



PAVEMENT CONDITIONS STUDY & **REHABILITATION ANALYSIS**

STATE CENTER COMMUNITY COLLEGE DISTRICT

PREPARED BY:

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STATE CENTERS COMMUNITY COLLEGE PAVEMENT CONDITIONS STUDY AND REHABILITATION ANALYSIS

SUMMARY

The firm of Blair, Church & Flynn Consulting Engineers was retained by the State Center Community College District to evaluate the condition of existing asphalt concrete paved surfaces on the various college campuses and make recommendations for pavement rehabilitation work that will ensure a long pavement life.

The pavement at each of the District's parking lots, roadways and adjacent paved areas were visually inspected and documented as to the existing pavement conditions, ADA accessibility violations, and any other notable issues observed for each area. Pavement conditions varied from excellent to extremely distressed. Typical pavement faults included weathering and raveling, depressions, edge cracking, longitudinal and transverse cracking, pot holes and alligator cracking. Appropriate corrective measures were determined for each of the pavement faults observed and corresponding cost estimates for such corrections were made.

The District presently has approximately 3,700,000 square feet (84.9 Acres) of asphaltic concrete pavement surfacing to maintain. The total current cost for all pavement rehabilitation and accessibility renovations on the District's campuses is estimated to be approximately \$8,220,000. With work starting in the summer of 2019, the work listed for this coming summer is limited to only a few parking lots to fall within the current pavement maintenance budget. During the final six years of the seven year maintenance period, an annual expenditure of roughly \$1,400,000 is required. This estimated annual cost is based on the year the maintenance for each area is performed and a projected annual inflation factor. This expenditure would result in all of the District's existing pavement areas being relatively free of major stressed or failed areas.

After completion of the maintenance, repairs and replacement outlined in the initial Seven-Year Plan, the District should be able to provide for annual pavement repairs, maintenance, sealing and striping on a seven-year rotational plan at an estimated annual cost of \$430,000 (in 2018 dollars). Faithful execution of this plan will insure that the District maximizes the life of their pavement areas while minimizing long-term pavement maintenance costs.

INTRODUCTION

Managing the maintenance and rehabilitation of this pavement has become a challenging task. In order to better determine the long range goals towards the maintenance and rehabilitation of the pavement areas, the District retained the firm of Blair, Church & Flynn Consulting Engineers to make an overall evaluation of existing pavement conditions on the District's campuses and make recommendations regarding a specific maintenance and rehabilitation program for each of the pavement areas. This report outlines the findings of this study as well as the proposed maintenance work to be implemented.

PAVEMENT DISTRESS

To understand the available types of pavement maintenance and rehabilitation a discussion about asphalt pavement and the potential problems that can be encountered during the life of the pavement is warranted. Pavement (asphaltic concrete pavement) consists of a surface thickness of mineral aggregate coated and cemented together with an asphalt cement. The pavement is normally placed over aggregate base rock (of variable thickness depending on site conditions) which has been placed over a compacted soil. Pavement has the ability to conform to minor settlement of its foundation and hence is known as a "flexible" surfacing; as opposed to concrete which is termed a "rigid" surfacing. Since pavement is flexible,

it is more readily capable of demonstrating localized failures caused by inadequate foundations and/or surface stress inducements.

The objective of pavement maintenance is to keep the pavement as near as possible to its initial as-built condition. Pavement derives its strength from the cemented asphalt and aggregate mixture and from its foundation material. If the foundation becomes weakened, the surface pavement will show the signs of stress due to losing the stability of its foundation. If the initial pavement placement has a well compacted and adequate thickness base material foundation and the pavement surface was adequately mixed, rolled and compacted, with appropriate drainage, the pavement should last for several decades with a proper preventative maintenance program. However, as often is the case, preventative maintenance is often deferred, which allows the deterioration of the pavement to commence. Once initial cracking and distress surfacing start, water intrusion into the base foundation becomes possible and the pavement surface will continue on a closing cycle of self destruction. One of the key features of continual pavement maintenance is the objective of sealing water out of the pavement foundation. Water infiltration into a pavement foundation ultimately leads to the loss of bearing strength of the sub-grade and a resulting deterioration, and ultimate failure, of the surface pavement.

The various types of pavement distress encountered at the University's sites include the following:

- Alligator Cracking A series of interconnected cracks caused by fatigue failure of the surface under repeated vehicular loading.
- Corrugations A series of closely spaced ridges occurring at regular intervals caused by traffic action on an unstable pavement or base.
- Depression Localized pavement areas that are slightly lower than the surrounding areas that are caused by foundation soil settlement.
- Edge Cracking Cracks at, or close to, the outer edge of pavement caused by traffic loads on a weak base at the pavement edge.
- Longitudinal and Transverse Cracking Cracks caused by poorly constructed lane joints, shrinking of the asphaltic concrete surface or hardening of the asphalt cement.
- Pot Holes Small bowl shape holes in the surface caused by broken pavement surface due to base failure followed by alligator cracking. This leads to removal of pavement from the area from traffic.
- Rutting A surface depression in line with wheel tracking due to deformation of the pavement or subgrades caused by wheel loading.
- Weathering and Raveling Wearing away of the pavement caused by loss of binder with an ultimate loss of aggregate material.

Some of these problems can be solved by surface treatments of crack filling and the application of new surfacing material. Many of the other distress areas can only be corrected by removal of the surfacing, placing new sub-grade and placing new asphaltic concrete surfacing.

The two general types of pavement maintenance categories are: Preventative Maintenance, and Repair Maintenance. Preventative Maintenance encompasses those operations that deal with the initial evidence of deterioration of the surfaces such as fine cracks, raveling and loss of the asphalt cement. These maintenance operations are sealing of the cracks, thin patching and placement of various types of pavement sealers. Repair Maintenance becomes necessary when pavement distress becomes evident through the appearance of large cracks, bumps or sags that interfere with the free flow of traffic, extensive alligator cracking, corrugations and pot holes.

PAVEMENT CONDITIONS

A pavement surface that is not maintained will go through four stages of life. Each stage of the pavement's life has a variable length of time associated with it, depending upon its original construction, the environment, traffic loading, drainage, and location. Each pavement life segment also has a corresponding maintenance treatment that can retard the pavement's aging process and extend the life of

the pavement to the point of not proceeding to the next stage of deterioration. A description of each pavement life stage and the corrective action required follows:

- The *first stage* of pavement deterioration starts with the oxidation of the pavement surface and the loss of the fine aggregate particles within the pavement. Slight longitudinal and transverse cracking may occur during this stage. A solution to the pavement deterioration at this state would be the placement of an asphalt based seal coat over the complete surface of the pavement.
- The *second stage* of pavement deterioration involves more extensive surface raveling, with loss of the medium sized aggregate particles, more extensive longitudinal and transverse cracking and the start of isolated alligator or depressed areas. This stage of pavement deterioration can be stabilized with patching and crack filling and the placement of a slurry seal coat over the complete surface.
- The *third stage* of pavement deterioration continues from the first two stages, with much more extensive raveling of the pavement surface, some pot holes and more extensive cracking. This stage can be stabilized by removing and replacing the severely pot holed and alligator areas, patching the depressed areas, filling of the cracks and the placement of a paving fabric and asphaltic concrete pavement overlay.
- The *fourth, and last, stage* of pavement deterioration involves the complete collapse of pavement foundation, extensive alligator cracking throughout the pavement, numerous pot holes, very uneven surface and extensive cracking and checking. The only solution to the rehabilitation of this pavement is complete removal and replacement with new pavement.

The Pavement Condition Index (Figure 1) is a diagram used to visually demonstrate the deterioration of pavement over time, with and without maintenance. The rate at which new pavements deteriorate is very slow at the beginning. If Pavement Maintenance measures are deferred the deterioration rate will increase after approximately 50% of the pavement's life and experience a dramatic deterioration rate increase at approximately 75% of the life of the pavement, leading to complete failure.

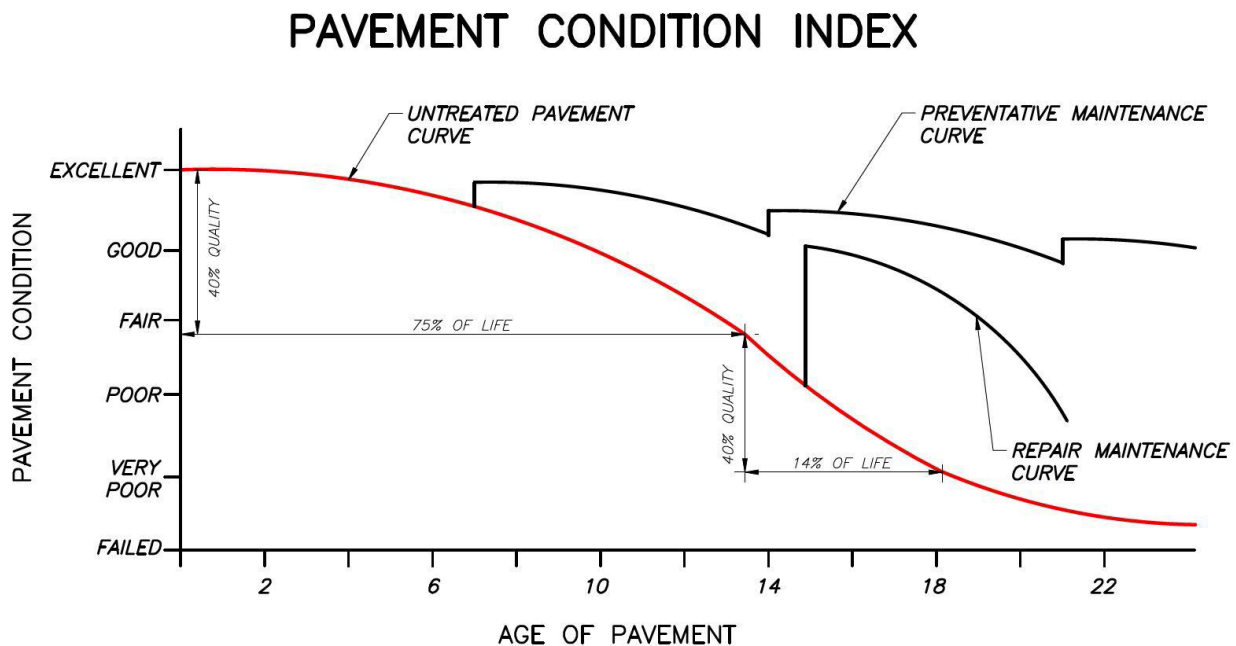


Figure 1: Pavement Condition Index

Although deferring Preventative Maintenance might appear to initially save the owner money, it will lead to the need to implement Repair Maintenance or even full Removal and Replacement which carry a much higher cost per square foot of pavement. These higher cost maintenance measures can be avoided if the area of pavement is properly maintained through preventative measures. These pavement maintenance treatments often return the pavement to a nearly new-like condition, and are likely to greatly extend the life of an area of pavement.

PAVEMENT MAINTENANCE

The recommended types of pavement Preventative Maintenance and Repair Maintenance that the University should pursue are as follows:

Crack Patching: Placement of asphaltic based crack patching material within pavement cracks as they first appear. This is very important, as the first start of any pavement failures is the infiltration of water through the pavement to the base foundation through surface cracking.

Asphaltic-Based Pavement Sealer: This is a multiple layer application of an asphaltic based emulsion over the existing pavement surfacing. This would be placed whenever existing pavement is in good structural shape with minimal cracking but has started to show signs of weathering or raveling. This operation rejuvenates the pavement surface by adding free asphalt to the surface as well as the addition of some fine aggregate materials that are contained in the sealer.

Slurry Seal: A mixture of well graded fine aggregate mineral filler, emulsified asphalt and water that is applied to the pavement surface as a thin overlay. A slurry seal is similar to the asphaltic-based sealer; however, it contains more mineral aggregate and is placed as a thicker section of material. This can be placed over existing pavements that show greater signs of cracking with some minimal depressed areas and extensive surface weathering and raveling. Any cracks within the existing pavement need to be sealed and patched prior to placing the slurry. It should be noted that both the asphaltic-based sealer and the slurry seal have no structural strength characteristics and any existing cracking may reflect through the surfacing and may still be seen after placement of the sealer material. However, the cracks are still sealed and surface water intrusion is reduced or prevented from entering the foundation materials and causing premature base failures.

Pavement Overlay with Paving Fabric: This process involves the patching of existing cracks and alligatored areas, removal and replacement of any existing severely distressed or failed areas, the placement of a geotextile fabric material over the existing pavement and the placement of a 1½ to 2-inch thick surfacing overlay of new asphaltic concrete pavement. This process results in a new surface course that will eliminate most existing cracking from reflecting through to the surface. This process can only be used in areas where severe foundation failure is not evident (or in those areas where it is evident and it is replaced) and where the placement of an additional thickness of pavement will not interfere with surface drainage patterns.

Removal and Replacement: This operation involves the complete removal of existing paved surfaces and their sub-grade and the placement of new compacted sub-grade material and new pavement surfacing. This operation should be utilized in areas of existing pavement where substantial foundation failure has occurred, where new surface geometrics are necessary to improve drainage conditions (which could be the cause of the existing pavement failure), and in areas where a pavement overlay with paving fabric cannot be used due to interference with established drainage patterns.

RESULTS

Attached to this report is a matrix table that identifies all of the District's site pavement areas, the corrective work necessary and the related estimated current and future costs for that work. The analysis was based on all required work being completed within a seven period.

Prioritizing the proposed pavement rehabilitation improvements as outlined herein is not easily done. The ability to proceed with pavement maintenance/rehabilitation work can be affected by availability of funds, priority needs of one section of campus over another, the serviceability of an existing pavement surface in its present condition and the effect of not proceeding with a specific pavement rehabilitation method today that could result in a more extensive one in the future. The prioritization of the District's pavement areas can be found in the next section.

As detailed in the included cost estimates, the total estimated pavement rehabilitation and ADA improvements cost for all of the District's campuses is approximately \$8,220,000 (in 2019 dollars). If we assume an annual inflation factor of 3.5%, the total projected expenditure becomes roughly \$9,160,000. With work starting in the summer of 2019, the work listed for this coming summer is limited to only a few parking lots to fall within the current pavement maintenance budget. During the final six years of the seven year maintenance period, an annual expenditure of roughly \$1,350,000 is required.

The scope of the pavement rehabilitation effort for each of the paved surfaces at each site was based on the assumption that all such work would be done within the next seven years. This timeframe is consistent with the recommendations of most industry experts.

PRIORITIZATION

Towards the beginning of each stage of pavement life the rehabilitative work timing is not as critical, however, towards the end of a pavement's stage of life, the application of a maintenance solution can be required immediately, for without it the pavement will move rapidly to the more costly next stage. Any decisions as to which pavement areas should be included in earlier budget allocations should have an evaluation of those pavements relative to the stage of pavement life and the proposed improvement. The attached diagram schematically represents the four stages of pavement life, the rehabilitation work required during each stage and the cost associated therewith.

In order to properly prioritize the pavement rehabilitation improvements, the analysis of each lot needs to be further divided and analyzed. After a physical evaluation of each pavement area, each lot was separated into three categories based upon the level of rehabilitation needed. These categories are as follows:

Failure: This category is used for areas where the deterioration of the pavement encompasses a majority of the parking lot, and has reached such a point that full Removal and Replacement is the recommended maintenance. While these areas have the highest cost per square foot, this cost can only increase due to inflation and not due to additional work.

Repair: This category is used for areas where the pavement has varied levels of deterioration. While these areas will have some sections of Removal and Replacement of failed pavement, the majority of the pavement needs only restorative/preventative maintenance to extend the overall life cycle of the pavement. These areas will have mid-range costs per square foot, but if the recommended maintenance is delayed too long, additional portions of pavement could deteriorate to the point of a cost increase due to additional work.

Preventative: This last category is used for areas where the pavement condition is very good, showing little to no signs of deterioration. Maintenance in these areas consists of filling the small cracks, and adding a sealcoat to extend the life of the pavement. Costs per square foot in these areas are the lowest. Just as with the Repair category, it is essential to consider the areas that might see additional deterioration if maintenance is delayed for too long, which could lead to additional costs due to additional work required.

In addition to the considerations described above, we also intentionally omitted the pavement surrounding the existing District Operations and Police Department areas because they will soon be re-constructed with the new Math-Science Building. Also, a minimal amount of money was allocated to the Oakhurst campus because it will be abandoned in favor of the new campus within the next few years.

Each of the campus pavement areas is categorized in Table 1 below based on the type of maintenance or rehabilitation work that is needed.

Table 1: Parking Lot by Current Pavement Condition

Failure (1)	Repair (2)	Preventative (3)
Fresno City (Lot C)	Clovis (Lot D)	Clovis (Lot A)
Fresno City (Lot D)	Fresno City (Lot F)*	Clovis (Lot B)
Fresno City (Lot E North)	Fresno City (Lot G)	Clovis (Lot C)
Fresno City (Track Field Access)	Fresno City (Lot H)*	Clovis (Lot E)
Peach & Herndon (Drive Aisles)	Fresno City (Lot I)	Clovis (Lot F)
Reedley (Lot B drive aisle)	Fresno City (Lot J)	Clovis (Lot G)
Reedley (Lot E)	Fresno City (Lot M)	Clovis (Lot H)
Reedley (Lot F)	Fresno City (McKinley Access Road)*	Clovis (Lot I)
Reedley (Maintenance Yard)	Fresno City (Lot X)	Clovis (Lot J)
Reedley (Maintenance Parking Lot)	Fresno City (East Access Road)	Clovis (Parking Lot Access Roads)*
Reedley (Lot J)	Madera (Lot A)*	Clovis (North Access Road)
Reedley (Lot K)	Madera (Main Access Road)*	Clovis (South East Access Road)
Reedley (Main Access Road)	Peach & Herndon (West Parking Lot)	Clovis (Central Access Road)
	Peach & Herndon (Back Parking Lot)	Clovis (Maintenance Yard Lot)
	Peach & Herndon (Center Lot)*	Fresno City (Lot A)
	Reedley (Lot D-North)*	Fresno City (Lot B)
	Reedley (Lot H)	Fresno City (Lot E South)
	Reedley (Aviation Yard)	Fresno City (Lot K, East & West)
	Reedley (Resident Parking Lot)	Fresno City (Lot L)
		Fresno City (Lot O)
		Fresno City (Lot P)
		Fresno City (Lot Q)
		Fresno City (Lot R)
		Fresno City (Lot S)
		Fresno City (Lot T)
		Fresno City (Lot V)
		Fresno City (Lot W)
		Fresno City (South Access Road)
		Fresno City (North Access Roads)
		Fresno City (Police Training Lot)
		Madera (Entry Round-About)*
		Madera (East Access Road)
		Madera (Lot C)
		Peach & Herndon (East Parking Lot)*
		Reedley (Lot A)
		Reedley (Lot C)
		Reedley (Lot D-South)*
		Reedley (Lot G)
		Reedley (Basketball Courts)
		Reedley (Access Road End)
		Reedley (Residence Hall Fire Lane)

* Refer to Table 2

In order to complete a full analysis of the prioritization of pavement maintenance, all areas have also been evaluated to determine which areas are most likely to experience a category shift and subsequent cost increase if maintenance is delayed. Table 2 shows the areas that are most likely to shift from Category "Repair (2)" to Category "Failure (1)" and from Category "Preventative (3)" to "Repair (2)":

Table 2: Potential Category Shifts

Category Shift 2 to 1	Category Shift 3 to 2
Fresno City (McKinley Access Road)	Clovis (Parking Lot Access Roads)
Fresno City (Lot F)	Madera (Entry Round-About)
Fresno City (Lot H)	Peach & Herndon (East Parking Lot)
Madera (Lot A)	Reedley (Lot D-South)
Madera (Main Access Road)	
Peach & Herndon (Center Parking Lot)	
Reedley (Lot D-North)	

CONCLUSION

This report and the recommendations contained herein are based on many years of experience addressing pavement issues and long term maintenance concerns; however, we do not possess a day to day understanding of the priorities of the District. It is imperative that the District thoroughly review this report and offer feedback on our recommended priorities. This will ensure that the final, adopted long-term plan more completely considers the current and future needs of the District.

STATE CENTER COMMUNITY COLLEGE DISTRICT											Date:	01/08/19	
ESTIMATED CONSTRUCTION COST FOR 7-YEAR MAINTENANCE PAVEMENT REHABILITATION											Inflation Rate:	3.5%	
Campus	Area #	Description	Sq Ft	Type	Current (2019) Cost	Year	Year 1 (2019) Cost	Year 2 (2020) Cost	Year 3 (2021) Cost	Year 4 (2022) Cost	Year 5 (2023) Cost	Year 6 (2024) Cost	Year 7 (2025) Cost
Clovis	1	Parking Lot A	80,258	1	\$96,500.00	2023					\$110,800.00		
Clovis	2	Parking Lot B	97,815	1	\$110,800.00	2023					\$127,200.00		
Clovis	3	Parking Lot C	100,093	1	\$81,400.00	2023					\$93,500.00		
Clovis	4	Parking Lot D	102,121	2	\$175,500.00	2021			\$188,000.00				
Clovis	5	Parking Lots Access Roads	125,976	1	\$102,400.00	2021			\$109,700.00				
Clovis	6	Southeast Access Road	65,112	1	\$53,000.00	2021			\$56,800.00				
Clovis	7	Central Access Road	43,611	1	\$35,500.00	2021			\$38,100.00				
Clovis	8	Maintenance Yard Parking Lot	12,389	1	\$41,400.00	2024						\$49,200.00	
Clovis	9	Parking Lot E	12,586	1	\$10,300.00	2025							\$12,700.00
Clovis	10	Parking Lot F	27,700	1	\$22,600.00	2025							\$27,800.00
Clovis	11	Parking Lot G	65,240	1	\$53,100.00	2025							\$65,300.00
Clovis	12	Parking Lot H	87,576	1	\$102,500.00	2025							\$126,000.00
Clovis	13	Parking Lot I	33,385	1	\$58,400.00	2024						\$69,400.00	
Clovis	14	Parking Lot J	76,410	1	\$93,400.00	2024						\$111,000.00	
Clovis	15	North Access Road	70,308	1	\$57,200.00	2023					\$65,700.00		
Fresno City	1	Parking Lot A	8,831	1	\$7,200.00	2021			\$7,800.00				
Fresno City	2	Parking Lot B	81,915	1	\$91,200.00	2021			\$97,700.00				
Fresno City	3	South Access Road	74,396	1	\$91,700.00	2021			\$98,300.00				
Fresno City	4	Parking Lot C	87,257	3	\$583,000.00	2019	\$583,000.00						
Fresno City	5	Parking Lot D	167,994	3	\$1,122,500.00	2020		\$1,161,800.00					
Fresno City	6	McKinley Access Road	41,448	2	\$43,900.00	2024						\$52,200.00	
Fresno City	7	Parking Lot E (South)	167,352	1	\$167,300.00	2022				\$185,500.00			
Fresno City	8	Parking Lot E (North)	74,330	5	\$486,100.00	2022				\$539,000.00			
Fresno City	9	Parking Lot F	32,230	4	\$86,800.00	2021			\$93,000.00				
Fresno City	10	Parking Lot G	36,174	2	\$82,400.00	2024						\$97,900.00	
Fresno City	11	Parking Lot H	25,963	4	\$69,900.00	2021			\$74,900.00				
Fresno City	12	Parking Lot I	14,681	2	\$52,000.00	2021			\$55,800.00				
Fresno City	13	Parking Lot J	14,921	2	\$61,300.00	2021			\$65,700.00				
Fresno City	14	Parking Lot K (West)	35,448	1	\$28,900.00	2025							\$35,600.00
Fresno City	15	Parking Lot K (East)	22,211	1	\$18,100.00	2025							\$22,300.00
Fresno City	16	Parking Lot L	5,303	1	\$35,600.00	2021			\$38,200.00				
Fresno City	17	Parking Lot M	4,143	3	\$8,400.00	2021			\$9,000.00				
Fresno City	18	Parking Lot O	20,337	1	\$16,600.00	2023					\$19,100.00		
Fresno City	19	Parking Lot P	9,517	1	\$39,000.00	2023					\$44,800.00		
Fresno City	20	Parking Lot Q	47,362	1	\$101,000.00	2024						\$120,000.00	
Fresno City	21	Parking Lot R	12,405	1	\$41,400.00	2024						\$49,200.00	
Fresno City	22	Parking Lot S	23,241	1	\$50,200.00	2025							\$61,800.00
Fresno City	23	North Access Roads	72,738	1	\$90,400.00	2025							\$111,200.00
Fresno City	24	Parking Lot T	67,626	1	\$55,000.00	2024						\$65,400.00	
Fresno City	25	Parking Lot V	96,333	1	\$109,600.00	2023					\$125,800.00		
Fresno City	26	Parking Lot W	6,642	1	\$36,700.00	2023					\$42,200.00		
Fresno City	27	East Access Road	19,379	4	\$85,900.00	2025							\$105,600.00
Fresno City	28	Parking Lot X	91,927	2	\$192,300.00	2024						\$228,400.00	
Fresno City	29	Police Training Lot	23,251	1	\$18,900.00	2021			\$20,300.00				
Fresno City	30	Track Field Access	3,538	5	\$21,700.00	2023					\$25,000.00		
Madera	1	Entry Roundabout	27,283	1	\$22,200.00	2024						\$26,400.00	
Madera	2	Parking Lot A	122,305	5&1	\$510,900.00	2022				\$566,500.00			
Madera	3	Main Access Road	49,200	5&3	\$75,700.00	2021			\$81,100.00				
Madera	4	West Access Road	38,477	1	\$31,300.00	2024						\$37,200.00	
Madera	5	Parking Lot C	151,648	1	\$154,500.00	2024						\$183,500.00	
Peach & Herndon	1	Drive Aisles	28,505	5	\$174,500.00	2025							\$214,600.00
Peach & Herndon	2	West Parking Lot	59,218	2	\$77,400.00	2025							\$95,200.00
Peach & Herndon	3	Central Parking Lot	46,010	3	\$65,000.00	2025							\$80,000.00
Peach & Herndon	4	East Parking Lot	19,628	1	\$16,000.00	2025							\$19,700.00
Peach & Herndon	5	Back Parking Lot	16,309	3	\$23,100.00	2025							\$28,400.00
Reedley	1	Parking Lot A	40,529	1	\$33,000.00	2022				\$36,600.00			
Reedley	2	Parking Lot B	137,091	1	\$130,400.00	2019	\$130,400.00						
Reedley	3	Parking Lot C	37,080	1	\$30,200.00	2022				\$33,500.00			
Reedley	4	Parking Lot D (South)	91,110	1	\$74,100.00	2020		\$76,700.00					
Reedley	5	Parking Lot D (North)	146,900	3	\$295,500.00	2020		\$305,900.00					
Reedley	6	Parking Lot E	8,188	5	\$50,200.00	2021			\$53,800.00				
Reedley	7	Parking Lot F	8,760	5	\$84,900.00	2025							\$104,400.00
Reedley	8	Parking Lot G	7,936	1	\$6,500.00	2021			\$7,000.00				
Reedley	9	Parking Lot H	6,230	3	\$43,800.00	2024						\$52,100.00	
Reedley	10	Maintenance Yard	34,943	5	\$213,900.00	2023					\$245,500.00		
Reedley	11	Maintenance Parking Lot	25,916	5	\$158,600.00	2024						\$188,400.00	
Reedley	12	Aviation Yard	7,660	3	\$15,500.00	2024						\$18,500.00	
Reedley	13	Parking Lot J	17,567	5	\$107,500.00	2021			\$115,200.00				
Reedley	14	Basketball Courts	12,467	1	\$10,200.00	2021			\$11,000.00				
Reedley	15	Resident Parking Lot	28,701	4	\$77,300.00	2021			\$82,900.00				
Reedley	16	Parking Lot K	42,876	5	\$262,400.00	2025							\$322,600.00
Reedley	17	Main Access Road	74,657	5	\$456,900.00	2023					\$524,400.00		
Reedley	18	Access Road End	13,786	1	\$11,300.00	2023					\$13,000.00		
Reedley	19	Residence Hall Fire Lane	12,640	1	\$10,300.00	2021			\$11,100.00				
Oakhurst		Pothole Patching	LS	5	\$5,000.00	2020		\$5,200.00					
Totals:			3,703,093		\$8,217,100		\$713,400	\$1,549,600	\$1,315,400	\$1,361,100	\$1,437,000	\$1,348,800	\$1,433,200

**7 year Pavement Maintenance Plan
State Center Community College District**

Engineers Opinion of Probable Construction Cost - (2019 and Future Year dollars)

January 8, 2019

* Future costs are based on an assumed annual inflation rate of: 3.50%

Campus	Item #	Description	Year of Maintenance	2019 Cost	Future Cost*
Clovis	1	Parking Lot A	2023	\$ 96,500.00	\$110,800.00
Clovis	2	Parking Lot B	2023	\$ 110,800.00	\$127,200.00
Clovis	3	Parking Lot C	2023	\$ 81,400.00	\$93,500.00
Clovis	4	Parking Lot D	2021	\$ 175,500.00	\$188,000.00
Clovis	5	Parking Lots Access Roads	2021	\$ 102,400.00	\$109,700.00
Clovis	6	Southeast Access Road	2021	\$ 53,000.00	\$56,800.00
Clovis	7	Central Access Road	2021	\$ 35,500.00	\$38,100.00
Clovis	8	Maintenance Yard Parking Lot	2024	\$ 41,400.00	\$49,200.00
Clovis	9	Parking Lot E	2025	\$ 10,300.00	\$12,700.00
Clovis	10	Parking Lot F	2025	\$ 22,600.00	\$27,800.00
Clovis	11	Parking Lot G	2025	\$ 53,100.00	\$65,300.00
Clovis	12	Parking Lot H	2025	\$ 102,500.00	\$126,000.00
Clovis	13	Parking Lot I	2024	\$ 58,400.00	\$69,400.00
Clovis	14	Parking Lot J	2024	\$ 93,400.00	\$111,000.00
Clovis	15	North Access Road	2023	\$ 57,200.00	\$65,700.00
Fresno City	1	Parking Lot A	2021	\$ 7,200.00	\$7,800.00
Fresno City	2	Parking Lot B	2021	\$ 91,200.00	\$97,700.00
Fresno City	3	South Access Road	2021	\$ 91,700.00	\$98,300.00
Fresno City	4	Parking Lot C	2019	\$ 583,000.00	\$583,000.00
Fresno City	5	Parking Lot D	2020	\$ 1,122,500.00	\$1,161,800.00
Fresno City	6	McKinley Access Road	2024	\$ 43,900.00	\$52,200.00
Fresno City	7	Parking Lot E (South)	2022	\$ 167,300.00	\$185,500.00
Fresno City	8	Parking Lot E (North)	2022	\$ 486,100.00	\$539,000.00
Fresno City	9	Parking Lot F	2021	\$ 86,800.00	\$93,000.00
Fresno City	10	Parking Lot G	2024	\$ 82,400.00	\$97,900.00
Fresno City	11	Parking Lot H	2021	\$ 69,900.00	\$74,900.00
Fresno City	12	Parking Lot I	2021	\$ 52,000.00	\$55,800.00
Fresno City	13	Parking Lot J	2021	\$ 61,300.00	\$65,700.00
Fresno City	14	Parking Lot K (West)	2025	\$ 28,900.00	\$35,600.00
Fresno City	15	Parking Lot K (East)	2025	\$ 18,100.00	\$22,300.00
Fresno City	16	Parking Lot L	2021	\$ 35,600.00	\$38,200.00
Fresno City	17	Parking Lot M	2021	\$ 8,400.00	\$9,000.00
Fresno City	18	Parking Lot O	2023	\$ 16,600.00	\$19,100.00
Fresno City	19	Parking Lot P	2023	\$ 39,000.00	\$44,800.00
Fresno City	20	Parking Lot Q	2024	\$ 101,000.00	\$120,000.00
Fresno City	21	Parking Lot R	2024	\$ 41,400.00	\$49,200.00
Fresno City	22	Parking Lot S	2025	\$ 50,200.00	\$61,800.00
Fresno City	23	North Access Roads	2025	\$ 90,400.00	\$111,200.00
Fresno City	24	Parking Lot T	2024	\$ 55,000.00	\$65,400.00
Fresno City	25	Parking Lot V	2023	\$ 109,600.00	\$125,800.00
Fresno City	26	Parking Lot W	2023	\$ 36,700.00	\$42,200.00
Fresno City	27	East Access Road	2025	\$ 85,900.00	\$105,600.00
Fresno City	28	Parking Lot X	2024	\$ 192,300.00	\$228,400.00

**7 year Pavement Maintenance Plan
State Center Community College District**

Engineers Opinion of Probable Construction Cost - (2019 and Future Year dollars)

January 8, 2019

* Future costs are based on an assumed annual inflation rate of: 3.50%

Campus	Item #	Description	Year of Maintenance	2019 Cost	Future Cost*
Fresno City	29	Police Training Lot	2021	\$ 18,900.00	\$20,300.00
Fresno City	30	Track Field Acces	2023	\$ 21,700.00	\$25,000.00
Madera	1	Entry Roundabout	2024	\$ 22,200.00	\$26,400.00
Madera	2	Parking Lot A	2022	\$ 510,900.00	\$566,500.00
Madera	3	Main Access Road	2021	\$ 75,700.00	\$81,100.00
Madera	4	West Access Road	2024	\$ 31,300.00	\$37,200.00
Madera	5	Parking Lot C	2024	\$ 154,500.00	\$183,500.00
Peach & Herndon	1	Drive Aisles	2025	\$ 174,500.00	\$214,600.00
Peach & Herndon	2	West Parking Lot	2025	\$ 77,400.00	\$95,200.00
Peach & Herndon	3	Central Parking Lot	2025	\$ 65,000.00	\$80,000.00
Peach & Herndon	4	East Parking Lot	2025	\$ 16,000.00	\$19,700.00
Peach & Herndon	5	Back Parking Lot	2025	\$ 23,100.00	\$28,400.00
Reedley	1	Parking Lot A	2022	\$ 33,000.00	\$36,600.00
Reedley	2	Parking Lot B	2019	\$ 130,400.00	\$130,400.00
Reedley	3	Parking Lot C	2022	\$ 30,200.00	\$33,500.00
Reedley	4	Parking Lot D (South)	2020	\$ 74,100.00	\$76,700.00
Reedley	5	Parking Lot D (North)	2020	\$ 295,500.00	\$305,900.00
Reedley	6	Parking Lot E	2021	\$ 50,200.00	\$53,800.00
Reedley	7	Parking Lot F	2025	\$ 84,900.00	\$104,400.00
Reedley	8	Parking Lot G	2021	\$ 6,500.00	\$7,000.00
Reedley	9	Parking Lot H	2024	\$ 43,800.00	\$52,100.00
Reedley	10	Maintenance Yard	2023	\$ 213,900.00	\$245,500.00
Reedley	11	Maintenance Parking Lot	2024	\$ 158,600.00	\$188,400.00
Reedley	12	Aviation Yard	2024	\$ 15,500.00	\$18,500.00
Reedley	13	Parking Lot J	2021	\$ 107,500.00	\$115,200.00
Reedley	14	Basketball Courts	2021	\$ 10,200.00	\$11,000.00
Reedley	15	Resident Parking Lot	2021	\$ 77,300.00	\$82,900.00
Reedley	16	Parking Lot K	2025	\$ 262,400.00	\$322,600.00
Reedley	17	Main Access Road	2023	\$ 456,900.00	\$524,400.00
Reedley	18	Access Road End	2023	\$ 11,300.00	\$13,000.00
Reedley	19	Residence Hall Fire Lane	2021	\$ 10,300.00	\$11,100.00
Oakhurst		Pothole Patching	2020	\$ 5,000.00	\$5,200.00
				\$ 8,217,100.00	\$9,158,500.00

Cost Estimates by Area (2019 Costs)

Area	Description	Area (SF)	Thickness (Ft)	Unit Weight lbs/ft ³	lbs/Ton	Tons	Unit Price	Cost
Clovis		80,258						
Parking Lot A	Crackfill & Sealcoat	80,258					\$0.55	\$44,142
CS&SC	Signage & Striping	80,258					\$0.10	\$8,026
	Minor ADA Update							\$25,000
	Total w/ contingency							\$96,500
Clovis		97,815						
Parking Lot B	Crackfill & Sealcoat	97,815					\$0.55	\$53,798
CS&SC	Signage & Striping	97,815					\$0.10	\$9,782
	Minor ADA Update							\$25,000
	Total w/ contingency							\$110,800
Clovis		100,093						
Parking Lot C	Crackfill & Sealcoat	100,093					\$0.55	\$55,051
CS&SC	Signage & Striping	100,093					\$0.10	\$10,009
	Total w/ contingency							\$81,400
Clovis		102,121						
Parking Lot D	AC	10,212	0.25	150	2000	191	\$110.00	\$21,062
10% R&R	Agg Base	10,212	0.33	150	2000	253	\$70.00	\$17,692
	Demo/Grading	10,212					\$1.00	\$10,212
	Crackfill & Sealcoat	102,121					\$0.55	\$56,167
	Signage & Striping	102,121					\$0.10	\$10,212
	Minor ADA Update							\$25,000
	Total w/ contingency							\$175,500
Clovis		125,976						
Parking Lot Access Roads	Crackfill & Sealcoat	125,976					\$0.55	\$69,287
CS&SC	Signage & Striping	125,976					\$0.10	\$12,598
	Total w/ contingency							\$102,400
Clovis		65,112						
Southeast Access Road	Crackfill & Sealcoat	65,112					\$0.55	\$35,812
CS&SC	Signage & Striping	65,112					\$0.10	\$6,511
	Total w/ contingency							\$53,000
Clovis		43,611						
Central Access Road	Crackfill & Sealcoat	43,611					\$0.55	\$23,986
CS&SC	Signage & Striping	43,611					\$0.10	\$4,361
	Total w/ contingency							\$35,500
Clovis		12,389						
Maintenance Yard Lot	Crackfill & Sealcoat	12,389					\$0.55	\$6,814
CS&SC	Signage & Striping	12,389					\$0.10	\$1,239
	Minor ADA Update							\$25,000
	Total w/ contingency							\$41,400
Clovis		12,586						
Parking Lot E	Crackfill & Sealcoat	12,586					\$0.55	\$6,922
CS&SC	Signage & Striping	12,586					\$0.10	\$1,259
	Total w/ contingency							\$10,300
Clovis		27,700						
Parking Lot F	Crackfill & Sealcoat	27,700					\$0.55	\$15,235
CS&SC	Signage & Striping	27,700					\$0.10	\$2,770
	Total w/ contingency							\$22,600
Clovis		65,240						
Parking Lot G	Crackfill & Sealcoat	65,240					\$0.55	\$35,882
CS&SC	Signage & Striping	65,240					\$0.10	\$6,524
	Total w/ contingency							\$53,100

Cost Estimates by Area (2019 Costs)

Area	Description	Area (SF)	Thickness (Ft)	Unit Weight lbs/ft ³	lbs/Ton	Tons	Unit Price	Cost
Clovis		87,576						
Parking Lot H	Crackfill & Sealcoat	87,576					\$0.55	\$48,167
CS&SC	Signage & Striping	87,576					\$0.10	\$8,758
	Minor ADA Update							\$25,000
	Total w/ contingency							\$102,500
Clovis		33,385						
Parking Lot I	Crackfill & Sealcoat	33,385					\$0.55	\$18,362
CS&SC	Signage & Striping	33,385					\$0.10	\$3,339
	Minor ADA Update							\$25,000
	Total w/ contingency							\$58,400
Clovis		76,410						
Parking Lot J	Crackfill & Sealcoat	76,410					\$0.55	\$42,026
CS&SC	Signage & Striping	76,410					\$0.10	\$7,641
	Minor ADA Update							\$25,000
	Total w/ contingency							\$93,400
Clovis		70,308						
North Access Road	Crackfill & Sealcoat	70,308					\$0.55	\$38,669
CS&SC	Signage & Striping	70,308					\$0.10	\$7,031
	Total w/ contingency							\$57,200
Fresno City		8,831						
Parking Lot A	Crackfill & Sealcoat	8,831					\$0.55	\$4,857
CS&SC	Signage & Striping	8,831					\$0.10	\$883
	Total w/ contingency							\$7,200
Fresno City		81,915						
Parking Lot B	AC	4,096	0.25	150	2000	77	\$110.00	\$8,447
CS&SC and Remove	Agg Base	4,096	0.33	150	2000	101	\$70.00	\$7,096
Redundant medians	Demo/Grading	4,096					\$1.00	\$4,096
	Crackfill & Sealcoat	81,915					\$0.55	\$45,053
	Signage & Striping	81,915					\$0.10	\$8,192
	Total w/ contingency							\$91,200
Fresno City		74,396						
South Access Road	Crackfill & Sealcoat	74,396					\$0.55	\$40,918
CS&SC	Signage & Striping	74,396					\$0.10	\$7,440
	Minor ADA Update							\$25,000
	Total w/ contingency							\$91,700
Fresno City		87,257						
Parking Lot C	AC	87,257	0.25	150	2000	1636	\$110.00	\$179,968
100% R&R	Agg Base	87,257	0.33	150	2000	2160	\$70.00	\$151,173
	Demo/Grading	87,257					\$1.00	\$87,257
	Signage & Striping	87,257					\$0.55	\$47,991
	Total w/ contingency							\$583,000
Fresno City		167,994						
Parking Lot D	AC	167,994	0.25	150	2000	3150	\$110.00	\$346,488
100% R&R	Agg Base	167,994	0.33	150	2000	4158	\$70.00	\$291,050
	Demo/Grading	167,994					\$1.00	\$167,994
	Signage & Striping	167,994					\$0.55	\$92,397
	Total w/ contingency							\$1,122,500

Cost Estimates by Area (2019 Costs)

Area	Description	Area (SF)	Thickness (Ft)	Unit Weight lbs/ft ³	lbs/Ton	Tons	Unit Price	Cost
Fresno City		8,892						
McKinley Access Road	AC	889	0.25	150	2000	17	\$110.00	\$1,834
10% R&R	Agg Base	889	0.33	150	2000	22	\$70.00	\$1,541
	Demo/Grading	889					\$1.00	\$889
	Crackfill & Sealcoat	8,892					\$0.55	\$4,891
	Signage & Striping	8,892					\$0.10	\$889
	Minor ADA Update							\$25,000
	Total w/ contingency							\$43,900
Fresno City		167,352						
Parking Lot E (South)	Crackfill & Sealcoat	167,352					\$0.55	\$92,044
CS&SC	Signage & Striping	167,352					\$0.10	\$16,735
	Minor ADA Update							\$25,000
	Total w/ contingency							\$167,300
Fresno City		74,330						
Parking Lot E (North)	AC	74,330	0.25	150	2000	1394	\$110.00	\$153,306
100% R&R	Agg Base	74,330	0.33	150	2000	1840	\$70.00	\$128,777
	Demo/Grading	74,330					\$1.00	\$74,330
	Signage & Striping	74,330					\$0.10	\$7,433
	Minor ADA Update							\$25,000
	Total w/ contingency							\$486,100
Fresno City		32,230						
Parking Lot F	Grind	32,230					\$0.75	\$24,173
Grind & Overlay	Overlay	32,230	0.17	150	2000	411	\$110.00	\$45,203
	Signage & Striping	32,230					\$0.10	\$3,223
	Total w/ contingency							\$86,800
Fresno City		36,174						
Parking Lot G	AC	3,617	0.25	150	2000	68	\$110.00	\$7,461
10% R&R	Agg Base	3,617	0.33	150	2000	90	\$70.00	\$6,267
	Demo/Grading	3,617					\$1.00	\$3,617
	Crackfill & Sealcoat	36,174					\$0.55	\$19,896
	Signage & Striping	36,174					\$0.10	\$3,617
	Minor ADA Update							\$25,000
	Total w/ contingency							\$82,400
Fresno City		25,963						
Parking Lot H	Grind	25,963					\$0.75	\$19,472
Grind & Overlay	Overlay	25,963	0.17	150	2000	331	\$110.00	\$36,413
	Signage & Striping	25,963					\$0.10	\$2,596
	Total w/ contingency							\$69,900
Fresno City		14,681						
Parking Lot I	AC	1,468	0.25	150	2000	28	\$110.00	\$3,028
10% R&R	Agg Base	1,468	0.33	150	2000	36	\$70.00	\$2,543
	Demo/Grading	1,468					\$1.00	\$1,468
	Crackfill & Sealcoat	14,681					\$0.55	\$8,075
	Signage & Striping	14,681					\$0.10	\$1,468
	Minor ADA Update							\$25,000
	Total w/ contingency							\$52,000
Fresno City		14,921						
Parking Lot J	AC	2,984	0.25	150	2000	56	\$110.00	\$6,155
20% R&R	Agg Base	2,984	0.33	150	2000	74	\$70.00	\$5,170
	Demo/Grading	2,984					\$1.00	\$2,984
	Crackfill & Sealcoat	14,921					\$0.55	\$8,207
	Signage & Striping	14,921					\$0.10	\$1,492
	Minor ADA Update							\$25,000
	Total w/ contingency							\$61,300

Cost Estimates by Area (2019 Costs)

Area	Description	Area (SF)	Thickness (Ft)	Unit Weight lbs/ft ³	lbs/Ton	Tons	Unit Price	Cost
Fresno City		35,448						
Parking Lot K (West)	Crackfill & Sealcoat	35,448					\$0.55	\$19,496
CS&SC	Signage & Striping	35,448					\$0.10	\$3,545
	Total w/ contingency							\$28,900
Fresno City		22,211						
Parking Lot K (East)	Crackfill & Sealcoat	22,211					\$0.55	\$12,216
CS&SC	Signage & Striping	22,211					\$0.10	\$2,221
	Total w/ contingency							\$18,100
Fresno City		5,303						
Parking Lot L	Crackfill & Sealcoat	5,303					\$0.55	\$2,917
CS&SC	Signage & Striping	5,303					\$0.10	\$530
	Minor ADA Update							\$25,000
	Total w/ contingency							\$35,600
Fresno City		4,143						
Parking Lot M	AC	829	0.25	150	2000	16	\$110.00	\$1,709
20% R&R	Agg Base	829	0.33	150	2000	21	\$70.00	\$1,436
	Demo/Grading	829					\$1.00	\$829
	Crackfill & Sealcoat	4,143					\$0.55	\$2,279
	Signage & Striping	4,143					\$0.10	\$414
	Total w/ contingency							\$8,400
Fresno City		20,337						
Parking Lot O	Crackfill & Sealcoat	20,337					\$0.55	\$11,185
CS&SC	Signage & Striping	20,337					\$0.10	\$2,034
	Total w/ contingency							\$16,600
Fresno City		9,517						
Parking Lot P	Crackfill & Sealcoat	9,517					\$0.55	\$5,234
CS&SC	Signage & Striping	9,517					\$0.10	\$952
	Minor ADA Update							\$25,000
	Total w/ contingency							\$39,000
Fresno City		47,362						
Parking Lot Q	Crackfill & Sealcoat	47,362					\$0.55	\$26,049
CS&SC	Signage & Striping	47,362					\$0.10	\$4,736
	Large ADA Update							\$50,000
	Total w/ contingency							\$101,000
Fresno City		12,405						
Parking Lot R	Crackfill & Sealcoat	12,405					\$0.55	\$6,823
CS&SC	Signage & Striping	12,405					\$0.10	\$1,241
	Minor ADA Update							\$25,000
	Total w/ contingency							\$41,400
Fresno City		23,241						
Parking Lot S	Crackfill & Sealcoat	23,241					\$0.55	\$12,783
CS&SC	Signage & Striping	23,241					\$0.10	\$2,324
	Minor ADA Update							\$25,000
	Total w/ contingency							\$50,200
Fresno City		72,738						
North Access Roads	Crackfill & Sealcoat	72,738					\$0.55	\$40,006
CS&SC	Signage & Striping	72,738					\$0.10	\$7,274
	Minor ADA Update							\$25,000
	Total w/ contingency							\$90,400
Fresno City		67,626						
Parking Lot T	Crackfill & Sealcoat	67,626					\$0.55	\$37,194
CS&SC	Signage & Striping	67,626					\$0.10	\$6,763
	Total w/ contingency							\$55,000

Cost Estimates by Area (2019 Costs)

Area	Description	Area (SF)	Thickness (Ft)	Unit Weight lbs/ft ³	lbs/Ton	Tons	Unit Price	Cost
Fresno City		96,333						
Parking Lot V	Crackfill & Sealcoat	96,333					\$0.55	\$52,983
CS&SC	Signage & Striping	96,333					\$0.10	\$9,633
	Minor ADA Update							\$25,000
	Total w/ contingency							\$109,600
Fresno City		6,642						
Parking Lot W	Crackfill & Sealcoat	6,642					\$0.55	\$3,653
CS&SC	Signage & Striping	6,642					\$0.10	\$664
	Minor ADA Update							\$25,000
	Total w/ contingency							\$36,700
Fresno City		19,379						
East Access Road	Grind	19,379					\$0.75	\$14,534
Grind & Overlay	Overlay	19,379	0.17	150	2000	247	\$110.00	\$27,179
	Signage & Striping	19,379					\$0.10	\$1,938
	Minor ADA Update							\$25,000
	Total w/ contingency							\$85,900
Fresno City		91,927						
Parking Lot X	AC	9,193	0.25	150	2000	172	\$110.00	\$18,960
10% R&R	Agg Base	9,193	0.33	150	2000	228	\$70.00	\$15,926
	Demo/Grading	9,193					\$1.00	\$9,193
	Crackfill & Sealcoat	91,927					\$0.55	\$50,560
	Signage & Striping	91,927					\$0.10	\$9,193
	Large ADA Update							\$50,000
	Total w/ contingency							\$192,300
Fresno City		23,251						
Police Training Lot	Crackfill & Sealcoat	23,251					\$0.55	\$12,788
CS&SC	Signage & Striping	23,251					\$0.10	\$2,325
	Total w/ contingency							\$18,900
Fresno City		3,538						
Track Field Access	AC	3,538	0.25	150	2000	66	\$110.00	\$7,297
100% R&R	Agg Base	3,538	0.33	150	2000	88	\$70.00	\$6,130
	Demo/Grading	3,538					\$1.00	\$3,538
	Signage & Striping	3,538					\$0.10	\$354
	Total w/ contingency							\$21,700
Madera Center		27,283						
Entry Roudabout	Crackfill & Sealcoat	27,283					\$0.55	\$15,006
CS&SC	Signage & Striping	27,283					\$0.10	\$2,728
	Total w/ contingency							\$22,200
Madera Center		122,305						
Parking Lot A	AC	64,405	0.25	150	2000	1208	\$110.00	\$132,835
100% R&R	Agg Base	64,405	0.33	150	2000	1594	\$70.00	\$111,582
	Demo/Grading	64,405					\$1.00	\$64,405
	Signage & Striping	122,305					\$0.10	\$12,231
	Large ADA Update							\$50,000
	Crackfill & Sealcoat	57,900					\$0.55	\$31,845
	Signage & Striping	57,900					\$0.10	\$5,790
	Total w/ contingency							\$510,900

Cost Estimates by Area (2019 Costs)

Area	Description	Area (SF)	Thickness (Ft)	Unit Weight lbs/ft ³	lbs/Ton	Tons	Unit Price	Cost
Madera Center		57,900						
Parking Lot A	Crackfill & Sealcoat	57,900					\$0.55	\$31,845
CS&SC	Signage & Striping	57,900					\$0.10	\$5,790
	Total w/ contingency							\$47,100
Madera Center		37,598						
Main Access Road	AC	7,520	0.25	150	2000	141	\$110.00	\$15,509
20% R&R	Agg Base	7,520	0.33	150	2000	186	\$70.00	\$13,028
	Demo/Grading	7,520					\$1.00	\$7,520
	Crackfill & Sealcoat	37,598					\$0.55	\$20,679
	Signage & Striping	37,598					\$0.10	\$3,760
	Total w/ contingency							\$75,700
Madera Center		11,602						
Main Access Road	AC	11,602	0.25	150	2000	218	\$110.00	\$23,929
100% R&R	Agg Base	11,602	0.33	150	2000	287	\$70.00	\$20,100
	Demo/Grading	11,602					\$1.00	\$11,602
	Signage & Striping	11,602					\$0.10	\$1,160
	Total w/ contingency							\$71,000
Madera Center		38,477						
West Access Road	Crackfill & Sealcoat	38,477					\$0.55	\$21,162
CS&SC	Signage & Striping	38,477					\$0.10	\$3,848
	Total w/ contingency							\$31,300
Madera Center		151,648						
Parking Lot C	Crackfill & Sealcoat	151,648					\$0.55	\$83,406
CS&SC	Signage & Striping	151,648					\$0.10	\$15,165
	Minor ADA Update							\$25,000
	Total w/ contingency							\$154,500
Peach & Herndon		28,505						
Drive Aisles	AC	28,505	0.25	150	2000	534	\$110.00	\$58,792
100% R&R	Agg Base	28,505	0.33	150	2000	705	\$70.00	\$49,385
	Demo/Grading	28,505					\$1.00	\$28,505
	Signage & Striping	28,505					\$0.10	\$2,851
	Total w/ contingency							\$174,500
Peach & Herndon		54,755						
West Parking Lot	AC	5,476	0.25	150	2000	103	\$110.00	\$11,293
10% R&R	Agg Base	5,476	0.33	150	2000	136	\$70.00	\$9,486
	Demo/Grading	5,476					\$1.00	\$5,476
	Crackfill & Sealcoat	54,755					\$0.55	\$30,115
	Signage & Striping	54,755					\$0.10	\$5,476
	Total w/ contingency							\$77,400
Peach & Herndon		46,010						
Center Parking Lot	AC	4,601	0.25	150	2000	86	\$110.00	\$9,490
20% R&R	Agg Base	4,601	0.33	150	2000	114	\$70.00	\$7,971
	Demo/Grading	4,601					\$1.00	\$4,601
	Crackfill & Sealcoat	46,010					\$0.55	\$25,306
	Signage & Striping	46,010					\$0.10	\$4,601
	Total w/ contingency							\$65,000
Peach & Herndon		19,628						
East Parking Lot	Crackfill & Sealcoat	19,628					\$0.55	\$10,795
CS&SC	Signage & Striping	19,628					\$0.10	\$1,963
	Total w/ contingency							\$16,000

Cost Estimates by Area (2019 Costs)

Area	Description	Area (SF)	Thickness (Ft)	Unit Weight lbs/ft ³	lbs/Ton	Tons	Unit Price	Cost
Peach & Herndon		16,309						
Back Parking Lot	AC	1,631	0.25	150	2000	31	\$110.00	\$3,364
20% R&R	Agg Base	1,631	0.33	150	2000	40	\$70.00	\$2,826
	Demo/Grading	1,631					\$1.00	\$1,631
	Crackfill & Sealcoat	16,309					\$0.55	\$8,970
	Signage & Striping	16,309					\$0.10	\$1,631
	Total w/ contingency							\$23,100
Reedley College		40,529						
Parking Lot A	Crackfill & Sealcoat	40,529					\$0.55	\$22,291
CS&SC	Signage & Striping	40,529					\$0.10	\$4,053
	Total w/ contingency							\$33,000
Reedley College		137,176						
Parking Lot B	AC	15,243	0.25	150	2000	286	\$110.00	\$31,439
CS&SC	Agg Base	15,243	0.33	150	2000	377	\$70.00	\$26,408
	Demo/Grading	15,243					\$1.00	\$15,243
	Crackfill & Sealcoat	121,933					\$0.55	\$67,063
	Signage & Striping	121,933					\$0.10	\$12,193
	Minor ADA Update							\$25,000
	Total w/ contingency							\$130,400
Reedley College		37,080						
Parking Lot C	Crackfill & Sealcoat	37,080					\$0.55	\$20,394
CS&SC	Signage & Striping	37,080					\$0.10	\$3,708
	Total w/ contingency							\$30,200
Reedley College		91,110						
Parking Lot D (South)	Crackfill & Sealcoat	91,110					\$0.55	\$50,111
CS&SC	Signage & Striping	91,110					\$0.10	\$9,111
	Total w/ contingency							\$74,100
Reedley College		146,900						
Parking Lot D (North)	AC	29,380	0.25	150	2000	551	\$110.00	\$60,596
20% R&R	Agg Base	29,380	0.33	150	2000	727	\$70.00	\$50,901
	Demo/Grading	29,380					\$1.00	\$29,380
	Crackfill & Sealcoat	146,900					\$0.55	\$80,795
	Signage & Striping	146,900					\$0.10	\$14,690
	Large ADA Update							\$50,000
	Total w/ contingency							\$295,500
Reedley College		8,188						
Parking Lot E	AC	8,188	0.25	150	2000	154	\$110.00	\$16,888
100% R&R	Agg Base	8,188	0.33	150	2000	203	\$70.00	\$14,186
	Demo/Grading	8,188					\$1.00	\$8,188
	Signage & Striping	8,188					\$0.10	\$819
	Total w/ contingency							\$50,200
Reedley College		8,760						
Parking Lot F	AC	8,760	0.25	150	2000	164	\$110.00	\$18,068
100% R&R	Agg Base	8,760	0.33	150	2000	217	\$70.00	\$15,177
	Demo/Grading	8,760					\$1.00	\$8,760
	Signage & Striping	8,760					\$0.10	\$876
	Minor ADA Update							\$25,000
	Total w/ contingency							\$84,900
Reedley College		7,936						
Parking Lot G	Crackfill & Sealcoat	7,936					\$0.55	\$4,365
CS&SC	Signage & Striping	7,936					\$0.10	\$794
	Total w/ contingency							\$6,500

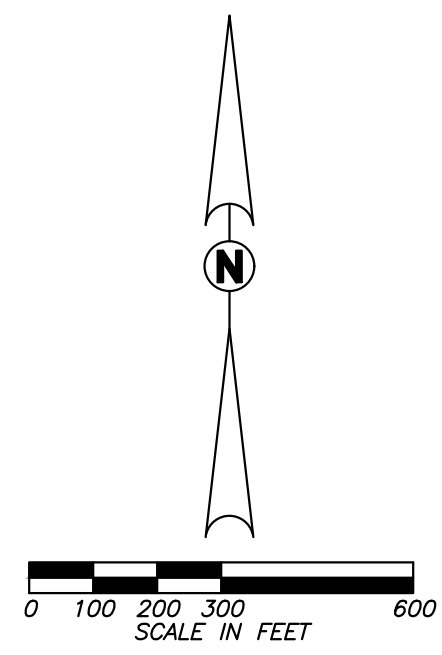
Cost Estimates by Area (2019 Costs)

Area	Description	Area (SF)	Thickness (Ft)	Unit Weight lbs/ft ³	lbs/Ton	Tons	Unit Price	Cost
Reedley College		6,230						
Parking Lot H	AC	1,246	0.25	150	2000	23	\$110.00	\$2,570
20% R&R	Agg Base	1,246	0.33	150	2000	31	\$70.00	\$2,159
	Demo/Grading	1,246					\$1.00	\$1,246
	Crackfill & Sealcoat	6,230					\$0.55	\$3,427
	Signage & Striping	6,230					\$0.10	\$623
	Large ADA Update							\$25,000
	Total w/ contingency							\$43,800
Reedley College		34,943						
Maintenance Yard	AC	34,943	0.25	150	2000	655	\$110.00	\$72,070
100% R&R	Agg Base	34,943	0.33	150	2000	865	\$70.00	\$60,539
	Demo/Grading	34,943					\$1.00	\$34,943
	Signage & Striping	34,943					\$0.10	\$3,494
	Total w/ contingency							\$213,900
Reedley College		25,916						
Maintenance Parking Lot	AC	25,916	0.25	150	2000	486	\$110.00	\$53,452
100% R&R	Agg Base	25,916	0.33	150	2000	641	\$70.00	\$44,899
	Demo/Grading	25,916					\$1.00	\$25,916
	Signage & Striping	25,916					\$0.10	\$2,592
	Total w/ contingency							\$158,600
Reedley College		7,660						
Aviation Yard	AC	1,532	0.25	150	2000	29	\$110.00	\$3,160
20% R&R	Agg Base	1,532	0.33	150	2000	38	\$70.00	\$2,654
	Demo/Grading	1,532					\$1.00	\$1,532
	Crackfill & Sealcoat	7,660					\$0.55	\$4,213
	Signage & Striping	7,660					\$0.10	\$766
	Total w/ contingency							\$15,500
Reedley College		17,567						
Parking Lot J	AC	17,567	0.25	150	2000	329	\$110.00	\$36,232
100% R&R	Agg Base	17,567	0.33	150	2000	435	\$70.00	\$30,435
	Demo/Grading	17,567					\$1.00	\$17,567
	Signage & Striping	17,567					\$0.10	\$1,757
	Total w/ contingency							\$107,500
Reedley College		12,467						
Basketball Courts	Crackfill & Sealcoat	12,467					\$0.55	\$6,857
CS&SC	Signage & Striping	12,467					\$0.10	\$1,247
	Total w/ contingency							\$10,200
Reedley College		28,701						
Resident Lot	Grind	28,701					\$0.75	\$21,526
Grind & Overlay	Overlay	28,701	0.17	150	2000	366	\$110.00	\$40,253
	Signage & Striping	28,701					\$0.10	\$2,870
	Total w/ contingency							\$77,300
Reedley College		42,876						
Parking Lot K	AC	42,876	0.25	150	2000	804	\$110.00	\$88,432
100% R&R	Agg Base	42,876	0.33	150	2000	1061	\$70.00	\$74,283
	Demo/Grading	42,876					\$1.00	\$42,876
	Signage & Striping	42,876					\$0.10	\$4,288
	Total w/ contingency							\$262,400
Reedley College		74,657						
Main Access Road	AC	74,657	0.25	150	2000	1400	\$110.00	\$153,980
100% R&R	Agg Base	74,657	0.33	150	2000	1848	\$70.00	\$129,343
	Demo/Grading	74,657					\$1.00	\$74,657
	Signage & Striping	74,657					\$0.10	\$7,466
	Total w/ contingency							\$456,900







Cost Estimates by Area (2019 Costs)

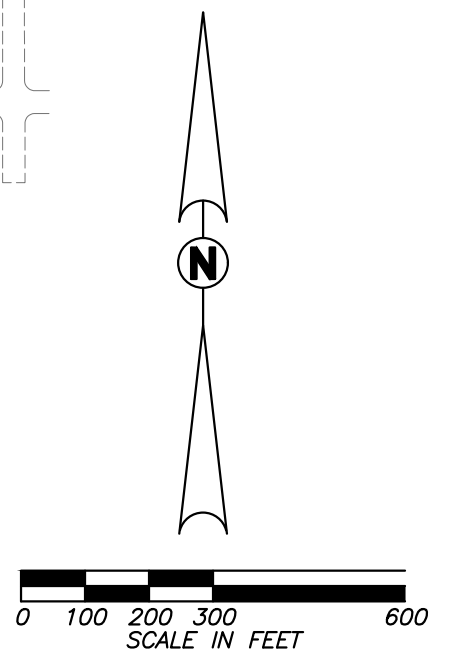
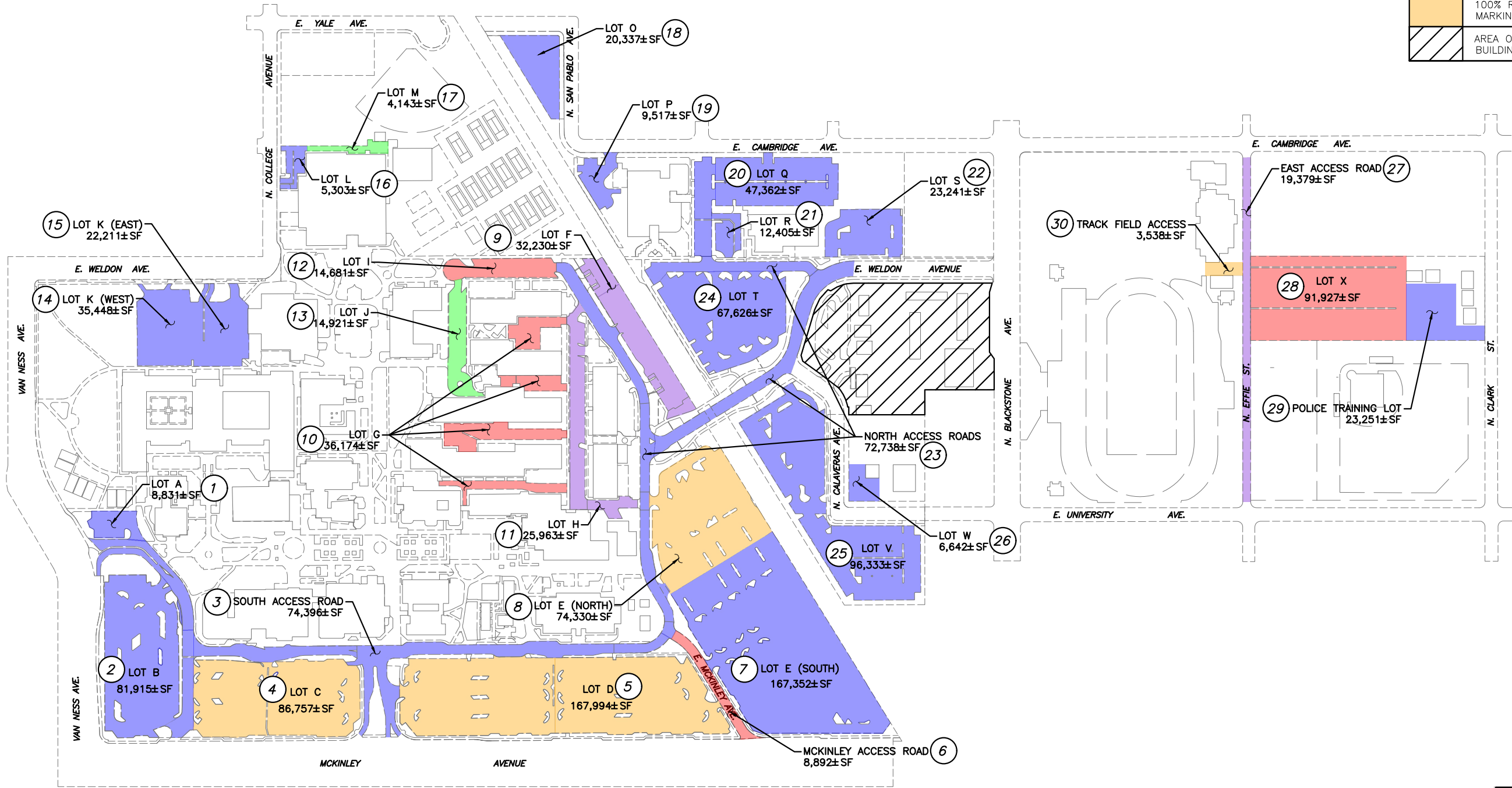
Area	Description	Area (SF)	Thickness (Ft)	Unit Weight lbs/ft ³	lbs/Ton	Tons	Unit Price	Cost
Reedley College		13,786						
Access Road End	Crackfill & Sealcoat	13,786					\$0.55	\$7,582
CS&SC	Signage & Striping	13,786					\$0.10	\$1,379
	Total w/ contingency							\$11,300
Reedley College		12,640						
Residence Hall Fire Lane	Crackfill & Sealcoat	12,640					\$0.55	\$6,952
CS&SC	Signage & Striping	12,640					\$0.10	\$1,264
	Total w/ contingency							\$10,300
Oakhurst								
Patching	Lump Sum							\$5,000


REHAB TYPE	DESCRIPTION OF WORK
	CRACK SEAL, SEAL COAT AND PAVEMENT MARKINGS
	10% REMOVE, RECONSTRUCT AND PATCH CRACK SEAL, SEAL COAT AND PAVEMENT MARKINGS
	20% REMOVE, RECONSTRUCT AND PATCH CRACK SEAL, SEAL COAT AND PAVEMENT MARKINGS
	100% REMOVE AND RECONSTRUCT AND PAVEMENT MARKINGS








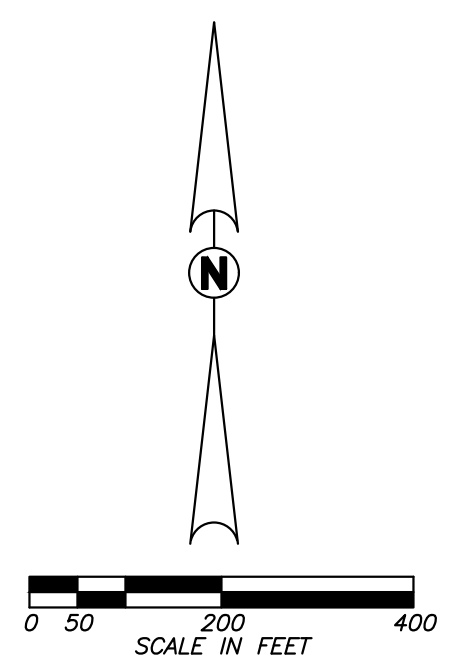
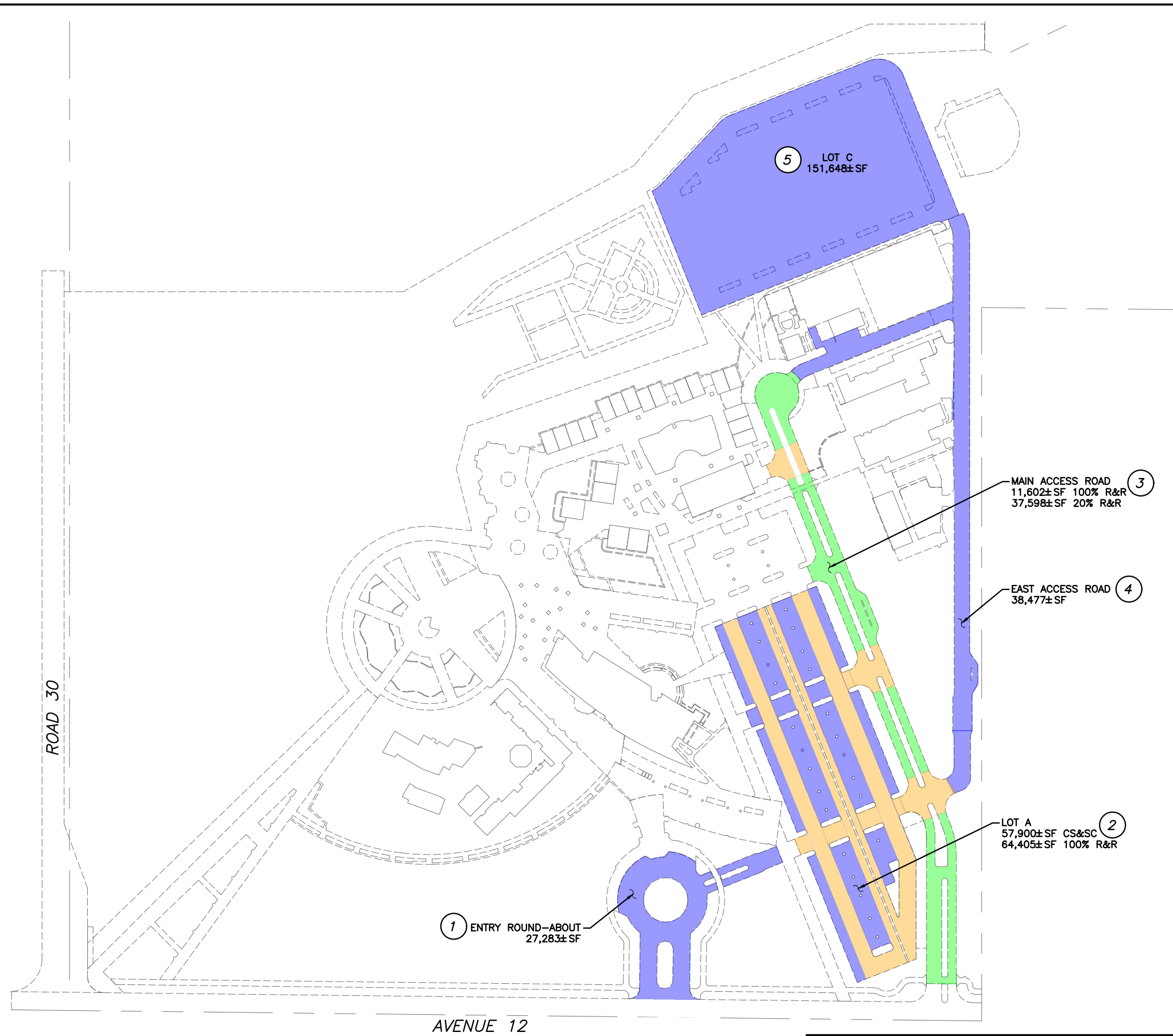
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	CLOVIS COMMUNITY COLLEGE 7 YEAR PAVEMENT MAINTENANCE PLAN PARKING LOT PLAN		DR. BY JS CH. BY ZH DATE 10/5/18 SCALE: AS NOTED


REHAB TYPE	DESCRIPTION OF WORK
	CRACK SEAL, SEAL COAT AND PAVEMENT MARKINGS
	10% REMOVE, RECONSTRUCT AND PATCH CRACK SEAL, SEAL COAT AND PAVEMENT MARKINGS
	20% REMOVE, RECONSTRUCT AND PATCH CRACK SEAL, SEAL COAT AND PAVEMENT MARKINGS
	GRIND AND OVERLAY AND PAVEMENT MARKINGS
	100% REMOVE AND RECONSTRUCT AND PAVEMENT MARKINGS
	AREA OF RECONSTRUCTION WITH MATH/SCIENCE BUILDING PROJECT








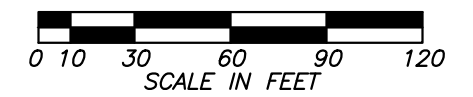
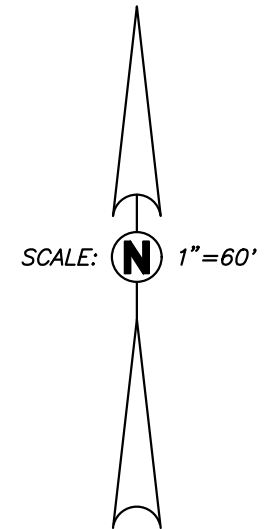
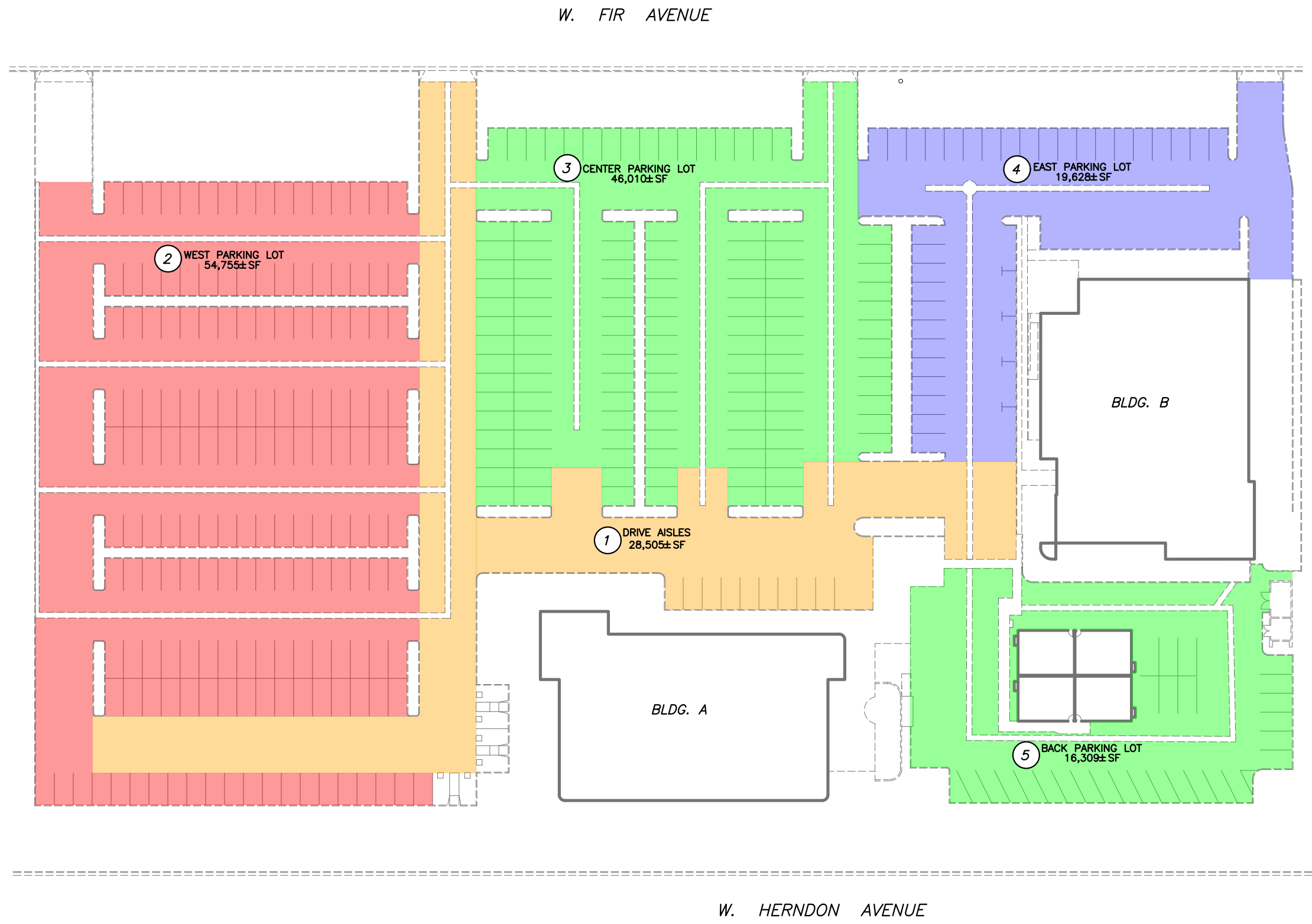
	CONSULTANT	STATE CENTER COMMUNITY COLLEGE DISTRICT FRESNO CITY COLLEGE 7 YEAR PAVEMENT MAINTENANCE PLAN PARKING LOT PLAN		DR. BY JS	SHEET NO. 2
	Blair, Church & Flynn Consulting Engineers 481 Clark Avenue, Suite 200 Clovis, California 93612 Tel: (509) 326-1400 Fax: (509) 326-1500			CH. BY ZH	
				SCALE: AS NOTED	

REHAB TYPE	DESCRIPTION OF WORK
	CRACK SEAL, SEAL COAT AND PAVEMENT MARKINGS
	10% REMOVE, RECONSTRUCT AND PATCH CRACK SEAL, SEAL COAT AND PAVEMENT MARKINGS
	20% REMOVE, RECONSTRUCT AND PATCH CRACK SEAL, SEAL COAD AND PAVEMENT MARKINGS
	GRIND AND OVERLAY AND PAVEMENT MARKINGS
	100% REMOVE AND RECONSTRUCT AND PAVEMENT MARKINGS



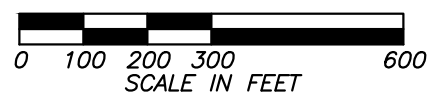
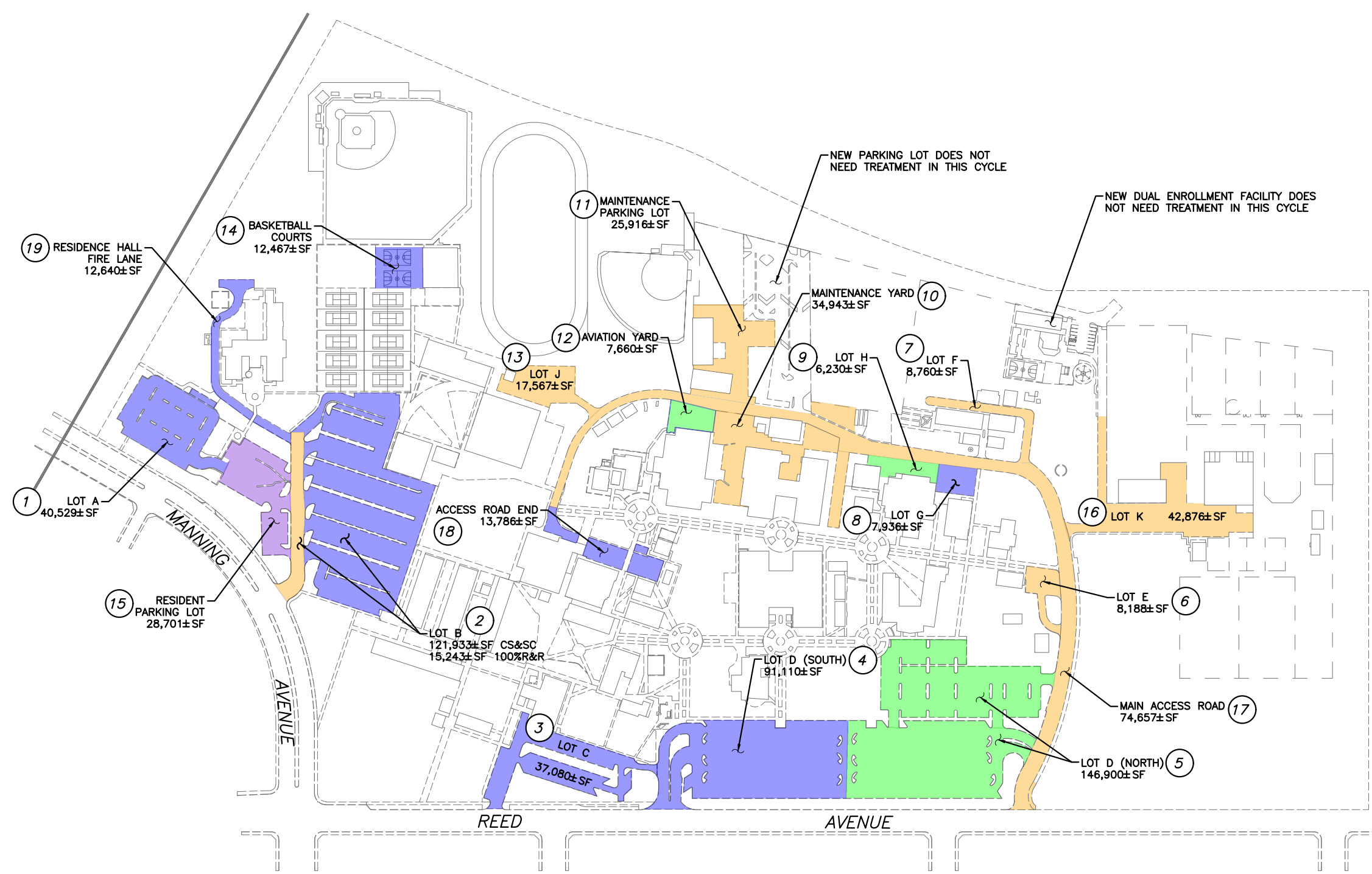
	CONSULTANT Blair, Church & Flynn Consulting Engineers 4821 Christie Avenue, Suite 200 Clovis, California 93222 Tel: (559) 226-1400 Fax: (559) 226-2200	STATE CENTER COMMUNITY COLLEGE DISTRICT MADERA CENTER 7 YEAR PAVEMENT MAINTENANCE PLAN PARKING LOT PLAN		DR. BY JS CH. BY ZH DATE 10/5/18 SCALE: AS NOTED	SHEET NO. 3 OF 5 SHEETS

REHAB TYPE	DESCRIPTION OF WORK
	CRACK SEAL, SEAL COAT AND PAVEMENT MARKINGS
	10% REMOVE, RECONSTRUCT AND PATCH CRACK SEAL, SEAL COAT AND PAVEMENT MARKINGS
	20% REMOVE, RECONSTRUCT AND PATCH CRACK SEAL, SEAL COAT AND PAVEMENT MARKINGS
	GRIND AND OVERLAY AND PAVEMENT MARKINGS
	100% REMOVE AND RECONSTRUCT AND PAVEMENT MARKINGS



	CONSULTANT Blair, Church & Flynn Consulting Engineers 481 Clovis Avenue, Suite 200 Clovis, California 93612 Tel: (509) 326-1400 Fax: (509) 326-1500	STATE CENTER COMMUNITY COLLEGE DISTRICT	
	PEACH AND HERNDON CAMPUS 7 YEAR PAVEMENT MAINTENANCE PLAN PARKING LOT PLAN		DR. BY JS CH. BY ZH DATE 10/5/18 SCALE: AS NOTED

REHAB TYPE	DESCRIPTION OF WORK
Blue	CRACK SEAL, SEAL COAT AND PAVEMENT MARKINGS
Red	10% REMOVE, RECONSTRUCT AND PATCH CRACK SEAL, SEAL COAT AND PAVEMENT MARKINGS
Green	20% REMOVE, RECONSTRUCT AND PATCH CRACK SEAL, SEAL COAT AND PAVEMENT MARKINGS
Purple	GRIND AND OVERLAY AND PAVEMENT MARKINGS
Orange	100% REMOVE AND RECONSTRUCT AND PAVEMENT MARKINGS



	CONSULTANT	STATE CENTER COMMUNITY COLLEGE DISTRICT	
	Blair Church & Flynn Consulting Engineers 4821 Santa Ana Avenue, Suite 200 Costa Mesa, California 92626 Tel: (949) 266-1400 Fax: (949) 266-1500	REEDLEY COLLEGE 7 YEAR PAVEMENT MAINTENANCE PLAN PARKING LOT PLAN	DR. BY JS CH. BY ZH DATE 10/5/18 SCALE: AS NOTED