

1 LIGHT STANDARD BASE DETAIL
NTS

GENERAL PROJECT NOTES:

GENERAL

- If power equipment is to be used for excavation on this project the Contractor must:
 - notify all utilities of the proposed location of excavation
 - take precaution to avoid damage to all utilities
- Confirmation of existence and exact location of all services must be obtained from the individual utilities before proceeding with construction
- Contractor to confirm all existing conditions, dimensions and materials on site and report any discrepancies to the Contract Administrator prior to construction
- Refer also to all City of Winnipeg and written specifications

GRADING

- All existing trees, shrubs, sidewalks, curbs, sod, utilities and paving to be protected (unless otherwise noted) during construction to City of Winnipeg standards. Contractor to make good all area damaged during construction both on and off site to City of Winnipeg standards at the Contractor's cost.
- Existing grade to be maintained at all property lines and city sidewalks and within 3m of trees.
- All grading to be approved by Contract Administrator prior to any construction.
- Exact location of underground services should be checked with the utilities prior to construction or excavation.
- Existing grades, building locations and layouts are given as information only and should be verified on site. Report any discrepancies to C.A. prior to construction.
- All proposed elevations to be finished elevations
- Ensure positive drainage in all areas to catch basins and curb inlets.
- Elevations of all existing trees and utilities to remain, unless noted otherwise.
- Slope tolerance:
 - concrete paving slopes: maximum 5%, minimum 1%; maximum cross slope 1.5%
 - sodded area slopes: maximum 25%, minimum 2%
 - any deviation from the above slopes to be approved by contract administrator prior to construction
- If power equipment is to be used for excavation on this project the Contractor must:
 - notify all utilities of the proposed location of excavation.
 - take precaution to avoid damage to all utilities.
- Refer also to City of Winnipeg and written specifications.

STRUCTURAL NOTES:

GENERAL

- These notes are to be read in conjunction with the specifications.
- This renovation has been designed in accordance with the 2011 edition of the Manitoba Building Code.
- The Contractor shall be responsible for the design and installation of all necessary shoring, bracing and formwork. Formwork for new construction shall be bridged over existing services. Procedure must be approved by the Contract Administrator
- Any unsound structural conditions observed or created during construction are to be reported to Contract Administrator immediately.
- Coordinate size and location of all openings in structural members with trades involved. All openings not indicated on structural drawings to be approved by Contract Administrator.
- Confirm the location of all sub-grade services prior to commencing site work.
- Verify all dimensions and elevations with architectural drawings prior to construction. Any discrepancies to be reported to Contract Administrator immediately. Do not scale drawings.
- Confirm all existing conditions prior to construction. Any discrepancies or conflicts to be reported to Contract Administrator immediately.

STRUCTURAL STEEL

- All structural steel including HSS sections, to be in accordance with G40.21-M350W.
- All welding shall conform to CSA W59-M1989; fabricators to be certified in accordance with the latest edition of CSA W47.1.
- Fabrication and erection shall be in accordance with CAN/CSA S16.1-94, "Limit States Design of Steel Structures".
- Steel erector shall be responsible for supplying and erecting all temporary bracing to provide stability for the structure as a whole, until all related structural framing is erected and completely installed.
- Fabricator shall notify the Contract Administrator of any proposed member substitutions or changed connection details.
- Holes required in steel sections must be approved by the Contract Administrator.
- All beams continuous over columns shall have 2 web stiffeners on each side, the same thickness as column unless noted, but not less than 3/8".
- No holes permitted in top of beams at columns where beams are continuous over columns, unless loss of section by holes is compensated by equal material area welded to side of flange.
- Use asphalt base paint (flintkote 410-02 or eq.) at columns below slab.
- All high strength bolts to be ASTM A325M.
- The shear capacity of all shear splices shall be at least equal to the shear capacity of the smaller beam, unless noted.
- Steel supplier is responsible for design and detailing of all structural steel connections not shown on drawings.
- Anchor bolts shall be supplied by structural steel supplier & set by general contractor. Contractor to supply and install 1" non-shrink grout under all base plates unless noted.
- Expansion anchors to be zinc-plated steel wedge type with the following design values in 30 MPa concrete:
 - 5/8" - 2000 lbs shear, 2000 lbs pull-out
 - 3/4" - 4000 lbs shear, 4000 lbs pull-out
- All exposed portions of ledge angles and connections to be coated with bituminous paint, unless otherwise indicated.
- Structural steel supplier shall submit shop drawings for review of fabrication, sizes, dimensions and placement. All connections not shown on drawing are to be sealed by a Professional Engineer registered in the Province of Manitoba.

STRUCTURAL WOOD

- All wood framing shall be in accordance with CSA 086-01.
- All lumber shall conform to 1978 N.L.G.A. grading rules for Canadian lumber.
- Wall studs to be minimum #2 Spruce-Pine-Fir or better U/N on drawings, kiln-dried to a maximum moisture content of 19%.
- Joists, lintels, and built-up beams to be minimum #2 Spruce-Pine-Fir or better U/N on drawings, properly seasoned to a maximum moisture content of 19%.
- The carpentry Subcontractor in conjunction with the Contractor shall be responsible for supplying and installing all temporary and permanent bracing required to provide the stability of the structure.
- All plywood sheathing to be exterior grade.
- All wall and roof sheathing to be nailed secure in a controlled pattern as follows: Panel edges - 3" nails @ 6" o/c Intermediate supports & blocking - 3" nails @ 10" o/c
- The wood truss supplier shall be responsible for the design and supply of all roof trusses, gable end trusses, bridging and hardware required for the connections.
- Provide joist cross-briding at intervals not exceeding 8 times the member depth.
- Provide cont. horizontal solid blocking @ max. 4'-0" o/c vertically in all exterior stud walls.
- Minimum lintels for stud bearing walls u/n on drawings: -openings up to 3'-4" use 2-2x8 -openings up to 5'-0" use 2-2x10

CONCRETE

- Concrete work shall be in accordance with the latest edition of CAN 3-A23.1 for "Concrete Materials and Methods of Concrete Construction" including cold weather requirements when the temperature falls below 5°C.
- Provide one set of concrete test cylinders in accordance with the latest edition of CAN 3-A23.1 for every 50 m of concrete placed and a minimum of one set for each structural component.
- Normal Portland Cement Type 10 for all concrete except use sulphate resisting cement Type 50 for all pile caps and piles.
- CONCRETE DESIGN STRENGTH @ 28 days
32 MPa: piles and pile caps
35 MPa: all other concrete U/N
- AGGREGATE SIZE: max 1" for pile caps & piles max 1-1/2" for all other concrete max " for masonry lintels and core fill
- SLUMP: 3" +/- 3/4" for all concrete except 6" +/- 3/4" for masonry fill.
- AIR ENTRAINMENT: 6% +/- 1% grade beams, exterior curbs and driveways and all slabs
- Walls, piers and columns shall be poured a minimum of 24 hours before slabs and beams.
- Provide dovetail anchor slots in concrete walls and columns where masonry abuts.
- All structural slabs framing into concrete walls or beams shall have a minimum 1" chase into supporting member x the height of the slab.
- Where concrete beams frame into concrete walls or other concrete beams and are poured later, provide 1" chase (height and width to match beam).

C-I-P CONCRETE PILES

- Cast in place piles are designed for an assumed SLS adhesion value of 19 kPa and a ULS adhesion value of 25 kPa as per Dyregrov Robinson April 26, 2013 Geotechnical Report, with the upper 3.0m of pile length ignored.
- Concrete for cast-in-place piles shall be 32 MPa @ 28 days using Sulfate Resisting Type 50 cement, 1" maximum size aggregate, 3" slump and 3% to 5% air entrainment. Vibrate the top 10'-0" of each pile
- Piles shall be no more than 2% out of plumb; and no more than 2" out of alignment.
- Pile reinforcing shall extend a minimum of 2'-0" into pilecap or grade beam/wall.
- Slab sub-base to be built up of 'C-Base' granular fill compacted to 95% Standard Proctor Density in maximum 8" lifts. Final lift to be 6" 'A-Base' granular fill compacted to 98% Standard Proctor Density. All compaction densities to be confirmed by an independent testing agency prior to placement of any concrete.

CONCRETE, CON'T

- The use of calcium chloride is not permitted.
- Construction joint keys in grade beams shall be formed at pile locations only.
- Construction joint keys in structural slabs to be formed at 1/3 span. Provide key width equal to half the thickness of the slab. Provide 15M dowels @ 24" o/c top & bottom.
- Saw cuts for slab on grade shall be 1" deep & 3/8" wide. Cutting to be done not sooner than 12 hours, and not later than 24 hours after the slab is poured. Cuts to be filled with approved bituminous compound or caulking.
- Slip joint all paving against structural members with 1/2" impregnated fibreboard.
- Coordinate the location of all items embedded in concrete work with Architectural, Mechanical & Electrical drawings.
- Contract Administrator to be notified at least 48 hours in advance of all major pours.
- Refer to architectural drawings for concrete surfaces requiring architectural finishes.
- Where voidform is indicated on drawings use cardboard shearmat below structural slabs and low density polystyrene below walls and gradebeams.
- Exterior sidewalks to be 4" thk. concrete on compacted granular fill reinforced with 10M @ 12" o/c E.W. mid-depth. Provide tooled control joints @ max. 5'-0" o/c and construction joints @ max. 20'-0" o/c.

REINFORCING

- All bars to conform to CSA C30.18. 15M bars and larger to be grade 400 10M bars and supporting rods to be grade 300 or better
- All steel to be detailed in accordance with the current ACI Detailing Manual.
- Minimum clear cover to reinforcing:
 - 3/4" structural slabs
 - 1" interior face of walls
 - 1" face of grade beams
 - 2" exterior face of walls, bottom of grade beams & walls
- All reinforcing shall be held in place with proper accessories.
- In concrete beams, bend horizontal reinforcing 24" around corners, or use extra corner bars 36" x 36".
- Top steel in beams shall be lapped at centre span, bottom steel shall be lapped at support.
- All reinforcing steel shall be cleaned of all dirt, grease and other deleterious materials prior to placing.
- All reinforcing shall be new billet deformed bars.
- Minimum reinforcing for equipment bases 10M @ 12" o/c E.W.
- Reinforcing steel supplier to confer with Contractor as to desired construction joint locations and supply dowels and bar lengths to accommodate these joints.
- Reinforcing steel supplier shall submit shop drawings for review of fabrication, sizes, dimensions, placement and splice locations.

HELICAL SCREW PILES

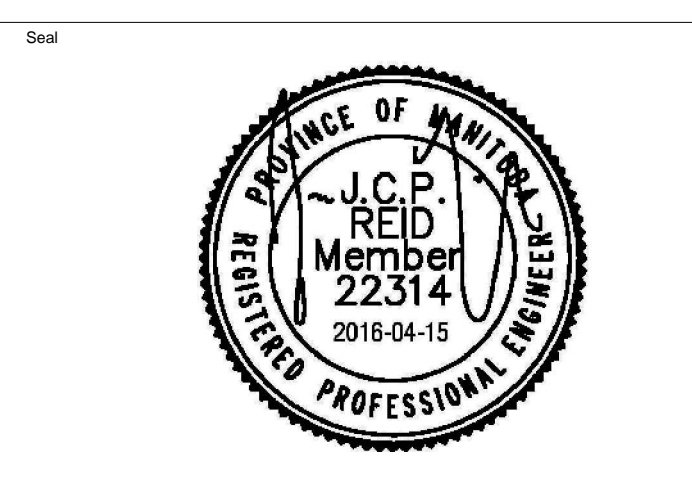
- Piles shall be no more than 2% out of plumb, and no more than 2" out of alignment in any direction.
- Pipe shaft shall meet minimum requirements of API 5CT Grade 3 ASTM (minimum yield strength of 45,000 psi, and a minimum tensile strength of 86,000 psi) and meet and/or exceed ASTM A53, Type E (welded) or S (seamless) Grade B.
- Structural quality steel to conform per latest CSA Standard G40.21, ASTM A36 for helix blade.
- Welding shall be performed by shop qualified to CSA Standard W47.1.
- All welding shall conform to latest CSA Standard W59.
- Only new material to be used in the construction of piers.
- Sealed shop drawings by Engineer registered in Manitoba shall be provided for review prior to installation. Pile supplier to confirm soil requirements full extent of structures prior to shop drawing review.
- Pile supplier to measure installation torque during pile placement and provide all necessary changes and capacities on the layout shop drawing.

Note: Helical screw supplier and installer to be CCMC certified.

5	YY.MM.DD	-
4	YY.MM.DD	-
3	YY.MM.DD	-
2	YY.MM.DD	-
1	16.04.15	- ISSUED FOR CONSTRUCTION
No.	DATE	REVISION /ISSUANCE



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Project
**ST. VITAL PARK
 TOBOGGAN SLIDES & SHELTER**

Sheet Title
GENERAL NOTES

BID OPPORTUNITY # 339-2016	Sheet
Date APRIL 2016	L001