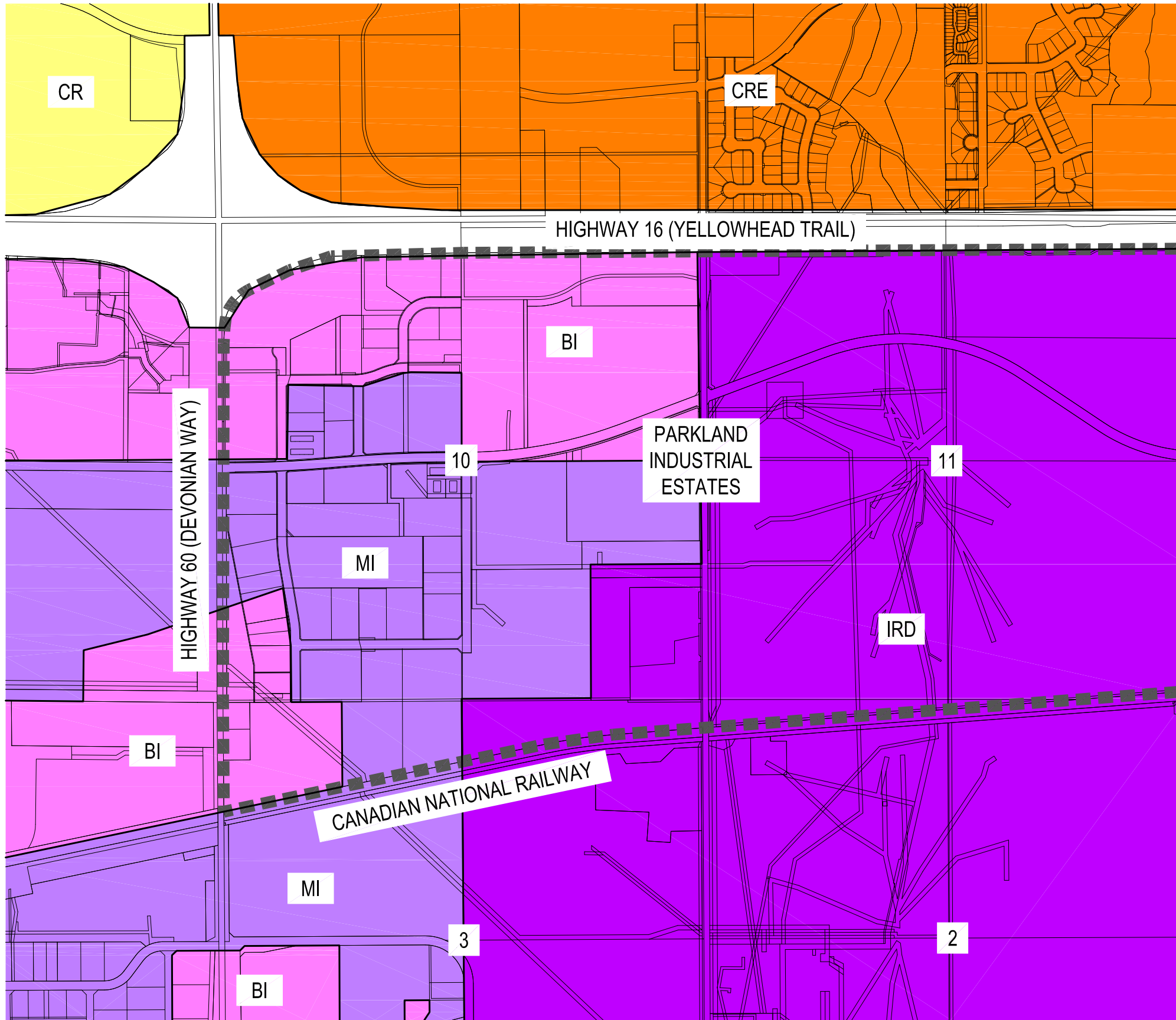


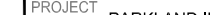
LEGEND

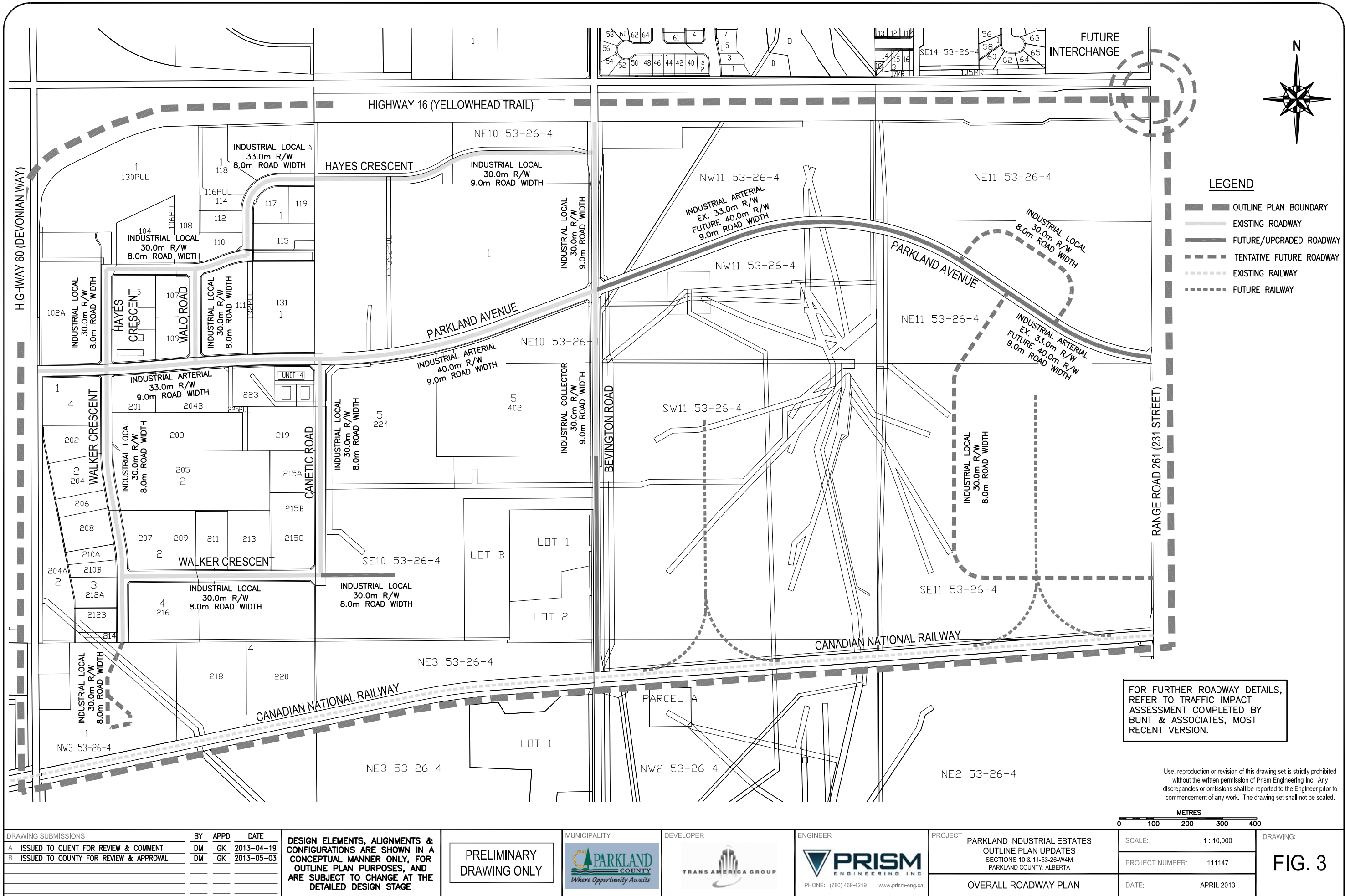
- OUTLINE PLAN BOUNDARY
- BI - BUSINESS INDUSTRIAL DISTRICT
- MI - MEDIUM INDUSTRIAL DISTRICT
- IRD - INDUSTRIAL RESERVE DISTRICT
- CRE - COUNTRY RESIDENTIAL ESTATE DISTRICT
- CR - COUNTRY RESIDENTIAL DISTRICT

RANGE ROAD 261 (231 STREET)

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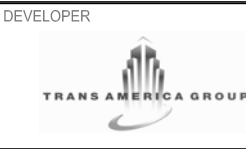
|                     |                                        |  |  |    |      |            |                                                                                                                                                                       |                             |                                                                                       |                                                                                       |                                                                                                                                                |                                                                                                                                               |                 |            |                               |
|---------------------|----------------------------------------|--|--|----|------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------|-------------------------------|
| DRAWING SUBMISSIONS |                                        |  |  | BY | APPD | DATE       | DESIGN ELEMENTS, ALIGNMENTS & CONFIGURATIONS ARE SHOWN IN A CONCEPTUAL MANNER ONLY, FOR OUTLINE PLAN PURPOSES, AND ARE SUBJECT TO CHANGE AT THE DETAILED DESIGN STAGE | PRELIMINARY<br>DRAWING ONLY |  |  | ENGINEER<br><br>PHONE: (780) 469-4219    www.prism-eng.ca | PROJECT<br>PARKLAND INDUSTRIAL ESTATES<br>OUTLINE PLAN UPDATES<br>SECTIONS 10 & 11-53-26-W4M<br>PARKLAND COUNTY, ALBERTA<br><br>LAND USE PLAN | SCALE:          | 1 : 15,000 | DRAWING:<br><br><b>FIG. 2</b> |
| A                   | ISSUED TO CLIENT FOR REVIEW & COMMENT  |  |  | DM | GK   | 2013-04-19 |                                                                                                                                                                       |                             |                                                                                       |                                                                                       |                                                                                                                                                |                                                                                                                                               | PROJECT NUMBER: | 111147     |                               |
| B                   | ISSUED TO COUNTY FOR REVIEW & APPROVAL |  |  | DM | GK   | 2013-05-03 |                                                                                                                                                                       |                             |                                                                                       |                                                                                       |                                                                                                                                                |                                                                                                                                               | DATE:           | APRIL 2013 |                               |
|                     |                                        |  |  |    |      |            |                                                                                                                                                                       |                             |                                                                                       |                                                                                       |                                                                                                                                                |                                                                                                                                               |                 |            |                               |
|                     |                                        |  |  |    |      |            |                                                                                                                                                                       |                             |                                                                                       |                                                                                       |                                                                                                                                                |                                                                                                                                               |                 |            |                               |



| DRAWING SUBMISSIONS |                                        | BY | APPD | DATE       |
|---------------------|----------------------------------------|----|------|------------|
| A                   | ISSUED TO CLIENT FOR REVIEW & COMMENT  | DM | GK   | 2013-04-19 |
| B                   | ISSUED TO COUNTY FOR REVIEW & APPROVAL | DM | GK   | 2013-05-03 |
|                     |                                        |    |      |            |
|                     |                                        |    |      |            |

DESIGN ELEMENTS, ALIGNMENTS & CONFIGURATIONS ARE SHOWN IN A CONCEPTUAL MANNER ONLY, FOR OUTLINE PLAN PURPOSES, AND ARE SUBJECT TO CHANGE AT THE DETAILED DESIGN STAGE

PRELIMINARY  
DRAWING ONLY

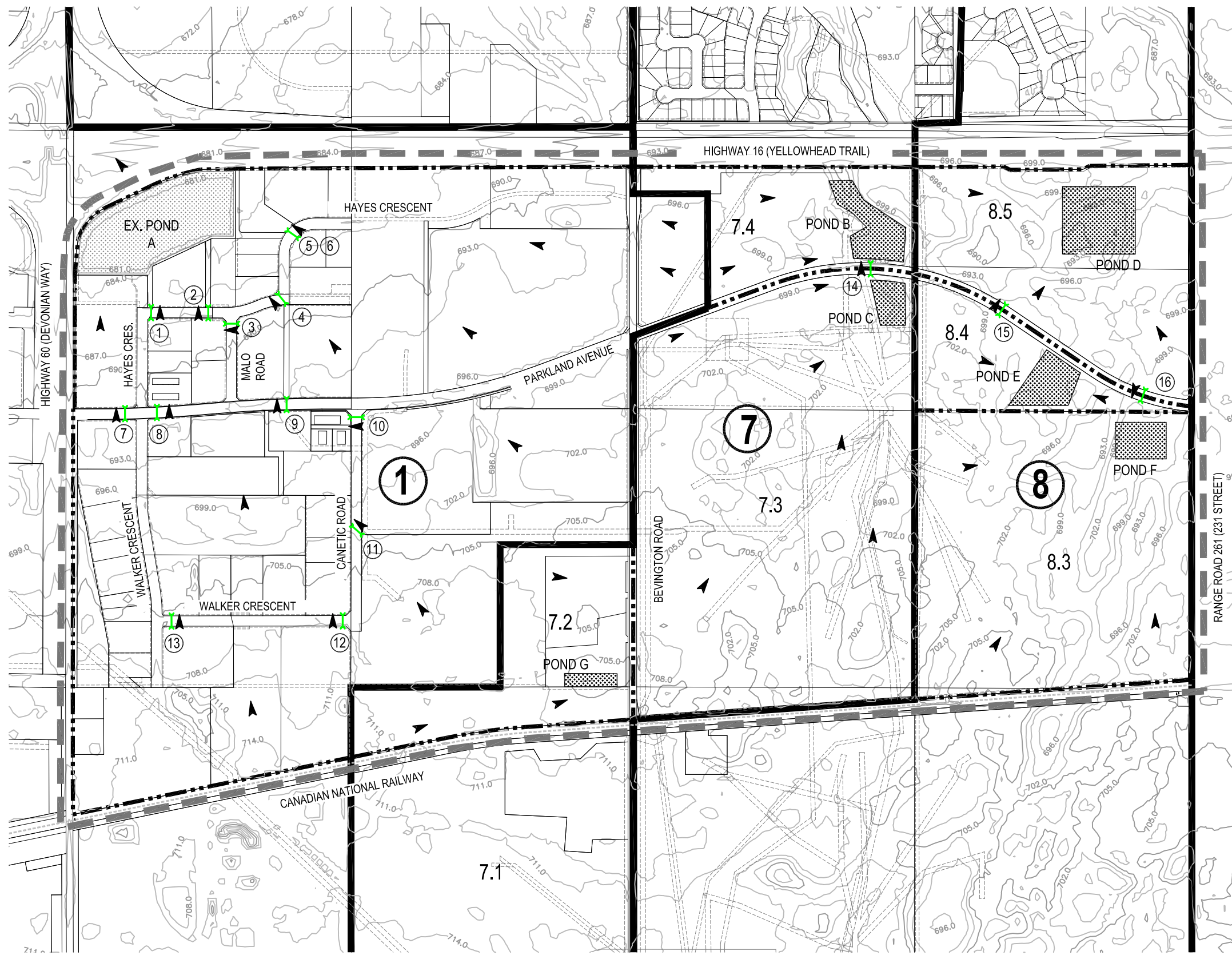


PROJECT  
PARKLAND INDUSTRIAL ESTATES  
OUTLINE PLAN UPDATES  
SECTIONS 10 & 11-53-26-W4M  
PARKLAND COUNTY, ALBERTA

OVERALL ROADWAY PLAN

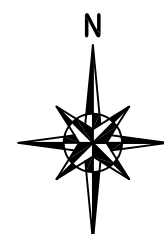
|                 |            |
|-----------------|------------|
| SCALE:          | 1 : 10,000 |
| PROJECT NUMBER: | 111147     |
| DATE:           | APRIL 2013 |

DRAWING:  
**FIG. 3**



LEGEND

- OUTLINE PLAN BOUNDARY
- STORM BASIN BOUNDARY
- 1 STORM BASIN NUMBER
- 8.5 STORM SUB BASIN NUMBER
- EXISTING DRAINAGE DIRECTION
- 1 CULVERT LABEL
- EXISTING CULVERT LOCATION



STORM BASIN AREAS (WITHIN OLP BOUNDARY)

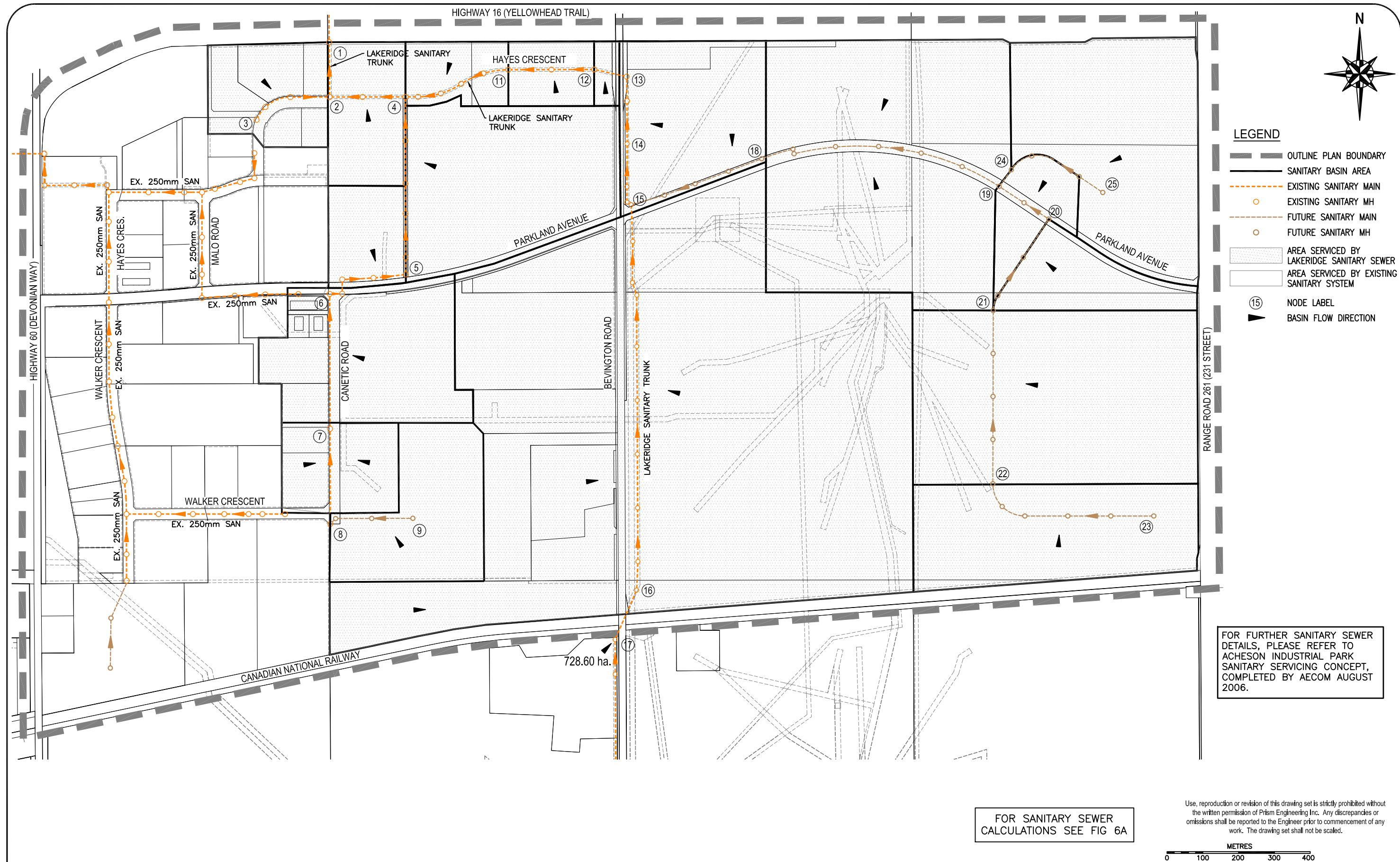
|                       |         |         |
|-----------------------|---------|---------|
| BASIN 1               |         |         |
| INDUSTRIAL/COMMERCIAL | 221.4Ha | 547.1Ac |
| SWMF EX. POND A       | 9.6Ha   | 23.7Ac  |
| ROAD                  | 24.1Ha  | 59.6Ac  |
| TOTAL                 | 255.1Ha | 630.4Ac |
| BASIN 7-2             |         |         |
| INDUSTRIAL/COMMERCIAL | 24.2Ha  | 59.8Ac  |
| ROAD                  | 2.7Ha   | 6.7Ac   |
| TOTAL                 | 26.9Ha  | 66.5Ac  |
| BASIN 7-3             |         |         |
| INDUSTRIAL/COMMERCIAL | 95.1Ha  | 235.0Ac |
| ROAD                  | 3.4Ha   | 8.4Ac   |
| TOTAL                 | 98.5Ha  | 243.4Ac |
| BASIN 7-4             |         |         |
| INDUSTRIAL/COMMERCIAL | 20.4Ha  | 50.4Ac  |
| ROAD                  | 0.9Ha   | 2.2Ac   |
| TOTAL                 | 21.3Ha  | 52.6Ac  |
| BASIN 8-3             |         |         |
| INDUSTRIAL/COMMERCIAL | 60.9Ha  | 150.5Ac |
| ROAD                  | 3.5Ha   | 8.6Ac   |
| TOTAL                 | 64.4Ha  | 159.1Ac |
| BASIN 8-4             |         |         |
| INDUSTRIAL/COMMERCIAL | 13.7Ha  | 33.9Ac  |
| ROAD                  | 2.2Ha   | 5.4Ac   |
| TOTAL                 | 15.9Ha  | 39.3Ac  |
| BASIN 8-5             |         |         |
| INDUSTRIAL/COMMERCIAL | 37.6Ha  | 92.9Ac  |
| ROAD                  | 3.0Ha   | 7.4Ac   |
| TOTAL                 | 40.6Ha  | 100.3Ac |

| CULVERT | SIZE     |
|---------|----------|
| 1       | 2x1200mm |
| 2       | 2x1200mm |
| 3       | 2x1200mm |
| 4       | 1x1200mm |
| 5       | 2x1200mm |
| 6       | 2x1500mm |
| 7       | 2x1200mm |
| 8       | 1x1200mm |
| 9       | 3x1200mm |
| 10      | 2x1200mm |
| 11      | 2x1000mm |
| 12      | 1x600mm  |
| 13      | 2x900mm  |
| 14      | 1x800mm  |
| 15      | 1x800mm  |
| 16      | 1x800mm  |

FOR FURTHER DETAILS ON STORM WATER MANAGEMENT, PLEASE REFER TO ACHESON/BIG LAKE AREA MASTER DRAINAGE PLAN, COMPLETED BY AECOM AUGUST 2011.

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FOR SANITARY SEWER  
CALCULATIONS SEE FIG 6A

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METRES  
0 100 200 300 400

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|---------------------|----------------------------------------|----|------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------|------------|-----------------------------------|
| A                   | ISSUED TO CLIENT FOR REVIEW & COMMENT  | DM | GK   | 2013-04-19 |                                                                                                                                                                       |                                         |                                                                                                                                                   |                                                                                                                          |                                                                                                                                                                              | PROJECT NUMBER: | 111147     |            |                                   |
| B                   | ISSUED TO COUNTY FOR REVIEW & APPROVAL | DM | GK   | 2013-05-03 |                                                                                                                                                                       |                                         |                                                                                                                                                   |                                                                                                                          |                                                                                                                                                                              | DATE:           | APRIL 2013 |            |                                   |
|                     |                                        |    |      |            |                                                                                                                                                                       |                                         |                                                                                                                                                   |                                                                                                                          |                                                                                                                                                                              |                 |            |            |                                   |
|                     |                                        |    |      |            |                                                                                                                                                                       |                                         |                                                                                                                                                   |                                                                                                                          |                                                                                                                                                                              |                 |            |            |                                   |

SANITARY SEWER DESIGN CALCULATIONS

PROJECT : PARKLAND INDUSTRIAL ESTATES  
JOB # : 111147  
DATE : Sept 1, 2011

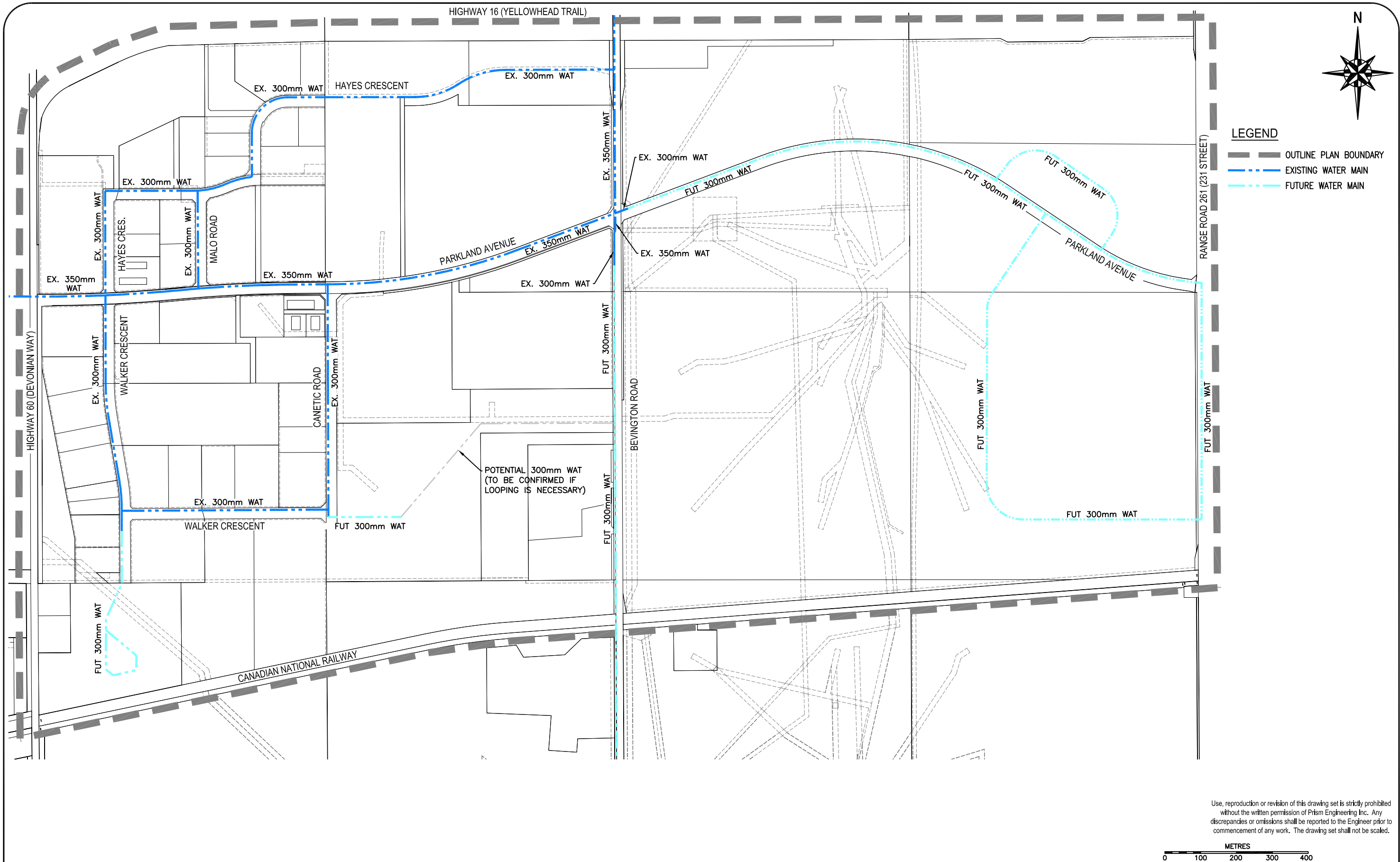
Commercial/Industrial Flow = 6,170 L/ha/d 0.07141 L/s/ha  
Inflow / Infiltration Allowance = 0.28 L/s/ha  
Pipe Roughness n = 0.013 PVC

| From Node | To Node | INDUSTRIAL      |                 |                 |             |                | I/I Allow (L/s) | PWW Flow (L/s) | Req. Flow (L/s) | PIPE      |           |            |            |               |                      |                         |     |
|-----------|---------|-----------------|-----------------|-----------------|-------------|----------------|-----------------|----------------|-----------------|-----------|-----------|------------|------------|---------------|----------------------|-------------------------|-----|
|           |         | Added Area (ha) | Total Area (ha) | Avg. Flow (L/s) | Peak Factor | Peak DWF (L/s) |                 |                |                 | Size (mm) | Slope (%) | Length (m) | Cap. (L/s) | Cap. Used (%) | Full Flow Vel. (m/s) | Partial Flow Vel. (m/s) |     |
| 23        | 22      | 21.5            | 21.5            | 1.5354          | 3.00        | 4.61           | 6.02            | 10.63          | 12.36           | 250       | 0.50      | 500        | 42.05      | 29%           | 0.86                 | 0.74                    | FUT |
| 22        | 21      | 38.6            | 60.1            | 4.2919          | 3.00        | 12.88          | 16.83           | 29.70          | 34.54           | 250       | 0.50      | 484        | 42.05      | 82%           | 0.86                 | 0.96                    | FUT |
| 21        | 20      | 7.9             | 68.0            | 4.8560          | 3.00        | 14.57          | 19.04           | 33.61          | 39.08           | 250       | 0.50      | 301        | 42.05      | 93%           | 0.86                 | 0.97                    | FUT |
| 20        | 19      | 5.5             | 73.5            | 5.2488          | 3.00        | 15.75          | 20.58           | 36.33          | 42.24           | 300       | 0.50      | 166        | 68.38      | 62%           | 0.97                 | 1.02                    | FUT |
| 25        | 24      | 27.8            | 27.8            | 1.9853          | 3.00        | 5.96           | 7.78            | 13.74          | 15.98           | 250       | 0.50      | 299        | 42.05      | 38%           | 0.86                 | 0.80                    | FUT |
| 24        | 19      | 0               | 27.8            | 1.9853          | 3.00        | 5.96           | 7.78            | 13.74          | 15.98           | 250       | 0.50      | 58         | 42.05      | 38%           | 0.86                 | 0.80                    | FUT |
| 19        | 18      | 47.8            | 149.1           | 10.6475         | 3.00        | 31.94          | 41.75           | 73.69          | 85.69           | 375       | 0.50      | 687        | 123.98     | 69%           | 1.12                 | 1.21                    | FUT |
| 18        | 15      | 0               | 149.1           | 10.6475         | 3.00        | 31.94          | 41.75           | 73.69          | 85.69           | 375       | 0.50      | 393        | 123.98     | 69%           | 1.12                 | 1.21                    | FUT |
| 17        | 16      | 728.6           | 728.6           | 52.0308         | 3.00        | 156.09         | 204.01          | 360.10         | 418.72          | 600       | 0.34      | 150        | 358.03     | 117%          | 1.27                 | 1.43                    | EX  |
| 16        | 15      | 132.6           | 861.2           | 61.5000         | 3.00        | 184.50         | 241.14          | 425.64         | 494.93          | 600       | 0.82      | 1072       | 556.01     | 89%           | 1.97                 | 2.22                    | EX  |
| 15        | 14      | 0               | 1010.3          | 72.1476         | 3.00        | 216.44         | 282.88          | 499.33         | 580.61          | 600       | 1.10      | 200        | 643.98     | 90%           | 2.28                 | 2.58                    | EX  |
| 14        | 13      | 16.9            | 1027.2          | 73.3544         | 3.00        | 220.06         | 287.62          | 507.68         | 590.32          | 675       | 1.30      | 187        | 958.42     | 62%           | 2.68                 | 2.82                    | EX  |
| 13        | 12      | 1.3             | 1028.5          | 73.4473         | 3.00        | 220.34         | 287.98          | 508.32         | 591.07          | 675       | 0.69      | 93         | 698.24     | 85%           | 1.95                 | 2.19                    | EX  |
| 12        | 11      | 4.3             | 1032.8          | 73.7544         | 3.00        | 221.26         | 289.18          | 510.45         | 593.54          | 600       | 1.00      | 240        | 614.01     | 97%           | 2.17                 | 2.47                    | EX  |
| 11        | 4       | 5               | 1037.8          | 74.1114         | 3.00        | 222.33         | 290.58          | 512.92         | 596.42          | 675       | 0.68      | 302        | 693.17     | 86%           | 1.94                 | 2.18                    | EX  |
| 9         | 8       | 14.1            | 14.1            | 1.0069          | 3.00        | 3.02           | 3.95            | 6.97           | 8.10            | 250       | 0.50      | 478        | 42.05      | 19%           | 0.86                 | 0.66                    | FUT |
| 8         | 7       | 8.2             | 22.3            | 1.5925          | 3.00        | 4.78           | 6.24            | 11.02          | 12.82           | 250       | 2.30      | 235        | 90.19      | 14%           | 1.84                 | 1.30                    | EX  |
| 7         | 6       | 19.7            | 42.0            | 2.9993          | 3.00        | 9.00           | 11.76           | 20.76          | 24.14           | 250       | 2.00      | 376        | 84.10      | 29%           | 1.71                 | 1.48                    | EX  |
| 6         | 5       | 6               | 48.0            | 3.4278          | 3.00        | 10.28          | 13.44           | 23.72          | 27.59           | 250       | 0.40      | 253        | 37.61      | 73%           | 0.77                 | 0.84                    | EX  |
| 5         | 4       | 24.9            | 72.9            | 4.5231          | 3.00        | 13.57          | 20.41           | 33.98          | 39.51           | 250       | 0.55      | 495        | 44.10      | 90%           | 0.90                 | 1.02                    | EX  |
| 4         | 2       | 8.7             | 1119.4          | 79.9386         | 3.00        | 239.82         | 313.43          | 553.25         | 643.31          | 675       | 0.98      | 212        | 832.14     | 77%           | 2.33                 | 2.57                    | EX  |
| 3         | 2       | 9.1             | 9.1             | 0.6498          | 3.00        | 1.95           | 2.55            | 4.50           | 5.23            | 250       | 0.46      | 225        | 40.33      | 13%           | 0.82                 | 0.57                    | EX  |
| 2         | 1       | 0               | 1128.5          | 80.5885         | 3.00        | 241.77         | 315.98          | 557.75         | 648.54          | 675       | 1.19      | 154        | 916.97     | 71%           | 2.56                 | 2.78                    | EX  |

NOTE: VALUES SHOWN IN BLUE PROVIDED BY PARKLAND COUNTY APRIL 11, 2011, INCLUDING DESIGN FLOWS PER HECTARE, INFLOW / INFILTRATION ALLOWANCE RATE, AND MINIMUM PEAK FACTOR.  
AVERAGE FLOW SHOWN IN RED REFLECTS SYSCO SERVICE SEWAGE GENERATION RATE (94,635 L/d), PROVIDED WITHIN ACHESON INDUSTRIAL PARK  
SANITARY SERVICING CONCEPT REPORT, COMPLETED BY AECOM AUGUST 2006.

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|---------------------|----------------------------------------|----|------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------|------------|-------------------------|
| A                   | ISSUED TO CLIENT FOR REVIEW & COMMENT  | DM | GK   | 2013-04-19 |                                                                                                                                                                       |                             |                                                                                       |                                                                                       |                                                                                       |                                                                                                                          | PROJECT NUMBER: | 111147     |                         |
| B                   | ISSUED TO COUNTY FOR REVIEW & APPROVAL | DM | GK   | 2013-05-03 |                                                                                                                                                                       |                             |                                                                                       |                                                                                       |                                                                                       |                                                                                                                          | DATE:           | APRIL 2013 |                         |
|                     |                                        |    |      |            |                                                                                                                                                                       |                             |                                                                                       |                                                                                       |                                                                                       |                                                                                                                          |                 |            |                         |
|                     |                                        |    |      |            |                                                                                                                                                                       |                             |                                                                                       |                                                                                       |                                                                                       |                                                                                                                          |                 |            |                         |
|                     |                                        |    |      |            |                                                                                                                                                                       |                             |                                                                                       |                                                                                       |                                                                                       |                                                                                                                          |                 |            |                         |
|                     |                                        |    |      |            |                                                                                                                                                                       |                             |                                                                                       |                                                                                       |                                                                                       | SANITARY SEWER DESIGN CALCULATIONS                                                                                       |                 |            |                         |



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|---------------------|----------------------------------------|----|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------|-------------------------------|
| A                   | ISSUED TO CLIENT FOR REVIEW & COMMENT  | DM | GK | 2013-04-19                                                                                                                                                            |                             |                                                                                                       |                                                                                                    |                                                                                                   |                                                                                                                                                    | SCALE:                      | 1 : 10,000 |                               |
| B                   | ISSUED TO COUNTY FOR REVIEW & APPROVAL | DM | GK | 2013-05-03                                                                                                                                                            |                             |                                                                                                       |                                                                                                    |                                                                                                   |                                                                                                                                                    | PROJECT NUMBER:             | 111147     |                               |
|                     |                                        |    |    |                                                                                                                                                                       |                             |                                                                                                       |                                                                                                    |                                                                                                   |                                                                                                                                                    | DATE:                       | APRIL 2013 |                               |
|                     |                                        |    |    |                                                                                                                                                                       |                             |                                                                                                       |                                                                                                    |                                                                                                   |                                                                                                                                                    |                             |            |                               |