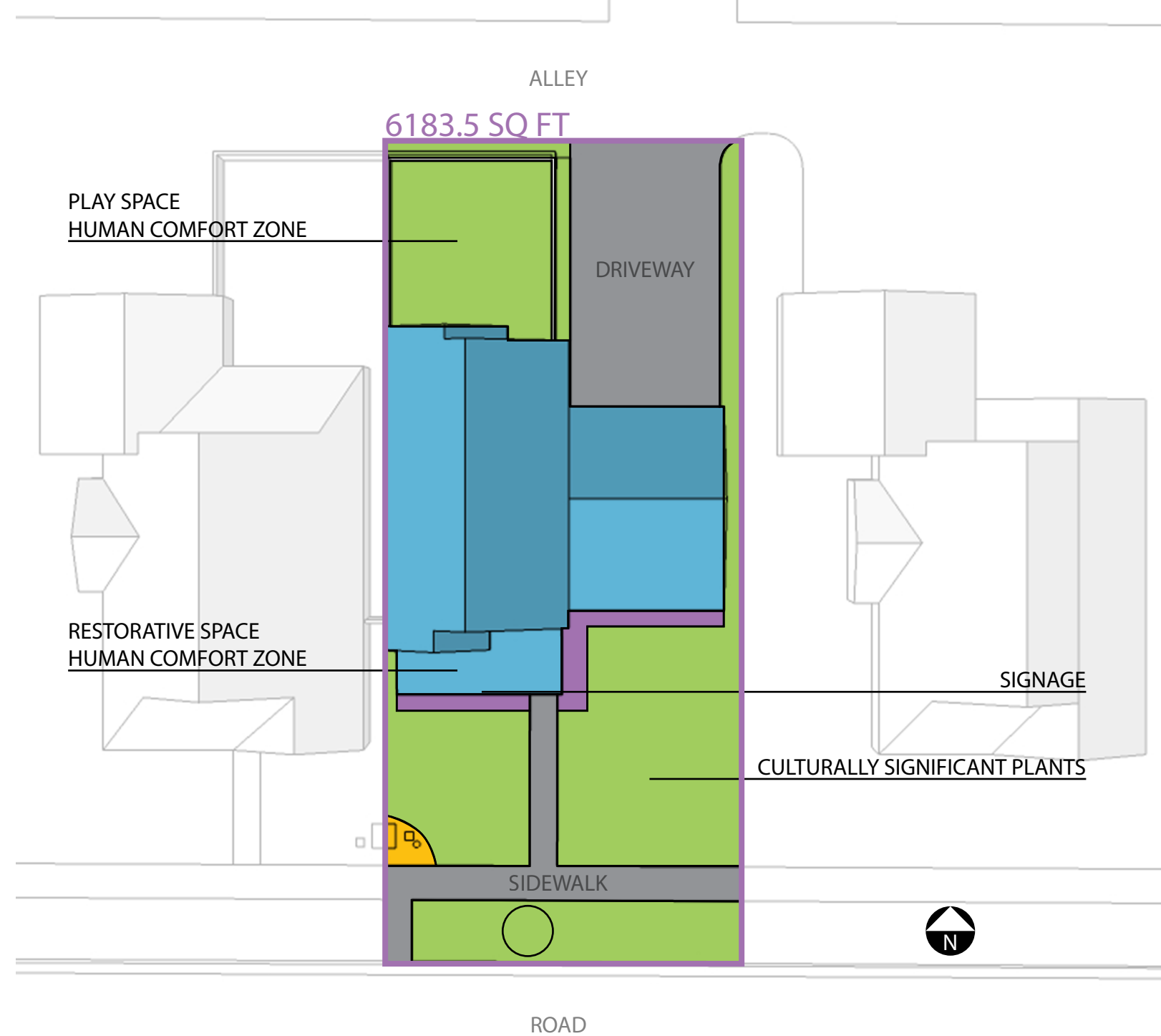


BOZEMAN SINGLE-FAMILY RESIDENCE STUDY

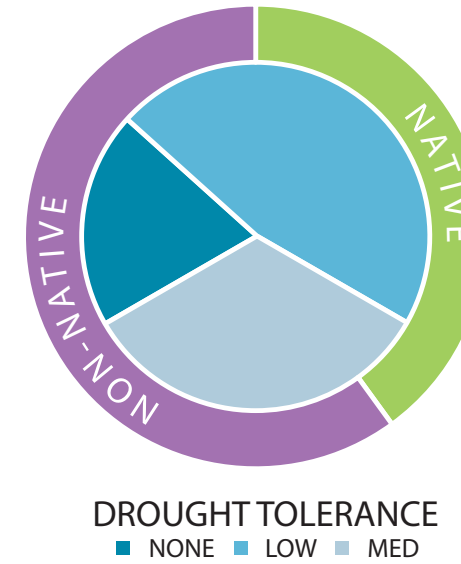
ELIZABETH RITCHIE | HORT 432 | FALL 2016

WHY THIS PROPERTY?

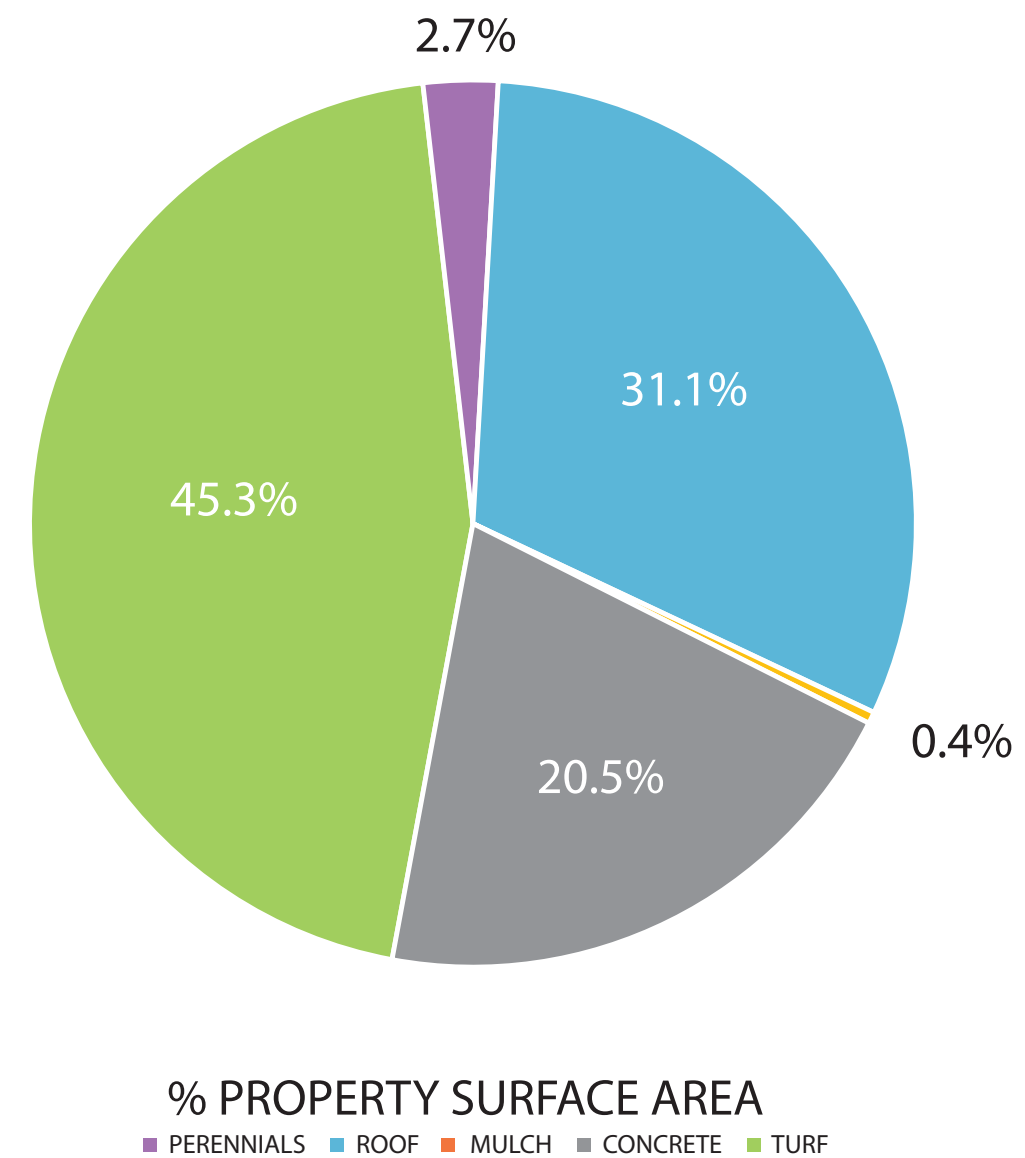
This property, containing on single family home with alley garage access, was selected to be representative of its neighborhood in regards to orientation, programming, and vegetation. Like many of its peers, this property is relatively narrow with very shallow setbacks to the adjoining properties. It is oriented north-south and offers a fairly sized-able front yard compared to its neighbors. However, this means that the fenced-in backyard is rather small in comparison and is planted only with turf. The covered porch and fenced in backyard offer a sense of security and ownership, especially when considering the shallow setbacks. The abundant use of turf is common in this, and most, residential areas and as such has been termed as culturally significant since it would be exceptional if this was not present. The alley-access garage allows for a narrower house profile on the lot, though this particular design does not seem to take advantage of this fact as much as it could have. Interestingly, the developers have chosen to place the utility boxes on the front face of the lots on this street, likely for cost-reduction or access reasons.



PERENNIAL BEDS

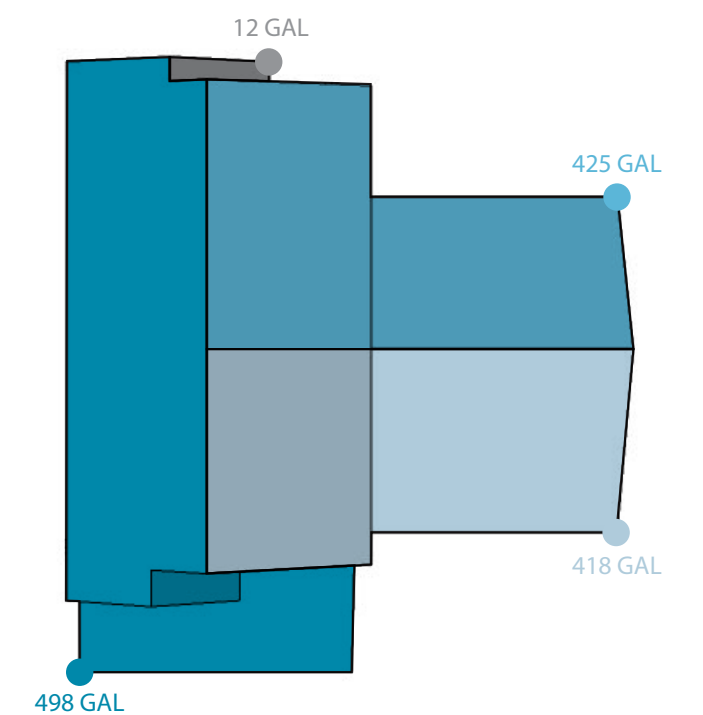


OVER AN AVERAGE GROWING SEASON THIS LAWN WILL USE NEARLY **50,000 GALLONS OF WATER.** TO KEEP UP OVER THE SAME TIME PERIOD YOU'D NEED TO TAKE **5 BATHS A DAY EVERY DAY.**



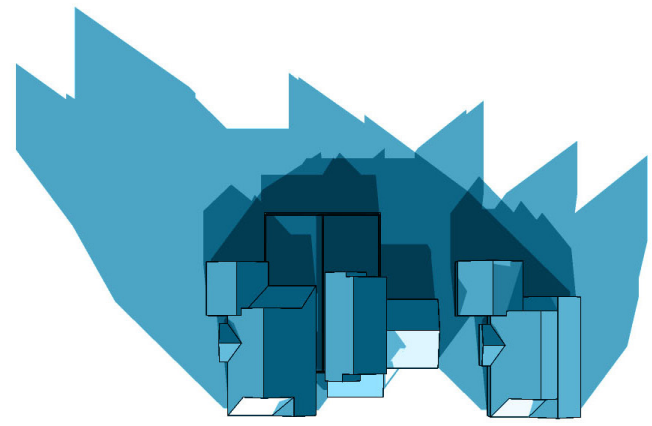
ROOF RUNOFF

AVERAGE MAY-AUG PRECIPITATION



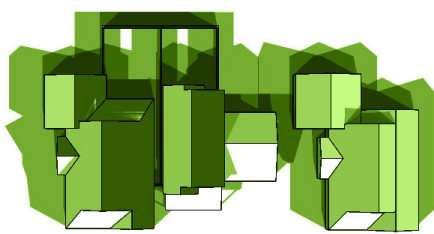
WINTER SUN STUDY

9AM | 12PM | 3PM



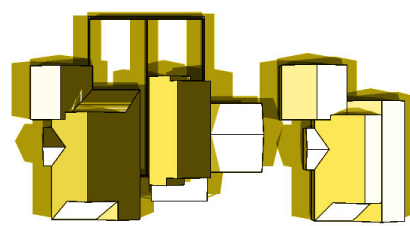
SPRING SUN STUDY

9AM | 12PM | 3PM



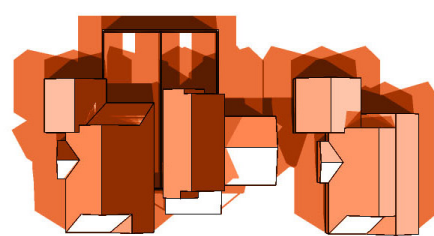
SUMMER SUN STUDY

9AM | 12PM | 3PM



AUTUMN SUN STUDY

9AM | 12PM | 3PM



SAVINGS FROM TREE



PERENNIALS AND SHRUBS ATTRACT

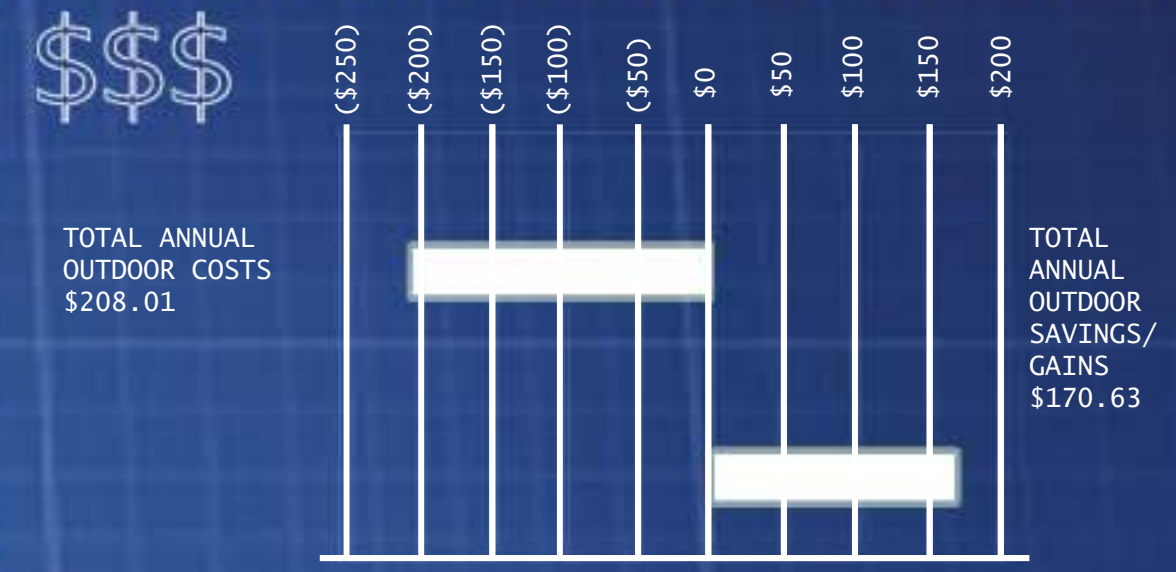
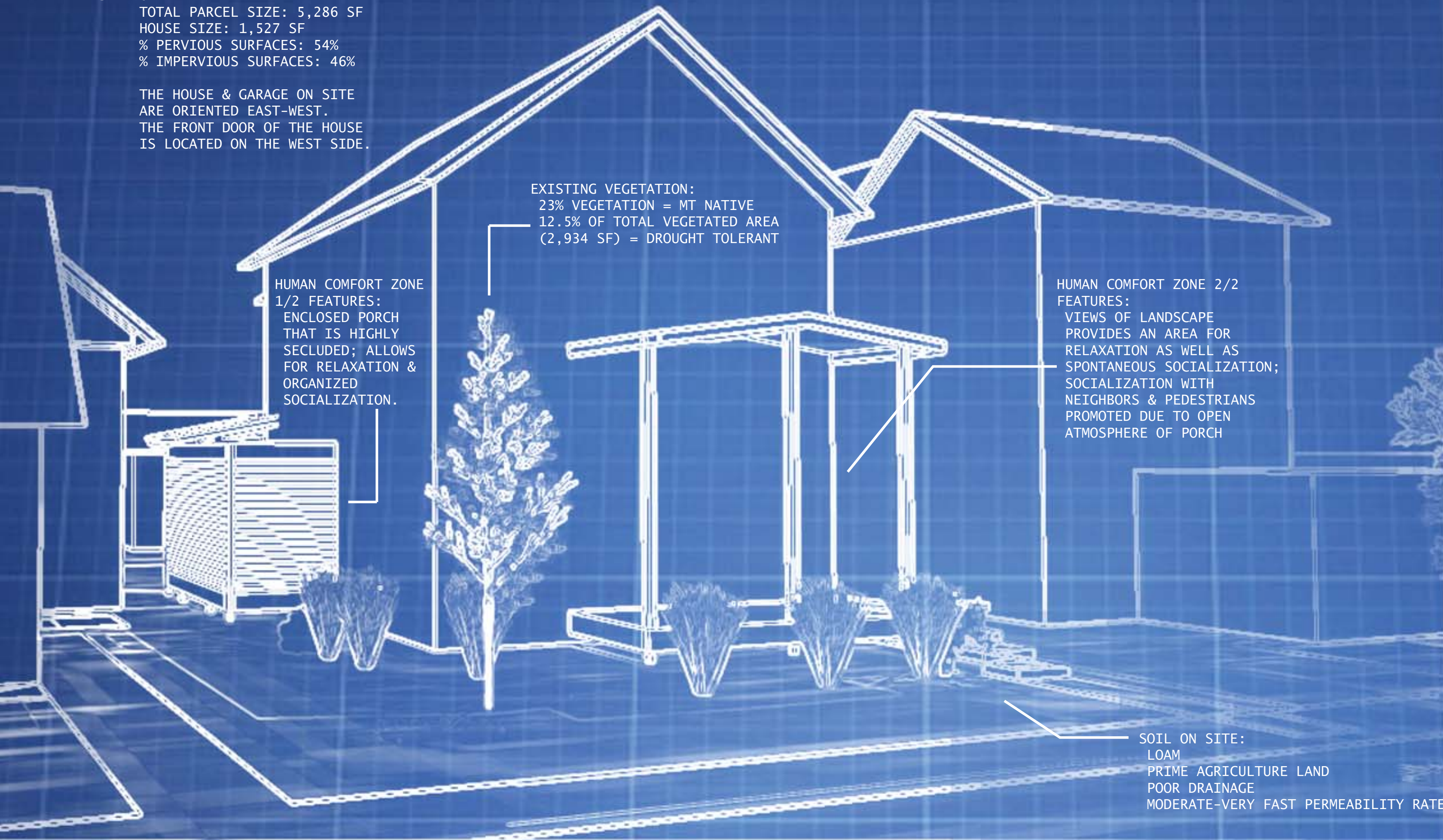
BUTTERFLIES BEES BIRDS



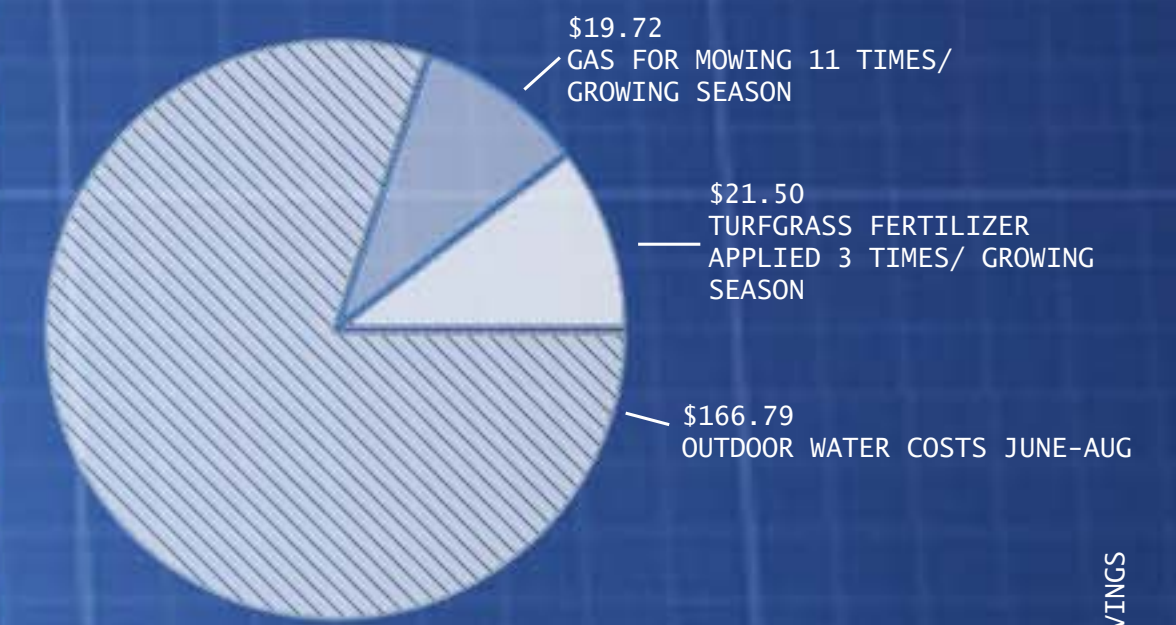
GREEN ASH *Fraxinus pennsylvanica*
Photo by Steven Katovich, USDA Forest Service

SITE 6:
 TOTAL PARCEL SIZE: 5,286 SF
 HOUSE SIZE: 1,527 SF
 % PERVIOUS SURFACES: 54%
 % IMPERVIOUS SURFACES: 46%

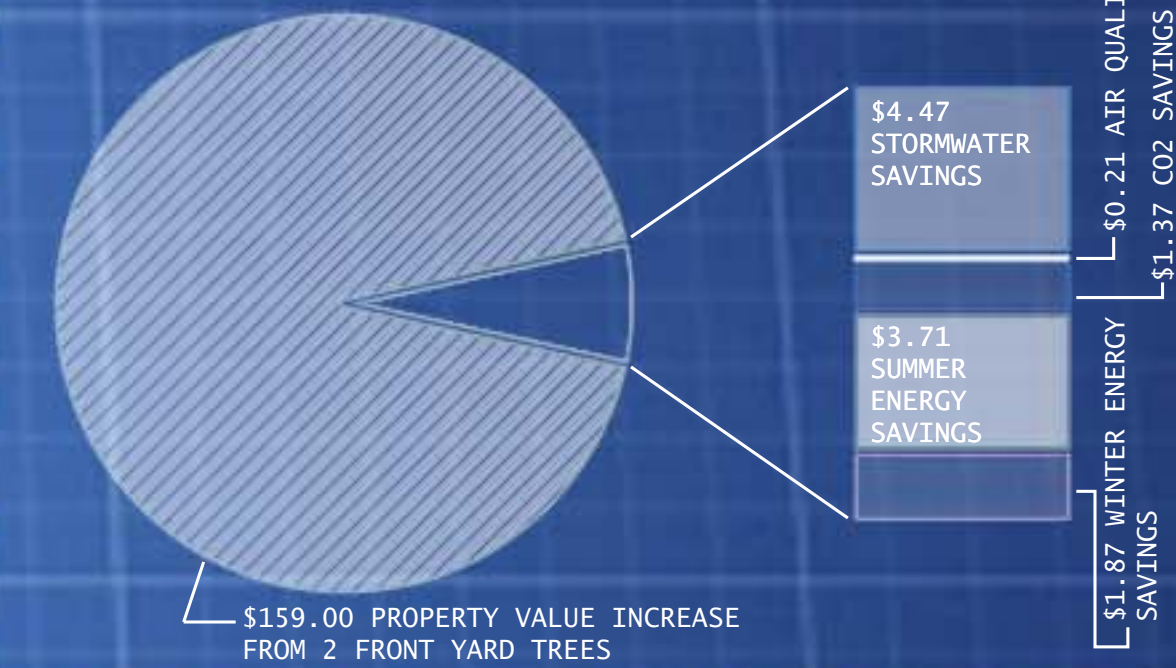
THE HOUSE & GARAGE ON SITE
 ARE ORIENTED EAST-WEST.
 THE FRONT DOOR OF THE HOUSE
 IS LOCATED ON THE WEST SIDE.



SITE 6: ANNUAL OUTDOOR COSTS



SITE 6: ANNUAL OUTDOOR SAVINGS / GAINS



SUMMER SOLSTICE SUN-SHADE ANALYSIS

THE NORTH SIDE OF THE HOUSE RECEIVES
 4.5 HOURS OF DIRECT SUNLIGHT

THE EAST SIDE OF THE HOUSE RECEIVES
 5.5 HOURS OF DIRECT SUNLIGHT

THE SOUTH SIDE OF THE HOUSE RECEIVES
 6 HOURS OF DIRECT SUNLIGHT

THE WEST SIDE OF THE HOUSE RECEIVES
 8.5+ HOURS OF DIRECT SUNLIGHT

WINTER SOLSTICE SUN-SHADE ANALYSIS

THE NORTH SIDE OF THE HOUSE RECEIVES A
 MAXIMUM OF 1 HOUR OF DIRECT SUNLIGHT

THE EAST SIDE OF THE HOUSE RECEIVES
 2.5 HOURS OF DIRECT SUNLIGHT

THE SOUTH SIDE OF THE HOUSE RECEIVES
 A MAXIMUM OF 1 HOUR OF DIRECT SUNLIGHT

THE WEST SIDE OF THE HOUSE RECEIVES
 4 HOURS OF DIRECT SUNLIGHT

