

PRELIMINARY PAVING ANALYSIS FOR:
SILVERHAWK PUBLIC ROAD DEDICATION

SILVERHAWK PHASE I - N.W. 172ND
BETWEEN HAWKS TREE LN. & WHITE
HAWK DR.

JULY 2017



SUBMITTED BY:



ENGINEERING | SURVEYING | PLANNING

SMITH ROBERTS BALDISCHWILER, LLC

100 N.E. 5TH STREET | OKLAHOMA CITY, OK 73104 | 405.840.7094

SRB PROJECT #115193

TABLE OF CONTENTS

PAGE 3

EXECUTIVE SUMMARY

PAGE 5

HISTORY AND JUSTIFICATION

PAGE 7

CONCEPT AND DESIGN

PAGE 8

DISCUSSION AND RECOMMENDATION

APPENDIX A — SILVERHAWK PHASE I PLANS - AS—BUILT'S 12-13-2007

APPENDIX B — PROPOSED IMPROVEMENTS CONSTRUCTION COST ESTIMATE

APPENDIX C — SILVERHAWK CONDITION PHOTOS

SCOPE

Silverhawk Phase I is a residential development located at approximately Northwest 178th and North Pennsylvania Avenue. Within this residential addition, there is a small portion of the roadways, which were initially identified as a “Private Street and Public Utility Easement”. This area is generally described as N.W. 172nd Street, between Hawks Tree Lane and White Hawk Drive. Smith Robert Baldischwiler, LLC (SRB) was contacted by the Silverhawk Home Owners Association (HOA) for the purpose of evaluating the existing condition of these “private roadways”. It is the desire of this HOA to present these findings to the City of Oklahoma City (OKC) as a good faith effort to pursue the dedication of these roadways and improvements for public use. This report will identify what improvements will be recommended to be addressed by the HOA and also includes an estimate of construction costs for bringing the streets to acceptable standard for dedication to OKC.

COST ESTIMATE

Estimated construction cost for the street repair: \$104,650.00

Total cost (Option 1 with contingency, testing, administration, printing, and design.): **\$132,254.50**

Detailed cost estimate listed in Appendix B

SCHEDULE — BID AND CONSTRUCTION

This report will provide Silverhawk HOA a document for submission to OKC, for their review. And if it is the desire of the HOA to pursue this dedication of roadways, understanding the cost of required improvements, this is the expected time considerations for the project:

From time of approval by the homeowners of Silverhawk, Phase I:

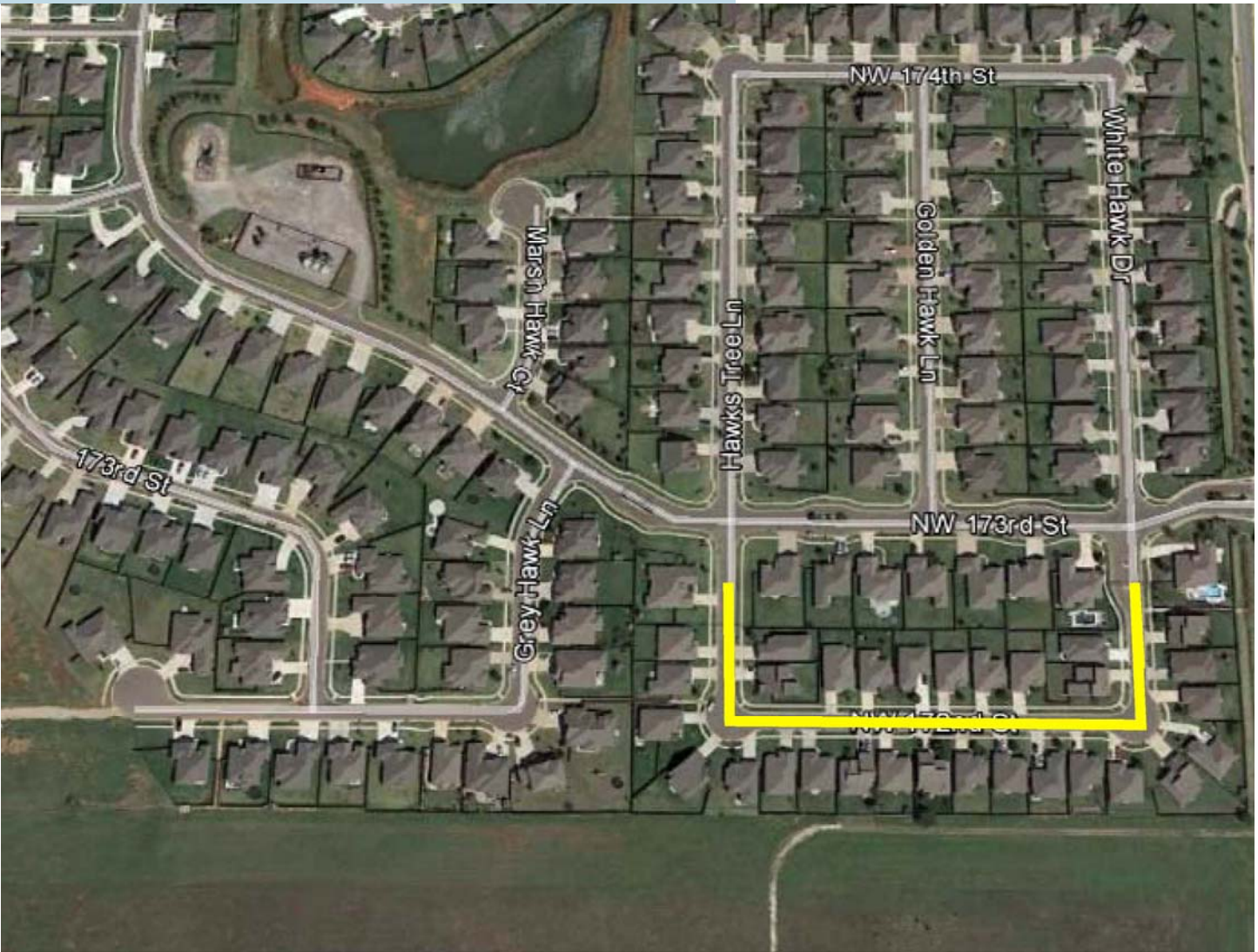
- 90 calendar days for preliminary plans
- 60 calendar days for final plans
- 45-60 calendar days for construction

RECOMMENDATION

1. Pavement removal, stabilization, and pavement replacement on N.W. 172nd Street for approximately 200 feet. Sta. 0+00 to Sta. 2+00.
2. Routing, preparations, and crack sealing of all pavements
3. Edge milling and thin asphalt overlay (1 1/4) of entire surface of roadways.
4. Removal and replacement of noncompliant wheelchair ramps. Installation of two (2) new ADA compliant ramps.
5. Recommend that the City of Oklahoma City proceed with the acceptance process for Silverhawk, PH 1.

SITE MAP

AERIAL LOCATION MAP



EXISTING PAVING CONDITIONS

This evaluation of the Silverhawk, Phase I roadway's include N. W. 172nd Street, between Hawk's Tree Lane and White Hawk Drive, as well as approximately 165 feet on Hawk's Tree Lane and White Hawk Drive. Currently there is a controlled gate on White Hawk Drive and a locked gate with pedestrian entrance on Hawk's Tree Lane; if accepted by OKC these appurtenances shall be removed when final acceptance by OKC is accomplished. The typical sections for all of these roadways are a 26' Roadway with 2'-8" Curb and Gutter Section and 22' of 5 1/4" Asphalt pavement. The typical section indicates 3 1/4" asphalt base course (Type "A") and a 2" asphalt surface course (Type "B"). NOTE: Cores were not taken to verify these thicknesses for the pavements. There is a 6" Stabilized Base which extends the entire width of the pavements section, and 10" behind the back of curb. It was not determined prior to design the type of "stabilization" utilized in this application.

The current pavement condition of the roadway's mentioned within this report in Fair condition. One section of pavement (approx. 200' in length) within the N.W. 172nd Street, which is described along the stationing of the as-built plan set as Sta. 0+00 to Sta. 2+00 is in Poor condition and needs to be removed and replaced. There is considerable transverse cracking, varying in condition and widths, which needs to be addressed for maintenance purposes. This cracking is normally caused by fatigue in the subgrade or can be caused by expansive soils below the 6" modification that has reacted to climatological conditions over the life of the pavements. Also, there is separation between the face of the gutter section and the pavement, this also is in need of sealing as a corrective action. We have also recognized random cracking on the gutter sections which will require routing and sealing for correction. The cracking has been exposed to the climatological conditions, without maintenance and needs to be addressed.

MAJOR TRANSVERSE CRACK



SEPARATION AT GUTTER JOINT



EXISTING PAVING CONDITIONS

The surface condition of the asphalt shows considerable oxidation and some areas are beginning to show evidence of larger sized aggregate raveling from the surface. This condition is generally seen in pavements that may not have the annual average daily traffic (AADT) to keep the bituminous materials active; which is a condition generally seen in limited access paving areas. Due to the evidence of stability in the pavement section, once cracks are addressed, there should be a cold milling of the pavement along the gutter joint with a thin asphalt overlay to the existing surface which will provide protection for extended life.

MINOR CRACKING AND RAVELING

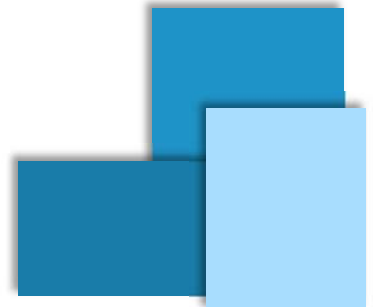


There are two ramps within the area of evaluation that were initially intended for handicap access to the sidewalks, but are no longer in compliance with ADA regulations. These ramps will need to be replaced, and additional ramps in a close proximity for the purpose of crossing the street will also need to be added. Two (2) ramps removed and replaced and Two (2) ramps constructed.

NON COMPLIANT WHEEL CHAIR RAMP



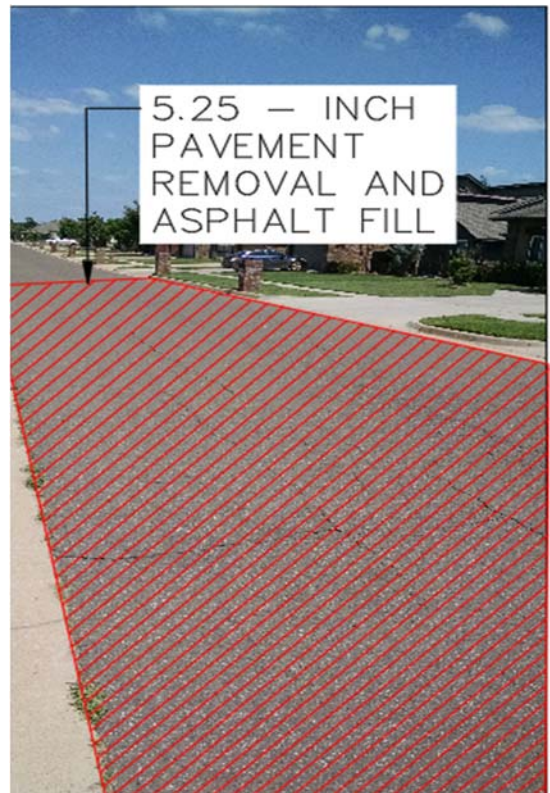
Existing sidewalk is the four (4') width with non-compliant ramps. The ramps for the entire addition will need to be brought into compliance with current ADA requirements.



DESIGN PARAMETERS - CRACK SEALING AND PAVEMENT REHABILITATION



MAJOR CRACK REPAIR



REMOVE AND REPLACE PAVEMENT



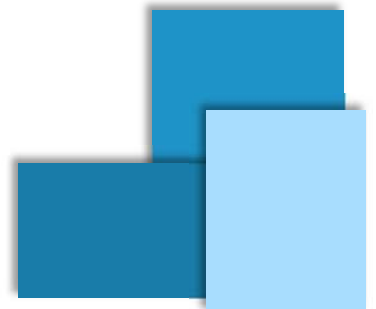
EDGE MILLING AND THIN OVERLAY (1 1/4')

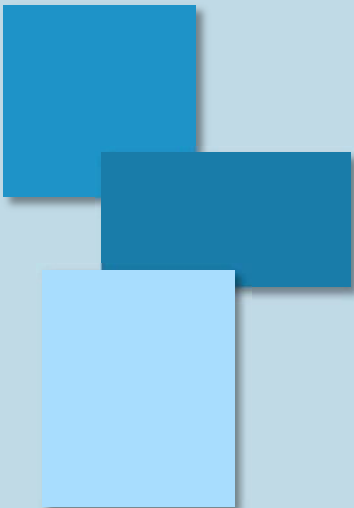


The White Hawk, Phase I addition was established in 2008 and included within its boundaries a private section of pavement. It was established as a Neighborhood Association Residential Area located just south of N.W. 178th on North Pennsylvania Avenue. For this transfer of Private facilities to become Public maintained roadway to be accomplished, upgrading to the current City of Oklahoma City standards for the neighborhoods infrastructure must occur. This report addresses the existing condition of the streets within the neighborhood. This report makes recommendations for the repair of the streets with a estimated construction cost.

It is the recommendation of Smith Roberts Baldischwiler LLC, based on the observations of the Silverhawk infrastructure, that the following actions are taken.

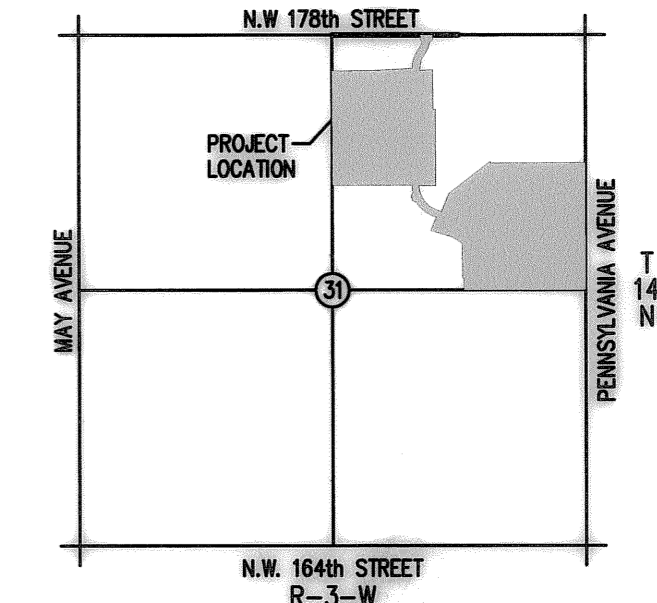
1. Pavement removal, stabilization, and pavement replacement on N.W. 172nd Street for approximately 200 feet. Sta. 0+00 to Sta. 2+00.
2. Routing, preparations, and crack sealing of all pavements
3. Edge milling and thin asphalt overlay (1 1/4) of entire surface of roadways.
4. Removal and replacement of noncompliant wheelchair ramps. Installation of two (2) new ADA compliant ramps.
5. Recommend that the City of Oklahoma City proceed with the acceptance process for Silverhawk PH 1.







The City of OKLAHOMA CITY

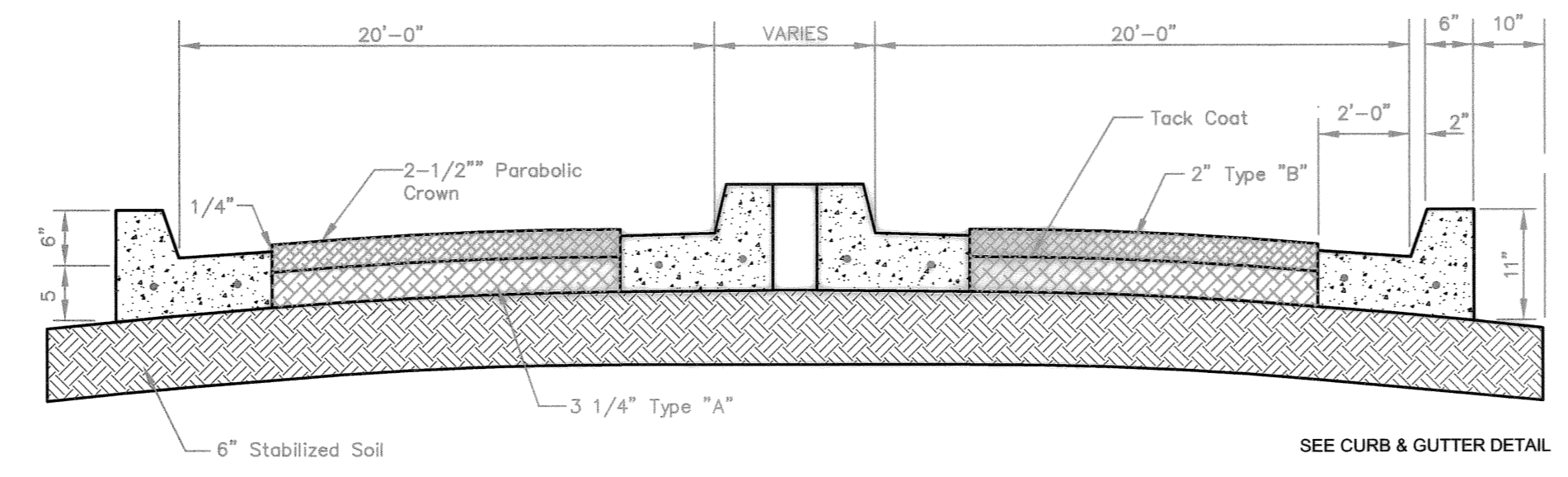


PAVING AND DRAINAGE PLANS TO SERVE SILVERHAWK PHASE I PD-1700

LANE MILES: 5.577

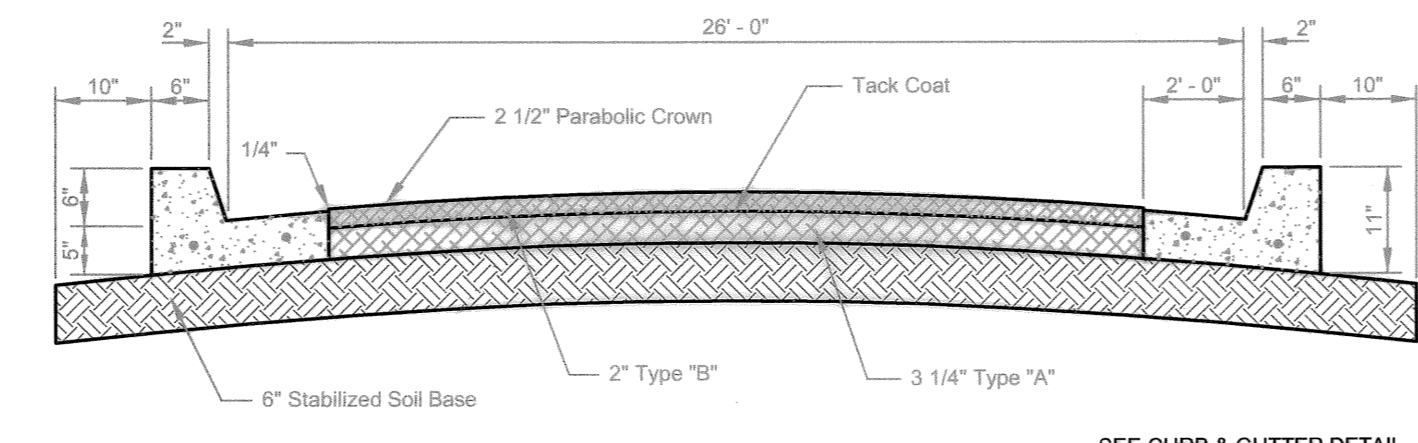
PART OF THE NE 1/4 OF SECTION 31, T-14-N, R-3-W, I.M. OKLAHOMA COUNTY, OKLAHOMA CITY, OKLAHOMA

SUMMARY OF QUANTITIES				
ITEM #	ITEM	UNIT	QUANTITY	AS-BUILT
PAVING QUANTITIES				
1.	2" TYPE 'B' ASPHALT	S.Y.	42,919	42,697
2.	3 1/4" TYPE 'A' ASPHALT	S.Y.	42,919	42,697
3.	6" STABILIZED BASE	S.Y.	52,318	51,105
4.	6"x2" CURB AND GUTTER	L.F.	29,901	29,293
5.	TRAFFIC CONTROL	L.S.	1	1
6.	THERMOPLASTIC PAVEMENT MARKINGS	L.S.	1	1
7.	CURB MARKINGS	EA.	318	318
8.	8"x2" CURB AND GUTTER	L.F.	280	280
9.	8" STABILIZED BASE	S.Y.	826	826
10.	REMOVE & REPLACE SIDEWALK	L.S.	1	1
11.	4' SIDEWALK ALONG COMMON AREAS	L.F.	2207	2207
STORM SEWER QUANTITIES				
1.	2-1 INLET	EA.	5	5
2.	2-2 INLET	EA.	4	4
3.	2-3 INLET	EA.	5	5
4.	2-4 INLET	EA.	3	3
5.	GRADED STREET INLET	EA.	1	1
6.	5.00'x5.00' BOX INLET (O.D.)	EA.	1	1
7.	6.50'x6.50' BOX INLET (O.D.) (TEMPORARY)	EA.	1	1
8.	6.00'x6.00' JUNCTION BOX (O.D.)	EA.	6	6
9.	6.00' RADIUS JUNCTION BOX	EA.	1	1
10.	6.00' MANHOLE	EA.	1	1
11.	24" RCP	L.F.	125	125
12.	30" RCP	L.F.	376	376
13.	36" RCP	L.F.	300	300
14.	42" RCP	L.F.	80	80
15.	48" RCP	L.F.	853	853
16.	54" RCP	L.F.	1168	1168
17.	45"x73" ARCP	L.F.	156	156
18.	30" PCES	EA.	1	1
19.	48" PCES	EA.	2	2
20.	54" PCES	EA.	1	1
21.	45"x73" ARCHED PCES	EA.	1	1
22.	8"x4" RCB	L.F.	179	179
23.	10"x4" RCB	L.F.	110	110
24.	(2) 8"x4" RCB	L.F.	46	46
25.	8"x4" RCB HEADWALL	EA.	3	3
26.	10"x4" RCB HEADWALL	EA.	2	2
27.	(2) 8"x4" RCB HEADWALL	EA.	2	2
28.	3.00'x1.50' RCB (EXTENSION)	L.F.	10	10
29.	3.00'x1.50' HEADWALL	EA.	1	1
30.	4' CONCRETE FLUME	L.F.	1275	1275
31.	5' CONCRETE FLUME	L.F.	264	264
32.	8' CONCRETE FLUME	L.F.	108	108
33.	4' TRICKLE CHANNEL	L.F.	855	855
34.	CONCRETE LINED CHANNEL	L.F.	400	400
35.	BOLLARDS	EA.	4	4
36.	POND OUTLET STRUCTURE (WEIR)	EA.	1	1
37.	SAND BACKFILL	C.Y.	162	162
38.	2' CUT OFF WALL	EA.	14	14
39.	12" RIP RAP	S.Y.	150	170
40.	TEMPORARY DIVERSION SWALE	L.S.	1	1
EROSION CONTROL QUANTITIES				
1.	TEMP. CONSTRUCTION DRIVE	L.S.	1	1
2.	18" SLAB SOD ALONG ALL CURBS & FLUMES	S.Y.	3,020	3,020
3.	BAGGED ROCK CHECK DAM	EA.	5	5
4.	SLAB SOD POND BANKS	S.Y.	8,543	8,543



TYPICAL SECTION
20' DRIVE ISLE WITH ISLAND
(STABILIZED SOIL BASE)
RESIDENTIAL COLLECTOR STREET
NOT TO SCALE

AS BUILT: 12-13-2007
CONTRACT PRICE: **\$1,761,443.00**
CONTRACTOR: **T.J. CAMPBELL**



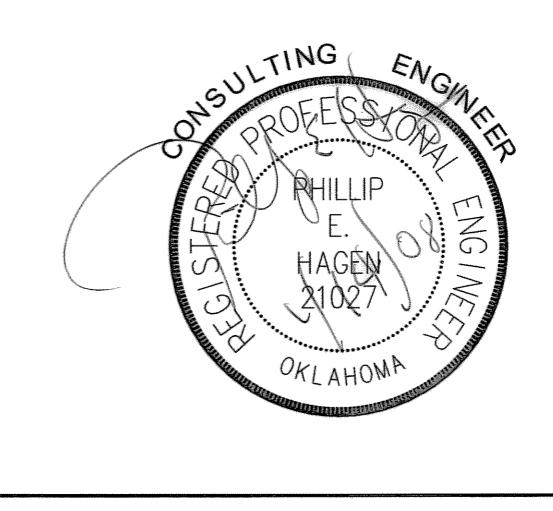
TYPICAL SECTION
26' ASPHALTIC CONCRETE PAVING
(STABILIZED SOIL BASE)
+ 110 +

- GENERAL NOTES:**
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC IMPROVEMENTS", A PUBLICATION BY THE CITY OF OKLAHOMA CITY THAT OUTLINES THE MINIMUM STANDARDS OF WORKMANSHIP, MATERIALS, TESTING, AND METHODS OF CONSTRUCTION EXPECTED IN PUBLIC AND PRIVATE DEVELOPMENT WORK WITHIN OKLAHOMA CITY CITY LIMITS.
 - ANY PAY QUANTITY ITEM OR QUALITY TESTING PROCEDURE OUTLINED IN THE CITY'S STANDARDS WHICH IS ESSENTIAL IN THE CONSTRUCTION PROCESS CALLED FOR BY THE CITY'S CONSTRUCTION SPECIFICATIONS AND/OR THE PUBLIC WORKS REPRESENTATIVE AT THE SITE THAT IS NOT CLEARLY ADDRESSED IN THE ABOVE PAY QUANTITY TABLE OR THE CONTRACT AGREEMENT BETWEEN DEVELOPER AND CONTRACTOR WILL BE CONSIDERED AS AN INCIDENTAL PAY ITEM AND SHALL BE IMPLEMENTED AND PAID FOR BY THE CONTRACTOR AND/OR DEVELOPER.
 - TESTING OF MATERIALS AND WORKMANSHIP SHALL BE UNDERTAKEN IN THE CITY'S STANDARDS. RESULTS SHALL BE PROVIDED TO THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE IN A TIMELY FASHION.
 - THE CONTRACTOR IS RESPONSIBLE FOR THE PROMPT REPLACEMENT AND/OR REPAIR OF ALL TRAFFIC CONTROL DEVICES AND APPURTENANCES DAMAGED OR DISTURBED DUE TO CONSTRUCTION.
 - SILT FENCE AND TEMPORARY GRAVEL DRIVE TO BE INSTALLED AND MAINTAINED BY THE CONTRACTOR.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES WHO MIGHT HAVE UTILITY LINES ON OR ABOUT THE PREMISES, OR WHO MIGHT BE AFFECTED BY THE CONSTRUCTION. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT THESE UTILITY LINES DURING CONSTRUCTION AND SHALL REPAIR ANY DAMAGES MADE.
 - PRIOR TO PLACEMENT OF FILL, THE GROUND SHALL BE STRIPPED OF VEGETATIVE COVER, SCORIFIED AND RECOMPACTED. FILL SHALL BE PLACED IN 6 INCH LIFTS AND COMPACTED TO A DRY DENSITY OF AT LEAST 98% OF THE MAXIMUM DRY DENSITY OBTAINED BY THE STANDARD COMPACTION TEST (ASTM D-698) AT A WATER CONTENT WITHIN 2% OF THE OPTIMUM WATER CONTENT.

- "O-RINGS" WILL BE USED ON STORM SEWERS, UNDER STREETS.
- REMOVAL OF EXISTING CURB, BACKFILL AND DRESSING OF PROPOSED CURBS ARE TO BE CONSIDERED AS AN INCIDENTAL PAY ITEM AND SHALL BE IMPLEMENTED AND PAID FOR BY THE CONTRACTOR.
- A COPY OF THE EROSION CONTROL SITE PLAN MUST BE ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE INSPECTOR UPON REQUEST.
- A STORM WATER DISCHARGE PERMIT IS REQUIRED BEFORE ANY LAND DISTURBING ACTIVITY CAN BEGIN.
- A NOTICE OF INTENT (NOI) SHOULD BE SUBMITTED 30 DAYS PRIOR TO THE INITIAL DISTURBANCE OF SOILS.
- THE PROCEDURE WILL BE FOR THE CITY'S DESIGNATED TESTING LABORATORY TO DETERMINE THE TYPE AND AMOUNT OF LIME / FLY ASH REQUIRED TO STABILIZE THE BASE TO A P.I. LESS THAN 10. ALL COSTS ASSOCIATED WITH TESTING FOR STABILIZED BASE AND ALL OTHER QUALITY CONTROL TESTING REQUIRED FOR THE PROJECT IS TO BE PAID BY THE CONTRACTOR / OWNER.
- ALL PIPE JOINTS TO BE DOUBLE WRAPPED WITH FILTER FABRIC.
- A WORK ZONE NOTICE MUST BE FILED WITH THE TRAFFIC MANAGEMENT DIVISION AT LEAST TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AND/OR PLACING OR REMOVING AN BARRICADES OR MODIFYING EXISTING TRAFFIC CONTROL DEVICES. CALL 405.297.2531 TO OBTAIN A COPY OF THIS FORM.
- THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL PAVEMENT MARKINGS THAT WILL BE IN CONFLICT WITH THE PROPOSED WORK.

BM #1
FOUND IRON PIN AT INTERSECTION OF N.W. 178TH AND N. PENNSYLVANIA AVE.
NORTHING 238003.523
EASTING 2102341.491
ELEV. = 1117.346

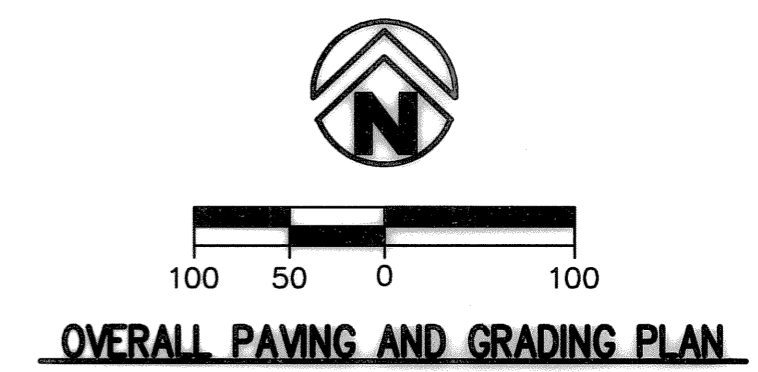
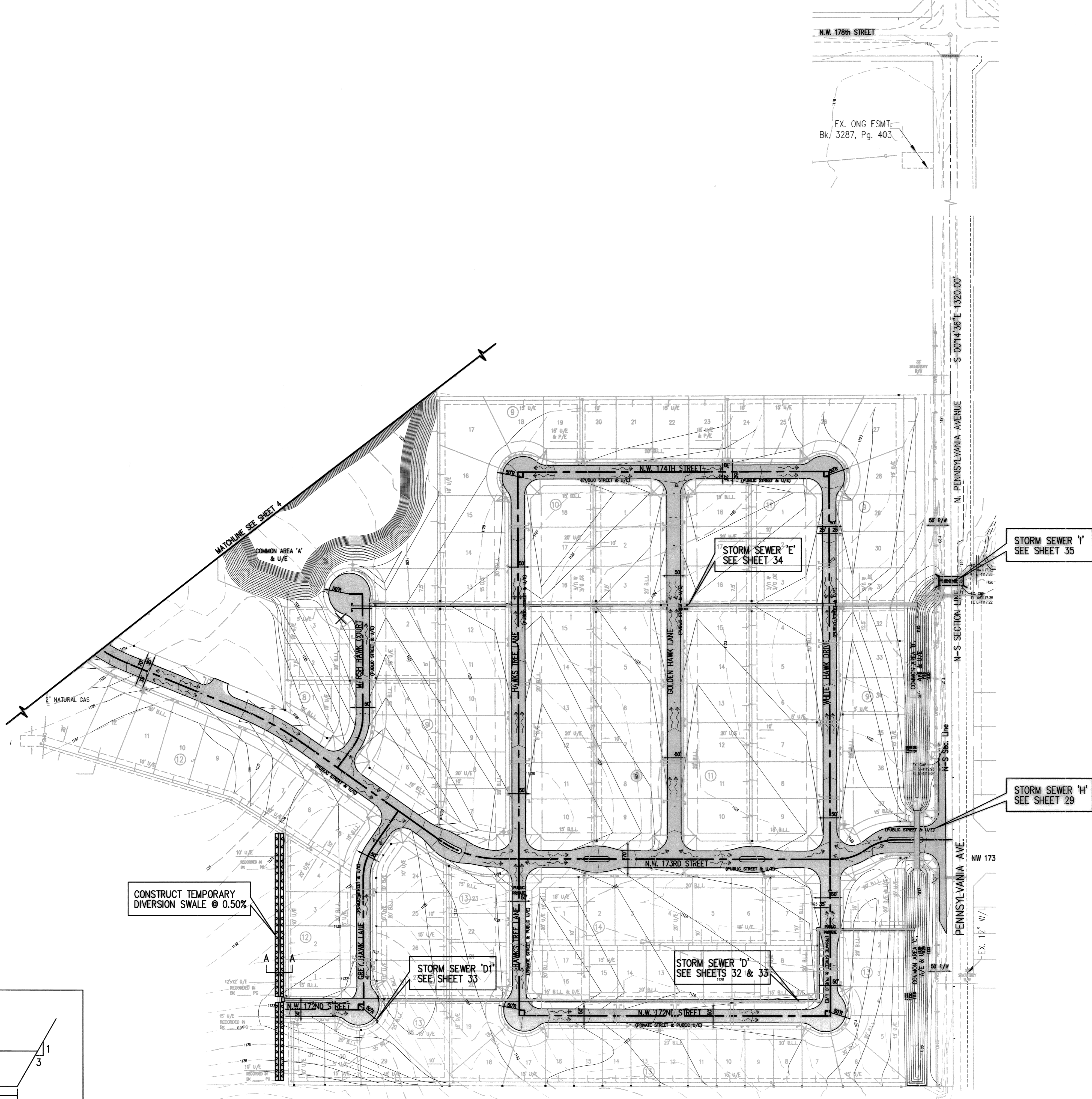
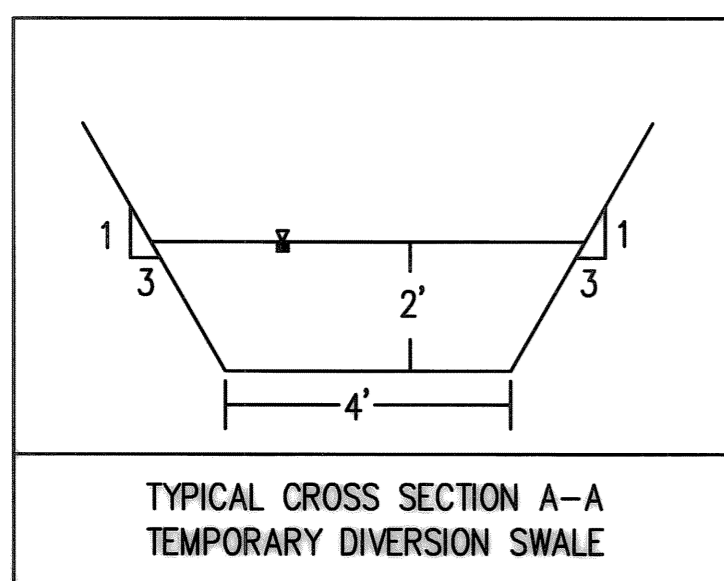
SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2-3	FINAL PLAT
4-5	OVERALL PAVING & GRADING PLAN
6	OVERALL DRAINAGE MAP
7	N.W. 178th STREET & STORM SEWER 'G' PLAN AND PROFILE
8	N.W. 177th STREET PLAN AND PROFILE
9	N.W. 176th STREET PLAN AND PROFILE
10	N.W. 176th STREET & BLACK HAWK CIRCLE PLAN AND PROFILE
11	N.W. 175th STREET PLAN AND PROFILE
12	N.W. 174th STREET PLAN AND PROFILE
13	RED-TAILED HAWK DRIVE PLAN AND PROFILE
14	BLACK HAWK DRIVE PLAN AND PROFILE
15	SPARROWHAWK LANE PLAN AND PROFILE
16	N.W. 173rd STREET (STUB) & N.W. 172nd STREET PLAN AND PROFILE
17	MARSH HAWK COURT PLAN AND PROFILE
18	HAWKS TREE LANE PLAN AND PROFILE
19	HAWKS TREE LANE & GREY HAWK LANE PLAN AND PROFILE
20	GOLDEN HAWK LANE PLAN AND PROFILE
21	WHITE HAWK DRIVE PLAN AND PROFILE
22	N.W. 174th STREET PLAN AND PROFILE
23	N.W. 172nd STREET PLAN AND PROFILE
24	SILVER HAWK WAY PLAN AND PROFILE
25	SILVER HAWK WAY PLAN AND PROFILE
26	N.W. 173rd STREET PLAN AND PROFILE
27	N.W. 173rd STREET PLAN AND PROFILE
28	PENNSYLVANIA AVENUE & STORM SEWER 'H' PLAN AND PROFILE
29	STORM SEWER 'A' & 'B' PLAN AND PROFILE
30	STORM SEWER 'C' PLAN AND PROFILE
31	STORM SEWER 'D' PLAN AND PROFILE
32	STORM SEWER 'D' & 'D1' PLAN AND PROFILE
33	STORM SEWER 'E' PLAN AND PROFILE
34	STORM SEWER 'E' PLAN AND PROFILE
35	STORM SEWER 'F' & 'F1' & 'F2' PLAN AND PROFILE
36	STORM SEWER 'I' & 'I1' & 'I2' PLAN AND PROFILE
37	CHANNEL PLAN AND PROFILE
38	EXISTING CULVERT PLAN AND PROFILE
39	EARTHEN CHANNEL LANDSCAPING PLAN
X-XX	EROSION CONTROL PLAN & DETAILS
DETAILS	
D-101	STANDARD STORM SEWER INLETS DESIGN 2 INLET WITH CAST STEEL HOODS
D-103	STANDARD STREET INLET DETAIL
D-201	STANDARD MASONRY MANHOLE
D-202	STANDARD MASONRY JUNCTION BOX & RADIUS JUNCTION BOX
D-203	STANDARD REINFORCED CONCRETE JUNCTION BOX FOR 48" TO 72" REINFORCED CONCRETE PIPE
D-204	STANDARD MANHOLE REVERSIBLE FRAME & COVER
D-301	STANDARD RFCB - 1C - B
D-302	STANDARD RFCB - 2C - B
D-401	STANDARD RFCB - 1C - FW
D-402	STANDARD RFCB - 2C - FW
D-408	STANDARD PREFABRICATED CULVERT SECTIONS
D-501	STANDARD CHANNEL LINER & FLUME DETAILS
D-700	STANDARD RAMP DETAIL FOR AMERICANS WITH DISABILITIES ACT
ONE CALL UTILITY LOCATION NUMBER	
840-5032 1-800-522-6543	This number is to be used for information on the location of all underground utilities. Contact this number and other numbers specified in the plans prior to any excavation.
PREPARED BY Crafton, Tull & Associates, Inc. 235 N. MacArthur, Suite 450 Oklahoma City, OK 73127 405.787.6270 Fax: 405.787.6275 www.craftontul.com	CONSTRUCTION MUST BEGIN WITHIN SIX (6) MONTHS FROM THE APPROVAL, OR THAT APPROVAL IS WITHDRAWN
Engineers & Surveyors CA 973 (PELS) EXPIRES 6/30/2006	
DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	Field Checked by: _____ Date: _____
Checked by: _____ Date: _____	Checked by: _____ Date: _____
Checked by: _____ Date: _____	Checked by: _____ Date: _____
APPROVED _____ DATE: _____	City Engineer



C:\066012\06ENG\DWG\4e-shm-cv-cover-paving.dwg
12/14/2007 9:40:40 AM
LAST SAVED BY: JAMIE OGDEN (ONLY VALID ON HARD COPY)
© 2005 Crafton, Tull & Associates, Inc.

PD-1700

SILVERHAWK PHASE I
PAVING PLANS
PD-1700



Crafton, Tull & Associates, Inc.
 235 N. MacArthur, Suite 200 Oklahoma City, Ok 73127
 405.787.6270 Fax: 405.787.6276 www.craftontull.com

Engineers & Surveyors

CA 973 (PE/LS) EXPIRES 6/30/2006

SILVERHAWK
 PHASE I
 OKLAHOMA CITY, OK.

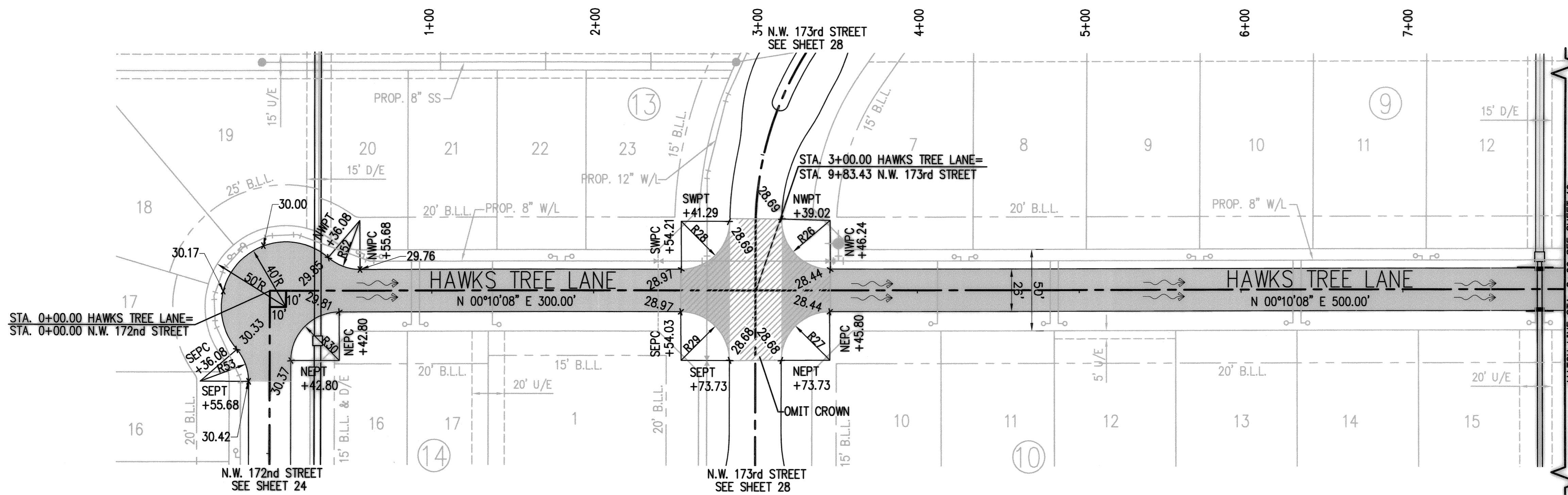
Revisions

AS-BUILT	12-13-2007

OVERALL PAVING AND GRADING PLAN

Drawn by GDC	Job Number 056012-00
Checked by	Contact Person P. HAGEN

Date 2005	Sheet Number 5
--------------	--------------------------



NUMBER	R26
DELTA ANGLE	91°44'12"
RADIUS	30.00
LENGTH	48.03

NUMBER	R28
DELTA ANGLE	88°54'47"
RADIUS	30.00
LENGTH	46.55

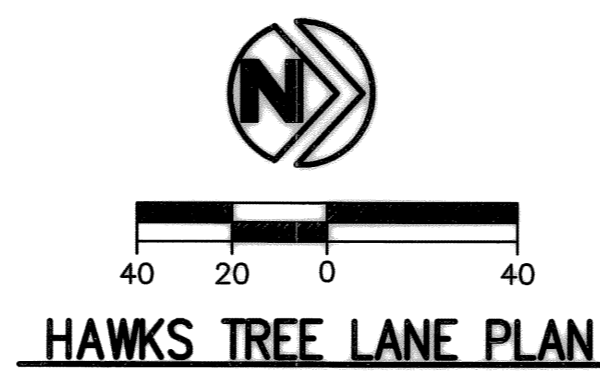
NUMBER	R30
DELTA ANGLE	89°44'27"
RADIUS	30.00
LENGTH	46.99

NUMBER	R27
DELTA ANGLE	89°44'27"
RADIUS	30.00
LENGTH	46.99

NUMBER	R29
DELTA ANGLE	90°15'33"
RADIUS	30.00
LENGTH	47.26

NUMBER	R52
DELTA ANGLE	40°47'13"
RADIUS	30.00
LENGTH	21.36

NUMBER	R53
DELTA ANGLE	40°47'13"
RADIUS	30.00
LENGTH	21.36



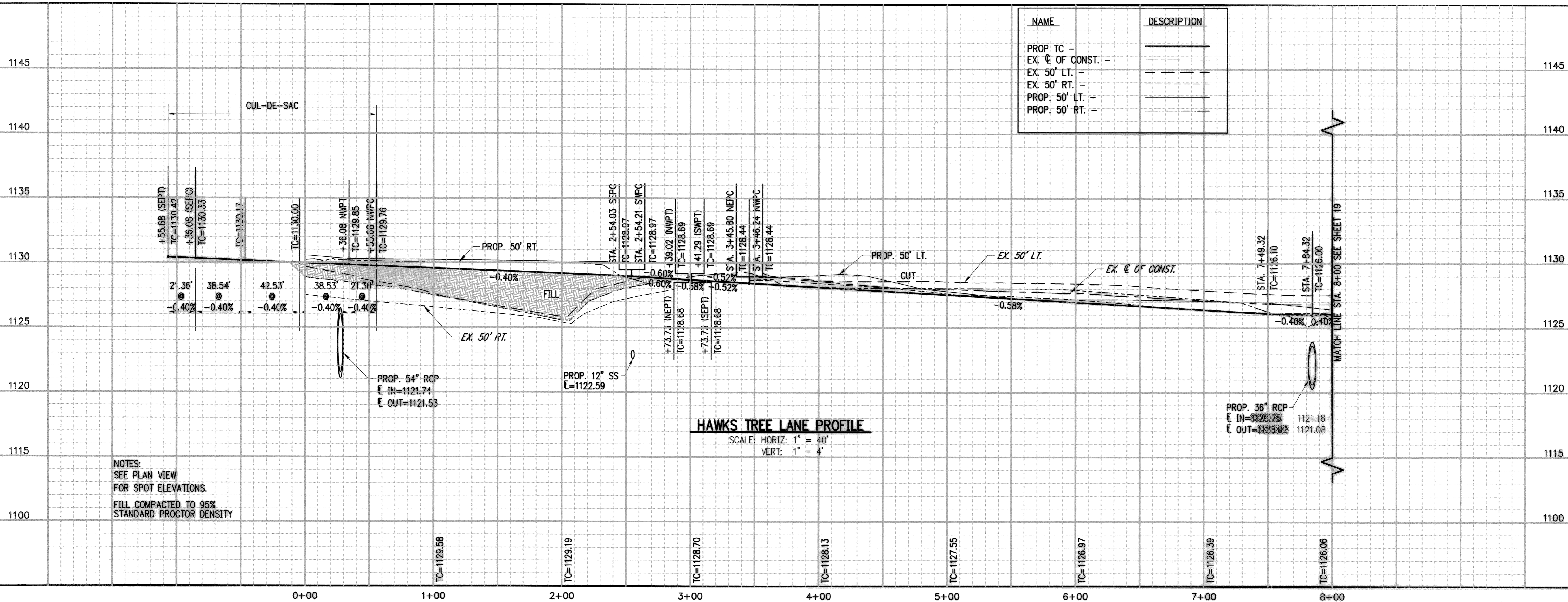
CURVE TABLE (CENTERLINE)

NUMBER	DELTA ANGLE	RADIUS	LENGTH	TANGENT	CHORD DIRECTION	CHORD LENGTH
C1	36°53'39"	100.00	64.39	33.36	S 18°16'56" W	63.29
C2	38°44'22"	250.00	169.03	87.89	N 19°12'06" E	165.83
C3	36°44'22"	250.00	169.03	87.89	N 19°12'06" E	165.83
C4	07°11'48"	200.00	25.12	12.58	N 03°35'54" E	25.10
C5	03°16'48"	200.00	11.45	5.73	N 05°33'24" E	11.45
C6	00°38'05"	200.00	2.22	1.11	N 03°35'57" E	2.22
C7	03°46'00"	200.00	13.15	6.58	N 01°23'55" E	13.15
C8	05°13'16"	800.00	72.90	36.48	N 01°18'22" E	72.88
C9	04°48'25"	200.00	16.78	8.39	N 02°24'12" E	16.77
C10	19°51'54"	300.00	104.01	52.53	N 11°14'13" W	103.49
C11	22°18'33"	300.00	116.81	58.15	N 32°19'27" W	116.07
C12	35°07'47"	100.00	61.31	31.65	N 17°24'00" E	60.36
C13	13°04'24"	600.00	136.90	68.75	N 61°34'18" W	136.61
C14	24°37'47"	300.00	128.96	65.49	N 55°47'37" W	127.97
C15	34°52'15"	200.00	121.72	62.81	N 72°28'14" W	119.85
C16	35°18'06"	100.00	61.61	31.82	S 72°11'56" W	60.64
C17	35°32'46"	100.00	62.04	32.05	S 72°19'16" W	61.05
C18	11°02'49"	200.00	38.56	19.34	S 66°54'51" W	38.50
C19	21°02'00"	100.00	36.71	18.56	S 79°13'06" W	36.50
C20	19°29'45"	100.00	34.03	17.18	S 80°15'08" W	33.86

CA 973 (PE/LS) EXPIRES 6/30/2006

SILVERHAWK
PHASE I
OKLAHOMA CITY, OK.

NAME	DESCRIPTION
PROP. TC	---
EX. ϕ OF CONST.	---
EX. 50' LT.	---
EX. 50' RT.	---
PROP. 50' LT.	---
PROP. 50' RT.	---



HAWKS TREE LANE PROFILE

SCALE: HORIZ: 1" = 40'
VERT: 1" = 4'

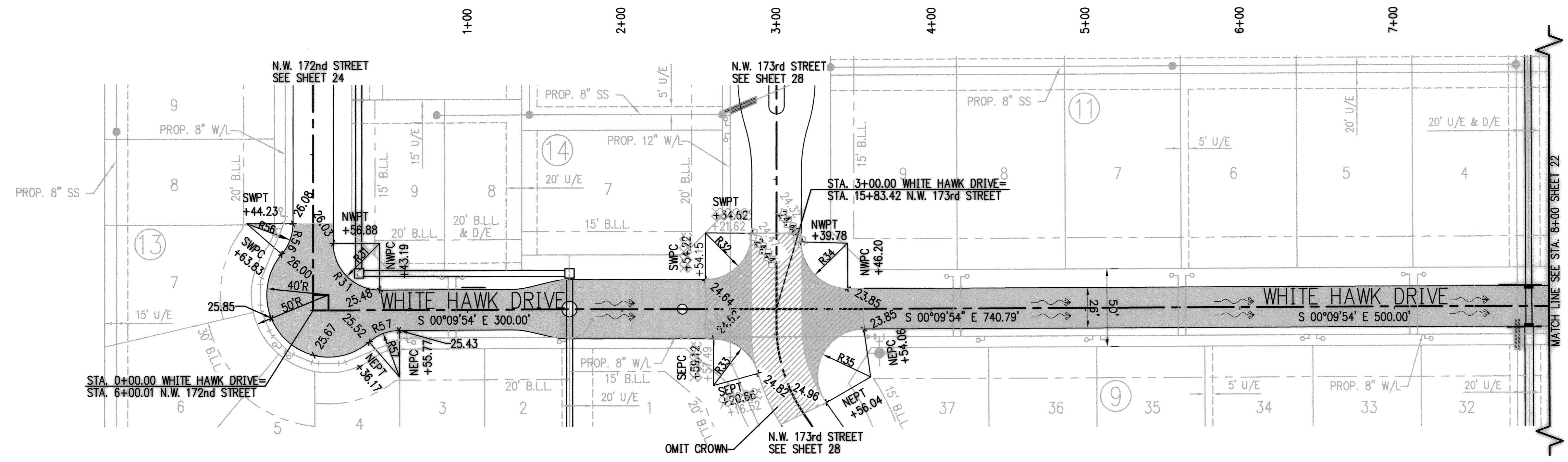
NOTES:
SEE PLAN VIEW
FOR SPOT ELEVATIONS.
FILL COMPACTED TO 95%
STANDARD PROCTOR DENSITY

Drawn by	TLB	Job Number	056012-00
Checked by		Contact Person	P. HAGEN
Date	2005	Sheet Number	18

Crafton, Tuill & Associates, Inc.
235 N. MacArthur, Suite 200 Oklahoma City, OK 73127
405.787.6270 Fax: 405.787.6276 www.craftontuill.com

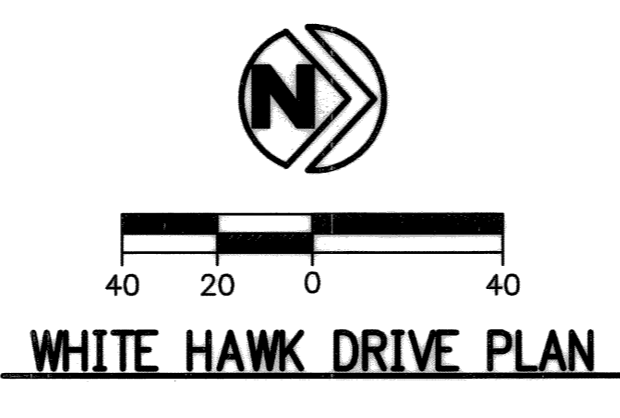
Engineers & Surveyors

D:\PROJECTS\2005\056012-00\PD-1700\DRAWING\056012-00-18.PDW
 LAST SAVED BY JAME GIBSON 12/13/2007 3:48:29 PM
 PLOTTED BY JAME GIBSON (ONLY VALID ON HARD COPY)
 © 2006 Crafton, Tuill & Associates, Inc.



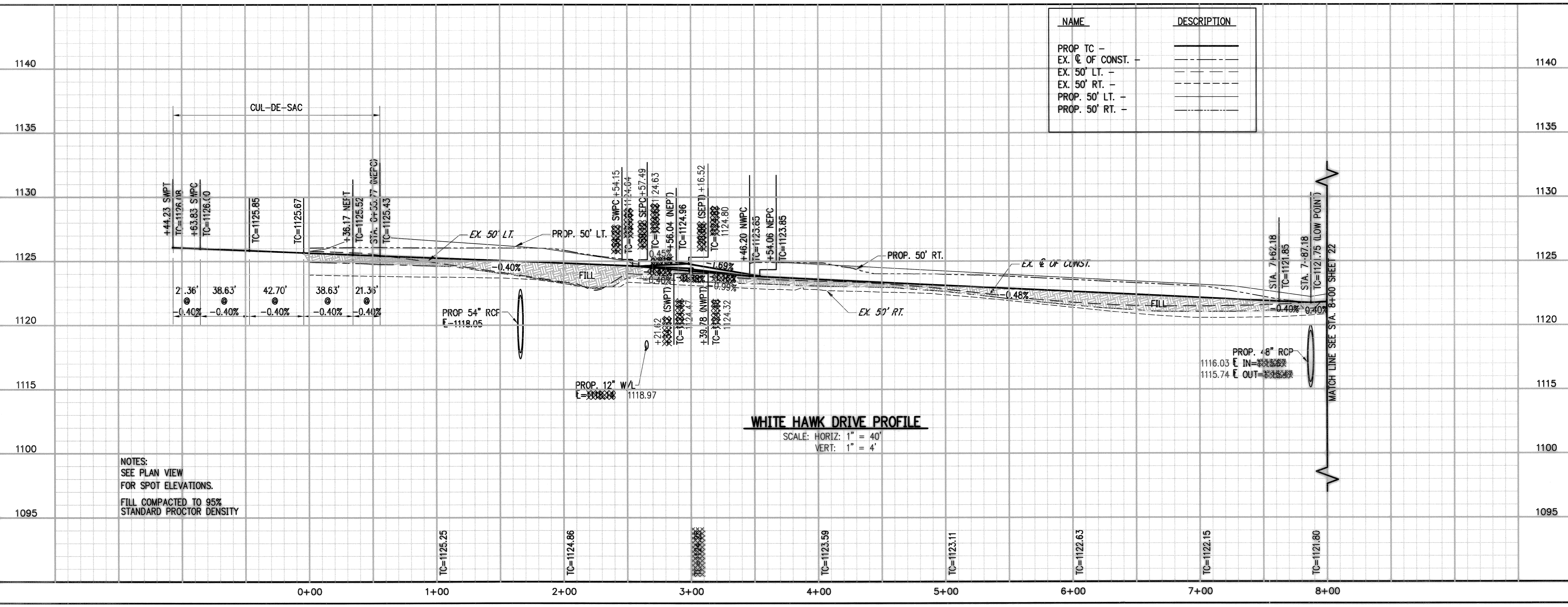
NUMBER	R31	NUMBER	R33	NUMBER	R35
DELTA ANGLE	90°15'33"	DELTA ANGLE	74°45'07"	DELTA ANGLE	125°11'33"
RADIUS	30.00	RADIUS	30.00	RADIUS	30.00
LENGTH	47.26	LENGTH	39.14	LENGTH	65.55

NUMBER	R32	NUMBER	R34	NUMBER	R56	NUMBER	R57
DELTA ANGLE	89°52'51"	DELTA ANGLE	90°15'33"	DELTA ANGLE	40°47'13"	DELTA ANGLE	40°47'13"
RADIUS	30.00	RADIUS	30.00	RADIUS	30.00	RADIUS	30.00
LENGTH	47.06	LENGTH	47.26	LENGTH	21.36	LENGTH	21.36



NUMBER	DELTA ANGLE	RADIUS	LENGTH	TANGENT	CHORD DIRECTION	CHORD LENGTH
C1	36°53'39"	100.00	64.39	33.36	S 18°16'56" W	63.29
C2	38°44'22"	250.00	169.03	87.89	N 19°12'06" E	165.83
C3	38°44'22"	250.00	169.03	87.89	N 19°12'06" E	165.83
C4	07°11'48"	200.00	25.12	12.58	N 03°35'54" E	25.10
C5	03°16'48"	200.00	11.45	5.73	N 05°33'24" E	11.45
C6	00°38'05"	200.00	2.22	1.11	N 03°35'57" E	2.22
C7	03°46'00"	200.00	13.15	6.58	N 01°23'56" E	13.15
C8	05°13'16"	800.00	72.90	36.48	N 01°18'22" E	72.88
C9	04°48'25"	200.00	16.78	8.39	N 02°24'12" E	16.77
C10	19°51'54"	300.00	104.01	52.53	N 11°14'13" W	103.49

NUMBER	DELTA ANGLE	RADIUS	LENGTH	TANGENT	CHORD DIRECTION	CHORD LENGTH
C11	22°18'33"	300.00	116.81	58.15	N 32°19'27" W	116.07
C12	35°07'47"	100.00	61.31	31.65	N 17°24'00" E	60.36
C13	13°04'24"	600.00	136.90	68.75	N 61°34'18" W	136.61
C14	24°37'47"	300.00	128.96	65.49	N 55°47'37" W	127.97
C15	34°52'15"	200.00	121.72	62.81	N 72°28'14" W	119.85
C16	35°18'06"	100.00	61.61	31.82	S 72°11'56" W	60.64
C17	35°32'46"	100.00	62.04	32.05	S 72°19'16" W	61.05
C18	11°02'49"	200.00	38.56	19.34	S 66°54'51" W	38.50
C19	21°02'00"	100.00	36.71	18.56	S 79°13'06" W	36.50
C20	19°29'45"	100.00	34.03	17.18	S 80°15'08" W	33.86



NOTES:
SEE PLAN VIEW
FOR SPOT ELEVATIONS.
FILL COMPACTED TO 95%
STANDARD PROCTOR DENSITY

WHITE HAWK DRIVE PROFILE
SCALE: HORIZ: 1" = 40'
VERT: 1" = 4'

NAME	DESCRIPTION
PROP TC	---
EX. 5' OF CONST.	---
EX. 50' LT.	---
EX. 50' RT.	---
PROP. 50' LT.	---
PROP. 50' RT.	---

LAYOUT TAB: WHITE HAWK DRIVE
 DRAWING FILE NAME AND LOCATION: G:\SILVERHAWK\PHASE I\DWG\PP-PAVING.dwg
 LAST SAVED BY: JZM 03/12/2007 2:46:37 PM
 PLOTTED BY: JIMMIE GIBSON (ONLY VALID ON HARD COPY)
 © 2006 © Crafton, Tull & Associates, Inc.

Crafton, Tull & Associates, Inc.
 235 N. MacArthur, Suite 200 Oklahoma City, OK 73127
 405.767.6270 Fax: 405.767.6276 www.craftontull.com

Engineers & Surveyors

SILVERHAWK PHASE I OKLAHOMA CITY, OK.

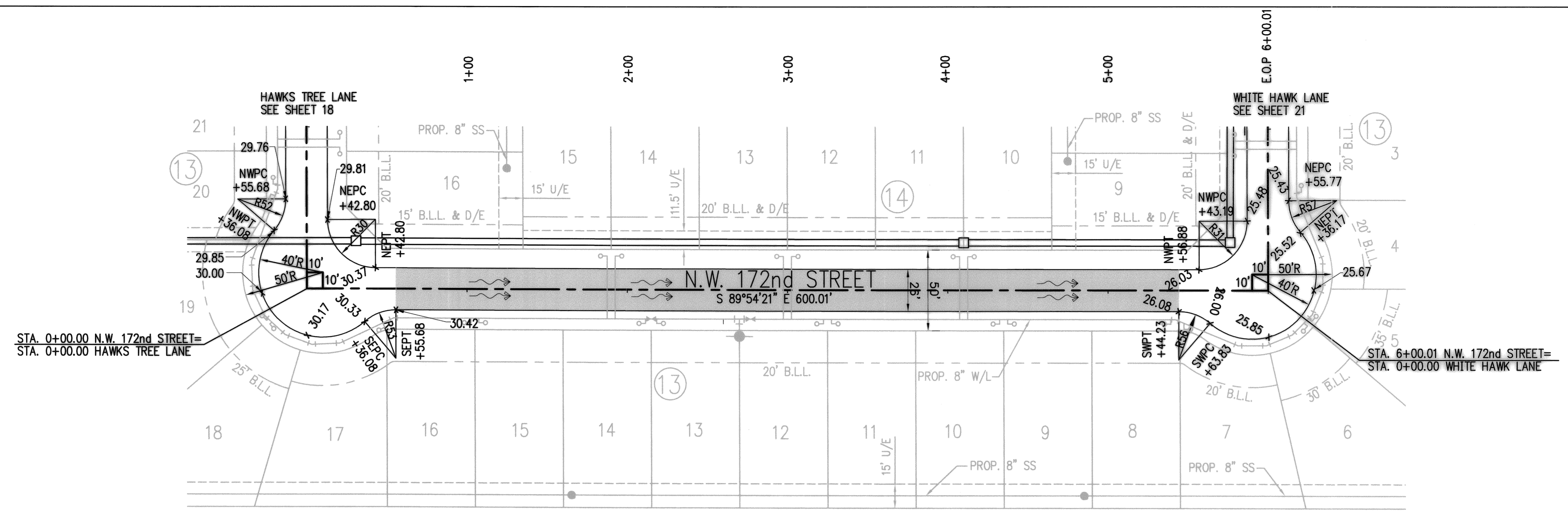
Revisions
 AS-BUILT 12-13-2007

WHITE HAWK DRIVE PLAN AND PROFILE

Drawn by	Job Number
TLB	056012-00
Checked by	Contact Person
	P. HAGEN

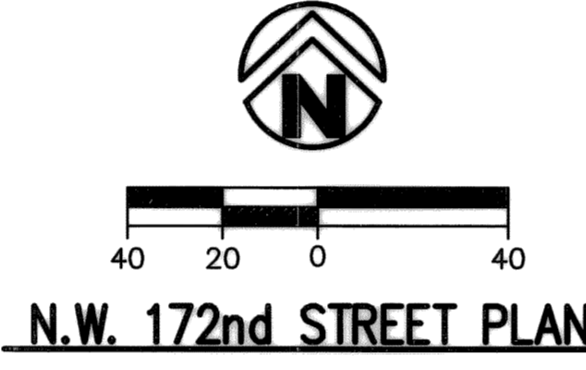
Date	Sheet Number
2005	21

SILVERHAWK PHASE I PD-1700
 PD-1700

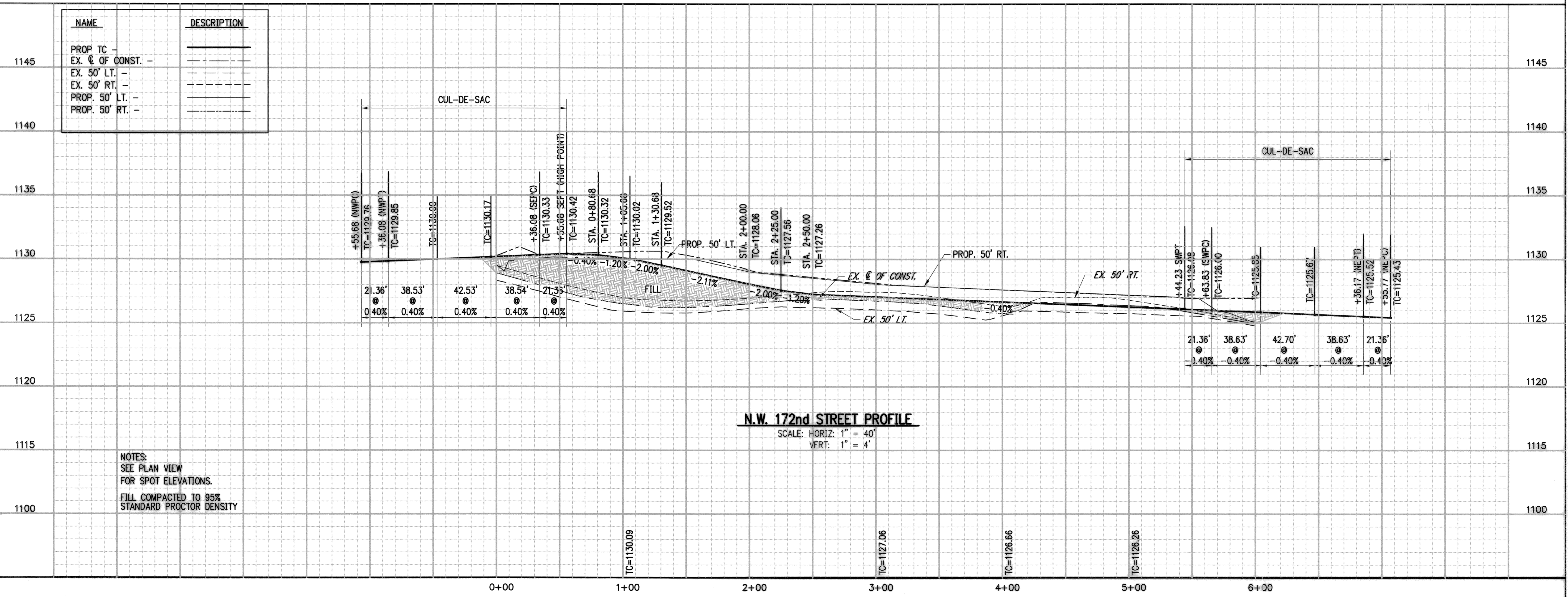


NUMBER	R30	NUMBER	R52	NUMBER	R56
DELTA ANGLE	89°44'27"	DELTA ANGLE	40°47'13"	DELTA ANGLE	40°47'13"
RADIUS	30.00	RADIUS	30.00	RADIUS	30.00
LENGTH	46.99	LENGTH	21.36	LENGTH	21.36
NUMBER	R31	NUMBER	R53	NUMBER	R57
DELTA ANGLE	90°15'33"	DELTA ANGLE	40°47'13"	DELTA ANGLE	40°47'13"
RADIUS	30.00	RADIUS	30.00	RADIUS	30.00
LENGTH	47.26	LENGTH	21.36	LENGTH	21.36

NUMBER	DELTA ANGLE	RADIUS	LENGTH	TANGENT	CHORD DIRECTION	CHORD LENGTH
C1	36°53'39"	100.00	64.39	33.36	S 18°16'56" W	63.29
C2	38°44'22"	250.00	169.03	87.89	N 19°12'06" E	165.83
C3	38°44'22"	250.00	169.03	87.89	N 19°12'06" E	165.83
C4	07°11'48"	200.00	25.12	12.58	N 03°35'54" E	25.10
C5	03°16'48"	200.00	11.45	5.73	N 05°33'24" E	11.45
C6	00°38'05"	200.00	2.22	1.11	N 03°35'57" E	2.22
C7	03°46'00"	200.00	13.15	6.58	N 01°23'55" E	13.15
C8	05°13'16"	800.00	72.90	36.48	N 01°18'22" E	72.88
C9	04°48'25"	200.00	16.78	8.39	N 02°24'12" E	16.77
C10	18°51'54"	300.00	104.01	52.53	N 11°14'13" W	103.49
C11	22°18'33"	300.00	116.81	58.15	N 32°19'27" W	116.07
C12	35°07'47"	100.00	61.31	31.65	N 17°24'00" E	60.36
C13	13°04'24"	600.00	136.90	68.75	N 61°34'18" W	136.61
C14	24°37'47"	300.00	128.96	65.49	N 55°47'37" W	127.97
C15	34°52'15"	200.00	121.72	62.81	N 72°28'14" W	119.85
C16	35°18'06"	100.00	61.61	31.82	S 72°11'56" W	60.64
C17	35°32'46"	100.00	62.04	32.05	S 72°19'16" W	61.05
C18	11°02'49"	200.00	38.56	19.34	S 66°54'51" W	38.50
C19	21°02'00"	100.00	36.71	18.56	S 79°13'06" W	36.50
C20	18°29'45"	100.00	34.03	17.18	S 80°15'08" W	33.86



N.W. 172nd STREET PLAN



N.W. 172nd STREET PROFILE

SCALE: HORIZ: 1" = 40'
VERT: 1" = 4'

NOTES:
SEE PLAN VIEW
FOR SPOT ELEVATIONS.
FILL COMPACTED TO 95%
STANDARD PROCTOR DENSITY

Crafton, Tull & Associates, Inc.
235 N. MacArthur, Suite 200 Oklahoma City, OK 73127
405.787.6270 Fax: 405.787.6276 www.craftontull.com

Engineers & Surveyors

CA 973 (PE/LS) EXPIRES 6/30/2006

SILVERHAWK
PHASE I
OKLAHOMA CITY, OK.

Revisions
AS-BUILT 12-19-2007

NW 172nd STREET
PLAN AND PROFILE

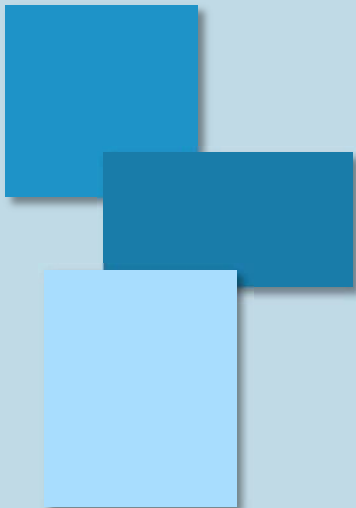
Drawn by TLB	Job Number 056012-00
Checked by	Contact Person P. HAGEN

Date 2005	Sheet Number 24
--------------	--------------------

SILVERHAWK PHASE I PD-1700
PD-1700

LAYOUT TAB: N.W. 172ND STREET

DRAWING FILE NAME AND LOCATION: G:\SIBS\10-09\ENGINEERING\04-Silverhawk-Phase I\Drawings\PLAN\NW 172ND.DWG
LAST SAVED BY: JAMES COOPER 12/13/2007 3:48:59 PM
PLOTTED BY: JAMES COOPER (ONLY VALID ON HARD COPY)
© 2006 Crafton, Tull & Associates, Inc.



ESTIMATED COSTS

July 25th, 2017

SILVERHAWK, PH. I - N.W. 172ND, HAWKS TREE LANE & WHITE HAWK DRIVE

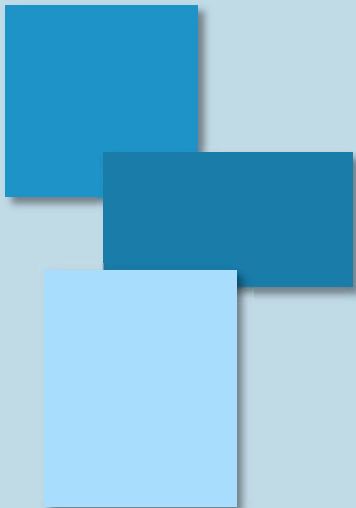
COST ESTIMATE FOR STREET REPAIR

Item No.	Section	Description	Units	Estimated Unit Price	Estimated Quantity	Estimated Price
1	301-07	Asphalt Concrete Type D (70-28)	TON	\$ 110.00	250.0	\$ 27,500.00
2	301-31	Asphalt Concrete Type A (64-22)(5")	TON	\$ 100.00	150.0	\$ 15,000.00
3	309-08	Cold Milling Asphalt (Varies 0-1 1/4")	SY	\$ 3.00	2500.0	\$ 7,500.00
4	310-01	Joint Rehabilitation	LF	\$ 3.00	1600.0	\$ 4,800.00
5	801-03	Mobilization	LS	\$ 8,500.00	1.0	\$ 8,500.00
6	801-04	Pre & Post Construction Video	LS	\$ 1,000.00	1.0	\$ 1,000.00
7	812-04	Asphalt Pavement Removal	SY	\$ 15.00	500.0	\$ 7,500.00
8	814-00	Pavement Cut and Repair (Block Joint Repair, Full Depth)	LF	\$ 20.00	550.0	\$ 11,000.00
9	816-01	Remove Sidewalk	SY	\$ 25.00	40.0	\$ 1,000.00
10	823-00	Sidewalk (5')	SY	\$ 60.00	40.0	\$ 2,400.00
11	830-00	ADA Curb Ramp	EA	\$ 1,200.00	4.0	\$ 4,800.00
TOTAL ESTIMATED STREET REPAIR CONSTRUCTION COST						\$ 91,000.00

Contingency (15%)	\$ 13,650.00
Testing (3%)*	\$ 3,139.50
Administration (10%)*	\$ 10,465.00
Advertising/Printing Costs*	\$ 2,000.00
Engineering/Surveying Costs*	\$ 12,000.00

ESTIMATED TOTAL COSTS \$ 132,254.50

*Project and Contract Administrative Fees from OKC





WHITE HAWK DRIVE



N.W. 172ND STREET



HAWK'S TREE LANE



MAJOR CRACK (BLOCK JOINT REPAIR)



MAJOR CRACK (BLOCK JOINT REPAIR)



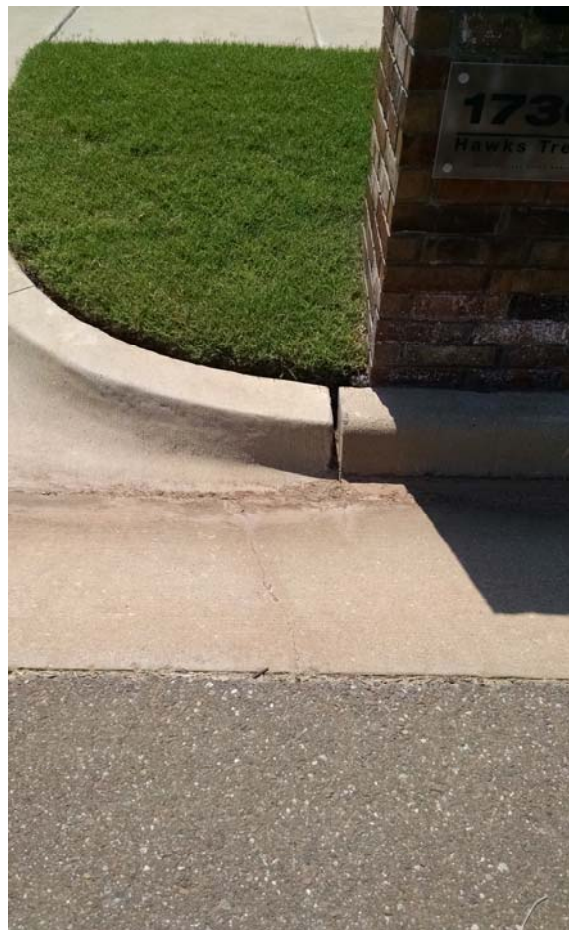
MINOR CRACKING AND PAVEMENT PROFILE



NON COMPLIANT WHEEL CHAIR RAMP



SEPARATION AT GUTTER JOINT



DRIVEWAY SEPARATION AND GUTTER CRACKING