US Highway 90 Multi-Use Path Study



March 2017

Prepared for

Jackson County Board of Supervisors 2915 Canty Street Pascagoula, MS 39567

Prepared by:



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1.0 Introduction and Summary

This report summarizes the findings of a multi-use path study performed by Neel-Schaffer, Inc. as requested by the Jackson County Board of Supervisors to evaluate the proposed construction of a multi-use path within the US Highway 90 right-of-way. The project includes stakeholders from Gulf Regional Planning Commission (GRPC), Mississippi Department of Transportation (MDOT), City of Gautier, City of Ocean Springs and Jackson County.

1.1 Purpose

The purpose of this analysis was to identify a conceptual alignment for a proposed multi-use path along the US Highway 90 corridor in Jackson County and to get public input on the conceptual design of the multi-use path from the affected communities. The multi-use path is intended to be part of the MDOT construction project that MDOT currently has under design for widening US Highway 90 between Ocean Springs and Gautier. A cross section for the trail was developed, along with planned connections to recreational features in the adjacent communities, public meetings were held and cost estimates were developed to identify the anticipated project related costs.

Bicycles can play an important role in transportation, if properly accommodated in the design process. All roads and streets that do not prohibit bicyclists should include bicyclists in the design process. The traffic volumes and operating speeds on US Highway 90 make the roadway an unsafe location for bicyclists. A separate multi-use path would provide a much safer alternative to accommodate bicyclists within the study corridor. The development of a multi-use path would provide a means for bicyclists and pedestrians to make recreational, shopping and commuting trips to adjacent residential, school, retail and office land uses.

2.0 Existing Conditions

2.1 Project Corridor

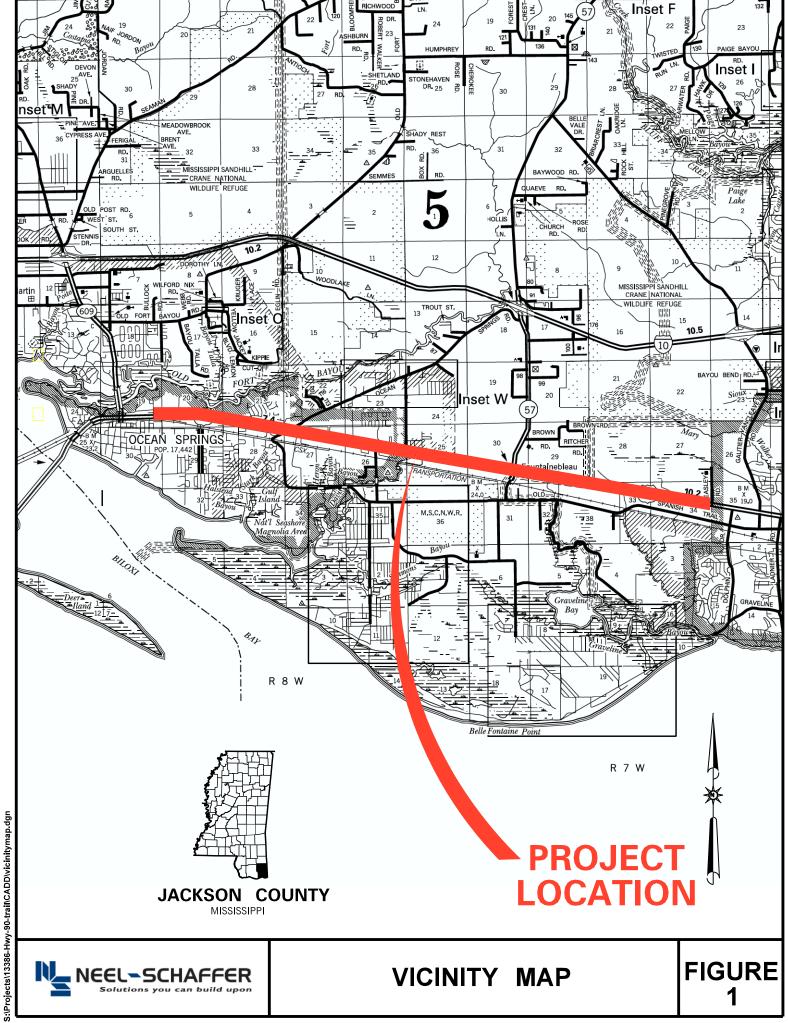
The project corridor on US Highway 90 is currently a four-lane divided roadway that is classified as a Principal Arterial roadway for the 79 miles across coastal Mississippi. The MDOT roadway widening project is planned to widen approximately 10 miles of US Highway 90 from four lanes to six lanes within the existing right-of-way between Vermont Street in Ocean Springs and Dolphin Drive in Gautier. This section of roadway has existing 6-lane cross sections on each end of the project corridor. The location of the project corridor is shown graphically in *Figure 1*.

2.2 Cross Section

The existing section of roadway is consistent with 220 ft of existing right-of-way throughout the project limits. The existing roadway is primarily a four lane divided roadway with a 30 ft grassed center median, two 12 ft travel lanes in each direction and a 6ft-8ft paved shoulder. Some areas of the project corridor have two-way frontage roads separated from the mainline US Highway 90 travel lanes by grassed, open ditches.

2.3 Adjacent Development/Land Use

West of Hanshaw Road (±3.7 miles) is primarily retail development with very closely spaced driveways and most of the property developed with direct access to US Highway 90 or to a frontage road. Between Hanshaw Road and MS Highway 57(±2.3 miles), there are more residential developments and roadways accessing residential subdivisions, with some scattered retail/commercial development and many vacant, undeveloped parcels. The CSX Railroad tracks run parallel to US Highway 90, approximately 800 ft to the south, limiting access to this property. East of Highway 57, (±2.9 miles) there are two gas stations, the County Soccer Complex and Shell Landing residential subdivision before you get into the more developed portions of Gautier at Mallett Brothers Construction. This section of the project is mostly undeveloped property with the primary land owner as Walnut Acquisition Corp, which owns most of the property on the north side of US Highway 90 in this area. East of Mallett Brothers to Dolphin Drive (±0.75 miles) is primarily retail/commercial development.



2.4 Community Connections

The proposed multi-use path would have the potential to connect to many of the existing community destinations, providing for a recreational opportunity to allow walking or cycling to many adjacent parks, schools or public buildings/property. Adjacent community attractions include:

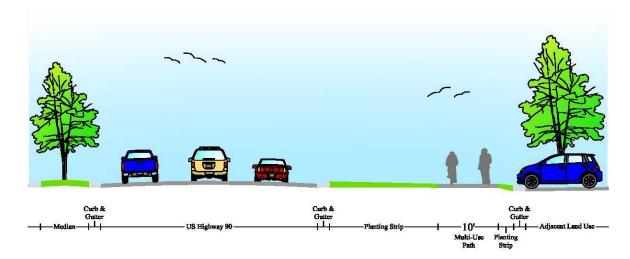
State Trust Land – North of US Highway 90 between Bechtel Blvd and Halstead Road
Twelve Oaks – North of US Highway 90, accessed via Hanley Road
Greyhound Stadium – South of US Highway 90, east of Hanley Road
Gulf Islands National Seashore – South of US Highway 90, Park Road intersects Hwy 90
Vietnam Veterans Memorial Pathway - South of US Highway 90 adjacent to Civic Center
Ocean Springs Civic Center - South of US Highway 90, west of Deana Drive
Ocean Springs Middle School – South of US Highway 90 on Hanshaw Road
Ocean Springs Sports Complex – North of US Highway 90 on MS Hwy 57
Ocean Springs High School – South of US Highway 90 on MS Hwy 57
Jackson County Soccer Complex – North of US Highway 90 on Audubon Lane
Gautier City Hall – North of US Highway 90, east of Beasley Road
Gautier Multi-Use Path – North of US Highway 90, east of Beasley Road

3.0 Proposed Multi-Use Path

3.1 Typical Section

The proposed typical section of the bicycle facility was primarily based on the available right-of-way width, the topography within the right-of-way, historical traffic volumes, and posted speed limits. A bicycle lane adjacent to automobile traffic is likely to attract the experienced and confident bicyclists but not attract the casual and less confident riders. Providing a bicycle path separated from the high speed, high volume roadway, is anticipated to attract a much larger percentage of the public and appeal to the casual and less confident riders as well as the experienced and confident cyclists. A separated, two-direction, multi-use path was selected as the preferred alternate to attract a greater percentage of the cycling public, as well as appeal to pedestrians equally. To help reduce costs, asphalt was chosen as the proposed primary material for the multi-use path. However, at many driveway crossings, concrete may have to be used to match the driveway material. Many driveways are likely to require reconstruction where the path crosses an existing driveway to maintain a maximum cross slope of 2%, meeting ADA criteria.

The proposed typical section for the multi-use path was identified to be 10 ft in width, meeting the minimum criteria outlined in the AASHTO *Guide for the Development of Bicycle Facilities*, 4th Edition, as the minimum width for a two-directional shared use path. The path is recommended to primarily be located at the right-of-way limits, providing the maximum buffer between the existing Highway 90 automobile travel lanes and the multi-use path. Where open drainage ditches exist, the path is recommended to be separated from the travel lanes by the existing ditches. The path alignment is recommended to provide some horizontal curves, allowing a "meandering" path through some of the more rural, undeveloped areas. The proposed typical section is shown in **Figure 2**.



US HIGHWAY 90 ASPHALT MULTI-USE PATHWAY - TYPICAL SECTION
NOT TO SCALE

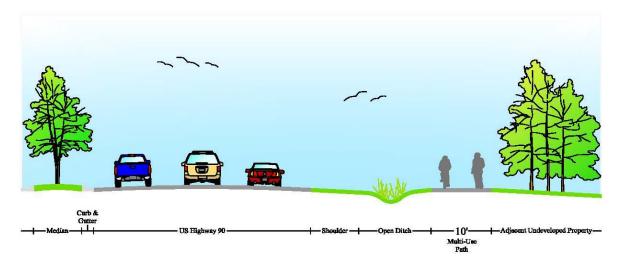


Figure 2 - Proposed Typical Section

The proposed multi-use path was drawn on existing photographs of the study corridor to develop renderings of what the conceptual trail would look like within the existing right-of-way. The renderings are shown in **Figures 3A and 3B**.



Figure 3A - Multi-Use Path Rendering -East View



Figure 3B - Multi-Use Path Rendering - West View

3.2 Alignment

The proposed location of the path was evaluated throughout the study corridor. Adjacent land uses, community attractions, drainage channels, presence/absence of frontage roads, existing above ground utilities and density of driveways were major factors in evaluating the proposed alignment of the path within the existing right-of-way. Some locations were identified to include multi-use paths on both the north and south sides of US Highway 90, while others were recommended to provide the trail on one-side only. Crossings of US Highway 90 were evaluated and recommended to only occur at signalized intersections.

The corridor was split into four major sections, including:

Ocean Springs Urban Section: Station 88+40 to 333+00 (24,460 LF/4.6 miles)

The western start of the project is at Vermont Street, where the 3 eastbound lanes on US Highway 90 currently drop to two eastbound lanes. There is consistent development along US Highway 90 east of Vermont to Lakeview Drive. East of Lakeview Drive, development is more spread out near the eastern city limits at MS Highway 57. Commercial businesses line both sides of US Highway 90 with very closely spaced driveways in this urbanized area of US Highway 90. Some sections of US Highway 90 have parallel frontage road segments between:

Vermont Ave to Holcomb Blvd – north side (of US Highway 90)

E. of Rue Maurepas to west of Holcomb Blvd – south side

Seashore Plaza (W. of Hanley) to Woody's (W. of Ocean Springs Rd) – south side

Ocean Springs Road to west of Oakleigh Road – north side

Hanshaw Road to Davis Bayou Circle – south side

The frontage roads take up a significant amount of the existing right-of-way and limits opportunities to include a multi-use path without acquiring more right-of-way and/or affecting existing businesses or utilities. Between Bechtel Boulevard and Hanshaw Road, the proposed multi-use path is considered for both sides of US Highway 90, connecting to existing Frontage Roads and *sharing the road* on these discontinuous Frontage Roads. Crossings of Highway 90 are limiting to existing locations of signalized intersections. The number of driveways crossed by the multi-use path affects the project costs, as these crossings must be less than 2% cross slope to meet ADA standards. Most of these driveways will require reconstruction to meet these threshold ADA limits. Due to the volume of commercial driveways and existing Frontage Roads, the multi-use path was recommended to initiate at Bechtel Boulevard (Sta 129+00) and extend east (20,400 LF/3.9 miles in this Section).

Ocean Springs – Rural Section: Station 333+00 to 406+00 (7,300 LF/1.4 miles)

Retail/Commercial development along this eastern section of US Highway 90 within Ocean Springs is much more spread out, with approximately 7 businesses, 2 churches and a single family home in this area. Multiple lift stations exist within this 1.4 mile section of roadway. The lack of driveways and development make accommodating a multi-use path relatively easy in this section. The multi-use path is proposed to be constructed within the existing right-of-way on the north side of US Highway 90 in this section. A crossing of US Highway 90 can be accommodated at the existing traffic signal at the intersection of US Hwy 90/MS Hwy 57.

Gautier – Rural Section: Station 406+00 to 555+00 (14,900 LF/2.8 miles)

This west section of US Highway 90 in Gautier has two gas stations, the Jackson County Soccer Complex and the entrance for Shell Landing. Similar to the rural area of east Ocean Springs, the lack of development makes accommodating the path reasonably easy within the 220 ft of right-of-way. The multi-use path is proposed to be constructed within the existing right-of-way on the north side of US Highway 90 in this section.

Gautier – Urban Section: Station 555+00 to 581+00 (2,600 LF/0.5 miles)

The east end of the trail is proposed to connect to the existing multi-use path that currently terminates at City Hall, just east of Beasley Road, on the north side of US Highway 90. There are approximately 6 businesses east of Mallette Brothers Construction, a couple of vacant lots, and 13 driveways along the north side of the road. The right-of-way in front of Mallette Brothers has a portion of a frontage road that is shown to be removed as part of the roadway project, leaving two driveways connecting Mallette Brothers with US Highway 90 and no frontage road. The multi-use path can be accommodated reasonably easily within the existing right-of-way. The multi-use path is proposed to be constructed within the existing right-of-way on the north side of US Hwy 90 in this section and connect to the existing path in front of Gautier City Hall.

3.3 Preliminary Estimate of Cost

Cost estimates were developed for the proposed trail. The typical section is recommended to include a 6" base of crushed limestone with 4" of asphalt. Experience with trails with two inches of asphalt have developed significant cracking issues. Trails with 4" of asphalt have been much more reliable with less cracking and are more durable, as less maintenance has been required.

While the design plans that were provided for US Highway 90 work show many of the existing driveways in bold, indicating reconstruction, the planned level of reconstruction of these driveways is unknown. Trail crossings of these driveway connections is restricted to a maximum cross slope of 2% to meet ADA standards. For this reason, the cost estimate was prepared from a conservative standpoint, which would require that a 20 ft wide section of each driveway was sawcut out, concrete removed, and new driveway poured. The new driveway pour would include the 10 ft path with less than a 2% cross slope and the remaining 5 ft of width on each side of the path would make up the remaining grade difference.

The detail of the trail costs were summarized for each of the four geographic areas identified in **Table 1**. A more detailed summary of the costs are provided in the Appendix.

Table 1 – Preliminary Estimate of Project Costs

	Total Pro	ject Costs	Length of Trail
Section	w/ Driveway work	w/o Driveway Work	(Miles)
Ocean Springs - Urban	\$4,475,000	\$3,571,000	4.26
Ocean Springs - Rural	\$1,111,000	\$1,053,000	1.47
Gautier - Rural	\$2,166,000	\$2,121,000	2.55
Gautier - Urban	\$646,000	\$578,000	0.53
Total	\$8,398,000	\$7,323,000	8.81

Note: Cost does not include easements, lighting, landscaping or trail amenities.

Source: Neel-Schaffer, 2017.

3.4 Public Involvement

Public meetings were coordinated with Jackson County Board of Supervisors, City of Gautier and City of Ocean Springs. Presentations were made to the Jackson County Board of Supervisors at the board meeting on October 3, 2016, to the Mayor & City Council at Gautier City Hall on October 4, 2016, and to the Mayor & Board of Aldermen at Ocean Springs on October 18, 2016. Following these meetings, public meetings were advertised to be held in Gautier and Ocean Springs for citizens to attend and provide comments about the proposed trail and to view the conceptual trail plans.

The first public meeting was held from 5:00-7:00 PM on November 2, 2016, at the Gautier Community Center. The second public meeting was held from 5:00-7:00 PM on November 3, 2016, at the Ocean Springs Civic Center. All of the people that attended the meetings and completed comment cards supported the construction of the multi-use path. The comment cards, sign-in sheets and summary of comments are provided in the Appendix.

4.0 Recommendations and Conclusions

Nationwide, people are recognizing the convenience, energy efficiency, cost effectiveness, health benefits, economic development, and environmental advantages of bicycling (AASHTO Guide for the Development of Bicycle Facilities). The US Highway 90 corridor is not currently a safe place for pedestrians or bicyclists to travel due to the high speeds and high traffic volumes and lack of dedicated space for bicyclists and pedestrians. With the proposed widening of US Highway 90 from four to six lanes, the construction of a multi-use path is recommended to accommodate bicyclists and pedestrians to allow recreational and commuting opportunities for the communities bisected by this principal arterial roadway. Conceptual design plans for the proposed alignment of the trail have been developed, shown to the public at two public meetings in Jackson County and are provided as part of the Appendix of this report.

APPENDIX

Table A1-Preliminary Estimate of Cost Jackson County Multi-Use Path US Highway 90 Corridor

	iway 90 C	Jonnadi													20 ft						
					Crossed	Average			Path	10 ft Path Area	2.5 in 19 mm	1.5 in 9.5 mm	6 in Crushed	Concrete	8 in Concrete	New	1 ft Excess	2 ft Borrow	24" RCP	Frontage	Cross Rd
Sheet	Begin (Sta)	End (Sta)	Distance	Side of 90			Crosswalks	Bridge (ft)	Length (Ft)	(SY)		Asphalt (tons)	Limestone (CY)	Sawcut	Removal (SY)	DW (SY)	Excavation		Class III (LF)	Rd Length	
1	130	154	2,400	N	3	40	005	50	2,230	2,478	341	205	413	240	267	267	826	1,652	150	0	0
1	130	154	2,400	S	24	40	225	0	1,410	1,567	216	130	262	1,920	2,133	2,133	523	1,045	150	0	30
2	154	182.5	2,850	N	17	35	465	50	2,115	2,350	324	194	392	1,190	1,322	294	784	1,567	150	0	90
2	154	182.5	2,850	S	0			50	120	134	19	12	23	0	0	0	45	90	50	2,680	0
3	182.5	210.5	2,800	N	11	35	270	0	2,285	2,539	350	210	424	770	856	190	847	1,693	150		130
3	182.5	210.5	2,800	S	2	35	80	0	850	945	130	78	158	140	156	35	315	630	50	1,800	80
4	040.5	000.5	0.000	NI	0	0	040	0	220	007	F.4	24	60	0	0	0	400	0.45	50	0.400	70
4	210.5 210.5	238.5 238.5	2,800 2,800	N S	0 13	0 35	210 40	0 0	330 2,315	367 2,573	51 354	31 213	62 429	0 910	0 1,011	0 225	123 858	245 1,716	50 150	2,400	70 30
•								_	·												
5	238.5	266.5	2,800	N	6	30	90	0	2,305	2,562	353	212	427	360	400	89	854	1,708	125	230	85
5	238.5	266.5	2,880	S	14	40	0	0	2,320	2,578	355	213	430	1,120	1,244	276	860	1,719	150	0	0
6	266.5	294.5	2,800	N	11	40	320	90	2,175	2,417	333	200	403	880	978	217	806	1,612	150	0	95
6	266.5	294.5	2,800	S	5	30	100	0	1,550	1,723	237	143	288	300	333	74	575	1,149	150	1,000	100
7	294.5	322.5	2,800	N	3	30	170	40	2,500	2,778	382	230	463	180	200	44	926	1,852	200	0	170
8	322.5	350.5	2,800	N	8	30	65	0	2,495	2,773	382	229	463	480	533	118	925	1,849	150	0	65
9	350.5	378.5	2,800	N	2	30	0	35	2,705	3,006	414	248	501	120	133	30	1,002	2,004	150	0	0
10	378.5	406.5	2,800	N	3	35	130	0	2,565	2,850	392	236	475	210	233	52	950	1,900	200	0	130
11	406.5	434.5	2,800	N	3	45	160	0	2,645	2,939	405	243	490	270	300	67	980	1,960	200	0	20
12	434.5	462.5	2,800	N	1	30	0	45	2,725	3,028	417	250	505	60	67	15	1,010	2,019	150	0	0
13	462.5	490.5	2,800	N	1	30	25	0	2,745	3,050	420	252	509	60	67	15	1,017	2,034	250	0	25
14	490.5	518.5	2,800	N	3	30	0	50	2,660	2,956	407	244	493	180	200	44	986	1,971	200	0	0
15	518.5	546.5	2,800	N	1	30	0	60	2,710	3,012	415	249	502	60	67	15	1,004	2,008	200	0	0
16	546.5	574.5	2,800	N	11	35	0	60	2,355	2,617	360	216	437	770	856	190	873	1,745	200	0	0
17	574.5	580.5	600	N	2	45	45	35	425	473	66	40	79	180	200	44	158	316	100	0	50
Outstate!			04.500		4.4.4			505	40 505	F4 74F	7.400	4.070	0.000	40.400	44.550	4 40 4	47.047	24.404	0.475	0.440	4.470
Subtotal	eel-Schaffer.		61,580		144			565	46,535 8.8 miles	51,715	7,123	4,278	8,628	10,400	11,556	4,434	17,247	34,484	3,475	8,110	1,170

Source: Neel-Schaffer, 2017. 8.8 miles

Table A2-Preliminary Estimate of Cost Jackson County Multi-Use Path US Highway 90 Corridor

					per SF	per LF	Ton	Ton	CY	LF	SY	SY	LF	CY	CY		
					\$7	\$1,250	\$120	\$105	\$85	\$5	\$10	\$100	\$100	\$15	\$20		
01 1	D . (0)		D: .	0:1 (00	Thermo	6	19 mm	9.5 mm	Crushed	Conc	Conc	Conc	24" RCP	Excess	Borrow	0.14.4.1	Subtotal
Sheet	Begin (Sta)		Distance	Side of 90	(SF)	Bridge \$62,500	Asphalt \$40,920	Asphalt \$21,525	Limestone \$35,105	\$1,200	Removal \$2,670	Driveway \$26,700	Class III \$15,000	Excavation \$12,390	Excavation \$33,040	Subtotal \$251,050	w/o Concrete \$220,480
1	130 130	154 154	2,400 2,400	N S	\$0 \$7,875	\$62,500 \$0		\$21,525 \$13,650		\$1,200 \$9,600	\$2,670 \$21,330		\$15,000 \$15,000			\$251,050 \$357,690	
ı	130	154	2,400	3	015,14	φО	\$25,920	\$13,030	\$22,270	φ9,600	\$21,330	φ213,300	\$15,000	\$7,045	\$20,900	\$357,09U	\$113,460
2	154	182.5	2,850	N	\$16,275	\$62,500	\$38,880	\$20,370	\$33,320	\$5,950	\$13,220	\$29.400	\$15,000	\$11,760	\$31,340	\$278,015	\$229,445
2	154	182.5	2,850	S	\$10,273	\$62,500		\$1,260		ψ5,930 \$0	\$13,220	\$0	\$5,000	\$675		\$75,470	
	104	102.0	2,000	J	ΨΟ	ψ02,000	Ψ2,200	Ψ1,200	ψ1,555	ΨΟ	ΨΟ	ΨΟ	ψ0,000	ΨΟΙΟ	Ψ1,000	Ψ10,410	Ψίσ, τίσ
3	182.5	210.5	2,800	N	\$9,450	\$0	\$42,000	\$22,050	\$36,040	\$3,850	\$8,560	\$19,000	\$15,000	\$12,705	\$33,860	\$202,515	\$171,105
3	182.5	210.5	2,800	S	\$2,800	\$0		\$8,190		\$700	\$1,560	\$3,500	\$5,000	\$4,725		\$68,105	
			•		. ,	,	, ,	, ,	. ,							, ,	, ,
4	210.5	238.5	2,800	N	\$7,350	\$0	\$6,120	\$3,255	\$5,270	\$0	\$0	\$0	\$5,000	\$1,845	\$4,900	\$33,740	\$33,740
4	210.5	238.5	2,800	S	\$1,400	\$0	\$42,480	\$22,365	\$36,465	\$4,550	\$10,110	\$22,500	\$15,000	\$12,870	\$34,320	\$202,060	\$164,900
5	238.5	266.5	2,800	N	\$3,150	\$0	\$42,360	\$22,260	\$36,295	\$1,800	\$4,000	\$8,900	\$12,500	\$12,810		\$178,235	\$163,535
5	238.5	266.5	2,880	S	\$0	\$0	\$42,600	\$22,365	\$36,550	\$5,600	\$12,440	\$27,600	\$15,000	\$12,900	\$34,380	\$209,435	\$163,795
					* 44.000	* =			0010==	.		^	A		400010	***	40-001-
6	266.5	294.5	2,800	N		. ,	\$39,960	\$21,000	\$34,255	\$4,400	\$9,780	\$21,700	\$15,000	\$12,090	\$32,240	\$314,125	\$278,245
6	266.5	294.5	2,800	S	\$3,500	\$0	\$28,440	\$15,015	\$24,480	\$1,500	\$3,330	\$7,400	\$15,000	\$8,625	\$22,980	\$130,270	\$118,040
7	204 F	222 F	2 000	NI	ΦE 050	¢ E0 000	Φ4F 040	CO4 4EO	¢20.255	# 000	ФО 000	¢4 400	¢20,000	¢42.000	¢27.040	0040 F0 F	# 226 225
7	294.5	322.5	2,800	N	\$5,950	\$50,000	\$45,840	\$24,150	\$39,355	\$900	\$2,000	\$4,400	\$20,000	\$13,890	\$37,040	\$243,525	\$236,225
8	322.5	350.5	2,800	N	\$2,275	\$0	\$45,840	\$24,045	\$39,355	\$2,400	\$5,330	\$11,800	\$15,000	\$13,875	\$36,980	\$196,900	\$177,370
O	322.3	330.3	2,000	IN	ΨΖ,ΖΙ Ο	φυ	ψ43,040	Ψ24,043	ψυθ,υυυ	Ψ2,400	ψυ,υυ	φ11,000	φ13,000	\$13,673	\$30,900	\$190,900	ψ177,370
9	350.5	378.5	2,800	N	\$0	\$43,750	\$49,680	\$26,040	\$42,585	\$600	\$1,330	\$3,000	\$15,000	\$15,030	\$40,080	\$237,095	\$232,165
J	000.0	070.0	2,000		ΨΟ	ψ10,700	Ψ10,000	Ψ20,010	Ψ12,000	φοσο	Ψ1,000	φο,σσσ	ψ10,000	ψ10,000	Ψ10,000	Ψ201,000	Ψ202,100
10	378.5	406.5	2,800	N	\$4,550	\$0	\$47,040	\$24,780	\$40,375	\$1,050	\$2,330	\$5,200	\$20,000	\$14,250	\$38,000	\$197,575	\$188,995
			_,		V 1,000	**	* ,	4 = 1,1 00	V 10,010	4 1,000	4=,000	4 0,_00	4=0,000	.,	,	* ***********************************	*******
11	406.5	434.5	2,800	N	\$5,600	\$0	\$48,600	\$25,515	\$41,650	\$1,350	\$3,000	\$6,700	\$20,000	\$14,700	\$39,200	\$206,315	\$195,265
12	434.5	462.5	2,800	N	\$0	\$56,250	\$50,040	\$26,250	\$42,925	\$300	\$670	\$1,500	\$15,000	\$15,150	\$40,380	\$248,465	\$245,995
13	462.5	490.5	2,800	N	\$875	\$0	\$50,400	\$26,460	\$43,265	\$300	\$670	\$1,500	\$25,000	\$15,255	\$81,360	\$245,085	\$242,615
14	490.5	518.5	2,800	N	\$0	\$62,500	\$48,840	\$25,620	\$41,905	\$900	\$2,000	\$4,400	\$20,000	\$14,790	\$39,420	\$260,375	\$253,075
								*								.	
15	518.5	546.5	2,800	N	\$0	\$75,000	\$49,800	\$26,145	\$42,670	\$300	\$670	\$1,500	\$20,000	\$15,060	\$40,160	\$271,305	\$268,835
40	E 40 E	5745	0.000		Φ0	Φ 7 Ε 000	# 40.000	#00.000	007.445	#0.050	Φο 500	#40.000	#00.000	#40.00 5	#04.000	#077 400	#0.40.000
16	546.5	574.5	2,800	N	\$0	\$75,000	\$43,200	\$22,680	\$37,145	\$3,850	\$8,560	\$19,000	\$20,000	\$13,095	\$34,900	\$277,430	\$246,020
17	574.5	580.5	600	N	\$1,575	\$43,750	\$7,920	\$4,200	\$6,715	\$900	\$2,000	\$4,400	\$10,000	\$2,370	\$6,320	\$90,150	\$82,850
17	574.5	0.00	000	IN	φ1,5/5	φ 4 3,750	φ1,920	⊅4,∠00	φο,/15	\$900	φ∠,000	φ4,400	φ10,000	φ∠,3/0	φ0,32U	φ90,150	φδ∠,δ50
Subtotal			61,580		\$83,825	\$706.250	\$854,760	\$449,190	\$733,380	\$52,000	\$115,560	\$443,400	\$347,500	\$258,705	\$730,360	\$4,774,930	\$4,163,970
	leel-Schaffer,	2017.	01,000		ψ00,020	ψ1 00, 2 00	φοσ-r,1 ου	ψ-1-10, 100		Concrete	\$610,960	ψ-1-0,+00	ψυ-17,000	Ψ200,100	ψ1 00,000	Ψ-1,11-1,000	ψ-1, 100,070
	,	,									+ 5,550						

*Opinion of probable Construction Cost does not include,

easements, lighting, landscaping or other trail amenities.

Engineer's opinions of probable Construction Cost provided for herein are to be made on the basis of experience and qualifications and represent Engineer's best judgment as an experienced and qualified professional generally familiar with the construction industry. Since Engineer has no control over the cost of labor, materials, equipment, services furnished by others, Contractor's methods of determining prices, competitive bidding or market conditions, the Engineer cannot and does not guarantee that proposals, bids or actual Construction Cost will not vary from this opinions of probable cost.

Clearing & Grubbing Mobilization Maintenance of Traffic Contingencies Erosion Control	5%	\$239,000	\$208,000
	10%	\$477,000	\$416,000
	5%	\$239,000	\$208,000
	20%	\$955,000	\$833,000
	3%	\$143,000	\$125,000
Total Construction	on Cost	\$6,827,930	\$5,953,970
Design/Survey	12%	\$819,000	\$714,000
CEI	11%	\$751,000	\$655,000

Total Project Cost \$8,397,930 \$7,322,970

Public Meeting Comment Summary Gautier, MS

			Do you support multi-use pathway construction on	Would you use a multi-use path on	Would you use multi-use path for Recreation,	
Comment First	First	Last	Hwy 90?	Hwy 90?	Commuting or both?	General Comments
1	Erin	Parker	Yes	Yes	Recreation	Trail isn't long enough, wants it constructed sooner.
2	Freda	Tolar	Yes	Yes	Both	Wants trail completed sooner.
3	Tommy	Fairfield	Yes			Wants relocation of utilities.
4	Pat	Nelson	Yes	Yes	Recreation	Safety
2	Peter	Blank	Yes	Yes	Recreation	Wants trail to connect Pascagoula with Ocean Springs
9	Mike	Barton	Yes	Yes	Recreation	Wants trail completed sooner.
7	Kristi	Ducote	Yes	Yes	Both	Wants trail to connect State line to State line.
∞	Susan	Richards	Yes	Yes	Recreation	Hopes trail gets built.
6	Gregg	Lyle	Yes	Yes	Both	Wants trail completed sooner and to connect to Pascagoula.
10	Paula	Lyle	Yes	Yes	Recreation	Concerned project won't be built.

Summary of comment cards:

100% (10 out of 10) Support multi-use pathway construction on Highway 90

90% (9 out of 10) Would use multi-use pathway

People that responded that they would use the path:

67% (6 out of 9) Would use multi-use pathway for Recreation only 33% (3 out of 9) Would use the path for both recreation and commuting

Source: Public comment cards from meeting at Gautier Community Center on 11/2/16 from 5:00-7:00 PM.

Neel-Schaffer, 2016.

Sign-In Sheet

Project: US Highway 90 - Multi-use Path

Date: Wednesday, November 02, 2016

Time: 5:00-7:00 PM

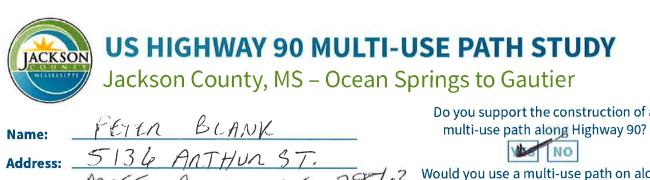
Location: Gautier Community Center

Email Address	movey be Egnail, can	Paula Lyle@Yahoo.com	brian - fulton @ co. j'adegon. ins, ic	Sirichords @ lancisti, com	Elar Sted Back, com	Khucote & Hoterscon & Con	forte Wwo Kin	CSpeziale @ wlox. com	Soursandot Ms. 90 W	0		TRY WALKE O LABLE ONE. NET	MEDER OCABLEONE	erinsporter @ grant. our	6/ankpighnalitan	Chuck out 1 @ cabk one . m.t	traffic e neal-schaffer com			
Phone En	movey be	Paulalyle	brian-full	Sirichord	tolarsh	Khucotego	forke	Cspeziale	Solveran			TAY LORKICE (MEDEB	Pryspork	6/ank	Chuck oat	traffice			
Agency/Representing			TACKSON CO			Jeckson Co.	MOX	NLOX	MOOT	A STATE OF THE PARTY OF THE PAR	MAYOR GANTIGE	SURY JAX CO		+			Neel- Feratter			
Address	7630 Tapp Rd.,05, MS	5601 Gantier Van cleave Rd.	24 SWEYGRASS [N, OS, MS	4310 Walnut St, Bosc., in S	2201 Traderinds harron	13900 Big Bend Rd.	otal Washington Ave	2110 Papes Ferry Rd Bilowi, MS	MDOT Jakson	17050 JUNISMITH Ry NANCLANG		-	3508 SANTA AARIA	5136 Avanuest mossbut		3701 Soursens 128	772 Haward Are			
# Name	1 BRIAN MCVey	2 Gregg flaula Lyle	3 BRIAN FULTON	4 Susan hichards		ر ،	7 Jane i Polite	8 Chris Speziale	U		t s	12 KEN TAYION	NO	14 Enn Parker	15 PETER BLANK	16 Pat Muson	17 Jourthan Kista	18	19	



Jackson County, MS – Ocean Springs to Gautier

Name: Tommy Knikbike & Ja	
	multi-use path along Highway 90?
Address:	Would you use a multi-use path on along
	US Highway 90 to bike or walk in this area?
Phone: 228 762 0114	YES NO
	If you would use the trail, would it be for
Email: Laictielda jun - ms. US	recreation, commuting or both (circle one)?
	Recreation Commuting Both
What is your biggest concern about the multi-use path proje	ect? ANY REQUIDED RELOCATION
_ OF UTILITIES RE CONSIDERED AN	
Other Comments:	
	7 (42)
WILLIAM OS HIGHWAY SU MULLI	-USE PAIR STUDY
Jackson County, MS – Ocean	Do you support the construction of a
Jackson County, MS – Ocean Name: Pat Nelson	Springs to Gautier Do you support the construction of a multi-use path along Highway 90?
Jackson County, MS – Ocean Name: Pat Nelson	Springs to Gautier Do you support the construction of a multi-use path along Highway 90? NO
Jackson County, MS - Ocean Name: Pat Melson Address: 3761 Townsend R4	Do you support the construction of a multi-use path along Highway 90? Would you use a multi-use path on along
Jackson County, MS - Ocean Name: Pat Melson Address: 3781 Townsend Rd Gautier, Ms	Do you support the construction of a multi-use path along Highway 90? Would you use a multi-use path on along US Highway 90 to bike or walk in this area?
Jackson County, MS - Ocean Name: Pat Melson Address: 3761 Townsend R4 Gautier, Ms	Do you support the construction of a multi-use path along Highway 90? Would you use a multi-use path on along US Highway 90 to bike or walk in this area?
Jackson County, MS - Ocean Name: Pat Melson Address: 3761 Townsend R4 Gautier, Ms	Do you support the construction of a multi-use path along Highway 90? Would you use a multi-use path on along US Highway 90 to bike or walk in this area? If you would use the trail, would it be for
Jackson County, MS - Ocean Name: Pat Melson Address: 3761 Townsend R4 Gautier, Ms Phone: 528 217 - 4948	Do you support the construction of a multi-use path along Highway 90? Would you use a multi-use path on along US Highway 90 to bike or walk in this area?
Jackson County, MS - Ocean Name: Pat Melson Address: 3761 Townsend Rd Gautier, Ms Phone: (328) 217 - 4948 Email: Chuckpat 1 e coble one. Net	Do you support the construction of a multi-use path along Highway 90? Would you use a multi-use path on along US Highway 90 to bike or walk in this area? If you would use the trail, would it be for recreation, commuting or both (circle one)? Recreation Commuting Both
Jackson County, MS - Ocean Name: Pat Melson Address: 3701 Townsend R4 Gautier, Ms	Do you support the construction of a multi-use path along Highway 90? Would you use a multi-use path on along US Highway 90 to bike or walk in this area? If you would use the trail, would it be for recreation, commuting or both (circle one)? Recreation Commuting Both
Jackson County, MS - Ocean Name: Pat Melson Address: 3761 Townsend Rd Gautier, Ms Phone: (328) 217-4948 Email: Chuckpat 1 e coble one. Net	Do you support the construction of a multi-use path along Highway 90? Would you use a multi-use path on along US Highway 90 to bike or walk in this area? If you would use the trail, would it be for recreation, commuting or both (circle one)? Recreation Commuting Both
Jackson County, MS - Ocean Name: Pat Melson Address: 3701 Townsend Rd Gautier, Ms Phone: (228) 217-4948 Email: Chuckpat 1 e cable one. Net	Do you support the construction of a multi-use path along Highway 90? Would you use a multi-use path on along US Highway 90 to bike or walk in this area? If you would use the trail, would it be for recreation, commuting or both (circle one)? Recreation Commuting Both
Name: Pat Melson Address: 3761 Townsend Rd Gautier, Ms Phone: (228) 217-4948 Email: Chuckpat 1 & Cable one. 7est What is your biggest concern about the multi-use path projections.	Do you support the construction of a multi-use path along Highway 90? Would you use a multi-use path on along US Highway 90 to bike or walk in this area? If you would use the trail, would it be for recreation, commuting or both (circle one)? Recreation Commuting Both
Jackson County, MS - Ocean Name: Pat Melson Address: 3701 Townsend Rd Gautier, Ms Phone: (228) 217-4948 Email: Chuckpat 1 e cable one. Net	Do you support the construction of a multi-use path along Highway 90? Would you use a multi-use path on along US Highway 90 to bike or walk in this area? If you would use the trail, would it be for recreation, commuting or both (circle one)? Recreation Commuting Both
Name: Pat Melson Address: 3781 Townsend Rd Gautier, Ms Phone: 228) 217 - 4948 Email: Chuckpat 1 & Cable one. 7el What is your biggest concern about the multi-use path projection.	Do you support the construction of a multi-use path along Highway 90? Would you use a multi-use path on along US Highway 90 to bike or walk in this area? If you would use the trail, would it be for recreation, commuting or both (circle one)? Recreation Commuting Both
Jackson County, MS - Ocean Name: Pat Melson Address: 3761 Townsend R4 Gautier, Ms Phone: 228) 217-4948 Email: Chuckpat 1 e cable one. 7est What is your biggest concern about the multi-use path projection.	Do you support the construction of a multi-use path along Highway 90? Would you use a multi-use path on along US Highway 90 to bike or walk in this area? If you would use the trail, would it be for recreation, commuting or both (circle one)? Recreation Commuting Both



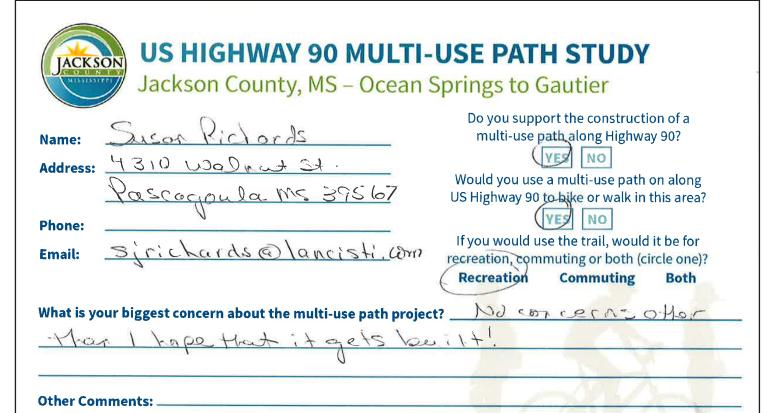
Do you support the construction of a

Jackson County, MS - Ocean Springs to Gautier

Phone: Moss Point Ms 39563 Would you use a multi-use US Highway 90 to bike or was US Highway 90 to bike or was No	olk in this area? Would it be for woth (circle one)?
What is your biggest concern about the multi-use path project?	7 100 10:
The But I'm concerned it won	#
connect to Conscaroula to It, Il	Duld
La Aussant	Man
other comments.	1/600
Tout + Jascagoula Could in	de a
with part all the way to Ox	ean erry
γ	, ,
US HIGHWAY 90 MULTI-USE PATH STU Jackson County, MS – Ocean Springs to Gautier Do you support the const multi-use path slong Hi Address: 5136 arthur \$\frac{1}{2}\$ Moss point ms 39503 Phone: 608 217 0817 Email: Crins parker & gmail. com If you would use the trail, we recreation, commuting or both second commutations.	truction of a ghway 90? path on along alk in this area? vould it be for
Recreation Commuti	ng Both
What is your biggest concern about the multi-use path project?	
That it a) isn't long enough + b) won't be compo	lete earlier :
	W III
other Comments: I think this is a FANTASTIC of to add safe bike pedestrian trails to the connect to connect more communities. any increase in	pportunity is
will rippe it spurs further traits /connect	COVIS
To connect more communities. any increase in	painways is



Name: NIKE BARTON Address: 3508 SANTA MARIA CIR Phone: Email: MEDEB & CABCEONE, NET	Do you support the construction of a multi-use path along Highway 90? Would you use a multi-use path on along US Highway 90 to bike or walk in this area? If you would use the trail, would it be for recreation, commuting or both (circle one)? Recreation Commuting Both
What is your biggest concern about the multi-use path pro	
IT WON'T BE COMPLETED	UNTICL I'M DEAD
Other Comments:	100
US HIGHWAY 90 MUL' Jackson County, MS – Ocea	an Springs to Gautier Do you support the construction of a
Jackson County, MS – Ocea Name: Kristi Ducote	an Springs to Gautier
Name: Kristi Ducote Address: 13900 Big Bend Rd. Moss Point, Ms 39562	an Springs to Gautier Do you support the construction of a
Name: Kristi Ducote Address: B900 Big Bend Rd.	Do you support the construction of a multi-use path along Highway 90? Would you use a multi-use path on along
Name: Kristi Ducote Address: B900 Big Bend Rd. Moss Point, Ms 39562 Phone: (208) 219-1665	Do you support the construction of a multi-use path along Highway 90? Would you use a multi-use path on along US Highway 90 to bike or walk in this area? If you would use the trail, would it be for recreation, commuting or both (circle one)? Recreation Commuting Both





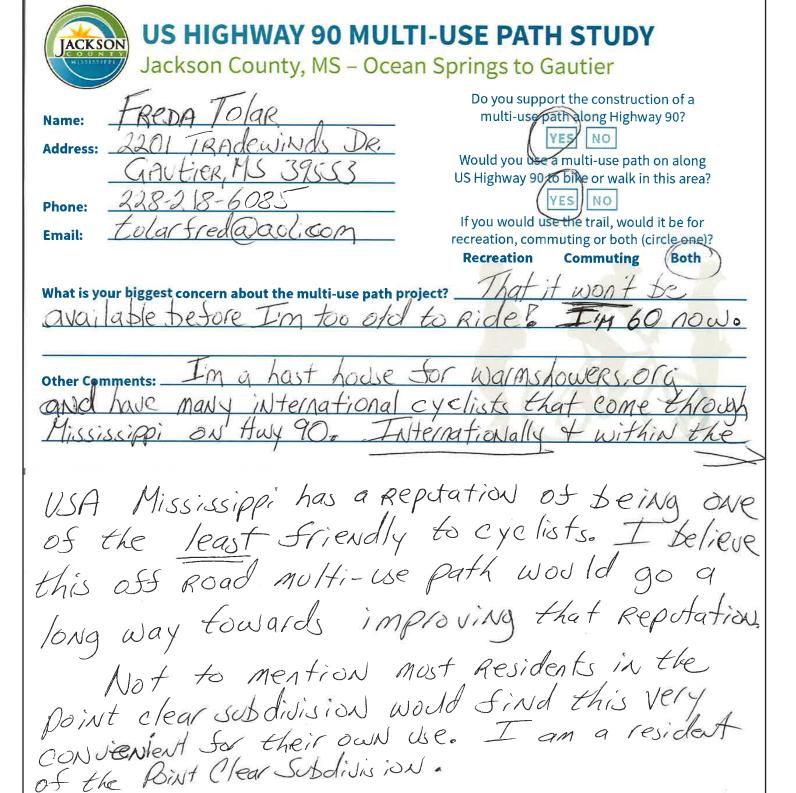
Jackson County, MS – Ocean Springs to Gautier

	duckson country, Ms occurs	pprings to Gautier
	Goregg Lyle	Do you support the construction of a multi-use path along Highway 90?
Address:	5601 Gautier Vancleave Rd.	NO
	Gautier, Ms 39553	Would you use a multi-use path on along
		US Highway 90 to bike or walk in this area?
Phone:	(228) 623-5707	NO
Email:	Paula Lyle Q Yahoo.com	If you would use the trail, would it be for recreation, commuting or both (circle one)?
		Recreation Commuting Both
What is yo	our biggest concern about the multi-use path project $\phi/e t e d$.	That it might not be
	nments: I think ; t's a great ;	
happ	en sooner. It would be	even better if it could
	e you all the over to the	



Jackson County, MS – Ocean Springs to Gautier

Name: Paula Lyle	Do you support the construction of a multi-use path along Highway 90?
	mater use path diong riighway so.
Address: 5601 Garter Vandeau Rd	NO
Galver ins 39353	Would you use a multi-use path on along
(FIL. N. 111) 3 1733	US Highway 90 to bike or walk in this area?
Phone: (228) 623-570 le	NO
0. 1. 1. 10 0 wal so	If you would use the trail, would it be for
Email: Poula MR @ yahvo. com	recreation, commuting or both (circle one)?
	Recreation Commuting Both
What is your biggest concern about the multi-use path	project? That the project
What is your biggest concern about the multi-use path will be 30 rapped. Or wi	project? That the project
What is your biggest concern about the multi-use path will be 30 rapped. Or will show.	project? That the project
will be 3 crapped. Or wi,	project? That the project
will be 3 crapped. Or wi,	project? That the project
will be 3 crapped. Or wi	project? That the project Il not be completed as big step forward in the et to see more greas



Public Meeting Comment Summary Ocean Springs, MS

			Do you support multi-use pathway construction on	Would you use a multi-use path on	Would you use multi-use path for Recreation,	
Comment First	First	Last	Hwy 90?	Hwy 90?	Commuting or both?	General Comments
1	Dranne	del Cid	Yes	Yes	Recreation	Wants crosswalk at Vermont for access to downtown.
2	Spencer	Garrett	Yes	Yes	Both	Likes separating bike/ped traffic from automobile traffic.
3	Stephanie	Plancich	Yes	Yes	Recreation	Likes that the project will connect to existing facilities.
4	Chad	Wade	Yes	Yes	Recreation	He will support the project.
2	Lyle	Montgomery	Yes	Yes	Recreation	Worried that project will not be built.

Summary of comment cards:

100% (5 out of 5) Support multi-use pathway construction on Highway 90 100% (5 out of 5) Would use multi-use pathway

People that responded that they would use the path:
80% (4 out of 5) Would use multi-use pathway for Recreation only
20% (1 out of 5) Would use the path for both recreation and commuting

Source: Public comment cards from meeting at Ocean Springs Civic Center on 11/3/16 from 5:00-7:00 PM.

Neel-Schaffer, 2016.

Sign-In Sheet

Project: US Highway 90 - Multi-use Path

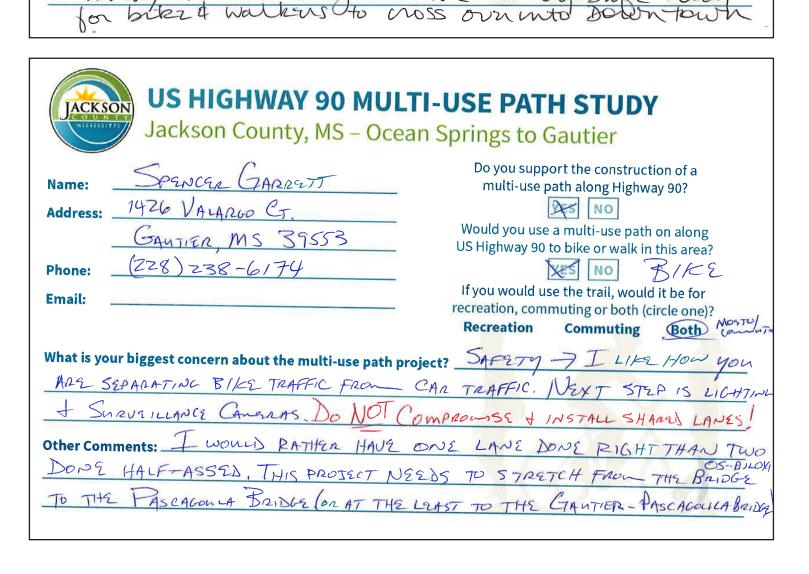
Date: Thursday, November 03, 2016

Time: 5:00-7:00 PM

Location: Ocean Springs Civic Center

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Phone	28-21-13%	235-2126	875-2112	361.0531	315-323 CR	228-864-116	224-769-3088	72B 872 445	7705-05	1727-812	1.4	23-238P	あれるとさる	1911-198						
Agency/Representing				City of Crans	DANTION WS	GRAC	Julkson Co.	H.H.FWRE ARCH	Alderman OS.	City of O.S. Alderan	,	Oschember	. Y/A	27,79	Neel retitor					
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US HIGHWAY 90 MULTI-USE PATH STUDY Jackson County, MS – Ocean Springs to Gautier								
Name: Do you support the construction of a multi-use path along Highway 90?								
Name: multi-use path along Highway 90?								
Address: 1238 dbriville or								
Would you use a multi-use path on along								
US Highway 90 to bike or walk in this area?								
Phone: YES NO								
1 4 0 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1								
Email: Dranne (a) att. het recreation, commuting or both (circle one)?								
Recreation Commuting Both								
00 0 15 11								
What is your biggest concern about the multi-use path project?								
Karping existing trass in madran (it Viable								
Other Comments: Could USZ a cross which with flashing								
lights to cross 90 at Vermont/martin Luther King								



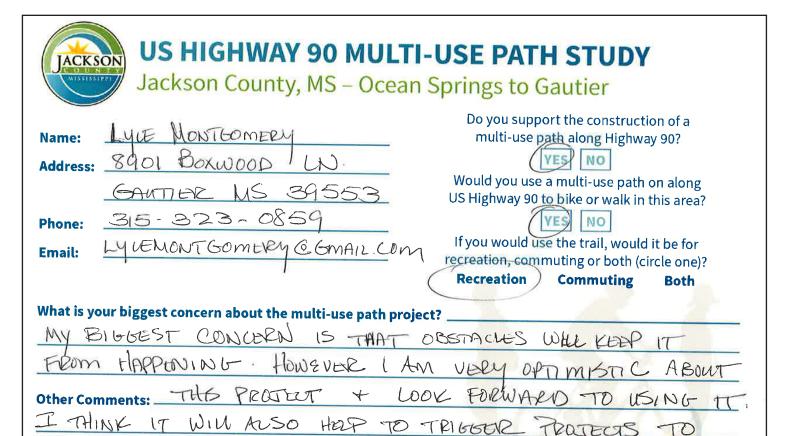


Do you support the construction of a multi-use path/along Highway 90?

Would you use a multi-use path on along US Highway 90 to bike or walk in this area?

Jackson County, MS – Ocean Springs to Gautier

Email: Splancich@grpc.com	If you would use the trail, would it be for recreation, commuting or both (circle one)? Recreation Commuting Both
What is your biggest concern about the multi-use path project	?
no concerns - glad this existing facilities, supp	project will connect ort local + Regional
Un provided mobility options	for Community Moniser.
Jackson County, MS – Ocean S	prings to Gautier Do you support the construction of a
Name: Chad Wade	multi-use path along Highway 90?
Address: 210 Canebreak Blud	(OS) NO
Phone: (228) 243-2388 Email: (Wade@ blossmangas.com	Would you use a multi-use path on along US Highway 90 to bike or walk in this area? NO If you would use the trail, would it be for recreation, commuting or both (circle one)? Recreation Commuting Both
What is your biggest concern about the multi-use path project	?
I will support the project	
Other Comments:	4 /24/A



CONNECT

WITH

PROJECT # STP-0030-00(036)LPA/107065-711000





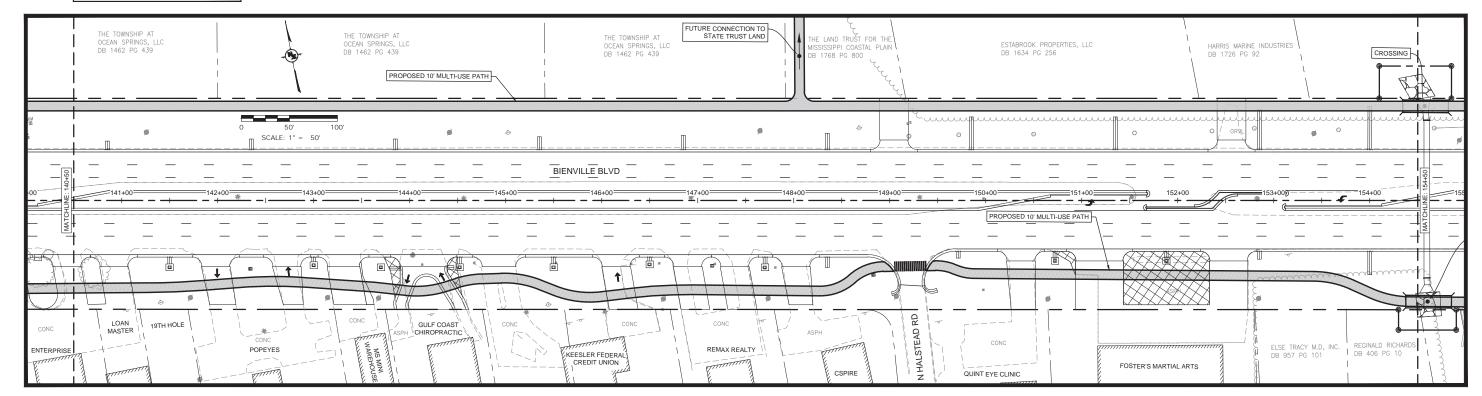


US90 MULTI-USE PATH STUDY

JACKSON COUNTY, MS



INDEX

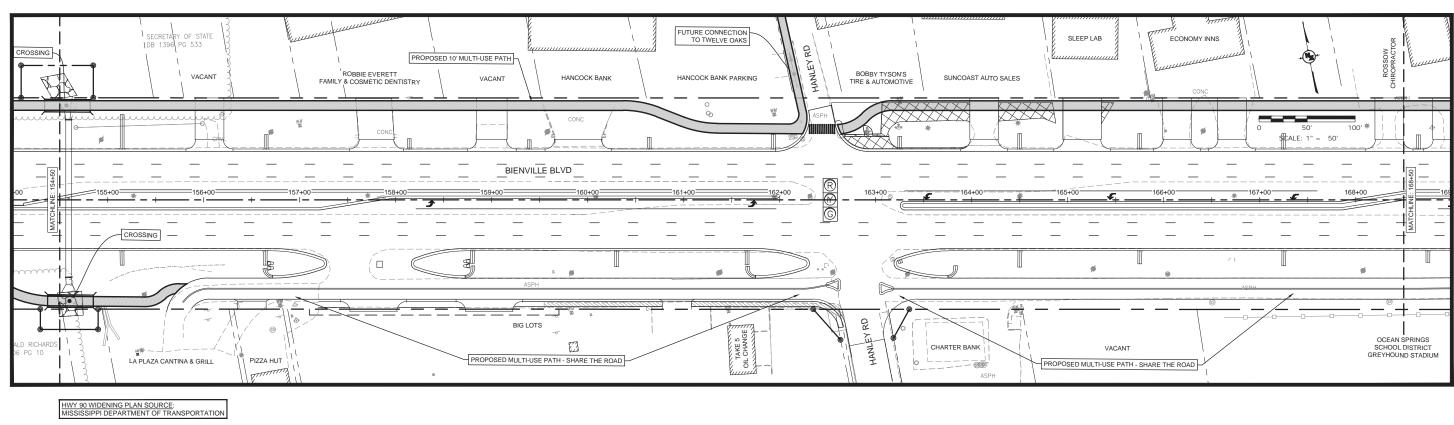


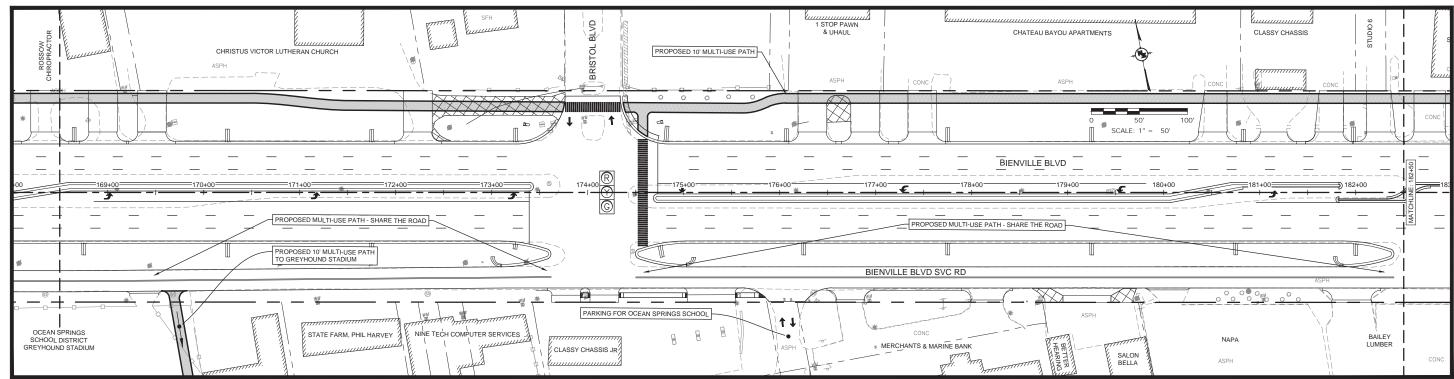


US90 MULTI-USE PATH STUDY

JACKSON COUNTY, MS





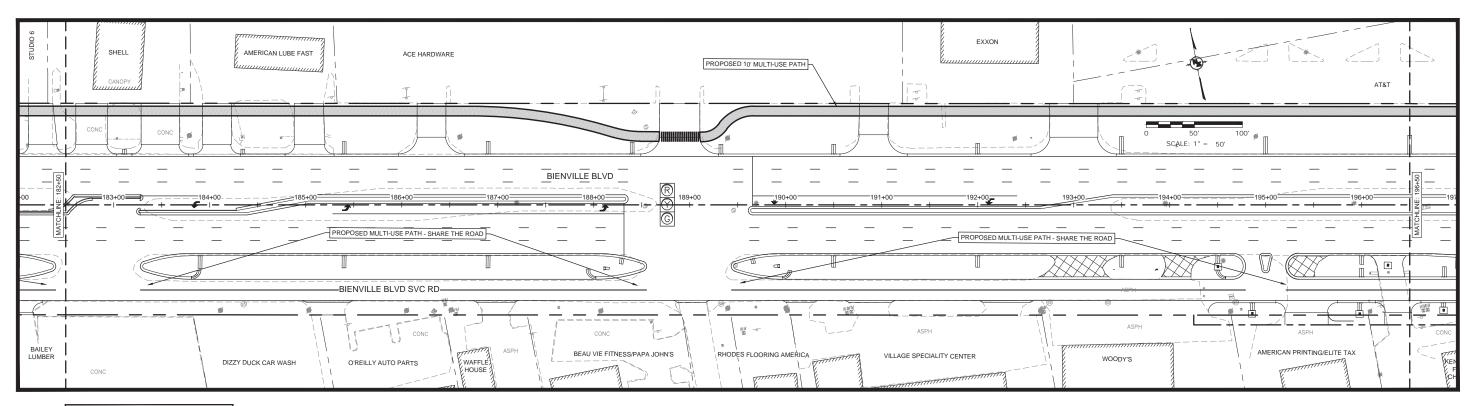


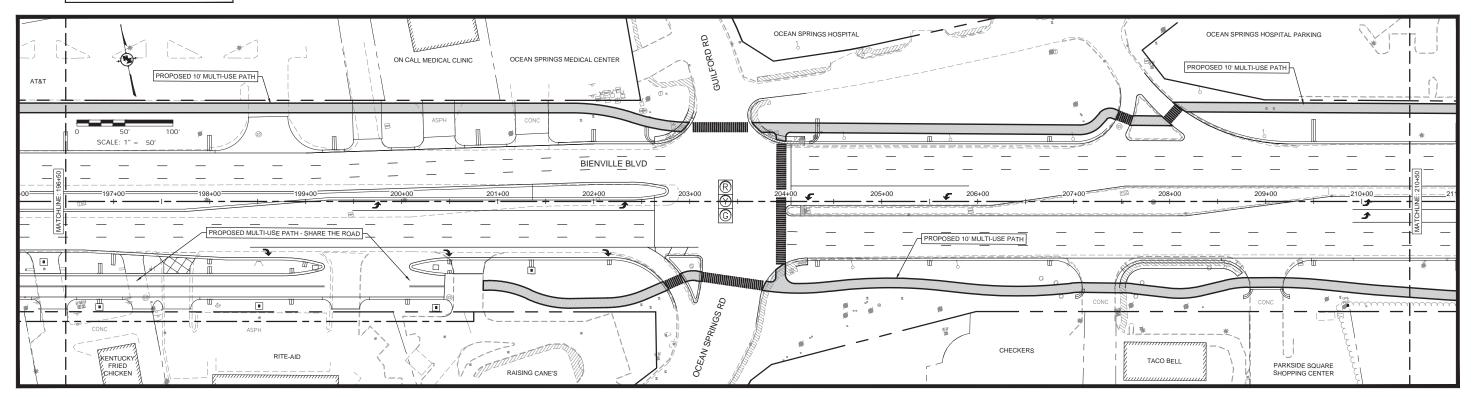


US90 MULTI-USE PATH STUDY

JACKSON COUNTY, MS





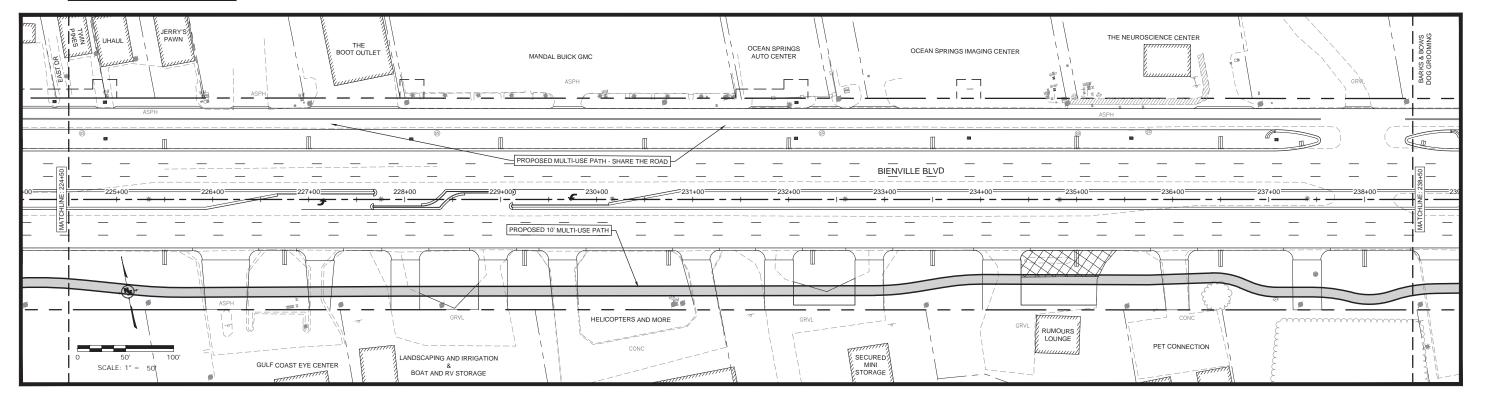




US90 MULTI-USE PATH STUDY

JACKSON COUNTY, MS

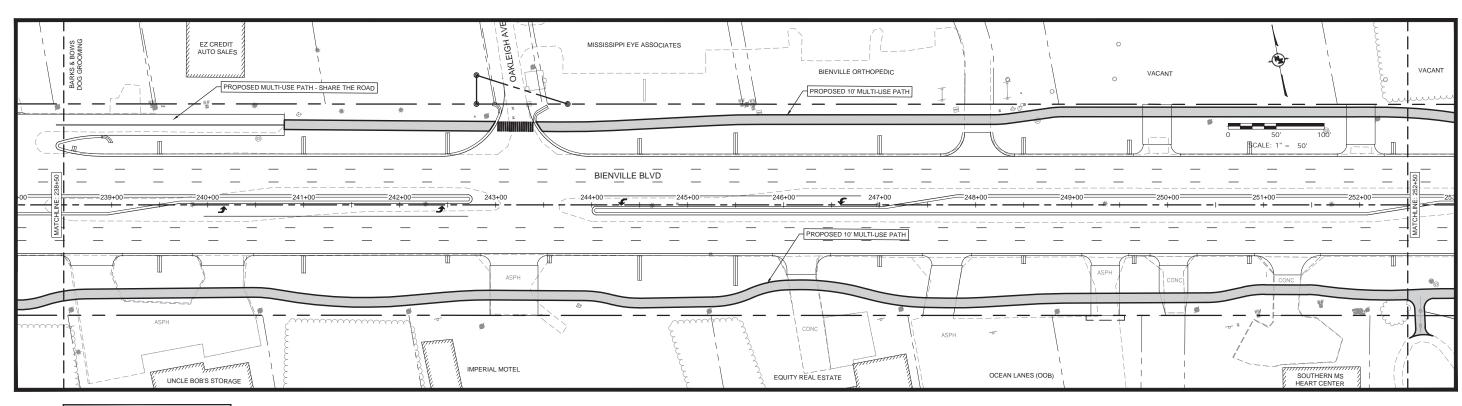


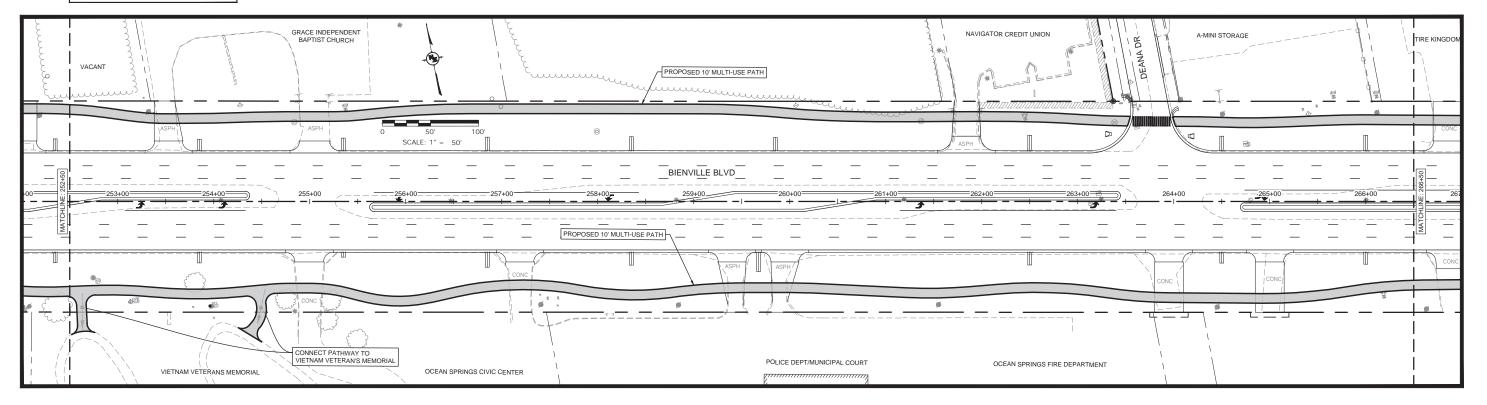




US90 MULTI-USE PATH STUDY





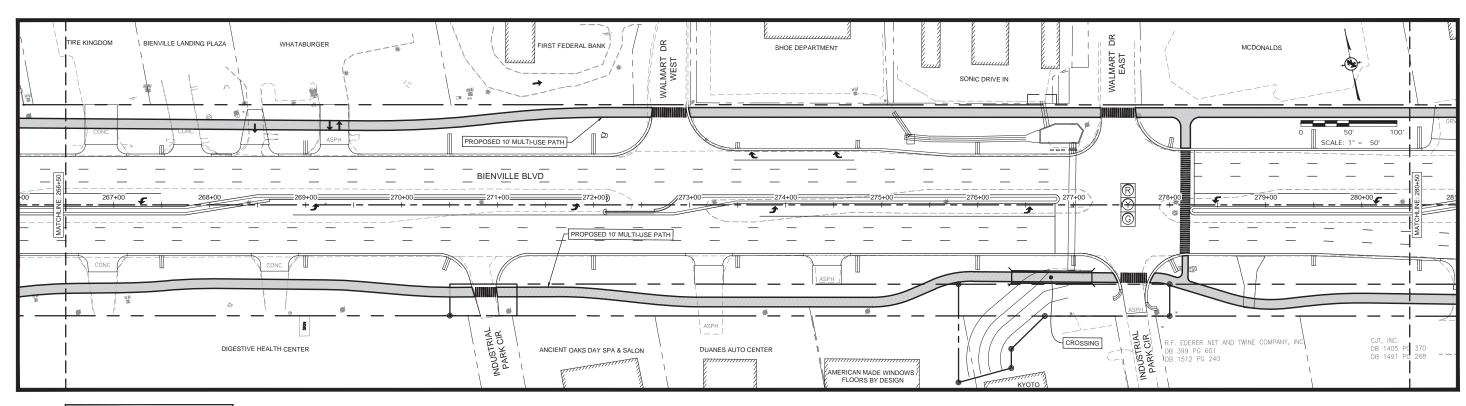


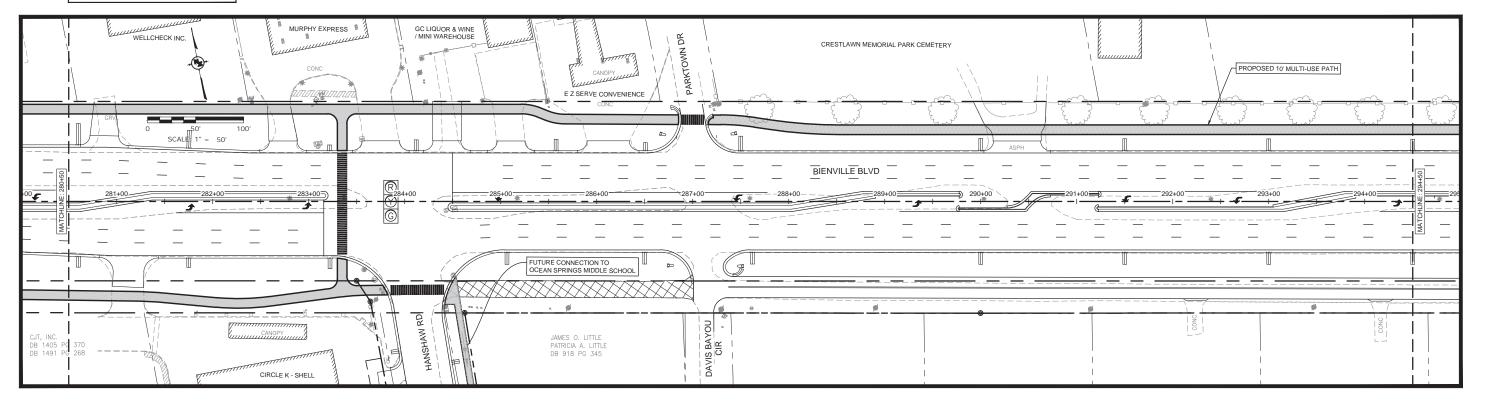


US90 MULTI-USE PATH STUDY

JACKSON COUNTY, MS





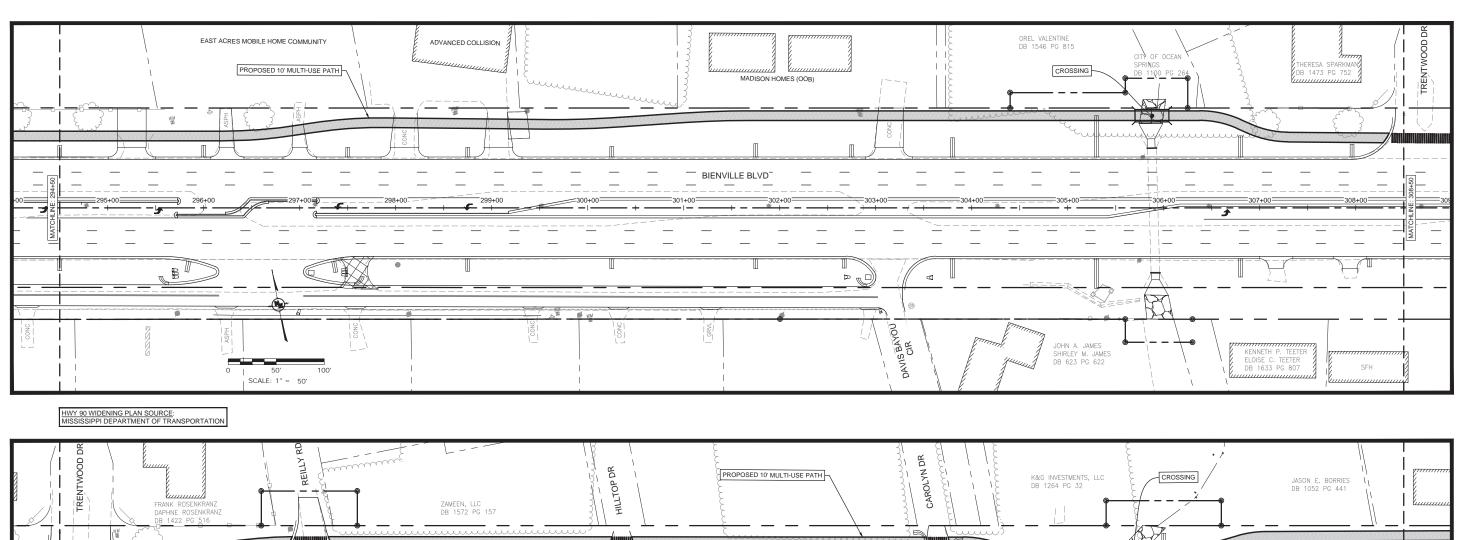


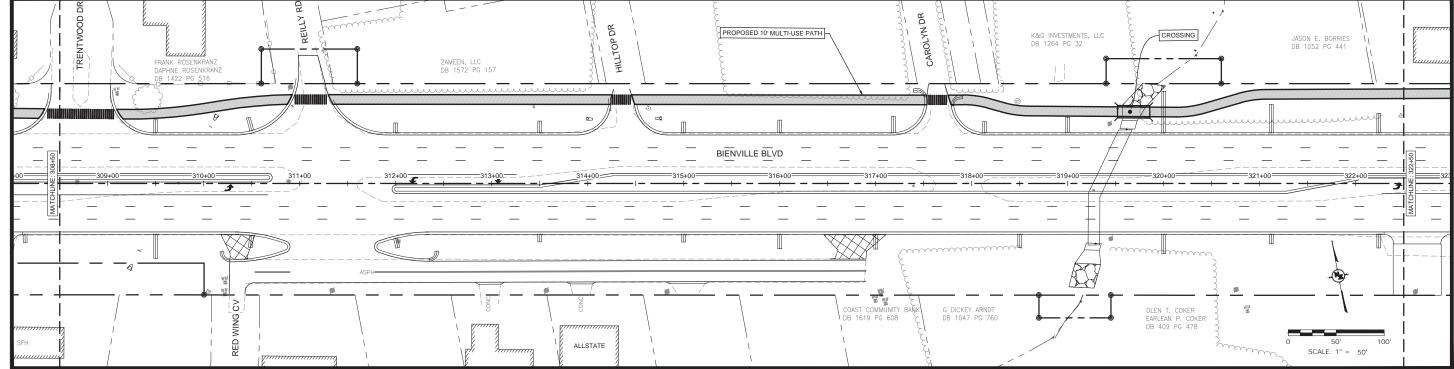


US90 MULTI-USE PATH STUDY

JACKSON COUNTY, MS





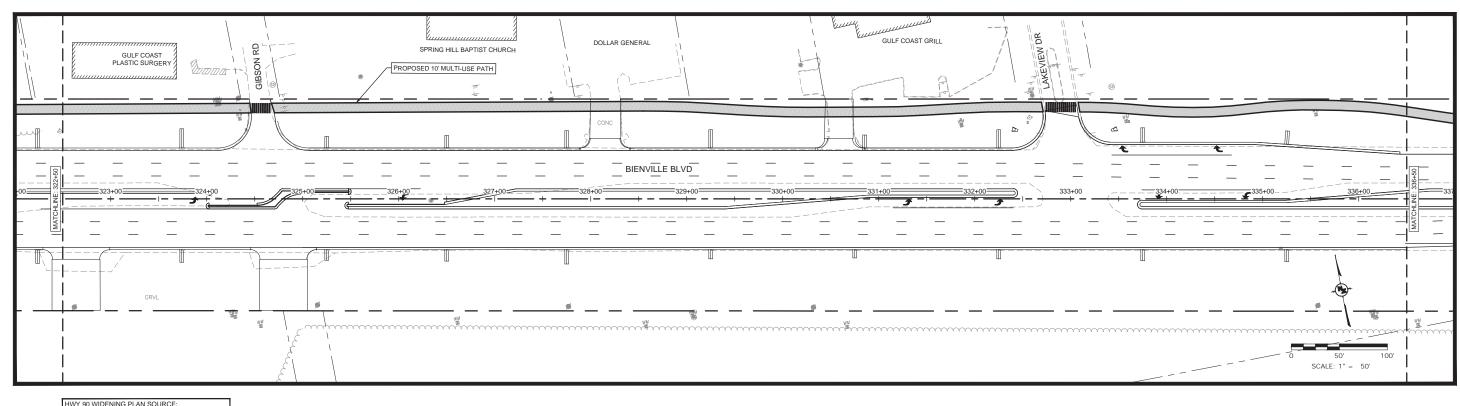


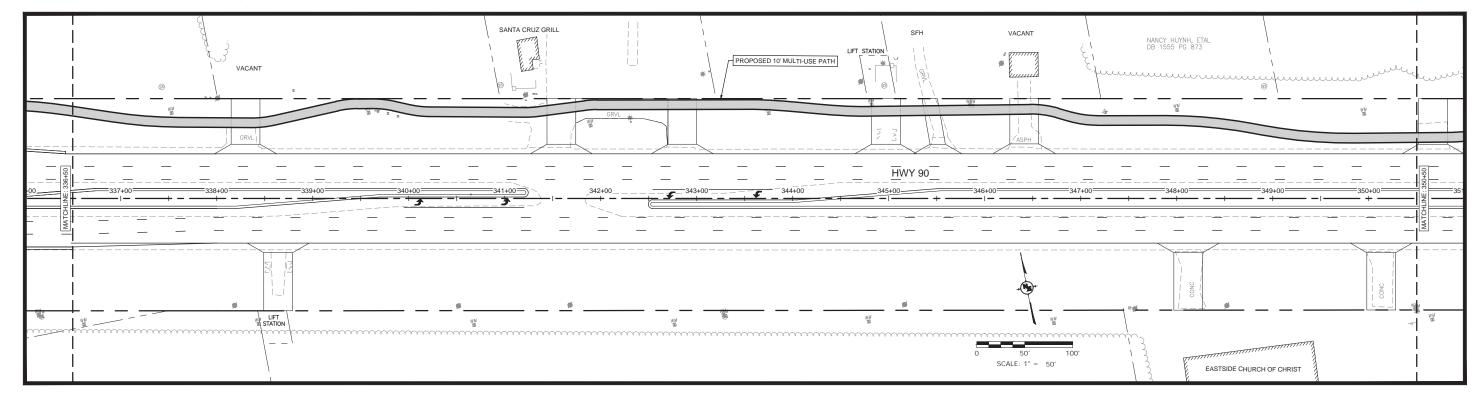


US90 MULTI-USE PATH STUDY

JACKSON COUNTY, MS





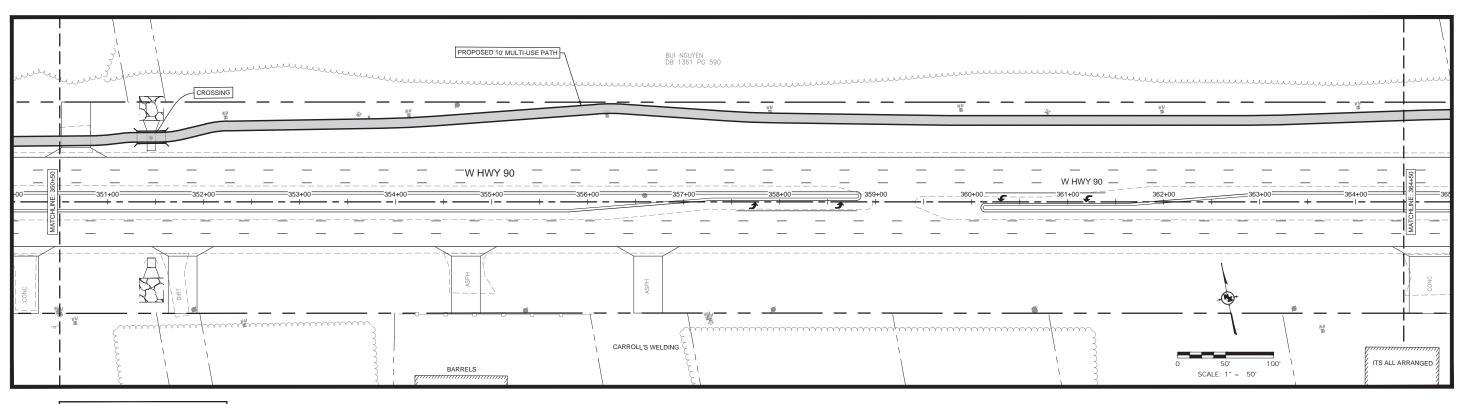




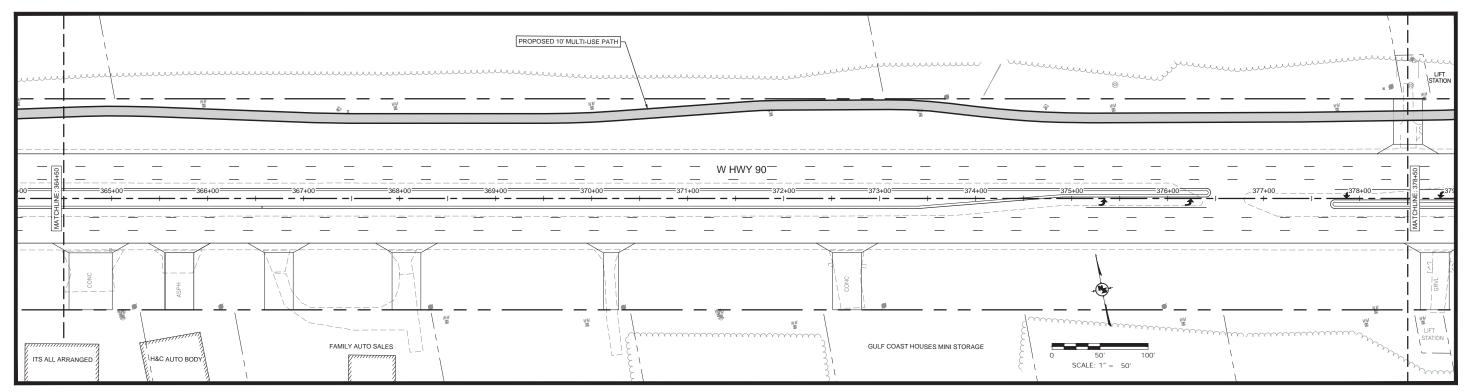
US90 MULTI-USE PATH STUDY

JACKSON COUNTY, MS







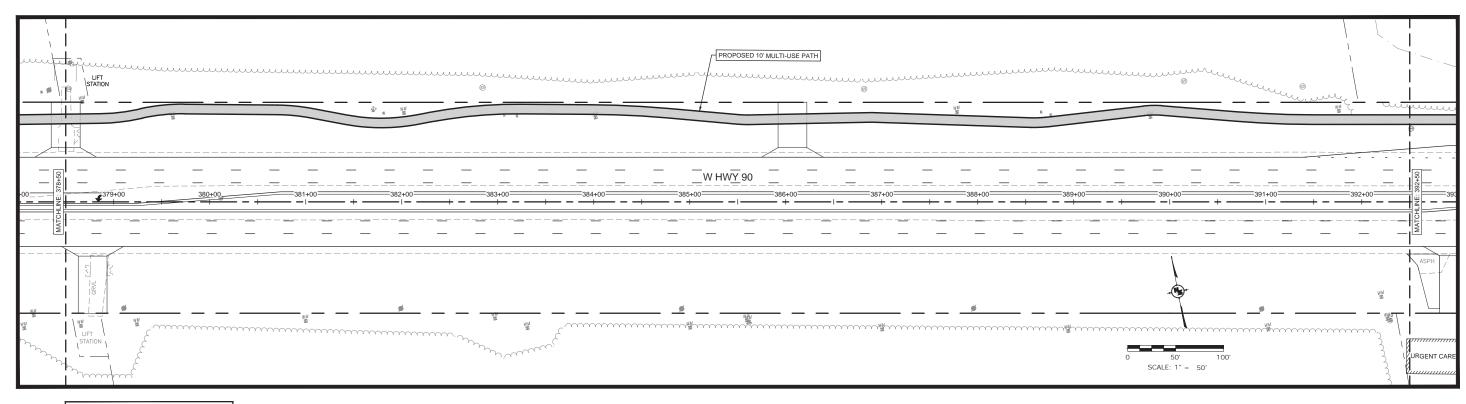


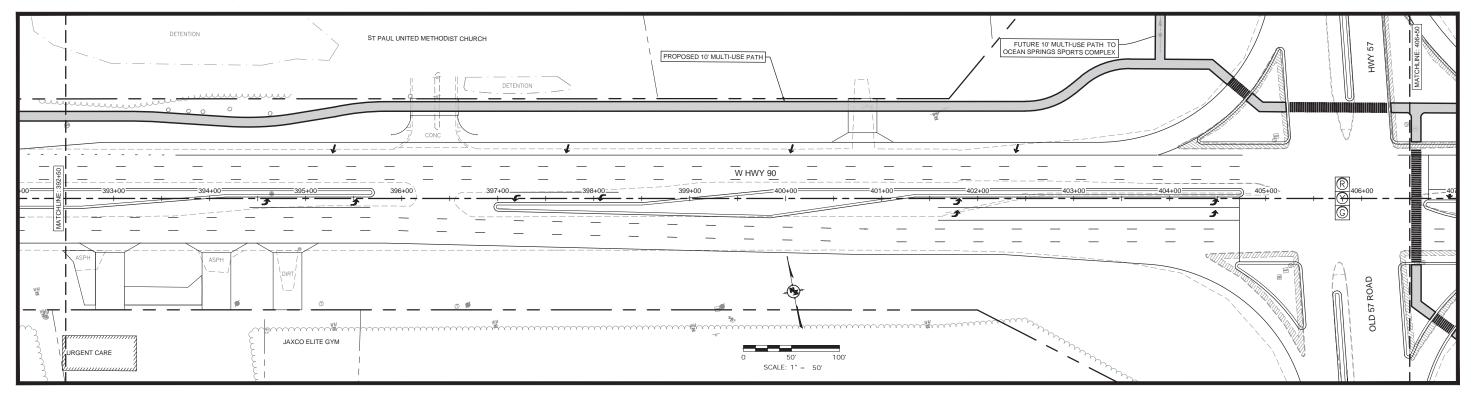


US90 MULTI-USE PATH STUDY

JACKSON COUNTY, MS





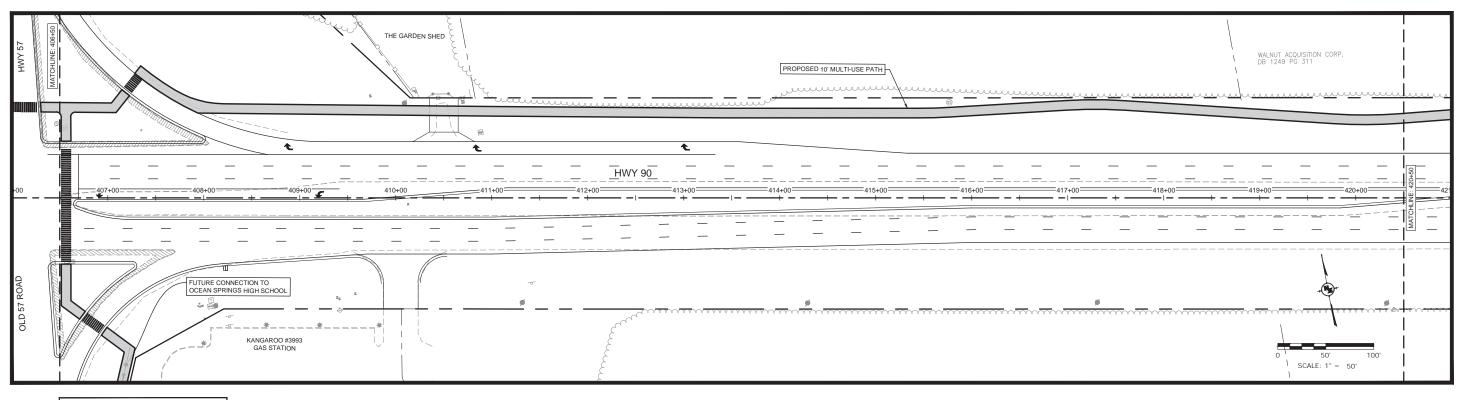


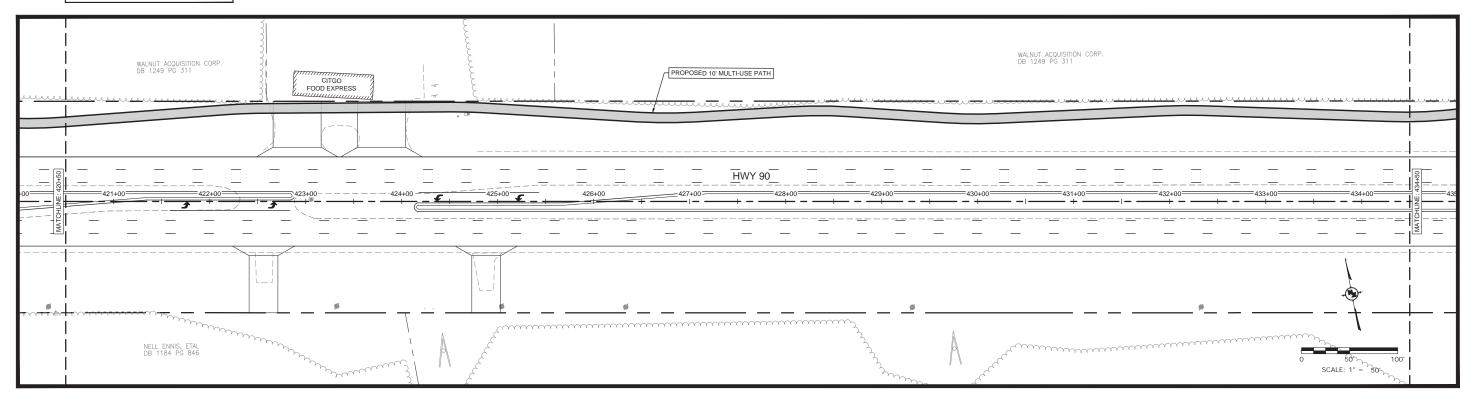


US90 MULTI-USE PATH STUDY

JACKSON COUNTY, MS





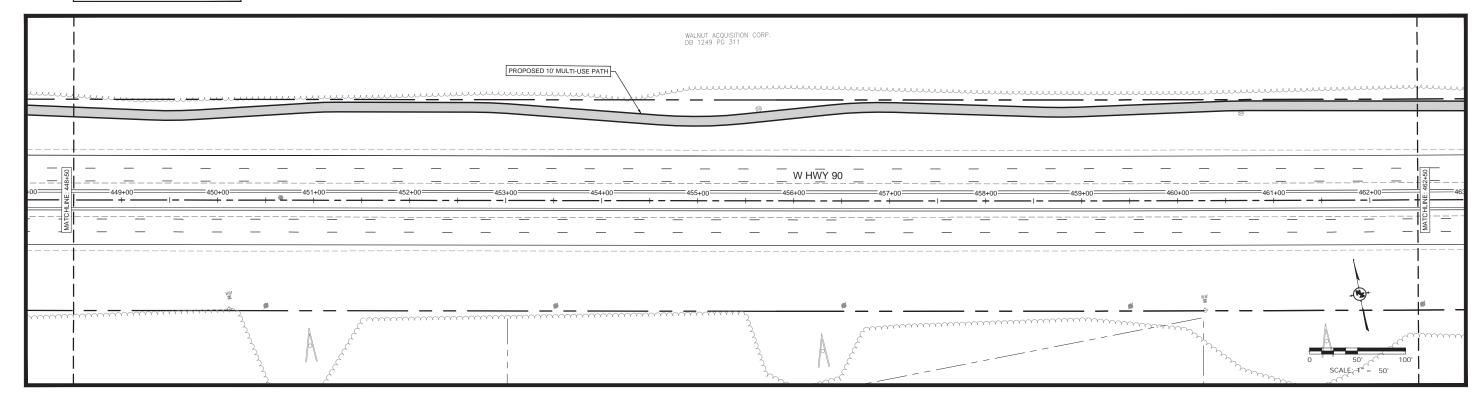




US90 MULTI-USE PATH STUDY

JACKSON COUNTY, MS



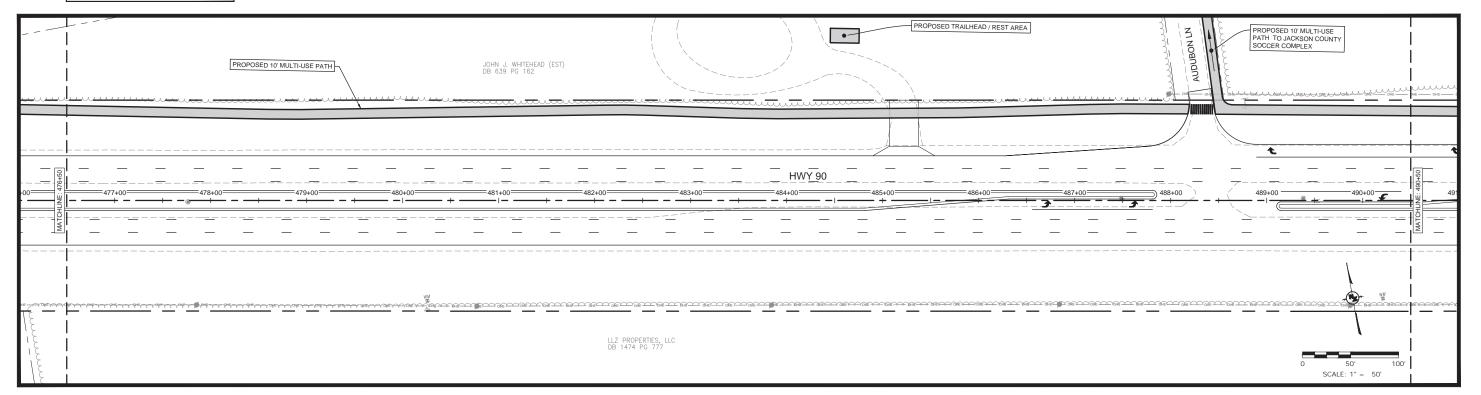




US90 MULTI-USE PATH STUDY

JACKSON COUNTY, MS







US90 MULTI-USE PATH STUDY

JACKSON COUNTY, MS

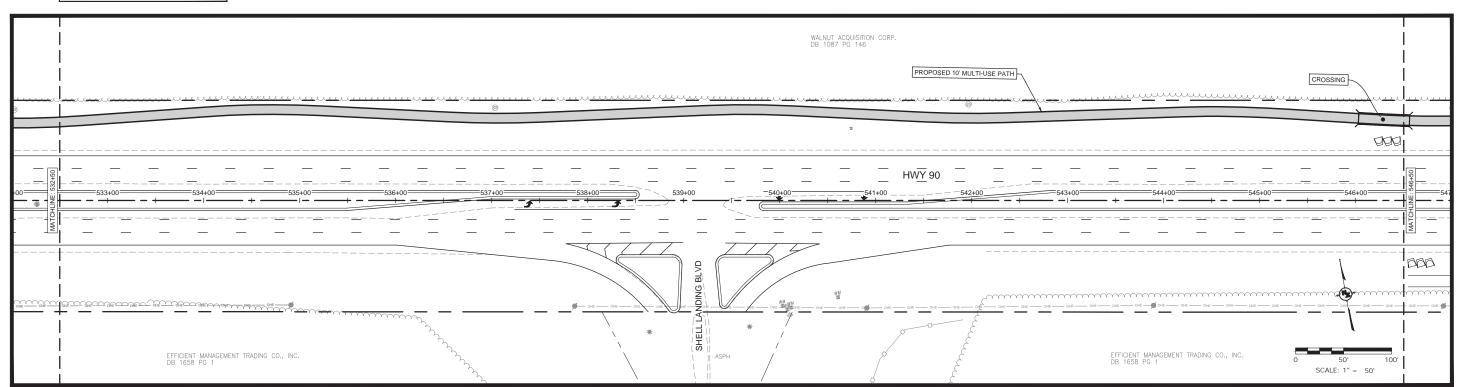




US90 MULTI-USE PATH STUDY

JACKSON COUNTY, MS







US90 MULTI-USE PATH STUDY

JACKSON COUNTY, MS



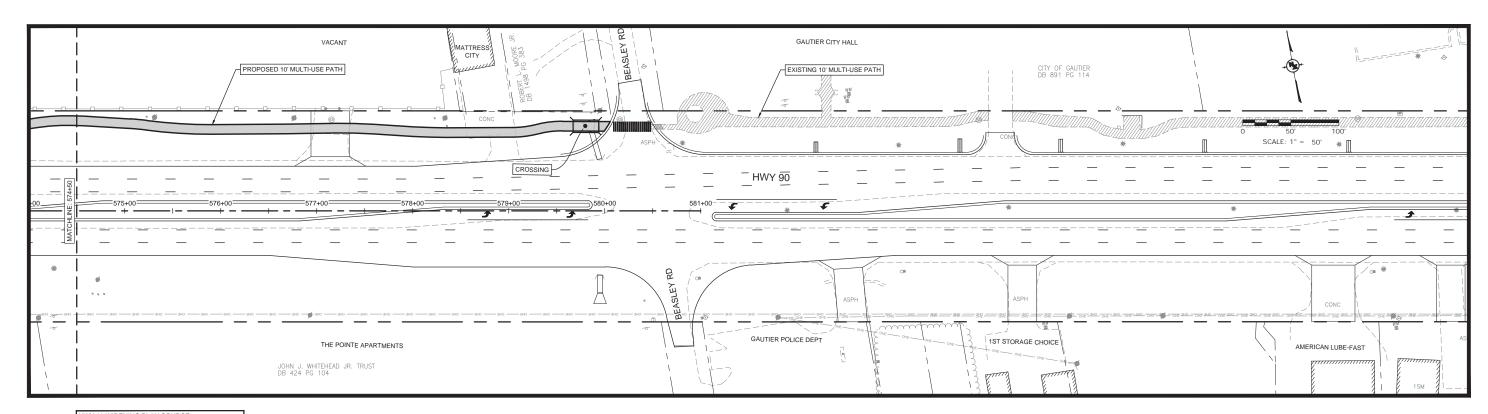


SCALE: 1" = 50'

US90 MULTI-USE PATH STUDY

JACKSON COUNTY, MS







US90 MULTI-USE PATH STUDY

JACKSON COUNTY, MS

