

THE LIVING PARKWAY



*An Innovative Plan for the **Manchaca Expressway***

(**Living Parkway:** a roadway designed to utilize and contribute to the natural processes of the landscape it inhabits)

klotz associates J. ALLEN ANDERSON cmos aci Central Texas Regional Mobility Authority GREEN MOBILITY CHALLENGE

ON-SITE *CONDITIONS*

Native Vegetation



Cave Invertebrates



Clay Soils



OFF-SITE *IMPACTS*

Barton Springs



Barton Springs Salamander

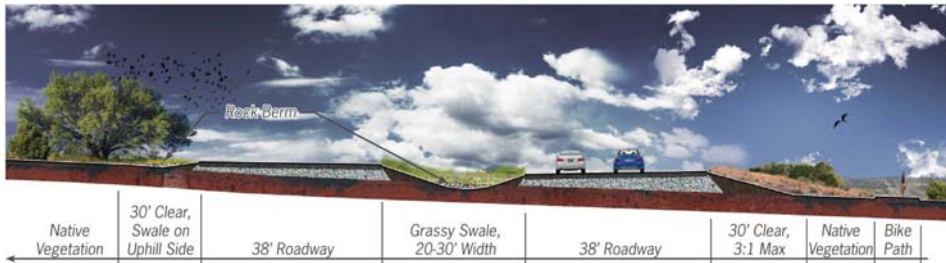


THE LIVING PARKWAY

KARST *LANDSCAPE*



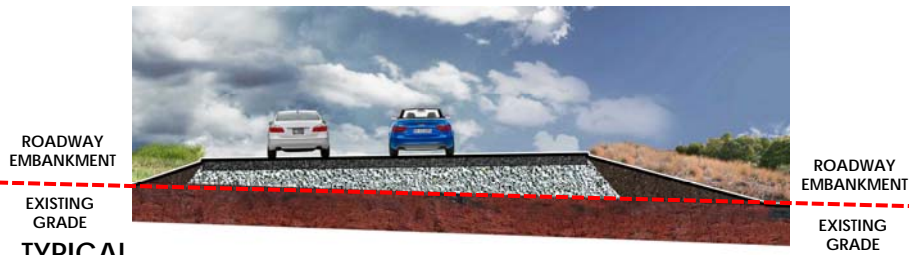
TYPICAL *SECTION*



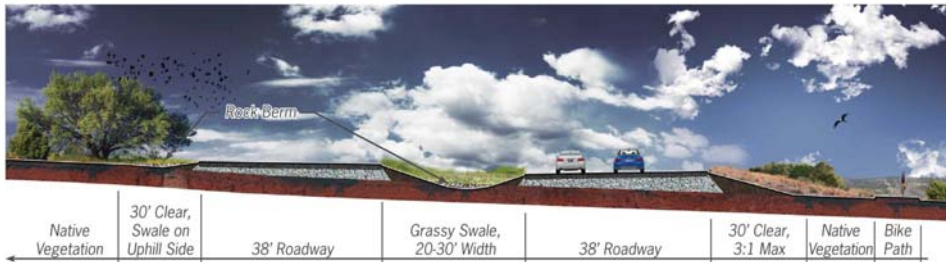
Native Vegetation	30' Clear, Swale on Uphill Side	38' Roadway	Grassy Swale, 20-30' Width	38' Roadway	30' Clear, 3:1 Max	Native Vegetation	Bike Path
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THE LIVING PARKWAY

EMBANKMENT *ROADWAY*




TYPICAL *SECTION*



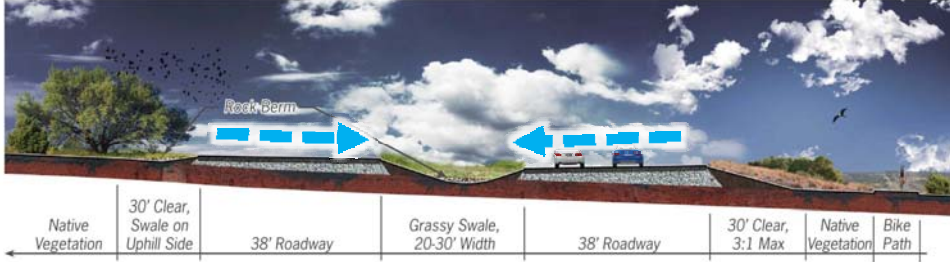
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THE LIVING PARKWAY

VEGETATIVE SWALE



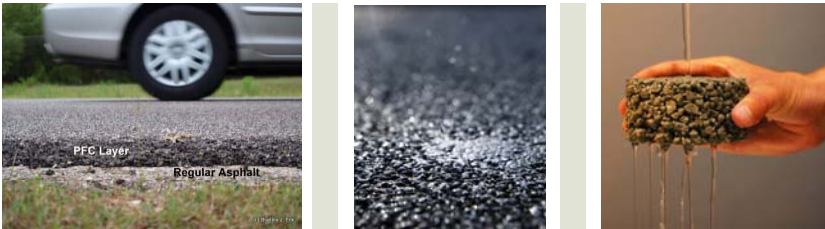
TYPICAL SECTION



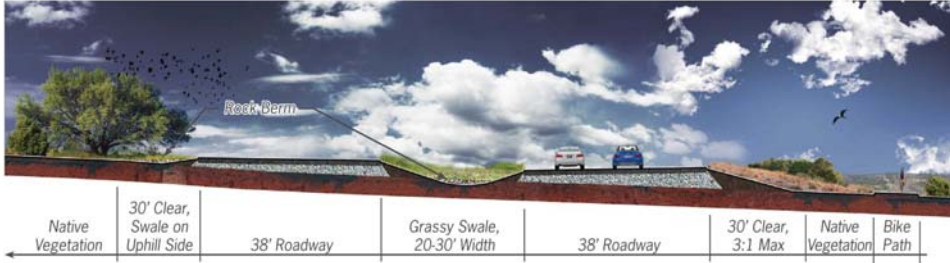
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THE LIVING PARKWAY

PERMEABLE FRICTION COURSE




TYPICAL SECTION



Native Vegetation	30' Clear, Swale on Uphill Side	38' Roadway	Grassy Swale, 20-30' Width	38' Roadway	30' Clear, 3:1 Max	Native Vegetation	Bike Path
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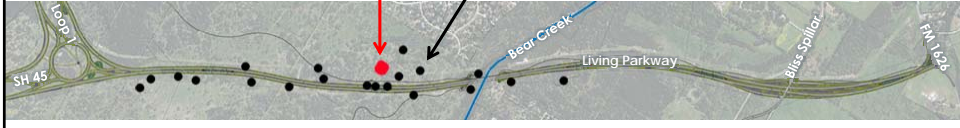
THE LIVING PARKWAY

PARKWAY ALIGNMENT



FLINT RIDGE CAVE

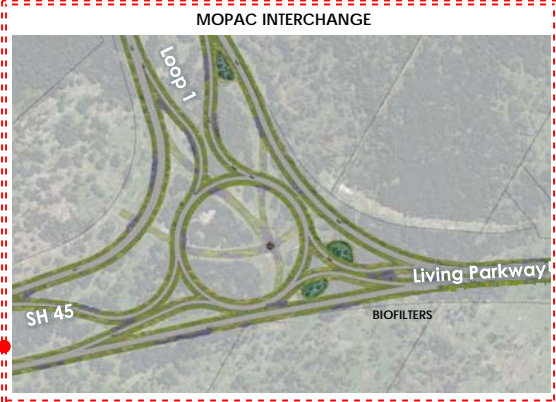
POSSIBLE RECHARGE FEATURES



SH 45 Loop 1 Bear Creek Living Parkway Bliss Spillar FM 1626


THE LIVING PARKWAY

PARKWAY ALIGNMENT



MOPAC INTERCHANGE

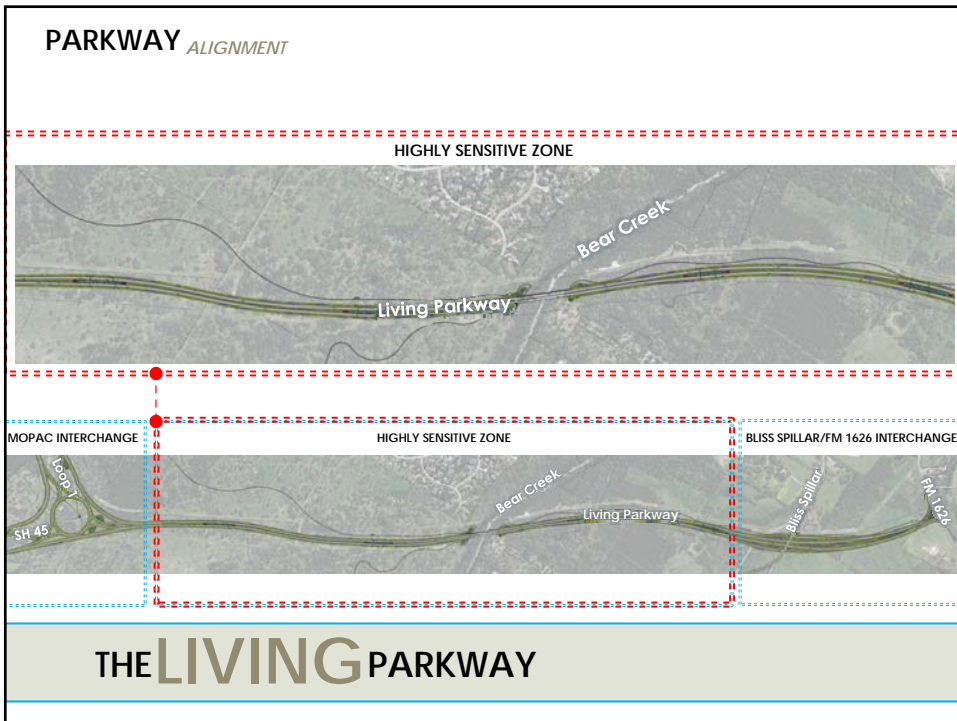
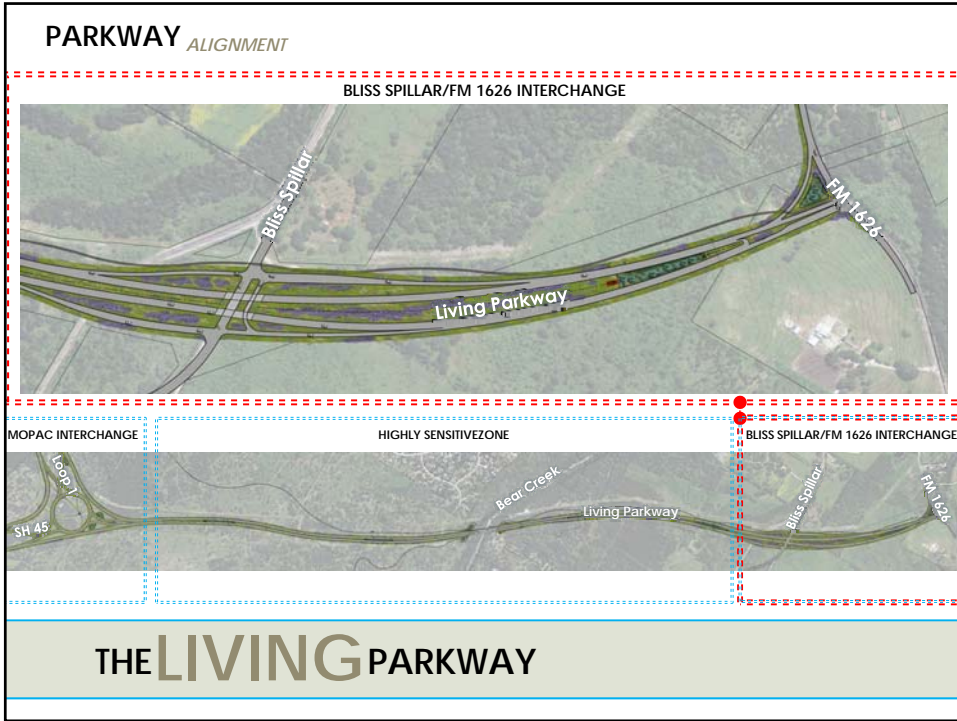
Loop 1 Living Parkway SH 45 BIOFILTERS

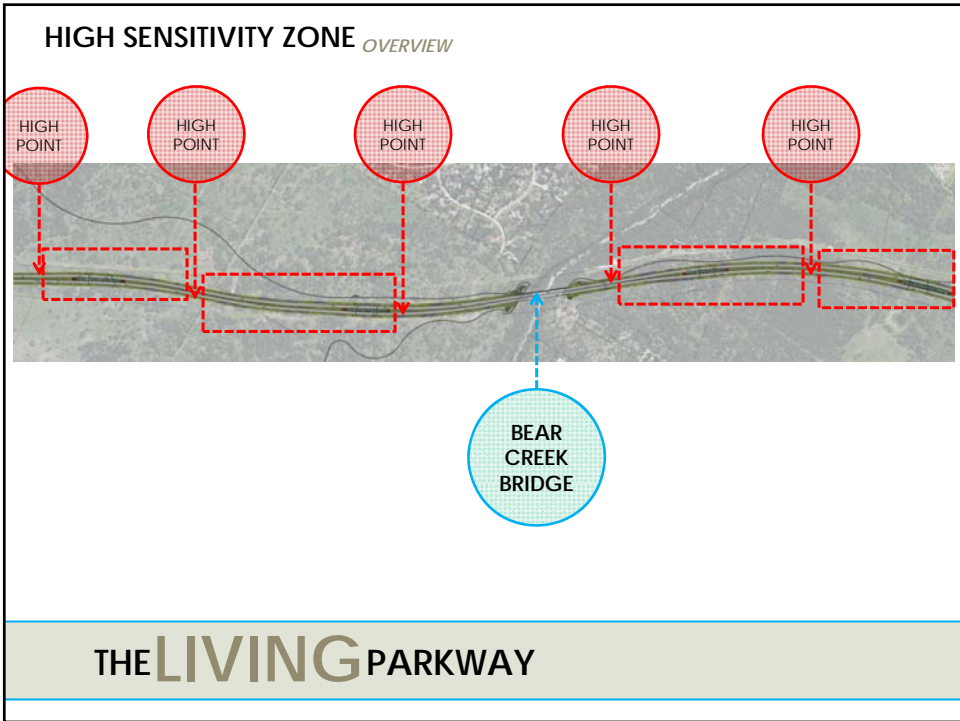
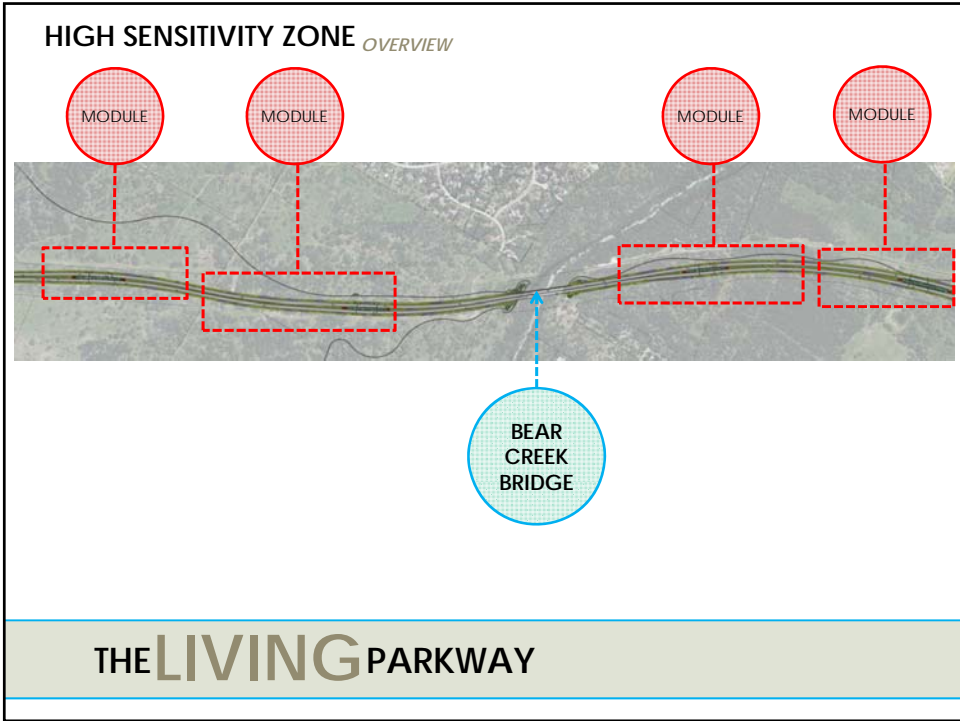


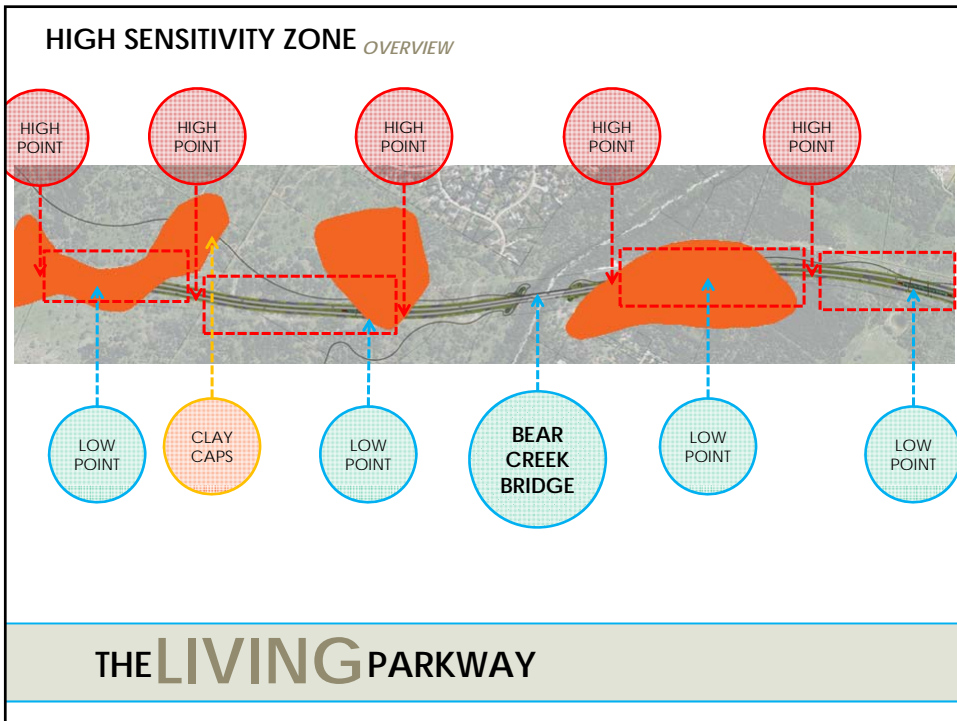
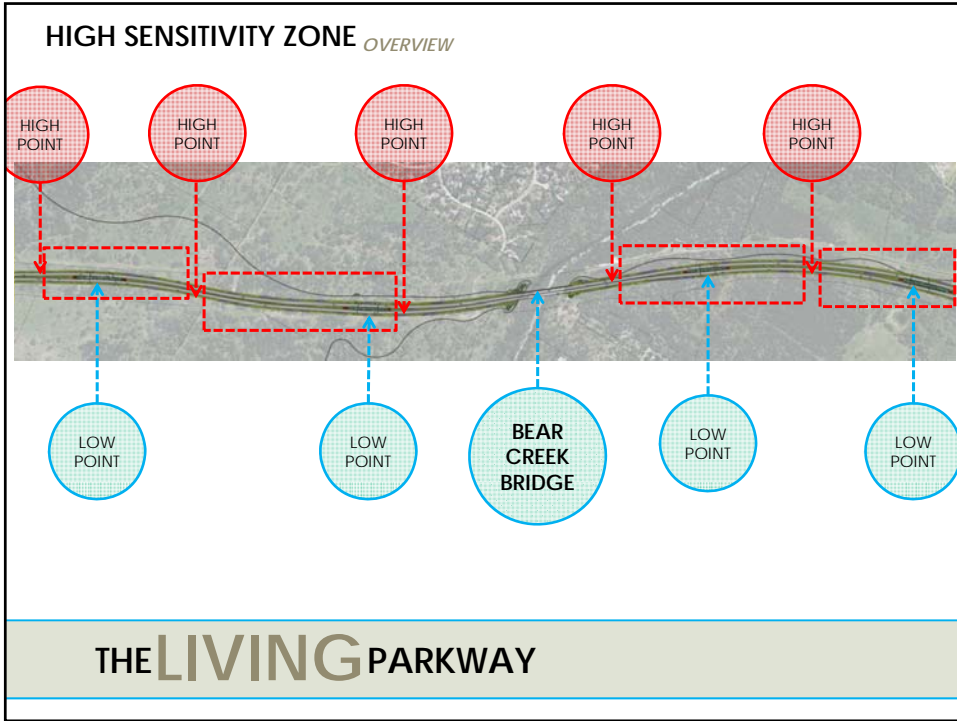
MOPAC INTERCHANGE HIGHLY SENSITIVE ZONE BLISS SPILLAR/FM 1626 INTERCHANGE

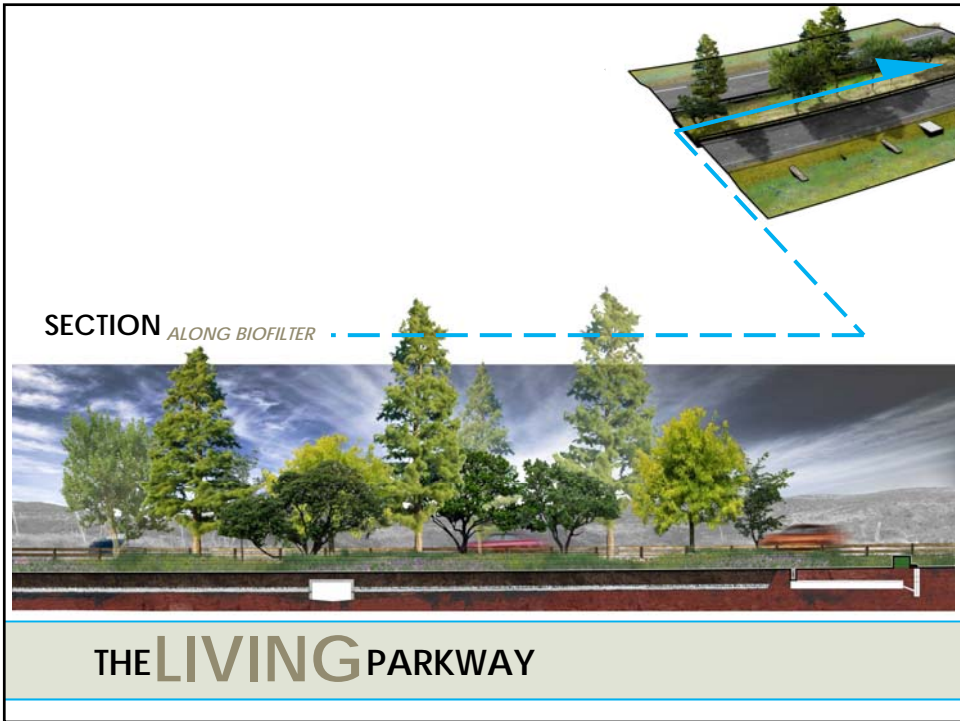
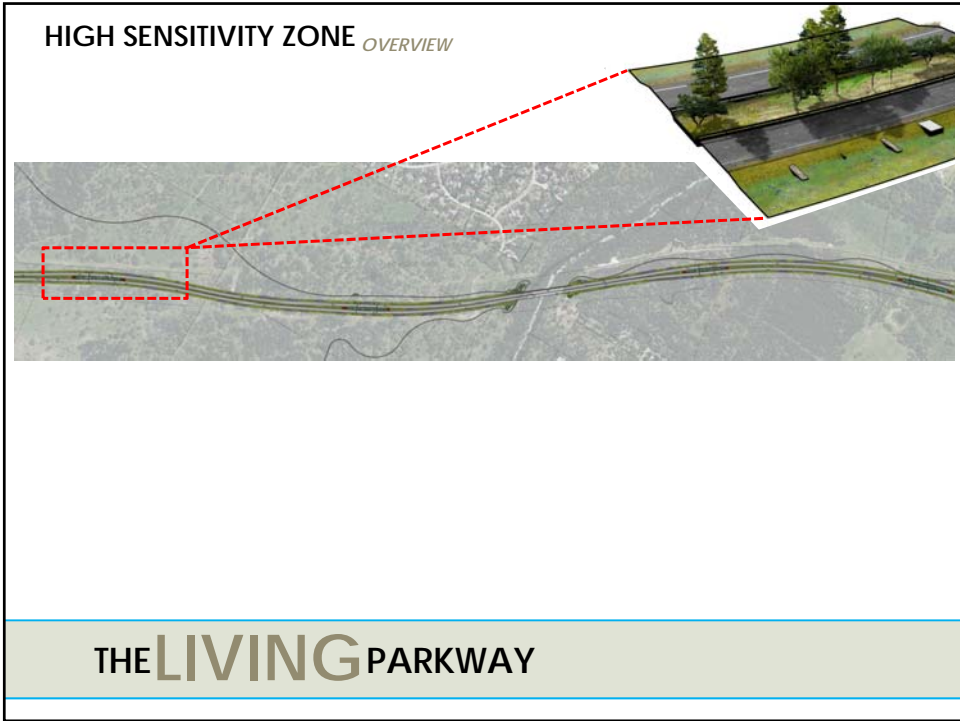
SH 45 Loop 1 Bear Creek Living Parkway Bliss Spillar FM 1626

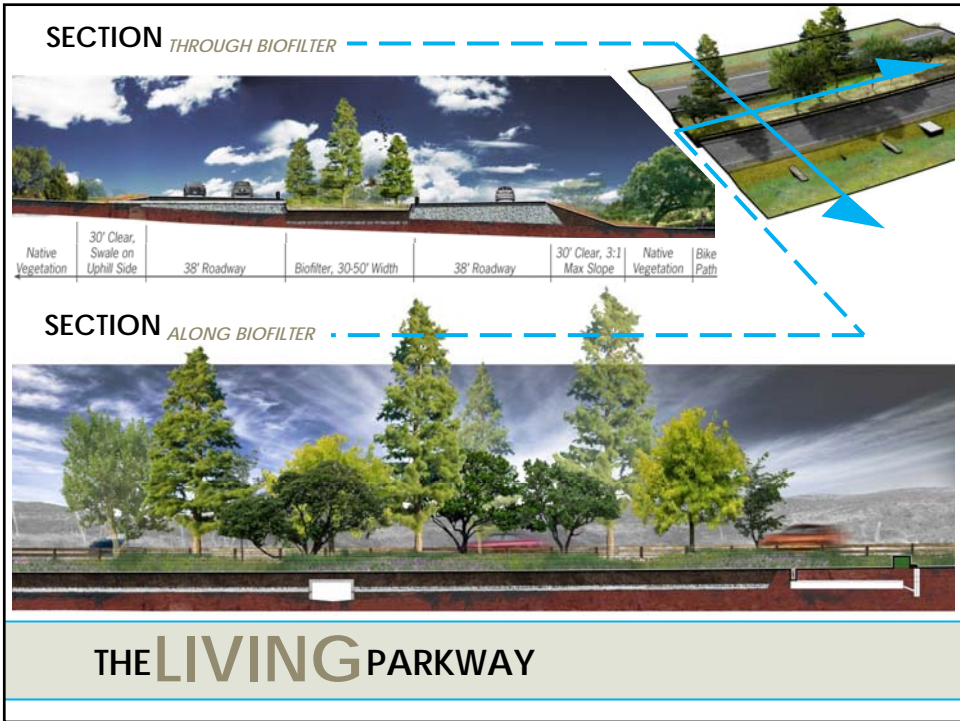
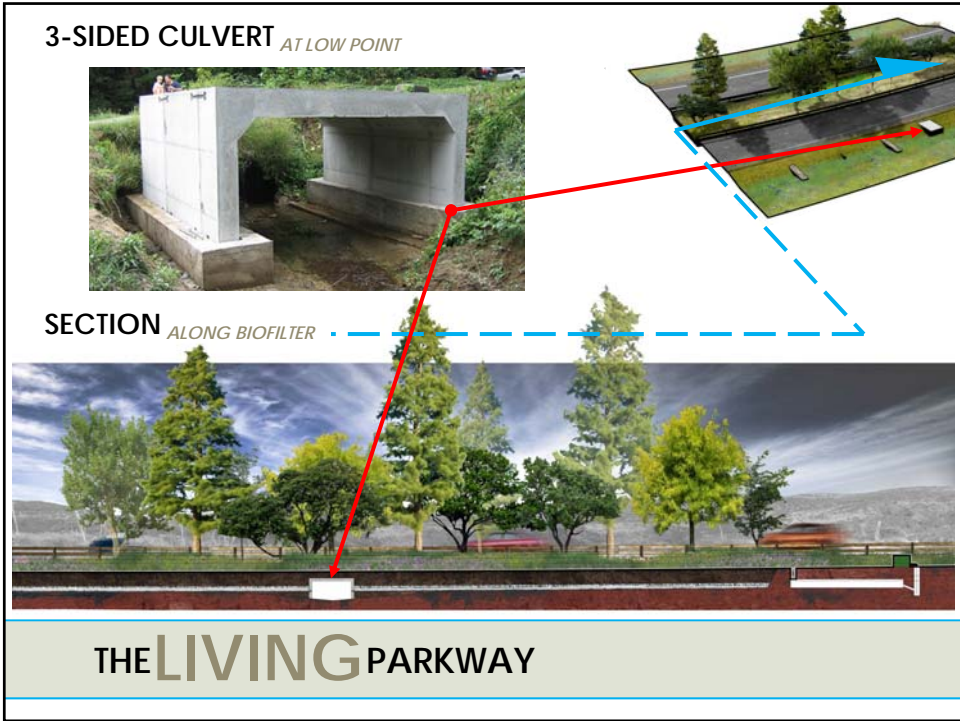
THE LIVING PARKWAY

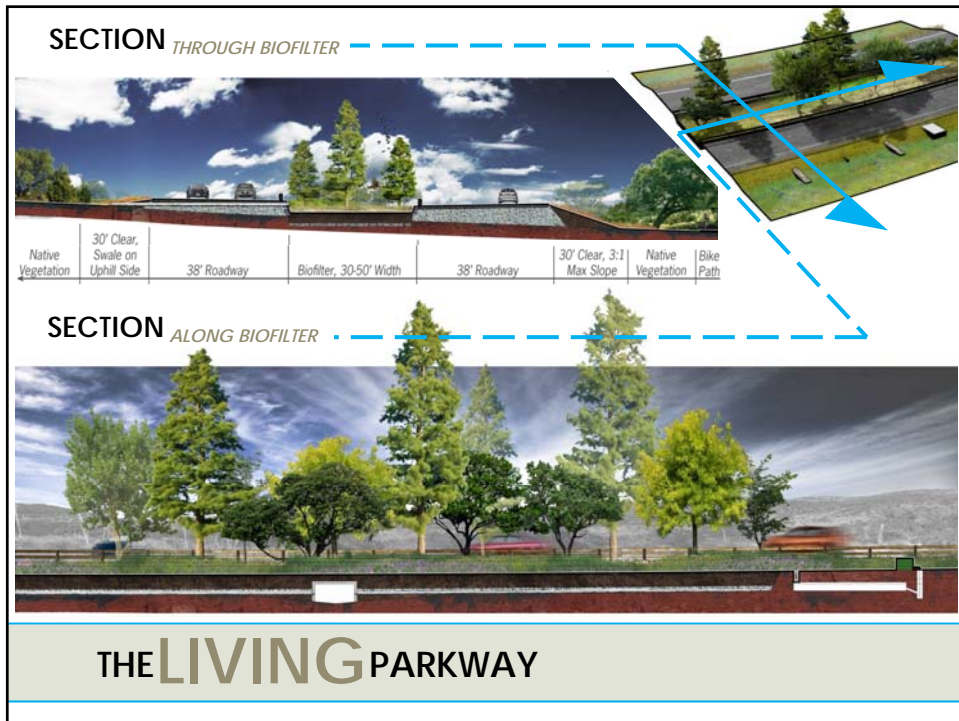
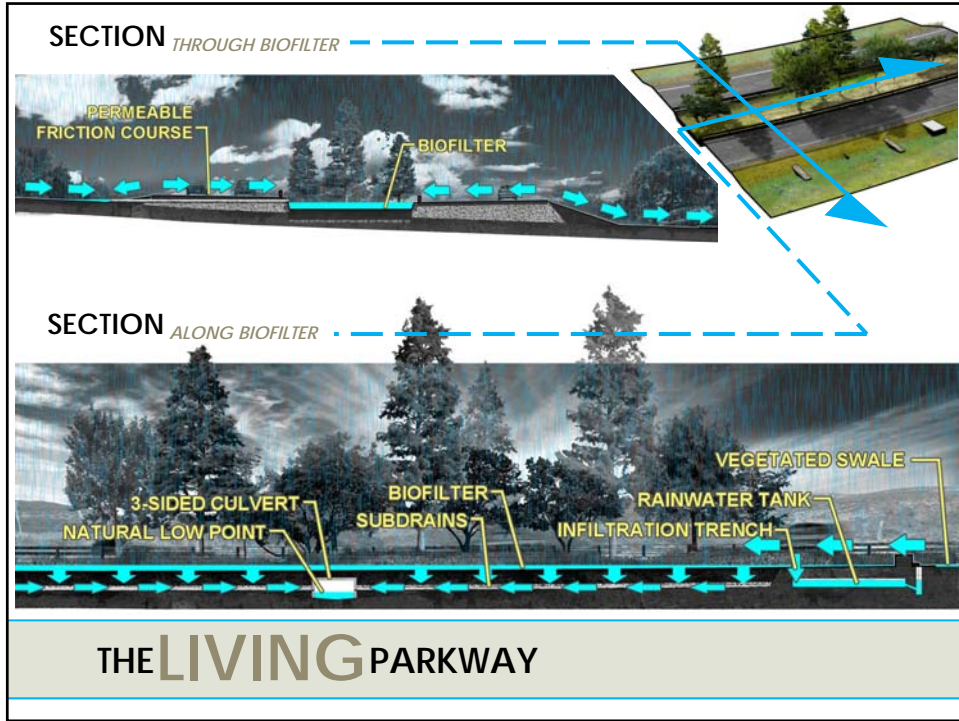













LIVING PARKWAY STORMWATER SYSTEMS POLLUTANT REMOVAL

	QUANTITY TREATED	TOTAL SUSPENDED SOLIDS REMOVAL	PHOSPHORUS REMOVAL	NITROGEN REMOVAL	LEAD REMOVAL	BACTERIA REMOVAL
PERMEABLE FRICTION COURSE	All Stormwater	75%	48%	-	91%	-
GRASSY SWALE	All Stormwater	65%	10-25%	0-15%	20-50%	-
RAINWATER HARVESTING	First 1/8"	100%	100%	100%	100%	100%
BIOFILTRATION	First 1-1.25"	97%	94%	83%	-	98%



PERMEABLE FRICTION COURSE



GRASSY SWALE




UNDERGROUND CISTERN



BIOFILTER


THE LIVING PARKWAY

TRADITIONAL ROADWAY STORMWATER DIAGRAM



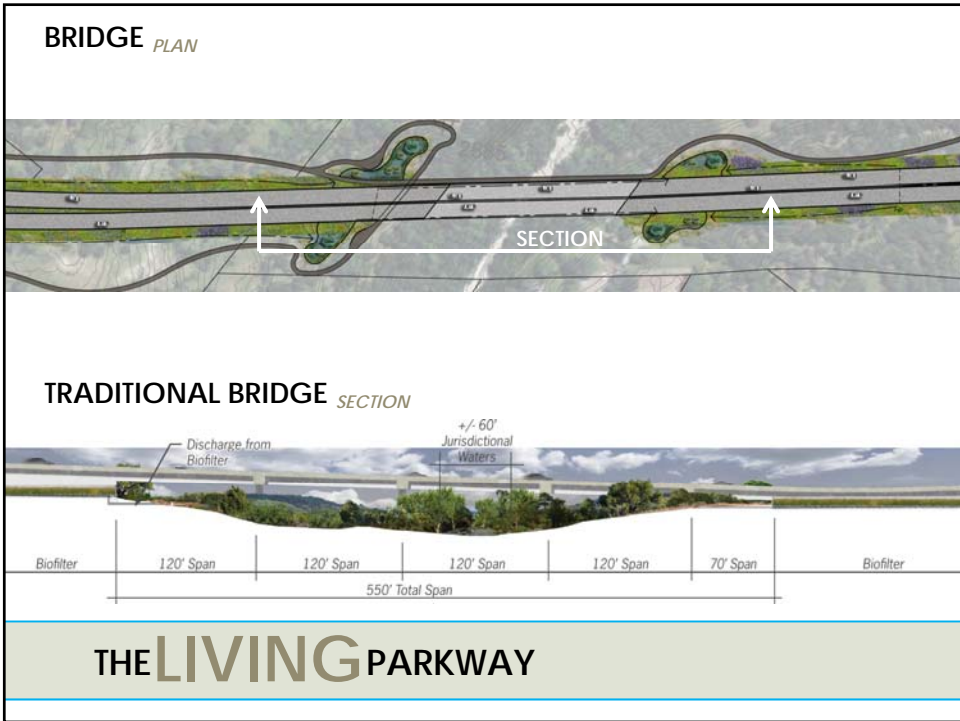
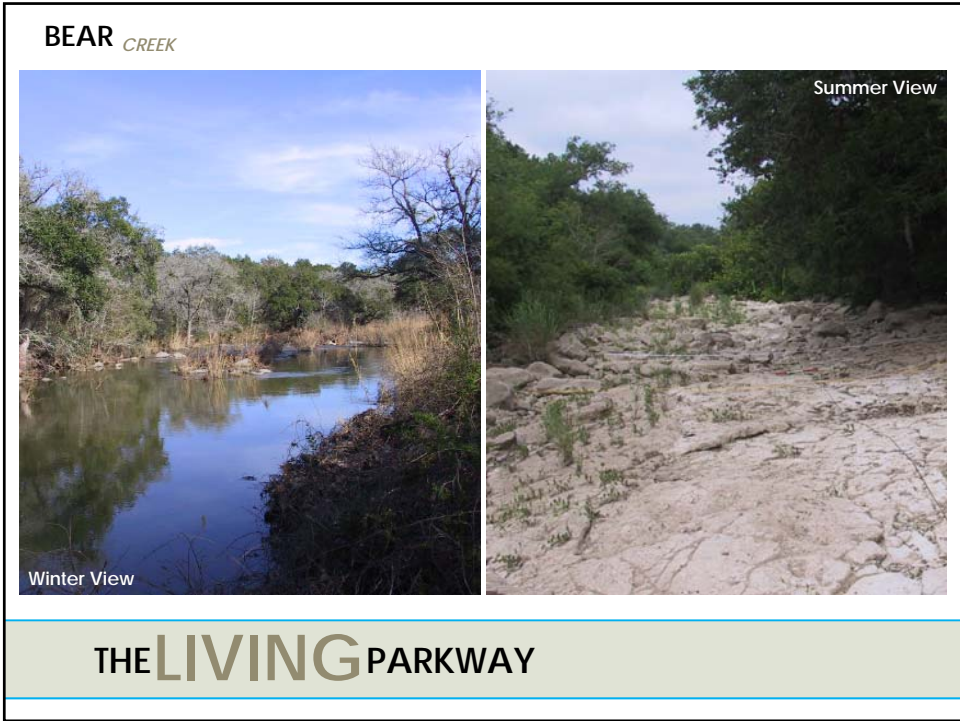
CENTRALIZED STORM POND ← STORMWATER PIPING → CENTRALIZED STORM POND

LIVING ROADWAY STORMWATER DIAGRAM




BIOFILTER ← SURFACE DRAINAGE → BIOFILTER ← SURFACE DRAINAGE → BIOFILTER


THE LIVING PARKWAY



BRIDGE *PLAN*



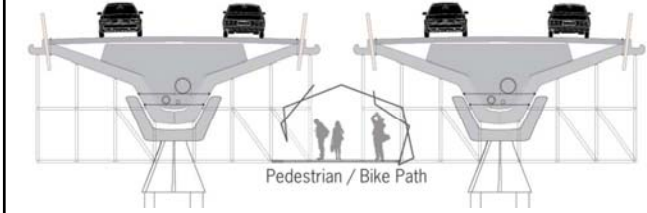
LIVING BRIDGE *SECTION*



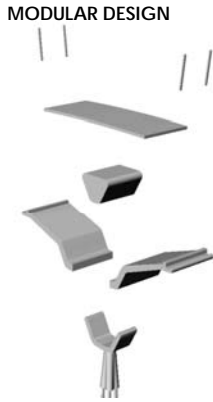
Discharge from Biofilters
+/- 60" Jurisdictional Waters
Biofilter 100' 1 Column Only in Flood Plain 170' Biofilter

THE LIVING PARKWAY


LIVING BRIDGE *SECTION*



MODULAR DESIGN



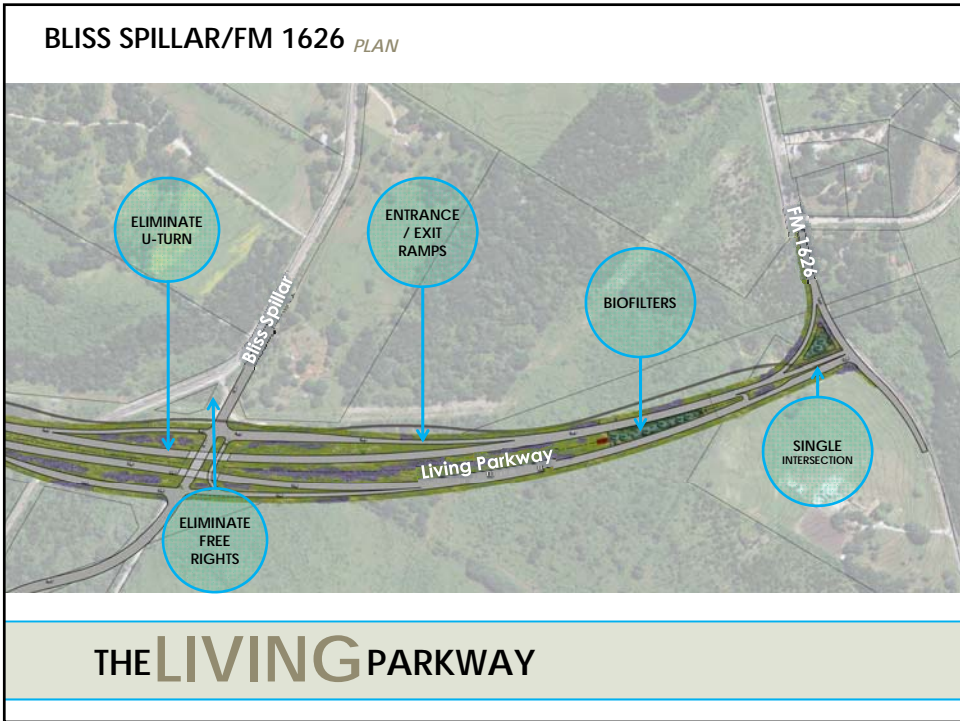
LIVING BRIDGE *PROCESS*

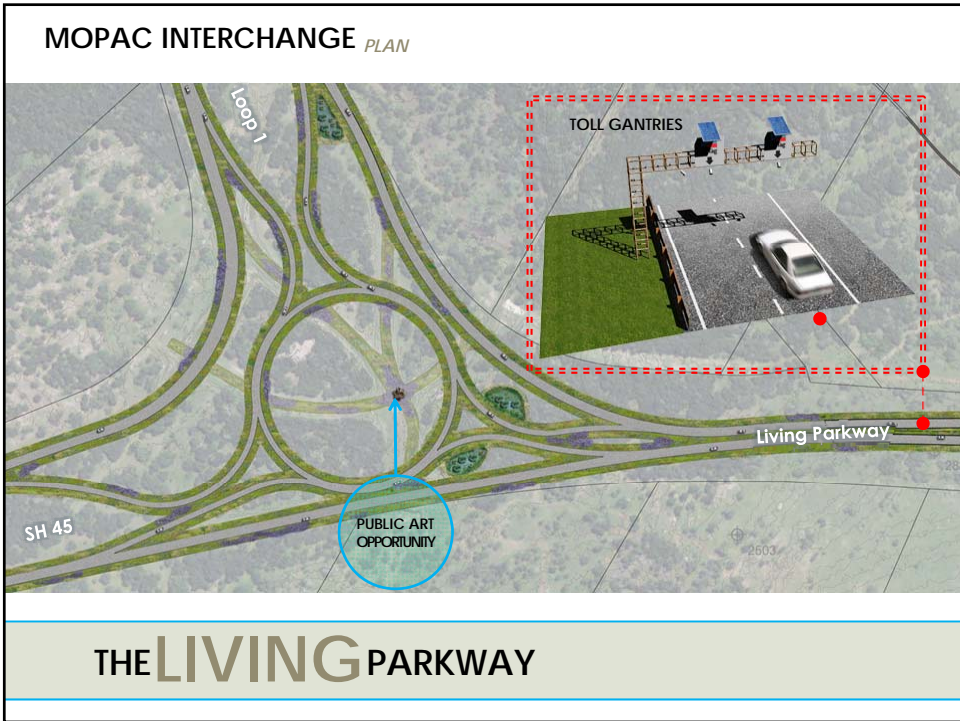
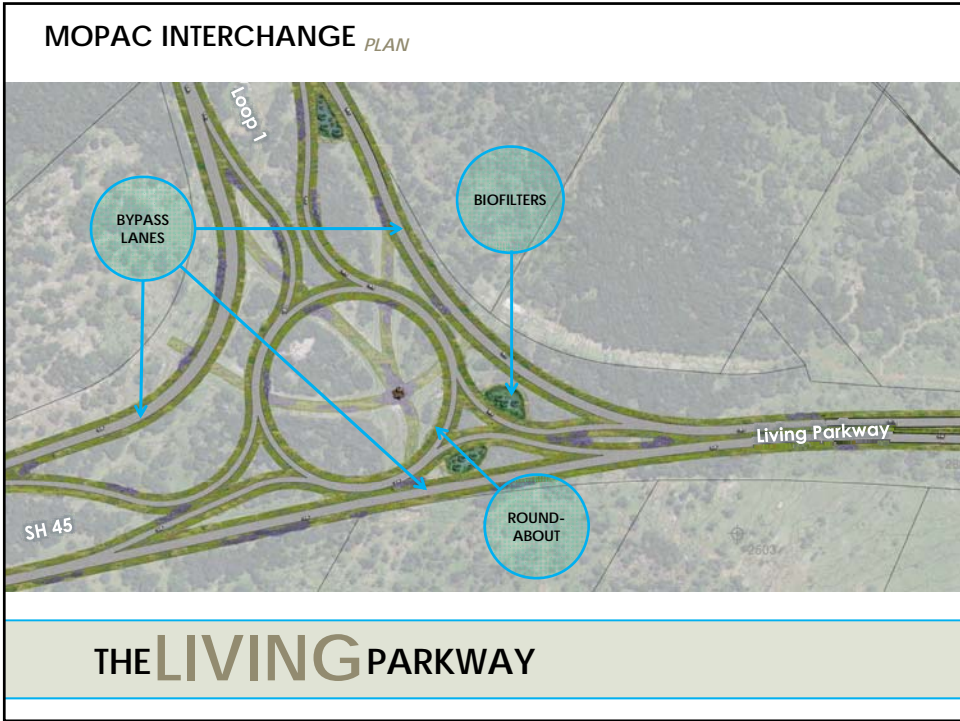


CANTILEVER CONCRETE BEAMS
RETAINED WOOD SCAFFOLDING

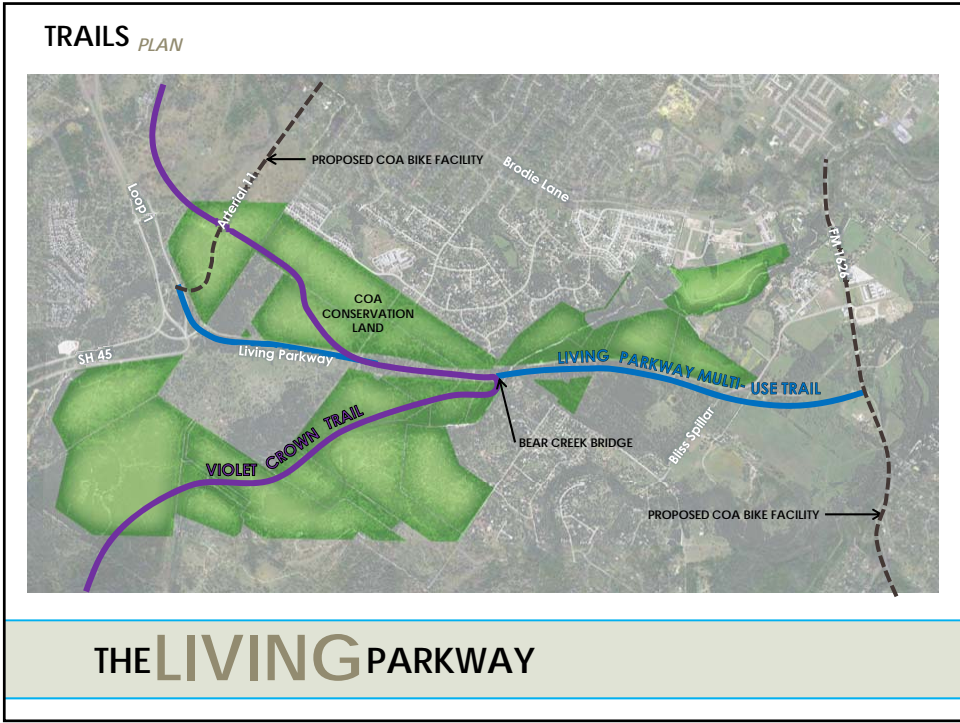
THE LIVING PARKWAY

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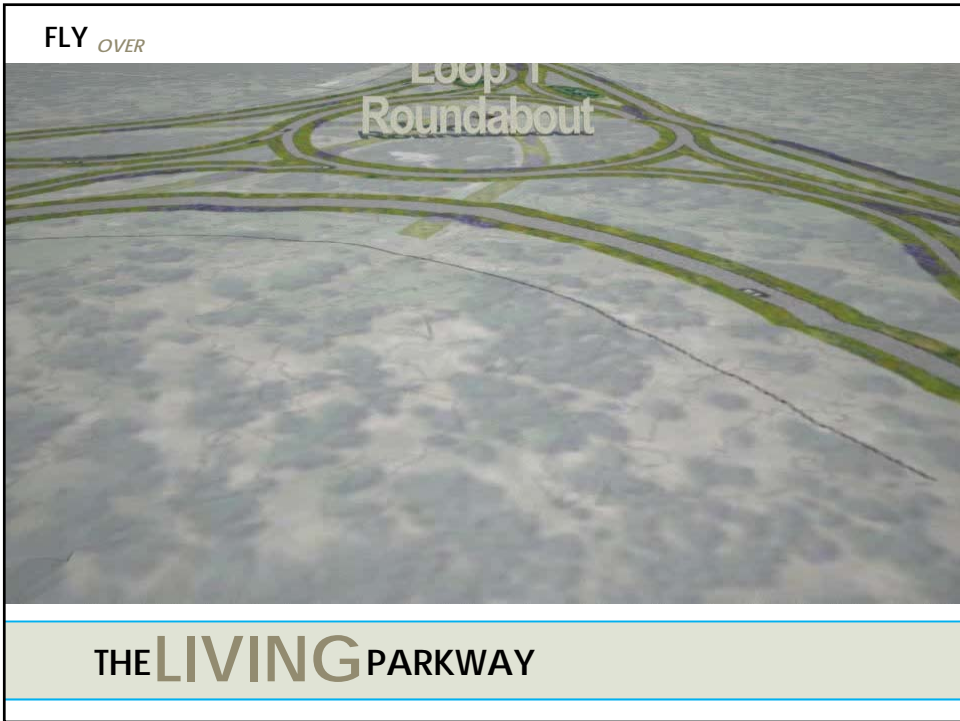




COST *ESTIMATE*

CONSTRUCTION ITEM	TRADITIONAL ROADWAY COST	LIVING PARKWAY WITH TRADITIONAL BRIDGE & IRRIGATION	LIVING PARKWAY WITH LIVING BRIDGE & RAINWATER TANKS
SITE PREPARATION	\$2,700,000	\$1,080,000	\$1,080,000
EMBANKMENT (FILL MATERIAL)	\$500,000	\$950,000	\$950,000
EXCAVATION (CUT MATERIAL)	\$300,000	-	-
PAVEMENT	\$18,000,000	\$13,000,000	\$15,000,000
PFC ASPHALT	-	\$10,000,000	\$10,000,000
STORM DRAIN SYSTEM	\$1,500,000	-	-
CONCRETE WATER QUALITY PONDS	\$1,750,000	-	-
BIOFILTERS	-	\$2,500,000	\$2,500,000
IRRIGATION FOR BIOFILTERS	-	\$200,000	-
RAINWATER CAPTURE SYSTEM	-	-	\$1,250,000
TRADITIONAL BRIDGE AT BEAR CREEK	\$4,100,000	\$4,100,000	-
LIVING BRIDGE AT BEAR CREEK	-	-	\$7,550,000
TOLL FACILITY	\$650,000	\$500,000	\$500,000
CONNECTION TO LOOP 1 WITH FLYOVER	\$3,600,000	-	-
CONNECTION TO LOOP 1 WITH ROUNDABOUT	-	\$2,220,000	\$2,220,000
BASE ROADWAY COST	\$18,300,000	\$18,300,000	\$18,300,000
TOTAL COST	\$51,400,000	\$53,000,000	\$59,350,000

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An Innovative Plan for the Manchaca Expressway

(**Living Parkway:** a roadway designed to utilize and contribute to the natural processes of the landscape it inhabits)

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J. Hill
ANDERSON
ARCHITECTS

cmcs

aci



Central Texas Regional
Mobility Authority

