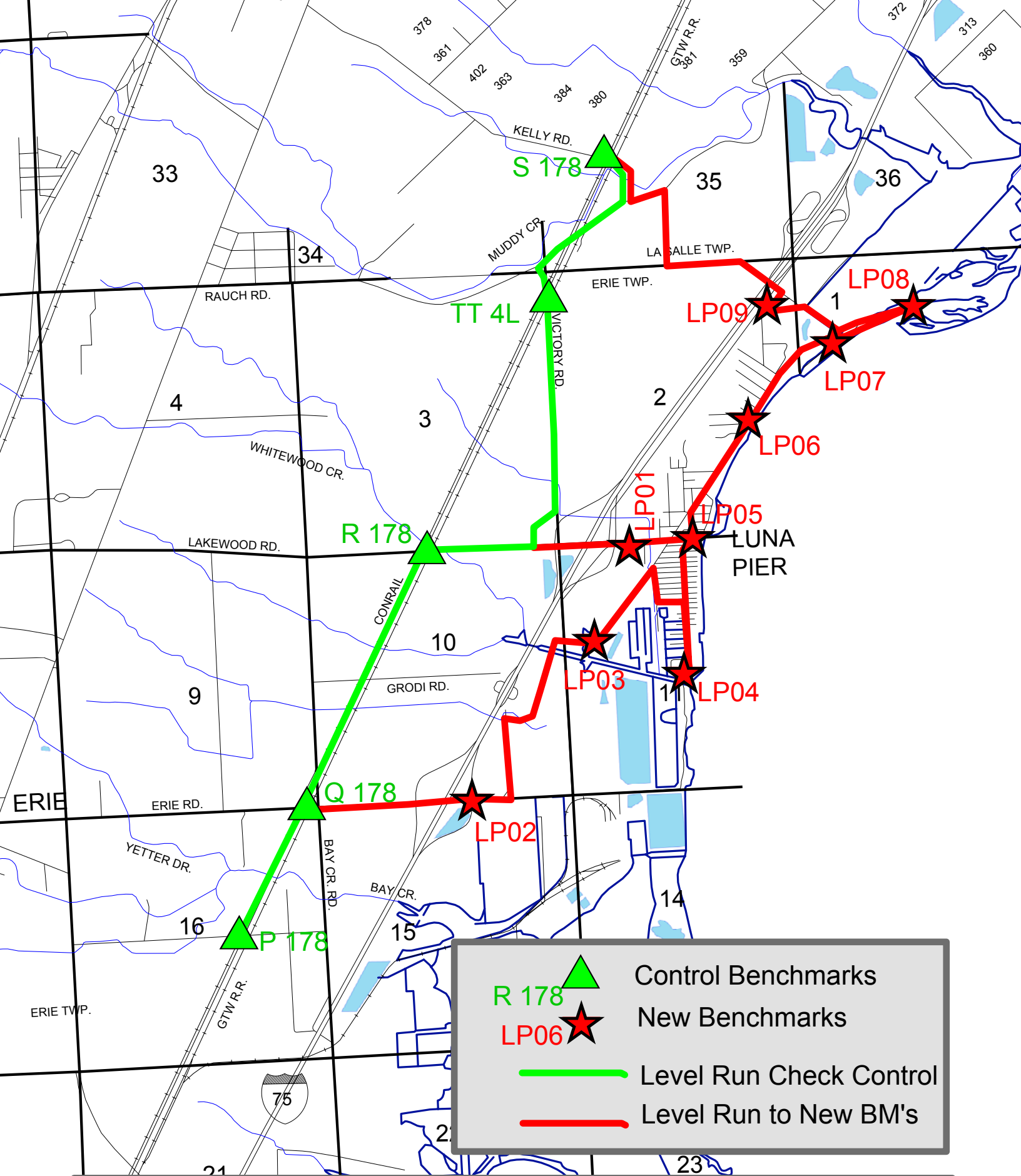


G.B.Warnke & Associates Inc.
 727 W. Temperance Rd.
 Temperance MI 48182
 734-847-7567
 Job No.02-0124
 12-17-2002

City of Luna Pier Michigan
 Permanent Elevation Benchmark Monuments
 Hazard Mitigation Grant Program
 Project No.1346

LIST OF CONTROL BENCHMARKS AND NINE NEW BENCHMARKS
 IN AND AROUND
THE CITY OF LUNA PIER MICHIGAN
 AS ESTABLISHED IN FIELD SURVEY MAY THRU DECEMBER 2002

| Benchmark Description | NAVD 88 NGS data sheets use this datum | NGVD 29 FEMA FIRM use this datum | IGLD 55 old charts use this datum | IGLD 85 NOAA water levels reported in this datum |
|--|--|---|---|---|
| P 178 fd stem in conc. | 582.94 | 583.54 | 582.08 | 582.69 |
| Q 178 1954 fd brass disk in conc. Good shape | 579.56 | 580.16 | 578.70 | 579.31 |
| R 178 Fd brass disk in conc. Good shape | 579.88 | 580.48 | 579.02 | 579.63 |
| TT 4L fd brass disk in conc. (RM) Good shape | 585.19 | 585.79 | 584.33 | 584.94 |
| S 178 fd brass disk in conc. Good shape | 581.03 | 581.63 | 580.17 | 580.78 |
| Set NGS style Benchmark LP01 at Luna Pier sign East side I-75 exit ramp and south side Luna Pier Rd. | 575.03 | 575.63 | 574.17 | 574.78 |
| Set NGS style Benchmark LP02 north side Erie West side on ramp n bound I-75 | 583.56 | 584.16 | 582.70 | 583.31 |
| Set NGS style Benchmark LP03 at Dike West of old RR bridge | 579.24 | 579.84 | 578.38 | 578.99 |
| Set NGS style Benchmark LP04 at Canal end of Lakewood | 574.76 | 575.36 | 573.90 | 574.51 |
| Set NGS style Benchmark LP05 at Parking Lot south side Luna Pier at Northern | 576.28 | 576.88 | 575.42 | 576.03 |
| Set NGS style Benchmark LP06 NWc Harold & Ann | 574.68 | 575.28 | 573.82 | 574.43 |
| Set NGS style Benchmark LP07 SEc Gayner & Harold | 578.11 | 578.71 | 577.25 | 577.86 |
| Set NGS style Benchmark LP08 North End Allen Cove | 575.59 | 576.19 | 574.73 | 575.34 |
| Set NGS style Benchmark LP09 End of Locust at I-75 | 578.16 | 578.76 | 577.30 | 577.91 |



| | | |
|-------|---|-------------------------|
| R 178 |  | Control Benchmarks |
| LP06 |  | New Benchmarks |
| |  | Level Run Check Control |
| |  | Level Run to New BM's |

INDEX MAP

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Set NGS style Benchmark LP01

published elevation is at top of aluminum data point at top of rod
 inside NGS style monument box



Benchmark Description
 Set NGS style Benchmark LP01 at Luna Pier sign East side I-75 exit ramp and south side Luna Pier Rd.

| | | | |
|--|---|-----------------------------------|--|
| NAVD 88 NGS data sheets use this datum | NGVD 29 FEMA FIRM use this datum | IGLD 55 old charts use this datum | IGLD 85 NOAA water levels reported in this datum |
| 575.03 | 575.63 | 574.17 | 574.78 |

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Set NGS style Benchmark LP02

published elevation is at top of aluminum data point at top of rod
 inside NGS style monument box



Benchmark Description
 Set NGS style Benchmark LP02 north side Erie
 West side of on ramp N bound I-75

| | | | |
|--|---|--------------------------------------|---|
| NAVD 88 NGS data sheets use this datum | NGVD 29 FEMA FIRM use this datum | IGLD 55 old charts use this datum | IGLD 85 NOAA water levels reported in this datum |
| 583.56 | 584.16 | 582.70 | 583.31 |

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Set NGS style Benchmark LP03

published elevation is at top of aluminum data point at top of rod
 inside NGS style monument box



Benchmark Description
 Set NGS style Benchmark LP03 at Dike West of old RR
 bridge

| | | | |
|--|---|--------------------------------------|---|
| NAVD 88 NGS data sheets use this datum | NGVD 29 FEMA FIRM use this datum | IGLD 55 old charts use this datum | IGLD 85 NOAA water levels reported in this datum |
| 579.24 | 579.84 | 578.38 | 578.99 |

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Set NGS style Benchmark LP04

published elevation is at top of aluminum data point at top of rod
 inside NGS style monument box



Benchmark Description
 Set NGS style Benchmark LP04 at Canal end of
 Lakewood

| | | | |
|--|---|--------------------------------------|---|
| NAVD 88 NGS data sheets use this datum | NGVD 29 FEMA FIRM use this datum | IGLD 55 old charts use this datum | IGLD 85 NOAA water levels reported in this datum |
| 574.76 | 575.36 | 573.90 | 574.51 |

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Set NGS style Benchmark LP05

published elevation is at top of aluminum data point at top of rod
 inside NGS style monument box



Benchmark Description
 Set NGS style Benchmark LP05 at Parking Lot south
 side Luna Pier at Northern

| | | | |
|--|---|--------------------------------------|---|
| NAVD 88 NGS data sheets use this datum | NGVD 29 FEMA FIRM use this datum | IGLD 55 old charts use this datum | IGLD 85 NOAA water levels reported in this datum |
| 576.28 | 576.88 | 575.42 | 576.03 |

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Set NGS style Benchmark LP06

published elevation is at top of aluminum data point at top of rod
 inside NGS style monument box



| Benchmark Description | NAVD 88 NGS data sheets use this datum | NGVD 29 FEMA FIRM use this datum | IGLD 55 old charts use this datum | IGLD 85 NOAA water levels reported in this datum |
|---|--|----------------------------------|-----------------------------------|--|
| Set NGS style Benchmark LP06 NWc Harold & Ann | 574.68 | 575.28 | 573.82 | 574.43 |

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Set NGS style Benchmark LP07

published elevation is at top of aluminum data point at top of rod
 inside NGS style monument box



| Benchmark Description | NAVD 88 NGS data sheets use this datum | NGVD 29 FEMA FIRM use this datum | IGLD 55 old charts use this datum | IGLD 85 NOAA water levels reported in this datum |
|--|--|----------------------------------|-----------------------------------|--|
| Set NGS style Benchmark LP07 SEc Gayner & Harold | 578.11 | 578.71 | 577.25 | 577.86 |

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Set NGS style Benchmark LP08

published elevation is at top of aluminum data point at top of rod
 inside NGS style monument box



| Benchmark Description | NAVD 88 NGS data sheets use this datum | NGVD 29 FEMA FIRM use this datum | IGLD 55 old charts use this datum | IGLD 85 NOAA water levels reported in this datum |
|---|--|----------------------------------|-----------------------------------|--|
| Set NGS style Benchmark LP08 North End Allen Cove | 575.59 | 576.19 | 574.73 | 575.34 |

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Set NGS style Benchmark LP09

published elevation is at top of aluminum data point at top of rod
 inside NGS style monument box



Benchmark Description

Set NGS style Benchmark LP09 End of Locust at I-75

| | | | |
|--|---|--------------------------------------|---|
| NAVD 88 NGS data sheets use this datum | NGVD 29 FEMA FIRM use this datum | IGLD 55 old charts use this datum | IGLD 85 NOAA water levels reported in this datum |
| 578.16 | 578.76 | 577.30 | 577.91 |