GALVESTON COUNTY

GALVESTON COUNTY ENGINEERING DEPARTMENT

PLANS OF PROPOSED COUNTY IMPROVEMENTS

CITY OF HITCHCOCK STREET REHABILITATION

FOR JACKSON RD, NEVILLE RD, HACKER RD, BURNS ST AND RENAUD ST

RECONSTRUCTION OF PAVEMENT USING MILL WITH ASPHALT OVERLAY OR BASE RECONSTRUCTION WITH NEW ASPHALT SURFACE

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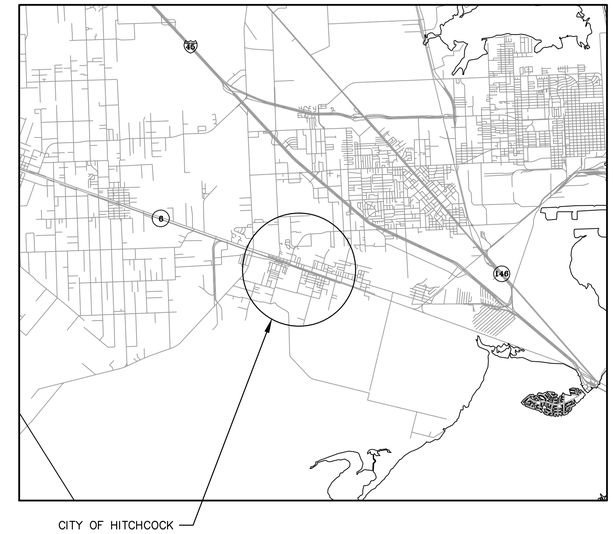
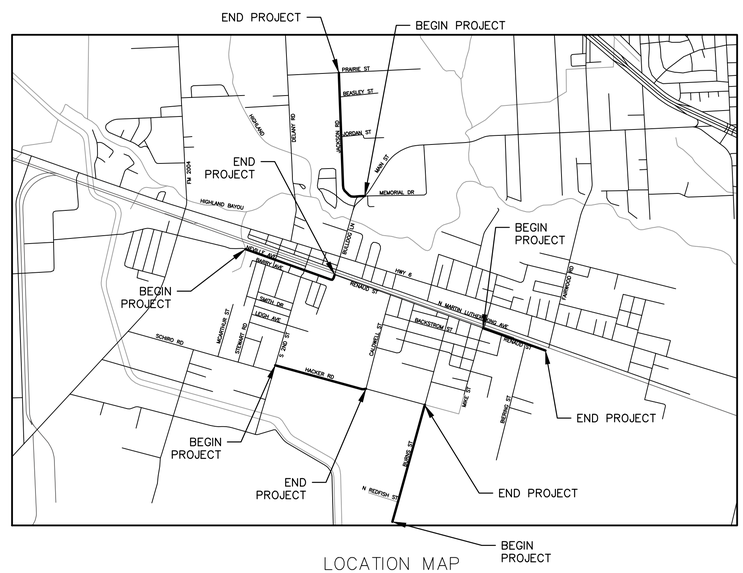


VICINITY MAP
NTS



LOCATION MAP
NTS

OFFICIALS

MARK HENRY	COUNTY JUDGE
DARRELL APFFEL	COMMISSIONER PRECINCT No.1
JOE GIUSTI	COMMISSIONER PRECINCT No.2
STEPHEN HOLMES	COMMISSIONER PRECINCT No.3
KENNETH CLARK	COMMISSIONER PRECINCT No.4
MICHAEL SHANNON, PE	COUNTY ENGINEER

STATE OF TEXAS
ELISE K. DILLOW
136062
LICENSED
PROFESSIONAL ENGINEER

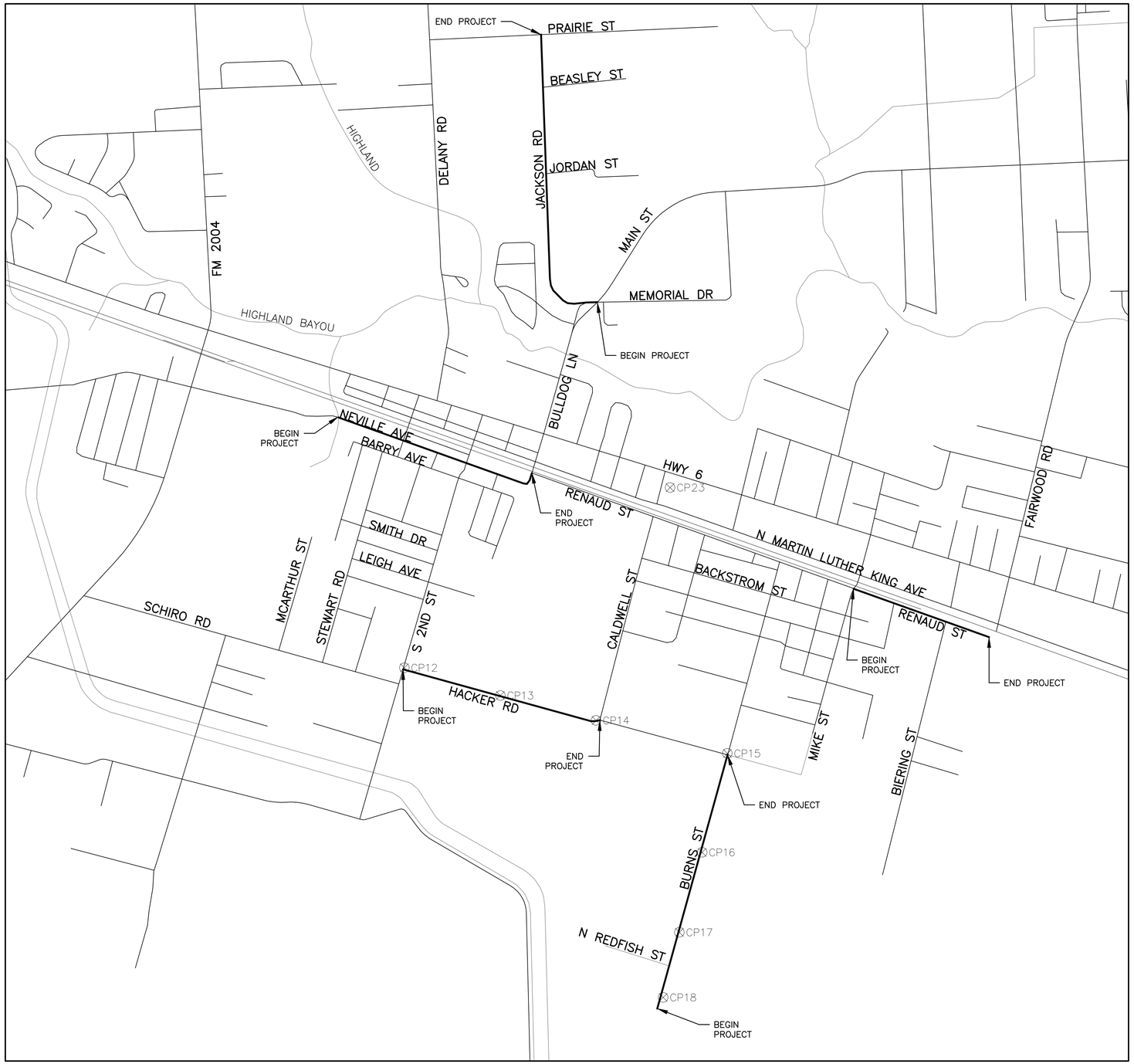
Elise Dillow 8/7/2020

APPROVED BY:

MICHAEL SHANNON, PE
COUNTY ENGINEER

DATE _____

Aug 07, 2020 – 4:33pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\COVER SHEET.dwg COVER SHEET



0 800' 1600'

LOCATION MAP

1. GENERAL SCOPE OF WORK FOR PROJECT LOCATIONS IS AS FOLLOWS:

2. BASE BID
   A. MILL, BASE REPAIR, OVERLAY: JACKSON, NEVILLE AND BULLDOG LANE.
   B. BASE RECONSTRUCTION AND OVERLAY: HACKER AND BURNS.

3. ADDITIVE ALTERNATE
   A. ALTERNATE 1: PERFORM BASE RECONSTRUCTION AND OVERLAY ON RENAUD.

4. FIRST PRIORITY AREAS OF REPAIR ARE TO BE JACKSON, NEVILLE, BULLDOG, AND HACKER. FINAL ASSESSMENT OF WORK ON BURNS AND RENAUD, IF AWARDED, ARE TO BE EVALUATED BASED ON FINAL PROJECT COSTS FOR THE FIRST FOUR PRIORITY AREAS.

5. PRIMARY ROUTES TO BE USED FOR MOBILIZATION, MATERIAL DELIVERY, AND HAULING OF MILLED/EXCAVATED MATERIAL ARE HIGHWAY 6, MAIN STREET (159), BULLDOG LANE, 2ND STREET, AND MIKE STREET.

6. PROVIDE, TO THE GREATEST DEGREE POSSIBLE, FLAG CONTROL AROUND SHORT WORK ZONES. PROVIDE SIGNAGE FOR TRAFFIC CONTROL FOR ONE LANE CLOSURES AND/OR DETOURING OF TRAFFIC. REFER TO TRAFFIC CONTROL DETAIL SHEET.

TRAFFIC CONTROL

1. CONTRACTOR TO BE RESPONSIBLE FOR PROVIDING NECESSARY TRAFFIC CONTROL DURING CONSTRUCTION. COST TO BE INCLUDED IN THE ITEM BARRICADES, SIGNS, AND TRAFFIC HANDLING.

2. ACCESS TO PROPERTIES WILL BE MAINTAINED BY CONTRACTOR. MAINTAIN ONE LANE OF TRAFFIC DURING WORK TO PROVIDE INGRESS/EGRESS TO DRIVEWAYS. PROVIDE FLAGMEN FOR ONE-WAY ACCESS. REOPEN ROADWAYS AT END OF WORKDAY.

3. CONTRACTOR TO PROVIDE 48 HOUR WRITTEN NOTIFICATION TO RESIDENTS IN AREA OF REPAIR LIMIT FOR THE FOLLOWING:
   - STREET TRAFFIC INTERRUPTION: PROVIDE NOTIFICATION OF INTERMITTENT ONE-LANE CLOSURE OR THRU TRAFFIC CLOSURE.
   - DRIVEWAY CLOSURE: PROVIDE NOTIFICATION OF ESTIMATED LENGTH OF TEMPORARY INTERRUPTION TO ACCESS.

CONTROL POINT COORDINATE VALUES

PT. NO	NORTH	EAST	ELEVATION	DESCRIPTION	STAMPING: "COBB FENDLEY & ASSOCIATES"
CP12	13692645.780	3235430.253	10.590	MAGNAIL	ALUMINUM WASHER
CP13	13692266.228	3236743.514	7.921	MAGNAIL	ALUMINUM WASHER
CP14	13691925.409	3238052.233	6.962	MAGNAIL	ALUMINUM WASHER
CP15	13691475.060	3239847.724	6.937	MAGNAIL	ALUMINUM WASHER
CP16	13690121.425	3239503.315	7.466	MAGNAIL	ALUMINUM WASHER
CP17	13689028.343	3239192.199	6.692	⅝" IR	PLASTIC CAP
CP18	13688138.172	3238969.807	6.276	⅝" IR	PLASTIC CAP
CP23	13695109.685	3239064.903	8.597	⅝" IR	PLASTIC CAP

CONTRACTOR RESPONSIBLE FOR SETTING UP CONTROLS FOR CONSTRUCTION.

STATE OF TEXAS
ELISE K. DILLOW
136062
LICENSED
PROFESSIONAL ENGINEER

Elise Dillow 8/7/2020

NO.	REVISION	BY	DATE

DRAWN BY: EKD
DESIGNED BY: EKD
CHECKED BY: MCD
APPROVED BY: RJB
SCALE: 1" = 800'
DATE: AUGUST 2020

THE STATE OF TEXAS COUNTY OF GALVESTON

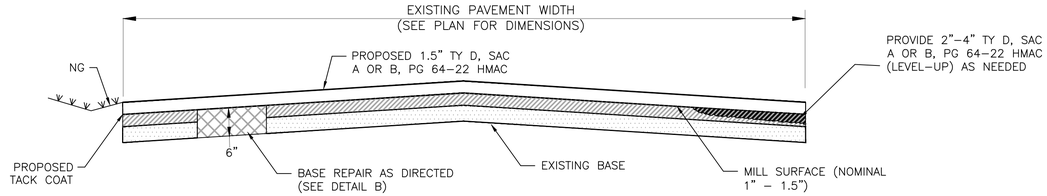
GALVESTON COUNTY
ENGINEERING DEPARTMENT

PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: PROJECT LOCATION MAP

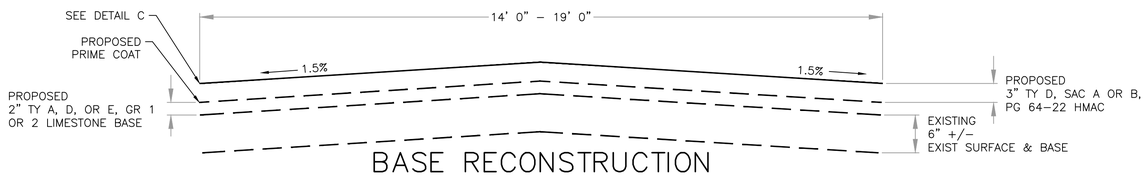
SHEET 02 OF 33

Aug 07, 2020 - 4:31pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\PROJECT LOCATION.dwg PROJECT LOCATION MAP



MILL & OVERLAY

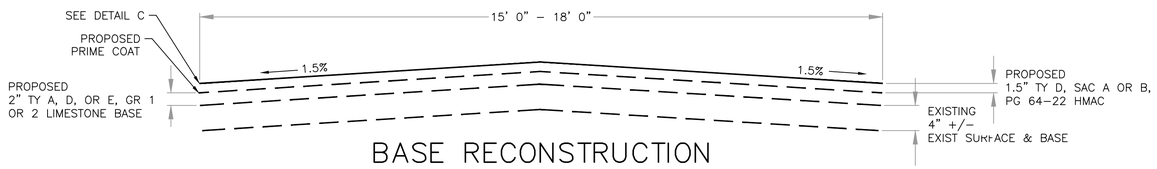
SCALE: N.T.S.



BASE RECONSTRUCTION

SCALE: N.T.S.

(HACKER RD AND BURNS ST)



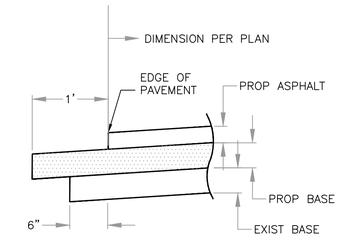
BASE RECONSTRUCTION

SCALE: N.T.S.

(RENAUD ST: ALTERNATE 1)

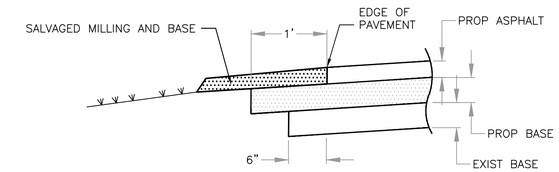
GENERAL NOTES

1. SCOPE OF WORK: TWO METHODS OF REHABILITATION ARE INCLUDED; MILL AND OVERLAY AND BASE RECONSTRUCTION. OTHER ASSOCIATED WORK INCLUDE PROOF ROLLING, INTERSECTIONS, DRIVEWAY TRANSITIONS, EDGE RECONSTRUCTION, EDGE TREATMENT, AND MINOR DRAINAGE RECONSTRUCTION.
2. WORK DESCRIPTION: FURTHER DESCRIPTION OF WORK IS PROVIDED ON THE QUANTITY AND WORK DESCRIPTION SHEET.
3. NOTIFICATIONS: CONTRACTOR TO PROVIDE WRITTEN NOTIFICATION (I.E. DOOR HANGAR) TO PROPERTY OWNERS, WITH DRIVEWAY ACCESS IN WORK AREA, 48 HOURS IN ADVANCE OF STREET CONSTRUCTION.



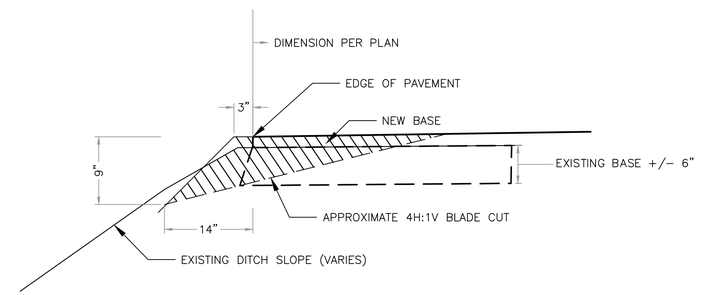
C EDGE CONSTRUCTION DETAIL

(HACKER RD: STA 0+47.71 TO STA 12+80.00, BURNS ST AND RENAUD ST: ALTERNATE 1)
SCALE: N.T.S.



D TYPE B BACKFILL DETAIL

(HACKER RD: STA 0+47.71 TO STA 12+80.00, BURNS ST AND RENAUD ST: ALTERNATE 1)
SCALE: N.T.S.

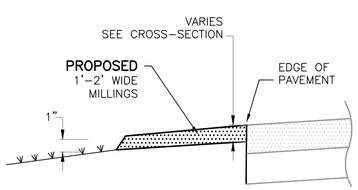


E EDGE CONSTRUCTION DETAIL

(HACKER RD: STA 12+80.00 TO STA 26+78.49)
SCALE: N.T.S.

NOTES

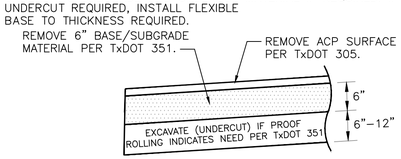
1. PAYMENT FOR NEW BASE MATERIAL TO BE INCLUDED IN TON UNIT PRICE FOR BASE MATERIAL (ROADWAY DELIVERY).
2. BLADING, REMOVAL AND DISPOSAL OF EXISTING MATERIAL, AND PLACEMENT OF NEW BASE TO BE INCLUDED IN LINEAR FOOT UNIT PRICE FOR EDGE RECONSTRUCTION.



A TYPE B BACKFILL DETAIL

(JACKSON RD, NEVILLE AVE)
SCALE: N.T.S.

THE ENGINEER SHALL DELINEATE AND MARK AREAS DESIGNATED FOR "FLEXIBLE PAVEMENT STRUCTURE REPAIR". FOR DESIGNATED AREAS, REMOVE 6" ACP/BASE/SUBGRADE. PROOF ROLL FOR SOUNDNESS OF UNDERLYING SUBGRADE AND UNDERCUT MATERIAL IF REQUIRED. IF UNDERCUT REQUIRED, INSTALL FLEXIBLE BASE TO THICKNESS REQUIRED.



B EXISTING FLEXIBLE PAVEMENT BASE REPAIR DETAIL

SCALE: N.T.S.

STATE OF TEXAS
ELISE K. DILLOW
136062
LICENSED PROFESSIONAL ENGINEER

Elise Dillow 8/7/2020

NO.	REVISION	BY	DATE

DRAWN BY: EKD
DESIGNED BY: EKD
CHECKED BY: MCD
APPROVED BY: RJB
SCALE: N/A
DATE: AUGUST 2020

THE STATE OF TEXAS COUNTY OF GALVESTON

GALVESTON COUNTY
ENGINEERING DEPARTMENT

PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: GENERAL NOTES AND TYPICAL SECTIONS

SHEET 03 OF 33

Aug 07, 2020 – 4:26pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\GENERAL NOTES & TYPICAL SECTIONS\GENERAL NOTES & TYPICAL SECTIONS.dwg

TxDOT Item No.	SPI-1	SPI-1	104	105	110	134	150	152***	164	168	216	247	251	305	310	340	340	351	351	351	403	464	465	467	479	530	530	530
Description	Mobilization (Project)	Mobilization (Base Reconstruction)	Removing Concrete (Pavement)	Removing Treated and Untreated Base and Asphalt Pavement	Excavation (Roadway)*	Backfill (TY B)**	Blading	Road Grader Work (Ordinary Compaction)	Cellulose Fiber Mulching Seeding (Perm)	Vegetative Watering (1,000 gal)	Proof Rolling	Flexible Base (Roadway Delivery) (TY A or D) (Gr. 1 or 2)	Rework Base Material (TYC) (Ordinary Compaction)	Salvaging, Hauling, and Stockpiling Reclaimable Asphalt Pavement (0.5" to 2")	Prime Coat (Type)	Dense Graded Hot-Mix Asphalt (Type D) (SAC A or B) (PG64-22) (1.5" LIFT)	Dense Graded Hot-Mix Asphalt (Type D) (SAC A or B) (PG64-22) (LEVEL-UP, 2-4")	Flexible Pavement Structure Repair (6 inches)	Flexible Pavement Structure Repair (8 inches)	Flexible Pavement Structure Repair (12 inches)	Trench Excavation Protection (>5 feet)	Reinforced Concrete Pipe (36 in) (D-load)	Junction Box (Complete)	SET (Type I, II, Pipe Runner, Pipe Runner Assembly)	Adjusting Manholes	Intersections (Asphalt)	Driveway (Asphalt)	Driveways (Base)
Measure	LS	LS	CY	CY	CY	STA/LF	STA	STA	SY	1000 GAL	HOUR	TON	SY	SY	GAL	TON	TON	SY	SY	SY	LF	LF	EA	LF	EA	SY	SY	SY
	1																											
Jackson						1000					8			8681		864	70	1800							1	390	362	
Neville						500					6			5752		576	30	1380							8	320	182	
Bulldog			1.1								4			1460		156			90	90					2			
Subtotal			***1.1***			***1500***					***18***			***15893***		***1596***	***100***	***3180***	***90***	***90***					***11***	***710***	***544***	
Hacker		1						27	10835	30	12																89	160
Intersection @ S. 2nd: STA 0+18.68 to STA 0+47.71					40	0						90	102	102	20	23												
STA 0+47.71 to STA 26+78.49						26						750	5754	1400	1142	1030									4	40		
Intersection @ Caldwell: STA 26+78.49 to STA 27+44.93					30	1						70	137		27	30												
Edges (entire length)							15					280																
Repairs Found from Proof Rolling				150								310																
Subtotal		***1***		***150***	***70***	***27***	***15***	***27***	***10835***	***30***	***12***	***1500***	***5993***	***1502***	***1189***	***1083***										***4***	***40***	***89***	***160***
Burns		1						35	19380	30	12																	275.4
14' Segment: STA 0+52.72 to STA 4+45.88						4						100	700	20	140	127												
STA 4+45.88 to STA 31+46.79						27						1490	6367	310	1274	1081					20	16	1	1	1	80		
Intersection @ Hacker: STA 31+46.79 to STA 35+00.74					150	4						310	833	700	167	170												
Repairs Found from Proof Rolling				290								600																
Subtotal		***1***		***290***	***150***	***35***		***35***	***19380***	***30***	***12***	***2500***	***7900***	***1030***	***1581***	***1377.5***					***20***	***16***	***1***	***1***	***1***	***80***		***275.4***
Renaud: Alternate 1		1		40		100					4	340	4120	4393	824	345										100	21.8	73
Subtotal		***1***		***40***		***100***					***4***	***340***	***4120***	***4393***	***824***	***345***										***100***	***21.8***	***73***

* Plan Quantity

** Measurement on Jackson and Neville to by Liner Foot (LF)

NOTES

1. FURTHER DESCRIPTION OF WORK ELEMENTS, AS SHOWN ON THE QUANTITY SUMMARY, ARE DESCRIBED IN THESE NOTES. THE QUANTITIES HAVE BEEN SEPARATED BY STREET, AND SPECIFIC SEGMENTS OF WORK, TO BETTER DEFINE THE ASSIGNED ESTIMATED QUANTITIES FOR THE PROJECT. THE DISTRIBUTION OF THE QUANTITES IS PROVIDED TO TRACK THE PROGRESS OF WORK IN COMPARISON TO THE AVAILABLE FUNDS. THE QUANTITY OF WORK ON JACKSON, NEVILLE, BULLDOG AND HACKER MUST BE WELL DEFINED BEFORE PROCEEDING WITH WORK ON BURNS AND THEN RENAUD (IF AWARDED).
2. ITEM 100: MOBILIZATION (PROJECT) COVERS OVERALL PROJECT MOBILIZATION, INCLUDING BONDS, INSURANCE, INITIAL MOBILIZATION AND MOBILIZATION TO PROJECT AREAS. MOBILIZATION (BASE RECONSTRUCTION) TO ESTABLISH AND CONTROL LIMITS OF WORK FOR BASE RECONSTRUCTION ACTIVITY ON HACKER, BURNS, AND RENAUD: ALTERNATE 1 (IF AWARDED). THE WORK TO BE PERFORMED INCLUDES ESTABLISHING THE FINAL EDGE (I.E. WIDTH) OF BASE RECONSTRUCTION; PROVIDE SURVEY CONTROL TO CONFORM TO THE PROFILE GRADE WHERE SHOWN ON PLANS AND EDGE RECONSTRUCTION IN AN EFFORT TO CONFORM TO THE TARGET 8 INCHES OF BASE; FIELD INVESTIGATION TO EVALUATE EXISTING BASE THICKNESS AS NOTED ON PLANS; AND WORKING WITH OWNER OF COSTS PROJECTION TO DEFINE SCOPE OF WORK AFTER FIRST PRIORITY PROJECTS. A SEPARATE PAY ITEM BY EACH STREET TO WHICH THE WORK PERTAINS IS PROVIDED.
3. ITEM 104: REMOVE THE ASPHALT TRANSITION LIP OF THE CONCRETE PAVEMENT AT THE SCHOOL ON BULLDOG LANE.
4. ITEM 105: PROVIDE FOR REMOVAL AND DISPOSAL OF EXISTING BASE, ASPHALT, AND UNDERLYING SUBGRADE FOR THOSE AREAS IDENTIFIED FOR BASE REPAIR BY PROOF-ROLLING. NEW BASE COVERED BY ITEM 247 AND INSTALLATION INCLUDED UNDER ITEM 251.
5. ITEM 110: THIS IS TO REMOVE ASPHALT, BASE, AND SUBGRADE TO PROVIDE THE PAVEMENT SECTION AT THE TRANSITION OF THE NEW PAVEMENT TO THE EXISTING PAVEMENT ON HACKER AND BURNS.
6. ITEM 134: PROVIDE MILLED ASPHALT ON EDGES OF JACKSON AND NEVILLE, WHERE DIRECTED BY OWNER'S REPRESENTATIVE (PAYMENT BY LINEAR FOOT). PROVIDE EITHER MILLED ASPHALT OR EXCAVATED BASE/SUBGRADE ALONG THE EDGES OF HACKER (WHERE DIRECTED) AND ON BURNS TO MINIMIZE DROP-OFF AT THE PAVEMENT EDGES (PAYMENT BY STATION). MILLINGS TO BE TAKEN FROM CONTRACTORS OPERATIONS. CONTRACTOR TO CLEAN EXCESS MATERIAL (MILLING, BASE, HMAC) FROM EDGES, (NO SEPARATE PAY).
7. ITEM 150: PROVIDE FOR BLADING OF MATERIAL PER "EDGE RECONSTRUCTION" DETAIL TO MINIMIZE CONTAMINATION OF BASE WITH CLAY SOILS AT EDGE. PERFORM ALONG HACKER FROM STATION 12+00 TO 27+45 (PAID BY STATION) AND OTHER LOCATIONS AS DIRECTED BY OWNER'S REPRESENTATIVE.
8. ITEM 152: USE BLADE AND/OR BULLDOZER TO FINISH THE SHOULDER AND SLOPE BETWEEN THE CENTER OF DITCH AND NEW EDGE OF PAVEMENT. THE GENERAL INTENT IS TO SMOOTH THIS AREA FOR SEEDING AND INCORPORATION OF SPILL OVER MATERIAL FROM ROADWORK INTO THE EDGES.
9. ITEM 164: PROVIDE HYDROMULCH FROM EDGE OF ROAD TO TOP OF BANK (OPPOSITE SIDE OF ROAD) OF DITCH.
10. ITEM 168: PROVIDE FOR WATERING OF HYDRO-MULCH FOR PERIOD OF 30 DAYS AFTER SEEDING.
11. ITEM 216: PROVIDE FOR PROOF ROLLING OF MILLED SURFACES AND BASE TO IDENTIFY SOFT SPOTS RELATED TO POOR BASE OR SUBGRADE CONDITIONS FOR REPAIR. POSSIBLE AREAS FOR BASE REPAIRS, BASED ON VISUAL ASSESSMENT, ARE NOTED ON PLANS FOR ASPHALT STREETS TO BE MILLED AND OVERLAYED. FINAL BASE REPAIRS TO BE APPROVED IN THE FIELD BY OWNER'S REPRESENTATIVE.
12. ITEM 247: PROVIDE SPECIFIED FLEXIBLE BASE FOR USE OF BASE/SUBGRADE REPAIRS, PROVIDE ADDITIONAL BASE TO ACHIEVE 8-INCHES OF BASE THICKNESS, "EDGE RECONSTRUCTION" DETAIL, AND TRANSITION AT END OF PROJECT.
13. ITEM 251: SCARIFY, ADD NEW BASE AND RESHAPE. PERFORM AN INITIAL LIGHT SCARIFICATION TO ASSIST IN ASSESSMENT OF SETTING EDGE OF PAVEMENT FOR CONSTRUCTION CONTROL, ASSIST IN THE CHECKING OF BASE DEPTH WHERE NOTED ON PLANS OR AS OBSERVED FIELD CONDITIONS INDICATES, AND IDENTIFY AREAS OF HMAC (USED FOR REPAIR OF POT HOLES) THAT CANNOT BE INCORPORATED (I.E. BROKEN INTO MATERIAL LESS THAN 2.5 INCHES) INTO THE BASE AND REQUIRE REMOVAL. SCARIFY ROADBED (BOTH EXISTING AND NEW MATERIAL) TO BREAK THE CRUST TO OBTAIN A BOND BETWEEN NEW AND EXISTING MATERIAL. GRADE AND SHAPE TO FINAL PROFILE SHOWN ON PLANS, AND PROVIDE ORDINARY COMPACTION OF THE BASE. ADD NEW BASE MATERIAL PER ITEM 247 TO OBTAIN DESIRED BASE THICKNESS OF 8 INCHES USING APROXIMATE CENTERLINE PROFILE FOR BASE AS SHOWN ON PLANS.
14. ITEM 305: PROVIDE MILLING IN GENERAL CONFORMANCE WITH THE FOLLOWING:
    A. GENERAL DIMENSIONAL INFORMATION: MILLING AND OVERLAY TO BE THE WIDTH OF THE EXISTING STREETS. PLANS SHOW THE GENERAL WIDTH OF PAVEMENT.
    B. MILLING ON ASPHALT SURFACE: MILL APPROXIMATELY ½ TO 1.5 INCHES OF EXISTING ASPHALT. MILLING TO BE ADJUSTED TO LEAVE EXISTING ASPHALT SURFACE INTACT TO EXISTING BASE. MILLINGS TO BE USED FOR EDGE TREATMENT, AND DRIVEWAYS AS DETERMINED IN THE FIELD. EXCESS MILLINGS TO BECOME PROPERTY OF THE CONTRACTOR FOR PROPER DISPOSAL. MILLING AT INTERSECTIONS INCLUDED IN ITEM 530 FOR INTERSECTIONS.
15. ITEM 310: PROVIDE SPECIFIED PRIMECOAT ON NEW BASE.
16. ITEM 340: THREE SEPARTE ELEMENTS ARE INCLUDED; PLACEMENT ON MILLED SURFACE, PLACEMENT ON NEW BASE AND LEVEL-UP.
    A. PROVIDE 2" TO 4" LEVEL-UP IN LOW AREAS PRIOR TO PLACEMENT OF FINISHED SURFACE AS APPROVED IN FIELD BY OWNER'S REPRESENTATIVE.
    B. CLEAN SURFACE AND APPLY TACK COAT OR PRIME COAT. TACK COAT TO BE INCLUDED AS SUBSIDIARY ITEM WHERE USED.
    C. INSTALL THICKNESS OF HMAC TYPE D, GR A OR B, PG 64-22 PER TXDOT ITEM 340 AS SPECIFIED. QUANTITIES FOR HACKER AND BURNS ARE FOR TWO SEPARATE 1.5 INCH LIFTS.
    D. PLAN QUANTITY INCLUDES 20% OVER NEAT QUANTITY FOR MILL AND OVERLAY AND 15% OVER NEAT QUANTITY FOR BASE RECONSTRUCTION. PAYMENT TO BE BASED ON ACTUAL QUANTITY INSTALLED NOT TO EXCEED PLAN QUANTITY.
    E. PROVIDE NUCLEAR GAUGE TESTING TO ESTABLISH ROLLING PATTERNS PER TEX 207-F, PART IV TO ACHIEVE MAXIMUM COMPACTION. INCLUDE FIVE SEPARATE TESTS FOR ROLLING PATTERNS.
17. ITEM 351: POSSIBLE AREAS FOR BASE REPAIRS, BASED ON VISUAL ASSESSMENT, ARE NOTED ON PLANS. AREAS OF REPAIR WILL BE DEFINED BY PROOF-ROLLING PER TXDOT ITEM 216. FINAL BASE REPAIRS TO BE APPROVED IN THE FIELD BY OWNER'S REPRESENTATIVE. INCLUDE COST OF REMOVAL AND DISPOSAL OF EXISTING PAVEMENT, BASE AND SUBGRADE IN UNIT PRICE FOR BASE MATERIAL. INCLUDE ASPHALT STABILIZED BASE MATERIAL AND INSTALLATION. REPAIRS BASED ON PROOF ROLL BASED ON 6" DEPTH OF REPAIR BELOW NEW ASPHALT SURFACE. WHERE DEPTH EXCEEDS 6", PAYMENT WILL BE BASED ON SQUARE YARD PROPORTIONAL TO 6" DEPTH. REPAIRS WITH OTHER DEPTHS TO BE PERFORMED AS NOTED ON PLANS.
18. ITEM 530.
    A. INTERSECTION QUANTITIES MEASURED BY SQUARE YARD AND INCLUDES MILLING AND PLACEMENT OF HMAC OVERLAY.
    B. SUMMARY TABLES FOR DRIVEWAY TRANSITIONS BY TYPE (ASPHALT, BASE) ARE INCLUDED ON A SEPARATE PLAN SHEET. CONTRACTOR AND OWNER'S REPRESENTATIVE TO DETERMINE TYPE AND EXTENT OF TRANSITION IN THE FIELD. TYPES OF TRANSITIONS INCLUDED ARE AS FOLLOWS.
    C. HOT MIX ON DRIVEWAY PLACED AS PART OF PAVEMENT OPERATION TO BE INCLUDED IN TONS OF ASPHALT OVERLAY. HOT MIX PLACED AS SEPARATE OPERATION TO BE INCLUDED IN SQUARE YARD UNIT PRICE FOR DRIVEWAY (ASPHALT).
    D. DRIVEWAY (BASE) FOR JACKSON, NEVILLE, AND RENAUD: ALTERNATE 1 TO BE MILLINGS. INCLUDE LABOR AND MATERIAL
    E. DRIVEWAY (BASE) FOR HACKER AND BURNS TO BE BASE PER ITEM 247. BASE MATERIAL TO BE INCLUDED IN ROADWAY DELIVERY.

STATE OF TEXAS
ELISE K. DILLOW
136062
LICENSED
PROFESSIONAL ENGINEER

Elise Dillow 8/7/2020

NO.	REVISION	BY	DATE

DRAWN BY: EKD
DESIGNED BY: EKD
CHECKED BY: MCD
APPROVED BY: RJB
SCALE: N/A
DATE: AUGUST 2020

THE STATE OF TEXAS COUNTY OF GALVESTON

GALVESTON COUNTY
ENGINEERING DEPARTMENT

PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: QUANTITY AND WORK DESCRIPTION

SHEET 04 OF 33

Aug 07, 2020 – 4:24pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\QUANTITY NOTES AND SUMMARY.dwg QUANTITY AND WORK DESCRIPTION

DRIVEWAY SUMMARY - JACKSON RD

Number	Address/Location	Offset Area - (1) Exist. Dimension (ft) Type	Width (ft)	Depth (ft)	Prop. Improvement Driveway (SY)- (2) Asphalt
1	6326 FM 519 Hitchcock, TX 77563	Asphalt	18	3.5	7
2	6326 FM 519	Asphalt	18	3.5	7
3	6417 Jackson Road	Asphalt	16	3.5	6.2
4	6417 Jackson Road	Grass	19	n/a	
5	6404 Jackson Road	Concrete	18	3.5	7
6	7810 Oakridge Dr	Grass	n/a	n/a	
7	7810 Oakridge Dr	Asphalt	19	n/a	
8	6319 Jackson Rd	Gravel	22	3.5	8.6
9	7810 Oakridge Dr	Asphalt	18	3.5	7
10	6300 Jackson Rd	Gravel	16	3.5	6.2
11	202 Crestview Drive	Grass	n/a	0	
12	206 Crestview Dr	Grass	16	3.5	6.2
13	6426 Caroline St	Grass	12	3.5	4.7
14	208 Crestview Drive	Gravel	15	3.5	5.8
15	208 Crestview Drive	Grass	12	3.5	4.7
16	6313 Jackson Road	Gravel	18	3.5	7
17	6307 Jackson Road	Asphalt	24	3.5	9.3
18	212 Crestview Drive	Base	12	3.5	4.7
19	6227 Jackson Road	Grass	15	3.5	5.8
20	310 Crestview Drive	Gravel	16	3.5	6.2
21	6225 Jackson Road	Gravel	18	3.5	7
22	102 Belmont Avenue	Grass	n/a	0	
23	No Address (CNP Easement)	Grass	15	3.5	5.8
24	6206 Jackson Road	Asphalt	33	3.5	12.8
25	6205 Jackson Road	Asphalt	45	3.5	17.5
26	106 Belmont Avenue	Gravel	18	3.5	7
27	No Address	Gravel	10	3.5	3.9
28	6130 Jackson Rd	Gravel	6	3.5	2.3
29	No Address	Grass	19	3.5	7.4
30	6114 Jackson Rd	Gravel	15	3.5	5.8
31	6114 Jackson Rd	Gravel	38	3.5	14.8
32	6109 Jackson Road	Gravel	20	3.5	7.8
33	6038 Jackson Road	Grass	12	n/a	
34	6034 Jackson Road	Asphalt	22	3.5	8.6
35	6026 Jackson Road	Gravel	18	3.5	7
36	6022 Jackson Road	Grass	14	3.5	5.4
37	6018 Jackson Road	Gravel	16	3.5	6.2
38	6018 Jackson Road	Gravel	24	3.5	9.3
39	5926 Jackson Road	Asphalt	9	3.5	3.5
40	6101 Jackson Road	Grass	16	3.5	6.2
41	5926 Jackson Road	Gravel	20	3.5	7.8
42	6101 Jackson Road	Grass	20	3.5	7.8
43	5926 Jackson Road	Grass	20	3.5	7.8
44	No Address	Grass	18	n/a	
45	5919 Jackson Road	Concrete	20	1.5	3.3
46	5918 Jackson Road	Gravel	15	3.5	5.8
47	5919 Jackson Road	Gravel	18	3.5	7
48	5914 Jackson Road	Grass	18	3.5	7
49	5919 Jackson Road	Gravel	16	3.5	6.2
50	5918 Jackson Road	Grass	12	3.5	4.7
51	5909 Jackson Road	Gravel	16	3.5	6.2
52	5902 Jackson Road	Dirt	30	3.5	11.7
53	No Address	Asphalt	18	3.5	7
54	5840 Jackson Road	Gravel	16	3.5	6.2
55	No Address	Grass	16	3.5	6.2
56	No Address	Grass	22	3.5	8.6
57	5801 Jackson Road	Gravel	20	3.5	7.8
58	5801 Jackson Road	Concrete	13	0.5	0.7
59	7805 Prairie Street	Dirt	15	3.5	5.8
60	5801 Jackson Road	Dirt	7	3.5	2.7
	TOTAL				**362**

DRIVEWAY SUMMARY - NEVILLE AVE

Number	Address/Location	Offset Area - (1) Exist. Dimension (ft) Type	Width (ft)	Depth (ft)	Prop. Improvement Driveway (SY)- (2) Asphalt
1	8311 Neville Avenue	Gravel			
2	8312 Neville Avenue	Gravel	16	3.5	6.2
3	8308 Neville Avenue	Concrete	16	3.5	6.2
4	8308 Neville Avenue	Concrete	11	3.5	4.3
5	8304 Neville Avenue	Gravel	17	3.5	6.6
6	No Address	Gravel	12	3.5	4.7
7	8228 Neville Avenue	Gravel	12	3.5	4.7
8	8222 Neville Avenue	Gravel	15	3.5	5.8
9	8229 Neville Avenue	Grass	18	n/a	
10	8226 Neville Avenue	Asphalt	20	3.5	7.8
11	8206 Neville Avenue	Asphalt	37	3.5	14.4
12	6922 4th Street	Grass	14	n/a	
13	8129 Neville Avenue	Gravel	20	3.5	7.8
14	8121 Neville Avenue	Grass	14	n/a	
15	8121 Neville Avenue	Asphalt	12	3.5	4.7
16	8113 Neville Avenue	Asphalt	20	3.5	7.8
17	8110 Neville Avenue	Grass	17	n/a	
18	8029 Neville Avenue	Gravel	14	3.5	5.4
19	8021 Neville Avenue	Asphalt	27	3.5	10.5
20	8014 Neville Avenue	Asphalt	25	3.5	9.7
21	7929 Neville Avenue	Concrete	22	3.5	8.6
22	7925 Neville Avenue	Gravel	14	3.5	5.4
23	7922 Neville Avenue	Gravel	15	3.5	5.8
24	7925 Neville Avenue	Gravel	12	3.5	4.7
25	7923 Neville Avenue	Gravel	15	3.5	5.8
26	No Address	Gravel	44	3.5	17.1
27	7923 Neville Avenue	Gravel	17	3.5	6.6
28	No Address	Gravel	30	3.5	11.7
29	7805 Neville Avenue	Grass	20		
30	7806 Neville Avenue Hitchcock TX 77563	Asphalt	25	3.5	9.7
	TOTAL				**182**

DRIVEWAY SUMMARY - HACKER RD

Number	Address/Location	Offset Area - (1) Exist. Dimension (ft) Type	Width (ft)	Depth (ft)	Prop. Improvement Driveway (SY)- (2) Base	Asphalt
1	7519 2nd Street	Concrete	40	8		35.6
2	7519 2nd Street	Grass	10	8	8.9	
3	7317 2nd Street	Grass	15	8	13.3	
4	No Address	Grass	20	8	17.8	
5	7733 Hacker Road	Concrete	13	8		11.6
6	7707 Hacker Road	Asphalt	27	8		24
7	7629 Hacker Road	Concrete	20	8		17.8
8	7629 Hacker Road	Grass	20	8	17.8	
9	7575 Hacker Road	Gravel	20	8	17.8	
10	7550 Hacker Road	Grass	20	8	17.8	
11	7510 Hacker Road	Gravel	15	8	13.3	
12	No Address	Gravel	35	8	31.1	
13	No Address	Grass	25	8	22.2	
	TOTAL				**160**	**89**

DRIVEWAY SUMMARY - BURNS ST

Number	Address/Location	Offset Area - (1) Exist. Dimension (ft) Type	Width (ft)	Depth (ft)	Prop. Improvement Driveway (SY)- (2) Base	Asphalt
1	8102 Burns Street	Gravel	16	8	14.2	
2	No Address	Shell	25	8	22.2	
3	7909 Burns Street	Gravel	15	8	13.3	
4	7910 Burns Street	Grass	15	8	13.3	
5	No Address	Base	20	8	17.8	
6	No Address	Grass	40	8	35.6	
7	No Address	Grass	17	8	15.1	
8	7720 Burns Street	Gravel	15	8	13.3	
9	7721 Burns Street	Base	28	8	24.9	
10	7721 Burns Street	Grass	23	8	20.4	
11	7716 Burns Street	Asphalt	17	8	15.1	
12	No Address	Grass	26	8	23.1	
13	7711 Burns Street	Base	15	8	13.3	
14	7701 Burns Street	Base	18	8	16	
15	No Address	Base	20	8	17.8	
	TOTAL				**275.4**	

DRIVEWAY SUMMARY - RENAUD ST: ALTERNATE 1

Number	Address/Location	Offset Area - (1) Exist. Dimension (ft) Type	Width (ft)	Depth (ft)	Prop. Improvement Driveway (SY)- (2) Milling	Asphalt
1	6913 Mike Street	Base	13	4	5.8	
2	6621 Renaud Street	Concrete	17	4		7.6
3	6619 Renaud Street	Gravel	13	4	5.8	
4	6611 Renaud Street	Concrete	19	4		8.4
5	6605 Renaud Street	Gravel	17	4	7.6	
6	6527 Renaud Street	Base	16	4	7.1	
7	6523 Renaud Street	Base	16	4	7.1	
8	6521 Renaud Street	Gravel	16	4	7.1	
9	6521 Renaud Street	Gravel	18	4	8	
10	No Address	Gravel	15	4	6.7	
11	6417 Renaud Street	Gravel	13	4	5.8	
12	6413 Renaud Street	Concrete	13	4		5.8
13	6411 Renaud Street	Grass	15	4	6.7	
14	6409 S Railroad Avenue	Shell	12	4	5.3	
	TOTAL				**73**	**21.8**

NOTES

1. AREAS BETWEEN EDGE OF ASPHALT PAVEMENT AND CONCRETE DRIVEWAY.
2. ASPHALT PLACED SIMULTANEOUSLY WITH ROADWAY AND ASSUMED TO BE WHERE OFFSET AREA IS LESS THAN 2 FEET DEPTH.
3. DIRECTION RELATIVE TO STREET, UNLESS OTHERWISE NOTED.

STATE OF TEXAS
ELISE K. DILLOW
136062
LICENSED
PROFESSIONAL ENGINEER

Elise Dillow 8/7/2020

NO.	REVISION	BY	DATE

DRAWN BY: EKD
DESIGNED BY: EKD
CHECKED BY: MCD
APPROVED BY: RJB
SCALE: N/A
DATE: AUGUST 2020

THE STATE OF TEXAS COUNTY OF GALVESTON

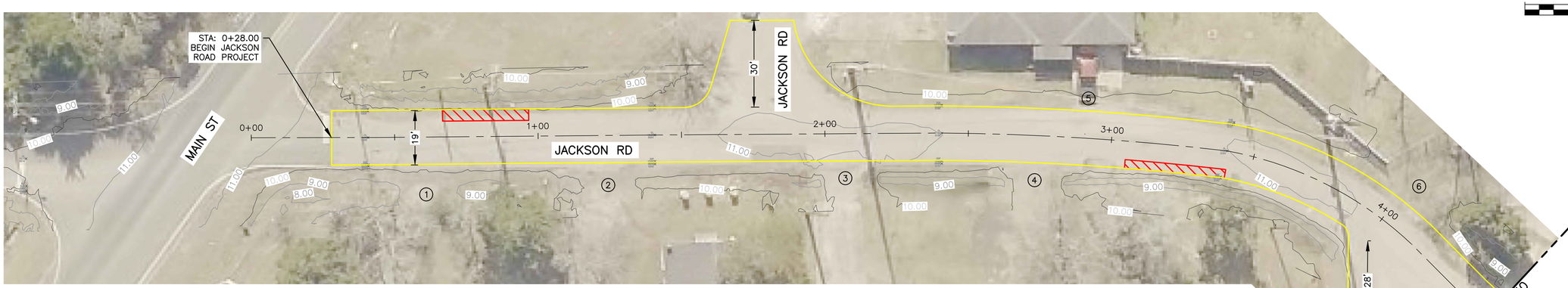
GALVESTON COUNTY
ENGINEERING DEPARTMENT

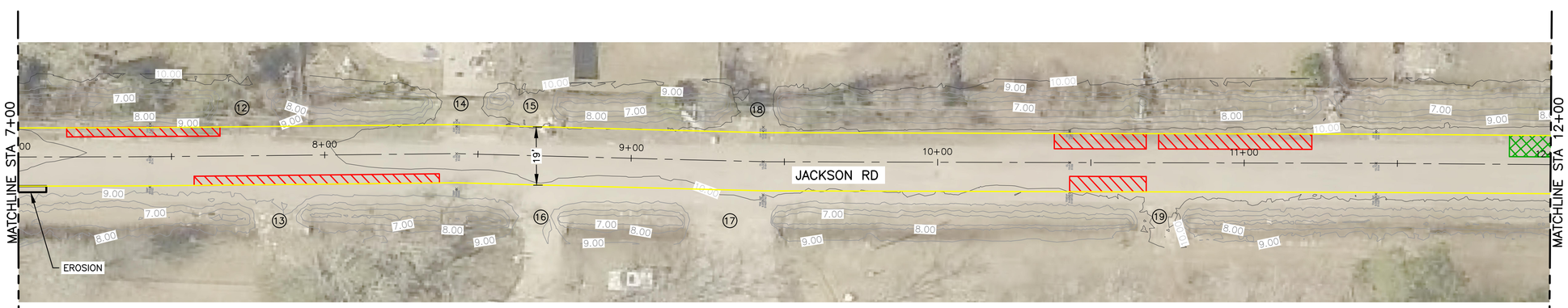
PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: DRIVEWAY SUMMARY TABLES

SHEET 05 OF 33

Aug 07, 2020 – 4:23pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\DRIVEWAY TABLES.dwg DRIVEWAY TABLES





0 20' 40'

LEGEND

- MILL AND OVERLAY
- BASE REPAIR
- LEVEL-UP
- (XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

NOTES

1. OWNER'S FIELD REPRESENTATIVE TO BE PRESENT DURING PROOF ROLLING TO EVALUATE AREAS OF BASE REPAIR IN CONJUNCTION WITH THE CONTRACTOR. FINAL AREAS OF REPAIR TO BE APPROVED BY OWNER.

STATE OF TEXAS
ELISE K. DILLOW
136062
LICENSED
PROFESSIONAL ENGINEER

Elise Dillow 8/7/2020

NO.	REVISION	BY	DATE

DRAWN BY: EKD
DESIGNED BY: EKD
CHECKED BY: MCD
APPROVED BY: RJB
SCALE: 1" = 20'
DATE: AUGUST 2020

THE STATE OF TEXAS COUNTY OF GALVESTON

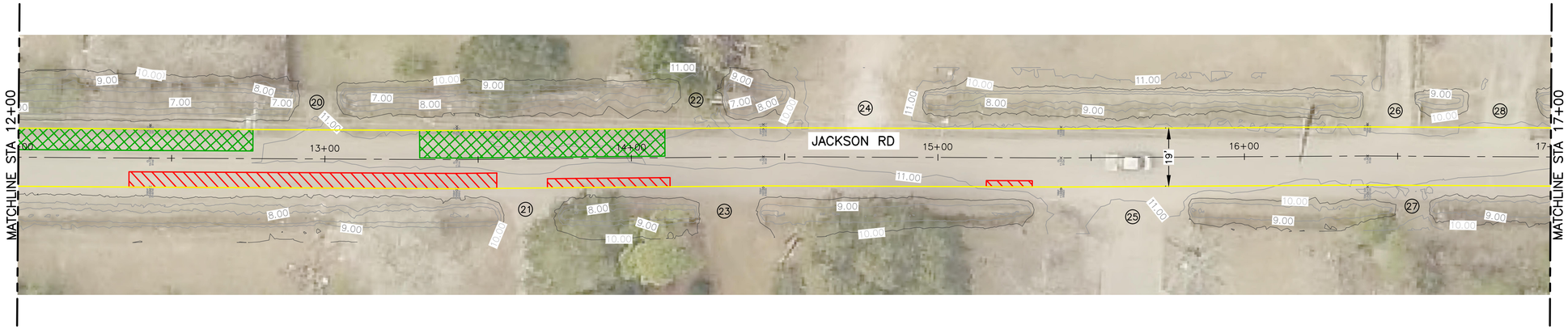
GALVESTON COUNTY
ENGINEERING DEPARTMENT

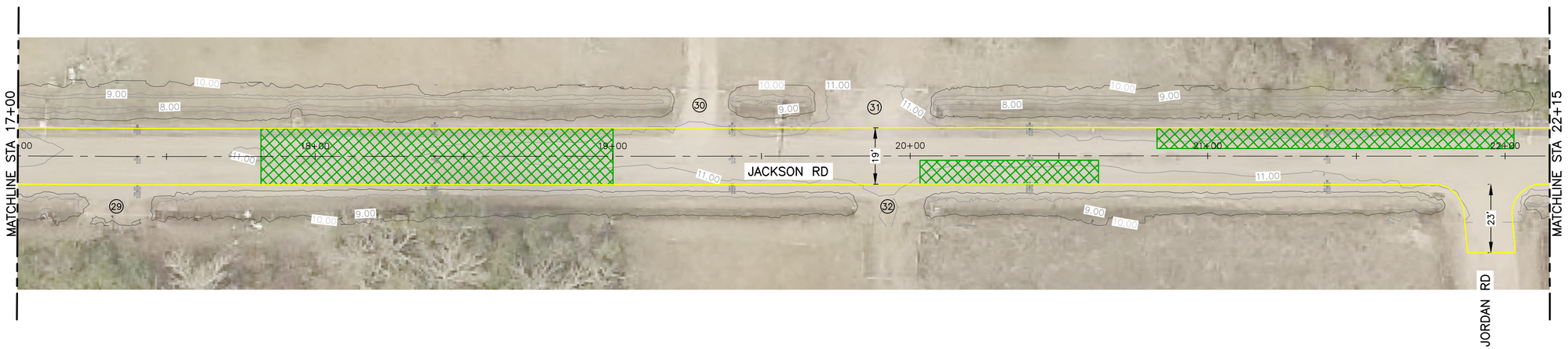
PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

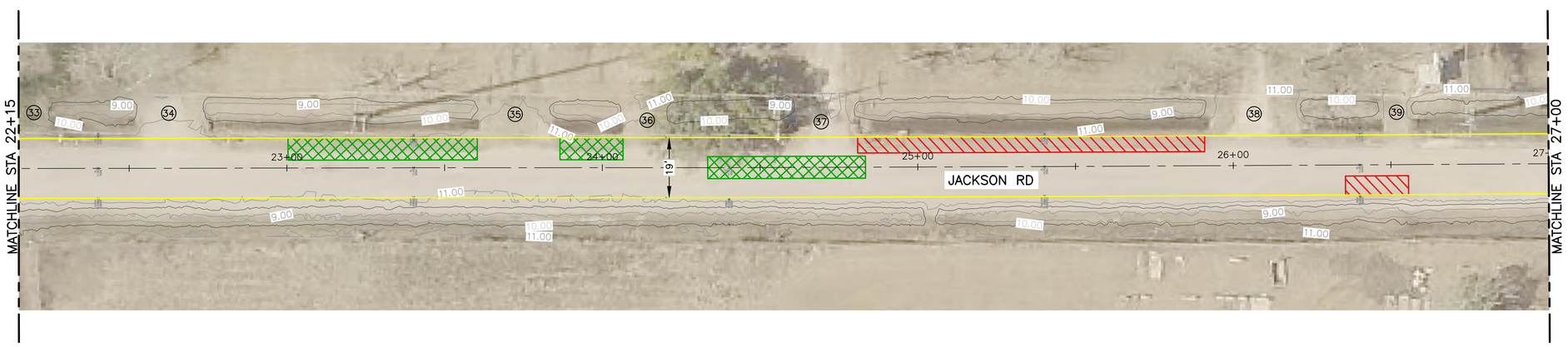
SHEET DESCRIPTION: JACKSON ROAD PLANS BEGIN TO STA 12+00

SHEET 06 OF 33

Aug 07, 2020 - 4:23pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\01_PLANS - JACKSON RD.dwg JACKSON RD BEGIN TO STA 12+00







0 20' 40'

LEGEND

- MILL AND OVERLAY
- BASE REPAIR
- LEVEL-UP
- (XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

NOTES

1. OWNER'S FIELD REPRESENTATIVE TO BE PRESENT DURING PROOF ROLLING TO EVALUATE AREAS OF BASE REPAIR IN CONJUNCTION WITH THE CONTRACTOR. FINAL AREAS OF REPAIR TO BE APPROVED BY OWNER.

STATE OF TEXAS
ELISE K. DILLOW
136062
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THE STATE OF TEXAS COUNTY OF GALVESTON

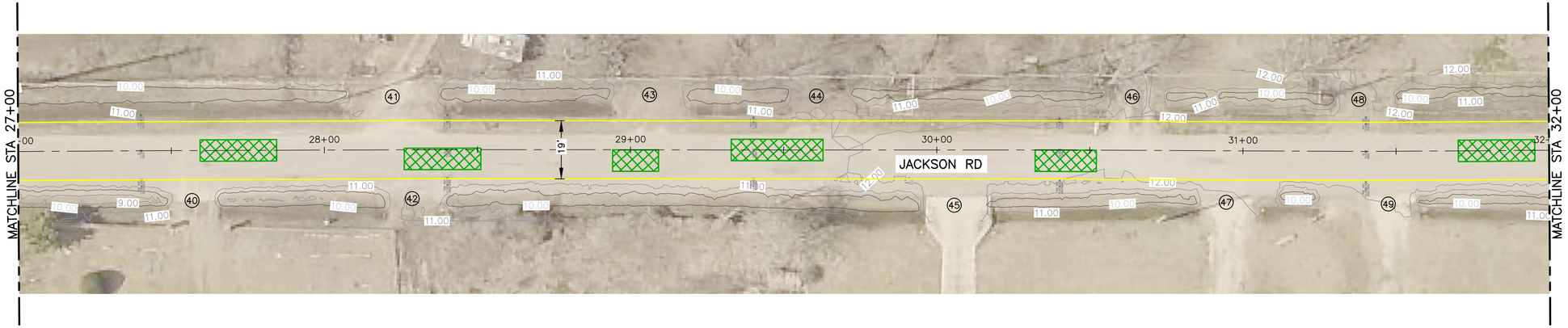
GALVESTON COUNTY
ENGINEERING DEPARTMENT

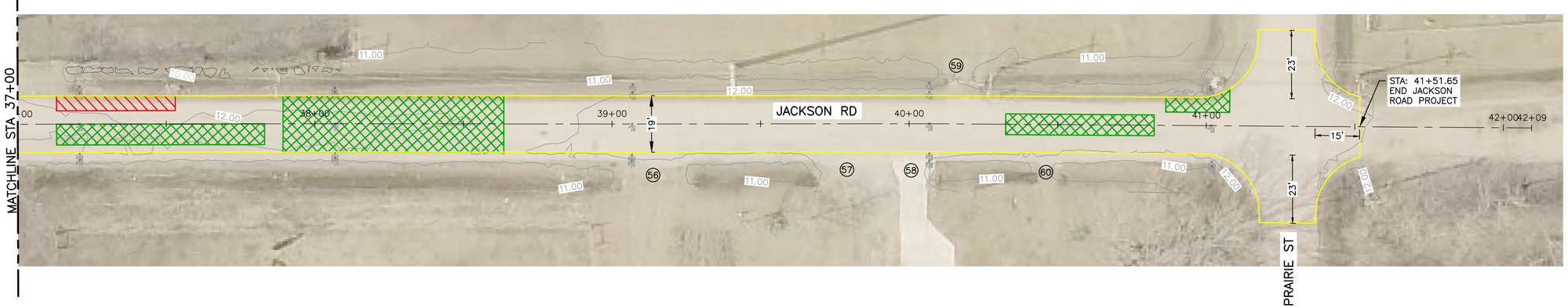
PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: JACKSON ROAD PLANS STA 12+00 TO STA 27+00

SHEET 07 OF 33

Aug 07, 2020 - 4:22pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\01_PLANS - JACKSON RD.dwg JACKSON RD STA 12+00 TO STA 27+00





0 20' 40'

LEGEND

- MILL AND OVERLAY
- BASE REPAIR
- LEVEL–UP
- (XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

NOTES

1. OWNER'S FIELD REPRESENTATIVE TO BE PRESENT DURING PROOF ROLLING TO EVALUATE AREAS OF BASE REPAIR IN CONJUNCTION WITH THE CONTRACTOR. FINAL AREAS OF REPAIR TO BE APPROVED BY OWNER.

STATE OF TEXAS
ELISE K. DILLOW
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PROFESSIONAL ENGINEER

Elise Dillow 8/7/2020

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THE STATE OF TEXAS COUNTY OF GALVESTON

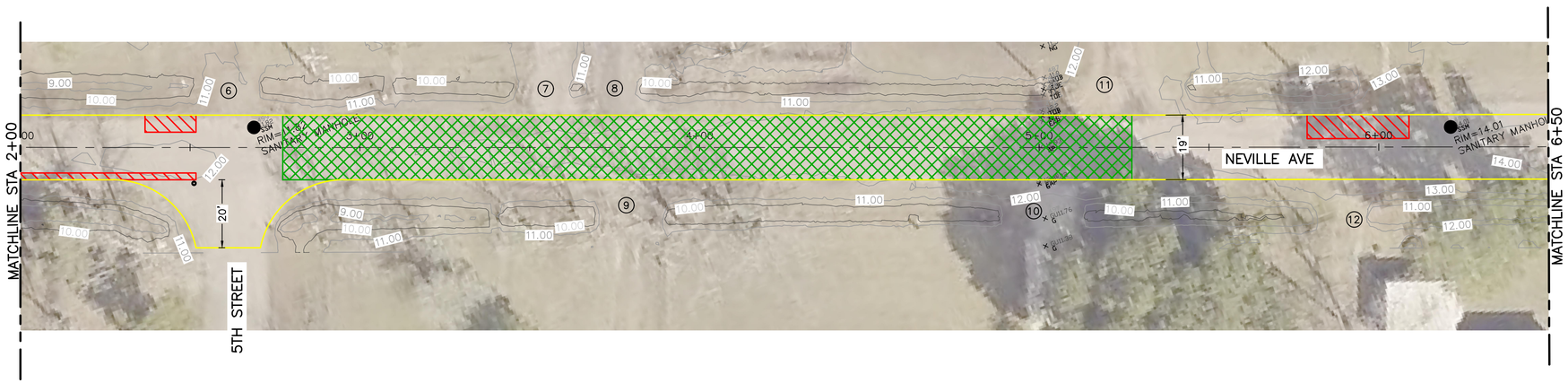
GALVESTON COUNTY
ENGINEERING DEPARTMENT

PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: JACKSON ROAD PLANS STA 27+00 TO END

SHEET 08 OF 33

Aug 07, 2020 – 4:21pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\01_PLANS – JACKSON RD.dwg JACKSON RD STA 27+00 TO END



0 20' 40'

LEGEND

- MILL AND OVERLAY
- BASE REPAIR
- LEVEL-UP
- (XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

NOTES

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STATE OF TEXAS
ELISE K. DILLOW
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Elise Dillow 8/7/2020

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THE STATE OF TEXAS COUNTY OF GALVESTON

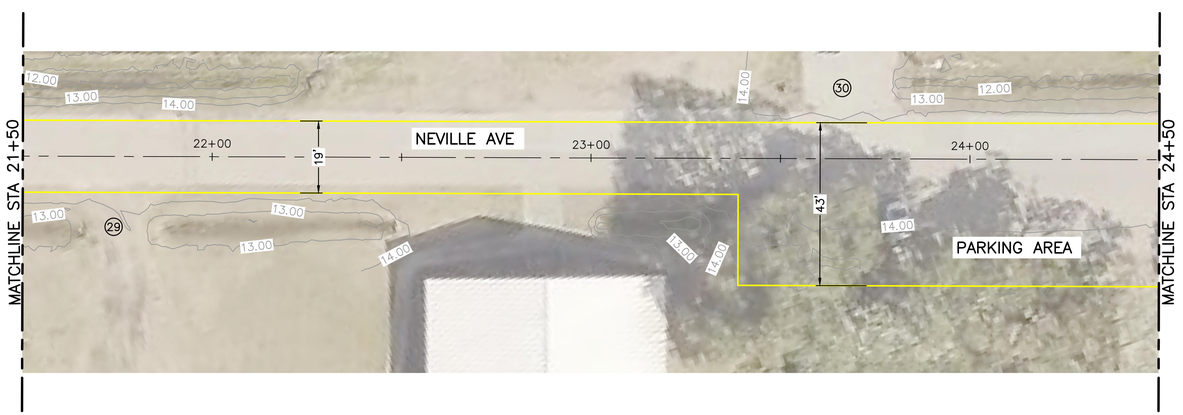
GALVESTON COUNTY
ENGINEERING DEPARTMENT

PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: NEVILLE AVENUE PLANS BEGIN TO STA 11+50

SHEET 09 OF 33

Aug 07, 2020 – 4:22pm T:\Z_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\02_PLANS – NEVILLE RD.dwg NEVILLE RD PLAN BEGIN TO STA 11+50



0 20' 40'

LEGEND

- MILL AND OVERLAY
- BASE REPAIR
- LEVEL–UP
- (XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

NOTES

1. OWNER'S FIELD REPRESENTATIVE TO BE PRESENT DURING PROOF ROLLING TO EVALUATE AREAS OF BASE REPAIR IN CONJUNCTION WITH THE CONTRACTOR. FINAL AREAS OF REPAIR TO BE APPROVED BY OWNER.
2. CONTRACTOR TO EVALUATE HIGHER EDGES BETWEEN 1ST AND 2ND STREET. IF EDGES ARE DUE TO EXISTING ASPHALT, MILL THE EDGES. IF HIGHER EDGE IS DUE TO BUILD–UP OF SOIL AND OTHER BACKFILL, PERFORM PROFILE MILLING AND RAISE THE SURFACE (1" TO 1.5") BY THE ASPHALT OVERLAY.

STATE OF TEXAS
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THE STATE OF TEXAS COUNTY OF GALVESTON

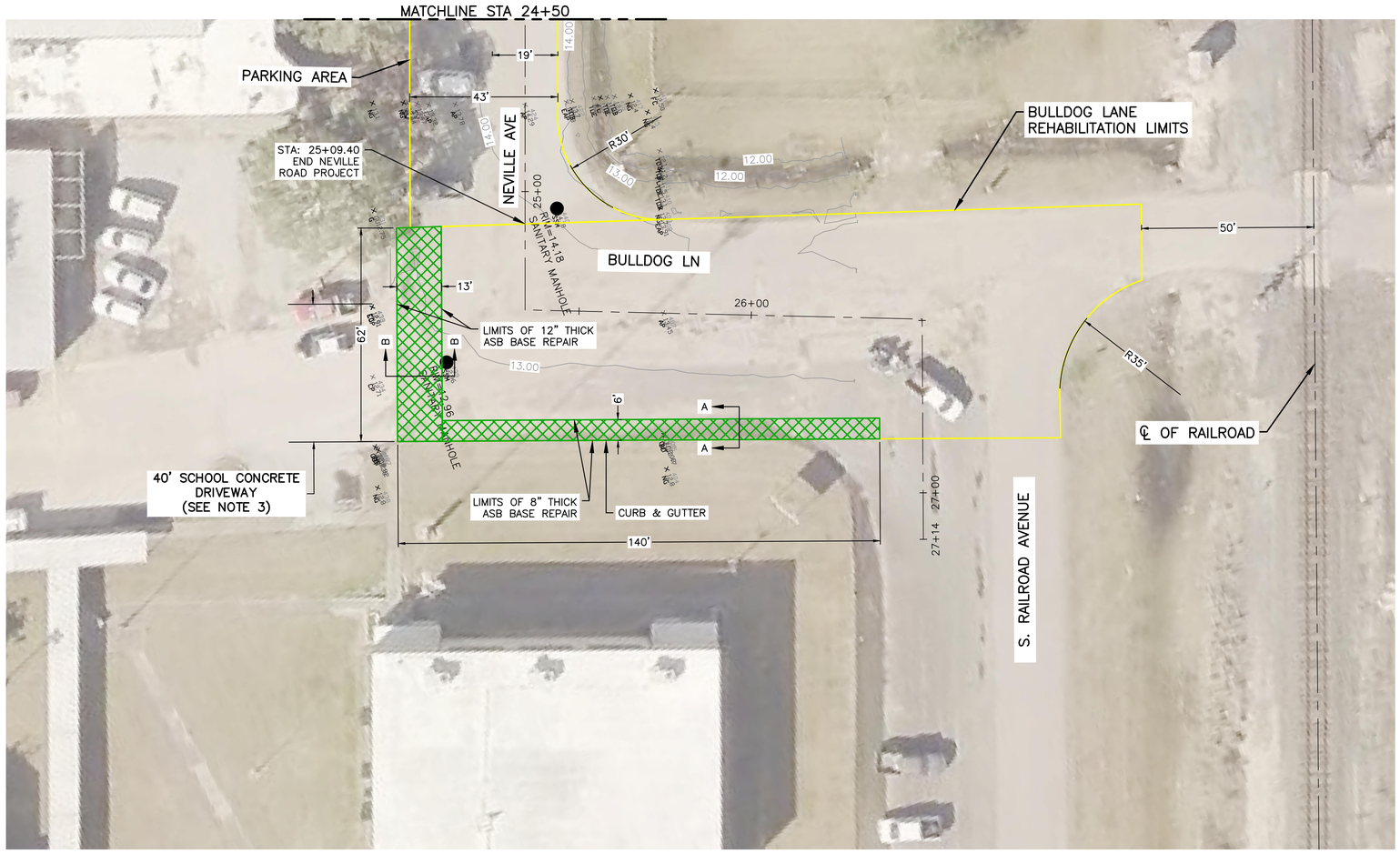
GALVESTON COUNTY
ENGINEERING DEPARTMENT

PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: NEVILLE AVENUE PLANS STA 11+50 TO STA 24+50

SHEET 10 OF 33

Aug 07, 2020 – 4:22pm I:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\02_PLANS – NEVILLE RD.dwg NEVILLE RD PLAN STA 11+50 TO STA 24+50



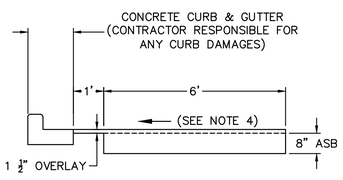
0 20' 40'

LEGEND

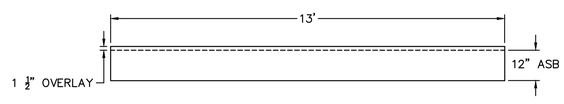
- MILL AND OVERLAY
- BASE REPAIR
- LEVEL–UP
- (XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

NOTES

1. OWNER'S FIELD REPRESENTATIVE TO BE PRESENT DURING PROOF ROLLING TO EVALUATE AREAS OF BASE REPAIR IN CONJUNCTION WITH THE CONTRACTOR. FINAL AREAS OF REPAIR TO BE APPROVED BY OWNER.
2. SCOPE OF RECONSTRUCTION INCLUDES PROFILE MILLING OF THE THIN (1") CHIP SEAL OVERLAY, ASPHALT STABILIZED BASE RECONSTRUCTION ALONG CURB AND GUTTER AND AT SCHOOL CONCRETE DRIVEWAY, AND 1.5" TYPE D HMAC OVERLAY.
3. TRANSITION AT SCHOOL DRIVEWAY INCLUDES A LOWER CONCRETE ASPHALT TRANSITION STRIP THAT EXTENDS 14 INCHES FROM THE MAIN DRIVEWAY SURFACE. SAW CUT AND REMOVE THE TRANSITION STRIP PRIOR TO INSTALLATION OF THE ASPHALT SURFACE.
4. STREET SLOPE GENERALLY FALLS TO THE CURB AND GUTTER. ENSURE THE PAVEMENT ALONG THE 6 FOOT WIDE ASB BASE REPAIRS FALL TOWARD S. RAILROAD AVENUE USING THE CURB AND GUTTER AS GENERAL GUIDE. 6 FOOT WIDE TRANSTION TO ACT AS SLOPE ADJUSTMENT FROM MAIN STREET (CONTROLLED BY EXISTING SURFACE) TO MATCH CURB AND GUTTER GRADE.



A–A
ASPHALT STABILIZED BASE (ASB)
SCALE: 1" = 2.5'



B–B
ASPHALT STABILIZED BASE (ASB)
SCALE: 1" = 2.5'

STATE OF TEXAS
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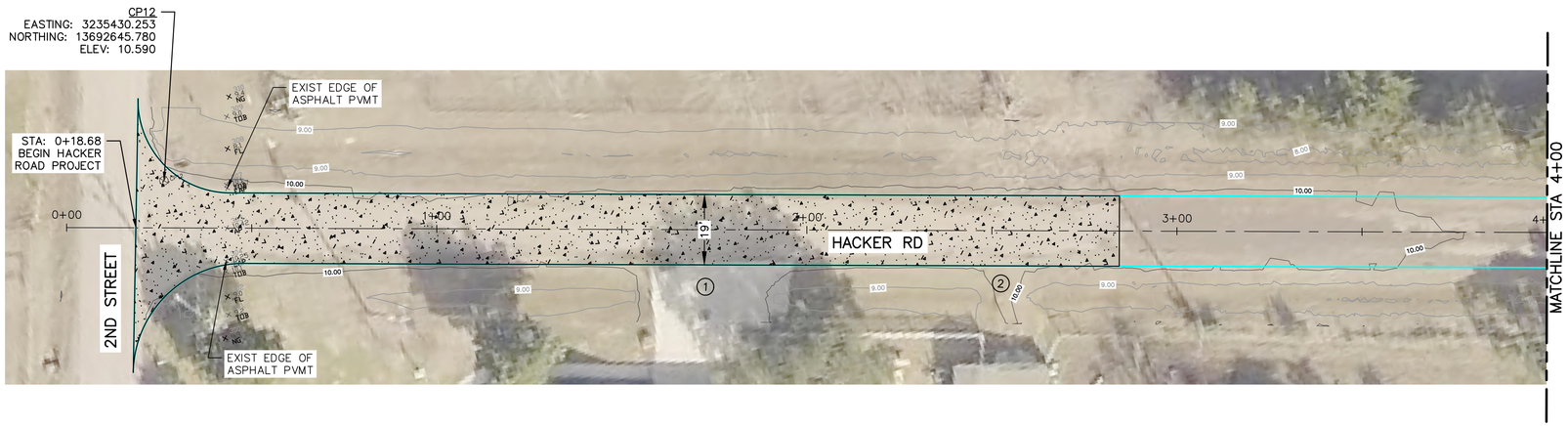
GALVESTON COUNTY
ENGINEERING DEPARTMENT

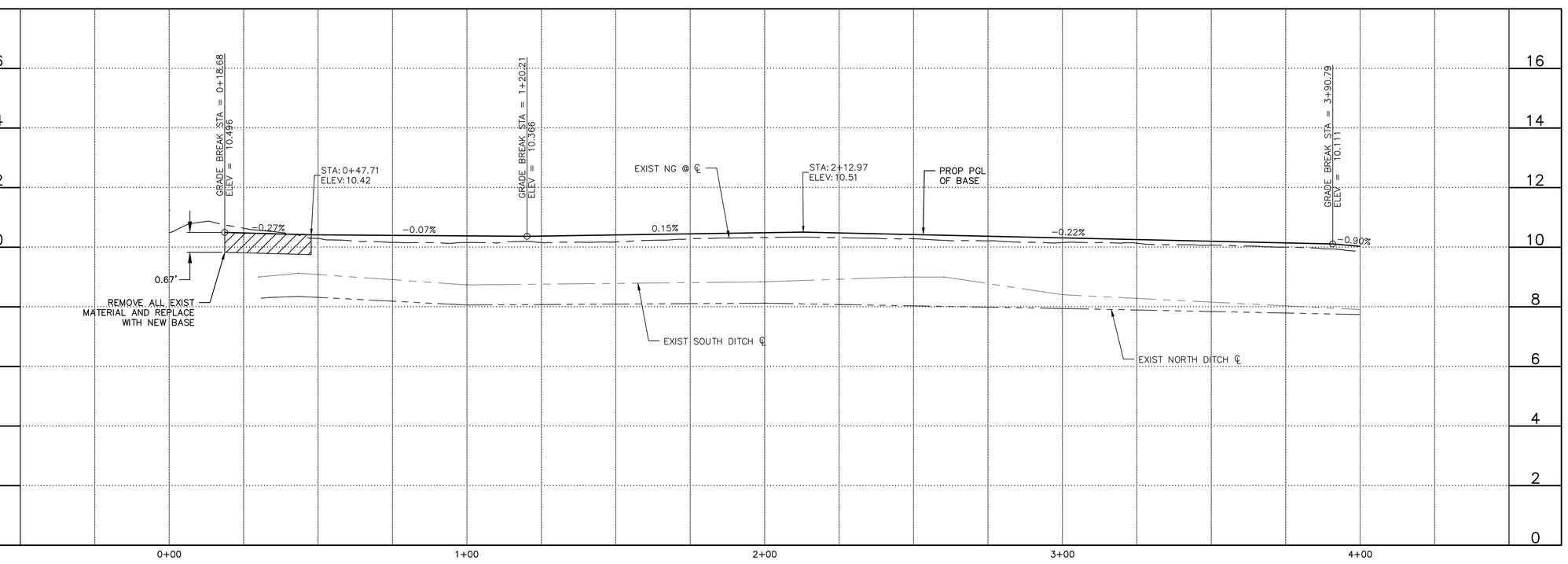
PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: BULLDOG LANE PLAN STA 24+50 TO END

SHEET 11 OF 33

Aug 07, 2020 – 4:21pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\02_PLANS – NEVILLE RD.dwg BULLDOG LN STA 24+50 TO END





0 20' 40'

LEGEND

- BASE RECONSTRUCTION
- APPROXIMATE AREA FOR NEEDED MILLING
- (XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

NOTES

1. OWNER'S FIELD REPRESENTATIVE TO BE PRESENT DURING PROOF ROLLING TO EVALUATE AREAS OF BASE REPAIR IN CONJUNCTION WITH THE CONTRACTOR. FINAL AREAS OF REPAIR TO BE APPROVED BY OWNER.
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STATE OF TEXAS
ELISE K. DILLOW
136062
LICENSED
PROFESSIONAL ENGINEER

Elise Dillow 8/7/2020

NO.	REVISION	BY	DATE

DRAWN BY: EKD
DESIGNED BY: EKD
CHECKED BY: MCD
APPROVED BY: RJB
SCALE: 1" = 20'
DATE: AUGUST 2020

THE STATE OF TEXAS COUNTY OF GALVESTON

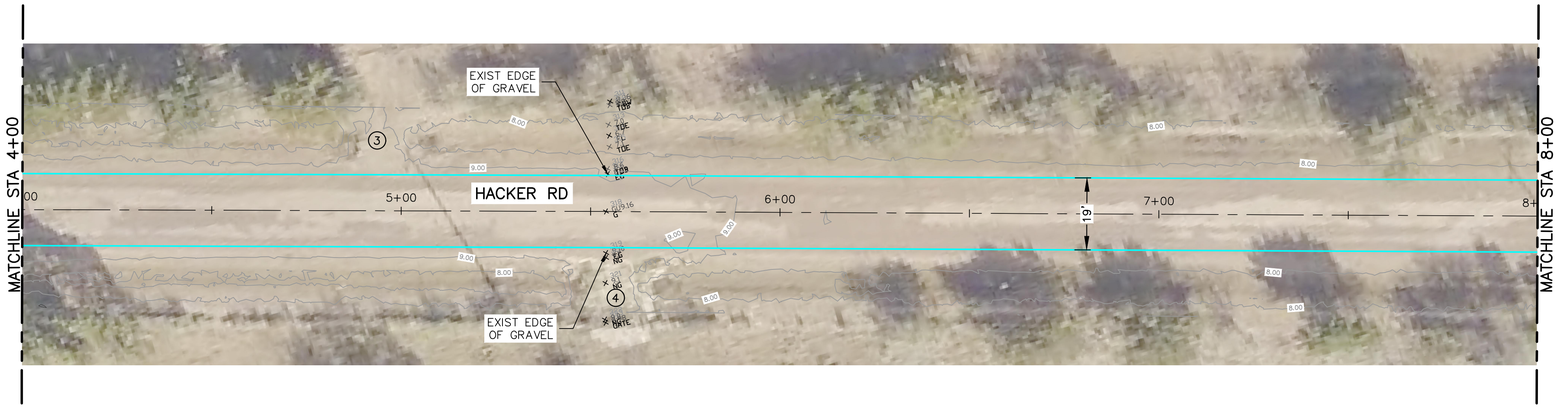
GALVESTON COUNTY
ENGINEERING DEPARTMENT

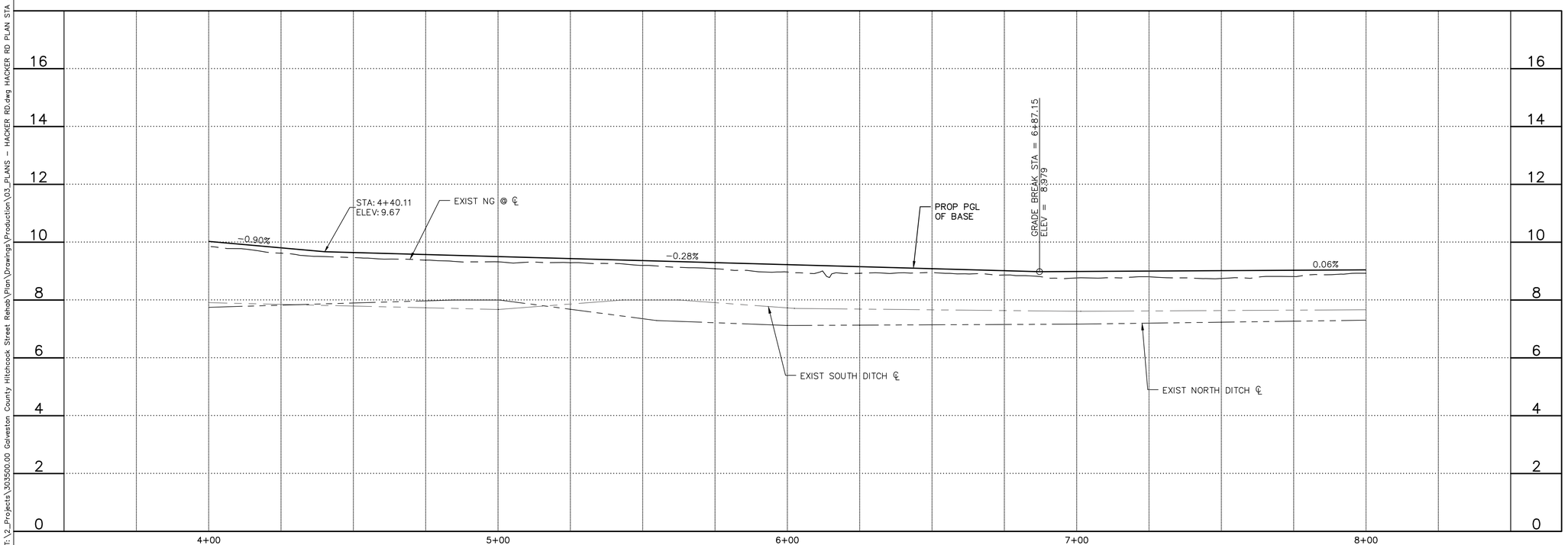
PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: HACKER ROAD PLAN AND PROFILES BEGIN TO STA 4+00

SHEET 12 OF 33

Aug 07, 2020 - 4:20pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\03_PLANS - HACKER RD.dwg HACKER RD PLAN BEGIN TO STA 4+00





0 20' 40'

LEGEND

BASE RECONSTRUCTION

APPROXIMATE AREA FOR NEEDED MILLING

(XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

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THE STATE OF TEXAS COUNTY OF GALVESTON

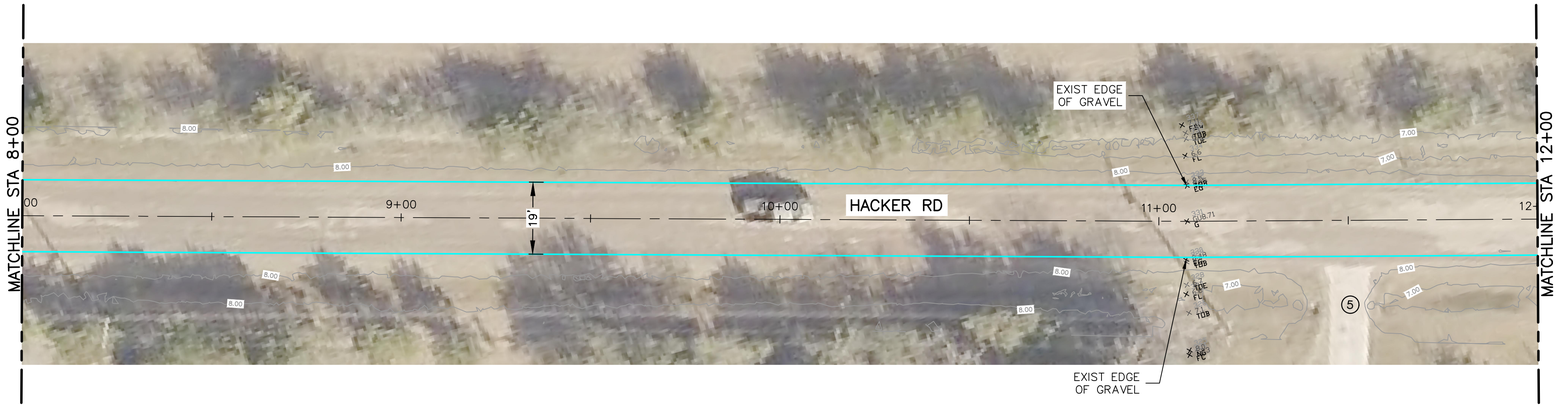
GALVESTON COUNTY
ENGINEERING DEPARTMENT

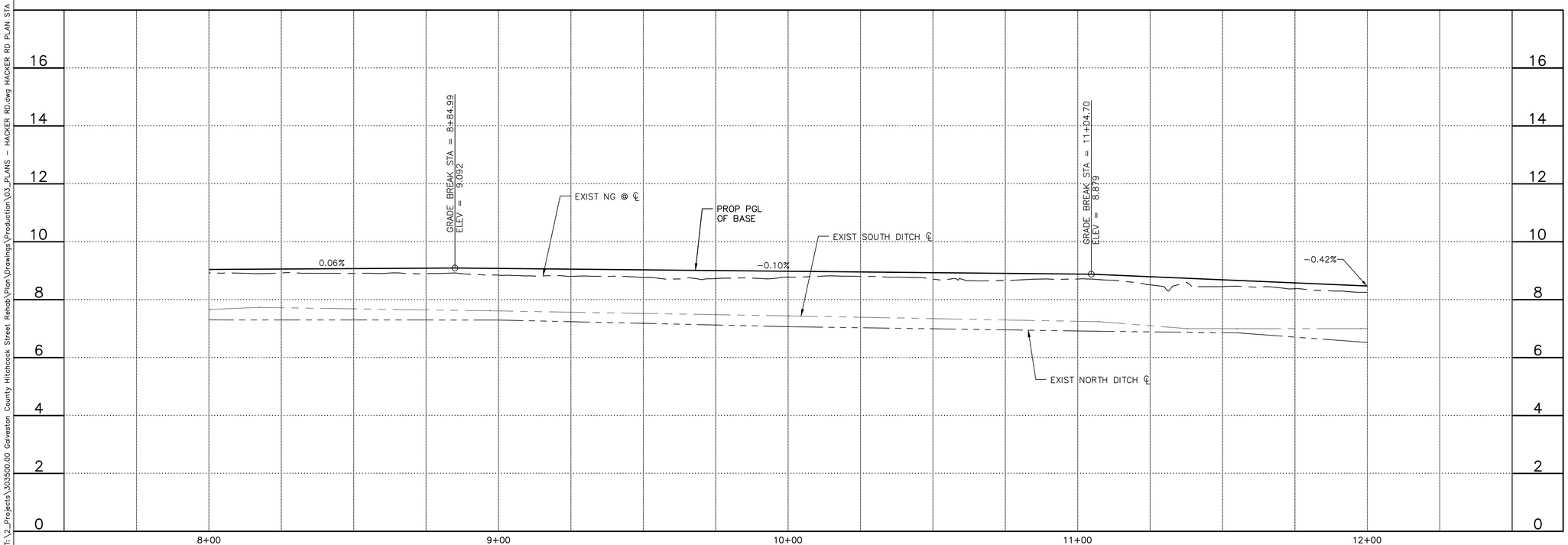
PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: HACKER ROAD PLAN AND PROFILES STA 4+00 TO STA 8+00

SHEET 13 OF 33

Aug 07, 2020 – 4:19pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\03_PLANS – HACKER RD.dwg HACKER RD PLAN STA 4+00 TO STA 8+00





0 20' 40'

LEGEND

BASE RECONSTRUCTION

APPROXIMATE AREA FOR NEEDED MILLING

(XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

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THE STATE OF TEXAS COUNTY OF GALVESTON

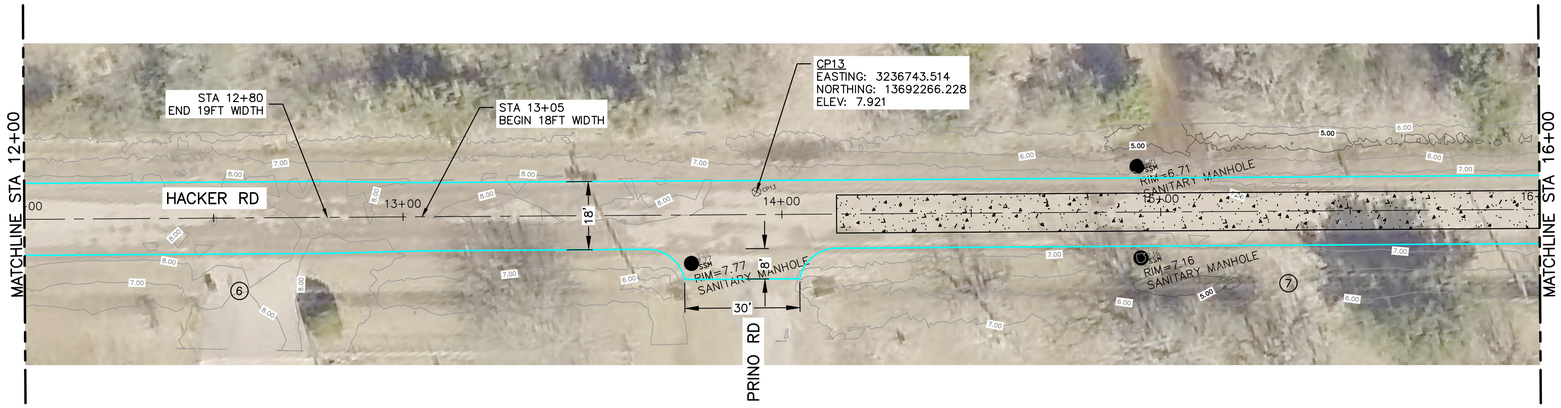
GALVESTON COUNTY
ENGINEERING DEPARTMENT

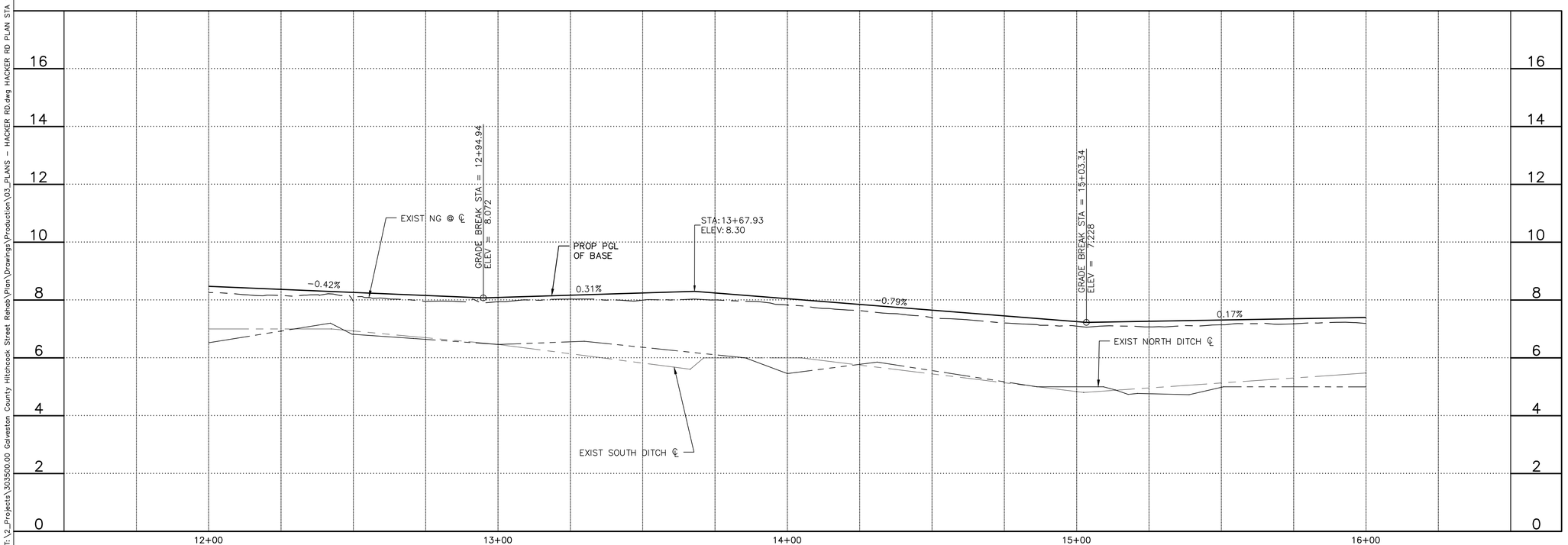
PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: HACKER ROAD PLAN AND PROFILES STA 8+00 TO STA 12+00

SHEET 14 OF 33

Aug 07, 2020 – 4:18pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\03_PLANS – HACKER RD.dwg HACKER RD PLAN STA 8+00 TO STA 12+00





0 20' 40'

LEGEND

BASE RECONSTRUCTION

APPROXIMATE AREA FOR NEEDED MILLING

(XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

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STATE OF TEXAS
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THE STATE OF TEXAS COUNTY OF GALVESTON

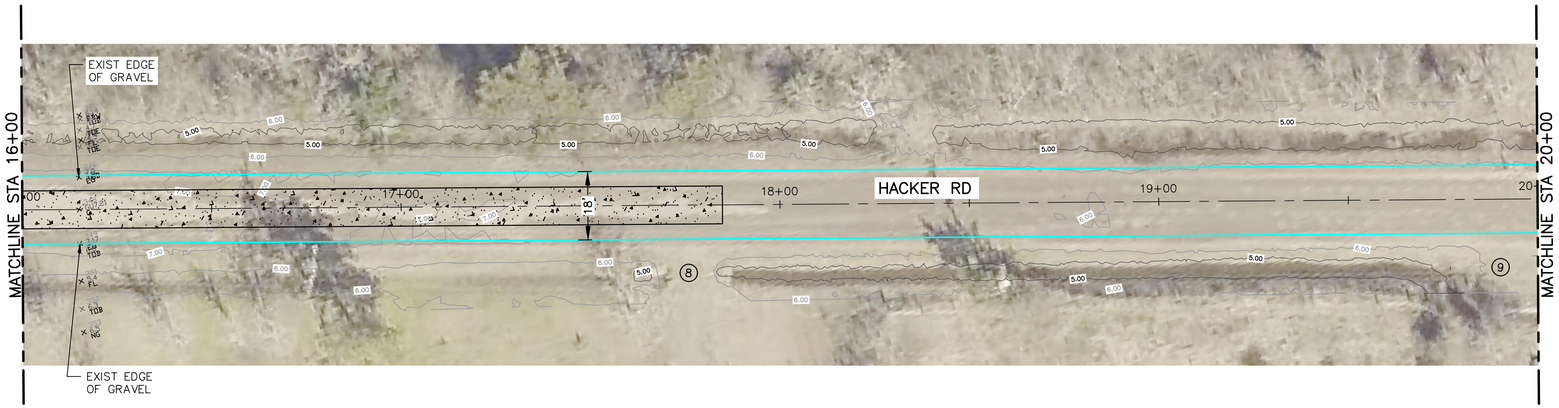
GALVESTON COUNTY
ENGINEERING DEPARTMENT

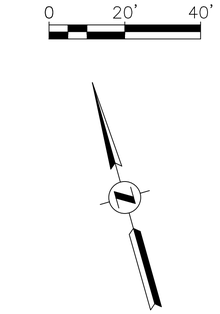
PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: HACKER ROAD PLAN AND PROFILES STA 12+00 TO STA 16+00

SHEET 15 OF 33

Aug 07, 2020 – 4:17pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\03_PLANS – HACKER RD.dwg HACKER RD PLAN STA 12+00 TO STA 16+00





LEGEND

- BASE RECONSTRUCTION
- APPROXIMATE AREA FOR NEEDED MILLING
- (XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

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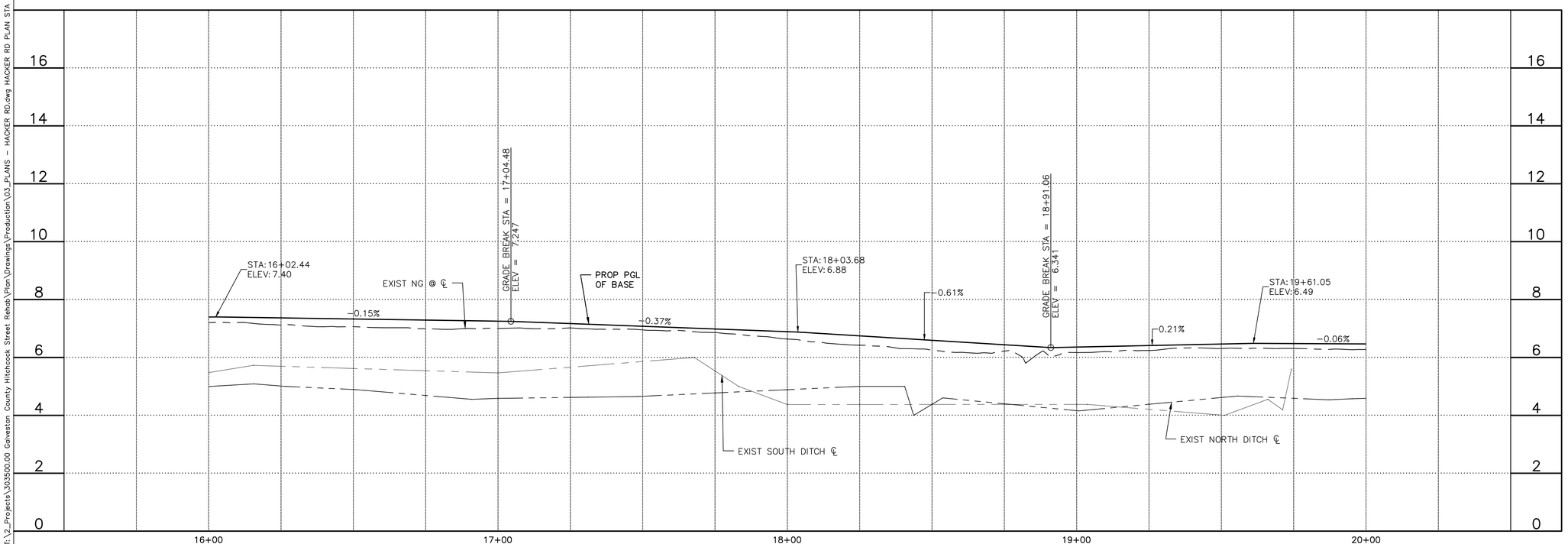

STATE OF TEXAS
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Elise Dillow 8/7/2020

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SCALE: 1" = 20'
DATE: AUGUST 2020

THE STATE OF TEXAS COUNTY OF GALVESTON

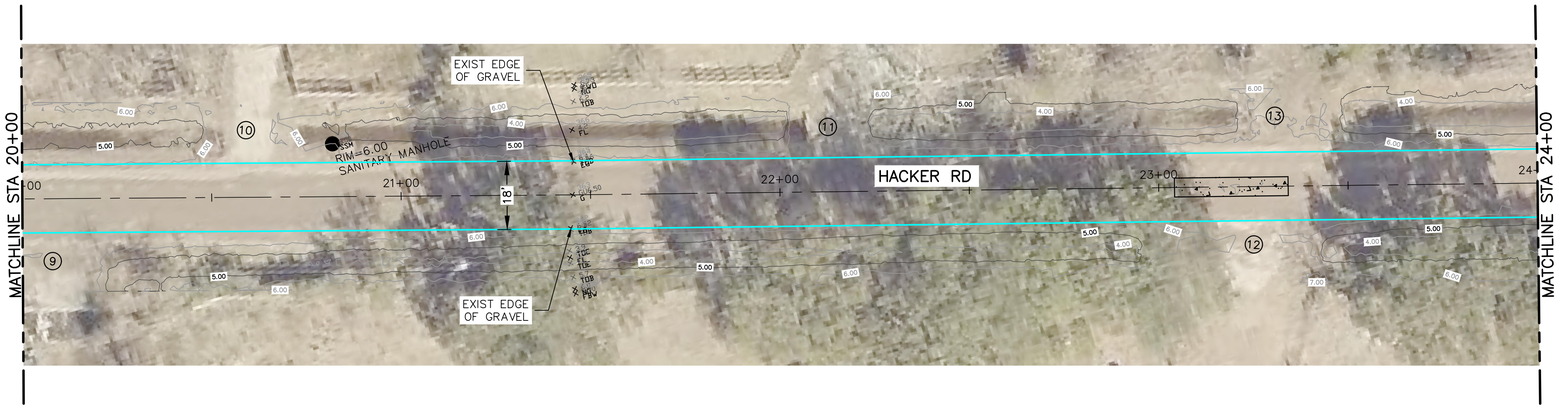
GALVESTON COUNTY
ENGINEERING DEPARTMENT

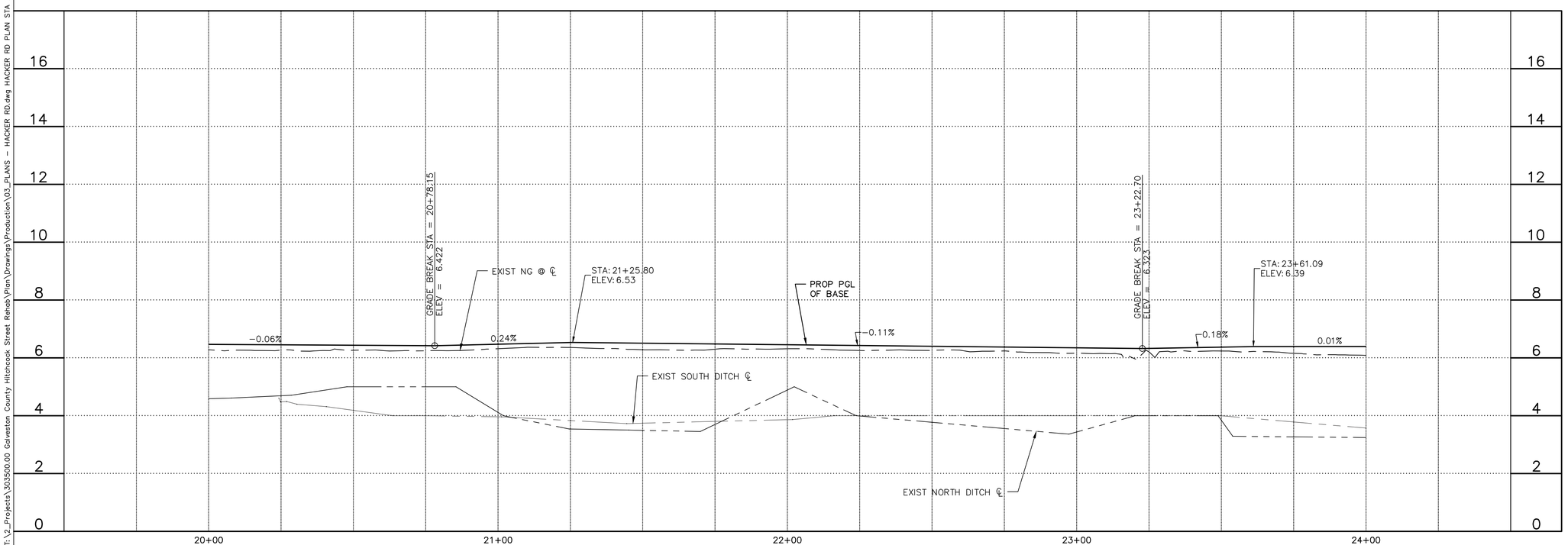
PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: HACKER ROAD PLAN AND PROFILES STA 16+00 TO STA 20+00

SHEET 16 OF 33

Aug 07, 2020 – 4:16pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\03_PLANS – HACKER RD.dwg HACKER RD PLAN STA 16+00 TO STA 20+00





0 20' 40'

LEGEND

BASE RECONSTRUCTION

APPROXIMATE AREA FOR NEEDED MILLING

(XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

NOTES

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STATE OF TEXAS
ELISE K. DILLOW
136062
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PROFESSIONAL ENGINEER

Elise Dillow 8/7/2020

NO.	REVISION	BY	DATE

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SCALE: 1" = 20'
DATE: AUGUST 2020

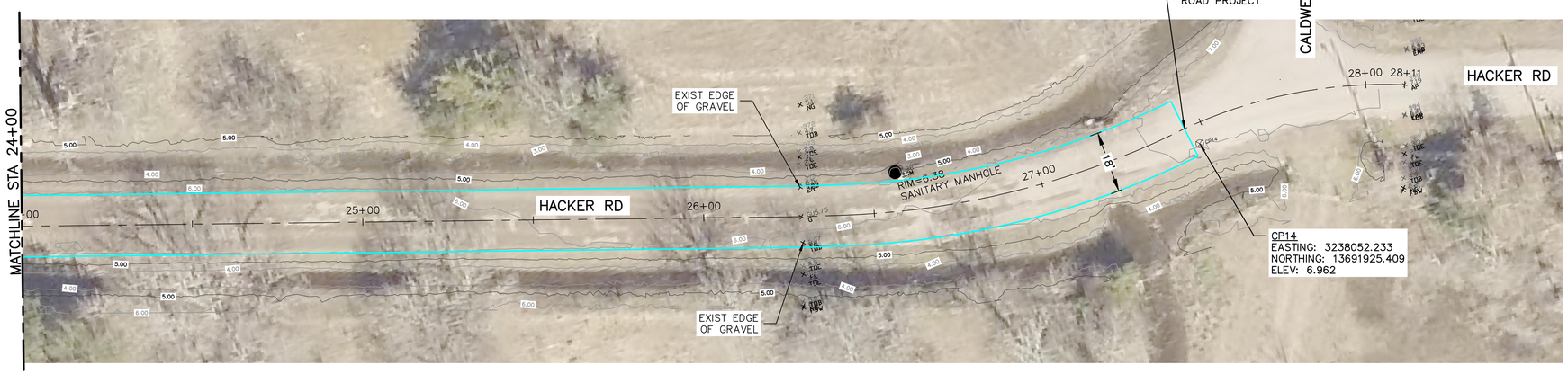
GALVESTON COUNTY
ENGINEERING DEPARTMENT

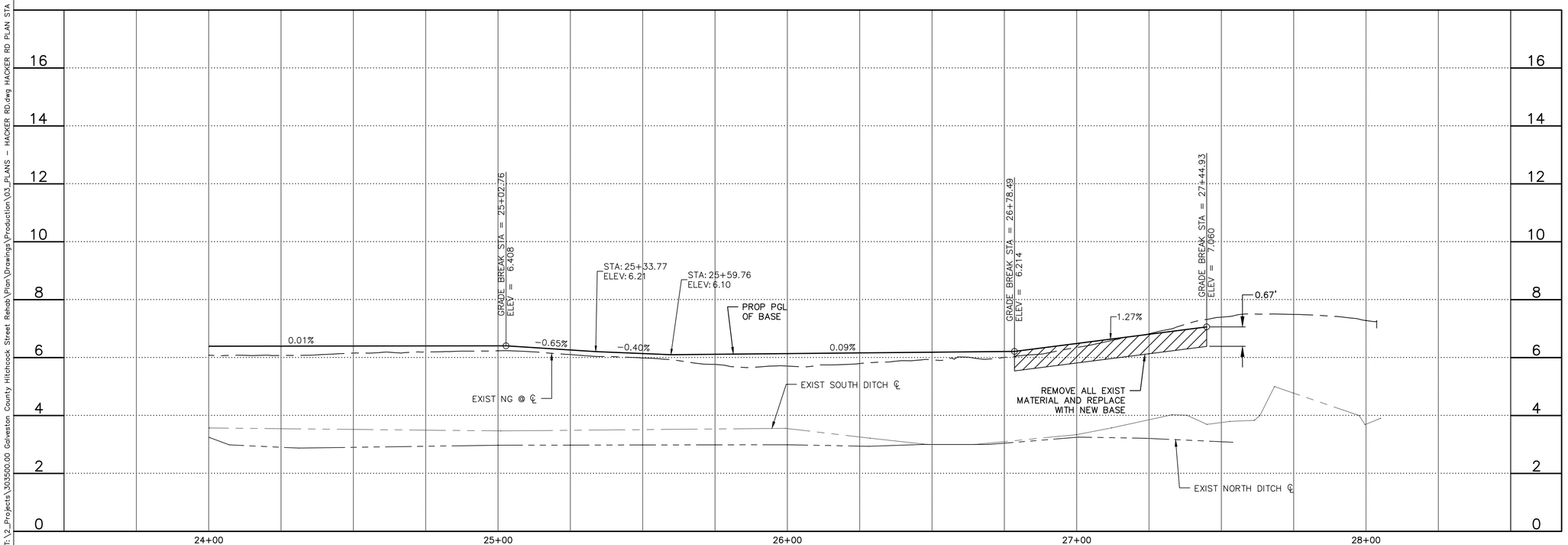
PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: HACKER ROAD PLAN AND PROFILES STA 20+00 TO STA 24+00

SHEET 17 OF 33

Aug 07, 2020 – 4:15pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\03_PLANS – HACKER RD.dwg HACKER RD PLAN STA 20+00 TO STA 24+00





0 20' 40'

LEGEND

BASE RECONSTRUCTION

APPROXIMATE AREA FOR NEEDED MILLING

(XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

NOTES

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STATE OF TEXAS
ELISE K. DILLOW
136062
LICENSED
PROFESSIONAL ENGINEER

Elise Dillow 8/7/2020

NO.	REVISION	BY	DATE

DRAWN BY: EKD
DESIGNED BY: EKD
CHECKED BY: MCD
APPROVED BY: RJB
SCALE: 1" = 20'
DATE: AUGUST 2020

THE STATE OF TEXAS COUNTY OF GALVESTON

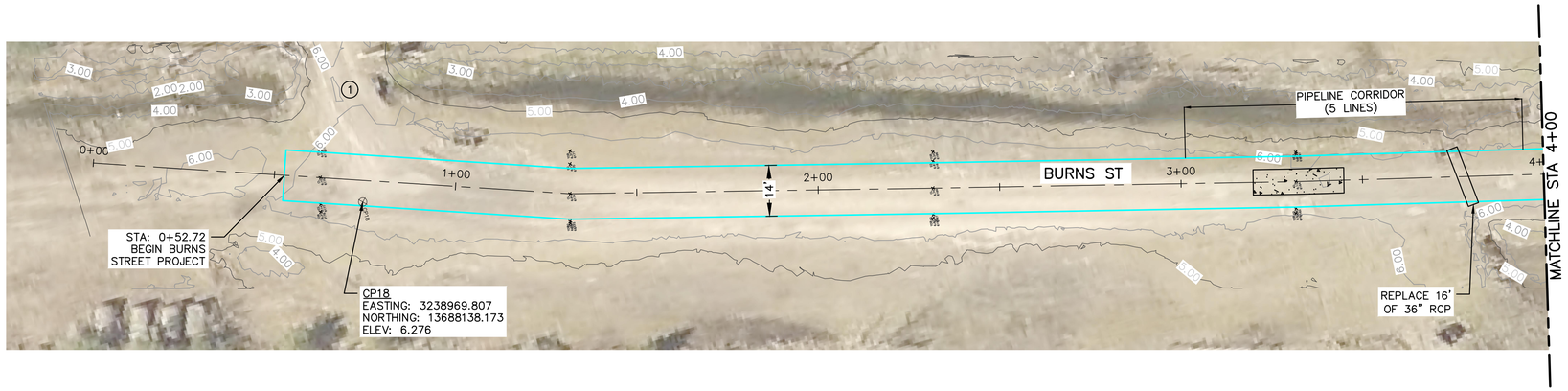
GALVESTON COUNTY
ENGINEERING DEPARTMENT

PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: HACKER ROAD PLAN AND PROFILES STA 24+00 TO END

SHEET 18 OF 33

Aug 07, 2020 – 4:13pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\03_PLANS – HACKER RD.dwg HACKER RD PLAN STA 24+00 TO END



0 20' 40'

LEGEND

BASE RECONSTRUCTION

APPROXIMATE AREA FOR NEEDED MILLING

(XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

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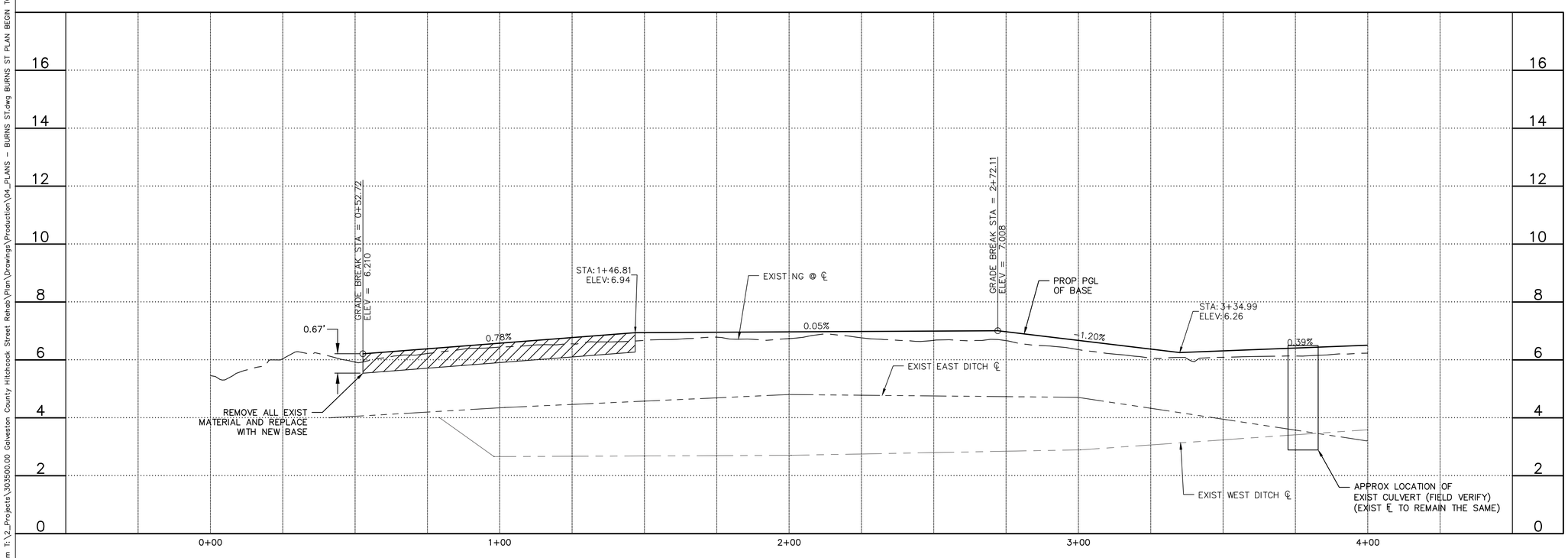
3. 14' WIDTH AS SHOWN IS FOR THE FINISHED ASPHALT SURFACE. BASE WIDTH TO BE 16' FEET.



STATE OF TEXAS
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Elise Dillow 8/7/2020

NO.	REVISION	BY	DATE

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CHECKED BY: MCD
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SCALE: 1" = 20'
DATE: AUGUST 2020

THE STATE OF TEXAS COUNTY OF GALVESTON

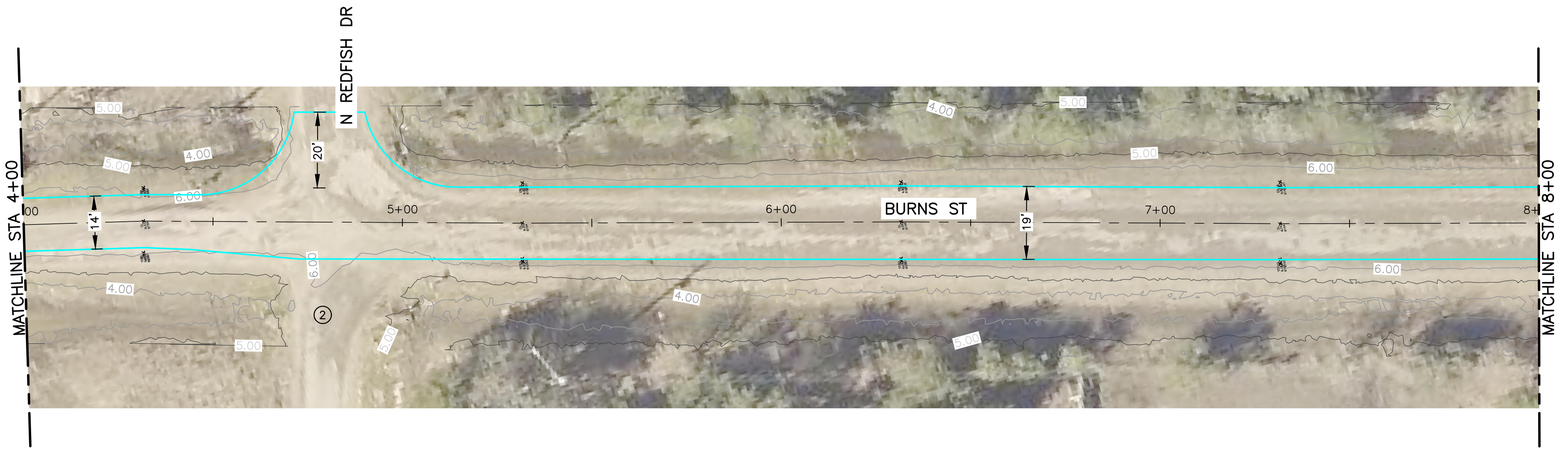
GALVESTON COUNTY
ENGINEERING DEPARTMENT

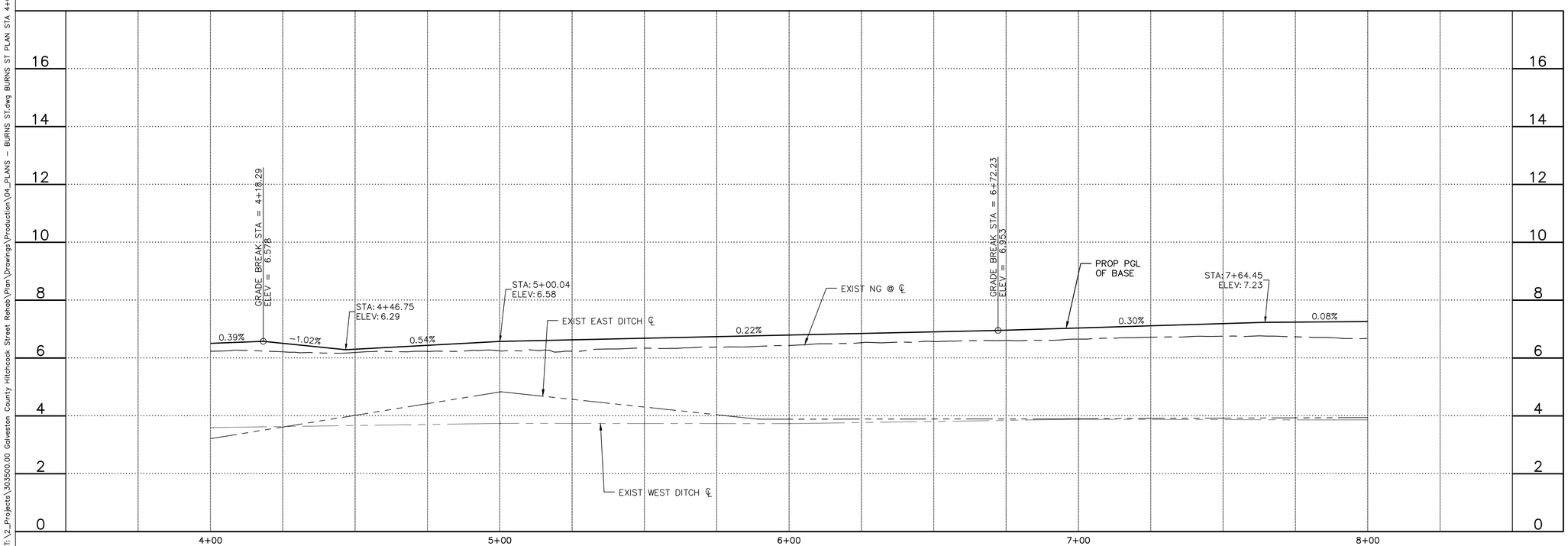
PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: BURNS STREET PLAN AND PROFILES BEGIN TO STA 4+00

SHEET 19 OF 33

Aug 07, 2020 – 4:20pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\04_PLANS – BURNS ST.dwg BURNS ST PLAN BEGIN TO STA 4+00





0 20' 40'

LEGEND

BASE RECONSTRUCTION

APPROXIMATE AREA FOR NEEDED MILLING

(XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

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3. 14' AND 19' WIDTH AS SHOWN IS FOR THE FINISHED ASPHALT SURFACE. BASE WIDTH TO BE 16' SOUTH OF REDFISH DRIVE, AND 21' NORTH OF REDFISH DRIVE.

STATE OF TEXAS
ELISE K. DILLOW
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PROFESSIONAL ENGINEER

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THE STATE OF TEXAS COUNTY OF GALVESTON

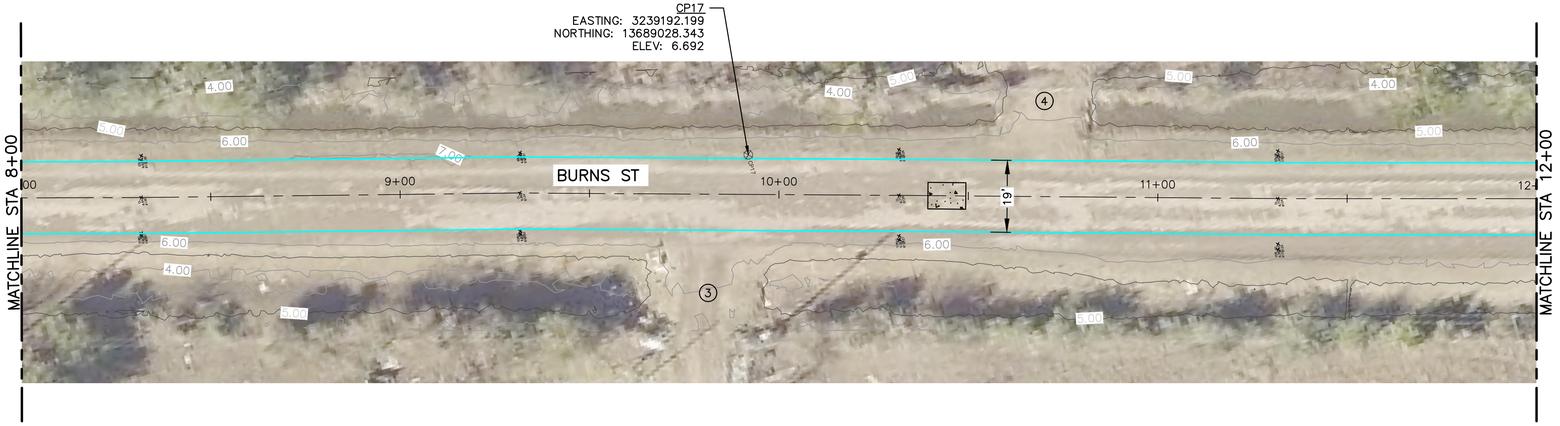
GALVESTON COUNTY
ENGINEERING DEPARTMENT

PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: BURNS STREET PLAN AND PROFILES STA 4+00 TO STA 8+00

SHEET 20 OF 33

Aug 07, 2020 – 4:19pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\04_PLANS – BURNS ST.dwg BURNS ST PLAN STA 4+00 TO STA 8+00



0 20' 40'

LEGEND

BASE RECONSTRUCTION

APPROXIMATE AREA FOR NEEDED MILLING

(XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

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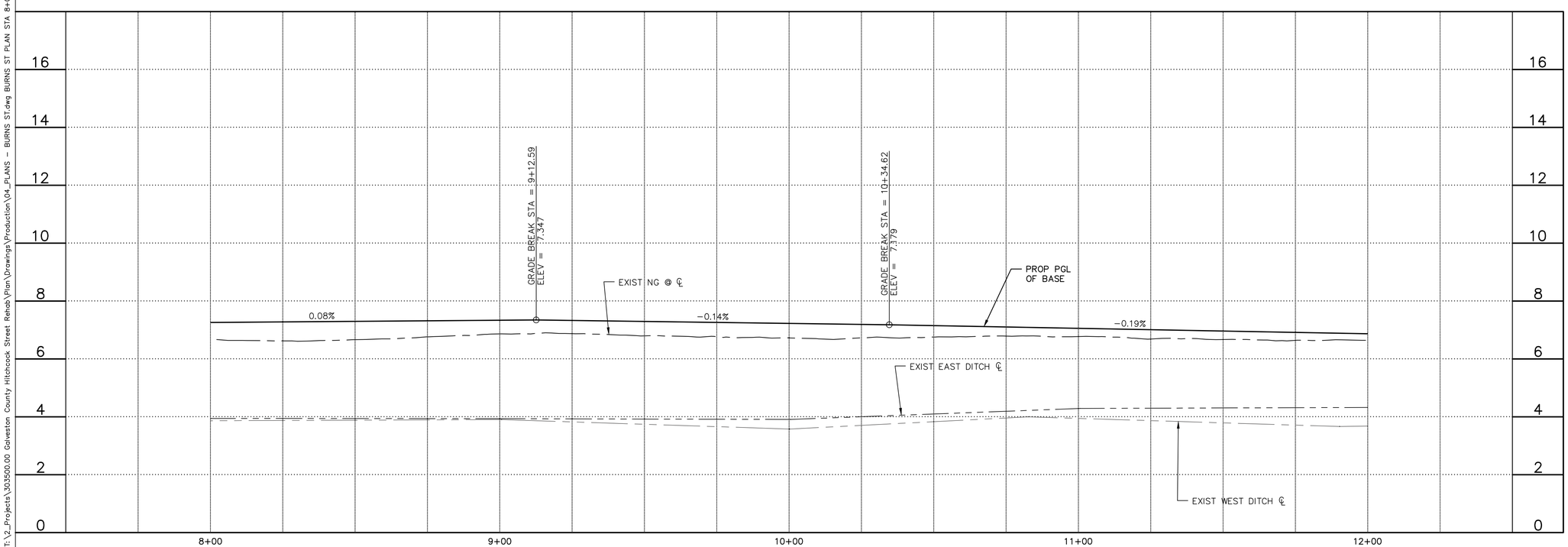

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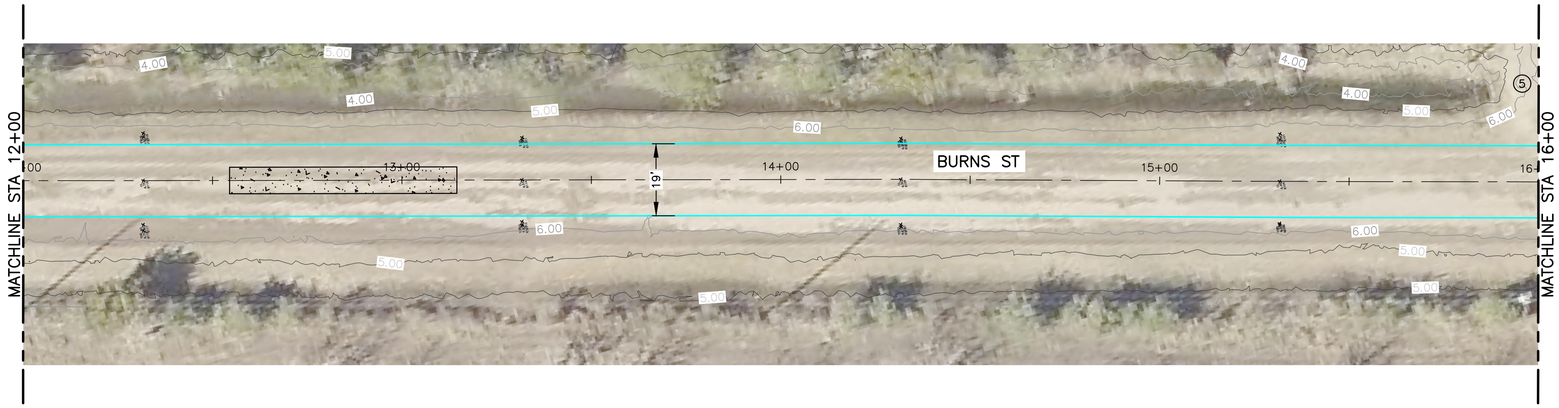
ENGINEERING DEPARTMENT

PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: BURNS STREET PLAN AND PROFILES STA 8+00 TO STA 12+00

SHEET 21 OF 33

Aug 07, 2020 – 4:18pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\04_PLANS – BURNS ST.dwg BURNS ST PLAN STA 8+00 TO STA 12+00



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LEGEND

BASE RECONSTRUCTION

APPROXIMATE AREA FOR NEEDED MILLING

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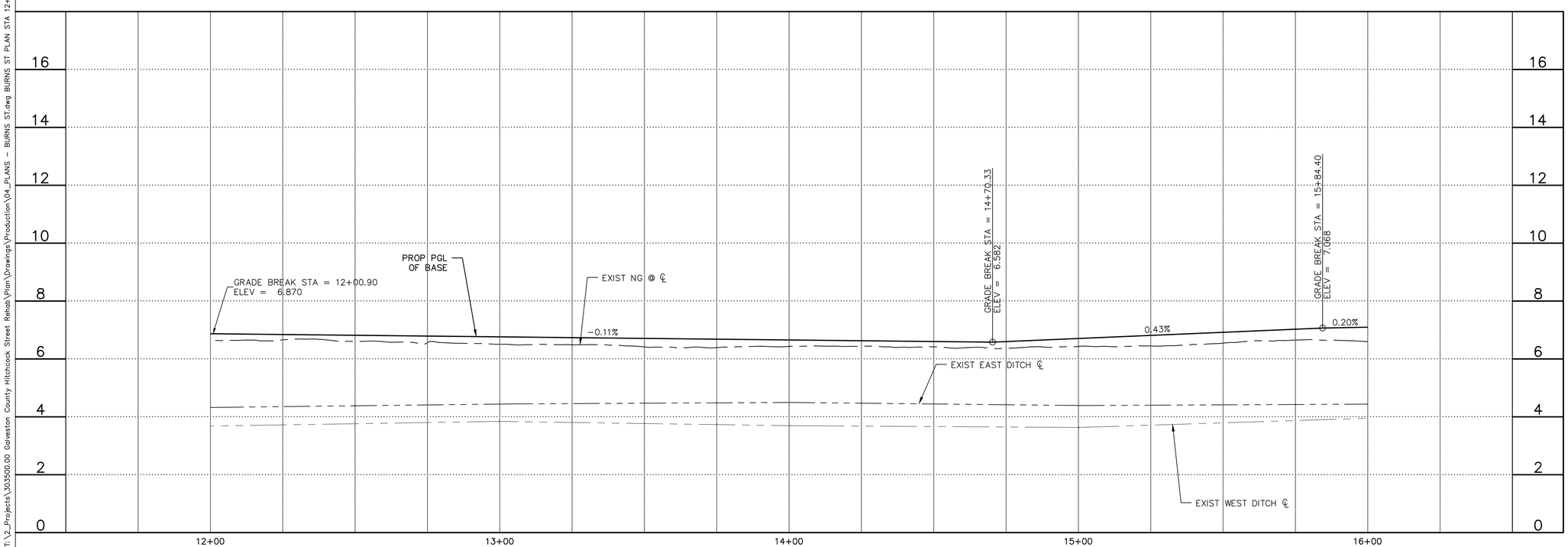
2. PROFILE GRADE AS SHOWN IS TO PROPOSED TOP OF BASE TO OBTAIN A TOTAL OF 8 INCHES OF BASE. CONTRACTOR TO USE DURING THE CONSTRUCTION AS A GUIDE AND DEMONSTRATE TO OWNER'S REPRESENTATIVE GENERAL COMPLIANCE WITH THE PROPOSED GRADE.
3. 19' WIDTH AS SHOWN IS FOR THE FINISHED ASPHALT SURFACE. BASE WIDTH TO BE 21'.



STATE OF TEXAS
ELISE K. DILLOW
136062
LICENSED
PROFESSIONAL ENGINEER

Elise Dillow 8/7/2020

NO.	REVISION	BY	DATE

DRAWN BY: EKD
DESIGNED BY: EKD
CHECKED BY: MCD
APPROVED BY: RJB
SCALE: 1" = 20'
DATE: AUGUST 2020

THE STATE OF TEXAS COUNTY OF GALVESTON

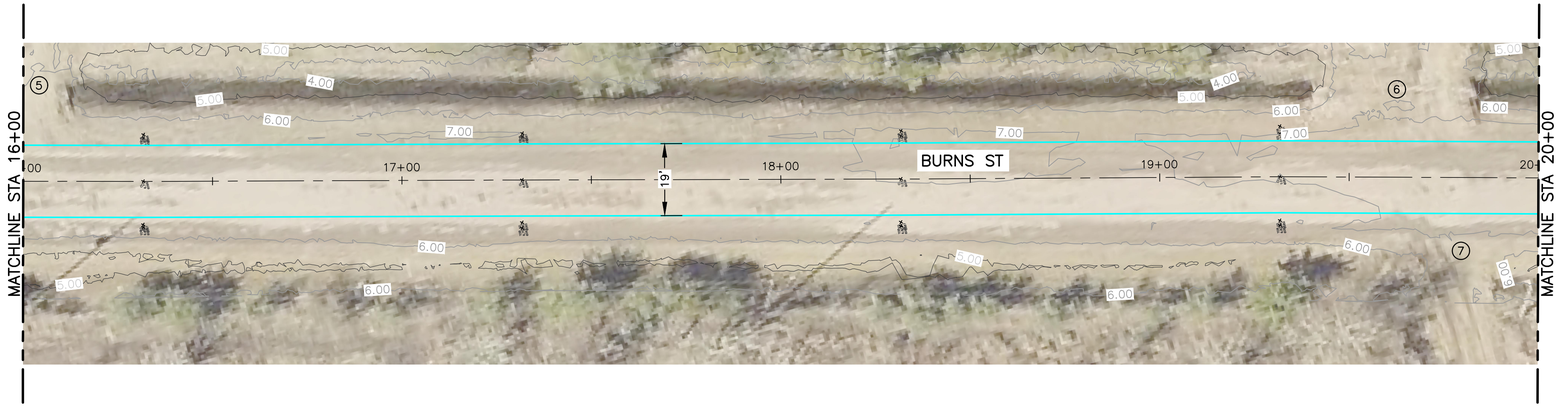
GALVESTON COUNTY
ENGINEERING DEPARTMENT

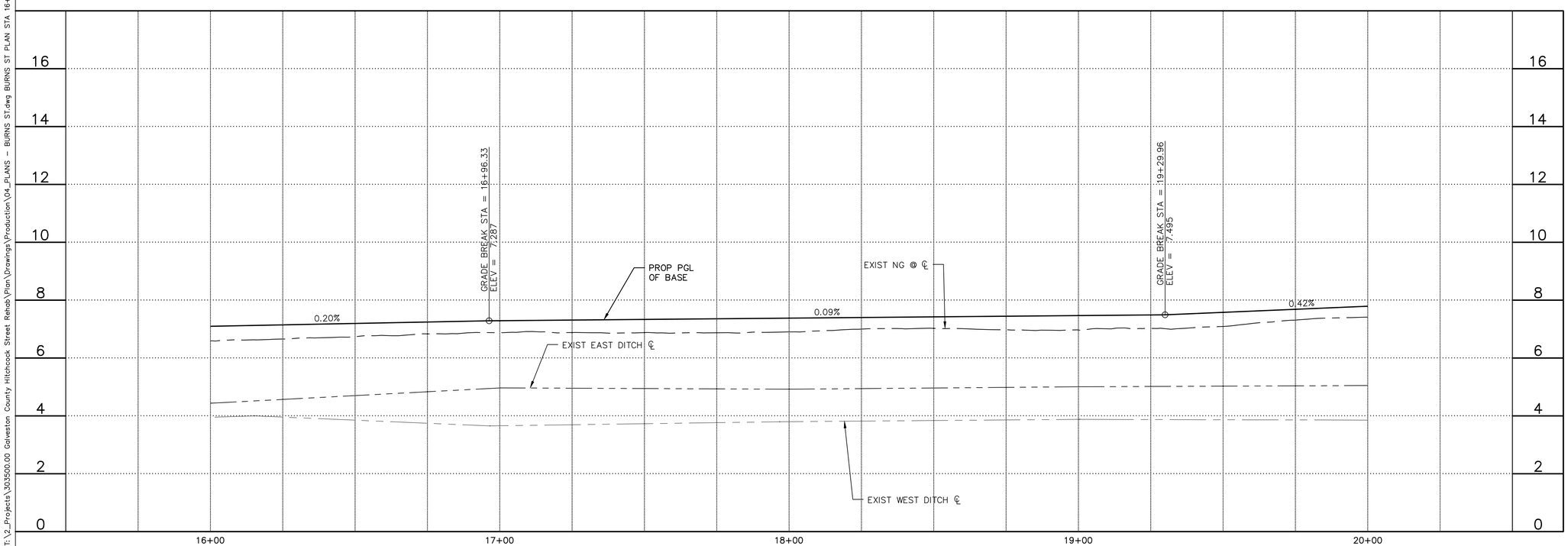
PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: BURNS STREET PLAN AND PROFILES STA 12+00 TO STA 16+00

SHEET 22 OF 33

Aug 07, 2020 – 4:16pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\04_PLANS – BURNS ST.dwg BURNS ST PLAN STA 12+00 TO STA 16+00





0 20' 40'

LEGEND

BASE RECONSTRUCTION

APPROXIMATE AREA FOR NEEDED MILLING

(XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

NOTES

1. OWNER'S FIELD REPRESENTATIVE TO BE PRESENT DURING PROOF ROLLING TO EVALUATE AREAS OF BASE REPAIR IN CONJUNCTION WITH THE CONTRACTOR. FINAL AREAS OF REPAIR TO BE APPROVED BY OWNER.
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3. 19' WIDTH AS SHOWN IS FOR THE FINISHED ASPHALT SURFACE. BASE WIDTH TO BE 21'.
4. INVESTIGATE THICKNESS OF EXISTING BASE BETWEEN STATION 19+50 TO 22+00.

STATE OF TEXAS
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SCALE: 1" = 20'
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THE STATE OF TEXAS COUNTY OF GALVESTON

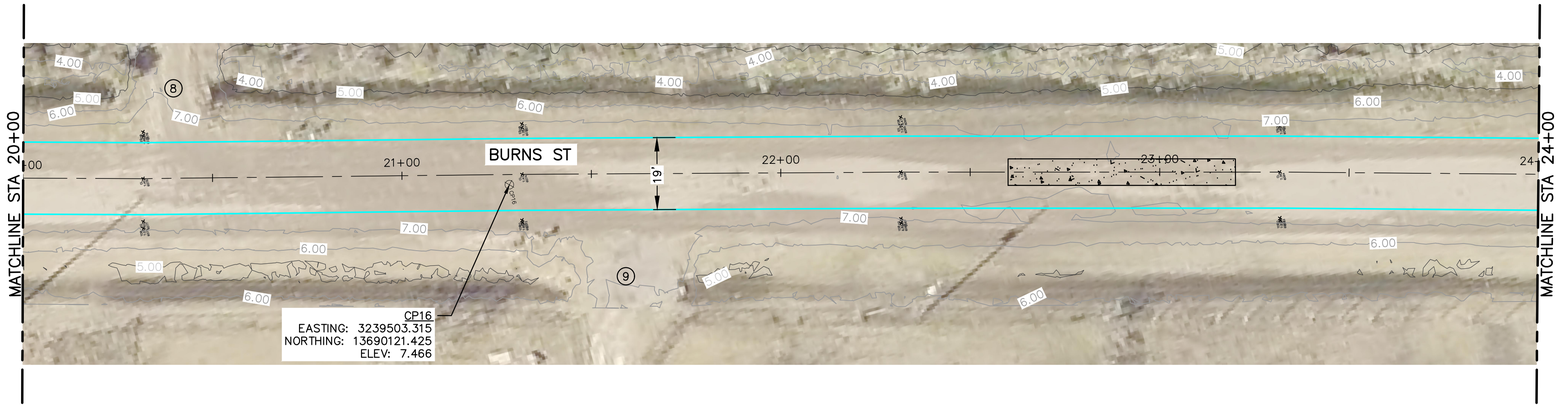
GALVESTON COUNTY
ENGINEERING DEPARTMENT

PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: BURNS STREET PLAN AND PROFILES STA 16+00 TO STA 20+00

SHEET 23 OF 33

Aug 07, 2020 – 4:16pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\04_PLANS – BURNS ST.dwg BURNS ST PLAN STA 16+00 TO STA 20+00



0 20' 40'

LEGEND

BASE RECONSTRUCTION

APPROXIMATE AREA FOR NEEDED MILLING

(XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

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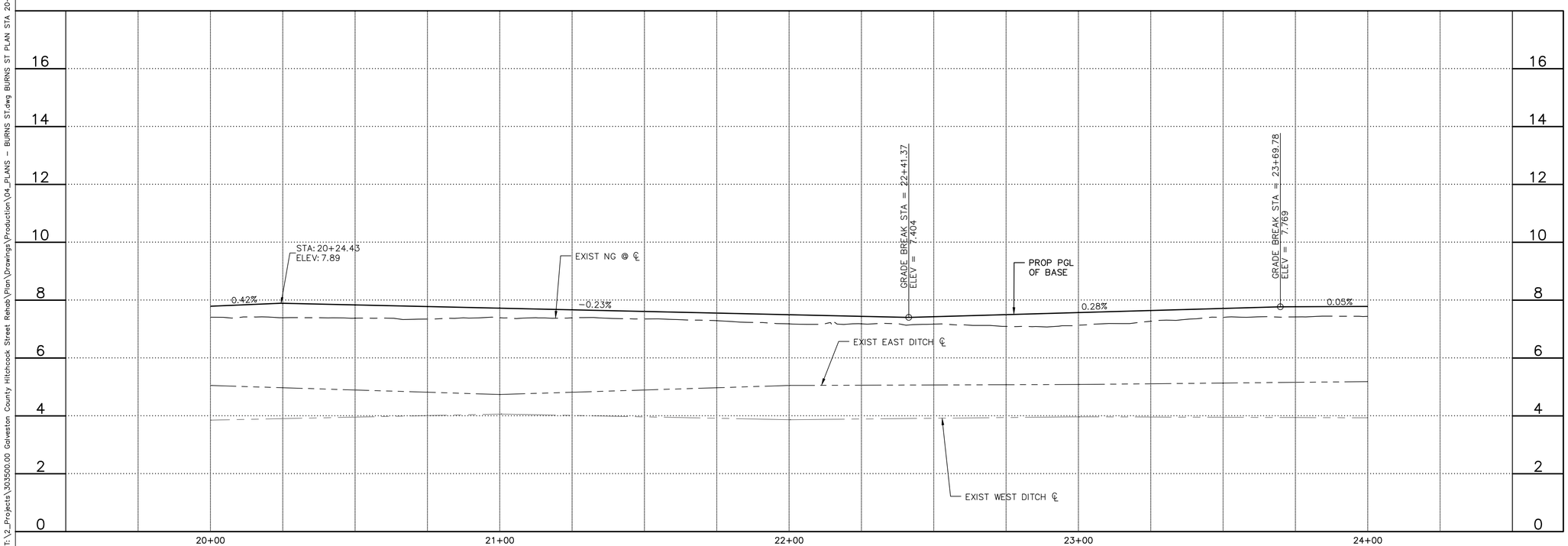
4. INVESTIGATE THICKNESS OF EXISTING BASE BETWEEN STATIONS 19+50 TO 22+00.



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THE STATE OF TEXAS COUNTY OF GALVESTON

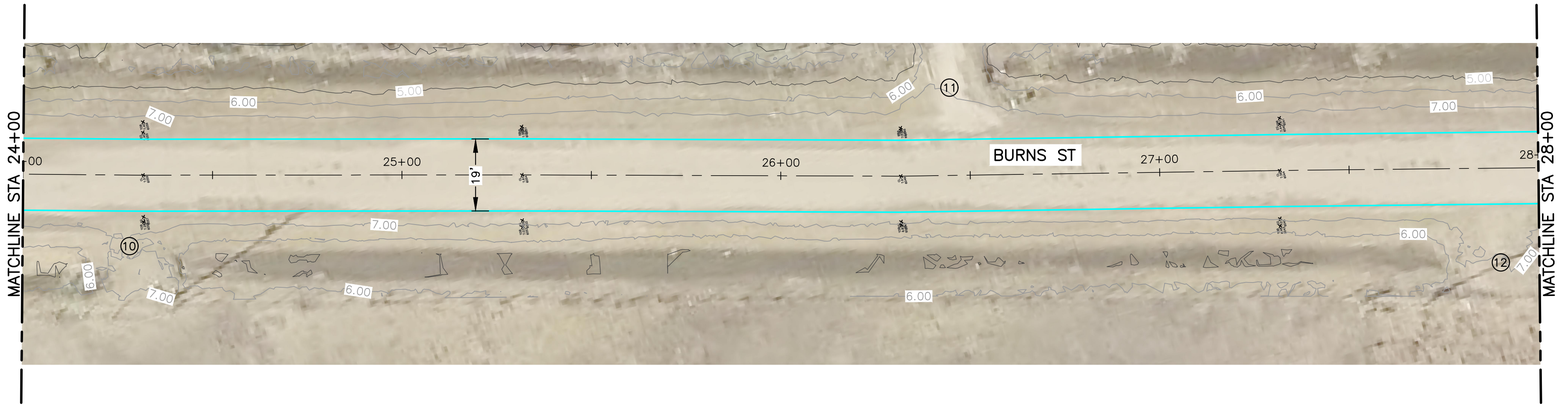
GALVESTON COUNTY
ENGINEERING DEPARTMENT

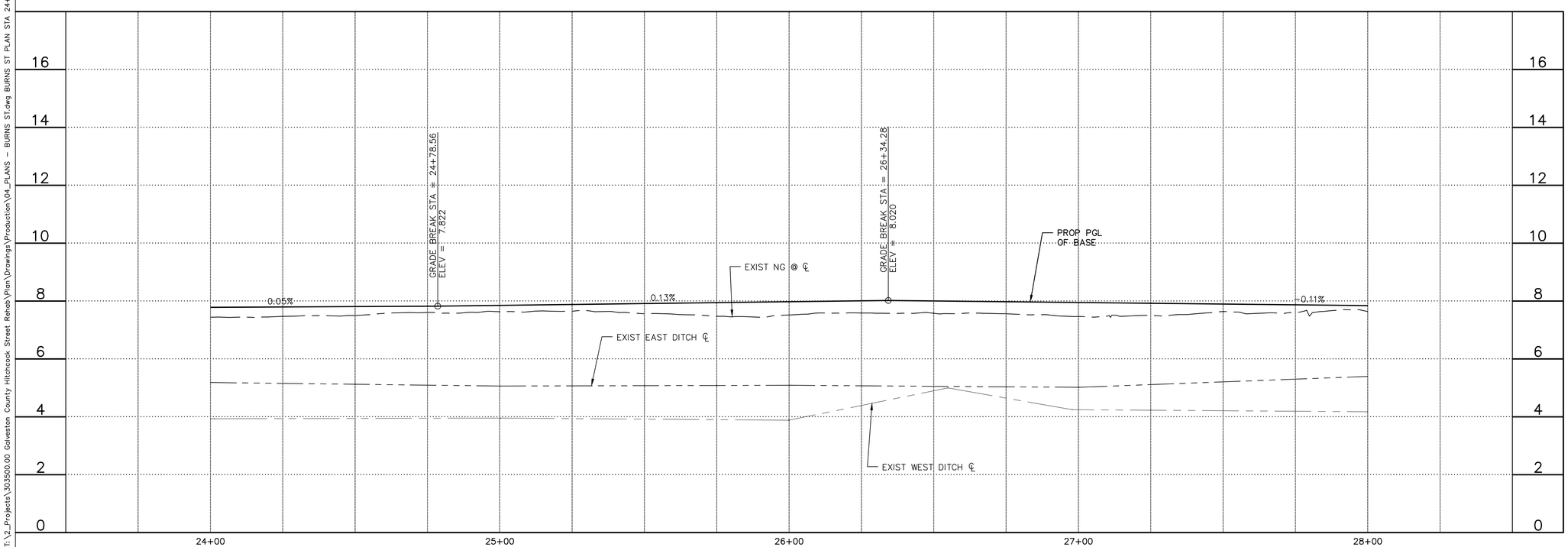
PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: BURNS STREET PLAN AND PROFILES STA 20+00 TO STA 24+00

SHEET 24 OF 33

Aug 07, 2020 – 4:15pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\04_PLANS – BURNS ST.dwg BURNS ST PLAN STA 20+00 TO STA 24+00





0 20' 40'

LEGEND

BASE RECONSTRUCTION

APPROXIMATE AREA FOR NEEDED MILLING

(XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

NOTES

1. OWNER'S FIELD REPRESENTATIVE TO BE PRESENT DURING PROOF ROLLING TO EVALUATE AREAS OF BASE REPAIR IN CONJUNCTION WITH THE CONTRACTOR. FINAL AREAS OF REPAIR TO BE APPROVED BY OWNER.
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3. 19' WIDTH AS SHOWN IS FOR THE FINISHED ASPHALT SURFACE. BASE WIDTH TO BE 21'.
4. INVESTIGATE THICKNESS AND USABILITY OF EXISTING BASE BETWEEN STATION 24+00 AND 28+00.

STATE OF TEXAS
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PROFESSIONAL ENGINEER

Elise Dillow 8/7/2020

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THE STATE OF TEXAS COUNTY OF GALVESTON

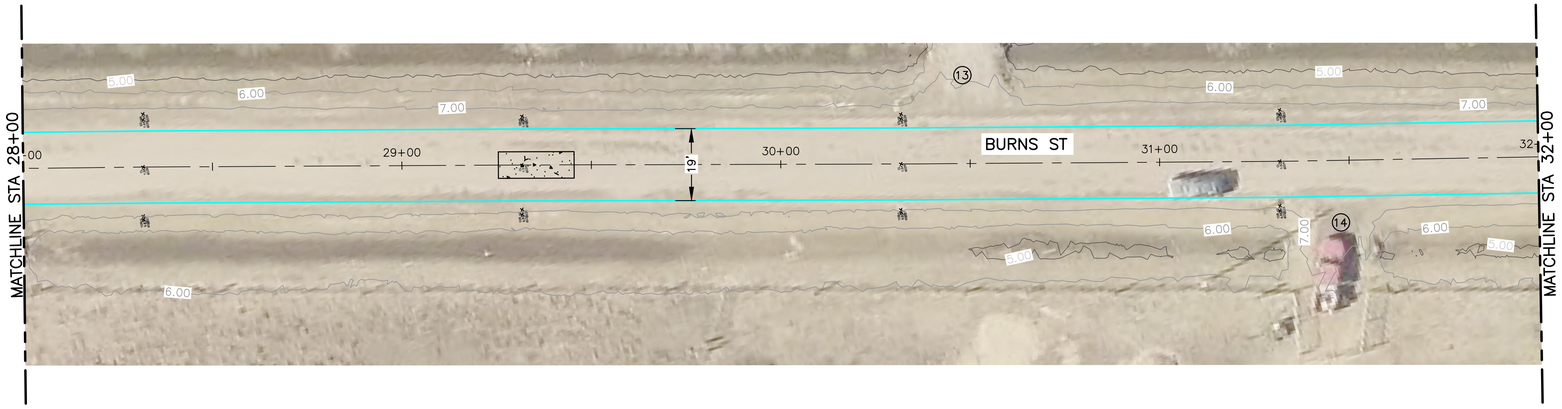
GALVESTON COUNTY
ENGINEERING DEPARTMENT

PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: BURNS STREET PLAN AND PROFILES STA 24+00 TO STA 28+00

SHEET 25 OF 33

Aug 07, 2020 – 4:14pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\04_PLANS – BURNS ST.dwg BURNS ST PLAN STA 24+00 TO STA 28+00



0 20' 40'

LEGEND

BASE RECONSTRUCTION

APPROXIMATE AREA FOR NEEDED MILLING

(XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

NOTES

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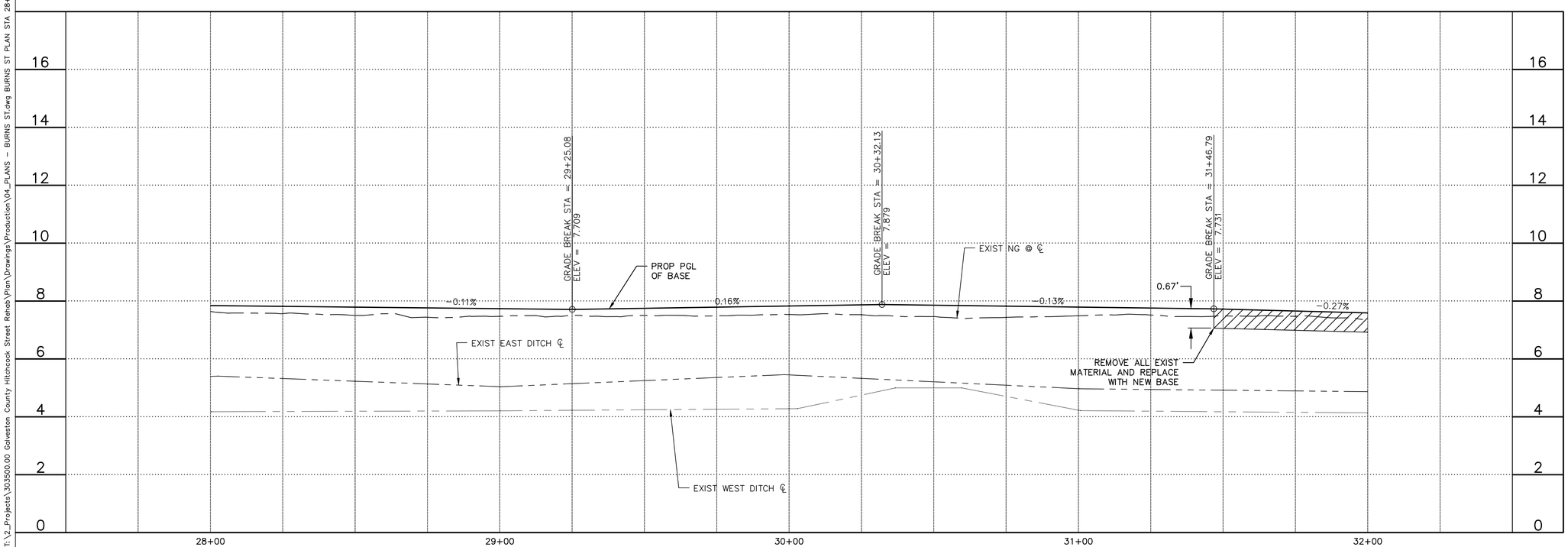

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THE STATE OF TEXAS COUNTY OF GALVESTON

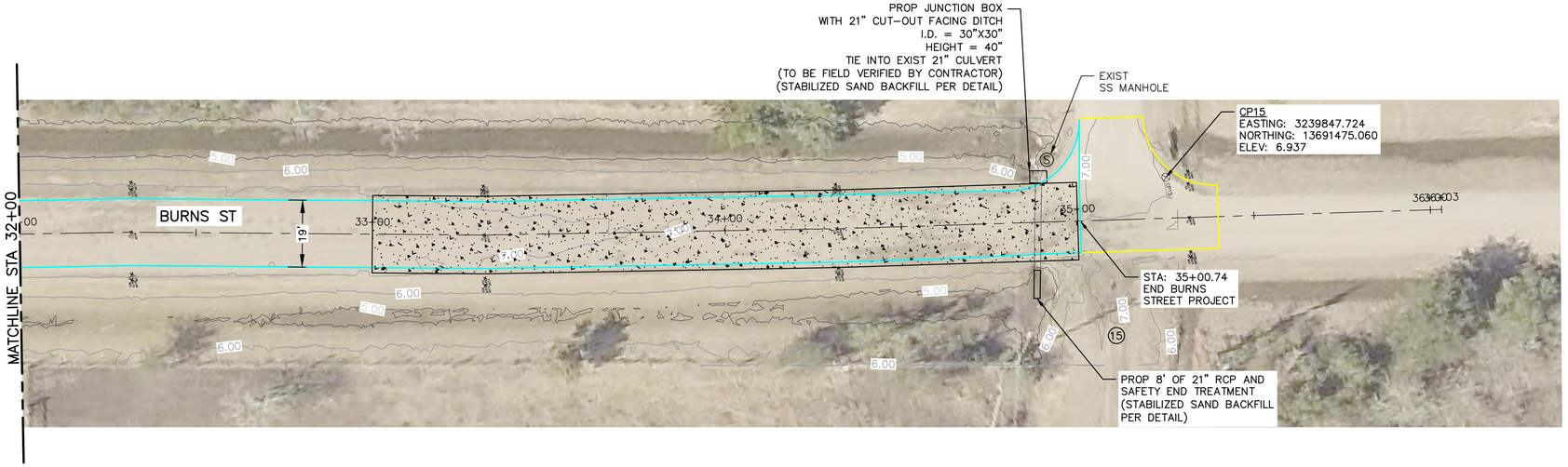
GALVESTON COUNTY
ENGINEERING DEPARTMENT

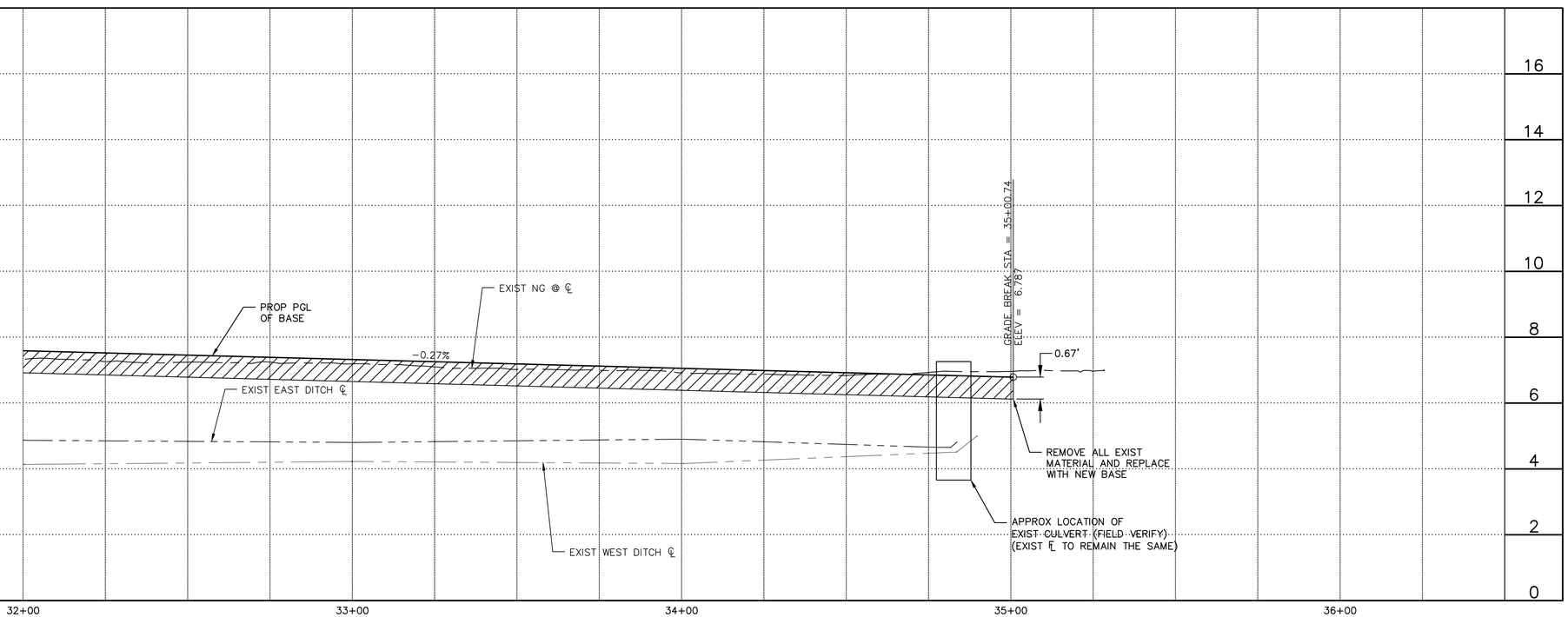
PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: BURNS STREET PLAN AND PROFILES STA 28+00 TO STA 32+00

SHEET 26 OF 33

Aug 07, 2020 – 4:13pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\04_PLANS – BURNS ST.dwg BURNS ST PLAN STA 28+00 TO STA 32+00





0 20' 40'

LEGEND

- BASE RECONSTRUCTION
- APPROXIMATE AREA FOR NEEDED MILLING
- MILL AND OVERLAY
- (XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

NOTES

1. OWNER'S FIELD REPRESENTATIVE TO BE PRESENT DURING PROOF ROLLING TO EVALUATE AREAS OF BASE REPAIR IN CONJUNCTION WITH THE CONTRACTOR. FINAL AREAS OF REPAIR TO BE APPROVED BY OWNER.
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3. 19' WIDTH AS SHOWN IS FOR THE FINISHED ASPHALT SURFACE. BASE WIDTH TO BE 21'. PROVIDE TRANSITION TO INTERSECTION BY EXCAVATING BASE AND SUBGRADE TO 22 FEET WIDTH FROM STATION 31+46.79 TO 34+00.44 FOR INSTALLATION OF 8 INCHES OF NEW BASE.
4. INSTALL SIDE JUNCTION BOX IN SOUTHWEST CORNER AND 21" SAFETY END TREATMENT IN SOUTHEAST CORNER. EXACT LOCATIONS TO BE FIELD VERIFIED. EXISTING FLOW LINE NEEDS TO REMAIN THE SAME.
5. PROVIDE EDGE RECONSTRUCTION ON BOTH SIDES FROM STATION 34+00 TO 35+00 TO PROVIDE FOR 22 FEET BASE WIDTH. RESHAPE DITCH EDGES.

STATE OF TEXAS
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PROFESSIONAL ENGINEER

Elise Dillow 8/7/2020

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SCALE: 1" = 20'
DATE: AUGUST 2020

THE STATE OF TEXAS COUNTY OF GALVESTON

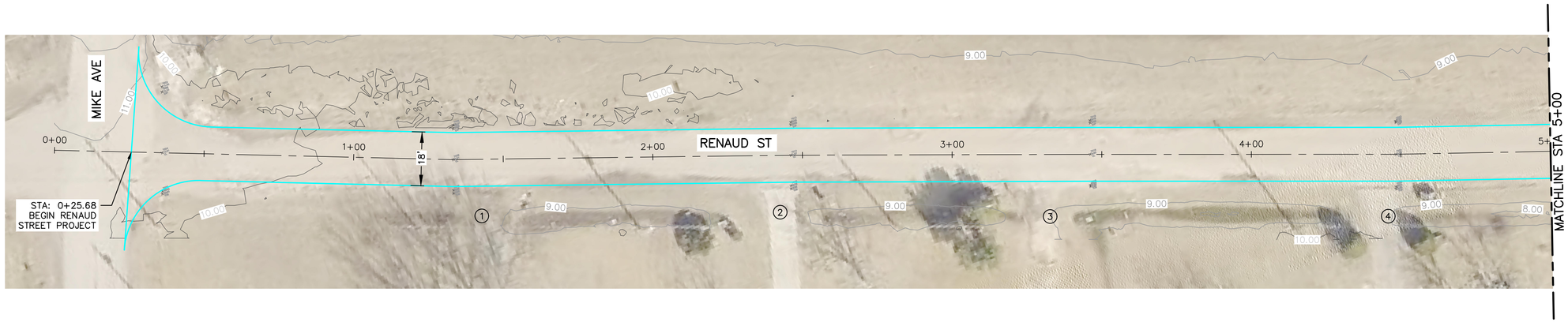
GALVESTON COUNTY
ENGINEERING DEPARTMENT

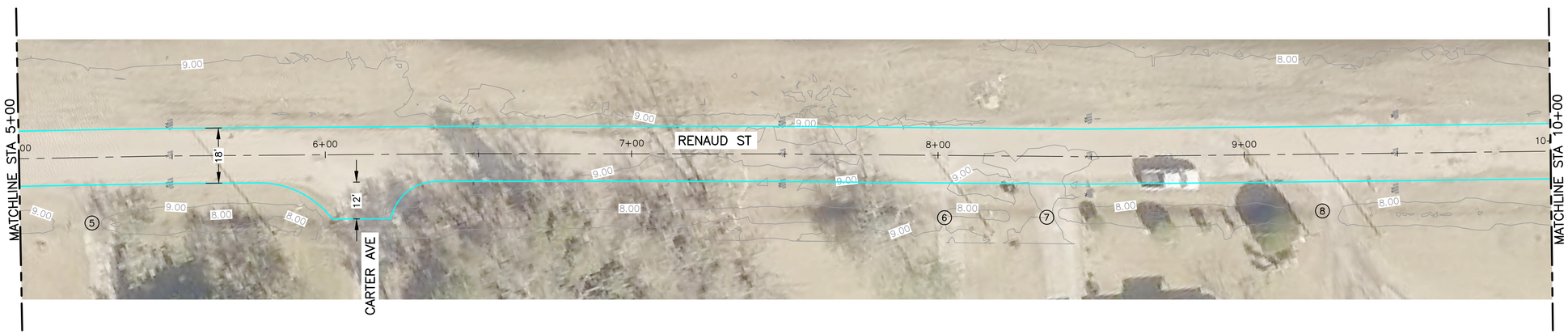
PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

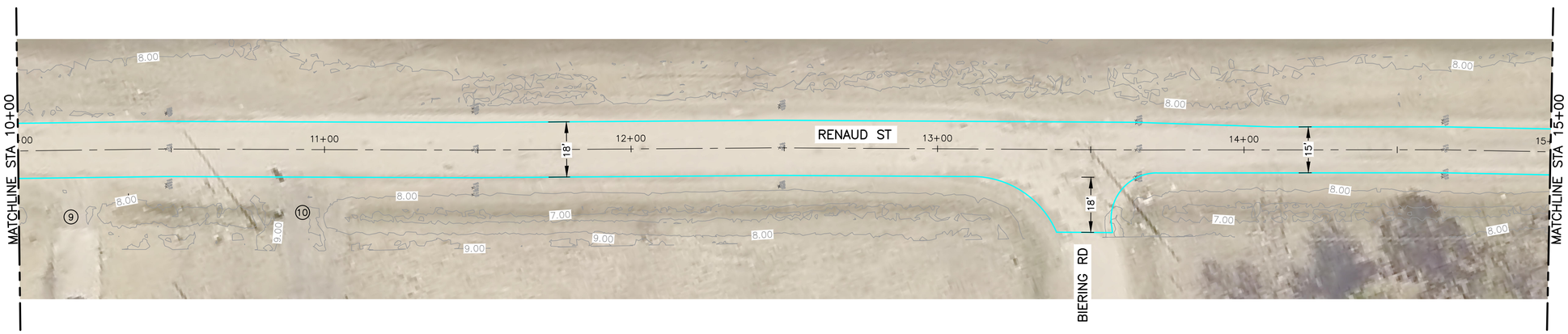
SHEET DESCRIPTION: BURNS STREET PLAN AND PROFILES STA 32+00 TO END

SHEET 27 OF 33

Aug 07, 2020 – 4:12pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\04_PLANS – BURNS ST.dwg BURNS ST PLAN STA 32+00 TO END







0 20' 40'

LEGEND

BASE RECONSTRUCTION

(XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

NOTES

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2. PROVIDE 2 INCHES OF NEW BASE MATERIAL TO PROVIDE A TOTAL BASE THICKNESS OF 6 INCHES. PROVIDE A 1.5 INCH ASPHALT SURFACE.
3. 18' AND 15' WIDTH AS SHOWN IS FOR FINISHED ASPHALT SURFACE. BASE TO BE 2' WIDER THAN SURFACE.

STATE OF TEXAS
ELISE K. DILLOW
136062
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PROFESSIONAL ENGINEER

Elise Dillow 8/7/2020

NO.	REVISION	BY	DATE

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SCALE: 1" = 20'
DATE: AUGUST 2020

THE STATE OF TEXAS COUNTY OF GALVESTON

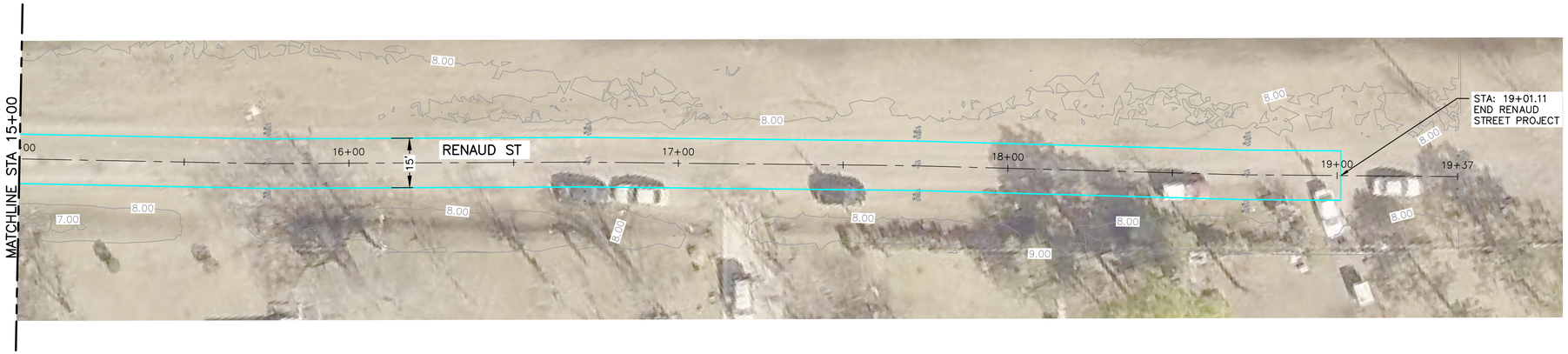
GALVESTON COUNTY
ENGINEERING DEPARTMENT

PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: RENAUD STREET PLANS (ALTERNATE 1) BEGIN TO STA 15+00

SHEET 28 OF 33

Aug 07, 2020 – 4:12pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\05_PLANS – S RAILROAD AVE.dwg RENAUD ST PLAN BEGIN TO STA 15+00



0 20' 40'

LEGEND

BASE RECONSTRUCTION

(XX) DRIVEWAY NUMBERS (SEE DRIVEWAY SUMMARY TABLE)

NOTES

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DATE: AUGUST 2020

THE STATE OF TEXAS COUNTY OF GALVESTON

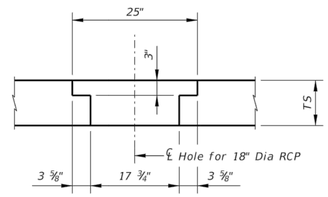
GALVESTON COUNTY
ENGINEERING DEPARTMENT

PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

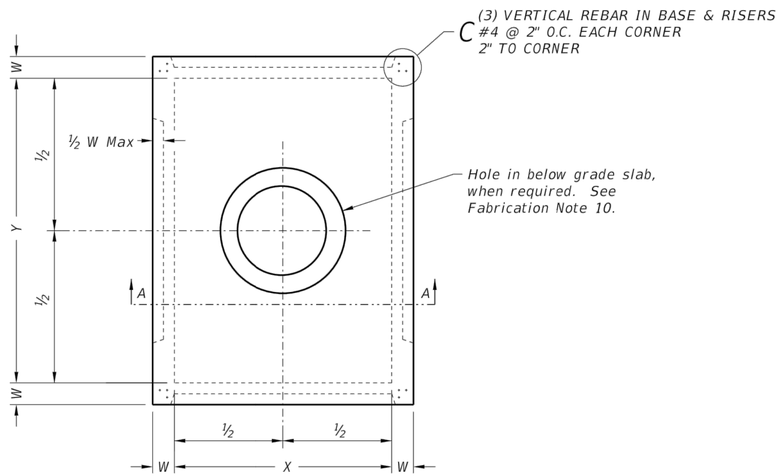
SHEET DESCRIPTION: RENAUD STREET PLANS (ALTERNATE 1) STA 15+00 TO END

SHEET 29 OF 33

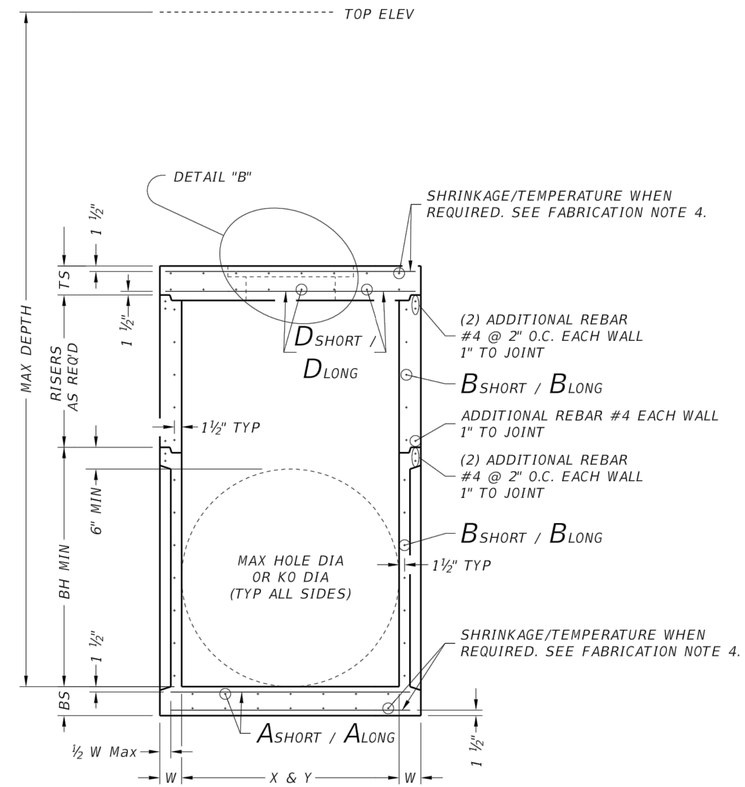
Aug 07, 2020 - 4:11pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\05_PLANS - S RAILROAD AVE.dwg RENAUD ST PLAN STA 15+00 TO END



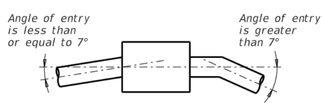
DETAIL "B"



PLAN VIEW



SECTION A-A



PIPE CONNECTION DETAIL

Connect pipes within 7° of normal to PJB wall.
If necessary, use pipe elbow or curved approach
alignment to stay within this limit.

FABRICATION NOTES:

1. Provide Class "H" concrete in accordance with Item 421 and having a minimum compressive strength of 5,000 psi.
2. Provide Grade 60 reinforcing steel or equivalent area of WWR.
3. Provide typical clear cover of 1 ½" to reinforcing steel at interior or exterior walls.
4. Walls or slabs with a thickness of 8" or greater require shrinkage and temperature reinforcing steel. Provide steel area = 0.11 in^2/ft each way.
5. No substitution is allowed for vertical and horizontal #4 bars in corners.
6. Manufacture base and risers to nearest 3" increment.
7. Design tongue and groove joints for full closure on both shoulders. Minimum spigot depth is ¾".
8. Provide lifting devices in conformance with Manufacturer's recommendations.
9. See sheet PDD for sizes, dimensions, and reinforcing steel not shown.
10. Provide hole in below grade slab only when PJB is installed with inlet type POD.

INSTALLATION NOTES:

1. Inverts (benching) to be provided by Contractor. Concrete or mortar used for invert is subsidiary to junction box.
2. Seal tongue and groove joints with preformed or bulk mastic in conformance with Manufacturer's recommendations. Tongue and groove joints may be grouted no more than 1" between each section, or ½ the joint depth, whichever is greater.
3. Do not grout rubber gasket joints without Manufacturer's recommendation.
4. For rigid pipe, cut hole in thin wall panel (KO) 4" Max, 2" Min larger than pipe OD.
5. For flexible pipe, consult boot/seal Manufacturer's specification for placement tolerance and hole size. Center pipe in hole and install boot/seal per Manufacturer's specification.

GENERAL NOTES:

1. Precast Junction Box consists of base slab, base unit, risers (as required), and below grade slab. See sheet PDD for sizes.
2. Designed according to ASTM C913.
3. Payment for junction box is per Item 465 "Junction Boxes, Manholes, and Inlets" by type and size.
4. To be backfilled with stabilized sand.

Cover dimensions are clear dimensions, unless noted otherwise.

HL93 LOADING

Texas Department of Transportation — Bridge Division Standard

PRECAST JUNCTION BOX

PJB

FILE: prestd09-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST		COUNTY	SHEET NO.

STATE OF TEXAS
ELISE K. DILLOW
136062
LICENSED
PROFESSIONAL ENGINEER

Elise Dillow 8/7/2020

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE:
FILE:

NO.	REVISION	BY	DATE

DRAWN BY: EKD
DESIGNED BY: EKD
CHECKED BY: MCD
APPROVED BY: RJB
SCALE: N/A
DATE: AUGUST 2020

THE STATE OF TEXAS — COUNTY OF GALVESTON

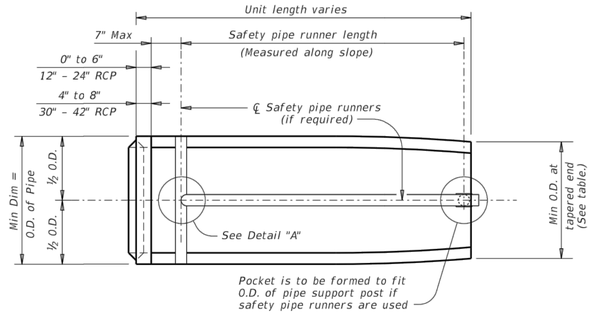
GALVESTON COUNTY
ENGINEERING DEPARTMENT

PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: PRECAST JUNCTION BOX DETAIL

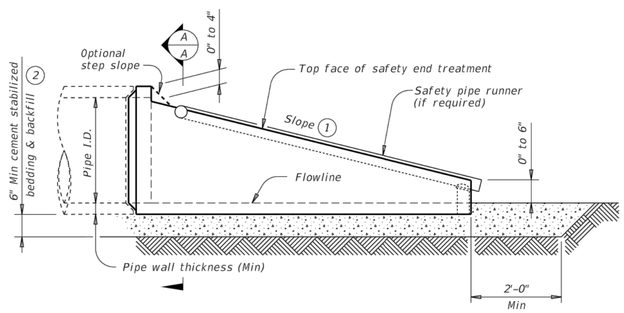
SHEET 30 OF 33

Aug 07, 2020 – 4:10pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\MISC DETAILS.dwg PRECAST JUNCTION BOX DETAIL



PLAN VIEW

(Showing spigot end connection.)



LONGITUDINAL ELEVATION

(Showing spigot end connection.)

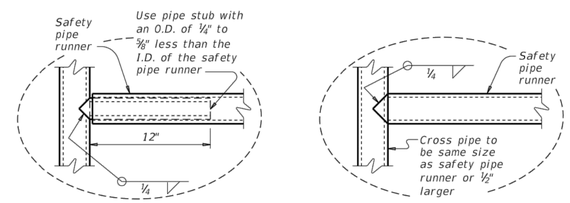
1. Slope as shown elsewhere in the plans. Slope of 3:1 or flatter is required for vehicle safety.
2. Provide cement stabilized bedding and backfill in accordance with the Item, "Excavation and Backfill for Structures". Bedding and backfill is considered subsidiary to the Item "Safety End Treatment". When concrete riprap is specified around the safety end treatment, backfill as directed by Engineer.
3. Fill the top 4" of void between precast end treatments with concrete riprap. Concrete riprap be considered subsidiary to the Item "Safety End Treatment".
4. Adjust clear distance between pipes to provide for the minimum distance between safety end treatments.

MAX SAFETY PIPE RUNNER LENGTHS AND REQUIRED SAFETY PIPE RUNNER SIZES

Max Safety Pipe Runner Length	Required Pipe Runner Size		
	Pipe Size	Pipe O.D.	Pipe I.D.
11' – 2"	3" STD	3.500"	3.068"
15' – 6"	3 ½" STD	4.000"	3.548"
20' – 10"	4" STD	4.500"	4.026"
35' – 4"	5" STD	5.563"	5.047"

REQUIREMENTS FOR CULVERT PIPES AND SAFETY PIPE RUNNERS

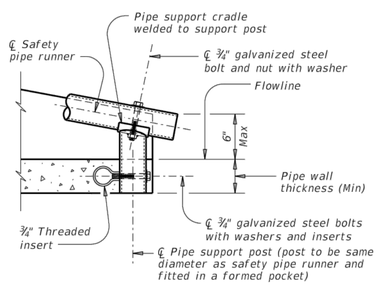
Pipe I.D.	Min Wall Thickness	Min O.D.	Min O.D. at Tapered End	Min Reinf Requirements (sq. in. / ft. of pipe)	Slope	Minimum Length of Unit	Single Pipe		Multiple Pipe	
							Skew	Pipe Runners Required	Skew	Pipe Runners Required
12"	2"	16"	16"	0.07 Circ.	3:1	2' – 0"	≤ 45°	No	≤ 45°	No
					4:1	2' – 8"				
					6:1	4' – 0"				
15"	2 ¼"	19 ½"	19"	0.07 Circ.	3:1	2' – 10"	≤ 45°	No	≤ 45°	No
					4:1	3' – 9"				
					6:1	5' – 8"				
18"	2 ½"	23"	21 ½"	0.07 Circ.	3:1	3' – 8"	≤ 45°	No	≤ 45°	No
					4:1	4' – 10"				
					6:1	7' – 3"				
24"	3"	30"	27"	0.07 Circ.	3:1	5' – 3"	≤ 45°	No	≤ 30°	No
					4:1	7' – 0"			> 30°	Yes
					6:1	10' – 6"				
30"	3 ½"	37"	31"	0.18 Circ.	3:1	6' – 3"	≤ 15°	No	≤ 15°	No
					4:1	8' – 2"	> 15°	Yes	> 15°	Yes
					6:1	12' – 1"				
36"	4"	44"	36"	0.19 Ellip.	3:1	7' – 10"	= 0°	No	≥ 0°	Yes
					4:1	10' – 4"	> 0°	Yes		
					6:1	15' – 4"				
42"	4 ½"	51"	41 ½"	0.23 Ellip.	3:1	9' – 6"	≥ 0°	Yes	≥ 0°	Yes
					4:1	12' – 6"				
					6:1	18' – 7"				



OPTION A

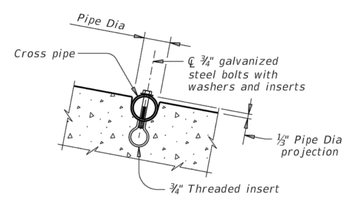
OPTION B

DETAIL A



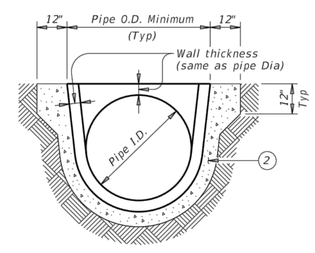
END DETAIL FOR INSTALLATION OF SAFETY PIPE RUNNERS

(If required)

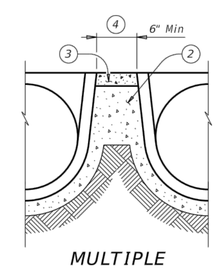


INSTALLATION DETAIL FOR SAFETY PIPE RUNNERS

(If required)



SECTION A-A



MULTIPLE PIPE INSTALLATION

MATERIAL NOTES:

Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.

Provide safety pipe runners, cross pipes, pipe support posts, and pipe stubs meeting the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 Gr B, or API 5LX52.

Galvanize all steel components except reinforcing steel after fabrication. Repair galvanizing damaged during transport or construction in accordance with the specifications.

GENERAL NOTES:

Precast safety end treatment for reinforced concrete pipe (CRP) may be used for TYPE II end treatment as specified in Item 467, "Safety End Treatment".

When precast safety end treatment is used as a Contractor's alternate to mitered RCP, riprap will not be required unless noted otherwise on the plans.

Manufacture precast concrete end sections in accordance with Item 464, "Reinforced Concrete Pipe" and in accordance with ASTM Specification C-76, Class III, Wall B for circular pipe.

Provide precast concrete end sections with a spigot or bell end for compatibility to upstream or downstream end conditions with sufficient annular space to allow for grout, mortar, cold applied asphalt joint compound or pre-formed plastic gasket material.

Methods of lifting shall be provided by the manufacturer for ease of loading, unloading, and installation.

Pipe runners are designed for a traversing load of 1,800 Lbs at yield as recommended by Research Report 280-1, "Safety Treatment of Roadside Cross-Drainage Structures", Texas Transportation Institute, March 1981.

Texas Department of Transportation — Bridge Division Standard

PRECAST SAFETY END TREATMENT

TYPE II ~ CROSS DRAINAGE

PSET-RC

FILE: psetrcss-20.dgn	DN: RLW	CK: KLR	DW: JTR	CK: GAF
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST		COUNTY	SHEET NO.

STATE OF TEXAS — ELISE K. DILLOW — 136062 — LICENSED PROFESSIONAL ENGINEER

Elise Dillow 8/7/2020

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DATE:
FILE:

Aug 07, 2020 – 4:10pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\MISC DETAILS.dwg PRECAST SET DETAIL

NO.	REVISION	BY	DATE

DRAWN BY: EKD
DESIGNED BY: EKD
CHECKED BY: MCD
APPROVED BY: RJB
SCALE: N/A
DATE: AUGUST 2020

THE STATE OF TEXAS — COUNTY OF GALVESTON

GALVESTON COUNTY
ENGINEERING DEPARTMENT

PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: PRECAST SAFETY END TREATMENT DETAIL

SHEET 31 OF 33

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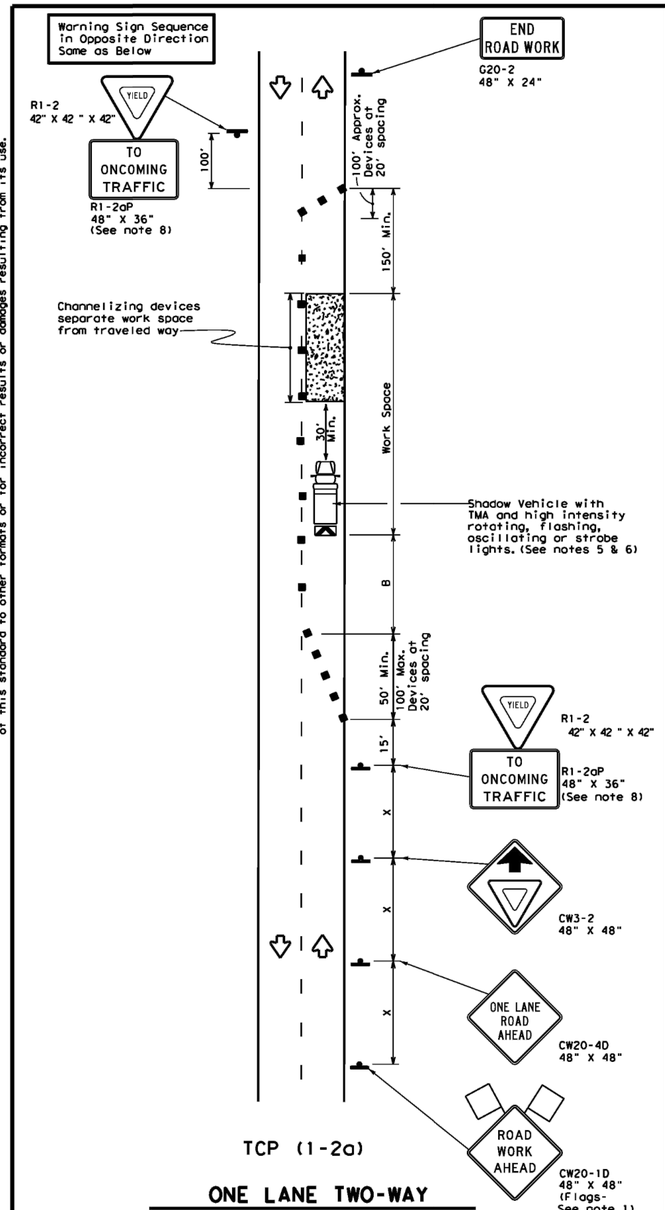
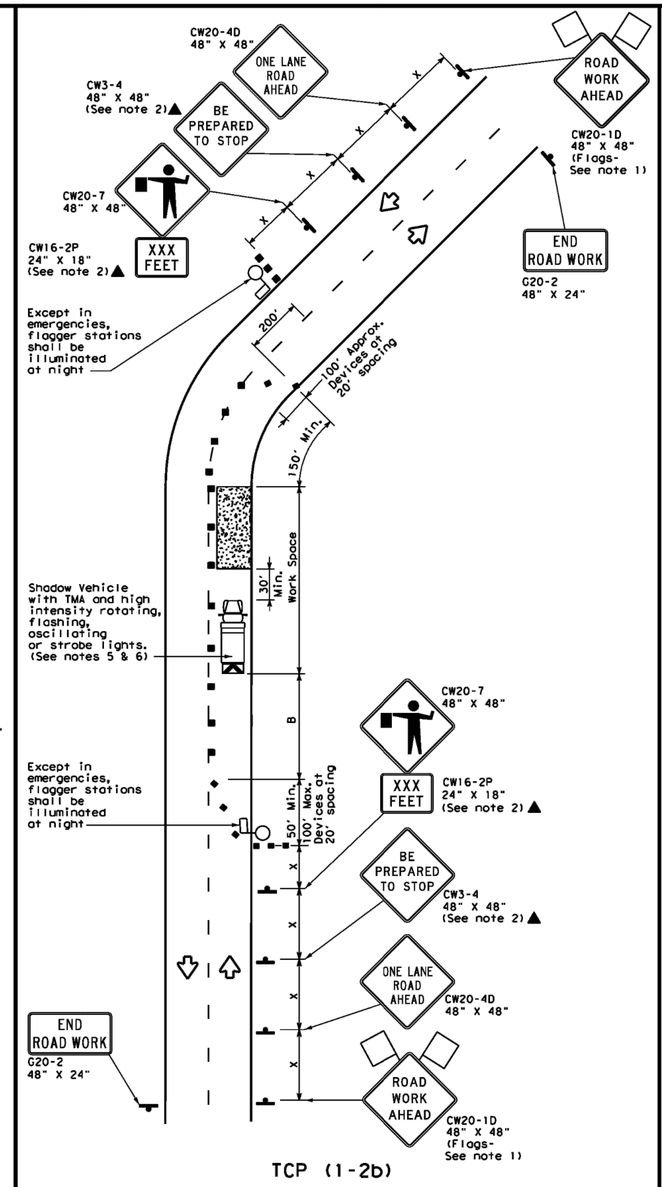


TCP (1-2a)

ONE LANE TWO-WAY CONTROL WITH YIELD SIGNS

(Less than 2000 ADT - See note 7)



TCP (1-2b)

ONE LANE TWO-WAY CONTROL WITH FLAGGERS

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	(M)	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent			
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L = WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
4. Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger or R1-2 "YIELD" sign is less than 1500 feet.
5. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
6. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

TCP (1-2a)

7. R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work spaces should be no longer than one half city block. In rural areas on roadways with less than 2000 ADT, work spaces should be no longer than 400 feet.
8. R1-2 "YIELD" sign with R1-2aP "TO ONCOMING TRAFFIC" plaque shall be placed on a support at a 7 foot minimum mounting height.

TCP (1-2b)

9. Flaggers should use two-way radios or other methods of communication to control traffic.
10. Length of work space should be based on the ability of flaggers to communicate.
11. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
12. Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer.
13. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

Texas Department of Transportation | Traffic Operations Division Standard

TRAFFIC CONTROL PLAN ONE-LANE TWO-WAY TRAFFIC CONTROL

TCP(1-2)-18

FILE: tcp1-2-18.dgn	DN:	CK:	DW:	CK:
©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-90 4-98 / 2-94 2-12 / 1-97 2-18	DIST		COUNTY	SHEET NO.

152

STATE OF TEXAS
ELISE K. DILLOW
136062
LICENSED PROFESSIONAL ENGINEER

Elise Dillow 8/7/2020

DATE:
FILE:

Aug 07, 2020 - 4:09pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\MISC DETAILS.dwg TCP DETAIL

NO.	REVISION	BY	DATE

DRAWN BY: EKD
DESIGNED BY: EKD
CHECKED BY: MCD
APPROVED BY: RJB
SCALE: N/A
DATE: AUGUST 2020

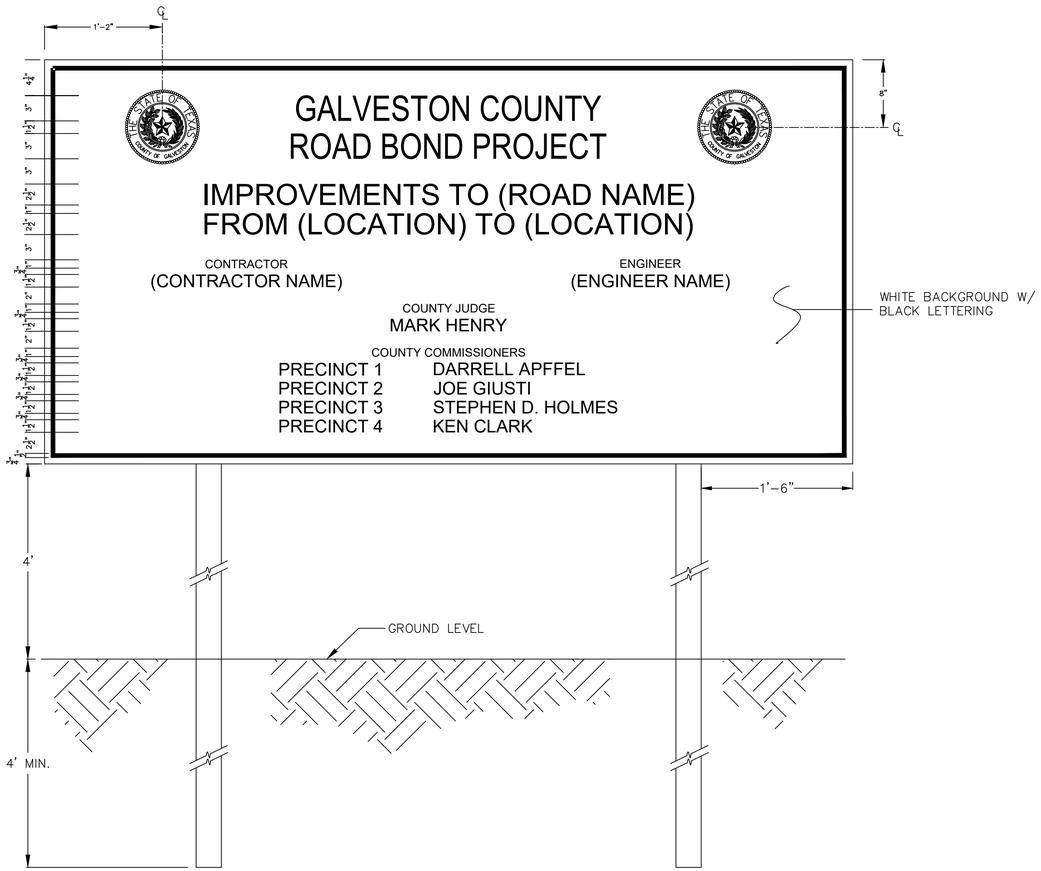
THE STATE OF TEXAS COUNTY OF GALVESTON

GALVESTON COUNTY
ENGINEERING DEPARTMENT

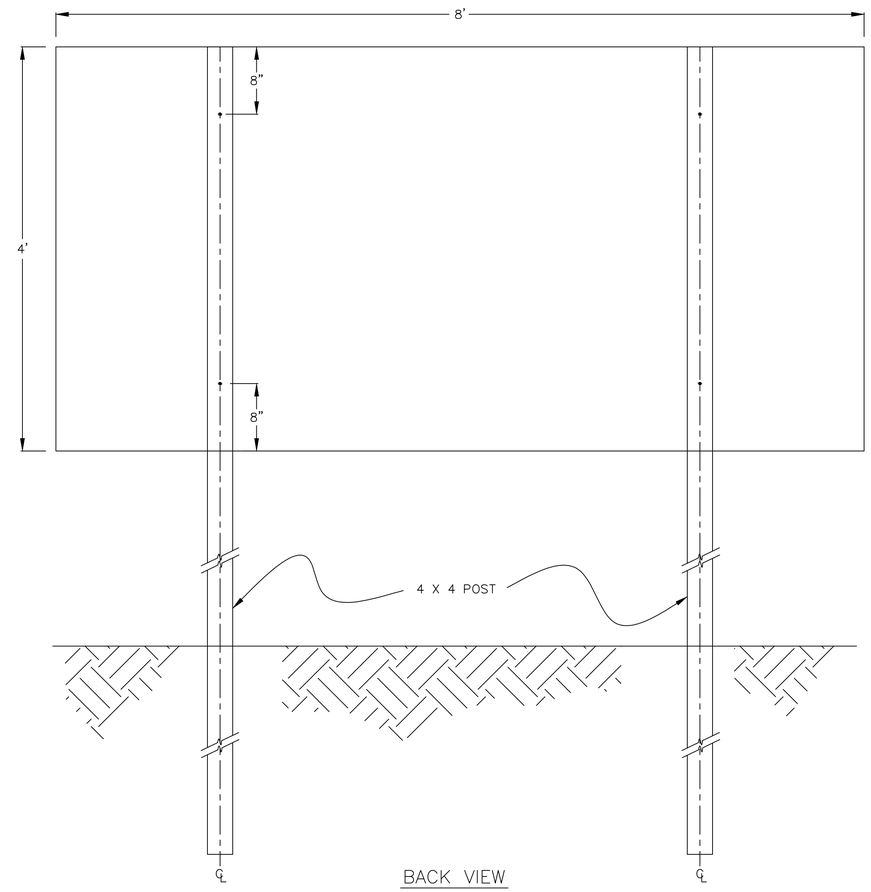
PROJECT TITLE: CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION: TRAFFIC CONTROL PLAN DETAIL

SHEET 32 OF 33



FRONT VIEW



BACK VIEW

STATE OF TEXAS
ELISE K. DILLOW
136062
LICENSED
PROFESSIONAL ENGINEER

Elise Dillow 8/7/2020

NO.	REVISION	BY	DATE

DRAWN BY: EKD
DESIGNED BY: EKD
CHECKED BY: MCD
APPROVED BY: RJB
SCALE: N/A
DATE: AUGUST 2020

THE STATE OF TEXAS COUNTY OF GALVESTON

GALVESTON COUNTY
ENGINEERING DEPARTMENT

PROJECT TITLE:
CITY OF HITCHCOCK STREET REHABILITATION

SHEET DESCRIPTION:
GALVESTON COUNTY PROJECT SIGN DETAIL

SHEET 33 OF 33

Aug 07, 2020 – 4:07pm T:\2_Projects\303500.00 Galveston County Hitchcock Street Rehab\Plan\Drawings\Production\PROJECT SIGN DETAIL.dwg PROJECT SIGN DETAIL