

THIRD-ORDER LEVELS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

Final Adjustment of 1974

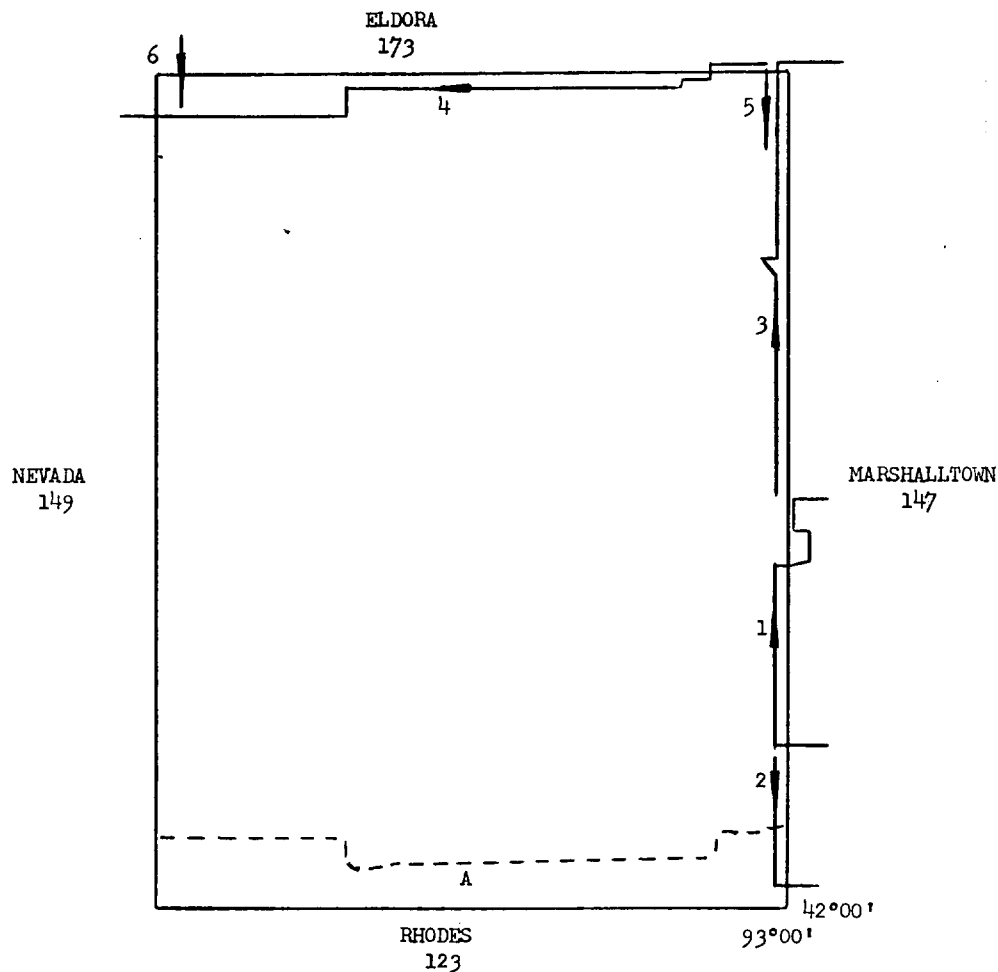
Hardin, Marshall and
Story Counties

Edition of: 1-1-74

PR: ADP/cb

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

42-093-22
STATE CENTER QUADRANGLE
148 - IOWA
N4200-W9300/15
DIAGRAM NK 15-5
WATERLOO



N.G.S. (USC&GS) VERTICAL CONTROL DATA

A. Quadrangle No. 420932

148B

LINE 1

FEET

F.J. Heintz, 1957; Book CV-862

MARSHALLTOWN QUAD. - 147

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| 1.7 Reference mark, RR. spike in base of power pole 35 ft W. of tablet | 921.69 |
| 3.3 UE, RR. spike in base of power pole, 28 ft N. and 42 ft E. of centerline private drive S. at top of hill | 1004.6 |

STATE CENTER QUAD. -148

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|---|---------|
| 4.2 Marshalltown, courthouse, 5 mi W. of near cor. secs. 25, 30, 31 and 36, T. 84 N., Rs. 18 and 19 W., 106 ft S. and 98 ft W. of center of crossroads, 1 ft NE. of diagonal fence line, 2 ft N. of fence post, in concrete post; standard tablet probably stamped "TT 2 FJH 1957 RESET 1970" (Horizontal position lost when RESET) | 954.064 |
| 4.2 Reference mark, RR. spike in base of power pole, 36 ft S. and 38 ft W. of centerline crossroads | 958.78 |
| 5.1 UE, RR. spike in base pole; 25 ft E. of centerline of road at crest | 980.1 |
| 5.3 UE, chiseled square, top concrete coping at SE. corner small concrete bridge | 915.62 |
| 7.2 Marshalltown, Courthouse, 5 mi W. and 2.5 mi N. of, T. 84 N., Rs. 18 and 19 W., near the NW. cor. sec. 18, 46 ft S. and 166 ft E. of centerline RR. crossing, 3 ft N. fence, 6 ft W. of SW. corner high wire fence around power transformers; in concrete post, standard tablet stamped "TT 3 FJH 1957" | 890.243 |
| 7.2 Reference mark, RR. spike in base of power pole 70 ft S. and 30 ft E. of centerline of RR. crossing | 891.11 |
| .7 UE, chiseled square, top concrete coping at SE. corner concrete bridge | 896.69 |
| 8.8 UE, chiseled square, top concrete coping top SE. corner concrete highway overpass | 933.92 |
| 10.0 UE, chiseled square on top center W. headwall of concrete culvert | 960.32 |
| 10.2 Marshalltown, 6 mi N. and 5 mi W. of, near the NW. cor. sec. 6, Tps. 84 and 85 N., Rs. 18 and 19 W., 33 ft S. and 238 ft E. of crossroads, 2 ft N. of fence, 6 ft E. fence post at dim field approach, in concrete, standard tablet stamped "TT 4 FJH 1957" | 953.633 |
| 10.2 Reference mark, RR. spike in base pole, 77 ft E. of tablet | 951.39 |

MARSHALLTOWN QUAD. - 147

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|--|---------|
| 10.6 UE, RR. spike in base of pole in SW. corner of T-rd. S. | 957.0 |
| 11.0 UE, chiseled square top of W. and S. headwall, concrete culvert | 920.75 |
| 11.9 UE, chiseled square, top of 24-in. concrete pipe culvert, top of W. end of culvert across N.-S. road, at SW. corner crossroads | 970.43 |
| 12.9 Marshalltown, 6 mi N. and 2 mi W. of, near the NW. cor. sec. 3, Tps. 84 and 85 N., R. 18 W., 90 ft S. and 96 ft W. of W. end of concrete bridge, 2 ft N. of fence; in concrete post, standard tablet stamped "5 FJH 1957" | 901.094 |

LINE 2

F.J. Heintz, 1957; Book CV-861-a

STATE CENTER QUAD. - 148

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| 0.0 "TT 2 FJH 1957" (Described in Line 1) | 954.064 |
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<u>LINE 2 (Cont'd)</u>	<u>STATE CENTER QUAD. - 148</u>	<u>FEET</u>
0.9 UE, chiseled square, top S. and W. headwall of concrete culvert		947.00
1.4 UE, chiseled square, top N. end of E. headwall of RR. bridge		920.43
2.8 Reference mark, chiseled square, top of E. end of 24-in. concrete pipe culvert on S. side of Hwy. 30		996.05
2.8 Marshalltown, Courthouse, 3 mi S. and 5 mi W. of, T. 83 N., Rs. 18 and 19 W., intersection State Hwy. 30 and County Road Q, 102 ft S. and 122 ft E. of crossroads, 2 ft N. of fence line, near cor. secs. 7, 12, 13 and 18; in concrete post, standard tablet stamped "TT 9 FJH 1957"		997.277

LINE 3

<u>F.J. Heintz, 1958; Book CV-1063 a</u>	<u>STATE CENTER QUAD. - 148</u>	
0.0 "TT 4 FJH 1957 954" (Described in Line 1)		953.633
1.5 UE, top center of W. concrete headwall of culvert		968.9
2.3 Liscomb, 2.6 mi S. of along County Road H, T. 85 N., Rs. 18 and 19 W., near the cor. secs. 19, 24, 25 and 30, 148 ft S. and 33 ft W. of centerline of crossroads, 33 ft W. centerline County Road H and 30 ft E. of the E. rail of RR. tracks, on RR. right-of-way; in concrete post, standard tablet stamped "TT 3 FJH 1958"		974.239
2.3 Reference mark, RR. spike in power pole, 30 ft N. and 27 ft E. of centerline of crossroads		973.59
5 UE, centerline crossroads, T. 85 N., Rs. 18 and 19 W., near cor. secs. 13, 18, 19 and 24		983.5
5.7 Liscomb, T. 85 N., Rs. 18 and 19 W., near the SW. cor. sec. 7, 450 ft N. of junction of County Roads H and K, 30 ft E. of centerline of County Road K, 2 ft W. of fence; in concrete post, standard tablet stamped "TT 2 FJH 1958"		1002.632
5.8 Reference mark, spike in pole approx. 80 ft W. of tablet		1005.45
6.3 UE, top center of W. concrete headwall of culvert		939.4
7.2 UE, RR. spike in pole, 45 ft S. and 33 ft W. of centerline of crossroads, Tps. 85 and 86 N., Rs. 18 and 19 W., near cor. secs. 1, 6, 31 and 36		932.2
7.6 UE, top center of W. concrete headwall, large culvert		926.7
8.0 Whitten, 2.6 mi S. along County Road "K" from, T. 86 N., Rs. 18 and 19 W., near cor. secs. 25, 30, 31 and 36, 9 ft N. and 318 ft W. of centerline of crossroads, cemented in the E. end of the N. concrete guard rail on a small bridge over a small drain and about 1 ft higher than centerline of bridge, a standard tablet stamped "1 FJH 1958 RESET 1972" (Horizontal lost when Reset)		936.010
8.0 Reference mark, RR. spike in pole 45 ft N. and 54 ft E. of centerline of crossroads		931.50
8.8 UE, center of concrete bridge		942.9

GRUNDY CENTER QUAD. - 172

10.3 UE, RR. spike in power pole, 27 ft N. and 54 ft W. of centerline of crossroads, T. 86 N., Rs. 18 and 19 W., near cor. secs. 13, 18, 19 and 24,	1033.6
10.8 UE, centerline of private drive S.	1038.7
Witten, 0.8 mi S. and 1.5 mi E. of, T. 86 N., R. 18 W., near the NE. cor. of NW $\frac{1}{4}$ of sec. 20, 109 ft N. and 91 ft W. of centerline of RR. crossing, 2 ft S. of fence, in concrete post, standard tablet stamped "TT 36 FJH 1957"	990.033

LINE 4

FEET

L.A. Perry, 1974; Book CV-3128

ELDORA QUAD. - 173 IA.

- 4 77 15.5 Whitten, Hardin, Co. about 0.5 mi S. of; in Grundy Co. near SW. cor. sec. 18, T. 86 N., R. 18 W.; 57 ft N., 74.5 ft E. and 1.8 ft lower than crossroads, 3 ft NE. of power pole, 1.8 ft W. of fence corner and in line with N. right-of-way fence, 1.5 ft SE. of USGS witness post, a standard rod supported tablet welded to 0.5-in. copper coated rod driven 18.5 ft to refusal, set in 6-in. concrete drain tile filled with gravel and stamped "16 LAP 1974" 1032.452
- 5 12 16.1 UE 16 AA, about 0.6 mi W. along gravel road from BM, 1.5 ft S. of centerline of road at drain, W. end of S. headwalls, a chiseled square 983.90
- 14 17.2 UE 16 BB, about 1.75 mi W. along gravel road from BM, 1 ft N., 14.5 ft W. and 0.4 ft higher than T-rd. W., center of W. headwall of concrete box culvert, on bottom half of No. 6 cast in concrete 1025.62
- 16 17.9 UE 16 CC, about 2.4 mi W. along gravel roads from BM, 12 ft W. of driveway S., top of W. end of 3 ft concrete culvert, a painted square 967.28

STATE CENTER QUAD. - 148 IA.

- 19 18.1 Reference mark, about 325 ft NNW. of BM, on NE. cor. of concrete well platform, a chiseled square 924.01
- 20 18.1 Union, Hardin Co., jct. State Hwy. 215 and County road D 65, about 1.3 mi E. along county road D-65 from, T. 86 N., R. 19 W., near E $\frac{1}{4}$ cor. sec. 22, in SE. cor. of Daisy Long County Park, 29 ft N. and 43 ft W. of road at S. entrance to park; 86.5 ft S. and 6 ft W. of a power pole, 1 ft N. of park sign, 0.5 ft N. of USGS witness post, a standard rod supported tablet welded to 0.5 in. copper coated rod driven to refusal, set in 6-in. concrete drain tile and stamped "17 LAP 1974". 10 ft 928.384
- 24 19.3 UE 17 A, 1.3 mi W. along county asphalt road D-65 from ^{BM}at jct. with State Hwy. 215, top of S. rim man hole, a chiseled plus 943.64
- 26 20.0 UE 17 B, about 2.06 mi W. along county road D-65 from BM, centerline of T-rd. N.; a painted plus 1022.92
- 29 20.7 BM, Union, Hardin County jct. State Hwy. 15 and county road D-65 about 1.4 mi W. along county road D-65 from; 21 ft S. of and 4.2 ft lower than centerline of road at drain, a standard tablet cemented in E. end of S. headwall of concrete box culvert, stamped "18 LAP 1974" 973.899
- 31 21.0 UE 18 A, about 0.35 mi W. along county road D-65 from BM, at crossroad, top of county rebar in pavement 1036.58
- 33 22.0 UE 18 B, about 1.3 mi W. along county road D-65 from BM, top of county rebar at centerline of crossroads 1014.89
- 36 22.8 Reference mark, about 100 ft E. and 33 ft S. of BM, a chiseled square top of SE. curb of bridge 973.09
- 38 22.8 BM, Union, Hardin County, about 3.75 mi W. along county road D-65, from jct. of State Hwy. 215, and county road D-65, T. 86 N., R. 20 W. near W. quarter cor. sec. 24, at bridge over Honey Creek, 16.8 ft N. and 50 ft W. of and 0.8 ft higher than road at drain, a standard tablet set in NW. curb of bridge and stamped "19 LAP 1974". 973.027
- 40 23.5 UE 19 A, about 0.7 mi W. along county road D-65 from BM, road at fence N. and in line with W. edge of rd. S., top of county rebar 1012.31

LINE 4 (Cont'd)

STATE CENTER QUAD. - 148 IA.

FEET

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|----|------|---|---|---------|
| 5 | 42 | 24.5 | UE 19 B, about 1.65 mi W. along county road D-65 from BM, centerline crossroads, a painted plus | 1063.33 |
| 44 | 25.5 | UE 19 C, about 2.2 mi W. and 0.5 mi S. along county road D-65 from BM, centerline of T-rd. W. | 1039.13 | |
| 45 | 25.8 | New Providence, Hardin County, about 3 mi S. and 0.5 mi W. of, R. 20 W., T. 86 N., about 0.25 mi W. of NE. cor. of sec. 28; 22 ft S. of and 4.1 ft lower than centerline of road; a standard tablet cemented in W. end of S. headwall of concrete box culvert stamped "20 LAP 1974". | 1019.464 | |
| 47 | 25.9 | Reference mark, about 425 ft W. of BM, 23.5 ft N., 17 ft W. of road at drive N., top of W. end of concrete culvert, a chiseled square | 1028.50 | |
| 49 | 26.5 | UE 20 A, 0.75 mi W. along county road D-65 from BM, 50 ft S., 31 ft W. and 1.2 ft lower than T-rd. S., center of W. headwall of concrete culvert, a chiseled square | 1060.87 | |
| 52 | 27.6 | UE 20 B, about 1.8 mi W. along county road D-65 from BM, centerline of crossroads, a painted plus | 1089.06 | |
| 53 | 28.4 | Reference mark, 78 ft S. and 181 ft E. of BM, 33 ft S. and 15 ft W. of road at drive S.; top of W. of culvert a chiseled square | 1129.46 | |
| 55 | 28.4 | BM, New Providence, Hardin County, 3 mi S., and 3 mi W. of; near SW. cor. 19, T. 86 N., R. 20 W.; 44.5 ft N. of and 0.5 ft lower than road at fence N.; 0.8 ft S. of N. right-of-way fence, 1 ft SE. of fence corner post, 1.7 ft W. of USGS witness post; a standard tablet welded to a copper coated rod, driven 18 ft to refusal, set in 6-in. concrete drain tile filled with gravel and stamped "21 LAP 1974". | 1136.394 | |
| 57 | 28.9 | UE 21 A, about 0.5 mi W. along county road D-65 from BM, 39 ft S., 31 ft W. of and 7 ft lower than centerline of crossroads, top of S. end of 18-in. concrete tile, a chiseled square | 1139.60 | |

NEVADA QUAD. - 149 IA.

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| 60 | 29.9 | UE 21 B, about 1.5 mi W. along county road D-65 from BM, at centerline of T-rd. S., a painted plus | 1093.24 |
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LINE 5

L.A. Perry, 1974; Book CV-3128

ELDORA QUAD. - 173

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|-------------------------------------|-----|---|--|----------|
| 4 | 77 | 15.5 | BM, Whitten, Hardin County, about 0.5 mi S. of; in Grundy County near SW. cor. sec. 18, T. 86 N., R. 18 W.; 57 ft N., 74.5 ft E. and 1.8 ft lower than crossroads, 3 ft NE. of power pole, 1.8 ft W. of fence corner and in line with N. right-of-way fence, 1.5 ft SE. of USGS witness post, a standard rod supported tablet welded to 0.5 in. copper coated rod driven 18.5 ft to refusal, and set in 6-in. concrete drain tile filled with gravel and stamped "16 LAP 1974". (Also described in Line 4) | 1032.452 |
| <u>STATE CENTER QUAD. - 148 IA.</u> | | | | |
| 80 | 0.8 | UE 16 LAP A, about 0.7 mi S. along County line road from BM, 47.5 ft W. and 4.5 ft lower than centerline of road at drain, top of W. end 10 ft steel culvert, a chiseled plus | 957.93 | |
| 5 | 1 | 1.3 | UE 16 LAP B, about 1.25 mi S. along county line road from BM; 15 ft N. and 16 ft E. of centerline of road at N. end of bridge, 2.8 ft above centerline of road at drain; top of NE. rail abutment, head of bolt | 948.58 |

6
42-093-22
STATE CENTER QUADRANGLE
148 - IOWA

LINE 5 (Cont'd)

STATE CENTER QUAD. - 148 IA. FEET

5 5 2.1 Whitten, Hardin County, about 2.6 mi S. along the county line road from, T. 86 N., Rs. 18
and 19 W., near corner secs. 25, 30, 31 and 36; 9 ft N. and 318 ft W. of centerline of
crossroads, cemented in the E. end of the N. concrete curb of bridge, a standard tablet stamped
"1 FJH 1958 RESET 1972" 936.010

LINE 6

L.A. Perry, 1974; Book CV-3128

RADCLIFFE QUAD. - 174 IA.

6 32 8.0 UE 25 A, about 0.5 mi S. along gravel road from BM, 12 ft E. of center of road at drain;
centerline of E. headwall, a chiseled square 1109.39

STATE CENTER QUAD. - 148 IA.

36 9.3 UE 25 B, about 1.35 mi S. and 0.5 mi E. along gravel roads from BM, 45 ft N. and 18 ft
W. of T-rd. W.; 3.2 ft above drain; centerline of W. headwall of concrete culvert; a
painted square 1154.09

40 10.1 UE 21 A, about 0.5 mi W. along county road D-65 from BM "21 LAP 1974", 39 ft S., 31 ft W.
of and 7 ft lower than crossroads, top of S. end of 18-in. concrete tile, a chiseled
square 1139.60