

NOTES :

CONSTRUCTION STANDARDS  
 TO BE CONSTRUCTED IN ACCORDANCE WITH MANITOBA HYDRO DISTRIBUTION AND SUBTRANSMISSION STANDARDS, LATEST REVISION.  
 NO MAJOR CHANGES SHALL BE MADE WITHOUT APPROVAL OF THE DESIGN ENGINEER OR DELEGATE.  
 SINGLE PHASE PAD-MOUNTED TRANSFORMER LOCATION  
 SEE CD205-3 FOR RULES PERTAINING TO THE PLACEMENT OF ALL PADMOUNTED EQUIPMENT  
 CUSTOMER ACCEPTANCE  
 THE CUSTOMER SERVICE DEPARTMENT REPRESENTATIVE IS RESPONSIBLE FOR OBTAINING WRITTEN CUSTOMER AGREEMENT TO THE PROPOSED INSTALLATION PRIOR TO CONSTRUCTION COMMENCEMENT.  
 SITE GRADING  
 THE DEVELOPER IS RESPONSIBLE FOR GRADING OF THE SITE TO WITHIN +0.15M OF FINISHED GRADE PRIOR TO CONSTRUCTION COMMENCEMENT. BENCHMARKS ARE TO BE OBTAINED FROM THE DEVELOPER OR CONSULTANT.  
 EQUIPMENT ELEVATIONS  
 THE DEVELOPER TO INDICATE ON ONE COPY OF THE MANITOBA HYDRO DRAWINGS) THE FINISHED GRADE AT ALL EQUIPMENT LOCATIONS, REFERENCED TO A BENCHMARK.  
 SERVICE CONDUCTOR  
 SERVICE CONDUCTOR TO BE 10 AL PE/PVC/J TRIPLEX UNLESS NOTED OTHERWISE.

|                |                                       |
|----------------|---------------------------------------|
| MAGENTA        | PROPOSED TRENCH                       |
| RED            | PROPOSED OBJECT                       |
| PINK           | OBJECT TO BE ABANDONED                |
| GREEN          | OBJECT TO BE SALVAGED                 |
| BLACK          | EXISTING OBJECT                       |
| L# ANNOTATION  | 1 - #4 AL CN STREET LIGHTING CABLE    |
| LL# ANNOTATION | 1 - 1/0 TRIPLEX STREET LIGHTING CABLE |

| AUTHORITY         | NOTIFIED   | NOT REQ'D | OBTAINED   |
|-------------------|------------|-----------|------------|
| DISTRICT          | 2019 XX XX |           | 2019 XX XX |
| C.O.W./MUNICIPAL  | 2019 XX XX |           | 2019 XX XX |
| M.T.S.            |            | X         |            |
| GAS               |            | X         |            |
| SHAW              |            | X         |            |
| EASEMENTS         |            | X         |            |
| COMMUNICATIONS    |            | X         |            |
| S.C.C.            |            | X         |            |
| DEPT. OF HIGHWAYS |            | X         |            |

| CONTACT           | NAME          | PHONE NUMBER | E-MAIL ADDRESS       |
|-------------------|---------------|--------------|----------------------|
| DESIGN            | TAMMY BALMANN | 204-771-7541 | TBALMANN@HYDRO.MB.CA |
| DESIGN ENGINEER   | VICTOR EDOHO  | 204-261-2204 | VEDOHO@HYDRO.MB.CA   |
| PORTFOLIO PM      | DARIN WACH    | 451-2617     | DWACH@HYDRO.MB.CA    |
| ENERGY SERVICES   | DARRYL STOCKI | 918-0341     | DSTOCKI@HYDRO.MB.CA  |
| UG CONSTRUCTION   | BILL AMMETER  | 981-4356     | BAMMETER@HYDRO.MB.CA |
| OH CONSTRUCTION   | WAYNE IRELAND | 771-5212     | WIreland@HYDRO.MB.CA |
| HYDRO GAS         |               |              |                      |
| SHAW              |               |              |                      |
| MTS               |               |              |                      |
| CUSTOMER REP      |               |              |                      |
| DISTRICT ENG TECH | ROB DENIKA    | 795-1928     | RDENIKA@HYDRO.MB.CA  |

| INSTALLED |              |         |           |
|-----------|--------------|---------|-----------|
| Quantity  | Fixture Type | Wattage | Pole Type |
| 5         | LED          | 31      | EXCLUSIVE |
| ##        | LED          | ##      | SHARED    |
| ##        | LED          | ##      | EXCLUSIVE |
| ##        | LED          | ##      | SHARED    |

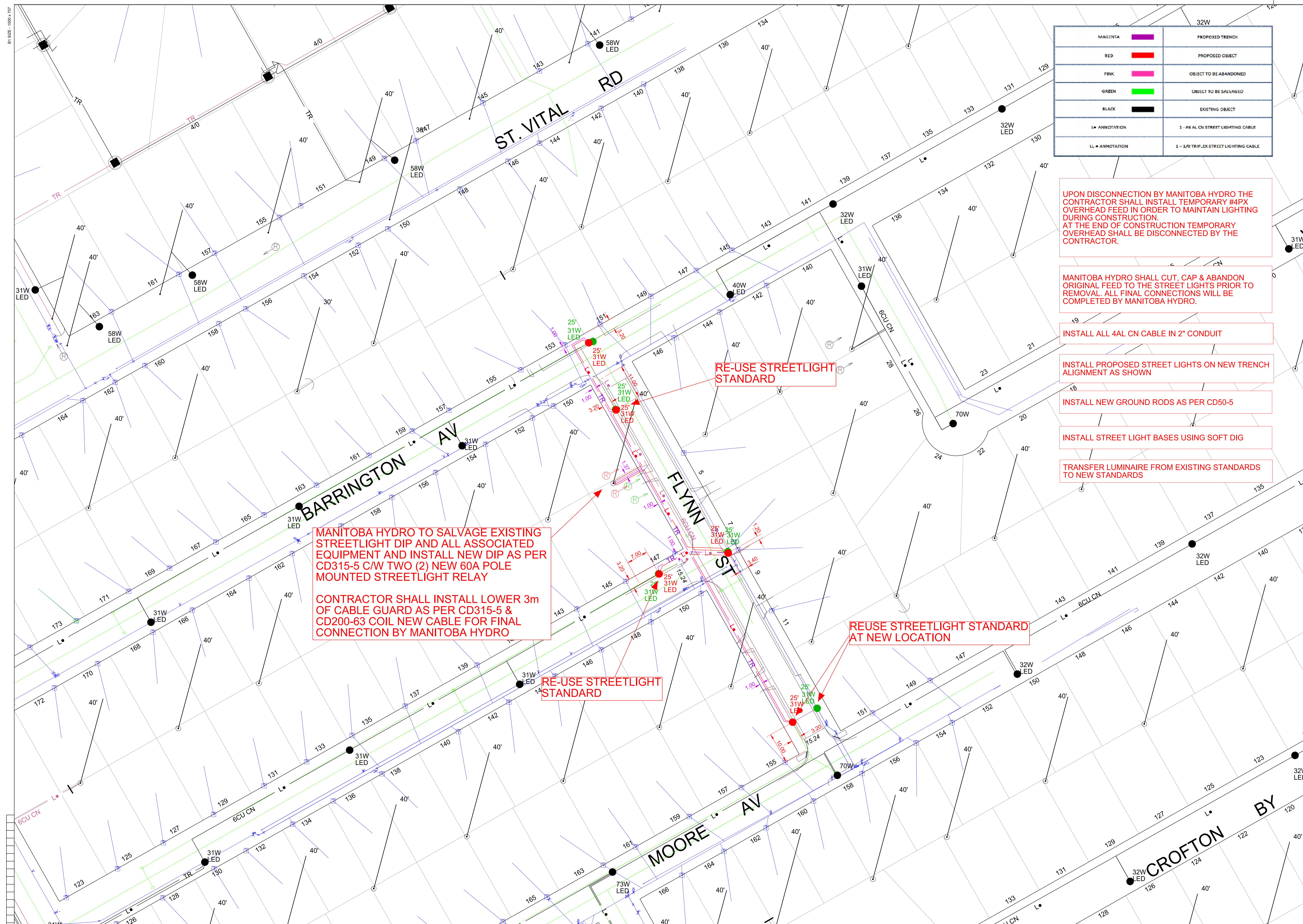
| REMOVED  |              |         |           |
|----------|--------------|---------|-----------|
| Quantity | Fixture Type | Wattage | Pole Type |
| 4        | LED          | 31      | EXCLUSIVE |
| 1        | LED          | 32      | EXCLUSIVE |
| ##       | LED          | ##      | EXCLUSIVE |
| ##       | LED          | ##      | SHARED    |

| LED CONVERSION CHART |                        |                |
|----------------------|------------------------|----------------|
| HPS WATTAGE          | EQUIVALENT LED WATTAGE | CATALOG NUMBER |
| 100                  | 73                     | ERS10C3E1540   |
| 150                  | 95                     | ERS10C3E1740   |
| 250                  | 138                    | ERS120H3E1540  |
| 400                  | 209                    | ERS30N3E1540   |

"STREETLIGHT PLACEMENT FOLLOWS IES STANDARDS AND THEY ARE PLACED ACCORDINGLY USING DRIVEWAY LOCATIONS PROVIDED BY THE DEVELOPER. DRIVEWAY LOCATIONS THAT HAVE BEEN CHANGED AFTER THE DESIGN HAS BEEN SEALED RESULTING IN A CONFLICT BETWEEN STREETLIGHTS AND THE DRIVEWAY ARE THE RESPONSIBILITY OF THE DEVELOPER TO RECOVER THE COSTS ASSOCIATED WITH RELOCATING THE STREETLIGHTS."

BANNERS AND ASSOCIATED HARDWARE TO BE REMOVED AND RETURNED TO THE CITY OF WINNIPEG, 1277 PACIFIC AVENUE WITH AN ITEMIZED LIST AND QUANTITIES.

INFORMATION PERTAINING TO THE SIZE, TYPE AND LOCATION OF MANITOBA HYDRO FACILITIES AND INSTALLATIONS IS ILLUSTRATED AND SHALL BE RELIED ON FOR THE PURPOSES OF ANY ACTIVITY BEING CONDUCTED AT OR NEAR THE IDENTIFIED HYDRO FACILITIES. ALL LOCATIONS AND EQUIPMENT SHOWN ON THESE DRAWINGS ARE APPROXIMATE LOCATIONS AND SHALL BE VERIFIED BY A PHYSICAL ACTIVITY BEFORE ANY NEAR HYDRO INSTALLATIONS.



UPON DISCONNECTION BY MANITOBA HYDRO THE CONTRACTOR SHALL INSTALL TEMPORARY #4PX OVERHEAD FEED IN ORDER TO MAINTAIN LIGHTING DURING CONSTRUCTION. AT THE END OF CONSTRUCTION TEMPORARY OVERHEAD SHALL BE DISCONNECTED BY THE CONTRACTOR.

MANITOBA HYDRO SHALL CUT, CAP & ABANDON ORIGINAL FEED TO THE STREET LIGHTS PRIOR TO REMOVAL. ALL FINAL CONNECTIONS WILL BE COMPLETED BY MANITOBA HYDRO.

INSTALL ALL 4AL CN CABLE IN 2" CONDUIT

INSTALL PROPOSED STREET LIGHTS ON NEW TRENCH ALIGNMENT AS SHOWN

INSTALL NEW GROUND RODS AS PER CD50-5

INSTALL STREET LIGHT BASES USING SOFT DIG

TRANSFER LUMINAIRE FROM EXISTING STANDARDS TO NEW STANDARDS

RE-USE STREETLIGHT STANDARD

REUSE STREETLIGHT STANDARD AT NEW LOCATION

MANITOBA HYDRO TO SALVAGE EXISTING STREETLIGHT DIP AND ALL ASSOCIATED EQUIPMENT AND INSTALL NEW DIP AS PER CD315-5 C/W TWO (2) NEW 60A POLE MOUNTED STREETLIGHT RELAY  
 CONTRACTOR SHALL INSTALL LOWER 3m OF CABLE GUARD AS PER CD315-5 & CD200-63 COIL NEW CABLE FOR FINAL CONNECTION BY MANITOBA HYDRO

RE-USE STREETLIGHT STANDARD

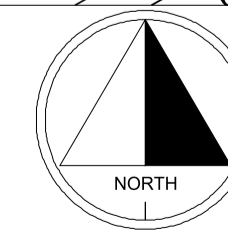
PROPOSED SEQUENCE OF CONSTRUCTION:  
 -MH STAFF SHALL DISCONNECT AND ISOLATE THE EXISTING STREET LIGHT POLES TO BE REPLACED.  
 -CONTRACTOR TO INSTALL TEMPORARY OH FEEDS BETWEEN EXISTING POLES.  
 -MH STAFF TO INSTALL FINAL DROP FROM EXISTING POLE TO SOURCE AND ENERGIZE.  
 -CONTRACTOR TO INSTALL NEW POLES, UNDERGROUND STREET LIGHT CABLE BETWEEN POLES, GROUND RODS, RELAYS, AND BOTTOM SECTION OF CABLE GUARD AT DIP (IF APPLICABLE) AND TERMINATE IN HAND HOLE.  
 -MH STAFF TO DISCONNECT AND ISOLATE TEMPORARY OH FEED TO EXISTING POLES, AS WELL AS COMMISSION AND ENERGIZE NEW POLES FROM NEW UNDERGROUND SOURCE.  
 -CONTRACTOR TO REMOVE OH FEEDS AND REMOVE EXISTING POLES.

**COW TENDER  
 19-R-02**

PRELIMINARY  
 NOT TO BE USED FOR CONSTRUCTION

| REEL NUMBER | MANUFACTURER | MANUFACTURE DATE |
|-------------|--------------|------------------|
|             |              |                  |
|             |              |                  |

CONTACT "CLICK BEFORE YOU DIG MANITOBA" AT [ClickBeforeYouDigMB.com](http://ClickBeforeYouDigMB.com)  
**THREE FULL WORKING DAYS**  
 PRIOR TO CONSTRUCTION FOR LOCATION OF EXISTING WATER, WASTEWATER, LAND DRAINAGE UTILITIES AND MANITOBA HYDRO UTILITIES



| DATE | REVISIONS | BY | CHKD. | APP. |
|------|-----------|----|-------|------|
|      |           |    |       |      |

|                |                       |       |            |
|----------------|-----------------------|-------|------------|
| DRAWING NUMBER | REFERENCE DRAWINGS    | DRAWN | T.B.       |
|                | WINNIPEG UGS APPROVAL | CHECK |            |
|                |                       | SCALE | 1:500      |
|                |                       | DATE  | 2019-03-21 |

|                |          |   |
|----------------|----------|---|
| AREA NUMBER    | 5403     | MANITOBA HYDRO                          |
| STATION NUMBER | N/A      | DISTRIBUTION ENGINEERING                |
| FEEDER NUMBER  | N/A      | WOFF P-31630 NETWORK # 4305703          |
| SYSTEM VOLTAGE | 120/240V | CSC: ST BONIFACE                        |
|                |          | CUSTOMER SERVICE PROJECT                |
|                |          | COW 19-R-05 - FLYNN ST - STREET RENEWAL |
|                |          | REPLACE 5 DAVITS AND LUMINAIRES.        |
|                |          | INSTALL 212m OF 2" PIPE & #4AL.         |