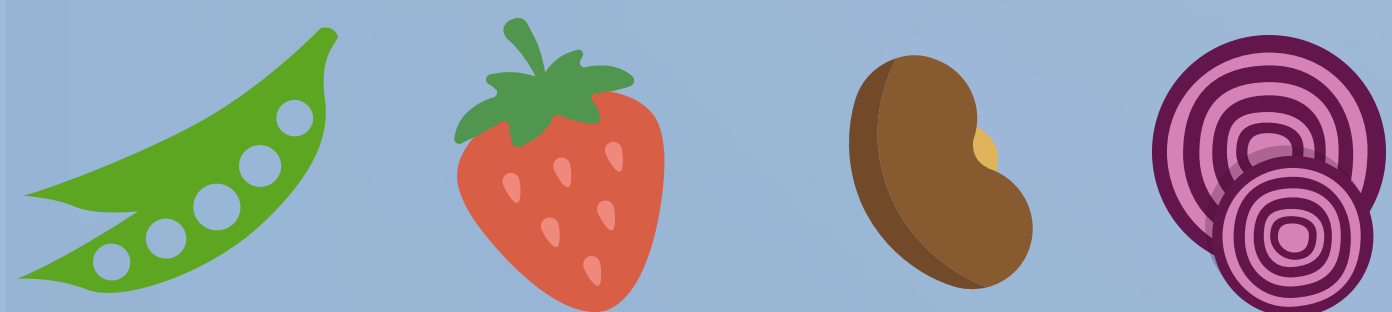
\*quote given by Crawford Irrigation

## Seasonal Harvesting Schedule

### PLANT IN SPRING

Early

Late



Peas Strawberries Beans Beets

June harvest

5,6



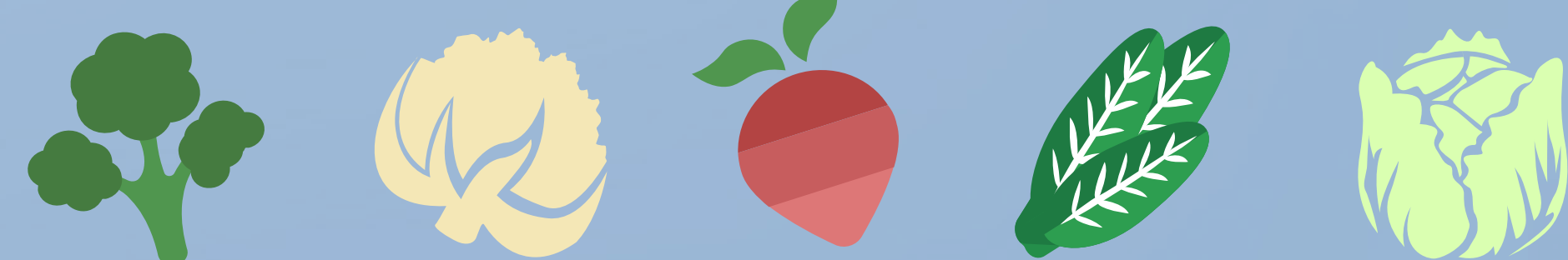
Spinach Carrots Bok choy

Fall Harvest

Early

### PLANT IN FALL

Mid



Broccoli Cauliflower Radish Kale Lettuce

Overwintering

Late-fall harvest

## RECOMMENDATION

1

Hire a plumbing contractor to design and install a water source closer to the gardens

2

Hire an irrigation contractor to guide the installation of an oscillating sprinklers system for the garden

3

Follow a seasonal harvesting schedule so that the garden requires minimal supervision over the summer months

#### References

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